Quantity and Quality of Surface Waters of Alaska, October 1953 to September 1956

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1486

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Prepared under the direction of J. V. B. WELLS, *chief, Surface Water Branch,* S. K. LOVE, *chief, Quality of Water Branch*

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PREFACE

This report was prepared by the Geological Survey in the Water Resources Division, C. G. Paulsen, chief, succeeded by L. B. Leopold. The streamflow records were prepared under the general direction of J. V. B. Wells, chief, Surface Water Branch, and B. J. Peterson, chief, Basic Records Section, succeeded by F. J. Flynn, the data being collected and computed under the supervision of R. E. Marsh, district engineer, Surface Water Branch, Juneau, Alaska. The quality-of-water records were prepared under the general direction of S. K. Love, chief, Quality of Water Branch, and W. H. Durum, chief, Reports Section, the data being collected and computed under supervision of F. B. Walling, district chemist, Quality of Water Branch, Palmer, Alaska.

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QUANTITY AND QUALITY OF SURFACE WATERS OF ALASKA, OCTOBER 1953 TO SEPTEMBER 1956

SCOPE OF WORK

This volume contains results of measurements of the flow and the chemical and physical quality of streams in the Territory of Alaska from October 1953 to September 1956. Since the beginning of stream-gaging work in Alaska in 1906, records of flow of streams and ditches have been obtained at about 310 gaging stations for periods ranging from a few months to 40 years. On Sept. 30, 1956, the Geological Survey was maintaining 61 gaging stations. Discharge measurements only were made at many other points during the 1954-56 water years; these are published near the end of the report.

Prior to 1948, records of chemical and physical composition of surface waters in Alaska consisted of a few turbidity measurements of the Copper River near Copper Center, in 1913, and chemical analyses of some surface waters of the Seward Peninsula, in 1914, of Yukon River basin, in 1915, and of the Yukon River at Anvik, 1915 to 1916. In 1948 a continuing chemical-quality program was started by the Geological Survey. Several miscellaneous samples were collected and analyzed that year, and regular sampling stations were established in 1949. During the period covered by this report records of chemical composition of surface waters were obtained at about 188 sites including 12 sites at which daily samples were collected during the open-water period. Sediment records were obtained at 18 sites during the same period.

COOPERATION

Assistance in the form of funds or services was given by the Corps of Engineers, Department of Army, in collecting streamflow records published herein for 12 gaging stations.

Assistance was also furnished by the Bureau of Reclamation of the United States Department of the Interior in the operation of one gaging station.

DIVISION OF WORK

The stream-gaging work was done by the Water Resources Division of the Geological Survey under the direction of the personnel shown in the preface. The streamflow data were collected and prepared for publication in the Surface Water Branch district office, the address of which is 117 Federal and Territorial Building, Juneau

The collection of samples for chemical and suspended sediment analyses and water-temperature measurements was under the direction of personnel of Quality of Water Branch assisted by the Surface Water Branch. Chemical and sediment analyses, computation of data, and preparation of records was done by the Quality of Water district office, Palmer, Alaska.

Information of a more detailed nature than that published for most of the gaging stations or sampling stations given in this report is on file in the district offices shown above. Provisional records of discharge prior to publication and other unpublished data concerning the records may usually be obtained from the district offices.

DEFINITION OF TERMS AND ABBREVIATIONS

The terms of streamflow and other hydrologic data, as used in this report, are defined as follows:

Cubic foot per second (cfs) is the rate of discharge of a stream whose channel is 1 square foot in cross-sectional area and whose average velocity is 1 foot per second.

Cubic feet per second per square mile (cfsm) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Runoff in inches is the depth to which an area would be covered if all the water draining from it in a given period were uniformly distributed on its surface. The term is used for comparing runoff with rainfall, which is also usually expressed in inches.

Acre-foot is the quantity of water required to cover an acre to the depth of 1 foot and is equivalent to 43,560 cubic feet. The term is commonly used in relation to storage for irrigation.

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons, and represents a runoff of 0.0372 inch from 1 square mile.

Stage-discharge relation is the relation between gage height and the amount of water flowing in a channel, expressed as volume per unit of time.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, a long reach of the channel, or an artificial structure.

The drainage area of a stream at a specified location is that area, measured in a horizontal plane, which is so enclosed by a topographic divide that direct surface runoff from precipitation normally would drain by gravity into the river above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

Part per million (ppm) is a unit weight of constituent in a million unit weights of solution. The unit has a slightly different meaning when applied to sediment concentrations. A part per million of sediment is computed as one million times the ratio of the weight of sediment of the weight of water-sediment mixture.

Hardness as $CaCO_3$ is the calcium and magnesium expressed as an equivalent amount of calcium carbonate.

Carbonate hardness is the hardness caused by calcium and magnesium equivalent to the carbonate and bicarbonate.

Noncarbonate hardness is the hardness caused by calcium and magnesium in excess of the carbonate hardness.

Particle-size analyses are expressed in percentages finer than indicated sizes in millimeters. The size classification used in this report is that recommended by the American Geophysical Union Subcommittee on sediment terminology.[1]

Specific conductance (micromohos at 25°C) is one million times the reciprocal of specific resistance, at 25°C. Specific resistance is the resistance in ohms of a column of water 1 cm long and 1 square cm in cross section.

[1] Lane, E. W., et al., 1947, Report of the Subcommittee on Terminology: Am. Geophys. Union Trans., V. 28, p. 937.

Suspended sediment or suspended load is sediment that moves in suspension in water and is maintained in suspension by the upward components of turbulent currents or as a colloid. Daily sediment loads are expressed in tons per day, and except for subdivided days are usually obtained by multiplying daily mean sediment concentration in parts per million by the daily mean discharge, and the appropriate conversion factor, normally 0.0027.

pH is the negative logarithm of the hydrogen-ion concentration expressed in grams-moles per liter. However, when determined with a pH meter, which is the procedure normally used in Geological Survey laboratories, pH is an expression of the hydrogen-ion activity or the effective hydrogen-ion concentration.

DOWNSTREAM ORDER OF LISTING GAGING AND SAMPLING STATIONS

Gaging and sampling stations in this report are listed 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 or sampling station is situated and the stream to which it is immediately tributary, each indention in the listing of stations in the table of contents of this report represents one rank. This downstream order and system of indention show which gaging or sampling stations are on tributaries between any two stations on a main stem and the rank of the tributary on which each station is situated.

EXPLANATION OF DATA

SURFACE WATER

The base data collected at gaging stations consist of records of stage and measurements of discharge. In addition, observations of factors affecting the stage-discharge relation, weather records, and other information are used to supplement base data in determing the daily flow. The records of stage are obtained either from direct readings on a nonrecording gage or from a water-stage recorder that gives a continuous record of fluctuations. Measurements of discharge are made with a current meter by the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in Water-Supply Paper 888 and are also outlined in standard textbooks on the measurement of stream discharge.

Rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect determinations of peak discharge (such as slope-area or contracted-opening determinations, computation of flow over dams or weirs, and by other methods), velocity-area studies, and logarithmic plotting. The application of the daily mean gage height to those rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for

a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is essentially the shifting-control method.

At many gaging stations in Alaska the stage-dischrge relation is affected by ice during the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and engineers, and comparable records of discharge for other stations in the same or nearby basins. If the stage-discharge relation is affected by ice, this information is given in a note to the table. No mention is made of occasional days of ice effect if the degree of accuracy of daily records is not changed

The streamflow data presented herein comprise a description of the station and a table showing the daily discharge and the monthly and yearly discharge and runoff of the stream. Records are published on basis of the water year which begins on October 1 and ends on September 30.

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, general remarks, and notations of revisions of the previously published record. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Under "Records available" are given the periods for which there are published records generally equivalent to those at the present site. Under "Gage" are given the type of gage currently in use and the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of records available. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than five complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "Extremes" are given for each water year 1954-56 the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height (unless it is of no importance). In a summary paragraph are given the data for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record are given in a separate paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder, a crest-stage indicator, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and conditions which affect the natural flow at the gaging station is given under "Remarks."

Previously published records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published in a subsequent report. In order to make it easier to find such revised records, a paragraph headed "Revisions (water years)" has been added to the description of all stations for which revised records have been published. In this paragraph are listed the

reports in which revisions of daily discharge have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge are concerned in the revision, that fact is brought out by notations after the year dates as follows. "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. For stations in Alaska, however, monthly discharge for all stations prior to October 1950, were published in Water-Supply Paper 1372. Revisions of many monthly discharges as well as of previously published daily discharges were included in that report. The periods for which monthly discharge only is available and published in Water-Supply Paper 1372, are noted in the "Records available" paragraph. Therefore, the years for which revisions of monthly discharge only were made are not indicated under the "Revisions (water years)" paragraph. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published.

For stations equipped with water-stage recorders, except those on streams subject to sudden or rapid fluctuation, the daily table gives the discharge corresponding to the daily mean gage height. For stations subject to such fluctuation the daily mean gage height may not indicate the true daily mean discharge, which must be obtained by averaging the discharge for parts of the day. For stations equipped with nonrecording gages, the table of daily discharge gives the discharge corresponding to once-daily readings of the gage, or to the mean of twice-daily readings, or to the mean gage height determined from gage-height graphs based on gage readings. For periods of rapidly changing stage, the daily mean discharge is determined from gage-height graphs based on gage readings, the frequency of which is stated in the station description.

In the table of daily discharge, the figures for the maximum day and the minimum day for each month are underlined. If the figure is repeated, it is underlined only on the first day of its occurrence.

In the monthly summary below the daily table, the line headed "Total" gives the sum of the daily figures; it is the total cfs-days for the month. The line headed "Mean" gives the average flow in cubic feet per second during the month. Runoff for the month may be expressed in cubic feet per second per square mile (line headed "Cfsm"), or in inches (line headed "In."), or in acre-feet (line headed "Ac-ft"). Figures of cubic feet per second per square mile and runoff in inches are omitted if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches.

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges, not the momentary discharges when the water was at crest stage. Likewise, the minumums in this summary are the minimum daily discharges.

Peak discharges and the times of their occurrence and corresponding gage heights of most stations are listed below the table of daily and monthly discharge. All independent peaks above the selected base are given. The base discharge, which is given in

parentheses, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man.

Footnotes to the table of daily discharge indicate periods when discharge was computed or estimated by unusual or special methods during periods of no gage-height record and ice effect, or by other effects that reduce the degree of accuracy of the records. Days on which discharge measurements were made are indicated by asterisk and footnote unless they were made at frequent regular intervals, in which instance the general frequency of discharge measurements is given under "Remarks" in the station description.

QUALITY OF WATER

In general samples for chemical analysis were collected daily at 15 of the regular sampling stations during the open-water period, and periodically during the period of ice cover. For the daily stations analyses were made of 10-day composites of daily samples. Three composites were prepared each month by combining equal volumes of daily samples collected from the 1st to the 10th, from the 11th to the 20th, and for the remainder of the month. Samples were collected less frequently at many other stations in Alaska.

Samples collected for chemical analysis were analyzed according to methods regularly used by the Geological Survey. The methods are essentially the same as or are modifications of methods described in authoritative publications, for mineral analysis of water.[1, 2].

The value reported for dissolved solids is the residue on evaporation after drying at 180°C for 1 hour. Specific conductance is given for most of the analyses and was determined by means of a conductance bridge using a standard potassium chloride solution as reference.

The streamflow data are reported in two ways: For regular daily stations the daily mean discharge is reported, whereas values given for discharge in the tables of miscellaneous analyses are discharge at the time the sample was collected. Footnotes are used to indicate the latter.

Suspended-sediment samples were collected daily during the open-water season at 2 stations, and periodically at 16 stations. Samples were collected periodically during periods of ice cover at all stations. Daily samples were collected with a US D-49 depth-integrating sampler from a fixed point at one vertical in the cross section. Depth-integrated samples at three or more verticals in the cross section were collected periodically at all sediment stations. Occasionally point-integrated samples were taken with a US P-46 sampler.

Sediment concentrations were determined by weighing the solid residue after filtration or evaporation of the samples. For most stations the concentrations reported are instantaneous concentrations or concentration of composites of several daily samples. Monthly sediment loads were estimated for the Susitna River at Gold Creek during the summer of 1955 Daily mean concentrations were obtained for Nenana River at Healy and for Tanana River near Tanacross for the period during which daily samples were taken, by plotting the instantaneous concentration on a copy of the gage-height-recorder chart. The plotted concentrations were connected by a continuous curve. Daily mean concentrations were

[1] American Public Health Assoc., Standard methods for the examination of water and sewage, 9th ed. p. 1-112, 1946.
[2] Collins, W. D., Notes on practical water analysis; U. S. Geological Survey Water-Supply Paper 596-H, 1928.

estimated from the graph. Footnotes to daily values in the tables are used to indicate methods of computation.

In addition to sediment concentrations and loads, records of particle size are reported also for most of the sediment stations. Generally particle size was determined by a combination of sieve analysis and bottom-withdrawal tube analysis (U. S. Inter-agency, 1943). Sizes larger than 0.062 mm (sand-size) were determined by sieve analysis and those smaller than 0.062 mm were determined by bottom-withdrawal tube or pipette analysis. Native or distilled water, as noted in the tables of analyses, was used as the settling medium. Usually distilled water with a dispersing agent was used. Results obtained with distilled water and a dispersing agent as a settling medium approximate the ultimate particle size of the finer fractions, whereas results obtained with native water as the settling medium more nearly simulate the particle size existing in the stream.

For most daily stations, water temperatures were obtained at the time the samples for chemical quality were collected. Where practicable, the water temperatures at a station were determined at about the same time each day in order to minimize diurnal variation of temperature. The thermometer used for temperature determinations was accurate to plus or minus 0.5°F.

The description of the station includes a statement giving the periods for which there are published records of water quality. Extremes for constituents, suspended sediment, and temperature are not given for regular stations owing to the short period of continuous records.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretation of records.

The station description states the degree of accuracy of the discharge records. "Excellent" indicates that, in general, the error in the daily records is believed to be less than 5 percent; "good," less than 10 percent; "fair," less than 15 percent; and "poor," probably more than 15 percent. The records of monthly and yearly mean discharge and runoff are, in general, more nearly accurate than the daily records.

Figures of cubic feet per second per square mile and runoff in inches are published only for stations in southeastern Alaska; they are not published for stations in the rest of the Territory, because the annual precipitation is generally less than 20 inches. Runoff varies widely in Alaska due to great differences in precipitation not only between sections of the Territory, but also at different elevations in the same areas. Generally speaking, annual precipitation is much greater in southeastern Alaska and along the coast to Seward than in the rest of the Territory. Even in southeastern Alaska annual precipitation may range from about 25 inches in the vicinity of Skagway in the northern part to about 150 inches near Ketchikan in the southern part, and may be as high as 180 inches at the southern tip of Baranof Island, all measured at or near sea level. However, precipitation increases with altitude, reaching a maximum at about 4,000 feet elevation. Consequently, runoff in inches as measured at low elevations on streams draining mountainous areas often totals nearly twice the precipitation measured at or near sea level in the same drainage basin. At nearly every gaging station in southeastern Alaska the measured

annual runoff in inches exceeds the annual precipitation as measured at the nearest Weather Bureau station.

PUBLICATIONS

A compilation of records of streamflow in Alaska through September 1950 has been published as WSP 1372. Records prior to 1946 were published in Geological Survey bulletins or water-supply papers or in reports of other agencies. Summary tables in WSP 1372 indicate the reports in which this data was originally published. In some cases the earlier reports contain more detailed information than is published in WSP 1372. That report contains a summary of monthly and annual discharges through September 1946 for all previously published records as well as records of daily and monthly discharge for the years 1946-50, which had not been published previously. All records prior to 1946 were reexamined and revised where warranted. Estimates of discharge were made to fill short gaps whenever practical.

Daily discharge records for water years 1951-53 have been published in WSP 1466.

The reports referred to above contain, in addition to records of daily discharge at gaging stations, the results of discharge measurements at many points other than regular gaging stations.

Geological Survey reports containing data on quality of surface waters in Alaska prior to 1948 include the following:

Professional Paper 135, Composition of river and lake waters of the United States, 1924.

Bulletin 770, The data of geochemistry, 1924.

Water-Supply Paper 372, A water-power reconnaisance in south-central Alaska, 1915.

Water-Supply Paper 418, Mineral springs of Alaska, 1917.

Records of chemical quality obtained from 1948 to September 1950 are presented in Water-Supply Paper 1372.

Records of chemical quality obtained from October 1950 to September 1953 are presented in Water-Supply Paper 1466.

SOUTHEASTERN ALASKA

Winstanley Creek near Ketchikan

Location.--Lat 55°25', long 130°52', 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.--13 sq mi, approximately.

Records available.--August 1936 to September 1938 (monthly discharge only, published in WSP 1372), August 1947 to September 1956.

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

Average discharge.--11 years, 152 cfs (110,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 1,900 cfs Feb. 7 or 8 (gage height, 5.1 ft); minimum, 14 cfs Jan. 27 (gage height, 0.83 ft).
1954-55: Maximum discharge during water year, 909 cfs Dec. 20 (gage height, 3.64 ft); minimum, 27 cfs Mar. 25 (gage height, 1.09 ft).
1955-56: Maximum discharge during water year, 1,660 cfs May 16 (gage height, 4.75 ft); minimum, 6.0 cfs Jan. 12 (gage height, 0.58 ft).
1936-38, 1947-56: Maximum discharge, that of Feb. 7 or 8, 1954; minimum, that of Jan. 12, 1956.
Flood sometime during period October 1938 to July 1947 reached a stage of 4.85 ft, from high-water mark in gage well (discharge, about 1,800 cfs).

Remarks.--Records good except those for periods of no gage-height record, which are poor. Upper and Lower Winstanley Lakes above gage have areas of 465 and 175 acres, respectively.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		288	112					31	227	194	97	34
2		238	117					30	214	171	91	35
3		411	148					34	217	148	91	35
4		424	135					51	244	133	117	33
5		319	124		a850			89	238	124	124	32
6	a240	248	117	a100				106	220	117	121	31
7		191	104				a35	124	*217	124	126	35
8		194	102			a35		163	204	142	117	37
9		182	*126					220	204	138	104	38
10		171	121		*323			259	207	130	91	37
11		158	155		207			259	201	*126	82	35
12	*274	145	158		145			270	201	126	73	34
13	281	135	142		106			252	234	121	66	40
14	501	166	140		82		*82	224	234	112	59	87
15	526	182	124	a55	65		78	201	255	108	58	99
16	465	188			54		78	188	220	117	62	87
17	364	166			48		70	182	224	177	65	72
18	288	142	a130		42		65	207	220	207	*73	60
19	274	160			39		55	360	210	201	77	52
20	308	138			36		50	428	220	182	70	56
21	335	124					56	364	259	168	63	95
22	308	160					66	312	281	274	57	182
23	352	204					63	285	308	424	51	220
24	312	194				a21	58	308	277	319	46	384
25	352	220			a45		52	327	227	234	42	483
26	469	220	a250	a25			46	288	194	185	39	516
27	531	188					42	234	180	160	37	394
28	798	168					39	204	171	140	35	266
29	531	142			-		35	198	180	119	33	182
30	360	128			------		34	201	188	106	32	133
31	323	-----			-----		-----	220	------	102	30	------
Total	10,592	5,994	5,325	1,825	9,157	861	1,424	6,619	6,676	5,129	2,229	3,804
Mean	342	200	172	58.9	327	27.8	47.5	214	223	165	71.9	127
Cfsm	26.3	15.4	13.2	4.53	25.2	2.14	3.65	16.5	17.2	12.7	5.53	9.77
In.	30.30	17.15	15.23	5.22	26.20	2.46	4.07	18.94	19.10	14.67	6.38	10.88
Ac-ft	21,010	11,890	10,560	3,620	18,160	1,710	2,820	13,130	13,240	10,170	4,420	7,550

Calendar year 1953: Max 798 Min 18 Mean 167 Cfsm 12.8 In. 174.40 Ac-ft 120,900
Water year 1953-54: Max - Min - Mean 163 Cfsm 12.5 In. 170.60 Ac-ft 118,300

Peak discharge (base, 650 cfs).--Oct. 28 (9 a.m.) 861 cfs (3.56 ft); Feb. 1 or 2 (time unknown) 1,800 cfs (4.95 ft); Feb. 7 or 8 (time unknown) 1,900 cfs (5.1 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis or recorded range in stage, weather records, and records for stations on nearby streams.

Winstanley Creek near Ketchikan--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	99	185	160	84					158	241	135	124
2	77	168	135	67					277	198	133	210
3	62	150	270	60			a140		288	182	133	227
4	51	214	339	54	a210				300	194	133	442
5	45	262	244	49				a80	292	238	145	394
6	39	343	174	132					241	244	351	259
7	36	312	130	234	*150				191	220	656	180
8	35	220	*114	201	124		a330	*106	185	204	536	135
9	80	185	99	150	97			112	255	204	398	102
10	360	163	97	117	82	a50		133	402	204	315	82
11	516	140	112	95	75			135	394	210	281	69
12	460	128	119	97	82			121	300	248	262	59
13	339	133	121	86	89		a110	108	*230	244	217	55
14	281	135	128	78	93			108	194	198	312	59
15	248	130	126	69	108			130	191	171	389	59
16	394	110	196	62	99			210	234	152	531	56
17	483	95	335	55	82			411	274	150	677	52
18	415	117	308	48				424	327	160	608	193
19	372	150	482	42		*39		368	277	246	389	398
20	335	241	867	39		37		339	248	385	262	281
21	415	368	849	38		36		262	259	327	185	191
22	451	339	611	78		35		204	292	323	138	135
23	343	323	364	.106	a70		a70	171	335	304	110	102
24	252	381	234					174	343	241	89	99
25	*230	603	168					191	315	194	77	255
26	460	635	130			a60		188	281	163	119	327
27	492	526	191	a210				180	266	148	140	244
28	331	429	241					163	292	148	121	180
29	234	296	182		-			148	308	158	102	188
30	194	217	140		------			138	304	158	87	227
31	198	-----	106		-----		-----	130	------	145	*78	------
Total	8,327	7,698	7,772	3,721	3,111	1,587	3,950	5,214	8,253	6,602	8,109	5,384
Mean	269	257	251	120	111	51.2	132	168	275	213	262	179
Cfsm	20.7	19.8	19.3	9.23	8.54	3.94	10.2	12.9	21.2	16.4	20.2	13.8
In.	23.82	22.02	22.23	10.64	8.90	4.54	11.30	14.92	23.61	18.89	23.20	15.40
Ac-ft	16,520	15,270	15,420	7,380	6,170	3,150	7,830	10,340	16,370	13,090	16,080	10,680

Calendar year 1954: Max - Min - Mean 169 Cfsm 13.0 In. 175.99 Ac-ft 122,000
Water year 1954-55: Max 867 Min - Mean 191 Cfsm 14.7 In. 199.47 Ac-ft 138,300

Peak discharge (base, 650 cfs).--Nov. 25 (11 p.m.) 726 cfs (3.32 ft); Dec. 20 (4 p.m.) 909 cfs (3.64 ft); Apr. 6 (time unknown) 798 cfs (3.45 ft); Aug. 7 (4 a.m.) 693 cfs (3.26 ft); Aug. 17 (10 p.m.) 704 cfs (3.28 ft). * Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for stations on nearby streams.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	210	88	31	9.3	9.3	12	36	124	188	128	48	566
2	177	75	29	9.0	9.0	12	49	110	188	112	56	364
3	174	62	28	8.8	10	14	58	99	180	102	65	244
4	241	54	26	8.5	20	14	52	97	163	93	72	171
5	255	47	25	7.8	36	*13	48	112	150	86	106	142
6	587	47	25	7.5	49	13	45	142	135	86	407	135
7	577	330	26	7.2	58	14	45	163	138	95	704	119
8	394	*814	37	7.2	106	14	50	168	140	95	483	99
9	315	*1,080	51	7.0	171	13	52	220	148	88	315	85
10	300	704	54	6.8	174	12	48	259	*145	80	214	72
11	308	368	50	6.5	136	12	46	204	135	74	158	63
12	381	214	45	6.8	93	13	47	155	126	67	119	54
13	661	148	40	6.8	72	14	52	174	117	62	91	49
14	582	104	35	7.0	58	15	138	379	110	59	78	45
15	402	80	32	6.8	49	27	158	1,160	112	55	66	40
16	460	66	29	6.8	46	34	130	1,490	124	54	58	36
17	376	55	26	7.2	39	35	155	855	150	51	53	33
18	285	46	25	11	35	43	281	526	204	51	48	31
19	204	40	22	14	31	41	248	424	252	52	52	31
20	415	36	20	16	27	38	188	406	248	53	145	38
21	608	33	19	16	24	35	201	364	248	61	465	54
22	372	30	18	16	21	33	*312	331	285	128	624	181
23	474	28	16	*15	20	33	315	300	292	163	428	281
24	592	25	15	15	18	31	288	262	230	148	428	238
25	411	23	13	14	16	29	255	248	182	126	360	185
26	312	20	12	13	15	28	220	331	150	104	262	152
27	220	20	12	12	14	28	194	296	155	86	224	128
28	171	21	11	11	12	29	182	227	201	74	204	126
29	155	25	11	11	12	33	160	188	182	65	198	126
30	135	30	10	10	------	34	140	177	150	56	*217	138
31	112	-----	9.6	9.6	-----	36	-----	182	------	50	551	------
Total	10,866	4,713	802.6	310.6	1,377.3	752	4,193	10,173	5,228	2,604	7,299	4,026
Mean	351	157	25.9	10.0	47.5	24.3	140	328	174	84.0	235	134
Cfsm	27.0	12.1	1.99	0.769	3.65	1.87	10.8	25.2	13.4	6.46	18.1	10.3
In.	31.09	13.48	2.30	0.89	3.94	2.15	12.00	29.10	14.96	7.45	20.88	11.52
Ac-ft	21,550	9,350	1,590	616	2,730	1,490	8,320	20,180	10,370	5,160	14,480	7,990

Calendar year 1955: Max 1,080 Min 9.6 Mean 171 Cfsm 13.2 In. 178.27 Ac-ft 123,600
Water year 1955-56: Max 1,490 Min 6.5 Mean 143 Cfsm 11.0 In. 149.76 Ac-ft 103,800

Peak discharge (base, 650 cfs).--Oct. 6 (7 p.m.) 737 cfs (3.34 ft); Oct. 13 (5:30 p.m.) 803 cfs (3.46 ft); Oct. 21 (2:30 a.m.) 699 cfs (3.27 ft); Oct. 24 (2 a.m.) 661 cfs (3.20 ft); Nov. 9 (2 p.m.) 1,160 cfs (4.03 ft); May 16 (5 a.m.) 1,660 cfs (4.75 ft); Aug. 7 (6:30 a.m.) 764 cfs (3.39 ft); Aug. 22 (5 a.m.) 666 cfs (3.21 ft); Aug. 31 (10 p.m.) 666 cfs (3.21 ft).

* Discharge measurement made on this day.

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.--95 sq mi, approximately.

Records available.--August 1951 to September 1956.

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

Average discharge.--5 years, 704 cfs (509,700 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 4,520 cfs Sept. 25 (gage height, 10.05 ft); minimum not determined.
1954-55: Maximum discharge during water year, 5,680 cfs Aug. 6 (gage height, 10.95 ft); minimum not determined.
1955-56: Maximum discharge during water year, 4,750 cfs Aug. 31 (gage height, 10.21 ft); minimum not determined.
1951-56: Maximum discharge, 9,820 cfs Oct. 2, 1952 (gage height, 13.84 ft), from rating curve extended above 4,500 cfs; minimum not determined.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Fall Lake, at elevation 182 ft, has an area of 170 acres.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	361	514	183	238	b600				1,180	1,500	1,120	646
2	498	385	180	204	b2,000				1,120	1,180	966	575
3	724	966	168	178	1,710			150	1,370	980	910	476
4	1,390	610	155	186	1,260				*1,920	994	1,080	435
5	1,930	430	*155	231	1,660				1,940	1,000	1,040	400
6	1,640	321	158	261	2,210				1,700	910	910	460
7	1,240	265	145	201	1,890				1,660	1,020	896	952
8	1,750	242	148	145	1,580	130		250	1,390	1,470	889	724
9	1,100	261	170	128	724				1,580	1,480	1,060	604
10	750	385	189	128	481				1,590	*889	1,140	450
11	1,350	672	257	124	445		(*)		1,310	1,000	1,030	440
12	931	757	224	124					1,430	1,160	896	445
13	875	757	186	122				400	1,480	1,080	770	481
14	1,860	750	172						1,160	1,170	*757	486
15	1,670	530	155						910	1,310	791	450
16	1,180	450	150		270		90		1,060	1,530	679	405
17	826	338	238	b100				700	980	1,810	750	334
18	738	309	285						1,040	1,600	854	301
19	1,440	400	234					1,300	868	1,130	686	293
20	2,990	361	198					1,110	1,040	1,100	724	1,040
21	1,880	343	183					1,060	1,350	1,380	819	1,820
22	1,930	348	525					1,010	1,250	2,490	610	2,470
23	2,550	375	987	b65				1,160	1,590	2,070	525	1,330
24	945	356	646			90		1,360	1,310	1,340	580	2,690
25	1,100	450	400		170			1,660	1,020	1,100	653	2,960
26	2,250	420	375					1,120	1,220	938	640	1,800
27	1,800	356	486					854	1,350	1,060	640	973
28	2,280	325	770	b50				833	1,360	1,060	653	910
29	798	253	410		-			931	1,360	1,030	660	410
30	598	217	348		------			1,110	1,390	987	586	325
31	757	-----	301	b100	------		------	1,270	------	1,040	547	------
Total	42,131	13,146	9,181	3,645	18,350	3,390	2,700	20,878	39,928	38,808	24,861	26,085
Mean	1,359	438	296	118	655	109	90	673	1,331	1,252	802	870
Cfsm	14.3	4.61	3.12	1.24	6.89	1.15	0.947	7.08	14.0	13.2	8.44	9.16
In.	16.49	5.15	3.59	1.43	7.18	1.33	1.06	8.17	15.63	15.19	9.73	10.21
Ac-ft	83,570	26,070	18,210	7,230	36,400	6,720	5,360	41,410	79,200	76,970	49,310	51,740

Calendar year 1953: Max 3,440 Min - Mean 719 Cfsm 7.57 In. 102.80 Ac-ft 521,800
Water year 1953-54: Max 2,990 Min - Mean 666 Cfsm 7.01 In. 95.16 Ac-ft 482,200

Peak discharge (base, 3,500 cfs).--Oct. 23 (7:30 a.m.) 3,820 cfs (9.44 ft); Oct. 27 (3 a.m.) 4,200 cfs (9.77 ft); Sept. 25 (1 p.m.) 4,520 cfs (10.05 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Feb. 12 to May 19 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 1 discharge measurement, weather records, and records for stations on nearby streams.

Harding River near Wrangell--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	281	966	293		281		220	265	712	959	1,140	1,580
2	253	724	281		238		183	321	1,060	791	1,230	2,230
3	207	598	455		224		160	343	938	931	1,060	2,330
4	180	1,070	*317		*486		162	305	1,230	1,610	1,120	2,960
5	168	1,540	245		400		528	*293	1,000	1,990	1,760	*1,240
6	158	1,340	198		301		738	380	718	1,650	3,900	770
7	150	750	195	240	269		445	361	616	1,490	3,420	628
8	150	514	198		234	140	305	356	1,020	1,550	1,870	604
9	686	791	201		201		265	334	*1,880	1,660	2,240	530
10	2,320	672	207		186		269	361	3,210	1,760	1,950	574
11	1,370	698	220		175		210	361	1,870	1,840	2,310	640
12	994	486	210		170		186	348	1,090	1,970	1,680	640
13	653	542	201		170		183	380	812	1,540	1,760	889
14	653	646	238	168	186		186	486	826	1,130	2,470	1,490
15	1,040	574	234	152	186		183	686	1,030	966	2,400	1,180
16	3,300	476	930	142	180		178	1,440	1,060	966	2,350	705
17	1,400	430	1,220	135	168	(*)	183	2,000	1,110	1,240	3,270	580
18	2,810	805	764	130	162		201	1,230	1,060	1,200	2,070	3,190
19	2,470	731	1,620	120	158		249	1,060	889	1,880	1,580	1,470
20	1,390	1,080	2,250	120	178		269	889	1,040	1,520	1,160	744
21	1,270	1,240	1,300	130		90	281	686	1,510	1,220	889	520
22	931	1,000	764	180			305	592	1,900	1,890	750	410
23	660	679	476	280			257	698	2,200	1,600	679	348
24	481	1,110	356	242			214	910	2,130	1,320	622	1,860
25	536	1,840	285	217	150		189	861	1,560	1,220	616	2,180
26	1,380	1,040	257	269			178	764	1,470	1,460	1,800	1,400
27	896	738	269	465			175	640	1,460	1,700	1,070	931
28	536	610	230	498		250	175	666	1,510	1,590	724	616
29	460	450	210	334	-		189	646	1,540	1,270	712	889
30	*536	380	200	285	------		231	634	1,220	1,000	924	731
31	903	-----	190	289	-----		-----	692	------	1,060	1,000	------
Total	29,222	24,520	15,014	7,276	5,753	4,500	7,497	19,988	39,671	43,973	50,526	34,859
Mean	943	817	484	235	205	145	250	645	1,322	1,418	1,630	1,162
Cfsm	9.93	8.60	5.09	2.47	2.16	1.53	2.63	6.79	13.9	14.9	17.2	12.2
In.	11.44	9.60	5.88	2.85	2.25	1.76	2.93	7.82	15.53	17.21	19.78	13.65
Ac-ft	57,960	48,630	29,780	14,430	11,410	8,930	14,870	39,650	78,690	87,220	100,200	69,140

Calendar year 1954: Max 3,300 Min - Mean 678 Cfsm 7.14 In. 96.85 Ac-ft 490,700
Water year 1954-55: Max 3,900 Min - Mean 775 Cfsm 8.16 In 110.70 Ac-ft 560,900

Peak discharge (base, 3,500 cfs).--Oct. 16 (2 p.m.) 5,170 cfs (10.57 ft); Oct. 18 (8 p.m.) 4,030 cfs (9.62 ft); Aug. 6 (11 p.m.) 5,680 cfs (10.95 ft); Aug. 17 (7 a.m.) 3,860 cfs (9.45 ft); Sept. 4 (4 a.m.) 3,800 cfs (9.40 ft), Sept. 18 (3 p.m.) 4,920 cfs (10.35 ft); Sept. 24 (7 p.m.) 4,090 cfs (9.65 ft). * Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 28 to Jan. 13, Jan. 18-23, Feb. 21 to Apr. 1.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	503	214						508	1,240	994	973	2,370
2	771	183						481	1,300	1,170	1,540	1,140
3	847	160				(*)		476	1,190	1,400	1,400	750
4	819	150						536	1,090	1,430	1,230	569
5	875	*168						686	*1,030	1,200	1,450	1,280
6	2,300	170						840	784	1,280	2,640	1,740
7	1,140	2,280						847	724	1,480	3,130	1,040
8	738	2,780						718	712	1,290	1,940	924
9	660	1,790						1,320	784	1,050	1,230	738
10	564	757					100	980	770	1,070	889	679
11	616	425						586	784	1,160	791	622
12	1,240	330						450	819	931	889	564
13	1,120	280						628	924	1,040	840	640
14	750	250						1,710	980	1,530	868	666
15	604	230						4,260	1,200	1,440	868	610
16	660	210	120	65	60	65		4,160	1,290	1,220	692	465
17	660	190						2,790	1,420	1,340	634	405
18	476	180						1,820	1,960	1,610	833	400
19	370	170		(*)			(*)	1,860	1,830	1,670	1,180	841
20	1,400						400	2,130	1,420	1,970	2,740	1,160
21	1,100							1,680	1,420	2,150	2,150	1,060
22	503							1,420	1,780	2,180	2,610	1,350
23	1,490							1,350	1,580	1,590	2,340	875
24	1,460						952	1,290	1,000	1,780	3,110	610
25	686	120					840	1,580	938	1,160	1,440	460
26	508						724	1,790	903	903	*1,880	366
27	410						686	1,090	994	924	1,770	305
28	356						616	861	959	882	1,530	343
29	325						580	868	896	805	1,850	356
30	297				------		542	1,040	798	819	2,100	514
31	253	-----			-----		-----	1,310	------	833	3,790	------
Total	24,501	12,237	3,720	2,015	1,740	2.015	9,040	42,065	33,519	40,301	51,327	23,842
Mean	790	408	120	65	60	65	301	1,357	1,117	1,300	1,656	795
Cfsm	8.32	4.29	1.26	0.684	0.632	0.684	3.17	14.3	11.8	13.7	17.4	8.37
In.	9.59	4.79	1.46	0.79	0.68	0.79	3.54	16.47	13.12	15.78	20.09	9.33
Ac-ft	48,600	24,270	7,380	4,000	3,450	4,000	17,930	83,430	66,480	79,940	101,800	47,290

Calendar year 1955: Max 3,900 Min - Mean 697 Cfsm 7.34 In. 99.62 Ac-ft 504,800
Water year 1955-56: Max 4,260 Min - Mean 673 Cfsm 7.08 In. 96.43 Ac-ft 488,600

Peak discharge (base, 3,500 cfs).--Oct. 6 (9:30 a.m.) 3,790 cfs (9.39 ft); Nov. 8 (1 a.m.) 4,680 cfs (10.15 ft); May 15 (8 a.m.) 4,640 cfs (10.12 ft); Aug. 7 (2 a.m.) 3,900 cfs (9.49 ft); Aug. 20 (3:30 p.m.) 4,180 cfs (9.73 ft); Aug. 24 (10 a.m.) 4,580 cfs (10.07 ft); Aug. 31 (7 a.m.) 4,750 cfs (10.21 ft). * Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 12-18, Nov. 20 to Apr. 23 (no gage-height record Dec. 23 to Jan. 19, Jan. 31 to Feb. 3, Feb. 14 to Mar. 2; discharge estimated on basis of 3 discharge measurements, weather records, and records for stations on nearby streams).

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 (monthly discharge only, published in WSP 1372), October 1946 to September 1956. Published as "at Thomas Bay, near Petersburg" October 1917 to September 1928.

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

Average discharge.--21 years, 244 cfs (176,600 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 1,120 cfs Sept. 22 (gage height, 6.32 ft); minimum, 11 cfs Mar. 27 (gage height, 1.32 ft), caused by temporary storage behind ice jam upstream.

1954-55: Maximum discharge during water year, 1,360 cfs Aug. 7 (gage height, 6.87 ft); minimum, 25 cfs Mar. 6 (gage height, 1.76 ft).

1955-56: Maximum discharge recorded during water year, 1,280 cfs Aug. 24 (gage height, 6.70 ft); minimum, 11 cfs Mar. 20, 21 (gage height, 1.34 ft), caused by temporary storage behind ice jam upstream.

1917-28, 1946-56: 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; minimum gage height, 0.68 ft Mar. 27, 1948.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Swan Lake, at elevation about 1,500 ft, has an area of 614 acres and a drainage area of 18.9 sq mi.

Revisions.--WSP 1372: Drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	137	190	68	90	a200	50	30	28	362	479	332	210
2	154	154	65	83	405	50	28	30	352	440	326	200
3	176	213	63	77	388	48	28	41	*392	443	316	183
4	312	183	60	72	365	46	25	71	458	405	320	168
5	452	150	58	68	524	45	30	59	521	378	318	155
6	512	123	56	65	524	42	27	68	544	342	328	161
7	422	96	52	63	521	41	27	66	576	380	326	218
8	432	96	51	60	*405	39	27	75	576	395	324	218
9	385	98	50	57	286	38	27	84	582	*365	332	216
10	310	114	52	56	206	37	26	87	562	334	338	190
11	360	150	61	53	158	36	27	91	524	324	338	174
12	310	162	50	53	133	34	36	97	562	336	326	162
13	300	207	48	51	140	34	44	118	530	338	302	164
14	332	237	45	47	164	34	32	151	461	340	292	157
15	282	219	45		157	32	32	168	380	365	324	144
16	262	177	45		137	31	32	178	380	449	292	134
17	225	141	72		112	30	30	190	345	530	300	123
18	195	130	60		a100	30	29	237	372	515	294	112
19	268	127	53		a90	28	30	304	326	430	266	106
20	488	116	49		a75	28	32	320	330	380	256	297
21	565	106	52		65	28	36	320	360	428	280	890
22	728	97	111		62	28	33	314	378	527	*250	985
23	787	96	114	a40	65	29	32	328	485	500	216	728
24	446	91	123		61	28	30	352	440	428	200	900
25	a600	96	127		59	28	29	398	398	352	202	832
26	a800	90	123		56	28	28	362	400	312	213	769
27	a600	86	157		53	23	28	310	512	306	218	527
28	470	83	152		52	30	26	284	544	320	224	350
29	322	78	119		-	28	28	290	518	328	226	254
30	298	72	107		------	31	28	310	497	316	226	198
31	264	-----	100		-----	32	-----	348	------	320	220	------
Total	12,194	3,978	2,388	1,575	5,563	1,066	897	6,079	13,667	12,105	8,725	9,925
Mean	393	133	77.0	50.8	199	34.4	29.9	196	456	390	281	331
Cfsm	17.1	5.78	3.35	2.21	8.65	1.50	1.30	8.52	19.8	17.0	12.2	14.4
In.	19.72	6.43	3.86	2.55	9.00	1.72	1.45	9.83	22.10	19.57	14.11	16.05
Ac-ft	24,190	7,890	4,740	3,120	11,030	2,110	1,780	12,060	27,110	24,010	17,310	19,690

Calendar year 1953: Max 1,020 Min 23 Mean 229 Cfsm 9.96 In. 135.19 Ac-ft 165,800
Water year 1953-54: Max 985 Min 23 Mean 214 Cfsm 9.30 In. 126.39 Ac-ft 155,000

Peak discharge (base, 1,100 cfs).--Sept. 22 (1:30 a.m.) 1,120 cfs (6.32 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for Dorothy Creek near Juneau.

Cascade Creek near Petersburg, Alaska--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	158	228	120	69	59	b30	41	44	196	398	422	432
2	137	224	119	65	57	b29	38	51	219	355	420	926
3	120	201	*159	62	*57	b28	37	48	218	400	385	1,030
4	105	224	125	62	65	a27	42	*46	258	506	380	872
5	94	274	110	62	56	a26	105	49	226	632	515	540
6	85	290	96	125	54	b35	75	53	202	687	944	370
7	81	238	86	86	50	b65	57	53	176	667	1,200	280
8	81	186	81	82	48	46	53	52	*226	647	872	230
9	140	276	79	78	47	42	55	53	334	639	900	192
10	390	232	78	74	46	39	53	55	715	655	854	178
11	355	226	77	69	47	36	52	58	691	774	782	183
12	314	186	75	65	47	34	51	55	512	886	647	196
13	244	188	71	64	51	34	52	60	390	733	715	242
14	262	189	70	65	47	33	52	68	342	576	691	334
15	280	219	68	65	44	32	49	84	358	464	805	390
16	632	176	204	61	41	*30	48	174	334	412	836	326
17	485	148	254	58	39	32	49	306	370	425	854	266
18	512	180	237	55	37	32	52	276	385	467	604	726
19	604	177	380	52	37	30	54	258	360	724	476	639
20	479	208	494	48	47	30	50	238	375	586	380	408
21	388	250	375	47	48	30	52	198	449	512	310	284
22	*302	242	268	79	42	29	50	174	572	540	264	218
23	237	220	195	60	39	28	45	189	699	524	226	183
24	190	268	150	60	37	28	42	219	738	503	204	584
25	177	348	125	62	36	28	41	225	655	491	218	854
26	234	298	112	63	b34	58	39	208	600	534	430	728
27	208	282	102	85	b32	50	38	210	565	562	422	506
28	174	206	92	65	b31	41	38	192	548	548	*340	355
29	170	161	83	61	-	39	41	202	530	488	302	392
30	172	140	76	65	------	42	43	158	476	430	296	288
31	189	------	73	63	------	45	------	161	------	420	316	------
Total	7,999	6,685	4,634	2,077	1,275	1,108	1,494	4,217	12,719	17,185	17,010	13,152
Mean	258	223	149	67.0	45.5	35.7	49.8	136	424	554	549	438
Cfsm	11.2	9.70	6.48	2.91	1.98	1.55	2.17	5.91	18.4	24.1	23.9	19.0
In.	12.93	10.81	7.49	3.36	2.06	1.79	2.42	6.82	20.57	27.79	27.50	21.27
Ac-ft	15,870	13,260	9,190	4,120	2,530	2,200	2,960	8,360	25,230	34,090	33,740	26,090

Calendar year 1954: Max 985 Min 23 Mean 216 Cfsm 9.39 In. 127.61 Ac-ft 156,500
Water year 1954-55: Max 1,200 Min 26 Mean 245 Cfsm 10.7 In. 144.81 Ac-ft 177,600

Peak discharge (base, 1,100 cfs).--Aug. 7 (8 a.m.) 1,360 cfs (6.87 ft); Sept. 3 (10 p.m.) 1,160 cfs (6.45 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for stations on nearby streams.

b Stage-discharge relation affected by ice.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	226	88			18	16	14	53	445	370	421	651
2	254	79			20	*16	20	53	475	410	662	478
3	240	75			22	16	16	57	451	460	953	352
4	222	*69			25	16	14	60	*424	508	777	293
5	216	65			30	16	14	70	395	502	707	309
6	375	65			24	16	13	78	342	517	921	309
7	322	380			25	16	14	76	313	682	869	293
8	248				33	16	14	83	299	644	881	390
9	220			25	24	15	14	206	289	529	634	338
10	183				21	15	14	183	289	454	484	297
11	171	300			20	15	16	168	299	424	395	269
12	224					14	17	154	311	392	358	247
13	201					14	30	190	330	395	332	251
14	178					15	55	316	352	472	315	261
15	183					18	26	675	388	535	313	255
16	190		40			16	20	940	463	529	305	218
17	162					18	41	829	517	559	299	195
18	140			*23		19	33	665	602	609	360	188
19	125			22		15	23	580	644	644	511	287
20	354			22		15	26	637	623	809	721	412
21	304			21	18	15	52	568	574	877	738	481
22	222			21		15	76	532	620	981	809	463
23	324	60		21		15	67	529	589	945	1,050	350
24	320			21		15	72	469	451	784	1,100	287
25	240			21		15	68	520	388	589	*802	231
26	190			21		14	64	535	355	454	993	183
27	155			19		14	60	415	370	385	849	174
28	133			18		14	55	358	390	350	763	179
29	127			17		16	56	320	362	330	738	158
30	113			17	------	17	52	390	345	325	724	231
31	99	------		18	------	16	------	442	------	328	724	------
Total	6,661	4,121	1,240	707	586	483	1,056	11,151	12,695	16,792	20,508	9,030
Mean	215	137	40	22.8	20.2	15.6	35.2	360	423	542	662	301
Cfsm	9.35	5.96	1.74	0.991	0.878	0.678	1.53	15.7	18.4	23.6	28.8	13.1
In.	10.77	6.66	2.01	1.14	0.95	0.78	1.71	18.03	20.53	27.15	33.16	14.60
Ac-ft	13,210	8,170	2,460	1,400	1,160	958	2,090	22,120	25,180	33,310	40,680	17,910

Calendar year 1955: Max 1,200 Min - Mean 225 Cfsm 9.78 In. 133.02 Ac-ft 163,200
Water year 1955-56: Max 1,100 Min 13 Mean 232 Cfsm 10.1 In. 137.49 Ac-ft 168,600

Peak discharge (base, 1,100 cfs).--Nov. 8 (time and discharge unknown); July 20 (3:30 p.m.) 1,130 cfs (6.39 ft); Aug. 3 (4 p.m.) 1,180 cfs (6.49 ft); Aug. 24 (4 a.m.) 1,280 cfs (6.70 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Nov. 8 to Jan. 17, Jan. 30 to Feb. 4, Feb. 15 to Mar. 1 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of weather records and records for Sawmill Creek near Sitka. Stage-discharge relation affected by ice Feb 12-14.

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 1956. Monthly discharge only for some periods, published in WSP 1372. Prior to October 1930, 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.--19 years (1915-24, 1927-32, 1951-56), 455 cfs (329,400 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 3,860 cfs Sept. 21 (gage height, 8.87 ft); minimum not determined.

1954-55: Maximum discharge during water year, 2,690 cfs Sept. 2 (gage height, 7.34 ft); minimum, 30 cfs Feb. 11 (gage height, 0.85 ft), caused by temporary storage behind ice jam upstream.

1955-56: Maximum discharge during water year, 2,400 cfs Aug. 24 (gage height, 6.93 ft); minimum not determined.

1915-24, 1927-33, 1951-56: 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.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Revisions.--WSP 1372: Drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	244	335	107	198	250			50	520	817	793	526
2	251	262	96	166	350			55	520	781	785	484
3	253	240	86	136	425			60	565	785	753	439
4	404	216	81	118	498			80	713	749	705	401
5	853	188	80	104	883			110	865	702	666	380
						75						
6	942	162	72	97	849			115	932	674	646	383
7	914	140	65	88	670			120	978	688	649	456
8	773	122	69	78	495			130	1,020	717	705	467
9	793	110	74	76	356			140	1,010	670	769	432
10	624	99	86	75				150	968	635	813	407
11	737	89	112	73				160	924	618	825	374
12	705	89	110	70	230			175	901	624	785	341
13	725	106	103	62				200	901	666	721	344
14	713	150	90	58				298	817	670	694	332
15	558	148	79	55				302	691	677	713	305
						55	50					
16	470	141	74	53				314	628	805	642	280
17	416	122	74	51				335	576	932	582	255
18	341	116	72	49	150			353	512	1,000	548	242
19	410	108	68	48				428	481	919	512	237
20	1,010	103	61	47				488	506	865	516	968
21	1,440	94	69					540	593	1,030	548	3,220
22	2,370	89	166					551	*652	1,520	520	3,060
23	2,410	88	262			(*)		558	709	1,340	481	2,070
24	1,320	110	255					582	694	1,100	456	2,440
25	1,000	119	235		100			604	691	874	467	2,120
26	2,600	145	186	45		50		576	785	753	488	2,430
27	*2,110	177	389					534	906	753	509	*1,570
28	1,130	160	328					488	874	785	530	968
29	713	143	288		-			474	845	749	582	849
30	520	120	255		------			470	829	694	586	478
31	439	-----	231		------		------	516	------	709	558	------
Total	28,188	4,291	4,321	2,197	7,706	1,850	1,500	9,956	22,606	25,301	19,547	27,258
Mean	909	143	139	70.9	275	59.7	50	321	754	816	631	909
Cfsm	28.0	4.40	4.28	2.18	8.46	1.84	1.54	9.88	23.2	25.1	19.4	28.0
In.	32.26	4.91	4.94	2.51	8.82	2.12	1.72	11.39	25.87	28.95	22.37	31.19
Ac-ft	55,910	8,510	8,570	4,360	15,280	3,670	2,980	19,750	44,840	50,180	38,770	54,070

Calendar year 1953: Max 2,850 Min - Mean 486 Cfsm 15.0 In. 202.92 Ac-ft 351,800
Water year 1953-54: Max 3,220 Min - Mean 424 Cfsm 13.0 In. 177.05 Ac-ft 306,900

Peak discharge (base, 2,000 cfs).--Oct. 22 (11 p.m.) 3,440 (8.35 ft); Oct. 26 (9 p.m.) 3,300 cfs (8.17 ft); Sept. 21 (7:30 p.m.) 3,860 cfs (8.87 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Jan. 14-17, 21-25, Jan. 30 to Feb. 2, Feb. 10 to May 13 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 1 discharge measurement, weather records, recorded range in stage, and records for nearby streams. Stage-discharge relation affected by ice Jan. 26-29.

SOUTHEASTERN ALASKA

Long River near Juneau--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	377	745	235					70	344	785	853	1,100
2	305	635	218					81	368	745	817	2,340
3	246	*495	227					104	374	896	749	2,250
4	212	526	196					100	512	1,040	765	1,800
5	184	721	169					100	509	1,150	1,020	1,240
				100								
6	159	761	150				70	125	439	1,240	1,380	849
7	141	624	135					133	395	1,230	1,790	646
8	133	464	128					133	425	1,180	1,630	526
9	206	356	128					125	540	1,130	1,930	442
10	295	295	127					132	825	1,160	2,130	404
11	534	255	138	*92				125	888	1,380	1,810	425
12	600	214	141	92			69	184	777	1,500	1,420	470
13	474	192	138	96			*65	184	649	1,370	1,760	478
14	467	173	135	100			66	190	565	1,220	1,690	506
15	694	164	146	101			65	210	526	955	1,550	565
					55	60						
16	1,070	153	506	93			65	347	495	781	1,320	548
17	964	143	1,020	83			65	551	470	725	1,170	520
18	883	188	1,100	76			65	624	478	745	*924	849
19	896	285	1,160	72			64	568	484	817	793	829
20	761	453	1,330	68			64	520	540	821	757	646
21	614	906	1,050	64			67	439	649	857	663	495
22	523	883	702	75			70	395	777	1,040	590	389
23	439	638	498	85			65	380	*892	1,080	540	341
24	374	582	353	90			64	380	1,040	1,060	520	1,310
25	359	805	268	85			64	436	1,140	1,050	621	1,570
26	422	781	229	84			64	436	1,060	1,180	1,130	1,270
27	453	576	194	82			64	404	964	1,150	1,080	924
28	383	416	160	83			64	383	996	1,110	1,230	663
29	338	377	140	76	-		65	356	1,040	1,000	1,120	537
30	368	302	120	74	------		68	332	942	865	896	425
31	572	-----	110	78	-----		-----	323	------	849	845	------
Total	14,446	14,108	11,351	2,749	1,540	1,860	2,013	8,870	20,103	32,111	35,493	25,357
Mean	466	470	366	88.7	55	60	67.1	286	670	1,036	1,145	845
Cfsm	14.3	14.5	11.3	2.73	1.69	1.85	2.06	8.80	20.6	31.9	35.2	26.0
In.	16.53	16.14	12.99	3.15	1.76	2.13	2.30	10.15	23.00	36.74	40.61	29.02
Ac-ft	28,650	27,980	22,510	5,450	3,050	3,690	3,990	17,590	39,870	63,690	70,400	50,290

Calendar year 1954: Max 3,220 Min - Mean 432 Cfsm 13.3 In. 180.60 Ac-ft 313,000
Water year 1954-55: Max 2,340 Min - Mean 466 Cfsm 14.3 In. 194.52 Ac-ft 337,200

Peak discharge (base, 2,000 cfs).--July 10 (4 a.m.) 2,180 cfs (6.60 ft); Sept. 2 (9 p.m.) 2,690 cfs (7.34 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 29 to Jan. 10, Jan. 17-20, 22-25, Feb. 1 to Apr. 11 (no gage-height record Jan. 2-10, Apr. 1-5; discharge estimated on basis of weather records and records for nearby streams).

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	336	116							555	636	1,050	1,080
2	285	103							569	684	1,570	814
3	266	92						115	558	754	1,890	650
4	300	83							538	830	1,650	530
5	424	80						146	502	826	1,310	569
6	734	80						173	485	842	1,530	650
7	790	341						190	488	953	1,500	590
8	622	1,130						227	485	971	1,490	538
9	457	1,000						356	492	850	1,160	502
10	356	650						345	478	750	912	478
11	320	440						297	468	738	770	*454
12	395	318						269	485	698	726	437
13	359	251						276	499	758	712	478
14	307	208						402	516	948	730	530
15	290	179						899	552	1,070	770	538
			55	30	30	40	70					
16	325	159						984	632	1,120	758	485
17	342	141						810	667	1,100	734	485
18	292	122						716	730	1,170	754	858
19	273	110						695	774	1,280	953	1,600
20	374	99						726	782	1,460	1,740	1,800
21	312							746	730	1,630	1,820	1,420
22	257							810	778	1,900	1,590	1,100
23	278							782	710	2,000	1,690	762
24	348							667	650	1,670	2,250	558
25	300							702	620	1,240	1,860	417
		65										
26	*257							674	*597	930	2,070	328
27	222							636	597	822	1,680	295
28	192							568	608	778	1,620	318
29	169							478	597	754	1,660	295
30	150				------			552	590	738	1,530	468
31	132	-----			-----		-----	583	------	746	1,450	------
Total	10,464	6,352	1,705	930	870	1,240	2,100	15,169	17,732	31,646	41,929	20,027
Mean	338	212	55	30	30	40	70	489	591	1,021	1,353	668
Cfsm	10.4	6.52	1.69	0.923	0.923	1.23	2.15	15.0	18.2	31.4	41.6	20.6
In.	11.97	7.27	1.95	1.06	1.00	1.42	2.40	17.36	20.29	36.21	47.98	22.92
Ac-ft	20,760	12,600	3,380	1,840	1,730	2,460	4,170	30,090	35,170	62,770	83,160	39,720

Calendar year 1955: Max 2,340 Min - Mean 407 Cfsm 12.5 In. 170.05 Ac-ft 294,800
Water year 1955-56: Max 2,250 Min - Mean 410 Cfsm 12.6 In. 171.83 Ac-ft 297,800

Peak discharge (base, 2,000 cfs).--July 23 (time unknown) about 2,200 cfs; Aug. 20 (10 p.m.) 2,040 cfs (6.38 ft); Aug. 24 (8 a.m.) 2,400 cfs (6.93 ft); Sept. 19 (time unknown) about 2,100 cfs.

* Discharge measurement made on this day.

Note.--No gage-height record Nov. 28 to May 4 (stage-discharge relation affected by ice during most of period), June 23-25, July 22, 23, Sept. 19, 20; discharge estimated on basis of recorded range in stage, weather records, and records for nearby streams. Stage-discharge relation affected by ice Nov. 21-27.

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 1956. Monthly discharge only prior to October 1945, published in WSP 1372. Prior to October 1930, published as "at Taku Inlet."

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.--25 years (1929-41, 1942-43, 1944-56), 144 cfs (104,300 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 649 cfs Sept. 24 (gage height, 4.14 ft); minimum, 15 cfs Apr. 8-11.
1954-55: Maximum discharge during water year, 575 cfs Aug. 10 (gage height, 4.00 ft); minimum daily, 16 cfs Mar. 3, 4.
1955-56: Maximum discharge during water year, 827 cfs Aug. 26 (gage height, 4.46 ft); minimum observed, 8.3 cfs Jan. 30 (discharge measurement).
1929-41, 1942-56: 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.--Records good except those for periods of ice effect or no gage-height record, which are fair. Dorothy Lake (area, 952 acres) lies at an altitude of 2,423 ft, less than 4 miles from 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.

Revisions.--WSP 1372: Drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	164	209	33	43			18	16	128	230	233	164
2	157	195	32	40			17	16	130	233	233	162
3	150	182	30	37	85		17	17	132	233	233	157
4	155	*167	28	35			16	19	141	230	230	152
5	162	160	28	34			16	19	150	227	224	148
6	180	150	27	33		32	16	20	162	220	217	143
7	201	138	25	32			16	22	174	214	214	143
8	209	128	25	30	95		15	23	181	210	207	143
9	224	117	25	29			15	26	207	207	207	141
10	224	108	24	28			15	30	217	201	210	141
11	230	98	25	27			15	35	227	195	214	137
12	230	92	25	*27			16	40	237	189	214	134
13	224	87	24	26			16	44	247	189	214	130
14	218	85	24	25			16	47	247	186	214	128
15	207	82	24	25	60	25	16	49	240	186	214	124
16	198	78	24	24			16	53	233	192	214	119
17	187	72	24	23			16	57	227	207	207	115
18	174	68	23	22			17	63	214	224	201	109
19	174	62	23	21			17	*72	201	*233	198	106
20	182	60	23	22			18	81	192	250	189	130
21	187	54	23	23			18	89	186	268	186	207
22	255	49	31	22			18	94	189	323	180	424
23	378	46	36	20		21	18	101	198	354	174	601
24	390	44	36	19			17	109	201	358	170	632
25	342	43	36	19	40		17	117	201	334	164	591
26	382	43	38	18		*20	17	120	204	304	162	585
27	407	44	47	17		19	17	124	207	282	160	491
28	354	41	49	16		19	17	124	214	264	160	420
29	294	38	45	16	-	18	17	124	220	254	160	310
30	255	36	45	16	------	18	16	124	227	244	162	250
31	230	------	44	30	------	18	------	126	------	237	164	------
Total	7,324	2,776	946	799	1,820	787	496	2,001	5,934	7,478	6,129	7,237
Mean	236	92.5	30.5	25.8	65.0	25.4	16.5	64.5	198	241	198	241
Cfsm	15.5	6.09	2.01	1.70	4.28	1.67	1.09	4.24	13.0	15.9	13.0	15.9
In.	17.92	6.79	2.31	1.95	4.45	1.93	1.21	4.90	14.52	18.30	15.00	17.71
Ac-ft	14,530	5,510	1,880	1,580	3,610	1,560	984	3,970	11,770	14,830	12,160	14,350

Calendar year 1953: Max 833 Min 15 Mean 146 Cfsm 9.61 In. 130.45 Ac-ft 105,800
Water year 1953-54: Max 632 Min 15 Mean 120 Cfsm 7.89 In. 106.99 Ac-ft 86,730

Peak discharge (base, 400 cfs).--Oct. 27 (3 a.m.) 415 cfs (3.66 ft); Sept. 24 (4 a.m.) 649 cfs (4.14 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Jan. 27 to Mar. 25, Sept. 28-30; discharge estimated on basis of recorded range in stage, weather records, and records for Cascade Creek near Petersburg.

Dorothy Creek near Juneau--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	200	120	88	52	20	18	21	21	96	286	275	297
2	160	120	83	48	20	17	21	22	96	272	261	415
3	140	122	81	44	19	16	20	22	96	279	247	511
4	130	124	75	42	19	*16	20	22	97	297	*244	535
5	120	139	70	39	19	17	21	22	94	315	250	446
6	110	145	63	39	18	18	21	23	92	338	297	368
7	100	148	58	39	18	20	21	23	92	350	382	307
8	100	145	53	36	18	19	21	23	99	350	432	261
9	100	*143	50	34	18	19	21	23	106	346	487	230
10	110	137	47	31	18	19	21	24	132	346	550	207
11	120	130	46	30	18	19	21	25	148	390	550	192
12	120	124	45	28	18	19	20	26	162	446	482	183
13	120	117	42	27	19	19	20	27	164	436	487	177
14	110	109	41	26	19	19	20	28	167	403	501	172
15	140	102	39	26	19	18	20	33	167	358	496	177
16	170	94	60	25	19	18	19	62	164	315	441	180
17	160	89	75	24	18	19	19	84	164	286	411	183
18	160	91	83	22	18	19	19	89	164	261	382	189
19	*157	88	94	22	18	19	19	*97	162	275	327	*192
20	160	94	106	21	19	19	19	99	162	289	304	192
21	162	104	106	20	19	19	19	101	164	286	279	192
22	160	102	104	21	19	21	19	101	172	300	250	183
23	154	101	102	21	19	21	21	102	186	311	233	177
24	148	104	99	21	19	21	21	104	207	311	217	186
25	141	109	94	21	18	21	21	106	233	311	210	207
26	141	106	89	20	19	22	21	104	258	319	220	254
27	132	104	83	20	18	22	21	102	272	330	240	272
28	126	102	75	20	18	22	21	101	286	334	268	254
29	113	99	70	20	-	22	21	99	304	330	282	233
30	108	94	64	20	------	21	21	96	304	311	279	210
31	120	-----	58	20	-----	21	-----	94	------	289	268	------
Total	4,192	3,406	2,243	879	521	600	610	1,905	5,010	10,070	10,532	7,580
Mean	135	114	72.4	28.4	18.6	19.4	20.3	61.5	167	325	340	253
Cfsm	8.88	7.50	4.76	1.87	1.22	1.28	1.34	4.05	11.0	21.4	22.4	16.6
In.	10.26	8.33	5.49	2.15	1.27	1.47	1.49	4.66	12.26	24.64	25.77	18.55
Ac-ft	8,310	6,760	4,450	1,740	1,030	1,190	1,210	3,780	9,940	19,970	20,890	15,030

Calendar year 1954: Max 632 Min 15 Mean 116 Cfsm 7.63 In. 104.05 Ac-ft 84,330
Water year 1954-55: Max 550 Min 16 Mean 130 Cfsm 8.55 In. 116.34 Ac-ft 94,300

Peak discharge (base, 400 cfs).--July 12 (9 p.m.) 454 cfs (3.75 ft); Aug. 10 (9 p.m.) 575 cfs (4.00 ft); Sept. 4 (5 a.m.) 560 cfs (3.97 ft). * Discharge measurement made on this day.
Note.--No gage-height record Oct. 1-18, Mar. 2, 3; discharge estimated on basis of recorded range in stage, weather records, and records for nearby streams.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	195	63	24	16			16	30	174	177	258	419
2	177	56	23				16	30	174	174	300	370
3	167	51	23				16	30	172	177	403	315
4	162	45	23				16	30	170	180	472	279
5	152	42	22				16	33	164	183	459	250
6	154	38	22				16	39	164	195	511	240
7	150	47	22				16	42	164	210	525	224
8	145	74	23			13	16	49	162	227	540	210
9	139	81	23	13			16	64	157	237	464	201
10	134	84	24				16	62	154	240	390	192
11	130	84	25				16	62	152	233	338	183
12	130	83	25				16	61	148	227	304	172
13	122	81	24				17	63	145	224	282	167
14	117	77	24			(*)	18	81	145	227	264	164
15	109	72	23				17	99	145	240	258	164
16	106	67	23		10		17	122	148	264	254	162
17	101	63	22				18	126	150	282	250	160
18	94	58	22				18	134	157	311	250	167
19	91	53	22				18	141	167	342	268	227
20	106	48	22				18	152	174	394	370	334
21	96	44	21				21	157	186	454	*459	407
22	92	40	20				23	170	198	540	477	398
23	96	37	20			15	24	177	207	617	501	346
24	99	34	19	9.5			27	180	210	617	720	*289
25	*96	32	19				28	189	207	506	708	240
26	94	30	18				30	198	*201	411	792	210
27	91	28	18				30	192	192	350	698	192
28	86	27	18				30	189	189	311	601	186
29	81	26	17				31	180	183	289	560	172
30	75	25	16	(*)	------		30	180	180	268	496	162
31	70	-----	16		-----	16	-----	177	------	250	477	------
Total	3,657	1,590	663	350.0	290	436	607	3,439	5,139	9,357	13,649	7,202
Mean	118	53.0	21.4	11.3	10	14.1	20.2	111	171	302	440	240
Cfsm	7.76	3.49	1.41	0.743	0.658	0.928	1.33	7.30	11.2	19.9	28.9	15.8
In.	8.95	3.89	1.62	0.86	0.71	1.07	1.49	8.41	12.57	22.89	33.40	17.62
Ac-ft	7,250	3,150	1,320	694	575	865	1,200	6,820	10,190	18,560	27,070	14,280

Calendar year 1955: Max 550 Min 16 Mean 119 Cfsm 7.83 In. 106.72 Ac-ft 86,500
Water year 1955-56: Max 792 Min - Mean 127 Cfsm 8.36 In. 113.48 Ac-ft 91,970

Peak discharge (base, 400 cfs).--July 23 (9 p.m.) 659 cfs (4.16 ft); Aug. 7 (9 p.m.) 570 cfs (3.99 ft); Aug. 26 (12:30 p.m.) 827 cfs (4.46 ft); Sept. 21 (8 p.m.) 428 cfs (3.69 ft).
* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Jan. 2 to Mar. 30.

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 1956.

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

Average discharge.--5 years, 320 cfs (231,700 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 4,280 cfs Oct. 22 (gage height, 9.25 ft), from rating curve extended above 2,000 cfs; minimum not determined.
1954-55: Maximum discharge during water year, 3,030 cfs Sept. 24 (gage height, 7.44 ft); minimum not determined.
1955-56: Maximum discharge during water year, 3,040 cfs Sept. 19 (gage height, 7.45 ft); minimum not determined.
1951-56: Maximum discharge, 4,390 cfs Sept. 14, 1952 (gage height, 9.40 ft), from rating curve extended above 2,000 cfs; minimum not determined.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	158	162	85	92	158			45	501	610	483	172
2	174	145	80	78	661			50	522	522	420	155
3	199	136	77		377			70	717	600	391	145
4	933	134	76		379			90	994	504	343	136
5	690	121	70		868			120	936	472	329	134
6	634	110	64		819			140	882	513	*329	194
7	341	100	60		329			156	904	596	345	279
8	573	96	58		229	40	25	172	900	507	373	184
9	379	93	56		170			226	810	442	375	159
10	335	91	60		122			303	729	425	375	145
11	483	88	74					309	645	438	359	131
12	385	*87	74					299	658	460	305	122
13	749	105	66					297	725	531	291	151
14	468	159	60					295	564	452	323	128
15	337	131	55					307	468	498	307	121
16	353	120	51	40				329	504	721	234	114
17	291	102	48					359	435	645	228	107
18	229	94	46					*363	389	554	218	104
19	666	87	45					480	445	435	213	103
20	1,520	85	45		65			478	522	575	261	1,160
21	1,800	83	48					442	745	1,100	250	2,510
22	3,490	80	507					440	600	1,310	198	1,030
23	846	79	428				35	486	575	749	182	976
24	480	103	272			25 (*)		550	572	653	192	1,100
25	915	122	169					522	614	450	205	1,150
26	2,340	223	221					442	805	438	204	1,480
27	645	198	293					420	781	475	207	492
28	355	147	228					428	649	460	209	317
29	266	110	155		-			425	600	403	243	240
30	218	88	122		-------			452	575	379	199	199
31	188	-------	107		-------		-------	510	-------	519	181	-------
Total	21,440	3,479	3,800	1,330	5,282	1,000	900	10,005	19,766	17,436	8,772	13,438
Mean	692	116	123	42.9	189	32.3	30.0	323	659	562	283	448
Cfsm	28.5	4.77	5.06	1.77	7.78	1.33	1.23	13.3	27.1	23.1	11.6	18.4
In.	32.81	5.32	5.82	2.04	8.08	1.53	1.38	15.31	30.25	26.68	13.43	20.57
Ac-ft	42,530	6,900	7,540	2,640	10,480	1,980	1,790	19,840	39,210	34,580	17,400	26,650

Calendar year 1953: Max 3,490 Min - Mean 326 Cfsm 13.4 In. 181.91 Ac-ft 235,800
Water year 1953-54: Max 3,490 Min - Mean 292 Cfsm 12.0 In. 163.22 Ac-ft 211,500

Peak discharge (base, 2,500 cfs).--Oct. 22 (2 p.m.) 4,280 cfs (9.25 ft); Oct. 26 (2 a.m.) 3,200 cfs (7.70 ft); Sept. 21 (3 a.m.) 3,280 cfs (7.82 ft); Sept. 25 (11 p.m.) 2,990 cfs (7.37 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 6-10, 14-21, Jan. 3-31, Feb. 11 to May 6; discharge estimated on basis of 1 discharge measurement, weather records, and records for nearby streams.

Carlson Creek near Juneau--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	176	669	154	75				76	323	532	560	828
2	151	353	159	72				86	358	647	494	2,080
3	133	339	161	68		27		140	358	965	484	1,420
4	122	554	123	*66		(*)		117	623	1,020	*472	1,030
5	114	685	112	66				105	430	1,130	1,040	528
6	107	638	103	120	55			156	323	1,120	1,360	352
7	100	410	101	156				154	301	980	1,340	279
8	121	281	97	110		60		134	460	940	931	247
9	158	217	91	94				108	738	931	2,120	223
10	289	186	85	86			40	125	1,390	1,030	1,550	227
11	472	168	94	80				149	850	1,160	882	275
12	466	145	100	75				159	542	886	990	301
13	281	132	85	72				167	421	1,070	1,890	293
14	411	126	84	71				187	391	787	1,440	334
15	507	118	84	70				229	412	553	955	309
16	1,110	110	547	67	45			534	430	484	724	251
17	445	104	1,720	63				832	460	525	595	428
18	620	248	1,080					578	504	588	466	1,060
19	*558	285	940				*45	409	542	760	500	*373
20	399	556	1,160	55			50	334	651	659	511	251
21	335	877	510			28	57	287	805	868	400	200
22	379	558	323				57	275	*908	1,150	345	167
23	285	359	241	68			50	303	995	877	343	399
24	317	460	196	67			48	365	1,130	782	397	*1,880
25	303	980	168	64	40		45	578	1,090	782	1,130	707
26	450	547	161				48	430	787	995	1,050	619
27	450	325	140				50	323	778	800	627	385
28	345	236	100				57	319	950	724	926	285
29	325	307	90	70	-		64	281	955	564	578	270
30	383	192	85		-------		69	264	663	539	427	218
31	818	-------	80		-------		-------	264	-------	592	522	-------
Total	11,130	11,165	9,169	2,305	1,320	1,023	1,360	8,468	19,568	25,440	26,049	16,219
Mean	359	372	296	74.4	47.1	33.0	45.3	273	652	821	840	541
Cfsm	14.8	15.3	12.2	3.06	1.94	1.36	1.86	11.2	26.8	33.8	34.6	22.3
In.	17.03	17.09	14.03	3.53	2.02	1.57	2.08	12.96	29.95	38.93	39.87	24.82
Ac-ft	22,080	22,150	18,190	4,570	2,620	2,030	2,700	16,800	38,810	50,460	51,670	32,170

Calendar year 1954: Max 2,510 Min - Mean 300 Cfsm 12.3 In. 167.42 Ac-ft 217,000
Water year 1954-55: Max 2,120 Min - Mean 365 Cfsm 15.0 In. 203.88 Ac-ft 264,200

Peak discharge (base, 2,500 cfs).--Aug. 9 (3 p.m.) 2,670 cfs (6.84 ft); Aug. 13 (4 a.m.) 2,730 cfs (6.94 ft); Sept. 2 (10 p.m.) 2,760 cfs (6.98 ft); Sept. 24 (7 a.m.) 3,030 cfs (7.44 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Jan. 18-22, Jan. 26 to Feb. 20, Feb. 23 to Mar. 6, Mar. 11 to Apr. 19 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 2 discharge measurements, weather records, and records for nearby streams. Stage-discharge relation affected by ice Dec. 28 to Jan. 6, Feb. 21, 22, Mar. 7-10.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Da.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	184	63	38					128	470	571	1,080	473
2	165	62	36					126	592	592	930	358
3	169	50	36					138	564	627	1,320	284
4	247	56	36					160	522	596	606	265
5	412	65	35					200	487	543	536	498
6	980	53						261	466	641	663	427
7	751	652						275	501	695	679	316
8	358	1,780						309	536	560	824	275
9	251	410					19	602	515	430	484	261
10	207	211			(*)			39	494	433	403	234
11	236	146						245	532	448	378	210
12	350	128						196	532	462	362	208
13	247	118						241	498	588	360	241
14	200	110						874	526	723	355	261
15	275	96						1,380	532	703	340	210
16	424	93		21	22	17		1,180	699	644	302	171
17	341	82					36	683	638	613	321	280
18	231	74	28				37	*616	880	711	424	695
19	253	64					25	648	780	667	638	1,470
20	550	54					20	771	638	820	1,460	802
21	285	53				(*)	59	691	571	602	*667	721
22	192	48					90	985	754	940	644	480
23	197	48					99	744	804	1,300	1,140	316
24	260	48					136	703	476	703	1,320	*241
25	*180	47					155	905	494	490	1,280	193
26	137	42					164	663	*473	433	1,550	163
27	117	38					161	557	439	476	825	166
28	99	36					132	494	470	445	1,440	203
29	89	36					126	362	445	412	794	208
30	79	36			-------		132	627	487	391	940	832
31	70	-------			-------		-------	582	-------	522	699	-------
Total	8,536	4,799	911	651	638	527	1,676	16,740	16,815	18,781	23,764	11,462
Mean	275	160	29.4	21	22	17	55.9	540	560	606	767	382
Cfsm	11.3	6.58	1.21	0.864	0.905	0.700	2.30	22.2	23.0	24.9	31.6	15.7
In.	13.06	7.34	1.39	1.00	0.98	0.81	2.57	25.62	25.73	28.74	36.37	17.54
Ac-ft	16,930	9,520	1,810	1,290	1,270	1,050	3,320	33,200	33,350	37,250	47,140	22,730

Calendar year 1955: Max 2,120 Min - Mean 318 Cfsm 13.1 In. 177.52 Ac-ft 230,100
Water year 1955-56: Max 1,780 Min - Mean 288 Cfsm 11.9 In. 161.15 Ac-ft 208,900

Peak discharge (base, 2,500 cfs).--Sept. 19 (9 a.m.) 3,040 cfs (7.45 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 6 to Apr. 16, Apr. 19, 20 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 2 discharge measurements, weather records, and records for nearby streams.

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 1956. 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.--16 years, 46.5 cfs (33,660 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 499 cfs Oct. 22 (gage height, 2.62 ft); minimum not determined.

1954-55: Maximum discharge during water year, 462 cfs Aug. 9 (gage height, 2.60 ft); minimum, 3.0 cfs Mar. 26-30 (gage height, 0.41 ft).

1955-56: Maximum discharge during water year, 324 cfs May 15 (gage height, 2.09 ft); no flow for many days.

1911-13, 1916-20, 1946-56: Maximum discharge, 840 cfs Sept. 8, 1948 (gage height, 3.60 ft), from rating curve extended above 170 cfs; no flow at times at gage site but probably some flow at all times at diversion dam 0.3 mile downstream (records for period 1916-20 based on measurements at diversion dam).

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor.

Revisions.--WSP 1372: Drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	45	17	24	8.6			3.9	68	75	66	16
2	38	38	*16	22	35			4.1	68	51	48	15
3	35	*38	16	18	16			4.6	84	62	43	14
4	75	38	15	16	20			5.0	120	53	39	14
5	64	33	14	16	66			6.6	123	51	36	13
6	60	29	14	16	46			9.4	110	51	35	15
7	45	27	13	*14	31			16	107	62	34	19
8	55	24	13	14	24	5.5		29	104	53	39	16
9	48	22	13	13	20			45	99	46	39	14
10	43	22	12	13	17		2.5	53	84	43	35	14
11	51	21	12	12				51	77	43	33	13
12	45	21	12	11				49	80	45	28	12
13	75	23	12	11				45	77	49	26	14
14	60	27	12	10				42	66	46	31	12
15	49	24	11	9.8		(*)		39	57	46	30	12
16	49	23	11	9.0	11			43	60	64	23	12
17	45	22	11	9.0				43	55	57	23	11
18	39	20	11	8.6				45	48	51	22	11
19	77	19	11	7.8				66	51	41	21	10
20	139	18	10	7.4			*2.6	62	60	55	24	72
21	231	18	11	7.0			2.6	55	75	112	22	161
22	416	16	68	6.6			2.6	62	64	136	19	84
23	216	16	53	6.6			3.0	64	62	97	17	75
24	139	16	38	6.2		3.0	3.2	75	60	102	18	97
25	150	16	30	5.8	7.0		3.2	75	60	75	*18	87
26	280	19	51	5.8			3.5	66	80	66	18	136
27	139	22	46				3.5	72	82	64	18	87
28	99	20	43				3.7	64	72	60	18	64
29	75	19	34	5.2	-		3.7	64	66	48	19	49
30	62	18	29		------		3.7	64	*62	46	17	42
31	55	-----	26		-----		-----	72	------	72	16	------
Total	2,992	714	687	325.6	449.6	130.5	82.8	1,394.6	2,281	1,922	875	1,211
Mean	96.5	23.8	22.2	10.5	16.1	4.21	2.76	45.0	76.0	62.0	28.2	40.4
Cfsm	22.4	5.53	5.16	2.44	3.74	0.979	0.642	10.5	17.7	14.4	6.56	9.40
In.	25.88	6.18	5.94	2.82	3.89	1.13	0.72	12.06	19.73	16.62	7.57	10.47
Ac-ft	5,930	1,420	1,360	646	892	259	164	2,770	4,520	3,810	1,740	2,400

Calendar year 1953: Max 416 Min - Mean 46.8 Cfsm 10.9 In. 147.72 Ac-ft 33,880
Water year 1953-54: Max 416 Min - Mean 35.8 Cfsm 8.33 In. 113.01 Ac-ft 25,910

Peak discharge (base, 460 cfs).--Oct. 22 (9 p.m.) 499 cfs (2.62 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Jan. 27-31, Feb. 11 to Apr. 19; discharge estimated on basis of 1 discharge measurement, weather records, and records for nearby streams.

Sheep Creek near Juneau--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	84	36	19	11	5.4	3.2	7.8	43	72	46	82
2	32	62	38	18	11	5.4	3.2	9.0	45	77	43	110
3	29	60	36	17	10	5.0	3.2	11	46	102	42	117
4	25	62	30	16	9.8	4.8	3.2	13	55	107	38	104
5	24	60	27	16	9.4	4.6	3.7	14	49	110	66	80
6	22	70	24	*18	8.6	4.6	4.1	21	43	104	87	62
7	22	60	23	18	8.2	5.0	4.3	23	39	99	112	49
8	21	49	22	16	7.8	5.8	4.6	23	60	97	94	43
9	21	43	20	15	7.4	6.6	4.6	22	*107	92	314	39
10	41	39	19	14	7.0	7.4	4.8	21	198	99	*169	38
11	38	34	18	14	6.6	7.4	4.8	22	142	107	131	38
12	46	30	18	13	6.2	7.0	4.8	24	104	97	99	38
13	31	28	18	12	6.2	6.6	4.6	24	82	115	150	36
14	*46	26	16	12	5.8	6.2	4.6	29	70	99	128	43
15	51	24	16	12	5.4	6.2	4.3	34	66	68	117	43
16	129	24	58	11	5.4	5.8	4.1	75	64	55	107	*34
17	72	24	147	11	4.8	5.0	3.9	123	66	51	99	51
18	102	37	120	11	4.8	4.6	3.9	80	70	49	77	97
19	92	34	134	11	4.6	4.3	4.1	64	70	60	66	51
20	70	60	153	10	4.8	4.1	4.3	53	80	53	66	39
21	64	75	107	9.8	5.0	3.9	4.8	46	94	62	57	34
22	60	*72	75	9.8	5.4	3.5	5.0	42	112	84	48	30
23	49	64	53	9.8	6.2	3.5	5.8	45	125	70	46	42
24	49	72	42	10	*6.2	3.2	6.6	53	134	64	48	136
25	51	99	33	11	6.2	3.2	6.6	70	134	60	94	94
26	64	82	31	11	6.2	3.0	6.6	62	110	75	110	97
27	60	64	27	11	6.2	3.0	6.6	51	104	66	77	75
28	51	53	22	12	5.8	3.0	6.6	49	115	72	161	60
29	57	57	22	12	-	3.0	6.6	45	112	53	117	53
30	72	43	21	12	------	3.0	7.0	41	*92	46	82	45
31	115	-----	20	12	-----	3.2	-----	38	------	49	82	------
Total	1,644	1,591	1,426	404.4	192.0	147.3	144.5	1,234.8	2,631	2,414	2,973	1,860
Mean	53.0	53.0	46.0	13.0	6.86	4.75	4.82	39.8	87.7	77.9	95.9	62.0
Cfsm	12.3	12.3	10.7	3.02	1.60	1.10	1.12	9.26	20.4	18.1	22.3	14.4
In.	14.22	13.76	12.33	3.50	1.66	1.27	1.25	10.68	22.76	20.88	25.71	16.09
Ac-ft	3,260	3,160	2,830	802	381	292	287	2,450	5,220	4,790	5,900	3,690

Calendar year 1954: Max 161 Min - Mean 36.5 Cfsm 8.49 In. 115.32 Ac-ft 26,450
Water year 1954-55: Max 314 Min 3.0 Mean 45.6 Cfsm 10.6 In. 144.11 Ac-ft 33,060

Peak discharge (base, 460 cfs).--Aug. 9 (11 a.m.) 462 cfs (2.60 ft).
* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	19	8.6		(*)		0	17	75	51	120	80
2	35	17	8.2				0	18	89	55	128	66
3	34	16	7.8		0.2		0	20	82	64	139	55
4	39	16	7.8				0	24	75	62	87	53
5	48	14	7.4				0	33	70	60	77	68
6	75	15	7.0				0	45	62	66	87	62
7	70	77	6.6				0	45	70	72	104	53
8	53	112	5.8	1.2	.1		0	51	70	57	153	49
9	46	57	5.8				0	89	68	48	97	48
10	39	41	5.8				0	53	68	45	77	43
11	42	32	5.4				*0	*42	62	43	66	36
12	49	28	5.0				0	34	60	42	57	34
13	41	25	4.8				0	38	60	55	53	35
14	35	24	4.8				0	138	62	66	51	35
15	39	22	*5.0				0	195	62	66	45	31
16	45	21					0	*234	77	60	39	28
17	43	19					0	155	72	*62	41	40
18	38	18					0	142	97	68	45	64
19	46	16					0	158	89	64	60	84
20	107	15			0		0	167	68	72	77	68
21	82	14					0	136	62	57	55	80
22	60	13					0	167	92	77	57	64
23	62	b12					0	128	89	115	87	49
24	60	b12	2.8	.4			1.2	104	62	87	112	42
25	48	b11					9.4	136	62	60	123	36
26	*39	b10					16	112	57	51	155	33
27	34	b10					22	99	55	53	115	36
28	30	b9.7					22	87	55	49	172	43
29	27	9.4					21	70	51	45	112	38
30	24	8.6			------		19	107	49	41	*117	85
31	22	-----			-----		-----	89	------	59	99	------
Total	1,450	713.7	140.6	24.4	1.5	0	110.6	2,933	2,072	1,872	2,807	1,538
Mean	46.8	23.8	4.54	0.79	0.05	0	3.69	94.6	69.1	60.4	90.5	51.3
Cfsm	10.9	5.53	1.06	0.184	0.012	0	0.858	22.0	16.1	14.0	21.0	11.9
In.	12.54	6.17	1.22	0.21	0.01	0	0.96	25.37	17.92	16.19	24.28	13.30
Ac-ft	2,880	1,420	279	48	3.0	0	219	5,820	4,110	3,710	5,570	3,050

Calendar year 1955: Max 314 Min - Mean 39.2 Cfsm 9.12 In. 123.73 Ac-ft 28,390
Water year 1955-56: Max 234 Min 0 Mean 37.3 Cfsm 8.67 In. 118.17 Ac-ft 27,110

Peak discharge (base, 460 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 16 to Apr. 23 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 2 discharge measurements, weather records, and records for Gold Creek at Juneau.

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 1956.

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.--13 years (1916-20, 1946-48, 1949-56), 104 cfs (75,290 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 1,340 cfs Oct. 22 (gage height, 5.64 ft); minimum not determined.

1954-55: Maximum discharge during water year, 1,000 cfs Aug. 9 (gage height, 4.60 ft); minimum not determined.

1955-56: Maximum discharge during water year, 774 cfs Aug. 28 (gage height, 4.37 ft); no flow at times.

1916-20, 1946-48, 1949-56: 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 1951 and 1956.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. One small diversion above station for domestic water supply.

Revisions.--WSP 1372: Drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	58	23	30				5.5	172	185	188	68
2	71	47	21	26	95			6.0	182	158	145	64
3	66	37	19	23				6.6	230	178	128	61
4	166	39	*18	19				12	311	158	110	58
5	166	52	17	19	209			19	308	142	110	56
6	183	47	16	18	215			*45	275	145	112	54
7	120	41	15	16	112			33	269	180	112	88
8	149	39	15	*15	72	6.5		36	266	155	128	78
9	134	35	14	14	47			68	245	130	132	58
10	122	*33	15	14	*37		3.0	*102	221	120	122	41
11	155	31	16	14	35			100	206	122	115	33
12	*120	31	17	14				92	203	135	*92	27
13	172	35	15	12				90	206	152	88	37
14	155	39	14	10				78	172	148	110	29
15	120	47	12			*4.4		78	150	158	98	25
16	118	40	*12		22			85	155	221	90	24
17	100	35	12					98	138	194	82	22
18	88	*33	12					115	118	170	80	20
19	180	28	12				*4.5	165	125	135	78	20
20	350	25	11			3.5		160	155	165	88	245
21	*600	24	12					148	209	302	90	508
22	*1,100	22	138	6.0				152	180	371	85	222
23	379	22	152					178	170	242	80	216
24	211	23	82					200	170	245	78	280
25	256	25	50		12	*2.9	5.0	197	172	170	*72	248
26	490	35	45					172	230	162	68	400
27	*260	45	75					165	239	172	65	187
28	146	37	65			2.5		158	194	172	62	120
29	105	30	*47		-			152	185	148	88	89
30	88	25	40		------			150	178	148	80	73
31	75	-----	34		-----		-----	172	------	218	72	------
Total	6,509	1,060	1,046	346.0	1,401	144.8	113.5	3,238.1	6,034	5,501	3,048	3,451
Mean	210	35.3	33.7	11.2	50.0	4.67	3.78	104	201	177	98.3	115
Cfsm	21.5	3.62	3.45	1.15	5.12	0.478	0.387	10.7	20.6	18.1	10.1	11.8
In.	24.80	4.04	3.99	1.32	5.34	0.55	0.43	12.34	22.99	20.96	11.61	13.15
Ac-ft	12,910	2,100	2,070	686	2,780	287	225	6,420	11,970	10,910	6,050	6,840

Calendar year 1953: Max 1,100 Min - Mean 103 Cfsm 10.6 In. 142.81 Ac-ft 74,330
Water year 1953-54: Max 1,100 Min - Mean 87.4 Cfsm 8.95 In. 121.52 Ac-ft 63,250

Peak discharge (base, 600 cfs).--Oct. 22 (1 p.m.) 1,340 cfs (5.64 ft); Sept. 21 (3 a.m.) 690 cfs (4.02 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 20, 21, Dec. 25 to Jan. 3, Jan. 15 to Feb. 4, Feb. 12 to May 2 (stage-discharge relation affected by ice during most of period), Sept. 1-5; discharge estimated on basis of 5 discharge measurements, weather records, and records for Sheep Creek near Juneau.

Gold Creek at Juneau--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	208	72	32	15	4.8	5.8	15	98	193	196	240
2	50	130	70	32	14	4.5	6.0	20	102	208	175	464
3	43	125	66	32	14	4.0	6.0	31	108	300	175	387
4	37	172		30	14	4.0	*8.8	26	142	320	166	300
5	35	190		28	13	5.5	12	26	120	340	316	187
6	29	178		39	12	9.2	12	*41	95	340	410	135
7	26	138		33	11	19	10	38	89	316	387	110
8	27	108		25	11	11	8.3	32	142	316	320	93
9	43	85		21	9.6	9.6	9.2	27	248	300	*786	81
10	70	73	45	20	9.2	8.3	9.6	30	549	332	*544	85
11	93	66		18	9.6	7.4	7.8	35	360	392	328	105
12	108	63		17	9.2	6.5	7.0	35	236	328	292	118
13	70	61		17	8.3	6.2	6.5	38	*181	364	504	*115
14	118	61		17	7.8		6.5	46	148	288	378	148
15	*145	60		17	7.4		6.2	68	148	205	300	122
16	320	58	152	17	7.0		6.2	221	154	172	248	85
17	160	56	459	*16	6.5		7.0	324	163	175	216	132
18	216	75	320	14	*6.2		7.4	187	175	187	160	280
19	190	72	304	13	6.0		8.8	148	175	212	157	125
20	145	136	405	12	9.2		9.6	118	205	199	154	85
21	125	190	208	12	14		13	93	248	272	130	63
22	120	*169	130	17	12	4.2	12	85	304	360	110	54
23	95	130	91	17	10		11	93	340	288	110	117
24	95	154	73	18	8.8		9.6	115	374	244	122	518
25	95	268	60	18	7.4		8.8	163	382	240	276	233
26	122	205	50	17	6.6		8.8	135	308	340	312	216
27	122	132	42	21	5.8		9.6	112	288	284	187	148
28	102	105	*37	24	5.2		10	105	328	280	332	112
29	108	110	36	20	-		12	95	340	202	212	98
30	145	79	33	18	------		14	87	*256	187	163	79
31	272	-----	32	16	------		------	83	------	205	205	------
Total	3,387	3,657	3,180	648	269.8	175.6	269.5	2,672	6,806	8,389	8,371	5,035
Mean	109	122	103	20.9	9.64	5.66	8.98	86.2	227	271	270	168
Cfsm	11.2	12.5	10.6	2.14	0.988	0.580	0.920	8.83	23.3	27.8	27.7	17.2
In.	12.91	13.93	12.12	2.47	1.03	0.67	1.03	10.18	25.93	31.97	31.90	19.19
Ac-ft	6,720	7,250	6,310	1,290	535	348	535	5,300	13,500	16,640	16,600	9,990

Calendar year 1954: Max 508 Min - Mean 91.8 Cfsm 9.41 In. 127.65 Ac-ft 66,450
Water year 1954-55: Max 786 Min - Mean 117 Cfsm 12.0 In. 163.33 Ac-ft 85,020

Peak discharge (base, 600 cfs).--Dec. 20 (10 a.m.) 612 cfs (3.86 ft); June 10 (1 p.m.) 621 cfs (3.88 ft); Aug. 9 (1 p.m.) 1,000 cfs (4.60 ft); Aug. 13 (6 a.m.) 650 cfs (3.93 ft); Sept. 2 (6 p.m.) 655 cfs (3.87 ft); Sept. 24 (7 a.m.) 852 cfs (4.26 ft). * Discharge measurement made on this day.

