Compilation of Records of Surface Waters of Alaska, October 1950 to September 1960

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1740

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Prepared under the direction of E. L. HENDRICKS, *Chief, Surface Water Branch*

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PREFACE

This report contains summaries of streamflow records in Alaska. It was prepared by the United States Geological Survey in the Water Resources Division, L. B. Leopold, chief, under the general direction of E. L. Hendricks, chief, Surface Water Branch, and F. J. Flynn, chief, Reports Section.

The data were compiled under the supervision of R. E. Marsh, district engineer, Juneau.

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COMPILATION OF RECORDS OF SURFACE WATERS OF ALASKA, 1951-60

PURPOSE AND SCOPE

This report presents monthly and yearly summaries of streamflow records collected by the Geological Survey in cooperation with State, municipal, and other Federal agencies during the period October 1, 1950, to September 30, 1960. These records were published in detail in the series of annual reports known as "Quantity and Quality of Surface Waters of Alaska." This report is a continuation of Water Supply Paper 1372, which compiled all records through September 1950. Thus the entire record for any station through September 30, 1960, is available in these two volumes.

In addition to streamflow records, the annual reports for the State of Alaska contain data on the chemical and physical quality of the streams. Only general references to quality-of-water records are included in this summary.

This report is generally similar in the type of data it contains and form of presentation to other summary reports on the surface water supply of the United States. Results of miscellaneous discharge measurements and stage records have been excluded. A map of Alaska shows the location of each station (pl. 1).

DESCRIPTION OF DATA

The gaging-station records are arranged in downstream order. The order used in this report is the same as that adopted for use in the annual series of reports on surface-water supply beginning with the water year 1951. In a downstream direction along the main stem, all stations on a tributary entering above a main-stem station are listed before that station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. To indicate the rank of any tributary on which a gaging station is situated and the stream to which it is immediately tributary, each indention in the listing of gaging stations in the table of contents represents one rank. This downstream order and system of indention show which gaging stations are on tributaries between any two stations on a main stem and the rank of the tributary on which each gaging station is situated.

As an added means of identification, each station was assigned a number which is shown on the index map and which is a part of the station name in the heading of the description in the text. The numbers are assigned in the same downstream order used in this report. The numbers are not consecutive because gaps are left to allow for new stations that may be established.

The data presented for most of the gaging stations comprise a description of the station, a table of monthly mean discharge in cubic feet per second, a table of monthly discharge in acre-feet, and a yearly summary table. The station description gives the station number and name, the location, drainage area, records available, types and datums of gages, average discharge, extremes of discharge, general remarks concerning the data, and a credit statement if records were furnished by another agency.

The location of the gaging station and the drainage area are obtained from the best available maps. When more than one site was used during water years 1951-60 and the difference in drainage areas is significant, the area for the latest site is shown first followed by the areas for other sites in chronological order. In some instances drainage-area figures have not been obtained because of the lack of suitable maps or because the boundaries cannot be defined or the effective drainage area determined.

The paragraph "Records available" lists all periods for which there are published records generally equivalent to those at the present site. If equivalent records have been published under another station name, that fact is also noted.

The gage described first is the present gage or the one used most recently. Information is then given in chronological order for all gages used earlier, giving changes in location, type of gage, or datum. The location or datum of all earlier gages is given with reference to the present or most recently used gage. The datum of the gage is the elevation of the zero of the gage above mean sea level. Where information as to datum is not available, the altitude of the gage is given.

The average discharge for a station is the average of all complete water years and is published only if there are five or more complete water years of record. The years used to determine the average are not necessarily consecutive. The average discharge is not published for some stations because of extensive changes in diversion or storage, or other water development, that have occurred upstream.

In general, the momentary maximum and minimum discharges and stages for the entire period of record are published in the "Extremes" paragraph. These are qualified if necessary according to the type of gage used and the completeness of the record. Maximum and minimum discharges at nonrecording gaging stations are qualified as "observed" unless determined from a graph drawn through actual gage heights which approximates the actual hydrograph.

Under "Remarks" information is given on factors which affect the basin runoff characteristics. These include upstream regulation, diversion, and utilization--a history of changes in these items during the period 1951-60 is given when known. Also, references are made to records concerning quality of water which are published for some stations in the series of annual surface-water reports; however, no reference is made to miscellaneous analyses.

The streamflow data summarized in this report generally are contained in two monthly tables and one yearly table. The first monthly table is a tabulation of monthly and yearly mean discharges in cubic feet per second. These figures represent discharge passing the station; they are unadjusted for storage or diversion upstream unless otherwise specified under "Remarks" for the individual station. Each monthly figure is the mean flow for the entire month; generally no record for part of a month is tabulated. Likewise, each yearly figure is the mean flow for a full year, and no figure is shown for a partial year. The months are arranged on a water-year basis.

The second monthly table is a tabulation of monthly and yearly discharge, in acre-feet. The third table contains a yearly summary of the streamflow data. The column headed "WSP" lists the number of the water-supply paper in which the figures of daily and monthly discharge are published. If a part of the record has been revised and the revision published, then reference is made to both the original report and the one

containing the revised record; if the daily discharge record for the entire year has been republished to include the revisions, then only the later report is listed. However, there is no reference in this column for revisions published for the first time in this report, as the corresponding revised figures of daily discharge will be published in a water-supply paper which will contain daily records for the period 1961-65. For some stations the third table is omitted; however, the report containing records for any particular year can generally be found by referring to the table given on page 4.

In the third table the momentary maximum discharge for each water year and the date of its occurrence is given if known. For nonrecording gage records, momentary maximums were obtained from graphs drawn through the gage readings. The momentary maximum discharge, however obtained, is not qualified in any way if it is believed to be representative of the absolute maximum for the water year.

The minimum daily discharge for each water year is listed if known. Other data listed in this table are the annual mean discharge and runoff for both the water year and the calendar year. The figures listed for the water year are the same as those given in the yearly columns of the preceding tables. In addition, the annual mean discharge per square mile for some stations is listed for the water year.

PUBLICATIONS

This report is one of a series of 20 volumes of water-supply papers (WSP) as numbered below. The "Part" numbers and the areas covered are the same as those used for the annual series of reports on surface-water supply of the United States since 1951.

Numbers of water-supply papers for 1960 series of compilation reports

WSP	Part	Area
1721	1-A	North Atlantic slope basins, Maine to Connecticut.
1722	1-B	North Atlantic slope basins, New York to York River.
1723	2-A	South Atlantic slope basins, James River to Savannah River.
1724	2-B	South Atlantic slope and eastern Gulf of Mexico basins, Ogeechee River to Pearl River
1725	3-A	Ohio River basin except Cumberland and Tennessee River basins.
1726	3-B	Cumberland and Tennessee River basins.
1727	4	St. Lawrence River basin.
1728	5	Hudson Bay and upper Mississippi River basins.
1729	6-A	Missouri River basin above Sioux City, Iowa.
1730	6-B	Missouri River basin below Sioux City, Iowa.
1731	7	Lower Mississippi River basin.
1732	8	Western Gulf of Mexico basins.
1733	9	Colorado River basin.
1734	10	The Great Basin.
1735	11	Pacific slope basins in California.
1736	12	Pacific slope basins in Washington and upper Columbia River basin.
1737	13	Snake River basin.
1738	14	Pacific slope basins in Oregon and lower Columbia River basin.
1739	-	Hawaii.
1740	-	Alaska.

Records prior to September 30, 1950, were summarized in a series of water-supply papers as listed below. Each of these volumes contains a list of the annual reports from which data prior to 1951 were summarized. The summary report for Alaska (WSP 1372) also contains records of daily discharge for the period 1946-50.

Numbers of water-supply papers for 1950 series of compilation reports

WSP	Part	WSP	Part	WSP	Part
1301	1-A	1308	5	1315-A	11-B
1302	1-B	1309	6-A	1315-B	11-A
1303	2-A	1310	6-B	1316	12
1304	2-B	1311	7	1317	13
1305	3-A	1312	8	1318	14
1306	3-B	1313	9	1319	Hawaii
1307	4	1314	10	1372	Alaska

This report is summarized from the following six reports which contain records of daily discharge for each of the water years from 1951 to 1960.

Annual water supply papers, Alaska, 1951-60

Water year	WSP	Water year	WSP
1951	1466	1957	1500
1952		1958	1570
1953		1959	1640
1954	1486	1960	1720
1955			
1956			

In addition to the customary records of discharge collected during the systematic operation of gaging stations, there is much additional hydrologic information available, both published and unpublished. Records of chemical quality, water temperatures, and suspended sediment are published in the six reports listed above.

Specific information on unpublished data available can be obtained by writing directly to the district engineer, Surface Water Branch, Juneau, Alaska, for streamflow data and to the district chemist, Quality of Water Branch, Palmer, Alaska, for quality-of-water data.

HYDROLOGIC CONDITIONS

Streamflow, a residual of precipitation after other demands have been met, varies considerably from year to year and from place to place. Figure 1 shows yearly discharge for three gaging stations in the State of Alaska. The pattern of yearly runoff shown by these streams is generally representative of hydrologic conditions in their parts of the report area.

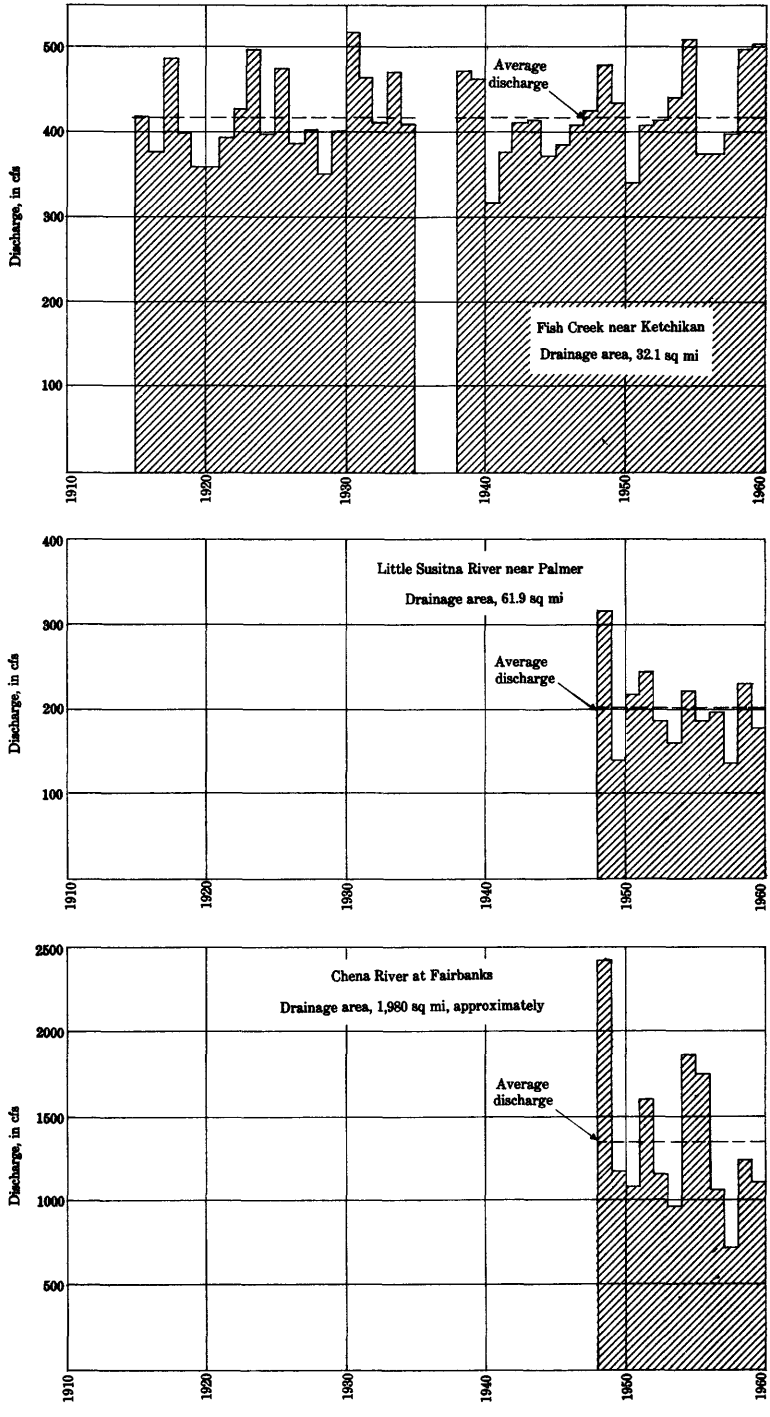

Figure 1.—Yearly discharge at three representative gaging stations.

SOUTHEASTERN ALASKA

120. Winstanley Creek near Ketchikan

Location.--Lat 55°25'00", long 130°52'05", on right bank 0.3 mile downstream from Lower Winstanley Lake, 1.1 miles upstream from mouth, and 31 miles east of Ketchikan.

Drainage area.--15.5 sq mi (revised).

Records available.--August 1936 to September 1938 (monthly discharge only, published in WSP 1372), August 1947 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 290 ft (by barometer).

Average discharge.--15 years (1936-38, 1947-60), 157 cfs (113,700 acre-ft per year).

Extremes.--1936-38, 1947-60: Maximum discharge, 1,900 cfs Feb. 7 or 8, 1954 (gage height, 5.1 ft); minimum, 6.0 cfs Jan. 12, 1956 (gage height, 0.58 ft).
Flood sometime during period October 1938 to July 1947 reached a stage of 4.85 ft, from high-water mark in well (discharge, about 1,800 cfs).

Remarks.--Upper and Lower Winstanley Lakes above gage have areas of 465 and 175 acres, respectively.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	118	108	120	78.5	25.8	56.0	110	249	255	109	81.8	66.4	115
1952	205	106	128	32.1	75.0	55.3	143	196	227	169	142	250	144
1953	245	163	87.2	37.6	100	136	91.9	272	157	173	67.3	251	149
1954	342	200	172	58.9	327	27.8	47.5	214	223	165	71.9	127	163
1955	269	257	251	120	111	51.2	132	168	275	213	262	179	191
1956	351	157	25.9	10.0	47.5	24.3	140	328	174	84.0	235	134	143
1957	260	248	229	56.4	40.6	30.2	111	236	221	161	87.3	84.2	148
1958	150	265	109	204	78.8	72.1	157	209	96.1	42.5	239	130	146
1959	333	205	186	72.5	91.5	150	111	192	248	214	130	208	179
1960	305	309	341	78.9	98.4	144	230	257	219	225	129	181	210

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7,240	6,430	7,350	4,830	1,430	3,440	6,570	15,290	15,200	6,680	5,030	3,950	83,440
1952	12,590	6,280	7,870	1,970	4,320	3,400	8,490	12,050	13,520	10,370	8,740	14,880	104,500
1953	15,080	9,720	5,360	2,310	5,550	8,360	5,470	16,740	9,340	10,620	4,140	14,920	107,600
1954	21,010	11,890	10,560	3,620	18,160	1,710	2,820	13,130	13,240	10,170	4,420	7,550	118,300
1955	16,520	15,270	15,420	7,380	6,170	3,150	7,830	10,340	16,370	13,090	16,080	10,680	138,300
1956	21,550	9,350	1,590	616	2,730	1,490	8,320	20,180	10,370	5,160	14,480	7,990	103,800
1957	16,010	14,750	14,100	3,470	2,250	1,860	6,630	14,520	13,130	9,880	5,370	5,010	107,000
1958	9,220	15,770	6,720	12,550	4,380	4,430	9,350	12,860	5,720	2,620	14,670	7,740	106,000
1959	20,480	12,180	11,420	4,460	5,080	9,220	6,630	11,790	14,740	13,130	7,980	12,400	129,500
1960	18,750	18,400	20,990	4,850	5,660	8,870	13,690	15,800	13,020	13,860	7,910	10,760	152,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	119	104.48	86,370
1951	1466	855	June 14, 1951	14	115	7.42	100.92	83,440	123	107.84	89,160
1952	1466	964	Dec. 11, 1951	15	144	9.29	126.38	104,500	149	130.51	107,900
1953	1466	770	Sept. 26, 1953	18	149	9.61	130.18	107,600	167	146.27	120,900
1954	1486	1,900	Feb. 7 or 8	-	163	10.5	143.10	118,300	169	147.63	122,000
1955	1486	909	Dec. 20, 1954	-	191	12.3	167.31	138,300	171	149.52	123,600
1956	1486	1,660	May 16, 1956	6.5	143	9.23	125.59	103,800	160	140.55	116,200
1957	1500	814	Dec. 25, 1956	10	148	9.55	129.40	107,000	130	113.49	93,830
1958	1570	1,440	Nov. 22, 1957	14	146	9.42	128.28	106,000	164	143.23	118,400
1959	1640	1,060	Oct. 21, 1958	21	179	11.5	156.67	129,500	198	173.69	143,600
1960	1720	1,790	Dec. 6, 1959	18	210	13.5	184.55	152,600	-	-	-

220. Harding River near Wrangell

Location.--Lat 56°13', long 131°38', on right bank 1 mile upstream from mouth on north shore of Bradfield Canal, 4 miles downstream from Fall Lake, and 34 miles southeast of Wrangell.

Drainage area.--67.4 sq mi.

Records available.--August 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 20 ft (by barometer).

Average discharge.--9 years (1951-60), 725 cfs (524,900 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 10,400 cfs Dec. 6, 1959 (gage height, 14.26 ft), from rating curve extended above 5,000 cfs by logarithmic plotting; minimum not determined.

Remarks.--Fall Lake, at elevation 182 ft, has an area of 170 acres.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	691	704	-
1952	616	312	250	90	90	100	352	952	1,302	1,571	1,275	1,375	692
1953	1,334	487	197	103	110	148	324	1,250	1,354	1,185	865	1,154	713
1954	1,359	438	296	118	655	109	90	673	1,331	1,252	802	870	666
1955	943	817	484	235	205	145	250	645	1,322	1,418	1,630	1,162	775
1956	790	408	120	65	60	65	301	1,357	1,117	1,300	1,656	795	673
1957	773	554	577	135	90	80	267	1,023	1,486	1,269	832	1,013	678
1958	711	652	243	394	149	166	447	1,068	1,307	1,012	1,254	669	676
1959	1,748	483	375	150	140	173	340	939	1,517	1,806	1,122	918	815
1960	1,323	480	784	257	221	225	492	916	1,309	1,578	1,337	1,093	838

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	42,500	41,880	-
1952	37,890	18,560	15,400	5,530	5,180	6,150	20,920	58,550	77,460	96,630	78,410	81,840	502,500
1953	82,040	28,990	12,140	6,330	6,110	9,110	19,260	76,870	80,590	72,880	53,180	68,660	516,200
1954	83,570	26,070	18,210	7,230	36,400	6,720	5,360	41,410	79,200	76,970	49,310	51,740	482,200
1955	57,960	48,630	29,780	14,430	11,410	8,930	14,870	39,650	78,690	87,220	100,200	69,140	560,900
1956	48,600	24,270	7,380	4,000	3,450	4,000	17,930	83,430	66,480	79,940	101,800	47,290	488,600
1957	47,500	32,950	34,450	8,300	5,000	4,920	15,900	62,890	88,420	78,040	51,160	60,270	490,800
1958	43,690	38,800	14,910	24,240	8,290	10,220	26,600	65,680	77,740	62,220	77,080	39,830	489,300
1959	107,500	28,710	23,060	9,220	7,780	10,630	20,200	57,720	90,250	111,100	68,980	54,610	589,800
1960	81,320	28,560	48,180	15,830	12,720	13,810	29,260	56,350	77,890	97,020	82,200	65,060	608,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	-	-	-
1951	1466	-	-	-	-	-	-	-	-	-	-
1952	1466	6,340	July 8, 1952	-	692	10.3	139.79	502,500	763	154.08	553,800
1953	1466	9,820	Oct. 2, 1952	-	713	10.6	143.60	516,200	719	144.90	521,800
1954	1486	4,520	Sept.25, 1954	-	666	9.88	134.14	482,200	678	136.50	490,700
1955	1486	5,680	Aug. 6, 1955	-	775	11.5	156.02	560,900	697	140.41	504,800
1956	1486	4,750	Aug. 31, 1956	-	673	9.99	135.92	488,600	722	145.85	524,200
1957	1500	8,090	Sept.30, 1957	-	678	10.1	136.54	490,800	652	131.38	472,300
1958	1570	a6,180	Aug. 23, 1958	-	676	10.0	136.11	489,300	761	153.33	551,200
1959	1640	9,900	Oct. 21, 1958	-	815	12.1	164.06	589,800	813	163.72	588,600
1960	1720	10,400	Dec. 6, 1959	104	838	12.4	169.19	608,200	-	-	-

a Maximum peak discharge; maximum discharge during year 6,310 cfs at 12:01 a.m., Oct. 1, 1957, stage falling.

260. Cascade Creek near Petersburg

Location.--Lat 57°01', long 132°47', on right bank 0.25 mile upstream from mouth on east shore of south arm of Thomas Bay, 2¾ miles downstream from Swan Lake, and 15 miles northeast of Petersburg.

Drainage area.--23.0 sq mi.

Records available.--October 1917 to November 1928, October 1946 to September 1960. Monthly discharge only for some periods, published in WSP 1372. Prior to October 1920 published as "at Thomas Bay, near Petersburg."

Gage.--Water-stage recorder. Altitude of gage is 120 ft (by barometer). Prior to October 1946, at different datum.

Average discharge.--25 years (1917-28, 1946-60), 245 cfs (177,400 acre-ft per year).

Extremes.--1917-28, 1946-60: Maximum discharge, 3,280 cfs Sept. 11, 1947 (gage height, 10.0 ft, from floodmarks), from rating curve extended above 1,000 cfs; minimum, 11 cfs Mar. 27, 1948, Mar. 27, 1954, and Mar. 20, 21, 1956, caused by temporary storage behind ice jam upstream.

Remarks.--Swan Lake, at elevation about 1,500 ft, has an area of 614 acres and a drainage area of 18.9 sq mi.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	140	85.5	48.8	41.8	25.6	29.1	44.9	291	584	487	332	285	200
1952	244	112	66.9	33.2	32.6	30.1	46.7	258	438	615	465	522	239
1953	473	159	63.1	33.0	30.3	29.8	42.8	350	458	389	412	385	236
1954	393	133	77.0	50.8	199	34.4	29.9	196	456	390	281	331	214
1955	258	223	149	67.0	45.5	35.7	49.8	136	424	554	549	438	245
1956	215	137	40.0	22.8	20.2	15.6	35.2	360	423	542	662	301	232
1957	233	205	194	69.1	41.6	34.0	51.7	302	491	444	353	481	243
1958	270	253	87.2	101	39.4	43.2	89.8	301	485	421	434	208	229
1959	466	142	105	48.1	56.3	43.3	60.0	265	515	660	476	273	261
1960	407	146	200	69.1	50.9	50.5	129	311	438	565	503	423	275

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8,590	5,090	3,000	2,570	1,420	1,790	2,670	17,870	34,720	29,930	20,420	16,960	145,000
1952	15,020	6,660	4,110	2,040	1,870	1,850	2,780	15,860	26,050	37,840	28,610	31,040	173,700
1953	29,070	9,140	3,880	2,030	1,680	1,830	2,550	21,520	27,260	23,910	25,330	22,920	171,100
1954	24,190	7,890	4,740	3,120	11,030	2,110	1,780	12,060	27,110	24,010	17,310	19,690	155,000
1955	15,870	13,260	9,190	4,120	2,530	2,200	2,960	8,360	25,230	34,090	33,740	26,090	177,600
1956	13,210	8,170	2,460	1,400	1,160	958	2,090	22,120	25,180	33,310	40,680	17,910	168,600
1957	14,320	12,220	11,920	4,250	2,310	2,090	3,070	18,570	29,200	27,310	21,680	28,640	175,600
1958	16,610	15,060	5,360	6,240	2,190	2,660	5,340	18,520	28,870	25,860	26,710	12,380	165,800
1959	28,670	8,420	6,470	2,960	3,130	2,660	3,570	16,320	30,650	40,580	29,260	16,220	188,900
1960	25,030	8,710	12,320	4,250	2,930	3,110	7,650	19,120	26,060	34,710	30,940	25,160	200,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	1466	-	-	-	-	-	-	-	198	117.05	143,600
1951	1466	1,220	June 14, 1951	20	200	8.70	118.25	145,000	213	125.67	154,100
1952	1466	1,800	July 8, 1952	24	239	10.4	141.66	173,700	262	154.94	190,000
1953	1466	1,450	Oct. 1, 1952	23	236	10.3	139.49	171,100	229	135.19	165,800
1954	1486	1,120	Sept.22, 1954	23	214	9.30	126.39	155,000	216	127.61	156,500
1955	1486	1,360	Aug. 7, 1955	26	245	10.7	144.81	177,600	225	133.02	163,200
1956	1486	1,280	Aug. 24, 1956	13	232	10.1	137.49	168,600	252	149.40	183,300
1957	1500	2,350	Sept.30, 1957	31	243	10.6	143.15	175,600	241	141.98	174,200
1958	1570	a1,140	Aug. 7, 1958	23	229	9.96	135.14	165,800	238	140.47	172,300
1959	1640	1,740	Oct. 2, 1958	30	261	11.3	153.99	188,900	264	156.03	191,400
1960	1720	1,370	Oct. 17, 1959	28	275	12.0	163.05	200,000	-	-	-

a Maximum peak discharge; maximum discharge during year 1,680 cfs at 12:01 a.m., Oct. 1, 1957, stage falling.

280. Scenery Creek near Petersburg

Location.--Lat 57°05', long 132°47', on right bank, at east end of Scenery Cove on Thomas Bay, a quarter of a mile upstream from mouth and about 80 miles northeast of Petersburg.

Drainage area.--30.0 sq mi.

Records available.--September 1949 to September 1952. Discharge measurements only in 1953 and 1954.

Gage.--Water-stage recorder. Altitude of gage is 25 ft (from river-profile map).

Extremes.--1949-52: Maximum discharge, 4,300 cfs Sept. 23, 1949 (gage height, 5.28 ft), from rating curve extended above 1,500 cfs; minimum not determined.

Remarks.--Scenery Lake, about 3 miles above station, has an area of 544 acres. No diversion or regulation above station. Discharge measurements, in cubic feet per second, made at this site during 1953 and 1954 water years are as follows:

Oct. 25, 1952	434	Dec. 15, 1953	60.7
Dec. 3, 1952	88.6	Apr. 10, 1954	31.7
Apr. 4, 1953	68.8	June 3, 1954	389
Sept.17, 1953	576	Oct. 22, 1954	416

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	205	112	60.0	55.0	33.0	38.0	91.3	351	631	549	372	375	240
1952	313	139	71.7	42	47.8	57.1	112	319	468	698	532	580	282

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12,620	6,660	3,690	3,380	1,830	2,340	5,430	21,580	37,570	33,760	22,860	22,330	174,000
1952	19,280	8,270	4,410	2,580	2,750	3,510	6,630	19,590	27,850	42,930	32,720	34,510	205,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	247	111.90	179,000
1951	1466	2,020	June 14, 1951	-	240	8.00	108.77	174,000	253	114.39	183,000
1952	1466	3,460	July 7, 1952	-	282	9.40	128.15	205,000	-	-	-

340. Long River near Juneau

Location.--Lat 58°10'00", long 133°41'50", on right bank three-eighths of a mile upstream from Indian Lake, 1 mile downstream from Long Lake, and 27 miles southeast of Juneau.

Drainage area.--32.5 sq mi.

Records available.--October 1915 to September 1924, October to December 1926, June 1927 to May 1933, October 1951 to September 1960. Monthly discharge only for some periods, published in WSP 1372. Prior to January 1921 published as "below Second Lake, at Port Snettisham."

Gage.--Water-stage recorder. Altitude of gage is 183 ft (from topographic map). Prior to Oct. 1, 1929, at site 600 ft upstream at different datum.

Average discharge.--23 years (1915-24, 1927-32, 1951-60), 457 cfs (330,900 acre-ft per year).

Extremes.--1915-24, 1927-33, 1951-60: Maximum discharge, 6,000 cfs Sept. 10, 1927 (gage height, 10.2 ft, site and datum then in use), from rating curve extended above 1,700 cfs by logarithmic plotting; minimum recorded, 22 cfs Mar. 22, 1933.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	310	129	90.9	38	38	49.7	150	439	733	1,043	958	1,103	425
1953	1,124	445	121	57.8	67.2	48.3	84.8	572	943	929	1,018	881	527
1954	909	143	139	70.9	275	59.7	50	321	754	816	631	909	424
1955	466	470	366	88.7	55	60	67.1	286	670	1,036	1,145	845	466
1956	338	212	55	30	30	40	70	489	591	1,021	1,353	668	410
1957	374	434	347	122	45.0	35.0	87.1	472	801	830	807	1,024	450
1958	587	449	119	193	70	50	150	549	1,043	979	989	530	478
1959	748	254	143	70	70	60	99.3	427	905	1,210	895	583	458
1960	566	274	201	91.1	54.6	71.8	147	472	705	1,044	973	979	466

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	19,080	7,680	5,590	2,340	2,190	3,050	8,920	27,010	43,640	64,150	58,900	65,660	308,200
1953	69,110	26,480	7,440	3,550	3,730	2,970	5,050	35,160	56,130	57,150	62,600	52,420	381,800
1954	55,910	8,510	8,570	4,360	15,280	3,670	2,980	19,750	44,840	50,180	38,770	54,070	306,900
1955	28,650	27,980	22,510	5,450	3,050	3,690	3,990	17,590	39,870	63,690	70,400	50,290	337,200
1956	20,760	12,600	3,380	1,840	1,730	2,460	4,170	30,090	35,170	62,770	83,160	39,720	297,800
1957	22,990	25,850	21,340	7,530	2,500	2,150	5,180	29,010	47,690	51,030	49,640	60,950	325,900
1958	36,100	26,710	7,320	11,880	3,890	3,070	8,900	33,750	62,080	60,200	60,840	31,510	346,200
1959	45,990	15,110	8,770	4,300	3,890	3,890	5,910	26,230	53,880	74,390	55,040	34,680	331,900
1960	34,820	16,300	12,350	5,600	3,140	4,410	8,730	29,040	41,960	64,170	59,820	58,280	338,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-	-	-
1952	1466	3,380	Sept.14, 1952	-	425	13.1	177.82	308,200	522	218.60	378,900
1953	1466	3,760	Aug. 14, 1953	-	527	16.2	220.25	381,800	486	202.92	351,800
1954	1486	3,860	Sept.21, 1954	-	424	13.0	177.05	306,900	432	180.60	313,000
1955	1486	2,690	Sept. 2, 1955	-	466	14.3	194.52	337,200	407	170.05	294,800
1956	1486	2,400	Aug. 24, 1956	-	410	12.6	171.83	297,800	456	191.13	331,300
1957	1500	5,310	Sept.30, 1957	-	450	13.8	187.99	325,900	450	187.95	325,800
1958	1570	a2,410	July 21, 1958	-	478	14.7	199.74	346,200	478	199.61	346,000
1959	1640	2,870	July 30, 1959	-	458	14.1	191.47	331,900	450	187.77	325,500
1960	1720	2,980	Sept. 8, 1960	37	466	14.3	195.36	338,600	-	-	-

a Maximum peak discharge; maximum discharge during year 3,400 cfs at 12:01 a.m., Oct. 1, 1957, stage falling.

400. Dorothy Creek near Juneau

Location.--Lat 58°13'40", long 134°02'25", on left bank 0.7 mile downstream from Lake Bart, 0.8 mile upstream from mouth, 3 miles downstream from Lake Dorothy, and 14 miles southeast of Juneau.

Drainage area.--15.2 sq mi.

Records available.--October 1929 to October 1941, September 1942 to December 1943, June 1944 to September 1960. Monthly discharge only prior to October 1945, published in WSP 1372.

Gage.--Water-stage recorder. Altitude of gage is 350 ft (from topographic map). Prior to Sept. 14, 1937, at site 100 ft upstream from mouth at different datum.

Average discharge.--29 years (1929-41, 1942-43, 1944-60), 143 cfs (103,500 acre-ft per year).

Extremes.--1929-41, 1942-60: Maximum discharge, 1,780 cfs Nov. 3, 1949 (gage height, 5.85 ft), from rating curve extended above 560 cfs; minimum recorded, 6 cfs Mar. 23, 25, 28, 1933.

Remarks.--Lake Dorothy (area, 952 acres) lies at an altitude of 2,423 ft, less than 4 miles from the mouth of Dorothy Creek; Lieuy Lake (area, 80 acres) lies at an altitude of 1,711 ft; and Bart Lake (area, 250 acres) lies at an altitude of 986 ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	97.5	31.7	14.3	18.5	14.6	16.8	23.4	91.6	280	322	216	227	113
1952	144	45.9	22.1	17.3	17.4	15.1	22.4	80.5	180	306	289	334	123
1953	327	159	32.7	19.1	19.5	21.2	22.6	118	249	317	333	284	159
1954	236	92.5	30.5	25.8	65.0	25.4	16.5	64.5	198	241	198	241	120
1955	135	114	72.4	28.4	18.6	19.4	20.3	61.5	167	325	340	253	130
1956	118	53.0	21.4	11.3	10	14.1	20.2	111	171	302	440	240	127
1957	121	82.9	101	59.3	17.3	14.3	17.4	101	240	258	249	288	130
1958	222	170	33.8	39.1	16.0	14.1	23.3	103	314	282	332	169	144
1959	183	103	37.0	23.3	18.0	23.4	22.7	83.0	249	375	318	160	134
1960	149	72.8	46.5	26.6	18.3	15.5	29.2	103	197	350	309	297	135

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,990	1,890	877	1,140	811	1,030	1,390	5,630	16,660	19,770	13,290	13,510	81,990
1952	8,870	2,730	1,360	1,060	1,000	930	1,330	4,950	10,720	18,840	17,750	19,870	89,410
1953	20,120	9,450	2,010	1,170	1,080	1,300	1,350	7,250	14,840	19,500	20,470	16,890	115,400
1954	14,530	5,510	1,880	1,580	3,610	1,560	984	3,970	11,770	14,830	12,160	14,350	86,730
1955	8,310	6,780	4,450	1,740	1,030	1,190	1,210	3,780	9,940	19,970	20,890	15,030	94,300
1956	7,250	3,150	1,320	694	575	865	1,200	6,820	10,190	18,560	27,070	14,280	91,970
1957	7,430	4,930	6,200	3,640	962	879	1,030	6,210	14,290	15,840	15,290	17,110	93,810
1958	13,680	10,130	2,080	2,400	887	865	1,380	6,340	18,670	17,320	20,440	10,030	104,200
1959	11,260	6,120	2,280	1,430	1,000	1,440	1,350	5,110	14,800	23,060	19,560	9,500	96,910
1960	9,190	4,330	2,860	1,640	1,050	956	1,740	6,320	11,740	21,500	19,010	17,890	98,030

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	1466	-	-	-	-	-	-	-	110	98.63	79,950
1951	1466	686	June 12, 1951	13	113	7.43	101.13	81,990	119	106.31	86,190
1952	1466	730	Sept. 15, 1952	14	123	8.09	110.30	89,410	149	133.27	108,000
1953	1466	910	Aug. 15, 1953	15	159	10.5	142.38	115,400	146	130.45	105,800
1954	1486	649	Sept. 24, 1954	15	120	7.89	106.99	86,730	116	104.05	84,330
1955	1486	575	Aug. 10, 1955	16	130	8.55	116.34	94,300	119	106.72	86,500
1956	1486	827	Aug. 26, 1956	-	127	8.36	113.48	91,970	136	121.93	98,810
1957	1500	898	Sept. 30, 1957	-	130	8.55	115.74	93,810	140	124.76	101,100
1956	1570	a560	July 22, 1958	11	144	9.47	128.57	104,200	135	120.89	97,990
1959	1640	792	July 18, 1959	16	134	8.82	119.52	96,910	129	115.47	93,630
1960	1720	560	Sept. 14, 1960	13	135	8.88	120.90	98,030	-	-	-

a Maximum peak discharge; maximum discharge during water year 886 cfs at 12:01 a.m. Oct. 1, 1957, stage falling.

440. Carlson Creek near Juneau

Location.--Lat 58°19'00", long 134°10'15", on left bank between two unnamed tributaries, 1½ miles upstream from mouth, 1¾ miles downstream from Sheep Fork, and 8¾ miles east of Juneau.

Drainage area.--24.3 sq mi.

Records available.--July 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 130 ft (from topographic map).