Note.--No gage-height record Dec. 4-15, 25-27, Feb. 26 to Mar. 1, Mar. 4, 5, Mar. 14 to Apr. 1 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of weather records and records for Sheep Creek near Juneau.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	66	26	11					29	159	159	*380	174
2	61	25	11					30	195	171	330	130
3	61	22	11					33	178	195	406	105
4	73	22	10					39	165	199	229	98
5	89	22	8.8				0.1	50	156	188	195	144
6	196	23	7.8		1.5 (*)			64	144	213	225	130
7	184	175	6.5			0	(*)	*78	159	225	244	*108
8	125	418	7.4					91	168	175	420	103
9	91	148	7.4					162	159	144	225	101
10	77	89	7.0				(*)	107	147	138	175	87
11	73	66						67	150	135	156	72
12	95	50						51	144	141	141	68
13	73	45						57	144	192	141	*77
14	61	40			(*)			241	156	244	153	85
15	75	37	(*)		.3		0	445	171	244	144	70
16	98	35		2.0				*480	244	213	128	55
17	89	32				(*)		244	229	213	130	79
18	68	30		(*)		1.3		236	321	236	146	177
19	72	27						290	272	229	191	*248
20	212	25						344	202	294	312	206
21	*120	23		5.0				262	185	213	177	182
22	85	20						380	249	272	177	149
23	105	18				(*)	1.0	298	258	375	252	103
24	105	17			*0			210	171	249	327	83
25	79	16						326	*175	175	367	72
26	61	15				0	(*)	254	162	156	476	*61
27	54	14					30	192	153	168	287	70
28	46	*12						162	150	162	485	85
29	41	12						128	135	153	273	70
30	35	12			------			221	144	138	266	178
31	28	-----			-----	(*)	-----	192	------	213	224	------
Total	2,698	1,516	192.9	62.0	17.4	10.4	184.8	5,763	5,445	6,222	7,782	3,370
Mean	87.0	50.5	6.22	2.0	0.60	0.34	6.16	186	182	201	251	112
Cfsm	8.91	5.17	0.637	0.205	0.061	0.035	0.631	19.1	18.6	20.6	25.7	11.5
In.	10.28	5.78	0.74	0.24	0.07	0.04	0.70	21.96	20.75	23.71	29.65	12.84
Ac-ft	5,350	3,010	383	123	35	21	367	11,430	10,800	12,340	15,440	6,680

Calendar year 1955: Max 786 Min - Mean 101 Cfsm 10.3 In. 141.17 Ac-ft 73,480
Water year 1955-56: Max 485 Min 0 Mean 90.9 Cfsm 9.31 In. 126.76 Ac-ft 65,980

Peak discharge (base, 600 cfs).--Nov. 8 (4 a.m.) 621 cfs (3.81 ft); May 15 (2 a.m.) 636 cfs (3.71 ft); Aug. 26 (6 a.m.) 718 cfs (4.27 ft); Aug. 28 (1 p.m.) 774 cfs (4.37 ft); Sept. 19 (10 a.m.) 675 cfs (4.19 ft). * Discharge measurement or observation of no flow made on this day.

Note.--No gage-height record Nov. 12-27, Dec. 11 to May 5 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 11 discharge measurements, weather records, and records for nearby streams.

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 1956.

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

Extremes.--1953-54: Maximum discharge during period October, November 1953, July to September 1954, 1,310 cfs Sept. 21 (gage height, 3.25 ft); minimum not determined. The peak discharge of Sept. 21 was known to be the maximum during the water year.

1954-55: Maximum discharge during water year, 956 cfs Aug. 6 (gage height, 2.82 ft); minimum not determined.

1955-56: Maximum discharge during water year, 1,480 cfs Sept. 19 (gage height, 3.45 ft), from rating curve extended above 650 cfs by logarithmic plotting; minimum not determined.

1951-56: Maximum discharge, 2,080 cfs Sept. 14, 1952 (gage height, 4.08 ft), from rating curve extended above 520 cfs by logarithmic plotting; minimum not determined.

Remarks.--Records good except those for periods of doubtful or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a35									a370	383	270
2	*a50									a310	348	231
3	a70									a340	320	200
4	a120									a300	292	170
5	316									a270	296	175
6	413									a300	310	a267
7	a225									327	327	334
8	a440									285	379	330
9	a237	(*)								243	418	285
10	255									222	387	255
11	273									222	355	185
12	a160									234	310	188
13	140									255	327	222
14	a110									288	341	a228
15	92									327	327	225
16	84	a28								404	252	175
17	a77									426	279	140
18	a76									379	270	122
19	a104									320	255	110
20	a240									391	*302	601
21	a285									520	316	1,100
22	699									650	267	798
23	310									540	234	720
24	a172									454	a276	776
25	a162									341	316	650
26	418									344	355	579
27	a225									391	387	310
28	a144									338	338	a215
29	108									288	395	148
30	a80				------					267	379	132
31	a65	-----			-----		-----		------	375	302	------
Total	6,185	840	-	-	-	-	-	-	-	10,721	10,043	10,141
Mean	200	28	-	-	-	-	-	-	-	346	324	338
Cfsm	16.5	2.31	-	-	-	-	-	-	-	28.6	26.8	27.9
In.	19.01	2.58	-	-	-	-	-	-	-	32.95	30.87	31.17
Ac-ft	12,270	1,670	-	-	-	-	-	-	-	21,260	19,920	20,110

Calendar year	: Max	Min	Mean	Cfsm	In.	Ac-ft
Water year	: Max	Min	Mean	Cfsm	In.	Ac-ft

Peak discharge (base, 1,200 cfs).--Sept. 21 (3:30 p.m.) 1,310 cfs (3.25 ft).

* Discharge measurement made on this day.

a Doubtful or no gage-height record; discharge estimated on basis of recorder graph, 2 discharge measurements, weather records, and records for Gold Creek at Juneau.

Lemon Creek near Juneau--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		202	15						48	222	379	590
2		122	16						50	276	296	713
3		130	20						50	363	267	510
4		234							60	371	279	436
5		246							44	387	422	270
6		150							36	387	755	202
7	55	102						17	41	375	734	188
8		80					(*)		104	375	557	155
9		69							194	379	692	152
10		58	13						400	431	*706	182
11		52							200	495	535	210
12		46							140	454	520	270
13	*46	42						23	110	444	699	327
14	66	38						26	*101	371	568	348
15	100	32						47	100	302	462	338
16	284	29	45	5.5	2.5	1.5	4.5	138	107	264	375	240
17	114	25	95					106	124	264	320	285
18	180	37	96					102	138	270	273	395
19	188	33	110					98	138	299	341	270
20	110	66	146					84	170	320	418	175
21	79	95	63					56	208	454	302	132
22	65	*60	38					50	258	614	249	112
23	45	38	26					60	302	495	243	*151
24	45	66						66	348	449	302	559
25	45	102						72	367	458	408	500
26	54	58						54	313	614	546	348
27	60	36	14					43	306	495	449	246
28	42	30						42	330	408	540	178
29	44	33			-			38	327	359	400	128
30	56	22			-----			33	273	348	359	98
31	152	-----			-----		-----	35	------	391	449	------
Total	2,437	2,333	938	170.5	70.0	46.5	135.0	1,377	5,387	12,134	13,845	8,70[illegible]
Mean	78.6	77.8	30.3	5.5	2.5	1.5	4.5	44.4	180	391	447	290
Cfsm	6.50	6.43	2.50	0.455	0.207	0.124	0.372	3.67	14.9	32.3	36.9	24.0
In.	7.49	7.17	2.88	0.52	0.22	0.14	0.41	4.23	16.56	37.29	42.55	26.76
Ac-ft	4,830	4,630	1,860	338	139	92	268	2,730	10,680	24,070	27,460	17,270

Calendar year 1954: Max - Min - Mean - Cfsm - In. - Ac-ft -
Water year 1954-55: Max 755 Min - Mean 130 Cfsm 10.7 In. 146.22 Ac-ft 94,370

Peak discharge (base, 1,200 cfs).--No peak above base. * Discharge measurement made on this day.
Note.--No gage-height record Oct. 1-12, Dec. 1, 2, 4-15, Dec. 24 to May 12 (stage-discharge relation affected by ice during most of period), June 10-13; discharge estimated on basis of 1 discharge measurement, recorded range in stage, weather records, and records for Gold Creek at Juneau.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	84							18	120	240	706	367
2	98							19	132	264	614	279
3	89							*21	132	296	706	222
4	89							27	128	296	505	192
5	88							40	122	296	400	270
6	140							58	126	324	436	334
7	90							50	120	344	500	363
8	58							60	126	316	540	363
9	48							96	120	288	400	375
10	40							53	116	279	338	296
11	43							33	124	258	327	237
12	60							24	122	258	348	261
13	38							24	128	363	418	310
14	33							88	144	485	418	408
15	37							136	170	476	400	320
16	42	22	6.0	3.0	2.0	1.5	5.5	138	200	*449	383	246
17	35							82	222	449	431	330
18	30							102	316	510	590	552
19	32							140	330	510	783	1,040
20	63							212	302	671	1,160	699
21	37	(*)						178	288	568	828	355
22	27							192	310	638	657	220
23	76							170	267	664	769	150
24	54							126	205	540	925	108
25	33							170	225	422	925	84
26	26							144	200	387	1,080	67
27	22							96	188	440	602	69
28	21							76	200	431	805	69
29	19							62	192	375	*664	52
30	17				-----			130	205	320	562	92
31	15	-----			-----		-----	126	------	426	440	------
Total	1,584	660	186.0	93.0	58.0	46.5	165.0	2,891	5,580	12,583	18,660	8,730
Mean	51.1	22.0	6.0	3.0	2.0	1.5	5.5	93.3	186	406	602	291
Cfsm	4.22	1.82	0.496	0.248	0.165	0.124	0.455	7.71	15.4	33.6	49.8	24.0
In.	4.87	2.03	0.57	0.29	0.18	0.14	0.51	8.89	17.15	38.67	57.35	26.83
Ac-ft	3,140	1,310	369	184	115	92	327	5,730	11,070	24,960	37,010	17,320

Calendar year 1955: Max 755 Min - Mean 121 Cfsm 10.0 In. 136.15 Ac-ft 87,870
Water year 1955-56: Max 1,160 Min - Mean 140 Cfsm 11.6 In. 157.48 Ac-ft 101,600

Peak discharge (base, 1,200 cfs).--Aug 20 (8 p.m.) 1,460 cfs (3.42 ft); Aug. 26 (6:30 a.m.) 1,400 cfs (3.36 ft); Sept. 19 (9 a.m.) 1,480 cfs (3.45 ft). * Discharge measurement made on this day.
Note.--No gage-height record Oct. 31 to May 2; discharge estimated on basis of 1 discharge measurement, weather records, and records for nearby streams.

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 (discontinued).

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

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

Extremes.--1953-54: Maximum discharge during water year, 660 cfs Feb. 2 (gage height, 5.7 ft, from floodmarks); minimum, 3.2 cfs Sept. 5 (gage height, 0.37 ft).
1954-55: Maximum discharge during water year, 557 cfs Dec. 20 (gage height, 5.34 ft); minimum, 6.4 cfs Aug. 3, 4 (gage height, 0.62 ft).
1955-56: Maximum discharge during water year, 467 cfs Apr. 18 (gage height, 4.90 ft); minimum, 5.6 cfs Jan. 12 (gage height, 0.57 ft).
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.

Remarks.--Records good except those for periods of no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	88	115	131	133			23	32	47	66	31	4.4
2	96	113	123	142			20	29	45	58	28	4.3
3	117	332	132	128			18	67	43	50	25	4.1
4	103	312	122	128			17	185	41	46	22	3.8
5	88	237	119	125	500		16	190	39	41	20	3.3
6	86	168	113	116			16	153	37	37	18	11
7	76	130	97	104			28	134	35	36	17	29
8	111	167	125	87			47	126	32	34	16	35
9	105	141	150	85			55	122	30	36	14	34
10	119	125	137	80			58	117	28	36	13	30
11	209	111	192	74			89	111	*28	34	12	28
12	214	124	*156	72			172	104	45	31	12	24
13	224	146	141	69		50	232	92	104	28	11	37
14	564	160	141	61			186	83	166	*25	10	56
15	500	145	118				152	74	160	22	9.7	50
16	395	131	106				148	68	130	31	*8.8	45
17	288	106	146				124	63	111	55	9.3	40
18	235	104	148				108	71	93	69	9.5	36
19	301	146	133		60		100	135	77	91	8.8	32
20	277	147	110	40			89	148	114	83	8.2	36
21	197	199	117				89	132	194	69	7.5	87
22	172	266	389				88	112	298	93	6.9	121
23	195	256	442				80	105	238	85	6.1	112
24	150	202	368				69	114	174	72	5.5	125
25	186	287	277				60	102	130	64	5.0	174
26	239	249	227			30	53	87	104	58	4.8	149
27	197	309	213			28	47	74	85	51	4.4	110
28	232	248	174	15		25	42	65	70	46	4.3	95
29	*165	192	135		-	24	38	59	69	40	3.9	77
30	136	167	158		------	24	35	53	71	37	3.9	64
31	130	-----	139		-----	24	-----	50	------	34	4.3	------
Total	6,195	5,535	5,279	1,934	5,640	1,405	2,299	3,057	2,838	1,558	359.9	1,656.9
Mean	200	184	170	62.4	201	45.3	76.6	98.6	94.6	50.3	11.6	55.2
Cfsm	29.4	27.1	25.0	9.18	29.6	6.66	11.3	14.5	13.9	7.40	1.71	8.12
In.	33.88	30.27	28.87	10.58	30.85	7.68	12.57	16.72	15.52	8.52	1.97	9.06
Ac-ft	12,290	10,980	10,470	3,840	11,190	2,790	4,560	6,060	5,630	3,090	714	3,290

Calendar year 1953: Max 564 Min 8.8 Mean 105 Cfsm 15.4 In. 210.30 Ac-ft 76,290
Water year 1953-54: Max - Min 3.3 Mean 103 Cfsm 15.1 In. 206.49 Ac-ft 74,900

Peak discharge (base, 300 cfs).--Oct. 14 (3:30 p.m.) 631 cfs (5.58 ft); Nov. 3 (2 p.m.) 398 cfs (4.49 ft); Nov. 25 (7 a.m.) 335 cfs (4.13 ft); Dec. 23 (1 a.m.) 480 cfs (4.90 ft); Feb. 2 (time unknown) 660 cfs (5.7 ft); Apr. 13 (7 a.m.) 324 cfs (4.06 ft); June 22 (11 a.m.) 312 cfs (3.99 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Jan. 15 to Mar. 25; discharge estimated on basis of recorded range in stage, weather records, and records for Mahoney Creek near Ketchikan.

SOUTHEASTERN ALASKA

Purple Lake Outlet near Metlakatla--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	55	107	108	72	142	34	104	27	83	71	6.8	103
2	47	89	140	61	139	31	88	45	99	61	6.6	96
3	40	115	446	62	178	27	75	44	99	54	6.4	92
4	36	290	384	80	302	24	97	44	106	48	6.8	144
5	31	277	274	90	264	24	383	62	90	42	9.6	117
6	28	234	195	226	255	29	451	76	74	37	144	93
7	24	172	152	248	189	57	331	*128	64	33	217	75
8	24	131	183	180	*137	57	244	108	56	30	207	62
9	88	135	156	136	109	56	204	127	52	26	156	52
10	293	130	227	107	106	57	157	146	51	23	126	45
11	244	138	292	95	112	54	124	124	*46	22	124	38
12	191	127	277	116	135	48	101	102	42	18	106	39
13	145	153	227	104	162	43	84	86	38	16	121	58
14	186	224	227	108	140	38	71	74	34	14	260	64
15	173	274	202	110	162	34	75	64	47	12	206	58
16	377	252	269	89	140	34	71	150	124	11	281	53
17	338	224	255	74	110	39	65	278	140	10	272	57
18	309	252	231	62	93	38	59	227	126	9.4	215	169
19	311	223	389	53	79	34	53	183	104	9.8	150	161
20	262	316	505	47	76	34	48	139	90	10	113	120
21	277	335	434	45	73	46	53	112	73	9.8	89	94
22	325	256	317	135	66	43	64	91	63	9.4	72	75
23	234	220	219	126	68	39	57	77	55	8.8	60	62
24	255	253	153	108	66	34	50	70	49	8.0	50	65
25	255	277	114	114	56	30	45	91	44	7.6	43	83
26	355	239	95	154	48	80	40	82	38	6.8	75	74
27	*268	258	152	273	42	130	36	74	36	6.8	70	63
28	190	230	199	255	39	107	33	74	37	7.8	59	57
29	143	170	139	233	-	92	30	68	77	8.0	51	56
30	128	135	110	222	------	88	28	60	83	6.8	44	52
31	127	-----	89	195	-----	117	-----	54	------	7.0	41	------
Total	5,759	6,236	7,160	3,989	3,488	1,598	3,321	3,087	2,120	644.0	3,388.2	2,377
Mean	186	208	231	129	125	51.5	111	99.6	70.7	20.8	109	79.2
Cfsm	27.4	30.6	34.0	19.0	18.4	7.57	16.3	14.6	10.4	3.06	16.0	11.6
In.	31.50	34.11	39.16	21.82	19.08	8.74	18.16	16.88	11.59	3.52	18.53	13.00
Ac-ft	11,420	12,370	14,200	7,910	6,920	3,170	6,590	6,120	4,200	1,280	6,720	4,710

Calendar year 1954: Max - Min 3.3 Mean 109 Cfsm 16.0 In. 218.24 Ac-ft 79,150
Water year 1954-55: Max 505 Min 6.4 Mean 118 Cfsm 17.4 In. 236.09 Ac-ft 85,610

Peak discharge (base, 300 cfs).--Oct. 10 (3:30 a.m.) 324 cfs (4.06 ft); Oct. 16 (1 p.m.) 416 cfs (4.58 ft); Oct. 22 (1 a.m.) 373 cfs (4.35 ft); Oct. 26 (5 a.m.) 395 cfs (4.47 ft); Nov. 4 (4:30 p.m.) 322 cfs (4.05 ft); Nov. 20 (6 p.m.) 430 cfs (4.65 ft); Dec. 3 (11 a.m.) 515 cfs (5.07 ft); Dec. 11 (11 p.m.) 314 cfs (4.00 ft); Dec. 20 (6 a.m.) 557 cfs (5.34 ft); Jan. 27 (12:30 p.m.) 328 cfs (4.15 ft); Feb. 4 (9 p.m.) 314 cfs (4.07 ft); Apr. 5 (12 p.m.) 520 cfs (5.16 ft); May 16 (10 p.m.) 314 cfs (4.07 ft); Aug. 16 (2 p.m.) 316 cfs (4.08 ft). * Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	80	114	8.0	19			57	61	77	18	195
2	64	65	95	7.8	19			52	60	65	20	138
3	97	54	81	7.6	24			48	54	55	20	107
4	133	48	77	7.6	52			45	48	48	21	85
5	152	42	72	7.4	75			44	43	43	82	74
6	317	62	70	7.4	85			43	43	65	272	66
7	239	286	101	7.4	85		55	43	48	127	310	57
8	248	288	173	7.2	155	20		42	55	106	222	49
9	286	302	149	6.6	202			48	55	87	154	45
10	240	219	119	6.4	168			48	53	71	115	39
11	324	148	95	6.4	125			44	50	60	91	34
12	294	110	76	7.2	98			41	*48	51	73	30
13	272	85	63	9.4	79			75	43	43	61	27
14	206	68	53	9.6				134	39	36	51	24
15	230	56	45	9.0				260	36	34	44	21
16	212	49	39	8.4				294	53	30	38	18
17	159	41	34	11				223	78	27	34	16
18	122	37	29	41	40			165	195	27	32	15
19	134	33	b25	50			170	128	181	26	42	30
20	372	29	b22	52				114	140	25	118	29
21	316	26	b20	51				240	171	39	182	30
22	226	22	b18	53				246	336	52	178	55
23	401	19	b16	51				189	268	46	139	54
24	328	16	b14	47		35		144	187	42	206	48
25	261	14	b13	45				216	133	37	151	43
26	199	13	b12	39	18		99	212	113	33	127	39
27	149	12	b11	34			90	153	170	30	*106	39
28	133	15	b10	31			79	119	157	27	106	50
29	149	40	b9.5	27			71	96	120	24	97	46
30	124	83	b9.0	24	------		64	81	95	21	113	57
31	99	-----	b8.3	22	-----		-----	69	-----	19	261	------
Total	6,535	2,362	1,672.8	701.4	1,650	860	3,158	3,713	3,133	1,473	3,484	1,560
Mean	211	78.7	54.0	22.6	56.9	27.7	105	120	104	47.5	112	52.0
Cfsm	31.0	11.6	7.94	3.32	8.37	4.07	15.4	17.6	15.3	6.99	16.5	7.65
In.	35.74	12.92	9.15	3.84	9.02	4.70	17.27	20.31	17.13	8.06	19.05	8.53
Ac-ft	12,960	4,680	3,320	1,390	3,270	1,710	6,260	7,360	6,210	2,920	6,910	3,090

Calendar year 1955: Max 451 Min 6.4 Mean 94.7 Cfsm 13.9 In. 189.13 Ac-ft 68,580
Water year 1955-56: Max - Min 6.4 Mean 82.8 Cfsm 12.2 In. 165.72 Ac-ft 60,080

Peak discharge (base, 300 cfs).--Oct. 6 (6 a.m.) 361 cfs (4.34 ft); Oct. 11 (12:30 p.m.) 383 cfs (4.46 ft); Oct. 20 (3 p.m.) 447 cfs (4.80 ft); Oct. 23 (2 p.m.) 453 cfs (4.83 ft); Nov. 9 (4 a.m.) 334 cfs (4.19 ft); Apr. 18 (time unknown) 467 cfs (4.90 ft); May 16 (12:30 a.m.) 319 cfs (4.10 ft); June 22 (8 a.m.) 376 cfs (4.42 ft); Aug. 6 (12 p.m.) 349 cfs (4.27 ft).

* Discharge measurement made on this day. b Stage-discharge relation affected by ice.

Note.--No gage-height record Feb. 14 to Apr. 25, June 10, 11; discharge estimated on basis of recorded range in stage, weather records, and records for Fish Creek near Ketchikan.

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 1956. 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.--17 years (1931-38, 1946-56), 36.9 cfs (26,710 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 492 cfs Feb. 2 (gage height, 4.98 ft), from rating curve extended above 150 cfs; minimum daily, 0.5 cfs Sept. 5.
1954-55: Maximum discharge during water year, 447 cfs Oct. 16 (gage height, 4.73 ft), from rating curve extended above 150 cfs; minimum, 2.5 cfs Oct. 7, 8 (gage height, 1.44 ft).
1955-56: Maximum discharge during water year, 380 cfs Oct. 23 (gage height, 4.34 ft), from rating curve extnnded above 150 cfs; minimum not determined.
1931-39, 1946-56: Maximum discharge, 543 cfs Oct. 30, 1949 (gage height, 5.26 ft), from rating curve extended above 150 cfs; minimum daily, 0.5 cfs Aug. 5, 6, 8, 1947, Sept. 5, 1954.

Remarks.--Records good except those for periods of doubtful or no gage-height record, which are poor.

Revisions.--WSP 1372: Drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	54	20	34	281	28	7.3	6.9	38	23	7.5	0.9
2	34	47	22	27	412	21	7.3	6.9	41	19	7.0	.8
3	54	181	31	22	186	17	7.3	27	41	16	6.7	a.7
4	43	85	27	23	188	14	6.5	120	44	13	6.4	a.6
5	33	45	25	25	315	13	6.5	85	42	12	6.1	a.5
6	39	28	24	22	228	12	6.5	53	40	10	5.5	3.2
7	32	21	21	20	370	12	9.5	49	39	16	4.9	14
8	*50	21	24	15	252	13	20	57	34	19	4.6	13
9	45	26	34	16	75	16	25	69	34	21	4.3	10
10	44	30	31	18	38	16	21	71	31	20	4.0	7.5
11	95	26	65	20	24	12	34	64	33	18	3.5	6.1
12	79	27	50	20	16	14	73	59	*54	16	3.5	4.9
13	137	35	*34	22	a9.0	33	115	49	90	16	3.2	11
14	348	52	48	19	a6.0	18	57	41	129	13	3.0	38
15	188	47	34	15	*a5.0	18	32	37	83	*10	3.2	24
16	101	34	27	13	a5.5	14	30	38	54	16	3.2	16
17	52	27	83		a5.5	12	*27	39	48	33	4.0	10
18	52	25	77		a5.5	10	19	60	37	45	5.5	8.5
19	85	50	44		a5.5	8.2	15	164	29	66	5.5	6.4
20	121	50	30		a6.0	7.3	12	115	48	41	*4.9	9.5
21	56	51	30		a6.0	6.9	15	65	105	29	4.3	120
22	50	66	210		a8.5	6.5	20	49	114	47	3.5	111
23	104	117	213	a5.0	25	6.5	18	56	71	40	3.2	56
24	49	81	115		33	6.9	15	63	44	27	2.8	51
25	88	108	59		31	7.3	13	69	30	19	2.2	79
26	131	70	45		26	7.7	10	48	25	16	2.0	53
27	83	64	65		20	7.7	9.5	39	21	13	1.8	31
28	121	47	58		34	7.3	8.6	35	21	10	1.5	20
29	51	31	36		-	6.9	7.7	35	25	9.0	1.2	13
30	50	24	71	a40	------	6.1	7.3	35	27	8.0	1.1	9.5
31	1.5	-----	51	87	-----	6.9	-----	37	------	8.0	1.1	------
Total	2,546	1,570	1,704	523.0	2,616.5	385.2	655.0	1,741.8	1,472	669.0	121.2	729.1
Mean	82.1	52.3	55.0	16.9	93.4	12.4	21.8	56.2	49.1	21.6	3.91	24.3
Cfsm	29.2	18.6	19.6	6.01	33.2	4.41	7.76	20.0	17.5	7.69	1.39	8.65
In.	33.70	20.78	22.55	6.92	34.63	5.10	8.67	23.05	19.48	8.85	1.60	9.65
Ac-ft	5,050	3,110	3,380	1,040	5,190	764	1,300	3,450	2,920	1,330	240	1,450

Calendar year 1953: Max 348 Min 1.1 Mean 40.0 Cfsm 14.2 In. 193.47 Ac-ft 28,990
Water year 1953-54: Max 412 Min 0.5 Mean 40.4 Cfsm 14.4 In. 194.98 Ac-ft 29,220

Peak discharge (base, 250 cfs).--Oct. 14 (9 a.m.) 392 cfs (4.41 ft); Dec. 22 (4:30 p.m.) 298 cfs (3.86 ft); Feb. 2 (4:30 a.m.) 492 cfs (4.98 ft); Feb. 5 (5:30 p.m.) 478 cfs (4.90 ft); Feb. 7 (10:30 p.m.) 465 cfs (4.83 ft).

* Discharge measurement made on this day.

a Doubtful or no gage-height record; discharge estimated on basis of recorder graph, 1 discharge measurement, weather records, and records for nearby streams.

SOUTHEASTERN ALASKA

Preseverance Creek near Wacker--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.0	21	21	9.5	39	a7.0	27	8.0	70	41	8.0	130
2	5.8	15	52	7.5	37	a6.5	18	18	73	31	6.4	81
3	4.6	54	271	9.0	53	a6.0	13	18	60	25	6.1	*58
4	4.0	261	120	10	92	a5.8	23	16	34	25	12	97
5	3.5	122	48	13	56	a5.5	210	23	42	25	23	45
6	3.0	92	28	86	54	a5.5	205	*28	29	22	261	25
7	2.8	60	18	109	36	43	77	48	25	20	188	16
8	3.0	35	21	47	25	37	41	34	31	18	93	9.5
9	64	44	21	28	16	26	32	45	42	16	71	7.0
10	255	41	31	18	*16	24	25	71	57	15	50	5.5
11	98	41	52	13	19	18	18	48	44	17	46	4.9
12	61	33	60	26	29	13	12	31	32	23	31	8.0
13	40	40	45	22	35	11	10	25	25	19	42	25
14	93	46	44	23	30	11	9.5	25	25	18	165	34
15	105	53	41	31	40	10	9.5	28	*38	12	92	27
16	334	48	140	22	29	7.5	a9.0	206	88	11	146	21
17	120	40	159	16	19	8.5	a8.5	223	106	10	130	20
18	85	46	95	12	13	8.0	a8.2	98	73	10	79	97
19	99	41	226	9.5	13	6.7	a7.8	61	46	13	39	68
20	84	126	288	7.5	17	6.4	a7.5	42	39	17	23	35
21	104	114	162	6.7	22	9.0	18	32	40	15	13	20
22	115	64	85	49	19	*7.5	25	25	41	12	9.5	12
23	49	61	35	61	20	6.4	18	26	43	10	6.7	8.5
24	71	120	19	37	17	a6.0	13	32	42	9.0	5.5	8.0
25	109	156	12	46	12	a5.5	10	48	35	7.5	5.5	32
26	130	90	8.5	69	10	33	8.5	41	29	6.7	46	32
27	60	112	50	178	a9.0	62	7.0	37	31	6.4	31	23
28	33	78	63	95	a8.0	35	6.4	37	36	9.5	19	16
29	*24	43	31	73	-	24	6.1	33	94	14	11	31
30	21	33	18	80	------	24	6.7	29	74	12	7.5	27
31	26	------	12	68	------	33	------	29	------	9.5	8.0	------
Total	2,213.7	2,130	2,276.5	1,281.7	785.0	511.8	889.7	1,465.0	1,474	499.6	1,674.2	1,023.4
Mean	71.4	71.0	73.4	41.3	28.0	16.5	29.7	47.3	49.1	16.1	54.0	34.1
Cfsm	25.4	25.3	26.1	14.7	9.96	5.87	10.6	16.8	17.5	5.73	19.2	12.1
In.	29.30	28.19	30.13	16.96	10.39	6.77	11.78	19.39	19.51	6.61	22.16	13.54
Ac-ft	4,390	4,220	4,520	2,540	1,560	1,020	1,760	2,910	2,920	991	3,320	2,030

Calendar year 1954: Max 412 Min 0.5 Mean 42.6 Cfsm 15.2 In. 205.57 Ac-ft 30,810
Water year 1954-55: Max 334 Min 2.8 Mean 44.5 Cfsm 15.8 In. 214.73 Ac-ft 32,180

Peak discharge (base, 250 cfs).--Oct. 10 (10 a.m.) 308 cfs (3.92 ft); Oct. 16 (6 a.m.) 447 cfs (4.73 ft); Nov. 4 (1 p.m.) 295 cfs (3.84 ft); Dec. 3 (1 p.m.) 346 cfs (4.14 ft); Dec. 20 (6 a.m.) 332 cfs (4.06 ft); Apr. 5 (12 p.m.) 310 cfs (3.93 ft); May 16 (10 p.m.) 382 cfs (4.35 ft); Aug. 6 (4 p.m.) 388 cfs (4.39 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for nearby streams.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	13	29					24	34	17	4.0	74
2	29	9.5	17					22	36	13	7.5	38
3	47	7.0	12					23	34	10	9.0	23
4	75	6.1	9.5					25	31	8.5	11	15
5	57	5.2	8.5		a25		a20	32	29	8.0	108	14
6	175	*13	8.0					38	27	20	336	16
7	149	280	23					40	34	55	186	14
8	71	151	51	a1.0	81	a2.0	35	37	36	37	64	12
9	97	159	42		79	(*)	32	52	*34	24	34	10
10	65	64	25		44		21	48	36	16	21	9.0
11	57	29	13				18	33	30	11	14	8.2
12	102	14	8.5				16	25	26	9.5	10	6.9
13	98	8.5	7.0		a10		20	86	23	7.5	7.7	5.6
14	68	6.1					66	154	21	6.4	6.1	4.5
15	64	4.9					47	245	22	5.5	4.8	3.9
16	84	3.8					29	228	44	4.6	4.2	3.6
17	58	3.2					117	120	100	4.6	3.9	3.0
18	40	2.8					181	70	260	5.2	3.9	2.7
19	25	2.5					70	62	109	5.2	17	38
20	189	2.0					41	78	63	4.9	121	38
21	164	1.8					*49	156	88	27	108	
22	54	1.5	a2.5				79	197	204	63	65	
23	268	1.2			a3.0		65	105	102	36	40	
24	140	a1.0		a9.0		a10	60	62	48	24	86	
25	62	a.9		(*)			52	112	29	16	45	
26	44	a.8					44	127	25	10	30	a21
27	29	a1.1					39	63	64	8.0	23	
28	25	5.3					31	45	62	6.4	30	
29	36	16					27	38	37	5.2	*34	
30	31	33			------		25	37	25	4.6	60	
31	21	------			------		------	37	------	3.8	183	------
Total	2,443	847.2	298.5	159.0	471.0	190.0	1,304	2,421	1,713	476.9	1,677.1	549.4
Mean	78.8	28.2	9.63	5.13	16.2	6.13	43.5	78.1	57.1	15.4	54.1	18.3
Cfsm	28.0	10.0	3.43	1.83	5.77	2.18	15.5	27.8	20.3	5.48	19.3	6.51
In.	32.33	11.21	3.95	2.10	6.23	2.51	17.26	32.04	22.67	6.31	22.20	7.27
Ac-ft	4,850	1,680	592	315	934	377	2,590	4,800	3,400	946	3,330	1,090

Calendar year 1955: Max 280 Min - Mean 36.1 Cfsm 12.8 In. 174.60 Ac-ft 26,170
Water year 1955-56: Max 336 Min - Mean 34.3 Cfsm 12.2 In. 166.08 Ac-ft 24,900

Peak discharge (base, 250 cfs).--Oct. 6 (5 a.m.) 261 cfs (3.64 ft); Oct. 20 (5 p.m.) 291 cfs (3.82 ft); Oct. 23 (1 p.m.) 380 cfs (4.34 ft); Nov. 7 (8 a.m.) 324 cfs (4.01 ft); May 15 (8 p.m.) 253 cfs (3.59 ft); May 21 (11 p.m.) 283 cfs (3.77 ft); June 18 (4 a.m.) 327 cfs (4.03 ft); June 22 (10 a.m.) 257 cfs (3.61 ft); Aug. 6 (10 a.m.) 378 cfs (4.33 ft).

* Discharge measurement made on this day.

a No gage-height record (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 2 discharge measurements, recorded range in stage, weather records, and records for nearby streams.

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.

Records available.--October 1948 to September 1956.

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.--1953-54: Maximum discharge during water year, 1,050 cfs Dec. 22 (gage height, 7.25 ft), from rating curve extended above 230 cfs; minimum daily, 0.5 cfs Aug. 28 to Sept. 5.
1954-55: Maximum discharge during water year, 1,180 cfs Dec. 20 (gage height, 8.10 ft), from rating curve extended above 230 cfs; minimum daily, 1.2 cfs July 16-18.
1955-56: Maximum discharge during water year, 1,070 cfs Oct. 23 (gage height, 7.45 ft), from rating curve extended above 230 cfs; minimum daily, 0.6 cfs Nov. 24, 25.
1948-56: Maximum discharge, 2,600 cfs Apr. 16, 1952 (gage height, 6.83 ft, site and datum then in use); minimum daily, that of Aug. 28 to Sept. 5, 1954.

Remarks.--Records fair except those for periods of ice effect or no gage-height record and those above 350 cfs, which are poor. Flow regulated by Lake Connell Dam starting in October 1953 (capacity, 11,510 acre-ft). Water diverted above station from Lake Connell Dam by 60-inch pipeline for use by Ketchikan Pulp Co. at Ward Cove.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	158	72	116	160	221	17	18	77		23	0.5
2	• 28	123	76	113	106	216	18	20	84		17	.5
3	15	714	134	96	85	213	20	39	88		3.2	.5
4	22	280	112	97	85	207	20	58	103		14	.5
5		• 151	101	116	66	199	22	40	99		1.9	.5
6	a20	97	98	102	24	192	22	38	76		1.6	3.2
7		70	82	86	10	186	11	38	142		1.4	3.2
8	• *73	101	127	70		91	12	52	116	a30	1.2	2.8
9	138	117	166	79		4.1	31	46	115		2.8	1.6
10	15	127	140	85		12	33	42	103		1.6	1.3
11	41	120	271	88	a11	10	11	166	*77		1.2	1.4
12	20	168	175	82		26	9.0	182	*96		1.3	3.2
13	119	202	124	88		18	12	162	215		2.8	5.7
14	82	190	180	66		16	22	133	285		4.0	5.1
15	89	134	127	45	*b13	15	17	117	181	*21	1.3	2.5
16	77	136	120	36	b13	14	17	134	113	21	1.3	1.9
17	13	102	293	32	b13	14	20	136	114	20	1.6	1.6
18	19	115	229	129	b13	13	17	170	73	28	1.4	1.6
19	429	247	140	317	b13	13	16	335	44	23	1.3	18
20	508	200	96	283	b13	13	19	251	73	20	*1.1	20
21	180	257	94	182	b13	14	36	186	216	23	1.1	20
22	142	295	774	25	b16	12	28	145	232	23	1.1	8.8
23	242	333	664	25	86	5.9	17	152	144	23	1.1	7.5
24	144	247	292	21	244	7.4	12	170	83	24	.9	41
25	246	370	182	20	237	8.0	15	182	36	26	.9	35
26	299	235	157	17	231	7.7	18	199		26	.9	23
27	218	278	232	17	240	11	18	88		26	.6	19
28	370	172	219	17	231	18	15	66	a30	17	.5	24
29	157	109	138	17	-	18	9.0	64		9.3	.5	22
30	152	96	182	65	--	17	11	63		27	.5	22
31	285	--- -	163	119	- ----	17	- -----	75	- ------	26	.5	------
Total	4,226	5,944	5,958	2,651	1,989	1,829.1	545.0	3,567	3,135	803.3	93.6	297.9
Mean	136	198	192	85.5	71.0	59.0	18.2	115	104	25.9	3.02	9.93
Ac-ft	8,380	11,790	11,820	5,260	3,950	3,630	1,080	7,080	6,220	1,590	186	591

Calendar year 1953: Max 774 Min 6.2 Mean 129 Ac-ft 93,120
Water year 1953-54: Max 774 Min 0.5 Mean 85.0 Ac-ft 61,580

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records, records for Perseverance Creek near Wacker, records for Ketchikan Pulp Co. diversion, and reservoir records for Lake Connell.
b Stage-discharge relation affected by ice.

Ward Creek near Wacker--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	34	37		86		87	2.5	136	72	1.6	157
2	21	4.0	78		56		36	5.1	182	71	1.4	198
3	21	76	843		86		12	3.2	134	71	1.3	*157
4	21	503	279		209		52	3.8	150	80	1.7	311
5	21	248	110	50	130		713	42	90	39	5.0	160
6	23	192	37		147		463	*78	65	1.9	88	88
7	22	126	16		86		158	142	64	1.9	246	74
8	20	64	70		32		90	92	66	1.7	205	72
9	42	97	65	36	19		109	100	66	1.7	148	68
10	65	124	*122	11	*24	15	89	165	70	1.7	126	75
11	45	138	174	6.2	29		46	112	76	1.7	99	75
12	42	89	165	42	66		16	68	69	1.7	76	74
13	44	149	131	32	105		7.5	38	69	1.6	74	84
14	76	221	156	37	87		5.1	5.7	70	1.4	227	81
15	73	205	121	66	92		12	32	*74	1.3	207	80
16	871	139	263	32	92		16	470	90	1.2	261	80
17	285	128	256	9.3	42		14	464	208	1.2	240	77
18	385	208	247	5.7	14		14	200	190	1.2	198	88
19	343	149	755	9.8	6.3		13	133	103	2.9	97	89
20	250	543	805	4.5	6.9		8.4	84	80	3.2	81	79
21	193	353	401	5.2	29		48	49	76	2.0	80	77
22	238	156	171	149	61	*2.8	79	28	77	1.9	52	70
23	119	199	63	136	42	2.2	35	32	81	1.9	34	38
24	154	425	22	76	38	1.7	13	56	80	1.7	34	38
25	245	387	13	92	47	1.4	4.0	75	75	1.3	35	46
26	275	177	7.2	136	5.4	52	2.5	65	74	1.3	43	42
27	142	181	125	315	4.2	46	2.5	54	74	1.3	35	25
28	*57	160	138	191	3.8	56	2.0	63	74	1.6	28	24
29	50	90		148	-	32	2.2	53	80	2.0	15	28
30	51	70	30	158	-	46	2.5	40	75	1.9	13	26
31	53	--		148	-----	109	-----	43	-----	1.6	14	-----
Total	4,270	5,635.0	5,760.2	2,245.7	1,645.6	664.1	2,151.7	2,798.3	2,818	377.8	2,767.0	2,581
Mean	138	188	186	72.4	58.8	21.4	71.7	90.3	93.9	12.2	89.3	86.0
Ac-ft	8,470	11,180	11,430	4,450	3,260	1,320	4,270	5,550	5,590	749	5,490	5,120

Calendar year 1954: Max 871 Min 0.5 Mean 83.8 Ac-ft 60,670
Water year 1954-55: Max 871 Min 1.2 Mean 92.4 Ac-ft 66,880

* Discharge measurement made on this day.
Note.--No gage-height record Dec. 29 to Jan. 8, Feb. 28 to Mar. 21; discharge estimated on basis of recorded range in stage, weather records, and records for Perseverance Creek near Wacker.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	38	18	b1.6	4.0		5.2	11	24	45	1.9	126
2	38	37	12	b1.5	3.1		15	5.8	24	35	1.9	47
3	35	30	12	b1.4	26		6.6	6.6	21	27	1.4	38
4	42	26	13	b1.4	45		4.3	7.2	2.0	28	1.6	34
5	32	24	14	1.3	25		3.7	8.0	1.6	14	49	34
6	457	*41	15	1.4	10		7.3	7.6	1.9	3.4	253	34
7	345	156	34	1.9	20	a3.0	13	6.9	3.1	6.9	266	34
8	198	279	42	2.2	36		25	9.5	4.0	2.8	98	34
9	347	298	22	2.0	18	(*)	7.2	49	*3.4	2.2	56	34
10	168	140	15	1.9	7.2		5.8	50	5.8	1.8	24	34
11	275	50	12	1.8	9.5		7.2	49	7.4	1.4	11	33
12	341	32	8.6	2.5	8.6		6.6	48	12	1.3	32	33
13	257	32	14	2.2		13	18	68	11	1.2	25	33
14	243	29	7.2	1.6		8.6	26	288	11	1.0	18	33
15	248	11	9.0	1.4		12	7.2	553	11	.9	18	30
16	241	11	6.6	1.4		6.9	5.2	513	15	.9	18	22
17	143	11	6.2	49		26	82	212	244	.9	18	22
18	44	10	5.8	37		14	48	120	679	1.0	18	22
19	46	10	6.9	19		4.3	14	126	180	1.0	27	37
20	427	10	7.6	4.6		2.8	15	156	76	.8	48	27
21	381	10	6.6	5.8	a3.5	2.5	*26	321	144	18	36	27
22	245	6.0	5.5	5.5		12	21	547	533	5.5	79	29
23	797	.8	b4.5	5.2		5.5	18	175	265	2.8	61	28
24	341	.6	b4.0	2.8		6.6	24	85	154	2.4	170	25
25	248	.6	a3.5	*2.5		5.2	26	273	26	1.6	80	23
26	149	.7	a3.0	1.9		4.9	25	288	28	1.3	52	23
27	60	.9	a2.5	1.8		9.5	24	245	41	1.2	45	25
28	61	23	a2.2	2.0		22	22	57	44	1.2	44	27
29	66	33	b2.0	3.7		21	22	24	49	1.0	*34	25
30	56	31	b1.8	6.6	-	12	21	23	46	.9	65	29
31	49	--	b1.7	6.6	-----	7.2	-----	22	-----	.9	363	-----
Total	6,405	1,381.6	318.2	181.5	271.9	232.0	551.2	4,354.6	2,667.2	213.3	2,014.8	1,002
Mean	207	46.1	10.3	5.85	9.38	7.48	18.4	140	88.9	6.88	65.0	33.4
Ac-ft	12,700	2,740	631	360	539	460	1,090	8,640	5,290	423	4,000	1,990

Calendar year 1955: Max 797 Min 0.6 Mean 71.7 Ac-ft 51,870
Water year 1955-56: Max 797 Min 0.6 Mean 53.5 Ac-ft 38,860

* Discharge measurement made on this day.
a No gage-height record (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 1 discharge measurement, weather records, and records for nearby streams.
b Stage-discharge relation affected by ice.

Mahoney Creek near Ketchikan

Location.--Lat 55°25'30", long 131°30'45", on Revillagigedo Island, on right bank one-eighth of a mile upstream from mouth, one-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 1956. Monthly discharge only for some periods, published in WSP 1372. Prior to October 1930, 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.--21 years (1920-25, 1926-33, 1947-56), 108 cfs (78,190 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 2,530 cfs Feb. 2 (gage height, 4.66 ft), from rating curve extended above 1,100 cfs; minimum, 9.2 cfs Jan. 28, 29 (gage height, 0.56 ft).
1954-55: Maximum discharge during water year, 1,640 cfs Aug. 6 (gage height, 3.95 ft); minimum, 15 cfs Oct. 8 (gage height, 0.76 ft).
1955-56: Maximum discharge during water year 1,530 cfs Oct. 20 (gage height, 3.87 ft); maximum gage height, 4.00 ft Oct. 20 (backwater from debris); minimum discharge observed, 7.0 cfs Mar. 8 (discharge measurement).
1920-25, 1926-33, 1947-56: Maximum discharge, that of Feb. 2, 1954; minimum daily, 1.5 cfs Jan. 30 to Feb. 1, 1950.

Remarks.--Records good except those for period of backwater from debris, which are fair, and those for periods of ice effect or no gage-height record, which are poor. Mahoney Lake at elevation 76 ft has an area of 163 acres.

Revisions.--WSP 1372: Drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	127	42	69	350	27	13	21	119	161	94	41
2	87	85	40	63	1,090	31	16	20	122	122	85	40
3	218	645	51	50	494	26	12	26	129	92	80	38
4	164	247	49	43	345	29	12	107	150	90	85	35
5	117	109	44	40	544	22	11	139	153	107	88	34
6	94	63	42	36	437	20	12	107	*136	107	85	78
7	77	45	38	35	688	20	14	109	136	134	80	164
8	161	47	44	38	408	20	16	122	127	173	79	115
9	147	60	51	36	147	20	17	141	129	173	85	74
10	138	122	49	35	73	20	19	144	129	139	87	51
11	426	150	*90	33	46	19	28	136	136	122	79	41
12	228	251	74	30	36	22	92	144	185	119	72	35
13	488	263	57	28	31	27	134	129	295	113	73	44
14	*1,080	221	55	26	*27	25	79	115	390	109	77	111
15	432	144	47	24	23	22	64	105	287	109	77	73
16	255	94	41	22	21	20	*65	101	176	*136	70	50
17	141	62	111	20	20	18	53	105	150	188	76	40
18	117	52	150	18	19	17	45	141	127	185	90	34
19	454	82	97	17	18	16	40	299	109	188	82	29
20	380	107	64	16	17	19	37	251	191	158	79	28
21	170	147	77	14	17	16	37	182	400	117	*77	179
22	176	185	667	13	18	14	37	139	410	156	65	228
23	345	214	494	12	24	14	37	164	221	176	58	164
24	153	144	259	11	31	14	35	210	153	122	54	164
25	218	182	141	11	31	14	31	182	113	115	51	275
26	320	179	97	10	27	14	29	139	109	85	50	170
27	253	179	122	9.4	37	14	26	101	115	80	47	85
28	412	103	150	9.2	31	13	24	92	124	80	44	53
29	136	65	97	10	-	13	23	97	158	80	42	41
30	101	52	115	18	------	13	22	107	188	83	42	40
31	207	-----	97	55	-----	13	-----	117	------	94	42	------
Total	7,743	4,426	3,552	851.6	5,050	592	1,080	3,992	5,367	3,913	2,195	2,554
Mean	250	148	115	27.5	180	19.1	36.0	129	179	126	70.8	85.1
Cfsm	43.9	26.0	20.2	4.82	31.6	3.35	6.32	22.6	31.4	22.1	12.4	14.9
In.	50.52	28.88	23.18	5.56	32.95	3.86	7.05	26.05	35.02	25.53	14.32	16.66
Ac-ft	15,360	8,780	7,050	1,690	10,020	1,170	2,140	7,920	10,650	7,760	4,350	5,070

Calendar year 1953: Max 1,080 Min 11 Mean 116 Cfsm 20.4 In. 276.73 Ac-ft 84,130
Water year 1953-54: Max 1,090 Min 9.2 Mean 113 Cfsm 19.8 In. 269.58 Ac-ft 81,960

Peak discharge (base, 950 cfs).--Oct. 13 (11 p.m.) 1,450 cfs (3.94 ft); Nov. 3 (11 a.m.) 1,010 cfs (3.53 ft); Dec. 22 (3:30 p.m.) 962 cfs (3.48 ft); Feb. 2 (6:30 p.m.) 2,530 cfs (4.66 ft).
* Discharge measurement made on this day.

Mahoney Creek near Ketchikan--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	76	44	29	74	18	89	21	151	146	102	488
2	24	59	64	26	54	18	52	25	230	114	112	346
3	21	123	335	24	62	17	39	27	189	112	104	262
4	19	520	175	25	152	16	50	26	234	136	134	*335
5	18	325	80	27	97	16	427	32	158	186	200	175
6	17	262	50	119	93	16	407	40	97	160	936	89
7	16	139	41	169	57	21	305	84	65	139	534	61
8	15	75	46	88	42	26	141	59	81	136	290	50
9	86	122	*46	53	*34	28	160	57	163	139	210	44
10	488	146	91	40	34	30	104	78	270	149	192	41
11	210	178	122	34	35	28	59	*67	206	175	218	39
12	146	124	100	39	45	26	45	51	127	196	146	48
13	93	210	75	36	56	23	39	45	82	149	249	135
14	196	315	100	41	53	21	35	45	75	108	630	166
15	226	300	76	46	49	20	36	51	114	98	320	127
16	638	218	231	38	39	19	34	254	*300	104	481	88
17	250	175	300	31	31	18	32	468	270	124	340	88
18	507	250	266	26	28	18	31	258	200	134	226	392
19	378	203	576	24	24	17	29	178	139	134	129	262
20	286	437	694	21	24	17	28	124	127	141	81	112
21	300	300	413	20	26	19	32	88	149	112	61	62
22	300	192	206	85	27	19	41	64	178	112	52	46
23	127	146	100	95	28	*18	36	59	218	116	47	38
24	*134	270	57	68	26	17	32	70	230	102	44	41
25	186	315	42	93	24	16	28	104	175	93	43	108
26	330	189	35	120	21	33	25	95	149	95	119	108
27	175	152	76	298	20	84	23	88	160	104	122	72
28	88	118	84	200	20	57	21	114	178	127	75	61
29	61	72	49	149	-	48	21	86	278	136	58	118
30	61	55	37	141	------	52	21	63	242	116	56	120
31	89	-----	32	136	-----	110	-----	59	------	118	93	------
Total	5,513	6,066	4,643	2,341	1,275	886	2,422	2,880	5,235	4,011	6,404	4,122
Mean	178	202	150	75.5	45.5	28.6	80.7	92.9	174	129	207	137
Cfsm	31.2	35.4	26.3	13.2	7.98	5.02	14.2	16.3	30.5	22.6	36.3	24.0
In.	35.97	39.58	30.29	15.27	8.32	5.78	15.80	18.79	34.16	26.17	41.78	26.89
Ac-ft	10,930	12,030	9,210	4,640	2,530	1,760	4,800	5,710	10,380	7,960	12,700	8,180

Calendar year 1954: Max 1,090 Min 9.2 Mean 115 Cfsm 20.2 In. 272.84 Ac-ft 82,940
Water year 1954-55: Max 936 Min 15 Mean 125 Cfsm 21.9 In. 298.80 Ac-ft 90,830

Peak discharge (base, 950 cfs).--Aug. 6 (5 p.m.) 1,640 cfs (3.95 ft).
* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	108	47	56	12	a15		27	49	125	80	44	*162
2	233	38	50	12	a15		28	46	140	78	56	80
3	290	32	42	12	a16		29	44	130	79	67	53
4	351	28	37	11	a17		26	45	109	78	76	41
5	239	26	35	11	a19		24	50	105	79	220	37
6	768	28	33	11	21		23	62	97	144	559	38
7	282	*917	56	11	22		25	71	*113	325	325	38
8	226	569	155	10	41	*b9.0	31	73	136	171	160	36
9	320	500	95	10	69		31	103	136	105	89	34
10	234	222	54	9.8	57		27	109	138	86	61	32
11	295	89	40	9.8	38		26	78	119	80	51	30
12	351	54	32	11	28		24	60	99	73	47	28
13	437	42	28	12	24		24	92	88	79	43	26
14	210	34	24	12	21		43	251	91	96	41	26
15	234	30	22	11	19		52	601	107	93	39	26
16	200	26	21	11	19	13	43	512	148	78	38	24
17	163	24	20	13	17	15	142	297	213	76	40	24
18	97	22	18	19	16	19	270	195	444	107	43	22
19	70	21	18	21	16	20	142	174	292	109	76	73
20	c935	20	17	22	15	19	86	209	160	97	346	127
21	437	20	16	*22	14	18	93	526	186	171	270	91
22	152	19	16	22	14	17	140	512	493	279	165	171
23	710	18	16	22	13	18	132	270	250	142	103	115
24	395	18	15	21	13	18	*125	177	130	93	223	66
25	186	17	14	20	12	18	113	270	86	71	134	47
26	102	17	14	19	12	17	91	335	94	61	83	37
27	70	16	13	18	12	18	82	171	262	56	74	33
28	61	b16	13	b17	11	19	67	109	234	52	98	47
29	158	20	12	b16	11	27	59	96	138	47	119	53
30	106	32	12	b16	------	29	54	96	94	47	148	143
31	64	-----	12	a16	-----	28	-----	125	------	44	355	------
Total	8,484	2,962	1,006	460.6	617	448.0	2,079	5,808	4,957	3,176	4,193	1,760
Mean	274	98.7	32.5	14.9	21.3	14.5	69.3	187	165	102	135	58.7
Cfsm	48.1	17.3	5.70	2.61	3.74	2.54	12.2	32.8	28.9	17.9	23.7	10.3
In.	55.35	19.33	6.56	3.01	4.03	2.92	13.56	37.89	32.34	20.72	27.36	11.48
Ac-ft	16,830	5,880	2,000	914	1,220	889	4,120	11,520	9,830	6,300	8,320	3,490

Calendar year 1955: Max 936 Min 12 Mean 115 Cfsm 20.2 In. 274.20 Ac-ft 83,370
Water year 1955-56: Max 935 Min - Mean 98.2 Cfsm 17.2 In. 234.55 Ac-ft 71,310

Peak discharge (base, 950 cfs).--Oct. 6 (7 a.m.) 1,110 cfs (3.49 ft); Oct. 20 (6 p.m.) 1,530 cfs (3.87 ft); Oct. 23 (5 p.m.) 1,130 cfs (3.51 ft); Nov. 7 (8 p.m.) 1,310 cfs (3.68 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for Falls Creek near Ketchikan. b Stage-discharge relation affected by ice.
c Backwater from debris.

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 1956. Monthly discharge only for some periods, published in WSP 1372. Prior to October 1930, 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 to November 1933, at site 1,000 ft upstream at different datum.

Average discharge.--25 years (1916-25, 1927-33, 1946-56), 463 cfs (335,200 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 4,270 cfs Feb. 8 (gage height, 6.66 ft); minimum, 57 cfs Mar. 22 (gage height, 2.02 ft).
1954-55: Maximum discharge during water year, 4,020 cfs Dec. 20 (gage height, 6.48 ft); minimum, 76 cfs Mar. 25, 26 (gage height, 2.12 ft).
1955-56: Maximum discharge during water year, 3,180 cfs Oct. 6 (gage height, 5.86 ft); minimum, 31 cfs Mar. 14 (gage height, 1.90 ft).
1916-26, 1927-33, 1946-56: Maximum discharge, about 5,500 cfs Nov. 1, 1917; minimum daily, 19 cfs Feb. 21-25, 1925.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Swan Lake has an area of 1,050 acres.

Revisions (water years).--WSP 1372: 1918, drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	385	642	316	441	1,080	171	70	108	694	630	298	132
2	590	515	277	370	3,230	150	73	108	682	558	290	
3	918	1,500	294	312	2,790	135	68	138	734	474	285	
4	775	1,410	265	273	2,320	125	66	234	817	430	294	
5	590	995	253	261	2,210	118	64	335	810	425	294	a120
6	485	642	242	234	2,750	108	61	370	*754	405	281	
7	430	463	220	210	3,280	102	73	430	747	474	281	
8	655	458	220	195	3,310	100	95	552	694	578	265	
9	694	458	249	183	1,400	102	105	701	694	571	261	
10	616	515	269	183	838	98	112	761	701	503	261	a200
11	1,270	571	380	180	558	90	142	740	662	458	245	
12	1,400	720	385	180	395	92	285	740	701	436	224	
13	1,470	810	340	180	298	100	410	708	859	410	214	
14	*2,940	859	335	177	231	92	350	669	955	400	207	
15	2,640	727	281	156	186	90	298	610	902	405	204	
16	1,890	590	249	142	159	80	*285	590	768	468	201	a350
17	1,120	458	370	132	142	75	245	597	701	571	207	
18	880	380	468	122	132	70	214	688	649	590	220	
19	1,380	458	420	115	120	66	186	1,120	590	564	210	
20	1,940	458	350	108	110	59	168	1,090	708	485	195	
21	1,250	474	321	95	108	59	174	940	985	436	189	
22	940	630	948	90	108	59	180	817	1,140	527	180	
23	992	761	1,530	88	125	61	180	775	1,080	616	165	
24	796	734	1,170	80	128	61	174	824	866	515	156	
25	845	810	831	73	135	61	156	623	701	425	148	
26	1,000	740	662	68	128	61	148	873	636	425	140	a610
27	940	675	708	66	150	61	135	734	597	335	135	
28	1,160	552	824	64	186	61	125	649	578	316	132	
29	845	441	662	66	-	59	120	662	604	298	128	
30	642	385	604	135	------	61	112	694	630	290	122	
31	727	-----	552	308	-----	66	-----	708	------	290	122	------
Total	33,205	19,831	14,995	5,287	26,607	2,693	4,874	19,588	22,639	14,308	6,554	10,752
Mean	1,071	661	484	171	950	86.9	162	632	755	462	211	358
Cfsm	29.3	18.1	13.3	4.68	26.0	2.38	4.44	17.3	20.7	12.7	5.78	9.81
In.	33.83	20.21	15.28	5.39	27.11	2.74	4.97	19.96	23.07	14.58	6.68	10.96
Ac-ft	65,860	39,330	29,740	10,490	52,770	5,340	9,670	38,850	44,900	28,380	13,000	21,330

Calendar year 1953: Max 2,940 Min 68 Mean 519 Cfsm 14.2 In. 192.87 Ac-ft 375,400
Water year 1953-54: Max 3,310 Min 59 Mean 497 Cfsm 13.6 In. 184.78 Ac-ft 359,700

Peak discharge (base, 1,800 cfs).--Oct. 14 (7 p.m.) 3,230 cfs (5.90 ft); Oct. 20 (7 a.m.) 2,140 cfs (5.05 ft); Nov. 3 (8 p.m.) 2,160 cfs (5.07 ft); Feb. 2 (3 p.m.) 3,690 cfs (6.24 ft); Feb. 8 (2 p.m.) 4,270 cfs (6.66 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for Fish Creek near Ketchikan.

Falls Creek near Ketchikan--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		458	375	186	410	123	294	177	559	674	425	822
2		410	342	171	337	112	253	195	856	565	410	*1,040
3		452	702	162	315	100	220	210	816	535	400	925
4		1,140	779	165	436	93	228	210	856	628	395	1,170
5	a140	1,600	595	171	425	90	637	224	751	737	442	856
6		1,360	430	298	405	98	1,370	242	589	695	1,590	589
7		970	337	474	347	150	1,030	306	496	640	2,110	436
8		660	319	405	285	159	709	311	524	614	1,370	342
9		667	285	324	*238	168	565	333	744	628	1,030	294
10		688	285	261	217	174	480	*447	1,120	640	872	242
11		695	342	220	204	168	380	442	1,020	660	800	217
12		595	390	224	210	156	315	395	*772	688	667	207
13		674	395	204	228	144	261	370	621	647	647	238
14		856	410	186	238	129	231	400	565	535	1,120	328
15		952	390	180	238	120	220	474	595	480	1,160	337
16	a1,450	816	530	171	220	115	201	927	758	469	1,450	319
17		730	800	156	192	112	195	1,850	856	486	1,440	306
18		1,100	824	141	177	108	195	1,340	800	508	1,170	674
19		1,130	1,890	132	168	102	201	1,020	695	716	840	786
20		1,750	3,660	123	183	98	207	786	681	824	602	559
21		2,040	2,610	118	207	100	224	634	765	674	464	410
22		1,410	1,560	201	214	95	242	518	880	816	375	319
23		1,060	898	265	207	*90	231	496	997	786	324	249
24	*667	1,430	608	242	192	85	210	547	1,020	647	281	289
25	640	1,890	447	257	177	78	192	577	880	547	253	496
26	1,040	1,310	347	328	159	118	180	553	793	486	420	524
27	898	988	361	541	144	189	168	530	758	469	420	425
28	640	765	361	621	132	192	162	496	765	496	361	366
29	496	583	302	553	-	189	162	474	907	496	315	458
30	464	464	249	553	-------	214	171	464	864	469	285	628
31	486	-------	210	508	-------	277	-------	452	-------	442	281	-------
Total	26,891	29,643	22,033	8,541	6,905	4,146	10,134	16,400	23,303	18,697	22,719	14,851
Mean	867	988	711	276	247	134	338	529	777	603	733	495
Cfsm	23.8	27.1	19.5	7.56	6.77	3.67	9.26	14.5	21.3	16.5	20.1	13.6
In.	27.40	30.20	22.45	8.70	7.04	4.22	10.33	16.71	23.74	19.05	23.15	15.13
Ac-ft	53,340	58,800	43,700	16,940	13,700	8,220	20,100	32,530	46,220	37,080	45,060	29,460

Calendar year 1954: Max 3,660 Min 59 Mean 526 Cfsm 14.4 In. 195.51 Ac-ft 380,600
Water year 1954-55: Max 3,660 Min 78 Mean 560 Cfsm 15.3 In. 208.12 Ac-ft 405,200

Peak discharge (base, 1,800 cfs).--Oct. 16 (time and discharge unknown); Oct. 22 (time and discharge unknown); Nov. 20 (12 p.m.) 2,580 cfs (5.40 ft); Nov. 25 (5 a.m.) 2,160 cfs (5.05 ft); Dec. 20 (11 a.m.) 4,020 cfs (6.48 ft); May 17 (9 a.m.) 2,020 cfs (4.93 ft); Aug. 6 (9 p.m.) 2,640 cfs (5.45 ft). * Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for Fish Creek near Ketchikan.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	502	257	156	49	49	42	108	352	608	405	159	1,080
2	491	214	153	49	47	42	120	324	608	375	180	737
3	565	189	141	49	53	49	118	311	595	366	189	513
4	730	171	132	47	76	47	110	319	553	352	195	385
5	716	153	120	47	110	45	105	366	508	328	486	337
6	2,510	162	112	45	132	45	102	442	*447	352	1,380	311
7	1,780	*1,200	132	44	144	45	102	491	452	480	1,440	273
8	1,130	1,820	311	42	201	*44	120	491	496	458	988	231
9	1,150	1,620	385	40	289	42	126	634	524	390	681	207
10	952	1,080	315	38	285	40	120	660	524	342	486	189
11	1,010	660	242	38	228	38	120	513	491	315	370	174
12	1,260	442	195	38	189	35	123	405	436	285	298	162
13	1,380	319	162	38	159	33	135	486	410	273	242	153
14	1,050	245	141	40	135	35	257	890	405	273	204	144
15	856	214	123	40	120	45	294	2,000	420	269	186	135
16	824	186	112	40	115	45	265	2,460	474	257	168	129
17	758	171	102	40	108	56	352	1,780	565	245	159	118
18	577	156	95	76	100	71	786	1,210	916	257	156	115
19	442	141	88	81	93	73	681	1,030	970	265	165	174
20	1,270	129	83	88	83	69	513	1,070	800	265	401	238
21	1,740	120	81	88	76	64	565	1,330	772	319	723	265
22	988	110	78	88	69	64	816	1,670	1,270	553	816	469
23	1,980	100	76	83	64	62	793	1,310	1,160	480	667	502
24	2,220	95	71	78	60	71	765	988	808	395	816	436
25	1,190	88	67	71	56	71	695	934	608	328	681	347
26	793	83	64	67	51	69	608	1,220	508	277	577	289
27	571	81	60	62	47	67	541	970	660	234	559	245
28	442	78	56	56	44	76	469	730	751	201	553	285
29	425	90	51	53	44	95	415	621	595	186	553	273
30	385	126	49	51	-------	108	375	583	469	171	634	315
31	319	-------	49	51	-------	110	-------	608	-------	159	1,310	-------
Total	31,006	10,500	4,002	1,717	3,227	1,798	10,699	27,198	18,803	9,855	16,422	9,231
Mean	1,000	350	129	55.4	111	58.0	357	877	627	318	530	308
Cfsm	27.4	9.59	3.53	1.52	3.04	1.59	9.78	24.0	17.2	8.71	14.5	8.44
In.	31.59	10.70	4.08	1.75	3.29	1.83	10.90	27.71	19.16	10.04	16.73	9.41
Ac-ft	61,500	20,830	7,940	3,410	6,400	3,570	21,220	53,950	37,300	19,550	32,570	18,310

Calendar year 1955: Max 2,510 Min 49 Mean 469 Cfsm 12.8 In. 174.44 Ac-ft 339,600
Water year 1955-56: Max 2,510 Min 33 Mean 395 Cfsm 10.8 In. 147.19 Ac-ft 286,600

Peak discharge (base, 1,800 cfs).--Oct. 8 (2:30 p.m.) 3,180 cfs (5.86 ft); Oct. 20 (12 p.m.) 2,240 cfs (5.12 ft); Oct. 23 (10 p.m.) 3,100 cfs (5.80 ft); Nov. 8 (1 a.m.) 2,100 cfs (5.00 ft); May 16 (4 a.m.) 2,580 cfs (5.40 ft); May 22 (2 a.m.) 1,840 cfs (4.77 ft).

* Discharge measurement made on this day.

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 1956. Monthly discharge only for some periods, published in WSP 1372. Prior to October 1930, published as "at Thorne Arm" or "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.--38 years, 417 cfs (301,900 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 3,370 cfs Feb. 8 (gage height, 4.52 ft); minimum, 31 cfs Jan. 28 (gage height, 0.56 ft).
1954-55: Maximum discharge during water year, 3,050 cfs Dec. 20 (gage height, 4.06 ft); minimum, 75 cfs Oct. 8, Mar. 5 (gage height, 0.80 ft).
1955-56: Maximum discharge during water year, 2,830 cfs May 16 (gage height, 3.89 ft); minimum, 29 cfs Jan. 9-12 (gage height, 0.49 ft).
1915-35, 1938-56: 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.--Records good except those for periods of no gage-height record, which are poor. 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).

Revisions (water years).--WSP 1372: 1918.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	425	681	316	494		280	62	91	555	455	225	68
2	474	527	283	413		190	62	87	541	425	215	68
3	974	1,060	332	344	a1,800	162	62	118	520	372	200	70
4	848	1,370	344	332		135	60	246	541	332	200	70
5	605	866	332	349		128	60	407	569	322	200	68
6	488	590	300	316		110	62	449	569	310	195	70
7	395	407	267	267		93	85	455	*555	316	185	73
8	527	437	288	210	a1,900	96	118	494	527	355	180	153
9	562	401	355	190		124	128	583	514	384	166	176
10	520	378	*338	195		110	144	650	514	378	162	171
11	*920	344	455	185	a530	98	220	658	500	344	153	144
12	1,370	389	455	171	a360	124	413	642	494	327	144	121
13	1,320	449	419	158	*283	158	562	620	583	*316	135	144
14	2,270	541	419	124	205	128	507	569	745	294	124	378
15	2,200	562	355		158	100	*437	527	779	288	124	425
16	1,560	514	305		135	96	407	500	673	305	121	338
17	1,030	413	338		107	89	349	488	620	401	118	262
18	673	355	437		98	80	300	500	555	413	140	200
19	754	449	474		91	75	251	830	507	468	*144	158
20	1,230	407	419		87	73	215	1,190	500	462	140	135
21	1,120	474	378	a60	82	68	225	1,060	673	407	128	200
22	830	628	848		78	65	251	857	929	443	114	500
23	920	761	1,510		91	65	230	737	1,010	576	104	642
24	848	737	1,550		148	65	205	729	857	527	93	635
25	788	848	1,060		190	65	176	754	635	431	87	822
26	1,200	689	804		190	65	144	762	527	366	82	938
27	1,120	628	762		251	65	128	681	474	316	78	721
28	1,500	514	788		325	64	118	605	443	278	75	514
29	1,060	419	770		-	62	107	569	443	251	72	372
30	665	361	642	a120	------	64	98	562	455	235	70	283
31	721	-----	569		-----	62	------	555	------	230	68	------
Total	29,917	17,199	16,912	4,948	21,909	3,159	6,186	17,975	17,807	11,327	4,242	8,919
Mean	965	573	546	160	782	102	206	580	594	365	137	297
Cfsm	30.1	17.9	17.0	4.98	24.4	3.18	6.42	18.1	18.5	11.4	4.27	9.25
In.	34.66	19.93	19.59	5.73	25.38	3.66	7.17	20.83	20.63	13.12	4.91	10.33
Ac-ft	59,340	34,110	33,540	9,810	43,460	6,270	12,270	35,650	35,320	22,470	8,410	17,690

Calendar year 1953: Max 2,270 Min 46 Mean 478 Cfsm 14.9 In. 202.12 Ac-ft 346,000
Water year 1953-54: Max - Min - Mean 440 Cfsm 13.7 In. 185.94 Ac-ft 318,300

Peak discharge (base, 1,800 cfs).--Oct. 14 (5 p.m.) 2,540 cfs (3.89 ft); Feb. 2 (time and discharge unknown); Feb. 8 (time unknown) 3,370 cfs (4.52 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for Falls Creek near Ketchikan.

Fish Creek near Ketchikan--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	204	424	344	191	515	106	320	127	410	675	296	368
2	159	374	344	159	398	93	285	159	711	515	280	536
3	134	398	837	141	380	84	240	183	747	431	275	614
4	109	756	950	130	693	77	280	200	720	424	275	*920
5	93	1,030	693	130	590	77	630	245	657	494	302	837
6	86	1,080	459	284	529	82	1,650	296	529	508	940	566
7	80	828	332	466	417	155	1,450	431	417	473	1,990	398
8	79	574	350	452	332	240	940	374	368	438	1,640	296
9	154	459	*280	350	265	265	711	424	431	431	1,110	231
10	910	466	350	265	231	270	558	*590	666	431	855	187
11	1,340	508	452	222	226	240	424	558	756	431	783	163
12	1,090	473	529	231	265	204	326	438	*639	459	693	144
13	810	529	480	200	320	175	265	356	501	459	550	144
14	910	666	487	191	308	144	231	326	431	410	1,030	183
15	1,400	711	452	187	350	124	226	350	431	350	1,140	204
16	2,080	590	675	159	290	98	204	533	630	314	1,360	208
17	1,740	529	1,160	138	236	120	183	1,220	810	308	1,510	195
18	1,500	675	1,090	117	204	115	171	1,280	891	326	1,290	423
19	1,300	910	1,520	106	187	*106	167	1,040	720	438	855	747
20	1,160	1,480	2,880	98	208	101	171	864	590	614	566	574
21	1,280	1,700	2,510	101	260	117	187	648	582	558	410	404
22	1,460	1,360	1,730	222	265	104	218	494	630	529	308	296
23	1,040	1,110	1,030	245	265	93	218	417	720	543	245	226
24	774	1,270	630	260	236	86	200	417	756	473	204	204
25	622	1,430	431	270	195	82	179	459	702	392	179	350
26	900	1,270	320	356	163	181	155	473	614	338	236	466
27	*1,020	1,100	431	639	138	250	138	466	566	308	314	424
28	711	819	543	864	120	260	127	431	566	320	290	344
29	508	574	410	729	-	245	120	404	648	362	245	368
30	417	459	320	729	-------	250	120	380	819	356	204	480
31	438	-------	250	684	-------	320	-------	356	-------	326	179	-------
Total	24,508	24,552	23,269	9,316	8,586	4,864	11,094	14,939	18,658	13,434	20,554	11,500
Mean	791	818	751	301	307	157	370	482	622	433	663	383
Cfsm	24.6	25.5	23.4	9.38	9.56	4.89	11.5	15.0	19.4	13.5	20.7	11.9
In.	28.39	28.45	26.96	10.79	9.95	5.64	12.85	17.31	21.62	15.56	23.81	13.32
Ac-ft	48,610	48,700	46,150	18,480	17,030	9,650	22,000	29,630	37,010	26,650	40,770	22,810

Calendar year 1954: Max 2,880 Min - Mean 462 Cfsm 14.4 In. 195.56 Ac-ft 334,800
Water year 1954-55: Max 2,880 Min 77 Mean 508 Cfsm 15.8 In. 214.65 Ac-ft 367,500

Peak discharge (base, 1,800 cfs).--Oct. 16 (5 p.m.) 2,260 cfs (3.43 ft); Nov. 20 (7 p.m.) 2,040 cfs (3.25 ft); Dec. 20 (10 a.m.) 3,050 cfs (4.06 ft); Apr. 6 (4 p.m.) 1,840 cfs (3.08 ft); Aug. 7 (8 a.m.) 2,040 cfs (3.25 ft).
* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	473	275	161	32	45	45	138	337	476	368	90	1,120
2	424	222	156	32	45	59	161	307	469	301	110	730
3	438	183	141	32	57	79	182	284	455	268	124	490
4	543	152	130	31	148	70	156	278	427	246	138	355
5	614	130	124	31	165	65	134	295	400	225	235	290
6	1,560	144	113	30	190	64	124	368	*374	220	1,280	262
7	1,520	1,150	134	30	205	*68	165	414	381	313	1,940	246
8	1,110	*2,160	246	30	388	65	215	427	420	381	1,260	215
9	1,050	2,100	368	29	498	60	186	512	434	343	802	182
10	940	1,560	368	29	455	57	165	605	420	278	528	156
11	1,020	910	290	29	343	53	148	505	394	230	368	134
12	1,270	565	220	32	251	56	144	400	349	200	278	113
13	1,460	374	161	36	182	62	161	434	313	173	215	100
14	1,280	251	127	37	138	64	368	874	290	156	169	90
15	950	190	103	36	113	86	420	2,160	290	144	141	84
16	828	152	90	34	103	90	368	2,660	313	138	120	77
17	747	124	79	40	93	93	565	1,900	388	127	108	74
18	598	103	72	110	90	116	838	1,290	581	127	100	67
19	445	93	65	124	86	116	739	990	696	130	103	74
20	868	83	62	130	81	108	573	892	637	134	184	108
21	1,580	75	57	120	75	96	520	1,020	662	148	581	235
22	1,100	68	54	113	67	90	670	1,380	1,040	240	838	535
23	1,520	64	49	106	62	93	713	1,260	1,230	313	696	654
24	1,790	57	46	*90	56	90	670	980	950	290	696	512
25	1,280	53	42	84	53	90	629	847	662	240	670	388
26	882	49	40	75	51	86	565	1,080	498	190	528	295
27	622	46	39	68	49	86	505	910	565	161	441	246
28	473	51	37	62	48	124	455	670	793	138	407	251
29	431	98	36	54	46	182	407	542	637	116	476	246
30	410	148	33	50	-------	156	368	476	476	103	542	278
31	344	-------	33	48	-------	144	-------	469	-------	93	1,280	-------
Total	28,570	11,630	3,676	1,784	4,183	2,713	11,452	25,566	16,020	6,534	15,448	8,607
Mean	922	388	119	57.5	144	87.5	382	825	534	211	498	287
Cfsm	28.7	12.1	3.71	1.79	4.49	2.73	11.9	25.7	16.6	6.57	15.5	8.94
In.	33.10	13.47	4.26	2.07	4.85	3.14	13.27	29.62	18.56	7.57	17.90	9.97
Ac-ft	56,670	23,070	7,290	3,540	8,300	5,380	22,710	50,710	31,780	12,960	30,640	17,070

Calendar year 1955: Max 2,160 Min 33 Mean 430 Cfsm 13.4 In. 181.68 Ac-ft 311,100
Water year 1955-56: Max 2,660 Min 29 Mean 372 Cfsm 11.6 In. 157.78 Ac-ft 270,100

Peak discharge (base, 1,800 cfs).--Oct. 23 (7 p.m.) 2,050 cfs (3.26 ft); Nov. 8 (8 a.m.) 2,240 cfs (3.42 ft); May 16 (4:30 a.m.) 2,830 cfs (3.89 ft); Aug. 7 (4 a.m.) 2,150 cfs (3.34 ft).
* Discharge measurement made on this day.

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 1956. October 1937 to September 1938 monthly discharge only, published in WSP 1372. Prior to October 1930, published as "at Behm Canal."

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

Average discharge.--20 years, 247 cfs (178,800 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 1,620 cfs Feb. 7 (gage height, 5.53 ft); minimum, 20 cfs Sept. 5, 6 (gage height, 1.14 ft).
1954-55: Maximum discharge during water year, 1,680 cfs Dec. 20 (gage height, 5.63 ft); minimum, 62 cfs Mar. 25 (gage height, 1.64 ft).
1955-56: Maximum discharge during water year, 1,200 cfs May 16 (gage height, 4.72 ft); minimum, 16 cfs Jan. 10-12 (gage height, 1.16 ft).
1927-38, 1947-56: Maximum discharge recorded, 1,720 cfs Dec. 7, 1930 (gage height, 5.60 ft, datum then in use); minimum daily, 12 cfs Sept. 7-12, 1930, Jan. 30 to Feb. 2, 1950.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Ella Lake, 1 mile above station, has an area of 1,930 acres.

Revisions.--WSP 1372: Drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	345	504	270	374	740	175	45	89	306	206	101	27
2	508	444	260	320	1,290	159	44	88	292	189	94	26
3	500	930	270	279	1,220	145	41	117	289	172	88	24
4	416	780	245	260	1,280	134	39	191	289	164	88	23
5	349	610	233	254	1,240	125	37	216	270	153	85	21
6	327	484	219	230	1,170	115	40	219	260	141	82	25
7	289	396	*198	203	1,300	112	57	242	248	147	78	45
8	356	412	206	179	1,360	109	71	282	*239	143	72	49
9	316	356	230	164	915	112	86	320	239	139	68	49
10	310	316	233	157	641	102	95	338	225	130	62	47
11	528	282	345	149	492	95	141	345	211	128	59	44
12	*554	276	296	145	*393	109	248	349	225	*122	53	41
13	870	286	273	143	316	112	296	349	273	115	49	78
14	1,450	286	299	127	260	101	*270	327	331	110	46	149
15	1,170	279	254	118	216	92	257	320	313	106	47	127
16	945	270	227	110	184	85	260	310	306	122	46	115
17	704	242	286	101	164	79	239	310	299	135	48	104
18	571	230	296	95	151	74	211	338	289	137	*53	95
19	740	273	266	88	134	69	189	558	266	147	53	86
20	775	279	236	78	120	64	175	549	302	149	48	92
21	628	310	242	81	115	60	184	500	341	145	47	161
22	596	404	605	61	120	56	189	452	412	186	42	191
23	628	500	875	55	147	55	175	444	385	186	39	206
24	504	480	800	49	157	54	159	440	341	168	36	248
25	610	533	632	44	157	53	145	444	302	155	35	352
26	623	484	541	39	143	50	130	393	273	147	34	310
27	632	460	596	36	179	47	122	363	245	139	30	273
28	726	408	584	39	201	46	112	345	230	128	27	233
29	558	352	488	55	-	45	102	345	225	118	26	201
30	528	316	484	122	------	45	95	327	214	112	24	175
31	596	-----	440	270	-----	45	-----	320	------	107	25	------
Total	18,652	12,182	11,429	4,425	14,805	2,724	4,254	10,230	8,440	4,446	1,685	3,617
Mean	602	406	369	143	529	87.9	142	330	281	143	54.4	121
Cfsm	30.6	20.6	18.7	7.26	26.9	4.46	7.21	16.8	14.3	7.26	2.76	6.14
In.	35.21	23.00	21.58	8.35	27.95	5.14	8.03	19.31	15.93	8.39	3.18	6.83
Ac-ft	37,000	24,160	22,670	8,780	29,370	5,400	8,440	20,290	16,740	8,820	3,340	7,170

Calendar year 1953: Max 1,450 Min 36 Mean 271 Cfsm 13.8 In. 186.55 Ac-ft 196,000
Water year 1953-54: Max 1,450 Min 21 Mean 265 Cfsm 13.5 In. 182.90 Ac-ft 192,200

Peak discharge (base, 700 cfs).--Oct. 14 (4 p.m.) 1,500 cfs (5.32 ft); Oct. 19 (9 a.m.) 1,180 cfs (4.68 ft); Oct. 27 (10 p.m.) 975 cfs (4.27 ft); Nov. 3 (3 p.m.) 1,070 cfs (4.46 ft); Dec. 23 (12 m.) 975 cfs (4.27 ft); Feb. 7 (12 p.m.) 1,620 cfs (5.53 ft).
* Discharge measurement made on this day.

Ella Creek near Ketchikan--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	155	310	345	201	302	94	186	112	349	263	106	*236
2	135	266	341	172	270	85	168	134	370	236	101	251
3	122	310	636	161	279	78	153	139	356	222	98	260
4	110	496	605	145	408	72	164	139	370	222	96	334
5	100	480	496	134	356	74	543	161	331	208	107	273
6	90	537	412	230	*345	85	659	179	286	196	425	233
7	82	456	349	273	299	161	545	230	260	186	420	201
8	82	378	320	227	260	153	460	219	263	179	420	175
9	199	370	282	196	225	153	428	*257	286	170	382	151
10	476	334	286	172	198	153	385	374	324	161	345	137
11	378	316	327	157	198	145	327	341	286	159	374	123
12	370	306	349	157	201	135	276	299	257	157	327	112
13	334	331	338	145	214	123	245	273	*239	143	313	109
14	432	363	352	141	203	110	216	270	225	132	484	120
15	533	370	338	132	219	101	203	279	248	125	488	115
16	765	345	605	120	201	96	184	408	306	120	584	110
17	659	313	646	110	181	100	168	610	367	117	601	117
18	659	408	562	101	164	95	159	558	378	115	528	295
19	636	400	870	92	153	86	155	528	341	155	440	254
20	686	668	1,460	85	164	82	151	508	327	166	359	214
21	750	677	1,340	81	201	*90	157	452	320	157	292	186
22	765	610	1,020	152	191	82	170	389	320	179	248	161
23	605	584	708	157	177	74	155	363	316	168	211	143
24	533	654	545	149	166	67	143	356	296	153	179	164
25	*492	760	432	161	143	62	132	349	273	139	157	211
26	628	664	359	203	128	128	122	327	257	130	198	198
27	545	646	420	324	117	181	115	320	257	125	172	184
28	448	566	412	320	102	159	109	310	251	128	151	177
29	389	472	331	320	-	153	106	292	327	128	137	203
30	359	412	279	363	-------	161	109	273	296	120	123	216
31	345	-------	233	359	-------	186	-------	257	-------	112	115	-------
Total	12,862	13,802	15,998	5,740	6,065	3,524	7,093	9,706	9,082	4,971	8,981	5,663
Mean	415	460	516	185	217	114	236	313	303	160	290	189
Cfsm	21.1	23.4	26.2	9.39	11.0	5.79	12.0	15.9	15.4	8.12	14.7	9.59
In.	24.28	26.06	30.20	10.84	11.45	6.65	13.39	18.32	17.15	9.38	16.95	10.69
Ac-ft	25,510	27,380	31,730	11,390	12,030	6,990	14,070	19,250	18,010	9,860	17,810	11,230

Calendar year 1954: Max 1,460 Min 21 Mean 267 Cfsm 13.6 In. 183.65 Ac-ft 193,000
Water year 1954-55: Max 1,460 Min 62 Mean 284 Cfsm 14.4 In. 195.36 Ac-ft 205,300

Peak discharge (base, 700 cfs).--Oct. 16 (12 m.) 835 cfs (3.95 ft); Oct. 20 (10 p.m.) 855 cfs (4.00 ft); Nov. 20 (7 p.m.) 1,000 cfs (4.32 ft); Nov. 25 (3 a.m.) 865 cfs (4.06 ft); Dec. 3 (4 p.m.) 750 cfs (3.82 ft); Dec. 20 (7 a.m.) 1,680 cfs (5.63 ft); Apr. 5 (7 p.m.) 815 cfs (3.98 ft).

* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	191	237	118	24	33	a36	96	240	264	188	46	451
2	198	201	109	24	32	a43	115	220	252	164	52	371
3	225	173	102	23	38	57	124	206	225	147	56	306
4	282	149	98	22	74	a52	112	203	203	134	63	261
5	338	134	93	20	99	a49	107	220	186	122	208	234
6	885	146	87	19	112	*48	101	237	178	124	499	214
7	700	668	98	19	113	54	112	240	180	142	515	190
8	592	623	190	18	220	51	136	240	178	132	423	166
9	554	*750	212	17	296	46	125	288	178	120	348	145
10	496	592	190	16	264	42	113	276	178	110	285	132
11	566	459	164	16	228	39	110	240	*164	102	240	118
12	601	367	143	18	196	42	110	214	151	92	203	105
13	695	296	127	19	166	44	122	330	142	83	173	96
14	566	249	115	23	143	43	234	553	136	77	149	87
15	558	206	102	18	130	57	212	955	130	70	132	78
16	516	180	93	17	127	64	188	1,130	136	63	118	70
17	496	153	84	22	118	67	270	860	145	57	107	64
18	412	136	73	54	112	96	475	686	193	56	98	59
19	356	124	64	69	101	87	391	596	203	55	96	81
20	780	110	60	69	90	77	341	564	193	51	215	124
21	628	98	57	67	81	70	363	713	220	70	264	145
22	496	87	52	*69	73	67	415	731	411	102	285	217
23	895	77	48	64	66	69	391	636	363	93	249	201
24	820	67	42	60	59	70	387	533	327	87	313	178
25	672	59	38	56	a53	67	363	524	296	81	267	160
26	569	52	35	52	a48	63	338	560	264	74	255	145
27	471	48	33	48	a44	63	316	467	296	67	246	138
28	399	51	31	44	a40	78	292	395	285	62	249	155
29	391	81	30	41	a38	110	276	348	249	56	246	143
30	330	115	27	39	-------	102	261	316	214	51	*338	176
31	279	-------	25	35	-------	99	-------	292	-------	48	551	-------
Total	15,957	6,688	2,740	1,102	3,194	1,952	6,996	14,013	6,540	2,880	7,289	5,010
Mean	515	223	88.4	35.5	110	63.0	233	452	218	92.9	235	167
Cfsm	26.1	11.3	4.49	1.80	5.58	3.20	11.8	22.9	11.1	4.72	11.9	8.48
In.	30.12	12.63	5.17	2.08	6.03	3.69	13.21	26.45	12.35	5.44	13.76	9.46
Ac-ft	31,650	13,270	5,430	2,190	6,340	3,870	13,880	27,790	12,970	5,710	14,460	9,940

Calendar year 1955: Max 895 Min 25 Mean 236 Cfsm 12.0 In. 162.74 Ac-ft 171,000
Water year 1955-56: Max 1,130 Min 16 Mean 203 Cfsm 10.3 In. 140.39 Ac-ft 147,500

Peak discharge (base, 700 cfs).--Oct. 6 (8 a.m.) 1,080 cfs (4.48 ft); Oct. 13 (11 a.m.) 760 cfs (3.84 ft); Oct. 20 (3 p.m.) 1,060 cfs (4.44 ft); Oct. 23 (5:30 p.m.) 1,190 cfs (4.70 ft); Nov. 7 (6 p.m.) 920 cfs (4.16 ft); May 16 (6 a.m.) 1,200 cfs (4.72 ft); May 21 (7 p.m.) 855 cfs (4.03 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for Fish Creek near Ketchikan.

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 1956. Monthly discharge only for some periods, published in WSP 1372. Prior to 1930, published as "near Manzanita Bay."

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

Average discharge.--19 years, 465 cfs (336,600 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 3,030 cfs Feb. 7 or 8 (gage height, 7.40 ft); minimum, 105 cfs Apr. 5 (gage height, 1.55 ft).
1954-55: Maximum discharge during water year, 2,900 cfs Dec. 20 (gage height, 7.27 ft); minimum, 135 cfs Mar. 24, 25 (gage height, 1.82 ft).
1955-56: Maximum discharge during water year, 2,990 cfs Oct. 23 (gage height, 7.36 ft); minimum not determined.
1927-37, 1947-56: Maximum discharge, 3,870 cfs Oct. 13, 1949 (gage height, 8.19 ft), from rating curve extended above 1,600 cfs by logarithmic plotting; minimum 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.--Records good except those for periods of no gage-height record, which are poor. There are two lakes above gage, Manzanita Lake (1,610 acres) and January Lake on North Fork Manzanita Creek.

Revisions.--WSP 1372: Drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	653	916	442	586		291	124	149	744	582	318	166
2	1,150	820	451	529		274	117	156	740	525	304	149
3	974	1,590	451	481		258	114	206	760	495	296	142
4	824	1,160	403	448		247	110	318	784	478	315	138
5	712	943	385	426		236	109	299	740	448	289	133
6	712	804	376	394	a2,000	222	108	304	720	429	279	146
7	619	700	346	364		214	115	379	712	478	272	216
8	856	732	*367	337		210	122	451	692	448	262	192
9	650	669	382	326		212	126	498	*700	429	253	173
10	669	615	370	315		198	131	498	661	416	251	159
11	1,130	593	405	296	*1,090	198	171	532	638	432	242	151
12	970	597	394	289	902	196	279	518	676	*406	234	145
13	1,540	650	370	274	764	190	260	536	788	391	226	319
14	2,200	661	406	251	661	178	212	525	816	382	218	296
15	1,850	612	349		582	169	212	529	756	373	234	220
16	1,700	579	332		525	160	224	543	756	467	222	202
17	1,260	508	501		481	154	204	554	720	464	*232	192
18	1,030	518	448		432	151	194	623	712	445	232	184
19	1,540	543	388		394	146	186	1,060	650	464	216	175
20	1,680	502	352		358	143	188	924	780	426	206	222
21	1,320	550	410		329	139	218	828	856	416	198	416
22	1,240	680	961	a180	340	136	222	792	934	590	190	394
23	1,310	752	1,150		391	139	204	820	894	488	184	442
24	974	634	907		346	138	190	860	784	454	176	464
25	1,470	716	764		326	132	180	970	724	426	171	811
26	1,260	650	716		307	128	173	816	680	397	166	597
27	1,360	642	894		346	126	166	780	650	400	160	515
28	1,430	572	840		340	124	160	756	638	367	156	448
29	1,050	522	704		-	122	154	768	627	349	151	400
30	1,070	491	772		------	125	151	760	600	337	146	364
31	1,160	-----	657	a500	-----	125	-----	776	------	337	156	------
Total	36,363	20,921	16,693	8,696	28,914	5,481	5,124	18,528	21,932	13,539	6,955	8,571
Mean	1,173	697	538	281	1,033	177	171	598	731	437	224	286
Cfsm	34.6	20.6	15.9	8.29	30.5	5.22	5.04	17.6	21.6	12.9	6.61	8.44
In.	39.89	22.95	18.31	9.54	31.72	6.01	5.62	20.33	24.06	14.85	7.63	9.40
Ac-ft	72,120	41,500	33,110	17,250	57,350	10,870	10,160	36,750	43,500	26,850	13,800	17,000

Calendar year 1953: Max 2,200 Min 140 Mean 511 Cfsm 15.1 In. 204.60 Ac-ft 369,900
Water year 1953-54: Max - Min 108 Mean 525 Cfsm 15.5 In. 210.31 Ac-ft 380,300

Peak discharge (base, 1,700 cfs).--Oct. 11 (1 p.m.) 1,900 cfs (6.16 ft); Oct. 14 (5:30 p.m.) 2,590 cfs (6.99 ft); Oct. 19 (10 a.m.) 2,290 cfs (6.65 ft); Oct. 25 (2:30 p.m.) 2,120 cfs (6.44 ft); Oct. 27 (10:30 p.m.) 2,600 cfs (7.00 ft); Nov. 3 (2:30 p.m.) 2,020 cfs (6.30 ft); Feb. 7 or 8 (time unknown) 3,030 cfs (7.40 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for nearby streams.