Average discharge.--9 years (1951-60), 325 cfs (235,300 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 4,500 cfs Sept. 30, 1957 (gage height, 9.55 ft); minimum not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	525	305	282	-
1952	265	118	49.6	17	16	26.1	92.6	369	695	733	566	724	306
1953	764	350	120	37.6	30	13	103	505	730	528	496	512	351
1954	692	116	123	42.9	189	32.3	30.0	323	659	562	283	448	292
1955	359	372	296	74.4	47.1	33.0	45.3	273	652	821	840	541	365
1956	275	160	29.4	21	22	17	55.9	540	560	606	767	382	288
1957	296	447	223	60.0	25	17	69.3	465	743	602	352	534	321
1958	359	382	55.1	105	22	23	133	582	754	518	511	371	319
1959	555	170	115	50	37.5	52.2	72.6	392	832	787	600	309	333
1960	373	227	105	52.9	25.0	37.9	102	493	707	827	599	635	350

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	32,280	18,770	16,780	-
1952	16,270	7,020	3,050	1,050	920	1,610	5,510	22,720	41,350	45,050	34,810	43,100	222,500
1953	46,980	20,830	7,350	2,310	1,670	799	6,120	31,080	43,430	32,440	30,480	30,470	254,000
1954	42,530	6,900	7,540	2,640	10,480	1,980	1,790	19,840	39,210	34,580	17,400	26,650	211,500
1955	22,080	22,150	18,190	4,570	2,620	2,030	2,700	16,800	38,810	50,460	51,670	32,170	264,200
1956	16,930	9,520	1,810	1,290	1,270	1,050	3,320	33,200	33,350	37,250	47,140	22,730	208,900
1957	18,210	26,610	13,700	3,690	1,390	1,050	4,120	28,620	44,240	37,000	21,650	31,770	232,000
1958	22,050	22,730	3,390	6,480	1,220	1,410	7,900	35,770	44,870	31,880	31,400	22,070	231,200
1959	34,160	10,130	7,080	3,070	2,080	3,210	4,320	24,090	49,510	48,410	36,890	18,380	241,300
1960	22,940	13,530	6,460	3,250	1,440	2,330	6,040	30,330	42,060	50,850	35,860	37,790	253,900

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	-	-	-
1951	1466	-		-	-	-	-	-	-	-	-
1952	1466	4,390	Sept.14, 1952	-	306	12.6	171.66	222,500	374	209.31	271,300
1953	1466	3,860	Aug. 14, 1953	-	351	14.4	195.95	254,000	326	181.91	235,800
1954	1486	4,280	Oct. 22, 1953	-	292	12.0	163.22	211,500	300	167.42	217,000
1955	1486	3,030	Sept.24, 1955	-	365	15.0	203.88	264,200	318	177.52	230,100
1956	1486	3,040	Sept.19, 1956	-	288	11.9	161.15	208,900	329	184.51	239,100
1957	1500	4,500	Sept.30, 1957	-	321	13.2	179.03	232,000	306	171.05	221,700
1958	1570	3,210	Nov. 2, 1957	-	319	13.1	178.37	231,200	324	180.82	234,400
1959	1640	3,200	Oct. 1, 1958	-	333	13.7	186.20	241,300	322	179.70	232,900
1960	1720	4,110	Sept. 8, 1959	-	350	14.4	195.88	253,900	-	-	-

480. Sheep Creek near Juneau

Location.--Lat 58°16'30", long 134°18'50", on right bank 0.3 mile upstream from diversion dam of Alaska-Juneau Gold Mining Co.'s Sheep Creek powerplant, 1 mile northeast of Thane, 1¼ miles upstream from mouth, and 4 miles southeast of Juneau.

Drainage area.--4.30 sq mi.

Records available.--January 1911 to December 1913, August 1916 to December 1920, October 1946 to September 1960. Monthly discharge only for some periods, published in WSP 1372. Prior to 1946 published as "near Thane."

Gage.--Water-stage recorder and wooden control. Datum of gage is 643.5 ft above mean sea level (levels by Conservation Division, U.S. Geological Survey). Prior to August 1916, staff gage at same site and datum.

Average discharge.--20 years (1911-13, 1916-20, 1946-60), 46.3 cfs (33,520 acre-ft per year).

Extremes.--1911-13, 1916-20, 1946-60: Maximum discharge, 840 cfs Sept. 8, 1948 (gage height, 3.60 ft); no flow at times at gage site but probably some flow at all times at diversion dam 0.3 miles downstream (records for period 1916-20 based on measurements at diversion dam).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	36.0	18.4	5.33	5.58	0.38	0.53	15.5	87.5	115	67.4	40.0	34.1	35.7
1952	30.0	24.3	12.4	2.9	1.2	1.63	11.7	77.8	107	91.1	60.9	100	43.5
1953	91.6	62.5	18.8	7.42	5.63	1.50	19.4	90.5	86.3	69.4	64.9	70.5	49.3
1954	96.5	23.8	22.2	10.5	16.1	4.21	2.76	45.0	76.0	62.0	28.2	40.4	35.8
1955	53.0	53.0	46.0	13.0	6.86	4.75	4.82	39.8	87.7	77.9	95.9	62.0	45.6
1956	46.8	23.8	4.54	.79	.05	0	3.69	94.6	69.1	60.4	90.5	51.3	37.3
1957	54.1	64.9	50.4	18.9	4.0	.97	8.68	65.1	88.7	64.0	31.7	57.5	42.6
1958	38.8	55.3	14.3	22.0	6.0	3.70	19.0	73.0	67.8	51.2	55.9	40.0	37.4
1959	84.9	34.0	23.0	10.1	5.25	6.52	13.8	76.4	98.2	101	81.2	49.4	49.0
1960	56.3	39.1	25.2	11.7	7.23	6.35	21.7	71.6	86.6	106	101	100	52.9

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,210	1,090	327	343	21	33	924	5,380	6,860	4,150	2,460	2,030	25,830
1952	1,850	1,440	760	178	69	100	696	4,780	6,390	5,600	3,740	5,960	31,560
1953	5,630	3,720	1,160	456	313	92	1,150	5,560	5,140	4,270	3,990	4,200	35,680
1954	5,930	1,420	1,360	646	892	259	164	2,770	4,520	3,810	1,740	2,400	25,910
1955	3,260	3,160	2,830	802	381	292	287	2,450	5,220	4,790	5,900	3,690	33,060
1956	2,880	1,420	279	48	3.0	0	219	5,820	4,110	3,710	5,570	3,050	27,110
1957	3,330	3,860	3,100	1,160	222	60	517	4,000	5,280	3,930	1,950	3,420	30,830
1958	2,390	3,290	882	1,350	333	228	1,130	4,490	4,030	3,150	3,440	2,380	27,090
1959	5,220	2,030	1,410	619	291	401	819	4,700	5,850	6,210	4,990	2,940	35,480
1960	3,460	2,330	1,550	722	416	390	1,290	4,400	5,150	6,530	6,190	5,970	38,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-		30.5	96.42	22,110
1951	1466	292	June 10, 1951	0	35.7	8.30	112.63	25,830	36.3	114.44	26,250
1952	1466	540	Sept.14, 1952	-	43.5	10.1	137.68	31,560	52.4	165.85	38,020
1953	1466	337	Aug. 14, 1953	-	49.3	11.5	155.54	35,680	46.8	147.72	33,880
1954	1486	499	Oct. 22, 1953	-	35.8	8.33	113.01	25,910	36.5	115.32	26,450
1955	1486	462	Aug. 9, 1955	3.0	45.6	10.6	144.11	33,060	39.2	123.73	28,390
1956	1486	324	May 15, 1956	0	37.3	8.67	118.73	27,110	45.2	143.10	32,820
1957	1500	466	Sept.30, 1957	0	42.6	9.91	134.44	30,830	37.4	118.20	27,100
1958	1570	416	Nov. 2, 1957	2.0	37.4	8.70	118.16	27,090	40.3	127.29	29,190
1959	1640	606	July 30, 1959	3.5	49.0	11.4	154.68	35,480	47.2	148.93	34,160
1960	1720	675	Sept. 8, 1960	-	52.9	12.3	167.42	38,400	-	-	-

500. Gold Creek at Juneau

Location.--Lat 58°18'25", long 134°24'05", on left bank 10 ft downstream from highway bridge, 150 ft upstream from Alaska Electric Light and Power Co. dam and diversion, half a mile northeast of Juneau, and 1 mile upstream from mouth.

Drainage area.--9.76 sq mi.

Records available.--July 1916 to December 1920, October 1946 to September 1948, October 1949 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 245 ft (from topographic map). July 20, 1916, to Dec. 31, 1920, water-stage recorder at site 50 ft upstream at different datum. Sept. 11, 1946, to Sept. 30, 1948, staff gage at site 0.7 mile downstream at different datum.

Average discharge.--17 years (1916-20, 1946-48, 1949-60), 105 cfs (76,020 acre-ft per year).

Extremes.--1916-20, 1946-48, 1949-60: Maximum discharge, 2,600 cfs Sept. 26, 1918 (gage height, 6.8 ft, site and datum then in use), from rating curve extended above 520 cfs; no flow at times, during winters of 1951 and 1956.

Remarks.--One small diversion above station for domestic water supply.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	69.6	30.4	6.43	5.06	1.52	2.38	22.1	170	246	177	104	89.7	77.5
1952	62.6	41.0	18.7	4.36	2.23	3.96	23.1	117	207	237	201	261	98.4
1953	203	129	32.2	11.2	8.53	2.69	26.2	170	218	176	166	167	110
1954	210	35.3	33.7	11.2	50.0	4.67	3.78	104	201	177	98.3	115	87.4
1955	109	122	103	20.9	9.64	5.66	8.98	86.2	227	271	270	168	117
1956	87.0	50.5	6.22	2.0	.60	.34	6.16	186	182	201	251	112	90.9
1957	99.9	165	95.0	25.3	5.76	2.75	16.8	152	262	192	110	154	107
1958	92.4	148	21.1	44.2	8.29	6.23	36.7	167	207	167	147	101	95.8
1959	179	56.1	49.0	10.6	5.68	9.09	17.9	142	281	291	218	125	116
1960	137	82.2	38.1	16.0	9.68	8.28	31.9	159	220	269	179	199	113

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,300	1,810	395	311	85	146	1,320	10,450	14,660	10,890	6,370	5,320	56,060
1952	3,850	2,440	1,150	268	128	243	1,380	7,170	12,330	14,600	12,340	15,540	71,440
1953	12,470	7,700	1,980	687	474	165	1,560	10,430	12,990	10,810	10,210	9,920	79,400
1954	12,910	2,100	2,070	686	2,780	287	225	6,420	11,970	10,910	6,050	6,840	63,250
1955	6,720	7,250	6,310	1,290	535	348	535	5,300	13,500	16,640	16,600	9,990	85,020
1956	5,350	3,010	383	123	35	21	367	11,430	10,800	12,340	15,440	6,680	65,980
1957	6,140	9,830	5,840	1,560	320	169	998	9,340	15,580	11,820	6,760	9,190	77,550
1958	5,680	8,790	1,300	2,720	461	383	2,180	10,260	12,310	10,240	9,010	6,020	69,350
1959	10,990	3,340	3,010	651	316	559	1,070	8,730	16,720	17,870	13,420	7,410	84,090
1960	8,400	4,890	2,340	985	557	509	1,900	9,800	13,080	16,550	11,000	11,860	81,870

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	72.8	148.68	52,840
1951	1466	700	June 10, 1951	0	77.5	7.94	107.72	56,060	78.8	109.52	56,990
1952	1466	1,360	Sept. 13, 1952	1.7	98.4	10.1	137.23	71,440	119	165.48	86,150
1953	1466	926	Oct. 19, 1952	-	110	11.3	152.52	79,400	103	142.81	74,330
1954	1486	1,340	Oct. 22, 1953	-	87.4	8.95	121.52	63,250	91.8	127.65	66,450
1955	1486	1,000	Aug. 9, 1955	-	117	12.0	163.33	85,020	101	141.17	73,480
1956	1486	774	Aug. 28, 1956	0	90.9	9.31	126.76	65,980	109	151.88	79,050
1957	1500	1,320	Sept. 30, 1957	2.3	107	11.0	148.99	77,550	98.8	137.38	71,510
1958	1570	1,140	Nov. 2, 1957	3.5	95.8	9.82	133.23	69,350	97.9	136.23	70,920
1959	1640	1,200	July 30, 1959	3.9	116	11.9	161.51	84,090	114	158.23	82,380
1960	1720	1,300	Sept. 8, 1960	-	113	11.6	157.31	81,870	-	-	-

520. Lemon Creek near Juneau

Location.--Lat 58°23'30", long 134°25'15", on left bank a quarter of a mile upstream from Canyon Creek, 4½ miles upstream from mouth, and 6 miles north of Juneau.

Drainage area.--12.1 sq mi.

Records available.--August 1951 to November 1953, July 1954 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 650 ft (from topographic map).

Average discharge.--8 years (1951-53, 1954-60), 152 cfs (110,000 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 2,080 cfs Sept. 14, 1952 (gage height, 4.08 ft), from rating curve extended above 650 cfs by logarithmic plotting; minimum not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	406	369	-
1952	101	18.9	5.0	1.5	1.0	1.5	7.0	47.0	158	310	383	429	122
1953	350	66.9	10	3.0	2.0	1.5	12	115	310	446	515	358	184
1954	200	28	-	-	-	-	-	-	-	346	324	338	-
1955	78.6	77.8	30.3	5.5	2.5	1.5	4.5	44.4	180	391	447	290	130
1956	51.1	22	6.0	3.0	2.0	1.5	5.5	93.3	186	406	602	291	140
1957	50.8	70.3	41.9	14	5	3	9.50	107	293	367	421	544	161
1958	169	101	9.70	12	5.0	3.5	21.1	102	371	480	461	228	165
1959	130	28	7	5	4	4	9.63	85.5	292	518	428	224	146
1960	155	38.5	13.8	6	5	5	20.7	103	233	490	437	483	166

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	24,990	21,960	-
1952	6,200	1,130	307	92	58	92	417	2,890	9,390	19,070	23,540	25,530	88,720
1953	21,500	3,980	615	184	111	92	714	7,080	18,460	27,440	31,650	21,300	133,100
1954	12,270	1,670	-	-	-	-	-	-	-	21,260	19,920	20,110	-
1955	4,830	4,630	1,860	338	139	92	268	2,730	10,680	24,070	27,460	17,270	94,370
1956	3,140	1,310	369	184	115	92	327	5,730	11,070	24,960	37,010	17,320	101,600
1957	3,130	4,190	2,580	861	278	184	565	6,610	17,450	22,570	25,870	32,340	116,600
1958	10,410	5,980	597	738	278	215	1,260	6,250	22,070	29,510	28,330	13,550	119,200
1959	7,990	1,670	430	307	222	246	573	5,250	17,390	31,870	26,340	13,340	105,600
1960	9,550	2,290	851	369	288	307	1,230	6,320	13,860	30,100	28,840	28,720	120,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	-	-	-
1951	1466	-	-	-	-	-	-	-	-	-	-
1952	1466	2,080	Sept.14, 1952	-	122	10.1	137.46	88,720	148	166.06	107,200
1953	1466	1,770	Aug. 14, 1953	-	184	15.2	206.29	133,100	-	-	-
1954	1486	1,310	Sept.21, 1954	-	-	-	-	-	-	-	-
1955	1486	956	Aug. 6, 1955	-	130	10.7	146.22	94,370	121	136.15	87,870
1956	1486	1,480	Sept.19, 1956	-	140	11.6	157.48	101,600	147	165.34	106,700
1957	1500	1,970	Sept.30, 1957	-	161	13.3	180.72	116,600	171	191.71	123,700
1958	1570	1,450	Aug. 15, 1958	-	165	13.6	184.68	119,200	155	174.00	112,300
1959	1640	-	-	-	146	12.1	163.69	105,600	150	167.72	108,200
1960	1720	1,420	Sept. 8, 1960	-	166	13.7	187.09	120,700	-	-	-

565. Chilkat River near Klukwan

Location.--Lat 59°24'55", long 135°55'45", in sec.29, T.28 S., R.56 E., near left bank on downstream side of bridge on Haines Highway, a quarter of a mile upstream from Klehini River and 2 miles northwest of Klukwan.

Drainage area.--760 sq mi, approximately.

Records available.--July 1959 to September 1960.

Gage.--Wire-weight gage. Altitude of gage is 100 ft (from topographic map).

Extremes.--1959-60: Maximum discharge observed, 14,200 cfs June 30, 1960 (gage height, 26.45 ft); minimum not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	8,085	5,715	2,564	-
1960	1,507	921	862	440	290	277	880	4,672	8,139	9,019	7,079	3,572	3,151

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	497,100	351,400	152,600	-
1960	92,690	54,800	53,030	27,040	16,680	17,020	52,380	287,300	484,300	554,600	435,300	212,500	2,288,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Maximum observed		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1959	1720	-	-	-	-	-	-	-	-	-	-
1960	1720	14,200	June 30, 1960	-	3,151	4.15	56.44	2,288,000	-	-	-

580. Purple Lake Outlet near Metlakatla

Location.--Lat 55°06', long 131°26', on Annette Island, on right bank 1,200 ft downstream from outlet of Purple Lake, 2½ miles upstream from mouth, and about 6 miles east of Metlakatla.

Drainage area.--6.8 sq mi, approximately.

Records available.--July 1947 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 310 ft (by barometer). Prior to Aug. 22, 1953, at different datums.

Average discharge.--9 years (1947-56), 89.4 cfs (64,720 acre-ft per year).

Extremes.--1947-56: Maximum discharge, 716 cfs Apr. 27, 1949 (gage height, 5.15 ft, datum then in use), from rating curve extended above 380 cfs; minimum daily, 2 cfs Jan. 30 to Feb. 1, 1950.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	80.0	74.1	117	81.7	59.8	64.2	52.1	81.1	102	18.3	26.5	34.4	65.9
1952	93.6	75	75	70	90	65	100	75	60.3	40.1	45.1	110	74.7
1953	105	96.8	80.4	51.2	138	107	89.3	125	19.9	46.6	21.1	114	82.5
1954	200	184	170	62.4	201	45.3	76.6	98.6	94.6	50.3	11.6	55.2	103
1955	186	208	231	129	125	51.5	111	99.6	70.7	20.8	109	79.2	118
1956	211	78.7	54.0	22.6	56.9	27.7	105	120	104	47.5	112	52.0	82.8
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,920	4,410	7,170	5,020	3,320	3,950	3,100	4,990	6,060	1,120	1,630	2,050	47,740
1952	5,750	4,460	4,610	4,300	5,160	4,000	5,950	4,610	3,590	2,460	2,770	6,550	54,230
1953	6,470	5,760	4,940	3,150	7,650	6,570	5,310	7,700	1,190	2,880	1,300	6,800	59,720
1954	12,290	10,980	10,470	3,840	11,190	2,790	4,560	6,060	5,630	3,090	714	3,290	74,900
1955	11,420	12,370	14,200	7,910	6,920	3,170	6,590	6,120	4,200	1,280	6,720	4,710	85,610
1956	12,960	4,680	3,320	1,390	3,270	1,710	6,260	7,360	6,210	2,920	6,910	3,090	60,080
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	78.1	155.81	59,640
1951	1466	380	June 13, 1951	6.5	65.9	9.69	131.61	47,740	63.6	127.00	46,060
1952	1466	423	Dec. 9 or 10	2.3	74.7	11.0	149.57	54,230	77.9	156.03	56,580
1953	1466	-	-	6.8	82.5	12.1	164.64	59,720	105	210.30	76,290
1954	1486	660	Feb. 2, 1954	3.3	103	15.1	206.49	74,900	109	218.24	79,150
1955	1486	557	Dec. 20, 1954	6.4	118	17.4	236.09	85,610	94.7	189.13	68,580
1956	1486	467	Apr. 18, 1956	6.4	82.8	12.2	165.72	60,080	-	-	-
1957	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-

600. Perseverance Creek near Wacker

Location.--Lat 55°24'40", long 131°40'05", on Revillagigedo Island, on right bank 500 ft downstream from Perseverance Lake, half a mile upstream from Connell Lake, 2 miles east of Wacker, and 4 miles north of Ketchikan.

Drainage area.--2.81 sq mi.

Records available.--October 1931 to September 1938, November 1938, June to September 1939, October 1946 to September 1960. Monthly discharge only for some periods, published in WSP 1372.

Gage.--Water-stage recorder and wooden control. Altitude of gage is 600 ft (from topographic map). Prior to October 1946, at site 100 ft upstream at different datum.

Average discharge.--21 years (1931-38, 1946-60), 36.7 cfs (26,570 acre-ft per year).

Extremes.--1931-39, 1946-60: Maximum discharge, 543 cfs Oct. 30, 1949 (gage height, 5.26 ft), from rating curve extended above 150 cfs; minimum daily, 0.4 cfs Sept. 26, 1957.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	36.2	31.3	32.6	22.1	18.2	27.1	30.8	63.4	70.4	10.4	10.1	20.6	31.1
1952	45.6	25.1	30.4	28.9	27.5	18.6	42.2	51.6	48.4	23.3	27.4	49.7	34.9
1953	47.0	33.4	34.4	10.9	39.4	34.2	28.7	71.4	22.8	22.8	10.4	50.4	33.8
1954	82.1	52.3	55.0	16.9	93.4	12.4	21.8	56.2	49.1	21.6	3.91	24.3	40.4
1955	71.4	71.0	73.4	41.3	28.0	16.5	29.7	47.3	49.1	16.1	54.0	34.1	44.5
1956	78.8	28.2	9.63	5.13	16.2	6.13	43.5	78.1	57.1	15.4	54.1	18.3	34.3
1957	49.9	62.7	62.1	8.02	8.00	8.18	36.1	43.8	24.6	21.3	6.15	19.4	29.3
1958	44.2	55.7	24.5	59.8	22.7	14.3	40.1	43.1	1.88	3.45	60.5	30.9	33.5
1959	91.9	37.5	51.7	18.4	24.6	48.2	30.3	43.9	40.7	28.8	23.4	28.7	39.2
1960	60.9	54.9	74.3	21.0	22.3	52.4	44.6	38.0	37.9	46.6	12.3	41.4	42.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,230	1,870	2,000	1,360	1,010	1,660	1,830	3,900	4,190	642	622	1,230	22,540
1952	2,800	1,490	1,870	1,770	1,580	1,140	2,520	3,180	2,880	1,430	1,680	2,960	25,300
1953	2,890	1,990	2,110	669	2,190	2,100	1,710	4,390	1,350	1,400	641	3,000	24,440
1954	5,050	3,110	3,380	1,040	5,190	764	1,300	3,450	2,920	1,330	240	1,450	29,220
1955	4,390	4,220	4,520	2,540	1,560	1,020	1,760	2,910	2,920	991	3,320	2,030	32,180
1956	4,850	1,680	592	315	934	377	2,590	4,800	3,400	946	3,330	1,090	24,900
1957	3,070	3,730	3,820	493	444	503	2,150	2,690	1,460	1,310	378	1,160	21,210
1958	2,720	3,310	1,510	3,680	1,260	878	2,390	2,650	112	212	3,720	1,840	24,280
1959	5,650	2,230	3,180	1,130	1,370	2,960	1,800	2,700	2,420	1,770	1,440	1,710	28,360
1960	3,740	3,260	4,570	1,290	1,280	3,220	2,660	2,340	2,250	2,870	754	2,460	30,690

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	32.4	156.35	23,430
1951	1466	409	June 11, 1951	2.0	31.1	11.1	150.43	22,540	31.2	150.86	22,600
1952	1466	356	Oct. 7, 1951	.8	34.9	12.4	168.91	25,300	36.0	174.47	26,130
1953	1466	344	May 12, 1953	1.1	33.8	12.0	163.11	24,440	40.0	193.47	28,990
1954	1486	492	Feb. 2, 1954	.5	40.4	14.4	194.98	29,220	42.6	205.57	30,810
1955	1486	447	Oct. 16, 1954	2.8	44.5	15.8	214.73	32,180	36.1	174.60	26,170
1956	1486	380	Oct. 23, 1955	-	34.3	12.2	166.08	24,900	39.1	189.43	28,400
1957	1500	387	Dec. 24, 1956	.4	29.3	10.4	141.49	21,210	25.0	120.96	18,130
1958	1570	505	Apr. 11, 1958	.6	33.5	11.9	161.99	24,280	38.4	185.48	27,800
1959	1640	510	Oct. 21, 1958	2.2	39.2	14.0	189.20	28,360	39.9	192.63	28,870
1960	1720	451	Dec. 5, 1959	1.0	42.3	15.1	204.79	30,690	-	-	-

620. Ward Creek near Wacker

Location.--Lat 55°25'50", long 131°40'00", on Revillagigedo Island, on right bank three-quarters of a mile downstream from Connell Lake Dam, 2¼ miles northeast of Wacker, and 5½ miles north of Ketchikan.

Drainage area.--14.0 sq mi. At sites October 1948 to June 1952, 12.8 sq mi.

Records available.--October 1948 to August 1958.

Gage.--Water-stage recorder. Altitude of gage is 150 ft (from topographic map). Prior to June 20, 1952, water-stage recorder at several sites three-quarters of a mile upstream at various datums. June 20 to Dec. 11, 1952, staff gage at present site and datum.

Extremes.--1948-58: Maximum discharge, 2,600 cfs Apr. 16, 1952 (gage height, 6.83 ft, site and datum then in use); minimum daily, 0.5 cfs Aug. 28 to Sept. 5, 1954.

Remarks.--Flow regulated by Lake Connell starting in October 1953 (capacity, 11,510 acre-ft). Water diverted above station from Lake Connell by 60-inch pipeline for use by Ketchikan Pulp Co. at Ward Cove.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	158	109	219	88.6	47.6	69.1	152	231	214	43.0	42.2	78.5	121
1952	166	126	132	127	124	70.1	244	211	171	75.7	78.2	166	141
1953	208	138	133	61.1	187	120	136	221	76.2	62.1	34.7	126	125
1954	136	198	192	85.5	71.0	59.0	18.2	115	104	25.9	3.02	9.93	85.0
1955	138	188	186	72.4	58.8	21.4	71.7	90.3	93.9	12.2	89.3	86.0	92.4
1956	207	46.1	10.3	5.85	9.38	7.48	18.4	140	88.9	6.88	65.0	33.4	53.5
1957	97.3	138	125	18.1	10.7	6.80	12.4	30.9	30.8	38.5	18.4	20.2	45.6
1958	26.4	80.6	48.0	181	42.8	39.1	68.1	85.7	6.46	.25	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9,720	6,490	13,450	5,450	2,640	4,250	9,030	14,200	12,750	2,650	2,590	4,670	87,890
1952	10,200	7,480	8,130	7,830	7,140	4,310	14,510	13,000	10,190	4,660	4,810	9,900	102,200
1953	12,780	8,240	8,190	3,760	10,380	7,380	8,080	13,560	4,530	3,820	2,140	7,480	90,340
1954	8,380	11,790	11,820	5,260	3,950	3,630	1,080	7,080	6,220	1,590	186	591	61,580
1955	8,470	11,180	11,430	4,450	3,260	1,320	4,270	5,550	5,590	749	5,490	5,120	66,880
1956	12,700	2,740	631	360	539	460	1,090	8,640	5,290	423	4,000	1,990	38,860
1957	5,980	8,230	7,680	1,110	593	418	740	1,900	1,830	2,180	1,130	1,200	32,990
1958	1,630	4,800	2,950	11,140	2,380	2,400	4,050	5,270	384	15	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30								Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	133	140.80	96,130
1951	1466	1,250	June 11, 1951	3.6	121	9.45	128.73	87,890	116	123.08	84,040
1952	1466	2,600	Apr. 16, 1952	4.1	141	10.8	146.88	102,200	145	148.21	105,600
1953	1486	1,060	May 11, 1953	6.2	125	8.93	120.98	90,340	129	-	93,120
1954	1486	1,050	Dec. 22, 1953	.5	85.0	-	-	61,580	83.8	-	60,670
1955	1486	1,180	Dec. 20, 1954	1.2	92.4	-	-	66,880	71.7	-	51,870
1956	1486	1,070	Oct. 23, 1955	.6	53.5	-	-	38,860	61.5	-	44,680
1957	1500	971	Dec. 25, 1956	.6	45.6	-	-	32,990	28.3	-	20,480
1958	1570	1,080	May 14, 1958	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-

680. Mahoney Creek near Ketchikan

Location.--Lat 55°25'30", long 131°30'45", on Revillagigedo Island, on right bank an eighth of a mile upstream from mouth, an eighth of a mile downstream from Mahoney Lake, and 8 miles northeast of Ketchikan.

Drainage area.--5.70 sq mi.

Records available.--September 1920 to October 1925, September 1926 to October 1933, October 1947 to September 1958. Monthly discharge only for some periods, published in WSP 1372. Prior to October 1947, published as "at George Inlet."

Gage.--Water-stage recorder. Altitude of gage is 45 ft (by barometer). Prior to October 1947, at different datum.

Average discharge.--23 years (1920-25, 1926-33, 1947-58), 107 cfs (77,460 acre-ft per year).

Extremes.--1920-25, 1926-33, 1947-58: Maximum discharge, 2,530 cfs Feb. 2, 1954 (gage height, 4.66 ft), from rating curve extended above 1,100 cfs; minimum daily, 1.5 cfs Jan. 30 to Feb. 1, 1950.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	103	69.4	84.7	39.8	20.3	35.7	53.5	154	224	135	93.3	67.7	90.4
1952	123	78.3	58.4	41.8	45.3	24.2	89.2	129	164	164	151	165	103
1953	138	108	59.8	28.6	64.5	51.1	59.9	179	121	135	74.9	163	98.8
1954	250	148	115	27.5	180	19.1	36.0	129	179	126	70.8	85.1	113
1955	178	202	150	75.5	45.5	28.6	80.7	92.9	174	129	207	137	125
1956	274	98.7	32.5	14.9	21.3	14.5	69.3	187	165	102	135	58.7	98.2
1957	122	130	140	24.7	16.0	16.8	50.0	154	168	111	47.7	72.4	88.2
1958	95.4	146	51.2	127	73.2	31.2	100	173	99.7	40.5	157	60	96.4
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6,310	4,130	5,210	2,450	1,130	2,190	3,180	9,480	13,320	8,300	5,740	4,030	65,470
1952	7,560	4,660	3,590	2,570	2,610	1,490	5,310	7,900	9,740	10,100	9,270	9,800	74,600
1953	8,470	6,410	3,680	1,760	3,580	3,140	3,570	11,040	7,220	8,300	4,610	9,720	71,500
1954	15,360	8,780	7,050	1,690	10,020	1,170	2,140	7,920	10,650	7,760	4,350	5,070	81,960
1955	10,930	12,030	9,210	4,640	2,530	1,760	4,800	5,710	10,380	7,960	12,700	8,180	90,830
1956	16,830	5,880	2,000	914	1,220	889	4,120	11,520	9,830	6,300	8,320	3,490	71,310
1957	7,530	7,720	8,590	1,520	889	1,040	2,980	9,460	10,020	6,840	2,940	4,310	63,840
1958	5,870	8,720	3,150	7,780	4,070	1,920	5,980	10,640	5,930	2,490	9,650	3,570	69,770
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	99.4	236.80	71,980
1951	1466	970	June 11, 1951	8.4	90.4	15.9	215.34	65,470	90.6	215.87	65,630
1952	1466	866	Oct. 7, 1951	10	103	18.1	245.39	74,600	107	254.40	77,350
1953	1466	842	Oct. 20, 1952	11	98.8	17.3	235.18	71,500	116	276.73	84,130
1954	1486	2,530	Feb. 2, 1954	9.2	113	19.8	269.58	81,960	115	272.84	82,940
1955	1486	1,640	Aug. 6, 1955	15	125	21.9	298.80	90,830	115	274.20	83,370
1956	1486	1,530	Oct. 20, 1955	-	98.2	17.2	234.55	71,310	97.0	231.74	70,440
1957	1500	838	Dec. 25, 1956	8.6	88.2	15.5	209.97	63,840	79.7	189.87	57,740
1958	1570	1,350	Apr. 11, 1958	14	96.4	16.9	229.47	69,770	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-

700. Falls Creek near Ketchikan

Location.--Lat 55°36'50", long 131°20'55", on Revillagigedo Island, on left bank 1,100 ft upstream from mouth on east shore of Carroll Inlet, 1.1 miles downstream from Swan Lake, and 22 miles northeast of Ketchikan.

Drainage area.--36.5 sq mi.

Records available.--August 1916 to January 1926, September 1927 to December 1933, October 1946 to September 1959. Monthly discharge only for some periods, published in WSP 1372. Prior to 1946, published as Swan Lake Outlet at Carroll Inlet.

Gage.--Water-stage recorder. Altitude of gage is 130 ft (from topographic map). August 1916 to January 1926 and September 1927 November 1933, at site about 1,000 ft upstream at different datum.

Average discharge.--28 years (1916-25, 1927-33, 1946-59), 460 cfs (333,000 acre-ft per year).

Extremes.--1916-26, 1927-33, 1946-59: Maximum discharge, about 5,500 cfs Nov. 1, 1917; minimum daily, 19 cfs Feb. 21-25, 1925.

Remarks.--Swan Lake has an area of 1,050 acres.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	417	281	363	199	82.5	140	287	797	973	484	276	273	383
1952	523	390	363	146	254	116	501	709	803	641	498	609	463
1953	636	479	338	149	294	294	325	916	572	501	229	712	454
1954	1,071	661	484	171	950	86.9	162	632	755	462	211	358	497
1955	867	988	711	276	247	134	338	529	777	603	733	495	560
1956	1,000	350	129	55.4	111	58.0	357	877	627	318	530	308	395
1957	655	601	541	163	87.6	93.5	296	687	613	453	184	266	388
1958	363	537	242	531	267	175	410	700	334	131	674	373	396
1959	1,121	581	505	220	227	411	346	602	817	640	384	423	525
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	25,650	16,730	22,340	12,240	4,580	8,600	17,060	49,020	57,900	29,750	16,970	16,260	277,100
1952	32,130	23,230	22,350	9,000	14,630	7,120	29,800	43,560	47,770	39,430	30,620	36,230	335,900
1953	39,090	28,480	20,780	9,160	16,350	18,060	19,340	56,290	34,040	30,800	14,080	42,340	328,800
1954	65,860	39,330	29,740	10,490	52,770	5,340	9,670	38,850	44,900	28,380	13,000	21,330	359,700
1955	53,340	58,800	43,700	16,940	13,700	8,220	20,100	32,530	46,220	37,080	45,060	29,460	405,200
1956	61,500	20,830	7,940	3,410	6,400	3,570	21,220	53,950	37,300	19,550	32,570	18,310	286,600
1957	40,270	35,740	33,270	10,010	4,860	5,750	17,620	42,270	36,450	27,830	11,290	15,840	281,200
1958	22,340	31,950	14,910	32,670	14,800	10,780	24,400	43,050	19,880	8,040	41,470	22,200	286,500
1959	68,900	34,600	31,070	13,540	12,630	25,270	20,610	37,030	48,600	39,370	23,610	25,150	380,400
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	413	153.67	299,100
1951	1466	2,810	June 14, 1951	47	383	10.5	142.35	277,100	401	149.01	290,100
1952	1466	3,700	Apr. 16, 1952	54	463	12.7	172.54	335,900	477	178.01	346,500
1953	1466	2,580	Oct. 20, 1952	68	454	12.4	168.94	328,800	519	192.87	375,400
1954	1486	4,270	Feb. 8, 1954	59	497	13.6	184.78	359,700	526	195.51	380,600
1955	1486	4,020	Dec. 20, 1954	78	560	15.3	208.12	405,200	469	174.44	339,600
1956	1486	3,180	Oct. 6, 1955	33	395	10.8	147.19	286,600	421	156.96	305,600
1957	1500	1,750	Nov. 21, 1956	51	388	10.6	144.45	281,200	333	123.86	241,100
1958	1570	2,470	Apr. 12, 1958	67	396	10.8	147.18	286,500	486	180.73	351,900
1959	1640	4,430	Oct. 21, 1958	105	525	14.4	195.41	380,400	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-

720. Fish Creek near Ketchikan

Location.--Lat 55°23'30", long 131°11'40", on Revillagigedo Island, on right bank 50 ft upstream from outlet of Low Lake, 600 ft upstream from mouth at head of Thorne Arm, and 18 miles east of Ketchikan.

Drainage area.--32.1 sq mi, excludes that of Granite Lake drainage basin.

Records available.--May 1915 to October 1935, October 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1372. Prior to January 1921, published as "near Sea Level, Revillagigedo Island."

Gage.--Water-stage recorder. Altitude of gage is 20 ft (by barometer). May 1915 to November 1935 at same site at different datum.

Average discharge.--42 years (1915-35, 1938-60), 419 cfs (303,300 acre-ft per year).

Extremes.--1915-35, 1938-60: Maximum discharge, 4,600 cfs Nov. 1, 1917 (gage height, 5.33 ft, datum then in use), from rating curve extended above 1,400 cfs; minimum daily, 20 cfs Sept. 9, 10, 1928.

Remarks.--Lakes in the basin are as follows: Basin Lake (240 acres), Mirror Lake (1,350 acres), Third Lake (180 acres), Big Lake (358 acres), and Low Lake (55 acres).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	412	293	445	217	91.1	179	293	640	764	342	201	183	340
1952	438	336	342	144	284	140	487	569	637	507	412	610	409
1953	606	423	302	147	342	374	323	761	407	417	184	685	414
1954	965	573	546	160	782	102	206	580	594	365	137	297	440
1955	791	818	751	301	307	157	370	482	622	433	663	383	508
1956	922	388	119	57.5	144	87.5	382	825	534	211	498	287	372
1957	639	625	641	149	107	100	312	606	482	385	152	265	374
1958	421	617	314	661	320	201	442	587	184	65.3	630	318	398
1959	1,042	597	575	258	249	502	327	479	626	529	342	400	496
1960	727	643	915	193	239	425	562	503	548	531	296	431	502

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	25,330	17,410	27,370	13,330	5,060	10,990	17,450	39,330	45,440	21,010	12,350	10,910	246,000
1952	26,930	20,020	21,040	8,880	16,350	8,600	28,990	35,010	37,930	31,200	25,340	36,290	296,600
1953	37,250	25,160	18,570	9,020	19,000	23,000	19,220	46,810	24,250	25,670	11,310	40,760	300,000
1954	59,340	34,110	33,540	9,810	43,460	6,270	12,270	35,650	35,320	22,470	8,410	17,690	318,300
1955	48,610	48,700	46,150	18,480	17,030	9,650	22,000	29,630	37,010	26,650	40,770	22,810	367,500
1956	56,670	23,070	7,290	3,540	8,300	5,380	22,710	50,710	31,780	12,960	30,640	17,070	270,100
1957	39,290	37,210	39,400	9,160	5,940	6,160	18,570	37,270	28,680	23,670	9,340	15,760	270,400
1958	25,890	36,690	19,330	40,670	17,790	12,350	26,330	36,100	10,970	4,010	38,760	18,910	287,800
1959	64,050	35,540	35,340	15,880	13,830	30,890	19,480	29,430	37,260	32,530	21,000	23,800	359,000
1960	44,720	38,230	56,280	11,840	13,770	26,150	33,440	30,950	32,600	32,650	18,170	25,640	364,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	378	159.90	273,800
1951	1466	2,270	June 14, 1951	37	340	10.6	143.67	246,000	337	142.44	243,900
1952	1466	2,420	Apr. 16, 1952	47	409	12.7	173.25	296,600	426	180.84	309,600
1953	1466	1,760	Mar. 9, 1953	46	414	12.9	175.25	300,000	478	202.12	346,000
1954	1486	3,370	Feb. 8, 1954	-	440	13.7	185.94	318,300	462	195.56	334,800
1955	1486	3,050	Dec. 20, 1954	77	508	15.8	214.65	367,500	430	181.68	311,100
1956	1486	2,830	May 16, 1956	29	372	11.6	157.78	270,100	412	174.64	299,000
1957	1500	1,960	Dec. 26, 1956	30	374	11.7	157.97	270,400	327	138.12	236,500
1958	1570	2,740	Apr. 12, 1958	29	398	12.4	168.10	287,800	471	199.07	340,800
1959	1640	3,150	Oct. 21, 1958	59	496	15.5	209.72	359,000	502	212.23	363,300
1960	1720	4,140	Dec. 6, 1959	59	502	15.6	212.86	364,400	-	-	-

740. Ella Creek near Ketchikan

Location.--Lat 55°30'20", long 131°01'25", on Revillagigedo Island, on left bank 1 mile downstream from Lower Ella Lake, 1.5 miles upstream from mouth at Ella Bay, and 28 miles northeast of Ketchikan.

Drainage area.--19.7 sq mi.

Records available.--October 1927 to September 1938, August 1947 to September 1958. Monthly discharge only for some periods, published in WSP 1372.

Gage.--Water-stage recorder. Altitude of gage is 150 ft (by barometer). Prior to August 1947, at different datum.

Average discharge.--22 years (1927-38, 1947-58), 244 cfs (176,600 acre-ft per year).

Extremes.--1927-38, 1947-58: Maximum discharge recorded, 1,720 cfs Dec. 7, 1930 (gage height, 5.60 ft, datum then in use); minimum, 10 cfs July 7, 1958 (gage height, 1.08 ft).

Remarks.--Ella Lake, 1 mile above station, has an area of 1,930 acres.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	267	177	286	200	78.1	135	222	406	359	110	95.1	95.4	203
1952	261	220	234	103	230	93.7	335	351	318	195	140	288	230
1953	336	263	190	119	216	248	197	398	148	136	74.2	331	221
1954	602	406	369	143	529	87.9	142	330	281	143	54.4	121	265
1955	415	460	516	185	217	114	236	313	303	160	290	189	284
1956	515	223	88.4	35.5	110	63.0	233	452	218	92.9	235	167	203
1957	364	376	353	132	77.1	69.2	195	275	185	174	94.0	150	204
1958	208	329	229	387	193	166	253	274	53.4	77.8	302	184	222
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	16,400	10,560	17,610	12,300	4,340	8,290	13,190	24,940	21,340	6,770	5,850	5,680	147,300
1952	16,030	13,070	14,410	6,350	13,210	5,760	19,920	21,590	18,920	12,000	8,630	17,130	167,000
1953	20,670	15,680	11,690	7,340	12,010	15,240	11,710	24,480	8,810	8,330	4,560	19,690	160,200
1954	37,000	24,160	22,670	8,780	29,370	5,400	8,440	20,290	16,740	8,820	3,340	7,170	192,200
1955	25,510	27,380	31,730	11,390	12,030	6,990	14,070	19,250	18,010	9,860	17,810	11,230	205,300
1956	31,650	13,270	5,430	2,190	6,340	3,870	13,880	27,790	12,970	5,710	14,460	9,940	147,500
1957	22,400	22,350	21,730	8,110	4,280	4,260	11,610	16,930	11,020	10,680	5,780	8,910	148,100
1958	12,810	19,580	14,080	23,780	10,710	10,190	15,040	16,880	3,180	4,780	18,580	10,930	160,500
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	200	138.16	145,100
1951	1466	925	June 14, 1951	32	203	10.5	140.16	147,300	202	139.15	146,200
1952	1466	1,160	Apr. 16, 1952	17	230	11.7	158.98	167,000	236	163.28	171,600
1953	1466	1,150	Sept. 26, 1953	36	221	11.2	152.47	160,200	271	186.55	196,000
1954	1486	1,620	Feb. 7, 1954	21	265	13.5	182.90	192,200	267	183.65	193,000
1955	1486	1,680	Dec. 20, 1954	62	284	14.4	195.36	205,300	236	162.74	171,000
1956	1486	1,200	May 16, 1956	16	203	10.3	140.39	147,500	225	155.74	163,600
1957	1500	1,000	Dec. 25, 1956	22	204	10.4	140.90	148,100	177	121.87	128,000
1958	1570	890	Nov. 24, 1957	10	222	11.3	152.81	160,500	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-

760. Manzanita Creek near Ketchikan

Location.--Lat 55°36', long 130°59', on Revillagigedo Island, on right bank a quarter of a mile upstream from mouth at Manzanita Bay, East Behm Canal, 2 miles downstream from Manzanita Lake, and 31 miles northeast of Ketchikan.

Drainage area.--33.9 sq mi.

Records available.--October 1927 to September 1937, August 1947 to September 1960. Monthly discharge only for some periods, published in WSP 1372.

Gage.--Water-stage recorder. Altitude of gage is 140 ft (by barometer).

Average discharge.--23 years (1927-37, 1947-60), 469 cfs (339,500 acre-ft per year).

Extremes.--1927-37, 1947-60: Maximum discharge, 4,360 cfs Dec. 5, 1959 (gage height, 9.36 ft, from floodmarks), from rating curve extended above 1,700 cfs by logarithmic plotting; minimum discharge not determined.
A discharge of 4,480 cfs occurred sometime during the period 1938-47 (gage height, 8.7 ft, from floodmark in well).

Remarks.--There are two lakes above gage, Manzanita Lake (1,610 acres) and January Lake on North Fork Manzanita Creek.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	562	355	388	268	129	153	289	754	965	419	236	225	397
1952	509	409	389	190	288	161	498	735	830	608	432	611	471
1953	730	565	348	218	275	364	332	822	491	398	207	595	446
1954	1,173	697	538	281	1,033	177	171	598	731	437	224	286	525
1955	873	910	820	359	325	185	411	546	754	535	736	435	576
1956	993	548	173	90.3	170	110	289	914	586	303	467	362	418
1957	652	659	665	321	141	126	282	639	541	437	231	285	417
1958	358	618	424	596	324	279	535	654	310	127	572	387	433
1959	1,041	779	539	315	252	429	403	594	744	566	411	445	545
1960	663	711	1,039	281	293	343	688	639	645	601	309	465	557

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	34,530	21,150	23,860	16,460	7,190	9,400	17,210	46,360	57,420	25,740	14,500	13,370	287,200
1952	31,320	24,320	23,930	11,690	16,550	9,890	29,630	45,220	49,390	37,400	26,560	36,330	342,200
1953	44,920	33,600	21,400	13,380	15,280	22,390	19,760	50,560	29,210	24,480	12,730	35,380	323,100
1954	72,120	41,500	33,110	17,250	57,350	10,870	10,160	36,750	43,500	26,850	13,800	17,000	380,300
1955	53,660	54,130	50,390	22,090	18,060	11,370	24,480	33,600	44,860	32,930	42,250	25,870	416,700
1956	61,050	32,640	10,620	5,550	9,780	6,760	17,170	56,210	34,870	18,630	28,740	21,560	303,600
1957	40,120	39,220	40,890	19,770	7,830	7,730	16,770	39,310	32,170	26,880	14,220	16,930	301,800
1958	22,030	36,750	26,090	36,630	18,010	17,160	31,860	40,220	18,440	7,780	35,160	23,040	313,200
1959	64,000	46,380	33,120	19,350	13,980	26,350	23,990	36,550	44,270	34,780	25,270	26,450	394,500
1960	40,790	42,280	63,900	17,290	16,870	21,070	40,940	39,290	38,380	36,940	18,990	27,650	404,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	399	159.85	289,000
1951	1466	2,570	June 14, 1951	94	397	11.7	158.86	287,200	397	158.88	287,200
1952	1466	2,550	Oct. 7, 1951	114	471	13.9	189.29	342,200	499	200.54	362,600
1953	1466	2,770	Oct. 1, 1952	140	446	13.2	178.71	323,100	511	204.60	369,900
1954	1486	3,030	Feb. 7 or 8	108	525	15.5	210.31	380,300	541	216.65	391,700
1955	1486	2,900	Dec. 20, 1954	136	576	17.0	230.48	416,700	501	200.68	362,800
1956	1486	2,990	Oct. 23, 1955	-	418	12.3	167.92	303,600	440	176.72	319,500
1957	1500	2,890	Sept. 6, 1957	106	417	12.3	166.93	301,800	368	147.37	266,500
1958	1570	2,710	Apr. 11, 1958	97	433	12.8	173.20	313,200	514	205.64	371,800
1959	1640	3,570	Oct. 21, 1958	144	545	16.1	218.19	394,500	550	220.11	398,000
1960	1720	4,360	Dec. 5, 1959	131	557	16.4	223.68	404,400	-	-	-

820. Reynolds Creek near Hydaburg

Location.--Lat 55°12'50", long 132°36'10", on Prince of Wales Island, on left bank a quarter of a mile upstream from mouth at Copper Harbor on Hetta Inlet, three-quarters of a mile downstream from Lake Mellen, and 9 miles east of Hydaburg.

Drainage area.--5.7 sq mi, approximately.

Records available.--May 1951 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 50 ft (by barometer).

Average discharge.--5 years (1951-56), 62.4 cfs (45,180 acre-ft per year).

Extremes.--1951-56: Maximum discharge, 475 cfs Feb. 2, 1954 (gage height, 3.35 ft), from rating curve extended above 120 cfs; minimum, 6.5 cfs Sept. 6, 1951.

Remarks.--There are three lakes above gage, Lake Mellen (168 acres), Summit Lake (396 acres), and Lake Marge (93 acres).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	96.4	30.7	15.7	25.5	-
1952	61.2	80.0	46.7	26.4	36.6	24.7	66.5	86.0	87.6	58.9	29.8	76.5	55.0
1953	84.3	70.7	64.5	37.2	63.7	68.0	56.9	130	61.1	41.8	30.7	91.5	66.7
1954	149	106	116	41.9	124	17.9	23.8	63.0	78.8	42.8	13.0	23.6	66.3
1955	84.7	111	94.4	48.7	47.1	31.1	40.1	63.8	93.2	44.6	72.2	56.4	65.7
1956	106	45.4	23.4	21.4	29.3	23.3	45.1	149	108	32.1	73.5	39.3	58.1
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	5,740	1,890	967	1,520	-
1952	3,760	3,570	2,870	1,620	2,110	1,520	3,960	5,290	5,210	3,620	1,830	4,550	39,910
1953	5,180	4,200	3,960	2,280	3,540	4,180	3,390	7,990	3,640	2,570	1,890	5,450	48,270
1954	9,150	6,310	7,150	2,580	6,870	1,100	1,410	3,870	4,690	2,630	800	1,400	47,960
1955	5,210	6,620	5,800	3,000	2,620	1,910	2,390	3,920	5,550	2,740	4,440	3,360	47,560
1956	6,520	2,700	1,440	1,320	1,690	1,430	2,690	9,170	6,420	1,980	4,520	2,340	42,220
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	-	-	-
1951	1466	-	-	-	-	-	-	-	-	-	-
1952	1466	388	Apr. 16, 1952	8.1	55.0	9.65	131.29	39,910	59.3	141.83	43,050
1953	1466	274	Sept.26, 1953	15	66.7	11.7	158.81	48,270	79.5	189.25	57,540
1954	1486	475	Feb. 2, 1954	7.5	66.3	11.6	157.79	47,960	59.4	141.43	42,980
1955	1486	287	Dec. 20, 1954	15	65.7	11.5	156.45	47,560	56.1	133.52	40,590
1956	1486	377	May 15, 1956	13	58.1	10.2	138.85	42,220	-	-	-
1957	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-

865. Neck Creek near Point Baker

Location.--Lat 56°05'55", long 133°08'20", on Prince of Wales Island, on right bank a quarter of a mile downstream from Neck Lake, a quarter of a mile upstream from mouth at Whale Passage, and about 25 miles southeast of Point Baker.

Drainage area.--17.0 sq mi.

Records available.--May to September 1960.

Gage.--Water-stage recorder. Altitude of gage is about 4 ft above mean sea level.

Extremes.--May to September 1960: Maximum discharge, 370 cfs Sept. 24 (gage height, 2.12 ft); minimum, 32 cfs Aug. 13-15.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	-	-	-	-	62.0	98.1	68.4	56.7	137	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	-	-	-	-	3,810	5,840	4,200	3,480	8,160	-

880. Sawmill Creek near Sitka

Location.--Lat 57°03'05", long 135°13'40", on Baranof Island, on left bank 100 ft downstream from Sitka Public Utilities abandoned hydroelectric plant, 500 ft upstream from mouth, 1½ miles downstream from Blue Lake, and 4 miles east of Sitka.

Drainage area.--39.0 sq mi.

Records available.--September 1920 to December 1922, February 1928 to September 1942, October 1945 to September 1957. Monthly discharge only for some periods, published in WSP 1372.

Gage.--Water-stage recorder. Altitude of gage is about 4 ft above mean sea level. Prior to Apr. 12, 1947, staff gages or water-stage recorders at several sites within 1,500 ft of present site at various datums.

Average discharge.--28 years (1920-22, 1928-42, 1945-57), 485 cfs (351,100 acre-ft per year).

Extremes.--1920-22, 1928-42, 1945-57: Maximum discharge, 7,100 cfs Sept. 8, 1948 (gage height, 10.20 ft), from rating curve extended above 2,600 cfs by logarithmic plotting; minimum, 9.1 cfs Mar. 4, 1951 (gage height, 0.47 ft).

Remarks.--Blue Lake, 1.6 miles upstream, has an area of 495 acres.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	382	165	50.1	74.2	33.1	46.7	162	513	779	594	449	551	318
1952	425	311	166	66.6	68.2	58.5	177	527	711	863	570	1,100	420
1953	1,040	653	202	106	135	131	215	683	791	644	807	730	514
1954	1,060	304	303	116	400	56.6	64.5	457	746	621	489	744	447
1955	485	538	611	158	145	141	114	320	762	890	714	728	469
1956	530	248	52.6	29.9	63.4	55.3	155	696	666	733	874	552	389
1957	541	613	536	133	82.4	56.2	136	496	681	543	425	658	410
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	23,510	9,830	3,080	4,560	1,840	2,870	9,640	31,550	46,360	36,530	27,600	32,770	230,100
1952	26,120	18,490	10,180	4,090	3,920	3,600	10,560	32,430	42,290	53,070	35,020	65,220	305,000
1953	63,930	38,870	12,430	6,490	7,480	8,050	12,810	42,010	47,090	39,590	49,640	43,470	371,900
1954	65,160	18,120	18,600	7,100	22,210	3,480	3,840	28,110	44,400	38,200	30,050	44,250	323,500
1955	29,830	32,010	37,600	9,720	8,070	8,690	6,810	19,660	45,330	54,740	43,890	43,340	339,700
1956	32,560	14,760	3,240	1,840	3,650	3,400	9,200	42,770	39,610	45,080	53,750	32,840	282,700
1957	33,290	36,490	32,960	8,160	4,570	3,460	8,090	30,480	40,530	33,380	26,120	39,130	296,700
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	327	113.95	237,000
1951	1466	2,010	June 15, 1951	21	318	8.15	110.64	230,100	343	119.47	248,500
1952	1466	6,380	Sept.14, 1952	42	420	10.8	146.65	305,000	503	175.71	365,400
1953	1466	3,980	Oct. 2, 1952	50	514	13.2	178.78	371,900	495	172.35	358,500
1954	1486	5,670	Sept.20, 1954	40	447	11.5	155.54	323,500	443	154.38	321,100
1955	1486	6,230	Dec. 16, 1954	77	469	12.0	163.31	339,700	402	139.80	290,800
1956	1486	2,130	Nov. 8, 1955	24	389	9.97	135.88	282,700	461	160.98	334,900
1957	1500	4,630	Sept.30, 1957	48	410	10.5	142.63	296,700	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-

920. Maksoutof River near Port Alexander

Location.--Lat 56°30', long 134°58', on Baranof Island, on left bank half a mile upstream from mouth at head of north arm of Sandy Bay and 21 miles northwest of Port Alexander.

Drainage area.--26 sq mi, approximately.

Records available.--June 1951 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 30 ft (by barometer).

Average discharge.--5 years (1951-56), 403 cfs (291,800 acre-ft per year).

Extremes.--1951-56: Maximum discharge, 2,820 cfs Oct. 22, 1953 (gage height, 8.02 ft), from rating curve extended above 930 cfs by logarithmic plotting; minimum, 50 cfs Nov. 26, 1955, result of freezeup.

Remarks.--There are three major lakes above station, Rezanof Lake (1,025 acres), Khvostof Lake (350 acres), and Maksoutof Lake (512 acres).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	384	268	276	-
1952	420	496	240	142	185	112	320	537	590	617	408	693	396
1953	693	640	319	154	290	241	250	609	464	427	390	497	415
1954	973	581	469	157	498	93.2	108	390	542	405	184	376	397
1955	532	840	594	273	281	246	170	393	545	495	513	516	451
1956	681	214	120	79.8	131	130	228	717	596	437	589	313	354
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	23,640	16,500	16,420	-
1952	25,800	29,530	14,760	8,710	10,640	6,900	19,050	33,000	35,080	37,960	25,100	41,240	287,800
1953	42,620	38,110	19,620	9,480	16,090	14,830	14,880	37,460	27,610	26,280	23,980	29,600	300,600
1954	59,850	34,580	28,860	9,620	27,640	5,730	6,450	23,950	32,270	24,890	11,320	22,380	287,500
1955	32,690	50,010	36,500	16,780	15,580	15,140	10,140	24,170	32,450	30,450	31,560	30,700	326,200
1956	41,890	12,730	7,400	4,910	7,550	7,990	13,560	44,060	35,470	26,900	36,220	18,640	257,300
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30								Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	-	-	-
1951	1466	-	-	-	-	-	-	-	-	-	-
1952	1466	2,380	Sept.14, 1952	70	396	15.2	207.50	287,800	438	229.34	318,000
1953	1466	1,430	Oct. 21, 1952	69	415	16.0	216.75	300,600	447	233.29	323,500
1954	1486	2,820	Oct. 22, 1953	-	397	15.3	207.35	287,500	392	204.40	283,400
1955	1486	1,910	Dec. 20, 1954	91	451	17.3	235.22	326,200	372	193.99	269,000
1956	1486	1,640	Aug. 20, 1956	-	354	13.6	185.58	257,300	-	-	-
1957	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-

940. Deer Lake Outlet near Port Alexander

Location.--Lat 56°31'10", long 134°40'10", on Baranof Island, on right bank at tidewater at Mist Cove, an eighth of a mile downstream from Deer Lake and 19 miles north of Port Alexander.

Drainage area.--7.41 sq mi.

Records available.--June 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is about 1 ft above mean sea level.

Average discharge.--9 years (1951-60), 156 cfs (112,900 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 642 cfs Oct. 22, 1953 (gage height, 3.47 ft); minimum, 9.4 cfs Mar. 23, 1956 (gage height, 0.73 ft), caused by temporary storage behind ice jam upstream.

Remarks.--There are two lakes above gage, Deer Lake (968 acres), and Deer Upper Lake (139 acres).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	241	178	136	122	-
1952	177	213	121	54.4	93.3	50.8	121	185	227	216	165	235	155
1953	304	302	150	80	135	115	104	258	189	179	171	206	183
1954	373	254	205	108	178	63.4	50.0	119	237	184	85.3	112	164
1955	207	352	251	136	119	71.3	78.5	141	190	193	202	207	179
1956	258	128	76.9	46.4	47.1	39.6	54.0	181	267	198	231	142	139
1957	217	204	199	123	43.0	49.2	72.7	168	194	162	89.6	106	136
1958	146	297	137	188	83.9	78.1	80.2	185	125	62.7	125	92.2	134
1959	210	273	181	101	71.3	100	84.8	135	250	192	196	121	160
1960	116	175	234	107	117	66.9	105	169	227	224	119	168	152

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	14,350	10,940	8,370	7,290	-
1952	10,890	12,670	7,430	3,340	5,370	3,120	7,200	11,380	13,520	13,300	10,150	13,980	112,400
1953	18,700	17,980	9,220	4,920	7,510	7,070	6,160	15,840	11,250	11,000	10,510	12,230	132,400
1954	22,930	15,110	12,590	6,670	9,880	3,900	2,970	7,310	14,110	11,330	5,240	6,680	118,700
1955	12,730	20,950	15,440	8,370	6,610	4,390	4,670	8,680	11,310	11,850	12,440	12,310	129,800
1956	15,850	7,600	4,730	2,850	2,710	2,430	3,210	11,120	15,890	12,170	14,200	8,430	101,200
1957	13,320	12,170	12,230	7,570	2,390	3,020	4,330	10,350	11,530	9,990	5,510	6,290	98,700
1958	8,950	17,680	8,430	11,590	4,660	4,800	4,770	11,400	7,450	3,850	7,660	5,490	96,730
1959	12,940	16,270	11,160	6,230	3,960	6,160	5,040	8,310	14,900	11,830	12,030	7,190	116,000
1960	7,100	10,390	14,390	6,560	6,710	4,110	6,230	10,360	13,510	13,790	7,340	10,000	110,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30								Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	-	-	-
1951	1466	-	-	-	-	-	-	-	-	-	-
1952	1466	402	Sept.14, 1952	40	155	20.9	284.30	112,400	175	322.02	127,300
1953	1466	552	Oct. 21, 1952	-	183	24.7	334.93	132,400	189	346.89	137,100
1954	1486	642	Oct. 22, 1953	27	164	22.1	300.43	118,700	162	296.60	117,200
1955	1486	588	Dec. 20, 1954	58	179	24.2	328.26	129,800	150	275.29	108,800
1956	1486	518	June 22, 1956	27	139	18.8	256.10	101,200	153	280.24	110,700
1957	1500	463	Dec. 1, 1956	30	136	18.4	249.74	98,700	133	243.00	96,040
1958	1570	580	Nov. 4, 1957	32	134	18.1	244.76	96,730	141	258.21	102,000
1959	1640	561	Nov. 1, 1958	48	160	21.6	293.56	116,000	149	272.06	107,500
1960	1720	-	-	40	152	20.5	279.58	110,500	-	-	-

980. Baranof River at Baranof

Location.--Lat 57°05'15", long 134°50'30", on Baranof Island, on left bank at outlet of Baranof Lake, 1,500 ft upstream from mouth and town of Baranof.

Drainage area.--32.0 sq mi (revised).

Records available.--July 1915 to January 1928, October 1957 to September 1960. Monthly discharge only for some periods, published in WSP 1372.

Gage.--Water-stage recorder. Altitude of gage is 140 ft (from topographic map). Prior to Oct. 1, 1957, water-stage recorder at site 700 ft downstream at different datum.

Average discharge.--15 years (1915-27, 1957-60), 432 cfs (312,800 acre-ft per year).

Extremes.--1915-28, 1957-60: Maximum discharge recorded, 4,170 cfs Sept. 24, 1922 (gage height, 5.8 ft, site and datum then in use), from rating curve extended above 1,800 cfs; minimum daily, 27 cfs Feb. 13, 14, 1916, Jan. 31, 1923.

Remarks.--Baranof Lake has an area of 698 acres.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	420	720	139	286	87.5	91.8	228	622	766	515	520	370	398
1959	736	351	188	90	78.1	117	183	603	1,047	886	629	456	449
1960	505	352	204	88.9	149	90.6	221	746	765	786	584	807	442

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	25,820	42,820	8,560	17,590	4,860	5,640	13,590	38,270	45,570	31,660	32,000	22,020	288,400
1959	45,240	20,890	11,540	5,530	4,340	7,210	10,870	37,090	62,300	54,490	38,670	27,160	325,300
1960	31,080	20,950	12,520	5,470	8,570	5,570	13,120	45,890	45,550	48,330	35,880	48,030	321,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1958	1570	-	-	45	398	12.4	168.98	288,400	399	169.25	288,900
1959	1640	-	-	-	449	14.0	190.61	325,300	431	182.92	312,200
1960	1720	-	-	-	442	13.8	188.06	321,000	-	-	-

1000. Takatz Creek near Baranof

Location.--Lat 57°08'35", long 134°51'50", on Baranof Island, on left bank at tidewater at Takatz Bay, 2 miles downstream from Takatz Lake and 4 miles north of Baranof.

Drainage area.--17.5 sq mi.

Records available.--July 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is about 4 ft above mean sea level.

Average discharge.--9 years (1951-60), 262 cfs (189,700 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 4,820 cfs Sept. 14, 1952 (gage height, 5.79 ft), from rating curve extended above 660 cfs by logarithmic plotting; minimum not determined.

Remarks.--Takatz Lake has an area of 425 acres.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	486	308	336	-
1952	290	244	53.6	20	20	17	80.1	210	395	627	420	631	251
1953	530	294	115	56.5	58.6	68.8	90.4	372	554	531	458	487	303
1954	652	243	129	49.7	125	35.7	33.5	238	506	428	357	409	268
1955	342	415	219	62.8	47.3	39.1	54.1	144	371	551	485	465	267
1956	282	100	36.9	22.8	24	25	63.9	275	502	542	601	299	232
1957	263	223	209	66.2	40.2	33.4	65.6	301	512	454	363	405	246
1958	234	382	73.1	130	45.4	50	118	318	523	379	385	268	243
1959	534	220	111	47.4	44.9	62.6	77.4	277	624	605	468	299	282
1960	269	187	108	49.5	64.4	47.8	95.2	372	516	617	383	478	266

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	29,910	18,970	19,990	-
1952	17,810	14,530	3,300	1,230	1,150	1,050	4,760	12,900	23,500	38,530	25,820	37,530	182,100
1953	32,590	17,520	7,070	3,480	3,250	4,230	5,380	22,900	32,990	32,630	28,140	28,990	219,200
1954	40,110	14,460	7,920	3,050	6,970	2,190	1,990	14,620	30,120	26,300	21,960	24,330	194,000
1955	21,050	24,680	13,480	3,860	2,630	2,410	3,220	8,850	22,070	33,860	29,850	27,680	193,600
1956	17,360	5,980	2,270	1,400	1,380	1,540	3,800	16,900	29,860	33,300	36,950	17,810	168,600
1957	16,160	13,250	12,830	4,070	2,240	2,050	3,900	18,500	30,460	27,920	22,350	24,110	177,800
1958	14,380	22,700	4,490	8,010	2,520	3,070	7,030	19,580	31,140	23,280	23,690	15,980	175,900
1959	32,830	13,080	6,810	2,910	2,490	3,850	4,610	17,050	37,120	37,170	28,780	17,810	204,500
1960	16,560	11,110	6,660	3,040	3,700	2,940	5,660	22,860	30,680	37,970	23,520	28,470	193,200

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	-	-	-
1951	1466	-	-	-	-	-	-	-	-	-	-
1952	1466	4,820	Sept.14, 1952	-	251	14.3	195.12	182,100	281	218.20	203,600
1953	1466	3,440	Oct. 1, 1952	-	303	17.3	234.83	219,200	310	240.51	224,500
1954	1486	3,310	Oct. 22, 1953	19	268	15.3	207.88	194,000	263	204.38	190,700
1955	1486	3,290	Oct. 18, 1954	28	267	15.3	207.48	193,600	221	171.47	160,000
1956	1486	2,570	Aug. 20, 1956	16	232	13.3	180.57	168,600	255	198.40	185,200
1957	1500	3,990	Sept.30, 1957	24	246	14.1	190.55	177,800	245	189.85	177,200
1958	1570	3,600	Nov. 2, 1957	-	243	13.9	188.46	175,900	258	200.39	187,000
1959	1640	4,170	Oct. 30, 1958	28	282	16.1	219.13	204,500	257	199.42	186,100
1960	1720	4,540	Sept. 8, 1960	20	266	15.2	206.98	193,200	-	-	-

1020. Hasselborg Creek near Angoon

Location.--Lat 57°39'40", long 134°14'55", on Admiralty Island, on right bank at outlet of Hasselborg Lake, 16 miles northeast of Angoon.

Drainage area.--56.2 sq mi.

Records available.--June 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 295 ft (from topographic map).

Average discharge.--9 years (1951-60), 314 cfs (227,300 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 2,400 cfs Oct. 23, 1953 (gage height, 3.78 ft), from rating curve extended above 780 cfs; minimum not determined.

Remarks.--Hasselborg Lake has an area of 3,500 acres.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	207	173	173	-
1952	272	295	165	80	80	86.0	382	646	526	396	227	614	314
1953	761	563	249	142	175	143	294	680	361	255	263	443	362
1954	718	304	199	89.2	284	60	55	334	487	262	122	255	264
1955	389	541	495	155	134	145	130	352	594	388	443	407	349
1956	500	128	43.6	30.2	52.0	62.6	210	702	422	286	468	313	269
1957	477	523	409	211	55	52.1	250	545	396	338	150	222	309
1958	295	454	205	346	95.1	130	328	476	249	124	309	251	273
1959	552	491	276	116	122	180	276	498	503	389	378	342	345
1960	388	355	379	163	216	172	353	503	438	386	238	462	338

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	12,740	10,610	10,310	-
1952	16,750	17,570	10,140	4,920	4,600	5,290	22,760	39,750	31,320	24,330	13,980	36,550	228,000
1953	46,790	33,510	15,300	8,710	9,740	8,810	17,480	41,790	21,500	15,680	16,200	26,340	261,800
1954	44,170	18,100	12,250	5,480	15,750	3,690	3,270	20,530	28,960	16,130	7,520	15,180	191,000
1955	23,910	32,200	30,460	9,530	7,460	8,930	7,740	21,620	35,320	23,860	27,210	24,230	252,500
1956	30,740	7,610	2,680	1,850	2,990	3,850	12,490	43,130	25,110	17,570	28,750	18,650	195,400
1957	29,300	31,120	28,830	12,990	3,050	3,200	14,890	33,530	23,580	20,790	9,240	13,210	223,700
1958	18,130	27,010	12,600	21,290	5,280	7,990	19,490	29,250	14,800	7,620	18,990	14,930	197,400
1959	33,960	29,200	16,950	7,150	6,750	11,080	16,410	30,590	29,920	23,900	23,240	20,350	249,500
1960	23,840	21,150	23,280	9,990	12,400	10,570	21,010	30,930	26,040	23,720	14,620	27,470	245,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	-	-	-
1951	1466	-	-	-	-	-	-	-	-	-	-
1952	1466	1,640	Sept.14, 1952	-	314	5.59	76.05	228,000	384	93.11	279,100
1953	1466	1,260	Oct. 2, 1952	77	362	6.44	87.36	261,800	333	80.34	240,800
1954	1486	2,400	Oct. 23, 1953	41	264	4.70	63.73	191,000	281	67.74	203,100
1955	1486	1,680	Dec. 20, 1954	94	349	6.21	84.23	252,500	286	69.04	206,900
1956	1486	1,230	May 17, 1956	-	269	4.79	65.21	195,400	336	81.30	243,600
1957	1500	1,610	Dec. 28, 1956	-	309	5.50	74.66	223,700	266	64.14	192,200
1958	1570	1,260	Nov. 4, 1957	53	273	4.86	65.84	197,400	304	73.30	219,800
1959	1640	1,350	Oct. 31, 1958	71	345	6.14	83.23	249,500	328	79.29	237,700
1960	1720	1,120	Sept. 9, 1960	68	338	6.01	81.75	245,000	-	-	-

1080. Pavlof River near Tenakee

Location.--Lat 57°50'30", long 135°02'10", on Chichagof Island, on left bank 140 ft upstream from falls at outlet of Pavlof Lake and 8 miles northeast of Tenakee.

Drainage area.--24.3 sq mi.

Records available.--June 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is about 15 ft.

Extremes.--1957-60: Maximum discharge, 1,640 cfs Sept. 8, 1960 (gage height, 7.29 ft), from rating curve extended above 750 cfs by logarithmic plotting; minimum, 22 cfs Aug. 16-18, 1957 (gage height, 3.97 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	153	79.6	42.8	106	-
1958	115	280	106	208	51.9	64.2	160	230	74.7	61.5	116	129	133
1959	343	165	194	46.1	98.2	119	149	284	215	164	147	164	175
1960	222	285	219	86.4	93.4	94.8	188	252	167	114	87.3	206	168

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	9,090	4,900	2,630	6,330	-
1958	7,040	16,640	6,530	12,760	2,880	3,950	9,500	14,140	4,450	3,730	7,150	7,690	96,460
1959	21,110	9,820	11,920	2,840	5,460	7,340	8,850	17,470	12,770	10,050	9,040	9,790	126,500
1960	13,650	16,990	13,440	5,310	5,370	5,830	11,170	15,500	9,950	7,030	5,370	12,280	121,900

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1957	1500,1640	-	-	-	-	-	-	-	-	-	-
1958	1570,1640	1,550	Nov. 2, 1957	28	133	5.47	74.43	96,460	151	84.19	109,100
1959	1640	1,060	Sept.10, 1959	29	175	7.20	97.59	126,500	176	98.53	127,700
1960	1720	1,640	Sept. 8, 1960	31	168	6.91	94.04	121,900	-	-	-

1090. Fish Creek near Auke Bay

Location.--Lat 58°19'50", long 134°35'20", on Douglas Island, on right bank, 400 ft upstream from bridge on North Douglas highway and 4½ miles southeast of Auke Bay.

Drainage area.--13.6 sq mi.

Records available.--October 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 17 ft above mean sea level. Prior to Oct. 14, 1958, staff gage at same site and datum.

Extremes.--1958-60: Maximum discharge, 2,100 cfs Sept. 8, 1960 (gage height, 4.70 ft); minimum observed, 6.1 cfs Jan. 28, 1959 (discharge measurement).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	151	53.4	60.5	12.0	7.0	26.2	41.4	141	144	113	72.2	67.6	74.6
1960	90.5	78.1	53.5	39.2	23.6	18.7	66.0	139	136	91.5	82.2	121	78.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	9,310	3,180	3,720	738	389	1,610	2,460	8,670	8,540	6,950	4,440	4,020	54,030
1960	5,560	4,650	3,290	2,410	1,350	1,150	3,930	8,560	8,080	5,630	5,050	7,190	56,850

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1959	1640	1,040	Oct. 1, 1958	-	74.6	5.49	74.48	54,030	70.9	70.76	51,320
1960	1720	2,100	Sept. 8, 1960	-	78.3	5.76	78.39	56,850	-	-	-

2000. Gakona River at Gakona

Location.--Lat 62°18'05", long 145°18'20", near center of span on downstream side of bridge on Glenn Highway at Gakona, 500 ft upstream from mouth and 1.9 miles northeast of junction of Richardson and Glenn Highways.