Manzanita Creek near Ketchikan--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	334	672	669	448	410	188	238	267	840	684	382	615
2	307	593	638	406	391	176	222	302	784	646	391	539
3	289	688	920	385	445	166	214	289	792	642	388	669
4	267	1,090	772	364	642	160	260	279	844	661	382	736
5	251	925	676	349	451	157	991	326	740	642	435	568
6	236	956	597	522	451	160	1,000	349	661	619	1,440	505
7	224	800	*539	478	*397	296	732	373	634	593	1,090	458
8	230	692	525	406	358	230	623	*332	696	582	966	416
9	575	856	478	370	329	214	619	416	788	568	920	382
10	920	696	484	346	320	212	561	522	856	568	820	352
11	776	669	532	326	315	204	501	419	752	586	876	329
12	748	661	522	326	349	192	458	388	684	586	728	315
13	661	700	481	304	352	180	435	403	665	532	784	332
14	1,080	740	505	304	323	171	410	432	*653	498	1,130	349
15	1,110	688	464	286	320	167	388	484	700	474	1,150	323
16	1,590	661	816	264	291	162	370	800	752	467	1,320	312
17	1,260	638	880	247	269	166	361	948	860	461	1,320	323
18	1,330	992	772	234	258	160	352	840	760	467	1,140	642
19	1,440	872	1,450	220	251	157	352	820	724	615	943	435
20	1,540	1,350	2,280	214	276	*154	346	772	740	515	804	382
21	1,680	1,200	2,030	206	299	156	358	704	760	481	700	349
22	1,560	1,160	1,510	332	269	151	346	661	792	657	615	323
23	1,250	1,160	1,170	269	255	143	312	680	804	518	557	302
24	a1,050	1,390	961	253	236	139	294	676	792	484	498	406
25	a1,000	1,430	816	329	226	136	279	716	748	448	467	461
26	*1,210	1,260	716	416	216	200	269	657	720	438	582	394
27	1,020	1,160	840	604	206	230	260	661	736	448	458	370
28	860	979	704	451	200	194	258	638	732	481	419	400
29	784	844	608	464	-	214	267	619	848	435	388	550
30	760	768	554	532	-------	242	267	593	760	413	364	505
31	712	-------	498	481	-------	253	-------	575	-------	391	*355	-------
Total	27,054	27,290	25,407	11,136	9,105	5,730	12,343	16,941	22,617	16,600	22,812	13,042
Mean	873	910	820	359	325	185	411	546	754	535	736	435
Cfsm	25.8	26.8	24.2	10.6	9.59	5.46	12.1	16.1	22.2	15.8	21.7	12.8
In.	29.68	29.94	27.87	12.22	9.99	6.29	13.54	18.59	24.81	18.21	25.03	14.31
Ac-ft	53,660	54,130	50,390	22,090	18,060	11,370	24,480	33,600	44,860	32,930	45,250	25,870

Calendar year 1954: Max - Min 108 Mean 541 Cfsm 16.0 In. 216.65 Ac-ft 391,700
Water year 1954-55: Max 2,280 Min 136 Mean 576 Cfsm 17.0 In. 230.48 Ac-ft 416,700

Peak discharge (base, 1,700 cfs).--Oct. 16 (8 a.m.) 1,900 cfs (6.09 ft); Oct. 19 (11 p.m.) 2,340 cfs (6.65 ft); Nov. 20 (8 p.m.) 2,250 cfs (6.54 ft); Nov. 24 (10 p.m.) 2,080 cfs (6.32 ft); Dec. 20 (7 a.m.) 2,900 cfs (7.27 ft); Aug. 6 (3 p.m.) 2,420 cfs (6.75 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage and records for Ella Creek near Ketchikan.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	422	532	226				a120	410	720	474	198	724
2	491	478	212				a140	400	720	438	220	612
3	522	432	204				a150	394	672	416	210	539
4	590	388	198				a140	419	631	391	206	478
5	669	358	190				a130	478	582	370	600	467
6	1,500	391	180				a130	488	572	385	1,020	445
7	1,020	2,120	198				a140	484	572	416	748	400
8	894	1,320	332				a160	498	568	373	623	370
9	930	*1,530	286				a150	638	561	352	525	343
10	868	1,140	249				138	518	*554	332	464	318
11	1,150	912	226				135	471	505	318	416	299
12	1,110	760	210	a90			135	442	481	302	379	281
13	1,410	657	198				146	696	454	289	349	264
14	1,040	572	190				299	1,120	445	279	320	251
15	1,040	512	180				212	1,600	435	267	299	240
16	979	461	169		a170	a110	182	1,740	451	255	284	228
17	930	416	162				313	1,480	471	249	269	218
18	768	379	154				491	1,300	564	251	258	208
19	692	349	148				318	1,220	575	242	267	283
20	1,740	323	143				323	1,220	539	234	516	304
21	1,310	299	139				474	1,470	604	302	564	361
22	1,020	279	135				*501	1,480	889	332	575	461
23	2,020	262	a130	98			481	1,360	752	281	467	403
24	1,510	247	a125				515	1,160	672	276	631	349
25	1,260	232	a120				491	1,240	612	260	484	326
26	1,070	218	a115				478	1,220	564	244	484	302
27	907	206	a115	a90			458	1,040	688	232	464	304
28	804	200	a110				448	920	646	222	a540	329
29	816	228	a105				435	844	568	212	a450	296
30	692	253	a105		-------		426	804	515	204	a720	469
31	604	-------	a100		-------		-------	784	-------	196	*938	-------
Total	30,778	16,454	5,354	2,798	4,930	3,410	8,659	28,338	17,582	9,394	14,488	10,872
Mean	993	548	173	90.3	170	110	289	914	586	303	467	362
Cfsm	29.3	16.2	5.10	2.66	5.01	3.24	8.53	27.0	17.3	8.94	13.8	10.7
In.	33.77	18.05	5.87	3.07	5.41	3.74	9.50	31.09	19.29	10.31	15.89	11.93
Ac-ft	61,050	32,640	10,620	5,550	9,780	6,760	17,170	56,210	34,870	18,630	28,740	21,560

Calendar year 1955: Max 2,120 Min 100 Mean 501 Cfsm 14.8 In. 200.68 Ac-ft 362,800
Water year 1955-56: Max 2,120 Min - Mean 418 Cfsm 12.3 In. 167.92 Ac-ft 303,600

Peak discharge (base, 1,700 cfs).--Oct. 6 (7 a.m.) 2,380 cfs (6.70 ft); Oct. 13 (7 a.m.) 2,140 cfs (6.40 ft); Oct. 20 (8 p.m.) 2,470 cfs (6.80 ft); Oct. 23 (5 p.m.) 2,990 cfs (7.36 ft); Nov. 7 (8 a.m.) 2,460 cfs (6.79 ft); May 16 (2 a.m.) 1,800 cfs (5.94 ft); May 21 (9:30 p.m.) 1,820 cfs (5.97 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for Ella Creek near Ketchikan.

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 (discontinued).

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

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

Extremes.--1953-54: Maximum discharge during water year, 475 cfs Feb. 2 (gage height, 3.35 ft), from rating curve extended above 120 cfs; minimum, 7.4 cfs Sept. 5 (gage height, 0.24 ft).

1954-55: Maximum discharge during water year, 287 cfs Dec. 20 (gage height, 3.08 ft), from rating curve extended above 130 cfs; minimum, 15 cfs Oct. 8 (gage height, 0.74 ft).

1955-56: Maximum discharge during water year, 377 cfs May 15 (gage height, 2.94 ft), from rating curve extended above 120 cfs; minimum daily, 13 cfs Dec. 26-28.

1951-56: Maximum discharge, that of Feb. 2, 1954; minimum, 6.5 cfs Sept. 6, 1951.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, and those above 150 cfs, which are poor. There are three lakes above gage, Lake Mellen (168 acres), Summit Lake (396 acres), and Lake Marge (93 acres).

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a90	96	66	114	259	30	12	14	65	52	23	7.9
2	a100	82	86	102	412	26	11	14	70	50	21	7.8
3	a120	175	98	84	292	24	10	34	73	44	20	7.6
4	a105	168	80	75	271	24	10	55	76	43	19	7.5
5	a95	116	69	67	346	23	9.8	52	80	42	18	7.5
6	a88	86	62	56	301	22	9.9	47	80	41	18	16
7	*84	67	58	52	391	22	12	53	78	41	18	25
8	110	56	67	44	295	22	22	63	73	59	17	26
9	106	53	71	47	192	24	19	72	67	79	16	24
10	104	64	67	47	*116	21	19	74	64	67	15	20
11	145	78	98	44	74	19	32	72	67	58	14	18
12	116	108	78	54	55	24	54	67	79	52	14	16
13	158	162	75	54	48	24	50	61	100	45	13	16
14	210	135	*78	36	b38	21	40	55	135	*39	13	17
15	158	104	64	b32	b32	19	41	54	122	34	12	15
16	152	90	52	b29	b27	17	40	53	98	33	*12	14
17	125	71	67	25	24	16	34	53	87	34	12	13
18	152	69	69	22	23	15	29	65	72	43	11	13
19	238	82	58	18	22	15	*26	98	63	46	11	12
20	289	76	46	b16	19	14	24	89	66	39	10	14
21	229	102	50	b15	19	13	27	82	104	34	10	24
22	208	118	265	b13	19	13	28	79	120	42	9.8	37
23	210	120	325	b12	26	13	25	84	100	52	9.3	37
24	148	108	262	b11	31	14	23	89	82	45	9.0	47
25	188	155	202	b10	32	13	20	89	68	42	8.8	51
26	180	140	195	b9.5	29	12	19	76	61	37	8.6	53
27	160	182	226	a9.0	34	11	18	65	57	32	8.5	54
28	190	138	229	a8.5	39	11	17	61	53	28	8.3	44
29	120	98	170	23	-	11	16	60	52	26	8.1	34
30	104	80	145	58	------	11	15	59	52	25	8.0	29
31	130	-----	128	112	-----	12	-----	63	------	24	7.9	------
Total	4,612	3,179	3,606	1,299.0	3,466	556	712.7	1,952	2,364	1,328	403.3	707.3
Mean	149	106	116	41.9	124	17.9	23.8	63.0	78.8	42.8	13.0	23.6
Cfsm	26.1	18.6	20.4	7.35	21.8	3.14	4.18	11.1	13.8	7.51	2.28	4.14
In.	30.09	20.74	23.53	8.48	22.61	3.63	4.65	12.74	15.42	8.66	2.63	4.61
Ac-ft	9,150	6,310	7,150	2,580	6,870	1,100	1,410	3,870	4,690	2,630	800	1,400

Calendar year 1953: Max 325 Min 15 Mean 79.5 Cfsm 13.9 In. 189.25 Ac-ft 57,540
Water year 1953-54: Max 412 Min 7.5 Mean 66.3 Cfsm 11.6 In. 157.79 Ac-ft 47,960

Peak discharge (base, 200 cfs).--Oct. 14 (2 a.m.) 238 cfs (2.56 ft); Oct. 20 (6 a.m.) 313 cfs (2.81 ft); Oct. 25 (4 p.m.) 223 cfs (2.55 ft); Oct. 27 (11 p.m.) 232 cfs (2.58 ft); Dec. 23 (9 a.m.) 340 cfs (2.90 ft); Feb. 2 (10 a.m.) 475 cfs (3.35 ft); Feb. 7 (9 p.m.) 436 cfs (3.22 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for Purple Lake Outlet near Metlakatla.

b Stage-discharge relation affected by ice.

Reynolds Creek near Hydaburg--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	55	64	30	54	25	39	22	82	83	29	68
2	24	47	86	29	49	b23	34	27	105	69	28	70
3	21	61	183	30	51	b22	30	27	98	61	27	79
4	19	84	124	48	91	b21	36	26	110	61	28	131
5	18	81	*82	46	*71	22	109	28	97	62	36	88
6	17	106	66	105	70	27	122	32	75	61	141	61
7	16	98	61	105	55	59	88	42	63	59	149	50
8	15	75	69	68	48	49	68	34	61	56	138	41
9	25	76	56	52	40	42	68	44	71	54	111	34
10	48	76	81	42	40	41	56	58	104	51	105	30
11	56	85	74	39	47	36	46	53	*97	52	112	29
12	65	73	68	45	47	32	39	44	78	54	77	30
13	61	83	66	39	48	29	34	41	70	52	78	52
14	85	140	71	41	44	27	30	42	64	47	125	49
15	78	151	68	42	42	26	32	45	81	43	127	43
16	148	131	118	33	36	26	30	146	136	40	138	45
17	125	108	140	29	31	30	28	171	134	39	138	44
18	190	125	125	27	34	*28	28	142	114	37	116	110
19	198	106	200	25	45	25	27	125	97	36	83	85
20	186	148	253	24	58	25	26	105	90	36	61	61
21	194	157	196	23	61	28	28	77	91	34	50	49
22	167	142	142	48	51	24	28	65	98	33	41	40
23	118	138	99	50	48	22	26	61	105	31	35	34
24	122	161	72	42	40	20	25	66	111	30	30	47
25	101	177	54	42	34	19	23	73	101	29	30	64
26	116	161	49	47	30	42	22	68	89	28	47	54
27	94	173	74	81	28	47	21	68	81	27	40	47
28	*79	144	65	73	27	34	20	67	79	29	32	42
29	75	100	46	68	-	32	20	64	110	30	29	58
30	68	78	39	69	-------	37	21	59	105	30	*27	58
31	68	-------	34	69	-------	45	-------	55	-------	29	29	-------
Total	2,625	3,340	2,925	1,511	1,320	965	1,204	1,977	2,797	1,383	2,237	1,693
Mean	84.7	111	94.4	48.7	47.1	31.1	40.1	63.8	93.2	44.6	72.2	56.4
Cfsm	14.9	19.5	16.6	8.54	8.26	5.46	7.04	11.2	16.4	7.82	12.7	9.89
In.	17.13	21.79	19.08	9.86	8.61	6.30	7.86	12.90	18.25	9.02	14.60	11.05
Ac-ft	5,210	6,620	5,800	3,000	2,620	1,910	2,390	3,920	5,550	2,740	4,440	3,360

Calendar year 1954: Max 412 Min 7.5 Mean 59.4 Cfsm 10.4 In. 141.43 Ac-ft 42,980
Water year 1954-55: Max 253 Min 15 Mean 65.7 Cfsm 11.5 In. 156.45 Ac-ft 47,560

Peak discharge (base, 200 cfs).--Oct. 20 (9 p.m.) 220 cfs (2.78 ft); Nov. 20 (6 p.m.) 202 cfs (2.72 ft); Dec. 3 (10 a.m.) 207 cfs (2.74 ft); Dec. 20 (2 a.m.) 287 cfs (3.08 ft); May 16 (9 p.m.) 207 cfs (2.74 ft). * Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	a36	36	16	19	18	24	47	102	49	24	135
2	53	a32	30	16	20	20	28	45	104	43	25	89
3	60	a29	28	16	26	22	27	44	89	40	28	63
4	71	a26	26	16	36	b20	24	46	80	36	29	49
5	94	a24	26	15	32	b19	22	51	74	34	40	54
6	173		26	15	33	20	28	55	66	37	113	52
7	149		36	b14	32	24	30	56	70	48	118	41
8	155	a120	50	14	55	24	32	54	82	44	82	36
9	157		44	14	68	22	28	69	80	37	58	34
10	146		37	14	54	20	25	65	86	34	43	31
11	173	78	32	14	42	19	24	54	80	32	35	29
12	165	61	29	16	35	20	24	49	72	30	31	27
13	144	48	26	17	b32	20	28	72	63	29	29	26
14	110	40	24	16	b30	20	46	177	59	28	27	25
15	127	35	23	15	b28	25	36	362	60	27	26	23
16	111	31	22	15	b29	24	32	371	72	27	a26	22
17	99	29	20	b20	28	27	68	320	138	27	a25	21
18	74	28	19	44	27	32	83	240	222	27	a25	21
19	67	26	b18	37	26	27	59	202	188	27		37
20	153	24	b17	*32	27	23	49	208	148	26		34
21	142	22	b16	30	24	21	61	260	182	29		32
22	105	21	b16	32	19	26	76	272	260	34	a120	37
23	157	21	b15	34	b18	24	68	218	200	32		36
24	131	b19	b14	31	b18	22	72	178	145	34		33
25	92	b18	b14	29	19	22	72	220	99	31		30
26	75	b18	a13	25	19	22	68	215	82	28		28
27	63	18	a13	24	18	23	63	178	102	27	80	28
28	54	19	a13	22	18	27	56	152	97	27	*76	30
29	52	26	a14	b21	18	31	52	120	74	25	72	28
30	46	32	a14	b20	-------	32	49	113	60	24	108	47
31	40	-------	15	b19	-------	27	-------	111	-------	23	200	-------
Total	3,287	1,361	726	663	850	723	1,354	4,624	3,236	996	2,280	1,178
Mean	106	45.4	23.4	21.4	29.3	23.3	45.1	149	108	32.1	73.5	39.3
Cfsm	18.6	7.96	4.11	3.75	5.14	4.09	7.91	26.1	18.9	5.63	12.9	6.89
In.	21.45	8.88	4.74	4.33	5.55	4.72	8.83	30.17	21.11	6.50	14.88	7.69
Ac-ft	6,520	2,700	1,440	1,320	1,690	1,430	2,690	9,170	6,420	1,980	4,520	2,340

Calendar year 1955: Max 173 Min 13 Mean 56.1 Cfsm 9.84 In. 133.52 Ac-ft 40,590
Water year 1955-56: Max 371 Min 13 Mean 58.1 Cfsm 10.2 In. 138.85 Ac-ft 42,220

Peak discharge (base, 200 cfs).--May 15 (2:30 a.m.) 377 cfs (2.94 ft); May 21 (9 p.m.) 305 cfs (2.70 ft); May 25 (7 p.m.) 263 cfs (2.56 ft); June 18 (2 a.m.) 232 cfs (2.45 ft); June 22 (6 a.m.) 278 cfs (2.61 ft); Aug. 31 (4 a.m.) 232 cfs (2.45 ft). * Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for Perseverance Creek near Wacker. b Stage-discharge relation affected by ice.

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 1956. Prior to October 1945, monthly discharge only, published in WSP 1372. Prior to October 1930, published as Medvetcha River near Sitka.

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.--27 years (1920-22, 1928-42, 1945-56), 488 cfs (353,300 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 5,670 cfs Sept. 20 (gage height, 8.95 ft, from rating curve extended above 2,600 cfs by logarithmic plotting; minimum, 40 cfs Mar. 20-22 (gage height, 1.02 ft).

1954-55: Maximum discharge during water year, 6,230 cfs Dec. 16 (gage height, 9.44 ft), from rating curve extended above 2,600 cfs by logarithmic plotting; minimum, 77 cfs Mar. 25, 26 (gage height, 1.27 ft).

1955-56: Maximum discharge during water year, 2,130 cfs Nov. 8 (gage height, 5.22 ft); minimum, 24 cfs Jan. 16, 17 (gage height, 0.93 ft).

1920-22, 1928-42, 1945-56: 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.--Records good except those for periods of no gage-height record, which are fair Blue Lake, 1.6 miles upstream, has an area of 495 acres.

Cooperation.--Water-stage recorder inspected by employees of Sitka Public Utilities.

Revisions (water years).--WSP 1372: 1929(M).

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	303	390	181	326	571	88	52	57	757	825	571	342
2	283	319	156	280	1,580	84	52	61	752	673	546	306
3	287	326	129	235	1,260	88	54	75	781	567	517	280
4	423	349	117	194	850	93	52	*86	938	537	505	255
5	738	306	109	175	1,010	84	51	106	1,120	542	521	235
6	776	258	96	156	1,300	75	50	129	999	533	537	245
7	673	219	86	141	766	70	48	166	933	563	537	352
8	592	184	84	129	533	79	48	239	938	766	533	390
9	650	162	86	120	405	77	50	339	933	850	558	369
10	682	191	101	120	316	66	50	466	890	700	558	332
11	966	387	141	115	258	57	50	529	916	597	521	296
12	820	687	150	144	219	57	57	542	895	517	470	261
13	710	710	135	138	a200	54	63	481	786	473	431	242
14	682	584	112	123	a180	51	63	423	757	458	423	242
15	*505	442	98	106	a160	47	66	390	673	501	431	232
16	439	349	86	98	a150	45	115	390	610	659	394	219
17	450	*283	88	88	a140	44	101	416	567	677	489	207
18	529	232	88	79	a130	42	96	489	501	664	580	200
19	944	197	88	72	a130	41	88	597	470	575	497	200
20	2,980	169	82	72	123	40	82	601	521	521	505	2,260
21	3,450	156	84	*61	98	40	77	588	636	542	571	4,040
22	3,630	156	416	59	91	40	75	567	673	790	481	2,210
23	2,800	159	880	57	117	44	72	687	592	885	401	1,300
24	1,220	194	771	56	135	44	66	880	554	781	485	1,530
25	1,000	232	517	a54	138	42	65	900	563	646	509	1,320
26	2,110	316	567	a54	123	41	61	825	632	563	517	1,790
27	1,860	352	972	a52	112	41	59	677	738	580	473	1,180
28	885	335	1,260	a52	101	41	59	584	714	614	454	673
29	550	271	766	a52	-	42	57	558	719	614	416	458
30	439	219	533	72	------	47	57	592	825	505	383	345
31	473	-----	401	101	-----	50	-----	733	------	542	335	------
Total	32,849	9,134	9,380	3,581	11,196	1,754	1,936	14,173	22,383	19,260	15,149	22,311
Mean	1,060	304	303	116	400	56.6	64.5	457	746	621	489	744
Cfsm	27.2	7.79	7.77	2.97	10.3	1.45	1.65	11.7	19.1	15.9	12.5	19.1
In.	31.32	8.71	8.94	3.41	10.68	1.67	1.85	13.52	21.34	18.37	14.45	21.28
Ac-ft	65,160	18,120	18,600	7,100	22,210	3,480	3,840	28,110	44,400	38,200	30,050	44,250

Calendar year 1953: Max 3,630 Min 50 Mean 495 Cfsm 12.7 In. 172.35 Ac-ft 358,500
Water year 1953-54: Max 4,040 Min 40 Mean 447 Cfsm 11.5 In. 155.54 Ac-ft 323,500

Peak discharge (base, 2,700 cfs).--Oct. 22 (7 p.m.) 4,560 cfs (7.86 ft); Oct. 26 (9 p.m.) 2,820 cfs (6.12 ft); Sept. 20 (10:30 p.m.) 5,670 cfs (8.95 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for Takatz Creek near Baranof.

Sawmill Creek near Sitka--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	284	612	256	118	139	98	144	110	308	685	746	980
2	242	514	249	114	137	a90	139	127	388	648	741	2,160
3	205	404	298	125	137	a85	134	158	452	812	635	2,550
4	175	464	246	120	150	a80	130	158	608	1,050	554	1,490
5	*152	581	209	118	152	a90	137	158	626	1,360	576	922
6	137	710	172	220	147	130	147	169	504	1,400	802	622
7	122	608	152	348	144	305	147	175	412	1,250	1,140	460
8	114	440	132	294	127	308	137	178	496	1,180	939	376
9	116	326	120	235	118	288	130	172	774	1,140	790	326
10	134	266	118	190	108	*252	125	166	1,560	1,150	829	302
11	277	252	125	166	106	212	120	166	1,230	1,130	695	298
12	518	235	130	158	104	172	116	178	818	934	599	340
13	464	215	122	166	98	142	112	196	599	807	715	554
14	617	215	152	158	96	122	108	225	509	730	873	666
15	917	225	181	147	98	116	106	249	468	644	790	576
16	950	252	3,430	134	95	116	102	532	476	612	906	476
17	763	*252	3,770	122	87	144	100	906	536	671	1,140	420
18	912	428	1,890	*110	98	132	100	720	540	736	851	518
19	1,160	648	1,290	104	144	116	98	572	*545	725	644	527
20	796	662	1,740	100	228	108	100	468	612	710	568	416
21	680	1,090	1,270	96	319	104	108	388	774	695	504	319
22	617	1,120	730	120	288	95	108	348	1,020	912	436	260
23	514	802	488	144	246	87	106	368	1,240	1,030	408	232
24	488	785	352	152	187	82	100	448	1,360	900	432	1,090
25	456	1,120	277	144	158	77	*96	480	1,260	829	484	1,570
26	476	1,020	246	139	130	125	95	444	1,090	906	758	1,180
27	522	676	212	172	118	147	93	384	968	1,020	840	802
28	480	480	181	193	108	147	95	352	956	884	807	558
29	527	408	155	178	-	137	96	326	912	736	*730	472
30	572	326	137	161	-------	132	104	298	812	648	612	388
31	653	-------	125	152	-------	142	-------	294	-------	666	586	-------
Total	15,040	16,136	18,955	4,898	4,067	4,381	3,433	9,913	22,853	27,600	22,130	21,850
Mean	485	538	611	158	145	141	114	320	762	890	714	728
Cfsm	12.4	13.8	15.7	4.05	3.72	3.62	2.92	8.21	19.5	22.8	18.3	18.7
In.	14.34	15.39	18.08	4.67	3.88	4.18	3.27	9.45	21.79	26.32	21.10	20.84
Ac-ft	29,830	32,010	37,600	9,720	8,070	8,690	6,810	19,660	45,330	54,740	43,890	43,340

Calendar year 1954: Max 4,040 Min 40 Mean 443 Cfsm 11.4 In. 154.38 Ac-ft 321,100
Water year 1954-55: Max 3,770 Min 77 Mean 469 Cfsm 12.0 In. 163.31 Ac-ft 339,700

Peak discharge (base, 2,700 cfs).--Dec. 16 (6 p.m.) 6,230 cfs (9.44 ft); Sept. 3 (12:30 a.m.) 3,280 cfs (6.53 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for nearby streams.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	326	145	61	35	28	38	63	240	677	560	650	1,090
2	286	130	61	33	29	38	78	247	636	582	790	810
3	*278	116	65	32	*36	36	80	268	632	623	800	600
4	342	105	69	33	38	35	78	286	636	668	720	492
5	455	101	67	32	43	32	78	318	623	650	654	650
6	1,220	97	63	32	86	31	74	378	618	686	825	740
7	1,000	368	61	31	84	35	74	422	560	735	906	600
8	850	1,820	72	30	101	36	74	434	538	705	978	492
9	686	1,250	72	29	112	35	71	636	551	632	800	454
10	524	664	72	29	110	31	67	582	574	*569	654	430
11	450	410	71	28	103	30	65	438	564	528	610	402
12	650	292	67	26	92	31	65	354	574	497	578	430
13	623	227	61	26	80	31	69	390	556	587	569	533
14	524	190	60	26	70	56	86	510	600	865	538	542
15	492	167	56	26	67	71	80	1,240	668	956	510	470
16	533	145	53	24	80	67	80	1,500	775	875	506	382
17	551	132	51	24	78	86	92	1,120	840	845	564	330
18	450	121	43	26	74	88	97	840	1,070	825	805	310
19	386	112	43	30	65	86	99	880	1,000	795	1,010	738
20	923	103	43	30	60	80	103	1,320	775	1,000	1,390	966
21	950	95	42	31	56	78	142	1,270	668	1,130	1,190	912
22	614	88	a41	35	54	74	230	1,170	755	1,230	840	934
23	587	82	a40	36	49	74	292	1,090	795	1,050	780	672
24	695	78	a39	35	45	69	354	805	720	815	944	502
25	524	74	a39	33	42	65	430	740	650	695	966	386
26	390	70	a38	32	40	61	430	785	582	636	1,180	303
27	303	67	a37	30	39	61	*374	672	578	623	1,160	268
28	244	65	a37	29	38	63	303	614	610	632	1,000	289
29	211	63	a36	29	39	65	264	551	587	618	1,380	292
30	184	63	a36	28	-------	65	247	690	556	578	1,540	536
31	164	-------	a35	26	-------	65	-------	775	-------	538	1,260	-------
Total	16,415	7,440	1,631	926	1,838	1,713	4,639	21,565	19,968	22,728	27,097	16,555
Mean	530	248	52.6	29.9	63.4	55.3	155	696	666	733	874	552
Cfsm	13.6	6.36	1.35	0.767	1.63	1.42	3.97	17.8	17.1	18.8	22.4	14.2
In.	15.65	7.09	1.56	0.88	1.75	1.63	4.42	20.56	19.04	21.67	25.84	15.79
Ac-ft	32,560	14,760	3,240	1,840	3,650	3,400	9,200	42,770	39,610	45,080	53,750	32,840

Calendar year 1955: Max 2,550 Min 35 Mean 402 Cfsm 10.3 In. 139.80 Ac-ft 290,800
Water year 1955-56: Max 1,820 Min 24 Mean 389 Cfsm 9.97 In. 135.88 Ac-ft 282,700

Peak discharge (base, 2,700 cfs).--No peak above base.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for Takatz Creek near Baranof.

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 (discontinued).

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

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

Extremes.--1953-54: Maximum discharge during water year, 2,820 cfs Oct. 22 (gage height, 8.02 ft), from rating curve extended above 930 cfs by logarithmic plotting; minimum, 58 cfs Mar. 20 or 21 (gage height, 1.82 ft).
1954-55: Maximum discharge during water year, 1,910 cfs Dec. 20 (gage height, 6.88 ft); minimum, 89 cfs Oct. 8, 9 (gage height, 2.20 ft).
1955-56: Maximum discharge during water year, 1,640 cfs Aug. 20 (gage height, 6.49 ft); minimum, 50 cfs Nov. 26 (gage height, 1.68 ft), result of freezeup.
1951-56: Maximum discharge, that of Oct. 22, 1953; minimum, that of Nov. 26, 1955.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. There are three major lakes above station, Rezanof Lake (1,025 acres), Khvostof Lake (350 acres), and Maksoutof Lake (512 acres).

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	384	509	308	480	588	128		95	477	558	233	126
2	335	408	272	428	1,230	125		100	537	562	225	122
3	298	495	231	340	1,550	143		110	632	495	217	116
4	378	453	201	268	1,410	159		130	671	432	205	110
5	520	393	181	219	1,660	140		*193	687	384	205	107
							85					
6	663	338	154	183	1,590	130		308	659	378	205	112
7	639	270	135	154	1,210	126		308	610	330	203	153
8	600	223	150	142	800	137		320	572	399	197	211
9	687	199	160	162	565	134		351	534	632	195	255
10	910	260	183	165	414	122		387	506	723	195	255
11	1,310	459	278	160	310	110		411	509	632	197	231
12	1,110	1,110	239	258	241	114		417	548	520	195	203
13	990	1,730	213	205	213	107	100	390	663	432	189	215
14	*925	1,540	197	158	199	95		363	778	375	185	219
15	703	1,080	165	132	185	80		335	804	340	183	201
16	647	760	156	117	165			322	*707	338	177	179
17	687	540	217	105	146			325	579	357	175	159
18	827	426	211	98	136		160	363	477	378	177	144
19	1,270	351	185	88	128			414	405	372	179	135
20	1,680	298	159	b83	110			456	369	369	183	440
21	2,090	387	213	b78	87			468	405	372	189	868
22	2,460	462	1,090	b75	97			480	530	381	187	809
23	2,280	456	1,700	b73	156	65	120	558	565	399	181	796
24	1,380	516	1,410	b71	169			675	520	387	183	890
25	1,090	568	985	b69	150			735	462	363	173	895
26	1,350	791	858	b67	132			667	420	325	160	995
27	1,280	818	990	b66	150			576	399	292	156	872
28	876	683	1,110	b65	143		100	495	390	272	149	643
29	628	520	876	b65	-			450	390	260	142	471
30	554	393	739	b100	------			426	462	250	136	351
31	624	-----	582	b180	------		------	447	------	241	*131	------
Total	30,175	17,436	14,548	4,852	13,934	2,890	3,250	12,075	16,267	12,548	5,707	11,283
Mean	973	581	469	157	498	93.2	108	390	542	405	184	376
Cfsm	37.4	22.3	18.0	6.04	19.2	3.58	4.15	15.0	20.8	15.6	7.08	14.5
In.	43.16	24.94	20.81	6.94	19.93	4.13	4.65	17.27	23.27	17.95	8.16	16.14
Ac-ft	59,850	34,580	28,860	9,620	27,640	5,730	6,450	23,950	32,270	24,890	11,320	22,380

Calendar year 1953: Max 2,460 Min 69 Mean 447 Cfsm 17.2 In. 233.29 Ac-ft 323,500
Water year 1953-54: Max 2,460 Min - Mean 397 Cfsm 15.3 In. 207.35 Ac-ft 287,500

Peak discharge (base, 1,200 cfs).--Oct. 11 (1 p.m.) 1,350 cfs (6.04 ft); Oct. 22 (10 p.m.) 2,820 cfs (8.02 ft); Oct. 26 (11 p.m.) 1,480 cfs (6.24 ft); Nov. 13 (8 p.m.) 1,830 cfs (6.76 ft); Dec. 23 (11:30 a.m.) 1,750 cfs (6.65 ft); Feb. 5 (6 p.m.) 1,880 cfs (6.83 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Mar. 14 to May 4; discharge estimated on basis of recorded range in stage, weather records, and records for nearby streams.

Maksoutof River near Port Alexander--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	270	290	370	111	239	b150	320	109	295	556	388	436
2	211	280	639	127	292	b130	270	159	328	489	379	820
3	*168	318	735	163	295	b125	226	187	394	475	355	1,260
4	138	475	500	222	373	128	226	174	545	492	340	1,080
5	118	723	370	232	312	a135	248	213	552	559	352	780
6	105	975	280	528	280	a200	248	270	500	631	531	562
7	96	852	255	427	244	a640	222	300	427	655	896	430
8	91	623	226	262	215	a570	195	302	457	635	910	330
9	91	472	209	191	185	*448	217	332	545	623	1,020	265
10	112	403	280	217	185	385	226	376	820	623	955	222
11	180	482	298	270	244	318	217	348	906	639	723	193
12	300	506	305	320	224	255	203	305	771	598	573	193
13	330	587	280	367	197	205	183	275	612	562	711	335
14	545	878	409	433	191	174	168	255	496	503	793	a570
15	562	1,150	415	340	185	168	168	278	436	445	723	a590
16	731	1,190	1,160	260	154	180	158	731	400	406	735	489
17	798	1,000	1,820	207	148	298	141	1,030	403	388	759	421
18	1,250	1,280	1,570	172	205	246	130	985	442	388	631	486
19	1,780	1,180	1,480	152	500	191	122	806	*454	409	500	457
20	1,460	1,280	1,870	138	675	195	119	639	454	430	421	400
21	1,230	1,370	1,460	161	573	197	134	503	472	424	361	330
22	995	1,200	942	315	454	159	132	409	528	421	310	265
23	751	1,010	615	367	400	135	123	364	601	445	268	222
24	739	1,100	433	328	298	118	113	364	675	454	244	538
25	647	1,390	330	285	232	112	104	421	695	439	244	755
26	639	1,270	285	260	191	318	99	415	667	430	308	798
27	598	1,060	246	421	193	385	100	388	627	445	300	695
28	496	763	199	361	172	285	100	361	612	466	328	566
29	412	619	161	295	-	222	99	322	631	469	310	528
30	342	486	137	270	-------	228	100	288	615	445	*280	463
31	298	-------	122	260	-------	332	-------	278	-------	409	265	-------
Total	16,483	25,212	18,401	8,462	7,856	7,632	5,111	12,187	16,360	15,353	15,913	15,479
Mean	532	840	594	273	281	246	170	393	545	495	513	516
Cfsm	20.5	32.3	22.8	10.5	10.8	9.46	6.54	15.1	21.0	19.0	19.7	19.8
In.	23.58	36.06	26.32	12.10	11.24	10.92	7.31	17.43	23.40	21.96	22.76	22.14
Ac-ft	32,690	50,010	36,500	16,780	15,580	15,140	10,140	24,170	32,450	30,450	31,560	30,700

Calendar year 1954: Max 1,870 Min - Mean 392 Cfsm 15.1 In. 204.40 Ac-ft 283,400
Water year 1954-55: Max 1,870 Min 91 Mean 451 Cfsm 17.3 In. 235.22 Ac-ft 326,200

Peak discharge (base, 1,200 cfs).--Oct. 19 (9 a.m.) 1,860 cfs (6.80 ft); Nov. 20 (4 p.m.) 1,430 cfs (6.16 ft); Nov. 25 (3 p.m.) 1,430 cfs (6.16 ft); Dec. 17 (12 m.) 1,900 cfs (6.86 ft); Dec. 20 (5 a.m.) 1,910 cfs (6.88 ft); Sept. 3 (12 m.) 1,290 cfs (5.93 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for Sawmill Creek near Sitka. b Stage-discharge relation affected by ice.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	385	168	159	75	a80			239	500	418	335	559
2	328	141	163	72	a90			237	478	397	436	475
3	*328	120	232	71	a95			237	469	376	486	394
4	448	107	230	b75	96			239	454	370	460	325
5	576	102	217		97			265	439	379	503	350
6	1,080	127	187		127			292	421	400	675	345
7	1,100	422	241		144			310	409	445	639	305
8	1,170	888	260		213			342	412	482	584	268
9	1,130	888	217		211			538	469	469	492	248
10	928	651	185		172			492	514	433	415	237
11	965	460	149		146			415	510	391	352	222
12	970	330	125	b65	167			367	475	361	310	205
13	838	244	110		b170			492	442	345	285	193
14	691	189	99				a220	655	430	367	265	187
15	687	158	91			a130		1,150	433	412	248	183
16	590	138	84					1,380	472	436	237	174
17	528	134						1,100	570	433	268	161
18	463	124						865	932	433	597	156
19	528	111						793	1,130	427	1,060	340
20	1,100	100		87				995	932	469	1,530	421
21	1,060	92		97	a125			1,280	824	517	1,370	442
22	755	83		130				1,550	1,070	683	950	514
23	847	74	b65	127				1,480	1,100	735	699	478
24	901	71		120				1,120	892	651	695	409
25	715	69		114				1,090	691	545	671	340
26	531	62		a105				955	556	466	731	278
27	421	63		a95			*312	860	492	409	679	270
28	338	66		a90			288	755	475	364	598	295
29	282	99		a85			268	608	457	335	556	282
30	234	138	69	a80	-------		248	576	436	312	548	342
31	201	-------	69	a75	-------		-------	538	-------	300	587	-------
Total	21,118	6,419	3,732	2,473	3,808	4,030	6,836	22,215	17,884	13,560	18,261	9,398
Mean	681	214	120	79.8	131	130	228	717	596	437	589	313
Cfsm	26.2	8.23	4.62	3.07	5.04	5.00	8.77	27.6	22.9	16.8	22.7	12.0
In	30.21	9.18	5.34	3.54	5.45	5.76	9.78	31.78	25.58	19.40	26.12	13.44
Ac-ft	41,890	12,730	7,400	4,910	7,550	7,990	13,560	44,060	35,470	26,900	36,220	18,640

Calendar year 1955: Max 1,260 Min - Mean 372 Cfsm 14.3 In. 193.99 Ac-ft 269,000
Water year 1955-56: Max 1,550 Min - Mean 354 Cfsm 13.6 In. 185.58 Ac-ft 257,300

Peak discharge (base, 1,200 cfs).--Oct. 8 (1 p.m.) 1,270 cfs (5.90 ft); Oct. 20 (4 p.m.) 1,300 cfs (5.95 ft); May 16 (12 m.) 1,450 cfs (6.20 ft); May 22 (9 p.m.) 1,630 cfs (6.48 ft); Aug. 20 (5 p.m.) 1,640 cfs (6.49 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for nearby streams. b Stage-discharge relation affected by ice.

Deer Lake Outlet near Port Alexander

Location.--Lat 56°31', long 134°40', on Baronof 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.--9.2 sq mi, approximately.

Records available.--June 1951 to September 1956.

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

Average discharge.--5 years, 164 cfs (118,700 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 642 cfs Oct. 22 (gage height, 3.47 ft); minimum, 21 cfs Apr. 4 (gage height, 1.23 ft), caused by temporary storage behind ice jam upstream.
1954-55: Maximum discharge during water year, 588 cfs Dec. 20 (gage height, 3.38 ft); minimum, 56 cfs Mar. 2 (gage height, 1.83 ft), result of freezeup.
1955-56: Maximum discharge during water year, 518 cfs June 22 (gage height, 3.26 ft); minimum, 9.4 cfs Mar. 23 (gage height, 0.73 ft), caused by temporary storage behind ice jam upstream.
1951-56: Maximum discharge, that of Oct. 22, 1953; minimum, that of Mar. 23, 1956.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. There are two lakes above gage, Deer Lake (968 acres), and Deer Upper Lake (139 acres).

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	240	270	222	249	119	84	34	45	173	278		60
2	236	244	214	236	193	86	28	45	200	261		59
3	229	240	190	211	244	87	29	52	214	249		57
4	257	229	169	190	283	87	30	62	222	229		55
5	270	222	166	173	375	84	30	69	225	218		52
6	*278	211	153	161	*397	86	27	73	225	211	a100	64
7	261	190	140	148	365	84	28	74	222	200		79
8	278	173	115	140	325	86	33	78	214	*204		87
9	292	158	134	145	283	90	34	83	211	218		89
10	330	166	132	138	244	84	34	89	204	218		86
11	392	186	138	132	207	80	42	95	214	211		83
12	375	274	136	127	186	80	55	100	225	204	92	82
13	397	355	134	121	166	76	58	104	261	193	90	80
14	386	365	132	108	153	72	58	104	311	183	87	83
15	360	340	125	104	140	69	63	102	*325		84	80
16	370	302	125	92	130	65	73	102	302		82	77
17	360	270	134	84	123	61	73	102	274		84	74
18	345	265	132	80	117	58	72	108	249		84	71
19	430	253	127	74	110	54	69	115	229		82	68
20	546	225	123	68	100	51	*67	119	229		80	73
21	552	236	132	64	92	49	66	125	249		80	98
22	612	249	225	59	89	46	64	132	270	a155	78	121
23	600	244	375	55	92	44	62	161	257		76	145
24	507	244	370	51	95	42	59	200	244		74	183
25	502	244	345	44	92	41	57	211	232		72	222
26	458	278	340	48	87	39	55	207	222		70	253
27	397	345	350	47	89	37	52	200	214		69	249
28	360	316	360	43	87	37	51	193	207		67	232
29	320	278	335	45	-	36	49	183	222		66	214
30	325	244	306	58	------	36	47	176	270		64	193
31	297	-----	270	68	-----	35	-----	176	------		62	------
Total	11,562	7,616	6,349	3,363	4,983	1,966	1,499	3,685	7,116	5,712	2,643	3,369
Mean	373	254	205	108	178	63.4	50.0	119	237	184	85.3	112
Cfsm	40.5	27.6	22.3	11.7	19.3	6.89	5.43	12.9	25.8	20.0	9.27	12.2
In.	46.74	30.79	25.67	13.59	20.14	7.95	6.06	14.90	28.77	23.09	10.68	13.62
Ac-ft	22,930	15,110	12,590	6,670	9,880	3,900	2,970	7,310	14,110	11,330	5,240	6,680

Calendar year 1953: Max 612 Min - Mean 189 Cfsm 20.5 In. 279.41 Ac-ft 137,100
Water year 1953-54: Max 612 Min 27 Mean 164 Cfsm 17.8 In. 242.00 Ac-ft 118,700

Peak discharge (base, 350 cfs).--Oct. 22 (7 p.m.) 642 cfs (3.47 ft); Nov. 14 (3 a.m.) 375 cfs (3.00 ft); Dec. 23 (10 p.m.) 386 cfs (3.02 ft); Feb. 6 (2 a.m.) 419 cfs (3.08 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for Maksoutof River near Port Alexander.

Deer Lake Outlet near Port Alexander--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	173	193	249	140	140	79	83	59	150	222	156	183
2	*158	173	240	136	136	60	83	63	150	218	156	218
3	145	186	232	136	136	67	80	66	158	211	153	257
4	136	225	214	140	145	71	86	68	173	211	150	270
5	127	278	197	136	145	70	89	74	176	214	153	249
6	117	283	180	145	148	72	87	82	173	218	200	232
7	108	270	173	153	143	79	86	94	166	218	232	218
8	97	240	163	148	136	80	84	94	173	218	240	200
9	94	225	158	140	127	80	92	104	180	222	244	183
10	92	225	166	136	130	83	95	117	197	222	257	166
11	95	249	163	132	140	80	95	119	204	222	244	156
12	100	232	161	132	136	77	92	117	204	218	232	183
13	100	265	158	130	*132	73	89	*115	200	214	253	265
14	143	375	176	132	123	71	86	113	193	207	274	274
15	156	458	173	136	121	70	90	117	186	200	265	257
16	176	458	253	134	113	69	86	163	193	190	278	240
17	186	414	350	127	106	71	82	214	*190	186	278	232
18	340	480	360	119	104	69	78	229	186	183	261	236
19	375	463	414	117	102	67	74	225	183	180	244	225
20	350	513	570	113	106	68	72	218	183	176	229	211
21	345	529	529	119	106	69	73	207	183	169	211	193
22	340	474	430	132	104	65	71	193	190	169	197	173
23	311	430	360	134	104	63	69	186	197	169	183	163
24	316	496	311	140	98	*60	67	183	207	169	169	183
25	311	540	265	138	92	61	65	180	211	166	161	190
26	316	485	236	138	87	70	62	176	214	166	156	156
27	292	430	218	150	87	73	62	169	211	166	*148	180
28	257	365	197	150	84	72	60	166	211	166	140	173
29	236	325	176	148	-	70	59	161	229	163	138	173
30	218	283	161	145	-------	72	58	156	229	161	132	166
31	207	-------	150	143	-------	80	-------	150	-------	158	138	-------
Total	6,417	10,562	7,783	4,219	3,331	2,211	2,355	4,378	5,700	5,972	6,272	6,205
Mean	207	352	251	136	119	71.3	78.5	141	190	193	202	207
Cfsm	22.5	38.3	27.3	14.8	12.9	7.75	8.53	15.3	20.7	21.0	22.0	22.5
In.	25.94	42.70	31.46	17.05	13.47	8.94	9.52	17.70	23.04	24.14	25.35	25.08
Ac-ft	12,730	20,950	15,440	8,370	6,610	4,390	4,670	8,680	11,310	11,850	12,440	12,310

Calendar year 1954: Max 570 Min 27 Mean 162 Cfsm 17.6 In. 238.90 Ac-ft 117,200
Water year 1954-55: Max 570 Min 58 Mean 179 Cfsm 19.5 In. 264.39 Ac-ft 129,800

Peak discharge (base, 350 cfs).--Oct. 19 (7 a.m.) 380 cfs (3.01 ft); Nov. 20 (2 p.m.) 546 cfs (3.31 ft); Nov. 24 (10 p.m.) 546 cfs (3.31 ft); Dec. 20 (2 p.m.) 588 cfs (3.38 ft).

* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*157	167	114	49	44	36	41	73	231	231	170	227
2	164	154	110	49	47	37	42	73	227	216	167	213
3	170	142	109	47	47	36	42	73	*220	210	164	199
4	178	136	109	50	52	30	42	73	213	202	162	189
5	186	130	107	47	51	27	42	75	206	199	164	184
6	227	130	104	38	53	40	45	76	199	206	178	175
7	231	167	110	42	54	47	50	79	189	210	178	167
8	244	199	114	46	57	46	51	80	189	210	178	159
9	295	206	110	44	59	39	49	85	192	206	172	157
10	315	192	107	41	59	37	47	87	189	199	167	150
11	348	178	102	39	58	42	46	87	186	192	162	142
12	364	167	98	39	47	*41	45	88	184	186	157	136
13	348	152	92	38	49	40	46	91	181	184	152	130
14	320	142	87	36	48	41	47	101	178	184	145	121
15	320	138	82	30	51	42	47	125	178	184	142	114
16	305	134	78	32	54	41	47	142	181	181	140	109
17	280	130	73	41	52	44	55	152	220	181	182	102
18	248	123	68	49	51	45	57	154	364	181	326	99
19	248	114	58	51	43	44	56	159	375	181	370	121
20	290	107	61	52	41	40	55	175	348	184	446	123
21	280	99	56	53	41	39	56	244	392	196	414	123
22	257	94	53	60	40	42	58	348	512	224	364	125
23	295	87	47	61	40	42	61	386	463	227	336	123
24	320	82	43	60	39	38	63	358	402	224	*320	123
25	295	76	40	60	38	37	68	386	358	213	290	119
26	261	71	40	58	39	36	*70	380	326	206	280	114
27	236	67	42	47	37	36	73	348	310	196	257	119
28	224	65	42	*49	37	39	73	315	285	189	248	130
29	210	80	42	42	37	40	73	285	266	186	240	125
30	196	101	42	44	-------	42	73	261	248	178	244	134
31	181	-------	44	44	-------	41	-------	248	-------	172	244	-------
Total	7,993	3,830	2,384	1,438	1,365	1,227	1,620	5,607	8,012	6,318	7,159	4,252
Mean	258	128	76.9	46.4	47.1	39.6	54.0	181	267	198	231	142
Cfsm	28.0	13.9	8.36	5.04	5.12	4.30	5.87	19.7	29.0	21.5	25.1	15.4
In.	32.31	15.48	9.64	5.81	5.52	4.96	6.55	22.67	32.39	24.81	28.94	17.19
Ac-ft	15,850	7,600	4,730	2,850	2,710	2,430	3,210	11,120	15,890	12,170	14,200	8,430

Calendar year 1955: Max 364 Min 40 Mean 150 Cfsm 16.3 In. 221.72 Ac-ft 108,800
Water year 1955-56: Max 512 Min 27 Mean 139 Cfsm 15.1 In. 208.27 Ac-ft 101,200

Peak discharge (base, 350 cfs).--Oct. 12 (8 a.m.) 375 cfs (3.00 ft); May 25 (4 p.m.) 397 cfs (3.04 ft); June 22 (12 m.) 518 cfs (3.26 ft); Aug. 20 (11 a.m.) 463 cfs (3.16 ft).

* Discharge measurement made on this day.

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 1956.

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

Average discharge.--5 years, 264 cfs (191,100 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 3,310 cfs Oct. 22 (gage height, 5.10 ft), from rating curve extended above 660 cfs by logarithmic plotting; minimum, 19 cfs Mar. 21, 22 (gage height, 1.50 ft).
1954-55: Maximum discharge during water year, 3,290 cfs Oct. 18 (gage height, 5.09 ft), from rating curve extended above 660 cfs by logarithmic plotting; minimum, 28 cfs Mar. 3, 24, 25 (gage height, 1.63 ft).
1955-56: Maximum discharge during water year, 2,570 cfs Aug 20 (gage height, 4.73 ft), from rating curve extended above 660 cfs by logarithmic plotting; minimum, 16 cfs Jan. 16, 17 (gage height, 1.44 ft).
1951-56: 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.--Records good except those for periods of ice effect or no gage-height record, which are poor. Takatz Lake has an area of 425 acres.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	169	163	77	103	176	50		32	376	679	396	246
2	175	133	75	115	310	53		33	468	480	402	232
3	157	166	64	92	242	58		57	461	396	376	210
4	500	157	63	77	224	65		85	507	370	396	192
5	500	139	62	67	442	57	a23	88	592	364	402	178
6	461	107	61	61	402	57		83	549	346	422	282
7	310	86	52	57	272	53		90	542	422	416	376
8	442	74	56	55	210	56		113	585	521	435	346
9	442	67	61	68	163	62		154	600	600	474	282
10	1,080	81	71	60	118	48		178	535	461	454	246
11	1,460	229	105	54	92	44		186	521	402	409	228
12	442	1,560	77	55	78	42		186	514	364	*383	192
13	494	1,080	70	50	b68	39	a30	172	585	340	352	189
14	334	468	65	44	b60	35		157	630	340	334	189
15	255	282	61	41	b54	32		154	535	390	310	169
16	322	224	58	38	b49	30		166	422	542	266	151
17	288	172	83	35	b46	27		178	358	563	402	136
18	416	163	68	34	43	26	a52	219	*316	535	370	139
19	1,980	130	57	32	43	24		250	310	422	340	145
20	1,930	103	51	b31	41	22		277	364	370	383	859
21	1,610	175	108	b30	38	a20	*46	299	535	358	402	2,000
22	2,380	178	500	b29	39	a19	45	310	578	428	316	820
23	1,110	160	435	28	49	a20	42	448	461	435	288	630
24	409	160	280	28	52	a21	38	645	396	390	322	957
25	461	182	210	27	54	a20	35	570	396	352	328	1,080
26	662	232	206	27	51	a20	32	461	487	352	322	830
27	494	246	232	26	43	a20	32	370	535	435	299	376
28	282	172	237	26	54	a20	31	340	514	461	288	237
29	228	111	189	26	-	a21	32	340	600	409	282	192
30	228	88	160	50	------	a22	32	352	914	352	255	157
31	200	-----	118	74	-----	a23	-----	376	------	383	250	------
Total	20,221	7,288	3,992	1,540	3,513	1,106	1,005	7,369	15,186	13,262	11,074	12,266
Mean	652	243	129	49.7	125	35.7	33.5	238	506	428	357	409
Cfsm	37.3	13.9	7.37	2.84	7.14	2.04	1.91	13.6	28.9	24.5	20.4	23.4
In.	42.97	15.49	8.48	3.27	7.47	2.35	2.14	15.66	32.27	28.18	23.53	26.07
Ac-ft	40,110	14,460	7,920	3,050	6,970	2,190	1,990	14,620	30,120	26,300	21,960	24,330

Calendar year 1953: Max 2,380 Min - Mean 310 Cfsm 17.7 In. 240.51 Ac-ft 224,500
Water year 1953-54: Max 2,380 Min 19 Mean 268 Cfsm 15.3 In. 207.88 Ac-ft 194,000

Peak discharge (base, 2,300 cfs).--Oct. 11 (5 a.m.) 2,600 cfs (4.75 ft); Oct. 22 (5 p.m.) 3,310 cfs (5.10 ft); Sept. 20 (9:30 p.m.) 2,470 cfs (4.68 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for Sawmill Creek near Sitka.
b Stage-discharge relation affected by ice.

Takatz Creek near Baranof--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	136	232	*107	53	50	b29	70	58	175	402	500	1,330
2	109	219	99	54	50	b29	55	68	192	454	461	1,590
3	92	348	97	60	48	b28	52	72	262	556	390	1,430
4	80	608	80	75	92	b30	70	65	288	638	370	699
5	71	750	70	65	61	33	64	77	250	968	500	396
6	63	494	64	98	56	b42	54	88	228	862	1,480	282
7	57	294	64	95	55	62	49	93	210	722	1,000	232
8	54	228	62	70	50	52	47	75	277	670	585	219
9	55	186	58	58	47	47	65	97	322	645	535	196
10	82	175	90	53	47	43	61	103	442	662	578	189
11	142	242	88	54	61	41	60	93	402	622	435	203
12	206	192	78	60	53	36	58	90	316	535	358	538
13	203	214	78	58	51	33	54	*93	272	461	717	1,360
14	346	277	172	63	46	31	52	92	246	396	630	630
15	370	299	121	67	45	31	67	98	260	376	474	409
16	474	435	968	53	42	31	60	352	316	383	1,080	288
17	322	322	1,180	48	38	42	54	294	304	454	608	370
18	2,370	679	549	43	38	38	52	224	*299	494	409	416
19	1,660	468	528	41	41	35	50	196	310	521	328	310
20	521	894	722	41	46	39	51	178	340	487	294	242
21	402	780	376	53	51	43	61	175	402	474	260	200
22	402	461	246	78	46	36	53	175	500	592	242	166
23	272	364	196	65	45	32	46	200	608	592	242	148
24	310	1,070	145	71	39	30	42	210	670	521	242	425
25	340	882	107	64	35	29	40	196	630	528	277	428
26	358	442	99	63	b31	42	41	175	570	615	328	322
27	246	316	88	100	b30	43	43	166	507	615	*304	255
28	228	232	77	78	b30	37	47	169	500	528	328	242
29	206	189	70	60	-	33	52	163	556	435	340	242
30	203	151	62	53	-------	46	54	160	474	402	304	200
31	232	-------	57	54	-------	90	-------	169	-------	461	448	-------
Total	10,612	12,443	6,798	1,948	1,324	1,213	1,624	4,464	11,128	17,071	15,047	13,957
Mean	342	415	219	62.8	47.3	39.1	54.1	144	371	551	485	465
Cfsm	19.5	23.7	12.5	3.59	2.70	2.23	3.09	8.23	21.2	31.5	27.7	26.6
In.	22.55	26.44	14.45	4.14	2.81	2.58	3.45	9.49	23.65	36.28	31.98	29.66
Ac-ft	21,050	24,680	13,480	3,860	2,630	2,410	3,220	8,850	22,070	33,860	29,850	27,680

Calendar year 1954: Max 2,370 Min 19 Mean 263 Cfsm 15.0 In. 204.38 Ac-ft 190,700
Water year 1954-55: Max 2,370 Min 28 Mean 267 Cfsm 15.3 In. 207.48 Ac-ft 193,600

Peak discharge (base, 2,300 cfs).--Oct. 18 (4 p.m.) 3,290 cfs (5.09 ft); Nov. 24 (5 p.m.) 2,350 cfs (4.61 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	169	72	75	31				74	322	454	494	383
2	*206	64	56	31				77	322	500	542	299
3	266	58	52	28				80	322	507	535	*250
4	294	54	51	32				81	322	528	442	282
5	396	52	52	35				93	316	500	488	322
6	703	66	47	b33				111	299	592	556	299
7	435	245	55	b29				111	282	713	487	255
8	500	507	78	25				99	288	535	468	260
9	402	316	61	23				109	334	448	402	266
10	310	224	53	21				103	334	402	364	255
11	435	163	48	20				93	328	390	370	266
12	376	118	43	19				92	334	390	376	346
13	272	95	38	18			a60	107	346	549	390	468
14	242	83	35	18				175	358	750	376	468
15	242	77	32	17				255	383	704	358	364
16	228	74	30	16	a24	a25		294	480	630	376	282
17	214	72	28	b16				288	737	608	923	255
18	172	65	26					304	1,850	592	1,740	255
19	200	60	b25					328	872	608	1,270	468
20	294	55	b24					448	507	750	1,790	409
21	250	51	b24					713	752	820	670	364
22	219	48	b23					830	1,240	750	487	346
23	488	b46	22					630	654	592	474	260
24	383	b44	21					416	500	480	521	242
25	255	b42	21	a21				549	416	416	480	214
26	203	b40	20				99	468	376	396	487	166
27	169	38	20				92	358	442	435	409	203
28	133	38	20				78	304	454	454	494	232
29	115	51	b20				75	272	461	468	563	175
30	97	95	b20				72	304	422	428	750	325
31	83	-------	25		-------		-------	352	-------	402	549	-------
Total	8,751	3,013	1,145	706	696	775	1,916	8,518	15,053	16,791	18,631	8,979
Mean	282	100	36.9	22.8	24	25	63.9	275	502	542	601	299
Cfsm	16.1	5.71	2.11	1.30	1.37	1.43	3.65	15.7	28.7	31.0	34.3	17.1
In.	18.60	6.40	2.43	1.50	1.48	1.65	4.07	18.10	31.99	35.68	39.59	19.08
Ac-ft	17,360	5,980	2,270	1,400	1,380	1,540	3,800	16,900	29,860	33,300	36,950	17,810

Calendar year 1955: Max 1,590 Min 20 Mean 221 Cfsm 12.6 In. 171.47 Ac-ft 160,000
Water year 1955-56: Max 1,850 Min 16 Mean 232 Cfsm 13.3 In. 180.57 Ac-ft 168,600

Peak discharge (base, 2,300 cfs).--Aug. 20 (5 a.m.) 2,570 cfs (4.73 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for nearby streams.

b Stage-discharge relation affected by ice.

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 1956.

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

Average discharge.--5 years, 312 cfs (225,900 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 2,400 cfs Oct. 23 (gage height, 3.78 ft), from rating curve extended above 780 cfs; minimum, 41 cfs Jan. 29 (gage height, 1.28 ft).
1954-55: Maximum discharge during water year, 1,680 cfs Dec. 20 (gage height, 3.29 ft), from rating curve extended above 780 cfs; minimum, 94 cfs Mar. 3-5 (gage height, 1.47 ft).
1955-56: Maximum discharge during water year, 1,230 cfs May 17 (gage height, 2.94 ft); minimum not determined.
1951-56: Maximum discharge, that of Oct. 23, 1953; minimum not determined.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Hasselborg Lake has an area of 3,500 acres.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	306	578	216	279						309	185	77
2	318	492	185	238						297	175	74
3	367	462	160	195						297	165	38
4	451	455	150	155						297	160	65
5	500	434	132	136						285	160	62
					600			130	600			
6	493	378	114	118						267	160	65
7	472	309	102	105						267	160	80
8	451	261	105	98						255	155	88
9	458	216	102	94						250	150	84
10	416	190	114	88						233	141	80
11	437	180	141	88						216	136	77
12	437	211	150	91						200	132	70
13	437	267	150	84						195	123	74
14	472	303	136	77						185	118	77
15	437	309	123	70						190	118	70
					130	60	55	300				
16	423	309	110	68					500	216	114	68
17	423	279	110	62						244	123	65
18	395	267	114	60						273	118	62
19	515	250	110	60						285	114	60
20	1,020	238	102	58						279	110	118
21	1,220	222	110	52						279	105	485
22	1,820	216	190	50					*399	315	102	658
23	2,220	222	336	48					378	357	94	666
24	1,550	267	371	48					364	343	88	735
25	1,280	279	343	45	80				343	322	88	717
								550				
26	1,170	303	343	43					336	297	88	735
27	1,020	350	413	42					336	279	84	708
28	816	336	336	42					322	255	80	594
29	666	291	420	41	-				315	233	80	478
30	578	250	371	50	------				309	211	84	392
31	602	-----	315	80	-----		-----		------	200	80	------
Total	22,270	9,124	6,174	2,765	7,940	1,860	1,650	10,350	14,602	8,131	3,790	7,652
Mean	718	304	199	89.2	284	60	55	334	487	262	122	255
Cfsm	12.8	5.41	3.54	1.59	5.05	1.07	0.979	5.94	8.67	4.66	2.17	4.54
In.	14.74	6.04	4.09	1.83	5.25	1.23	1.09	6.85	9.66	5.38	2.51	5.06
Ac-ft	44,170	18,100	12,250	5,480	15,750	3,690	3,270	20,530	28,960	16,130	7,520	15,180

Calendar year 1953: Max 2,220 Min 77 Mean 333 Cfsm 5.93 In. 80.34 Ac-ft 240,800
Water year 1953-54: Max 2,220 Min 41 Mean 264 Cfsm 4.70 In. 63.73 Ac-ft 191,000

Peak discharge (base, 1,000 cfs).--Oct. 23 (2 a.m.) 2,400 cfs (3.78 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Jan. 27 to June 21; discharge estimated on basis of recorded range in stage, weather records, and records for nearby streams.

Hasselborg Creek near Angoon--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	329	350	448	146	160	105			450	508	228	329
2	267	343	399	128	146	98			550	478	206	485
3	222	322	378	128	136	94			550	482	195	699
4	180	336	329	128	146	94			650	508	180	789
5	165	399	285	136	146	98			600	530	211	699
6	146	462	244	175	150	128			*538	538	350	586
7	128	455	211	222	155	190			492	515	462	478
8	118	*406	195	206	146	216		140	500	482	448	406
9	110	357	175	190	136	228			570	478	455	336
10	136	336	185	170	136	228			726	470	554	291
11	175	336	195	160	141	216			789	478	602	255
12	216	315	206	146	132	195			717	470	562	238
13	228	297	216	132	123	170			642	455	658	238
14	297	322	285	128	128	155			570	448	726	250
15	420	371	336	123	132	155			554	406	682	279
16	578	399	594	118	123	150	130		538	364	789	297
17	642	399	930	110	118	150			522	336	861	315
18	798	462	980	102	118	146			508	322	*762	378
19	930	538	1,100	98	118	141			500	315	650	378
20	843	634	1,560	98	128	155			515	309	546	329
21	726	870	1,430	98	141	150			546	303	462	*285
22	666	990	1,100	150	150	136			594	309	392	250
23	586	910	825	180	155	123			*650	315	336	233
24	508	910	626	190	132	114		550	690	303	303	399
25	448	1,050	492	190	123	114			717	291	291	546
26	434	960	420	185	114	123			681	285	322	554
27	399	843	350	195	118	150			650	285	322	515
28	357	708	285	206	110	130			618	285	315	462
29	329	618	222	200	-	120			610	273	303	478
30	322	538	190	190	-------	120			570	250	279	441
31	350	-------	165	175	-------	110	-------		-------	238	267	-------
Total	12,053	16,236	15,356	4,803	3,761	4,502	3,900	10,900	17,807	12,029	13,719	12,218
Mean	389	541	495	155	134	145	130	352	594	388	443	407
Cfsm	6.92	9.63	8.81	2.76	2.38	2.58	2.31	6.26	10.6	6.90	7.88	7.24
In.	7.98	10.74	10.16	3.18	2.49	2.98	2.58	7.21	11.78	7.96	9.08	8.09
Ac-ft	23,910	32,200	30,460	9,530	7,460	8,930	7,740	21,620	35,320	23,860	27,210	24,230

Calendar year 1954: Max 1,560 Min 41 Mean 281 Cfsm 5.00 In. 67.74 Ac-ft 203,100
Water year 1954-55: Max 1,560 Min 94 Mean 349 Cfsm 6.21 In. 84.23 Ac-ft 252,500

Peak discharge (base, 1,000 cfs).--Nov. 25 (10 a.m.) 1,070 cfs (2.80 ft); Dec. 20 (4 p.m) 1,680 cfs (3.29 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Mar. 27 to June 5; discharge estimated on basis of recorded range in stage, weather records, and records for nearby streams.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	385	190	41	23	41		60	413	554	297	228	690
2	350	160	41	24	43		68	406	538	279	238	594
3	329	141	48	24	43		74	406	522	279	303	500
4	350	102	50	29	43		77	413	492	273	336	434
5	371	98	48	27	43		80	434	470	267	371	406
6	538	94	48	24	43	a60	88	485	441	273	594	385
7	650	150	58		43		98	530	427	297	650	343
8	658	303	70		48		98	522	413	297	674	303
9	602	371	77		55		94	570	406	279	626	273
10	546	329	74		62		98	578	385	261	538	244
11	562	267	70			65	98	522	357	244	455	*222
12	666	216	62			68	102	470	343	222	392	200
13	650	180	60			68	105	470	322	228	336	180
14	602	155	55			68	123	546	315	233	303	170
15	538	141	50	a24		68	132	843	322	228	267	160
16	515	123	48			68	132	1,090	329	228	238	146
17	485	105	45			68	150	1,170	343	222	228	141
18	448	98	43			68	185	1,040	413	233	233	141
19	420	84	39			68	195	960	485	244	267	222
20	562	74	35			*68	190	970	470	250	434	285
21	708	65	35		a55	65	195	1,000	462	261	478	303
22	626	60	33	43		65	250	1,040	492	315	441	392
23	594	58	31	45		65	309	1,020	538	385	455	406
24	650	50	27	43		62	392	880	500	470	626	364
25	578	37	25	43		62	478	834	470	455	626	336
26	500	35	23	43		60	515	852	434	406	699	291
27	434	33	23	43		60	522	771	399	357	674	285
28	357	35	23	41		58	492	690	371	315	674	322
29	315	41	23	41		58	462	618	336	279	666	322
30	273	41	23	41	-------	55	434	602	309	255	682	343
31	238	-------	23	41	-------	55	-------	602	-------	228	762	-------
Total	15,500	3,836	1,351	935	1,509	1,942	6,296	21,747	12,658	8,860	14,494	9,403
Mean	500	128	43.6	30.2	52.0	62.6	210	702	422	286	468	313
Cfsm	8.90	2.28	0.776	0.537	0.925	1.11	3.74	12.5	7.51	5.09	8.33	5.57
In.	10.26	2.54	0.89	0.62	1.00	1.29	4.17	14.39	8.38	5.86	9.59	6.22
Ac-ft	30,740	7,610	2,680	1,850	2,990	3,850	12,490	43,130	25,110	17,570	28,750	18,650

Calendar year 1955: Max 861 Min 23 Mean 286 Cfsm 5.09 In. 69.04 Ac-ft 206,900
Water year 1955-56: Max 1,170 Min - Mean 269 Cfsm 4.79 In. 65.21 Ac-ft 195,400

Peak discharge (base, 1,000 cfs).--May 17 (2 a.m.) 1,230 cfs (2.94 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for nearby streams.

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.--Discharge: August to September 1948, October 1949 to September 1956.
Chemical analyses: February 1952 to September 1954.
Water temperatures: October 1952 to September 1954.
Sediment records: May 1953 to September 1955, May to August 1956 (periodic).

Gage.--Wire-weight gage read once daily. 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.--7 years, 901 cfs (652,300 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 8,280 cfs Aug. 3 (gage height, 7.32 ft, from graph based on gage readings); minimum observed, 22 cfs Nov. 5 (discharge measurement).
1954-55: Maximum discharge observed during water year, 3,060 cfs Aug. 26 (gage height, 5.22 ft); minimum daily, 1 cfs Nov. 13, caused by temporary storage behind ice jams upstream.
1955-56: Maximum discharge during water year, 10,300 cfs Aug. 1 (gage height, 7.92 ft, from graph based on gage readings), from rating curve extended above 5,700 cfs by logarithmic plotting; minimum daily, 28 cfs Nov. 3, 4.
1948, 1949-56: Maximum discharge, that of Aug. 1, 1956; no flow for part of Mar. 25, 1953, caused by temporary storage behind ice jam upstream.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor. Some diurnal fluctuation caused by glacier melt at the source. Records of specific conductance of daily samples available in district office, Quality of Water Branch, at Palmer, Alaska.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	408							a250	2,060	*2,050	7,020	1,110
2	b394							b290	1,960	a1,800	7,970	1,110
3	b390				(*)			b330	1,900	a1,700	7,830	1,140
4	b417							b400	a1,900	a1,800	*6,080	1,120
5	b479	(*)						b470	1,960	2,100	4,650	1,170
6	518							b580	2,210	a2,300	4,100	1,250
7	484							b750	2,420	a2,000	4,120	1,180
8	417	a60				a61	a72	b1,000	2,320	a1,900	3,780	978
9	359							1,740	a2,200	a1,900	3,840	a930
10	359							2,380	2,120	a2,000	3,760	1,110
11	363							3,840	1,910	2,070	a2,600	1,390
12	408							4,540	1,750	2,130	2,320	1,110
13	359							2,780	*1,780	2,280	2,330	1,110
14	b337							1,680	a1,600	2,220	2,410	1,350
15	b298		a72	a66	a62			*1,730	a1,400	2,500	2,070	1,040
16	b268		(*)					3,700	a1,400	2,390	1,490	779
17	b256							2,320	1,470	2,720	1,460	874
18	*b243							2,070	a1,500	a3,000	1,340	1,040
19	b222							2,560	a1,600	3,230	1,250	978
20	b210							a2,800	1,650	a2,800	1,480	855
21	b202							a1,500	a1,600	a2,500	3,100	739
22	b190							1,560	1,680	2,530	2,270	628
23	b178	a83				a70	a120	3,570	1,900	*2,590	2,290	683
24	b170					(*)		2,120	1,800	2,560	2,670	727
25	a160							1,470	1,810	2,360	a3,000	773
26	b151							a1,700	1,710	2,290	1,960	*650
27	b143							1,960	1,790	2,010	1,630	617
28	b137							1,850	1,610	1,950	1,320	564
29	b128				-			2,020	1,920	2,170	a1,300	523
30	b120				-------			2,100	a2,200	2,420	a1,200	523
31	b117	-------			-------		-------	2,030	-------	4,540	1,180	-------
Total	8,885	2,145	2,232	2,046	1,736	2,035	2,880	58,090	55,130	72,810	93,820	28,051
Mean	287	71.5	72	66	62	65.6	96.0	1,874	1,838	2,349	3,026	935
Ac-ft	17,620	4,250	4,430	4,060	3,440	4,040	5,710	115,200	109,300	144,400	186,100	55,640

Calendar year 1953: Max 5,720 Min - Mean 935 Ac-ft 676,700
Water year 1953-54: Max 7,970 Min - Mean 904 Ac-ft 654,200

* Discharge measurement made on this day.
a No gage-height record; discharge interpolated or estimated on basis of 4 discharge measurements, weather records, and records for Tazlina River near Glennallen, Klutina River at Copper Center, and Matanuska River at Palmer.
b Stage-discharge relation affected by ice.

Gakona River at Gakona--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	523	297							1,930	1,630	2,180	1,520
2	518	305							a1,800	1,730	a2,300	1,480
3	455	309							1,670	1,790	a2,300	1,410
4	422	297							1,500	1,840	*2,180	1,260
5	422	252							2,000	1,670	2,000	1,190
6	390	209							1,730	1,850	2,110	1,250
7	376	159						210	1,480	2,060	2,170	1,220
8	381	112							a1,200	2,030	2,270	a1,100
9	372	80							1,090	1,920	2,000	1,040
10	376	45							2,100	1,920	1,870	1,090
11	376	22			(*)				2,970	a1,900	2,110	a1,200
12	a360	*3							a2,300	a1,800	2,370	a1,400
13	*350	1					(*)		1,930	a1,700	2,190	a1,600
14	390	4						350	1,640	a1,600	2,090	1,730
15	342	10		(*)				474	1,590	a1,600	1,700	a1,500
			52	62	74	100	150					
16	a320	34						886	1,430	a1,600	1,240	a1,300
17	a300							1,300	a1,300	1,630	1,250	a1,100
18	289							1,680	1,380	1,660	1,300	a1,000
19	278							1,960	a1,600	1,650	1,380	a960
20	267							2,030	1,820	1,630	1,580	a900
21	252							2,130	1,800	2,000	1,680	a840
22	249							2,160	1,780	2,290	1,810	a780
23	242							2,160	2,250	2,230	1,650	a730
24	270	81						2,170	1,950	2,220	1,850	a690
25	301							2,150	1,780	2,220	2,660	a660
26	263							1,920	*1,710	2,740	3,050	*628
27	242							*1,730	1,560	2,700	a2,500	a600
28	235							1,650	1,540	2,560	a2,900	a580
29	a260				-			1,730	1,520	2,530	a2,200	a560
30	289				-------			1,920	1,430	2,270	*1,770	a550
31	295	-------					-------	2,000	-------	2,190	1,550	-------
Total	10,403	3,273	1,612	1,922	2,072	3,100	4,500	33,130	51,780	61,160	62,210	31,868
Mean	336	109	52	62	74	100	150	1,069	1,726	1,973	2,007	1,062
Ac-ft	20,630	6,490	3,200	3,810	4,110	6,150	8,930	65,710	102,700	121,300	123,400	63,210

Calendar year 1954: Max 7,970 Min 1.0 Mean 909 Ac-ft 658,200
Water year 1954-55: Max 3,050 Min 1.0 Mean 732 AC-ft 529,600

* Discharge measurement made on this day.
a No gage-height record; discharge interpolated or estimated on basis of shape of hydrograph prior and subsequent to missing period, weather records, and records for nearby streams.
Note.--Stage-discharge relation affected by ice Oct. 19-27, Nov. 2 to May 19 (no gage-height record Oct. 24, Nov. 9, 10, 13-15, Nov. 17 to May 13; discharge estimated on basis of 4 discharge measurements and weather records).

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	528	30						173	1,380	2,520	8,860	1,850
2	503	29						164	1,380	2,630	8,220	1,740
3	464	28						199	1,440	2,960	6,140	1,340
4	426	28						221	1,540	2,970	4,740	1,210
5	445	33						249	1,590	2,690	3,880	1,120
6	412							270	1,550	2,720	3,700	1,090
7	372							309	2,090	3,140	4,430	1,070
8	325						64	359	2,520	3,400	3,860	1,050
9	289					(*)		417	2,450	3,578	3,300	1,020
10	263							498	2,240	3,420	3,080	997
		140										
11	245							600	*1,820	3,330	2,560	1,030
12	228							762	2,000	3,420	2,500	1,150
13	218							1,000	1,860	3,350	2,380	1,240
14	209							1,330	1,690	3,210	2,160	1,440
15	199							1,440	1,780	3,260	2,420	1,920
			75	49	43	46						
16	190							1,540	1,770	3,210	2,860	1,810
17	184							1,500	1,690	4,230	3,530	1,830
18	179							1,460	1,800	4,320	3,680	1,830
19	173							1,490	2,030	5,220	3,140	2,110
20	167							1,790	2,100	5,670	2,920	1,940
21	160							2,790	2,410	5,310	2,600	1,440
22	160							2,910	2,730	*4,170	*2,190	1,240
23	160	110					140	2,630	3,230	4,390	1,820	1,170
24	152							2,560	3,310	4,780	1,820	1,070
25	149							2,240	3,100	3,980	2,000	1,060
26	146							2,030	2,790	3,310	2,000	1,020
27	142							1,850	2,520	3,210	1,870	959
28	136							1,480	2,030	3,180	1,750	843
29	121							1,500	2,060	2,910	1,700	855
30	69				-------			1,460	2,210	2,700	2,130	898
31	*36	-------			-------		-------	1,400	-------	3,530	2,190	-------
Total	7,450	3,198	2,325	1,519	1,247	1,426	3,060	38,641	63,110	110,710	100,410	39,342
Mean	240	107	75	49	43	46	102	1,246	2,104	3,571	3,239	1,311
Ac-ft	14,780	6,340	4,610	3,010	2,470	2,830	6,070	76,640	125,200	219,600	199,200	78,030

Calendar year 1955: Max 3,050 Min 28 Mean 725 Ac-ft 525,000
Water year 1955-56: Max 8,860 Min 28 Mean 1,018 Ac-ft 738,800

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Oct. 8 to May 17 (no gage-height record Oct. 21-23, Nov. 4 to Apr. 27, May 11; discharge estimated on basis of 1 discharge measurement, observer's notes, and weather records.

GAKONA RIVER AT GAKONA

Chemical analyses, in parts per million, October 1953 to August 1956

Date of collection	Mean discharge (cfs)		Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
															Calcium, magnesium	Noncarbonate			
1953																			
Oct. 7, 9	422		12	0.04	40	7.4	9.4	2.6	136	27	9.0	--	1.8	176	130	19	290	8.0	--
Oct. 16-18	256		13	.05	45	7.3	10	1.9	153	28	9.0	0.1	.5	190	142	17	316	7.6	--
Dec. 14	a72		16	.05	58	9.9	17	2.6	206	30	16	.0	.8	252	185	16	413	8.1	--
1954																			
Jan. 8	a66		16	.02	62	13	19	2.8	228	36	18	.0	.6	279	208	21	460	8.2	--
Jan. 29	a66		16	.06	41	12	21	2.9	169	30	18	--	2.1	226	152	13	375	7.8	3
Apr. 28	a 120		12	.02	52	9.3	14	2.2	182	30	14	.0	.3	224	168	19	382	7.5	--
Apr. 29-30	120		13	.02	44	9.0	13	2.6	163	22	12	--	1.5	197	147	13	345	7.2	3
May 1, 3-6	406		13	.03	41	7.8	12	2.4	151	29	11	.0	.5	192	134	11	316	7.1	3
May 7-8	875		11	.04	34	6.3	9.8	1.9	123	23	8.0	--	.4	155	111	10	262	7.5	3
May 10-11	3,110		6.4	.08	33	4.1	3.2	2.2	110	14	2.0	--	1.3	120	99	9	211	7.1	7
May 12, 15, 17-18	2,[illegible]60		6.1	.09	26	2.2	3.5	1.7	83	11	3.0	--	1.3	112	74	6	166	6.8	12
May 22, 25, 2[illegible]	1,680		7.3	.09	29	3.8	4.4	1.1	94	15	3.2	.1	.5	123	88	11	194	6.5	--
June 2, 5, 7	2,110		6.7	.08	29	3.5	5.0	1.4	90	15	4.4	.1	.7	121	87	13	188	6.6	--
June 9-10, 12-13, 18-20	1,800		7.5	.07	32	4.4	4.4	1.4	98	24	2.6	.1	.8	132	98	18	213	6.9	3
June 21-30	1,800		8.2	.08	39	4.4	4.5	1.9	118	26	2.5	.1	.7	149	115	19	248	6.8	3
July 1-10	1,960		7.7	.09	39	4.8	4.2	1.7	116	28	2.4	--	.4	153	117	22	251	6.7	--
July 11-14	2,180		7.1	.00	34	5.1	4.5	1.6	99	28	2.2	.0	.9	139	106	25	229	7.8	0
July 21-31	2,540		7.7	.00	33	5.0	5.6	2.0	102	28	2.2	.0	.6	137	103	19	224	7.9	0
Aug. 1-2	7,500		8.4	.03	49	4.3	3.1	1.8	143	32	1.1	--	.4	170	140	23	286	7.2	5
Aug. 13-19	1,760		7.5	.05	33	4.7	4.6	1.7	103	26	2.8	.0	.5	138	102	17	227	7.5	7
Aug. 21-22	2,680		9.3	.06	54	7.1	4.7	2.7	132	68	1.5	--	.4	213	164	56	344	7.8	--
Aug. 23-31	1,840		9.5	.06	38	5.3	5.2	2.0	108	38	3.2	.0	.5	161	117	28	258	7.6	7
Sept. 1-10	1,110		10	.06	35	5.8	6.8	1.7	114	29	4.8	.0	.5	154	111	18	249	7.9	8
Sept. 11-20	1,050		9.9	.07	30	6.5	6.4	1.5	102	24	4.4	.1	.9	143	102	18	224	7.6	10
Sept. 25	773		9.6	.04	33	6.1	6.8	1.8	108	28	4.8	.1	.0	143	107	19	236	7.1	20

a Discharge at time of sampling.

GAKONA RIVER AT GAKONA--Continued

Chemical analyses, in parts per million, October 1953 to August 1956--Continued

Date of collection	Mean discharge (cfs)		Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
															Calcium, magnesium	Noncarbonate			
1955																			
Jan. 15	a 68		18	0.05	71	16	25	4.5	281	45	21	0.1	0.2	339	243	13	552	8.0	--
Apr. 13	a 146		16	.02	40	12	18	3.2	162	38	16	.1	.1	223	149	16	364	7.7	0
May 18	a 1,640		8.8	.09	25	3.6	5.6	2.1	86	12	3.0	.0	.1	103	77	7	174	7.5	50
Sept. 21	840		9.4	.00	33	4.5	5.9	1.7	113	24	4.0	.0	.2	139	101	8	226	7.7	10
1956																			
May 8	a 211		4.7	.00	19	3.1	2.7	1.8	67	8.9	1.5	.0	.1	104	60	5	127	7.2	145
June 14	a 1,610		5.7	.00	25	3.1	3.6	1.2	73	17	2.5	.0	.3	94	75	15	160	6.4	3
Aug. 4	a 4,780		8.4	.00	27	3.1	3.0	1.5	84	20	1.8	.1	.3	106	80	11	173	7.5	25
Aug. 16	a 2,560		10	.00	37	6.1	3.5	1.6	118	31	1.3	.1	.5	149	117	21	245	8.0	0

a Discharge at time of sampling.

GAKONA RIVER AT GAKONA--Continued

Temperature (°F) of water, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	--							--	--	49	--	52
2	--							--	52	--	--	51
3	--							--	--	--	--	--
4	--							--	--	--	--	--
5	--							--	56	--	--	--
6	38							--	--	49	--	--
7	37							--	56	52	--	--
8	--							--	--	--	--	--
9	38							--	58	--	--	--
10	--							--	51	56	--	--
11	--							--	--	58	--	--
12	--							--	51	51	--	--
13	39							--	50	58	--	--
14	--							--	--	61	--	--
15	--							--	--	--	54	--
16	33							--	--	--	--	--
17	33							42	--	--	54	--
18	33							46	53	--	56	--
19	--							--	54	--	55	--
20	33							--	62	--	--	--
21	--							--	59	51	51	--
22	--							45	52	49	50	--
23	--							--	53	50	54	--
24	--							--	53	53	57	--
25	--							46	--	56	--	--
26	--							--	--	58	--	--
27	--							--	--	60	47	--
28	--							--	58	60	46	--
29	--							46	50	--	--	--
30	--							--	--	--	--	--
31	--							--	--	--	53	--
Average	--							--	--	--	--	--

GAKONA RIVER AT GAKONA--Continued

Periodic determinations of suspended-sediment discharge, water years October 1953 to September 1956

Date	Discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1953			
Oct. 14	337	15	14
Nov. 18	a 83	4	1
Dec. 14	a 72	5	1
1954			
Jan. 8	a 66	1	(t)
Jaa. 29	a 66	3	1
Apr. 28	a 120	59	19
May 11	4,360	5,480	64,500
May 29	1,960	1,640	8,680
June 3	a1,900	794	4,070
June 17	1,410	781	2,970
July 1	1,770	2,440	11,700
Aug. 3	7,770	9,460	198,000
Aug. 4	5,670	5,900	90,300
Sept. 14	910	180	442
1954			
Oct. 13	355	14	13
Nov. 12	4	3	(t)
1955			
Jan. 15	68	4	1
Apr. 13	146	4	2
May 18	a 1,680	1,250	5,670
June 23	1,650	6,860	30,600
July 7	2,000	2,340	12,600
July 22	2,190	5,670	33,500
Sept. 6	a 1,250	370	1,250
1956			
May 8	211	843	480
May 31	1,330	271	970
June 14	1,610	579	2,520
Aug. 4	4,780	2,580	33,300
Aug. 16	2,560	2,240	15,500

t Less than 0.50 ton.
a Mean daily discharge.

GAKONA RIVER AT GAKONA--Continued

Particle-size analyses of suspended sediment, water years October 1953 to September 1956
(Methods of analysis: B, bottom withdrawal tube; D, decantation; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed; M, mechanically dispersed)

Date of collection	Time	Discharge (cfs)	Water temperature (°F)	Suspended sediment													Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters											
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	
1954																	
May 29	10:30 a.m.	1,960	--	1,480	2,080	11	14	21	30	43	68	88	96		100	--	BSWCM
July 1	1:00 p.m.	1,770	--	2,330	2,540	17	24	34	46	60	72	82	95		100	--	PSWCM
Aug. 3	3:00 p.m.	7,770	--	9,080	4,940	15	22	31	41	53	74	87	97		100	--	PSWCM
Aug. 4	2:00 p.m.	5,670	--	5,380	3,030	18	25	36	47	57	76	88	96		99	--	PSWCM
Sept. 14	4:45 p.m.	910	--	171	642	22	27	36	43	51	60	68	84		--	--	BSWCM
1955																	
May 18	6:20 p.m.	a 1,680	--	1,250	1,200	12	14	19	26	36	50	62	87		99	100	BSWCM
June 23	8:00 a.m.	1,650	--	6,850	11,100	6	9	16	27	47	72	86	97		100	--	BSWCM
June 23	8:00 a.m.	1,650	--	6,500	6,640	--	12	--	30	51	70	86	97		100	--	PSWCM
July 7	3:10 p.m.	2,000	--	2,330	2,940	20	25	34	45	55	68	79	94		100	--	BSWCM
July 22	9:00 a.m.	2,190	--	5,600	4,960	20	25	34	50	64	90	91	98		100	--	BSWCM
1956																	
May 8	2:00 p.m.	211	--	843	--	--	--	--	--	--	55	74	92		99	--	S
June 14	11:00 a.m.	1,610	54	579	1,090	11	14	22	32	42	58	76	93		100	--	BSWCM
Aug. 4	4:15 p.m.	4,780	55	2,580	2,160	18	25	35	38	45	67	80	94		99	100	PSWCM
Aug. 16	1:30 p.m.	2,560	56	2,240	2,990	17	24	37	49	63	73	80	93		94	100	BSWCM

a Mean daily discharge.

Tazlina River near Glennallen

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

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

Records available.--Discharge: August 1949 to September 1950, October 1951 to September 1956. Discharge measurements only in 1951.
Chemical analyses: February 1952 to August 1953, January to September 1954, May to August 1956.
Sediment records: May 1953 to November 1954. May to August 1956 (periodic).

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

Average discharge.--6 years, 4,120 cfs (2,983,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 19,200 cfs Aug. 5 (gage height, 8.08 ft, from graph based on gage readings); minimum not determined.
1954-55: Maximum discharge during water year, 47,000 cfs Aug. 31 (gage height, 12.25 ft, from graph based on gage readings); minimum not determined.
1955-56: Maximum discharge during water year, 15,300 cfs Aug. 16; maximum gage height, 7.81 ft July 23; minimum discharge not determined.
1949-50, 1951-56: Maximum discharge, that of Aug. 31, 1955; minimum not determined.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a3,900					(*)		260	4,290	8,210	12,900	9,420
2	3,660							270	4,020	8,970	13,100	8,790
3	3,430							282	4,220	a9,400	14,700	8,540
4	3,320							296	4,400	a9,500	17,600	a8,500
5	3,200							278	a4,500	a9,400	19,000	a8,400
6	3,030	(*)						342	a4,800	9,420	18,500	a8,300
7	a2,900							440	5,180	9,870	*18,400	8,480
8	2,820	1,000		(*)				550	5,200	9,800	a18,000	8,370
9	a2,700							680	5,560	10,200	17,600	a8,200
10	2,620							835	5,710	9,740	17,300	a8,100
11	2,470							1,140	5,790	a10,000	a17,000	8,000
12	2,430							*1,380	*5,940	11,000	a16,000	a7,900
13	2,300						250	1,640	a5,800	10,700	a16,000	7,950
14	2,240							1,840	a5,700	10,900	15,200	a7,700
15	a2,200		620	490	390	310		1,870	5,810	11,100	a15,000	7,530
16	a2,100							a1,800	5,920	a11,000	14,200	a7,300
17	a2,000							1,820	5,770	11,400	12,500	a7,100
18	a1,900							1,780	5,730	a11,000	11,800	a6,800
19	a1,800							1,800	a5,800	*11,400	11,400	a6,600
20	a1,700							2,100	a5,800	11,700	11,300	6,410
21	1,620							2,120	a6,000	11,800	11,200	5,980
22	1,670							2,210	a6,500	a12,000	a11,000	5,980
23	a1,600	800						a2,300	6,920	12,500	a11,000	5,460
24	1,570							2,480	6,920	12,600	11,400	5,440
25	1,570							3,350	7,160	a12,000	10,900	5,220
26	1,520						*243	3,480	7,460	a12,000	a11,000	*5,120
27	1,410						260	3,350	a7,500	a12,000	a10,000	5,120
28	1,320						269	3,770	a7,400	11,800	a10,000	5,480
29	1,260						260	3,900	7,390	11,800	a10,000	5,260
30	1,200				-------		260	a3,800	7,920	11,800	10,400	5,000
31	1,170	-------			-------		-------	a3,900	-------	12,500	9,360	-------
Total	68,630	27,000	19,220	15,190	10,920	9,610	7,542	56,063	177,110	337,510	423,760	212,450
Mean	2,214	900	620	490	390	310	251	1,808	5,904	10,890	13,670	7,082
Ac-ft	136,100	53,550	38,120	30,130	21,660	19,060	14,960	111,200	351,300	669,400	840,500	421,400

Calendar year 1953: Max 33,100 Min - Mean 4,930 Ac-ft 3,569,000
Water year 1953-54: Max 19,000 Min - Mean 3,740 Ac-ft 2,707,000

* Discharge measurement made on this day.
a No gage-height record; discharge interpolated or estimated on basis of weather records and records for Klutina River at Copper Center.
Note.--Stage-discharge relation affected by ice Oct. 29 to May 15 (no gage-height record during most of period; discharge estimated on basis of 5 discharge measurements and weather records).

Tazlina River near Glennallen--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a4,000	1,500						230	a1,400	5,940	11,500	a34,000
2	a3,500	a1,500						240	a1,600	6,440	11,400	27,300
3	a3,700	1,420						248	1,720	a6,700	11,100	22,400
4	3,860	1,360						254	1,820	a6,900	a11,000	a18,000
5	a3,600	1,360						272	a1,900	7,090	11,600	a15,000
							300					
6	a3,500	a1,300						292	1,910	7,320	11,400	14,100
7	a3,700	a1,300						310	2,100	8,000	a11,000	a13,000
8	a3,300	1,270	540					a360	2,160	8,180	11,200	11,800
9	2,870	a1,200						420	2,220	8,480	*10,900	a11,000
10	a2,700	1,080						*489	a2,300	a8,800	11,300	10,000
11	2,690						330	489	2,320	a9,100	10,900	a9,800
12	2,690	(*)					*330	544	a2,500	*9,520	10,700	9,740
13	2,510						320	560	2,730	a9,500	10,700	*9,330
14	a2,400						320	700	*2,760	9,610	a10,000	a8,900
15	2,280						310	a760	2,890	9,800	9,680	8,680
				440	350	310						
16	a2,200					(*)	290	814	3,020	9,770	9,180	a8,600
17	a2,100						282	1,020	3,050	a9,500	8,460	a8,400
18	2,000						270	1,040	3,220	9,480	a8,000	a8,100
19	2,020						260	1,150	a3,500	10,100	8,100	7,880
20	1,970						245	a1,200	3,650	10,000	7,900	7,510
		850										
21	1,870						235	1,320	3,860	9,740	a7,800	7,160
22	1,800						228	a1,300	4,070	10,300	7,900	6,700
23	a1,600						220	1,220	4,250	*9,840	a8,000	6,300
24	a1,700		500				220	1,320	4,500	a10,000	7,980	5,980
25	1,700						220	a1,300	4,920	11,000	8,850	a5,600
26	1,680						220	1,320	5,240	11,200	9,740	a5,300
27	1,530			(*)			220	1,310	5,500	11,500	a12,000	a5,000
28	a1,500						222	1,310	5,560	11,600	a18,000	a4,800
29	*1,500						222	a1,300	5,940	11,600	23,200	a4,700
30	1,460				-------		225	a1,200	5,920	11,600	37,800	4,640
31	a1,500	-------			-------		-------	a1,300	-------	a12,000	*43,800	-------
Total	75,430	30,290	16,100	13,640	9,800	9,610	8,189	25,592	98,530	290,610	391,090	319,720
Mean	2,433	1,010	519	440	350	310	273	826	3,284	9,375	12,620	10,660
Ac-ft	149,600	60,080	31,930	27,050	19,440	19,080	16,240	50,760	195,400	576,400	775,700	634,200

Calendar year 1954: Max 19,000 Min - Mean 3,759 Ac-ft 2,721,000
Water year 1954-55: Max 43,800 Min - Mean 3,530 Ac-ft 2,556,000

* Discharge measurement made on this day.
a No gage-height record; discharge interpolated or estimated on basis of weather records and records for nearby streams.
Note.--Stage-discharge relation affected by ice Nov. 11 to May 5 (no gage-height record Nov. 11, 13, 14, 20-22, 25, 27-30, Dec. 2, 5, 7, 8, 10-13, Dec. 15 to Apr. 11, Apr. 13-16, 18, 19, 23, 24, May 1; discharge estimated on basis of 4 discharge measurements and weather records).