Drainage area.--620 sq mi, approximately.

Records available.--August to September 1948, October 1949 to September 1960.

Gage.--Wire-weight gage. Datum of gage is 1,403.03 ft above mean sea level. Aug. 8 to Sept. 13, 1948, staff gage at same site and datum.

Average discharge.--11 years (1949-60), 920 cfs (666,100 acre-ft per year).

Extremes.--1948, 1949-60: Maximum discharge, 10,300 cfs Aug. 1, 1956 (gage height, 7.92 ft, from graph based on gage readings), from rating curve extended above 5,700 cfs by logarithmic plotting; no flow for part of Mar. 25, 1953, caused by temporary storage behind ice jam upstream.

Remarks.--Some diurnal fluctuation caused by glacier melt at the source.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	216	82.5	60.0	57.4	54.6	65.2	222	1,276	1,712	2,933	2,394	2,173	943
1952	577	260	180	170	170	170	170	1,331	2,533	2,851	2,058	840	947
1953	613	293	224	130	90	60	449	1,549	2,219	2,821	2,521	861	994
1954	287	71.5	72	66	62	65.6	96.0	1,874	1,838	2,349	3,026	935	904
1955	336	109	52	62	74	100	150	1,069	1,726	1,973	2,007	1,062	732
1956	240	107	75	49	43	46	102	1,246	2,104	3,571	3,239	1,311	1,018
1957	344	190	205	105	94.6	185	230	2,456	3,014	2,935	2,708	2,627	1,265
1958	790	339	185	185	131	105	106	1,029	1,559	2,101	1,898	580	757
1959	385	210	150	100	85.4	74.8	85.0	1,577	2,215	2,278	1,987	1,061	856
1960	479	245	219	205	145	145	375	1,783	1,297	2,469	2,291	1,477	933

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13,290	4,910	3,690	3,530	3,030	4,010	13,240	78,490	101,900	180,300	147,200	129,300	682,900
1952	35,460	15,740	11,070	10,450	9,780	10,450	10,120	81,840	150,700	175,300	126,500	49,970	687,100
1953	37,670	17,410	13,770	7,990	5,000	3,690	26,720	95,240	132,000	173,500	155,000	51,260	719,200
1954	17,620	4,250	4,430	4,060	3,440	4,040	5,710	115,200	109,300	144,400	186,100	55,640	654,200
1955	20,630	6,490	3,200	3,810	4,110	6,150	8,930	65,710	102,700	121,300	123,400	63,210	529,600
1956	14,780	6,340	4,610	3,010	2,470	2,830	6,070	76,640	125,200	219,600	199,200	78,030	738,800
1957	21,130	11,310	12,580	6,460	5,260	11,400	13,690	151,000	179,300	180,500	166,500	156,300	915,400
1958	48,550	20,170	11,350	11,370	7,260	6,450	6,340	63,250	92,770	129,200	116,700	34,520	547,900
1959	23,660	12,500	9,220	6,150	4,740	4,600	5,060	96,990	131,800	140,100	122,200	63,120	620,100
1960	29,430	14,580	13,490	12,580	8,330	8,950	22,310	109,660	77,200	151,800	140,900	87,910	677,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	742	537,000
1951	1466	a3,760	Sept.20, 1951	-	943	682,900	999	723,000
1952	1466	5,990	July 31, 1952	-	947	687,100	956	684,000
1953	1466	6,080	Aug. 4, 1953	-	994	719,200	935	676,700
1954	1486	8,280	Aug. 3, 1954	-	904	654,200	909	658,200
1955	1486	a3,060	Aug. 26, 1955	1.0	732	529,600	725	525,000
1956	1486	10,300	Aug. 1, 1956	28	1,018	738,800	1,044	758,100
1957	1500	5,800	May 20, 1957	-	1,265	915,400	1,313	950,500
1958	1570	3,500	Aug. 4, 1958	-	757	547,900	709	513,200
1959	1640	3,780	May 18, 1959	-	856	620,100	873	632,300
1960	1720	4,510	July 25, 1960	-	933	677,100	-	-

a Maximum observed.

2020. Tazlina River near Glennallen

Location.--Lat 62°03'20", long 145°25'35", in W½ sec.9, T.3 N., R.1 W., near center of span on downstream side of bridge on Richardson Highway, 2 miles upstream from mouth, 4 miles downstream from Moose Creek, and 5 miles southeast of Gelnnallen.

Drainage area.--2,670 sq mi, approximately.

Records available.--August 1949 to September 1950, October 1951 to September 1960. Discharge measurements only in 1951.

Gage.--Wire-weight gage. Datum of gage is 1,109.13 ft above mean sea level, adjustment of 1952.

Average discharge.--10 years (1949-50, 1951-60), 4,256 cfs (3,081,000 acre-ft per year).

Extremes.--1949-50, 1951-60: Maximum discharge, 47,000 cfs Aug. 31, 1955 (gage height, 12.25 ft, from graph based on gage readings); minimum not determined.

Remarks.--Records of chemical analyses for the periods February 1952 to August 1953, December 1953 to September 1954, May to August 1956, October 1957 to September 1958; and suspended sediment loads for the period May 1953 to September 1960 (periodic), summer months only 1956-60, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	3,000	1,200	530	350	300	290	270	1,308	4,547	11,220	13,710	4,763	3,483
1953	3,474	1,755	1,400	900	500	320	350	1,887	7,843	16,770	17,620	8,737	5,173
1954	2,214	900	620	490	390	310	251	1,808	5,904	10,890	13,670	7,082	3,740
1955	2,433	1,010	519	440	350	310	273	826	3,284	9,375	12,620	10,660	3,530
1956	2,633	1,195	826	403	301	225	380	2,895	4,880	11,930	13,520	7,348	3,902
1957	2,653	1,151	690	367	260	380	395	4,282	10,730	14,830	12,350	16,280	5,386
1958	3,919	2,633	883	647	347	280	274	1,809	6,794	12,990	12,830	4,731	4,046
1959	1,599	867	575	365	310	255	282	2,584	7,779	14,710	10,600	6,590	3,906
1960	6,904	1,459	819	624	441	390	373	3,285	6,368	11,940	12,900	8,229	4,504

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	-	-	-
1951	184,500	71,400	32,590	21,520	17,260	17,830	16,070	80,400	270,600	690,100	842,900	283,400	2,529,000
1953	213,600	104,400	86,080	55,340	27,770	19,680	20,830	116,000	466,700	1,031,000	1,084,000	519,900	3,745,000
1954	136,100	53,550	38,120	30,130	21,660	19,060	14,960	111,200	351,300	669,400	840,500	421,400	2,707,000
1955	149,600	60,080	31,930	27,050	19,440	19,060	16,240	50,760	195,400	576,400	775,700	634,200	2,556,000
1956	161,900	71,110	50,780	24,790	17,320	13,860	22,610	178,000	290,400	733,400	831,300	437,200	2,833,000
1957	163,100	68,470	42,430	22,550	14,440	23,350	23,500	263,300	638,400	911,800	759,500	968,400	3,899,000
1958	241,000	156,700	54,310	39,790	19,260	17,220	16,300	111,200	404,300	798,700	788,700	281,500	2,929,000
1959	98,320	51,570	35,350	22,450	17,220	15,650	16,780	158,900	462,900	904,700	651,900	392,100	2,828,000
1960	424,500	86,820	50,340	38,380	25,350	23,960	22,170	202,000	378,900	734,100	793,500	489,700	3,270,000

Yearly discharge, in cubic feet per second

Year	WSP	Water yesr ending Sept. 30					Calendar year	
		Momentary maximum		Minimum dsy	Mean	Acre-feet	Mesn	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-
1952	1466	a17,600	Aug. 5, 1952	-	3,483	2,529,000	3,642	2,644,000
1953	1466	a34,400	July 30, 1953	-	5,173	3,745,000	4,930	3,569,000
1954	1486	19,200	Aug. 5, 1954	-	3,740	2,707,000	3,759	2,721,000
1955	1486	47,000	Aug. 31, 1955	-	3,530	2,556,000	3,589	2,598,000
1956	1486	15,300	Aug. 16, 1956	-	3,902	2,833,000	3,889	2,823,000
1957	1500	37,300	Sept. 8, 1957	-	5,386	3,899,000	5,632	4,077,000
1958	1570	17,300	Aug. 2, 1958	221	4,046	2,929,000	3,677	2,662,000
1959	1640	22,300	July 11, 1959	-	3,906	2,828,000	4,426	3,204,000
1960	1720	21,800	Oct. 1, 1959	-	4,504	3,270,000	-	-

a Maximum observed.

2060. Klutina River at Copper Center

Location.--Lat 61°57'10", long 145°18'20", in SW¼ sec.18, T.2 N., R.1 E., near left bank on downstream side of bridge on Richardson Highway, 0.7 mile south of Copper Center, three-quarters of a mile upstream from mouth, and 24 miles downstream from Klutina Lake.

Drainage area.--880 sq mi, approximately.

Records available.--May to August 1908 (gage heights only), June to October 1913, August 1949 to September 1960.

Gage.--Wire-weight gage. Datum of gage is 1,011.26 ft above mean sea level, May 19 to Aug. 31, 1908, June 17 to Oct. 31, 1913, staff gages at sites a quarter of a mile downstream at different datums.

Average discharge.--11 years (1949-60), 1,732 cfs (1,254,000 acre-ft per year).

Extremes.--1913, 1949-60: Maximum discharge observed, 9,040 cfs June 29, 1953 (gage height, 9.24 ft); maximum gage height observed, 15.55 ft May 9, 1953 (backwater from ice); minimum discharge not determined.

Remarks.--Records of chemical analyses for the periods March 1952 to September 1954, May to August 1956, October 1957 to September 1958; suspended sediment loads for the period May 1953 to September 1958 (periodic), summer months only 1956-58; and water temperatures for the period October 1952 to September 1953, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	941	380	289	250	230	240	240	851	2,393	5,573	4,068	5,362	1,743
1952	1,498	607	270	190	160	150	140	496	2,358	4,906	4,623	1,920	1,452
1953	1,776	911	710	500	400	260	250	1,017	5,686	7,071	5,529	2,591	2,239
1954	893	415	260	200	160	130	127	1,105	3,365	4,147	5,766	2,732	1,620
1955	893	557	295	270	220	190	110	265	2,006	5,395	3,885	2,346	1,380
1956	725	227	195	160	150	160	240	957	3,192	5,420	5,132	2,206	1,573
1957	1,045	413	382	251	175	255	260	1,251	5,941	5,168	4,543	5,265	2,085
1958	2,089	1,079	491	364	261	230	223	879	4,950	5,041	4,502	1,882	1,843
1959	827	523	215	160	165	169	140	1,032	5,117	5,411	4,122	1,746	1,645
1960	1,192	645	454	304	240	235	240	1,552	3,757	4,667	4,729	3,678	1,813

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	57,840	22,610	17,770	15,370	12,770	14,760	14,280	52,300	142,400	342,700	250,100	319,100	1,262,000
1952	92,090	36,100	16,600	11,680	9,200	9,220	8,330	30,490	140,300	301,600	284,200	114,200	1,054,000
1953	109,200	54,210	43,660	30,740	22,210	15,990	14,880	62,550	338,300	434,800	339,900	154,200	1,621,000
1954	54,900	24,690	15,990	12,300	8,890	7,990	7,540	67,970	200,300	255,000	354,600	162,600	1,173,000
1955	54,890	33,140	18,130	16,600	12,220	11,680	6,550	16,260	119,300	331,700	238,900	139,600	999,000
1956	44,550	13,490	11,980	9,840	8,630	9,840	14,280	59,450	190,000	333,300	315,600	131,300	1,142,000
1957	64,220	24,600	23,480	15,430	9,700	15,670	15,470	76,900	353,500	317,800	279,300	313,300	1,509,000
1958	128,500	64,180	30,210	22,350	14,480	14,140	13,290	54,040	294,600	309,900	276,800	112,000	1,334,000
1959	50,860	31,140	13,190	9,860	9,180	10,410	8,330	63,470	304,500	332,700	253,400	103,900	1,191,000
1960	73,310	38,380	27,930	18,700	13,800	14,460	14,280	95,440	223,600	287,000	290,800	218,800	1,316,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	1,566	1,134,000
1951	1466	a7,210	Sept. 6, 1951	-	1,743	1,262,000	1,808	1,309,000
1952	1466	a7,400	Aug. 1, 1952	-	1,452	1,054,000	1,538	1,116,000
1953	1466	a9,040	June 29, 1953	-	2,239	1,621,000	2,085	1,509,000
1954	1486	7,680	Aug. 5, 1954	-	1,620	1,173,000	1,634	1,183,000
1955	1486	a6,560	July 12, 1955	-	1,380	999,000	1,330	962,800
1956	1486	a7,360	Aug. 4, 1956	-	1,573	1,142,000	1,632	1,185,000
1957	1500	a8,250	June 18, 1957	-	2,085	1,509,000	2,238	1,620,000
1958	1570	a6,510	June 12, 1958	-	1,843	1,334,000	1,667	1,207,000
1959	1640	a7,520	July 3, 1959	-	1,645	1,191,000	1,706	1,235,000
1960	1720	6,170	July 29, 1960	-	1,813	1,316,000	-	-

a Maximum observed.

2080. Tonsina River at Tonsina

Location.--Lat 61°39'50", long 145°10'50", near left bank on downstream side of bridge on Richardson Highway at Tonsina, 0.4 mile upstream from Bernard Creek and 0.6 mile upstream from Squirrel Creek.

Drainage area.--420 sq mi, approximately.

Records available.--May 1950 to December 1954, January to September 1955 (fragmentary), October 1955 to September 1960.

Gage.--Wire-weight gage. Altitude of gage is 1,500 ft (from topographic map). Prior to Oct. 16, 1957, at site 200 ft upstream at same datum.

Average discharge.--9 years (1950-54, 1955-60), 932 cfs (674,700 acre-ft per year).

Extremes.--1950-54, 1955-60: Maximum discharge, 7,910 cfs June 8, 1957 (gage height, 7.00 ft, from graph based on gage readings, site then in use); minimum not determined.

Remarks.--Records of chemical analyses for the periods February 1952 to September 1953, January to September 1954, May to August 1956, October 1957 to September 1960 (periodic); suspended sediment loads for the period May 1953 to September 1960 (periodic), summer months only 1956-60; and water temperatures for the periods October 1952 to September 1953, November 1958 to September 1960, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	269	113	105	94.8	87.3	87.6	90.0	478	1,648	2,939	1,810	2,836	883
1952	635	340	150	100	90	85	85	264	1,958	2,495	1,857	781	740
1953	955	404	300	170	120	70	87.5	841	4,685	3,346	2,133	1,100	1,189
1954	357	200	160	130	110	93	82	1,026	2,640	2,311	2,570	1,155	908
1955	374	290	140	-	-	-	-	-	-	-	-	-	-
1956	305	130	110	100	100	110	140	418	2,367	3,071	1,841	675	784
1957	253	158	283	97.9	61.4	104	130	985	3,747	1,958	2,080	2,377	1,021
1958	1,057	480	199	175	115	105	87.0	500	4,206	2,594	1,404	614	964
1959	366	201	115	80.6	73.1	73.1	64.0	567	4,031	2,522	2,015	617	897
1960	558	270	180	120	90.1	88.4	81.0	1,395	2,839	2,655	2,106	1,673	1,007

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	16,540	6,740	6,450	5,830	4,850	5,390	5,360	29,410	98,070	180,700	111,300	168,800	639,400
1952	39,020	20,230	9,220	6,150	5,180	5,230	5,080	16,210	116,500	153,400	114,200	46,470	536,900
1953	58,730	24,050	18,450	10,450	6,660	4,300	5,210	51,730	278,800	205,700	131,200	65,460	860,700
1954	21,940	11,900	9,840	7,990	6,110	5,720	4,880	63,070	157,100	142,100	158,000	68,760	657,400
1955	23,000	17,230	8,610	-	-	-	-	-	-	-	-	-	-
1956	18,780	7,740	6,760	6,150	5,750	6,760	8,330	25,720	140,900	188,800	113,200	40,140	569,000
1957	15,540	9,380	17,400	6,020	3,410	6,410	7,740	60,570	222,900	120,400	127,900	141,400	739,100
1958	65,010	28,580	12,240	10,730	6,410	6,450	5,180	30,760	250,300	159,500	86,330	36,520	698,000
1959	22,490	11,980	7,060	4,950	4,060	4,500	3,810	34,860	239,900	155,100	123,900	36,730	649,300
1960	43,300	16,070	11,050	7,360	5,180	5,430	4,820	85,770	169,900	163,200	129,500	99,550	731,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1466	a5,170	Sept. 6, 1951	-	883	639,400	937	678,200
1952	1466	a5,300	July 31, 1952	-	740	536,900	785	569,600
1953	1466	a7,240	June 27, 1953	-	1,189	860,700	1,109	803,200
1954	1486	4,880	Aug. 3, 1954	-	908	657,400	915	662,600
1955	1486	-	-	-	-	-	-	-
1956	1486	a4,360	July 3, 1956	-	784	569,000	796	578,100
1957	1500	7,910	June 8, 1957	-	1,021	739,100	1,109	802,600
1958	1570	a7,260	June 10, 1958	-	964	698,000	875	633,700
1959	1640	a5,800	June 18, 1959	-	897	649,300	924	669,200
1960	1720	a5,380	Sept. 13, 1960	-	1,007	731,100	-	-

a Maximum observed.

2120. Copper River near Chitina

Location (revised).--Lat 61°28'00", long 144°27'20", on right bank at head of Woods Canyon, half a mile downstream from Taral Creek and abandoned Indian village of Taral, 2¼ miles upstream from Tenas Creek, and 3½ miles south of Chitina.

Drainage area.--20,600 sq mi, approximately.

Records available.--July to September 1950, May to November 1952, October 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 400 ft (from topographic map). Prior to June 2, 1952, staff gage at site a quarter of a mile upstream at datum 1.4 ft higher. June 2 to Nov. 30, 1952, water-stage recorder at same site and datum.

Average discharge.--5 years (1955-60), 38,250 cfs (27,690,000 acre-ft per year).

Extremes.--1950, 1952, 1955-60: Maximum discharge recorded, 172,000 cfs June 10, 1958 (gage height, 22.52 ft); maximum gage height recorded, 22.62 ft July 27, 1960; minimum not determined.
Maximum stage known since 1950, 28.3 ft, in July 1951, at present datum, from floodmarks (discharge, 220,000 cfs).

Remarks.--Records of chemical analyses for the periods June to November 1950, January 1954 to September 1957; suspended sediment loads for the periods January 1954 to September 1956 (periodic), June to September 1957 (daily), summer months only 1955-57; and water temperatures for the period June to September 1957, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	21,780	58,350	98,480	94,250	44,290	-
1953	28,580	18,010	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	-	-	-	-	-
1956	14,200	6,000	4,400	2,700	2,300	2,000	3,500	30,140	64,100	117,500	100,800	44,960	32,910
1957	23,740	11,500	7,277	4,768	3,700	6,048	6,650	49,950	115,000	121,100	120,200	83,890	46,410
1958	29,040	15,060	7,181	7,187	5,200	4,300	4,267	25,680	104,000	127,800	102,100	36,540	39,300
1959	15,250	10,000	7,600	4,400	3,400	3,000	3,000	29,400	109,200	119,800	82,630	42,130	36,020
1960	26,920	9,200	7,094	6,158	4,562	4,052	5,950	41,270	70,830	102,400	98,310	60,220	36,590

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	1,339	3,472	6,056	5,795	2,636	-
1953	1,757.0	1,072.0	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	-	-	-	-	-
1956	873.1	357.0	270.5	166.0	132.3	123.0	208.3	1,853	3,814	7,222	6,197	2,675	23,890
1957	1,460.0	684.3	447.5	293.2	205.5	371.9	395.7	3,071	6,841	7,448	7,390	4,992	33,600
1958	1,785.0	896.1	441.5	441.9	288.8	264.4	253.9	1,579	6,189	7,859	6,279	2,174	28,450
1959	937.6	595.0	467.3	270.5	188.8	184.5	178.5	1,808	6,498	7,365	5,080	2,507	26,080
1960	1,655.0	547.4	436.2	378.6	262.4	249.1	354.0	2,538	4,215	6,299	6,045	3,584	26,560

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-
1952	1466	159,000	July 30, 1952	-	-	-	-	-
1953	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-
1956	1486	a124,000	June 30, 1956	-	32,910	23,890,000	34,410	24,980,000
1957	1500	148,000	Aug. 12, 1957	-	46,410	33,600,000	47,150	34,130,000
1958	1570	a172,000	June 10, 1958	-	39,300	28,450,000	37,750	27,330,000
1959	1640	165,000	July 10,11,or 12	-	36,020	26,080,000	36,910	26,720,000
1960	1720	169,000	July 27, 1960	-	36,590	26,560,000	-	-

a Maximum recorded.

2160. Power Creek near Cordova

Location.--Lat 60°35'15", long 145°37'05", on right bank at old bridge site, 1 mile upstream from Eyak Lake and 5½ miles northeast of Cordova.

Drainage area.--20.5 sq mi.

Records available.--July to November 1913 (fragmentary), August 1947 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 33.5 ft above mean sea level (river-profile survey). July to November 1913, staff gage half a mile upstream at different datum. August 1947 to Mar. 30, 1960, water-stage recorder at site on left bank at same datum.

Average discharge.--13 years (1947-60), 256 cfs (185,300 acre-ft per year).

Extremes.--1947-60: Maximum discharge recorded, 5,540 cfs Sept. 25, 1949 (gage height, 7.65 ft), from rating curve extended above 1,450 cfs by logarithmic plotting; minimum recorded, 13 cfs Apr. 29, 1950 (gage height, 1.50 ft), but may have been less during periods of no gage-height record.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	123	53.0	37.4	25.0	29.0	33.0	34.0	120	355	539	397	1,024	231
1952	250	232	50.0	35.0	25.0	20.0	20.0	94.0	427	897	485	388	245
1953	594	267	85	50.3	32.6	31.9	50.0	259	595	542	620	451	300
1954	343	102	58.5	49.6	46.7	27.5	29.5	189	412	451	612	461	233
1955	387	290	52.5	60.1	42.6	29	24.4	102	372	671	603	294	246
1956	151	60.3	38	35	23	16	21.5	177	356	612	716	425	220
1957	134	246	100	48.8	23.2	22.6	24.0	180	422	457	484	973	260
1958	400	334	69.2	113	45.7	44.6	65.1	297	598	925	673	256	321
1959	388	112	82.6	42.6	34.1	23.6	37.4	236	464	592	331	265	219
1960	328	165	77.6	84.3	58.7	33.5	35.0	271	465	628	536	471	264

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7,580	3,160	2,300	1,540	1,610	2,030	2,020	7,380	21,140	33,160	24,390	60,940	167,200
1952	15,370	13,830	3,070	2,150	1,440	1,230	1,190	5,780	25,420	55,140	29,830	23,100	177,600
1953	36,540	15,890	5,230	3,090	1,810	1,960	2,980	15,910	35,390	33,350	38,100	26,860	217,100
1954	21,110	6,100	3,600	3,050	2,590	1,690	1,760	11,630	24,490	27,720	37,650	27,410	168,800
1955	23,820	17,270	3,230	3,690	2,370	1,780	1,450	6,270	22,130	41,270	37,070	17,480	177,800
1956	9,260	3,590	2,340	2,150	1,320	984	1,280	10,900	21,210	37,640	44,000	25,270	159,900
1957	8,270	14,670	6,150	3,000	1,290	1,390	1,430	11,060	25,100	28,070	29,740	57,920	188,100
1958	24,620	19,890	4,260	6,950	2,540	2,740	3,870	18,290	35,580	56,900	41,400	15,210	232,200
1959	23,880	6,680	5,080	2,620	1,900	1,450	2,230	14,500	27,590	36,430	20,350	15,760	158,500
1960	20,180	9,800	4,770	5,180	3,380	2,060	2,080	16,680	27,680	38,640	32,950	28,020	191,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	208	137.57	150,400
1951	1466	3,650	Sept. 4, 1951	-	231	11.3	152.97	167,200	258	170.57	186,500
1952	1466	3,490	July 30, 1952	-	245	12.0	162.40	177,600	280	185.61	202,900
1953	1466	2,400	Oct. 4, 1952	-	300	14.6	198.58	217,100	263	174.03	190,300
1954	1486	3,090	July 31, 1954	-	233	11.4	154.37	168,800	252	166.72	182,300
1955	1486	3,470	Aug. 27, 1955	22	246	12.0	162.66	177,800	205	136.02	148,700
1956	1486	2,860	July 31, 1956	-	220	10.7	146.29	159,900	239	159.00	173,800
1957	1500	4,270	Sept.12, 1957	-	260	12.7	172.02	188,100	287	190.02	207,800
1958	1570	5,250	July 27, 1958	33	321	15.7	212.42	232,200	303	200.42	219,100
1959	1640	4,590	Oct. 2, 1958	20	219	10.7	144.93	158,500	218	144.12	157,600
1960	1720	2,880	Oct. 23, 1959	28	264	12.9	175.08	191,400	-	-	-

2260. Solomon Gulch near Valdez

Location.--Lat 61°05', long 146°19', on right bank at tidewater, half a mile downstream from small lake and 3 miles southwest of Valdez.

Drainage area.--19 sq mi, approximately.

Records available.--July to December 1948, October 1949 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 1 ft above mean sea level, Coast and Geodetic Survey datum for Alaska. Prior to May 22, 1950, staff gage at same site and datum.

Average discharge.--7 years (1949-56), 144 cfs (104,300 acre-ft per year).

Extremes.--1948, 1949-56: Maximum discharge, 2,420 cfs Sept. 4, 1951 (gage height, 6.50 ft), from rating curve extended above 620 cfs by logarithmic plotting; no flow sometime during period Feb. 20 to Mar. 3, 1954, caused by temporary storage upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	48.0	21.7	10.0	1.40	3.57	7.19	10	53.6	261	346	254	574	133
1952	75	74.2	20.7	14	11	9.5	8.7	45.0	366	419	292	219	130
1953	304	131	30	17.8	11.6	11.1	18.3	224	544	408	346	264	194
1954	143	35.0	16.7	10.9	12.2	7.70	10.9	164	357	277	356	245	137
1955	138	73.6	11.9	12	11	9.5	8.12	36.5	320	514	361	126	136
1956	56.2	27.4	17.3	20.9	12.1	8	13.5	90.4	371	507	442	212	149
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,950	1,290	618	86	198	442	595	3,290	15,520	21,290	15,640	34,130	96,050
1952	4,610	4,420	1,280	861	633	585	518	2,760	21,780	25,780	17,940	13,030	94,200
1953	18,680	7,780	1,840	1,100	643	684	1,090	13,790	32,390	25,100	21,260	15,730	140,100
1954	8,800	2,080	1,030	670	677	473	647	10,080	21,270	17,060	21,910	14,550	99,250
1955	8,510	4,380	734	738	611	583	483	2,250	19,070	31,610	22,170	7,520	98,660
1956	3,450	1,630	1,060	1,290	696	492	803	5,560	22,070	31,170	27,200	12,620	108,000
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	115	82.13	83,230
1951	1466	2,420	Sept. 4, 1951	0.5	133	7.00	94.80	96,050	140	100.17	101,500
1952	1466	1,710	July 29, 1952	7	130	6.84	92.96	94,200	155	110.72	112,200
1953	1466	1,220	Oct. 4, 1952	8	194	10.2	138.25	140,100	171	122.09	123,700
1954	1486	1,830	July 31, 1954	5	137	7.21	97.95	99,250	139	99.62	101,000
1955	1486	2,140	Aug. 27, 1955	4	136	7.16	97.36	98,660	126	89.99	91,180
1956	1486	1,200	July 31, 1956	-	149	7.84	106.63	108,000	-	-	-
1957	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-

2390. Bradley River near Homer

Location.--Lat 59°45'25", long 150°51'00", on right bank about 800 ft downstream from Bradley Lake Outlet, 3½ miles upstream from unnamed tributary, and 26 miles northeast of Homer.

Drainage area.--54.0 sq mi.

Records available.--July to August 1955, October 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,050 ft (from topographic map). July 13-22, 1955, staff gage at site 1 mile upstream and July 23 to Aug. 5, 1955, staff gage at site 3 miles upstream at different datum.

Extremes.--1957-60: Maximum discharge, 3,470 cfs Aug. 13, 1958 (gage height, 8.20 ft); minimum not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	-	-	-	-	-	-	-	-
1956	-	-	-	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	666	502	111	78.9	41.6	32.0	74.0	389	1,116	1,122	1,278	355	484
1959	233	102	59.5	32.5	25	22	33.0	308	817	788	774	306	294
1960	160	94	60	39	35	24	33	593	719	906	859	455	333

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	-	-	-	-	-	-	-	-
1956	-	-	-	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	40,970	29,840	6,840	4,850	2,310	1,970	4,400	23,940	66,390	68,970	78,590	21,130	350,200
1959	14,350	6,090	3,660	2,000	1,390	1,350	1,960	18,950	48,620	48,470	47,620	18,190	212,600
1960	9,840	5,590	3,690	2,400	2,010	1,480	1,960	36,470	42,770	55,720	52,810	27,070	241,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1955	1570	-	-	-	-	-	-	-	-	-	-
1956	-	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-	-	-
1958	1570	3,470	Aug. 13, 1958	-	484	8.96	121.59	350,200	410	102.99	296,600
1959	1640	1,260	Aug. 26, 1959	-	294	5.44	73.83	212,600	287	72.11	207,700
1960	1720	1,770	Aug. 2, 1960	-	333	6.17	83.96	241,800	-	-	-

2400. Anchor River at Anchor Point

Location.--Lat 59°46'10", long 151°50'00", in SE¼ sec.4, T.5 S., R.15 W., near right bank on downstream side of Sterling Highway Bridge at Anchor Point, 0.1 mile downstream from North Fork and 1 mile upstream from mouth.

Drainage area.--226 sq mi.

Records available.--June 1953 to September 1960.

Gage.--Wire-weight gage. Datum of gage is 24 ft above mean sea level (river-profile survey).

Average discharge.--7 years (1953-60), 280 cfs (202,700 acre-ft per year).

Extremes.--1953-60: Maximum discharge, 2,320 cfs May 7, 1954 (gage height, 4.95 ft, from graph based on gage readings); maximum gage height observed, 6.95 ft Apr. 24, 1959 (ice jam); minimum discharge observed, 28 cfs July 28, 1953 (gage height, 1.81 ft), but may have been less during periods of no gage-height record.

Remarks.--Records of chemical analyses for the periods May 1953 to September 1954, October 1957 to September 1960; suspended sediment loads for the period July 1953 to August 1954 (periodic); and water temperatures for the periods May 1953 to September 1954, December 1958 to September 1960, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	82.3	183	284	-
1954	333	165	100	50	50	80	223	1,014	206	134	335	194	242
1955	414	278	110	120	120	120	140	1,115	808	252	239	328	338
1956	289	110	99	100	84	86	250	925	371	194	254	312	257
1957	247	153	80.7	69	73.9	105	193	564	131	133	192	544	208
1958	611	832	259	174	96.2	165	591	895	309	223	317	243	394
1959	238	191	145	90.0	94.0	95.0	457	919	215	184	171	219	253
1960	290	197	155	160	161	104	185	972	172	229	252	322	268

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	5,060	11,250	16,870	-
1954	20,460	9,820	6,150	3,070	2,780	4,920	13,290	62,370	12,260	8,270	20,610	11,540	175,500
1955	25,480	16,540	6,780	7,380	6,660	7,380	8,330	68,590	48,100	15,480	14,670	19,510	244,900
1956	17,750	6,550	6,090	6,150	4,830	5,290	14,880	56,900	22,070	11,910	15,600	18,580	186,600
1957	15,200	9,130	4,980	4,240	4,110	6,470	11,500	34,700	7,810	8,200	11,829	32,370	150,500
1958	37,570	49,510	15,950	10,670	5,350	10,180	35,150	55,020	18,400	13,700	19,500	14,440	285,400
1959	14,630	11,340	8,930	5,530	5,220	5,840	27,210	56,530	12,820	11,310	10,540	13,020	182,900
1960	17,810	11,720	9,520	9,860	9,260	6,410	11,010	59,770	10,240	14,080	15,500	19,180	194,400

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-
1953	1466	-	-	-	-	-	-	-	-	-	-
1954	1486	2,320	May 7, 1954	-	242	1.07	14.57	175,500	260	15.59	187,900
1955	1486	a1,870	May 14, 1955	-	338	1.50	20.30	244,900	313	18.78	226,500
1956	1486	a1,300	May 2, 1956	-	257	1.14	15.47	186,600	256	15.38	185,500
1957	1500	1,820	May 9, 1957	47	208	.920	12.49	150,500	310	18.61	224,200
1958	1570	1,710	Oct. 22, 1957	-	394	1.74	23.70	285,400	300	18.04	217,300
1959	1640	2,300	Apr. 29, 1959	-	253	1.12	15.16	182,900	258	15.51	187,100
1960	1720	1,750	May 23, 1960	68	268	1.19	16.13	194,400	-	-	-

a Maximum daily.

2420. Kasilof River near Kasilof

Location.--Lat 60°19'05", long 151°15'35", in SW¼ sec.30, T.3 N., R.11 W., near center of span on downstream side of bridge on Sterling Highway, 0.9 mile upstream from Crooked Creek, 4 miles downstream from Moosehead Rapids, 5 miles south of Kasilof, and 10 miles downstream from Tustumena Lake.

Drainage area.--738 sq mi.

Records available.--July 1949 to September 1960.

Gage.--Wire-weight gage. Datum of gage is 23.37 ft above mean sea level (Corps of Engineers bench mark).

Average discharge.--11 years (1949-60), 2,384 cfs (1,726,000 acre-ft per year).

Extremes.--1949-60: Maximum discharge, 12,300 cfs Sept. 14, 1957 (gage height, 7.90 ft, from graph based on gage readings); maximum gage height observed, 8.62 ft Nov. 25, 1955 (backwater from ice); minimum discharge not determined.

Remarks.--Records of chemical analyses for the periods March to September 1952, October 1957 to August 1958 and suspended sediment loads for the period June 1953 to August 1954 (periodic), are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,739	1,642	897	535	360	290	453	703	1,364	4,573	7,239	8,139	2,508
1952	4,342	2,022	1,235	837	582	464	569	591	824	2,900	6,623	4,971	2,173
1953	4,223	2,684	1,886	1,097	883	795	669	771	1,821	4,900	7,810	6,452	2,848
1954	3,651	1,756	897	560	380	280	440	695	1,390	3,509	6,406	5,665	2,148
1955	3,654	2,057	816	600	540	480	505	547	844	2,681	5,385	5,561	1,981
1956	2,832	1,161	358	290	280	270	449	743	1,012	2,462	6,321	6,483	1,893
1957	3,325	1,441	725	454	401	428	414	625	1,790	4,855	6,619	10,480	2,638
1958	5,885	3,706	1,842	1,145	719	572	581	656	1,818	5,513	9,460	6,207	3,196
1959	2,958	1,425	847	414	314	285	494	717	1,556	4,311	6,320	5,691	2,124
1960	3,805	2,037	1,122	662	524	469	403	570	1,576	3,959	7,029	5,497	2,313

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	229,000	97,690	55,140	32,930	19,990	17,810	26,980	43,200	81,160	281,000	445,100	484,300	1,815,000
1952	267,000	120,300	75,970	51,470	33,480	28,500	33,860	36,330	49,050	178,300	407,200	295,800	1,577,000
1953	259,700	159,700	116,000	67,440	49,030	48,850	39,830	47,420	108,300	301,300	480,200	383,900	2,062,000
1954	224,500	104,500	55,140	34,430	21,100	17,220	26,180	42,730	82,720	215,800	393,900	337,100	1,555,000
1955	224,700	122,400	50,150	36,890	29,990	29,510	30,080	33,630	50,220	164,900	331,100	330,900	1,434,000
1956	174,100	69,060	22,040	17,830	16,110	16,600	26,730	45,690	60,230	151,400	388,700	385,700	1,374,000
1957	204,500	85,770	44,600	27,890	22,290	26,320	24,620	38,430	106,500	298,500	407,000	623,700	1,910,000
1958	361,800	220,500	113,300	70,410	39,930	35,140	34,540	40,330	108,200	339,000	581,700	369,300	2,314,000
1959	181,900	84,810	52,110	25,450	17,450	17,550	29,420	44,110	92,600	265,100	338,600	338,700	1,538,000
1960	234,000	121,200	68,970	40,700	30,170	28,860	23,970	35,050	93,780	243,400	432,200	327,100	1,679,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	2,318	42.64	1,678,000
1951	1466	9,090	Sept. 8, 1951	-	2,508	3.40	46.12	1,815,000	2,619	48.17	1,896,000
1952	1466	7,430	Aug. 16, 1952	-	2,173	2.94	40.07	1,577,000	2,272	41.90	1,649,000
1953	1466	8,360	Aug. 14, 1953	-	2,848	3.86	52.38	2,062,000	2,639	48.51	1,910,000
1954	1486	7,090	Aug. 28, 1954	-	2,148	2.91	39.51	1,555,000	2,166	39.85	1,568,000
1955	1486	6,240	Sept.12, 1955	-	1,981	2.68	36.44	1,434,000	1,799	33.08	1,302,000
1956	1486	7,880	Aug. 29, 1956	-	1,893	2.57	34.90	1,374,000	1,989	36.68	1,444,000
1957	1500	12,300	Sept.14, 1957	-	2,638	3.57	48.55	1,910,000	3,137	57.71	2,271,000
1958	1570	11,000	Aug. 16, 1958	531	3,196	4.33	58.78	2,314,000	2,676	49.20	1,937,000
1959	1640	8,150	Sept. 1, 1959	270	2,124	2.88	39.05	1,538,000	2,269	41.37	1,643,000
1960	1720	7,600	Aug. 14, 1960	359	2,313	3.13	42.65	1,679,000	-	-	-

2440. Ptarmigan Creek at Lawing

Location.--Lat 60°24'20", long 149°21'45", on right bank 200 ft upstream from bridge on Seward-Anchorage highway, 0.2 mile north of Lawing, 0.3 mile upstream from mouth, and 3 miles downstream from Ptarmigan Lake.