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,640	a1,400						a860	2,800	a7,800	13,800	9,840
2	a4,200	1,360						a1,200	a2,700	8,130	13,700	a9,600
3	3,950	1,370						1,700	a2,700	8,320	14,100	9,330
4	a3,600	1,350						a2,300	2,790	a8,500	14,100	8,850
5	3,610	1,300						a3,200	2,790	a8,700	a14,000	8,740
6	a3,900	a1,300						a3,700	2,830	9,000	a14,000	8,290
7	a3,700	1,240						a3,900	2,990	a9,300	14,300	a8,000
8	a3,500	1,200	a960	a460	a330	a210	a250	a3,900	a3,200	a9,800	a14,000	a7,700
9	a3,300	1,180						a3,800	3,410	a10,000	a14,000	a7,500
10	a3,200	1,150						*3,770	a3,600	a11,000	14,300	a7,400
11	3,040							3,880	3,810	11,300	14,300	a7,300
12	2,920					(*)		3,480	4,050	11,400	a14,000	a7,100
13	2,790							a3,400	a4,300	11,400	14,600	7,040
14	2,760							3,230	4,410	11,700	14,700	a7,000
15	2,700							3,100	4,490	a12,000	14,500	a7,000
		a1,200										
16	a2,600							2,840	a4,600	12,700	15,000	a7,200
17	2,510			(*)				2,830	4,730	13,500	a15,000	a7,400
18	*2,490							a2,700	*4,900	a14,000	15,100	7,880
19	a2,400							a2,700	5,240	14,100	a15,000	8,290
20	2,340							a2,600	5,460	14,100	*15,100	a8,200
21	2,060							a2,600	6,000	14,200	14,800	7,820
22	a1,900							2,650	6,590	a15,000	a14,000	a7,300
23	a1,800				a270			2,730	6,990	14,900	13,300	a6,900
24	1,670		a700	a350		a240	a510	2,790	a7,100	*14,600	12,600	6,570
25	1,560							2,840	7,160	a14,000	12,000	6,240
		a1,100										
26	a1,500							2,770	7,220	a14,000	a11,000	*5,690
27	1,430							a2,800	7,270	a14,000	11,200	a5,400
28	1,400	(*)						2,790	7,290	a13,000	11,100	a5,100
29	a1,400							2,900	7,390	a13,000	10,800	4,960
30	a1,400				-------			a2,900	7,580	a13,000	10,500	a4,800
31	1,360	-------			-------		-------	2,890	-------	13,300	10,200	-------
Total	81,630	35,850	25,600	12,500	8,730	6,990	11,400	89,750	146,390	369,750	419,100	220,440
Mean	2,633	1,195	826	403	301	225	380	2,895	4,880	11,930	13,520	7,348
Ac-ft	161,900	71,110	50,780	24,790	17,320	13,860	22,610	178,000	290,400	733,400	831,300	437,200

Calendar year 1955: Max 43,800 Min - Mean 3,589 Ac-ft 2,598,000
Water year 1955-56: Max 15,100 Min - Mean 3,902 Ac-ft 2,833,000

* Discharge measurement made on this day.
a No gage-height record; discharge interpolated or estimated on basis of 6 discharge measurements, weather records, and records for stations en nearby streams (stage-discharge relation affected by ice Oct. 24 to May 14).

TAZLINA RIVER NEAR GLENNALLEN

Chemical analyses in parts per million, December, 1953 to August, 1956

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1953																		
Dec. 16	626	5.9	0.00	21	2.4	4.5	0.6	66	15	4.0	0.0	0.7	87	62	8	148	7.0	--
1954																		
Jan. 8	a 516	5.6	.00	21	2.9	6.0	1.2	67	16	4.8	.1	.5	91	64	9	151	7.3	--
Apr. 28	a 269	7.1	.00	24	3.4	8.3	1.8	81	15	9.2	.0	.2	109	74	0	187	7.3	0
May 26	3,480	3.7	.00	14	4.7	2.8	1.0	60	12	2.5	.0	.3	76	54	0	125	7.0	0
June 17	5,770	3.2	.01	17	1.9	2.6	1.1	54	13	1.2	.0	.2	70	50	0	116	7.2	0
July 1	8,210	3.2	.02	17	1.9	2.2	1.0	53	12	1.0	.0	.3	68	50	0	115	7.4	0
Sept. 27	5,120	4.0	.09	18	1.3	2.8	.4	57	12	1.4	.0	.2	68	50	4	116	7.4	--
1955																		
May 18	1,040	5.7	.05	19	3.4	4.8	1.3	68	10	4.0	.0	.8	82	61	6	141	6.6	20
Sept. 21	7,160	5.6	.00	18	1.8	2.5	.5	56	11	1.0	.0	.2	69	52	6	123	7.1	5
1956																		
May 10	3,770	5.3	.00	17	3.8	3.1	2.3	62	9.1	3.0	--	.0	142	58	7	119	7.6	165
May 31	a 2,800	4.1	.00	17	2.7	3.5	.8	59	12	1.8	.1	.7	72	54	5	126	6.9	25
June 12	a 3,880	3.3	.00	17	2.9	2.4	1.7	55	10	1.2	.0	.3	66	54	9	116	6.6	10
July 18	a 13,500	--	.00	19	1.7	8.1	1.4	73	11	1.0	.1	.2	98	54	0	135	8.0	5
Aug. 4	a 14,860	4.5	.07	17	2.6	3.1	1.1	54	11	.5	.1	.2	67	53	9	119	6.5	5
Aug. 16	a 14,370	5.5	.00	18	3.0	2.8	.5	58	12	.5	.1	.6	72	57	10	122	7.8	0

a Discharge at time of sampling.

TAZLINA RIVER NEAR GLENNALLEN--Continued

Periodic determinations of suspended-sediment discharge, water years, October 1954 to September 1956

Date	Water discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1953			
Oct. 14	2,360	50	319
Dec. 16	a620	21	35
1954			
Jan. 8	516	11	15
Apr. 25	257	19	13
May 27	3,240	149	1,300
June 17	5,710	53	817
July 1	8,260	90	2,010
Aug. 7	18,400	471	23,400
Sept. 15	7,530	75	1,520
Nov. 12	1,180	47	150
1955			
Aug. 30	39,200	3,220	341,000
1956			
May 10	a3,770	57½	5,820
May 31	2,800	60	450
June 12	3,880	149	1,560
Aug. 4	14,900	178	7,160
Aug. 16	14,400	121	4,700

a Mean daily discharge.

TAZLINA RIVER NEAR GLENNALLEN--Continued

Particle-size analyses of suspended sediment, water years October 1953 to September 1956
(Methods of analysis: B, bottom withdrawal tube; D, decantation; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed; M, mechanically dispersed)

Date of collection	Time	Discharge (cfs)	Water temperature (°F)	Suspended sediment													Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters											
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	
1954																	
Sept. 15	8:30 a.m.	7,530		63	533	80	88	89	93	95	97	98					BSWCM
1955																	
Aug. 30	10:00 a.m.	39,200		3,220	4,520	24	28	37	46	56	68	75	87		95	99	BSWCM
1956																	
May 10	5:00 p.m.	[a] 3,770	32	572	1,200	37	47	64	79	92	96	97	99		100		BSWCM

a Mean daily discharge.

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 center of span 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.--Discharge: May to August 1908 (gage heights only), June to October 1913, August 1949 to September 1956.
Chemical analyses: March 1952 to September 1954, May to August 1956.
Water temperatures: October 1952 to September 1953.
Sediment records: May 1953 to September 1954 (periodic).

Gage.--Wire-weight gage read once daily. 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.--7 years (1949-56), 1,667 cfs (1,207,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 7,680 cfs Aug. 5 (gage height, 8.46 ft, from graph based on gage readings); minimum not determined.
1954-55: Maximum discharge observed during water year, 6,560 cfs July 12 (gage height, 8.05 ft); minimum not determined.
1955-56: Maximum discharge observed during water year, 7,360 cfs Aug. 4 (gage height, 8.30 ft); minimum not determined.
1913, 1949-56: 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 fair except those for periods of ice effect or no gage-height record, which are poor. Records of specific conductance of daily samples available in district office, Quality of Water Branch, at Palmer, Alaska.

Revisions.--WSP 1372: Drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,340							150	2,320	3,820	5,080	3,820
2	1,250							150	2,560	3,890	6,150	3,680
3	1,160							170	2,520	4,030	6,830	3,650
4	1,110							190	2,620	4,000	7,180	3,500
5	1,080							210	2,590	3,800	7,640	3,430
6	1,090							240	2,760	3,790	7,610	3,320
7	1,060							280	3,180	3,740	*7,490	3,250
8	1,040	480		(*)				320	3,220	3,810	7,540	3,420
9	1,060							390	3,240	4,000	7,540	3,340
10	1,040							465	3,310	4,030	7,230	3,320
11	1,010						120	528	3,300	4,110	7,160	3,220
12	990							*580	*3,630	4,060	6,650	3,200
13	970							650	3,320	4,090	6,830	3,100
14	941							707	3,300	4,140	6,500	3,010
15	903							800	3,300	4,290	5,960	2,700
16	874		260	200	160	130		856	3,160	4,270	6,170	2,660
17	856							820	3,250	4,270	5,460	2,530
18	820							1,300	3,190	4,400	5,120	2,490
19	775							1,490	3,310	*4,510	4,950	2,400
20	775							1,670	3,240	4,390	4,840	*2,410
21	766							1,740	3,250	4,270	4,840	2,230
22	811							1,810	4,030	4,400	4,570	2,200
23	775	350						1,920	4,890	4,270	4,750	2,210
24	741							2,070	4,220	3,950	4,490	2,160
25	724							2,240	4,140	4,000	4,480	2,070
26	682						140	2,180	3,890	4,130	4,440	1,900
27	626							2,110	3,790	4,250	4,530	1,810
28	*626				(*)			2,060	3,820	4,270	4,550	1,690
29	610				-			2,060	3,820	4,300	4,320	1,620
30	595				-------		(*)	2,070	3,790	4,580	4,250	1,630
31	580	-------			-------		-------	2,040	-------	4,710	3,610	-------
Total	27,680	12,450	8,060	6,200	4,480	4,030	3,800	34,266	100,960	128,570	178,760	81,970
Mean	893	415	260	200	160	130	127	1,105	3,365	4,147	5,766	2,732
Ac-ft	54,900	24,690	15,990	12,300	8,890	7,990	7,540	67,970	200,300	255,000	354,600	162,600

Calendar year 1953: Max 8,810 Min - Mean 2,085 Ac-ft 1,509,000
Water year 1953-54: Max 7,640 Min - Mean 1,620 Ac-ft 1,173,000

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 26 to May 15 (no gage-height record Nov. 21 to May 15, except occasional readings; discharge estimated on basis of 5 discharge measurements and weather records).

Klutina River at Copper Center--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,280	750							634	4,420	5,540	3,250
2	1,180	741							650	4,690	5,420	3,180
3	1,240	716							674	4,850	5,260	3,070
4	1,350	716							766	5,160	5,160	3,000
5	1,280	707							766	5,380	5,020	2,940
6	1,260	682							775	5,460	4,710	2,890
7	1,290	658							922	5,560	4,690	2,770
8	1,250	602	300					120	950	5,720	4,660	2,720
9	1,190	595							1,040	5,720	4,710	2,670
10	1,130	570							1,000	5,760	*4,660	2,590
11	1,050	600							1,370	5,780	4,240	2,560
12	932	640							1,500	6,190	4,160	2,690
13	980	620							*1,490	*6,080	4,130	2,420
14	865	560							1,590	5,740	4,050	2,450
15	856	500				(*)			1,610	5,720	3,790	2,460
16	707			270	220	190	110	190	1,660	5,540	3,610	*2,490
17	724						(*)	204	1,660	5,500	3,440	2,410
18	724							220	1,710	5,400	3,160	2,340
19	716							230	1,840	5,440	2,960	2,300
20	626							250	2,060	5,460	2,880	2,110
21	634							280	2,250	5,280	2,920	2,100
22	528							312	2,980	*5,200	3,020	1,990
23	602	470						364	3,160	5,000	3,070	1,880
24	666		290					413	3,320	4,900	2,960	1,780
25	626							479	3,440	5,000	3,000	1,670
26	600			(*)				535	3,700	5,080	3,070	1,610
27	588							580	4,090	5,220	3,120	1,550
28	630							*602	4,170	5,360	3,190	1,500
29	*690				-			588	4,170	5,460	3,200	1,480
30	732				-------			535	4,220	5,500	3,280	1,500
31	750	-------			-------		-------	618	-------	5,660	3,370	-------
Total	27,676	16,707	9,140	8,370	6,160	5,890	3,300	8,200	60,167	167,230	120,450	70,370
Mean	893	557	295	270	220	190	110	265	2,006	5,395	3,885	2,346
Ac-ft	54,890	33,140	18,130	16,600	12,220	11,680	6,550	16,260	119,300	331,700	238,900	139,600

Calendar year 1954: Max 7,640 Min - Mean 1,634 Ac-ft 1,183,000
Water year 1954-55: Max 6,190 Min - Mean 1,380 Ac-ft 999,000

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 10 to June 3 (no gage-height record Nov. 14, 28, Nov. 30 to Apr. 11, Apr. 14, 18, 20, 21, 23-25, 27, 28, 30, May 1, 3, 4, 6, 9, 10, 12, 13, 16, 18, 19, 27; discharge estimated on basis of 4 discharge measurements and weather records).

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,340	b312	(*)					a380	b1,700	4,110	6,910	2,600
2	1,290	b307						a410	1,750	4,360	7,130	2,560
3	1,200	b296						a470	1,850	4,620	7,170	2,500
4	980	b290						a530	1,900	4,710	7,310	2,450
5	1,080	b280						a580	1,800	4,910	5,640	2,410
6	1,100	b270						a620	1,750	5,020	5,540	2,300
7	990	b260						b626	1,650	5,210	5,660	2,310
8	950	a250	a200				a170	a620	1,650	5,230	5,700	2,310
9	a900	b240						b610	2,070	5,250	5,680	a2,300
10	829	a230						b590	2,190	5,270	5,700	2,210
11	829	b217						a580	a2,500	5,200	5,740	2,180
12	775	a210						b580	a2,800	5,120	a5,700	2,150
13	716	b212				(*)		a620	a3,100	5,050	5,760	2,040
14	732	a220						b702	a3,300	5,070	5,820	2,050
15	732	b222		a160	a150	a160		b802	a3,500	5,090	5,540	2,060
16	698	a230						b896	3,540	5,400	5,480	2,090
17	682	b235						b960	3,700	5,900	5,070	2,090
18	*698	a230						b987	*4,020	6,120	4,980	2,190
19	658	b222						b1,030	a4,200	6,140	4,980	2,270
20	626	b212						b1,060	a4,400	6,160	4,890	2,340
21	565	a200						b1,100	a4,400	6,180	4,620	2,410
22	528	b194						b1,180	a4,500	6,100	4,360	2,310
23	b500	a190					a310	b1,260	a4,500	a5,900	4,380	2,290
24	b472	b186	a190					b1,350	a4,400	a5,500	4,360	2,210
25	b439	a180						b1,460	a4,300	5,360	4,280	2,110
26	b413	a180						b1,510	a4,200	5,580	3,920	*2,020
27	b388	b178						b1,570	4,110	*5,600	3,780	1,990
28	b364	a180						b1,660	3,940	5,620	3,540	1,930
29	a340	a180						b1,730	3,940	5,840	3,380	1,800
30	b329	a190			-------			b1,770	4,110	5,940	3,220	1,710
31	b318	-------			-------		-------	b1,730	-------	6,470	2,850	-------
Total	22,461	6,803	6,040	4,960	4,350	4,960	7,200	29,973	95,770	168,030	159,090	66,190
Mean	725	227	195	160	150	160	240	967	3,192	5,420	5,132	2,206
Ac-ft	44,550	13,490	11,980	9,840	8,630	9,840	14,280	59,450	190,000	333,300	315,600	131,300

Calendar year 1955: Max 6,190 Min - Mean 1,330 Ac-ft 962,800
Water year 1955-56: Max 7,310 Min - Mean 1,573 Ac-ft 1,142,000

* Discharge measurement made on this day.

a No gage-height record; discharge interpolated or estimated on basis of 2 discharge measurements, weather records, and records for Tazlina River near Glennallen and Tonsina River at Tonsina.

b Stage-discharge relation affected by ice.

KLUTINA RIVER AT COPPER CENTER

Chemical analyses, in parts per million, October 1953 to September 1954, May to August 1956

Date of collection	Mean discharge (cfs)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
															Calcium, magnesium	Noncarbonate			
1953																			
Oct. 1-31	893		5.1	0.04	15	1.3	1.9	0.5	48	7.5	1.3	0.0	0.4	59	43	3	95	6.5	15
Nov. 1-10	480		5.5	.05	15	2.4	1.8	.5	50	6.0	2.2	.1	.6	62	47	6	101	6.9	5
Nov. 11-23	400		5.4	.05	16	1.6	2.0	.7	52	6.1	2.1	.1	.6	63	46	4	105	6.6	3
Dec. 16	260		5.9	.05	17	2.1	2.2	.7	58	8.1	1.2	.1	.7	67	51	4	115	6.9	4
Dec. 22, 24, 28	260		6.6	.07	18	1.7	2.5	.5	59	8.9	1.8	.1	.6	70	52	4	121	6.5	3
1954																			
Jan. 2, 9-13	200		6.5	.06	18	2.0	2.5	.4	59	8.4	2.2	.1	.7	75	53	5	120	7.2	4
Jan. 8	211		6.6	.05	18	2.1	2.5	.5	61	7.9	1.4	.0	.8	70	54	5	122	6.5	5
Feb. 5-6, 8, 10, 24	160		6.9	.05	20	2.8	3.0	.8	69	9.8	2.0	.1	.8	82	61	5	139	6.6	7
May 10, 16-19	986		5.3	.09	15	1.9	2.0	.7	50	7.2	.6	.1	.6	68	46	5	101	7.1	5
May 21-31	2,027		4.6	.09	14	1.1	1.8	.5	44	6.5	1.0	.1	.6	58	39	3	91	6.6	6
June 1-10	2,832		4.4	.07	14	1.0	1.6	.5	42	7.2	.8	.1	.6	58	39	5	89	6.6	4
June 17-20	3,248		4.2	.00	14	1.5	1.9	.6	48	6.6	1.0	.0	.5	58	41	2	91	--	--
June 21-30	3,964		4.7	.00	14	1.8	1.9	.7	47	6.0	1.0	.0	.5	58	42	4	93	6.9	7
July 1-10	3,891		4.3	.00	15	1.0	1.6	.6	47	6.3	1.1	.0	.5	57	42	3	91	6.9	6
July 11-20	4,253		4.2	.00	14	1.6	1.8	.5	46	7.2	.9	.0	.5	57	42	4	91	7.1	12
July 21-31	4,285		4.0	.00	14	1.5	2.0	.7	49	6.2	1.0	.0	.6	55	41	1	93	7.1	7
Aug. 1-10	7,029		5.8	.00	15	1.7	2.9	.9	50	8.5	.5	.1	.4	61	44	4	98	7.7	0
Aug. 11-20	5,964		4.9	.00	15	1.5	2.3	.5	51	7.4	.8	.1	.4	59	44	2	96	7.6	0
Aug. 21-31	4,439		5.5	.00	14	2.1	2.3	.5	50	8.0	1.2	.1	.4	59	44	3	96	7.6	0
Sept. 1-10	3,473		5.2	.00	15	1.7	4.5	.7	52	7.5	3.0	.0	.3	64	44	2	106	7.8	0
Sept. 16	2,660		4.5	.00	13	2.2	2.6	1.0	44	6.5	.0	--	--	52	42	5	90	7.9	0
Sept. 21-30	1,952		5.0	.04	14	1.4	1.5	.3	46	7.1	.5	.1	.3	56	41	3	92	7.6	--
1956																			
May 10	590		5.6	.00	17	2.4	2.6	.9	59	8.2	.0	.0	.0	101	52	4	115	7.7	90
May 31	a 1,990		3.9	.00	13	1.5	1.5	.4	43	7.7	.2	.0	.4	50	39	3	83	7.7	8
June 14	a 3,590		3.6	.06	12	1.6	1.6	.7	42	6.5	.3	.1	.3	48	37	2	85	6.9	5
July 18	a 6,560		7.0	.00	16	1.3	3.6	1.0	51	8.0	.8	.1	.5	63	45	3	105	7.3	5
Aug. 4	a 6,140		6.2	.06	14	1.8	1.9	.8	48	7.0	.8	.1	.3	57	42	3	96	7.3	5

a Discharge at time of sampling.

KLUTINA RIVER AT COPPER CENTER--Continued

Periodic determinations of suspended-sediment discharge, water years October 1953 to September 1954, October 1955 to September 1956

Date	Water discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1953			
Oct. 14	1,140	37	114
Dec. 16	a 260	59	41
1954			
Jan. 8	211	22	13
May 27	2,060	115	640
June 17	3,250	55	483
July 1	4,110	66	732
Aug. 7	7,660	205	4,240
Sept. 15	a 2,700	35	255
1956			
May 31	1,990	51	274
June 14	3,590	82	795
Aug. 4	6,140	74	1,230

Particle-size analyses of suspended sediment, water year October 1953 to September 1954
(Methods of analysis: B, bottom withdrawal tube; D, decantation; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed; M, mechanically dispersed)

Date of collection	Time	Discharge (cfs)	Water temperature (°F)	Suspended sediment													Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters											
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	
1954																	
Sept. 15	10:30 a.m.	a 2,700		36	565	83	86	88	91	94	96	98					BSWCM

a Mean daily discharge.

Tonsina River at Tonsina

Location.--Lat 61°39'50", long 145°10'50", near center of span on downstream side of bridge on Richardson Highway at Tonsina, 0.5 mile upstream from Bernard Creek and 0.7 mile upstream from Squirrel Creek.

Drainage area.--420 sq mi, approximately.

Records available.--Discharge: May 1950 to December 1954, January to September 1955 (fragmentary), October 1955 to September 1956.
Chemical analyses: February 1952 to September 1953, January to September 1954, May to August 1956.
Water temperatures: October 1952 to September 1953.
Sediment records: May to August 1953, October 1953 to September 1954, May to August 1956 (periodic).

Gage.--Wire-weight gage read once daily. Altitude of gage is 1,500 ft (from topographic map).

Average discharge.--5 years (1950-54, 1955-56), 901 cfs (652,300 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 4,880 cfs Aug. 3 (gage height, 5.34 ft, from graph based on gage readings); minimum not determined.
1955-56: Maximum discharge observed during water year, 4,360 cfs July 3 (gage height, 5.34 ft); maximum gage height observed, 5.81 ft May 2 (backwater from ice); minimum discharge not determined.
1950-54, 1955-56: Maximum discharge observed, 7,240 cfs June 27, 1953 (gage height, 6.60 ft); minimum not determined.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	408							96	1,760	2,460	3,500	1,510
2	373					(*)		110	1,930	2,700	4,060	1,570
3	354							180	2,090	2,510	4,670	1,650
4	358							260	2,560	2,380	4,650	1,740
5	360							370	2,860	2,300	*4,310	1,820
6	380							540	2,960	2,200	3,810	1,830
7	425			(*)				750	3,040	2,100	3,540	1,660
8	447							1,000	3,480	2,240	3,430	1,590
9	442							1,200	3,770	2,300	3,180	1,570
10	430							1,400	3,430	2,580	2,940	1,560
11	440							*1,200	3,060	2,340	2,770	1,540
12	440							1,100	*2,690	2,260	2,660	1,490
13	430							1,040	2,620	2,200	2,610	1,390
14	414							900	2,400	2,200	2,300	1,120
15	400							730	2,300	2,220	2,130	980
16		200	160	130	110	93	82	738	2,130	2,240	2,020	873
17								802	2,160	2,240	1,720	891
18								794	2,280	2,200	1,620	873
19								786	2,420	2,240	1,720	873
20								1,030	2,670	*2,360	1,760	855
21								1,190	2,860	2,260	1,780	864
22								1,280	3,010	2,260	1,820	873
23	310							1,320	2,860	2,250	1,950	828
24								1,510	2,720	2,250	1,990	794
25								1,660	2,460	2,220	2,070	786
26								1,620	2,400	2,160	2,130	*778
27								1,600	2,670	2,100	1,990	658
28	(*)						(*)	1,640	2,700	2,060	1,820	608
29								1,610	2,530	2,240	1,620	566
30					-------			1,660	2,380	2,580	1,570	524
31		-------			-------		-------	1,680	-------	2,980	1,540	-------
Total	11,061	6,000	4,960	4,030	3,080	2,883	2,460	31,796	79,200	71,630	79,680	34,664
Mean	357	200	160	130	110	93	82	1,026	2,640	2,311	2,570	1,155
Ac-ft	21,940	11,900	9,840	7,990	6,110	5,720	4,880	63,070	157,100	142,100	158,000	68,760

Calendar year 1953: Max 7,070 Min - Mean 1,109 Ac-ft 803,200
Water year 1953-54: Max 4,670 Min - Mean 908 Ac-ft 657,400

* Discharge measurement made on this day.
Note.--No gage-height record Oct. 5, 6, 11-13, 15-26; discharge estimated on basis of weather records. Stage-discharge relation affected by ice Oct. 27 to May 12 (no gage-height record Oct. 29 to May 3; discharge estimated on basis of 4 discharge measurements and weather records).

Tonsina River at Tonsina--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	504	425						-	-	-	-	-
2	497	466						-	-	-	-	-
3	485	387						-	-	-	-	-
4	485	387						-	-	-	-	-
5	472	373						-	-	-	-	-
6	460	363						-	-	-	-	-
7	453	340						-	-	-	-	-
8	430	331						-	-	-	-	-
9	414	302						-	-	-	-	-
10	387	319						-	-	-	1,760	-
11	368	331						-	-	-	-	1,130
12	368	344						*466	-	-	-	-
13	368							358	-	*3,270	*1,720	-
14	363					†99		420	1,130	-	-	*1,360
15	358							453	*1,170	-	-	-
			b140									
16	349						†104	587	-	-	-	1,200
17	340							615	-	-	-	-
18	340							559	-	-	-	-
19	336							420	-	-	-	-
20	331							430	-	-	-	1,030
21	323	b240						344	-	-	-	-
22	315							497	-	*3,080	-	-
23	315							363	-	-	-	-
24	306							331	-	-	-	-
25	306							363	-	-	-	-
26	302							368	-	-	-	-
27	*298							382	-	-	2,450	-
28	288			†111				382	-	-	2,380	-
29	315				-			403	-	-	-	-
30	340				------			-	-	-	-	573
31	378	------			------		------	-	------	-	1,960	------
Total	11,594	8,688	4,340	-	-	-	-	-	-	-	-	-
Mean	374	290	140	-	-	-	-	-	-	-	-	-
Ac-ft	23,000	17,230	8,610	-	-	-	-	-	-	-	-	-

Calendar year 1954: Max 4,670 Min - Mean 915 Ac-ft 662,600
Water year 1954-55: Max - Min - Mean - Ac-ft -

* Discharge measurement made on this day.
† Result of discharge measurement.
b Stage-discharge relation affected by ice.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								a190	678	4,000	2,830	857
2								196	694	3,880	2,720	a820
3								*208	790	4,360	2,700	848
4			(*)					211	1,000	4,240	2,210	806
5								213	1,050	3,840	2,070	822
6								213	1,100	3,000	2,300	649
7								211	1,560	3,010	1,960	718
8								208	1,760	2,940	2,190	686
9								a190	1,940	2,900	1,790	649
10	a380							177	2,340	3,050	1,880	634
11								a160	2,360	2,930	1,510	580
12								162	2,490	2,940	1,880	678
13								196	2,310	2,740	1,790	866
14								314	2,560	2,980	a1,900	742
15								499	2,500	3,680	2,050	592
		a130	a110	a100	a100	a110	a140					
16								448	2,800	3,520	2,000	560
17								499	3,010	3,570	1,810	599
18	*280			(*)				487	3,340	3,340	2,050	627
19								493	3,540	3,520	1,860	634
20								499	3,700	3,680	*1,900	613
21								554	*3,090	3,840	1,710	586
22								620	2,940	3,100	1,700	992
23								634	2,940	2,720	1,530	663
24								718	2,400	a2,500	1,410	678
25	a210							678	2,910	*2,330	1,340	*790
26								694	2,930	2,300	1,450	534
27								694	2,830	1,860	1,430	528
28								726	2,880	2,010	1,430	534
29								606	3,210	2,050	1,340	493
30					------			620	3,360	2,120	1,300	459
31		------			------		------	649	------	2,240	1,030	------
Total	9,470	3,900	3,410	3,100	2,900	3,410	4,200	12,967	71,012	95,190	57,070	20,237
Mean	305	130	110	100	100	110	140	418	2,367	3,071	1,841	675
Ac-ft	18,780	7,740	6,760	6,150	5,750	6,760	8,330	25,720	140,900	188,800	113,200	40,140

Calendar year 1955: Max - Min - Mean - Ac-ft -
Water year 1955-56: Max 4,360 Min - Mean 784 Ac-ft 569,000

* Discharge measurement made on this day.
a No gage-height record; discharge interpolated or estimated on basis of 4 discharge measurements, weather records, and records for nearby streams.
Note.--Stage-discharge relation affected by ice May 2-12.

TONSINA RIVER AT TONSINA

Chemical analyses, in parts per million, January to September 1954, May to August 1956

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1954																		
Jan. 7	a 138	8.5	0.02	15	2.4	2.8	0.5	54	8.4	2.0	0.1	0.6	67	47	3	113	7.1	--
Apr. 28	a 87	8.2	.08	17	2.9	2.8	.6	67	6.2	1.5	.0	.3	73	54	0	120	7.3	8
May 28	1,640	5.4	.14	10	1.2	1.3	.4	36	5.8	.4	.1	.6	43	30	1	68	6.9	15
June 17	2,160	4.8	.14	9.2	1.0	1.3	.4	34	6.2	.7	.1	.4	41	27	0	63	6.9	20
July 1	2,460	4.4	.10	9.4	.6	1.2	.3	31	5.8	.8	.0	.3	38	26	1	60	6.9	8
Sept. 28	608	4.7	.10	12	.7	1.7	.4	37	5.4	1.1	.0	.5	45	33	3	77	6.5	7
1956																		
May 10	177	4.8	.00	11	2.0	1.4	1.0	39	3.8	.5	--	.0	72	36	4	70	7.7	75
May 31	649	5.4	.00	12	1.4	2.0	.5	42	6.5	.0	.1	.3	49	36	1	85	6.5	15
June 12	2,490	3.8	.00	9.5	.2	1.0	.4	25	5.3	.0	.0	.5	33	24	4	59	6.2	8
Aug. 1	2,830	4.1	.04	7.9	1.4	1.1	.6	26	4.8	.2	.0	.2	33	25	4	60	6.4	10
Aug. 16	2,000	4.9	.03	9.1	1.2	1.5	.4	30	7.0	.3	.1	.4	40	28	3	62	7.4	5

a Discharge at time of sampling.

TONSINA RIVER AT TONSINA--Continued

Periodic determinations of suspended-sediment discharge, water years October 1953 to September 1954, October 1955 to September 1956

Date	Water discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1953			
Oct. 14	414	48	54
Dec. 18	a 160	21	9
1954			
Jan. 7	138	12	4
May 28	1,790	55	266
June 17	2,450	33	218
July 1	2,560	33	228
Aug. 5	3,750	164	1,660
Sept. 15	1,070	53	153
1956			
May 10	a 177	201	96
May 31	a 649	25	44
June 12	a 2,490	96	640
Aug. 1	a 2,830	53	400
Aug. 16	a 2,000	25	130

a Mean daily discharge.

Particle-size analyses of suspended sediment, water year October 1953 to September 1954
(Methods of analysis: B, bottom withdrawal tube; D, decantation; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed; M, mechanically dispersed)

Date of collection	Time	Discharge (cfs)	Water temperature (°F)	Suspended sediment													Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters											
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	
1954																	
Sept. 15	1:45 p.m.	1,070		57	908	83	93	97	97	98	99	99					BSWCM

Copper River near Chitina

Location.--Lat 61°28', long 144°28', 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 3¾ miles south of Chitina.

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

Records available.--Discharge: July to September 1950, May to November 1952, October 1955 to September 1956. Discharge measurements only in 1951 and December 1952 to September 1955.

Chemical analyses: June to November 1950, January 1954 to September 1956.

Sediment records: January to September 1954, May to September 1955, May to September 1956 (periodic).

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.

Extremes.--Maximum discharge recorded during year, 124,000 cfs June 30 (gage height, 18.08 ft); minimum not determined.

1950, 1952, 1955-56: Maximum discharge recorded, 159,000 cfs July 30, 1952 (gage height, 22.56 ft); minimum not determined.

Maximum stage known since 1950, 28.3 ft, in July 1951, at present datum, from flood-marks (discharge, 220,000 cfs). Minimum discharge observed, 3,830 cfs Feb. 25, 1954 (discharge measurement).

Remarks.--Records poor. Some diurnal fluctuation caused by glacier melt at the source. Discharge measurements, in cubic feet per second, made at this site during water years 1954-55, are as follows:

1953		1954-Con.	
Oct. 27	11,300	Oct. 19	15,100
1954		1955	
Jan. 6	4,560	Mar. 10	4,580
Feb. 25	3,830	Apr. 13	5,260
May 13	42,700	May 11	13,700
June 8	82,900	June 14	40,600
July 22	105,000	July 17	93,700
Aug. 5	185,000	Aug. 10	104,000
Sept. 21	48,500	Sept. 14	69,100

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									40,300			63,800
2									38,500			60,400
3									35,600			56,800
4									36,400			54,400
5									39,900			52,200
6									42,600			50,200
7									47,800			48,900
8	a19,000							a20,000	57,000			46,800
9									61,800			44,700
10									65,300			44,100
11									65,300			a44,000
12									65,100		a110,000	a44,000
13									63,800	a120,000		a44,000
14									62,100			a45,000
15									64,400			a46,000
16		a6,000	a4,400	a2,700	a2,300	a2,000	a3,500	*28,300	68,400			a47,000
17								29,400	69,300			a47,000
18								29,900	68,200			a49,000
19				(*)				29,700	70,400			a51,000
20								31,300	73,800			a48,000
21								35,500	*73,300			a46,000
22	(*)							42,900	71,800			a44,000
23	a9,700							46,700	70,400		*88,600	a41,000
24								47,000	71,900		83,100	a39,000
25								46,600	74,500	*111,000	78,600	*37,500
26								46,000	75,400	a110,000	77,900	a35,000
27								45,600	78,900	a110,000	77,700	a32,000
28								44,800	82,400	a100,000	76,600	a30,000
29								44,200	84,400	a100,000	75,100	a29,000
30								43,700	104,000	a110,000	77,600	a28,000
31								42,600	------	a120,000	69,200	------
Total	440,200	180,000	136,400	83,700	66,700	62,000	105,000	934,200	‡1,923	‡3,641	‡3,124.4	‡1,348.8
Mean	14,200	6,000	4,400	2,700	2,300	2,000	3,500	30,140	64,100	117,500	100,800	44,960
Ac-ft	873,100	357,000	270,500	166,000	132,300	123,000	208,300	‡1,853	‡3,814	‡7,222	‡6,197	‡2,675

Calendar year 1955: Max - Min - Mean - Ac-ft -
Water year 1955-56: Max - Min - Mean 32,910 Ac-ft 23,890,000

* Discharge measurement made on this day.
‡ Expressed in thousands.
a No gage-height record; discharge estimated on basis of 6 discharge measurements, weather records, and records for Gakona River at Gakona, Tazlina River near Glennallen, Klutina River at Copper Center, and Tonsina River at Tonsina.

COPPER RIVER NEAR CHITINA

Chemical analyses, in parts per million, January 1954 to September 1956

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1954																		
Jan. 1	--	17	0.03	35	6.4	14	1.5	113	20	24	0.0	0.4	174	114	21	297	8.0	5
May 28	e 55,000	7.5	.00	27	3.6	6.2	1.4	83	19	5.5	.1	.3	112	82	14	196	6.8	0
June 17	e 67,800	6.7	.00	29	3.3	4.7	1.3	91	17	4.5	.1	.1	112	86	11	193	7.0	0
June 29	e 101,000	6.6	--	22	3.2	4.8	1.4	73	14	5.0	--	.9	94	68	8	163	7.2	0
June 30	e 98,300	7.2	--	22	3.0	4.8	1.4	74	15	4.5	--	.6	94	67	7	160	7.3	0
July 9	e 96,300	5.3	.00	24	3.0	3.2	1.6	82	14	1.8	.1	.1	93	72	5	160	7.4	0
July 20	e 126,000	6.6	.00	--	3.9	3.8	3.0	68	13	--	.1	.6	--	--	--	--	6.9	0
Aug. 2	--	6.7	.00	22	3.2	4.1	2.1	73	16	2.8	.1	.1	93	68	8	162	7.0	0
Aug. 3	e 204,000	6.1	.00	23	2.9	3.5	2.1	75	17	2.5	.1	.3	94	69	8	160	7.3	0
Aug. 4	--	--	--	21	3.1	3.7	2.6	74	14	3.0	--	.3	84	65	4	153	7.3	0
Aug. 5	a 165,000	6.7	.00	22	3.5	3.7	2.1	74	15	2.5	.1	.3	92	69	9	158	7.2	0
Aug. 19	e 90,100	5.9	.00	21	2.9	4.2	1.0	70	15	3.5	.1	.2	88	64	7	151	7.2	0
Aug. 20	e 95,300	5.1	.00	19	3.4	3.4	1.3	66	14	2.5	.1	.1	82	61	7	143	7.3	0
Aug. 30	e 105,000	6.1	.00	33	2.8	3.7	1.8	106	17	2.5	.1	.1	119	94	7	203	7.4	0
Aug. 31	e 94,900	6.7	.00	29	2.6	3.2	1.6	92	17	2.0	--	.2	107	83	8	186	7.4	0
Sept. 16	e 48,400	7.0	.00	25	3.8	5.2	1.1	82	18	4.5	.1	.2	105	78	11	179	7.4	0
1955																		
Jan. 25	--	12	.03	36	7.2	8.4	1.9	108	32	16	.1	.2	167	119	31	284	7.0	--
Apr. 13	a 5,260	19	.00	41	7.5	14	2.0	125	29	20	.0	1.2	196	133	31	334	8.2	--
July 7	e 166,000	10	.10	27	4.5	3.8	3.2	88	24	3.0	.0	.3	119	86	14	191	7.9	--
Sept. 21	a 25,700	10	.00	27	4.5	5.7	1.7	87	21	5.0	.0	.2	118	86	15	208	7.9	0
1956																		
May 9	a 52,200	3.4	.00	25	3.8	4.6	1.9	82	12	5.0	.0	.9	119	78	11	172	6.6	60
May 16	a 29,300	1.9	.00	24	4.9	5.4	1.4	79	14	6.5	.0	.3	115	80	15	175	7.4	50
June 1	a 40,500	8.6	.00	24	3.7	5.3	1.5	77	17	6.5	.1	.1	105	75	12	176	6.6	20
June 13	a 63,800	6.8	.00	23	2.9	3.8	1.3	73	15	3.5	.1	.3	93	69	10	160	7.7	5
June 21	a 76,800	7.3	.00	22	3.5	4.3	1.3	72	15	3.8	.1	.2	93	69	10	158	7.3	0

e Estimated from rating curve dated September 9, 1951.
a Discharge at time of sampling.

COPPER RIVER NEAR CHITINA--Continued

Chemical analyses, in parts per million, January 1954 to September 1956--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1956																		
July 18	a167,000	6.6	0.00	19	2.9	4.0	1.4	65	14	3.0	0.1	0.2	83	59	6	142	7.3	0
July 25	a111,000	6.4	.00	23	2.3	3.6	1.9	73	15	2.8	.1	.3	92	67	7	153	7.3	0
Aug. 2	--	11	.00	25	2.8	4.7	1.7	81	16	3.8	.1	.5	106	74	8	169	7.7	0
Aug. 17	a129,000	6.7	.00	22	2.7	4.6	1.7	72	15	4.6	.1	.2	92	66	7	154	7.8	5
Aug. 23	a89,900	5.8	.00	23	2.9	4.1	2.2	72	15	3.0	.0	.2	91	69	10	158	7.6	0
Aug. 30	a79,900	10	.00	25	2.8	5.8	1.4	76	16	4.8	.1	.3	103	74	12	174	7.8	5
Sept. 10	a46,100	7.9	.00	23	3.6	5.7	1.5	72	17	5.0	.1	.2	99	72	13	170	7.9	5
Sept. 25	a37,500	9.8	.00	26	3.7	4.7	1.6	80	19	5.2	.1	.1	109	80	14	187	7.2	0

a Discharge at time of sampling.

COPPER RIVER NEAR CHITINA--Continued

Periodic determinations of suspended-sediment discharge, water years October 1953 to September 1956

Date	Discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1954			
Jan. 6	4,560	23	283
Feb. 25	3,830	16	165
May 27	(a)	1,240	--
May 28	(a)	1,100	--
June 8	82,900	2,180	488,000
June 17	(a)	943	--
June 29	(a)	2,460	--
June 30	(a)	1,850	--
June 30	(a)	1,960	--
July 8	(a)	2,160	--
July 9	(a)	2,000	--
July 9	(a)	2,260	--
July 19	(a)	2,720	--
July 20	(a)	2,610	--
Aug. 2	(a)	4,500	--
Aug. 3	(a)	5,230	--
Aug. 4	(a)	3,850	--
Aug. 5	165,000	3,470	1,550,000
Aug. 6	(a)	3,160	--
Aug. 7	(a)	3,500	--
Aug. 8	(a)	3,360	--
Aug. 9	(a)	2,840	--
Aug. 10	(a)	3,650	--
Aug. 19	(a)	1,400	--
Aug. 20	(a)	1,650	--
Aug. 30	(a)	2,420	--
Aug. 31	(a)	1,990	--
Sept. 16	(a)	548	--
Sept. 21	48,500	699	91,500
1955			
May 11	13,700	804	29,700
June 14	40,600	3,360	368,000
July 7	(a)	3,770	--
July 20	(a)	2,690	--
Aug. 10	104,000	2,740	769,000
Aug. 15	(a)	1,380	--
Sept. 8	(a)	634	--
Sept. 21	(a)	278	--
1956			
May 9	52,200	2,030	286,000
May 16	29,300	757	59,900
June 1	40,500	367	40,100
June 17	62,600	909	154,000
June 21	76,800	1,070	222,000
July 18	167,000	3,100	1,400,000
July 25	111,000	1,940	581,000
Aug. 2	160,000	3,620	1,560,000
Aug. 17	129,000	2,490	867,000
Aug. 23	89,000	1,360	327,000
Aug. 30	79,900	1,680	362,000
Sept. 10	46,100	481	59,900
Sept. 25	37,500	465	47,100

a No discharge records, November 1952 to October 1955.

COPPER RIVER NEAR CHITINA--Continued

Particle-size analyses of suspended sediment, water years October 1953 to September 1956
(Methods of analysis: B, bottom withdrawal tube; D, decantation; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed; M, mechanically dispersed)

Date of collection	Time	Discharge (cfs)	Water temperature (°F)	Suspended sediment: Concentration of sample (ppm)	Suspended sediment: Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters: 0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	Methods of analysis
1954																	
June 30	7:45 a.m.	(a)	--	1,770	3,420	--	28	--	48	58	67	79	94		100		PSWCM
July 9	9:00 a.m.	(a)	--	1,720	2,340	--	27	--	50	66	81	82	87		100		PSWCM
July 20	9:30 a.m.	(a)	--	2,510	3,880	--	24	--	47	57	72	84	96		99		PSWCM
Aug. 3	8:00 a.m.	(a)	--	5,140	3,410	19	26	37	48	66	87	96	99		--		PSWCM
Aug. 5	8:30 a.m.	165,000	--	3,510	3,460	20	27	37	53	65	82	93	99		--		PSWCM
Aug. 20	8:45 a.m.	(a)	--	1,750	4,060	--	29	--	50	63	73	82	95		100		PSWCM
Aug. 31	7:30 a.m.	(a)	--	1,920	3,140	21	28	39	50	62	64	74	92		--		PSWCM
Sept. 16	8:30 a.m.	(a)	--	560	533	32	34	43	50	55	58	66	87		--		BSWCM
1955																	
July 7	9:00 a.m.	(a)	--	3,500	5,540	--	29	--	49	59	75	90	98		100	--	PSWCM
July 20	9:00 a.m.	(a)	--	2,680	3,650	18	23	29	39	49	67	80	94		99	100	BSWCM
Aug. 15	9:00 a.m.	(a)	--	1,330	2,770	15	18	23	28	33	42	52	81		99	100	BSWCM
1956																	
May 9	1:00 p.m.	52,200	--	2,030	2,060	14	17	20	24	34	57	72	90		100	--	BSWCM
June 17	--	62,600	52	909	2,310	23	26	31	39	45	55	66	89		99	100	BSWCM
July 25	--	111,000	--	1,940	2,110	42	46	54	62	71	73	82	94		99	99	PSWCM
Aug. 2	10:00 a.m.	160,000	--	3,620	4,320	22	30	39	52	63	79	92	99		100	--	PSWCM
Aug. 17	2:45 p.m.	129,000	48	2,490	2,490	21	28	37	48	60	75	86	97		100	--	PSWCM
Aug. 30	5:45 p.m.	79,900	44	1,680	2,700	26	34	42	54	63	77	84	95		100	--	BSWCM

a No discharge records available, November 1952 to October 1955.

Power Creek near Cordova

Location.--Lat 60°35'15", long 145°37'05", on left 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 1956.

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.

Average discharge.--9 years, 251 cfs (181,700 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 3,090 cfs July 31 (gage height, 6.07 ft), from rating curve extended above 1,450 cfs by logarithmic plotting; minimum, 17 cfs about Mar. 28 (gage height, 1.15 ft).

1954-55: Maximum discharge during water year, 3,470 cfs Aug. 27 (gage height, 6.34 ft), from rating curve extended above 1,450 cfs by logarithmic plotting; minimum, 22 cfs Apr. 26-30 (gage height, 1.34 ft).

1955-56: Maximum discharge during water year, 2,860 cfs July 31 (gage height, 5.94 ft), from rating curve extended above 1,450 cfs by logarithmic plotting; minimum not determined.

1947-56: 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.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	130	*99				25		36	342	405	2,370	263
2	120	97				31		34	358	362	2,470	251
3	122	88				36		33	390	354	2,260	329
4	708	86				39		*33	420	378	715	1,980
5	1,010	80				*42		33	425	330	586	1,250
6	1,120	77				40		52	410	334	502	1,120
7	508	75				38		109	435	374	475	532
8	358	71	57	61	56	37	27	79	460	405	435	395
9	318	68				35		104	435	395	425	342
10	263	68						200	*400	382	386	523
11	350	68						248	405	400	382	475
12	358	76						248	460	390	598	350
13	425	132		(*)				227	400	370	425	272
14	475	175						182	378	366	514	239
15	370	135						164	362	370	400	233
16	269	111						187	366	430	346	263
17	212	98						210	400	410	310	342
18	171	90						224	430	410	322	306
19	164	85						245	430	410	440	233
20	160	85						239	400	386	557	296
21	611	85				24		221	450	440	378	263
22	937	86			36			207	450	358	334	221
23	314	110	60	39			32	227	460	420	366	358
24	221	150						296	405	470	*445	*1,400
25	182	140						322	410	400	435	*464
26	156	130						286	450	415	400	289
27	139	150						266	460	*460	346	236
28	128	170						266	405	465	405	197
29	122	120			-			260	386	420	362	189
30	118	70			------			286	366	445	310	210
31	106	-----			-----		-----	338	------	2,020	282	------
Total	10,645	3,075	1,815	1,539	1,308	851	885	5,862	12,348	13,974	18,981	13,821
Mean	343	102	58.5	49.6	46.7	27.5	29.5	189	412	451	612	461
Cfsm	16.7	4.98	2.85	2.42	2.28	1.34	1.44	9.22	20.1	22.0	29.9	22.5
In.	19.31	5.58	3.29	2.79	2.37	1.54	1.61	10.63	22.40	25.35	34.43	25.07
Ac-ft	21,100	6,100	3,600	3,050	2,590	1,690	1,760	11,630	24,490	27,720	37,650	27,410

Calendar year 1953: Max 1,760 Min - Mean 263 Cfsm 12.8 In. 174.03 Ac-ft 190,300
Water year 1953-54: Max 2,470 Min - Mean 233 Cfsm 11.4 In. 154.37 Ac-ft 168,800

Peak discharge (base, 2,000 cfs).--Oct. 4 (9:30 p.m.) 2,620 cfs (5.72 ft); Oct. 21 (11:30 p.m.) 2,070 cfs (5.29 ft); July 31 (10:30 p.m.) 3,090 cfs (6.07 ft); Sept. 4 (7:30 p.m.) 2,930 cfs (5.96 ft); Sept. 24 (2 p.m.) 2,200 cfs (5.40 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Nov. 20 to Mar. 4, Mar. 10 to May 3; discharge estimated on basis of 2 discharge measurements, recorded range in stage, weather records, and records for Solomon Gulch near Valdez.

Power Creek near Cordova--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	236	1,230	125		54		24	23	173	520	562	729
2	180	526	117		54		25	23	178	586	502	526
3	154	430	109		53		25	24	168	793	430	382
4	137	*465	99		49		26	28	180	1,190	400	314
5	120	318	95				27	30	207	806	430	263
6	112	378	84	59			27	33	178	652	420	254
7	99	350	75				26	36	184	556	415	230
8	117	260	68				28	37	260	799	395	205
9	306	210	60				27	38	346	1,030	386	224
10	166	178	52				26	40	430	1,140	354	496
11	128	162	48	66			25	42	395	894	390	652
12	112	146	43	62			25	43	289	659	701	544
13	144	135	39	63		(*)	25	48	272	538	*420	334
14	135	158		61			24	58	314	*490	350	289
15	807	210		57			*24	45	296	550	303	*263
16	306	164		54	41	29	24	84	296	659	275	233
17	254	175		51			24	154	322	556	272	194
18	239	142		49			25	123	334	538	289	171
19	455	135		49			26	215	362	544	300	154
20	395	142		50			24	*194	342	598	296	144
21	230	446		62			24	171	420	701	269	133
22	178	460	34	66			23	158	562	766	263	128
23	253	350		68			23	148	490	680	438	313
24	770	314		80			23	202	*562	586	1,310	544
25	310	314		67			23	210	680	574	1,460	289
26	536	248		63			22	178	645	586	708	205
27	405	184		66			22	154	568	598	1,890	168
28	300	187		63			22	152	645	532	1,170	160
29	1,670	160		61	-		22	154	568	538	1,680	142
30	604	132		59	------		22	156	490	550	774	130
31	2,150	------		*55	------		------	158	------	598	838	------
Total	12,008	8,709	1,626	1,862	1,194	899	733	3,159	11,156	20,807	18,690	8,813
Mean	387	290	52.5	60.1	42.6	29	24.4	102	372	671	603	294
Cfsm	18.9	14.1	2.56	2.93	2.08	1.41	1.19	4.98	18.1	32.7	29.4	14.3
In.	21.78	15.80	2.95	3.38	2.17	1.63	1.33	5.73	20.24	37.75	33.91	15.99
Ac-ft	23,820	17,270	3,230	3,690	2,370	1,780	1,450	6,270	22,130	41,270	37,070	17,480

Calendar year 1954: Max 2,470 Min - Mean 252 Cfsm 12.3 In. 166.72 Ac-ft 182,300
Water year 1954-55: Max 2,150 Min 22 Mean 246 Cfsm 12.0 In. 162.66 Ac-ft 177,800

Peak discharge (base, 2,000 cfs).--Oct. 29 (1 p.m.) 2,840 cfs (5.89 ft); Oct. 31 (7:30 p.m.) 2,850 cfs (5.90 ft); Aug. 25 (9 a.m.) 2,060 cfs (5.28 ft); Aug. 27 (1:30 p.m.) 3,470 cfs (6.34 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 14-23, Dec. 31 to Jan. 9, Feb. 5 to Apr. 2; discharge estimated on basis of 1 discharge measurement, weather records, and records for Solomon Gulch near Valdez. Stage-discharge relation affected by ice Dec. 6-13, 24-30, Jan. 10, 17-19.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	123	69						*29	289	550	1,090	374
2	114	63						30	251	562	680	346
3	167	62						30	239	574	562	314
4	152	60						31	248	520	508	286
5	260	59						32	239	475	465	260
6	218	56						33	245	450	884	263
7	156	61						35	245	465	795	266
8	128	163						54	242	514	562	254
9	112	102						71	233	460	475	236
10	111	83						62	245	400	490	248
11	106	71				20		55	257	390	514	430
12	104	63						55	272	520	526	470
13	94	62						59	272	700	532	684
14	97	60						79	318	900	502	574
15	146	56						90	362	1,000	977	374
16	379	58	38	35	23	16		122	405	800	750	420
17	292	54						125	400	700	586	763
18	197	53						160	400	640	758	1,560
19	245	51				(*)		187	*490	620	964	1,100
20	*182	49						236	455	600	854	722
21	137	47					23	318	415	600	*1,330	769
22	125	46		(*)			23	425	420	560	1,150	405
23	166	45					23	508	430	500	798	303
24	162	44					23	354	475	460	580	*248
25	144	44					24	300	435	450	854	212
26	118	44					24	266	440	*502	701	187
27	105	45					25	275	475	604	792	164
28	93	46					26	263	508	617	910	148
29	85	*47					27	313	475	586	604	154
30	80	45			------		28	526	514	617	550	205
31	72	------			------		------	370	------	1,640	440	------
Total	4,669	1,808	1,178	1,085	667	496	646	5,493	10,694	18,976	22,183	12,739
Mean	151	60.3	38	35	23	16	21.5	177	356	612	716	425
Cfsm	7.37	2.94	1.85	1.71	1.12	0.780	1.05	8.63	17.4	29.9	34.9	20.7
In.	8.47	3.28	2.14	1.97	1.21	0.90	1.17	9.97	19.40	34.43	40.24	23.11
Ac-ft	9,260	3,590	2,340	2,150	1,320	984	1,280	10,900	21,210	37,640	44,000	25,270

Calendar year 1955: Max 1,890 Min - Mean 205 Cfsm 10.0 In. 136.02 Ac-ft 148,700
Water year 1955-56: Max 1,640 Min - Mean 220 Cfsm 10.7 In. 146.29 Ac-ft 159,900

Peak discharge (base, 2,000 cfs).--July 31 (2 p.m.) 2,860 cfs (5.94 ft); Sept. 18 (12:30 p.m.) 2,260 cfs (5.48 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Nov. 21-28, Nov. 30 to Apr. 21, July 10-25; discharge estimated on basis of 4 discharge measurements, weather records, and records for Solomon Gulch near Valdez.

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 (discontinued).

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, 144 cfs (104,300 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 1,830 cfs July 31 (gage height, 6.13 ft), from rating curve extended above 620 cfs by logarithmic plotting; no flow sometime during period Feb. 20 to Mar. 3, caused by temporary storage upstream.

1954-55: Maximum discharge during water year, 2,140 cfs Aug. 27 (gage height, 6.32 ft), from rating curve extended above 620 cfs by logarithmic plotting; minimum daily, 4 cfs Dec. 24.

1955-56: Maximum discharge during water year, 1,200 cfs July 31 (gage height, 5.72 ft), from rating curve extended above 620 cfs by logarithmic plotting; minimum not determined.

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.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	97	72	18	a15	8.2	a6	9.4	16	316	322	1,340	140
2	84	72	20	a14	7.8	a7	9.0	16	336	271	1,360	132
3	54	62	17	a13	11	*9.8	9.4	16	394	230	674	172
4	70	*50	17	a12	12	[illegible]	9.0	19	442	266	402	847
5	410	48	12	a10	13	10	7.4	25	460	226	316	904
6	560	49	8.6	a9	23	10	7.8	27	402	196	*302	610
7	316	47	12	a9	22	9.9	8.2	32	434	222	292	329
8	196	45	16	a10	19	9.4	7.8	34	490	260	255	226
9	169	41	19	a13	15	8.6	8.2	36	*460	250	234	186
10	132	41	18	*18	a12	9.4	8.8	40	378	255	222	337
11	146	40	18	18	a11	9.0	5.4	48	322	302	222	302
12	140	40	17	18	a10	8.2	8.2	52	356	286	410	182
13	135	39	15	14	13	7.8	8.6	62	329	255	394	129
14	135	37	15	14	15	6.6	9.0	110	292	230	386	104
15	115	34	16	14	12	6.6	9.4	172	292	210	292	102
16	98	30	18	9.9	9.9	7.0	9.4	206	292	203	230	123
17	82	24	20	10	8.6	6.2	a9	246	343	206	192	186
18	69	22	19	12	10	6.2	a9	250	363	226	196	186
19	62	22	18	11	10	8.6	a9	255	410	250	276	129
20	57	22	18	9.9	a11	8.6	a9	281	350	271	510	178
21	81	22	16	11	a12	8.6	a10	276	356	*281	297	129
22	329	21	18	11	a13	7.8	a12	266	309	226	222	*91
23	218	21	17	11	a14	7.0	a14	271	350	222	250	132
24	153	22	17	8.6	a14	7.4	a16	322	316	271	297	534
25	115	23	18	7.4	a11	7.4	a17	336	329	234	281	368
26	98	22	17	a6	a9	6.2	a18	309	350	226	246	175
27	85	22	17	a6	a8	5.4	*18	281	386	255	203	115
28	78	22	17	a5	a7	5.0	18	271	309	276	218	93
29	76	21	17	a5	-	5.4	18	246	286	260	206	89
30	74	18	17	a6	------	6.2	17	250	271	292	172	106
31	74	-----	a16	a7	-----	8.6	-----	309	------	1,120	149	------
Total	4,438	1,050	518.6	337.8	341.5	238.7	326.0	5,080	10,723	8,600	11,046	7,336
Mean	143	35.0	16.7	10.9	12.2	7.70	10.9	164	357	277	356	245
Cfsm	7.53	1.84	0.879	0.574	0.642	0.405	0.574	8.63	18.8	14.6	18.7	12.9
In.	8.69	2.06	1.02	0.66	0.67	0.47	0.64	9.94	20.99	16.83	21.62	14.36
Ac-ft	8,800	2,080	1,030	670	677	473	647	10,030	21,270	17,060	21,910	14,550

Calendar year 1953: Max 922 Min 8 Mean 171 Cfsm 9.00 In. 122.09 Ac-ft 123,700
Water year 1953-54: Max 1,360 Min 5 Mean 137 Cfsm 7.21 In. 97.95 Ac-ft 99,250

Peak discharge (base, 650 cfs).--July 31 (8:30 p.m.) 1,830 cfs (6.13 ft); Aug. 19 (11:30 p.m.) 662 cfs (5.31 ft); Sept. 4 (8 p.m.) 1,360 cfs (5.83 ft); Sept. 24 (6 p.m.) 782 cfs (5.41 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records.

Solomon Gulch near Valdez--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	143	480	35							480	394	297
2	95	218	34							580	350	206
3	74	153	b32							640	302	178
4	61	*149	b28							746	255	149
5	54	106	b25							610	250	135
6	50	89	b23					14		560	255	130
7	47	82	b20				8		174	500	266	110
8	48	68	b18			10				510	271	100
9	84	54	b16							620	255	94
10	80	46	14							610	297	130
11	60	42	11							560	*297	230
12	48	41	9.0					*31		460	356	210
13	43	39	6.6			(*)		32		402	266	190
14	70	39	b6				*7.9	33		370	210	170
15	250	39	b6				7.9	34	*302	430	172	*156
16	200	39	b6	12	11		7.9	35	336	*540	143	126
17	130	38	b6				8.2	41	386	490	135	100
18	94	38	6.1				8.4	42	356	460	140	82
19	200	38	6.2				8.6	44	386	470	146	72
20	150	38	6.2				9.0	47	363	560	165	66
21	110	38	5.9				9.0	50	510	*610	172	61
22	72	39	b5				8.6		600	580	169	58
23	140	39	b5						540	560	214	71
24	250	39	b4			9			520	510	794	175
25	130	38	b5						600	470	1,040	126
26	210	37	b5				8	59	580	442	540	91
27	*135	35	b5						470	510	1,280	74
28	106	35	b5						426	426	710	72
29	247	35	b5		-				410	386	662	68
30	234	36	5		-------				394	418	350	62
31	674	-------	6		-------		-------		-------	426	322	-------
Total	4,289	2,207	370.0	372	308	294	243.5	1,133	9,615	15,936	11,178	3,789
Mean	138	73.6	11.9	12	11	9.5	8.12	36.5	320	514	361	126
Cfsm	7.26	3.87	0.626	0.632	0.579	0.500	0.427	1.92	16.8	27.1	19.0	6.63
In.	8.40	4.32	0.72	0.73	0.60	0.58	0.48	2.22	18.82	31.19	21.88	7.42
Ac-ft	8,510	4,380	734	738	611	583	483	2,250	19,070	31,610	22,170	7,520

Calendar year 1954: Max 1,360 Min 4 Mean 139 Cfsm 7.32 In. 99.62 Ac-ft 101,000
Water year 1954-55: Max 1,280 Min 4 Mean 136 Cfsm 7.16 In. 97.36 Ac-ft 98,660

Peak discharge (base, 650 cfs).--Oct. 31 (5 p.m.) 854 cfs (5.47 ft); July 4 (3:30 a.m.) 830 cfs (5.45 ft); Aug. 25 (8:30 a.m.) 1,300 cfs (5.79 ft); Aug. 27 (12 m.) 2,140 cfs (6.32 ft).

* Discharge measurement made on this day. b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 14-26, Dec. 30 to Apr. 13, Apr. 23 to May 11, May 22 to June 14, July 14, 15, Sept. 6-14, 29, 30; discharge estimated on basis of 7 discharge measurements, weather records, and records for Power Creek near Cordova.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	43	18	26				25	153	560	794	206
2	56	42	17	25				26	169	540	530	186
3	80	40	17	24				*27	203	540	394	169
4	74	39	16	23				27	255	510	350	150
5	120	38	16	23				28	255	460	309	130
6	96	37	14	22				29	260	426	466	130
7	76	37	18	22				30	276	480	510	140
8	61	38	16	22	15		10	35	255	610	370	130
9	54	42	16	23				37	302	470	316	120
10	54	41	14	23				36	309	394	316	140
11	52	39	16	24				36	316	394	336	200
12	50	33	18	25				37	281	470	402	250
13	45	26	17	25		(*)		36	309	650	402	350
14	47	23	16	24				37	410	782	378	290
15	56	22	16	23				37	450	782	590	190
16	66	21	16	23		8		37	434	674	510	220
17	54	21	15	22				41	470	590	386	390
18	44	17	11	20				41	470	540	442	700
19	50	21	15	20				48	550	510	480	550
20	47	29	18	21				84	*470	450	450	370
21	*47	21	16	19				118	450	460	698	400
22	46	18	14	19	9			149	370	426	600	210
23	47	17	14	*18			17	218	336	378	460	160
24	47	16	15	16				222	378	370	316	120
25	46	16	15	16				200	386	356	426	100
26	45	16	14	16				210	470	386	434	*84
27	45	17	14	16				222	530	434	460	76
28	45	17	18	16				210	500	434	630	64
29	45	18	25	17				189	550	402	426	63
30	44	*18	41	17	-------			178	560	418	297	74
31	44	-------	29	18	-------		-------	153	-------	819	234	-------
Total	1,741	823	535	648	351	248	405	2,803	11,127	15,715	13,712	6,362
Mean	56.2	27.4	17.3	20.9	12.1	8	13.5	90.4	371	507	442	212
Cfsm	2.96	1.44	0.911	1.10	0.637	0.421	0.711	4.76	19.5	26.7	23.3	11.2
In.	3.41	1.61	1.05	1.27	0.69	0.49	0.79	5.49	21.78	30.76	26.84	12.45
Ac-ft	3,450	1,630	1,060	1,290	696	492	803	5,560	22,070	31,170	27,200	12,620

Calendar year 1955: Max 1,280 Min - Mean 126 Cfsm 6.63 In. 89.99 Ac-ft 91,180
Water year 1955-56: Max 819 Min - Mean 149 Cfsm 7.84 In. 106.63 Ac-ft 108,000

Peak discharge (base, 650 cfs).--July 15 (1 a.m.) 842 cfs (5.46 ft); July 31 (6 p.m.) 1,200 cfs (5.72 ft); Aug. 15 (5 p.m.) 662 cfs (5.31 ft); Aug. 21 (11 a.m.) 770 cfs (5.40 ft); Aug. 28 (1 a.m.) 722 cfs (5.36 ft); Sept. 18 (time and discharge unknown). * Discharge measurement made on this day.

Note.--No gage-height record Oct. 1-20, Nov. 21-29, Dec. 22-24, Jan. 1-9, Jan. 28 to May 2, Sept. 4-25; discharge estimated on basis of 6 discharge measurements, weather records, and records for Power Creek near Cordova.

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.--Discharge: June 1953 to September 1956.
Chemical analyses: January 1953, May 1953 to September 1954.
Water temperatures: May 1953 to September 1954.
Sediment records: July 1953 to August 1954 (periodic).

Gage.--Wire-weight gage read once daily. Altitude of gage is 60 ft (from topographic map).

Extremes.--1953-54: Maximum discharge during water year, 2,320 cfs May 7 (gage height, 4.95 ft, from graph based on gage readings), from rating curve extended above 880 cfs by logarithmic plotting; minimum not determined.
1954-55: Maximum discharge observed during water year, 1,870 cfs May 14 (gage height, 4.50 ft), from rating curve extended above 880 cfs by logarithmic plotting; minimum observed, 40 cfs Aug. 21 (gage height, 1.66 ft).
1955-56: Maximum daily discharge during water year, 1,300 cfs May 2; maximum gage height, 6.38 ft Apr. 29, from graph based on gage readings (ice jam); minimum discharge not determined.
1953-56: Maximum discharge, that of May 7, 1954; maximum gage height, that of Apr. 29, 1956; 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 fair except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a190							1,200	a300	140	270	165
2	178							1,120	278	178	373	178
3	a170							1,070	258	312	270	290
4	*195							1,080	282	290	216	250
5	a400							981	262	189	185	206
6	890					(*)		1,530	270	195	*156	373
7	a800							2,170	270	149	119	242
8	710	170						1,510	274	143	119	213
9	a500							1,240	239	131	116	192
10	458							1,500	228	122	102	258
							110					
11	458							1,470	209	110	146	299
12	a490							1,730	213	96	216	250
13	578							1,500	206	91	274	231
14	344							1,260	228	82	304	*192
15	a280							745	220	*116	213	146
			100	50	50	80						
16	a280							794	299	153	159	178
17	266							875	235	153	153	146
18	a280							1,040	178	178	250	162
19	266							1,060	178	125	738	159
20	a250			(*)				1,090	172	119	773	146
21	246						(*)	801	165	116	534	134
22	a260							738	162	116	304	137
23	286	160						845	159	105	565	125
24	a340							787	a150	125	1,120	156
25	274							752	a140	102	773	149
							450					
26	a170							534	125	88	610	143
27	113	(*)						*522	116	52	388	137
28	134							464	116	59	299	156
29	a150				-			354	116	72	239	185
30	a180				------			359	134	82	231	220
31	200	------			------		------	326	------	178	178	------
Total	10,316	4,950	3,100	1,550	1,400	2,480	6,700	31,447	6,182	4,167	10,393	5,818
Mean	333	165	100	50	50	80	223	1,014	206	134	335	194
Cfsm	1.47	0.730	0.442	0.221	0.221	0.354	0.987	4.49	0.912	0.593	1.48	0.858
In.	1.70	0.81	0.51	0.26	0.23	0.41	1.10	5.17	1.02	0.69	1.71	0.96
Ac-ft	20,460	9,820	6,150	3,070	2,780	4,920	13,290	62,370	12,260	8,270	20,610	11,540

Calendar year 1953: Max - Min - Mean - Cfsm - In. - Ac-ft -
Water year 1953-54: Max 2,170 Min - Mean 242 Cfsm 1.07 In. 14.57 Ac-ft 175,500

* Discharge measurement made on this day.
a No gage-height record; discharge interpolated.
Note.--Stage-discharge relation affected by ice Oct. 31 to May 1 (no gage-height record Nov. 1 to Apr. 30; discharge estimated on basis of 4 discharge measurements and weather records).

Anchor River at Anchor Point--Continued.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	195	780				(*)			1,120	882	91	852
2	153	752							a1,000	801	91	516
3	153	1,440							a1,100	447	91	308
4	146	738							958	359	93	228
5	134	616						310	875	209	116	228
6	143	516							a820	282	113	228
7	146	349							a760	239	93	192
8	172	290							a810	258	91	195
9	235	250							912	220	*119	326
10	213	210						1,170	a1,000	220	91	675
11	258	180						1,420	815	220	91	731
12	224	170						1,490	1,530	220	88	731
13	202	160						a1,600	*1,170	185	88	458
14	195	150						1,870	852	206	85	383
15	231	140						1,770	a560	*299	69	*330
			110	120	120	120	140					
16	425	130						a1,700	616	430	85	308
17	330	120						1,610	a660	286	91	270
18	254	120		(*)				a1,600	623	213	85	209
19	*192	110						a1,500	a600	213	69	228
20	192	110						a1,500	642	146	64	216
21	216	110						1,600	642	162	40	175
22	262	100						1,370	a820	146	57	128
23	1,040	100						a1,200	a600	149	134	172
24	1,420	100						1,270	668	119	1,110	262
25	1,320	100						1,360	766	119	1,040	239
26	958	100						a1,300	794	119	780	228
27	689	100						1,250	a700	182	710	228
28	486	99						1,250	a600	146	642	262
29	745	99			-	(*)		a1,400	a670	119	409	262
30	724	*99			-------			1,360	766	113	312	266
31	794	-------			-------		-------	a1,200	-------	93	359	-------
Total	12,847	8,338	3,410	3,720	3,360	3,720	4,200	34,580	24,249	7,802	7,397	9,834
Mean	414	278	110	120	120	120	140	1,115	808	252	239	328
Cfsm	1.83	1.23	0.487	0.531	0.531	0.531	0.619	4.93	3.58	1.12	1.06	1.45
In	2.11	1.37	0.56	0.61	0.55	0.61	0.69	5.69	3.99	1.28	1.22	1.62
Ac-ft	25,480	16,540	6,760	7,380	6,660	7,380	8,330	68,590	48,100	15,480	14,670	19,510

Calendar year 1954: Max 2,170 Min - Mean 260 Cfsm 1.15 In. 15.59 Ac-ft 187,900
Water year 1954-55: Max 1,870 Min - Mean 338 Cfsm 1.50 In. 20.30 Ac-ft 244,900

* Discharge measurement made on this day.
a No gage-height record; discharge interpolated or estimated on basis of weather records.
Note.--Stage-discharge relation affected by ice Oct. 19-21, Nov. 9 to May 9 (no gage-height record Dec. 4 to May 4, May 6, 7; discharge estimated on basis of 4 discharge measurements and weather records).

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	228							1,200	668	220	335	399
2	258							1,300	682	209	220	242
3	282							1,040	642	202	159	254
4	469							920	486	195	146	250
5	344							868	480	189	128	246
6	414							830	480	228	270	250
7	270				(*)			860	480	182	409	228
8	295						80	1,020	469	172	254	182
9	266							997	394	169	185	213
10	266	(*)						1,100	394	220	153	220
11	*282							1,000	359	*270	122	295
12	224			(*)				1,180	308	182	102	*295
13	210							1,070	308	149	113	373
14	200							815	278	143	*149	546
15	190							845	270	128	169	409
		110	99	100	84	86						
16	300							1,030	286	119	169	321
17	350							1,000	278	96	169	250
18	250							905	282	96	169	552
19	210							1,040	278	93	175	636
20	180							1,110	286	93	199	552
21	200							1,070	354	96	213	420
22	600							1,180	430	159	254	326
23	800						420	997	344	216	250	290
24	550							780	286	295	242	286
25	350						(*)	642	282	383	250	235
26	230							696	282	299	262	216
27	180							656	282	185	304	206
28	160					(*)		642	286	153	610	153
29	140							*668	246	172	610	209
30	130				-------			610	228	274	546	312
31	120	-------			-------		-------	616	-------	420	528	-------
Total	8,945	3,300	3,069	3,100	2,436	2,666	7,500	28,687	11,128	6,007	7,864	9,366
Mean	289	110	99	100	84	86	250	925	371	194	254	312
Cfsm	1.28	0.487	0.438	0.442	0.372	0.381	1.11	4.09	1.64	0.858	1.12	1.38
In.	1.47	0.54	0.51	0.51	0.40	0.44	1.23	4.72	1.83	0.99	1.29	1.54
Ac-ft	17,750	6,550	6,090	6,150	4,830	5,290	14,880	56,900	22,070	11,910	15,600	18,580

Calendar year 1955: Max 1,870 Min - Mean 313 Cfsm 1.38 In. 18.78 Ac-ft 226,500
Water year 1955-56: Max 1,300 Min - Mean 257 Cfsm 1.14 In. 15.47 Ac-ft 186,600

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Oct. 13 to May 6 (no gage-height record Nov. 3 to Apr. 24; discharge estimated on basis of 5 discharge measurements and weather records).

ANCHOR RIVER AT ANCHOR POINT

Chemical analyses, in parts per million, November 1953 to September 1954, September 1955, May to July 1956

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1953																		
Nov. 1-30	165	32	0.24	6.4	3.5	6.4	1.8	45	3.0	4.8	0.4	1.0	82	30	0	92	6.6	5
Dec. 1-31	100	34	.24	7.1	4.3	5.6	1.7	50	3.7	4.5	.4	1.0	88	35	0	99	6.8	5
1954																		
Jan. 1-31	50	34	.24	8.4	4.1	6.1	1.7	56	1.1	4.2	.1	.7	92	38	0	103	7.1	8
Feb. 1-28	[illegible]	35	.24	8.7	4.0	7.4	1.7	56	.6	5.2	.1	.7	95	38	0	111	7.0	8
Mar. 1-31	80	33	.27	9.0	4.4	7.9	2.4	61	.7	5.2	.1	.8	96	41	0	116	6.9	10
Apr. 1-21	[illegible]	33	.27	8.3	4.9	6.3	2.0	60	.7	4.2	.1	.8	91	41	0	109	6.9	10
Apr. 21-30	450	25	.50	5.9	3.4	5.6	2.0	41	.0	5.2	.1	.9	69	29	0	77	6.7	--
May 1-31	1,014	18	.21	4.2	2.5	3.7	1.2	29	.3	3.2	.0	.7	52	21	0	54	6.5	20
June 1-30	206	24	.25	6.1	2.5	5.1	1.5	42	1.0	3.8	.1	.6	70	26	0	76	7.1	20
July 22, 24, 26, 30	103	31	.33	7.7	3.9	6.1	2.2	57	.4	3.2	.1	.6	83	34	0	96	7.3	20
Aug. 1-31	335	28	.36	6.4	3.2	5.6	1.5	47	1.0	2.8	.1	.7	78	29	0	80	6.8	35
Sept. 1-30	194	25	.46	7.3	3.7	5.4	1.7	48	1.0	3.5	.1	.6	79	33	0	85	6.8	28
1955																		
Sept. 9	326	30	--	5.6	3.3	5.4	1.6	47	1.0	3.2	--	.9	77	28	0	81	7.9	25
1956																		
May 2	1,300	10	.00	2.8	1.2	3.0	1.9	17	1.2	3.5	.0	.9	44	12	0	44	6.7	50
July 4	195	30	.15	7.9	2.6	5.8	1.6	45	2.0	3.0	.1	.3	75	30	0	89	5.9	10

ANCHOR RIVER AT ANCHOR POINT--Continued

Temperature (°F) of water, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		--	--	--	--	--	--	--	40	--	--	51
2		34	33	33	--	33	34	--	40	--	54	--
3		--	--	--	--	--	34	35	48	--	--	--
4		--	--	--	--	--	--	--	--	--	55	54
5		33	--	--	--	34	33	--	48	--	--	--
6		--	--	34	--	--	--	--	53	--	--	--
7		33	33			34	33	37	51		55	53
8		--	--	33	--	--	--	--	51	--	--	--
9		33	32	--	--	34	--	--	--	--	64	50
10		--	--	--	--	--	33	--	51	--	--	--
11		33	33	--	--	--	--	44	51	--	--	50
12		--	--	34	--	--	33	--	47	--	--	--
13		--	--	--	--	--	--	--	--	--	--	--
14		32	33	32	--	33	33	--	51	--	64	43
15		--	--	--	--	--	--	--	51	--	--	--
16		--	33	32	33	34	34	--	51	--	53	--
17		33	--	--	--	--	--	--	54	--	--	--
18		--	33	33	33	33	--	--	--	--	53	--
19		--	--	--	--	--	--	--	--	--	--	--
20		33	33	33	--	--	--	--	--	--	54	--
21		--	--	33	--	34	34	--	--	--	--	43
22		--	--	--	33	--	--	--	--	56	--	--
23		32	33	--	--	--	34	--	--	--	--	--
24		--	--	--	33	33	--	--	--	58	--	--
25		33	--	33	--	--	33	--	--	--	--	45
26		--	--	--	33	--	--	--	--	63	--	--
27		--	--	--	--	33	34	--	--	--	54	50
28		33	--	--	--	--	--	--	--	--	--	--
29		--	--	--	--	--	33	--	--	--	--	--
30		34	--	--	--	--	--	--	--	58	54	--
31		--	32	--	--	34	--	--	--	--	--	--
Average		--	--	--	--	--	--	--	--	--	--	--

Periodic determinations of suspended-sediment discharge, October 1953 to September 1954

Date	Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1953			
Oct. 2	178	2	1
Oct. 4	195	11	6
Oct. 6	890	25	60
Oct. 8	710	27	52
Oct. 10	458	6	7
Oct. 12, 14, 16, 19	340	24	22
Oct. 21, 23, 25, 27, 29, 31	212	7	4
Nov. 3	170	6	3
Dec. 1-31	100	10	3
1954			
Jan. 1-31	50	11	1
Feb. 16-24	50	5	1
Mar. 1-31	80	7	2
Apr. 1-30	223	22	13
May 1-31	1,014	103	282
July 15	116	1	(t)
Aug. 6	156	8	3

t Less than 0.50 ton

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.--Discharge: July 1949 to September 1956.
Chemical analyses: March to September 1952.
Sediment records: June 1953 to August 1954 (periodic).

Gage.--Wire-weight gage read once daily. Datum of gage is 23.37 ft above mean sea level (Corps of Engineers benchmark).

Average discharge.--7 years, 2,279 cfs (1,650,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 7,090 cfs Aug. 28 (gage height, 5.77 ft); maximum gage height observed, 5.91 ft Dec. 13 (backwater from ice); minimum discharge not determined.
1954-55: Maximum discharge during water year, 6,240 cfs Sept. 12 (gage height, 5.27 ft); minimum observed, 459 cfs Mar. 29; minimum gage height observed, 1.36 ft May 1.
1955-56: Maximum discharge during water year, 7,880 cfs Aug. 29 (gage height, 5.92 ft); maximum gage height observed, 8.62 ft Nov. 25 (backwater from ice); minimum discharge not determined.
1949-56: Maximum discharge observed, 9,090 cfs Sept. 8, 1951 (gage height, 6.55 ft); maximum gage height observed, that of Nov. 25, 1955; minimum discharge not determined.

Remarks.--Records good except those for periods of ice effect, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,720	2,430						592	892	2,200	5,420	6,550
2	4,580	2,380						586	908	2,250	5,550	6,480
3	4,400	2,200						586	924	2,320	5,630	6,460
4	*4,340	2,170						603	924	2,430	5,690	6,440
5	4,250	2,050				(*)		610	932	2,480	*5,930	6,300
							290					
6	4,320	2,050						625	964	2,520	5,890	6,240
7	4,250	2,080						614	1,010	2,560	5,970	6,130
8	4,190	2,060	1,000					608	1,080	2,660	5,970	6,040
9	4,130	2,050						614	1,130	2,770	6,000	6,040
10	4,080	1,970						625	1,170	2,900	6,060	5,970
11	4,000	1,870						631	1,210	2,950	6,190	5,890
12	3,980	1,840						643	1,280	3,100	6,440	5,780
13	3,960	1,810						661	1,310	3,170	6,390	5,650
14	3,920	1,780						670	1,320	3,290	6,480	5,570
15	3,830	1,740					450	679	1,350	*3,340	6,410	*5,650
				560	380	280						
16	3,770	1,720						673	1,370	3,470	6,390	5,500
17	3,700	1,670						673	1,400	3,590	6,410	5,500
18	3,610	1,650						679	1,430	3,670	6,440	5,480
19	3,520	1,580						692	1,480	3,760	6,440	5,420
20	3,430	1,540		(*)			560	711	1,500	3,940	6,590	5,400
21	3,340	1,470					*570	724	1,590	4,170	6,860	5,380
22	3,220	1,300					555	737	1,620	4,190	6,880	5,340
23	3,200	1,170	800				560	764	1,650	4,250	6,980	5,300
24	3,100	1,050					555	778	1,690	4,270	7,040	5,300
25	3,030	1,360					555	771	1,760	4,320	7,020	5,210
26	2,950	1,670					560	771	1,810	4,380	7,020	5,130
27	2,800	1,650					570	*799	1,880	4,420	7,040	4,980
28	2,710	*1,530					592	844	2,000	4,520	7,090	4,980
29	2,660	1,440			-		586	852	2,040	4,720	6,910	4,940
30	2,630	1,400			------		586	860	2,080	4,960	6,840	4,900
31	2,550	-----			-----		-----	868	------	5,210	6,630	------
Total	113,170	52,680	27,800	17,360	10,640	8,680	13,199	21,543	41,704	108,780	198,600	169,950
Mean	3,651	1,756	897	560	380	280	440	695	1,390	3,509	6,406	5,665
Cfsm	4.95	2.38	1.22	0.759	0.515	0.379	0.596	0.942	1.88	4.75	8.68	7.68
In.	5.70	2.65	1.40	0.87	0.54	0.44	0.67	1.09	2.10	5.48	10.01	8.56
Ac-ft	224,500	104,500	55,140	34,430	21,100	17,220	26,180	42,730	82,720	215,800	393,900	337,100

Calendar year 1953: Max 8,360 Min - Mean 2,639 Cfsm 3.58 In. 48.51 Ac-ft 1,910,000
Water year 1953-54: Max 7,090 Min - Mean 2,148 Cfsm 2.91 In. 39.51 Ac-ft 1,555,000

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 30 to Apr. 19 (no gage-height record during most of period; discharge estimated on basis of gage heights, 2 discharge measurements, and weather records).

Kasilof River near Kasilof--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,880	2,670	1,400			(*)		463	625	1,330	4,380	6,020
2	4,810	2,690	1,200					a460	614	1,370	4,590	6,140
3	4,680	2,660	998					471	631	1,430	4,550	6,070
4	4,640	2,610	860					a480	655	1,500	4,700	6,090
5	4,610	2,560	828					*493	625	1,570	4,790	6,070
6	4,550	2,540						493	620	1,620	4,920	6,020
7	4,500	2,450						a500	649	1,720	5,020	6,050
8	4,380	2,390					470	511	655	1,840	5,080	6,070
9	4,230	2,330						525	643	1,870	5,220	6,070
10	4,060	2,280						a530	655	1,960	*5,310	6,120
11	4,020	2,220	880					530	661	2,080	5,240	6,170
12	3,900	2,170						a540	685	2,210	5,340	6,210
13	3,820	2,100						545	*730	2,260	5,500	6,190
14	3,740	a2,000						555	718	2,380	5,520	6,090
15	3,620	2,000		600	540	480		a560	724	*2,540	5,480	*5,950
16	3,490	1,970						560	730	2,690	5,450	5,970
17	3,400	1,930						565	757	2,750	5,480	5,850
18	3,320	1,900						a560	792	2,900	5,410	5,690
19	3,220	1,850		(*)				560	813	3,000	5,410	5,520
20	*3,180	1,820					560	a560	876	3,070	5,480	5,310
21	3,050	1,790						565	964	3,150	5,520	5,150
22	2,980	1,760						a570	998	3,270	5,540	5,040
23	3,030	1,750						570	1,020	3,380	5,540	4,970
24	3,100	1,720	700					a570	1,070	3,470	5,780	4,920
25	3,020	1,680						576	1,130	3,620	5,900	4,830
26	2,960	1,670					576	a580	1,170	3,760	5,930	4,720
27	2,910	1,640					a530	598	1,240	3,940	5,970	4,570
28	2,880	1,600					475	614	1,270	4,000	6,000	4,480
29	2,830	a1,500			-	(*)	a470	608	1,310	4,020	5,950	4,290
30	2,750	*1,470			-------		463	620	1,290	4,170	5,930	4,190
31	2,710	-------			-------		-------	625	-------	4,250	6,000	-------
Total	113,270	61,720	25,286	18,600	15,120	14,880	15,164	16,957	25,320	83,120	166,930	166,830
Mean	3,654	2,057	816	600	540	480	505	547	844	2,681	5,385	5,561
Cfsm	4.95	2.79	1.11	0.813	0.732	0.650	0.684	0.741	1.14	3.63	7.30	7.54
In.	5.71	3.11	1.27	0.94	0.76	0.75	0.76	0.85	1.28	4.19	8.41	8.41
Ac-ft	224,700	122,400	50,150	36,890	29,990	29,510	30,080	33,630	50,220	164,900	331,100	330,900

Calendar year 1954: Max 7,090 Min - Mean 2,166 Cfsm 2.93 In. 39.85 Ac-ft 1,568,000
Water year 1954-55: Max 6,210 Min - Mean 1,981 Cfsm 2.68 In. 36.44 Ac-ft 1,434,000

* Discharge measurement made on this day.
a No gage-height record; discharge interpolated.
Note.--Stage-discharge relation affected by ice Nov. 30 to Apr. 25 (no gage-height record Dec. 8 to Apr. 25 except occasional readings; discharge estimated on basis of 4 discharge measurements, observer's notes, and weather records).

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,060	1,850						655	785	1,320	4,230	7,410
2	4,000	1,780						661	778	1,360	4,400	7,340
3	3,900	1,640						667	799	1,410	4,530	7,260
4	3,840	1,540						667	806	1,470	4,660	7,140
5	3,800	1,450						673	806	1,520	4,790	6,930
6	3,640	1,360						673	813	1,560	5,020	6,770
7	3,450	1,280			(*)			667	820	1,620	5,110	6,630
8	3,340	1,190	410					673	844	1,700	5,220	6,520
9	3,180	1,170						692	876	1,780	5,240	5,410
10	3,100	*1,140						724	900	1,810	5,450	6,440
11	*3,080	1,170		(*)			350	744	916	*1,820	5,540	6,500
12	3,000	1,290						744	940	1,880	5,640	*6,520
13	2,910	1,430						679	940	1,970	5,660	6,590
14	2,790	1,690						643	964	2,050	*5,880	6,840
15	2,750	1,460						667	989	2,150	6,090	6,950
16	2,710	1,390		290	280	270		711	998	2,240	6,310	6,930
17	2,630	1,300						750	1,020	2,330	6,640	6,860
18	2,580	1,200						744	1,040	2,490	6,880	6,880
19	2,490	1,100						750	1,060	2,630	7,160	6,700
20	2,460	1,030						757	1,110	2,750	7,470	6,500
21	2,450	956					637	771	1,140	2,880	7,540	6,480
22	2,420	884					637	764	1,190	3,030	7,490	6,410
23	2,380	836	310				637	778	1,180	3,220	7,540	6,240
24	2,290	790					625	778	1,210	3,290	7,570	6,060
25	2,240	740					*649	813	1,200	3,380	7,620	5,970
26	2,180	690					667	852	1,210	3,450	7,670	5,720
27	2,120	660					649	908	1,230	3,720	7,670	5,550
28	2,080	620					655	*908	1,240	3,660	7,750	5,400
29	2,040	600					661	908	1,270	3,820	7,880	5,340
30	1,970	580			-------		661	836	1,290	3,940	7,780	5,190
31	1,900	-------			-------		-------	778	-------	4,060	7,520	-------
Total	87,780	34,816	11,110	8,990	8,120	8,370	13,478	23,035	30,364	76,310	195,950	194,480
Mean	2,832	1,161	358	290	280	270	449	743	1,012	2,462	6,321	6,483
Cfsm	3.84	1.57	0.485	0.393	0.379	0.366	0.608	1.01	1.37	3.34	8.57	8.78
In.	4.42	1.75	0.56	0.45	0.41	0.42	0.68	1.16	1.53	3.85	9.87	9.80
Ac-ft	174,100	69,060	22,040	17,830	16,110	16,600	26,730	45,690	60,230	151,400	388,700	385,700

Calendar year 1955: Max 6,210 Min - Mean 1,799 Cfsm 2.44 In. 33.08 Ac-ft 1,302,000
Water year 1955-56: Max 7,880 Min - Mean 1,893 Cfsm 2.57 In. 34.90 Ac-ft 1,374,000

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 3-13, Nov. 17 to Apr. 20 (no gage-height record Nov. 24, Nov. 29 to Apr. 20, except occasional readings; discharge estimated on basis of 2 discharge measurements and weather records).

KASILOF RIVER NEAR KASILOF

Periodic determinations of suspended-sediment, water year October 1953 to September 1954

Date	Discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1953			
Nov. 3	2,390	26	168
1954			
Jan. 20	527	21	30
Mar. 5	305	21	17
Apr. 21	570	20	31
May 27	803	21	46
July 15	3,370	19	173
Aug. 6	5,800	32	501

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.--Discharge: May 1947 to September 1956.
Chemical analyses: February to September 1952.

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.--9 years, 110 cfs (79,640 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 432 cfs Oct. 7 (gage height, 2.37 ft); maximum gage height recorded, 2.56 ft Jan. 19 (backwater from ice); minimum discharge not determined.
1954-55: Maximum discharge during water year, 525 cfs July 23 (gage height, 2.46 ft); maximum gage height recorded, 3.80 ft Dec. 25 (backwater from ice); minimum discharge not determined.
1955-56: Maximum discharge during water year, 396 cfs July 17 (gage height, 2.20 ft); maximum gage height recorded, 3.19 ft Nov. 26 (backwater from ice); minimum discharge observed, 11.1 cfs Feb. 9 (discharge measurement).
1947-56: Maximum discharge, 980 cfs June 29, 1953 (gage height, 3.28 ft); maximum gage height recorded, that of Dec. 25, 1954; minimum discharge not determined.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	77	60						b26	126	210	299	128
2	73							b27	138	210	291	122
3	70							29	158	194	275	118
4	76					(*)		31	170	189	261	118
5	134						a14	33	184	184	250	118
6	355							37	202	179	240	116
7	409							42	228	174	*237	113
8	355	a52			a20	a12		44	250	184	228	107
9	*307							46	258	194	225	102
10	250							49	247	219	216	109
11	222							55	231	247	219	113
12	197							62	222	247	234	113
13	197							71	205	234	202	109
14	192							80	184	*216	179	104
15	177							84	177	207	162	97
16	165		a32	a23			a21	90	172	222	153	92
17	149							100	179	219	145	*114
18	140							107	197	205	142	132
19	132			(*)				116	210	205	158	128
20	122							136	216	205	179	116
21	113						a24	142	231	202	179	104
22	113				a17		a24	138	225	189	167	92
23	105	a46				a10	*24	134	202	177	172	80
24	97						24	149	189	170	194	87
25	90						24	160	197	165	200	92
26	83						24	160	222	162	189	87
27	77						24	162	240	167	174	81
28	73	(*)					b24	*158	234	179	158	74
29	69				-		b25	149	216	197	149	74
30	66				------		b25	134	205	216	140	76
31	64	------			------		------	126	------	261	134	------
Total	4,749	1,476	992	713	521	340	592	2,877	6,115	6,229	6,151	3,116
Mean	153	49.3	32	23	18.6	11.0	19.7	92.8	204	201	198	104
Cfsm	4.69	1.51	0.982	0.706	0.571	0.337	0.604	2.85	6.26	6.17	6.07	3.19
In.	5.42	1.69	1.13	0.81	0.59	0.39	0.68	3.28	6.98	7.11	7.02	3.55
Ac-ft	9,420	2,930	1,970	1,410	1,030	674	1,170	5,710	12,130	12,360	12,200	6,180

Calendar year 1953: Max 914 Min - Mean 149 Cfsm 4.57 In. 62.11 Ac-ft 108,000
Water year 1953-54: Max 409 Min - Mean 92.8 Cfsm 2.85 In. 38.65 Ac-ft 67,180

* Discharge measurement made on this day.
a No gage-height record (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 4 discharge measurements, weather records, and records for nearby streams.
b Stage-discharge relation affected by ice.

Ptarmigan Creek at Lawing--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	83	222	*60				*14	18	53	220	315	283
2	86	*216	57				14	19	57	240	311	291
3	84	197	55				14	19	63	270	295	234
4	81	179	52			(*)	14	20	71	310	275	192
5	76	158	50				15	22	77	350	272	165
6	69	142	48				16	*23	81	340	272	142
7	65	128	46				16	24	89	320	272	128
8	59	114	46			18		26	104	300	258	118
9	57	100	44					27	118	350	237	114
10	55	90	42	28				29	132	400	216	130
11	53	81	40					31	151	480	202	149
12	51	77	38					35	156	*414	*189	170
13	50	74	37					37	151	373	179	*172
14	51	69	36					40	147	368	167	153
15	64	65	35		20			41	142	364	160	136
16	90	62	34					41	*147	373	151	122
17	86	59	33					43	165	360	142	111
18	80	56	33					44	197	355	138	100
19	76	54	34				15	45	237	368	136	90
20	71	53	35					45	258	409	136	84
21	64	52		*30				45	254	460	136	78
22	*54	52		30				45	254	505	136	74
23	90	53		30				47	261	515	140	70
24	167	54		29		14		49	258	436	165	69
25	179	56		28				49	264	382	200	68
26	174	58	30	27				49	264	364	202	66
27	156	60		27				49	261	335	200	64
28	138	62		26				49	250	303	194	62
29	132	62		26	-			49	230	287	172	59
30	134	59		25	-------			50	220	283	149	58
31	172	-------		24	-------		-------	50	-------	303	154	-------
Total	2,847	2,764	1,185	862	560	494	448	1,160	5,112	11,137	6,171	3,752
Mean	91.8	92.1	38.2	27.8	20	15.9	14.9	37.4	170	359	199	125
Cfsm	2.82	2.83	1.17	0.853	0.613	0.488	0.457	1.15	5.21	11.0	6.10	3.83
In.	3.25	3.15	1.35	0.98	0.64	0.56	0.51	1.32	5.83	12.71	7.04	4.28
Ac-ft	5,650	5,480	2,350	1,710	1,110	980	889	2,300	10,140	22,090	12,240	7,440

Calendar year 1954: Max 299 Min - Mean 91.6 Cfsm 2.81 In. 38.16 Ac-ft 66,340
Water year 1954-55: Max 515 Min - Mean 100 Cfsm 3.07 In. 41.62 Ac-ft 72,380

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 15-21, Jan. 5-20, Feb. 1 to Mar. 31, Apr. 8 to May 5, June 28 to July 11; discharge estimated on basis of 6 discharge measurements, weather records and records for other stations in the Kenai River basin. Stage-discharge relation affected by ice Dec. 9 to Jan. 4; Jan. 28-31, Apr. 1-7.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	39						37	80	275	287	172
2	55	38						38	80	275	254	160
3	53	37						38	84	268	219	149
4	53	37						38	90	264	197	140
5	53	37						39	95	250	179	134
6	54	35						41	104	240	197	126
7	53	35						42	118	234	219	120
8	51	35		22				43	136	234	222	113
9	49	34		(*)	(*)			44	142	219	210	109
10	48	33						44	149	*207	205	*113
11	47	32					15	45	151	200	213	128
12	*45	*32						44	158	207	240	149
13	44	31						44	162	240	*258	182
14	44	31						44	170	287	254	189
15	44	32						44	182	343	279	172
16	44	32	21		16	14		44	194	378	303	149
17	44	31						44	210	382	291	132
18	43	31						45	216	351	272	142
19	43	30						45	219	315	272	156
20	43	30						46	205	283	319	149
21	42	29					17	53	192	264	299	130
22	46	29					17	63	177	244	264	116
23	48	28					16	76	165	228	231	102
24	48	28		16			*17	81	162	225	207	92
25	48	27					18	83	160	213	197	84
26	47	27					19	87	167	207	187	77
27	46	26					21	90	179	210	187	73
28	44	25					24	90	187	213	213	69
29	44	25				(*)	30	65	200	216	210	65
30	42	24			-------		35	86	247	222	194	64
31	41	-------			-------		-------	*81	-------	254	184	-------
Total	1,462	940	651	586	464	434	514	1,704	4,781	7,948	7,263	3,756
Mean	47.2	31.3	21	18.9	16	14	17.1	55.0	159	256	234	125
Cfsm	1.45	0.960	0.644	0.580	0.491	0.429	0.525	1.69	4.88	7.85	7.18	3.83
In.	1.67	1.07	0.74	0.67	0.53	0.50	0.59	1.94	5.45	9.07	8.29	4.28
Ac-ft	2,900	1,860	1,290	1,160	920	861	1,020	3,380	9,480	15,760	14,410	7,450

Calendar year 1955: Max 515 Min - Mean 89.7 Cfsm 2.75 In. 37.35 Ac-ft 64,950
Water year 1955-56: Max 382 Min - Mean 83.3 Cfsm 2.56 In. 34.80 Ac-ft 60,490

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 3 to May 1 (no gage-height record Nov. 26 to Apr. 23; discharge estimated on basis of 4 discharge measurements, weather records, and records for Trail River near Lawing).

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 1956.

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.--9 years, 194 cfs (140,500 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 782 cfs Oct. 7 (gage height, 3.11 ft); minimum not determined.
1954-55: Maximum discharge during water year, 1,050 cfs July 11 (gage height, 3.45 ft); minimum not determined.
1955-56: Maximum discharge during water year, 663 cfs Aug. 20 (gage height, 2.93 ft); maximum gage height observed, 3.3 ft Jan. 10 (backwater from ice); minimum discharge not determined.
1947-56: 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 good except those for periods of ice effect, which are fair, and those for periods of no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	115		45	34				55	233	452	627	237
2	108		44	33				56	269	452	569	227
3	103		44	32				58	313	427	543	233
4	126		42	30		(*)		63	327	411	520	240
5	237		41	30				68	352	395	484	237
		a80			a32							
6	645		40	30				80	387	379	466	224
7	740		38	30				89	431	367	*456	215
8	657		39	33		a32		94	492	379	439	201
9	*528		41	40				106	510	399	439	193
10	423		41	40				117	502	448	427	221
							a25					
11	367		41	38				131	479	502	431	230
12	323		39	38				156	484	492	448	221
13	363		38	37				180	448	*456	403	198
14	356		38	36				182	383	423	352	177
15	313		37	35				180	367	419	323	167
		a74										
16	281		40	35				185	363	452	305	*172
17	243		41	34				190	375	474	281	224
18	218		41	*34				190	403	452	295	249
19	204		39	32				201	427	448	320	249
20	185		39	32	a34			221	431	443	338	230
21	167	a59	41	a31			a29	230	452	423	323	207
22	165	a56	40	a31			*30	224	435	391	298	182
23	a160	a58	40	a30		a25	31	233	403	363	320	163
24	a150	a56	42	a29			33	262	387	345	356	185
25	a140	54	41	a29			36	275	403	327	363	185
26	a130	53	39	a28			39	272	435	331	352	170
27	a120	51	39	a28			44	275	452	352	331	154
28	a110	50	37	a27			47	265	452	387	298	139
29	a100	*48	36	a27	-		50	*256	448	411	278	145
30	a99	47	35	a26	------		53	237	439	456	262	151
31	a97	-----	34	a26	------		-----	224	------	549	249	------
Total	7,973	2,072	1,232	995	932	880	892	5,355	12,282	13,005	11,896	6,026
Mean	257	69.1	39.7	32.1	33.3	28.4	29.7	173	409	420	384	201
Cfsm	5.81	1.56	0.898	0.726	0.753	0.643	0.672	3.91	9.25	9.50	8.69	4.55
In.	6.71	1.74	1.04	0.84	0.78	0.74	0.75	4.51	10.33	10.94	10.01	5.07
Ac-ft	15,810	4,110	2,440	1,970	1,850	1,750	1,770	10,620	24,360	25,800	23,600	11,950

Calendar year 1953: Max 2,140 Min - Mean 275 Cfsm 6.22 In. 84.50 Ac-ft 199,200
Water year 1953-54: Max 740 Min - Mean 174 Cfsm 3.94 In. 53.46 Ac-ft 126,000

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 3 discharge measurements, weather records, and records for Trail River near Lawing and Kenai River at Cooper Landing.
Note.--Stage-discharge relation affected by ice Dec. 29 to Apr. 27.

Grant Creek near Moose Pass--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	160	338	*93					20	112	403	627	768
2	158	*327	86					21	112	461	621	810
3	147	309	79			(*)		22	114	559	597	621
4	135	285	71					23	117	693	559	488
5	124	253	65					24	122	693	675	391
6	115	224	60					*26	127	651	789	331
7	110	198	57					26	135	627	726	285
8	98	177	57	38	27			28	156	609	633	249
9	96	154	58					29	210	657	543	237
10	94	137	56					32	240	877	497	265
11	91	122	52					38	278	1,030	456	302
12	89	112	51					44	275	893	411	379
13	86	106	50					53	259	*733	*371	375
14	96	97	48					56	240	633	345	*334
15	154	91	45					61	230	575	313	288
16	180	89	44			18	18	76	*240	559	275	249
17	170	84	43					90	262	528	253	210
18	154	82	44					98	316	510	237	180
19	147	78	50					100	383	520	230	163
20	143	78	50					102	415	575	227	143
21	*126	76	46	(*)				103	423	657	227	131
22	119	76	45		20			103	431	712	233	126
23	239	86	42	45				106	443	740	246	117
24	302	96	39					119	456	726	295	117
25	281	124	38					126	488	687	352	115
26	295	126	b38					124	488	663	349	112
27	272	122	b37					119	448	633	338	108
28	246	115	37					117	423	591	334	104
29	237	104	37		-			117	395	569	298	98
30	243	97	37		-------			117	383	564	259	94
31	309	-------	37		-------	(*)	-------	112	-------	609	308	-------
Total	5,216	4,363	1,592	1,290	665	558	540	2,232	8,721	19,937	12,624	8,190
Mean	168	145	51.4	41.6	23.8	18	18	72.0	291	643	407	273
Cfsm	3.80	3.28	1.16	0.941	0.538	0.407	0.407	1.63	6.58	14.5	9.21	6.18
In.	4.39	3.67	1.34	1.09	0.56	0.47	0.45	1.88	7.34	16.78	10.62	6.89
Ac-ft	10,350	8,650	3,160	2,560	1,320	1,110	1,070	4,430	17,300	39,540	25,040	16,240

Calendar year 1954: Max 627 Min - Mean 174 Cfsm 3.94 In. 53.37 Ac-ft 125,800
Water year 1954-55: Max 1,030 Min - Mean 181 Cfsm 4.10 In. 55.48 Ac-ft 130,800

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 28 to May 5 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 4 discharge measurements, weather records, and records for nearby streams.

Discharge, in second-feet, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	95	59						74	141	456	534	312
2	91	56						78	139	460	477	290
3	89	53						79	145	460	431	263
4	88	51						78	154	460	390	245
5	93	48						81	156	452	358	231
6	96	47						87	166	447	397	220
7	93	47						89	178	460	447	212
8	89	45						91	199	469	443	202
9	85	44			(*)			95	215	439	416	193
10	81	44		(*)				95	228	408	408	193
11	77	44					a18	94	237	393	424	*215
12	*75	*43						93	251	*397	460	245
13	71	42						90	263	443	*469	284
14	74	42						89	278	505	456	296
15	71	43						87	293	576	486	272
16	71	42	a25	a20	a17	a15		87	318	622	560	248
17	74	42						88	355	633	560	223
18	76	41						89	372	610	545	248
19	74	41						90	368	571	555	281
20	69	b40						105	355	539	645	272
21	68	b39					a21	147	332	500	599	239
22	85	b38					a20	183	305	473	510	210
23	99	b37					a20	196	290	447	452	183
24	99	b36					*21	193	290	435	397	160
25	94	a35					22	191	287	416	386	141
26	88	a34					26	199	299	400	375	129
27	84	a33					29	196	322	404	368	119
28	78	a32					35	191	332	404	412	112
29	72	a31				(*)	46	183	372	404	397	105
30	65	a30			-------		58	*160	427	424	355	99
31	63	-------			-------		-------	147	-------	500	335	-------
Total	2,527	1,259	775	620	493	465	658	3,745	8,067	14,607	14,047	6,442
Mean	81.5	42.0	25	20	17	15	21.9	121	269	471	453	215
Cfsm	1.84	0.950	0.566	0.452	0.385	0.339	0.495	2.74	6.09	10.7	10.2	4.86
In.	2.13	1.06	0.65	0.52	0.41	0.39	0.55	3.15	6.79	12.29	11.82	5.42
Ac-ft	5,010	2,500	1,540	1,230	978	922	1,310	7,430	16,000	28,970	27,860	12,780

Calendar year 1955: Max 1,030 Min - Mean 163 Cfsm 3.69 In. 49.92 Ac-ft 117,700
Water year 1955-56: Max 645 Min - Mean 147 Cfsm 3.33 In. 45.18 Ac-ft 106,500

* Discharge measurement made on this day.
a No gage-height record (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 4 discharge measurements, weather records, and records for nearby streams.
b Stage-discharge relation affected by ice.

Trail River near Lawing

Location.--Lat 60°26'00", long 149°22'20", near left bank on downstream side of pier of abandoned bridge 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.--195 sq mi.

Records available.--Discharge: May 1947 to September 1956.
Chemical analyses: November 1951 to September 1952.

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.--9 years, 780 cfs (564,700 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 3,620 cfs Oct. 7 (gage height, 8.33 ft); minimum daily, 68 cfs Mar. 25-29.
1954-55: Maximum discharge during water year, 4,030 cfs July 11 (gage height, 8.69 ft); minimum daily, 63 cfs Mar. 25.
1955-56: Maximum discharge during water year, 3,030 cfs Aug. 20 (gage height, 7.77 ft); minimum, 64 cfs Mar. 30, 31 (gage height, 2.99 ft).
1947-56: Maximum discharge, 5,860 cfs June 28, 1953 (gage height, 10.16 ft); minimum daily, 48 cfs Feb. 9, 10, 1949.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	423	403	190	130	80	80	73	311	995	a1,900	2,830	1,090
2	390	394	180	130	80	87	74	319	1,070	a1,900	2,670	1,040
3	367	390	180	130	81	87	75	336	1,230	a1,800	2,420	1,070
4	390	367	170	130	84	*86	76	362	1,370	a1,700	2,310	1,110
5	702	336	160	120	89	84	78	398	1,490	a1,600	2,120	1,140
6	2,310	315	160	120	100	82	79	439	1,600	a1,500	2,030	1,080
7	3,500	298	150	120	106	81	80	510	1,720	a1,500	*2,030	1,010
8	*2,990	287	150	130	107	81	81	575	1,910	a1,500	1,990	947
9	2,390	279	150	140	107	81	82	625	2,040	a1,600	1,950	887
10	1,870	279	160	140	106	81	82	680	2,060	a1,800	1,930	953
11	1,530	279	160	150	105	81	84	746	1,950	a2,000	1,910	1,020
12	1,350	290	160	140	103	80	85	845	1,930	a2,000	2,100	1,010
13	1,370	319	150	140	102	80	89	965	1,850	a1,900	2,030	929
14	1,460	349	150	130	98	79	90	995	1,650	*1,820	1,740	823
15	1,340	336	150	130	93	78	92	953	1,520	1,740	1,540	*746
16	1,180	330	160	130	90	78	94	929	a1,500	1,860	1,440	752
17	1,040	320	160	120	89	76	96	923	a1,600	2,060	1,360	911
18	917	310	160	120	84	76	100	923	a1,700	2,070	1,380	1,170
19	840	290	160	*120	84	75	100	935	a1,800	1,980	1,480	1,280
20	768	270	160	110	82	74	110	1,020	a1,800	2,000	1,640	1,170
21	724	260	160	110	82	73	110	1,070	a1,900	1,940	1,600	1,040
22	708	240	160	110	82	72	120	1,060	a1,800	1,800	1,420	887
23	696	250	160	100	84	71	*123	1,020	a1,700	1,670	1,440	768
24	652	250	160	100	82	71	133	1,070	a1,600	1,580	1,650	768
25	610	240	160	98	81	68	142	1,140	a1,600	1,490	1,820	851
26	570	230	150	95	80	68	159	1,170	a1,800	1,470	1,730	840
27	520	220	150	90	80	68	186	1,180	a1,900	1,530	1,570	757
28	466	210	140	86	79	68	223	*1,160	a1,900	1,680	1,420	674
29	439	*200	140	82	-	68	257	1,120	a1,800	1,840	1,300	658
30	426	190	140	81	------	70	294	1,050	a1,800	2,040	1,200	669
31	416	-----	140	80	-----	71	-----	989	------	2,420	1,150	------
Total	33,354	8,731	4,880	3,612	2,520	2,375	3,467	25,818	50,585	55,690	55,200	28,050
Mean	1,076	291	157	117	90.0	76.6	116	833	1,686	1,796	1,781	935
Cfsm	5.52	1.49	0.805	0.600	0.462	0.393	0.595	4.27	8.65	9.21	9.13	4.79
In.	6.36	1.67	0.93	0.69	0.48	0.45	0.66	4.92	9.65	10.62	10.53	5.35
Ac-ft	66,160	17,320	9,680	7,160	5,000	4,710	6,880	51,210	100,300	110,500	109,500	55,640

Calendar year 1953: Max 5,820 Min 86 Mean 1,049 Cfsm 5.38 In. 73.00 Ac-ft 759,100
Water year 1953-54: Max 3,500 Min 68 Mean 751 Cfsm 3.85 In. 52.31 Ac-ft 544,100

* Discharge measurement made on this day
a No gage-height record; discharge estimated on basis of recorded range in stage, 1 discharge measurement, and records for nearby streams.
Note.--Stage-discharge relation affected by ice Nov. 16 to Apr. 23.

Trail River near Lawing--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	702	1,210	*421	157	109	74	75	89	590	1,800	2,560	2,750
2	740	*1,220	385	157	107	73	78	91	590	2,010	2,570	3,560
3	718	1,160	344	159	106	*72	80	96	610	2,380	2,540	2,930
4	669	1,060	302	161	105	68	81	110	620	2,910	2,400	2,260
5	605	947	275	155	105	68	84	126	630	3,060	2,410	1,780
6	545	857	260	150	105	72	84	*144	658	2,920	2,930	1,450
7	510	762	253	148	102	74	82	163	696	2,710	3,040	1,240
8	475	686	253	146	98	76	80	193	746	2,530	2,770	1,080
9	439	610	253	155	90	80	81	229	869	2,590	2,420	1,020
10	426	560	250	163	90	81	80	264	989	3,070	2,150	1,090
11	416	510	246	166	89	81	79	302	1,130	3,960	*1,970	1,270
12	412	480	243	166	89	81	79	349	1,180	3,780	1,780	1,700
13	398	457	240	161	89	79	78	394	1,150	*3,260	1,640	1,840
14	416	430	233	157	89	75	79	430	1,100	2,840	1,500	*1,570
15	505	394	226	150	87	74	79	470	*1,050	2,530	1,390	1,320
16	658	380	220	144	86	72	79	515	1,050	2,370	1,250	1,110
17	674	372	214	144	84	73	81	590	1,140	2,280	1,130	959
18	630	362	217	137	82	73	80	647	1,320	2,170	1,070	834
19	600	344	226	144	82	72	79	652	1,560	2,190	1,050	735
20	570	340	220	150	82	71	80	642	1,760	2,370	1,060	669
21	525	340	217	155	81	70	84	636	1,800	2,640	1,060	620
22	*485	354	214	152	84	67	84	636	1,820	2,870	1,080	595
23	620	362	208	146	84	66	85	636	1,880	3,000	1,130	570
24	1,010	394	202	142	82	64	84	647	1,950	2,990	1,310	550
25	1,140	470	196	135	82	63	84	669	2,100	2,880	1,670	550
26	1,140	525	193	133	81	65	81	652	2,160	2,780	1,740	540
27	1,070	525	193	129	80	68	81	642	2,040	2,650	1,630	535
28	971	500	188	124	75	68	82	636	1,900	2,510	1,600	525
29	917	421	180	119	-	72	85	620	1,800	2,410	1,430	505
30	911	372	168	115	------	74	86	615	1,740	2,350	1,220	475
31	1,020	------	163	113	------	*74	------	600	------	2,450	1,190	------
Total	20,917	17,404	7,403	4,533	2,525	2,240	2,434	13,485	38,628	83,260	54,690	36,632
Mean	675	580	239	146	90.2	72.3	81.1	435	1,288	2,686	1,764	1,221
Cfsm	3.46	2.97	1.23	0.749	0.463	0.371	0.416	2.23	6.61	13.8	9.05	6.26
In.	3.99	3.32	1.41	0.86	0.48	0.43	0.46	2.57	7.37	15.88	10.43	6.99
Ac-ft	41,490	34,520	14,680	8,990	5,010	4,440	4,830	26,750	76,620	165,100	108,500	72,660

Calendar year 1954: Max 2,830 Min 68 Mean 748 Cfsm 3.84 In. 52.07 Ac-ft 541,600
Water year 1954-55: Max 3,960 Min 63 Mean 778 Cfsm 3.99 In. 54.19 Ac-ft 563,600

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 1 to Apr. 27.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	435	226	110	110	87	75	66	510	608	1,860	2,430	1,400
2	410	214	110	112	87	75	66	535	598	1,950	2,240	1,260
3	395	204	108	115	86	75	66	530	608	1,930	1,940	1,160
4	385	190	107	116	83	75	66	515	636	1,910	1,760	1,070
5	395	183	107	115	80	75	67	525	652	1,860	1,580	1,000
6	405	180	106	114	78	75	68	545	680	1,780	1,690	958
7	400	180	106	111	78	75	68	555	713	1,790	1,960	934
8	380	183	106	107	79	75	67	550	796	1,850	2,020	886
9	361	178	107	102	*80	75	72	550	868	*1,780	1,880	856
10	338	171	107	99	78	75	75	545	898	1,670	1,840	844
11	317	166	105	95	77	75	77	530	916	1,640	1,900	904
12	300	*166	104	91	75	75	80	515	952	1,640	2,110	1,060
13	*288	162	101	86	74	75	80	495	994	1,820	2,200	1,330
14	288	160	101	84	73	74	81	480	1,040	2,110	2,140	*1,500
15	288	160	101	80	74	72	83	465	1,120	2,420	*2,180	1,360
16	284	160	99	79	75	72	86	460	1,200	2,630	2,580	1,160
17	284	162	98	78	74	70	97	465	1,320	2,750	2,780	1,010
18	296	160	98	77	73	70	96	470	1,430	2,650	2,740	1,010
19	288	153	96	77	72	69	96	480	1,520	2,490	2,750	1,250
20	280	147	94	78	72	69	97	520	1,520	2,370	2,990	1,320
21	266	143	89	77	72	69	98	647	1,440	2,210	2,930	1,140
22	292	140	87	79	71	68	100	779	1,330	2,040	2,560	946
23	361	138	86	82	71	67	*100	838	1,220	1,870	2,140	802
24	390	134	85	82	71	66	104	832	1,190	1,810	1,840	696
25	385	127	84	80	72	65	120	796	1,180	1,780	1,740	620
26	361	122	80	78	73	65	151	790	1,210	1,740	1,780	560
27	334	120	81	76	75	65	204	774	1,300	1,760	1,770	520
28	325	115	82	76	74	65	284	757	1,360	1,770	2,030	480
29	304	114	*92	78	74	*65	380	724	1,480	1,760	2,110	455
30	284	112	102	81	------	64	460	*664	1,710	1,850	1,810	420
31	242	------	107	85	------	64	------	636	------	2,140	1,570	------
Total	10,361	4,770	3,046	2,800	2,208	2,194	3,555	18,477	32,489	61,630	65,990	28,911
Mean	334	159	98.3	90.3	76.1	70.8	118	596	1,083	1,988	2,129	964
Cfsm	1.71	0.815	0.504	0.463	0.390	0.363	0.605	3.06	5.55	10.2	10.9	4.94
In.	1.98	0.91	0.58	0.53	0.42	0.42	0.68	3.52	6.20	11.75	12.59	5.51
Ac-ft	20,550	9,460	6,040	5,550	4,380	4,350	7,050	36,650	64,440	122,200	130,900	57,340

Calendar year 1955: Max 3,960 Min 63 Mean 703 Cfsm 3.61 In. 48.94 Ac-ft 509,000
Water year 1955-56: Max 2,990 Min 64 Mean 646 Cfsm 3.31 In. 45.09 Ac-ft 468,900

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 1 to Apr. 21 (no gage-height record Jan. 25 to Feb. 8; discharge estimated on basis of 1 discharge measurement, weather records, and records for Kenai River at Cooper Landing).

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.--Discharge: July 1949 to September 1956.
Chemical analyses: April to September 1952.

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.--7 years, 71.3 cfs (51,620 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 184 cfs June 9 (gage height, 1.10 ft); maximum gage height observed, 1.37 ft Jan. 19 (backwater from ice); minimum discharge observed, 2.7 cfs Mar. 8 (discharge measurement) caused by storage behind ice jam upstream.

1954-55: Maximum discharge during water year, 380 cfs July 4 (gage height, 1.97 ft); maximum gage height recorded, 2.52 ft Dec. 9 (backwater from ice); minimum discharge not determined.

1955-56: Maximum discharge during water year, 220 cfs July 4 (gage height, 1.62 ft); maximum gage height recorded, 2.23 ft Nov. 3 (backwater from ice); minimum discharge not determined.

1949-56: Maximum discharge, 820 cfs June 28, 1953; maximum gage height, 2.85 ft June 27, 1953; minimum discharge observed, that of Mar. 8, 1954.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74							b23	114	a130	130	74
2	69							b24	114	a130	127	71
3	*71							b25	114	a130	124	72
4	78							26	117	a130	*120	71
5								28	127	a120	117	67
6								32	143	a120	110	64
7								50	157	a120	107	62
8						(*)		56	172	a120	103	58
9								61	175	a120	98	56
10	a130							72	169	a130	96	69
11								81	166	a130	100	62
12		a48						92	160	a120	107	60
13							a17	92	a150	a110	100	*58
14								89	a140	*107	98	58
15			a26	a15	a17	a13		89	a130	110	98	62
16								92	a120	117	96	64
17								94	a120	110	89	66
18								100	a120	103	96	62
19				(*)			(*)	110	a130	103	107	58
20								120	a130	107	100	54
21								117	a140	100	94	48
22								114	a140	87	94	46
23								122	a140	83	100	45
24	a85	*b44						127	a130	80	103	51
25								*127	a130	74	94	50
26							20	124	a140	74	92	48
27		a39					b21	122	a140	76	87	46
28							b21	124	a140	76	83	47
29					-		b22	120	a140	76	80	54
30					-------		b22	114	a130	89	78	51
31		-------			-------		-------	114	-------	127	74	-------
Total	3,082	1,382	806	465	476	403	531	2,681	4,138	3,309	3,102	1,754
Mean	99.4	46.1	26	15	17	13	17.7	86.5	138	107	100	58.5
Cfsm	3.14	1.45	0.820	0.473	0.536	0.410	0.558	2.73	4.35	3.38	3.15	1.85
In.	3.62	1.62	0.95	0.55	0.56	0.47	0.62	3.15	4.85	3.88	3.64	2.06
Ac-ft	6,110	2,740	1,600	922	944	799	1,050	5,320	8,210	6,560	6,150	3,480

Calendar year 1953: Max 618 Min - Mean 105 Cfsm 3.31 In. 44.81 Ac-ft 75,740
Water year 1953-54: Max 175 Min - Mean 60.6 Cfsm 1.91 In. 25.97 Ac-ft 43,880

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 5 discharge measurements, weather records, and records for nearby streams.
b Stage-discharge relation affected by ice.

Crescent Creek near Cooper Landing--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	47	245						16	80	260	200	163
2	47	227				(*)		17	81	276	193	135
3	50	200					17	17	81	328	184	127
4	51	184						*18	92	360	172	114
5	52	172						18	94	336	166	107
6	54	163						18	94	336	160	103
7	55	152						19	96	324	166	96
8	55	140	40					21	110	292	160	94
9	56	127						22	122	234	149	98
10	55	122						24	122	264	149	100
11	54	114						27	157	272	*143	105
12	54	107						27	122	253	138	103
13	54	103				16		27	143	*234	127	94
14	60	96						26	*132	223	122	*94
15	76	89						28	130	220	114	94
				28	20							
16	74	89						35	130	216	107	89
17	72	85						40	140	206	103	80
18	*69	80					14	41	178	203	100	72
19	72	78						42	220	206	98	76
20	72	76		(*)				42	249	213	94	74
21	69	76						44	249	230	94	69
22	66	78						45	264	234	96	67
23	103	76						41	272	234	103	62
24	135	76	31					38	280	230	112	61
25	114	74						55	292	223	114	60
26	112	69						55	292	220	114	58
27	103	64						58	280	213	122	56
28	103	61						60	272	206	114	54
29	124	*58			-	18		62	256	197	105	51
30	132	58				(*)		67	253	190	98	51
31	234			26				72		197	122	
Total	2,474	3,337	1,096	868	560	508	435	1,122	5,283	7,630	4,039	2,607
Mean	79.8	111	35.4	28	20	16.4	14.5	36.2	176	246	130	86.9
Cfsm	2.52	3.50	1.12	0.883	0.631	0.517	0.457	1.14	5.55	7.76	4.10	2.74
In.	2.90	3.91	1.29	1.02	0.66	0.60	0.51	1.32	6.20	8.95	4.74	3.06
Ac-ft	4,910	6,620	2,170	1,720	1,110	1,010	863	2,230	10,480	15,130	8,010	5,170

Calendar year 1954: Max 245 Min - Mean 65.1 Cfsm 2.05 In. 27.88 Ac-ft 47,140
Water year 1954-55: Max 360 Min - Mean 82.1 Cfsm 2.59 In. 35.16 Ac-ft 59,420

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 24 to Dec. 10. No gage-height record Dec. 11 to May 3 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 4 discharge measurements, weather records, and records for nearby streams.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	b31							92	203	138	92
2	47	b30							94	210	127	87
3	46	b29							98	212	120	85
4	45	b29							100	210	112	81
5	52	b28							103	190	107	80
6	52	b28							107	181	140	78
7	51								120	181	143	76
8	48				(*)				132	181	132	74
9	46								140	166	122	74
10	*46								149	166	117	74
								a52				
11	42	(*)							149	160	124	*80
12	42								152	*157	122	83
13	42								154	166	120	85
14	b44								157	178	120	76
15	b39								163	193	*127	74
			a25	a24	a22	a17	a20					
16	b36								175	193	127	72
17	b37								184	187	114	71
18	b36								190	181	112	89
19	b35	a31							200	169	114	85
20	b35								197	157	120	85
21	b38							a79	184	154	120	81
22	b44							80	175	146	114	78
23	b47							80	172	140	110	74
24	b47						(*)	81	163	138	107	69
25	b45							83	163	130	100	64
26	b44							85	166	127	94	62
27	b42							87	169	124	98	60
28	b42		(*)					89	169	122	105	58
29	b39							*100	161	120	98	58
30	b35							96	190	122	94	55
31	b33					(*)		92		140	94	
Total	1,327	919	775	744	638	527	600	1,992	4,588	5,104	3,592	2,260
Mean	42.8	30.6	25	24	22	17	20	64.3	153	165	116	75.3
Cfsm	1.35	0.965	0.789	0.757	0.694	0.536	0.631	2.03	4.83	5.21	3.66	2.38
In.	1.56	1.08	0.91	0.87	0.75	0.62	0.70	2.34	5.38	5.99	4.21	2.65
Ac-ft	2,630	1,820	1,540	1,480	1,270	1,050	1,190	3,950	9,100	10,120	7,120	4,480

Calendar year 1955: Max 380 Min - Mean 71.4 Cfsm 2.25 In. 30.61 Ac-ft 51,710
Water year 1955-56: Max 212 Min - Mean 63.0 Cfsm 1.99 In. 27.06 Ac-ft 45,750

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 5 discharge measurements, weather records, and records for nearby streams.
b Stage-discharge relation affected by ice.

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.--Discharge: May 1947 to September 1956.
Chemical analyses: October 1949, July to September 1950, April to September 1952.

Gage.--Wire-weight gage read once daily. 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.--9 years, 2,644 cfs (1,914,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 8,000 cfs Aug. 3 (gage height, 8.30 ft); minimum observed, 265 cfs Apr. 17 (gage height, 1.38 ft).
1954-55: Maximum discharge during water year, 10,600 cfs July 12 (gage height, 9.40 ft); minimum daily, 260 cfs Mar. 25-27.
1955-56: Maximum discharge during water year, 9,000 cfs Aug. 20 (gage height, 8.79 ft); minimum daily, 214 cfs Mar. 26-29.
1947-56: 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 good except those for period of ice effect, which are fair.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,430	1,790	960	1,120	466	320	284	412	3,470	5,480	6,930	4,240
2	2,220	1,740	940	1,100	466	340	301	430	3,480	5,480	7,780	4,000
3	1,790	1,630	920	1,060	466	360	301	448	3,500	5,460	7,930	3,900
4	*2,140	1,570	920	1,010	466	380	301	466	3,570	5,460	*7,740	3,810
5	2,460	1,490	900	972	470	398	292	508	3,740	5,200	7,620	3,740
6	3,540	1,360	940	955	485	380	284	542	3,970	4,860	7,400	3,710
7	5,180	1,310	980	938	500	*360	276	622	4,210	5,020	7,190	3,640
8	6,000	1,190	1,020	928	466	347	273	686	4,400	4,930	7,060	3,610
9	6,140	1,110	1,090	916	448	338	270	759	4,680	4,840	6,910	3,480
10	5,980	1,040	1,170	900	430	334	270	880	5,110	5,200	6,750	3,400
11	5,700	1,090	1,580	865	410	334	270	966	5,200	5,380	6,750	3,340
12	5,360	1,100	2,110	810	400	331	270	1,180	5,290	5,460	6,710	3,290
13	5,160	1,120	2,260	754	390	331	270	1,310	5,240	5,680	6,660	3,270
14	5,000	1,150	3,050	713	380	331	270	1,490	5,200	5,680	6,620	*3,130
15	4,570	1,190	3,780	674	370	331	270	1,640	5,110	5,680	6,200	3,020
16	4,450	1,190	4,180	674	360	325	267	1,790	5,020	5,820	5,800	2,990
17	4,140	1,200	4,420	674	350	319	265	1,900	4,880	*6,080	5,360	2,930
18	4,320	1,130	3,730	665	340	304	292	2,020	4,750	6,140	5,340	2,920
19	3,510	1,080	3,330	661	330	301	298	2,170	4,730	6,220	5,310	3,010
20	3,320	1,040	2,890	631	330	298	*310	2,250	5,020	6,360	5,290	3,160
21	3,130	982	2,560	*610	330	290	310	2,470	5,020	6,250	5,250	3,120
22	2,940	966	2,330	602	340	292	310	2,550	4,930	6,140	5,180	3,100
23	2,800	960	2,180	590	350	292	313	2,680	4,880	5,940	5,160	3,040
24	2,700	1,020	2,000	574	330	290	313	2,880	4,840	5,740	5,180	3,040
25	2,530	*1,130	1,780	562	320	287	322	3,050	4,880	5,620	5,180	3,050
26	2,380	1,090	1,670	534	310	284	322	3,180	5,020	5,480	5,180	3,000
27	2,140	1,060	1,430	504	300	284	328	3,340	5,200	5,380	5,160	2,940
28	2,110	1,040	1,350	496	300	281	341	*3,480	5,380	5,460	5,180	2,760
29	1,940	1,010	1,310	485	-	276	360	3,470	5,420	5,520	4,970	2,700
30	1,890	980	1,240	485	------	276	387	3,470	5,480	5,800	4,710	2,680
31	1,840	-----	1,200	477	-----	276	------	3,470	------	6,180	4,480	------
Total	109,810	35,758	60,220	22,939	10,903	9,890	8,940	56,509	141,620	173,940	188,980	98,020
Mean	3,542	1,192	1,943	740	389	319	298	1,823	4,721	5,611	6,096	3,267
Cfsm	5.59	1.88	3.06	1.17	0.614	0.503	0.470	2.88	7.45	8.85	9.62	5.15
In.	6.44	2.10	3.53	1.35	0.64	0.58	0.52	3.31	8.31	10.20	11.09	5.75
Ac-ft	217,800	70,920	119,400	45,500	21,630	19,620	17,730	112,100	280,900	345,000	374,800	194,400

Calendar year 1953: Max 19,900 Min 303 Mean 3,647 Cfsm 5.75 In. 78.08 Ac-ft 2,640,000
Water year 1953-54: Max 7,930 Min 265 Mean 2,514 Cfsm 3.97 In. 53.82 Ac-ft 1,820,000

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 27 to Dec. 8, Feb. 10 to Mar. 4.

Kenai River at Cooper Landing--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,660	3,320	1,260	706	523	350	280	291	1,710	5,560	8,010	5,080
2	2,640	3,600	1,110	673	515	*370	280	295	1,720	5,690	8,010	6,940
3	2,640	3,600	840	661	507	370	280	301	1,730	5,880	8,010	7,070
4	2,540	3,530	844	661	496	360	291	*315	1,730	6,460	7,860	7,070
5	2,430	3,520	746	657	477	350	295	318	1,800	7,160	7,750	6,560
6	2,300	3,390	714	657	470	340	295	335	1,900	7,530	8,120	5,960
7	2,130	3,150	759	652	463	330	298	352	2,000	8,040	8,610	5,350
8	2,050	2,960	790	657	455	330	298	366	2,080	8,080	8,470	5,040
9	1,980	2,960	665	652	463	340	295	383	2,190	8,150	8,280	4,790
10	1,880	2,600	632	644	470	340	291	401	2,380	8,350	*7,710	4,540
11	1,820	2,480	723	640	470	340	288	441	2,520	9,500	7,200	4,700
12	1,780	2,240	885	640	466	340	288	488	2,670	10,400	6,820	4,880
13	1,720	2,150	972	640	466	340	288	526	2,800	10,100	6,400	5,020
14	1,690	2,060	894	624	463	340	288	553	*2,930	*9,850	5,980	5,170
15	1,670	1,940	836	616	434	330	282	561	3,030	9,310	5,600	*5,010
16	1,730	1,860	818	616	423	320	275	583	3,080	8,970	5,060	4,790
17	1,800	1,750	876	612	412	310	275	710	3,350	8,300	4,750	4,350
18	1,780	1,680	885	607	405	310	275	790	3,600	8,230	4,510	3,760
19	1,770	1,590	885	607	405	300	279	872	3,820	8,080	4,280	3,520
20	*1,760	1,510	890	*599	401	290	272	992	4,160	7,900	4,120	3,430
21	1,700	1,460	849	591	398	280	266	1,110	4,460	8,080	4,060	3,180
22	1,670	1,440	849	591	394	280	266	1,140	4,700	8,280	3,980	2,970
23	1,850	1,440	849	587	394	270	272	1,190	4,900	8,680	3,930	2,800
24	2,110	1,440	804	583	391	270	282	1,260	5,110	8,780	4,120	2,580
25	2,320	1,440	777	568	387	260	285	1,320	5,350	8,780	4,410	2,400
26	2,540	1,430	772	553	383	260	285	1,350	5,600	8,830	4,770	2,400
27	2,560	1,430	759	538	369	260	288	1,400	5,600	8,540	4,770	2,390
28	2,610	1,430	754	538	362	270	288	1,420	5,580	8,280	4,830	2,180
29	2,650	1,400	732	534	-	270	288	1,510	5,560	8,040	4,930	1,990
30	2,760	*1,350	732	530	------	*270	285	1,600	5,560	7,790	4,720	1,960
31	2,500	-----	710	530	-----	270	-----	1,690	------	7,900	4,540	------
Total	66,440	66,150	25,611	18,964	12,262	9,660	8,518	24,863	103,620	253,520	184,610	127,880
Mean	2,143	2,205	826	612	438	312	284	802	3,454	8,178	5,955	4,263
Cfsm	3.38	3.48	1.30	0.965	0.691	0.492	0.448	1.26	5.45	12.9	9.39	6.72
In.	3.90	3.88	1.50	1.11	0.72	0.57	0.50	1.46	6.08	14.87	10.83	7.50
Ac-ft	131,800	131,200	50,800	37,610	24,320	19,160	16,900	49,320	205,500	502,800	366,200	253,600

Calendar year 1954: Max 7,930 Min 265 Mean 2,383 Cfsm 3.76 In. 51.03 Ac-ft 1,725,000
Water year 1954-55: Max 10,400 Min 260 Mean 2,472 Cfsm 3.90 In. 52.92 Ac-ft 1,789,000

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Mar. 1 to Apr. 3.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,900	943	523	430	321	266	217	511	2,120	4,990	6,200	5,900
2	1,800	894	519	448	325	266	217	534	2,160	5,240	6,240	5,240
3	1,750	890	515	463	325	269	222	557	2,180	5,420	6,280	5,060
4	1,610	885	477	477	321	269	225	568	2,210	5,620	5,980	4,830
5	1,570	849	470	488	321	269	228	648	2,220	5,600	5,820	4,540
6	1,540	804	466	496	315	266	231	714	2,270	5,600	5,880	4,250
7	1,480	790	441	488	321	269	233	764	2,320	5,560	5,980	4,040
8	1,460	782	419	481	*328	269	231	822	2,440	5,560	6,020	3,820
9	1,400	759	430	470	325	272	239	'894	2,620	5,560	6,060	3,560
10	1,330	723	427	459	321	272	254	953	2,720	5,550	6,120	3,350
11	*1,290	*768	423	448	318	272	269	1,030	2,790	*5,370	6,280	*3,520
12	1,270	723	412	*441	311	272	279	1,050	2,900	5,400	6,300	3,590
13	1,270	714	401	423	308	269	288	1,080	3,000	5,760	6,580	3,900
14	1,290	702	383	401	295	266	295	1,160	3,180	6,020	6,780	4,140
15	1,190	681	376	383	291	263	304	1,160	3,400	6,300	*6,900	4,270
16	1,140	669	369	362	295	260	295	1,180	3,560	6,580	7,200	4,060
17	1,130	657	362	345	298	257	275	1,220	3,710	6,820	7,840	4,000
18	1,110	644	352	328	295	251	275	1,260	3,870	7,130	8,320	4,060
19	1,050	632	349	318	288	248	279	1,280	4,060	7,160	8,660	4,200
20	992	624	345	315	282	245	291	1,400	4,240	7,180	8,950	4,060
21	1,020	616	342	315	282	239	304	1,480	4,240	7,110	8,950	4,060
22	1,050	587	335	318	279	231	298	1,560	4,240	7,020	8,880	4,010
23	1,100	580	328	321	263	225	304	1,720	4,220	6,780	8,300	3,600
24	1,090	568	321	325	257	219	*301	1,880	4,220	6,600	7,640	3,490
25	1,090	557	325	325	254	217	308	1,940	4,360	6,380	6,980	3,220
26	1,080	545	328	325	254	214	311	2,020	4,510	6,200	6,580	2,960
27	1,080	530	332	325	257	214	345	2,100	4,380	6,080	6,380	2,680
28	1,060	523	332	321	260	214	391	2,170	4,350	5,960	6,780	2,540
29	1,040	526	352	315	263	214	423	*2,270	4,540	5,900	6,680	2,390
30	1,010	526	369	318	------	*217	455	2,220	4,770	5,860	6,580	2,320
31	982	-----	405	321	-----	217	-----	2,170	------	5,980	6,180	------
Total	39,174	20,691	12,228	11,993	8,573	7,711	8,587	40,315	101,800	188,290	214,320	115,660
Mean	1,264	690	394	387	296	249	286	1,300	3,393	6,074	6,914	3,855
Cfsm	1.99	1.09	0.621	0.610	0.467	0.393	0.451	2.05	5.35	9.58	10.9	6.08
In.	2.30	1.21	0.72	0.70	0.50	0.45	0.50	2.36	5.97	11.04	12.57	6.78
Ac-ft	77,700	41,040	24,250	23,790	17,000	15,290	17,030	79,960	201,900	373,500	425,100	229,400

Calendar year 1955: Max 10,400 Min 260 Mean 2,236 Cfsm 3.53 In. 47.87 Ac-ft 1,618,000
Water year 1955-56: Max 8,950 Min 214 Mean 2,102 Cfsm 3.32 In. 45.10 Ac-ft 1,526,000

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Jan. 1 to Apr. 1.

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 September 1956.

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

Average discharge.--7 years, 87.0 cfs (62,990 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 224 cfs June 27 (gage height, 2.36 ft); minimum not determined.
1954-55: Maximum discharge during water year, 366 cfs July 11 (gage height, 2.89 ft); minimum not determined.
1955-56: Maximum discharge during water year, 285 cfs July 18 (gage height, 2.54 ft); minimum not determined.
1949-56: Maximum discharge, 729 cfs June 29, 1953 (gage height, 4.02 ft); minimum not determined.

Remarks.--Records good except those for periods of no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94	a75	36						159	207	191	a90
2	87	a72	35						155	207	179	a88
3	84	a67							161	200	174	a90
4	90	a63							165	198	170	a88
5	110	a58			a27	a23			170	193	*165	a85
								a25				
6	165	a54							177	193	a160	a81
7	195	a51							186	184	a150	a78
8	*202	a48			*33	*20			200	181	a140	a74
9	204	a45							209	179	a140	a70
10	193	a43					a12		209	a180	a130	a80
11	186	a44							209	a190	a140	a76
12	179	a46							209	a190	a140	a72
13	179	a48							204	a180	a150	a68
14	172	a48							193	a170	a140	a68
15	165	a47							188	a170	a140	a70
				a25				a90				
16	159	46							184	*170	a130	a72
17	150	44	a32						186	163	a130	*73
18	142	40							195	157	a130	74
19	136	40			a27				204	159	a130	74
20	129	39				a15	*13		204	159	a130	72
21	121	38						a150	214	159	a130	69
22	119	37						a160	214	152	a130	67
23	119	37						161	212	148	a130	64
24	113	40						165	204	144	a130	66
25	104	41						174	207	140	a130	65
							a14					
26	97	40						177	207	136	a120	64
27	90	40						179	219	136	a110	61
28	a85	40						179	222	136	a100	82
29	a80	39			-			172	214	136	a100	62
30	a78	38			------			168	209	142	a96	61
31	a76	-----			-----		-----	161	------	170	a92	------
Total	4,103	1,408	999	775	762	526	381	2,996	5,889	5,229	4,217	2,184
Mean	132	46.9	32.2	25	27.2	17.0	12.7	96.6	196	169	136	72.8
Cfsm	4.15	1.47	1.01	0.786	0.855	0.535	0.399	3.04	6.16	5.31	4.28	2.29
In.	4.80	1.65	1.17	0.91	0.89	0.62	0.45	3.50	6.89	6.12	4.93	2.55
Ac-ft	8,140	2,790	1,980	1,540	1,510	1,040	756	5,940	11,680	10,370	8,360	4,330

Calendar year 1953: Max 722 Min 18 Mean 129 Cfsm 4.06 In. 55.16 Ac-ft 93,530
Water year 1953-54: Max 222 Min - Mean 80.7 Cfsm 2.54 In. 34.48 Ac-ft 58,440

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 6 discharge measurements, weather records, and records for nearby streams.

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Cooper Creek near Cooper Landing--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60	168	53						90	202	259	138
2	60	172	50			(*)			90	216	256	138
3	60	155	48						98	246	252	136
4	57	150	45						108	272	239	127
5	56	144	44						117	289	226	117
6	55	138	44						123	305	214	113
7	56	132	43						125	321	214	104
8	53	121	43	33	24			17	127	318	209	102
9	53	112	43						129	321	198	102
10	52	104	40						138	346	193	104
11	51	97	39						138	363	186	113
12	52	88	38						132	*357	*174	121
13	50	85	38						134	349	163	119
14	50	80	37						134	332	157	*117
15	55	76	37						*148	324	148	110
16	56	73	37			16	13		150	318	140	104
17	55	70	37						157	305	129	95
18	53	66	38						168	297	123	87
19	55	64	41						181	289	119	82
20	55	62	41	(*)					186	291	115	80
21	*55	62	40						198	305	113	76
22	56	67	39		20				207	316	113	73
23	72	64	37					40	209	326	123	69
24	88	65	37	36					209	326	129	66
25	90	65	37						216	321	136	62
26	92	64	36						219	316	142	61
27	92	62	35						219	305	138	60
28	90	58	35						212	286	136	57
29	95	56	35		-				204	272	127	55
30	102	56	34		------	(*)			200	262	119	55
31	134	-----	34		-----		-----		------	259	123	------
Total	2,060	2,776	1,235	1,071	620	496	390	895	4,766	9,355	5,113	2,843
Mean	66.5	92.5	39.8	34.5	22.1	16	13	28.9	159	302	165	94.8
Cfsm	2.09	2.91	1.25	1.08	0.695	0.503	0.409	0.909	5.00	9.50	5.19	2.98
In.	2.41	3.25	1.44	1.25	0.73	0.58	0.46	1.05	5.57	10.94	5.98	3.32
Ac-ft	4,090	5,510	2,450	2,120	1,230	984	774	1,780	9,450	18,560	10,140	5,640

Calendar year 1954: Max 222 Min - Mean 79.5 Cfsm 2.50 In. 33.96 Ac-ft 57,580
Water year 1954-55: Max 363 Min - Mean 86.6 Cfsm 2.72 In. 36.98 Ac-ft 62,730

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 24 to June 3; discharge estimated on basis of 3 discharge measurements, weather records, and records for nearby streams.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52								121	237	211	137
2	53								123	239	201	133
3	53								123	247	191	129
4	53								125	259	179	121
5	55								125	254	170	113
6	52							32	129	249	177	109
7	51								137	244	184	104
8	50								144	239	177	102
9	48				(*)				153	232	170	99
10	46			(*)					155	*223	164	99
11	44								162	215	159	99
12	*44								168	213	159	102
13	44								170	220	159	*109
14	45								175	232	162	104
15	41								182	254	166	104
16	39	30	23	22	21	19	20	49	187	272	*170	100
17	40								191	283	164	97
18	39								199	283	159	102
19	39								208	278	157	104
20	38								211	270	155	106
21	41								208	262	155	102
22	46							64	201	252	151	97
23	50							68	199	239	144	93
24	49							76	196	230	144	89
25	48							92	191	213	133	85
26	45						(*)	109	191	206	129	82
27	44							129	201	199	133	78
28	43							129	206	194	144	76
29	41							123	213	189	148	76
30	37				------	(*)		127	230	189	146	69
31	35	-----			-----		-----	123	------	203	142	------
Total	1,405	900	713	682	609	589	600	1,899	5,224	7,319	5,003	3,020
Mean	45.3	30	23	22	21	19	20	61.3	174	236	161	101
Cfsm	1.42	0.943	0.723	0.692	0.660	0.597	0.629	1.93	5.47	7.42	5.06	3.18
In.	1.64	1.05	0.83	0.80	0.71	0.69	0.70	2.22	6.11	8.56	5.85	3.53
Ac-ft	2,790	1,790	1,410	1,350	1,210	1,170	1,190	3,770	10,360	14,520	9,920	5,990

Calendar year 1955: Max 363 Min - Mean 78.3 Cfsm 2.46 In. 33.40 Ac-ft 56,670
Water year 1955-56: Max 283 Min - Mean 76.4 Cfsm 2.40 In. 32.69 Ac-ft 55,470

* Discharge measurement made on this day.

Note.--No gage-height record Nov. 1 to May 21; discharge estimated on basis of 4 discharge measurements, weather records, and records for Crescent Creek near Cooper Landing, Trail River near Lawing, and Ptarmigan Creek at Lawing.

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 (discontinued).

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, 124 cfs (89,770 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 533 cfs May 14 (gage height, 3.41 ft); minimum not determined.
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.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a130		b57	b42				71	277	226	156	101
2	a120		b55	b41				73	272	216	166	99
3	a120		b53	b40				77	277	203	171	98
4	a140		b51	b39				82	274	194	174	97
5	a170			b38				90	277	190	*174	98
6	a230	a88		b37				130	281	184	174	95
7	a350			b36				174	299	174	170	93
8	*466			36	*a40	(*)		274	323	168	166	91
9	488			38				363	333	164	165	89
10	480			46			a24	410	323	164	165	93
11	426			53				454	309	168	168	92
12	379		a49	53				494	304	171	182	90
13	361			b50				527	288	168	184	86
14	350			b47				527	259	162	174	84
15	318			a45				499	244	156	165	81
16	292	a85		a42		a26		471	236	*153	152	79
17	266			a40				446	236	151	141	*80
18	238			a38				415	242	145	135	82
19	224			a36				418	252	144	135	85
20	201		b48	34			*32	440	255	142	141	86
21	187		b50	34			a33	432	257	141	139	85
22	180		b49	b33			a35	408	257	138	135	82
23	174	a70	b49	b32	a37		36	387	244	134	135	79
24	162		b51	b31			40	397	232	127	138	81
25	149	*68	b50	b30			42	410	232	121	137	80
26	137	67	b48	b30			49	*395	240	115	132	78
27	124	b65	b47	a29			57	384	257	114	127	76
28	a120	b63	b46	a29			65	361	257	114	122	75
29	a110	b61	b45	a28	-		69	330	248	114	117	75
30	a110	b59	b44	a28	------		72	306	238	121	110	74
31	a110	-----	b43	a28	-----		-----	290	------	137	105	------
Total	7,312	2,393	1,521	1,163	1,081	806	986	10,535	8,023	4,819	4,655	2,584
Mean	236	79.8	49.1	37.5	38.6	26	32.9	340	267	155	150	86.1
Cfsm	3.82	1.29	0.794	0.607	0.625	0.421	0.532	5.50	4.32	2.51	2.43	1.39
In.	4.40	1.44	0.92	0.70	0.65	0.49	0.59	6.34	4.83	2.90	2.80	1.55
Ac-ft	14,500	4,750	3,020	2,310	2,140	1,600	1,960	20,900	15,910	9,560	9,230	5,130

Calendar year 1953: Max 992 Min - Mean 198 Cfsm 3.20 In. 43.40 Ac-ft 143,000
Water year 1953-54: Max 527 Min - Mean 126 Cfsm 2.04 In. 27.61 Ac-ft 91,010

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 5 discharge measurements, weather records, and records for nearby streams.
b Stage-discharge relation affected by ice.
Note.--Result of discharge measurement made Oct. 21, 1954, 89.9 cfs.

South Fork Campbell Creek near Anchorage

Location.--Lat 61°09'55", long 149°46'00", in NW¼ sec. 2, T. 12 N., R. 3 W., on right bank 20 ft downstream from bridge, 0.1 mile northeast of Campbell Airstrip, 2.2 miles upstream from North Fork Campbell Creek, and 5½ miles southeast of Anchorage.

Drainage area.--29.4 sq mi.

Records available.--July 1947 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 300 ft (from topographic map). Prior to Aug. 20, 1952, at site 70 ft upstream at different datum.

Average discharge.--9 years, 38.9 cfs (28,160 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 162 cfs Aug. 1 (gage height, 1.50 ft); maximum gage height observed, 2.47 ft Nov. 24 (backwater from ice); minimum discharge not determined.

1954-55: Maximum discharge during water year, 431 cfs July 3 (gage height, 2.10 ft), from rating curve extended above 190 cfs by logarithmic plotting; minimum not determined.

1955-56: Maximum discharge during water year, 356 cfs July 31 (gage height, 2.25 2.25 ft); minimum not determined.

1947-56: 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; minimum not determined.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52							10	47	70	118	40
2	*44							10	50	89	*117	38
3	46							*11	52	60	82	*43
4	48							13	*51	51	64	43
5	62	(*)					(*)	14	60	48	54	43
6	107							15	55	48	46	39
7	85							16	54	46	42	39
8	70						8	23	62	43	38	38
9	64							28	57	39	37	36
10	60							33	47	35	35	54
11	59							38	44	34	35	46
12	55							*42	40	32	43	43
13	54							42	37	31	50	38
14	51			(*)				40	36	29	60	37
15	45							34	42	29	52	37
		27	19	13	10	9						
16	50					(*)		35	40	30	46	36
17	46							44	40	30	44	*40
18	45							47	*44	28	45	35
19	43							57	50	27	*51	36
20	43							63	47	27	63	38
21	45							50	55	*27	70	35
22	44		(*)					42	59	30	59	34
23	42						10	44	57	30	74	31
24	42	(*)			(*)			57	48	28	70	33
25	40							54	*47	25	63	29
26	34							43	47	23	57	28
27	b31							50	64	22	52	27
28	b30							45	54	22	50	31
29	b28				-			39	47	22	46	47
30	25							37	44	28	44	*46
31	24							45		90	42	
Total	1,514	810	589	403	280	279	270	1,121	1,477	1,173	1,749	1,140
Mean	48.8	27	19	13	10	9	9.0	36.2	49.2	37.8	56.4	38.0
Ac-ft	3,000	1,610	1,170	799	555	553	536	2,220	2,930	2,330	3,470	2,260

Calendar year 1953: Max 183 Min - Mean 45.3 Ac-ft 32,840
Water year 1953-54: Max 118 Min - Mean 29.6 Ac-ft 21,430

Peak discharge (base, 150 cfs).--Aug. 1 (7 p.m.) 162 cfs (1.50 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Oct. 30 to May 2 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 8 discharge measurements, weather records, and records for nearby streams.

South Fork Campbell Creek near Anchorage--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		52							32	141	80	103
2		45							30	160	78	90
3		38							31	298	80	80
4		*34						(*)	31	226	75	75
5		35							34	208	*72	70
			14		6							
6		33							35	191	69	68
7		29							44	170	68	66
8	40	28		14			6		62	*156	66	63
9		46				6			62	162	63	75
10			(*)			(*)		13	*68	165	64	122
11									66	155	66	103
12									55	135	68	90
13				(*)					64	109	60	84
14									63	134	56	75
15	*37	b39							69	148	51	*72
			14		6							
16									74	139	48	68
17									90	130	45	62
18									111	111	*45	55
19								*23	144	109	40	50
20								22	180	113	43	47
21							(*)	24	197	126	42	48
22								26	245	126	42	46
23							6	25	205	115	50	45
24	37	(*)		14		6		24	*170	105	144	46
25					*5			26	180	103	178	46
		b21	6									
26								28	172	100	134	44
27								28	155	105	200	43
28				(*)				29	146	98	146	43
29					-			33	132	*90	126	42
30								30	132	89	115	38
31						(*)	-	29	-----	85	105	----
Total	1,189	979	346	434	160	186	180	581	3,079	4,302	2,519	1,959
Mean	38.4	32.6	11.2	14	5.7	6	6	18.7	103	139	81.3	65.3
Ac-ft	2,360	1,940	686	861	317	369	357	1,150	6,110	8,530	5,000	3,890

Calendar year 1954: Max 118 Min - Mean 28.5 Ac-ft 20,640
Water year 1954-55: Max 298 Min - Mean 43.6 Ac-ft 31,570

Peak discharge (base, 150 cfs).--June 22 (1:30 p.m.) 276 cfs (1.83 ft); July 3 (6:30 p.m.) 431 cfs (2.10 ft); July 15 (9 p.m.) 172 cfs (1.43 ft); Aug. 25 (4 a.m.) 310 cfs (1.54 ft); Aug. 27 (4 p.m.) 245 cfs (1.67 ft). * Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 1-14, Oct. 16 to Nov. 3, Dec. 1 to May 18 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 11 discharge measurements, weather records, and records for Ship Creek near Anchorage.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	b18						b20	43	92	197	38
2	38	b17						b17	45	94	122	36
3	39	b16						b15	47	85	85	35
4	39	b16						b16	50	90	75	34
5	39			(*)				b18	56	85	68	34
6	*37							b20	*64	80	119	33
7	35							19	69	80	111	32
8	35		(*)				8	18	74	77	84	31
9	30							18	69	72	72	32
10	32				(*)			19	68	74	68	33
11	32						(*)	18	74	70	62	*38
12	33							*20	76	*66	59	38
13	b30							20	78	70	*59	51
14	b32							20	84	80	60	52
15	b33							20	90	84	59	45
			17	12	10	8						
16	b32							23	93	89	55	44
17	b30	19						23	92	82	52	42
18	b27			(*)				25	92	84	50	52
19	b26					(*)		29	95	78	48	59
20	b25							36	93	70	48	57
21	b27							40	91	70	48	52
22	b28						10	44	85	68	45	48
23	b30		(*)					42	78	57	44	45
24	b30							37	74	51	43	43
25	b29	(*)						39	70	50	42	*42
26	b28							45	76	50	39	38
27	b27						(*)	46	*82	50	40	35
28	*b27						b16	40	82	50	39	36
29	b24				(*)		b18	37	87	52	37	37
30	b21			(*)		(*)	b18	40	90	51	36	38
31	b19	-			-		-	42	-----	*183	44	-----
Total	952	561	527	372	290	248	292	866	2,267	2,334	2,010	1,230
Mean	30.7	18.7	17	12	10	8	9.73	27.9	75.6	75.3	64.8	41.0
Ac-ft	1,890	1,110	1,050	738	575	492	579	1,720	4,500	4,630	3,990	2,440

Calendar year 1955: Max 298 Min - Mean 42.3 Ac-ft 30,630
Water year 1955-56: Max 197 Min - Mean 32.6 Ac-ft 23,710

Peak discharge (base, 150 cfs).--July 31 (8 p.m.) 356 cfs (2.25 ft); Aug. 6 (7 p.m.) 153 cfs (1.56 ft). * Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Nov. 5 to Apr. 27 (stage-discharge relation affected by ice during entire period), June 3-5, 12-26; discharge estimated on basis of 14 discharge measurements, weather records, and records for Ship Creek near Anchorage.

Ship Creek near Anchorage

Location.--Lat 61°13'25", long 149°38'00", in Fort Richardson Military Reservation, at new diversion dam, in 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. Prior to Apr. 20, 1954, at site 0.2 mile downstream.

Drainage area.--91.2 sq mi.

Records available.--Discharge: October 1946 to September 1956.
Chemical analyses: April 1949 to July 1951.
Water temperatures: May 1949 to September 1950.

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, supplementary water-stage recorder at site 2.7 miles downstream at different datum.

Extremes.--1953-54: Maximum discharge during water year, 488 cfs Oct. 6 (gage height, 1.25 ft, site and datum then in use); no flow for parts of many days.
1954-55: Maximum discharge during water year, 1,070 cfs July 4 (gage height, 4.11 ft); no flow for parts of several days.
1955-56: Maximum discharge during water year, 685 cfs July 31 (gage height, 3.10 ft); no flow at times.
1946-56: Maximum discharge, 1,860 cfs June 21, 1949 (gage height, 3.44 ft, site and datum then in use); no flow at times.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor. 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: 1954, 23 cfs; 1955, 24 cfs; and 1956, 24 cfs.

Cooperation.--Gage inspected and records of diversion furnished by Office of Post Engineers, Fort Richardson.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128		59	33	17			13	264	189	309	140
2	*115		57	32	17			14	254	189	*360	135
3	118		55	31	18			30	274	158	318	*145
4	139		53	30	18			*44	*262	152	287	142
5	188	(*)	51	29	18		(*)	45	281	152	253	140
		52										
6	410		50	28	18			47	287	160	212	135
7	345		49	28	18			49	306	155	195	128
8	295		48	28	17			55	315	152	184	119
9	265	(*)	47	27	17			70	296	148	170	115
10	236		46	27	16		4	100	269	145	160	158
11	232		45	26	16			130	250	140	160	150
12	204		44	25	15			*152	236	140	170	145
13	195		43	24	15			160	212	131	168	135
14	178		42	*23	15			150	187	122	165	131
15	165		42	22	14			140	201	119	160	131
16	161		41	22	14	6		177	187	117	152	128
17	154	72	41	22	13	(*)		199	192	113	145	173
18	146		42	22	13			234	*206	109	152	160
19	139		43	21	13			239	212	98	176	160
20	128		45	21	12		3	224	201	92	*236	155
21	135		47	21	12		2	210	218	94	221	145
22	135		*48	20	12		1	214	206	*98	195	138
23	125	*70	48	20	11		3	249	192	100	212	131
24	121	73	46	20	11		4	279	170	96	233	135
25	112	72	45	19	*11		6	269	*170	88	218	133
26	97	70	43	19	11		8	242	181	85	201	124
27	83	67	41	19	10		10	240	201	88	187	117
28	72	65	41	19	10		11	197	173	85	176	117
29	62	62	39	18	-		10	195	160	*86	162	145
30	54	60	37	18	-------		9	188	155	122	152	*140
31	45	-------	35	18	-------		-------	199	-------	244	145	-------
Total	4,982	1,923	1,413	732	402	186	143	4,754	6,718	3,967	6,234	4,150
Mean	161	64.1	45.6	23.6	14.4	6	4.8	153	224	128	201	138
Ac-ft	9,880	3,810	2,800	1,450	797	369	284	9,430	13,320	7,870	12,360	8,230

Calendar year 1953: Max 911 Min - Mean 169 Ac-ft 122,300
Water year 1953-54: Max 410 Min - Mean 97.5 Ac-ft 70,600

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Oct. 26 to May 11 (no gage-height record Nov. 1-4, 6-22, Jan. 22-28, Feb. 12 to Apr. 19, May 3, 5-11; discharge estimated on basis of 7 discharge measurements, weather records, and observer's notes).

Ship Creek near Anchorage--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	126	149	57					15	143	646	344	357
2	123	130	37					16	132	720	338	303
3	114	109	24					18	143	954	350	274
4	116	99						*19	147	998	308	244
5	110	*102						18	150	934	277	229
6	121	112		23	3	7		20	143	890	271	219
7	132	124	31					25	202	782	266	214
8	102	97						30	254	*694	252	192
9	102	89				(*)		32	256	758	224	239
10	105	88	(*)					43	*328	818	229	320
11	97	100					5	47	338	750	238	274
12	96	99						47	309	642	226	266
13	86	100		(*)				43	309	572	210	259
14	89	91						33	290	617	199	252
15	*102	65						37	287	600	196	*226
16	104	94	32	21	9	5		46	336	572	182	204
17	100	80						66	465	530	175	181
18	83	60						80	542	561	*141	175
19	74	61						*81	724	586	141	162
20	89	96						78	798	620	153	177
21	100	96					*5.2	93	798	631	149	143
22	117	65					5.8	108	914	600	153	145
23	104	52					5.2	96	862	582	164	136
24	132	57					4.5	106	*755	561	418	150
25	116	61			*9		2.5	103	772	522	561	141
26	104	52	13	15		5	10	106	769	530	456	125
27	97	52					17	114	698	554	617	141
28	104	55		(*)			12	127	654	471	578	132
29	104	*16					18	137	664	*381	469	136
30	105	31			-		18	132	657	362	381	118
31	147	-			-	(*)	-----	143	-	359	346	--
Total	3,301	2,482	798	605	222	175	198.2	2,059	13,839	19,797	9,012	6,134
Mean	106	82.7	25.7	19.5	7.9	5.6	6.61	66.4	461	639	291	204
Ac-ft	6,550	4,920	1,580	1,200	440	347	393	4,080	27,450	39,270	17,880	12,170

Calendar year 1954: Max 360 Min - Mean 92.8 Ac-ft 67,160
Water year 1954-55: Max 998 Min - Mean 161 Ac-ft 116,300

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 4, Dec. 10 to Feb. 25. No gage-height record Dec. 5-9, Feb. 26 to Apr. 20 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 4 discharge measurements and weather records.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	37	43	2	13	4	13	54	158	441	512	115
2	103	37	34	0	13	4	10	37	179	444	384	113
3	101	38	34	3	*11	3	8	40	209	432	320	108
4	90	40	35	0	6	3	7	51	222	417	275	105
5	95	42	36	*5	10	*1	7	71	244	369	249	*104
6	*95	45	35	3	9	3	6	67	*301	346	311	100
7	92	49	30	1	9	3	7	56	372	333	306	97
8	88	52	*25	1	8	2	8	60	405	311	270	96
9	86	57	17	1	3	1	5	64	390	287	252	96
10	86	62	15	1	*1	1	5	69	408	279	236	97
11	92	65	15	1	0	2	*5	75	393	272	231	*113
12	91	68	16	0	0	*2	5	*86	414	*266	226	122
13	84	69	18	0	0	5	5	84	393	295	*216	176
14	88	*68	18	0	2	6	5	82	414	325	218	195
15	89	67	18	0	4	5	6	87	456	341	208	176
16	89	61	16	10	6	4	6	86	471	341	202	161
17	86	52	14	13	*9	4	6	88	468	322	190	146
18	78	43	13	*15	7	3	6	101	468	301	181	197
19	83	30	11	15	6	*3	7	111	474	272	174	260
20	74	29	9	14	4	2	*9	136	456	244	167	249
21	64	29	7	14	3	4	8	160	438	232	161	229
22	74	31	5	13	4	3	11	173	393	219	150	206
23	77	35	*6	12	6	4	18	164	387	197	146	190
24	76	38	3	10	9	2	22	150	372	183	138	167
25	68	*43	4	10	8	4	28	162	349	177	135	*156
26	67	46	6	11	7	*4	32	190	346	170	133	148
27	74	49	6	12	6	5	*34	168	*372	166	131	138
28	*68	50	10	13	3	5	42	149	375	164	131	129
29	53	51	11	13	*5	6	47	137	396	160	124	131
30	44	50	6	*14	-- -	*5	56	137	420	166	122	131
31	40	-	6	14	-	9	-----	139	-----	*429	125	--
Total	2,513	1,433	522	221	172	112	434	3,234	11,143	8,901	6,624	4,451
Mean	81.1	47.8	16.8	7.1	5.9	3.6	14.5	104	371	287	214	148
Ac-ft	4,980	2,840	1,040	438	341	222	861	6,410	22,100	17,650	13,140	8,830

Calendar year 1955: Max 998 Min - Mean 155 Ac-ft 112,100
Water year 1955-56: Max 512 Min 0 Mean 109 Ac-ft 78,850

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 31 to Apr. 16, Apr. 28 to May 17 (no gage-height record Nov. 9-13, Dec. 10-22, Jan. 5-7, 25-28, Feb. 10-16; discharge estimated on basis of 5 discharge measurements and weather records).

Eklutna Lake near Palmer

Location.--Lat 61°24'05", long 149°09'00", 100 ft upstream from dam at outlet of Eklutna Lake, 8 miles upstream from abandoned Eklutna power diversion dam, 11 miles upstream from mouth of Eklutna Creek, and 14 miles south of Palmer.

Drainage area.--119 sq mi.

Records available.--November 1946 to September 1956.

Gage.--Staff gage read once daily. Datum of gage is 859.8 ft above mean sea level (Corps of Engineers benchmark). Prior to May 5, 1947, reference point at same site and datum.

Extremes.--1953-54: Maximum gage height observed during water year, 9.76 ft Sept. 18, 19; minimum observed, 0.86 ft May 2-8.

1954-55: Maximum gage height observed during water year, 10.41 ft Aug. 26; minimum observed, -8.08 ft June 8.

1955-56: Maximum gage height observed during water year, 10.01 ft Aug. 17; minimum observed, -18.65 ft June 7.

1946-56: Maximum gage height observed, 12.00 ft Sept. 18, 1951; minimum observed, that of June 7, 1956.

Remarks.--Outflow from lake controlled by stoplogs and sluice gates in dam at outlet. Gates fully open during flood season each year. Prior to December 1954, stored water released during winter period for power purposes. Since December 1954, direct withdrawals from Eklutna Lake for power purposes; flow then diverted into Knik River basin.

Gage height, in feet, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.10	9.04	8.17	6.86	4.95	3.43	2.16	0.88	1.64	3.50	5.13	7.94
2	8.10	9.04	8.12	6.81	4.91	3.41	2.11	.86	1.71	3.52	5.50	8.01
3	8.10	9.04	8.08	6.75	4.86	3.38	2.06	.86	1.78	3.49	5.60	8.12
4	8.12	9.03	8.05	6.69	4.79	3.35	2.02	.86	1.82	3.48	5.63	8.27
5	8.31	9.01	8.00	6.63	7.74	3.34	1.98	.86	1.88	3.50	5.50	8.41
6	9.03	8.98	7.96	6.57	4.67	3.34	1.94	.86	2.03	3.51	5.48	8.46
7	9.48	8.95	7.95	6.50	4.61	3.25	1.90	.86	2.18	3.50	5.37	8.46
8	9.53	8.91	7.91	6.43	4.56	3.18	1.85	.86	2.32	3.54	5.36	8.48
9	9.57	8.88	7.85	6.37	4.52	3.11	1.79	.88	2.45	3.64	5.32	8.54
10	9.50	8.86	7.80	6.31	4.49	3.05	1.73	.92	2.57	3.75	5.27	8.72
11	9.47	8.82	7.78	6.25	4.43	2.99	1.68	.97	2.65	3.86	5.22	8.92
12	9.44	8.80	7.73	6.20	4.38	2.94	1.65	1.01	2.67	3.89	5.32	9.08
13	9.48	8.78	7.70	6.16	4.33	2.89	1.59	1.07	2.68	3.88	5.20	9.14
14	9.38	8.77	7.67	6.11	4.28	2.83	1.55	1.10	2.62	3.90	5.10	9.15
15	9.36	8.74	7.61	6.06	4.24	2.77	1.51	1.13	2.60	3.88	5.10	9.16
16	9.32	8.72	7.57	6.01	4.19	2.72	1.48	1.14	2.58	3.93	5.17	9.21
17	9.30	8.70	7.54	5.95	4.13	2.68	1.43	1.17	2.60	3.93	5.25	9.48
18	9.26	8.65	7.49	5.87	4.07	2.64	1.37	1.18	2.65	3.92	5.41	9.76
19	9.25	8.62	7.44	5.82	4.01	2.60	1.32	1.18	2.74	3.99	5.83	9.76
20	9.22	8.56	7.41	5.77	3.95	2.56	1.27	1.27	2.78	4.13	6.51	9.72
21	9.22	8.54	7.36	5.71	3.89	2.52	1.23	1.30	2.89	4.17	6.78	9.69
22	9.26	8.54	7.32	5.65	3.83	2.48	1.19	1.34	2.94	4.16	6.86	9.52
23	9.27	8.48	7.28	5.59	3.77	2.44	1.13	1.36	3.04	4.08	7.07	9.42
24	9.23	8.43	7.23	5.51	3.71	2.42	1.11	1.41	3.08	4.00	7.57	9.44
25	9.21	8.38	7.18	5.45	3.65	2.39	1.09	1.47	3.15	3.89	7.87	9.39
26	9.20	8.34	7.14	5.37	3.60	2.36	1.05	1.52	3.27	3.84	7.92	9.31
27	9.17	8.32	7.10	5.28	3.55	2.33	.99	1.57	3.33	3.86	7.87	9.25
28	9.13	8.27	7.05	5.19	3.49	2.30	.97	1.60	3.46	3.93	7.84	9.21
29	9.10	8.24	7.00	5.13	-	2.28	.91	1.61	3.46	4.15	7.83	9.24
30	9.08	8.20	6.95	5.07	-------	2.25	.89	1.62	3.46	4.36	7.79	9.29
31	9.06	-------	6.90	5.01	-------	2.21	-------	1.63	-------	4.74	7.85	-------

Eklutna Lake near Palmer--Continued

Gage height, in feet, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.32	9.20	8.42	6.91	3.03	-	-	-	-	-	-	-
2	9.34	9.18	8.37	6.85	2.92	-	-	-	-	-	-	-
3	9.32	9.18	8.32	6.77	2.79	-	-	-	-8.00	-	10.23	-
4	9.29	9.20	8.28	6.71	2.66	-0.49	-	-	-	-	-	-
5	9.24	9.18	8.26	6.65	2.54	-	-	-	-	-	10.07	-
6	9.19	9.18	8.21	6.59	2.40	-	-	-6.37	-	-	-	-
7	9.16	9.18	8.15	6.53	2.27	-	-	-	-	-	-	-
8	9.14	9.17	8.11	6.45	2.12	-	-4.03	-	-8.08	-	-	9.49
9	9.12	9.14	8.05	6.28	1.92	-	-	-	-	-	-	-
10	9.10	9.12	8.01	6.20	1.73	-	-	-	-	-	-	-
11	9.08	9.09	7.95	6.08	1.58	-0.74	-	-	-	-	-	-
12	9.09	9.06	7.90	5.94	1.41	-	-	-	-	-	9.98	-
13	9.11	9.04	7.85	5.81	-	-	-	-6.92	-	-	-	-
14	9.15	9.04	7.79	5.64	-	-	-	-	-	3.17	-	-
15	9.16	9.02	7.75	5.52	-	-	-4.27	-	-	-	9.82	-
16	9.17	8.96	7.69	5.38	-	-	-	-	-	-	-	9.46
17	9.17	8.92	7.63	5.24	-	-	-	-	-7.65	-	-	-
18	9.14	8.90	7.59	5.07	-	-1.23	-	-	-	4.91	-	-
19	9.15	8.87	7.53	4.99	0.90	-	-	-7.38	-	-	9.61	-
20	9.18	8.84	7.50	4.94	-	-	-	-	-	-	-	-
21	9.17	8.82	7.47	4.80	-	-	-4.86	-	-	6.71	-	-
22	9.16	8.80	7.44	4.56	-	-	-	-	-	7.17	-	9.19
23	9.20	8.75	7.41	4.42	-	-	-	-	-	-	-	-
24	9.22	8.71	7.35	4.29	-	-	-	-	-6.15	8.82	-	-
25	9.24	8.69	7.31	4.12	-	-2.13	-	-	-	-	-	-
26	9.24	8.65	7.27	3.97	0.30	-	-	-7.67	-	-	10.41	-
27	9.24	8.6	7.21	3.82	-	-	-	-	-	10.11	-	8.88
28	9.19	8.58	7.15	3.69	-	-	-	-	-	-	-	-
29	9.21	8.55	7.10	3.55	-	-	-5.70	-	-	10.23	-	8.99
30	9.18	8.48	7.03	3.38	-------	-	-	-	-4.44	-	-	8.89
31	9.14	-------	6.97	3.23	-------	-	-------	-	-------	10.21	9.69	-------

Gage height, in feet, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	3.00	-	-5.45	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	6.36	-
3	-	-	-	-	-	-	-	-	-	-	-	-
4	-	6.16	-	-	-	-	-	-17.55	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	8.60	-
6	-	-	-	-1.68	-	-	-14.89	-	-	-11.46	-	-
7	8.58	-	-	-	-	-10.48	-	-	-18.65	-	-	8.93
8	-	-	-	-	-	-	-	-	-	-	-	-
9	-	5.80	2.05	-	-	-	-	-	-	-	9.68	-
10	-	-	-	-	-6.57	-	-	-	-	-	-	8.97
11	-	-	-	-	-	-	-	-17.90	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-2.75	-	-	-15.60	-	-	-8.39	-	-
14	8.11	-	-	-	-	-	-	-	-	-	9.90	9.92
15	-	-	-	-	-	-11.76	-	-	-17.91	-	-	-
16	-	-	1.15	-	-	-	-	-	-	-	-	-
17	-	4.80	-	-	-7.48	-	-	-	-	-	10.01	-
18	-	-	-	-	-	-	-	-18.41	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-3.70	-	-	-16.36	-	-	-2.38	-	9.56
21	7.55	-	-	-	-	-	-	-	-16.53	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	0.17	-	-	-13.07	-	-	-	-	-	-
24	-	-	-	-	-8.68	-	-	-	-	-	9.40	-
25	-	3.78	-	-	-	-	-	-	-	0.67	-	9.08
26	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-4.70	-	-	-17.10	-	-	-	-	9.02
28	6.96	-	-	-	-	-	-	-	-14.97	-	9.47	-
29	-	-	-	-	-9.42	-	-	-	-	-	-	-
30	-	-	-0.87	-	-------	-14.04	-	-	-	-	-	-
31	-	-------	-	-	-------	-	-------	-18.63	-------	-	9.27	-------

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.--Discharge: October 1946 to September 1956.
Chemical analyses: April 1949 to September 1950, December 1950 to August 1952.
Water temperatures: May 1949 to September 1950, December 1950 to July 1951.

Gage.--Water-stage recorder. Datum of gage is 856.53 ft above mean sea level (Corps of Engineers benchmark). 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 (250,500 acre-ft per year), unadjusted.

Extremes.--1953-54: Maximum discharge during water year, 1,430 cfs Aug. 3 (gage height, 5.18 ft); minimum daily, 65 cfs Mar. 27, 28.
1954-55: Maximum discharge during water year, 1,070 cfs Aug. 1 (gage height, 4.39 ft); no flow Mar. 1 to July 14.
1955-56: Maximum discharge during water year, 1,220 cfs Aug. 16 (gage height, 4.68 ft); no flow Oct. 12 to July 31.
1946-56: Maximum discharge, 2,530 cfs Sept. 18, 1951 (gage height, 8.06 ft in gage well, present datum); no flow for long periods since December 1954.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by Eklutna Lake, 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.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	134	132	138	142	119	108	a72	90	233	865	1,360	570
2	130	137	138	142	119	109	a82	89	251	869	*1,380	550
3	130	133	138	144	117	110	a87	88	274	853	1,420	550
4	132	132	144	146	117	110	a92	88	284	853	1,420	553
5	134	130	145	148	114	110	a112	89	305	865	1,390	584
6	207	138	145	148	112	109	*101	90	346	869	1,370	588
7	352	138	145	148	112	108	101	90	391	869	1,360	475
8	382	138	142	146	112	108	101	91	433	889	1,360	375
9	358	138	142	141	113	108	101	92	487	917	1,350	327
10	335	*138	142	139	118	108	99	94	511	957	1,330	316
11	324	138	139	139	117	108	99	100	*542	994	1,280	340
12	300	138	123	139	117	108	99	109	553	998	1,260	367
13	279	138	126	139	117	108	99	115	556	985	1,110	388
14	253	138	148	139	117	108	99	119	542	994	909	388
15	230	138	148	*138	117	106	99	123	528	994	777	*391
16	219	139	144	137	117	105	99	124	525	1,000	673	409
17	203	146	142	137	117	104	101	128	525	1,000	592	595
18	191	138	142	137	117	*103	103	133	542	1,000	539	785
19	179	137	142	137	117	103	103	137	570	1,030	*677	789
20	171	138	142	137	117	103	105	139	592	*1,080	813	745
21	171	141	142	137	117	92	105	*152	637	1,080	837	681
22	189	139	142	137	117	a75	105	164	654	1,080	849	584
23	187	139	*142	137	117	a67	105	171	*681	1,050	861	504
24	175	139	142	137	115	a69	105	177	701	1,010	969	514
25	166	141	142	137	*109	a67	105	189	729	977	990	469
26	157	134	142	141	108	a67	105	200	769	961	990	400
27	145	137	142	145	108	a65	103	214	813	961	985	332
28	137	137	142	142	108	a65	100	224	833	1,000	913	313
29	134	137	142	137	-	a67	*95	224	837	1,070	741	316
30	130	138	142	132	------	a66	91	224	841	1,170	669	355
31	130	------	142	121	------	a69	------	233	------	1,300	612	------
Total	6,364	4,124	4,377	4,326	3,222	2,913	2,973	4,300	16,485	30,540	31,786	14,553
Mean	205	137	141	140	115	94.0	99.1	139	550	985	1,025	485
Ac-ft	12,620	8,180	8,680	8,580	6,390	5,780	5,900	8,530	32,700	60,580	63,050	28,870

Calendar year 1953: Max 2,340 Min 7 Mean 479 Ac-ft 346,500
Water year 1953-54: Max 1,420 Min 65 Mean 345 Ac-ft 249,900

* Discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records in powerhouse log.

Eklutna Creek near Palmer--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*374	170	143	143	125					0	1,060	*741
2	380	189	138	134	109					0	1,040	694
3	374	*146	135	134	115			(*)		0	1,000	603
4	360	138	135	134	100					0	909	526
5	338	137	140	134	110					0	*821	473
6	290	138	137	130	123					0	785	400
7	282	137	133	121	130					0	813	324
8	267	130	135	108	132					0	849	254
9	244	134	138	105	132					0	789	259
10	234	134	138	110	130					0	761	383
11	174	135	138	112	123			(*)		0	737	424
12	145	138	138	114	119					*0	698	430
13	150	138	138	117						0	657	386
14	152	137	140	117						0	597	*327
15	167	141	140	117						1	*507	264
16	155	138	138	115						1	427	210
17	155	137	137	115						1	380	163
18	153	138	141	115						1	360	133
19	152	138	138	115						1	366	112
20	143	141	137	115						1	386	92
21	140	143	134	115	30					*1	408	77
22	141	145	*138	114						2	436	70
23	244	137	138	115						5	523	48
24	153	*135	140	115						17	713	43
25	166	134	141	115						*284	973	35
26	170	135	145	115						690	985	28
27	170	137	148	*120						*933	897	17
28	178	141	148	120						990	873	10
29	187	137	148	125	-					*961	757	*9
30	162	140	148	135	-------	(*)				965	701	16
31	163	---	148	125	-------		-------		-------	1,020	658	-------
Total	6,563	4,218	4,333	3,719	1,928	0	0	0	0	5,874	21,866	7,551
Mean	212	141	140	120	68.9	0	0	0	0	189	705	252
Ac-ft	13,020	8,370	8,590	7,380	3,820	0	0	0	0	11,650	43,370	14,980
(†)	0	0	3,000	6,420	8,400	11,330	11,090	11,910	11,440	11,580	12,520	13,040

Calendar year 1954: Max 1,420 Min 65 Mean 346 Ac-ft 250,400 (†) 3,000
Water year 1954-55: Max 1,060 Min 0 Mean 154 Ac-ft 111,200 (†) 100,700

* Discharge measurement or observation of no flow made on this day.
† Diversion above station, in acre feet, for Eklutna powerplant; records furnished by Bureau of Reclamation.

Note.--No gage-height record Feb. 13-28, July 15-24; discharge estimated on basis of powerplant records and 2 discharge measurements.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a14										a1	382
2	18										*2	350
3	a14										2	320
4	a10										3	285
5	a8										4	253
6	a6										128	239
7	*5										*390	*225
8	a4										620	216
9	a3										774	223
10	a2										846	184
11	a1										960	205
12	0										1,090	465
13	0									(*)	1,100	838
14	0										1,070	*996
15	0										1,110	874
16	0										1,210	678
17	0										*1,180	525
18	0										1,150	525
19	0										1,030	592
20	0										874	484
21	0										754	*382
22	0										642	301
23	0										581	244
24	0										542	198
25	0								(*)		522	94
26	0										511	a8
27	0									(*)	550	7
28	0										584	*7
29	0										542	16
30	0				-------						466	a6
31	0	-------			-------		-------		-------		*436	-------
Total	85	0	0	0	0	0	0	0	0	0	19,674	10,122
Mean	2.74	0	0	0	0	0	0	0	0	0	635	337
Ac-ft	169	0	0	0	0	0	0	0	0	0	39,020	20,080
(†)	14,150	15,110	16,130	16,280	14,800	15,200	13,130	13,110	12,970	12,940	13,360	14,350

Calendar year 1955: Max 1,060 Min 0 Mean 112 Ac-ft 81,370 (†) 143,100
Water year 1955-56: Max 1,210 Min 0 Mean 81.6 Ac-ft 59,270 (†) 171,500

* Discharge measurement or observation of no flow made on this day.
† Diversion above station, in acre feet, for Eklutna powerplant; records furnished by Bureau of Reclamation.
a No gage-height record; discharge estimated on basis of 3 discharge measurements.

KNIK RIVER NEAR PALMER

LOCATION.--At bridge on Glenn Highway, 7 miles south of Palmer, Alaska, 8 miles upstream from Alaska Railroad bridge, 10 miles from mouth, and 17 miles downstream from Knik Glacier.

RECORDS AVAILABLE.--Chemical analyses: June to September 1949, July and August 1950, April to September 1951, November 1951 to August 1952, May 1954, August 1955, May to August 1956.

Sediment records: July to August 1953, October 1953, February to July 1954, August 1955, July and August 1956 (periodic).

Chemical analyses in parts per million, May 1954, August 1955, May to August 1956

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium magnesium	Noncarbonate			
1954																		
May 25	e 3,500	4.1	0.08	26	3.2	2.4	0.6	76	23	1.2	0.0	1.0	99	78	16	168	7.4	3
1955																		
Aug. 8-15	5,320	5.5	.06	21	2.4	1.5	.4	60	17	.5	.1	.5	79	62	13	136	7.5	5
1956																		
May 3	--	4.3	.00	35	4.2	3.1	1.0	93	29	2.5	.1	1.4	127	105	28	214	8.0	0
July 27	a 6,730	3.4	.03	22	3.0	1.6	1.0	65	18	.2	.1	.2	82	67	14	145	7.3	5
Aug. 6	a 177,000	2.6	.03	13	1.1	1.3	1.0	40	6.5	.2	.0	.1	46	37	4	81	6.9	5
Aug. 9	a 60,900	3.3	.03	17	2.2	1.2	1.0	53	11	.2	.0	.1	62	51	8	111	6.9	5

e Estimated.
a Discharge at time of sampling.

KNIK RIVER NEAR PALMER--Continued

Periodic determinations of suspended-sediment discharge, water years October 1953 to September 1956

Date	Water discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1953			
Oct. 5	e 39,000	813	85,600
1954			
Feb. 12	--	2	--
May 12	e 3,170	746	6,380
May 25	e 3,500	359	3,390
July 7	e 5,490	508	7,530
July 23	e 91,700	3,180	787,000
July 26	248,000	1,990	1,330,000
July 27	86,400	1,970	460,000
July 28	44,200	1,970	235,000
1955			
Aug. 8	226,000	1,320	805,000
Aug. 9	239,000	1,540	994,000
1956			
July 27	6,730	1,100	20,000
Aug. 6	177,000	858	410,000
Aug. 9	60,900	1,800	296,000

e Estimated.

KNIK RIVER NEAR PALMER--Continued

Particle-size analyses of suspended sediment, water years October 1953 to September 1956
(Methods of analysis: B, bottom withdrawal tube; D, decantation; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed; M, mechanically dispersed)

Date of collection	Time	Discharge (cfs)	Water temperature (°F)	Suspended sediment													Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters											
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
1954																	
July 7	12:00 noon	e 5,490		747	1,220	38	46	63	76	84	94	98	99	100	--	--	BSWCM
July 23	9:00 a.m.	e 91,700		3,270	3,080	10	13	16	21	30	46	58	66	75	88	97	BSWCM
July 26	4:30 p.m.	248,000		1,590	2,700	19	28	36	52	66	77	84	89	94	100	--	BSWCM
July 27	1:30 p.m.	86,400		1,750	2,200	25	34	46	59	70	78	84	92	97	97	100	BSWCM
1955																	
Aug. 8	2:00 p.m.	226,000		2,240	1,320	10	12	15	19	22	28	34	41	66	88	99	BSWCM
Aug. 9	9:00 a.m.	239,000		2,560	2,020	11	14	19	27	31	37	42	46	--	54	73	BSWCM
1956																	
July 27	3:00 p.m.	6,730		1,100	1,870	30	48	68	84	93	98	99	100	--	--	--	BSWCM
Aug. 6	5:00 p.m.	177,000		858	857	22	28	35	43	52	61	75	88	99	100	--	BSWCM
Aug. 9	4:00 p.m.	60,900		1,800	2,720	26	37	52	70	81	87	93	99	100	--	--	BSWCM

e Estimated.

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 1956.

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

Extremes.--1955: Maximum discharge during period May to September, 5,060 cfs June 18 (gage height, 5.92 ft), from rating curve extended above 1,500 cfs by logarithmic plotting; minimum daily, 44 cfs May 1.

1955-56: Maximum discharge during water year, 4,800 cfs June 8 (gage height, 5.80 ft), from rating curve extended above 1,500 cfs by logarithmic plotting; minimum observed, 0.23 cfs Mar. 9 (discharge measurement), caused by temporary storage upstream.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, May to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								a44	312	1,520	170	454
2								a47	342	1,510	163	415
3								a51	292	1,500	167	347
4								a54	325	1,370	*179	308
5								a59	552	1,010	187	292
6								a65	647	801	184	270
7								a72	1,040	674	236	259
8								a80	1,220	590	320	248
9								a90	980	590	*242	252
10								*a100	1,550	621	230	400
11								a120	*1,570	460	236	342
12								a140	761	352	252	292
13							†25	a160	537	342	475	280
14								b179	530	316	410	262
15								b218	810	273	320	236
16								*b259	1,180	334	288	227
17								b593	1,980	334	248	205
18						†23		b565	2,420	380	227	189
19								b500	3,210	390	212	*189
20								*464	2,150	*380	202	192
21								454	1,940	344	189	184
22								500	1,620	320	184	179
23								586	1,580	288	*182	175
24								664	1,440	270	331	170
25								586	1,380	245	270	163
26								512	1,350	239	236	145
27								512	1,080	227	354	143
28								420	850	212	470	154
29								395	*892	194	415	147
30								405	1,280	189	380	143
31								380		182	365	
Total								9,274	35,800	16,457	8,324	7,262
Mean								299	1,193	531	269	242
Ac-ft								18,390	71,010	32,640	16,510	14,400

Calendar year	: Max	Min	Mean	Ac-ft
Water year	: Max	Min	Mean	Ac-ft

Peak discharge (base, 2,000 cfs).--June 11 (1 a.m.) 3,120 cfs (5.00 ft); June 18 (11 p.m.) 5,060 cfs (5.92 ft); July 2 (10:30 p.m.) 2,380 cfs (4.60 ft).

* Discharge measurement made on this day.

† Result of discharge measurement.

a No gage-height record; discharge estimated on basis of 2 discharge measurements and weather records.

b Stage-discharge relation affected by ice.