Drainage area.--32.6 sq mi.

Records available.--May 1947 to September 1958.

Gage.--Water-stage recorder. Altitude of gage is 500 ft (from topographic map). Prior to June 11, 1952, staff gage at site 200 ft downstream at different datum.

Average discharge.--11 years (1947-58), 111 cfs (80,360 acre-ft per year).

Extremes.--1947-58: Maximum discharge, 980 cfs June 29, 1953 (gage height, 3.28 ft); maximum gage height recorded, 4.38 ft Dec. 18, 1956 (backwater from ice); minimum discharge not determined.

Remarks.--Records of chemical analyses for the periods February to September 1952, October 1957 to August 1958, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	66.0	30.3	16.5	12.4	10	9.5	19.7	79.3	155	251	162	245	88.5
1952	71.5	44.5	24.9	13.5	12	10.4	9.5	31.4	162	232	172	110	74.7
1953	198	185	85.5	41.5	28.8	20.0	33.0	158	511	381	233	141	169
1954	153	49.3	32	23	18.6	11.0	19.7	92.8	204	201	198	104	92.8
1955	91.8	92.1	38.2	27.8	20	15.9	14.9	37.4	170	359	199	125	100
1956	47.2	31.3	21	18.9	16	14	17.1	55.0	159	256	234	125	83.3
1957	47.5	41.2	33.6	19.4	16	15.2	20.2	90.3	234	175	187	352	103
1958	165	143	45.5	34.5	21.1	18.0	39.5	113	324	265	243	111	127
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,060	1,800	1,010	764	555	585	1,170	4,880	9,240	15,450	9,960	14,580	64,050
1952	4,400	2,650	1,530	827	690	639	565	1,930	9,640	14,260	10,560	6,540	54,230
1953	12,150	10,990	5,260	2,550	1,600	1,230	1,970	9,730	30,410	23,440	14,310	8,420	122,100
1954	9,420	2,930	1,970	1,410	1,030	674	1,170	5,710	12,130	12,360	12,200	6,180	67,180
1955	5,650	5,480	2,350	1,710	1,110	980	889	2,300	10,140	22,090	12,240	7,440	72,380
1956	2,900	1,860	1,290	1,160	920	861	1,020	3,380	9,480	15,760	14,410	7,450	60,490
1957	2,920	2,450	2,070	1,190	899	934	1,200	5,550	13,930	10,770	11,490	20,940	74,330
1958	10,120	8,530	2,790	2,120	1,170	1,110	2,350	6,940	19,260	16,320	14,950	6,600	92,260
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	107	44.75	77,780
1951	1466	-	-	-	88.5	2.71	36.84	64,050	90.8	37.82	65,750
1952	1466	300	July 25, 1952	-	74.7	2.29	31.18	54,230	102	42.58	74,050
1953	1466	980	June 29, 1953	-	169	5.18	70.19	122,100	149	62.11	108,000
1954	1486	432	Oct. 7, 1953	-	92.8	2.85	38.65	67,180	91.6	38.16	66,340
1955	1486	525	July 23, 1955	-	100	3.07	41.62	72,380	89.7	37.35	64,950
1956	1486	396	July 17, 1956	-	83.3	2.56	34.80	60,490	85.2	35.60	61,880
1957	1500	796	Sept. 3, 1957	13	103	3.16	42.76	74,330	122	50.82	88,330
1958	1570	590	June 21, 1958	-	127	3.90	53.08	92,260	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-

2460. Grant Creek near Moose Pass

Location.--Lat 60°27'25", long 149°21'15", on right bank 0.3 mile upstream from mouth, 0.8 mile downstream from Grant Lake, and 2.3 miles south of Moose Pass.

Drainage area.--44.2 sq mi.

Records available.--September 1947 to September 1958.

Gage.--Water-stage recorder. Datum of gage is 491 ft above mean sea level (river-profile survey). Prior to July 1, 1952, staff gage at site 0.1 mile downstream at datum 7.23 ft lower.

Average discharge.--11 years (1947-58), 193 cfs (139,700 acre-ft per year).

Extremes.--1947-58: Maximum discharge, 2,230 cfs June 28, 1953 (gage height, 4.46 ft), from rating curve extended above 1,100 cfs by logarithmic plotting; minimum not determined.

Remarks.--Records of chemical analyses for the period October 1957 to August 1958, are published in report of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	101	33.3	21.0	19.1	15.5	13.6	27.3	124	325	518	376	505	174
1952	87.8	51.5	30.4	18.5	16.5	15.7	14.5	66.1	375	572	434	268	163
1953	337	263	124	57.7	44.5	30.4	61.4	281	928	711	513	294	305
1954	257	69.1	39.7	32.1	33.3	28.4	29.7	173	409	420	384	201	174
1955	168	145	51.4	41.6	23.8	18	18	72.0	291	643	407	273	181
1956	81.5	42.0	25	20	17	15	21.9	121	269	471	453	215	147
1957	64.6	55.6	51.8	22.4	19	19.6	28.9	166	449	359	370	565	181
1958	207	161	56.3	44.1	29.1	25.5	65.6	170	535	449	418	155	194
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6,240	1,980	1,290	1,170	863	839	1,630	7,640	19,360	31,880	23,120	30,050	126,100
1952	5,400	3,060	1,870	1,130	948	966	863	4,070	22,310	35,180	26,680	15,930	118,400
1953	20,720	15,640	7,650	3,550	2,470	1,870	3,650	17,280	55,240	43,740	31,540	17,470	220,800
1954	15,810	4,110	2,440	1,970	1,850	1,750	1,770	10,620	24,360	25,800	23,600	11,950	126,000
1955	10,350	8,650	3,160	2,560	1,320	1,110	1,070	4,430	17,300	39,540	25,040	16,240	130,800
1956	5,010	2,500	1,540	1,230	978	922	1,310	7,430	16,000	28,970	27,860	12,780	106,500
1957	3,970	3,310	3,180	1,380	1,060	1,210	1,720	10,180	26,720	22,050	22,720	33,620	131,100
1958	12,720	9,590	3,460	2,710	1,610	1,570	3,900	10,450	31,820	27,640	25,690	9,230	140,400
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	181	55.61	131,100
1951	1466	-	-	-	174	3.94	53.48	126,100	175	53.83	126,900
1952	1466	820	July 24, 1952	-	163	3.69	50.23	118,400	209	64.51	152,100
1953	1466	2,230	June 28, 1953	-	305	6.90	93.68	220,800	275	84.50	199,200
1954	1486	782	Oct. 7, 1953	-	174	3.94	53.46	126,000	174	53.37	125,800
1955	1486	1,050	July 11, 1955	-	181	4.10	55.48	130,800	163	49.92	117,700
1956	1486	663	Aug. 20, 1956	-	147	3.33	45.18	106,500	149	45.78	107,900
1957	1500	1,700	Sept. 3, 1957	-	181	4.10	55.62	131,100	202	62.12	146,400
1958	1570	1,020	June 21, 1958	24	194	4.39	59.57	140,400	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-

2480. Trail River near Lawing

Location.--Lat 60°26'00", long 149°22'20", near center of stream on downstream end of pier at bridge site on old Seward-Anchorage highway, 0.2 mile upstream from Falls Creek, 0.2 mile downstream from Lower Trail Lake, 1.9 miles upstream from mouth, and 2.1 miles north of Lawing.

Drainage area.--181 sq mi (revised).

Records available.--May 1947 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 460 ft (from topographic map). Prior to Sept. 13, 1952, staff gage at same site and datum.

Average discharge.--13 years (1947-60), 785 cfs (568,300 acre-ft per year).

Extremes.--1947-60: Maximum discharge, 5,860 cfs June 28, 1953 (gage height, 10.16 ft); minimum daily, 48 cfs Feb. 9, 10, 1949.

Remarks.--Records of chemical analyses for the periods November 1951 to September 1952, October 1957 to September 1960, and water temperatures for the period December 1958 to September 1960, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	427	142	84.8	71.2	57.6	55.5	110	543	1,287	2,221	1,576	2,050	722
1952	361	220	134	81.7	73	68.3	61.5	211	1,295	2,282	1,624	976	618
1953	1,132	857	397	209	149	105	268	1,164	3,007	2,676	2,165	1,250	1,120
1954	1,076	291	157	117	90.0	76.6	116	833	1,686	1,796	1,781	935	751
1955	675	580	239	146	90.2	72.3	81.1	435	1,288	2,686	1,764	1,221	778
1956	334	159	98.3	90.3	76.1	70.8	118	596	1,093	1,988	2,129	964	646
1957	260	224	210	103	91.5	98.9	151	718	1,963	1,716	1,770	2,253	799
1958	989	729	241	188	114	90.5	307	767	2,173	2,031	1,946	674	859
1959	419	264	164	109	84.1	74.9	173	931	2,227	1,767	1,567	620	704
1960	517	366	222	143	129	94.6	126	1,478	1,887	2,188	1,693	986	823

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	26,230	8,420	5,220	4,380	3,200	3,410	6,530	33,400	76,600	136,500	96,890	122,000	522,800
1952	22,170	13,090	8,270	5,030	4,200	4,200	3,660	12,970	77,050	140,300	99,880	58,050	448,900
1953	69,590	51,000	24,430	12,850	8,280	6,430	15,940	71,600	178,900	164,500	133,100	74,360	811,000
1954	66,160	17,320	9,680	7,160	5,000	4,710	6,880	51,210	100,300	110,500	109,500	55,640	544,100
1955	41,490	34,520	14,680	8,990	5,010	4,440	4,830	26,750	76,620	165,100	108,500	72,660	563,600
1956	20,550	9,460	6,040	5,550	4,380	4,350	7,050	36,650	64,440	122,200	130,900	57,340	468,900
1957	16,000	13,300	12,910	6,310	5,080	6,080	9,000	44,150	116,800	105,500	108,800	134,100	578,000
1958	60,810	43,380	14,850	11,570	6,330	5,570	18,240	47,160	129,300	124,900	119,700	40,110	621,900
1959	25,740	15,690	10,110	6,690	4,670	4,610	10,270	57,220	132,500	108,600	96,360	36,870	509,300
1960	31,790	21,770	13,630	8,780	7,410	5,820	7,530	90,850	112,300	134,600	104,100	58,690	597,300

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	757	56.75	547,800
1951	1466	-	-	-	722	3.99	54.16	522,800	727	54.54	526,400
1952	1466	a2,960	July 14, 1952	-	618	3.41	46.50	448,900	758	57.02	550,400
1953	1466	5,860	June 28, 1953	86	1,120	6.19	84.02	811,000	1,049	78.65	759,100
1954	1486	3,620	Oct. 7, 1953	68	751	4.15	56.33	544,100	748	56.09	541,600
1955	1486	4,030	July 11, 1955	63	778	4.30	58.40	563,600	703	52.74	509,000
1956	1486	3,030	Aug. 20, 1956	64	646	3.57	48.59	468,900	654	49.23	475,100
1957	1500	a4,700	Sept. 4, 1957	80	799	4.41	59.88	578,000	905	67.83	654,900
1958	1570	4,080	June 22, 1958	84	859	4.75	64.45	621,900	766	57.47	554,400
1959	1640	3,030	June 21, 1959	64	704	3.89	52.77	509,300	725	54.38	525,000
1960	1720	2,780	July 26, 1960	84	823	4.55	61.86	597,300	-	-	-

a Maximum daily.

2530. Crescent Creek near Moose Pass

Location.--Lat 60°28'45", long 149°34'25", on left bank 90 ft downstream from Crescent Lake Outlet and 7 miles west of Moose Pass.

Drainage area.--21.4 sq mi.

Records available.--May 1957 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,452.5 ft above mean sea level (river-profile survey).

Extremes.--1957-60: Maximum discharge, 262 cfs May 25, 1960 (gage height, 2.81 ft); maximum gage height, 2.85 ft Sept. 15, 1957; minimum discharge not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	130	59.2	39.1	93.2	-
1958	64.7	92.5	38.4	32.3	18.1	15.3	17.3	60.3	147	89.8	75.6	65.4	59.9
1959	58.4	37.3	22.3	15.4	14.0	14.4	18.1	64.9	160	93.5	64.3	46.2	50.9
1960	39.6	41.4	27.3	18.0	15.7	14.2	15.2	120	138	110	95.2	75.7	59.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	7,740	3,640	2,410	5,540	-
1958	3,980	5,500	2,360	1,990	1,010	942	1,030	3,710	8,770	5,520	4,650	3,890	43,350
1959	3,590	2,220	1,370	944	778	887	1,080	3,990	9,520	5,750	3,950	2,750	36,830
1960	2,440	2,470	1,680	1,100	900	873	902	7,400	8,190	6,790	5,850	4,500	43,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1957	1500	a210	June 9, 1957	-	-	-	-	-	-	-	-
1958	1570	210	June 8, 1958	14	59.9	2.80	37.98	43,350	53.4	33.89	38,690
1959	1640	190	June 21, 1959	-	50.9	2.38	32.26	36,830	50.0	31.73	36,240
1960	1720	262	May 25, 1960	-	59.4	2.78	37.75	43,100	-	-	-

a Maximum during period May to September.

2540. Crescent Creek near Cooper Landing

Location.--Lat 60°29'50", long 149°40'40", on left bank at bridge on old Seward-Kenai highway, 0.3 mile upstream from mouth and 5.3 miles east of Cooper Landing.

Drainage area.--31.7 sq mi.

Records available.--July 1949 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 550 ft (from topographic map). Prior to Aug. 19, 1949, staff gage at same site and datum.

Average discharge.--11 years (1949-60), 73.1 cfs (52,920 acre-ft per year).

Extremes.--1949-60: Maximum discharge, 820 cfs June 28, 1953; maximum gage height observed, 3.09 ft Dec. 18, 1957 (backwater from ice); minimum discharge observed, 2.7 cfs Mar. 8, 1954 (discharge measurement) caused by storage behind ice jam upstream.

Remarks.--Records of chemical analyses for the periods April to September 1952, October 1957 to August 1958, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	48.5	28.0	18.5	16.5	14.5	12	20.0	66.2	120	103	59.8	118	52.1
1952	58.0	44.0	18.4	12.5	12	12.0	10.5	33.2	132	126	81.9	64.7	50.5
1953	156	168	71.0	37.6	40.6	29.4	26.6	116	351	265	122	92.9	123
1954	99.4	46.1	26	15	17	13	17.7	86.5	138	107	100	58.5	60.6
1955	79.8	111	35.4	28	20	16.4	14.5	36.2	176	246	130	86.9	82.1
1956	42.8	30.6	25	24	22	17	20	64.3	153	165	116	75.3	63.0
1957	40.6	36.8	44.5	21.9	18	17.2	15.5	96.5	193	87.1	62.5	135	64.1
1958	116	124	55.0	46	23	18.6	27.6	89.4	205	133	113	94.4	87.4
1959	76.2	44.5	28.1	19.7	18.0	16.8	22.3	105	222	147	88.9	66.4	71.6
1960	54.7	51.5	29.9	21.0	18	16	19.5	160	188	155	140	119	81.2

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,980	1,670	1,140	1,010	807	738	1,190	4,070	7,140	6,330	3,680	7,000	37,760
1952	3,560	2,620	1,130	768	690	736	625	2,040	7,860	7,760	5,040	3,850	36,680
1953	9,610	9,980	4,370	2,310	2,250	1,800	1,580	7,120	20,880	16,320	7,500	5,530	89,250
1954	6,110	2,740	1,600	922	944	799	1,050	5,320	8,210	6,560	6,150	3,480	43,880
1955	4,910	6,620	2,170	1,720	1,110	1,010	863	2,230	10,480	15,130	8,010	5,170	59,420
1956	2,630	1,820	1,540	1,480	1,270	1,050	1,190	3,950	9,100	10,120	7,120	4,480	45,750
1957	2,500	2,190	2,740	1,350	1,000	1,060	924	5,940	11,500	5,360	3,840	8,040	46,440
1958	7,160	7,400	3,380	2,830	1,280	1,150	1,640	5,500	12,220	8,150	6,960	5,620	63,290
1959	4,680	2,650	1,730	1,210	1,000	1,040	1,330	6,480	13,240	9,040	5,470	3,950	51,820
1960	3,360	3,060	1,840	1,290	1,040	984	1,160	9,860	11,170	9,530	8,610	7,070	58,970

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	54.8	23.47	39,690
1951	1466	177	June 6, 1951	-	52.1	1.64	22.33	37,760	54.3	23.23	39,280
1952	1466	213	June 27, 1952	-	50.5	1.59	21.70	36,680	73.5	31.54	53,330
1953	1466	820	June 28, 1953	18	123	3.88	52.80	89,250	105	44.81	75,740
1954	1486	184	June 9, 1954	-	60.6	1.91	25.97	43,880	65.1	27.88	47,140
1955	1486	380	July 4, 1955	-	82.1	2.59	35.16	59,420	71.4	30.61	51,710
1956	1486	220	July 4, 1956	-	63.0	1.99	27.06	45,750	65.0	27.91	47,190
1957	1500	342	June 7, 1957	10	64.1	2.02	27.48	46,440	78.7	33.69	56,950
1958	1570	300	June 7, 1958	8	87.4	2.76	37.43	63,290	75.1	32.18	54,410
1959	1640	216	June 10, 1959	-	71.6	2.26	30.65	51,820	70.5	30.18	51,020
1960	1720	395	May 25, 1960	-	81.2	2.56	34.89	58,970	-	-	-

2580. Kenai River at Cooper Landing

Location.--Lat 60°29'35", long 149°48'25", near center of span on downstream side of bridge on Sterling Highway, 0.9 mile east of Cooper Landing, 0.9 mile upstream from Bean Creek, and 1.2 miles downstream from Snug Harbor.

Drainage area.--634 sq mi.

Records available.--May 1947 to September 1960.

Gage.--Wire-weight gage. Datum of gage is 429.27 ft above mean sea level (river-profile survey). May 11, 1947, to Mar. 10, 1949, staff gage and Mar. 11, 1949, to Apr. 13, 1950, wire-weight gage, at bridge 0.9 mile downstream at different datum.

Average discharge.--13 years (1947-60), 2,698 cfs (1,953,000 acre-ft per year).

Extremes.--1947-60: Maximum discharge, 20,600 cfs June 29, 1953 (gage height, 12.36 ft, from graph based on gage readings), from rating curve extended above 10,000 cfs by logarithmic plotting; minimum daily, 190 cfs Mar. 15-24, 1951.

Remarks.--Records of chemical analyses for the periods July to September 1950, April to September 1952, October 1957 to August 1958; and suspended sediment loads July to September 1959 (periodic), are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,878	654	364	310	256	208	280	1,239	3,556	6,894	5,092	6,852	2,309
1952	1,783	2,623	781	347	311	291	262	658	3,399	6,616	5,676	3,045	2,157
1953	4,164	3,199	1,461	886	547	460	509	2,982	10,010	9,653	7,225	4,570	3,824
1954	3,542	1,192	1,943	740	389	319	298	1,823	4,721	5,611	6,096	3,267	2,514
1955	2,143	2,205	826	612	438	312	284	802	3,454	8,178	5,955	4,263	2,472
1956	1,264	690	394	387	296	249	286	1,300	3,393	6,074	6,914	3,855	2,102
1957	2,341	1,663	992	420	303	306	364	1,649	5,831	5,576	5,752	9,100	2,864
1958	3,786	4,877	1,149	703	515	384	631	1,998	6,600	7,140	7,310	2,997	3,189
1959	3,596	1,147	661	460	337	301	410	2,196	7,001	6,125	5,387	2,780	2,548
1960	1,937	1,548	768	481	441	324	318	3,346	5,748	7,038	6,399	3,720	2,683

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	115,500	38,890	22,350	19,080	14,220	12,790	16,680	76,180	211,600	423,900	313,100	407,700	1,672,000
1952	109,600	156,100	48,010	21,350	17,900	17,870	15,590	40,460	202,200	406,800	349,000	181,200	1,566,000
1953	256,000	190,400	89,820	54,480	30,400	28,280	30,280	183,300	595,500	593,500	444,200	272,000	2,768,000
1954	217,800	70,920	119,400	45,500	21,630	19,620	17,730	112,100	280,900	345,000	374,800	194,400	1,820,000
1955	131,800	131,200	50,800	37,610	24,320	19,160	16,900	49,320	205,500	502,800	366,200	253,600	1,789,000
1956	77,700	41,040	24,250	23,790	17,000	15,290	17,030	79,960	201,900	373,500	425,100	229,400	1,526,000
1957	143,900	98,970	60,980	25,830	16,810	18,840	21,660	101,400	347,000	342,900	353,700	541,500	2,073,000
1958	232,800	290,200	70,640	43,250	28,580	23,600	37,540	122,900	392,700	439,000	449,500	178,300	2,309,000
1959	221,100	68,240	40,630	28,270	18,700	18,530	24,370	135,100	416,600	376,600	331,300	165,400	1,845,000
1960	119,100	92,110	47,190	29,570	25,340	19,900	18,920	205,700	342,000	432,800	393,500	221,300	1,947,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	2,372	50.79	1,718,000
1951	1466	8,960	Sept. 6, 1951	190	2,309	3.64	49.45	1,672,000	2,499	53.50	1,809,000
1952	1466	7,980	July 26,27,1952	258	2,157	3.40	46.32	1,566,000	2,464	52.90	1,789,000
1953	1466	20,600	June 29, 1953	303	3,824	6.03	81.87	2,768,000	3,647	78.08	2,640,000
1954	1486	8,000	Aug. 3, 1954	265	2,514	3.97	53.82	1,820,000	2,383	51.03	1,725,000
1955	1486	10,600	July 12, 1955	260	2,472	3.90	52.92	1,789,000	2,236	47.87	1,618,000
1956	1486	9,000	Aug. 20, 1956	214	2,102	3.32	45.10	1,526,000	2,324	49.86	1,687,000
1957	1500	16,300	Sept. 6, 1957	260	2,864	4.52	61.32	2,073,000	3,264	69.89	2,363,000
1958	1570	12,400	Nov. 4, 1957	352	3,189	5.03	68.29	2,309,000	2,825	60.49	2,045,000
1959	1640	8,980	June 24, 1959	265	2,548	4.02	54.56	1,845,000	2,449	52.44	1,773,000
1960	1720	9,300	July 29, 1960	260	2,683	4.23	57.60	1,947,000	-	-	-

2600. Cooper Creek near Cooper Landing

Location.--Lat 60°26'00", long 149°49'15", on left bank 125 ft downstream from Cooper Lake Outlet, 1.4 miles upstream from Stetson Creek, and 4 miles south of Cooper Landing.

Drainage area.--31.8 sq mi.

Records available.--August 1949 to July 1959.

Gage.--Water-stage recorder. Datum of gage is 1,165.5 ft above mean sea level (river-profile survey).

Average discharge.--9 years (1949-58), 90.0 cfs (65,160 acre-ft per year).

Extremes.--1949-59: Maximum discharge, 729 cfs June 29, 1953 (gage height, 4.02 ft); no flow July 31, 1959, due to construction of dam at lake outlet; minimum natural flow not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	73.3	31.2	20.0	18.0	15.5	13.3	23.0	71.5	146	144	77.2	153	65.6
1952	66.6	55.0	22.2	13.5	13.0	12.5	11.5	34.9	138	181	107	69.3	60.5
1953	208	186	74.8	47.7	45.5	31.4	26.4	137	412	335	178	121	151
1954	132	46.9	32.2	25	27.2	17.0	12.7	96.6	196	169	136	72.8	80.7
1955	66.5	92.5	39.8	34.5	22.1	16	13	28.9	159	302	165	94.8	86.6
1956	45.3	30	23	22	21	19	20	61.3	174	236	161	101	76.4
1957	50.0	42.7	51.1	25.7	21	20.3	19	90.0	216	121	83.9	216	79.7
1958	155	190	56.7	38	21	18	32	125	289	244	186	108	122
1959	76.1	50.2	35.0	22.3	18	17.9	30.6	102	225	125	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,510	1,860	1,230	1,100	863	819	1,370	4,390	8,680	8,830	4,750	9,080	47,480
1952	4,100	3,270	1,360	829	748	768	684	2,150	8,190	11,140	6,560	4,120	43,920
1953	12,790	11,080	4,600	2,930	2,530	1,930	1,570	8,450	24,510	20,580	10,930	7,190	109,100
1954	8,140	2,790	1,980	1,540	1,510	1,040	756	5,940	11,680	10,370	8,360	4,330	58,440
1955	4,090	5,510	2,450	2,120	1,230	984	774	1,780	9,450	18,560	10,140	5,640	62,730
1956	2,790	1,790	1,410	1,350	1,210	1,170	1,190	3,770	10,360	14,520	9,920	5,990	55,470
1957	3,070	2,540	3,140	1,580	1,170	1,250	1,130	5,530	12,820	7,440	5,160	12,850	57,680
1958	9,540	11,330	3,480	2,340	1,170	1,110	1,900	7,680	17,190	14,970	11,450	6,450	88,610
1959	4,680	2,990	2,150	1,370	1,000	1,100	1,820	6,250	13,360	7,660	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	75.2	32.11	54,460
1951	1466	208	Sept.19, 1951	-	65.6	2.06	28.00	47,480	67.2	28.67	48,610
1952	1466	225	June 28, 1952	-	60.5	1.90	25.89	43,920	87.7	37.53	63,660
1953	1466	729	June 29, 1953	-	151	4.75	64.32	109,100	129	55.16	93,530
1954	1486	224	June 27, 1954	-	80.7	2.54	34.48	58,440	79.5	33.96	57,580
1955	1486	366	July 11, 1955	-	86.6	2.72	36.98	62,730	78.3	33.40	56,670
1956	1486	285	July 18, 1956	-	76.4	2.40	32.69	55,470	80.2	34.33	58,230
1957	1500	316	Sept. 4, 1957	-	79.7	2.51	34.01	57,680	101	43.20	73,280
1958	1570	422	June 22, 1958	-	122	3.84	52.24	88,610	102	43.68	74,100
1959	1640	269	June 22, 1959	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-

2605. Stetson Creek near Cooper Landing

Location.--Lat 60°26'30", long 149°51'05", on left bank 0.3 mile upstream from mouth and 3.4 miles southwest of Cooper Landing.

Drainage area.--8.6 sq mi.

Records available.--May 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,100 ft (from topographic map).

Extremes.--1958-60: Maximum discharge, 197 cfs May 23, 1960 (gage height, 2.99 ft), from rating curve extended above 70 cfs by logarithmic plotting; minimum daily, 3 cfs Apr. 11, 12, 1960.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	-	90.6	52.8	37.7	27.0	-
1959	19.1	11.4	7.6	6.0	5.5	5.4	6.8	30.8	84.2	43.3	32.4	27.6	23.4
1960	16.2	12.6	8.7	7.0	5.6	4.3	4.8	46.8	65.3	49.4	41.6	38.3	25.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	-	5,390	3,250	2,320	1,610	-
1959	1,180	676	466	369	303	329	405	1,890	5,010	2,660	1,990	1,640	16,920
1960	996	750	536	430	321	266	286	2,880	3,880	3,040	2,560	2,280	18,220

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1958	1570	193	June 21, 1958	-	-	-	-	-	-	-	-
1959	1640	150	June 18, 1959	5	23.4	2.72	36.89	16,920	23.3	36.81	16,880
1960	1720	197	May 23, 1960	3	25.1	2.92	39.72	18,220	-	-	-

2610. Cooper Creek at mouth, near Cooper Landing

Location.--Lat 60°28'30", long 149°52'30", on right bank 0.7 mile upstream from mouth, 0.9 mile downstream from unnamed tributary, 1.6 miles west of Cooper Landing, and 4½ miles downstream from Cooper Lake Outlet.

Drainage area.--48.0 sq mi, of which 31.8 sq mi above Cooper Lake Outlet has not contributed since July 1959.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 450 ft (from topographic map).

Extremes.--1957-60: Maximum discharge, 608 cfs June 22, 1958 (gage height, 2.91 ft); maximum gage height recorded, 3.75 ft Dec. 9, 1958 (ice jam); minimum discharge observed, 3.1 cfs Mar. 1, 1960 (discharge measurement) caused by temporary storage behind ice dam upstream.

Remarks.--Since July 1959, entire flow from 31.8 sq mi of drainage area has been controlled by dam at Cooper Lake Outlet; no release or spill during the period. Records of chemical analyses for the period October 1957 to August 1958 are published in report of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	264	285	82.9	59.9	32.4	28	50.3	184	412	309	225	151	174
1959	107	67.2	48.6	32.1	26.1	24.9	36.6	175	383	197	45.4	41.6	99.0
1960	29.3	23.5	14.5	10.5	7.5	7	9.0	90.1	87.2	68.1	54.3	58.2	38.4

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	16,240	16,960	5,100	3,620	1,800	1,720	2,990	11,330	24,540	19,000	13,850	9,000	126,200
1959	6,580	4,000	2,990	1,970	1,450	1,530	2,160	10,770	22,810	12,140	2,790	2,480	71,670
1960	1,800	1,400	889	645	432	430	536	5,540	5,190	4,190	3,340	3,460	27,850

Yearly discharge, in cubic feet per second, of Cooper Creek at mouth, near Cooper Landing

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1958	1570	608	June 22, 1958	-	174	126,200	140	101,400
1959	1640	455	June 20, 1959	23	99.0	71,670	85.9	62,190
1960	1720	259	May 23, 1960	-	38.4	27,850	-	-

2640. Russian River near Cooper Landing

Location.--Lat 60°27'10", long 149°59'05", on right bank 50 ft upstream from small unnamed tributary, 0.3 mile downstream from Lower Russian Lake, 3.2 miles upstream from mouth, and 6 miles southwest of Cooper Landing.

Drainage area.--61.8 sq mi.

Records available.--May 1947 to September 1954.

Gage.--Water-stage recorder. Altitude of gage is 500 ft (from topographic map). Prior to June 12, 1949, staff gage at same site and datum.

Average discharge.--7 years (1947-54), 124 cfs (89,770 acre-ft per year).

Extremes.--1947-54: Maximum discharge, 1,280 cfs Nov. 24, 1952 (gage height, 4.75 ft), from rating curve extended above 650 cfs by logarithmic plotting; minimum not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	83.9	40.1	27.0	25.4	21.1	18.0	40.3	153	174	122	62.8	170	78.3
1952	84.6	98.5	36.3	24.0	23.0	21.8	20.5	62.2	214	188	96.7	69.8	78.4
1953	349	465	231	123	84.7	54.7	81.9	358	543	347	239	168	254
1954	236	79.8	49.1	37.5	38.6	26	32.9	340	267	155	150	86.1	126

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,160	2,390	1,660	1,560	1,170	1,110	2,400	9,410	10,350	7,510	3,860	10,090	56,670
1952	5,200	5,860	2,230	1,470	1,320	1,340	1,220	3,820	12,720	11,590	5,940	4,150	56,860
1953	21,470	27,650	14,200	7,560	4,700	3,360	4,870	22,000	32,300	21,320	14,680	9,970	184,100
1954	14,500	4,750	3,020	2,310	2,140	1,600	1,960	20,900	15,910	9,560	9,230	5,130	91,010

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	91.3	20.05	66,100
1951	1466	271	Sept. 20, 1951	-	78.3	1.27	17.19	56,670	83.9	18.43	60,750
1952	1466	261	June 21, 1952	-	78.4	1.27	17.26	56,860	147	32.43	106,900
1953	1466	1,280	Nov. 24, 1952	-	254	4.11	55.85	184,100	198	43.40	143,000
1954	1486	533	May 14, 1954	-	126	2.04	27.61	91,010	-	-	-

2680. Resurrection Creek at Hope

Location.--Lat 60°55'15", long 149°38'40", near right bank on downstream side of pier of bridge at Hope, 0.3 mile downstream from Cripple Creek, 0.3 mile upstream from mouth, and 2.0 miles downstream from Wildhorse Creek.

Drainage area.--162 sq mi.

Records available.--October 1949 to September 1951.

Gage.--Staff gage. Altitude of gage 50 ft (from topographic map).

Extremes.--1949-51: Maximum discharge observed, 2,140 cfs June 20, 1950 (gage height, 2.80 ft), from rating curve extended above 810 cfs by logarithmic plotting; minimum not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	112	79.3	60.7	49.4	45	37	58.2	259	782	392	282	512	222

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6,910	4,720	3,730	3,030	2,500	2,280	3,460	15,940	46,540	24,100	17,350	30,460	161,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	276	200,200
1951	1466	1,330	June 6, 1951	-	222	161,000	-	-

2740. South Fork Campbell Creek near Anchorage

Location.--Lat 61°10'00", long 149°46'30", in NE¼ sec.3, T.12 N., R.3 W., on right bank a quarter of a mile downstream from bridge on road leading to Campbell Airstrip, 2.0 miles upstream from confluence with North Fork Campbell Creek, and 5½ miles southeast of Anchorage Post Office.

Drainage area.--29.4 sq mi.

Records available.--July 1947 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 260 ft (from topographic map). Prior to Aug. 20, 1952, at site a quarter of a mile upstream at different datum. Aug. 20, 1952, to July 15, 1958, at site 70 ft downstream from previous site at different datum.

Average discharge.--13 years (1947-60), 38.9 cfs (28,160 acre-ft per year).

Extremes.--1947-60: Maximum discharge, 891 cfs June 21, 1949 (gage height, 3.30 ft, site and datum then in use), from rating curve extended above 110 cfs by logarithmic plotting; maximum gage height observed, 5.30 ft Nov. 18, 1958 (backwater from ice); no flow part of Oct. 12, 1958, caused by temporary storage behind snowslide upstream.

Remarks.--Records of chemical analyses for the period October 1958 to September 1959, are published in report of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	19.3	11.5	11	9.3	7.5	5.5	6.5	25.8	92.8	64.4	49.5	90.3	32.8
1952	35.7	27.0	19	12	9	8	7	18.3	73.8	84.3	57.5	79.7	36.0
1953	73.7	56.2	19.9	15.0	11.1	9	10.2	49.9	133	73.5	70.1	76.8	49.9
1954	48.8	27	19	13	10	9	9.0	36.2	49.2	37.8	56.4	38.0	29.6
1955	38.4	32.6	11.2	14	5.7	6	6	18.7	103	139	81.3	65.3	43.6
1956	30.7	18.7	17	12	10	8	9.75	27.9	75.6	75.3	64.8	41.0	32.6
1957	24.2	18.4	15.3	9.9	9.0	7.4	9.0	48.4	81.7	48.2	39.5	71.6	31.9
1958	52.3	34.5	21.0	15	13.1	10.0	11.2	34.3	101	53.1	66.8	36.1	37.4
1959	40.1	25.1	13	10.5	9.5	8.2	7.4	43.3	114	75.7	65.6	64.1	39.8
1960	40.3	25.9	16.6	13.5	11.5	9.5	7.3	62.8	83.4	68.7	91.9	122	46.2

Monthly and yearly discharge, in acre-feet, of South Fork Campbell Creek near Anchorage

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,180	684	676	573	415	337	387	1,580	5,520	3,960	3,040	5,370	23,720
1952	2,200	1,610	1,170	738	518	492	417	1,120	4,390	5,180	3,530	4,740	26,100
1953	4,530	3,350	1,230	924	615	553	605	3,070	7,890	4,520	4,310	4,570	36,170
1954	3,000	1,610	1,170	799	555	553	536	2,220	2,930	2,330	3,470	2,260	21,430
1955	2,360	1,940	686	861	317	369	357	1,150	6,110	8,530	5,000	3,890	31,570
1956	1,890	1,110	1,050	738	575	492	579	1,720	4,500	4,630	3,990	2,440	23,710
1957	1,490	1,090	940	611	500	454	534	2,970	4,860	2,970	2,430	4,260	23,110
1958	3,220	2,050	1,290	922	730	613	666	2,110	5,990	3,260	4,110	2,150	27,110
1959	2,460	1,500	799	647	528	502	440	2,660	6,800	4,660	4,030	3,820	28,850
1960	2,480	1,540	1,020	831	662	585	436	3,860	4,960	4,220	5,650	7,290	33,530

Yearly discharge, in cubic feet per second

Year	WSP	Wster year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	26.1	18,900
1951	1466	255	June 24, 1951	-	32.8	23,720	36.1	26,160
1952	1466	213	Sept. 1, 1952	-	36.0	26,100	41.7	30,240
1953	1466	200	June 4, 1953	-	49.9	36,170	45.3	32,840
1954	1486	162	Aug. 1, 1954	-	29.6	21,430	28.5	20,640
1955	1486	431	July 3, 1955	-	43.6	31,570	42.3	30,630
1956	1486	356	July 31, 1956	-	32.6	23,710	31.9	23,180
1957	1500	181	Sept.19, 1957	6	31.9	23,110	36.1	26,150
1958	1570	160	June 7, 1958	9	37.4	27,110	35.0	25,310
1959	1640	173	Aug. 25, 1959	6	39.8	28,850	40.2	29,130
1960	1720	228	May 23, 1960	-	46.2	33,530	-	-

2750. Chester Creek at Anchorage

Location.--Lat 61°12'00", long 149°50'10", in SW¼ sec.21, T.13 N., R.3 W., on right bank 10 ft upstream from culverts on Lake Otis Road, 2.3 miles southeast of post office in Anchorage, and 3.2 miles upstream from mouth.

Drainage area.--21.3 sq mi.

Records available.--July 1958 to September 1960.

Gage.--Staff gage. Altitude of gage is 100 ft (from topographic map). Prior to July 12, 1960, at site 40 ft upstream at same datum.

Extremes.--1958-60: Maximum discharge, 94 cfs Apr. 27, 1959 (gage height, 2.75 ft, from graph based on gage readings); minimum daily, 10 cfs Mar. 17-22, 1959.

Remarks.--Records of chemical analyses for the period October 1958 to September 1959 are published in report of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	-	-	24.1	29.5	23.2	-
1959	23.2	18.0	14.9	12.3	13.1	11.8	26.2	36.6	27.7	27.4	28.9	35.1	23.0
1960	29.8	24.9	20.0	17.7	16.4	14.1	26.3	30.6	24.3	23.6	28.3	48.0	25.3

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	-	-	1,480	1,810	1,380	-
1959	1,430	1,070	914	758	730	726	1,560	2,250	1,650	1,690	1,780	2,090	16,650
1960	1,830	1,480	1,230	1,090	942	869	1,560	1,880	1,450	1,450	1,740	2,850	18,370

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1958	1570	-	-	-	-	-	-	-
1959	1640	94	Apr. 27, 1959	10	23.0	16,650	24.5	17,770
1960	1720	72	Sept.13, 1960	11	25.3	18,370	-	-

2760. Ship Creek near Anchorage

Location.--Lat 61°13'25", long 149°38'00", in Fort Richardson Military Reservation, at new diversion dam and Fort Richardson water supply intake building, 0.2 mile upstream from abandoned dam and water supply intake building, 3.5 miles upstream from North Fork Ship Creek, and 8½ miles east of Anchorage.

Drainage area.--91.2 sq mi.

Records available.--October 1946 to September 1960.

Gage.--Water-stage recorder and masonry dam. Datum of gage is 530 ft above mean sea level (levels by Corps of Engineers). Oct. 1, 1946, to Apr. 30, 1947, staff gage and May 1, 1947, to Apr. 19, 1954, water-stage recorder, at site 0.2 mile downstream at different datum. June 18, 1953, to Sept. 30, 1954, supplemental water-stage recorder at site 2.7 miles downstream at different datum.

Extremes.--1946-60: Maximum discharge, 1,860 cfs June 21, 1949 (gage height, 3.44 ft, site and datum then in use); no flow at times.

Remarks.--Discharge data represent net flow remaining after diversion for water supply of Fort Richardson, Elmendorf Air Force Base, and city of Anchorage. Average annual diversions are as follows: 1951, 10.0 cfs; 1952, 15.0 cfs; 1953, 20.0 cfs; 1954, 23 cfs; 1955, 24 cfs; 1956, 24 cfs; 1957, 22.1 cfs; 1958, 19.3 cfs; 1959, 17.7 cfs; 1960, 15.6 cfs. Records of chemical analyses for the periods April 1949 to July 1951, October 1958 to August 1959, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	62.0	36.3	33	29.0	23.3	18.5	22.3	118	414	269	182	424	136
1952	158	84.1	48.4	28.4	16.0	14	13.5	87.7	378	311	228	256	135
1953	248	177	46.2	36.1	23.9	11	20.5	248	673	277	225	239	186
1954	161	84.1	45.6	23.6	14.4	6	4.8	153	224	128	201	138	97.5
1955	106	82.7	25.7	19.5	7.9	5.6	6.61	66.4	461	639	291	204	164
1956	81.1	47.8	16.8	7.1	5.9	3.6	14.5	104	371	287	214	148	109
1957	68.8	47.3	33.6	19.5	14.2	7.5	16.0	220	376	162	127	234	111
1958	172	106	59.2	40.8	25.7	19.9	31.9	160	463	223	240	120	139
1959	124	63.4	38.7	17.5	17.1	11.8	22.3	216	538	243	235	205	145
1960	100	70.0	46.5	35.9	20.8	12.1	24.3	341	432	271	256	340	163

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,810	2,160	2,030	1,780	1,300	1,140	1,320	7,230	24,650	16,560	11,190	25,220	98,390
1952	9,720	5,000	2,980	1,750	922	861	803	5,390	22,520	19,110	13,990	16,240	98,290
1953	15,220	10,510	2,840	2,220	1,320	676	1,220	15,260	40,020	17,020	13,860	14,200	134,400
1954	9,880	5,810	2,800	1,450	797	369	284	9,430	13,320	7,870	12,360	8,230	70,600
1955	6,550	4,920	1,580	1,200	440	347	393	4,080	27,450	39,270	17,880	12,170	116,300
1956	4,980	2,840	1,040	438	341	222	861	6,410	22,100	17,650	13,140	8,830	78,850
1957	4,230	2,810	2,070	1,200	787	462	950	13,520	22,400	9,950	7,800	13,940	80,120
1958	10,590	6,320	3,640	2,510	1,430	1,230	1,900	9,820	27,560	13,710	14,730	7,120	100,600
1959	7,640	3,770	2,380	1,080	952	724	1,330	13,290	31,990	14,950	14,470	12,210	104,800
1960	6,160	4,170	2,860	2,210	1,200	744	1,440	20,950	25,700	16,670	15,740	20,220	118,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	108	77,960
1951	1466	983	Sept. 4, 1951	12	136	98,390	149	108,100
1952	1466	734	June 20, 1952	-	135	98,290	150	109,200
1953	1466	999	June 4, 1953	-	186	134,400	169	122,300
1954	1486	488	Oct. 6, 1953	-	97.5	70,600	92.8	67,160
1955	1486	1,070	July 4, 1955	-	161	116,300	155	112,100
1956	1486	685	July 31, 1956	0	109	78,850	109	79,100
1957	1500	712	June 4, 1957	4	111	80,120	126	91,560
1958	1570	874	June 7, 1958	10	139	100,600	130	93,800
1959	1640	670	June 3, 1959	7	145	104,800	144	104,200
1960	1720	966	May 25, 1960	0	163	118,100	-	-

2776. East Fork Eklutna Creek near Palmer

Location.--Lat 61°19', long 148°57", on left bank 1½ miles upstream from confluence with West Fork, 3½ miles upstream from Eklutna Lake, and 21 miles south of Palmer.

Drainage area.--38 sq mi, approximately.

Records available.--June to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,000 ft (from topographic map).

Extremes.--June to September 1960: Maximum discharge, 770 cfs Sept. 11 (gage height, 3.32 ft), from rating curve extended above 270 cfs by logarithmic plotting; minimum, 92 cfs Sept. 26 (gage height, 1.38 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	-	-	-	-	-	316	402	321	166	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	-	-	-	-	-	18,810	24,720	19,740	9,900	-

2778. West Fork Eklutna Creek near Palmer

Location.--Lat 61°18', long 148°58', on right bank 1 mile upstream from confluence with East Fork, 3 miles upstream from Eklutna Lake, and 22 miles south of Palmer.

Drainage area.--26 sq mi, approximately.

Records available.--June to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 950 ft (from topographic map).

Extremes.--June to September 1960: Maximum discharge, 850 cfs July 24 (gage height, 3.08 ft); maximum gage height, 3.12 ft Aug. 6 (backwater from trees); minimum discharge, 28 cfs Sept. 27.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	-	-	-	-	-	271	498	469	186	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	-	-	-	-	-	16,150	30,640	28,840	11,080	-

2800. Eklutna Creek near Palmer

Location.--Lat 61°24'05", long 149°09'00", on right bank 200 ft downstream from dam at outlet of Eklutna Lake, 8 miles upstream from abandoned Eklutna power diversion dam, 11 miles upstream from mouth, and 14 miles south of Palmer.

Drainage area.--119 sq mi.

Records available.--October 1946 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 856.53 ft above mean sea level (Corps of Engineers bench mark). Prior to Aug. 31, 1948, staff gage at site 100 ft upstream at datum 1.96 ft higher. Aug. 31, 1948, to Sept. 30, 1953, at datum 1.96 ft higher.

Average discharge.--8 years (1946-54), 346 cfs (250,000 acre-ft per year), unadjusted.

Extremes.--1946-60: Maximum discharge, 2,530 cfs Sept. 18, 1951 (gage height, 8.06 ft in gage well, present datum); no flow for long periods since 1954.

Remarks.--Flow regulated by Eklutna Lake reservoir, usable capacity, 160,000 acre-ft. Since December 1954, entire flow, except for periods of spilling, diverted from Eklutna Lake into Knik River basin by Eklutna powerplant. Records of chemical analyses for the periods April 1949 to September 1950, December 1950 to August 1952, and water temperatures for the periods May 1949 to September 1950, December 1950 to July 1951, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	72.8	126	125	122	69.5	56.5	46.9	99.8	373	1,301	989	1,097	375
1952	191	138	141	162	122	125	81.0	45.5	296	959	831	365	290
1953	354	201	120	131	126	129	123	133	879	1,672	1,402	608	495
1954	205	137	141	140	115	94.0	99.1	139	550	985	1,025	485	345
1955	212	141	140	120	68.9	0	0	0	0	189	705	252	154
1956	2.74	0	0	0	0	0	0	0	0	0	635	337	81.6
1957	.71	0	0	0	0	0	0	0	0	10.4	779	524	110
1958	11.4	.20	0	0	0	0	0	0	0	0	330	8.40	29.7
1959	0	0	0	0	0	0	0	0	0	0	12.7	12.3	2.09
1960	0	0	0	0	0	0	0	0	0	0	0	0	0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,470	7,520	7,680	7,490	3,860	3,470	2,790	6,140	22,210	79,970	60,790	65,280	271,700
1952	11,730	8,190	8,690	9,940	7,020	7,670	4,820	2,790	17,630	59,000	51,080	21,690	210,200
1953	21,740	11,950	7,390	8,040	6,990	7,920	7,310	8,180	53,390	102,800	86,200	36,170	358,100
1954	12,620	8,180	8,680	8,580	6,390	5,780	5,900	8,530	32,700	60,580	63,050	28,870	249,900
1955	13,020	8,370	8,590	7,380	3,820	0	0	0	0	11,650	43,370	14,980	111,200
1956	169	0	0	0	0	0	0	0	0	0	39,020	20,080	59,270
1957	44	0	0	0	0	0	0	0	0	637	47,890	31,160	79,730
1958	702	12	0	0	0	0	0	0	0	0	20,310	500	21,520
1959	0	0	0	0	0	0	0	0	0	0	783	730	1,510
1960	0	0	0	0	0	0	0	0	0	0	0	0	0

Monthly and annual diversions, in acre-feet, from Eklutna Lake

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	0	0	3,000	6,420	8,400	11,330	11,090	11,910	11,440	11,580	12,520	13,040	100,700
1956	14,150	15,110	16,130	16,280	14,800	15,200	13,130	13,110	12,970	12,940	13,360	14,350	171,500
1957	16,640	18,060	19,200	18,920	16,780	17,640	14,540	13,970	18,240	21,870	21,290	20,840	218,000
1958	16,040	17,450	19,500	18,310	15,220	16,320	19,920	21,840	20,170	20,890	20,480	21,050	227,200
1959	19,190	20,190	18,210	20,160	17,580	20,620	17,080	16,620	22,330	22,860	17,540	19,500	231,900
1960	18,030	18,180	20,940	19,770	18,690	19,140	24,760	24,300	23,430	19,830	24,830	18,070	250,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	309	224,000
1951	1466	2,530	Sept.18, 1951	25	375	271,700	388	280,600
1952	1466	1,420	July 31, 1952	36	290	210,200	307	222,700
1953	1466	2,460	June 27, 1953	7	495	358,100	479	346,500
1954	1486	1,430	Aug. 3, 1954	65	345	249,900	346	250,400
1955	1486	1,070	Aug. 1, 1955	0	154	111,200	112	81,370
1956	1486	1,220	Aug. 16, 1956	0	81.6	59,270	81.5	59,140
1957	1500	1,250	Sept. 5, 1957	0	110	79,730	111	80,400
1958	1570	910	Aug. 12, 1958	0	29.7	21,520	28.8	20,810
1959	1640	182	Aug.30,31, 1959	0	2.09	1,510	2.09	1,510
1960	1720	-	(a)	0	0	0	-	-

a No flow during the year.

2810. Knik River near Palmer

Location.--Lat 61°30'15", long 149°01'50", in SE¼ sec.2, T.16 N., R.2 E., near center of span on downstream side of bridge on Glenn Highway, 7 miles south of Palmer.

Drainage area.--1,180 sq mi, approximately.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 30.0 ft above mean sea level. Prior to June 27, 1960, wire-weight gage at same site and datum.

Extremes.--1959-60: Maximum discharge, 328,000 cfs July 17 (gage height, 24.35 ft); minimum not determined.
Maximum stage known, 25.30 ft July 18, 1958 (discharge, 359,000 cfs).

Remarks.--Extreme high flow in July caused by release of stored water (Lake George) behind Knik Glacier, about 17 miles upstream. Records of chemical analyses for the period October 1957 to August 1958, and suspended sediment loads for the period June to September 1959 (periodic), are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	3,822	2,208	978	527	361	331	557	2,550	5,396	37,450	20,900	9,916	7,148

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	235	131.4	60.14	32.43	20.77	20.35	33.13	156.8	321.1	2,303	1,285	590	5,189

2820. Caribou Creek near Sutton

Location.--Lat 61°48'10", long 147°41'00", on downstream side of left pier of bridge on Glenn Highway, 1.4 miles downstream from Dan Creek, 1¾ miles upstream from mouth, and 40 miles east of Sutton.

Drainage area.--289 sq mi.

Records available.--May 1955 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,767 ft above mean sea level.

Average discharge.--5 years (1955-60), 324 cfs (234,600 acre-ft per year).

Extremes.--1955-60: Maximum discharge recorded, 5,060 cfs June 18, 1955 (gage height, 5.92 ft); minimum observed, 0.23 cfs Mar. 9, 1956 (discharge measurement), caused by temporary storage upstream.

Remarks.--Records of chemical analyses for the period October 1957 to August 1958, and suspended sediment loads for the period June 1959 to September 1960 (periodic), are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	-	-	299	1,193	531	269	242	-
1956	86.1	31.5	12.4	9	8.0	5.6	81.9	634	1,501	1,064	466	352	355
1957	112	55.3	44.9	33.4	26	27.4	33.2	921	1,268	695	314	291	320
1958	145	75.5	60.5	38.5	30.2	29.5	67.0	377	433	134	411	195	167
1959	102	57.0	34.9	15.9	19.4	19.4	18.5	671	1,245	690	930	443	356
1960	131	66.0	53.4	41.3	30.5	25.0	31.0	1,639	1,126	770	500	655	424

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1955	-	-	-	-	-	-	-	18,390	71,010	32,640	16,510	14,400	-
1956	5,300	1,870	762	553	462	343	4,870	38,990	89,320	65,450	28,650	20,940	257,500
1957	6,890	3,290	2,760	2,050	1,440	1,680	1,980	56,620	75,480	42,720	19,330	17,340	231,600
1958	8,890	4,490	3,720	2,360	1,680	1,810	3,990	23,190	25,740	8,260	25,260	11,610	121,000
1959	6,250	3,390	2,150	980	1,080	1,190	1,100	41,290	74,110	42,420	57,160	26,380	257,500
1960	8,060	3,930	3,280	2,540	1,760	1,540	1,840	100,800	66,970	47,370	30,740	38,980	307,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1955	1486	5,060	June 18, 1955	-	-	-	-	-
1956	1486	4,800	June 8, 1956	-	355	257,500	362	262,500
1957	1500	a3,760	June 2, 1957	-	320	231,600	326	235,700
1958	1570	3,420	June 1, 1958	-	167	121,000	160	115,700
1959	1640	3,950	June 7, 1959	-	356	257,500	360	261,000
1960	1720	-	-	-	424	307,800	-	-

a Maximum discharge recorded, may have been higher during period of no gage-height record.

2840. Matanuska River at Palmer

Location.--Lat 61°36'35", long 149°04'15", in N½ sec.34, T.18 N., R.2 E., on left bank 100 ft downstream from bridge on Glenn Highway and 1 mile east of Palmer.

Drainage area.--2,070 sq mi, approximately.

Records available.--April 1949 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 170.92 ft above mean sea level (Alaska Road Commission bench mark). Prior to Nov. 2, 1950, wire-weight gage at bridge 120 ft upstream at same datum. Nov. 2, 1950, to Apr. 30, 1952, wire-weight gage at bridge 100 ft upstream at same datum.

Average discharge.--11 years (1949-60), 4,036 cfs (2,922,000 acre-ft per year).

Extremes.--1949-60: Maximum discharge, 37,300 cfs Aug. 24, 1959 (gage height, 10.82 ft); maximum gage height observed, 12.03 ft July 11, 1949; minimum daily discharge, 234 cfs Apr. 25, 1956.

Remarks.--Large diurnal fluctuation caused by glacier melt at the source. Records of chemical analyses for the periods May 1949 to October 1950, April to June 1951, October 1951 to July 1953, October 1957 to September 1960; suspended sediment loads for the periods April 1953 to September 1954, April 1959 to September 1960; and water temperatures for the periods March to August 1952, April to September 1953, December 1958 to September 1960, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,300	660	580	500	450	401	796	3,575	11,290	13,940	9,185	8,966	4,323
1952	2,923	1,255	944	793	500	438	533	1,597	8,456	13,360	9,854	3,309	3,684
1953	2,361	1,304	820	560	460	460	817	3,788	14,110	14,230	11,390	4,360	4,582
1954	1,569	790	620	570	450	420	599	3,166	9,376	12,820	12,770	6,111	4,134
1955	2,445	1,066	770	680	525	437	482	1,782	6,949	13,830	10,470	4,988	3,732
1956	1,554	717	579	520	456	400	502	2,611	7,673	15,620	10,750	5,961	3,966
1957	1,626	690	651	660	588	521	723	4,235	15,860	14,000	10,940	7,042	4,815
1958	2,355	1,148	645	660	533	487	891	2,120	10,410	10,670	9,029	3,186	3,531
1959	1,451	568	474	349	441	400	568	2,816	11,580	10,650	11,270	4,259	3,757
1960	1,793	975	715	669	580	563	702	6,019	8,886	11,840	9,020	5,537	3,959

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	79,900	39,270	35,660	30,740	24,990	24,630	47,380	219,800	671,700	857,400	564,800	533,500	3,130,000
1952	179,700	74,700	58,040	48,730	28,760	26,900	31,730	98,220	503,100	821,700	605,900	196,900	2,674,000
1953	145,200	77,590	50,420	34,430	25,550	28,280	48,630	232,900	839,900	874,700	700,400	259,500	3,318,000
1954	96,460	47,010	38,120	35,050	24,990	25,820	35,660	194,700	557,900	788,200	785,400	363,600	2,993,000
1955	150,300	63,420	47,350	41,810	29,180	26,870	28,680	109,500	413,500	850,300	643,800	296,800	2,702,000
1956	95,540	42,660	35,600	31,970	26,240	24,600	29,880	160,600	456,600	960,200	660,800	354,700	2,879,000
1957	99,990	41,060	40,030	40,560	32,630	32,010	43,000	260,400	943,500	860,800	672,700	419,000	3,486,000
1958	144,800	68,290	39,650	40,600	29,590	29,950	53,020	130,300	619,400	655,900	555,200	189,600	2,556,000
1959	89,230	33,810	29,140	21,440	24,480	24,610	33,780	173,200	689,100	655,000	692,800	253,400	2,720,000
1960	110,200	58,040	43,990	41,140	33,360	34,640	41,790	370,100	528,800	728,100	554,600	329,500	2,874,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	3,759	2,721,000
1951	1466	a21,400	June 8, 1951	-	4,323	3,130,000	4,541	3,287,000
1952	1466	23,400	July 30, 1952	390	3,684	2,674,000	3,630	2,635,000
1953	1466	22,200	June 28, 1953	-	4,582	3,318,000	4,456	3,226,000
1954	1486	21,500	July 31, 1954	-	4,134	2,993,000	4,244	3,072,000
1955	1486	24,000	Aug. 27, 1955	400	3,732	2,702,000	3,611	2,614,000
1956	1486	21,400	July 31, 1956	234	3,966	2,879,000	3,976	2,887,000
1957	1500	25,900	June 20, 1957	-	4,815	3,486,000	4,914	3,557,000
1958	1570	17,500	July 5, 1958	450	3,531	2,556,000	3,392	2,456,000
1959	1640	37,300	Aug. 24, 1959	-	3,757	2,720,000	3,840	2,780,000
1960	1720	22,600	May 26, 1960	408	3,959	2,874,000	-	-

a Maximum observed.

2860. Cottonwood Creek near Wasilla

Location.--Lat 61°34'30", long 149°24'35", in SW¼ sec.11, T.17 N., R.1 W., near center of span on downstream side of highway bridge on Wasilla-Matanuska road, 0.8 mile downstream from Wasilla Lake and 1.1 miles southwest of Wasilla.

Drainage area.--28.5 sq mi.

Records available.--July 1949 to September 1954.

Gage.--Staff gage. Datum of gage is 309 ft above mean sea level (river-profile survey).

Average discharge.--5 years (1949-54), 15.9 cfs (11,510 acre-ft per year).

Extremes.--1949-54: Maximum daily discharge, 55 cfs July 5, 6, 1949; maximum gage height observed, 4.07 ft Jan. 26, 1950 (backwater from ice); minimum discharge not determined.

Remarks.--Reports of chemical analyses for the period November 1951 to August 1952 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13.8	12.9	11.5	11	11.5	10	17.5	16.9	15.0	14.3	12.5	16.4	13.6
1952	19.1	16.9	16	15.5	13	12.5	14.7	17.2	11.0	19.7	12.1	17.6	15.5
1953	21.3	32.2	24.7	19.5	17.5	17	19.0	15.2	9.20	9.90	12.4	17.0	17.9
1954	13.9	14.3	13.9	12	12	13	12.7	12.3	12.2	12.0	17.2	11.7	13.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	849	766	706	676	637	615	1,040	1,040	891	879	766	978	9,840
1952	1,170	1,010	984	950	748	770	873	1,060	657	1,210	746	1,050	11,230
1953	1,310	1,920	1,520	1,200	970	1,050	1,130	936	547	609	764	1,010	12,970
1954	853	851	855	738	666	799	758	758	725	738	1,060	696	9,500

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	15.6	11,290
1951	1466	a24	Apr.23-25,1951	-	13.6	9,840	14.8	10,690
1952	1466	54	July 1, 1952	7	15.5	11,230	17.6	12,810
1953	1466	a33	(b)	7.3	17.9	12,970	14.9	10,780
1954	1486	a20	Aug. 6-8, 1954	9.5	13.1	9,500	-	-

a Maximum daily.
b Nov. 10-15, 20, 22-28.

2900. Little Susitna River near Palmer

Location.--Lat 61°42'40", long 149°13'40", in NW¼ sec.26, T.19 N., R.1 E., on left bank 15 ft downstream from highway bridge on Wasilla-Fishhook road, 1.5 miles north of road junction, 1.8 miles downstream from unnamed tributary, and 8 miles northwest of Palmer.

Drainage area.--61.9 sq mi.

Records available.--July 1948 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 920.6 ft above mean sea level (river-profile survey). Prior to Aug. 16, 1948, staff gage at same site and datum.

Average discharge.--12 years (1948-60), 201 cfs (145,500 acre-ft per year).

Extremes.--1948-60: Maximum discharge, 5,160 cfs Aug. 24, 1959 (gage height, 7.39 ft); minimum not determined.

Remarks.--Large diurnal fluctuation caused by glacier melt at the source. Reports of chemical analyses for the period February to August 1952 are published in report of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	67.9	35	31	27	21	16.5	22.1	214	708	489	446	543	219
1952	139	50.3	36	23.1	14	13	15.0	152	966	697	428	387	243
1953	134	80.4	38.5	31	20.7	16	22.3	268	642	278	444	246	186
1954	83.0	47	31	21	16	13	18.0	202	297	381	500	298	160
1955	127	56.2	17.4	19.6	15.9	11.3	10	88.4	666	806	556	280	222
1956	85.2	37.7	27	20	16	10	17.0	129	577	610	398	305	186
1957	86.6	56.3	32.9	24.1	19.4	10.5	17.7	348	702	310	218	540	197
1958	170	81.4	43.1	24.4	20.8	14.5	20.0	158	398	240	305	125	134
1959	111	44.5	31.9	17.5	15.5	14.5	16.5	212	797	459	736	305	231
1960	111	54.0	30.9	29.5	19.6	13.0	19.1	382	398	367	361	351	179

Monthly and yearly discharge, in acre-feet, of Little Susitna River near Palmer

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,170	2,080	1,910	1,660	1,170	1,010	1,310	13,160	42,160	30,050	27,420	32,340	158,400
1952	8,520	2,990	2,210	1,420	805	799	895	9,320	57,510	42,880	26,310	23,020	176,700
1953	8,230	4,790	2,360	1,910	1,150	984	1,330	16,470	38,220	17,100	27,280	14,620	134,400
1954	5,110	2,800	1,910	1,290	889	799	1,070	12,430	17,700	23,450	30,710	17,750	115,900
1955	7,790	3,350	1,070	1,210	885	692	595	5,430	39,610	49,550	34,200	16,650	161,100
1956	5,240	2,250	1,660	1,230	920	615	1,010	7,950	34,330	37,480	24,500	18,120	135,300
1957	5,330	3,350	2,020	1,480	1,080	645	1,050	21,410	41,760	19,050	13,380	32,110	142,700
1958	10,480	4,850	2,650	1,500	1,150	889	1,190	9,700	23,710	14,780	18,740	7,450	97,090
1959	6,850	2,650	1,960	1,070	863	889	980	13,040	47,450	28,220	45,240	18,160	167,400
1960	6,830	3,210	1,900	1,810	1,120	799	1,140	23,460	23,690	22,580	22,230	20,900	129,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	133	96,610
1951	1466	1,900	June 8, 1951	-	219	158,400	227	164,000
1952	1466	2,500	July 27, 1952	-	243	176,700	246	178,300
1953	1466	1,840	Aug. 22, 1953	-	186	134,400	178	128,900
1954	1486	1,850	July 31, 1954	-	160	115,900	163	118,300
1955	1486	2,320	Aug. 27, 1955	-	222	161,100	218	158,000
1956	1486	2,340	July 31, 1956	-	186	135,300	178	129,200
1957	1500	2,510	Sept.19, 1957	8	197	142,700	207	149,900
1958	1570	1,280	May 31, 1958	-	134	97,090	125	90,570
1959	1640	5,160	Aug. 24, 1959	-	231	167,400	232	167,900
1960	1720	1,600	May 25, 1960	-	179	129,700	-	-

2910. Susitna River near Denali

Location.--Lat 63°04'40", long 147°31'20", on left bank 1.4 miles upstream from Butte Creek, 2.3 miles downstream from bridge on Denali Highway, 2.6 miles downstream from Windy Creek, and 7½ miles south of Denali.

Drainage area.--950 sq mi, approximately.

Records available.--May 1957 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 2,450 ft (from topographic map).

Extremes.--1957-60: Maximum gage height, 5.54 ft June 7, 1957, from floodmarks (discharge not determined); minimum discharge not determined.

Remarks.--Large diurnal fluctuation caused by glacier melt at the source. Records of chemical analyses for the period December 1957 to September 1958, and suspended sediment loads for the period June 1958 to September 1960 (periodic, summer months only), are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	12,200	11,170	9,769	4,017	-
1958	1,277	610	288	219	150	120	210	1,163	8,367	9,150	6,536	1,879	2,514
1959	939	390	170	119	81.0	41.7	43.0	1,782	8,891	8,333	7,882	2,498	2,614
1960	1,577	760	575	444	321	275	265	3,349	5,237	9,039	7,910	4,817	2,896

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	726,200	686,700	600,700	239,000	-
1958	78,520	36,300	17,690	13,470	8,330	7,380	12,500	71,480	497,900	562,600	401,900	111,800	1,820,000
1959	57,760	23,210	10,470	7,340	4,500	2,570	2,560	109,500	529,100	512,400	484,700	148,600	1,893,000
1960	96,970	45,220	35,350	27,270	18,450	16,880	15,770	205,900	311,600	555,800	486,300	286,600	2,102,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1957	1500	-	-	-	-	-	-	-
1958	1570	14,500	July 28, 1958	-	2,514	1,820,000	2,457	1,779,000
1959	1640	14,800	Aug. 23, 1959	-	2,614	1,893,000	2,733	1,979,000
1960	1720	12,900	July 29, 1960	-	2,896	2,102,000	-	-

2912. Maclaren River near Paxson

Location.--Lat 63°07'05", long 146°31'40", on left bank 1.5 miles downstream from Boulder Creek and 34 miles west of Paxson.

Drainage area.--280 sq mi, approximately.

Records available.--June 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 2,900 ft (from topographic map).

Extremes.--1958-60: Maximum discharge, 8,920 cfs Sept. 13, 1960 (gage height, 7.14 ft); minimum not determined.

Remarks.--Records of chemical analyses for the period June to September 1958, and suspended sediment loads for the period June 1958 to September 1960 (periodic, summer months only), are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	-	3,532	3,525	2,699	784	-
1959	378	115	123	129	95.4	62.5	77.5	587	2,879	2,680	2,083	856	843
1960	549	250	190	150	110	94.3	91.5	1,742	2,124	3,359	3,048	2,439	1,184

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	-	210,200	216,700	166,000	46,640	-
1959	23,230	6,840	7,580	7,950	5,300	3,840	4,610	36,120	171,300	164,800	128,100	50,930	610,600
1960	33,770	14,880	11,680	9,200	6,350	5,800	5,440	107,100	126,400	206,500	187,400	145,200	859,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1958	1570	-	-	-	-	-	-	-
1959	1640	4,410	June 22, 1959	-	843	610,600	875	633,300
1960	1720	8,920	Sept.13, 1960	-	1,184	859,700	-	-

2920. Susitna River at Gold Creek

Location.--Lat 62°46'15", long 149°41'20", on right bank 0.2 mile upstream from Gold Creek, 0.3 mile upstream from Alaska Railroad bridge, 1 mile north of Gold Creek railroad station, and 1.7 miles downstream from Indian River.

Drainage area.--6,160 sq mi, approximately (includes that of Gold Creek).

Records available.--August 1949 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 676.50 ft above mean sea level. Prior to June 6, 1957, wire-weight gage 0.3 mile downstream at same datum.

Average discharge.--11 years (1949-60), 9,841 cfs (7,125,000 acre-ft per year).

Extremes.--1949-60: Maximum discharge, 62,300 cfs Aug. 25, 1959 (gage height, 15.42 ft); maximum gage height observed, 24.48 ft May 10, 1954 (ice jam), site then in use; minimum discharge not determined.

Flood in May 1919 reached a stage of 19.2 ft, result of ice jam, from information by Bureau of Reclamation.

Remarks.--Large diurnal fluctuation caused by glacier melt at the source. Records of chemical analyses for the periods May 1951 to October 1952, August 1953, October to November 1953, June to September 1955, June 1956, January to September 1957; suspended sediment loads for the periods April to September 1952 and June to September 1957 (daily), May 1953 to August 1956 (periodic, summer months only); and water temperatures for the period June to September 1957, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,848	1,300	1,100	960	820	740	1,617	14,090	20,790	22,570	19,670	21,240	9,106
1952	5,571	2,744	1,900	1,600	1,000	880	920	5,419	32,370	26,390	20,920	14,480	9,529
1953	8,202	3,497	1,700	1,100	820	820	1,615	19,270	27,320	20,200	20,810	15,270	10,090
1954	5,604	2,100	1,500	1,300	1,000	780	1,235	17,280	25,250	20,360	26,100	12,920	9,681
1955	5,370	2,760	2,045	1,794	1,400	1,100	1,200	9,319	29,860	27,560	25,750	14,290	10,260
1956	4,951	1,900	1,300	980	970	940	950	17,660	33,340	31,090	24,530	18,330	11,450
1957	5,806	3,050	2,142	1,700	1,500	1,200	1,200	13,750	30,160	23,310	20,540	19,800	10,380
1958	8,212	3,954	3,264	1,965	1,307	1,148	1,533	12,900	25,700	22,880	22,540	7,550	9,476
1959	4,811	2,150	1,513	1,448	1,307	980	1,250	15,990	23,320	25,000	31,180	16,920	10,560
1960	6,558	2,850	2,200	1,845	1,452	1,197	1,300	15,780	15,530	22,980	23,590	20,510	9,690

Monthly and yearly discharge, in thousands of acre-feet, of Susitna River at Gold Creek

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	236.6	77.36	67.64	59.03	45.54	45.5	96.2	866.3	1,237.0	1,388	1,210	1,264.0	6,593
1952	342.5	163.3	116.8	98.38	57.52	54.11	54.74	333.2	1,926.0	1,622	1,286	861.6	6,917
1953	504.3	208.1	104.5	67.64	45.54	50.42	96.1	1,185.0	1,626.0	1,242	1,267	908.8	7,305
1954	344.5	125.0	92.23	79.93	55.54	47.96	73.49	1,063.0	1,502.0	1,252	1,605	768.5	7,009
1955	330.2	164.2	125.8	110.3	77.75	67.64	71.4	573.0	1,777.0	1,694	1,583	850.2	7,424
1956	304.4	113.1	79.93	60.26	55.8	57.8	56.53	1,086.0	1,984.0	1,912	1,508	1,091.0	8,309
1957	357.0	181.5	131.7	104.5	83.31	73.79	71.4	845.8	1,795.0	1,433	1,263	1,178.0	7,518
1958	504.9	235.3	200.7	120.8	72.6	70.61	91.24	792.9	1,529.0	1,407	1,386	449.3	6,860
1959	295.8	127.9	93.02	89.06	72.6	60.26	74.38	983.0	1,388.0	1,537	1,917	1,007.0	7,645
1960	403.2	169.6	135.3	113.5	83.5	73.59	77.36	970.3	924.3	1,413	1,451	1,220.0	7,035

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	7,687	5,565,000
1951	1466	a37,400	June 8, 1951	-	9,106	6,593,000	9,439	6,834,000
1952	1466	a44,700	June 17, 1952	-	9,529	6,917,000	9,796	7,110,000
1953	1466	a38,400	June 7, 1953	-	10,090	7,305,000	9,738	7,050,000
1954	1486	a42,400	Aug. 4, 1954	-	9,681	7,009,000	9,762	7,068,000
1955	1486	a58,100	Aug. 26, 1955	-	10,260	7,424,000	10,090	7,302,000
1956	1486	51,700	June 9, 1956	-	11,450	8,309,000	11,680	8,482,000
1957	1500	42,200	June 8, 1957	-	10,380	7,518,000	10,760	7,789,000
1958	1570	49,600	Aug. 3, 1958	-	9,476	6,860,000	8,890	6,436,000
1959	1640	62,300	Aug. 25, 1959	-	10,560	7,645,000	10,820	7,836,000
1960	1720	41,900	Sept. 3, 1960	-	9,690	7,035,000	-	-

a Maximum observed.