Caribou Creek near Sutton--Continued

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	143	b33						b512	410	1,380	1,090	518
2	137	b33			(*)			b405	770	1,440	930	482
3	137	34						b415	1,140	1,010	810	464
4	*135	35						b400	998	778	689	437
5	123	36	(*)					b542	941	604	624	415
6	b116	*b37					7	752	2,240	877	689	375
7	110	b37						*512	2,900	852	725	347
8	107	b39	16		9	3		608	3,100	2,300	616	320
9	b103	b40				(*)		656	2,810	1,560	537	312
10	b100	b41						565	2,280	3,080	500	308
11	b110							470	*1,820	2,000	470	375
12	b112							437	1,210	1,290	442	454
13	110						(*)	442	961	1,010	410	544
14	110							459	1,180	790	390	464
15	100							415	1,510	828	385	370
		38		9			20					
16	96			(*)				426	1,320	760	356	352
17	*b92							375	1,240	608	329	334
18	84							390	1,500	537	334	*360
19	77							680	1,620	454	312	370
20	70							1,120	2,050	464	308	342
21	64							1,420	1,510	1,620	*304	334
22	58							1,110	1,370	*1,810	300	316
23	53				7		96	780	1,510	1,430	300	292
24	49		9			8		689	904	1,010	324	270
25	45							950	725	830	304	245
		20										
26	*b43						200	1,260	726	648	292	252
27	b41		(*)				250	890	758	565	292	245
28	b39						b300	506	1,180	524	273	189
29	b37						b385	465	2,450	494	300	236
30	b35						*b572	586	1,900	512	320	236
31	b34							420	------	932	488	------
Total	2,670	945	384	279	233	173	2,457	19,657	45,033	32,997	14,443	10,558
Mean	86.1	31.5	12.4	9	8.0	5.6	81.9	634	1,501	1,064	468	352
Ac-ft	5,300	1,870	762	553	462	343	4,870	38,990	89,320	65,450	28,650	20,940

Calendar year 1955: Max - Min - Mean - Ac-ft -
Water year 1955-56: Max 3,100 Min - Mean 355 Ac-ft 257,500

Peak discharge (base, 2,000 cfs).--June 8 (9 p.m.) 4,800 cfs (5.80 ft); June 15 (9 p.m.) 2,520 cfs (4.70 ft); June 22 (10:30 p.m.) 2,480 cfs (4.68 ft); June 29 (9 p.m.) 3,260 cfs (5.08 ft); July 8 (10 a.m.) 3,140 cfs (5.02 ft); July 10 (1 p.m.) 4,510 cfs (5.67 ft); July 21 (11 p.m.) 2,780 cfs (4.84 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 13-16, 18-25, Nov. 3-5, Nov. 11 to Apr. 27 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 10 discharge measurements and weather records.

CHICKALOON RIVER NEAR SUTTON

(Formerly published as Chickaloon River at Chickaloon)

LOCATION.--At bridge on Glenn Highway, about 13 miles east of Sutton, Alaska.
RECORDS AVAILABLE.--Chemical analyses: July 1952 to October 1954.
Water temperatures: October 1952 to September 1954.
EXTREMES, 1953-54.--Dissolved solids: Maximum, 175 ppm Nov. 21-30; minimum, 84 ppm June 1-10.
Hardness: Maximum, 119 ppm Nov. 21-30, Mar. 1-31; minimum, 58 ppm June 1-10.
Specific conductance: Maximum, 281 micromhos Feb. 1-28, Mar. 1-31, Apr. 1-30; minimum, 140 micromhos June 1-10.
Water temperatures: Maximum, 53°F July 7; minimum, freezing point on many days during winter months.
EXTREMES, 1952-54.--Dissolved solids: Maximum, 179 ppm Apr. 1-10, 1953; minimum, 78 ppm Aug. 1-10, 1953.
Hardness: Maximum, 125 ppm Dec. 1-10, 1952; minimum, 56 ppm Aug. 1-10, 1953.
Specific conductance: Maximum, 287 micromhos Dec. 1-10, 1952; minimum, 130 micromhos June 21-30, 1953.
Water temperatures: Maximum, 59°F June 26, 27, July 24, 25, 1953, minimum, freezing point on many days during winter months.
REMARKS.--Records of specific conductance of daily samples available in district office, Branch of Quality of Water, Palmer, Alaska. No discharge records available for this station.

Chemical analyses, in parts per million, October 1953 to October 1954

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
1953																		
Oct. 1-10		6.4	0.01	35	3.8	7.8	0.6	90	38	7.7	0.1	0.8	151	103	29	243	6.9	2
Oct. 11-20		5.7	.02	36	3.7	8.0	.6	94	35	7.9	.1	.8	153	105	48	247	6.9	4
Oct. 21-31		5.7	.01	35	4.3	8.1	.6	90	37	8.2	.1	.9	154	105	31	248	7.0	3
Nov. 1-10		6.5	.01	40	4.3	8.8	.7	102	40	9.9	.1	1.1	172	118	34	274	7.1	3
Nov. 11-20		6.4	.01	38	4.5	8.9	.6	98	39	9.8	--	1.0	165	113	33	267	7.0	3
Nov. 21-30		7.3	.01	40	4.7	9.2	.7	100	41	11	--	1.0	175	119	37	278	7.0	3
Dec. 1-31		7.7	.01	39	4.5	9.2	.3	97	37	12	.1	1.0	164	116	36	268	6.7	5
1954																		
Jan. 1-31		7.1	.01	38	4.9	9.8	.4	95	38	13	.0	1.0	164	115	37	268	6.8	3
Feb. 1-28		8.4	.00	40	4.3	9.6	.6	96	39	14	.1	1.0	171	118	39	281	7.4	0
Mar. 1-31		8.4	.00	40	4.6	10	.6	98	40	14	.1	1.0	172	119	38	281	7.4	0
Apr. 1-30		7.9	.00	39	4.9	9.7	.6	99	42	13	.1	1.0	169	117	36	281	7.5	0
May 1-31		6.0	.02	27	3.1	6.8	.6	72	27	6.8	.1	.8	116	80	21	198	7.2	0
June 1-10		5.9	.00	19	2.6	4.3	.3	59	17	3.2	.2	.5	84	58	10	140	7.7	0
June 11-20		6.3	.00	21	2.5	5.2	.4	64	16	3.5	.0	.4	92	63	10	150	7.1	5
June 21-30		9.2	.00	20	2.5	4.7	.3	62	14	3.8	.0	.4	89	60	9	144	7.1	5
July 1-31		6.1	.00	20	2.9	5.0	.3	67	15	3.1	.0	.4	86	62	7	146	7.1	3
Aug. 1-31		5.1	.00	22	2.3	4.6	.4	69	15	3.1	.0	.4	90	64	8	153	7.1	3
Sept. 1-10		8.7	.00	25	2.8	6.2	.4	72	23	4.0	.1	.4	108	74	15	176	7.7	--
Sept. 11-20		7.9	.01	30	3.7	7.2	.4	85	33	4.0	.1	.5	132	90	20	214	7.7	--
Sept. 21-30		8.2	.00	31	3.3	7.6	.5	86	34	4.2	.1	.6	138	91	20	223	7.9	--
Oct. 1-10		7.6	.01	33	5.7	7.8	.4	91	36	5.0	.1	.7	146	106	31	236	7.8	--
Average [a]		7.0	0.01	32	3.7	7.5	0.5	85	31	7.8	0.1	0.7	137	95	26	224	--	--

a Average includes water year October 1953 to September 1954 only.

CHICKALOON RIVER NEAR SUTTON--Continued

Temperature (°F) of water, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	32	32	32	32	32	32	34	--	44	41	41
2	--	32	32	32	32	32	32	34	41	40	42	42
3	32	32	32	32	32	32	32	35	39	40	44	42
4	--	32	32	32	32	32	32	34	40	42	42	48
5	--	32	32	32	32	32	32	--	40	43	44	43
6	37	32	32	32	32	32	32	33	41	--	44	42
7	34	32	32	32	32	32	32	34	44	53	44	43
8	35	32	32	32	32	32	32	34	41	47	44	41
9	33	32	32	32	32	32	32	34	--	45	--	41
10	35	32	32	32	32	32	32	34	--	--	44	--
11	36	32	32	--	32	32	32	35	--	45	42	46
12	--	32	32	32	32	32	32	34	41	--	43	39
13	35	32	32	32	32	32	32	35	41	41	41	35
14	32	32	32	32	32	32	32	37	42	43	42	38
15	32	32	32	32	32	32	32	--	40	42	43	41
16	32	32	32	32	32	32	32	39	41	43	41	--
17	--	32	32	32	32	32	--	36	44	44	40	--
18	32	32	32	32	32	32	32	37	42	45	39	41
19	32	32	32	32	32	32	32	38	42	49	48	41
20	32	32	32	32	32	32	32	39	43	44	43	--
21	32	32	32	32	32	32	32	38	43	43	40	--
22	--	32	32	32	32	32	32	--	42	44	--	--
23	32	32	32	32	32	32	--	--	43	43	49	--
24	32	32	32	32	32	32	32	40	44	--	45	--
25	32	32	32	32	32	32	32	38	44	--	42	37
26	32	32	32	32	32	--	32	39	42	52	41	38
27	32	32	32	32	32	32	32	40	45	44	41	36
28	32	--	32	32	32	32	32	38	44	46	41	39
29	32	32	32	32	--	32	32	39	43	45	39	--
30	32	32	32	32	--	32	33	39	44	45	40	--
31	32	--	32	32	--	--	--	39	--	43	42	--
Average	33	32	32	32	32	32	32	37	42	44	42	--

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.--Discharge: April 1949 to September 1956.
Chemical analyses: May 1949 to October 1950, April to June 1951, October 1951 to July 1953.
Water temperatures: May 1949 to September 1950, March to August 1952, April to September 1953.
Sediment records: April to September 1953, April to September 1954 (daily).

Gage.--Water-stage recorder. Datum of gage is 170.92 ft above mean sea level (Alaska Road Commission benchmark). 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.--7 years, 4,047 cfs (2,930,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 21,500 cfs July 31 (gage height, 8.71 ft); minimum not determined.
1954-55: Maximum discharge during water year, 24,000 cfs Aug. 27 (gage height, 9.96 ft); minimum daily, 400 cfs Mar. 12.
1955-56: Maximum discharge during water year, 21,400 cfs July 31 (gage height, 10.50 ft); minimum daily, 234 cfs Apr. 25.
1949-56: Maximum discharge, that of Aug. 27, 1955; maximum gage height observed, 12.03 ft July 11, 1949; minimum daily discharge, that of Apr. 25, 1956.

Remarks.--Records fair except those for periods of ice effect, shifting-control or no gage-height record, which are poor. Large diurnal fluctuation caused by glacier melt at the source.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,990						420	904	5,230	11,700	19,400	7,340
2	1,830						*420	904	6,420	16,100	*18,400	7,210
3	1,760						430	1,020	*5,950	13,600	15,900	7,180
4	1,850						430	1,090	7,270	12,000	15,000	7,110
5	1,880				(*)		420	1,120	9,540	12,400	13,000	7,790
6	1,970	950					420	1,250	9,390	16,400	14,200	7,500
7	1,900						410	1,350	10,000	14,500	14,800	6,720
8	1,820						410	1,510	12,500	13,200	15,400	6,200
9	1,790						410	1,850	12,600	14,200	15,400	5,890
10	1,760	(*)	(*)				420	2,530	10,400	14,200	15,000	7,080
11	1,750						430	3,430	8,690	13,900	13,600	7,460
12	1,720					(*)	450	3,700	8,470	12,700	12,000	7,020
13	1,680						480	3,660	7,690	10,600	10,100	6,060
14	1,660						*480	2,500	7,140	9,730	9,540	5,400
15	1,620	740	620	570	450	420	530	2,500	6,960	10,700	9,270	*5,020
16	1,600						580	2,530	7,560	11,300	8,830	5,260
17	1,540						570	2,860	8,330	11,700	8,650	9,650
18	1,520						540	3,080	9,010	12,100	*9,010	8,510
19	1,510						520	3,470	10,400	13,300	11,400	7,210
20	1,510	(*)					570	4,260	11,100	*13,800	15,200	6,720
21	1,510			(*)			580	5,160	11,200	12,400	14,000	5,980
22	1,520						570	4,020	9,500	12,100	12,300	5,330
23	1,530						610	3,500	*7,990	10,800	13,200	4,880
24	1,470						770	*4,700	9,230	10,300	16,600	4,660
25	1,400	680					900	6,500	11,100	9,880	16,600	4,460
26	1,300						950	6,450	11,500	9,650	13,800	4,180
27	1,200						1,030	5,840	12,400	10,800	11,400	3,930
28	1,100						1,150	4,810	12,000	12,100	10,800	3,760
29	1,000				-		*1,090	4,240	11,300	14,000	9,200	3,780
30	980		(*)		-------		988	3,610	10,400	17,000	8,230	4,040
31	960	-------			-------		-------	3,810	-------	20,200	*7,750	-------
Total	48,630	23,700	19,220	17,670	12,600	13,020	17,978	98,158	281,270	397,360	395,980	183,330
Mean	1,569	790	620	570	450	420	599	3,166	9,376	12,820	12,770	6,111
Ac-ft	96,460	47,010	38,120	35,050	24,990	25,820	35,660	194,700	557,900	788,200	785,400	363,600

Calendar year 1953: Max 20,800 Min - Mean 4,456 Ac-ft 3,226,000
Water year 1953-54: Max 20,200 Min - Mean 4,134 Ac-ft 2,993,000

Peak discharge (base, 16,500 cfs).--July 2 (6:30 a.m.) 19,600 cfs (8.59 ft); July 6 (3:30 p.m.) 18,200 cfs (8.33 ft); July 31 (12 p.m.) 21,500 cfs (8.71 ft); Aug. 8 (4 a.m.) 17,300 cfs (7.70 ft); Aug. 25 (5 a.m.) 17,700 cfs (7.83 ft).
*** Discharge measurement made on this day.**
Note.--Stage-discharge relation affected by ice Oct. 26 to Apr. 27 (no gage-height record Nov. 4-6, 9, 17, Dec. 4 to Apr. 3; discharge estimated on basis of 9 discharge measurements and weather records).

Matanuska River at Palmer--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*4,080	1,680			500	410	429	611	2,500	*11,600	14,800	7,310
2	3,870	1,620			520	405	430	*648	2,540	13,200	14,600	7,610
3	3,510	1,570			550	413	440	706	2,560	15,400	13,600	6,990
4	3,280	1,520			550	429	454	745	2,400	14,900	11,600	6,760
5	3,150	1,420			510	450	479	805	2,740	13,800	11,400	6,550
6	3,060	1,380			490	460	462	878	3,090	12,700	11,000	6,340
7	2,950	1,350			496	*479	454	975	3,680	12,800	10,200	6,130
8	2,820	1,160			504	488	445	1,040	4,910	12,400	10,500	5,830
9	2,820	1,020			522	462	430	1,140	5,160	12,700	10,100	6,070
10	2,740	953			557	429	430	1,250	5,630	14,300	*10,700	8,060
11	2,640	942			557	405	429	1,350	7,410	15,100	9,820	7,680
12	2,560	920			540	400	437	*1,440	5,830	13,400	9,180	6,890
13	2,440	878			530	410	454	1,390	5,240	13,700	9,140	*6,610
14	2,400	846		(*)	522	429	479	1,270	5,040	13,500	7,880	6,160
15	*2,350	836	770	680	*548	454	504	1,360	5,580	*11,800	6,730	5,600
16	2,350	815			575	462	530	1,500	6,280	11,600	6,070	5,160
17	2,260	815			593	470	540	2,040	*8,020	11,200	5,860	4,700
18	2,170	815			602	445	557	*2,400	8,850	11,800	5,860	4,210
19	2,090	836			620	420	557	2,380	10,800	12,800	5,830	3,870
20	2,080	942			600	410	548	2,330	12,800	14,200	5,860	3,630
21	2,040	964			566	413	539	2,290	10,700	14,900	6,040	3,390
22	1,860	1,030			530	413	513	2,500	10,800	15,900	*6,070	3,260
23	1,820	*1,050			504	421	490	2,600	9,700	15,900	6,670	3,040
24	1,980	997			479	429	462	2,760	10,100	16,500	13,000	2,930
25	1,930	1,050			454	437	445	2,820	10,500	*16,100	16,600	2,780
26	1,850	1,010			440	440	445	2,820	9,940	15,600	16,800	*2,620
27	1,830	964		(*)	430	450	470	2,980	7,950	15,700	20,400	2,500
28	1,770	920			421	462	504	2,680	8,420	13,800	18,700	2,380
29	1,700	868			-	*462	539	2,520	9,410	12,900	12,800	2,330
30	1,690	805			-------	453	566	2,480	9,900	13,800	9,260	2,240
31	1,690	-------	(*)		-------	437	-------	*2,520	-------	14,700	7,530	-------
Total	75,780	31,976	23,870	21,080	14,710	13,547	14,461	55,228	208,480	428,700	324,600	149,630
Mean	2,445	1,066	770	680	525	437	482	1,782	6,949	13,830	10,470	4,988
Ac-ft	150,300	63,420	47,350	41,810	29,180	26,870	28,680	109,500	413,500	850,300	643,800	296,800

Calendar year 1954 Max 20,200 Min - Mean 4,244 Ac-ft 3,072,000
Water year 1954-55 Max 20,400 Min 400 Mean 3,732 Ac-ft 2,702,000

Peak discharge (base, 16,500 cfs).--July 4 (5 a.m.) 17,200 cfs (8.88 ft); July 11 (5 a.m.) 16,800 cfs (8.82 ft); July 24 (1 a.m.) 18,100 cfs (9.04 ft); Aug. 27 (9 p.m.) 24,000 cfs (9.96 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 27 to May 14 (no gage-height record Dec. 5, 15, Dec. 18 to Jan. 12, Jan. 15-17, 22-24, 30, Feb. 1-6, 12, 19, 20, 22, 26, 27, Mar. 1, 5, 6, 12, 13, 19, 20, 26, 27, Apr. 2, 3, 9, 10, 16, 17, 23; discharge estimated on basis of 3 discharge measurements and weather records). Shifting-control method used July 26 to Sept. 30.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,240	b846				(*)	390	b2,130	*2,580	12,500	*18,700	6,520
2	2,200	b815					390	b1,580	2,760	13,000	15,300	5,920
3	2,170	b795		(*)			390	b1,540	3,350	13,400	13,200	5,630
4	2,090						390	b1,500	4,010	13,100	13,000	*5,410
5	2,010		(*)				390	1,800	3,820	13,200	12,000	5,200
6	1,990						380	2,040	5,180	14,200	12,900	5,000
7	1,910						380	1,940	7,750	15,200	13,700	4,800
8	1,820		610		490		380	1,860	8,850	16,800	13,200	4,600
9	1,750						b381	1,930	8,700	16,600	*12,900	4,620
10	1,740	750					b381	1,900	8,850	*18,400	13,600	4,800
11	1,700						b381	2,110	7,990	16,900	14,200	5,690
12	1,720						*b381	2,310	8,310	15,600	14,400	8,740
13	*1,640				(*)		b389	2,270	7,440	16,800	13,300	13,000
14	1,540						b389	2,290	7,480	17,800	12,300	13,600
15	1,560						b389	2,260	8,340	18,100	11,400	10,100
16	1,560		(*)	520		400	b389	2,400	9,300	18,700	10,600	8,970
17	1,560						b405	2,500	8,450	18,100	10,300	8,630
18	1,480						b381	2,480	8,600	16,700	11,200	*8,200
19	1,440						b381	2,950	9,460	14,700	10,600	7,310
20	1,460						b350	3,260	10,200	13,500	9,420	6,160
21	1,230						b276	*3,770	8,780	16,600	8,560	5,320
22	1,270						300	3,940	7,310	18,300	7,750	4,700
23	1,340	670			420		b328	3,560	8,340	16,000	7,340	4,130
24	1,320		550	(*)			b320	3,350	7,750	14,200	7,370	3,650
25	1,200						b234	3,390	7,080	13,100	6,800	3,420
26	1,200						b320	3,960	*7,610	13,500	6,370	3,220
27	*b1,110						*b1,390	3,960	8,020	14,400	6,610	3,060
28	b1,050						b1,360	3,330	9,370	14,400	6,370	2,800
29	1,000					(*)	b1,280	2,890	11,900	14,100	6,460	2,780
30	960				-------		b1,570	2,930	12,600	16,600	6,310	2,840
31	b910	-------			-------		-------	2,820	-------	19,600	6,990	-------
Total	48,170	21,506	17,950	16,120	13,230	12,400	15,065	80,950	230,180	484,100	333,150	178,820
Mean	1,554	717	579	520	456	400	502	2,611	7,673	15,620	10,750	5,961
Ac-ft	95,540	42,660	35,600	31,970	26,240	24,600	29,880	160,600	456,600	960,200	660,800	354,700

Calendar year 1955 Max 20,400 Min 400 Mean 3,611 Ac-ft 2,614,000
Water year 1955-56 Max 19,600 Min 234 Mean 3,966 Ac-ft 2,879,000

Peak discharge (base, 16,500 cfs).--July 10 (6 p.m.) 20,900 cfs (10.50 ft); July 16 (3 a.m.) 20,500 cfs (10.40 ft); July 22 (6 a.m.) 19,600 cfs (10.24 ft); July 31 (6 p.m.) 21,400 cfs (10.50 ft); Sept. 13 (9:30 p.m.) 16,900 cfs (9.98 ft). * Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 26, 29, 30, Nov. 4 to Apr. 8, Apr. 22 (stage-discharge relation affected by ice during entire period), Sept. 5-8; discharge estimated on basis of 7 discharge measurements and weather records.

MATANUSKA RIVER AT PALMER

Periodic determinations of suspended-sediment discharge, water year October 1953 to September 1954

Date	Discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1953			
Dec. 8	a 620	17	28
Dec. 31	a 620	17	28
1954			
Feb. 9	a 450	41	50
Apr. 5	a 420	76	86
Apr. 6	a 420	51	58
Apr. 7	a 410	60	66
Apr. 8	a 410	44	49
Apr. 9	a 410	72	80
Apr. 12	a 450	108	131
Apr. 13	a 480	156	202
Apr. 14	a 480	127	165
Apr. 15	a 530	211	302
Apr. 17	a 570	91	140
Apr. 19	a 520	209	293
Apr. 20	a 570	332	511
Apr. 21	a 580	386	604
Apr. 22	a 570	371	571
Apr. 24	a 770	557	1,160
Apr. 25	a 900	455	1,100
Apr. 26	a 950	852	2,180
Apr. 27	a 1,030	316	879
Apr. 29	1,090	376	1,110
Apr. 30	978	308	813
May 2	677	307	727
May 3	904	292	713
May 3	1,030	528	1,470
May 4	1,100	536	1,590
May 5	1,050	375	1,060
May 6	1,270	797	2,730
May 7	1,370	886	3,280
May 8	1,500	868	3,520
May 9	1,850	1,580	7,890
May 10	2,680	3,100	22,400
May 10	2,460	2,100	13,900
May 11	3,590	2,880	27,900
May 12	4,000	1,640	17,700
May 14	2,590	786	5,500
May 18	3,430	1,300	12,000
May 19	3,980	1,480	15,900
May 20	4,880	2,880	30,000
May 21	6,170	3,160	52,600
May 24	5,020	2,110	28,600
May 25	7,720	4,430	92,300
May 25	7,660	3,520	72,800
June 1	5,230	1,560	22,000
June 4	8,400	3,230	73,300
June 7	11,800	3,100	98,800
June 8	14,800	4,890	195,000
June 9	14,800	3,480	139,000
June 10	11,800	2,190	69,800
June 11	9,390	1,580	40,100
June 14	7,370	1,120	22,300
June 15	7,340	951	18,800
June 16	7,890	1,520	32,400
June 17	9,080	2,000	49,000
June 18	9,840	2,270	60,300
June 18	7,990	1,420	30,600
June 22	9,920	1,760	47,100

MATANUSKA RIVER AT PALMER--Continued

Periodic determinations of suspended-sediment discharge, water year October 1953 to September 1954--Continued

Date	Discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
June 23, 1954	7,400	1,060	21,200
June 25	10,500	2,940	83,300
June 28	12,400	2,900	97,100
June 29	12,000	3,440	111,000
July 1	11,700	2,820	89,100
July 2	18,800	8,860	450,000
July 2	15,800	5,040	215,000
July 6	15,700	4,160	176,000
July 7	13,200	2,840	101,000
July 12	11,800	2,120	67,500
July 13	9,650	2,200	57,300
July 14	8,540	1,840	42,400
July 15	11,100	2,520	75,500
July 16	11,600	2,360	73,900
July 20	13,700	2,820	104,000
July 21	10,900	2,480	73,000
July 22	11,300	2,180	66,500
July 23	10,500	1,830	51,900
July 26	8,940	1,600	38,600
July 27	9,920	1,780	47,700
July 28	11,500	2,530	78,600
Aug. 2	17,000	3,110	143,000
Aug. 3	16,200	3,320	145,000
Aug. 4	15,500	2,460	103,000
Aug. 5	12,400	1,900	63,600
Aug. 6	14,200	2,360	90,500
Aug. 7	13,700	2,300	85,100
Aug. 8	13,800	2,110	78,600
Aug. 10	14,400	2,520	98,000
Aug. 11	13,300	2,240	80,400
Aug. 16	8,160	923	20,300
Aug. 17	7,990	825	17,800
Aug. 18	8,830	940	22,400
Aug. 23	13,000	2,500	87,800
Aug. 24	16,800	3,560	161,000
Aug. 25	15,600	3,780	159,000
Aug. 26	12,900	2,080	93,300
Aug. 27	11,200	1,950	59,000
Sept. 1	6,960	963	18,100
Sept. 2	7,210	1,140	22,200
Sept. 2	6,870	1,070	19,800
Sept. 3	7,110	1,240	23,800
Sept. 3	7,020	1,110	21,000
Sept. 4	6,990	1,280	24,200
Sept. 4	6,900	1,300	24,200
Sept. 10	7,050	1,020	19,400
Sept. 10	7,340	1,280	25,400
Sept. 22	5,210	394	5,540
Sept. 24	4,660	382	4,810
Sept. 27	3,890	203	2,130
Sept. 28	3,760	124	1,260

a Mean daily discharge

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.--Discharge: July 1949 to September 1954 (discontinued).
Chemical analyses: November 1951 to August 1952.

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

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

Extremes.--Maximum discharge observed during year, 20 cfs Aug. 6-8 (gage height, 0.92 ft); maximum gage height observed, 2.30 ft Jan. 22 (backwater from ice); minimum discharge observed, 3.54 cfs Sept. 2 (discharge measurement), caused by temporary storage upstream.

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

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	15	a14				a13	a15	9.5	a13	17	a15
2	a14	a14	a14			(*)	*b13	15	a10	13	*19	*11
3	13	a14	a14				b13	a14	a11	a13	19	14
4	13	14	b14				a13	14	*13	13	19	a13
5	a12	a14	a14				b13	a14	14	13	19	12
6	12	a14	a14				a13	14	14	13	a20	a12
7	12	a14	a14				a13	a14	a14	13	20	a11
8	a12	a14	a14				a13	a14	a14	a13	20	a11
9	a13	a15	a14				a12	a14	a13	a12	a19	11
10	13	a15	b14				a12	a14	a13	12	a19	a11
11	13	a16	a14				b12	14	a12	12	a18	a11
12	a14	b16	a14				a12	14	a12	a12	18	a11
13	14	*b16	a14				b12	a13	a11	12	a18	a11
14	14	14	a14				*b12	13	11	12	a17	a11
15	a14	a14	a14				a12	13	12	12	a16	a11
16	a14	a14	b14	a12	a12	a13	b12	12	12	a12	a16	11
17	a14	14	b14				b12	12	12	a11	16	a12
18	14	a14	a14				a12	12	a12	11	*17	12
19	*14	b14	a14				b12	*12	a12	a10	a17	12
20	14	a14	b14				b12	a12	12	10	17	a12
21	13	a14	a14				a12	a12	13	10	17	a12
22	a14	a14	a14	(*)			a13	11	a13	a10	a16	a12
23	a15	a14	*b14				a13	a11	a12	*11	16	12
24	a15	a14	b14				b13	10	*12	a11	a15	11
25	16	a14	b14				b13	9.5	a12	11	15	a11
26	16	a14	a14				a13	a10	12	a11	a15	11
27	a16	14	14				14	9.5	12	11	a15	a11
28	15	14	a14				*15	a10	12	11	a16	a12
29	14	14	a13		-		14	a10	12	12	a16	*12
30	a14	b14	a13		------		a14	a10	a12	16	16	a12
31	a15	------	b13		------		------	a10	------	16	a16	------
Total	430	429	431	372	336	403	382	382.0	365.5	372	534	351
Mean	13.9	14.3	13.9	12	12	13	12.7	12.3	12.2	12.0	17.2	11.7
Ac-ft	853	851	855	738	666	799	758	758	725	738	1,060	696

Calendar year 1953: Max 22 Min 7.3 Mean 14.9 Ac-ft 10,780
Water year 1953-54: Max 20 Min 9.5 Mean 13.1 Ac-ft 9,500

* Discharge measurement made on this day.
a No gage-height record; discharge interpolated or estimated on basis of 6 discharge measurements.
b Stage-discharge relation affected by ice.
Note.--Result of discharge measurement made July 20, 1955, 21.6 cfs.

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.--Discharge: July 1948 to September 1956.
Chemical analyses: February to August 1952.

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.--8 years, 209 cfs (151,300 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 1,850 cfs July 31 (gage height, 5.58 ft); minimum observed, 6.6 cfs Apr. 12 (discharge measurement).
1954-55: Maximum discharge during water year, 2,320 cfs Aug. 27 (gage height, 6.13 ft); minimum not determined.
1955-56: Maximum discharge during water year, 2,340 cfs July 31 (gage height, 5.60 ft); minimum not determined.
1948-56: Maximum discharge, 3,070 cfs June 21, 1949 (gage height, 6.33 ft); minimum not determined.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Large diurnal fluctuation caused by glacier melt at the source.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	120					(*)		31	387	468	1,470	276
2	111						(*)	33	387	528	*1,180	*257
3	116							40	333	405	910	257
4	116							45	*415	348	706	254
5	112							46	430	310	588	292
6	114							51	405	306	522	257
7	106						12	51	455	289	480	229
8	104							72	460	282	415	210
9	98							106	374	292	387	205
10	97							174	289	282	352	387
11	94							247	260	246	317	317
12	92						(*)	261	232	222	286	273
13	90	(*)					(*)	230	200	207	251	246
14	85						13	158	183	202	246	224
15	82						14	150	235	202	238	219
		47	31	21	16	13						
16	81						14	174	214	196	217	*339
17	77						15	206	232	202	205	1,010
18	74						16	276	240	212	*235	550
19	*74						17	*319	263	210	513	430
20	70						19	289	266	217	718	369
21	74						21	240	303	219	566	314
22	73			(*)			22	237	314	766	425	276
23	73		(*)				24	336	296	*628	500	246
24	70						26	435	*251	485	748	229
25	65						29	333	251	387	604	214
26	60						30	279	254	333	495	196
27	56						32	365	282	314	415	183
28	53						*32	260	238	336	485	183
29	49						30	238	227	310	378	*235
30	45				-------		29	243	248	990	333	270
31	43	-------			-------		-------	341	-------	1,430	300	-------
Total	2,574	1,410	961	651	448	403	539	6,266	8,924	11,824	15,485	8,947
Mean	83.0	47	31	21	16	13	18.0	202	297	381	500	298
Ac-ft	5,110	2,800	1,910	1,290	889	799	1,070	12,430	17,700	23,450	30,710	17,750

Calendar year 1953: Max 1,220 Min - Mean 178 Ac-ft 128,900
Water year 1953-54: Max 1,470 Min - Mean 160 Ac-ft 115,900

Peak discharge (base, 1,500 cfs).--July 31 (8 p.m.) 1,850 cfs (5.58 ft); Sept. 17 (2 a.m.) 1,630 cfs (5.30 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 26 to Apr. 23 (no gage-height record Nov. 1 to Apr. 13; discharge estimated on basis of 8 discharge measurements, weather records, and records for nearby streams).

Little Susitna River near Palmer--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	232	95					(*)	12	214	1,110	*410	544
2	210	85						14	205	1,250	369	465
3	194	*81						*b17	214	1,440	356	445
4	183	77						b20	248	1,250	356	374
5	173	70						b24	289	1,090	314	333
			22	20	10	15						
6	166	72						b29	327	1,100	369	300
7	160	68				(*)		b35	435	945	352	282
8	155	56					10	b40	538	832	344	276
9	160	b66						46	560	820	289	404
10	148	b76						53	730	880	468	658
11	140	b76						52	718	778	490	506
12	133							48	544	670	440	400
13	127							44	485	594	365	344
14	124			(*)				40	425	646	303	300
15	*120				(*)			39	455	628	263	266
		55	21	20	21	10						
16	116							52	522	754	235	243
17	112							78	*616	718	220	219
18	105							93	736	790	*214	200
19	105							104	1,060	778	207	187
20	101							101	1,160	*832	205	177
21	97							106	1,110	850	219	168
22	89							120	1,060	850	235	157
23	94	(*)					10	127	1,070	790	578	*152
24	92							141	1,040	730	1,610	152
25	89				17			157	959	736	1,420	168
		37	10	19		9						
26	85							175	938	652	1,040	146
27	82							185	898	640	1,880	137
28	81							181	814	500	1,420	133
29	80							196	760	445	*973	130
30	83				-------			200	838	445	718	127
31	93	-------			-------		-------	*210	-------	440	582	-------
Total	3,929	1,687	540	609	446	349	300	2,739	19,968	24,983	17,244	8,393
Mean	127	56.2	17.4	19.6	15.9	11.3	10	88.4	666	806	556	280
Ac-ft	7,790	3,350	1,070	1,210	885	692	595	5,430	39,610	49,550	34,200	16,650

Calendar year 1954: Max 1,470 Min - Mean 163 Ac-ft 118,300
Water year 1954-55: Max 1,880 Min - Mean 222 Ac-ft 161,100

Peak discharge (base, 1,500 cfs).--July 3 (7:30 p.m.) 1,610 cfs (5.28 ft); Apr. 24 (4 a.m.) 1,790 cfs (5.50 ft); Aug. 27 (10 a.m.) 2,320 cfs (6.13 ft).
* Discharge measurement made on this day. b Stage-discharge relation affected by ice.
Note.--No gage-height record Nov. 12 to May 2 (stage-discharge relation affected by ice during entire period) Aug. 17; discharge estimated on basis of 6 discharge measurements, weather records, and records for Ship Creek near Anchorage.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	122	b36				(*)		b56	210	760	*1,220	171
2	122	35			(*)			b46	240	808	808	166
3	120	34						b48	270	784	846	160
4	118	34						b57	279	730	522	*153
5	118	35						b81	*338	622	460	152
6	115	37		(*)				84	500	718	904	146
7	111	38						68	706	628	718	140
8	105	*b40						69	706	544	560	137
9	101	b41						71	628	485	485	135
10	101	b42						81	566	*652	440	143
							8					
11	98							92	550	582	410	238
12	95						(*)	90	566	572	369	989
13	*89							77	555	670	*344	1,180
14	93		(*)					76	634	730	450	802
15	89							77	802	730	369	538
			27	20	16	10						
16	89				(*)			80	808	634	321	425
17	85							93	712	511	289	369
18	b80							118	730	528	321	330
19	b74							148	718	435	276	400
20	b67			(*)				190	742	378	248	*317
		38										
21	b62						b19	*216	634	712	238	286
22	b66					(*)	b21	194	450	582	222	254
23	b70						b28	194	610	455	222	232
24	b70						b32	202	495	391	212	214
25	b67						b34	219	495	356	200	200
26	b64						b35	251	*555	340	187	187
27	*b61						*b37	222	588	329	181	175
28	b56						b42	198	700	310	181	166
29	b50					(*)	b48	198	790	306	183	166
30	b44	(*)			-------		b54	207	730	775	173	166
31	b40	-------			-------		-------	205	-------	*1,840	192	-------
Total	2,642	1,132	837	620	464	310	510	4,008	17,307	18,897	12,351	9,137
Mean	85.2	37.7	27	20	16	10	17.0	129	577	610	398	305
Ac-ft	5,240	2,250	1,660	1,230	920	615	1,010	7,950	34,330	37,480	24,500	18,120

Calendar year 1955: Max 1,880 Min - Mean 218 Ac-ft 158,000
Water year 1955-56: Max 1,840 Min - Mean 186 Ac-ft 135,300

Peak discharge (base, 1,500 cfs).--July 31 (12 m.) 2,340 cfs (5.60 ft); Sept. 12 (3:30 p.m.) 1,610 cfs (5.27 ft). * Discharge measurement made on this day. b Stage-discharge relation affected by ice.
Note.--No gage-height record Nov. 2-7, Nov. 11 to Apr. 20 (stage-discharge relation affected by ice during entire period); Sept. 18, 19; discharge estimated on basis of 12 discharge measurements, weather records, and records for nearby streams.

Susitna River at Gold Creek

Location.--Lat 62°46'10", long 149°41'30", near center of span on downstream side of bridge on Alaska Railroad, 0.1 mile (revised) downstream from Gold Creek, 0.9 mile north of Gold Creek Railroad Station, and 2 miles (revised) downstream from Indian River.

Drainage area.--6,160 sq mi, approximately.

Records available.--Discharge: August 1949 to September 1956.
Chemical analyses: May 1951 to October 1952, October to November 1953, April to September 1955, May to July 1956.
Sediment records: April 1952 to September 1953 (daily), June 1955 to August 1956 (periodic).

Gage.--Wire-weight gage read twice daily. Datum of gage is 676.50 ft above mean sea level.

Average discharge.--7 years, 9,735 cfs (7,048,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge observed during water year, 42,400 cfs Aug. 4 (gage height, 12.85 ft); maximum gage height observed, 24.48 ft May 10 (ice jam); minimum discharge not determined.
1954-55: Maximum discharge observed during water year, 58,100 cfs Aug. 26 (gage height, 14.20 ft); maximum gage height observed, 18.49 ft May 18 (ice jam); minimum discharge not determined.
1955-56: Maximum discharge observed during water year, 51,700 cfs June 9 (gage height, 13.42 ft); maximum gage height, 17.10 ft May 10, from graph based on gage readings (ice jam); minimum discharge not determined.
1949-56: Maximum discharge observed, that of Aug. 26, 1955; maximum gage height observed, that of May 10, 1954; 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.--Records fair except those for periods of ice effect or no gage-height record, which are poor. Large diurnal fluctuation caused by glacier melt at source.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,700								22,000	28,700		
2	8,470								22,300	26,100	40,000	
3	8,280								23,500	25,100		
4	8,220								24,700	24,100	*41,000	17,000
5	7,900								24,600	23,500		
		2,300						8,800				
6	7,720								25,100	22,600		
7	7,540								26,000	21,300		*15,000
8	7,510						870		26,800	20,400		
9	7,000								*27,500	20,000		
10	6,840								27,200	*20,300		
11	6,670				(*)				26,100			
12	6,440								24,900			
13	6,390							21,000	24,400			
14	6,280								23,200			14,000
15	6,000								22,700			
		2,100	1,500	1,300	1,000	780						
16	5,660							18,000	22,700			
17	5,170							18,300	21,200			
18	4,600							*18,700	21,100		24,000	
19	4,410		(*)					21,300	22,500			
20	4,390							23,000	24,700			
21	4,350								24,100	19,000		11,200
22	4,310								24,700			10,200
23	4,250						1,600	23,000	25,900			9,570
24	4,230								26,800			9,230
25	4,190								27,300			8,920
		1,900										
26	4,050							21,700	28,500			8,540
27	3,500							20,900	28,500			8,120
28	3,030							21,900	28,800			*7,690
29	2,710				-			20,700	30,100			7,400
30	2,500				-------	(*)		21,100	29,600			7,600
31	2,400	-------			-------		-------	22,100	-------			-------
Total	173,710	63,000	46,500	40,300	28,000	24,180	37,050	535,700	757,500	631,100	809,000	387,470
Mean	5,604	2,100	1,500	1,300	1,000	780	1,235	17,280	25,250	20,360	26,100	12,920
Ac-ft	344,500	125,000	92,230	79,930	55,540	47,960	73,490	‡1,063	‡1,502	‡1,252	‡1,605	768,500

Calendar year 1953: Max 37,700 Min - Mean 9,738 Ac-ft 7,050,000
Water year 1953-54: Max - Min - Mean 9,681 Ac-ft 7,009,000

* Discharge measurement made on this day.
‡ Expressed in thousands.
Note.--Stage-discharge relation affected by ice Oct. 30 to May 10 (no gage-height record during most of period; discharge estimated on basis of 3 discharge measurements and weather records). No gage-height record May 11-16, 20-25, July 11 to Aug. 3, Aug. 5 to Sept. 6, Sept. 8-20, 29, 30; discharge estimated on basis of records for Matanuska River at Palmer.

Susitna River at Gold Creek--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									17,400	39,000	22,000	23,300
2									16,700	39,000	21,000	*22,800
3									*16,300	37,000	20,000	22,600
4									17,900	34,000	19,000	20,900
5									18,700	32,000	18,000	19,300
6	6,500								19,700	*30,300	17,400	18,700
7									20,700	28,000	17,100	16,600
8			2,200	2,000	1,400				22,800	26,500	18,800	16,800
9		3,000							26,200	28,000	20,800	17,200
10								4,500	30,600	31,000	25,800	16,000
11									37,100	32,000	*28,400	15,300
12									35,500	31,600	27,700	14,800
13	*5,660								33,400	28,100	26,400	14,400
14									32,800	22,700	24,000	13,900
15						1,100	1,200		31,500	24,200	22,300	13,600
16									31,100	24,200	20,700	13,700
17		*2,300							33,700	23,200	15,400	13,600
18									35,900	21,100	13,600	13,100
19								9,800	36,500	21,000	14,100	12,600
20								11,600	36,900	20,400	16,200	11,600
21								12,800	37,500	20,200	18,900	10,800
22	4,600				1,400			14,100	37,500	21,000	21,300	10,100
23								16,800	33,700	23,300	24,100	9,670
24		2,500	1,900	1,600	(*)		(*)	19,500	32,900	25,200	33,600	10,200
25								18,000	32,900	27,600	54,300	10,300
26								17,400	32,000	29,600	56,900	10,200
27								17,500	31,000	29,200	50,700	9,700
28								17,600	32,900	28,600	42,000	9,190
29					-			17,600	36,000	27,300	35,200	9,090
30					-------			17,600	38,000	26,000	28,800	8,600
31		-------			-------		-------	17,600	-------	23,000	23,800	-------
Total	166,460	82,800	63,400	55,600	39,200	34,100	36,000	288,900	895,800	854,300	798,300	428,650
Mean	5,370	2,760	2,045	1,794	1,400	1,100	1,200	9,319	29,860	27,560	25,750	14,290
Ac-ft	330,200	164,200	125,800	110,300	77,750	67,640	71,400	573,000	‡1,777	‡1,694	‡1,583	850,200

Calendar year 1954: Max - Min - Mean 9,762 Ac-ft 7,068,000
Water year 1954-55: Max 56,900 Min - Mean 10,260 Ac-ft 7,424,000

* Discharge measurement made on this day. ‡ Expressed in thousands.

Note.--No gage-height record Oct. 1 to May 16 except occasional readings, June 26, 27, June 29 to July 5, July 9-11, July 30 to Aug. 5; discharge estimated on basis of 5 discharge measurements, weather records, and records for Nenana River near Healy and Matanuska River at Palmer. Stage-charge relation affected by ice from about Nov. 1 to May 18.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,340							1,500	20,100	27,400		
2	8,600							b1,800	20,100	28,400		
3	7,840							2,600	22,800	28,900		
4	7,120							4,000	24,200	29,400	31,000	
5	6,610			(*)				5,800	25,600	29,900		16,000
6	b6,220							b8,800	27,200	29,600		
7	b5,920							b10,000	33,800	29,800	*30,600	
8	b5,720	2,100						b11,000	49,100	29,800	30,800	
9	b5,560							b12,000	51,500			
10	b5,380							b12,000	49,100			
11	b5,360							b13,000	46,400			
12	*b5,380							b13,000	44,800			
13	b5,090							b14,000	43,600			
14	b4,800							b14,000	42,800			
15	b4,530							b15,000	39,800		26,000	
16	b4,450		1,300	980	970	940	950	16,000	38,300	32,000		25,000
17	b4,390						(*)	17,000	35,700			
18	b4,350							18,000	34,000			
19	b4,310							19,900	33,200			
20	b4,230							28,000	31,600			
21	b4,110							39,400	30,800		*21,100	
22	b3,900							37,500	29,700			
23	b3,900	1,700			(*)			31,800	28,800			
24	b3,900							*31,100	29,000			
25	b3,900							30,400	29,500	*26,600		14,000
26	b3,710							28,400	28,800		18,000	
27	3,500							25,600	28,000			
28	b3,350							22,600	27,800	32,000		
29	3,200							21,900	27,300			
30	b3,000				-------			20,800	26,900			
31	2,800	-------			-------		-------	20,700	-------			-------
Total	153,470	57,000	40,300	30,380	28,130	29,140	28,500	547,600	‡1,000.3	963,800	760,500	550,000
Mean	4,951	1,900	1,300	980	970	940	950	17,660	33,340	31,090	24,530	18,330
Ac-ft	304,400	113,100	79,930	60,260	55,800	57,800	56,530	‡1,086	‡1,984	‡1,912	‡1,508	‡1,091

Calendar year 1955: Max 56,900 Min - Mean 10,090 Ac-ft 7,302,000
Water year 1955-56: Max 51,500 Min - Mean 11,450 Ac-ft 8,309,000

* Discharge measurement made on this day. ‡ Expressed in thousands.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 27, 29, Oct. 31 to May 1, May 3-5, except occasional gage readings (stage-discharge relation affected by ice during entire period), July 9-24, July 26 to Aug. 6, Aug. 9-20, Aug. 22 to Sept. 30; discharge estimated on basis of 6 discharge measurements, weather records, and records for Nenana River near Healy and Matanuska River at Palmer.

SUSITNA RIVER AT GOLD CREEK

Chemical analyses, in parts per million, October 1953 to July 1956

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium magnesium	Noncarbonate			
1953																		
Oct. 9-20	6,350	11	0.02	29	5.4	8.6	1.8	85	29	12	--	1.0	145	95	25	231	7.7	0
Oct. 21	4,350	13	.03	24	3.7	10	2.1	74	13	18	--	--	120	75	14	201	7.9	--
Oct. 22-26	4,210	12	.00	28	5.6	8.4	2.0	84	25	13	--	.7	142	93	24	228	8.0	0
Oct. 27-31	2,830	11	.00	33	7.8	8.4	1.3	97	36	13	--	1.4	173	114	35	265	7.8	0
Nov. 1-5	2,300	11	.00	31	6.6	9.6	1.6	94	30	15	--	1.0	158	104	27	257	8.1	0
Nov. 7-13	2,300	11	.00	31	5.2	11	2.3	91	24	18	--	1.0	153	99	24	255	7.7	0
1954																		
Feb. 11	1,160	13	.00	30	4.4	17	2.7	89	17	31	0.1	.7	160	93	20	282	7.2	--
1955																		
Apr. 24	1,060	11	.00	31	4.5	16	2.5	83	24	29	--	.2	159	96	28	211	8.0	--
June 1-10	20,700	7.7	.12	13	1.5	4.3	1.0	43	8.5	4.0	.0	.7	62	39	3	101	7.2	40
June 11-20	34,400	5.9	.12	12	1.4	3.4	1.0	39	6.5	4.0	.0	.6	63	36	4	91	7.2	40
July 7	28,000	6.1	.11	16	2.0	3.5	2.1	53	14	4.8	.1	.4	75	48	5	122	7.7	10
July 11-20	24,800	7.1	.10	17	1.7	4.9	2.3	56	11	5.2	.0	.4	78	49	4	133	7.6	10
July 21-30	25,500	4.7	.08	23	1.9	3.5	3.5	68	16	4.0	.0	.2	90	65	10	161	7.4	5
July 31	23,000	5.4	.00	25	3.1	4.2	3.6	77	19	2.5	.0	.3	101	75	12	174	7.8	0
Aug. 1-10	20,000	6.5	.00	22	3.2	4.6	2.4	67	16	5.0	.0	.2	93	68	13	156	7.8	5
Aug. 11-20	20,890	6.9	.00	19	3.1	4.9	2.0	60	14	5.2	.0	.1	85	60	11	147	7.7	0
Aug. 21-31	35,400	6.9	.00	21	5.7	3.5	1.3	66	21	3.2	.0	.8	96	76	22	156	7.7	8
Sept. 1-10	19,400	7.5	.00	21	5.0	4.6	1.1	69	22	4.5	.0	.4	100	73	16	171	7.9	5
Sept. 11-20	13,700	8.2	.00	23	5.0	4.8	1.3	68	22	5.0	.0	.4	103	78	22	176	7.8	5
1956																		
May 24	31,100	5.2	.00	13	.3	2.8	1.7	37	5.5	2.8	.1	.2	61	34	3	86	6.6	45
May 25	30,400	5.6	.00	12	1.4	2.9	1.7	39	5.5	1.8	.1	.2	62	36	4	91	7.0	50
May 26-31	23,300	5.5	.00	16	2.8	3.8	1.3	48	11	4.5	.0	.9	70	51	12	121	6.5	15
June 1-10	32,400	6.5	.00	16	2.3	3.5	1.4	49	9.9	3.5	.0	.5	68	49	9	115	6.6	8
June 11-20	39,000	6.0	.00	16	2.3	3.5	1.6	49	9.9	4.0	.0	.4	68	49	9	118	6.7	8
June 21-30	28,700	6.0	.00	17	1.5	3.5	1.7	50	11	4.0	.0	.5	70	49	8	116	6.9	10
July 1-2	27,900	10	.00	20	1.8	4.1	2.4	63	12	4.2	.1	.1	86	57	6	140	7.8	5

SUSITNA RIVER AT GOLD CREEK--Continued

Suspended sediment, water year October 1954 to September 1955
/Record computed on basis of periodic samples and relations between streamflow and suspended-sediment load/

Month	Discharge (cfs-days)	Suspended sediment tons
June	895,800	1,000,000
July	854,300	1,900,000
August	798,300	2,300,000
September	428,650	120,000

Periodic determinations of suspended-sediment discharge, water year October 1955 to September 1956

Date	Discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1955			
Apr. 24	1,060	3	8
June 3	15,400	251	10,600
June 23	33,600	491	44,500
July 7	28,200	920	70,000
July 14	22,400	637	38,500
July 28	29,000	2,690	211,000
Aug. 8	19,100	797	41,100
Aug. 18	13,500	257	9,370
Aug. 31	23,000	422	26,200
Sept. 28	10,100	33	900
1956			
May 24	31,300	661	55,900
May 25	28,800	703	54,700
Aug. 7	30,600	917	75,800
Aug. 21	21,000	742	42,100

SUSITNA RIVER AT GOLD CREEK--Continued

Particle-size analyses of suspended sediment, water year October 1955 to September 1956
(Methods of analysis: B, bottom withdrawal tube; D, decantation; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed; M, mechanically dispersed)

Date of collection	Time	Discharge (cfs)	Water temperature (°F)	Suspended sediment													Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters											
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	
1955																	
June 23	2:00 pm	33,800		474	1,260	7	9	13	19	27	45	62	82		96	100	BSWCM
July 14	2:00 pm	22,400		605	2,500	23	28	38	49	59	74	86	95		99	100	BSWCM
July 28	1:30 pm	29,000		2,560	5,010	15	20	28	39	55	72	86	96		100	--	PSWCM
Aug. 8	1:55 pm	19,100		802	3,380	17	23	28	39	48	67	80	92		99	100	BSWCM
Aug. 18	1:55 pm	13,500		243	1,040	21	26	35	43	52	68	83	96		100	--	BSWCM
Aug. 31	2:00 pm	23,000		468	1,620	--	27	29	34	38	54	73	88		97	100	BSWCM
Sept. 28	2:00 pm	10,100		33	--	--	--	--	--	--	98	99	100		--	--	S
1956																	
May 24	5:00 pm	31,300		687	1,120	--	11	15	19	26	43	62	87		99	100	BSWCM

TALKEETNA RIVER AT TALKEETNA

LOCATION.--At bridge on Alaska Railroad a quarter of a mile north of Talkeetna and a quarter of a mile upstream from mouth.
RECORDS AVAILABLE.--Chemical analyses: April to November 1954.
Water temperature: April to September 1954.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, April to November 1954

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1954																		
April 29, 30		8.7	0.03	20	1.9	11	1.7	50	13	22	--	2.4	105	58	17	185	7.0	3
May 1-7		8.9	.05	17	1.7	10	1.1	45	12	18	0.0	2.3	99	49	13	160	7.0	3
May 8-10		7.8	.05	14	1.2	7.0	1.4	37	10	12	--	2.6	74	40	10	125	6.7	3
May 11-18		7.2	.03	10	1.9	5.6	1.2	37	8.8	8.0	.5	1.5	63	29	2	99.7	7.2	--
May 19-27		6.2	.02	9.5	1.0	5.0	1.2	31	8.4	6.2	.5	1.1	54	28	2	84.3	6.6	--
May 28-31		7.4	.02	12	1.4	5.5	1.0	39	8.9	8.0	.4	1.1	65	36	4	106	6.6	--
June 1-10		6.2	.02	9.9	1.2	4.1	.8	35	6.7	5.8	.4	.7	53	30	1	85.2	6.8	--
June 11-20		6.7	.06	11	1.0	4.2	1.0	36	10	5.2	.4	.8	58	32	2	89.4	6.6	--
June 21-30		7.1	.04	10	1.4	3.8	.9	36	5.4	4.2	.4	.7	58	31	1	86.3	6.7	--
July 1-10		7.8	.10	12	.9	3.1	1.1	40	5.9	4.8	.3	.6	62	34	1	91.9	6.8	--
July 11-20		6.6	.09	12	1.4	3.9	1.1	41	6.2	4.8	.2	.5	65	36	2	96.5	6.8	--
July 29-31		6.4	.17	9.9	.7	3.1	1.2	35	9.4	3.2	.2	.7	61	28	0	74.1	6.8	--
July 21-28		6.7	.08	12	1.1	4.6	1.4	41	5.4	4.5	.2	.5	64	34	1	93.4	6.8	--
Aug. 1-10		6.8	.15	11	1.3	3.5	1.1	41	4.7	3.5	.2	.7	68	32	0	87.9	6.9	--
Aug. 11-20		7.5	.12	13	1.1	4.7	.8	42	6.8	4.5	.1	.6	66	37	3	99.7	6.8	5
Aug. 21-31		7.6	.12	12	1.6	4.2	.8	42	6.1	3.8	0	.7	65	37	2	96.0	6.5	7
Sept. 1-10		7.9	.08	13	1.7	5.2	.9	46	7.0	5.2	0	.6	68	39	2	107	6.7	10
Sept. 11-20		8.3	.11	14	1.7	5.6	1.1	46	8.4	5.4	0	.8	75	42	4	112	6.6	5
Sept. 21-30		8.6	.09	15	1.8	6.4	.8	46	10	6.8	0	.9	79	45	7	124	6.6	5
Oct. 1-10		9.6	.00	15	2.2	7.6	1.2	48	11	9.0	.0	.8	80	46	7	133	7.2	0
Oct. 11-20		9.6	.00	16	2.1	7.7	1.0	50	11	10	.0	.6	91	49	8	141	7.2	0
Oct. 21-31		9.3	.00	16	2.8	8.4	1.2	50	11	12	.0	.8	89	51	10	150	7.2	0
Nov. 1-10		12	.04	17	1.9	7.7	1.0	52	10	11	.0	.8	88	50	8	143	7.3	--

TALKEETNA RIVER AT TALKEETNA--Continued

Temperature (°F) of water, April to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							--	37	53	48	49	50
2							--	37	50	47	50	50
3							--	39	52	54	52	50
4							--	38	54	55	52	49
5							--	40	54	51	54	49
6							--	39	55	50	55	49
7							--	38	54	56	55	49
8							--	43	53	53	54	47
9							--	43	52	56	55	47
10							--	44	52	54	55	46
11							--	44	51	54	52	45
12							--	46	52	55	50	47
13							--	40	51	54	50	47
14							--	43	50	55	49	46
15							--	48	48	53	50	46
16							--	48	51	54	51	46
17							--	48	54	52	51	46
18							--	48	56	56	52	44
19							--	50	56	55	51	44
20							--	46	51	52	50	41
21							--	47	51	50	50	41
22							--	49	48	50	49	41
23							--	49	52	50	50	41
24							--	47	56	53	52	45
25							--	47	56	52	51	45
26							--	47	51	53	50	42
27							--	46	57	56	48	44
28							--	48	52	54	48	40
29							--	49	50	53	48	40
30							37	50	49	51	49	42
31							37	49	--	50	49	--
Average							--	45	52	53	51	45

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 1956.

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

Average discharge.--5 years, 612 cfs (443,100 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 3,360 cfs Oct. 8 (gage height, 7.64 ft); minimum not determined.

1954-55: Maximum discharge during water year, 11,700 cfs Nov. 2 (gage height, 10.16 ft), from rating curve extended above 2,000 cfs by logarithmic plotting; minimum not determined.

1955-56: Maximum discharge during water year, 3,760 cfs Oct. 22 (gage height, 7.63 ft), from rating curve extended above 1,400 cfs by logarithmic plotting; minimum not determined.

1951-56: 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.

Remarks.--Records good except those above 2,500 cfs, which are fair, and those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	257	191	196				88	621	1,290	1,340	1,090	257
2	241	200	191				91	705	2,320	1,420	776	263
3	225	196	176				95	804	2,050	1,550	621	291
4	781	186	186				98	910	1,750	1,360	630	263
5	1,600	176	176				100	1,030	1,500	1,220	654	230
6	1,040	160	159				100	970	1,520	1,130	598	215
7	1,630	150	146	110			100	900	1,470	1,050	598	196
8	2,880	140	146				110	950	1,380	1,010	654	186
9	1,600	130	142		86		110	930	1,520	1,030	605	172
10	1,290	130	137				*108	890	1,800	1,220	598	176
11	1,470	160	133				108	890	1,800	1,360	785	196
12	1,210	176	122				108	970	1,680	1,250	679	186
13	1,070	215	115	*104			108	1,030	1,550	1,260	*522	172
14	910	225	111				108	990	1,450	1,410	439	181
15	749	*225	108				108	940	1,560	1,800	406	186
16	863	215	122			76	108	870	1,650	1,580	479	205
17	830	205	126				104	842	1,710	1,300	613	291
18	582	196	133				104	804	1,720	1,220	794	349
19	551	186	137				97	870	1,820	1,050	890	399
20	515	186	142				88	940	*1,720	1,040	740	406
21	472	220	146				82	910	1,570	980	551	362
22	445	274	150	88	73		80	910	1,690	890	458	285
23	406	285	154				88	1,030	1,600	852	567	236
24	368	274	159				137	1,140	1,470	740	723	252
25	337	263	163				196	1,180	1,470	705	574	291
26	302	257	163				285	1,190	1,480	688	445	291
27	268	241	159				380	1,180	1,410	861	387	252
28	252	215	150				452	1,180	1,300	1,020	380	230
29	236	196	146		-		479	1,060	1,530	1,160	349	285
30	215	200	142		------		544	980	1,530	1,270	302	314
31	200	-----	137		------		------	930	------	1,180	288	------
Total	23,395	6,073	4,573	3,008	2,239	2,356	4,764	29,546	48,310	35,946	18,175	7,618
Mean	755	202	148	97.0	80.0	76	159	953	1,610	1,160	586	254
Cfsm	6.14	1.64	1.20	0.789	0.650	0.618	1.29	7.75	13.1	9.43	4.76	2.07
In.	7.07	1.84	1.38	0.91	0.68	0.71	1.44	8.93	14.61	10.87	5.50	2.30
Ac-ft	46,400	12,050	9,070	5,970	4,440	4,670	9,450	58,600	95,820	71,300	36,050	15,110

Calendar year 1953: Max 4,950 Min - Mean 708 Cfsm 5.76 In. 78.17 Ac-ft 512,800
Water year 1953-54: Max 2,880 Min - Mean 510 Cfsm 4.15 In. 56.24 Ac-ft 368,900

Peak discharge (base, 3,400 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Jan. 1-12, 14-23. No gage-height record Nov. 6-11, Jan. 24 to Apr. 9 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 1 discharge measurement and weather records.

Uganik River near Kodiak--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	329	2,800	438				a130	178	623	1,520	1,290	4,020
2	308	9,130	375				a120	206	598	1,970	*1,140	2,030
3	329	4,660	313				a120	222	607	3,040	851	1,300
4	*452	2,220	262				a120	244	574	2,810	726	1,060
5	388	1,410	262				a120	277	522	1,970	1,140	831
6	324	1,010	267				a120	318	*493	1,540	2,030	*682
7	308	773	258				a130	381	514	1,370	1,610	590
8	493	648	236				a130	419	607	1,860	1,160	582
9	537	623	222				a140	479	717	2,480	1,060	639
10	598	691	210				a140	530	841	2,310	1,010	598
11	607	607	194				a140	530	1,240	1,710	831	598
12	530	537	b180			b140	a140	552	1,330	1,380	726	927
13	466	479	b170				a130	691	1,370	1,220	822	873
14	726	432	b160				120	763	1,210	1,380	916	673
15	792	394	b160				106	763	1,200	1,700	822	560
16	656	364	a150	b120	b110		94	938	1,260	1,970	744	479
17	544	324	a140				108	873	1,410	1,620	639	413
18	466	308	a140				136	763	1,660	1,220	590	364
19	400	287	a130				146	623	2,080	1,240	567	329
20	358	277	a130				153	664	2,220	1,580	522	303
21	324	287	a120				153	656	2,480	1,700	493	303
22	313	262	b120				143	682	2,080	1,720	522	501
23	708	287	b110				143	1,370	1,650	1,620	682	1,040
24	996	552	b110			146	140	1,800	1,510	2,130	873	773
25	1,180	1,030	b110			*153	133	1,250	1,520	2,460	700	560
26	1,640	1,020	b100			a160	130	927	1,580	2,100	522	466
27	1,250	792	b100			a160	127	802	1,450	1,470	560	438
28	2,710	691	*b100			a160	130	735	*1,520	1,140	582	552
29	3,100	537	b100		-	a160	140	682	1,580	1,160	438	514
30	3,340	472	b110		-------	a150	157	639	1,540	1,180	358	438
31	3,760	-------	b110		-------	a140	-------	656	-------	1,200	3,740	-------
Total	28,932	33,884	5,587	3,720	3,080	4,449	3,939	20,613	37,966	53,770	28,666	23,436
Mean	933	1,129	180	120	110	144	131	665	1,266	1,735	925	781
Cfsm	7.59	9.18	1.46	0.976	0.894	1.17	1.07	5.41	10.3	14.1	7.52	6.35
In.	8.75	10.25	1.69	1.12	0.93	1.35	1.19	6.23	11.48	16.26	8.67	7.09
Ac-ft	57,390	67,210	11,080	7,380	6,110	8,820	7,810	40,890	75,300	106,700	56,860	46,480

Calendar year 1954: Max 9,130 Min - Mean 804 Cfsm 4.91 In. 66.64 Ac-ft 437,100
Water year 1954-55: Max 9,130 Min - Mean 880 Cfsm 5.53 In. 75.01 Ac-ft 492,000

Peak discharge (base, 3,400 cfs).--Oct. 29 (6 p.m.) 4,340 cfs (7.93 ft); Nov. 2 (1 p.m.) 11,700 cfs (10.16 ft); Aug. 31 (8:30 p.m.) 7,130 cfs (8.92 ft). * Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 1 discharge measurement and weather records. b Stage-discharge relation affected by ice.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	388	292	134				58	2,290	811	2,240	1,690	504
2	384	282	131				58	2,050	750	2,160	1,010	458
3	358	249	126				59	1,330	811	1,950	844	466
4	*384	218	124				60	958	910	2,580	710	545
5	394	200	122				60	730	922	3,300	614	562
6	425	196	119				61	672	899	2,860	822	481
7	419	196	b117				62	770	866	2,490	1,250	416
8	400	185	b113				62	855	946	1,930	1,070	396
9	384	175	b108				63	780	1,400	1,720	970	466
10	341	163	b104				64	652	1,660	1,580	800	481
11	318	163	b100				66	652	1,780	1,400	888	562
12	298	169	b97				67	780	1,970	1,600	1,130	672
13	277	169	96				68	672	2,670	2,740	1,020	750
14	282	169	95				70	614	2,560	2,940	800	662
15	308	185	93				73	614	2,030	2,450	844	458
16	324	185	90	53	50	53	77	634	1,950	2,290	1,690	364
17	313	175	87				82	681	2,050	2,080	2,650	370
18	375	163	84				93	634	1,760	1,840	1,740	504
19	413	150	83				*110	634	1,600	1,660	1,070	504
20	381	145	81				129	681	1,580	1,490	*910	436
21	464	142	82				150	844	1,460	1,360	700	364
22	3,120	*142	86				175	958	1,460	1,300	588	318
23	2,310	137	85				159	958	1,540	1,190	519	282
24	1,320	131	82				244	1,290	1,510	1,160	884	258
25	877	126	79				330	1,240	1,390	994	2,030	240
26	662	124	76				410	1,150	*1,290	958	1,330	226
27	536	126	73				451	1,060	1,530	1,080	1,030	218
28	473	126	71				496	934	1,750	1,500	970	211
29	423	129	69				571	970	1,820	1,920	750	215
30	359	131	67		-------		1,000	994	1,840	2,140	624	258
31	313	-------	65		-------		-------	910	-------	2,110	528	-------
Total	17,963	5,143	2,939	1,643	1,450	1,643	5,428	28,991	45,515	59,012	32,475	12,647
Mean	579	171	94.8	53	50	53	181	935	1,517	1,904	1,048	422
Cfsm	4.71	1.39	0.771	0.431	0.407	0.431	1.47	7.60	12.3	15.5	8.52	3.43
In.	5.43	1.56	0.89	0.50	0.44	0.50	1.64	8.77	13.76	17.84	9.82	3.82
Ac-ft	35,630	10,200	5,830	3,260	2,880	3,260	10,770	57,500	90,280	117,000	64,410	25,080

Calendar year 1955: Max 4,020 Min - Mean 584 Cfsm 4.59 In. 62.20 Ac-ft 408,000
Water year 1955-56: Max 3,300 Min - Mean 587 Cfsm 4.77 In. 64.97 Ac-ft 426,100

Peak discharge (base, 3,400 cfs).--Oct. 22 (11:30 a.m.) 3,760 cfs (7.63 ft); July 5 (2 a.m.) 3,800 cfs (7.55 ft). * Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 13 to Apr. 19 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 1 discharge measurement and weather records.

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 (discontinued).

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

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

Extremes.--1953-54: Maximum discharge during water year, 2,260 cfs Aug. 24 (gage height, 3.50 ft); minimum observed, 55 cfs Apr. 8 (discharge measurement).
1954-55: Maximum discharge during water year, 3,010 cfs July 27 (gage height, 4.11 ft); minimum not determined.
1955-56: Maximum discharge during water year, 2,320 cfs July 18 (gage height, 3.55 ft); minimum not determined.
1951-56: Maximum discharge, 4,720 cfs June 28, 1953 (gage height, 5.17 ft); minimum not determined.

Remarks.--Records good except those for periods of no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	685								656	1,180	1,750	1,340
2	642								700	1,410	1,710	1,330
3	602								760	1,500	1,630	1,450
4	592								802	1,430	1,530	1,400
5	592								862	1,380	1,460	*1,310
6	610		(*)						862	1,340	1,420	1,220
7	615								904	1,280	1,390	1,150
8	597						*55		982	1,270	1,360	1,070
9	588								1,070	1,330	1,320	1,030
10	570								1,110	1,400	1,340	1,040
11	550								1,140	1,460	1,500	1,020
12	541								1,220	1,430	*1,640	968
13	525								1,180	1,380	1,550	922
14	513							260	1,120	1,370	1,420	874
15	501								1,100	1,300	1,350	856
		200	140	90	66	56						
16	478								1,100	1,320	1,230	922
17	464								*1,090	1,290	1,180	1,370
18	449			(*)					1,130	1,280	1,200	1,600
19	435								1,170	1,280	1,380	1,650
20	417								1,230	1,280	1,540	1,630
21	399								1,290	1,250	1,570	1,560
22	392								1,290	1,230	1,620	1,420
23	378						71		1,250	1,220	1,790	1,280
24	368								1,230	1,190	2,180	1,160
25	348								1,250	1,140	2,190	1,080
26	325								1,280	1,130	2,040	989
27	310							606	1,300	1,170	1,890	928
28	300							670	1,280	1,220	1,790	898
29	290				-			670	1,230	1,280	1,660	880
30	280				- --			656	1,200	1,390	1,530	904
31	270	- - -			- - - - - -		- - - - - -	651	- - - - - -	1,560	1,430	- - - - - -
Total	14,626	6,000	4,340	2,790	1,848	1,736	1,890	10,013	32,788	40,690	48,590	35,251
Mean	472	200	140	90	66	56	63.0	323	1,093	1,313	1,567	1,175
Ac-ft	29,010	11,900	8,610	5,530	3,670	3,440	3,750	19,860	65,030	80,710	96,380	69,920

Calendar year 1953: Max 4,640 Min - Mean 815 Ac-ft 589,800
Water year 1953-54: Max 2,190 Min - Mean 549 Ac-ft 397,800

* Discharge measurement made on this day.
Note.--No gage-height record Oct. 27 to May 26; discharge estimated on basis of 3 discharge measurements and weather records.

Tanalian River near Port Alsworth--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	904	446	228						250	1,500	2,140	1,890
2	904	485	221						261	1,700	2,120	1,800
3	892	482	209						258	2,130	*2,030	1,660
4	826	485							270	2,750	1,920	1,510
5	*778	482							280	2,790	1,820	1,380
6	730	475							290	2,640	1,750	1,280
7	715	467							*306	2,420	1,720	*1,180
8	651	471		180	100	91	72	99	325	2,210	1,690	1,110
9	624	457							358	2,160	1,630	1,080
10	588	417	190						392	2,500	1,560	1,100
11	570	403							453	2,840	1,530	1,110
12	554	388							513	2,780	1,460	1,080
13	533	368							579	2,600	1,390	1,040
14	505	355	(*)						628	2,430	1,330	954
15	485	351							660	2,360	1,260	892
16	467	328							735	2,370	1,200	838
17	453	322							838	2,380	1,140	766
18	435	312							1,070	2,320	1,090	700
19	421	300							1,450	2,300	1,100	660
20	399	288						140	1,840	2,330	1,090	642
21	381	282							1,930	2,420	1,080	624
22	403	273			84	(*)			1,950	2,540	1,100	558
23	424	267					79		1,960	2,680	1,240	529
24	385	258	170	180		75			1,940	2,770	1,510	509
25	381	252						178	1,910	2,870	1,780	497
26	403	242						183	1,840	2,940	1,810	489
27	371	239						196	1,790	2,970	2,280	467
28	378	233						211	*1,590	2,800	2,670	457
29	374	228			-			221	1,460	2,600	2,490	446
30	381	228			--			233	1,430	2,360	2,180	439
31	403	- - -			------		------	236	------	2,210	1,930	------
Total	16,718	10,584	5,658	5,580	2,592	2,565	2,265	4,203	29,556	76,670	51,040	27,687
Mean	539	353	183	180	92.6	82.7	75.5	136	985	2,473	1,646	923
Ac-ft	33,160	20,990	11,220	11,070	5,140	5,090	4,490	8,340	58,620	152,100	101,200	54,920

Calendar year 1954: Max 2,190 Min - Mean 571 Ac-ft 413,700
Water year 1954-55: Max 2,970 Min - Mean 644 Ac-ft 466,300

* Discharge measurement made on this day.
Note.--No gage-height record Dec. 4 to May 24, June 4-6; discharge estimated on basis of 3 discharge measurements and weather records.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	428	185							318	1,860	1,810	996
2	424	181							318	2,010	1,690	975
3	421	178							322	2,030	1,550	940
4	*399	172							335	2,160	1,430	934
5	392	167					(*)		*338	2,280	1,360	968
6	374	164							351	2,210	1,440	947
7	371	162							410	2,120	1,600	928
8	358	152							505	2,050	1,620	928
9	341	150	(*)						633	2,040	1,570	940
10	332	148							760	2,020	1,520	1,020
11	322	146						100	975	1,950	1,560	1,060
12	309	144							1,140	1,920	1,650	1,200
13	309	143							1,210	1,960	1,710	1,580
14	303	143							1,190	2,020	1,780	1,770
15	276	140							1,180	2,100	1,810	1,660
16	276	138	100	61	50	51	60		1,220	2,190	*1,910	1,460
17	279	137							1,370	2,280	1,900	1,290
18	258	135							1,420	2,280	1,820	1,210
19	250	131							1,400	2,190	1,710	1,150
20	239	131							1,390	2,030	1,620	1,070
21	261	133							1,430	1,900	1,480	968
22	279	143						250	1,450	1,950	1,350	892
23	242	144						282	1,500	1,980	1,230	820
24	236	143						312	1,520	1,890	1,180	750
25	228	142						318	1,470	1,770	1,120	700
26	223	140						322	1,400	1,650	1,080	651
27	221	140						322	*1,420	1,560	1,120	610
28	214	140						325	1,480	1,530	1,180	584
29	206	140			--			328	1,600	1,590	1,140	584
30	200	130						322	1,710	1,640	1,070	554
31	196	- - -			-----		-----	318	-----	1,730	1,030	------
Total	9,167	4,442	3,100	1,891	1,450	1,581	1,800	5,199	31,765	60,890	46,040	30,139
Mean	296	148	100	61	50	51	60	168	1,059	1,964	1,485	1,005
Ac-ft	18,180	8,810	6,150	3,750	2,880	3,140	3,570	10,310	63,000	120,800	91,320	59,780

Calendar year 1955: Max 2,970 Min - Mean 600 Ac-ft 434,100
Water year 1955-56: Max 2,280 Min - Mean 540 Ac-ft 391,700

* Discharge measurement made on this day.
Note.--No gage-height record Nov. 28 to May 21; discharge estimated on basis of 2 discharge measurements and weather records.

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 1956.

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

Average discharge.--5 years, 8,971 cfs (6,495,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 23,200 cfs Aug. 26 (gage height, 6.66 ft); minimum not determined.
1954-55: Maximum discharge during water year, 27,200 cfs July 28 (gage height, 7.52 ft); minimum not determined.
1955-56: Maximum discharge during water year, 25,500 cfs Aug. 19 (gage height, 7.16 ft); minimum not determined.
1951-56: Maximum discharge, 29,600 cfs July 1, 1953 (gage height, 8.03 ft); minimum not determined.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16,200	6,870								13,200	19,400	21,600
2	15,700									13,700	20,100	21,600
3	15,300									14,300	20,500	21,300
4	15,300									14,600	20,600	21,000
5	14,600									14,600	20,600	*20,800
6	14,300									14,800	20,500	20,500
7	14,100									14,900	20,400	20,000
8	13,800	5,300							9,000	14,900	20,500	19,500
9	13,500						(*)			15,200	20,500	19,100
10	13,300									15,300	20,500	18,900
11	13,000									15,700	21,000	18,600
12	12,700									16,000	*21,500	18,200
13	12,500									16,000	22,200	17,800
14	12,100									16,100	22,200	17,500
15	11,900								9,910	16,300	21,900	17,100
			2,800	1,800	1,300	1,500	2,400	4,600				
16	11,600								9,870	16,500	21,500	16,800
17	11,300								*9,870	16,600	21,300	17,000
18	11,100			(*)					9,990	16,500	21,200	17,800
19	10,800								10,000	16,500	21,000	18,400
20	10,500								10,300	16,600	21,300	19,000
21	10,300								10,500	16,800	21,700	19,300
22	9,950								10,700	16,800	22,100	19,200
23	9,680	3,900							11,200	16,900	22,400	19,100
24	9,340								11,400	17,100	22,500	18,700
25	9,150								11,700	17,000	23,000	18,400
26	8,810								11,900	16,900	23,200	17,900
27	8,430								12,200	16,900	23,000	17,300
28	8,100								12,600	17,000	23,000	17,000
29	7,810								12,900	17,300	23,000	17,000
30	7,520								13,000	17,800	22,500	16,600
31	7,270	------			------		------		------	18,600	22,100	------
Total	359,960	139,570	86,800	55,800	36,400	46,500	72,000	142,600	304,040	497,400	667,200	563,000
Mean	11,610	4,652	2,800	1,800	1,300	1,500	2,400	4,600	10,130	16,050	21,520	18,770
Ac-ft	714,000	276,800	172,200	110,700	72,200	92,230	142,800	282,800	603,100	[illegible]	‡1,323	‡1,117

Calendar year 1953: Max [illegible] Min - Mean 10,470 Ac-ft 7,581,000
Water year 1953-54: Max 23,200 Min - Mean 8,140 Ac-ft 5,893,000

* Discharge measurement made on this day.
‡ Expressed in thousands.
Note.--No gage-height record Nov. 2 to June 14 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 2 discharge measurements and weather records.

ALASKA WEST OF LONGITUDE 141°

Newhalen River near Iliamna--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16,300	8,390							7,920	18,200	26,000	23,300
2	16,100	8,510							8,060	18,300	26,000	23,200
3	15,800	8,430							8,320	18,700	*25,900	23,200
4	15,600	8,430							8,320	19,600	25,700	22,900
5	15,300	8,470							8,660	20,400	25,400	22,400
6	*15,000	8,430							8,730	20,800	24,900	*21,900
7	14,700	8,430							8,960	21,100	24,500	21,600
8	14,400	8,390	2,600	2,100	1,700	2,600	2,800	4,400	*9,150	21,300	24,300	21,300
9	14,100	8,320							9,300	21,400	24,100	20,700
10	13,800	8,170							9,570	21,700	23,600	20,300
11	13,400	7,990							9,910	22,300	23,400	20,100
12	13,100	7,810							10,100	23,100	23,200	20,000
13	12,900	7,590							10,500	23,500	22,900	19,600
14	12,600	7,270	(*)						11,200	23,600	22,400	19,300
15	12,100	b7,000							11,500	23,700	22,000	18,800
16	11,900	b6,700							11,700	23,800	21,600	18,400
17	11,500	b6,400							12,100	23,800	21,000	17,800
18	11,200	b6,200							12,500	23,900	20,400	17,200
19	10,900	b5,900							13,300	23,900	19,800	16,600
20	10,500	b5,700							14,300	23,900	19,500	16,100
21	10,200	b5,500				(*)		6,000	15,400	24,000	19,100	15,600
22	9,840	b5,200			1,900				16,300	24,200	19,000	15,400
23	9,680	b5,000					3,200		17,000	24,600	19,000	15,200
24	9,570	b4,800	1,900	2,400		2,700			17,600	25,000	19,100	14,500
25	9,530	b4,600							17,800	25,500	19,800	14,100
26	9,300	b4,400							18,200	26,200	20,500	13,700
27	9,080	b4,300						6,910	18,400	26,800	21,200	13,300
28	8,960	b4,100						7,120	18,500	27,100	22,500	13,100
29	8,700	b3,900			-			7,340	*18,500	27,100	23,300	12,800
30	8,580	b3,700			- --			7,590	18,300	26,800	23,600	12,400
31	8,510	- - - -			- - - - - -		- - - - - -	7,770	- - - - - -	26,500	24,100	- - - - - -
Total	373,150	198,030	69,400	69,900	50,200	82,200	90,000	168,730	380,100	720,800	697,800	544,800
Mean	12,040	6,601	2,239	2,255	1,793	2,652	3,000	5,443	12,670	23,250	22,510	18,160
Ac-ft	740,100	392,800	137,700	138,600	99,570	163,000	178,500	334,700	753,900	‡1,430	‡1,384	‡1,081

Calendar year 1954: Max 23,200 Min - Mean 8,289 Ac-ft 6,001,000
Water year 1954-55: Max 27,100 Min - Mean 9,439 Ac-ft 6,834,000

* Discharge measurement made on this day.
‡ Expressed in thousands.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 1 to May 26 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 2 discharge measurements and weather records.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12,400								8,800	16,300	22,800	19,300
2	12,200								8,800	16,800	22,800	18,800
3	11,900								8,800	17,100	22,500	18,500
4	*11,900								8,900	17,800	22,200	18,500
5	11,700								*8,890	18,400	21,700	18,200
6	11,400								8,850	18,700	21,800	17,800
7	11,300								9,000	18,900	21,900	17,400
8	11,100							2,600	9,150	19,000	22,100	17,000
9	10,700								9,460	19,100	22,200	16,700
10	10,500								9,800	19,300	22,300	16,500
11	10,200								10,100	19,600	22,300	16,400
12	9,910								10,600	19,600	22,700	16,500
13	9,840								11,200	19,800	23,300	16,800
14	9,910								11,500	20,100	23,800	17,600
15	9,420								11,900	20,400	24,200	18,600
16	9,150	3,400	1,800	1,200	1,000	1,000	1,400					
17	8,960								12,100	20,800	24,800	18,800
18	8,810								12,500	21,500	25,400	18,700
19	8,390								12,900	22,100	25,400	18,600
20	8,130								13,200	22,500	25,400	18,200
									[illegible]	22,700	25,200	17,800
21	7,880								13,600	22,700	24,800	17,400
22	8,100								13,800	22,800	24,200	17,000
23	7,840								14,100	22,900	23,600	16,600
24	7,400							7,200	14,600	23,000	23,000	16,000
25	6,900								14,900	22,800	22,700	15,500
26	6,600								15,100	22,600	21,800	15,000
27	6,300								*15,100	22,300	21,300	14,500
28	5,900								15,200	22,100	21,000	14,000
29	5,600								15,500	22,000	20,700	13,700
30	5,300				- --				15,800	22,100	20,400	14,000
31	5,100	- - - -			- - - - - -		- - - - - -		- - - - - -	22,500	19,900	- - - - - -
Total	280,740	102,000	55,800	37,200	29,000	31,000	42,000	154,200	357,450	638,300	708,200	510,400
Mean	9,056	3,400	1,800	1,200	1,000	1,000	1,400	4,974	11,920	20,590	22,850	17,010
Ac-ft	556,800	202,300	110,700	73,790	57,520	61,490	83,310	305,900	709,000	‡1,266	‡1,405	‡1,012

Calendar year 1955: Max 27,100 Min - Mean 8,885 Ac-ft 6,433,000
Water year 1955-56: Max 25,400 Min - Mean 8,050 Ac-ft 5,844,000

* Discharge measurement made on this day.
‡ Expressed in thousands.
Note.--No gage-height record Oct. 24 to June 4 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 2 discharge measurements, weather records, and records for Tanalian River near Port Alsworth.

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 1956.

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

Extremes.--1953-54: Maximum discharge during water year, 11,500 cfs June 15 (gage height, 3.49 ft); minimum observed, 1,290 cfs Apr. 7 (discharge measurement).
1954-55: Maximum discharge during water year, 22,400 cfs July 15 (gage height, 6.11 ft); minimum not determined.
1955-56: Maximum daily discharge during water year, 19,000 cfs June 18-26, 28-30; minimum not determined.
1953-56: Maximum discharge, that of July 15, 1955; minimum not determined.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,980								8,730	8,970	5,310	*6,100
2	6,890								9,000	8,690	5,180	6,200
3	6,670								9,310	8,440	a5,100	6,220
4	6,670								9,610	8,340	a5,000	6,100
5	6,280								9,900	8,120	a5,000	6,200
6	6,330							a1,900	10,300	7,890	a4,900	6,120
7	6,220						(*)		10,500	7,760	a4,900	6,070
8	6,250	a4,300							10,500	7,550	a4,900	5,860
9	6,150								10,800	7,480	a4,800	5,810
10	6,280								11,100	7,340	a4,800	5,760
11	6,100								11,100	7,140	*4,760	5,660
12	5,810								11,200	6,890	a4,700	5,570
13	5,950								11,300	6,590	a4,700	5,510
14	6,050								11,300	6,300	a4,700	5,440
15	6,000		a2,700	a2,100	a1,700	a1,400	a1,300		11,300	6,480	a4,700	5,380
16	6,050							a3,200	11,300	6,780	a4,600	5,330
17	6,000			(*)					11,100	6,810	a4,600	5,380
18	5,950								*11,000	6,720	a4,600	5,460
19	5,860								10,900	6,560	a4,600	5,530
20	5,710								10,900	6,410	a4,600	5,530
21	5,710								10,700	6,350	a4,700	5,440
22	5,600							4,930	10,700	6,250	a5,000	5,400
23	5,510	a3,200						5,280	10,400	6,100	5,290	5,400
24	5,420							5,740	10,200	5,950	5,880	5,330
25	5,420							6,280	10,100	5,830	6,120	5,200
26	5,240							6,710	9,970	5,690	6,150	a5,100
27	5,220	(*)						7,020	9,750	5,570	6,200	a5,100
28	5,270							7,310	9,440	5,490	6,350	a5,100
29	a5,200				-			7,640	9,270	5,400	6,330	5,160
30	a5,200				------			7,990	9,140	5,330	6,220	5,200
31	a5,200	------			------		------	8,400	------	5,380	6,220	------
Total	183,190	112,500	83,700	65,100	47,600	43,400	39,000	121,500	310,820	210,600	160,910	167,660
Mean	5,909	3,750	2,700	2,100	1,700	1,400	1,300	3,919	10,360	6,794	5,191	5,589
Ac-ft	363,400	223,100	166,000	129,100	94,410	86,080	77,360	241,000	616,500	417,700	319,200	332,500

Calendar year 1953: Max - Min - Mean - Ac-ft -
Water year 1953-54: Max 11,300 Min - Mean 4,236 Ac-ft 3,066,000

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 4 discharge measurements and weather records.

Nuyakuk River near Dillingham--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,220	5,880	b4,800						7,040	18,000	18,700	8,500
2	5,200	5,860	b4,700						7,310	18,000	18,200	8,380
3	a5,200	b6,000	b4,600						7,640	18,500	17,700	8,200
4	a5,100	b6,200							7,830	19,100	*17,200	8,020
5	a5,100	b6,400							7,990	19,300	16,900	7,810
								a2,000				
6	a5,100	b6,700							8,180	19,200	16,300	7,510
7	a5,200	b6,900							*8,310	19,400	15,800	7,400
8	5,270	b7,000							8,530	19,600	15,300	7,420
9	5,200	b7,000	a4,300						8,690	20,200	14,800	*7,510
10	5,350	b7,000							9,030	21,100	14,300	7,510
11	5,350	b7,000							9,310	21,800	13,800	7,630
12	5,310	b7,000							9,680	22,000	13,600	7,540
13	5,310	a6,900	(*)						10,100	22,000	13,200	7,370
14	5,290	a6,800							10,500	22,000	12,800	7,260
15	5,200	a6,700							10,800	22,200	12,500	7,090
				a3,000	a2,400	a2,100	a2,000	a2,600				
16	a5,100								11,200	22,300	12,200	6,950
17	a5,000								11,600	22,100	11,900	6,720
18	a4,900								12,200	21,700	11,500	6,560
19	a4,800								12,700	21,400	11,100	6,350
20	a4,800					(*)			13,300	21,000	10,700	6,150
21	a4,800							a3,600	13,800	20,700	10,400	6,200
22	a4,700							a3,900	14,500	20,400	10,200	6,860
23	a4,700	a5,600						a4,200	15,200	20,100	9,940	7,570
24	a4,700		a3,700					a4,600	15,600	20,100	10,100	7,810
25	a4,700							4,950	16,000	20,400	9,910	7,780
26	a4,700							5,400	16,600	20,700	9,560	7,870
27	a4,800							5,710	16,800	20,600	9,650	8,080
28	a4,800							6,070	17,400	20,400	9,460	8,170
29	a5,000				-			6,310	*17,900	20,000	9,170	8,110
30	5,200				-			6,570	18,000	19,600	8,890	8,230
31	5,690	- -			- - - -		- - - - - -	6,820	- - - - - -	19,100	8,740	- - - - - -
Total	156,790	183,340	124,900	93,000	67,200	65,100	60,000	104,130	353,740	633,000	394,520	224,560
Mean	5,058	6,111	4,029	3,000	2,400	2,100	2,000	3,359	11,790	20,420	12,730	7,485
Ac-ft	311,000	363,600	247,700	184,500	133,300	129,100	119,000	206,500	701,600	‡1,256	782,500	445,400

Calendar year 1954: Max 11,300 Min - Mean 4,470 Ac-ft 3,236,000
Water year 1954-55: Max 22,300 Min - Mean 6,740 Ac-ft 4,880,000

* Discharge measurement made on this day. ‡ Expressed in thousands.
a No gage-height record; discharge estimated on basis of 2 discharge measurements and weather records. b Stage-discharge relation affected by ice.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,290								9,540	18,000	6,400	7,840
2	8,050								10,400	18,000	6,400	7,720
3	8,080								11,000	18,000	6,400	7,720
4	8,110								*12,100	17,000	6,300	8,140
5	*8,230						(*)		13,000	17,000	6,300	8,410
6	7,930								13,500	17,000	6,300	8,470
7	7,690		(*)						14,000	16,000	6,400	8,350
8	7,570							2,000	15,000	16,000	6,500	8,290
9	7,340								16,000	15,000	6,700	8,740
10	7,140								16,000	15,000	6,900	8,980
11	6,980								17,000	14,000	7,100	9,360
12	6,780								17,000	14,000	7,300	9,590
13	6,560								17,000	13,000	7,500	9,910
14	6,540								18,000	13,000	7,700	10,700
15	6,590								18,000	12,000	7,600	10,900
		3,800	2,400	1,800	1,400	1,300	1,400					
16	6,330								18,000	11,000	*7,400	10,900
17	6,170								18,000	11,000	7,310	10,900
18	6,050								19,000	10,000	7,090	10,900
19	5,780								19,000	9,800	7,030	10,700
20	5,530								19,000	9,400	6,950	10,400
								3,400				
21	5,200								19,000	9,000	6,840	10,400
22	5,330								19,000	8,700	6,810	10,000
23	6,050								19,000	8,400	6,670	9,720
24	6,170								19,000	8,100	6,460	9,490
25	6,020								19,000	7,800	7,000	9,240
26	5,930							4,890	19,000	7,500	7,170	8,950
27	5,900							5,350	*18,900	7,300	7,310	8,710
28	5,810							5,860	19,000	7,100	7,720	8,380
29	5,490							6,510	19,000	6,900	7,810	8,170
30	5,420				- - -			7,310	19,000	6,700	7,900	8,320
31	5,290	- - - -			- - - - -		- - - - -	8,310	- - - - - -	6,500	7,930	- - - - - -
Total	204,350	114,000	74,400	55,800	40,600	40,300	42,000	102,230	500,440	368,200	217,200	278,300
Mean	6,592	3,800	2,400	1,800	1,400	1,300	1,400	3,298	16,680	11,880	7,006	9,277
Ac-ft	405,300	226,100	147,600	110,700	80,530	79,930	83,310	202,800	992,600	730,300	430,800	552,000

Calendar year 1955: Max 22,300 Min - Mean 6,542 Ac-ft 4,737,000
Water year 1955-56: Max 19,000 Min - Mean 5,568 Ac-ft 4,042,000

* Discharge measurement made on this day.
Note.--No gage-height record Nov. 1 to May 25, June 7-26, June 28 to Aug. 15; discharge estimated on basis of 4 discharge measurements, weather records, records for previous years, and for stations on nearby streams.

NUSHAGAK RIVER NEAR EKWOK

LOCATION.--At village of Ekwok, Alaska.
RECORDS AVAILABLE.--Chemical analyses: June to August 1956.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, June to September 1956

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1956																		
June 2		5.4	0.00	6.0	1.2	1.1	0.0	24	3.3	0.5	--	0.1	30	20	0	47	6.9	3
June 20		5.3	.00	5.2	1.4	1.0	.3	22	3.0	.5	--	.1	28	19	1	42	7.4	5
July 4		5.6	.00	6.4	1.2	1.1	.2	22	4.5	.0	0.0	.1	30	21	3	50	6.9	15
July 11		5.8	.00	7.1	1.0	1.2	.2	22	3.3	1.0	.0	.1	31	22	4	51	7.2	3
July 18		5.2	.00	7.1	1.5	1.2	.2	22	3.7	.5	.0	.1	30	24	6	54	7.0	3
July 25		7.2	.28	6.7	2.4	1.2	.1	26	4.3	.2	.0	.3	34	27	5	57	7.2	0
Aug. 1		6.8	.00	6.7	1.2	1.4	.2	26	2.2	.0	.0	.1	32	22	0	55	7.1	5
Aug. 15		7.2	.00	7.1	1.5	1.4	.5	27	3.5	.8	.0	.1	35	24	2	57	7.0	5
Aug. 29		6.9	.00	6.4	1.2	1.3	.5	22	3.3	.0	.0	.1	31	21	3	50	7.2	10
Sept. 5		6.5	.00	6.7	1.2	1.3	.5	27	3.3	.5	.0	.1	33	22	0	52	6.9	5
Sept. 19		6.6	.08	7.1	1.0	1.2	.5	22	3.5	.5	.0	.2	32	22	4	51	6.8	5
Sept. 26		6.6	.11	7.1	1.2	1.4	.3	26	3.5	.5	.0	.2	34	23	2	54	6.8	5

KUSKOKWIM RIVER AT MEDFRA

LOCATION.--At Medfra landing field, three miles downstream from confluence of North Fork and South Fork Kuskokwim River.
RECORDS AVAILABLE.--Chemical analyses: May to September 1954.
Water temperature: May to September 1954.
REMARKS.--No discharge records available for this station. Records of specific conductance of daily samples available in district office, Branch of Quality of Water, Palmer, Alaska.