2924. Chulitna River near Talkeetna

Location.--Lat 62°29', long 150°15', on right bank 1½ miles downstream from small tributary, 11 miles upstream from mouth, and 12 miles northwest of Talkeetna.

Drainage area.--2,570 sq mi, approximately.

Records available.--February 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 500 ft (from topographic map).

Extremes.--1958-60: Maximum discharge, 38,800 cfs July 12, 1959 (gage height, 15.11 ft); minimum not determined.

Remarks.--Large diurnal fluctuation caused by glacier melt at the source.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	1,044	948	1,220	10,460	23,170	25,010	20,760	8,000	-
1959	4,197	1,883	1,262	1,097	1,049	738	890	7,413	23,660	25,650	22,100	9,957	8,376
1960	4,723	2,283	1,700	1,448	1,103	933	1,000	13,890	17,390	23,650	19,320	12,420	8,363

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	58.0	58.31	72.6	643.2	1,379	1,538	1,276	476.0	-
1959	258.1	112.0	77.59	67.44	58.25	45.4	52.96	455.8	1,408	1,577	1,359	592.5	6,064
1960	290.4	135.9	104.5	89.06	63.47	57.38	59.5	854.3	1,035	1,454	1,188	739.3	6,071

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1958	1570	35,100	Aug. 3, 1958	-	-	-	-	-
1959	1640	38,800	July 12, 1959	-	8,376	6,064,000	8,491	6,147,000
1960	1720	a38,000	May 26, 1960	-	8,363	6,071,000	-	-

a Maximum recorded.

2943. Skwentna River near Skwentna

Location.--Lat 61°52'25", long 151°21'25", on right bank 2 miles downstream from Shell Creek, 8 miles southwest of Skwentna, and 13 miles upstream from mouth.

Drainage area.--2,250 sq mi, approximately.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 250 ft (from topographic map).

Extremes.--Maximum discharge recorded during year, 27,800 cfs Aug. 1 (gage height, 11.45 ft), from rating curve extended above 9,000 cfs by logarithmic plotting; minimum not determined.

Remarks.--Large diurnal fluctuation caused by glacier melt at the source.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	3,532	1,850	1,400	1,097	961	843	835	10,480	13,440	16,350	15,220	9,171	6,293

Monthly and annual discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	217.2	110.1	86.08	67.44	55.26	51.85	49.69	644.6	799.9	1,005	935.8	545.7	4,569

2945. Chakachatna River near Tyonek

Location.--Lat 61°13', long 152°22', on right bank just downstream from outlet of Lake Chakachamna, opposite Barrier Glacier, 19 miles upstream from Straight Creek, and 38 miles northwest of Tyonek.

Drainage area.--1,120 sq mi, approximately (includes drainage from Barrier Glacier).

Records available.--June 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,150 ft (from topographic map).

Extremes.--1959-60: Maximum discharge recorded, 17,400 cfs Aug. 28, 1959 (gage height, 22.53 ft); minimum not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	7,685	10,990	10,960	5,758	-
1960	2,022	992	658	504	381	325	250	1,483	6,368	10,500	10,300	4,364	3,196

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	457,300	675,900	674,100	342,600	-
1960	124,300	59,040	40,440	31,000	21,900	19,970	14,880	91,180	378,900	645,300	633,600	259,700	2,320,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1959	1640	a17,400	Aug. 28, 1959	-	-	-	-	-
1960	1720	13,400	July 27, 1960	-	3,196	2,320,000	-	-

a Maximum recorded.

2960. Uganik River near Kodiak

Location.--Lat 57°41'05", long 153°25'10", on Kodiak Island, on right bank half a mile upstream from tidewater of East Arm Uganik Bay, 1 mile downstream from Mush Lake tributary, 4 miles downstream from Uganik Lake, and 40 miles west of Kodiak.

Drainage area.--123 sq mi.

Records available.--May 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 20 ft (from topographic map).

Average discharge.--9 years (1951-60), 641 cfs (464,100 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 13,700 cfs Oct. 3, 1952 (gage height, 10.65 ft), from rating curve extended above 2,500 cfs by logarithmic plotting; minimum not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	2,120	924	686	529	-
1952	308	418	106	75.4	59.0	62.5	85.9	537	1,034	1,562	498	498	438
1953	1,453	849	407	263	165	135	383	913	2,697	1,494	822	500	843
1954	755	202	148	97.0	80.0	76	159	953	1,610	1,160	586	254	510
1955	933	1,129	180	120	110	144	131	665	1,266	1,735	925	781	680
1956	579	171	94.8	53	50	53	181	935	1,517	1,904	1,048	422	587
1957	188	153	120	87.8	87.9	138	280	976	1,700	699	384	1,523	527
1958	791	1,097	274	315	298	244	346	807	2,216	1,325	837	312	739
1959	336	300	233	139	131	125	282	1,077	1,978	994	681	503	566
1960	903	1,378	346	410	233	151	186	1,396	2,084	1,647	943	903	882

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	126,100	56,790	42,150	31,490	-
1952	18,940	24,880	6,540	4,640	3,400	3,840	5,110	33,020	61,530	96,040	30,640	29,620	318,200
1953	89,320	50,540	25,040	16,190	9,180	8,290	22,810	56,140	160,500	91,850	50,540	29,760	610,200
1954	46,400	12,050	9,070	5,970	4,440	4,670	9,450	58,600	95,820	71,300	36,050	15,110	368,900
1955	57,390	67,210	11,080	7,380	6,110	8,820	7,810	40,890	75,300	106,700	56,860	46,480	492,000
1956	35,630	10,200	5,830	3,260	2,880	3,260	10,770	57,500	90,280	117,000	64,410	25,080	426,100
1957	11,540	9,090	7,350	5,400	4,880	8,470	16,670	60,030	101,100	42,980	23,610	90,620	381,700
1958	48,620	65,250	16,850	19,370	16,580	15,010	20,620	49,590	131,900	81,460	51,440	18,560	535,200
1959	20,670	17,860	14,300	8,530	7,260	7,700	16,790	66,250	117,700	61,130	41,890	29,910	410,000
1960	55,530	81,970	21,260	25,220	13,400	9,270	11,060	85,850	124,000	101,300	57,980	53,750	640,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1950	-	-	-	-	-	-	-	-	-	-	-
1951	1466	a5,800	Aug. 13, 1951	-	-	-	-	-	-	-	-
1952	1466	4,890	July 6, 1952	-	438	3.56	48.51	318,200	596	65.97	432,700
1953	1466	13,700	Oct. 3, 1952	-	843	6.85	93.01	610,200	708	78.17	512,800
1954	1486	3,360	Oct. 8, 1953	-	510	4.15	56.24	368,900	604	66.64	437,100
1955	1486	11,700	Nov. 2, 1954	-	680	5.53	75.01	492,000	564	62.20	408,000
1956	1486	3,760	Oct. 22, 1955	-	587	4.77	64.97	426,100	554	61.36	402,400
1957	1500	5,680	June 10, 1957	-	527	4.28	58.19	381,700	669	73.85	484,500
1958	1570	5,920	June 21, 1958	130	739	6.01	81.59	535,200	632	69.71	457,400
1959	1640	3,830	Sept. 29, 1959	-	566	4.60	62.50	410,000	713	78.66	515,900
1960	1720	8,920	Nov. 16, 1959	109	882	7.17	97.65	640,600	-	-	-

a Maximum during period June to September.

2970. Dog Salmon Creek near Ayakulik

Location.--Lat 57°12'30", long 154°04'15", on left bank 200 ft downstream from outlet of Fraser Lake and 18 miles east of Ayakulik.

Drainage area.--72.9 sq mi.

Records available.--June to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 350 ft (from topographic map).

Extremes.--June to September 1960: Maximum discharge, 478 cfs June 1 (gage height, 1.63 ft); minimum, 147 cfs probably July 21 or 22 (gage height, 0.76 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	-	-	-	-	-	324	220	269	297	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	-	-	-	-	-	19,310	13,550	16,570	17,680	-

2980. Tanalian River near Port Alsworth

Location.--Lat 60°11', long 154°15', on right bank 100 ft downstream from Kontrashibuna Lake Outlet, 1 mile upstream from small tributary, 2½ miles southeast of Port Alsworth, and 3 miles east of Tanalian Point.

Drainage area.--200 sq mi, approximately.

Records available.--August 1951 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 500 ft (from topographic map).

Average discharge.--5 years (1951-56), 637 cfs (461,200 acre-ft per year).

Extremes.--1951-56: Maximum discharge, 4,720 cfs June 28, 1953 (gage height, 5.17 ft); minimum not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	1,507	1,495	-
1952	472	200	118	66.7	47.5	48.0	57.7	89.5	1,042	2,050	1,807	757	566
1953	1,024	381	275	175	91.7	105	145	478	2,421	2,226	2,003	1,274	888
1954	472	200	140	90	66	56	63.0	323	1,093	1,313	1,567	1,175	549
1955	539	353	183	180	92.6	82.7	75.5	136	985	2,473	1,646	923	644
1956	296	148	100	61	50	51	60	168	1,059	1,964	1,485	1,005	540
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	92,670	88,960	-
1952	29,000	11,900	7,260	4,100	2,730	2,950	3,430	5,500	62,030	126,000	111,100	45,070	411,100
1953	62,960	22,680	16,940	10,750	5,090	6,470	8,630	29,380	144,000	136,900	123,200	75,830	642,800
1954	29,010	11,900	8,610	5,530	3,670	3,440	3,750	19,860	65,030	80,710	96,380	69,920	397,800
1955	33,160	20,990	11,220	11,070	5,140	5,090	4,490	8,340	58,620	152,100	101,200	54,920	466,300
1956	18,180	8,810	6,150	3,750	2,880	3,140	3,570	10,310	63,000	120,800	91,320	59,780	391,700
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1466	-	-	-	-	-	-	-
1952	1466	3,040	July 11 or 12	-	566	411,100	641	465,500
1953	1466	4,720	June 28, 1953	-	888	642,800	815	589,800
1954	1486	2,260	Aug. 24, 1954	-	549	397,800	571	413,700
1955	1486	3,010	July 27, 1955	-	644	466,300	600	434,100
1956	1486	2,320	July 18, 1956	-	540	391,700	-	-
1957	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-

3000. Newhalen River near Iliamna

Location.--Lat 59°52', long 154°52', on left bank 1 mile upstream from rapids, 1 mile downstream from old portage dock, 8 miles downstream from Fish Village, 8 miles downstream from outlet of Sixmile Lake, and 8 miles north of Iliamna.

Drainage area.--3,300 sq mi, approximately.

Records available.--July 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 210 ft (from topographic map).

Average discharge.--9 years (1951-60), 8,938 cfs (6,471,000 acre-ft per year).

Extremes.--1951-60: Maximum discharge, 36,000 cfs Aug. 30, 1959 (gage height, 9.19 ft); minimum not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	22,540	19,580	23,550	-
1952	13,050	6,642	3,587	2,242	1,552	1,652	1,950	3,117	11,710	22,720	23,500	13,930	8,136
1953	13,070	7,795	5,587	3,823	1,893	2,152	2,750	6,376	16,960	25,790	23,540	22,660	11,090
1954	11,610	4,652	2,800	1,800	1,300	1,500	2,400	4,600	10,130	16,050	21,520	18,770	8,140
1955	12,040	6,601	2,239	2,255	1,793	2,652	3,000	5,443	12,670	23,250	22,510	18,160	9,439
1956	9,056	3,400	1,800	1,200	1,000	1,000	1,400	4,974	11,920	20,590	22,850	17,010	8,050
1957	8,674	3,950	3,177	1,997	1,554	1,400	1,750	3,584	16,040	18,680	17,240	21,640	8,336
1958	12,700	10,900	6,407	4,594	3,068	2,397	2,233	5,980	18,880	22,380	21,530	13,760	10,450
1959	9,103	4,122	2,500	2,300	1,800	1,400	1,400	2,978	12,430	17,410	19,720	22,450	8,165
1960	9,173	5,253	3,539	2,997	2,255	1,848	1,200	5,477	14,900	18,510	21,570	16,620	8,638

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	1,386.0	1,204	1,401.0	-
1952	802.3	395.2	220.6	137.9	89.26	101.6	116.0	191.7	697.0	1,397.0	1,445	828.7	6,422
1953	803.9	463.8	343.5	235.0	105.1	132.3	163.6	392.1	1,009.0	1,586.0	1,447	1,348.0	8,029
1954	714.0	276.8	172.2	110.7	72.2	92.23	142.8	282.8	603.1	986.6	1,323	1,117.0	5,893
1955	740.1	392.8	137.7	138.6	99.57	163.0	178.5	334.7	753.9	1,430.0	1,384	1,081.0	6,834
1956	556.8	202.3	110.7	73.79	57.52	61.49	83.31	305.9	709.0	1,266.0	1,405	1,012.0	5,844
1957	533.3	235.0	195.4	122.8	86.28	86.08	104.1	220.4	954.6	1,149.0	1,060	1,288.0	6,035
1958	780.7	648.7	394.0	282.4	170.4	147.4	132.9	367.7	1,123.0	1,376.0	1,324	818.6	7,566
1959	559.7	245.3	153.7	141.4	99.97	86.08	83.31	183.1	739.5	1,071.0	1,212	1,336.0	5,911
1960	564.0	312.6	217.6	184.3	129.7	113.7	71.4	336.8	886.4	1,138.0	1,327	989.2	6,271

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1466	-	-	-	-	-	-	-
1952	1466	26,600	July 30, 1952	-	8,136	6,422,000	9,112	6,615,000
1953	1466	29,600	July 1, 1953	-	11,090	8,029,000	10,470	7,581,000
1954	1486	23,200	Aug. 26, 1954	-	8,140	5,893,000	8,289	6,001,000
1955	1486	27,200	July 28, 1955	-	9,439	6,834,000	8,885	6,433,000
1956	1486	25,500	Aug. 19, 1956	-	8,050	5,844,000	8,179	5,938,000
1957	1500	25,100	Sept.15, 1957	-	8,336	6,035,000	9,523	6,895,000
1958	1570	25,200	June 24, 1958	-	10,450	7,566,000	9,256	6,701,000
1959	1640	36,000	Aug. 30, 1959	-	8,165	5,911,000	8,352	6,047,000
1960	1720	22,900	Aug. 9, 1960	-	8,638	6,271,000	-	-

3020. Nuyakuk River near Dillingham

Location.--Lat 59°56', long 158°12', on left bank 1,000 ft downstream from outlet of Tikchik Lake, half a mile upstream from unnamed tributary, and 62 miles north of Dillingham.

Drainage area.--1,490 sq mi, approximately.

Records available.--May 1953 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 350 ft (from topographic map). Prior to Oct. 1, 1957, at datum 2.00 ft higher.

Average discharge.--7 years (1953-60), 5,781 cfs (4,185,000 acre-ft per year).

Extremes.--1953-60: Maximum discharge, 29,000 cfs June 25, 1958 (gage height, 9.65 ft); minimum not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	15,390	11,990	8,547	6,712	-
1954	5,909	3,750	2,700	2,100	1,700	1,400	1,300	3,919	10,360	6,794	5,191	5,589	4,236
1955	5,058	6,111	4,029	3,000	2,400	2,100	2,000	3,359	11,790	20,420	12,730	7,485	6,740
1956	6,592	3,800	2,400	1,800	1,400	1,300	1,400	3,298	16,680	11,880	7,006	9,277	5,568
1957	5,395	3,333	2,732	1,800	1,400	1,400	1,700	4,806	13,080	7,232	3,855	11,540	4,857
1958	7,500	8,886	4,887	3,097	2,354	2,100	2,050	3,854	19,900	21,850	11,460	7,098	7,948
1959	6,255	3,450	2,600	2,300	1,700	1,300	1,400	3,415	13,680	10,910	5,836	5,271	4,857
1960	9,049	5,092	3,190	2,545	1,855	1,448	800	5,084	16,650	12,630	9,579	7,068	6,261

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	915.8	737.0	525.5	399.4	-
1954	363.4	223.1	166.0	129.1	94.41	86.08	77.36	241.0	616.5	417.7	319.2	332.5	3,066
1955	311.0	363.6	247.7	184.5	133.3	129.1	119.0	206.5	701.6	1,256.0	782.5	445.4	4,880
1956	405.3	226.1	147.6	110.7	80.53	79.93	83.31	202.8	992.6	730.3	430.8	552.0	4,042
1957	331.7	198.3	168.0	110.7	77.75	86.08	101.2	295.5	778.3	444.7	237.0	686.9	3,516
1958	461.2	528.7	300.5	190.4	130.7	129.1	122.0	237.0	1,184.0	1,344.0	704.9	422.4	5,755
1959	384.6	205.3	159.9	141.4	94.41	79.93	83.31	210.0	814.0	670.7	358.8	313.7	3,516
1960	556.4	303.0	196.2	156.5	106.7	89.06	47.6	312.6	990.0	776.4	589.0	420.6	4,545

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-
1953	1466	-	-	-	-	-	-	-
1954	1486	11,500	June 15, 1954	-	4,236	3,066,000	4,470	3,236,000
1955	1486	22,400	July 15, 1955	-	6,740	4,880,000	6,542	4,737,000
1956	1486	a19,000	(b)	-	5,568	4,042,000	5,456	3,961,000
1957	1500	16,000	Sept.18, 1957	-	4,857	3,516,000	5,675	4,109,000
1958	1570	29,000	June 25, 1958	-	7,948	5,755,000	7,202	5,214,000
1959	1640	16,700	June 25, 1959	-	4,857	3,516,000	5,279	3,822,000
1960	1720	18,200	June 16, 1960	-	6,261	4,545,000	-	-

a Maximum daily.
b June 18-26, 28-30.

3028. Grant Lake Outlet near Aleknagik

Location.--Lat 59°48', long 158°34', on right bank 100 ft downstream from outlet of Grant Lake, 6 miles upstream from Lake Kulik, and 36 miles north of Aleknagik.

Drainage area.--47 sq mi, approximately.

Records available.--July 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 150 ft (from topographic map).

Extremes.--1959-60: Maximum discharge recorded, 500 cfs May 27, 1960 (gage height, 3.03 ft); minimum not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	-	58.2	54.7	-
1960	96.9	41.3	19.9	12.5	9.5	8	17.0	237	238	152	198	104	95.0

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	-	3,580	3,250	-
1960	5,960	2,460	1,220	766	547	492	1,010	14,590	14,190	9,380	12,150	6,220	68,980

3030. Wood River at Aleknagik

Location.--Lat 59°17', long 158°35', on left bank at outlet of Lake Aleknagik, 1 mile east of Aleknagik and 5 miles upstream from Arcana Creek.

Drainage area.--1,110 sq mi, approximately.

Records available.--September 1957 to September 1960.

Gage.--Staff gage. Altitude of gage is 20 ft (by barometer).

Extremes.--1957-60: Maximum discharge, 16,000 cfs June 25, 1958 (gage height, 12.62 ft); minimum not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	6,302	8,225	4,814	2,843	2,047	1,768	1,657	5,199	13,580	13,080	7,198	5,711	6,054
1959	6,135	3,699	2,797	1,948	1,607	1,248	1,319	4,199	9,322	6,565	4,656	4,215	3,988
1960	6,933	3,900	2,590	2,048	1,503	1,248	785	5,595	10,240	7,773	7,508	5,966	4,685

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	387,500	489,400	296,000	174,800	113,700	108,700	98,580	319,700	808,000	804,200	442,600	339,800	4,383,000
1959	377,300	220,100	172,000	119,800	89,260	76,760	78,490	258,200	554,700	403,700	286,300	250,800	2,887,000
1960	426,300	232,100	159,300	126,000	86,480	76,760	46,710	344,000	609,100	477,900	461,600	355,000	3,401,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30								Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff		Mean	Runoff	
		Discharge	Date				Inches	Acre-feet		Inches	Acre-feet
1958	1570	16,000	June 25, 1958	1,400	6,054	5.45	74.06	4,383,000	5,497	67.23	3,979,000
1959	1640	9,580	June 10, 1959	-	3,988	3.59	48.78	2,887,000	4,055	49.60	2,936,000
1960	1720	11,200	June 16, 1960	-	4,685	4.22	57.46	3,401,000	-	-	-

3040. Kuskokwim River at Crooked Creek

Location.--Lat 61°52', long 158°07', on right bank at Patent's Trading Post, 0.2 mile upstream from Crooked Creek and 0.7 mile upstream from village of Crooked Creek.

Drainage area.--31,100 sq mi, approximately.

Records available.--June 1951 to September 1960.

Gage.--Staff gage. Altitude of gage is 200 ft (from topographic map).

Average discharge.--9 years (1951-60), 41,820 cfs (30,280,000 acre-ft per year).

Extremes.--1951-60: Maximum discharge not determined; maximum daily discharge, 260,000 cfs May 7, 1957; maximum gage height, 25.4 ft May 1, 1953 (ice jam), from floodmarks; minimum discharge not determined.

Remarks.--Records of chemical analyses for the period May 1957 to September 1960, and water temperatures for the period May 1957 to September 1960 (seasonal), are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	70,160	93,720	150,900	-
1952	37,490	17,000	15,000	14,000	13,000	11,000	11,500	40,320	148,400	83,850	85,650	59,960	44,780
1953	54,130	22,000	16,000	13,000	11,000	9,300	8,600	50,810	75,500	57,370	85,840	105,000	42,530
1954	41,730	20,000	15,000	12,000	11,000	10,000	12,500	63,420	33,880	44,060	77,220	95,100	36,490
1955	62,500	20,500	18,000	15,000	14,000	12,000	11,000	28,550	104,200	76,520	74,660	89,180	43,950
1956	56,290	23,000	18,000	15,000	13,000	11,000	13,000	128,300	70,280	62,270	77,580	73,060	46,940
1957	34,700	14,000	10,000	9,300	9,600	10,000	15,000	161,700	79,640	49,450	41,840	49,100	40,620
1958	29,570	34,500	20,870	16,480	13,540	11,000	11,670	37,730	59,320	62,690	87,930	63,740	37,560
1959	48,380	24,000	18,000	14,000	11,000	7,600	9,000	86,400	45,760	56,730	70,600	76,370	39,220
1960	36,350	17,000	14,970	13,480	10,030	7,645	9,250	107,800	72,860	73,910	87,980	77,950	44,280

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	4,314	5,762	8,977	-
1952	2,305	1,012.0	922.3	860.8	747.8	676.4	684.3	2,479	8,830	5,156	5,267	3,568	32,510
1953	3,328	1,309.0	983.0	799.3	610.9	571.8	511.7	3,124	4,493	3,528	5,278	6,250	30,790
1954	2,566	1,190.0	922.3	737.9	610.9	614.9	743.8	3,900	2,016	2,709	4,748	5,659	26,420
1955	3,843	1,220.0	1,107.0	922.3	777.5	737.9	654.5	1,755	6,198	4,705	4,591	5,306	31,820
1956	3,461	1,369.0	1,107.0	922.3	747.8	676.4	773.6	7,890	4,182	3,829	4,770	4,348	34,080
1957	2,133	833.1	614.9	571.8	533.2	614.9	892.6	9,940	4,739	3,041	2,573	2,922	29,410
1958	1,818	2,053.0	1,283.0	1,014.0	751.7	676.4	694.2	2,320	3,530	3,855	5,406	3,793	27,190
1959	2,975	1,428.0	1,107.0	860.8	610.9	467.3	535.5	5,313	2,723	3,488	4,341	4,545	28,390
1960	2,235	1,012.0	920.3	829.1	577.2	470.1	550.4	6,627	4,336	4,545	5,410	4,638	32,150

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1466	a253,000	Sept. 1, 1951	-	-	-	-	-
1952	1466	b260,000	June 1, 1952	-	44,780	32,510,000	46,680	33,890,000
1953	1466	224,000	Aug. 31, 1953	-	42,530	30,790,000	41,220	29,840,000
1954	1486	167,000	Sept.21, 1954	-	36,490	26,420,000	38,550	27,910,000
1955	1486	b154,000	Aug. 30, 1955	-	43,950	31,820,000	43,630	31,580,000
1956	1486	-	-	-	46,940	34,080,000	43,690	31,720,000
1957	1500	c260,000	May 7, 1957	-	40,620	29,410,000	42,790	30,980,000
1958	1570	115,000	Aug. 18,19,1958	-	37,560	27,190,000	38,050	27,550,000
1959	1640	c200,000	May 15,16,1959	-	39,220	28,390,000	37,360	27,050,000
1960	1720	b151,000	May 27, 1960	-	44,280	32,150,000	-	-

a Maximum during period June to September.
b Maximum observed.
c Maximum daily.

3560. Yukon River at Eagle

Location.--Lat 64°47'30", long 141°12'00", on left bank at Eagle, an eighth of a mile upstream from Mission Creek, 1.1 miles downstream from Castalia Creek, and 11 miles downstream from the international boundary.

Drainage area.--113,500 sq mi, approximately.

Records available.--January 1911 to December 1913, June 1950 to September 1960. Monthly discharge only for some periods, published in WSP 1372.

Gage.--Water-stage recorder. Altitude of gage is 750 ft (from topographic map). January 1911 to December 1913, staff gage at site half a mile downstream at different datum. June 22, 1950, to Sept. 30, 1955, staff gage at site 1.1 miles upstream at datum 10 ft higher. Oct. 1, 1955, to Aug. 10, 1957, staff gage at present site at datum 10 ft higher.

Average discharge.--12 years (1911-13, 1950-60), 71,650 cfs (51,870,000 acre-ft per year).

Extremes.--1911-13, 1950-60: Maximum discharge, 561,000 cfs May 30, 1957 (gage height, 33.01 ft, present datum), from rating curve extended above 250,000 cfs by logarithmic plotting; minimum not determined.

Remarks.--Records of chemical analyses for the periods April to October 1951, June to September 1952; suspended sediment loads for the periods July and October 1954, April and August 1955 (periodic); and water temperatures for the periods May to October 1951, June to August 1952, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	59,570	28,000	13,000	9,000	7,200	8,800	13,500	129,000	140,100	140,900	97,310	84,350	61,280
1952	58,920	31,000	15,000	11,000	10,000	10,000	10,500	71,160	196,300	180,800	119,100	110,200	68,790
1953	99,470	62,500	27,290	18,000	17,000	15,000	15,000	113,000	120,900	153,700	115,500	119,800	73,490
1954	77,000	43,000	21,000	14,000	13,000	12,000	11,000	80,160	190,800	155,200	123,100	85,550	69,210
1955	63,180	33,500	17,000	15,000	17,000	16,000	13,000	65,650	172,800	198,000	151,400	100,400	72,280
1956	61,840	29,000	18,000	12,000	9,500	7,800	8,650	98,390	178,000	156,400	140,700	99,850	68,550
1957	53,920	34,000	27,000	21,000	16,000	14,000	14,500	152,800	303,800	190,500	124,500	105,200	88,390
1958	60,310	26,460	15,940	16,940	16,070	11,480	14,000	85,220	162,000	123,900	113,900	83,000	61,020
1959	45,870	24,000	21,000	15,000	15,000	13,000	14,000	132,700	204,900	166,100	137,800	110,900	75,370
1960	63,370	31,000	22,450	19,480	19,000	17,480	18,500	138,100	174,500	191,300	183,300	134,400	84,710

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,663	1,666	799.3	553.4	399.9	541.1	803.3	7,934	8,337	8,664	5,983	5,019	44,360
1952	3,623	1,845	922.3	676.4	575.2	614.0	624.8	4,376	11,680	11,120	7,326	6,559	49,940
1953	6,116	3,719	1,678.0	1,107.0	944.1	922.3	892.6	6,950	7,192	9,449	7,105	7,127	53,200
1954	4,735	2,559	1,291.0	860.8	722.0	737.9	654.5	4,929	11,350	9,544	7,567	5,150	50,100
1955	3,885	1,993	1,045.0	922.3	944.1	983.8	773.6	4,036	10,280	12,180	9,310	5,974	52,330
1956	3,802	1,726	1,107.0	737.9	546.4	479.6	514.7	6,050	10,590	9,616	8,650	5,941	49,760
1957	3,315	2,023	1,660.0	1,291.0	888.6	860.8	862.8	9,394	18,080	11,710	7,652	6,259	64,000
1958	3,708	1,574	979.8	1,041.0	892.6	706.1	833.1	5,240	9,638	7,619	7,004	4,939	44,170
1959	2,820	1,428	1,291.0	922.3	833.1	799.3	833.1	8,160	12,190	10,210	8,475	6,599	54,560
1960	3,896	1,845	1,380.0	1,198.0	1,093.0	1,075.0	1,101.0	8,489	10,380	11,760	11,270	7,997	61,480

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1466	a189,000	June 17, 1951	-	61,280	44,360,000	61,640	44,620,000
1952	1466	282,000	July 4, 1952	-	68,790	49,940,000	75,850	55,070,000
1953	1466	210,000	May 28, 1953	-	73,490	53,200,000	69,440	50,270,000
1954	1486	240,000	June 5, 1954	-	69,210	50,100,000	66,910	48,440,000
1955	1486	281,000	July 1, 1955	-	72,280	52,330,000	71,880	52,040,000
1956	1486	b230,000	June 26, 1956	-	68,550	49,760,000	69,050	50,120,000
1957	1500	561,000	May 30, 1957	-	88,390	64,000,000	87,380	63,260,000
1958	1570	202,000	June 12, 1958	-	61,020	44,170,000	60,020	43,450,000
1959	1640	307,000	May 24, 1959	-	75,370	54,560,000	77,560	56,140,000
1960	1720	254,000	Aug. 1, 1960	-	84,710	61,480,000	-	-

a Maximum observed.
b Maximum daily.

4680. Yukon River at Rampart

Location.--Lat 65°31', long 150°11', on left bank at Rampart, half a mile downstream from Squaw Creek, 1¼ miles downstream from Minook Creek, and 3¼ miles upstream from Russian Creek.

Drainage area.--199,400 sq mi, approximately.

Records available.--June 1955 to September 1960.

Gage.--Staff gage. Altitude of gage is 300 ft (from topographic map).

Average discharge.--5 years (1955-60), 107,400 cfs (77,750,000 acre-ft per year).

Extremes.--1955-60: Maximum discharge, 686,000 cfs June 2, 1957 (gage height, 46.40 ft, from graph based on gage readings), from rating curve extended above 350,000 cfs by logarithmic plotting; minimum not determined.

Remarks.--Records of chemical analyses for the periods June to September 1954, June to October 1955, June to September 1956, October 1958 to September 1960; and water temperatures for the periods June to August 1954, June, August, and September 1955, May to September 1956, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	305,200	290,600	185,400	165,700	-
1956	82,290	37,930	21,940	15,000	11,000	9,000	9,000	173,100	276,600	212,900	212,200	161,200	102,100
1957	73,060	34,000	27,000	23,000	19,000	17,000	18,000	246,000	410,900	246,100	168,000	161,700	120,700
1958	91,010	36,000	18,420	20,450	20,070	13,970	15,500	152,600	283,400	167,200	163,400	118,400	92,050
1959	60,290	31,000	28,000	20,000	18,000	14,000	16,000	223,400	317,400	226,800	188,600	149,800	108,300
1960	85,600	37,500	26,940	19,970	19,000	18,000	20,000	235,500	250,600	224,900	243,800	178,000	113,800

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	18,160	17,870	11,400	9,862	-
1956	5,060	2,257	1,349	922.3	632.7	533.4	535.5	10,640	16,460	13,090	13,050	9,592	74,140
1957	4,493	2,023	1,660	1,414.0	1,055.0	1,045.0	1,071.0	15,130	24,450	15,130	10,330	9,620	87,420
1958	5,596	2,142	1,133	1,258.0	1,115.0	858.8	922.3	9,386	16,860	10,280	10,040	7,044	66,640
1959	3,707	1,845	1,722	1,230.0	1,000.0	860.8	952.1	13,740	18,880	13,950	11,600	8,916	78,400
1960	5,264	2,231	1,656	1,228.0	1,093.0	1,107.0	1,190.0	14,480	14,910	13,830	14,990	10,590	82,570

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-
1955	1486	-	-	-	-	-	-	-
1956	1486	a415,000	May 25, 1956	-	102,100	74,140,000	101,500	73,650,000
1957	1500	686,000	June 2, 1957	-	120,700	87,420,000	121,700	88,120,000
1958	1570	436,000	June 2, 1958	-	92,050	66,640,000	89,840	65,040,000
1959	1640	b530,000	May 31, 1959	-	108,300	78,400,000	110,900	80,280,000
1960	1720	b295,000	Aug. 7, 1960	-	113,800	82,570,000	-	-

a Maximum daily.
b Maximum observed.

4700. Chisana River at Northway Junction
(Formerly published as Tanana River at Northway Junction)

Location.--Lat 63°00', long 141°48', near left bank on downstream side of bridge on highway from Northway Junction to Northway, half a mile southwest of Northway Junction and 4 miles upstream from Nabesna River.

Drainage area.--3,280 sq mi, approximately.

Records available.--July 1949 to September 1960. Prior to October 1959, published as Tanana River at Northway Junction.

Gage.--Wire-weight gage. Datum of gage is 1,682.85 ft above mean sea level.

Average discharge.--11 years (1949-60), 2,221 cfs (1,608,000 acre-ft per year).

Extremes.--1949-60: Maximum discharge observed, 9,750 cfs July 5, 1959 (gage height, 12.40 ft); minimum not determined.

Remarks.--Large diurnal fluctuation caused by glacier melt at the source. Records of chemical analyses for the period October 1957 to September 1958, and suspended sediment loads for the period June 1953 to September 1960 (periodic), summer months only 1956-60, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,414	838	769	720	700	690	818	2,313	2,757	5,926	4,585	3,352	2,086
1952	1,110	860	780	720	700	728	953	2,125	4,480	5,655	4,361	2,078	2,053
1953	1,450	1,000	800	590	680	760	965	2,255	4,749	6,467	5,550	2,764	2,350
1954	1,196	760	750	760	760	750	850	3,187	4,147	4,845	5,315	2,597	2,172
1955	1,283	820	681	720	700	676	890	2,142	2,867	4,808	4,072	1,996	1,815
1956	1,019	720	670	590	630	590	1,038	2,528	2,699	6,083	4,504	2,671	1,988
1957	1,105	820	744	720	720	741	806	5,006	6,144	7,458	6,129	3,230	2,820
1958	1,599	925	744	839	757	684	1,030	2,104	4,006	5,572	5,585	2,282	2,190
1959	888	900	850	720	760	710	820	3,252	4,893	6,204	4,431	3,056	2,301
1960	1,722	915	899	865	844	880	895	3,182	3,325	5,161	4,441	2,911	2,179

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	86,920	49,880	47,290	44,270	38,880	42,450	48,690	142,200	164,100	364,400	281,900	199,500	1,510,000
1952	68,250	51,170	47,960	44,270	40,260	44,790	56,730	130,700	266,600	347,700	268,100	123,600	1,490,000
1953	89,450	59,500	49,190	36,280	37,770	46,730	57,440	138,600	282,600	397,600	341,300	164,400	1,701,000
1954	73,550	45,220	46,120	46,730	42,210	46,120	50,580	196,000	246,800	297,900	326,800	154,600	1,573,000
1955	78,860	48,790	41,870	44,270	38,880	41,570	52,960	131,700	170,600	295,600	250,400	118,800	1,314,000
1956	62,680	42,840	41,200	36,280	36,240	36,280	61,790	155,500	160,600	374,000	276,900	159,000	1,443,000
1957	67,910	48,790	45,760	44,270	39,990	45,540	47,960	307,800	365,600	458,600	376,800	192,200	2,041,000
1958	98,300	55,040	45,760	51,610	42,030	42,050	61,290	129,300	238,400	342,600	343,400	135,800	1,586,000
1959	54,590	53,550	52,260	44,270	42,210	43,660	48,790	200,000	291,100	381,500	272,400	181,800	1,666,000
1960	105,900	54,450	55,280	53,200	48,580	54,110	53,260	195,600	197,900	317,400	273,000	173,200	1,582,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	2,495	1,807,000
1951	1466	a7,480	July 18, 1951	-	2,086	1,510,000	2,063	1,494,000
1952	1466	a7,970	July 2, 1952	-	2,053	1,490,000	2,095	1,521,000
1953	1466	a8,860	Aug. 9, 1953	-	2,350	1,701,000	2,304	1,668,000
1954	1486	6,550	Aug. 5, 1954	-	2,172	1,573,000	2,178	1,577,000
1955	1486	6,500	July 29, 1955	-	1,815	1,314,000	1,784	1,292,000
1956	1486	7,400	July 14, 1956	-	1,988	1,443,000	2,010	1,459,000
1957	1500	8,670	July 12, 1957	-	2,820	2,041,000	2,870	2,078,000
1958	1570	7,030	July 9, 1958	-	2,190	1,586,000	2,137	1,547,000
1959	1640	9,750	July 5, 1959	-	2,301	1,666,000	2,378	1,721,000
1960	1720	6,700	July 25, 1960	-	2,179	1,582,000	-	-

a Maximum observed.