Chemical analyses, in parts per million, May to September 1954

Date of collection	Mean discharge (cfs)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
															Calcium, magnesium	Noncarbonate			
1954																			
May 15-19			6.2	--	32	7.1	2.1	1.5	108	22	1.3	--	1.3	128	109	21	223	6.6	--
May 20-31			9.6	0.04	39	9.1	2.8	1.6	132	31	1.2	--	1.3	161	135	27	273	6.7	--
June 1-10			10	.04	40	9.7	2.6	1.5	137	33	.8	--	1.3	166	140	27	282	7.1	--
June 11-20			9.8	.04	40	9.9	2.6	1.7	136	38	.8	--	1.2	171	140	29	287	7.0	--
July 11-20			8.2	.00	40	9.8	3.2	1.2	129	37	.8	0.4	1.4	166	140	34	284	7.7	10
July 21-31			8.6	.00	36	8.9	2.8	1.2	117	36	.5	.4	1.8	154	126	30	259	8.3	10
Aug. 1-10			8.1	.00	36	8.6	2.5	1.3	112	35	.0	.4	1.4	148	125	33	253	7.9	15
Aug. 11-20			10	.07	38	9.1	3.7	1.4	122	37	1.2	.1	1.7	162	132	32	290	--	15
Aug. 21-31			9.5	.08	37	9.8	3.4	1.2	126	34	.8	.1	1.6	159	133	29	270	--	20
Sept. 1-10			10	.07	41	11	3.2	.9	142	34	.6	.1	1.5	172	148	31	288	--	10
Sept. 11-20			11	.09	39	11	3.2	.9	138	32	.8	.1	1.3	167	143	29	279	--	15

KUSKOKWIM RIVER AT MEDFRA--Continued

Temperature (°F) of water, May to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								--	55	--	53	48
2								--	55	--	53	48
3								--	54	--	53	48
4								--	55	--	55	47
5								--	55	--	55	47
6								--	56	--	55	46
7								--	56	--	56	45
8								--	57	--	58	46
9								--	57	--	58	46
10								--	55	--	59	48
11								--	57	--	59	45
12								--	56	--	56	45
13								--	56	59	55	44
14								--	56	58	53	44
15								43	56	59	53	45
16								45	55	58	53	46
17								44	56	59	53	46
18								45	56	58	--	46
19								48	56	58	--	45
20								48	--	58	53	43
21								50	--	57	52	--
22								51	--	57	51	--
23								52	--	56	51	--
24								53	--	56	52	--
25								54	--	56	51	--
26								55	--	56	50	--
27								55	--	56	50	--
28								55	--	55	50	--
29								54	--	55	49	--
30								54	--	55	48	--
31								54	--	54	48	--
Average								--	--	--	53	--

Kuskokwim River at Crooked Creek

Location.--Lat 61°52', long 158°07', on right bank at Parent'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 1956.

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

Average discharge.--5 years, 42,940 cfs (31,090,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 167,000 cfs Sept. 21 (gage height, 13.19 ft); minimum not determined.
1954-55: Maximum discharge observed during water year, 154,000 cfs Aug. 30 (gage height, 12.86 ft); minimum not determined.
1955-56: Maximum discharge during water year not determined; maximum gage height, 22.8 ft about May 10 (ice jam), from floodmarks; minimum discharge not determined.
1951-56: Maximum discharge observed, 260,000 cfs June 1, 1952 (gage height, 17.40 ft), from rating curve extended above 120,000 cfs by logarithmic plotting; maximum gage height, 25.4 ft May 1, 1953 (ice jam), from floodmarks; minimum discharge not determined.

Remarks.--Records fair except those above 120,000 cfs and those for periods of ice effect of no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56,000								42,800	30,200	65,300	85,600
2	53,500								40,700	30,500	77,500	82,300
3									39,200	36,700	84,400	82,100
4									37,900	54,300	89,100	81,500
5			(*)						37,400	61,800	87,800	80,800
6									37,000	58,300	83,200	79,900
7							(*)		36,400	57,100	77,900	78,100
8							10,000	70,000	35,800	55,000	73,300	75,000
9	48,000								34,600	50,800	*67,900	71,900
10									34,600	46,600	64,600	69,000
11									34,800	44,400	63,400	65,500
12									35,200	42,600	62,700	63,900
13									35,500	40,800	63,800	61,700
14									35,800	39,200	65,300	59,200
15								78,100	35,600	38,000	65,400	57,400
16		20,000	15,000	12,000	11,000	10,000		74,000	34,600	38,000	63,800	61,900
17								68,900	34,000	37,400	61,800	68,400
18								64,100	33,300	37,200	59,500	96,200
19								59,600	*32,400	37,400	59,100	134,000
20								57,700	29,600	37,500	62,000	155,000
21								56,800	29,100	38,000	68,800	166,000
22								57,500	28,000	39,800	78,100	161,000
23								59,300	28,800	41,800	79,400	147,000
24	35,000						15,000	56,900	29,300	43,600	84,700	131,000
25								54,800	30,700	45,300	94,800	122,000
26								51,800	30,700	46,300	101,000	114,000
27								51,700	30,600	45,900	101,000	103,000
28								51,900	30,900	45,600	99,400	97,700
29					-			50,100	30,700	45,600	99,300	98,000
30					---			47,800	30,400	48,300	97,900	104,000
31		------			------		------	45,000	------	52,000	91,600	------
Total	‡1,293.5	600,000	465,000	372,000	308,000	310,000	375,000	‡1,966	‡1,016.4	‡1,366	‡2,393.8	‡2,853.1
Mean	41,730	20,000	15,000	12,000	11,000	10,000	12,500	63,420	33,880	44,060	77,220	95,100
Ac-ft	‡2,566	‡1,190	922,300	737,900	610,900	614,900	743,800	‡3,900	‡2,016	‡2,709	‡4,748	‡5,659

Calendar year 1953: Max 221,000 Min - Mean 41,220 Ac-ft 29,840,000
Water year 1953-54: Max 166,000 Min - Mean 36,490 Ac-ft 26,420,000

* Discharge measurement made on this day
‡ Expressed in thousands.
Note.--No gage-height record Oct. 3 to May 14 (stage-discharge relation affected by ice during most of period), Sept. 8, 10, 29; discharge estimated on basis of 2 discharge measurements and weather records.

Kuskokwim River at Crooked Creek--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	110,000								130,000	73,500	77,300	140,000
2	110,000								122,000	70,100	74,200	125,000
3	110,000								117,000	66,800	*70,500	114,000
4	100,000								110,000	65,300	67,800	105,000
5	*98,600								104,000	67,700	64,000	99,600
6	90,300								98,600	73,500	62,800	90,900
7	84,600								*101,000	72,200	63,700	*86,500
8	81,200	21,000						11,000	99,400	68,700	63,500	87,700
9	79,300								100,000	67,700	63,100	93,100
10	72,900		(*)						102,000	65,700	63,200	95,400
11	73,600								103,000	63,800	63,000	96,300
12	71,100								104,000	62,400	62,500	99,800
13	68,200								112,000	63,100	64,200	101,000
14	65,600								116,000	65,400	66,200	97,000
15	62,200								124,000	70,500	65,000	95,100
			18,000	15,000	14,000	12,000	11,000					
16	58,700								125,000	77,600	62,700	92,000
17	55,700								121,000	88,800	61,200	87,100
18	53,300								115,000	98,300	60,400	79,600
19	51,000					(*)			106,000	97,700	57,000	75,300
20	48,500								104,000	94,200	53,000	72,100
21	45,700								104,000	89,300	51,000	68,400
22	44,400								103,000	86,100	50,900	67,400
23	41,900	20,000							102,000	82,900	53,800	69,100
24	38,800							45,000	100,000	80,000	59,600	72,400
25	b36,000								96,200	78,700	68,500	72,900
26	b35,000								88,800	77,200	81,700	79,600
27	33,000								83,500	76,600	97,600	78,900
28	32,000								79,400	79,600	117,000	78,200
29	30,000				-				*78,200	83,800	143,000	76,600
30	29,000				--				75,900	84,200	154,000	79,300
31	27,000	------			------		------		------	80,800	152,000	------
Total	‡1,937.6	615,000	558,000	465,000	392,000	372,000	330,000	885,000	‡3,125	‡2,372.2	‡2,314.4	‡2,675.3
Mean	62,500	20,500	18,000	15,000	14,000	12,000	11,000	28,550	104,200	76,520	74,660	89,180
Ac-ft	‡3,843	‡1,220	‡1,107	922,300	777,500	737,900	654,500	‡1,755	‡6,198	‡4,705	‡4,591	‡5,306

Calendar year 1954: Max 166,000 Min - Mean 38,550 Ac-ft 27,910,000
Water year 1954-55: Max 154,000 Min - Mean 43,950 Ac-ft 31,820,000

* Discharge measurement made on this day. ‡ Expressed in thousands.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Oct. 1-4, Oct. 27 to June 1 (stage-discharge relation affected by ice during most of period), July 24, Aug. 5, 20; discharge interpolated or estimated on basis of 3 discharge measurements and weather records.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	81,500								81,700	62,400	66,700	63,200
2	89,300								78,100	62,400	74,600	64,700
3	93,500								75,200	63,300	75,100	63,100
4	94,100						(*)		*71,800	66,300	74,200	61,500
5	*90,500								68,400	68,400	74,000	60,000
6	86,300		(*)						67,300	70,000	74,000	59,300
7	81,200							120,000	67,300	71,500	76,900	59,400
8	76,600								67,300	71,000	79,100	58,400
9	71,900								67,200	65,600	90,900	55,800
10	67,300								67,100	63,000	89,200	53,700
11	64,000								68,400	61,200	91,700	54,300
12	61,000								70,100	60,700	88,000	57,100
13	57,700								70,500	60,600	85,300	64,600
14	b55,000							222,000	70,100	59,800	85,300	79,700
15	b51,000							205,000	68,500	59,200	*85,600	101,000
		23,000	18,000	15,000	13,000	11,000	13,000					
16								187,000	66,500	59,300	90,000	113,000
17								171,000	62,700	59,500	92,600	117,000
18								155,000	59,600	62,000	91,200	118,000
19								142,000	61,400	63,600	91,700	110,000
20								130,000	65,800	67,900	86,700	102,000
21								123,000	71,500	67,500	79,600	92,700
22								121,000	74,800	66,000	77,900	85,800
23	39,000							119,000	77,800	64,000	75,700	78,500
24								118,000	77,700	62,800	72,300	71,300
25								117,000	76,100	59,600	67,400	66,300
26								116,000	77,200	57,400	65,200	62,200
27								110,000	75,900	55,400	62,700	58,400
28								103,000	*70,700	52,700	60,700	54,900
29								98,300	67,500	52,700	59,400	53,000
30					-----			93,400	64,200	58,800	59,800	53,000
31		------			------		------	87,400	------	57,700	61,500	------
Total	‡1,744.9	690,000	558,000	465,000	377,000	341,000	390,000	‡3,978.1	‡2,108.4	‡1,930.3	‡2,405	‡2,191.9
Mean	56,290	23,000	18,000	15,000	13,000	11,000	13,000	128,300	70,280	62,270	77,580	73,060
Ac-ft	‡3,461	‡1,369	‡1,107	922,300	747,800	676,400	773,600	‡7,890	‡4,182	‡3,829	‡4,770	‡4,348

Calendar year 1955: Max 154,000 Min - Mean 43,630 Ac-ft 31,580,000
Water year 1955-56: Max - Min - Mean 46,940 Ac-ft 34,080,000

* Discharge measurement made on this day. ‡ Expressed in thousands.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Oct. 16 to May 13 (stage-discharge relation affected by ice during most of period), July 10, 18, Aug. 12; discharge interpolated or estimated on basis of 2 discharge measurements and weather records.

Yukon River at Eagle

Location (revised).--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 international boundary. Prior to Oct. 1, 1955, at site 1.1 miles upstream.

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

Records available.--Discharge: January 1911 to December 1913 (monthly discharge only for some periods, published in WSP 1372), June 1950 to September 1956.
Chemical analyses: April to October 1951, June to September 1952.
Water temperatures: May to October 1951, June to August 1952.
Sediment records: July and October 1954, April and August 1955 (periodic).

Gage.--Staff gage read once daily. 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 same datum.

Average discharge.--8 years, 68,790 cfs (49,800,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 240,000 cfs June 5 (gage height, 11.10 ft, from graph based on gage readings); minimum not determined.
1954-55: Maximum discharge during water year, 281,000 cfs July 1 (gage height, 12.80 ft, from graph based on gage readings); minimum not determined.
1955-56: Maximum daily discharge during water year, 230,000 cfs June 26; minimum not determined.
1911-13, 1950-56: Maximum discharge, 282,000 cfs July 4, 1952 (gage height, 13.31 ft, from graph based on gage readings); minimum not determined.

Remarks.--Records good except those for periods of no gage-height record, which are poor.

Revisions (water years).--WSP 1372: 1911-14, drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									a220,000	143,000	147,000	108,000
2									a230,000	133,000	146,000	107,000
3									a230,000	*128,000	144,000	104,000
4									237,000	127,000	147,000	102,000
5									238,000	126,000	147,000	a100,000
6									224,000	127,000	145,000	a97,000
7			(*)						220,000	127,000	139,000	a95,000
8								a27,000	227,000	137,000	138,000	94,300
9									212,000	133,000	135,000	94,100
10									a210,000	133,000	135,000	92,900
11									a210,000	139,000	136,000	88,800
12									a210,000	179,000	133,000	87,000
13									a210,000	214,000	132,000	85,900
14									210,000	194,000	126,000	86,000
15									a220,000	175,000	122,000	82,300
	a77,000	a43,000	a21,000	a14,000	a13,000	a12,000	a11,000					
16									224,000	170,000	122,000	82,100
17									216,000	172,000	115,000	81,100
18									a200,000	171,000	114,000	80,900
19						(*)			a180,000	163,000	107,000	79,800
20									164,000	158,000	101,000	79,300
21									151,000	162,000	a100,000	79,200
22									142,000	162,000	a100,000	79,000
23								a130,000	143,000	163,000	a100,000	78,100
24									142,000	157,000	102,000	75,300
25									142,000	155,000	109,000	74,900
26									140,000	158,000	107,000	a74,000
27									137,000	a170,000	115,000	a74,000
28									138,000	a170,000	119,000	77,600
29					-				147,000	158,000	114,000	78,100
30					-------				150,000	157,000	109,000	78,800
31		-------			-------		-------		-------	151,000	109,000	-------
Total	#2,387	#1,290	651,000	434,000	364,000	372,000	330,000	#2,485	#5,724	#4,812	#3,815	#2,596.5
Mean	77,000	43,000	21,000	14,000	13,000	12,000	11,000	80,160	190,800	155,200	123,100	86,550
Ac-ft	#4,735	#2,559	#1,291	860,800	722,000	737,900	654,500	#4,929	#11,350	#9,544	#7,567	#5,150

Calendar year 1953: Max 204,000 Min - Mean 69,440 Ac-ft 50,270,000
Water year 1953-54: Max 238,000 Min - Mean 69,210 Ac-ft 50,100,000

* Discharge measurement made on this day.
\# Expressed in thousands.
a No gage-height record; discharge interpolated or estimated on basis of 2 discharge measurements, weather records, and records for Canadian stations on Yukon River at Carmacks, Stewart River near Mayo, and Pelly River at Pelly Crossing.

Yukon River at Eagle--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	79,800								140,000	278,000	140,000	149,000
2	79,300								130,000	276,000	139,000	140,000
3	78,800								130,000	269,000	139,000	134,000
4	78,800								130,000	263,000	130,000	128,000
5	78,300								130,000	256,000	130,000	122,000
6	*74,800				(*)				130,000	248,000	120,000	117,000
7	69,700						(*)		130,000	234,000	120,000	114,000
8	68,600	38,000						20,000	137,000	233,000	117,000	111,000
9	66,600								*140,000	232,000	113,000	107,000
10	65,400								145,000	219,000	111,000	104,000
11	65,200								148,000	208,000	110,000	101,000
12	64,700								167,000	204,000	116,000	97,900
13	64,700								173,000	198,000	125,000	96,200
14	64,400								177,000	190,000	136,000	94,900
15	64,100								186,000	190,000	149,000	95,400
16	63,200		17,000	15,000	17,000	16,000	13,000		184,000	180,000	166,000	95,000
17	62,600								181,000	180,000	184,000	92,900
18									177,000	179,000	196,000	91,000
19									151,000	179,000	195,000	89,400
20									149,000	180,000	188,000	88,700
21								92,000	157,000	180,000	184,000	88,200
22									*166,000	179,000	178,000	88,000
23		29,000							171,000	178,000	172,000	87,000
24									179,000	176,000	167,000	87,000
25	55,000								195,000	165,000	164,000	86,000
26									218,000	150,000	165,000	84,500
27								143,000	257,000	*144,000	173,000	82,700
28								150,000	269,000	144,000	176,000	81,000
29					-			147,000	269,000	144,000	*171,000	79,900
30					-------			143,000	268,000	142,000	163,000	79,400
31		-------			-------		-------	140,000	-------	141,000	157,000	-------
Total	‡1,958.5	‡1,005	527,000	465,000	476,000	496,000	390,000	‡2,035	‡5,184	‡6,139	‡4,694	‡3,012.1
Mean	63,180	33,500	17,000	15,000	17,000	16,000	13,000	65,650	172,800	198,000	151,400	100,400
Ac-ft	‡3,885	‡1,993	‡1,045	922,300	944,100	983,800	773,600	‡4,036	‡10,280	‡12,180	‡9,310	‡5,974

Calendar year 1954: Max 238,000 Min - Mean 66,910 Ac-ft 48,440,000
Water year 1954-55: Max 278,000 Min - Mean 72,280 Ac-ft 52,330,000

*. Discharge measurement made on this day.
‡ Expressed in thousands.
Note.--No gage-height record Oct. 18 to May 26, May 31 to June 7, July 14-17, Aug. 4-7, Sept. 23, 24; discharge estimated on basis of 2 discharge measurements, weather records, and records for Canadian stations on Yukon River at Carmacks, Stewart River near Mayo, and Pelly River at Pelly Crossing.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82,800								160,000			121,000
2	*81,500								160,000			119,000
3	80,200								160,000			117,000
4	78,100								160,000			114,000
5	76,600								160,000			112,000
6	75,800								155,000		140,000	110,000
7	74,200					(*)			160,000			107,000
8	72,900	34,000					8,000	22,000	160,000	170,000		106,000
9	72,000								170,000			104,000
10	70,800								170,000			101,000
11	69,500								160,000			98,600
12	68,400								*163,000			96,700
13	67,200								162,000			94,400
14	66,000								169,000			93,400
15	64,000								190,000			94,800
16	63,000		18,000 (*)	12,000	9,500	7,800			190,000		170,000	97,600
17	62,000								188,000	*154,000		98,000
18	60,000								183,000	150,000		97,600
19	58,000								175,000	149,000		98,200
20	56,000								174,000	144,000		101,000
21	54,000								172,000	144,000		98,100
22	53,000								170,000	143,000		96,700
23	51,000	24,000					9,300		180,000	144,000	120,000	95,400
24	50,000							170,000	190,000	140,000		92,900
25	48,000								210,000	140,000		93,400
26	47,000								230,000	140,000	*108,000	92,400
27	45,000								220,000	140,000	108,000	91,000
28	44,000								210,000	140,000	107,000	88,500
29	43,000								200,000	140,000	109,000	84,300
30	42,000				-------				190,000	130,000	110,000	81,400
31	41,000	-------			-------		-------		-------	130,000	119,000	-------
Total	‡1,917	870,000	558,000	372,000	275,500	241,800	259,500	‡3,050	‡5,341	‡4,848	‡4,361	‡2,995.4
Mean	61,840	29,000	18,000	12,000	9,500	7,800	8,650	98,390	178,000	156,400	140,700	99,850
Ac-ft	‡3,802	‡1,726	‡1,107	737,900	546,400	479,600	514,700	‡6,050	‡10,590	‡9,616	‡8,650	‡5,941

Calendar year 1955: Max 278,000 Min - Mean 71,880 Ac-ft 52,040,000
Water year 1955-56: Max 230,000 Min - Mean 68,550 Ac-ft 49,760,000

* Discharge measurement made on this day.
‡ Expressed in thousands.
Note.--No gage-height record Oct. 14 to June 11 (stage-discharge relation affected by ice during part of period), June 22 to July 16, July 24 to Aug. 25; discharge estimated on basis of 5 discharge measurements, weather records, and records for station at Rampart.

YUKON RIVER AT EAGLE

Periodic determinations of suspended-sediment discharge, water years October 1953 to September 1955

Date	Discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1954			
July 3	128,000	412	142,000
Oct. 6	75,000	48	9,720
1955			
Apr. 7	13,900	1	38
Aug. 4	a 130,000	721	253,000

a Mean daily discharge.

Particle-size analyses of suspended sediment, water years October 1953 to September 1955
(Methods of analysis: B, bottom withdrawal tube; D, decantation; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed; M, mechanically dispersed)

Date of collection	Time	Discharge (cfs)	Water temperature (°F)	Suspended sediment													Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters											
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	
1954																	
July 3		128,000		395	717	34	41	48	56	66	74	82	98				BSWCM
1955																	
Aug. 4	10:00 a.m.	a 130,000		744	2,170	34	42	53	67	77	92	93	99		100		BSWCM

a Mean daily discharge.

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.--Discharge: June 1955 to September 1956.
Chemical analyses: June to September 1954, June to October 1955, June to September 1956.
Water temperatures: June to August 1954, June to September 1955, June to September 1956.

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

Extremes.--1955: Maximum discharge observed during period June to September, 425,000 cfs June 1 (gage height, 34.84 ft); minimum observed, 117,000 cfs Sept. 30 (gage height, 16.07 ft).
1955-56: Maximum daily discharge during water year, 415,000 cfs May 25; minimum discharge not determined.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, June to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									422,000	335,000	*186,000	230,000
2									399,000	364,000	184,000	232,000
3									370,000	392,000	186,000	237,000
4									343,000	412,000	185,000	228,000
5							†10,600		317,000	410,000	178,000	223,000
6									303,000	384,000	168,000	220,000
7									292,000	367,000	161,000	206,000
8									284,000	351,000	a160,000	198,000
9	†93,000								283,000	341,000	a150,000	192,000
10									287,000	338,000	a150,000	181,000
11									290,000	329,000	a140,000	177,000
12									300,000	311,000	a140,000	172,000
13									302,000	299,000	a140,000	168,000
14									306,000	284,000	a150,000	161,000
15									316,000	275,000	a160,000	155,000
16									325,000	268,000	a170,000	149,000
17									324,000	267,000	a190,000	144,000
18									317,000	264,000	195,000	141,000
19									309,000	258,000	196,000	140,000
20									301,000	254,000	198,000	139,000
21									291,000	253,000	202,000	139,000
22									*277,000	251,000	206,000	137,000
23									266,000	249,000	212,000	134,000
24									265,000	245,000	218,000	132,000
25									266,000	243,000	*218,000	129,000
26									267,000	240,000	212,000	126,000
27									269,000	219,000	211,000	123,000
28									272,000	211,000	214,000	121,000
29					-				283,000	204,000	217,000	*120,000
30					---				311,000	197,000	223,000	118,000
31		------	†21,600		-----		------		------	195,000	228,000	------
Total									‡9,157	‡9,010	‡5,748	‡4,972
Mean									305,200	290,600	185,400	165,700
Ac-ft									‡18,160	‡17,870	‡11,400	‡9,862

Calendar year	: Max		Min	Mean	Ac-ft
Water year	: Max		Min	Mean	Ac-ft

* Discharge measurement made on this day.
† Result of discharge measurement.
‡ Expressed in thousands.
a No gage-height record; discharge estimated on basis of records for station at Eagle.

Yukon River at Rampart--Continued

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	115,000	b51,500							320,000	290,000	168,000	173,000
2	112,000	b50,500							304,000	273,000	166,000	172,000
3	109,000	b49,300							290,000	258,000	165,000	172,000
4	106,000	b48,200							286,000	254,000	163,000	173,000
5	104,000	b47,000				(*)			285,000	258,000	159,000	175,000
6	103,000	b45,800							282,000	262,000	167,000	176,000
7	102,000	b44,800							275,000	260,000	176,000	173,000
8	99,200	b44,000	24,000					27,000	271,000	253,000	179,000	169,000
9	97,100	b43,000							269,000	243,000	187,000	164,000
10	94,900	b42,200							270,000	235,000	189,000	159,000
11	92,600	b41,300							271,000	233,000	198,000	153,000
12	89,500	b40,400							270,000	221,000	206,000	145,000
13	88,300	b39,500							264,000	213,000	208,000	143,000
14	86,800	b38,600							258,000	207,000	210,000	142,000
15	b84,500	b37,700							*258,000	207,000	230,000	140,000
16	b83,000	37,000		15,000	11,000	9,000	9,000		255,000	203,000	263,000	131,000
17	b81,000	36,000							249,000	202,000	282,000	132,000
18	b79,000	35,000							248,000	207,000	309,000	134,000
19	b77,000	34,000							251,000	208,000	304,000	142,000
20	b74,500	34,000						250,000	253,000	*200,000	288,000	152,000
21	b72,000	33,000							255,000	192,000	269,000	158,000
22	b70,000	32,000							254,000	184,000	252,000	164,000
23	b67,000	31,000							252,000	178,000	240,000	170,000
24	b65,000	31,000	20,000						254,000	173,000	*232,000	184,000
25	62,000	30,000						415,000	267,000	170,000	220,000	180,000
26	b60,000	29,000						410,000	288,000	169,000	211,000	172,000
27	b58,000	29,000						409,000	316,000	169,000	205,000	174,000
28	b56,500	28,000		(*)				396,000	338,000	171,000	192,000	177,000
29	b55,000	28,000						381,000	329,000	170,000	185,000	172,000
30	b54,000	27,000			------			359,000	315,000	169,000	180,000	165,000
31	b53,000	------			------		------	340,000	------	168,000	176,000	------
Total	‡2,550.9	‡1,137.8	680,000	465,000	319,000	279,000	270,000	‡5,365	‡8,297	‡6,600	‡6,579	‡4,836
Mean	82,290	37,930	21,940	15,000	11,000	9,000	9,000	173,100	276,600	212,900	212,200	161,200
Ac-ft	‡5,060	‡2,257	‡1,349	922,300	632,700	553,400	535,500	‡10,640	‡16,460	‡13,090	‡13,050	‡9,592

Calendar year 1955: Max - Min - Mean - Ac-ft -
Water year 1955-56: Max 415,000 Min - Mean 102,100 Ac-ft 74,140,000

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
‡ Expressed in thousands.
Note.--No gage-height record Oct. 25, Nov. 16 to May 26 (stage-discharge relation affected by ice during most of period), Aug. 23, 25; discharge estimated on basis of 2 discharge measurements and weather records.

YUKON RIVER AT RAMPART

Chemical analyses, in parts per million, March 1954 to September 1956

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1954																		
Mar. 21	a 12,700	6.5	0.03	38	8.0	2.5	0.7	128	25	0.6	--	0.2	145	128	23	256	7.3	--
June 1-10	--	5.2	.01	31	6.7	2.3	1.0	100	30	1.0	--	1.5	128	105	23	210	6.8	--
June 11-20	--	5.6	.01	35	11	4.5	.8	106	52	.8	--	5.0	167	133	46	282	6.6	--
June 21-30	--	5.8	.01	32	8.0	3.9	1.1	96	39	.8	--	6.3	144	113	34	244	6.6	--
July 1-10	--	6.1	.01	31	7.3	2.5	1.0	103	30	.8	--	.5	130	107	23	222	6.5	--
July 11-20	--	6.2	.01	35	8.0	2.8	1.2	115	31	.8	--	.6	143	120	26	246	6.5	--
July 21-31	--	6.0	.01	35	8.1	3.0	1.1	111	33	1.0	--	3.6	146	121	30	250	6.8	--
Aug. 1-10	--	6.5	.08	33	9.2	5.2	.9	113	31	.8	0.1	3.3	146	120	28	249	--	15
Aug. 11-20	--	6.8	.08	33	8.8	4.0	1.3	116	27	1.1	0	2.2	141	119	24	245	--	50
Aug. 21-31	--	6.2	.08	35	7.9	5.8	1.1	114	31	1.0	.1	5.8	150	120	26	266	--	5
Sept. 1-10	--	6.8	.04	34	7.9	4.3	1.2	116	30	1.0	.1	3.6	169	117	22	251	8.0	10
Sept. 11-20	--	6.5	.02	35	7.8	5.0	1.1	112	32	1.0	.1	9.4	170	119	28	258	7.9	10
Sept. 21-30	--	7.2	.01	33	7.8	4.9	1.1	109	31	1.0	.1	9.0	163	114	25	248	8.0	10
1955																		
Apr. 5	a 10,600	8.1	.02	41	8.2	3.9	1.6	140	26	1.0	.0	.9	160	136	21	274	7.2	5
June 1-10	330,000	4.6	.08	23	8.1	4.1	.6	76	29	.2	.1	4.4	111	91	28	186	7.8	40
June 11-20	309,000	6.2	.12	33	13	3.8	.6	115	46	.5	.1	1.6	162	136	42	266	7.9	20
June 21-30	277,000	4.6	.10	26	8.4	3.5	.8	82	35	1.8	.1	2.1	122	99	32	209	7.7	60
Aug. 1-10	171,000	5.7	.00	31	7.6	3.0	1.8	108	28	.8	.1	.4	131	109	20	227	7.7	5
Aug. 11-20	168,000	6.4	.03	33	7.8	5.0	1.8	108	30	1.2	.1	3.5	142	114	26	247	7.3	10
Aug. 21-31	215,000	5.8	.05	28	8.0	3.9	1.0	91	31	.2	.1	3.8	127	103	28	223	7.9	15
Sept. 1-10	215,000	5.9	.05	32	11	3.7	1.0	109	41	.5	.1	2.4	152	125	36	260	7.4	10
Sept. 11-20	155,000	5.9	.05	30	7.2	4.9	1.0	100	28	.8	.1	4.1	131	104	22	231	7.6	15
Sept. 21-30	128,000	5.7	.05	29	8.3	3.9	1.2	94	28	.5	.1	6.7	129	106	29	229	7.8	8
1955																		
Oct. 1-15	98,900	6.3	.08	32	7.5	3.7	1.0	104	26	.8	.0	4.7	133	111	26	237	7.0	8
1956																		
May 28-31	369,000	.2	.00	21	6.0	2.2	1.0	63	22	.2	--	.6	111	77	25	169	6.3	65
June 1-5	297,000	1.1	.00	22	7.5	3.0	1.0	70	27	.5	--	.3	121	86	28	181	6.3	55
June 6-10	273,000	4.7	.00	29	9.0	3.5	.8	93	37	.5	.0	.2	133	109	33	230	7.3	20
June 11-12	270,000	4.0	.00	33	12	4.3	1.0	105	49	1.0	.0	.5	157	132	46	270	7.4	10
June 26-30	309,000	5.8	.00	33	10	3.5	1.1	105	41	.5	.0	.5	147	123	37	257	7.1	20

a Discharge at time of sampling.

YUKON RIVER AT RAMPART--Continued

Chemical analyses, in parts per million, March 1954 to September 1956--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1956																		
July 1-10	259,000	6.0	0.00	37	10	3.7	1.2	116	42	0.8	0.0	0.5	158	133	38	275	7.2	20
Aug. 1-10	172,000	7.4	.00	32	6.7	2.9	1.5	108	24	.0	.1	.4	128	107	19	222	7.7	5
Aug. 11-20	250,000	6.5	.00	31	8.8	3.8	1.0	96	36	.5	.0	2.3	137	114	35	238	7.5	20
Aug. 21-31	215,000	7.6	.00	32	8.2	3.1	1.0	102	34	1.0	.0	.8	138	114	30	236	7.4	15
Sept. 1-10	171,000	7.3	.00	31	6.9	2.8	1.3	103	25	1.2	.0	.6	127	106	21	217	7.5	15
Sept. 11-20	141,000	6.8	.00	29	6.9	2.7	1.2	95	26	.5	.0	.6	121	101	23	216	7.2	20
Sept. 21-30	172,000	6.9	.00	32	5.8	2.6	1.0	102	27	1.0	.1	.5	127	104	20	220	7.2	20

YUKON RIVER AT RAMPART--Continued

Temperature (°F) of water, water years 1954 to 1956

	1954			1955			1956				
Day	June	July	Aug.	June	Aug.	Sept.	May	June	July	Aug.	Sept.
1	50	55	58	50	61	44	--	44	65	--	--
2	49	56	58	53	62	44	--	44	60	--	--
3	52	60	58	53	60	46	--	45	65	--	--
4	46	61	58	54	62	45	--	47	65	--	--
5	45	61	57	53	63	45	--	53	57	--	--
6	45	63	58	55	63	46	--	54	57	--	--
7	56	62	59	54	62	47	--	55	--	--	48
8	56	65	60	48	61	47	--	56	--	--	57
9	56	59	60	50	60	48	--	55	--	--	47
10	55	60	61	49	61	48	--	56	--	--	48
11	55	59	63	46	60	47	--	55	--	--	49
12	54	60	63	48	58	49	--	56	--	--	47
13	54	62	63	46	58	47	--	--	--	--	46
14	54	63	62	42	56	44	--	--	--	--	48
15	55	64	60	46	56	43	--	--	--	--	47
16	54	64	62	47	55	45	--	--	--	--	45
17	52	64	61	47	55	45	--	--	--	--	49
18	53	65	60	49	54	46	--	--	--	--	48
19	53	66	60	51	54	46	--	--	--	--	47
20	54	61	59	46	53	45	--	--	--	--	46
21	53	59	58	49	52	46	--	--	--	51	46
22	54	59	58	46	50	44	--	--	--	50	45
23	52	59	58	45	49	45	--	--	--	50	45
24	55	60	56	53	48	44	--	--	--	53	40
25	56	59	57	54	47	43	--	56	--	53	44
26	58	58	57	56	49	38	--	55	--	52	38
27	57	59	57	56	49	38	--	65	--	50	40
28	58	57	55	56	48	42	43	60	--	50	48
29	60	57	54	56	48	38	43	62	--	52	39
30	55	57	53	55	44	39	41	64	--	52	38
31	--	57	53	--	45	--	41	--	--	54	--
Average	54	60	59	50	55	44	--	--	--	--	--

Periodic determinations of suspended-sediment discharge, water year October 1954 to September 1955

Date	Discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1954			
Oct. 9	93,000	97	24,400
1955			
Apr. 5	10,600	2	57

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.--Discharge: July 1949 to September 1956.
Sediment records: October 1953 to August 1955 (periodic).

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

Average discharge.--7 years, 2,135 cfs (1,546,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 6,550 cfs Aug. 5 (gage height, 10.78 ft); minimum not determined.
1954-55: Maximum discharge during water year, 6,500 cfs July 29 (gage height, 10.49 ft); minimum not determined.
1955-56: Maximum discharge during water year, 7,400 cfs July 14 (gage height, 11.11 ft); minimum not determined.
1949-56: Maximum discharge observed, 8,860 cfs Aug. 9, 1953 (gage height, 12.10 ft); minimum discharge not determined.

Remarks.--Records good except those for periods of doubtful gage-height record, which are fair, and those for periods of ice effect or no gage-height record, which are poor. Large diurnal fluctuation caused by glacier melt at the source.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,690				(*)			1,100	4,340	4,240	5,660	4,240
2	1,660							1,200	4,420	4,130	5,800	3,930
3	1,630							1,200	4,150	4,050	5,910	3,670
4	1,500							1,300	3,940	3,870	6,220	3,340
5	1,500							1,500	4,150	*3,790	6,500	3,050
6	1,500							1,700	4,410	4,110	6,410	3,190
7	1,400							1,950	4,570	4,150	6,230	3,400
8	1,400						800	2,300	4,530	4,210	6,060	3,600
9	1,400							3,080	4,500	4,310	5,920	3,080
10	1,300							3,500	4,530	4,470	*6,080	2,670
11	1,300							*3,980	4,570	4,930	6,100	2,500
12	1,300							4,450	4,660	5,350	6,220	2,600
13	1,300							4,620	4,710	5,060	6,150	*2,680
14	1,300		(*)					4,220	4,530	4,640	6,150	2,140
15	1,300							3,960	*4,250	*4,330	5,210	2,070
16	*1,200	760	750	760	760	750		3,690	4,050	4,510	4,710	2,050
17								3,600	3,790	4,710	4,130	2,050
18								3,610	3,530	4,930	3,930	2,020
19								3,650	3,410	5,420	3,860	2,360
20								3,560	3,500	6,120	4,010	2,590
21								3,570	3,640	6,500	4,440	2,640
22								3,670	3,720	6,340	4,870	2,440
23						(*)	900	3,430	3,830	6,010	4,660	2,300
24	960							3,190	3,970	5,560	4,350	2,170
25								3,210	3,980	5,260	4,320	2,000
26								3,520	3,980	4,950	4,400	1,970
27								3,830	4,030	4,360	5,570	1,890
28								4,210	4,110	4,460	5,850	1,830
29								4,030	4,300	4,800	5,540	1,740
30					------			3,750	4,320	5,170	4,950	1,710
31		------			------		------	4,220	------	5,460	4,540	------
Total	37,080	22,800	23,250	23,560	21,280	23,250	25,500	98,800	124,420	150,200	164,750	77,920
Mean	1,196	760	750	760	760	750	850	3,187	4,147	4,845	5,315	2,597
Ac-ft	73,550	45,220	46,120	46,730	42,210	46,120	50,580	196,000	246,800	297,900	326,800	154,600

Calendar year 1953: Max 8,860 Min - Mean 2,304 Ac-ft 1,668,000
Water year 1953-54: Max 6,500 Min - Mean 2,172 Ac-ft 1,573,000

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 4 to May 6 (no gage-height record Oct. 7, Oct. 17 to May 4; discharge estimated on basis of 4 discharge measurements, weather records, and records for stations near Tanacross and at Big Delta).

Tanana River at Northway Junction--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,740							1,200	2,800	4,000	5,950	2,480
2	1,720							1,300	2,920	4,040	5,820	2,220
3	1,690							1,300	2,750	4,090	5,660	2,220
4	1,620							1,400	2,620	4,210	5,610	2,200
5	1,460							1,400	2,400	4,250	5,570	2,150
6	b1,400							1,500	2,300	4,630	5,390	2,100
7	b1,300							1,500	2,210	5,040	5,160	2,060
8	b1,300	870	650			640	800	1,570	2,360	5,130	5,070	2,040
9	b1,400	(*)						1,620	2,620	5,140	5,000	2,010
10	1,410				(*)			1,730	2,710	5,210	5,020	1,960
11	1,440							1,790	2,820	5,160	5,000	2,200
12	1,460						(*)	1,870	2,730	4,950	4,640	2,590
13	*1,490			(*)				1,920	2,490	4,770	4,380	2,650
14	b1,500							1,980	2,300	4,750	4,190	2,720
15	1,390			720	700			2,050	2,180	4,680	3,530	2,490
16	b1,300							d2,100	2,150	4,620	3,010	2,380
17	b1,300							d2,200	2,130	4,470	2,780	2,100
18	b1,200							d2,300	2,260	4,300	2,710	2,000
19	1,200							d2,400	2,360	3,920	2,730	1,840
20	1,100							d2,600	2,570	3,800	2,700	1,780
21	1,100							d2,600	2,800	3,930	2,770	1,740
22	1,100							d2,600	2,970	4,420	2,820	1,620
23	1,100	770	710			710	980	d2,700	3,150	4,580	3,030	1,640
24	1,100							d2,700	3,710	4,840	3,260	1,600
25	1,000							d2,800	*3,980	5,010	3,430	1,620
26	1,000							*2,720	4,040	5,080	3,570	1,570
27	1,000							d2,700	3,920	5,630	*3,800	1,530
28	1,000							d2,800	3,870	*6,030	3,990	1,460
29	980				-			d3,000	3,910	6,400	3,540	1,480
30	970				-------			d3,100	3,970	5,980	3,250	1,430
31	990	-------			-------		-------	2,960	-------	5,990	2,880	-------
Total	39,760	24,600	21,110	22,320	19,600	20,960	26,700	66,410	86,000	149,050	126,240	59,880
Mean	1,283	820	681	720	700	676	890	2,142	2,867	4,808	4,072	1,996
Ac-ft	78,860	48,790	41,870	44,270	38,880	41,570	52,960	131,700	170,600	295,600	250,400	118,800

Calendar year 1954: Max 6,500 Min - Mean 2,178 Ac-ft 1,577,000
Water year 1954-55: Max 6,400 Min - Mean 1,815 Ac-ft 1,314,000

* Discharge measurement made on this day. b Stage-discharge relation affected by ice.

d Doubtful gage-height record; discharge computed from reconstructed gage-height graph, 1 discharge measurement, weather records, and records for nearby streams.

Note.--No gage-height record Oct. 19 to May 6 (stage-discharge relation affected by ice during most of period), Sept. 11, 17, 18, 24; discharge estimated on basis of 4 discharge measurements, weather records, and records for station at Big Delta.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.
1	1,400							2,540	1,920	5,780	4,880	3,660
2	1,400							2,960	1,900	6,030	4,980	3,580
3	*1,350							3,360	1,860	6,130	4,920	3,460
4	1,330							3,700	1,780	6,160	4,560	3,310
5	1,290	(*)						4,000	1,790	6,130	4,250	3,200
6	1,170							4,190	1,960	6,020	4,280	3,120
7	1,210							4,190	2,120	6,030	4,440	2,940
8	1,190	770					710	4,140	2,240	6,090	4,440	2,860
9	b1,160							3,700	2,130	6,260	4,320	2,700
10	b1,110							*3,110	2,120	6,540	4,340	2,180
11	b1,070							2,840	*2,240	6,800	4,360	2,270
12	b1,030							2,710	2,260	7,030	4,770	2,560
13	b1,000							2,560	2,830	7,220	5,190	2,680
14	b980							2,320	5,110	7,350	5,360	3,520
15	960							2,230	3,010	7,300	5,530	5,230
16	960		670	590	630	590		2,160	2,980	*7,300	5,490	5,080
17	970							2,100	2,960	7,270	5,640	3,360
18	980							2,000	2,850	7,250	5,730	5,110
19	940							1,840	2,880	7,140	5,600	2,690
20	900		(*)					1,800	2,920	7,030	5,460	2,660
21	870						1,100	1,740	2,970	6,740	5,110	2,660
22	860							1,700	3,110	6,220	4,480	2,300
23	880	670						1,770	3,140	5,680	4,090	2,180
24	910							1,860	2,930	5,210	3,790	2,090
25	900							1,830	2,720	4,720	*3,500	1,960
26	870			(*)			1,520	1,740	2,830	4,510	3,340	1,930
27	830						1,660	1,700	2,870	4,440	3,230	1,860
28	800						1,860	1,790	3,330	4,480	5,180	1,850
29	770				(*)		b2,100	1,920	4,130	4,400	3,300	1,760
30	760				-------		b2,360	1,960	5,070	4,630	5,580	1,780
31	750	-------			-------		-------	1,920	-------	4,710	3,680	-------
Total	31,600	21,600	20,770	18,290	18,270	18,290	31,150	78,380	80,960	188,580	139,620	80,140
Mean	1,019	720	670	590	630	590	1,038	2,528	2,699	6,083	4,504	2,671
Ac-ft	62,680	42,840	41,200	36,280	36,240	36,280	61,790	155,500	160,600	374,000	276,900	159,000

Calendar year 1955: Max 6,400 Min - Mean 1,784 Ac-ft 1,292,000
Water year 1955-56: Max 7,350 Min - Mean 1,988 Ac-ft 1,443,000

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 1, 2, Oct. 15 to Apr. 28 (stage-discharge relation affected by ice during entire period), May 4, 5; discharge estimated on basis of 4 discharge measurements, weather records, and records for station at Big Delta.

TANANA RIVER AT NORTHWAY JUNCTION

Chemical analyses, in parts per million, December, 1953 to August, 1956

Date of collection	Mean discharge (cfs)	Temperature (°F)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
															Calcium, magnesium	Noncarbonate			
1953																			
Dec. 15	1,300	32	28	0.16	50	8.2	5.4	1.5	184	21	2.0	0.0	0.2	207	158	8	346	7.3	3
1954																			
Jan. 26	760	--	15	.00	37	7.1	4.1	1.1	133	32	1.2	.0	1.2	165	122	12	244	8.0	--
Sept. 13	a 2,860	--	11	.09	39	6.6	4.4	.4	126	28	1.5	.0	.3	153	124	21	259	7.3	8
1955																			
Jan. 13	a 731	32	14	.05	48	8.5	3.1	1.3	166	26	1.6	.0	.2	185	155	19	308	7.5	--
Apr. 12	a 793	--	18	.08	47	8.9	5.7	1.5	172	22	1.5	.1	.7	190	154	13	304	--	0
Aug. 8	a 5,060	--	12	.18	29	6.2	5.4	1.1	97	24	2.0	--	.4	128	98	18	208	8.0	--
1956																			
May 10	3,110	--	8.6	.00	28	5.6	3.2	1.7	95	19	.0	--	.2	--	93	15	187	7.3	75
Aug. 4	4,560	52	11	.00	36	2.4	4.7	1.4	106	19	1.2	.1	.4	128	100	13	212	7.5	10
Aug. 31	3,680	48	12	.00	38	5.8	5.8	1.7	121	27	1.5	.1	.4	152	119	20	251	8.0	3

a Discharge at time of sampling.

TANANA RIVER AT NORTHWAY JUNCTION--Continued

Periodic determinations of suspended-sediment discharge, water years October 1953 to September 1956

Date	Discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1953			
Oct. 13	1,380	195	727
Nov. 19	a 760	27	55
Dec. 15	a 750	40	81
1954			
Jan. 26	a 760	21	43
June 1	4,310	1,030	12,000
June 15	4,120	1,020	11,300
June 29	4,390	1,860	22,000
July 15	4,330	1,340	15,700
July 23	6,580	2,080	37,000
Aug. 2	6,030	2,880	46,900
Aug. 10	6,060	2,960	48,400
Aug. 17	4,120	1,250	13,900
Aug. 24	4,250	1,230	14,100
Sept. 13	2,650	602	4,310
Oct. 13	1,500	225	911
Nov. 9	815	25	55
1955			
Jan. 13	731	42	83
Apr. 12	793	42	90
June 23	3,480	2,300	21,600
July 8	5,060	3,000	41,000
July 22	4,520	2,370	28,900
Aug. 11	5,010	1,870	25,300
Aug. 31	2,820	567	4,320
1956			
May 11	2,850	724	5,570
June 14	3,000	1,510	12,200
Aug. 4	a 4,560	1,360	16,700
Aug. 31	a 3,680	1,040	10,300

a Mean daily discharge.

TANANA RIVER AT NORTHWAY JUNCTION—Continued

Particle-size analyses of suspended sediment, water years October 1953 to September 1956
(Methods of analysis: B, bottom withdrawal tube; D, decantation; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed; M, mechanically dispersed)

Date of collection	Time	Discharge (cfs)	Water temperature (°F)	Suspended sediment													Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters											
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	
1954																	
July 23	2:00 p.m.	6,580	--	2,080	5,130	22	31	41	50	64	80	89	97		--	--	PSWCM
Aug. 2	2:00 p.m.	6,030	--	2,850	5,080	27	37	48	62	73	87	94	98		--	--	PSWCM
Aug. 24	3:00 p.m.	4,250	--	1,230	4,360	27	35	45	52	64	82	94	99		--	--	PSWCM
Sept. 13	2:50 p.m.	3,650	--	581	2,300	13	18	25	30	39	66	84	98		--	--	PSWCM
1955																	
June 23	2:00 p.m.	3,480	--	2,140	5,400	--	30	--	51	--	78	91	99		100	--	PSWCM
July 8	12:00 noon	5,060	--	3,380	10,700	--	33	--	57	--	76	82	87		95	100	PSWCM
July 22	4:00 p.m.	4,520	--	2,330	8,010	--	42	--	67	76	89	95	99		100	--	PSWCM
Aug. 11	12:05 p.m.	5,010	--	1,870	4,080	--	28	--	43	51	60	71	86		99	100	PSWCM
Aug. 31	2:00 p.m.	2,820	--	572	624	26	31	36	41	47	88	90	99		100	--	BSWCM
1956																	
June 14	6:45 p.m.	3,000	55	1,510	3,440	24	28	36	44	51	66	82	98		100	--	BSWCM
Aug. 4	9:15 a.m.	4,560	52	1,360	1,720	23	29	39	44	50	70	84	93		100	--	BSWCM
Aug. 31	3:30 p.m.	3,680	48	1,040	1,580	14	18	23	28	39	60	83	98		100	--	PSWCM

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 (discontinued).

Gage.--Wire-weight gage read once daily. Datum of gage is 1,620.84 ft above mean sea level.

Extremes.--Maximum discharge observed during year, 2,410 cfs May 11; maximum gage height observed, 4.88 ft May 27; no flow for several months.
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 poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	b110						0		a1,100	100	a450	191
2	550				(*)		0		*1,020	810	538	173
3	b37						0		980	686	870	178
4	a30						0		805	318	578	182
5	b25						0		910	*432	520	206
6	a21						0	a600	1,130	880	376	a230
7	a18						0		678	1,260	339	228
8	b16						0		683	900	a350	222
9	b14						0		727	718	400	188
10	b12						0		488	*476	432	150
11	a11						0	*2,170	392	a400	508	188
12	b10						0	1,730	364	339	552	a170
13	b9		(*)				0		624	267	412	*164
14	b8						0		396	225	a450	158
15	b7						0		206	216	*260	142
16	b6						0		100	203	270	128
17	*b6						0		142	194	267	123
18							0		93	287	235	a140
19							0		76	460	231	a170
20							0	a540	167	440	314	219
21									200	472	460	
22						(*)			173	400	322	
23									139	314	270	
24									118	356	254	
25	a3								61	a400	346	
26							a25		84	197	314	a140
27								1,890	a100	191	267	
28								1,440	115	213	228	
29					-			642	96	270	a240	
30					----			a700	133	322	225	
31		----			----		------	a900	------	364	197	------
Total	432	0	0	0	0	0	250	23,032	12,290	13,110	11,475	4,948
Mean	13.9	0	0	0	0	0	8.3	743	410	423	370	165
Ac-ft	857	0	0	0	0	0	496	45,680	24,380	26,000	22,760	9,810

Calendar year 1953: Max 1,670 Min 0 Mean 225 Ac-ft 162,900
Water year 1953-54: Max 2,170 Min 0 Mean 180 Ac-ft 130,000

* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge estimated on basis of 2 discharge measurements and weather records.
b Stage-discharge relation affected by ice.
Note.--Result of discharge measurement made Oct. 12, 1954, 30.3 cfs.

Tanana River near Tanacross

Location.--Lat 63°23'15", long 143°44'45", on left bank a quarter of a mile downstream from unnamed tributary, a quarter of a mile north of Cathedral Rapids, 8 miles upstream from Robertson River, and 13 miles west of Tanacross.

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

Records available.--Discharge: June 1953 to September 1956.
Chemical analyses: January to October 1954.
Water temperatures: June to September 1954.
Sediment records: October 1953 to September 1954 (daily), October 1954 to September 1956 (periodic).

Gage.--Water-stage recorder. Datum of gage is 1,489.58 ft above mean sea level.

Extremes.--1953-54: Maximum discharge during water year, 28,400 cfs Aug. 13 (gage height, 9.75 ft); minimum not determined.
1954-55: Maximum discharge during water year, 25,000 cfs July 29 (gage height, 9.07 ft); minimum not determined.
1955-56: Maximum discharge during water year, 27,100 cfs July 20 (gage height, 9.50 ft); minimum not determined.
1953-56: Maximum discharge, 35,500 cfs Aug. 9, 1953 (gage height, 11.04 ft); minimum not determined.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor. Some diurnal fluctuation caused by glacier melt at the source. Records of specific conductance of daily samples available in district office, Quality of Water Branch, at Palmer, Alaska.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,200	b2,100							10,500	15,700	21,900	14,200
2	6,000	b2,100							10,900	14,300	23,300	13,100
3	5,800								11,000	14,400	25,000	12,000
4	5,600								12,000	14,500	27,000	11,400
5	5,400								12,300	14,200	27,400	11,000
6	5,300							5,300	11,600	*14,600	27,000	11,100
7	5,200								11,900	16,100	26,400	11,900
8	5,200						2,000		12,500	16,400	25,400	12,300
9	5,100								13,000	16,000	25,800	12,700
10	5,020								13,800	15,900	26,300	12,800
11	5,020								14,000	16,400	*27,000	10,900
12	4,980							*10,600	14,000	*17,600	28,000	*10,400
13	4,900		(*)						14,200	19,000	28,000	10,200
14	4,700								15,400	18,000	27,200	10,100
15	4,600		2,100	2,000	1,900	1,900			15,000	16,600	25,800	8,800
16	4,420	2,200							13,200	15,600	*22,600	7,730
17	b4,200								11,700	16,300	21,800	7,280
18	b4,000					(*)			11,100	17,100	18,800	7,030
19	b3,800								11,200	19,000	*15,100	7,060
20	b3,700							10,000	11,300	22,300	14,000	7,960
21	b3,500								11,700	*24,400	14,500	8,140
22	b3,300								12,400	24,900	17,300	7,840
23	b3,100								12,600	23,800	18,000	7,590
24	b2,800						2,400		13,200	21,600	17,900	7,140
25	b2,700								12,400	19,700	17,400	6,920
26	b2,500								13,000	18,700	19,800	6,810
27	b2,400							11,100	13,800	17,600	23,400	6,580
28	b2,300							11,500	13,900	16,600	22,600	6,320
29	b2,200				-			11,700	14,500	16,200	19,000	6,060
30	b2,100				------			12,000	15,100	18,400	16,400	5,800
31	b2,100	-----		(*)	------		-----	*10,900	------	20,800	15,100	------
Total	128,140	65,800	65,100	62,000	53,200	58,900	66,000	266,100	383,200	552,700	685,200	279,160
Mean	4,134	2,193	2,100	2,000	1,900	1,900	2,200	8,584	12,770	17,830	22,100	9,305
Ac-ft	254,200	130,500	129,100	123,000	105,500	116,800	130,900	527,800	760,100	‡1,096	‡1,359	553,700

Calendar year 1953: Max - Min - Mean - Ac-ft -
Water year 1953-54: Max 28,000 Min - Mean 7,303 Ac-ft 5,287,000

* Discharge measurement made on this day.
‡ Expressed in thousands.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Oct. 1-9, Nov. 3 to May 11, May 13-26; discharge estimated on basis of 4 discharge measurements, weather records, and records for other stations on Tanana River.

Tanana River near Tanacross--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,590								7,400	15,400	20,200	12,300
2	5,540								7,450	15,600	20,600	11,600
3	5,540								7,620	16,200	20,500	10,900
4	5,540								7,760	16,100	*20,400	10,300
5	5,300								7,650	15,800	20,200	9,830
6	*5,150								7,450	16,800	20,200	9,340
7	5,020								7,170	18,400	20,300	8,920
8	4,750	3,800	2,000		1,900	1,700	2,300		7,000	18,700	20,400	8,500
9	4,700				(*)				7,140	19,400	21,300	8,080
10	4,780	(*)							8,080	19,500	20,700	7,990
11	4,880						(*)		9,520	19,200	18,900	7,930
12	*4,980								10,300	19,700	18,900	8,050
13	4,880							5,200	10,800	22,300	18,100	8,680
14	4,820			(*)					10,700	21,600	17,000	9,490
15	4,750								9,670	18,800	15,800	9,730
16	4,680			2,000					9,010	17,000	13,800	10,000
17	4,580								9,070	16,100	12,600	10,100
18	4,450								9,400	15,600	12,100	9,130
19	4,380								9,610	15,500	12,000	8,140
20	4,300								9,920	15,300	11,900	6,810
21	4,250								10,400	15,300	11,800	6,210
22	4,180				1,700				10,800	15,700	11,800	5,980
23	4,100	3,000	2,100				2,600		11,900	16,800	12,000	5,640
24	4,060					2,000			13,100	17,600	12,300	5,540
25	4,010								*14,200	18,800	12,500	5,430
26	3,960							*7,090	14,800	19,400	13,100	5,380
27	3,840							7,370	14,800	20,600	*14,400	5,380
28	3,840							7,990	14,900	22,800	15,300	5,280
29	3,840							7,620	15,200	*24,500	15,000	5,200
30	b3,800				--			7,370	15,400	22,400	14,000	5,050
31	b4,000	----			------		------	7,370	------	20,400	13,100	------
Total	142,490	102,000	63,600	62,000	50,600	57,500	73,500	174,810	308,220	567,300	501,200	240,910
Mean	4,596	3,400	2,052	2,000	1,807	1,855	2,450	5,639	10,270	18,300	16,170	8,030
Ac-ft	282,600	202,300	126,100	123,000	100,400	114,000	145,800	346,700	611,300	‡1,125	994,100	477,800

Calendar year 1954: Max 28,000 Min - Mean 7,437 Ac-ft 5,384,000
Water year 1954-55: Max 24,500 Min - Mean 6,422 Ac-ft 4,649,000

* Discharge measurement made on this day. ‡ Expressed in thousands.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Nov. 1 to May 25 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 5 discharge measurements, weather records, and records for other stations on Tanana River.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*4,920				(*)	(*)			7,400	17,400	19,600	15,400
2	4,820								7,300	18,400	21,000	13,800
3	4,700								7,200	18,700	21,300	13,100
4	4,580								7,000	19,400	21,000	12,700
5	4,420							11,000	6,800	20,200	20,300	12,600
6	4,320								6,800	20,700	19,000	12,800
7	4,200								7,300	20,800	18,200	11,900
8	4,030						1,800		7,700	21,100	18,400	10,700
9	3,890							(*)	8,300	23,400	17,700	9,760
10	b3,770								8,500	25,000	17,400	9,160
11	b3,670								8,400	23,800	17,600	8,740
12	b3,560								8,300	22,500	18,400	8,410
13	b3,470								*8,560	23,000	19,400	8,290
14	b3,350								9,100	22,900	20,900	9,160
15	b3,240								9,640	22,700	21,800	11,600
16	3,200	2,300	2,000	1,700	1,600	1,400		9,100	9,580	23,500	22,700	14,800
17	3,200								9,670	24,400	23,600	15,100
18	3,200								9,920	25,000	24,800	13,900
19	3,300								10,200	*26,000	25,600	12,800
20	3,200								10,400	26,800	26,100	12,000
21	3,000		(*)						11,000	26,700	26,000	11,500
22	2,900								11,800	26,200	24,800	11,100
23	3,000						4,100		11,900	25,400	19,200	10,400
24	3,100								11,500	22,800	16,400	9,760
25	3,100								11,500	20,500	*14,800	9,130
26	3,000							6,900	12,000	19,400	13,800	8,590
27	2,900								12,000	18,800	13,400	8,170
28	2,700								11,300	18,400	13,700	7,800
29	2,600								12,000	18,600	15,400	7,800
30	2,500				--				14,800	19,100	17,800	7,900
31	2,400	---			------		------		------	19,100	17,800	------
Total	108,240	69,000	62,000	52,700	46,400	43,400	88,500	278,900	287,870	680,700	607,900	328,870
Mean	3,492	2,300	2,000	1,700	1,600	1,400	2,950	8,932	9,596	21,960	19,610	10,960
Ac-ft	214,700	136,900	123,000	104,500	92,030	86,080	175,500	549,200	571,000	‡1,350	‡1,206	652,300

Calendar year 1955: Max 24,500 Min - Mean 6,234 Ac-ft 4,513,000
Water year 1955-56: Max 26,800 Min - Mean 7,247 Ac-ft 5,261,000

* Discharge measurement made on this day. ‡ Expressed in thousands.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Oct. 16 to May 8 (stage-discharge relation affected by ice during most of period), May 10 to June 12, Sept. 28-30; discharge estimated on basis of 5 discharge measurements, weather records, and records for stations at Northway Junction and Big Delta.

TANANA RIVER NEAR TANACROSS

Chemical analyses, in parts per million, December 1953 to September 1956

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1953																		
Dec. 16	a 2,100	20	0.04	51	9.4	5.8	1.4	184	27	1.6	0.1	1.1	208	166	15	336	7.4	--
1954																		
Jan. 26	a 2,000	19	.01	48	10	5.6	1.3	180	28	2.0	.2	.7	205	161	13	326	7.8	0
May 12	a 10,600	9.5	.09	35	6.0	4.9	1.3	122	22	2.4	.0	1.4	143	112	12	241	7.1	10
May 20, 23, 25-27, 30, 31	10,570	9.5	.04	29	6.2	5.2	1.0	106	20	3.0	.2	.4	133	98	11	208	7.7	0
June 1-10	11,950	9.9	.08	29	5.4	5.3	1.2	102	20	3.8	.2	.5	133	95	11	209	7.4	0
June 11-20	13,110	9.7	.07	27	5.0	5.9	1.3	98	19	3.2	.2	.3	123	88	8	200	7.4	0
June 21-30	13,260	8.8	.04	24	4.9	7.0	1.5	89	18	4.2	.2	.4	114	80	7	187	7.3	0
July 1-10	15,210	8.8	.07	24	5.1	5.8	.9	88	20	3.0	.2	.2	115	81	9	186	7.1	0
July 11-14	17,750	10	.01	29	5.0	6.7	1.5	102	21	3.0	.2	.6	127	93	9	208	7.4	0
July 15-20	17,820	9.5	.02	25	4.0	5.9	.9	90	17	3.2	.2	.2	113	79	5	185	7.6	0
July 21-31	20,250	9.0	.04	25	4.0	5.5	.8	92	16	2.8	.2	.1	110	79	3	181	7.7	0
Aug. 1-10	25,550	9.5	.06	23	4.3	7.2	1.6	88	14	2.5	.2	.2	108	75	3	173	7.6	0
Aug. 11-20	22,830	12	.04	27	4.3	6.4	1.4	103	13	2.0	.1	.4	119	85	1	195	7.7	0
Aug. 21-31	18,310	12	.05	27	5.2	7.3	2.0	107	15	2.2	.1	.4	125	89	1	206	7.7	0
Sept. 1-10	12,250	12	.05	29	5.2	6.9	1.8	110	18	3.0	.1	.6	131	94	4	218	7.7	0
Sept. 11-20	8,746	12	.05	33	5.9	7.8	2.0	121	22	2.8	.1	.7	147	107	7	240	7.7	0
Sept. 21-30	6,920	13	.04	37	7.3	7.4	1.6	133	27	2.5	.1	.7	167	122	13	269	7.8	0
Oct. 1-5	5,502	14	.04	39	8.2	8.4	2.0	144	26	2.5	.1	.6	176	131	13	285	7.7	0
1955																		
Jan. 14	a 2,000	17	.05	48	9.3	3.7	1.8	173	26	1.5	.0	.2	193	158	16	327	7.3	--
Apr. 11	a 2,250	19	.02	46	11	5.9	2.1	169	26	2.0	.0	.7	196	160	22	318	7.8	0
May 18	5,200	14	.04	32	5.3	5.1	1.4	114	17	2.2	.0	1.1	134	102	8	218	7.8	10
June 23	11,900	10	.03	31	5.4	5.4	1.7	102	23	3.0	--	.5	130	100	16	221	7.9	--
July 8	21,100	10	.03	24	4.6	5.8	1.6	86	19	2.0	--	.3	109	79	8	186	7.8	--
Sept. 20	12,000	13	.00	36	6.7	6.9	1.5	130	22	3.2	.0	.5	154	117	11	263	8.1	0
1956																		
May 11	--	9.0	.00	29	4.7	4.5	1.0	96	18	2.5	--	.3	131	92	13	188	7.5	60
June 15	9,640	10	.00	29	5.2	6.0	1.7	103	17	5.2	.2	.8	126	94	9	210	8.0	10
Aug. 3	21,300	12	.05	24	5.1	5.4	1.2	91	18	2.0	.2	.2	113	81	6	182	7.5	5
Sept. 1	15,400	15	.00	27	4.6	7.2	1.2	100	17	2.2	.2	.2	124	86	4	195	8.0	5

a Discharge at time of sampling.

TANANA RIVER NEAR TANACROSS--Continued

Temperature (°F) of water, June to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									--	57	53	49
2									--	57	53	49
3									--	58	--	50
4									58	57	--	50
5									57	55	54	--
6									57	57	--	49
7									--	56	54	49
8									57	57	55	--
9									57	57	57	--
10									57	55	56	--
11									57	55	55	--
12									57	56	56	45
13									57	53	53	42
14									57	53	54	43
15									52	56	55	43
16									53	59	--	42
17									55	58	55	44
18									54	61	56	41
19									--	60	55	40
20									58	60	--	38
21									--	56	50	39
22									56	54	51	36
23									--	56	52	--
24									57	52	52	35
25									57	53	51	36
26									57	--	51	--
27									60	56	50	35
28									--	57	--	36
29									--	56	--	36
30									57	56	47	38
31												
Average									--	--	--	--

TANANA RIVER NEAR TANACROSS--Continued

Suspended sediment, water year October 1953 to September 1954

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1.....	6,200			2,100					
2.....	6,000			2,100					
3.....	5,800								
4.....	5,600								
5.....	5,400								
6.....	5,300								
7.....	5,200								
8.....	5,200								
9.....	5,100								
10.....	5,020								
11.....	5,020								
12.....	4,980								
13.....	4,900	240							
14.....	4,700								
15.....	4,600						2,100	42	
16.....	4,420			2,200					
17.....	4,200								
18.....	4,000								
19.....	3,800				38				
20.....	3,700								
21.....	3,500								
22.....	3,300								
23.....	3,100								
24.....	2,800								
25.....	2,700								
26.....	2,500								
27.....	2,400								
28.....	2,300								
29.....	2,200								
30.....	2,100								
31.....	2,100								
Total.	128,140	--	e 87,000	65,800	--	e 7,200	65,100	--	e 6,800

Day	January			February			March		
1.....									
2.....									
3.....									
4.....									
5.....									
6.....									
7.....									
8.....									
9.....									
10.....									
11.....									
12.....									
13.....									
14.....									
15.....	2,000			1,900			1,900		
16.....									
17.....									
18.....									
19.....									
20.....									
21.....									
22.....									
23.....									
24.....									
25.....									
26.....		15							
27.....									
28.....									
29.....									
30.....									
31.....									
Total.	62,000	--	e 3,500	53,200	--		58,900	--	--

e Estimated on basis of monthly samples.

TANANA RIVER NEAR TANACROSS--Continued

Suspended sediment, water year October 1953 to September 1954--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1							10,500	1,570	44,500
2							10,900	1,070	31,500
3							11,000	858	25,500
4							12,000	1,100	35,600
5							12,300	1,230	40,800
6				5,300	--	a9,000	11,600	972	30,400
7							11,900	1,020	b32,800
8	2,000						12,500	1,040	35,100
9							13,000	1,200	42,100
10							13,800	1,410	52,500
11		29					14,000	1,360	51,400
12				10,600	1,580	45,000	14,000	1,330	50,300
13							14,200	1,280	49,100
14							15,400	1,510	62,800
15							15,000	1,510	61,200
16							13,200	1,050	37,400
17							11,700	936	29,600
18							11,100	765	22,900
19							11,200	734	22,200
20				10,000	710	a25,000	11,300	734	22,400
21					670		11,700	722	22,800
22					--		12,400	848	28,400
23	2,400				710		12,600	909	30,900
24					--		13,200	1,150	41,000
25					720		12,400	1,180	39,500
26					970		13,000	1,130	39,700
27				11,100	1,040	31,200	13,800	1,260	46,900
28				11,500	1,040	a32,000	13,900	1,290	48,400
29				11,700	1,060	a34,000	14,500	1,380	54,000
30				12,000	1,220	39,500	15,100	1,510	61,600
31				10,900	1,040	30,600			
Total	66,000	--	e6,500	266,100	--	661,300	383,200	--	1,193,300

Day	July			August			September		
1	15,700	1,300	55,100	21,900	1,880	111,000	14,200	1,120	42,900
2	14,300	1,060	b40,900	23,300	2,020	127,000	13,100	884	31,300
3	14,400	1,080	42,000	25,000	2,240	151,000	12,000	850	27,500
4	14,500	1,040	40,700	27,000	2,660	194,000	11,400	779	24,000
5	14,200	954	36,600	27,400	3,370	249,000	11,000	716	21,300
6	14,600	1,030	40,600	27,000	3,020	220,000	11,100	778	23,300
7	16,100	1,220	53,000	26,400	2,520	180,000	11,900	795	25,500
8	16,400	1,220	54,000	25,400	2,150	147,000	12,300	781	b25,900
9	16,000	1,010	43,600	25,800	2,050	143,000	12,700	770	b26,400
10	15,900	1,100	47,200	26,300	2,260	160,000	12,800	726	b25,100
11	16,400	1,080	47,800	27,000	2,290	167,000	10,900	706	b20,800
12	17,600	1,390	66,100	28,000	2,370	179,000	10,400	681	19,100
13	19,000	1,960	101,000	28,000	2,520	191,000	10,200	688	18,900
14	18,000	1,810	88,000	27,200	2,180	160,000	10,100	594	16,200
15	16,600	1,400	62,700	25,800	2,050	143,000	8,800	576	13,700
16	15,600	1,130	47,600	22,600	1,740	106,000	7,730	554	11,600
17	16,300	1,590	70,000	21,800	1,450	85,300	7,280	518	10,200
18	17,100	1,540	71,100	18,800	1,480	75,100	7,030	459	8,710
19	19,000	1,760	90,300	15,100	1,580	64,400	7,060	421	8,030
20	22,300	2,650	160,000	14,000	1,390	52,500	7,960	535	11,500
21	24,400	3,000	198,000	14,500	1,400	54,800	8,140	560	b12,300
22	24,900	2,790	188,000	17,300	1,550	72,400	7,840	517	10,900
23	23,800	2,490	160,000	18,000	1,970	95,700	7,590	590	12,100
24	21,600	1,970	115,000	17,900	2,250	109,000	7,140	432	8,330
25	19,700	1,570	83,500	17,400	2,100	98,700	6,920	393	7,340
26	18,700	1,170	59,100	19,800	2,140	114,000	6,810	439	8,070
27	17,600	1,130	53,700	23,400	2,310	146,000	6,580	412	7,320
28	16,600	1,040	46,600	22,600	2,210	135,000	6,320	360	6,140
29	16,200	1,010	44,200	19,000	2,060	106,000	6,060	322	5,270
30	18,400	1,120	55,600	16,400	1,680	74,400	5,800	345	5,400
31	20,800	1,620	91,000	15,100	1,410	57,500			
Total	552,700	--	2,353,000	685,200	--	3,968,800	279,160	--	495,110

Total discharge for year (cfs-days) 2,665,500
Total load for year (tons) b8,787,210

e Estimated on basis of monthly samples.
a Computed from estimated concentration graph.
b Total includes estimate for February and March 1954.

TANANA RIVER NEAR TANACROSS--Continued

Periodic determinations of suspended-sediment discharge, water years October 1954 to September 1956

Date	Water discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1954			
Oct. 1	a 5,590	358	5,400
Oct. 2	a 5,540	304	4,550
Oct. 3	a 5,540	277	4,140
Oct. 4	a 5,540	291	4,350
Oct. 5	a 5,300	276	3,950
Oct. 7	4,820	208	2,710
Oct. 11	a 4,880	300	3,950
Nov. 10	3,470	82	768
1955			
Jan. 14	2,000	42	227
Apr. 11	2,250	34	207
May 18	a 5,200	1,260	17,700
June 23	13,300	1,570	56,400
July 8	18,800	2,070	105,000
July 26	18,400	1,090	54,200
Aug. 11	18,600	1,320	66,300
1956			
May 11	11,000	992	29,500
June 15	11,300	894	27,300
Aug. 3	21,200	1,650	94,400
Sept. 1	15,600	1,280	53,900

a Mean daily discharge

TANANA RIVER NEAR TANACROSS--Continued

Particle-size analyses of suspended sediment, water years October 1953 to September 1956
(Methods of analysis: B, bottom withdrawal tube; D, decantation; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed; M, mechanically dispersed)

Date of collection	Time	Discharge (cfs)	Water temperature (°F)	Suspended sediment: Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters: 0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	Methods of analysis
1954																	
Jan. 26	4:00 p.m.			15	15	--	--	--	--	--	49	56	89		100		S
May 27	9:00 a.m.	a 11,100		1,160	7,310	11	15	22	32	48	70	82	95		--		BSWCM
June 6	4:00 p.m.	a 11,600		1,180	5,070	13	16	22	29	39	53	64	76		94		BSWCM
June 16	11:00 a.m.	a 13,200		1,040	4,010	27	33	42	49	57	71	82	92		97		PSWCM
July 1	4:00 p.m.	15,700		1,170	3,250	30	36	45	55	62	74	84	97		--		PSWCM
July 12	10:00 p.m.	a 17,600		1,630	2,750	28	38	46	58	69	80	88	98		--		PSWCM
July 20	6:00 p.m.	a 22,300		2,930	3,240	21	29	40	54	69	87	92	97		100		BSWCM
July 30	12:00 noon	a 18,400		1,230	3,080	28	36	44	52	62	76	86	97		100		PSWCM
July 31	6:00 p.m.	a 20,800		1,810	4,240	32	38	48	62	71	83	90	98		--		PSWCM
Aug. 5	8:00 p.m.	27,400		3,330	6,400	35	47	60	76	87	89	94	98		--		PSWCM
Aug. 13	12:00 noon	28,000		2,430	4,990	31	42	57	69	78	88	93	98		--		PSWCM
Aug. 18	9:00 a.m.	18,800		1,350	3,470	27	35	44	55	66	80	89	98		--		PSWCM
Sept. 12	11:00 a.m.	10,500		703	3,910	32	40	46	54	63	72	82	97		--		PSWCM
Sept. 21	11:00 a.m.	8,140		478	2,050	18	20	28	35	45	58	72	93		--		BSWCM
1955																	
May 18	6:00 a.m.	a 5,200		1,220	1,590	9	12	18	27	39	64	81	93		100		BSWCM
June 23	5:30 p.m.	13,300		1,520	3,760	--	25	--	46	--	69	80	92		99		PSWCM
July 8	12:00 noon	18,800		1,910	5,800	--	35	--	58	69	80	88	97		100		PSWCM
July 26	4:00 p.m.	18,400		1,120	2,440	43	56	67	82	91	99	100	--		--		BSWCM
Aug. 11	3:30 p.m.	18,600		1,320	6,070	29	36	45	55	63	73	81	96		100		BSWCM
1956																	
May 11	--	a 11,000		992	1,570	14	24	30	38	50	76	89	97		100		BSWCM
June 15	7:45 a.m.	11,300		894	4,340	18	22	30	38	49	61	71	88		99		BSWCM

a Mean daily discharge.

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.--Discharge: September 1948 to September 1952, October 1953 to September 1956.
Chemical analyses: May 1949 to September 1952.
Water temperatures: May 1949 to September 1951.

Gage.--Wire-weight gage read once daily. Datum of gage is 962.95 ft above mean sea level.

Average discharge.--7 years, 14,700 cfs (10,640,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 50,000 cfs Aug. 3 (gage height, 22.86 ft, from graph based on gage readings); minimum daily, 4,500 cfs Mar. 16 to Apr. 18.
1954-55: Maximum discharge during water year, 37,600 cfs July 30; maximum gage height, 22.85 ft July 27, from graph based on gage readings; minimum daily discharge, 3,800 cfs Mar. 4-7.
1955-56: Maximum discharge during water year, 48,700 cfs July 18 (gage height, 22.42 ft, from graph based on gage readings); minimum daily, 5,200 cfs Mar. 12, 13.
1948-52, 1953-56: Maximum discharge observed, 62,800 cfs July 29, 1949 (gage height, 23.57 ft); minimum daily, that of Mar. 4-7, 1955.

Remarks.--Records poor. Diurnal fluctuation caused by glacier melt at the source.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11,600	4,700	4,900	4,900	4,700	4,600	4,500	5,900	20,700	26,600	41,600	26,800
2	11,200	4,700	4,900	4,900	4,700	4,600	4,500	6,400	20,400	28,900	47,700	25,400
3	10,700	4,800	4,900	4,900	4,700	4,600	4,500	6,900	20,400	29,100	48,700	24,000
4	10,500	4,900	4,900	4,900	4,700	4,600	4,500	7,320	*20,900	29,700	45,500	23,000
5	10,400	5,000	4,900	4,900	4,700	4,600	4,500	8,560	21,700	29,100	43,000	23,200
6	10,300	5,200	5,000	4,900	4,700	4,600	4,500	9,180	21,900	*29,300	39,900	23,000
7	10,200	5,300	5,100	4,900	4,700	4,600	4,500	10,800	22,200	28,400	38,800	24,100
8	10,100	5,400	5,200	4,900	4,700	4,600	4,500	13,900	23,000	28,600	40,200	24,000
9	10,100	5,400	5,200	4,800	4,700	4,600	4,500	16,000	23,400	28,500	41,000	23,000
10	10,100	5,400	5,200	4,800	4,700	4,600	4,500	17,100	23,200	28,000	42,000	22,700
11	10,100	5,500	*5,100	4,800	4,700	4,600	4,500	19,100	23,200	26,900	43,400	21,500
12	10,100	5,500	5,100	4,800	4,700	4,600	4,500	18,000	23,800	25,500	41,600	19,700
13	10,100	5,500	5,000	4,800	4,700	4,600	4,500	*17,200	24,100	*25,100	39,800	18,400
14	10,000	5,600	5,000	4,800	4,700	4,600	4,500	16,500	26,000	25,100	37,800	17,600
15	*9,600	5,600	5,000	4,800	4,700	4,600	4,500	16,200	30,200	26,600	35,700	18,300
16	9,200	5,600	5,000	4,800	4,600	4,500	4,500	15,900	30,600	26,100	34,300	19,600
17	8,900	5,600	5,000	4,800	4,600	4,500	4,500	16,500	28,800	28,400	32,000	19,400
18	8,700	5,600	5,000	4,800	4,600	4,500	4,500	16,700	25,300	30,700	*30,800	18,600
19	8,500	5,600	5,000	4,800	4,600	4,500	4,600	17,100	22,300	33,400	31,300	18,300
20	8,300	5,600	5,000	4,800	4,600	4,500	4,600	17,200	21,400	35,700	33,200	17,600
21	7,900	5,600	5,000	4,800	4,600	4,500	4,700	17,700	21,800	33,900	39,100	17,400
22	7,600	5,500	5,000	4,700	4,600	4,500	4,700	17,900	22,700	34,000	39,900	16,900
23	7,200	5,500	4,900	4,700	4,600	4,500	4,800	17,900	23,800	32,400	39,300	16,300
24	6,800	5,400	4,900	4,700	4,600	4,500	4,800	19,400	23,300	31,100	38,700	15,800
25	6,300	5,400	4,900	4,700	4,600	4,500	4,900	21,800	23,800	30,800	38,500	15,200
26	5,900	5,400	4,900	4,700	4,600	4,500	5,000	23,100	24,100	30,500	38,000	15,000
27	5,500	5,300	4,900	4,700	4,600	4,500	5,100	24,700	23,800	29,700	34,600	14,200
28	5,100	5,200	4,900	4,700	4,600	4,500	5,300	24,300	24,100	29,400	32,600	13,600
29	4,900	5,100	4,900	4,700	-	4,500	5,500	23,500	24,500	28,400	32,600	13,000
30	4,800	5,000	4,900	*4,700	-------	4,500	5,700	21,800	24,800	34,000	30,000	13,200
31	4,700	-------	4,900	4,700	-------	4,500	-------	21,400	-------	36,600	27,800	-------
Total	265,400	159,900	154,500	148,600	130,300	141,000	140,700	505,960	710,200	920,500	‡1,179.4	578,800
Mean	8,561	5,330	4,984	4,794	4,654	4,548	4,690	16,320	23,670	29,690	38,050	19,290
Ac-ft	526,400	317,200	306,400	294,700	258,400	279,700	279,100	‡1,004	‡1,409	‡1,826	‡2,339	‡1,148

Calendar year 1953: Max - Min - Mean - Ac-ft -
Water year 1953-54: Max 48,700 Min 4,500 Mean 13,800 Ac-ft 9,988,000

* Discharge measurement made on this day.
‡ Expressed in thousands.
Note.--Stage-discharge relation affected by ice Oct. 16 to May 2.

Tanana River at Big Delta--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13,000	8,000	4,900	4,900	5,300	4,000	4,600	6,380	16,900	26,200	35,000	23,600
2	13,000	8,600	4,600	5,000	5,200	3,900	4,700	6,650	16,100	26,300	*33,800	22,800
3	12,700	8,700	4,300	5,100	5,200	3,900	4,800	6,820	15,600	26,300	34,000	21,700
4	12,400	8,600	4,100	5,200	5,200	3,800	4,800	6,820	15,600	26,500	33,600	20,500
5	12,400	8,100	4,000	5,400	5,200	3,800	4,600	7,200	16,000	26,900	33,100	19,800
6	12,000	7,400	4,000	*5,600	5,200	3,800	4,400	7,580	16,600	26,100	32,200	19,100
7	11,500	6,900	4,000	5,700	5,100	3,800	4,200	7,700	16,700	25,700	31,200	18,700
8	11,500	6,600	4,100	5,700	*5,100	3,900	4,200	8,770	15,500	28,600	32,100	19,100
9	11,500	6,200	4,300	5,800	5,000	3,900	4,200	9,210	15,300	30,000	32,100	20,600
10	11,800	5,700	4,600	5,700	4,900	4,000	*4,300	9,570	16,000	31,000	32,600	20,900
11	*11,600	5,300	4,700	5,600	4,800	4,100	4,400	9,880	16,900	32,200	32,400	22,700
12	11,400	4,900	4,600	5,400	4,600	4,200	4,500	10,400	17,500	33,000	31,600	26,700
13	10,900	4,600	4,500	5,200	4,500	4,300	4,600	11,000	18,800	32,600	30,800	25,700
14	10,900	4,400	4,500	5,100	4,400	4,400	4,600	11,200	19,400	32,800	28,700	23,600
15	10,900	4,200	4,600	5,000	4,300	4,500	4,700	11,400	18,900	31,400	25,700	20,900
16	10,600	4,200	4,700	4,900	4,200	4,500	4,700	12,200	18,000	30,000	23,100	20,300
17	10,000	4,200	4,900	4,800	4,300	4,600	4,800	13,000	17,000	28,800	21,800	18,600
18	9,740	4,300	5,100	4,800	4,400	4,600	4,800	13,400	17,600	26,200	22,600	17,000
19	9,300	4,500	5,200	4,900	4,600	4,600	4,900	14,000	18,600	26,200	22,500	16,100
20	9,000	4,600	5,300	5,100	4,700	4,600	5,000	14,600	18,400	26,300	22,700	15,000
21	8,700	4,800	5,400	5,200	4,800	4,500	5,000	15,000	20,000	26,200	22,800	14,600
22	8,400	4,900	5,400	5,200	4,700	4,500	5,100	15,000	21,000	27,400	24,400	14,600
23	8,200	5,000	5,300	5,200	4,600	4,500	5,200	15,000	21,500	28,600	26,300	14,600
24	8,000	5,200	5,200	5,200	4,500	4,400	5,200	*15,300	*22,400	30,700	27,800	14,600
25	7,900	5,200	5,100	5,200	4,400	4,400	5,300	15,800	22,500	32,400	30,700	14,000
26	7,800	5,300	4,900	5,300	4,300	4,300	5,400	15,900	23,800	34,200	*31,600	13,200
27	7,700	5,400	4,800	5,300	4,200	4,300	5,500	16,400	24,200	35,400	30,200	*12,800
28	7,700	5,300	4,600	5,300	4,100	4,300	5,600	16,500	24,200	36,200	29,500	12,500
29	7,600	5,200	4,500	5,300	-	4,300	5,800	16,100	24,800	36,500	29,200	12,200
30	7,600	5,100	4,600	5,300	-------	4,400	6,100	16,100	25,100	36,600	27,400	11,500
31	7,700	-------	4,800	5,300	-------	4,500	-------	16,100	-------	36,000	25,100	-------
Total	313,440	171,400	145,600	162,700	131,800	131,600	146,000	370,980	570,900	933,300	896,600	548,000
Mean	10,110	5,713	4,697	5,248	4,707	4,245	4,867	11,970	19,030	30,110	28,920	18,270
Ac-ft	621,700	340,000	288,800	322,700	261,400	261,000	289,000	735,800	‡1,132	‡1,851	‡1,778	‡1,087

Calendar year 1954: Max 48,700 Min 4,000 Mean 13,930 Ac-ft 10,090,000
Water year 1954-55: Max 36,600 Min 3,800 Mean 12,390 Ac-ft 8,969,000

* Discharge measurement made on this day.
‡ Expressed in thousands.
Note.--Stage-discharge relation affected by ice Oct. 19 to Apr. 30.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10,900	5,310	5,800	6,300	6,680	6,210	5,630	21,100	15,100	31,300	39,000	30,100
2	10,600	5,490	6,040	6,110	6,700	6,180	5,770	22,500	14,300	33,200	40,400	28,500
3	10,500	5,630	6,330	6,010	6,700	6,110	5,890	25,300	14,600	35,200	40,300	26,700
4	10,000	5,820	6,500	5,890	6,680	6,010	6,010	27,800	14,000	36,400	38,800	25,500
5	9,350	6,010	6,580	5,800	6,600	5,890	6,250	31,000	14,200	36,900	35,600	25,100
6	8,930	6,010	6,580	5,800	6,450	5,750	6,420	34,600	14,700	39,700	34,500	24,200
7	8,930	5,800	6,500	5,770	6,300	5,610	6,550	36,900	15,500	41,200	34,200	23,100
8	8,930	5,700	6,380	5,750	6,160	5,500	6,750	*38,500	17,600	40,900	35,000	22,800
9	8,740	5,610	6,280	5,730	5,990	5,400	6,880	34,800	18,600	44,900	37,700	21,900
10	8,510	5,610	6,110	5,700	5,800	5,310	7,020	31,500	19,000	44,900	38,600	20,700
11	8,380	5,890	5,990	5,680	5,700	5,240	7,320	28,900	18,300	42,300	39,400	20,200
12	8,220	6,110	5,890	5,650	5,610	5,200	7,580	26,500	17,300	40,800	40,000	21,300
13	7,990	6,230	5,890	5,630	5,610	5,200	7,890	24,400	17,400	40,600	39,800	24,200
14	7,990	6,350	5,990	5,630	5,700	5,220	8,090	22,600	17,600	40,900	40,300	28,400
15	7,600	6,500	6,180	5,650	5,800	5,310	8,460	21,400	17,700	41,400	41,500	34,500
16	7,300	6,700	6,500	5,680	5,920	5,400	8,770	20,600	*19,700	43,700	41,500	37,300
17	6,900	6,720	6,700	5,730	6,040	5,470	9,180	20,100	20,400	47,400	41,600	31,500
18	6,800	6,720	6,600	5,800	6,210	5,520	9,520	19,100	20,800	48,300	42,000	27,800
19	7,000	6,600	6,400	5,820	6,230	5,630	9 910	18,500	22,000	*45,800	40,400	28,700
20	6,600	6,420	6,180	5,870	6,250	5,630	10,400	18,700	23,800	44,400	39,000	27,600
21	6,110	6,300	6,010	5,890	6,250	5,540	11,000	20,500	26,000	42,300	37,500	25,200
22	6,090	6,110	6,210	5,940	6,110	5,490	11,800	23,600	29,000	40,800	*35,900	23,000
23	6,110	6,010	6,580	6,010	5,970	5,400	12,000	23,500	28,500	40,300	33,400	21,600
24	6,500	5,870	6,700	6,170	5,870	5,380	12,700	21,600	26,800	38,300	30,400	21,000
25	6,800	5,700	6,580	6,180	5,820	5,380	13,600	20,700	23,000	37,500	30,000	20,600
26	6,900	5,630	6,250	6,230	5,870	5,400	14,400	20,500	22,300	35,800	28,900	19,200
27	6,600	5,560	6,350	6,300	5,990	5,420	15,500	19,500	24,300	35,200	27,700	17,800
28	5,990	5,560	6,450	6,350	6,110	5,450	16,900	18,200	25,400	35,400	27,500	16,600
29	5,700	5,560	6,600	6,420	6,210	5,490	18,200	17,300	27,600	36,400	27,900	15,400
30	5,610	5,630	6,600	6,550	-------	5,540	19,800	16,400	29,700	38,400	28,700	14,500
31	5,400	-------	6,450	*6,650	-------	5,580	-------	16,000	-------	39,200	29,200	-------
Total	237,980	179,160	196,200	184,690	177,330	171,860	296,190	742,600	615,200	‡1,239.8	‡1,116.7	725,000
Mean	7,677	5,972	6,329	5,958	6,115	5,544	9,873	23,950	20,510	39,990	36,020	24,170
Ac-ft	472,000	355,400	389,200	366,300	351,700	340,900	587,500	‡1,473	‡1,220	‡2,459	‡2,215	‡1,438

Calendar year 1955: Max 36,600 Min 3,800 Mean 12,340 Ac-ft 8,935,000
Water year 1955-56: Max 48,300 Min 5,200 Mean 16,070 Ac-ft 11,670,000

* Discharge measurement made on this day.
‡ Expressed in thousands.
Note.--Stage-discharge relation affected by ice Oct. 10 to about Apr. 15.

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 (no winter records), published as "at mouth," October 1948 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 631.85 ft above mean sea level. July 1909 to August 1910, staff gage at site 1¼ miles downstream at different datum. Sept. 7, 1948, to Apr. 24, 1953, wire-weight gage at same site and datum.

Average discharge.--8 years (1948-56), 1,801 cfs (1,304,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 26,100 cfs June 16 (gage height, 14.04 ft); minimum not determined.
1954-55: Maximum discharge during water year, 21,900 cfs July 1 (gage height, 12.92 ft); minimum not determined.
1955-56: Maximum discharge during water year, 36,500 cfs June 23 (gage height, 16.13 ft), from rating curve extended above 16,000 cfs by logarithmic plotting; minimum not determined.
1909-10, 1948-56: Maximum discharge, that of June 23, 1956; minimum not determined.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,740								3,720	1,740	2,730	1,940
2	1,610								4,080	2,060	2,430	1,850
3	1,560								4,750	2,540	2,120	1,740
4	1,500								4,500	2,040	1,890	1,630
5	1,430							1,800	3,190	1,630	1,730	1,540
6	1,570								2,510	1,410	1,580	1,480
7	1,590								*2,110	*1,340	1,470	1,520
8	1,500						130		1,860	1,300	1,380	2,670
9	1,410								1,640	1,200	1,310	3,250
10	1,370		(*)					6,180	1,520	1,110	1,280	2,800
11	1,330							7,370	1,460	1,070	1,280	2,560
12	1,300							6,020	1,330	1,100	1,250	2,450
13	*1,250							*3,010	1,460	1,300	1,200	2,290
14	1,160							2,240	2,090	1,400	1,170	2,110
15	1,170	230	160	130	100	95		1,770	14,700	1,260	1,220	1,990
16								1,670	20,800	*1,110	1,240	1,960
17								1,670	6,620	1,010	1,250	3,140
18								1,820	3,540	964	1,210	6,580
19								2,160	2,400	964	*1,170	5,430
20						(*)		2,380	1,890	1,050	1,150	4,130
21								2,200	1,610	1,110	1,200	3,330
22								2,320	1,420	1,860	1,370	2,840
23	650						220	2,700	1,290	2,670	1,390	2,550
24								2,460	1,320	2,290	1,320	2,430
25								2,440	1,520	2,500	1,270	2,320
26								2,640	1,440	2,320	1,250	2,180
27								3,760	1,280	2,040	1,270	2,020
28				(*)				6,040	1,200	2,420	1,310	1,840
29								10,100	1,250	2,550	1,370	1,820
30								6,030	1,310	2,730	1,760	1,990
31		------			------		------	4,170	------	2,640	2,080	------
Total	31,890	6,900	4,960	4,030	2,800	2,945	5,250	97,350	99,820	52,728	45,650	76,370
Mean	1,029	230	160	130	100	95	175	3,140	3,327	1,701	1,473	2,546
Ac-ft	63,250	13,690	9,840	7,990	5,550	5,840	10,410	193,100	198,000	104,600	90,550	151,500

Calendar year 1953: Max 12,500 Min - Mean 1,486 Ac-ft 1,076,000
Water year 1953-54: Max 20,800 Min - Mean 1,180 Ac-ft 854,300

Peak discharge (base, 10,000 cfs).--May 29 (1:30 p.m.) 11,100 cfs (10.17 ft); June 16 (11 a.m) 26,100 cfs (14.04 ft).

* Discharge measurement made on this day

Note.--Stage-discharge relation affected by ice Oct. 16 to May 9 (no gage-height record Oct. 24 to May 9; discharge estimated on basis of 3 discharge measurements, weather records, and records for Chena River at Fairbanks).

Salcha River near Salchaket--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,810				(*)				4,960	19,400	2,150	4,150
2	2,640								4,030	10,600	*1,890	3,940
3	2,220								3,520	5,850	1,750	4,910
4	1,940								3,330	4,030	1,760	6,840
5	1,900			(*)					4,700	3,180	2,200	5,910
6	1,900								13,400	2,720	2,220	4,930
7	1,700								11,300	2,450	2,100	4,480
8	1,620	500						630	7,330	2,330	1,960	4,130
9	1,610								7,300	2,160	1,920	3,840
10	1,610						(*)		5,270	1,990	2,100	3,580
11	*1,510								5,180	1,850	2,110	3,400
12	1,530								6,930	1,980	a2,500	3,250
13	1,510								12,800	3,060	a5,600	3,540
14	1,380								13,200	2,880	a6,800	5,050
15	1,240							2,750	10,700	2,460	a5,000	5,170
			290	220	190	170	180					
16	1,100							4,110	8,820	2,100	a3,700	4,540
17	1,000							7,450	7,490	2,790	a2,900	4,090
18	960							12,600	9,700	4,300	a2,400	3,720
19	880							8,680	6,080	3,240	a2,600	3,400
20	830							6,420	5,610	2,620	a3,700	3,160
21	790							*6,240	*5,770	2,420	a5,200	3,020
22	760							6,050	4,220	2,100	a6,000	2,880
23	740	380						5,450	3,400	1,850	a5,300	2,750
24	710							6,300	2,920	1,700	*4,700	2,640
25	690							7,200	2,600	1,600	4,070	2,620
26	680							6,690	*2,390	1,510	3,800	2,550
27	660							8,370	11,100	1,440	3,680	2,320
28	650							13,900	8,710	1,610	3,560	*2,230
29	630							9,940	4,810	2,830	4,130	2,260
30	610							8,060	10,200	3,270	4,880	2,180
31	590							6,360		2,550	4,790	
Total	39,400	13,200	8,990	6,820	5,320	5,270	5,400	135,390	207,770	104,870	107,470	111,480
Mean	1,271	440	290	220	190	170	180	4,367	6,926	3,383	3,467	3,716
Ac-ft	78,150	26,180	17,830	13,530	10,550	10,450	10,710	268,500	412,100	208,000	213,200	221,100

Calendar year 1954: Max 20,800 Min - Mean 1,229 Ac-ft 889,700
Water year 1954-55: Max 19,400 Min - Mean 2,059 Ac-ft 1,490,000

Peak discharge (base, 10,000 cfs).--May 18 (11 a.m.) 13,200 cfs (11.03 ft); May 28 (4 a.m.) 14,300 cfs (11.24 ft); June 6 (11 p.m.) 14,500 cfs (11.18 ft); June 13 (5 p.m.) 14,600 cfs (11.20 ft); June 18 (9 a.m.) 10,900 cfs (10.22 ft); June 27 (10 p.m.) 17,200 cfs (11.81 ft); July 1 (12 m.) 21,900 cfs (12.92 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of 1 discharge measurement, weather records, and records for Chena River at Fairbanks.