4720. Tanana River near Tok Junction

Location.--Lat 63°19'00", long 142°38'30", near right bank on downstream side of bridge on Alaska Highway, 1.4 miles west of Tetlin Junction, 11 miles east of Tok Junction, and 11 miles upstream from Tok River.

Drainage area.--6,800 sq mi, approximately.

Records available.--May 1950 to September 1953.

Gage.--Wire-weight gage. Datum of gage is 1,604.67 ft above mean sea level, adjustment of 1950.

Extremes.--1950-53: Maximum discharge, 35,700 cfs Aug. 7, 1953 (gage height, 9.00 ft, from graph based on gage readings); minimum not determined.

Remarks.--Diurnal fluctuation caused by glacier melt at the source. Records of chemical analyses for the periods March to October 1951, June to September 1952, December 1952 to September 1953, and water temperatures for the periods March to October 1951, June to September 1952, December 1952 to September 1953, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,951	1,733	1,481	1,400	1,354	1,300	1,570	5,520	8,627	25,510	17,700	13,180	6,912
1952	2,087	1,550	1,400	1,400	1,300	1,352	1,800	4,498	13,920	21,250	17,740	5,780	6,240
1953	2,952	2,200	1,800	1,500	1,600	1,600	2,650	6,365	15,640	23,580	23,020	9,178	7,727

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	181.4	103.1	91.04	86.08	75.17	79.93	93.42	339.4	513.3	1,569	1,088	784.4	5,004
1952	128.3	92.23	86.08	86.08	74.78	83.11	107.1	276.6	828.5	1,306	1,091	344.0	4,504
1953	181.5	130.9	110.7	92.23	88.86	98.38	157.7	391.4	930.8	1,450	1,415	546.1	5,594

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1951	1466	a31,400	July 19, 1951	-	6,912	5,004,000	6,817	4,935,000
1952	1466	a28,600	July 30, 1952	-	6,204	4,504,000	6,364	4,620,000
1953	1466	35,700	Aug. 7, 1953	-	7,727	5,594,000	-	-

a Maximum observed.

4740. Tok River near Tok Junction

Location.--Lat 63°19'30", long 142°50'05", in T.18 N., R.13 E., near left bank on downstream side of bridge on Alaska Highway, 5 miles east of Tok Junction and 5½ miles upstream from mouth.

Drainage area.--930 sq mi, approximately.

Records available.--October 1951 to September 1954.

Gage.--Wire-weight gage. Datum of gage is 1,620.84 ft above mean sea level, Coast and Geodetic Survey datum for Alaska.

Extremes.--1951-54: Maximum discharge, 3,830 cfs June 16, 1952 (gage height, 6.83 ft, from graph based on gage readings); no flow for several months each year.

Remarks.--Records of chemical analyses for the periods June and August 1951, May and July 1953, July 1954, May, June, and August, 1956, February, May, June, and August, 1958, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1952	53.2	0	0	0	0	0	0	201	1,937	1,208	841	483	393
1953	145	0	0	0	0	0	52.3	624	653	571	507	259	236
1954	13.9	0	0	0	0	0	8.3	743	410	423	370	165	180

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1952	3,270	0	0	0	0	0	0	12,370	115,300	74,280	51,690	28,710	285,600
1953	8,920	0	0	0	0	0	3,110	38,360	38,830	35,140	31,200	15,410	171,000
1954	857	0	0	0	0	0	496	45,680	24,380	26,000	22,760	9,810	130,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1952	1466	3,830	June 16, 1952	0	393	285,600	401	291,300
1953	1466	1,820	May 20, 1953	0	236	171,000	225	162,900
1954	1486	a2,410	May 11, 1954	0	180	130,000	-	-

a Maximum observed.

4760. Tanana River near Tanacross

Location.--Lat 63°23'20", long 143°44'45", on right bank a quarter of a mile downstream from unnamed tributary, a quarter of a mile north of Cathedral Rapids, 9 miles upstream from Robertson River, and 13 miles west of Tanacross.

Drainage area.--8,550 sq mi, approximately.

Records available.--June 1953 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,489.58 ft above mean sea level. Prior to June 13, 1959, water-stage recorder on left bank at site 120 ft upstream at same datum.

Average discharge.--7 years (1953-60), 7,631 cfs (5,525,000 acre-ft per year).

Extremes.--1953-60: Maximum discharge, 35,500 cfs Aug. 9, 1953 (gage height, 11.04 ft); minimum not determined.

Remarks.--Records of chemical analyses for the periods December 1953 to October 1954, May 1957 to September 1960 (seasonal); suspended sediment loads for the periods October 1953 to September 1954, October 1954 to September 1956 (periodic), May 1957 to September 1960 (daily-seasonal); and water temperatures for the periods June to September 1954, May 1957 to September 1960 (seasonal), are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	23,910	23,860	9,973	-
1954	4,134	2,193	2,100	2,000	1,900	1,900	2,200	8,584	12,770	17,830	22,100	9,305	7,303
1955	4,596	3,400	2,052	2,000	1,807	1,855	2,450	5,639	10,270	18,300	16,170	8,030	6,422
1956	3,492	2,300	2,000	1,700	1,600	1,400	2,950	8,932	9,596	21,960	19,610	10,960	7,247
1957	4,200	2,750	2,345	2,200	2,200	2,200	2,400	13,040	21,470	26,550	23,510	13,360	9,744
1958	5,229	3,100	2,500	2,700	2,314	1,794	2,575	6,339	15,110	23,090	20,750	8,474	7,881
1959	2,600	2,800	2,600	2,200	2,000	1,800	2,000	7,991	16,120	20,480	16,970	10,080	7,343
1960	5,545	3,200	2,797	2,505	2,300	2,373	2,416	10,340	11,890	18,610	17,050	10,340	7,480

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	1,470	1,467.0	593.5	-
1954	254.2	130.5	129.1	123.0	105.5	116.8	130.9	527.8	760.1	1,096	1,359.0	553.7	5,287
1955	282.6	202.3	126.1	123.0	100.4	114.0	145.8	346.7	611.3	1,125	994.1	477.8	4,649
1956	214.7	136.9	123.0	104.5	92.03	86.08	175.5	549.2	571.0	1,350	1,206.0	652.3	5,261
1957	258.2	163.6	144.2	135.3	122.2	135.3	142.8	801.7	1,278.0	1,632	1,446.0	795.2	7,054
1958	321.5	184.5	153.7	166.0	128.5	110.3	153.2	389.8	898.9	1,420	1,276.0	504.2	5,707
1959	159.9	166.6	159.9	135.3	111.1	110.7	119.0	491.4	959.4	1,259	1,044.0	599.9	5,316
1960	340.9	190.4	172.0	154.0	132.3	145.9	143.7	635.8	707.3	1,144	1,048.0	615.2	5,430

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-
1953	1466	35,500	Aug. 9, 1953	-	-	-	-	-
1954	1486	28,400	Aug. 13, 1954	-	7,303	5,287,000	7,437	5,384,000
1955	1486	25,000	July 29, 1955	-	6,422	4,649,000	6,234	4,513,000
1956	1486	27,100	July 20, 1956	-	7,247	5,261,000	7,373	5,353,000
1957	1500	31,100	July 26, 1957	-	9,744	7,054,000	9,873	7,148,000
1958	1570	27,300	July 8, 1958	-	7,881	5,707,000	7,642	5,533,000
1959	1640	30,100	July 6, 1959	-	7,343	5,316,000	7,642	5,533,000
1960	1720	25,000	July 25, 1906	2,110	7,480	5,430,000	-	-

4780. Tanana River at Big Delta

Location.--Lat 64°09'20", long 145°51'00", on line between secs. 6 and 7, T.9 S., R.10 E., near left bank on downstream side of bridge on Richardson Highway, 0.5 mile northwest of Big Delta, half a mile upstream from Delta River, 8 miles downstream from Goodpaster River, and 75 miles southeast of Fairbanks.

Drainage area.--13,500 sq mi, approximately.

Records available.--September 1948 to September 1952, October 1953 to September 1957.

Gage.--Wire-weight gage. Datum of gage is 962.95 ft above mean sea level, Coast and Geodetic Survey datum for Alaska.

Average discharge.--8 years (1948-52, 1953-57), 14,950 cfs (10,820,000 acre-ft per year).

Extremes.--1948-52, 1953-57: Maximum discharge observed, 62,800 cfs July 29, 1949 (gage height, 23.57 ft); minimum daily, 3,720 cfs Apr. 7, 1957.

Remarks.--Diurnal fluctuation caused by glacier melt at the source. Records of chemical analyses for the period May 1949 to September 1952, and water temperatures for the period May 1949 to September 1951 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11,130	5,583	5,952	5,300	4,579	4,445	5,394	13,780	18,850	39,270	33,340	29,470	14,840
1952	9,663	6,534	5,229	4,742	4,583	4,752	6,067	10,960	27,940	38,310	33,290	17,800	14,200
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	8,561	5,330	4,984	4,794	4,654	4,548	4,690	16,320	23,670	29,690	38,050	19,290	13,800
1955	10,110	5,713	4,697	5,248	4,707	4,245	4,867	11,970	19,030	30,110	28,920	18,270	12,390
1956	7,677	5,972	6,329	5,958	6,115	5,544	9,873	23,950	20,510	39,990	36,020	24,170	16,070
1957	9,107	5,933	4,732	4,221	4,129	4,054	4,348	25,570	37,610	37,850	37,440	24,340	16,700
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	684.4	332.2	366.0	325.9	254.3	273.3	321.0	847.1	1,121.0	2,414.0	2,050.0	1,754.0	10,740.0
1952	594.2	388.8	321.5	291.6	263.6	292.2	361.0	674.0	1,663.0	2,356.0	2,047.0	1,059.0	10,310.0
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	526.4	317.2	306.4	294.7	258.4	279.7	279.1	1,004.0	1,409.0	1,826.0	2,339.0	1,148.0	9,988.0
1955	621.7	340.0	288.8	322.7	261.4	261.0	289.6	735.8	1,132.0	1,851.0	1,778.0	1,087.0	8,969.0
1956	472.0	355.4	389.2	366.3	351.7	340.9	587.5	1,473.0	1,220.0	2,459.0	2,215.0	1,438.0	11,670.0
1957	560.0	353.0	291.0	259.0	229.3	249.3	258.7	1,572.0	2,238.0	2,327.0	2,302.0	1,449.0	12,090.0
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	15,910	11,510,000
1951	1466	a46,000	July 17, 1951	4,200	14,840	10,740,000	14,730	10,670,000
1952	1466	a57,200	July 31, 1952	4,300	14,200	10,310,000	-	-
1953	-	-	-	-	-	-	-	-
1954	1486	50,000	Aug. 3, 1954	4,500	13,800	9,988,000	13,930	10,090,000
1955	1486	37,600	July 30, 1955	3,800	12,390	8,969,000	12,340	8,935,000
1956	1486	48,700	July 18, 1956	5,200	16,070	11,670,000	16,060	11,660,000
1957	1500	a44,000	July 16, 1957	3,720	16,700	12,090,000	-	-
1958	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-

a Maximum observed.

4840. Salcha River near Salchaket

Location.--Lat 64°28'15", long 146°55'45", in sec.22, T.5 S., R.4 E., near right bank on downstream side of bridge on Richardson Highway, half a mile east of Aurora Lodge, 2 miles upstream from mouth, and 6 miles southeast of Salchaket.

Drainage area.--2,170 sq mi, approximately.

Records available.--July 1909 to August 1910, published as "at mouth" (no winter records), October 1948 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 631.85 ft above mean sea level. July 1909 to August 1910, staff gage at site 1½ miles downstream at different datum. Sept. 7, 1948, to Apr. 24, 1953, wire-weight gage at same site and datum.

Average discharge.--12 years (1948-60), 1,617 cfs (1,171,000 acre-ft per year).

Extremes.--1909-10, 1948-60: Maximum discharge recorded, 36,500 cfs June 23, 1956 (gage height, 16.13 ft), from rating curve extended above 16,000 cfs by logarithmic plotting; maximum gage height, 19.6 ft May 2 or 3, 1960; minimum discharge not determined.

Remarks.--Records of chemical analyses for the period October 1957 to May 1958, are published in report of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	828	505	384	269	180	200	400	4,040	3,055	1,472	936	1,311	1,137
1952	798	510	329	230	210	200	202	3,387	4,843	4,962	4,070	6,186	2,163
1953	1,715	540	360	144	62	60	569	3,795	2,548	3,462	2,847	2,798	1,587
1954	1,029	230	160	130	100	95	175	3,140	3,327	1,701	1,473	2,546	1,180
1955	1,271	440	290	220	190	170	180	4,367	6,926	3,383	3,467	3,716	2,059
1956	1,274	415	260	200	200	200	490	6,433	4,992	1,585	6,751	2,867	2,149
1957	1,056	355	288	225	230	270	325	6,903	2,101	1,337	925	901	1,225
1958	652	515	328	204	102	81.1	422	3,927	1,570	568	1,271	740	872
1959	484	300	210	135	135	125	140	5,275	1,637	3,857	2,421	2,664	1,462
1960	1,199	475	395	349	281	220	255	4,259	1,845	2,074	2,191	3,200	1,401

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	50,900	30,050	23,620	16,520	10,000	12,300	23,820	248,400	181,800	90,500	57,530	78,030	823,500
1952	49,090	30,350	20,210	14,120	12,080	12,300	12,000	208,200	288,200	305,100	250,200	368,100	1,570,000
1953	105,400	32,130	22,140	8,850	3,440	3,690	33,870	233,400	151,600	212,800	175,100	166,500	1,149,000
1954	63,250	13,690	9,840	7,990	5,550	5,840	10,410	193,100	198,000	104,600	90,550	151,500	854,300
1955	78,150	26,180	17,830	13,530	10,550	10,450	10,710	268,500	412,100	208,000	213,200	221,100	1,490,000
1956	78,330	24,690	15,990	12,300	11,500	12,300	29,160	395,500	297,000	97,450	415,100	170,600	1,560,000
1957	64,920	21,120	17,690	13,840	12,770	16,600	19,340	424,500	125,000	82,230	56,900	53,620	908,500
1958	40,120	30,640	20,170	12,540	5,660	4,990	25,130	241,500	93,420	34,950	78,150	44,040	631,300
1959	29,740	17,850	12,890	8,290	7,520	7,680	8,330	324,300	97,390	237,200	148,900	158,500	1,059,000
1960	73,710	28,260	24,260	21,460	16,150	13,530	15,170	261,900	109,800	127,500	134,700	190,400	1,017,000

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	1,370	992,200
1951	1466	a10,300	June 16, 1951	-	1,137	823,500	1,131	818,600
1952	1466	-	-	-	2,163	1,570,000	2,245	1,630,000
1953	1466	17,700	June 26, 1953	-	1,587	1,149,000	1,486	1,076,000
1954	1486	26,100	June 16, 1954	-	1,180	854,300	1,229	889,700
1955	1486	21,900	July 1, 1955	-	2,059	1,490,000	2,054	1,487,000
1956	1486	36,500	June 23, 1956	-	2,149	1,560,000	2,128	1,545,000
1957	1500	28,200	May 21, 1957	-	1,255	908,500	1,237	895,700
1958	1570	23,100	May 25, 1958	-	872	631,300	830	600,900
1959	1640	b18,700	May 23, 1959	-	1,462	1,059,000	1,553	1,124,000
1960	1720	-	-	-	1,401	1,017,000	-	-

a Maximum observed.
b Maximum recorded.

5120. Chena Slough near Fairbanks

Location.--Lat 64°49'15", long 147°26'20", in SW¼ sec.18, T.1 S., R.2 E., near left bank on downstream side of pier of bridge on side road leading off of Badger Road, 2⅝ miles upstream from mouth and 8½ miles east of Fairbanks.

Drainage area.--About 20 sq mi.

Records available.--May 1948 to September 1952.

Gage.--Staff gage. Altitude of gage is 450 ft (from topographic map).

Extremes.--1948-52: Maximum discharge observed, 740 cfs May 15, 1949 (gage height, 4.86 ft), from rating curve extended above 300 cfs by logarithmic plotting; maximum gage height observed, 7.36 ft May 21, 1948 (backwater from Chena River); minimum discharge not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	82.0	66	65.4	59	53	54.6	74.4	103	87.9	103	91.7	86.7	77.4
1952	63.9	57.7	55	54	53	52	54.8	81.9	104	121	108	82.3	74.1

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,040	3,930	4,020	3,630	2,940	3,360	4,430	6,300	5,230	6,340	5,640	5,160	56,020
1952	3,930	3,430	3,380	3,320	3,050	3,200	3,260	5,030	6,200	7,450	6,640	4,900	53,790

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	94.4	68,310
1951	1466	a125	May 1, 1951	-	77.4	56,020	74.3	53,770
1952	1466	a148	Aug. 1, 1952	-	74.1	53,790	-	-

a Maximum observed.

5140. Chena River at Fairbanks

Location.--Lat 64°50'50", long 147°42'20", in NW¼ sec.11, T.1 S., R.1 W., on downstream side of second pier from right bank of bridge on Steese Highway (U.S. Highway 97) in Fairbanks, 0.15 mile upstream from Noyes Slough, 11 miles upstream from mouth, and 11 miles downstream from Chena Slough.

Drainage area.--1,980 sq mi, approximately (includes that of Noyes Slough).

Records available.--July 1947 to September 1948 (no winter records), October 1948 to September 1960.

Gage.--Wire-weight gage. Datum of gage is 422.72 ft above mean sea level. Prior to May 3, 1948, staff gage and May 4, 1948, to Nov. 17, 1957, wire-weight gage at bridge 0.5 mile downstream at datum 0.96 ft higher. Nov. 18, 1957, to May 1, 1960, water-stage recorder at present site and datum.

Average discharge.--12 years (1948-60), 1,344 cfs (973,000 acre-ft per year).

Extremes.--1947-60: Maximum discharge, 24,200 cfs May 21, 1948 (gage height, 14.17 ft, site and datum then in use, from graph based on gage readings); minimum not determined. Flood in August 1930 reached a stage of about 15.2 ft, present datum, from information by local residents. Flood of May 11-14, 1937, reached a stage of 15.9 ft, present datum, ice jam, from floodmarks.

Remarks.--Records include flow of Noyes Slough, which diverts small quantity of water from Chena River. Records of chemical analyses for the periods May to September 1953, April to September 1955, October 1957 to May 1958; suspended sediment loads for the periods January to August 1954, April to September 1955 (periodic); and water temperatures for the period May to September 1953, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	863	592	454	334	235	243	516	3,474	1,895	1,608	1,205	1,578	1,089
1952	881	593	438	330	310	300	377	3,383	3,554	2,957	2,645	3,380	1,599
1953	1,488	600	460	218	120	140	365	2,151	1,556	2,114	1,869	2,666	1,152
1954	1,139	410	290	200	150	150	290	1,799	1,629	1,842	1,619	1,967	962
1955	1,206	640	470	350	270	240	255	4,279	4,828	2,794	3,050	3,918	1,865
1956	1,508	505	420	340	290	270	634	6,045	2,855	1,268	4,046	2,702	1,749
1957	1,351	425	299	270	289	375	458	5,484	1,409	1,010	682	615	1,066
1958	479	311	240	254	151	120	344	2,652	1,021	665	1,425	833	713
1959	568	297	276	202	183	169	212	4,582	1,318	3,190	1,755	2,005	1,241
1960	1,394	616	449	425	325	253	315	3,474	1,223	1,107	1,348	2,352	1,111

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	53,080	35,210	27,910	20,510	13,050	14,940	30,710	213,600	112,800	98,860	74,100	93,900	788,700
1952	54,150	35,310	26,960	20,270	17,830	18,450	22,420	208,000	211,500	181,800	162,600	201,100	1,160,000
1953	91,520	35,700	28,280	13,430	6,660	8,610	21,700	132,300	92,590	130,000	114,900	158,600	834,300
1954	70,010	24,400	17,830	12,300	8,330	9,220	17,260	110,600	96,910	113,300	99,530	117,000	696,700
1955	74,180	38,080	28,900	21,520	15,000	14,760	15,170	263,100	287,300	171,800	187,500	233,100	1,350,000
1956	92,740	30,030	25,820	20,910	16,680	16,600	37,710	371,700	169,900	77,970	248,800	160,800	1,270,000
1957	83,050	25,290	18,370	16,620	16,070	23,070	27,260	337,200	83,860	62,110	41,940	36,610	771,400
1958	29,480	18,490	14,760	15,630	8,410	7,380	20,450	163,000	60,730	40,910	87,630	49,580	516,400
1959	34,940	17,670	16,960	12,440	10,140	10,420	12,630	281,800	78,410	196,100	107,900	119,300	898,700
1960	85,730	36,670	27,630	26,130	18,720	15,570	18,750	213,600	72,750	68,090	82,900	140,000	806,500

Yearly discharge, in cubic feet per second

Year	WSP	Water yesr ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	1,155	836,400
1951	1466	a7,490	May 8, 1951	220	1,089	788,700	1,090	788,900
1952	1466	8,650	June 1, 1952	-	1,599	1,160,000	1,652	1,199,000
1953	1466	5,280	Aug. 28, 1953	-	1,152	834,300	1,093	791,000
1954	1486	6,690	July 23, 1954	-	962	696,700	1,002	725,600
1955	1486	13,800	June 15, 1955	-	1,865	1,350,000	1,876	1,358,000
1956	1486	12,100	Aug. 14, 1956	-	1,749	1,270,000	1,719	1,248,000
1957	1500	13,600	May 23, 1957	-	1,066	771,400	977	707,500
1958	1570	6,560	May 26, 1958	-	713	516,400	723	523,300
1959	1640	15,800	May 21 or 22	146	1,241	898,700	1,352	979,200
1960	1720	19,900	May 3, 1960	242	1,111	806,500	-	-

a Maximum observed.

5160. Nenana River near Windy

Location.--Lat 63°27'15", long 148°48'10", on left bank 400 ft upstream from bridge on Denali Highway, three-quarters of a mile upstream from Jack River, 1 mile southeast of Windy railroad station, and 2 miles downstream from Schist Creek.

Drainage area.--710 sq mi, approximately.

Records available.--June 1950 to September 1956, October 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 2,100 ft (from topographic map). Prior to July 27, 1950, staff gage and July 27, 1950, to Sept. 30, 1956, October 1958 to June 3, 1959, water-stage recorder, on right bank 300 ft downstream at same datum.

Average discharge.--8 years (1950-56, 1958-60), 1,178 cfs (852,800 acre-ft per year).

Extremes.--1950-56, 1958-60: Maximum discharge, 7,640 cfs Aug. 25, 1955; maximum gage height, 8.33 ft Sept. 12, 1960; minimum discharge not determined.

Remarks.--Some diurnal fluctuation caused by glacier melt at the source. Records of suspended sediment loads for the period June and July 1960 (periodic), are published in report of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	549	230	205	195	165	155	233	2,202	2,497	1,946	1,870	2,773	1,089
1952	761	509	369	250	190	160	175	785	3,714	2,921	1,945	1,604	1,116
1953	1,146	480	290	130	110	140	220	1,440	3,423	1,934	2,092	2,291	1,145
1954	695	280	230	200	166	130	150	1,307	2,406	2,106	2,636	1,636	1,001
1955	751	455	209	200	200	190	160	1,682	4,232	3,236	2,866	2,175	1,368
1956	783	365	250	210	190	160	165	2,176	4,496	2,924	2,860	1,940	1,379
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	672	360	221	194	165	125	160	2,126	2,985	2,889	2,237	1,548	1,147
1960	908	524	343	312	256	229	214	2,705	1,451	2,124	2,519	2,452	1,175

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	33,790	13,690	12,600	11,980	9,140	9,540	13,880	135,400	148,600	119,600	115,000	165,000	788,200
1952	46,770	30,270	22,690	15,370	10,930	9,840	10,410	48,300	221,000	179,600	119,600	95,420	810,200
1953	70,450	28,560	17,830	7,990	6,110	8,610	13,090	88,560	203,700	118,900	128,600	136,300	828,700
1954	42,720	16,660	14,140	12,300	9,220	7,990	8,930	80,370	143,200	129,500	162,100	97,370	724,500
1955	46,160	27,070	12,850	12,300	11,110	11,680	9,520	103,400	251,800	199,000	176,300	129,400	990,600
1956	48,150	21,720	15,370	12,910	10,930	9,840	9,820	133,800	267,500	179,800	175,800	115,400	1,001,000
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	41,290	21,420	13,610	11,940	9,180	7,680	9,520	130,800	177,600	177,600	137,600	92,110	830,400
1960	55,830	31,180	21,060	19,190	14,710	14,110	12,710	166,300	86,360	130,600	154,900	145,900	852,800

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1466	5,120	Sept. 4, 1951	-	1,089	788,200	1,143	827,900
1952	1466	5,600	July 29, 1952	-	1,116	810,200	1,140	827,300
1953	1466	5,980	June 25, 1953	-	1,145	828,700	1,085	785,400
1954	1486	6,650	Aug. 1, 1954	-	1,001	724,500	1,018	737,100
1955	1486	7,640	Aug. 25, 1955	-	1,368	990,600	1,367	989,800
1956	1486	6,380	July 31, 1956	-	1,379	1,001,000	-	-
1957	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-
1959	1640	4,380	July 6, 1959	-	1,147	830,400	1,191	862,100
1960	1720	7,500	Sept.12, 1960.	178	1,175	852,800	-	-

5180. Nenana River near Healy

Location.--Lat 63°50'40", long 148°56'35", in W½ sec.28, T.12 S., R.7 W., on right bank half a mile upstream from Healy Creek, 1.1 miles southeast of Healy, and 1.2 miles upstream from railroad bridge.

Drainage area.--1,910 sq mi, approximately.

Records available.--October 1950 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,270.22 ft above mean sea level.

Average discharge.--10 years (1950-60), 3,547 cfs (2,568,000 acre-ft per year).

Extremes.--1950-60: Maximum discharge, 28,500 cfs July 29, 1952; maximum gage height, 10.86 ft Aug. 25, 1955; minimum discharge not determined.

Remarks.--Some diurnal fluctuation caused by glacier melt at source. Records of chemical analyses for the periods October 1953 to September 1955, May 1956 to September 1957, May 1958 to September 1960; suspended sediment loads for the period June 1953 to September 1960 (summer months only); and water temperatures for the period May 1957 to September 1960 (seasonal), are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,354	610	565	545	465	430	627	5,874	7,211	8,155	7,032	8,461	3,460
1952	1,929	1,092	830	600	500	480	510	2,348	10,050	11,290	7,355	4,701	3,483
1953	3,074	1,300	800	430	360	430	600	3,640	10,990	9,082	8,460	5,978	3,779
1954	1,702	750	650	570	488	390	450	3,130	7,618	7,386	9,580	5,260	3,183
1955	2,429	1,200	552	500	460	440	380	2,979	9,906	10,760	9,154	6,290	3,774
1956	1,858	825	640	550	510	440	437	4,222	11,240	10,010	9,805	6,003	3,888
1957	2,213	875	715	689	608	514	510	5,451	12,370	7,573	6,450	6,185	3,690
1958	2,474	1,765	1,387	771	457	369	550	3,133	10,260	7,805	8,212	2,732	3,344
1959	1,503	745	549	568	481	339	400	4,472	8,963	11,280	7,420	4,475	3,455
1960	2,535	1,250	760	688	561	516	580	6,442	5,480	8,069	7,737	6,107	3,410

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	83.27	36.30	34.73	33.48	25.80	26.46	37.29	361.2	429.1	501.4	432.4	503.5	2,505
1952	118.6	65.00	51.03	36.89	28.76	29.51	30.35	144.4	597.9	694.1	452.3	279.7	2,529
1953	189.0	77.36	49.19	26.44	19.99	26.44	35.70	223.8	653.9	558.4	520.2	355.7	2,736
1954	104.6	44.63	39.97	35.05	27.07	23.98	26.78	192.5	453.3	454.2	589.0	313.0	2,304
1955	149.4	71.40	33.96	30.74	25.55	27.05	22.61	183.2	589.4	661.5	562.8	374.3	2,732
1956	114.2	49.09	39.35	33.82	29.34	27.05	25.98	259.6	668.9	615.4	602.9	357.2	2,823
1957	136.1	52.07	43.99	42.39	33.74	31.58	30.35	335.1	735.8	465.6	396.6	368.0	2,671
1958	152.1	105.0	85.29	47.42	25.37	22.71	32.73	192.7	610.5	479.9	504.9	162.6	2,421
1959	92.39	44.33	33.74	34.93	26.74	20.85	23.80	274.9	533.3	693.5	456.2	266.3	2,501
1960	155.9	74.38	46.75	42.29	32.25	31.74	34.51	396.1	326.1	496.1	475.7	363.4	2,475

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1466	19,300	Sept. 5, 1951	-	3,460	2,505,000	3,571	2,585,000
1952	1466	28,500	July 29, 1952	-	3,483	2,529,000	3,595	2,609,000
1953	1466	27,900	June 25, 1953	-	3,779	2,736,000	3,605	2,610,000
1954	1486	25,200	Aug. 1, 1954	-	3,183	2,304,000	3,273	2,370,000
1955	1486	27,800	Aug. 25, 1955	-	3,774	2,732,000	3,702	2,680,000
1956	1486	19,400	Aug. 1, 1956	-	3,888	2,823,000	3,929	2,582,000
1957	1500	21,000	June 8, 1957	-	3,690	2,671,000	3,842	2,782,000
1958	1570	16,500	Aug. 3, 1958	-	3,344	2,421,000	3,107	2,249,000
1959	1640	16,900	July 6, 1959	-	3,455	2,501,000	3,602	2,608,000
1960	1720	20,500	May 26, 1960	-	3,410	2,475,000	-	-

5648. Yukon River at Ruby

Location.--Lat 64°44'25", long 155°29'55", on left bank at Ruby, 300 ft downstream from Ruby Creek, 2 miles downstream from Melozitna River, and 2½ miles upstream from Ruby Slough.

Drainage area.--259,000 sq mi, approximately.

Records available.--October 1956 to September 1960.

Gage.--Staff gage. Altitude of gage is 150 ft (from topographic map).

Extremes.--1956-60: Maximum discharge, 753,000 cfs June 3 or 4, 1957 (gage height, 32.4 ft, from floodmarks), from rating curve extended above 570,000 cfs by logarithmic plotting; minimum not determined.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	129,100	57,000	45,000	36,000	30,000	29,000	30,000	325,500	517,200	322,100	257,800	246,500	169,400
1958	137,600	62,000	33,420	38,420	33,000	22,970	28,500	168,200	354,700	250,100	254,600	174,200	130,300
1959	90,320	47,000	43,000	33,000	26,000	17,000	18,500	262,500	381,900	322,600	259,600	219,600	144,100
1960	130,900	48,500	32,940	30,030	24,520	23,000	29,500	271,300	298,200	301,000	319,600	250,800	147,300

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	7,940	3,392	2,767	2,214	1,666	1,783	1,785	20,010	30,770	19,800	15,850	14,670	122,600
1958	8,461	3,689	2,055	2,362	1,833	1,412	1,696	10,340	21,110	15,380	15,660	10,360	94,360
1959	5,554	2,797	2,644	2,029	1,444	1,045	1,101	16,140	22,730	19,840	15,960	13,070	104,400
1960	8,049	2,886	2,025	1,847	1,410	1,414	1,755	16,680	17,740	18,510	19,650	14,930	106,900

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1957	1500	753,000	June 3 or 4, 1957	-	169,400	122,600,000	169,600	122,800,000
1958	1570	468,000	June 3 or 4, 1958	-	130,300	94,360,000	125,900	91,110,000
1959	1640	537,000	May 31, 1959	-	144,100	104,400,000	146,800	106,300,000
1960	1720	a355,000	Aug. 9, 1960	-	147,300	106,900,000	-	-

a Maximum observed.

5649. Koyukuk River at Hughes

Location.--Lat 66°02'50", long 154°15'50", on right bank 0.2 mile west of Hughes and 0.5 mile upstream from Hughes Creek.

Drainage area.--18,700 sq mi.

Records available.--June to September 1960.

Gage.--Staff gage. Altitude of gage is 250 ft (from topographic map).

Extremes.--June to September 1960: Maximum discharge, 55,800 cfs July 10 (gage height, 15.55 ft, from graph based on gage readings), from rating curve extended above 27,000 cfs by logarithmic plotting; minimum, 7,180 cfs July 30 (gage height, 9.53 ft, from graph based on gage readings).

Flood of August 1937 reached a stage of about 34 ft, from information by local residents.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	-	-	-	-	-	21,360	22,340	25,750	14,970	-

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	-	-	-	-	-	1,271	1,373	1,583	890.9	-

5652. Yukon River at Kaltag

Location.--Lat 64°19'40", long 158°43'10", on right bank at Kaltag, 0.5 mile downstream from Kaltag River.

Drainage area.--296,000 sq mi, approximately.

Records available.--October 1956 to September 1960.

Gage.--Staff gage. Altitude of gage is 100 ft (from topographic map). Prior to Oct. 1, 1957, at site 4.3 miles downstream at different datum.

Extremes.--1956-60: Maximum discharge, 1,020,000 cfs June 5, 1957 (gage height, 30.02 ft, from graph based on gage readings), from rating curve extended above 860,000 cfs by logarithmic plotting; minimum not determined.

Monthly and yearly mean discharge, in thousands of cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	152.3	65	50.0	41.0	34.0	32.0	33.5	396.4	742.4	361.7	281.4	291.8	207.4
1958	197.3	87	45.94	50.87	42.46	29.94	34.0	190.0	451.3	296.7	328.9	230.1	166.0
1959	113.1	60	56.0	41.0	32.0	20.0	21.5	357.4	530.6	394.8	301.0	276.0	184.4
1960	158.2	58	39.42	38.61	33.03	29.97	33.0	333.2	425.1	407.9	418.6	343.2	193.8

Monthly and yearly discharge, in thousands of acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	9,362	3,868	3,074	2,521	1,888	1,968	1,993	24,370	44,180	22,240	17,300	17,360	150,100
1958	12,130	5,177	2,824	3,128	2,358	1,841	2,023	11,680	26,850	18,240	20,230	13,690	120,200
1959	6,956	3,570	3,443	2,521	1,777	1,230	1,279	21,970	31,570	24,280	18,510	16,430	133,500
1960	9,725	3,451	2,424	2,374	1,900	1,843	1,964	20,490	25,300	25,080	25,740	20,420	140,700

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1957	1500	1,020,000	June 5, 1957	-	207,400	150,100,000	212,700	154,000,000
1958	1570	521,000	June 5 or 6	-	166,000	120,200,000	157,500	114,000,000
1959	1640	a734,000	June 1, 1959	-	184,400	133,500,000	186,700	135,200,000
1960	1720	a505,000	June 3, 1960	-	193,800	140,700,000	-	-

a Maximum observed.

7480. Ogotoruk Creek near Point Hope

Location.--Lat 68°06'40", long 165°45'10", on right bank 0.3 mile downstream from small tributary, 0.4 mile upstream from small tributary, 1.2 miles upstream from mouth, 6 miles southeast of Cape Thompson, and 32 miles southeast of Point Hope.

Drainage area.--35 sq mi, approximately.

Records available.--August 1958 to September 1960 (no winter records).

Gage.--Water-stage recorder. Altitude of gage is 20 ft (from topographic map). Prior to July 17, 1959, at different datum.

Extremes.--1958-60: Maximum discharge, 1,260 cfs July 9, 1959 (gage height, 4.3 ft, from floodmarks), from rating curve extended above 40 cfs by logarithmic plotting; no flow during the latter parts of October 1958, October 1959, and the first part of May 1960.

Remarks.--Very little, if any flow each year during period November to April.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	-	-	-	-	138	-
1959	-	-	-	-	-	-	-	-	213	115	25.7	13.2	-
1960	18.0	-	-	-	-	-	-	25.6	54.9	15.4	49.1	7.87	-

Monthly and yearly discharge, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	-	-	-	-	8,190	-
1959	-	-	-	-	-	-	-	-	12,660	7,080	1,580	787	-
1960	1,110	-	-	-	-	-	-	1,580	3,260	946	3,020	468	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Acre-feet	Mean	Acre-feet
		Discharge	Date					
1958	1640	a876	Sept. 8, 1958	-	-	-	-	-
1959	1640	1,260	July 9, 1959	0	-	-	-	-
1960	1720	940	Aug. 10, 1960	0	-	-	-	-

a Maximum during period Aug. 27 to Sept. 30.

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