Note.--Stage-discharge relation affected by ice Oct. 16 to May 14 (no gage-height record Oct. 17-30, Nov. 5 to May 14; discharge estimated on basis of 3 discharge measurements, recorded range in stage, weather records, and records for Chena River at Fairbanks).

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,070							1,700	2,460	2,580		
2	2,020	(*)						2,900	2,560	2,540		
3	1,950					(*)		4,500	3,350	2,500		
4	1,880							6,900	3,680	2,400		
5	1,850							9,000	3,520	2,180		
											2,800	1,700
6	1,790							11,000	4,010	1,920		
7	1,760							*13,500	4,650	1,820		
8	1,690	470					280	11,100	4,700	2,370		
9	1,530							8,350	3,520	2,020		
10	1,500							9,600	2,670	1,680		
11	1,420							9,230	2,480	1,530		
12	1,360							7,190	2,380	1,600		
13	1,300		(*)					5,840	3,110	1,590		
14	1,300							5,220	3,940	1,430		
15	1,200							5,040	*3,500	1,330		
			260	200	200	200						4,200
16	1,300							4,900	2,960	1,240		
17	1,300							4,500	2,660	1,190	13,000	
18	1,300							3,880	2,640	1,180		
19	1,300							3,640	2,420	1,260		
20	1,200							4,260	2,850	1,330		
21	1,100							8,020	5,220	*1,340		
22	1,000							14,100	16,400	1,300		
23	920	360					700	9,230	25,600	1,300	*3,680	
24	840							7,680	11,100	1,200		
25	780							6,320	7,420	1,200		
												2,700
26	730							5,220	5,770	1,200		
27	680							4,280	4,540	1,100	2,700	
28	650							3,720	3,680	1,100		
29	620							3,110	3,160	1,100		
30	590			(*)				2,700	2,810	1,200		
31	560							2,780		1,400		
Total	39,490	12,450	8,060	6,200	5,800	6,200	14,700	199,410	149,760	49,130	209,280	86,000
Mean	1,274	415	260	200	200	200	490	6,433	4,992	1,585	6,751	2,867
Ac-ft	78,330	24,690	15,990	12,300	11,500	12,300	29,160	395,500	297,000	97,450	415,100	170,600

Calendar year 1955: Max 19,400 Min - Mean 2,054 Ac-ft 1,487,000
Water year 1955-56: Max 25,600 Min - Mean 2,149 Ac-ft 1,560,000

Peak discharge (base, 10,000 cfs).--May 7 (3 p.m.) 13,700 cfs (11.59 ft); May 22 (9 a.m.) 14,500 cfs (11.50 ft); June 23 (7 a.m.) 38,500 cfs (16.13 ft); Aug. 17 or 18 (time unknown) 29,000 cfs (14.75 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 13 to May 6, July 22 to Aug. 22, Aug. 24 to Sept. 30; discharge estimated on basis of 7 discharge measurements, weather records, and records for Chena River at Fairbanks.

Chena River at Fairbanks

Location.--Lat 64°50'40", long 147°43'10", in NE¼ sec. 10, T. 1 S., R. 1 W., near right bank on upstream side of bridge on Cushman Street in Fairbanks, 0.4 mile downstream from Noyes Slough, 10 miles upstream from mouth, and 12 miles downstream from Chena Slough.

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

Records available.--Discharge: July 1947 to September 1948 (no winter records), October 1948 to September 1956.
Chemical analyses: May to September 1953, April to September 1955.
Water temperatures: May to September 1953.
Sediment records: January to August 1954, April to September 1955 (periodic).

Gage.--Wire-weight gage read twice daily. Datum of gage is 423.68 ft above mean sea level. Prior to May 3, 1948, staff gage at same site and datum.

Average discharge.--8 years, 1,500 cfs (1,086,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 6,690 cfs July 23 (gage height, 5.08 ft, from graph based on gage readings); minimum not determined.
1954-55: Maximum discharge during water year, 13,800 cfs June 15 (gage height, 9.18 ft, from graph based on gage readings); minimum not determined.
1955-56: Maximum discharge during water year, 12,100 cfs Aug. 14; maximum gage height, 8.56 ft May 8; minimum discharge not determined.
1947-56: Maximum discharge, 24,200 cfs May 21, 1948 (gage height, 14.17 ft, from graph based on gage readings); minimum not determined.
Flood in August 1930 reached a stage of about 14.2 ft, from information by local residents.
Flood of May 11-14, 1937, reached a stage of 14.9 ft, ice jam, from floodmarks.

Remarks.--Records good except those for periods of ice effect, which are poor. Records include flow in Noyes Slough, which diverts small quantity upstream from gage. No appreciable inflow between sampling station and gaging station except during periods of heavy local runoff.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,790							880	1,820	825	3,490	1,760
2	1,650							968	1,770	885	3,280	1,720
3	1,540		(*)					1,040	1,940	1,040	2,870	1,680
4	1,380							1,380	2,710	1,220	2,520	1,600
5	1,480							1,280	2,660	1,150	2,280	1,530
6	1,610							1,090	2,040	998	2,080	1,490
7	1,850							1,470	*1,800	938	1,950	1,440
8	1,540	450					210	1,940	1,590	*870	1,820	1,460
9	1,480							3,100	1,430	848	1,680	1,610
10	1,430							4,180	1,330	832	1,590	1,790
11	1,430							4,050	1,200	811	1,510	1,770
12	1,390							3,540	1,130	811	1,430	1,770
13	1,360							2,490	1,020	1,030	1,390	1,790
14	*1,320							*2,050	1,110	1,080	1,350	1,740
15	1,270							1,680	1,500	1,110	1,270	1,680
			290	200	150	150						
16	1,250					(*)		1,490	4,350	998	1,270	1,680
17	1,070							1,470	3,300	922	1,270	1,950
18	1,000							1,490	2,310	*855	1,230	3,110
19	975							1,530	1,830	797	1,180	3,680
20	940							1,590	1,570	900	*1,150	2,870
21	880							1,560	1,430	1,910	1,110	2,650
22	840							1,540	1,270	4,520	1,100	2,500
23	780	370					370	1,500	1,160	5,850	1,130	2,330
24	740							1,420	1,070	4,100	1,130	2,200
25	700							1,470	1,020	3,600	1,120	2,090
26	670							1,480	982	3,280	1,110	1,980
27	640			(*)				1,450	945	2,820	1,150	1,900
28	610							1,430	908	2,810	1,190	1,750
29	580				-			1,420	848	2,950	1,290	1,720
30	560				-------			1,760	818	3,130	1,520	1,760
31	540	-------			-------		-------	2,020	-------	3,210	1,720	-------
Total	35,295	12,300	8,990	6,200	4,200	4,650	8,700	55,758	48,861	57,100	50,180	59,000
Mean	1,139	410	290	200	150	150	290	1,799	1,629	1,842	1,619	1,967
Ac-ft	70,010	24,400	17,830	12,300	8,330	9,220	17,260	110,600	96,910	113,300	99,530	117,000

Calendar year 1953: Max 5,230 Min - Mean 1,093 Ac-ft 791,000
Water year 1953-54: Max 5,850 Min - Mean 962 Ac-ft 696,700

Peak discharge (base, 5,000 cfs).--June 16 (3 p.m.) 5,020 cfs (3.87 ft); July 23 (4 a.m.) 6,690 cfs (5.08 ft).
* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Oct. 20 to May 1 (no gage-height record Oct. 31 to Apr. 27; discharge estimated on basis of 3 discharge measurements, weather records, and records for Salcha River near Salchaket)

Chena River at Fairbanks--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,910							408	5,050	6,580	*2,230	3,640
2	2,040				(*)			255	4,190	8,320	1,990	3,690
3	1,970							471	3,630	5,520	1,950	4,600
4	1,860			(*)				685	3,200	4,120	1,880	7,240
5	1,740							922	2,990	3,380	1,930	7,090
6	1,660							1,170	3,990	2,930	1,970	5,840
7	1,600							840	5,270	2,620	1,900	4,960
8	1,560						220	1,070	4,570	2,470	1,840	4,590
9	1,510						(*)	1,460	3,750	2,360	1,810	4,240
10	*1,440							1,670	3,330	2,180	1,770	4,010
11	1,430							1,550	2,920	2,090	1,770	3,740
12	1,390							1,740	3,160	2,030	2,030	3,590
13	1,360							2,010	8,410	2,150	4,630	3,520
14	1,210							2,260	12,500	2,350	4,970	4,050
15	1,000							2,480	13,600	2,260	3,790	4,800
16	930	640	470	350	270	240		3,360	10,300	2,190	3,200	4,460
17	900							4,880	6,920	2,270	2,800	4,170
18	880							7,840	5,590	2,830	2,500	3,830
19	880							8,700	4,720	2,940	2,500	3,590
20	910							6,720	3,930	2,680	3,120	3,450
21	960							7,000	*4,110	2,490	4,590	3,320
22	970							*7,760	3,930	2,270	4,800	3,150
23	930						290	6,700	3,310	2,070	4,580	3,010
24	880							5,820	2,930	1,910	*4,110	2,940
25	850							6,020	2,640	1,790	3,740	2,860
26	820							5,320	2,470	1,710	3,570	2,860
27	800							6,030	2,410	1,660	3,640	2,700
28	780							9,640	4,410	1,650	3,630	*2,590
29	760							12,200	3,490	1,840	3,710	2,530
30	740				-------			9,470	3,120	2,390	3,760	2,470
31	730	-------			-------		-------	6,190	-------	2,550	3,830	-------
Total	37,400	19,200	14,570	10,850	7,560	7,440	7,650	132,641	144,840	86,600	94,540	117,530
Mean	1,206	640	470	350	270	240	255	4,279	4,828	2,794	3,050	3,918
Ac-ft	74,180	38,080	28,900	21,520	15,000	14,760	15,170	263,100	287,300	171,800	187,500	233,100

Calendar year 1954: Max 5,850 Min - Mean 1,002 Ac-ft 725,600
Water year 1954-55: Max 13,600 Min - Mean 1,865 Ac-ft 1,350,000

Peak discharge (base, 5,000 cfs).--May 19 (8 a.m.) 9,020 cfs (7.54 ft); May 22 (5 a.m.) 8,070 cfs (6.94 ft); May 29 (7 p.m.) 12,600 cfs (8.58 ft); June 7 (2 p.m.) 5,450 cfs (4.20 ft); June 15 (2 p.m.) 13,800 cfs (9.18 ft); June 28 (4 p.m.) 5,510 cfs (4.24 ft); July 2 (8 a.m.) 8,810 cfs (6.44 ft); Aug. 13 (10 p.m.) 5,660 cfs (4.35 ft); Sept. 4 (9 p.m.) 7,760 cfs (5.78 ft)

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 16 to May 5 (no gage-height record Nov. 10 to Apr. 24; discharge estimated on basis of 3 discharge measurements and weather records)

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,380	613					330	3,120	5,000	4,690	1,140	2,130
2	2,320	*595				(*)	320	5,190	4,680	1,640	1,340	2,060
3	2,280	565					310	7,030	3,990	1,550	1,600	2,000
4	2,180	547					290	7,840	3,640	1,460	1,660	1,910
5	2,130	523					280	7,950	3,210	1,460	1,600	1,850
6	2,100	511					270	8,910	2,930	1,630	1,550	1,790
7	2,070	505					280	10,800	2,870	1,520	1,700	1,730
8	1,990	500					290	*11,700	2,680	1,500	2,210	1,670
9	1,940						310	9,730	2,590	1,620	2,840	1,630
10	1,860						340	9,220	2,350	1,510	3,260	1,590
11	1,830						380	10,500	2,110	1,430	5,530	1,560
12	1,720						440	9,690	1,990	1,360	9,690	1,540
13	1,570						500	7,400	1,880	1,260	11,100	1,620
14	1,540		(*)				559	6,370	*1,890	1,220	11,600	2,330
15	1,490						625	5,880	1,970	1,180	11,200	3,400
16	1,410		420	340	290	270	658	5,200	1,920	1,120	7,480	5,090
17	1,440						677	4,810	1,870	1,080	5,480	5,070
18	1,530						684	4,410	1,810	1,050	4,580	4,620
19	1,520						690	4,070	1,750	1,050	4,460	4,340
20	1,410	490					690	3,950	1,770	1,070	4,120	4,000
21	1,300						696	4,400	2,690	*1,130	3,750	3,750
22	1,200						716	6,320	3,300	1,230	3,470	3,560
23	1,090						755	6,040	4,970	1,240	*3,260	3,350
24	1,000						790	4,740	5,450	1,180	3,110	3,100
25	925						846	4,160	3,990	1,080	2,930	2,940
26	881						902	3,690	3,180	1,040	2,720	2,800
27	818						992	3,240	2,700	1,020	2,600	2,620
28	769						1,120	2,970	2,310	992	2,490	2,480
29	729			(*)			1,370	2,750	2,100	970	2,400	2,310
30	690				-------		1,900	2,480	1,870	1,000	2,300	2,220
31	644	-------			-------		-------	2,840	-------	1,030	2,250	-------
Total	46,756	15,139	13,020	10,540	8,410	8,370	19,010	187,400	85,660	39,312	125,420	81,060
Mean	1,508	505	420	340	290	270	634	6,045	2,855	1,268	4,046	2,702
Ac-ft	92,740	30,030	25,820	20,910	16,680	16,600	37,710	371,700	169,900	77,970	248,800	160,800

Calendar year 1955: Max 13,600 Min - Mean 1,876 Ac-ft 1,358,000
Water year 1955-56: Max 11,700 Min - Mean 1,749 Ac-ft 1,270,000

Peak discharge (base, 5,000 cfs).--May 8 (8 a.m. to 3 p.m.) 11,900 cfs (8.56 ft); May 22 (7 p.m.) 6,850 cfs (5.18 ft); June 1 (7 p.m.) 5,580 cfs (4.29 ft); June 24 (9 a.m.) 6,040 cfs (4.69 ft); Aug. 14 (11 p.m.) 12,100 cfs (8.45 ft); Sept. 16 (8 p.m.) 5,230 cfs (4.06 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 22 to Apr. 30 (no gage-height record Nov. 9 to Apr. 13; discharge estimated on basis of 3 discharge measurements and weather records)

CHENA RIVER AT FAIRBANKS

Chemical analyses, in parts per million, October 1953 to September 1955

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1953																		
Oct. 1-7	1,614	11	0.01	25	5.2	3.0	1.4	84	20	0.8	--	1.2	115	84	15	177	7.3	5
1954																		
Jan. 27	a 170	20	.00	32	7.9	4.6	2.5	132	16	2.2	--	1.8	158	112	4	233	8.2	5
May 14	2,050	8.8	--	--	--	1.9	.6	62	17	.5	--	1.5	--	--	--	136	7.3	--
1954																		
Oct. 10	1,440	9.4	.19	24	5.4	2.4	.8	81	19	1.0	--	1.4	104	82	16	170	7.1	10
1955																		
Apr. 9	220	19	.02	32	7.0	4.7	2.2	122	13	1.2	0.0	1.6	141	109	9	228	6.7	5
May 27	6,030	5.4	.11	12	2.1	1.0	1.0	37	10	.4	.0	1.5	63	39	8	84	6.7	50
June 3	3,630	7.1	.09	16	3.5	1.7	1.1	56	13	.2	.0	.1	82	54	8	120	6.6	30
June 10	3,330	7.1	.00	17	2.9	1.7	1.1	57	13	.0	.0	1.1	83	54	8	123	6.5	25
June 17	6,920	6.7	.14	13	2.9	1.1	.8	43	11	.2	.0	1.3	72	44	9	94	6.8	--
June 24	2,930	9.2	.06	19	3.8	1.9	1.0	62	13	.4	.1	1.4	89	63	12	135	7.0	55
July 8	2,470	8.6	.08	21	4.8	2.2	1.3	75	15	.8	.0	.7	92	72	11	157	6.6	15
July 22	2,270	8.5	.06	21	4.5	2.2	.8	75	16	.4	.1	1.1	99	71	9	162	7.1	20
Aug. 5	1,930	8.9	.00	22	4.6	2.3	1.1	77	16	.8	.0	1.0	95	74	11	160	6.8	20
Aug. 12	2,030	8.8	.00	23	4.5	2.5	1.3	79	15	2.2	.0	.9	97	76	11	166	6.9	10
Aug. 19	2,500	8.8	.00	21	4.3	2.2	1.0	76	15	.2	.0	1.0	90	70	8	154	7.2	10
Aug. 26	3,570	8.2	.00	19	3.8	1.[illegible]	1.0	65	14	.2	.0	1.0	81	63	10	139	6.8	20
Sept. 2	3,690	8.8	.03	19	4.1	2.3	.9	68	14	.8	.0	.8	84	64	9	142	6.8	20
Sept. 9	4,240	8.5	.03	19	3.4	1.8	.6	66	13	.8	.0	.9	81	61	7	134	7.2	20
Sept. 16	4,460	9.0	.00	22	4.9	2.5	.9	78	15	.2	.0	1.1	94	75	11	162	6.8	10
Sept. 20	3,450	10	.09	20	4.2	1.9	.6	72	14	.5	.0	.7	87	67	8	144	7.5	20

a Discharge at time of sampling.

CHENA RIVER AT FAIRBANKS--Continued

Periodic determinations of suspended-sediment discharge, water years October 1953 to September 1955

Date	Discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1954			
Jan. 27	a 170	9	4
May 14	a 1,970	210	1,120
May 24	1,420	135	518
June 7	a 1,840	331	1,640
June 23	1,160	144	451
July 1	825	166	370
July 8	870	94	221
July 17	922	199	495
July 29	2,950	788	6,280
Aug. 6	2,080	278	1,560
Aug. 12	1,430	190	734
Aug. 20	a 1,160	114	357
1954			
Oct. 10	1,440	24	93
1955			
Apr. 9	224	5	3
June 25	b 2,640	156	1,110
July 26	b 1,710	74	342
Aug. 15	b 3,790	313	3,200
Sept. 2	b 3,690	205	2,040

a Discharge at time of sampling.
b Mean daily discharge.

TANANA RIVER AT NENANA

LOCATION.--At bridge on Alaska Railroad, at Nenana, Alaska.
RECORDS AVAILABLE.--Chemical analyses: May to November 1954, May to August 1955, May to September 1956.
Water temperatures: May to November 1954, May to August 1955, May to September 1956.
REMARKS.--No discharge records available for this station. Record of specific conductance of daily samples available in district office, Branch of Quality of Water, Palmer, Alaska.

Chemical analyses, in parts per million, May 1954 to September 1956

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1954																		
May 11-20		11	0.07	32	5.6	4.0	2.8	104	25	2.8	0.2	1.4	145	103	18	225	7.4	5
May 21-31		10	.09	29	6.4	3.3	2.2	99	25	1.4	.2	.9	140	99	18	212	7.1	8
June 1-10		8.9	.09	29	5.4	3.0	2.4	94	25	1.0	.2	.9	131	95	18	203	6.9	25
June 11-20		8.8	.11	32	5.4	3.0	2.7	102	26	1.2	--	.9	146	102	18	216	7.0	35
June 21-30		8.7	.06	31	6.1	3.5	2.5	100	30	1.4	.1	.7	143	102	20	224	7.1	8
July 1-4, 10		8.5	.05	32	5.9	3.4	2.5	102	30	1.2	--	.6	144	104	20	227	6.9	8
July 11-20		8.5	.06	31	6.2	3.5	2.8	102	30	1.4	.1	.8	139	103	19	228	6.7	8
July 21-31		8.6	.07	34	5.4	3.2	3.1	107	31	1.2	.1	.8	149	107	19	234	7.4	8
Aug. 1-10		7.9	.08	34	6.1	3.1	3.2	105	33	1.2	.1	.6	148	110	24	239	7.4	8
Aug. 11-20		8.4	.09	31	5.8	3.4	2.4	103	28	1.3	.1	.5	139	101	17	214	7.4	5
Aug. 21-31		11	.00	33	7.6	4.7	2.7	112	31	2.0	.0	.7	152	114	22	248	7.5	0
Sept. 1-10		10	.00	33	7.8	4.5	2.3	112	31	2.0	.3	.7	154	114	23	248	7.6	0
Sept. 11-20		11	.00	35	9.2	4.6	2.5	122	31	1.5	.3	1.1	163	125	25	267	7.1	0
Sept. 21-30		12	.00	35	8.0	4.7	2.1	122	28	1.5	.1	.6	160	120	20	256	7.6	0
Oct. 8-10		14	.00	39	9.4	5.2	2.2	143	27	2.2	.2	.8	176	136	19	285	7.7	0
Oct. 11-20		15	.00	39	9.4	5.2	2.2	145	28	1.5	.3	.8	176	136	17	284	7.7	0
Oct. 21-31		15	.00	39	8.5	4.6	2.4	140	27	1.8	.3	.9	173	132	18	278	7.6	0
Nov. 1-10		16	.05	39	9.0	5.0	2.3	142	29	1.8	.1	1.1	179	134	18	285	7.9	5
1955																		
May 16-20		8.8	.10	23	4.5	2.3	2.1	78	17	.2	.1	.9	97	76	12	164	7.2	45
May 21-31		8.0	.15	21	5.0	2.3	1.8	73	16	.5	.0	1.1	107	73	13	151	7.6	55
June 1-10		8.5	.10	23	3.8	2.6	1.8	79	18	1.0	.0	.9	106	73	8	163	7.4	40
June 11-20		8.3	.12	22	4.9	2.4	1.6	76	17	1.0	.1	.8	108	75	13	159	7.2	40
June 21-30		9.0	.10	25	5.9	2.8	2.3	88	23	.8	.1	.6	120	87	15	189	7.3	20

TANANA RIVER AT NENANA--Continued

Chemical analyses, in parts per million, May 1954 to September 1956--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1955																		
July 1-7		12	0.08	29	5.2	3.1	2.5	96	23	1.2	0.0	0.7	124	94	15	206	7.5	10
July 29-31		8.2	.05	34	5.5	3.4	3.0	110	27	1.2	.0	.6	137	107	17	235	8.0	5
Aug. 1-10		8.7	.05	31	5.9	3.8	2.5	102	24	1.2	.0	.5	128	102	18	222	7.4	5
Aug. 11-15		9.2	.05	28	5.6	3.8	2.4	92	24	1.2	.0	.7	120	93	18	208	7.3	8
1956																		
May 28-31		10	.05	28	5.1	3.2	1.8	92	23	1.5	.2	1.0	125	91	15	198	7.4	25
June 1-10		10	.03	27	6.4	3.3	1.9	98	22	1.8	.2	1.0	128	94	13	202	7.4	10
June 11-20		9.2	.03	28	7.0	2.8	2.0	100	24	1.2	.2	.6	125	99	17	206	7.4	5
June 21-30		8.1	.08	28	5.8	3.4	2.8	90	24	1.8	.2	1.2	127	94	20	201	7.3	20
July 1-10		8.1	.04	24	9.6	3.5	2.4	100	27	1.2	.2	.7	132	99	17	216	7.4	5
July 11-14		9.8	.03	31	6.4	3.6	2.6	110	28	1.5	.2	.3	140	104	14	226	7.7	0
July 21-31		8.4	.03	29	7.4	3.3	2.6	100	28	1.5	.2	.6	135	103	21	220	7.9	0
Aug. 1, 9-10		10	.00	31	5.9	3.8	2.4	98	26	1.5	.0	.4	129	102	21	213	7.1	3
Aug. 11-20		9.2	.04	30	6.5	3.0	2.6	101	26	1.2	.2	.6	136	102	19	219	7.5	5
Aug. 21-24		11	.00	32	5.6	3.8	2.1	102	25	1.8	.0	.5	132	103	19	219	7.0	3
Aug. 25-31		11	.00	32	6.0	4.6	2.4	105	26	1.5	.2	.4	136	104	18	223	7.8	0
Sept. 1-10		12	.00	32	7.0	4.9	2.2	110	27	1.5	.1	.7	141	109	18	234	7.3	5
Sept. 11		13	.00	34	6.5	4.5	1.9	114	26	1.0	.2	.8	144	112	18	240	7.9	5

TANANA RIVER AT NENANA--Continued

Temperature (°F) of water, water years 1954 to 1956

	1954							1955				1956			
Day	May	June	July	Aug.	Sept.	Oct.	Nov.	May	June	July	Aug.	June	July	Aug.	Sept.
1	--	57	58	54	50	--	41	--	51	56	61	47	57	50	
2	--	58	60	53	51	--	40	--	52	56	61	49	60	--	
3	--	58	59	56	50	--	38	--	52	58	59	50	58	--	
4	--	59	57	53	50	--	36	--	53	58	58	51	57	--	
5	--	60	--	53	49	--	35	--	54	59	57	46	58	--	
6	--	62	--	58	53	--	34	--	54	60	58	--	62	--	
7	--	62	--	56	51	--	--	--	55	61	58	48	63	--	
8	--	60	--	55	50	41	--	--	56	--	59	52	62	--	
9	--	58	--	59	48	42	--	--	57	--	59	52	62	54	
10	--	58	60	59	52	40	--	--	58	--	58	52	62	56	
11	--	60	57	60	49	41	--	--	55	--	57	53	50	53	53
12	43	58	60	59	48	40	--	--	52	--	55	52	52	50	
13	43	57	61	57	53	32	--	--	50	--	54	53	54	52	
14	44	54	64	54	53	43	--	--	50	--	53	54	52	54	
15	46	52	66	53	50	44	--	--	52	--	52	55	52	55	
16	--	--	66	53	49	44	--	43	52	--	--	56	52	56	
17	50	50	63	54	49	--	--	44	54	--	--	57	53	54	
18	49	53	64	56	52	--	--	45	55	--	--	55	52	56	
19	50	58	60	56	49	--	--	46	55	--	--	56	51	55	
20	51	60	58	54	49	--	--	47	56	--	--	55	50	52	
21	51	57	56	51	44	42	--	49	56	--	--	51	50	51	
22	52	56	54	50	42	39	--	48	57	--	--	50	53	50	
23	53	55	56	48	43	39	--	50	59	--	--	48	54	50	
24	53	55	54	47	44	37	--	51	59	--	--	40	53	53	
25	56	56	55	44	42	36	--	50	61	--	--	44	55	53	
26	56	53	53	46	45	38	--	49	59	--	--	51	55	52	
27	54	52	52	45	46	39	--	48	60	--	--	52	57	50	
28	52	56	50	47	48	40	--	48	60	--	48	50	58	50	
29	50	58	53	45	48	41	--	49	58	58	49	53	60	50	
30	51	59	53	46	48	45	--	50	56	58	47	54	60	52	
31	53	--	54	48	--	43	--	51	--	60	46	--	56	54	
Average	--	57	58	53	48	--	--	--	55	--	--	51	56	--	

Nenana River near Windy

Location.--Lat 63°27'20", long 148°48'10", on right bank 100 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 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 2,100 ft (from topographic map). Prior to July 27, 1950, staff gage at same site and datum.

Average discharge.--6 years, 1,183 cfs (856,500 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 6,650 cfs Aug. 1 (gage height, 7.24 ft); minimum not determined.
1954-55: Maximum discharge during water year, 7,640 cfs Aug. 25 (gage height, 7.90 ft); minimum not determined.
1955-56: Maximum discharge during water year, 6,380 cfs July 31 (gage height, 6.96 ft); minimum not determined.
1950-56: Maximum discharge, that of Aug. 25, 1955; minimum not determined.

Remarks.--Records good except those for periods of ice effect or doubtful or no gage-height record, which are poor. Some diurnal fluctuation caused by glacier melt at the source

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,150								a2,000	2,200	a6,200	1,690
2	1,000								2,120	3,110	a6,000	1,600
3	850								a2,000	2,690	a5,200	1,550
4	864								a2,300	2,220	a4,500	1,540
5	1,000								2,660	2,080	a3,800	1,890
								a250				
6	1,050								2,330	a1,900	*3,300	2,210
7	1,020								2,300	a1,600	2,990	2,240
8	969				a180				2,680	a1,500	2,780	1,960
9	934								2,770	*1,550	2,600	*1,770
10	871								*3,170	1,590	2,480	1,960
11	838								2,550	1,450	2,240	2,000
12	864								2,680	1,240	2,170	1,760
13	b810								2,500	1,160	2,310	1,590
14	b770								2,640	a1,200	1,940	1,490
15	b720								3,260	a1,400	1,780	1,440
		a280	a230	a200		a130	a150	a1,100				
16	b680								2,800	a1,600	1,720	1,470
17	b650				(*)				2,420	a1,800	1,640	1,590
18	b610								2,100	a2,000	1,620	2,140
19	a580								a2,000	a2,100	1,650	1,910
20	a550								a2,000	a2,400	2,560	1,690
21	a520							*3,170	2,210	a2,700	2,490	1,530
22	a500				a150			2,770	2,500	a3,000	2,170	1,440
23	a480							2,560	2,970	a2,500	1,990	1,410
24	a460							2,500	2,460	a2,500	1,970	1,390
25	a450							3,040	2,210	a2,200	2,050	1,450
26	a430					(*)		2,600	2,040	a2,100	1,820	1,460
27	a410							2,340	2,210	a2,000	1,620	1,320
28	a400							2,450	2,210	a2,100	2,010	a1,200
29	a380							2,090	2,010	a2,400	2,310	a1,100
30	a370				-			a1,700	2,090	a2,800	2,000	a1,300
31	a360	---			------		------	a1,800	------	a4,200	1,800	------
Total	21,540	8,400	7,130	6,200	4,650	4,030	4,500	40,520	72,190	65,290	81,710	49,090
Mean	695	280	230	200	166	130	150	1,307	2,406	2,106	2,636	1,636
Ac-ft	42,720	16,660	14,140	12,300	9,220	7,990	8,930	80,370	143,200	129,500	162,100	97,370

Calendar year 1953: Max 5,620 Min - Mean 1,085 Ac-ft 785,400
Water year 1953-54: Max 6,200 Min - Mean 1,001 Ac-ft 724,500

Peak discharge (base, 4,200 cfs).--Aug. 1 (time unknown) 6,650 cfs (7.24 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 3 discharge measurements, recorded range in stage, weather records, and records for station near Healy.
b Stage-discharge relation affected by ice.

Nenana River near Windy--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									2,750	4,680	1,940	*3,470
2									2,930	4,220	1,890	3,600
3									2,960	4,710	2,210	3,390
4									*3,130	4,980	*2,200	3,160
5									3,680	4,320	2,030	2,800
6									3,850	3,610	1,830	2,590
7									3,820	3,150	1,820	2,420
8	890	500	240						4,380	3,180	2,170	2,350
9									4,400	4,160	2,370	2,270
10									4,300	3,880	2,210	2,970
11									5,080	3,840	2,740	3,310
12				(*)				1,500	4,350	3,860	2,880	3,060
13									3,560	*3,270	2,570	2,870
14	(*)								3,640	2,800	2,050	2,570
15				200	200	190	160		3,670	2,830	1,770	2,260
16		(*)							3,500	3,160	1,610	2,040
17					(*)				3,910	3,090	1,500	1,890
18									4,540	2,970	1,430	1,680
19									4,920	2,850	1,580	1,630
20									4,940	3,060	2,040	1,560
21									4,800	2,920	1,890	1,500
22									5,070	2,700	1,870	1,430
23	620	410	180				(*)		4,800	2,690	2,050	1,350
24								2,180	4,700	2,610	4,060	1,390
25								2,350	4,710	2,520	7,410	1,440
26								2,490	5,000	2,590	6,090	1,310
27								2,160	5,180	2,640	6,060	1,260
28								2,010	5,020	2,490	6,400	1,230
29								2,010	4,480	2,220	4,880	1,230
30					-------			1,970	4,890	2,220	3,920	1,210
31		-------			-------		-------	2,470	-------	2,100	3,390	-------
Total	23,270	13,650	6,480	6,200	5,600	5,890	4,800	52,140	126,960	100,320	88,860	65,240
Mean	751	455	209	200	200	190	160	1,682	4,232	3,236	2,866	2,175
Ac-ft	46,160	27,070	12,850	12,300	11,110	11,680	9,520	103,400	251,800	199,000	176,300	129,400

Calendar year 1954: Max 6,200 Min - Mean 1,018 Ac-ft 737,100
Water year 1954-55: Max 7,410 Min - Mean 1,368 Ac-ft 990,600

Peak discharge (base, 4,200 cfs).--June 11 (4 p.m.) 5,260 cfs (6.41 ft); June 28 (2 a.m.) 5,380 cfs (6.49 ft); July 9 (6 a.m.) 4,360 cfs (5.81 ft); Aug. 25 (12 m.) 7,640 cfs (7.90 ft); Aug. 28 (2:30 a.m.) 6,940 cfs (7.47 ft). * Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 14, Oct. 20 to Nov. 8. No gage-height record Oct. 1-13, 15-19, Nov. 9 to May 23 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 5 discharge measurements, weather records, and records for station near Healy.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,190							245	3,280	3,980	5,520	2,000
2	1,160							290	3,370	3,770	3,890	1,770
3	1,060							339	3,630	3,940	3,030	1,640
4	1,050							431	4,220	3,660	2,540	1,570
5	1,060							551	4,500	3,290	2,220	1,510
6	1,040			(*)				720	4,820	3,080	2,810	1,430
7	1,040							958	5,100	2,900	3,560	1,340
8	944	400					160	1,140	5,560	3,210	3,110	1,280
9	858							1,340	5,370	3,170	2,680	1,250
10	924							1,500	5,220	3,170	2,850	1,240
11	858							1,600	4,960	3,230	3,120	1,250
12	858							1,650	4,620	3,040	2,970	2,300
13	*798							1,730	4,360	2,970	2,810	4,380
14	750							1,800	4,130	2,950	2,820	4,190
15	720							1,840	4,060	3,000	3,880	3,240
16	690	(*)	250	210	190	160		1,900	4,270	3,150	3,530	2,580
17	670							1,980	5,060	3,100	3,100	2,300
18	650						(*)	2,010	4,980	2,930	3,360	2,440
19	650							2,130	4,680	2,970	3,240	3,000
20	650							2,380	5,180	2,720	2,780	2,710
21	660							3,070	5,310	2,560	2,560	2,270
22	680							4,090	5,100	2,280	2,710	1,890
23	700	330						4,130	4,820	2,280	*2,620	1,700
24	715				(*)		170	4,160	4,440	*2,370	2,440	1,500
25	660							*4,130	4,020	2,180	2,200	1,410
26	623							4,360	3,780	2,010	2,110	*1,330
27	582							4,220	3,600	1,940	2,070	1,250
28	546							3,530	3,840	1,970	2,020	1,150
29	520							3,040	4,300	2,200	1,950	1,140
30	500				-------			3,000	4,300	2,340	2,090	1,140
31	470	-------			-------		-------	3,190	-------	4,280	2,260	-------
Total	24,276	10,950	7,750	6,510	5,510	4,980	4,950	67,454	134,880	90,640	88,650	58,200
Mean	783	365	250	210	190	160	165	2,176	4,496	2,924	2,860	1,940
Ac-ft	48,150	21,720	15,370	12,910	10,930	9,840	9,820	133,800	267,500	179,800	175,800	115,400

Calendar year 1955: Max 7,410 Min - Mean 1,367 Ac-ft 989,800
Water year 1955-56: Max 5,560 Min - Mean 1,379 Ac-ft 1,001,000

Peak discharge (base, 4,200 cfs).--May 26 (12 m.) 4,410 cfs (5.68 ft); June 8 (10 p.m.) 5,910 cfs (6.67 ft); June 20 (11 p.m.) 5,500 cfs (6.41 ft); July 31 (9:30 p.m.) 6,380 cfs (6.96 ft); Sept. 13 (5 a.m.) 4,580 cfs (5.79 ft). * Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 12 to May 16 (no gage-height record Oct. 29 to Apr. 17; discharge estimated on basis of 4 discharge measurements, weather records, and records for station near Healy), Sept. 21-27, 30. Doubtful gage-height record Oct. 1-13, Apr. 18 to June 29; discharge computed from reconstructed gage-height graph based on recorded graph, flushing corrections, and records for station near Healy.

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.--Discharge: October 1950 to September 1956.
Chemical analyses: October 1953 to September 1955, May to September 1956.
Sediment records: June to September 1953, May to October 1954, May to October 1955, June to September 1956 (daily).

Gage.--Water-stage recorder. Altitude of gage is 1,280 ft (from topographic map).

Average discharge.--6 years, 3,594 cfs (2,602,000 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 25,200 cfs Aug. 1 (gage height, 10.29 ft); minimum not determined.
1954-55: Maximum discharge during water year, 27,800 cfs Aug. 25 (gage height, 10.86 ft); minimum not determined.
1955-56: Maximum discharge during water year, 19,400 cfs Aug. 1 (gage height, 9.38 ft); minimum not determined.
1950-56: Maximum discharge, 28,500 cfs July 29, 1952; maximum gage height, that of Aug. 25, 1955; minimum discharge not determined.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Some diurnal fluctuation caused by glacier melt at the source. Records of specific conductance of daily samples available in district office, Quality of Water Branch, at Palmer, Alaska.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,600								4,860	8,160	23,500	5,620
2	2,300								5,870	9,580	*23,000	5,420
3	2,000								5,600	8,730	19,100	5,320
4	2,300								5,920	7,960	16,200	5,320
5	2,680								7,520	7,600	12,800	6,470
								720				
6	2,590								7,380	7,000	11,000	7,570
7	2,510								7,270	*6,260	10,300	*7,740
8	2,390				520				8,050	*6,100	10,100	6,570
9	2,270								8,500	6,440	9,840	5,740
10	2,070								9,300	6,420	9,740	6,100
11	2,110								7,910	5,900	9,270	6,030
12	2,070								7,800	4,830	9,000	5,220
13	1,990								7,140	4,640	8,130	4,550
14	b1,800				(*)				7,190	4,780	6,440	4,170
15	b1,800								9,640	5,050	5,770	4,020
		750	650	570		390	450	2,500				
16	b1,700		(*)						8,330	5,740	5,470	4,500
17	b1,600								7,940	6,470	5,220	7,080
18	b1,500								7,140	7,110	5,240	8,190
19	1,400								6,840	*7,110	5,720	6,870
20	1,400							*6,600	6,920	7,570	9,000	5,900
21	1,300							6,650	8,240	8,410	9,240	5,170
22	1,200				450			5,920	8,880	10,400	7,740	4,690
23	1,200							5,420	9,610	8,440	7,300	4,260
24	1,100					(*)		5,400	8,360	8,520	8,160	4,110
25	1,100							6,680	7,800	7,940	9,090	4,060
26	1,000							6,340	7,140	7,140	7,520	3,630
27	1,000							5,600	7,960	6,760	*6,080	3,340
28	980							5,670	8,270	7,240	6,650	3,210
29	960							4,760	7,430	8,080	7,490	3,110
30	930				-------			4,040	7,740	9,000	6,760	3,820
31	910	-------			-------		-------	4,260	-------	13,600	6,100	-------
Total	52,760	22,500	20,150	17,670	13,650	12,090	13,500	97,040	228,550	228,980	296,970	157,800
Mean	1,702	750	650	570	488	390	450	3,130	7,618	7,386	9,580	5,260
Ac-ft	104,600	44,630	39,970	35,050	27,070	23,980	26,780	192,500	453,300	454,200	589,000	313,000

Calendar year 1953: Max 26,300 Min - Mean 3,605 Ac-ft 2,610,000
Water year 1953-54: Max 23,500 Min - Mean 3,183 Ac-ft 2,304,000

Peak discharge (base, 12,000 cfs).--Aug. 1 (1 p.m.) 25,200 cfs (10.29 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Oct. 2-4, Oct. 19 to May 19 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 3 discharge measurements and weather records.

Nenana River near Healy--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,770								4,830	13,600	7,420	10,200
2	3,330								4,810	12,500	7,180	11,000
3	3,110								4,650	14,400	*7,720	10,500
4	2,960								*4,920	16,000	7,370	10,100
5	2,930								5,840	13,800	6,800	8,990
6	2,890								6,200	11,600	6,380	8,400
7	2,820								6,350	10,200	6,510	7,700
8	2,770	1,400	640						7,340	*10,400	7,290	7,150
9	2,750								7,700	13,000	7,480	6,780
10	2,720			(*)					7,700	12,800	6,860	7,980
11	2,580							2,600	9,770	12,500	7,920	9,440
12	*2,560								8,680	12,000	8,590	9,410
13	2,490								6,990	10,500	7,840	8,820
14	2,430								7,180	9,410	6,270	7,890
15	2,420								7,560	8,900	5,320	6,960
16	2,410			500	460	440	380		7,750	9,230	4,620	6,090
17	2,400								10,700	9,080	4,310	5,420
18	2,350	(*)							11,600	9,050	4,290	4,740
19	2,320								13,700	8,960	4,720	4,380
20	2,260				(*)				15,000	9,740	6,830	4,010
21	2,270								13,100	9,980	6,530	3,730
22	2,180							3,040	14,100	9,650	6,670	3,540
23	2,080	1,000						3,110	13,900	9,830	7,180	3,420
24	2,000		470					3,640	13,800	9,980	11,700	3,420
25	1,900							3,710	14,100	10,100	25,700	3,520
26	1,800							4,120	14,500	10,700	19,200	3,210
27	1,800						(*)	3,810	14,100	10,900	17,600	3,070
28	1,700							3,810	13,800	9,830	20,800	3,000
29	1,700							3,910	12,300	8,420	15,400	2,940
30	1,600				-------			3,950	14,200	8,370	11,500	2,890
31	1,800	-------			-------		-------	4,650	-------	8,090	*9,770	-------
Total	75,300	36,000	17,120	15,500	12,880	13,640	11,400	92,350	297,170	333,520	283,770	188,700
Mean	2,429	1,200	552	500	460	440	380	2,979	9,906	10,760	9,154	6,290
Ac-ft	149,400	71,400	33,960	30,740	25,550	27,050	22,610	183,200	589,400	661,500	562,800	374,300

Calendar year 1954: Max 23,500 Min - Mean 3,273 Ac-ft 2,370,000
Water year 1954-55: Max 25,700 Min - Mean 3,774 Ac-ft 2,732,000

Peak discharge (base, 12,000 cfs).--July 4 (11:30 a.m.) 16,800 cfs (9.03 ft); July 10 (3 a.m.) 13,700 cfs (8.36 ft); Aug. 25 (9 a.m.) 27,800 cfs (10.86 ft); Aug. 28 (4:30 a.m.) 22,300 cfs (9.92 ft). * Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 24 to May 21 (no gage-height record Nov. 17 to May 2; discharge estimated on basis of 4 discharge measurements and weather records).

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,830							800	5,990	12,400	16,600	5,720
2	2,800							1,100	6,220	12,000	11,400	4,990
3	2,700							1,500	6,880	12,700	9,200	4,650
4	2,640			(*)				1,800	7,950	12,000	8,000	4,490
5	2,610							2,100	8,510	11,000	7,340	4,380
6	2,530							2,400	8,880	10,300	8,590	4,250
7	2,500							2,500	11,700	9,890	10,800	4,160
8	2,390	890						2,600	15,300	10,900	9,680	4,080
9	2,150							2,700	14,800	10,400	8,760	4,010
10	2,080						420	2,700	13,500	10,300	10,500	4,030
11	*1,960							2,800	12,900	10,800	17,200	4,100
12	1,900							2,830	13,000	10,500	16,300	6,030
13	1,900							2,890	11,500	10,500	12,800	15,000
14	1,810	(*)						2,960	10,200	10,600	12,000	15,000
15	1,720							3,050	10,100	10,900	13,400	10,900
16	1,620		640	550	510	440	(*)	3,300	10,600	11,300	13,200	8,900
17	1,540							3,360	14,800	11,500	11,400	7,700
18	1,480							3,660	13,000	10,600	11,700	6,990
19	1,470							4,010	11,800	10,600	11,600	8,140
20	1,480							4,620	14,800	10,400	9,470	7,420
21	1,500							6,780	15,400	10,200	8,170	6,270
22	1,560				(*)			7,950	13,300	*8,140	*8,030	5,250
23	1,640	760						*7,290	12,400	7,500	7,530	4,810
24	1,640							7,210	10,800	7,860	7,020	4,490
25	1,540						470	7,590	9,230	7,530	6,480	4,310
26	1,440							8,560	8,900	7,210	6,220	*4,160
27	1,360							8,030	8,880	7,320	6,170	4,060
28	1,300							6,560	10,200	7,700	6,120	3,950
29	1,250							5,640	12,400	7,750	5,990	3,910
30	1,160				-------			5,720	13,300	7,750	5,960	3,930
31	1,100	-------			-------		-------	5,860	-------	11,700	6,330	-------
Total	57,600	24,750	19,840	17,050	14,790	13,640	13,100	130,870	337,240	310,250	303,960	180,080
Mean	1,858	825	640	550	510	440	437	4,222	11,240	10,010	9,805	6,003
Ac-ft	114,200	49,090	39,350	33,820	29,340	27,050	25,980	259,600	668,900	615,400	602,900	357,200

Calendar year 1955: Max 25,700 Min - Mean 3,702 Ac-ft 2,680,000
Water year 1955-56: Max 17,200 Min - Mean 3,888 Ac-ft 2,823,000

Peak discharge (base, 12,000 cfs).--June 9 (4 a.m.) 16,100 cfs (8.94 ft); June 17 (10 a.m.) 15,900 cfs (8.88 ft); June 20 (2:30 p.m.) 16,100 cfs (8.93 ft); June 30 (6 a.m.) 14,000 cfs (8.43 ft); Aug. 1 (2 a.m.) 19,400 cfs (9.38 ft); Aug. 11 (9 a.m.) 18,700 cfs (9.24 ft); Sept. 14 (8:30 a.m.) 16,200 cfs (8.73 ft). * Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 3-31. No gage-height record Nov. 1 to May 11 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 4 discharge measurements and weather records.

NENANA RIVER NEAR HEALY

Chemical analyses, in parts per million, October 1953 to September 1956

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
1953																		
Oct. 22-24, 26, 27	1,100	10	0.00	39	9.7	4.8	1.8	113	51	2.8	0.1	0.6	176	137	45	291	7.5	--
Oct. 28-30	957	11	.00	45	13	8.6	4.4	142	55	2.8	.1	.8	211	166	49	340	7.4	--
Nov. 2, 5-7, 9-11	750	11	.00	44	11	6.1	2.5	132	60	2.5	.0	.7	203	155	47	324	8.0	--
Dec. 16	a 647	7.6	.01	43	8.9	4.4	1.3	118	47	4.0	.0	.2	174	144	47	301	7.7	--
1954																		
Feb. 15	a 520	8.5	.00	42	9.3	5.3	1.7	124	51	3.2	.1	.6	183	143	41	301	7.8	--
May 10-20	2,711	5.8	.01	19	3.6	3.0	2.0	60	18	1.5	.0	1.1	90	62	13	139	--	0
May 21-30	5,648	5.7	.01	19	5.0	3.4	1.5	60	25	1.8	.0	1.0	96	68	19	153	7.1	0
June 1-10	7,027	5.8	.01	21	4.5	3.0	2.0	62	29	1.8	.0	1.0	101	71	20	164	6.7	0
June 11-20	7,695	5.9	.01	23	5.7	3.2	1.3	65	34	1.2	.0	.5	112	81	28	183	6.8	0
June 21-30	8,143	5.9	.01	23	6.0	3.2	1.2	66	35	1.2	.0	.4	114	82	28	184	7.2	0
July 1-10	6,925	7.0	.01	26	5.8	3.4	1.7	71	38	1.5	.0	.5	123	89	31	200	7.3	0
July 11-20	5,920	6.4	.01	27	5.2	2.7	2.0	72	39	1.5	.0	.3	122	89	30	199	7.3	0
July 21-31	8,685	6.4	.01	27	5.5	3.3	2.4	72	39	1.2	.0	.4	123	90	31	202	7.1	0
Aug. 1-10	14,560	6.6	.01	26	5.3	2.8	2.2	71	38	1.0	.0	.2	118	87	28	193	6.8	0
Aug. 11-20	6,926	6.6	.01	28	5.6	3.1	1.9	75	41	1.5	.0	.3	127	93	31	207	7.1	0
Sept. 1-10	6,187	6.7	.01	29	6.4	3.2	1.4	76	43	1.5	.0	.2	134	99	36	215	7.1	0
Sept. 11-20	5,653	6.7	.01	30	8.4	3.9	1.3	86	46	1.8	.0	.3	147	109	39	238	7.2	0
Sept. 21-23	4,707	7.6	.01	32	8.9	4.4	1.3	90	47	2.0	.0	.2	147	116	43	252	7.1	0
Sept. 24-27	3,785	7.7	.04	32	7.9	4.5	1.7	87	48	1.2	.1	.4	157	112	41	245	7.7	0
1954																		
Oct. 1-10	3,005	7.2	.04	34	9.8	4.8	1.5	100	52	1.5	.1	.5	169	125	43	268	7.7	0
Oct. 10-20	2,422	7.3	.04	35	9.7	5.2	1.6	102	50	1.8	.1	.5	170	127	44	268	7.7	0
Oct. 21-31	1,912	7.9	.04	36	9.6	5.2	1.9	108	51	2.2	.1	.4	181	129	41	285	7.7	0
1955																		
Jan. 10	a 549	8.0	.00	42	9.5	5.3	2.0	121	52	2.0	.0	.1	181	144	45	292	8.2	0
Feb. 19	488	8.1	.03	42	9.5	3.9	1.9	128	41	2.8	.1	.2	173	144	39	306	7.7	0
May 16, 20	2,600	5.8	.05	24	6.1	3.2	1.8	76	30	2.2	.1	.7	111	85	23	191	7.4	10
May 21-31	3,668	7.4	.08	21	4.3	3.1	1.7	68	23	2.0	.0	.6	96	70	14	163	7.1	25
June 1, 4-6, 10	5,898	5.1	.08	17	4.1	2.3	1.3	54	18	1.0	.0	.8	77	59	15	134	7.0	25
June 11-20	9,893	6.1	.08	18	4.0	2.2	.9	61	18	1.0	.0	.6	81	61	11	139	7.1	8
June 21-30	13,790	5.0	.04	19	4.3	2.1	1.5	56	22	.5	.1	.3	83	65	19	139	7.5	5

a Discharge at time of sampling.

NENANA RIVER NEAR HEALY--Continued

Chemical analyses, in parts per million, October 1953 to September 1956--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1955																		
July 4-10	12,540	5.8	0.04	24	3.9	2.5	2.0	62	28	1.0	0.0	0.3	99	76	25	167	7.2	5
July 11-20	9,937	5.1	.04	24	4.9	2.5	1.9	66	32	1.5	.1	.2	105	80	26	180	7.4	5
July 21-31	9,623	4.7	.04	25	4.8	3.3	2.8	66	35	1.5	.1	.2	111	82	28	185	7.6	5
Aug. 4-10	6,956	5.0	.04	25	5.0	2.5	2.0	66	35	1.5	.1	.2	109	83	29	186	7.7	5
Aug. 11-20	6,071	5.4	.04	27	5.0	3.1	1.7	70	38	2.2	.1	.4	117	88	31	199	7.9	5
Aug. 21-31	13,820	6.2	.04	25	4.8	2.8	1.7	68	32	1.2	.1	.4	107	82	26	185	7.7	5
Sept. 1-9	8,980	6.7	.04	27	5.2	3.1	1.2	74	35	1.0	.1	.2	116	89	28	198	7.6	5
Sept. 12-13	9,130	5.8	.04	25	5.7	2.7	1.0	68	35	2.2	.1	.4	111	86	30	194	8.0	5
Sept. 19-20	4,195	7.1	.04	31	6.6	3.6	1.3	83	43	2.0	--	.3	136	104	36	228	8.1	5
Sept. 21-27	3,416	6.9	.04	31	6.6	3.8	1.3	84	42	2.5	.1	.2	136	104	36	228	7.8	5
Sept. 30	2,890	8.6	.00	32	7.0	3.7	1.2	91	41	1.8	.0	.3	141	109	34	239	7.7	0
19																		
May 23	7,290	4.3	.00	17	2.9	2.0	1.3	53	17	1.0	.0	.7	77	54	11	125	6.2	45
June 9-10	14,150	11	.00	16	2.8	3.1	1.3	51	15	.5	.0	.2	75	51	10	121	7.1	10
June 11-20	12,270	6.2	.00	19	3.6	2.2	1.2	53	21	1.0	.0	.4	81	62	19	141	7.0	5
June 21-30	11,480	6.5	.00	21	4.5	2.2	1.1	59	25	1.2	.0	.3	91	71	23	158	6.9	0
July 1-10	11,190	7.8	.00	22	4.4	2.2	1.6	60	29	1.0	.0	.3	98	73	24	162	7.2	0
July 11-20	10,770	6.4	.00	24	4.6	2.2	1.7	64	32	1.0	.0	.3	104	79	26	177	7.2	0
July 21-30	9,066	8.3	.00	24	4.4	2.3	1.7	64	30	1.0	.0	.3	104	78	26	173	7.0	0
Aug. 1-10	10,090	6.0	.00	25	5.2	2.4	2.0	65	30	1.0	.0	.3	104	84	31	181	6.7	3
Aug. 11-20	12,910	6.2	.00	25	4.8	2.5	2.2	68	31	1.0	.0	.3	106	82	26	182	7.0	3
Aug. 21-31	6,729	6.0	.00	26	6.1	2.8	1.7	71	36	1.5	.0	.3	115	90	32	198	7.1	0
Sept. 1-10	4,476	6.5	.00	29	5.2	3.0	1.4	77	39	1.5	.0	.3	124	94	31	212	7.2	0
Sept. 11-20	9,018	7.2	.00	27	5.9	2.7	1.9	75	36	1.5	.0	.2	119	92	30	204	7.1	0
Sept. 21-30	4,514	7.1	.00	30	6.8	3.6	1.4	82	41	2.0	.0	.3	132	103	36	222	7.3	0

NENANA RIVER NEAR HEALY--Continued

Suspended sediment, May to September 1954

Day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	May: Mean discharge (cfs)	May: Suspended sediment: Mean concentration (ppm)	May: Suspended sediment: Tons per day	June: Mean discharge (cfs)	June: Suspended sediment: Mean concentration (ppm)	June: Suspended sediment: Tons per day
1.....					--		4,860	231	a 3,030
2.....					--		5,870	443	7,020
3.....					--		5,600	287	4,340
4.....					--		5,920	445	7,110
5.....					--		7,520	520	a 10,600
				720		a 400			
6.....					--		7,380	569	11,300
7.....					--		7,270	573	11,200
8.....					--		8,050	726	15,800
9.....					--		8,500	863	19,800
10.....					850		9,300	1,010	25,400
11.....					945		7,910	696	14,900
12.....					1,500		7,800	577	a 12,200
13.....					1,030		7,140	511	a 9,850
14.....					604		7,190	590	a 11,500
15.....					401		9,640	652	a 17,000
				2,500		4,700			
16.....					408		8,330	432	9,720
17.....					405		7,940	403	8,640
18.....					463		7,140	375	7,230
19.....					466		6,840	437	8,070
20.....				6,600	438	7,810	6,920	435	a 8,130
21.....				6,650	370	6,640	8,240	476	a 10,600
22.....				5,920	321	a 5,130	8,880	650	15,600
23.....				5,420	295	a 4,320	9,610	760	19,700
24.....				5,400	330	a 4,810	8,360	555	12,500
25.....				6,680	545	9,830	7,800	531	11,200
26.....				6,340	326	5,580	7,140	474	9,140
27.....				5,600	236	3,570	7,960	525	11,300
28.....				5,670	217	a 3,320	8,270	569	12,700
29.....				4,760	174	2,240	7,430	526	10,600
30.....				4,040	152	a 1,660	7,740	559	11,700
31.....				4,260	180	a 2,070	--	--	--
Total.				97,040	--	103,280	228,550	--	347,880

	July			August			September		
1.....	8,160	323	7,120	23,500	4,280	272,000	5,620	405	a 6,150
2.....	9,580	670	17,300	23,000	2,960	184,000	5,420	341	4,990
3.....	8,730	635	a 15,000	19,100	2,310	119,000	5,320	298	4,280
4.....	7,960	570	a 12,300	16,200	1,840	a 80,500	5,320	252	3,620
5.....	7,600	558	a 11,500	12,800	1,320	45,600	6,470	678	11,800
6.....	7,000	545	10,300	11,000	995	29,600	7,570	1,060	21,700
7.....	6,260	425	7,180	10,300	975	27,100	7,740	910	19,000
8.....	6,100	440	7,250	10,100	951	a 25,900	6,570	514	9,120
9.....	6,440	575	10,000	9,840	980	26,000	5,740	350	5,420
10.....	6,420	526	a 9,120	9,740	1,190	31,300	6,100	408	6,720
11.....	5,900	494	a 7,870	9,270	1,320	a 33,000	6,030	300	4,880
12.....	4,830	415	5,410	9,000	1,420	34,500	5,220	247	3,480
13.....	4,640	365	a 4,570	8,130	1,240	27,200	4,550	175	2,150
14.....	4,780	395	a 5,100	6,440	1,230	a 21,400	4,170	110	a 1,240
15.....	5,050	485	6,610	5,770	960	a 15,000	4,020	97	1,050
16.....	5,740	835	12,900	5,470	352	5,200	4,500	226	2,750
17.....	6,470	1,250	21,800	5,220	284	4,000	7,080	3,140	s 64,500
18.....	7,110	1,500	28,800	5,240	325	4,600	8,190	1,700	37,600
19.....	7,110	1,650	31,700	5,720	482	7,440	6,870	625	11,600
20.....	7,570	1,720	35,200	9,000	2,250	s 58,200	5,900	500	a 7,960
21.....	8,410	2,490	56,500	9,240	2,440	a 60,900	5,170	300	4,190
22.....	10,400	3,310	92,900	7,740	2,030	a 42,400	4,690	199	2,520
23.....	8,440	1,480	33,700	7,300	1,960	a 38,600	4,260	185	2,130
24.....	8,520	990	22,800	8,160	2,060	a 45,400	4,110	159	1,760
25.....	7,940	920	a 19,700	9,090	1,960	a 48,100	4,060	126	1,380
26.....	7,140	740	14,300	7,520	730	a 14,800	3,630	67	853
27.....	6,760	660	12,000	6,080	598	9,820	3,340	73	658
28.....	7,240	1,060	20,700	6,650	735	a 13,200	3,210	67	a 581
29.....	8,080	1,480	a 32,300	7,490	784	a 15,900	3,110	70	a 588
30.....	9,000	1,850	45,000	6,760	598	a 10,900	3,820	105	a 1,080
31.....	13,600	3,690	135,000	6,100	495	a 8,150	--	--	--
Total...	228,980	--	751,930	296,970	--	1,359,710	157,800	--	245,750

Total discharge for period (cfs-days) May to September 1,009,340
Total load for period (tons) May to September ..... b 2,808,550

s Computed by subdividing day.
a Computed from estimated concentration graph.
b Load during winter period October to April negligible in relation to open-water period. Probably not more than 0.5 percent.

NENANA RIVER NEAR HEALY--Continued

Suspended sediment, water year October 1954 to September 1955

Day	October			May			June		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1.....	3,770	174	1,770		--		4,830	478	6,230
2.....	3,330	126	1,130		--		4,810	442	b5,740
3.....	3,110	142	1,190		--		4,650	486	b6,100
4.....	2,960	72	575		--		4,920	544	7,230
5.....	2,930	69	546		--		5,840	320	5,040
6.....	2,890	61	476		--		6,200	860	14,400
7.....	2,820	--	--		--		6,350	790	b13,500
8.....	2,770	--	--		--		7,340	727	b14,400
9.....	2,750	--	--		--		7,700	740	b15,400
10.....	2,720	--	--		--		7,700	726	15,100
11.....	2,580	--	--	2,600	--	a1,400	9,770	1,080	28,500
12.....	2,560	--	--		--		8,680	786	18,400
13.....	2,490	--	--		--		6,990	435	8,210
14.....	2,430	--	--		--		7,180	366	7,100
15.....	2,420	--	--		--		7,560	375	7,650
16.....	2,410	--	--		380		7,750	352	7,360
17.....	2,400	--	--		--		10,700	489	b14,100
18.....	2,350	--	--		--		11,600	818	b25,600
19.....	2,320	--	--		--		13,700	1,810	67,000
20.....	2,260	--	--		370		15,000	2,150	87,100
21.....	2,270	--	--		178		13,100	1,740	b61,500
22.....	2,180	--	--	3,040	275	a2,260	14,100	1,540	58,600
23.....	2,080	--	--	3,110	435	3,650	13,900	1,190	44,700
24.....	2,000	--	--	3,640	410	4,030	13,800	1,200	44,700
25.....	1,900	--	--	3,710	326	3,260	14,100	1,320	b50,200
26.....	1,800	--	--	4,120	454	5,050	14,500	1,250	48,900
27.....	1,800	--	--	3,810	312	3,210	14,100	1,100	41,900
28.....	1,700	--	--	3,810	418	a4,300	13,800	920	34,300
29.....	1,700	--	--	3,910	403	a4,250	12,300	1,050	b34,900
30.....	1,800	--	--	3,950	415	a4,420	14,200	1,370	52,500
31.....	1,800	--	--	4,650	392	a4,920	--	--	--
Total.	75,300	--	e10,000	92,350	--	68,750	297,170	--	846,360

Day	July			August			September		
1.....	13,600	1,210	a44,400	7,420	790	a15,800	10,200	324	8,920
2.....	12,500	1,140	a38,500	7,180	842	a16,300	11,000	379	11,200
3.....	14,400	1,200	a46,700	7,720	915	a19,100	10,500	367	a10,400
4.....	16,000	1,340	57,900	7,370	964	19,200	10,100	325	b8,860
5.....	13,800	1,170	43,600	6,800	691	12,700	8,990	196	4,760
6.....	11,600	800	25,100	6,380	568	9,780	8,400	130	2,950
7.....	10,200	526	14,500	6,510	708	12,400	7,700	123	2,560
8.....	10,400	640	18,000	7,290	763	a15,000	7,150	98	1,890
9.....	13,000	756	a36,500	7,480	875	17,700	6,780	76	1,390
10.....	12,800	1,060	36,600	6,860	725	13,400	7,980	159	a3,420
11.....	12,500	1,040	35,100	7,920	1,030	22,000	9,440	223	a5,680
12.....	12,000	1,060	34,300	8,590	815	18,900	9,410	218	5,540
13.....	10,500	762	21,600	7,840	638	13,500	8,820	228	5,430
14.....	9,410	576	14,600	6,270	296	a5,010	7,890	172	a3,660
15.....	8,900	625	a15,000	5,320	255	3,660	6,960	125	a2,350
16.....	9,230	615	a15,300	4,620	263	3,280	6,090	96	a1,580
17.....	9,080	600	14,700	4,310	204	2,370	5,420	70	a1,020
18.....	9,050	560	13,700	4,290	175	2,030	4,740	34	b435
19.....	8,960	700	a16,900	4,720	245	3,120	4,380	20	236
20.....	9,740	1,220	32,100	6,830	420	a7,750	4,010	32	346
21.....	9,980	1,180	31,800	6,530	515	a9,080	3,730	29	292
22.....	9,650	894	23,300	6,670	521	9,380	3,540	21	201
23.....	9,830	1,280	34,000	7,180	580	11,200	3,420	22	203
24.....	9,980	1,320	35,600	11,700	2,980	s108,000	3,420	19	a175
25.....	10,100	1,380	37,600	25,700	3,580	248,000	3,520	21	a200
26.....	10,700	2,470	71,400	19,200	2,540	a132,000	3,210	21	182
27.....	10,900	2,260	66,500	17,600	2,050	a97,400	3,070	15	124
28.....	9,830	1,870	49,600	20,800	1,820	a102,000	3,000	12	b97
29.....	8,420	1,020	23,200	15,400	717	29,800	2,940	10	a79
30.....	8,370	825	18,600	11,500	275	8,540	2,890	8	62
31.....	8,090	800	a17,500	9,770	294	7,760	--	--	--
Total.	333,520	--	974,200	283,770	--	996,160	188,700	--	84,242

Total discharge for period (October, May to September) (cfs-days) 1,270,810
Total load for period (October, May to September) (tons) b2,979,712

e Partly estimated.
s Computed by subdividing day.
a Computed from estimated concentration graph.
b Winter load negligible in relation to open-season load; probably less than 0.2 percent.

NENANA RIVER NEAR HEALY--Continued

Suspended sediment, water year October 1955 to September 1956

Day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	October: Mean discharge (cfs)	October: Suspended sediment: Mean concentration (ppm)	October: Suspended sediment: Tons per day	June: Mean discharge (cfs)	June: Suspended sediment: Mean concentration (ppm)	June: Suspended sediment: Tons per day
1.....				2,830	6	46	--	--	--
2.....				2,800	6	45	--	--	--
3.....				2,700	8	58	--	--	--
4.....				2,640	13	93	--	--	--
5.....				2,610	15	110	--	--	--
6.....				2,530	12	82	--	--	--
7.....				2,500	10	68	11,700	--	--
8.....				2,390	8	52	15,300	1,290	53,300
9.....				2,150	7	41	14,800	972	38,800
10.....				2,080	5	28	13,500	529	19,300
11.....				1,960	4	21	12,900	432	15,000
12.....				--	--	--	13,000	410	14,400
13.....				--	--	--	11,500	320	9,940
14.....				--	--	--	10,200	218	6,000
15.....				--	--	--	10,100	363	9,900
16.....				--	--	--	10,600	451	12,900
17.....				--	--	--	14,800	562	22,500
18.....				--	--	--	13,000	415	14,600
19.....				--	--	--	11,800	490	15,600
20.....				--	--	--	14,800	670	26,800
21.....				--	--	--	15,400	458	19,000
22.....				--	--	--	13,300	242	8,690
23.....				--	--	--	12,400	274	9,170
24.....				--	--	--	10,800	191	5,570
25.....				--	--	--	9,230	143	3,560
26.....				--	--	--	8,900	297	7,140
27.....				--	--	--	8,880	405	9,710
28.....				--	--	--	10,200	557	15,300
29.....				--	--	--	12,400	607	20,300
30.....				--	--	--	13,300	626	22,500
31.....				--	--	--	--	--	--
Total.				27,190	--	644	281,110	--	379,980

	July			August			September		
1.....	12,400	651	21,800	16,600	3,380	151,000	5,720	171	1,810
2.....	12,000	519	16,800	11,400	507	15,600	4,990	106	1,430
3.....	12,700	482	16,500	9,200	230	5,710	4,650	99	1,240
4.....	12,000	719	23,300	8,000	237	5,120	4,490	47	570
5.....	11,000	752	22,300	7,340	419	8,300	4,380	58	690
6.....	10,300	717	19,900	8,590	506	11,700	4,250	46	530
7.....	9,890	539	14,400	10,800	614	17,900	4,160	29	320
8.....	10,900	517	15,200	9,680	1,360	35,500	4,080	34	370
9.....	10,400	550	15,400	8,760	2,000	47,300	4,010	63	680
10.....	10,300	675	18,800	10,500	1,600	45,400	4,030	72	780
11.....	10,800	715	20,800	17,200	1,780	82,700	4,100	86	950
12.....	10,500	605	17,200	16,300	2,960	130,000	6,030	243	s 4,810
13.....	10,500	594	16,800	12,800	1,920	66,400	15,000	617	25,000
14.....	10,600	898	25,700	12,000	1,380	44,700	15,000	1,470	59,500
15.....	10,900	836	24,600	13,400	1,280	46,300	10,900	1,540	45,300
16.....	11,300	887	27,100	13,200	1,530	54,500	8,900	4,280	103,000
17.....	11,500	728	22,600	11,400	1,770	54,500	7,700	1,400	29,100
18.....	10,600	581	16,600	11,700	2,580	81,500	6,990	456	8,610
19.....	10,600	746	21,400	11,600	1,600	50,100	8,140	370	8,130
20.....	10,400	893	25,100	9,470	677	17,300	7,420	206	4,130
21.....	10,200	381	10,500	8,170	616	13,600	6,270	220	3,720
22.....	8,140	264	5,800	8,030	420	9,110	5,250	154	2,180
23.....	7,500	761	15,400	7,530	387	7,870	4,810	192	2,490
24.....	7,860	858	18,200	7,020	218	4,130	4,490	86	1,040
25.....	7,530	897	18,200	6,480	210	3,670	4,310	48	560
26.....	7,210	442	8,600	6,220	255	4,280	4,160	48	540
27.....	7,320	310	6,130	6,170	244	4,060	4,060	49	540
28.....	7,700	1,140	23,700	6,120	292	4,820	3,950	50	530
29.....	7,750	1,670	34,900	5,990	342	5,530	3,910	40	420
30.....	7,750	1,600	33,500	5,960	330	5,310	3,930	41	440
31.....	11,700	2,540	s 80,600	6,330	230	3,930	--	--	--
Total.	310,250	--	657,830	303,960	--	1,037,840	180,080	--	309,410

• Total discharge for period June 8 to September 30, 1956 1,075,400
Total load for period June 8 to September 30, 1956 2,385,060

s Computed by subdividing day.

NENANA RIVER NEAR HEALY--Continued

Periodic determinations of suspended-sediment discharge, water years October 1953 to September 1955

Date	Discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
1954			
July 7	5,970	314	5,060
July 19	7,050	1,700	32,600
Aug. 2	22,100	2,590	155,000
Aug. 27	5,970	575	9,270
1954			
Oct. 11-17	a 2,470	26	173
Oct. 23-26, 29, 30, Nov. 1	a 1,810	32	156
Nov. 2, 3, 5	a 1,400	16	60
1955			
July 7	9,650	496	12,900
July 11	a 12,500	947	32,000
July 25	9,920	1,200	31,900
Aug. 12	8,760	764	18,100
Sept. 1	9,770	300	7,900
Sept. 1	--	301	--

a Mean daily discharge.

NENANA RIVER NEAR HEALY--Continued

Particle-size analyses of suspended sediment, water years October 1953 to September 1956
(Methods of analysis: B, bottom withdrawal tube; D, decantation; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed; M, mechanically dispersed)

Date of collection	Time	Discharge (cfs)	Water temperature (°F)	Suspended sediment													Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters											
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	
1954																	
July 7	4:10 p.m.	5,970		314	642	22	26	34	40	49	65	62	73		87	100	BSWCM
July 19	--	7,050		1,700	1,820	17	23	32	42	51	62	71	84		96	--	BSWCM
Aug. 2	--	22,100		2,590	2,950	16	22	32	41	49	63	74	86		96	100	PSWCM
Aug. 27	2:30 p.m.	5,970		575	613	23	25	34	41	48	56	64	80		96	100	BSWCM
1955																	
July 11	1:00 p.m.	--		916	1,010	16	20	29	34	43	54	64	79		94	99	BSWCM
July 25	1:00 p.m.	9,860		1,190	4,340	16	21	28	37	46	58	70	84		96	100	BSWCM
Sept. 1	--	9,770		267	254	25	25	29	37	44	48	58	74		92	100	BSWCM
1956																	
June 8	11:40 a.m.	15,200		1,310	735	6	7	11	16	21	26	30	40		60	--	BSWCM
Aug. 22	10:00 a.m.	8,040		456	588	16	19	28	38	46	57	67	83		96	100	BSWCM

YUKON RIVER AT GALENA

LOCATION.--At Galena CAA Station, Galena, Alaska.
RECORDS AVAILABLE.--Chemical analyses: June to September 1954.
Water temperatures: June to September 1954.
REMARKS.--Records of specific conductance of daily samples available in district office, Branch of Quality of Water, Palmer, Alaska, No discharge records available for this station.

Chemical analyses, in parts per million, June to September 1954

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1954																		
June 1-10		6.3	0.07	33	5.3	2.2	1.5	112	18	0.4		1.2	123	104	12	208	7.7	--
June 11-20		6.5	.06	26	5.2	2.3	1.3	91	18	.6		2.1	107	86	12	182	7.7	20
June 21-30		7.5	.07	27	5.1	2.4	1.3	93	19	.6		2.0	111	88	12	186	7.7	15
July 1-10		7.3	.06	29	5.7	3.1	1.2	102	20	.6		1.9	119	96	12	201	7.7	25
July 11-20		7.2	.05	28	6.2	3.1	1.3	101	21	1.3		1.4	120	95	13	204	7.7	20
July 21-31		7.2	.12	20	5.3	3.2	1.0	80	8.2	1.0		1.5	87	72	6	147	7.3	65
Aug. 1-10		7.1	.17	14	5.0	3.0	.8	67	3.0	.8		1.9	69	56	1	111	7.4	110
Sept. 15, 21-25		6.2	.11	27	5.6	3.6	1.0	92	17	.8		2.8	109	90	15	189	7.7	55

YUKON RIVER AT GALENA--Continued

Temperature (°F) of water, June to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									60	60	56	--
2									62	52	58	--
3									54	54	56	--
4									52	54	58	--
5									52	56	54	--
6									52	62	58	--
7									48	62	54	--
8									58	58	52	--
9									58	56	54	--
10									52	54	56	--
11									60	50	54	--
12									60	52	--	--
13									56	50	--	36
14									58	58	--	--
15									56	56	--	38
16									54	58	--	40
17									58	62	--	--
18									56	60	--	34
19									62	64	--	36
20									56	66	--	34
21									52	54	--	--
22									54	56	--	--
23									54	56	--	--
24									50	58	--	--
25									48	56	--	--
26									52	58	--	--
27									54	56	--	--
28									52	56	--	--
29									56	56	--	--
30									56	54	--	--
31									--	54	--	--
Average									55	57	--	--

KOYUKUK RIVER AT HUGHES

LOCATION.--At village of Hughes, Alaska.
RECORDS AVAILABLE.--Chemical analyses: June to September 1955
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, June to September 1955

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1955																		
June 2		2.5	0.05	17	4.1	0.6	0.6	55	16	1.0	0.0	0.3	69	59	14	118	7.5	
June 9		2.8	.05	21	4.8	.6	.5	69	18	1.0	.0	.2	83	72	16	144	7.1	
June 23		3.4	.03	22	6.1	1.0	.5	68	28	1.0	.0	.2	95	80	24	171	7.0	
June 30		3.6	.05	27	6.2	.7	.5	83	28	1.0	.0	.2	108	93	25	184	7.7	
July 7		3.4	.03	26	6.3	.9	.4	82	28	1.0	.0	.2	106	91	24	183	7.7	
July 15		3.4	.03	27	6.9	.9	.4	85	29	1.0	.0	.2	111	96	26	190	7.8	
July 27		3.9	.03	35	9.0	1.4	.5	110	37	1.0	.0	.1	142	124	34	244	7.9	
Aug. 10		4.2	.03	38	9.3	1.8	.7	115	42	1.0	.0	.2	154	133	39	264	7.9	
Aug. 19		4.9	.03	37	9.9	2.5	1.0	124	41	1.0	.0	.2	159	133	31	264	7.9	
Aug. 28		4.7	.05	24	6.3	1.0	.5	66	27	3.0	.0	.7	100	86	32	169	7.8	
Sept. 5		4.6	.05	26	7.0	1.0	.4	62	45	2.0	.0	.3	117	94	43	194	7.2	
Sept. 14		4.6	.05	25	6.2	1.0	.4	69	35	1.0	.0	.3	108	88	31	178	7.7	

INNOKO RIVER AT SHAGELUK

LOCATION.--At village of Shageluk, Alaska.
RECORDS AVAILABLE.--Chemical analyses: May to September 1956.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, May to September 1956

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1956																		
May 28		--	--	4.0	2.1	1.4	1.0	20	1.1	0.2	--	0.1		19	2	43	6.8	150
June 4		--	0.23	9.5	1.7	5.7	.9	43	6.2	.0	0.1	.5		31	0	84	7.5	70
June 11		4.0	.30	6.7	2.2	.9	.8	26	7.2	.0	--	.2		26	4	54	7.0	85
June 20		5.7	.24	10	3.3	1.3	.8	38	10	.5	--	.3		38	7	82	7.0	75
June 27		6.8	.43	13	3.6	1.5	.8	46	12	.0	--	.2		47	10	97	7.0	80
July 5		5.9	.08	15	4.8	1.7	.5	--	--	.0	.0	.4		57	--	140	5.3	25
July 11		--	.14	14	4.0	2.0	.4	56	7.0	.0	.0	.6		51	6	109	7.5	50
July 26		8.8	.47	19	5.0	2.3	.8	69	8.0	.2	.1	.4		69	12	140	7.3	65
Aug. 2		15	.47	19	5.0	2.4	1.0	77	8.0	.0	.1	.6		68	5	141	6.9	70
Aug. 16		--	.31	19	4.5	2.2	1.1	67	12	.2	.0	.4		67	12	138	6.9	55
Aug. 23		12	.22	23	4.0	2.8	2.1	80	13	.8	.2	.6		74	8	153	7.0	50
Sept. 6		--	.47	13	4.1	2.0	.8	52	6.6	.2	.0	.4		51	8	99	7.0	90
Sept. 13		13	.88	13	3.4	2.1	.6	52	4.0	.0	.2	.4		46	4	97	6.4	85
Sept. 20		--	.83	12	3.7	2.0	.5	50	5.2	.0	.0	.5		47	6	93	6.8	150
Sept. 27		11	.38	8.3	2.4	1.4	.5	31	5.0	.0	.2	.4		31	5	67	6.3	80

LOCATION.--Upstream, 0.4 mile from village of Shungnak, Alaska.
RECORDS AVAILABLE.--June to September 1955.
REMARKS.--No discharge records available for this station

Chemical analyses, in parts per million, June to September 1955

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1955																		
June 6		2.6	0.00	12	1.1	0.4	0.4	26	15	0.0	0.1	0.0	45	34	13	77	7.0	
June 13		2.6	.02	12	1.6	.4	.4	38	8.5	1.0	.1	.0	46	37	5	76	7.1	
June 21		3.0	.00	17	1.9	.5	.5	48	17	1.0	.1	.0	65	50	11	108	7.1	
June 29		2.6	.00	17	2.2	.5	.5	49	14	1.0	.1	.0	62	51	11	109	7.2	
July 5		2.7	.00	20	2.8	.6	.6	64	13	.0	.1	.0	72	61	9	127	7.6	
July 12		2.9	.02	20	3.2	.6	.6	63	13	1.0	.1	.0	72	63	11	128	7.6	
July 29		3.2	.00	24	2.5	.7	.6	66	21	1.0	.0	.0	86	70	16	160	7.4	
Aug. 6		3.3	.00	24	3.2	.9	.6	--	--	1.0	.1	.0	93	73	--	157	7.0	
Aug. 11		3.4	.00	25	3.1	.9	.6	75	17	1.0	.1	.0	88	75	14	147	7.1	
Aug. 24		3.3	.00	19	2.2	.5	.4	57	13	1.0	.1	.0	68	56	10	129	7.1	
Aug. 31		6.4	.00	15	1.9	.6	.4	37	16	.0	.0	.5	59	45	15	98	6.8	
Sept. 6		3.6	.00	21	2.9	.7	.5	64	12	.0	.0	.4	73	64	12	134	7.5	
Sept. 13		3.6	.00	18	2.3	.7	.6	38	26	.0	.0	.3	70	54	23	120	6.9	
Sept. 20		3.8	.00	19	2.9	.7	.4	59	12	.0	.0	.3	68	59	11	124	7.5	
Sept. 27		4.1	.00	18	3.0	.7	.4	43	23	.0	.0	.3	70	57	22	121	7.3	

NOATAK RIVER AT NOATAK

LOCATION.--At village of Noatak, Alaska.
RECORDS AVAILABLE.--June to September 1955.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, June to September 1955

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
1955																		
June 17		2.3	0.05	22	3.9	2.5	0.4	57	21	5.0	0.1	0.0	85	71	24	154	7.2	--
June 24		2.7	.05	25	4.5	.6	.4	75	21	.5	.1	.0	92	81	19	164	7.5	--
July 1		2.8	.02	26	4.9	.4	.4	83	19	.0	.1	.0	95	85	17	170	7.7	--
July 6		2.8	.02	26	4.4	.6	.4	76	24	.5	.1	.0	96	83	21	170	7.2	--
Aug. 1		3.7	.02	35	6.8	.7	.5	114	22	1.2	.1	.0	126	115	22	227	7.6	--
Aug. 10		3.8	.02	37	7.1	.7	.5	120	25	.5	.1	.0	134	122	23	240	7.7	--
Aug. 15		3.9	.02	40	6.2	.7	.5	128	23	.8	.1	.0	138	125	20	245	8.0	--
Aug. 22		4.1	.07	21	2.9	.5	.3	64	14	1.0	.1	.0	76	64	12	129	7.5	--
Aug. 29		3.9	.05	27	5.2	.6	.4	86	21	1.0	.1	.0	101	89	18	179	7.6	--
Sept. 6		3.9	.02	33	5.9	.8	.4	106	23	1.0	.1	.5	121	107	20	219	7.8	--
Sept. 14		3.7	.02	29	5.4	.7	.4	87	26	.5	.1	.0	109	95	23	194	7.4	--
Sept. 20		3.9	.07	27	4.5	.6	.4	80	22	1.0	.1	.0	99	86	20	175	7.3	--
Sept. 28		4.1	.05	30	5.8	.7	.4	97	22	1.0	.1	.0	112	99	19	196	7.4	--

Measurements of streamflow in Alaska made at points other than regular gaging stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. Measurements believed to have been made under base-flow conditions are identified by an asterisk (*) to the left of the discharge figure. These measurements when correlated with the simultaneous discharge of a nearby stream where continuous records are available will give a picture of the low-flow potentiality of stream. The column headed, "Measured previously" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at points other than gaging stations in Alaska during the water years 1954-56

Southeastern Alaska

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
Delta (Ruth) Creek.	Thomas Bay...	Lat 56°48', long 132°47', at mouth, 13 miles northeast of Petersburg.	10.3	1947-53	1955	
					Feb. 3	*20.6
					1956	
					Mar. 2	*2.79
Scenery Creek.	Scenery Cove.	Lat 57°05', long 132°47', ¼ mile upstream from mouth and 20 miles northeast of Petersburg.	30.0	1953	1953	
					Dec. 5	*60.6
					1954	
					Apr. 10	*31.7
					June 3	390
					July 9	321
					Oct. 22	416
					Dec. 3	240
					1955	
					Feb. 3	*70.0
					May 4	93.9
					June 8	328
					Nov. 4	85.0
					1956	
					Apr. 18	*60.3
					June 4	415
Dorothy Creek.	Taku inlet...	Lat 58°14'45", long 133°58'50", at Dorothy Lake Outlet, 16 miles southeast of Juneau.	11.0		1954	
					Aug. 12	228
					Sept. 2	147
					Nov. 1	111
Sheep Creek...	Gastineau Channel.	Lat 58°16'20", long 134°19'10", 50 ft above divereion dam, 1.0 miles above mouth, and 4 miles southeast of Juneau.	4.57	1951-53	1954	
					Apr. 20	*7.34
Do.....	....do.....	Lat 58°15'40", long 134°19'25", at mouth, 4¼ miles southeast of Juneau.	5.96	1952	1954	
					Jan. 8	23.3
					Mar. 25	*9.05
					1956	
					Mar. 8	*3.16
Granite Creek.	Gold Creek...	Lat 58°18'50", long 134°21'00", 600 ft above mouth and 2.3 miles northeast of Juneau.	-		1956	
					Feb. 14	*1.23
Lemon Creek...	Gastineau Channel.	Lat 58°21'35", long 134°29'50", at highway bridge, 5 miles northwest of Juneau.	-	1951-52	1953	
					Nov. 18	69.6
					Dec. 4	*40.6
					Dec. 16	*30.3
					Dec. 29	74.0
					1954	
					Jan. 13	*30.1
					Mar. 16	*20.0
					Mar. 29	*18.3
					Apr. 19	*18.7
					1955	
					Nov. 21	40.8
					Dec. 15	*28.8
					1956	
					Jan. 18	*15.7
					Apr. 11	*13.1
Jordan Creek..	Fritz Cove...	Lat 58°21'55", long 134°34'45", at highway bridge, 3 miles southeast of Auke Bay.	-	1952	1954	
					Jan. 13	*4.73
Auke Creek....	Auke Bay.....	Lat 58°23'05", long 134°38'00", at Auke Lake Outlet, 0.4 mile above mouth and ½ mile east of Auke Bay.	3.75	1948-52	1953	
					Nov. 18	12.6
					Dec. 16	*4.02
					Dec. 29	39.7
					1956	
					Apr. 11	*4.35
Indian River..	Cresent Bay..	Lat 57°03'35", long 135°18'15", 100 ft upstream from Sitka water supply intake, 1.3 miles upstream from mouth, and 1 mile northeast of Sitka.	-		1953	
					Nov. 18	51.0

Alaska west of longitude 141°

Gulkana River.	Copper River.	Lat 62°16'10", long 145°22'50", at bridge on Richardson Highway at Gulkana.	1,980	1948-50	1954	
					July 11	1,920
Eyak River....	Prince William Sound.	Lat 60°32', long 145°39', at bridge on road to Cordova Airport at outlet of Eyak Lake.	-		1954	
					July 28	538

* Base flow.

Discharge measurements made at points other than gaging stations in Alaska during the water years 1954-56--Continued

Alaska west of longitude 141°--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
Lowe River...	Prince William Sound.	Lat 61°05'50", long 145°51'30", at bridge on Richardson Highway just above Bear Creek, 14 miles east of Valdez.	-	1953	1953	
					Oct. 29	233
					1954	
					Jan. 11	*62.9
					Mar. 9	*30.8
					Apr. 28	*63.6
					June 9	3,220
Do.....	....do.....	Lat 61°05'00", long 145°53'35", at bridge on Richardson Highway, 13 miles east of Valdez.	-	1950-53	1954	
					Sept.25	1,740
Seldovia River.	Kachemak Bay.	Lat 59°20'45", long 151°35'35", at outlet of Seldovia Lake, 7½ miles southeast of Seldovia.	-		1953	
					Oct. 7	166
					1954	
					Mar. 6	*†.5
Bradley River	....do.....	Lat 59°45'20", long 150°51'00", at outlet of Bradley Lake, 26 miles northeast of Homer.	54.0		1955	
					July 13	1,320
					Aug. 2	997
Deep Creek...	Cook inlet...	On line between secs. 3 and 4, T. 2 S., R. 14 W., at bridge on Sterling Highway, ¾ mile above mouth and 1½ miles southwest of Ninilchik.	-	1951-52	1954	
					Mar. 7	112
Carter Creek.	Moose Creek..	Lat 60°29'40", long 149°27'20", at Carter Lake Outlet, 3 miles west of Moose Pass.	2.28		1955	
					Aug. 13	14.1
Crescent Creek.	Quartz Creek.	Lat 60°28'40", long 149°34'30", at Crescent Lake Outlet, 7 miles west of Moose Pass.	21.4		1955	
					July 25	151
					Aug. 12	88.5
					1956	
					July 10	110
					Aug. 16	78.2
					Sept.13	53.1
Juneau Creek.	Kenai River..	Lat 60°29'20", long 149°52'30", at mouth, 1.5 miles west of Cooper Landing.	53.4		1955	
					May 4	14.7
Do.....	....do.....	Lat 60°30'30", long 149°53'30", 1½ miles above mouth and 2.5 miles northwest of Cooper Landing.	-		1955	
					July 14	289
					Aug. 11	115
Cooper Creek.	....do.....	Lat 60°29'05", long 149°52'40", at bridge on Sterling Highway, just above mouth, 1½ miles west of Cooper Landing.	-	1948-50	1955	
					Dec. 28	28.6
					1956	
					Jan. 11	32.4
					Feb. 10	26.0
					Mar. 30	22.9
					Apr. 25	40.3
					May 29	182
					July 11	312
North Fork Campbell Creek.	Campbell Creek.	In SW¼ sec. 35, T. 13 N., R. 3 W., at bridge on gravel road 2 miles above confluence with South Fork and 5½ miles southeast of Anchorage.	-	1947-50, 1952	1954	
					July 21	13.4
					1955	
					July 11	72.1
Russian Jack Springs.	Chester Creek	In NE¼ sec. 22, T. 13 N., R. 3 W., at Anchorage Prison Farm, 3½ miles east of Anchorage.	-	1948-49, 1952-53	1953	
					Oct. 2	6.39
					Nov. 24	5.42
					Dec. 29	*5.64
					1954	
					Jan. 14	*5.10
					Feb. 24	*4.46
					Mar. 16	*3.98
					Apr. 5	4.44
					May 4	4.24
					June 4	3.71
					June 11	3.74
					June 25	4.02
					July 21	3.82
					Aug. 19	3.68
					Sept.17	3.86
					Nov. 4	4.42
					1955	
					Jan. 13	*3.81
					Feb. 25	*3.94
					May 4	6.29
					July 19	5.92
					Oct. 6	5.08
					1956	
					Apr. 20	4.22
					June 6	5.76
					July 12	5.00
					Sept.11	7.34
Chester Creek	Cook inlet...	On line between secs. 19 and 20, T. 13 N., R. 3 W., at culvert on Gamble Street at Anchorage, 2¼ miles above mouth.	-	1947-49, 1952	1954	
					July 21	14.1
					1955	
					July 19	29.4

* Base flow.
† Field estimate.

Discharge measurements made at points other than gaging stations in Alaska during the water years 1954-56--Continued

Alaska west of longitude 141°--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
Eagle River..	Cook inlet...	In SE¼ sec. 11, T. 14 N., R. 2 W., at bridge on Glenn Highway, 7 miles above mouth and 13 miles northeast of Anchorage.	-	1949-52	1954	
					July 21	1,660
					Aug. 20	3,670
					1955	
					July 19	1,460
					Aug. 18	767
Eklutna Creek	....do.....	Lat 61°27', long 149°18', 1¾ miles above Thunder Bird Creek, 7 miles below Eklutna Lake, and 13 miles southwest of Palmer.	-		1955	
					July 5	13.7
					1956	
					June 25	8.45
					July 9	6.98
					July 13	6.57
					July 27	6.64
					Aug. 2	11.4
Do.....	....do.....	Lat 61°27', long 149°21', just above Thunder Bird Creek, 2 miles above mouth, 9 miles below Eklutna Lake, and 13 miles southwest of Palmer.	-		1954	
					Nov. 24	17.3
					1955	
					July 5	16.0
Goat Creek...	Knik River...	Lat 61°29', long 149°06', at bridge on Glenn Highway, 8½ miles south of Palmer.	-		1955	
					July 19	60.2
Knik River...	Cook inlet...	In SE¼ sec. 2, T. 16 N., R. 2 E., at bridge on Glenn Highway, 7 miles south of Palmer.	-	1948-53	1954	
					July 26	248,000
					July 27	86,400
					July 28	44,200
					1955	
					July 6	6,600
					Aug. 4	27,200
					Aug. 5	80,600
					Aug. 6	116,000
					Aug. 7	169,000
					Aug. 8	226,000
					Aug. 9	239,000
					Aug. 15	16,600
					1956	
					Aug. 2	21,200
					Aug. 3	59,900
					Aug. 4	102,000
					Aug. 6	159,000
					Aug. 7	215,000
					Aug. 8	209,000
					Aug. 10	36,900
Chickaloon River.	Matamuska River.	In NE¼ sec. 36, T. 20 N., R. 5 E., at bridge on Glenn Highway, 15 miles northeast of Sutton.	-	1948-50	1955	
					July 20	1,930
					Aug. 19	770
Kings River..	....do.....	In SW¼ sec. 16, T. 19 N., R. 4 E., at bridge on Glenn Highway, 5 miles east of Sutton.	-	1948-49	1955	
					July 19	976
					Aug. 19	333
Moose Creek..	....do.....	In NW¼ sec. 2, T. 18 N., R. 2 E., at bridge on Glenn Highway, ¾ mile above mouth and 6 miles northeast of Palmer.	-	1947-50	1955	
					July 19	373
					Aug. 19	108
Wasilla Creek	Cook inlet...	In SW¼ sec. 13, T. 18 N., R. 1 E., at bridge on Fishhook Rd., ¾ mile above Carnegie Creek and 4 miles northwest of Palmer.	-		1954	
					Mar. 23	*4.23
					Dec. 8	*4.84
Do.....	....do.....	In SE¼ sec. 27, T. 18 N., R. 1 E., at bridge on Bogard Rd., 1 mile north of Four Corners and 4 miles west of Palmer.	-	1948	1954	
					Dec. 8	*7.22
Do.....	....do.....	In NW¼ sec. 17, T. 17 N., R. 1 E., at bridge on Wasilla-Matanuska Rd., 3 miles northwest of Matanuska and 4 miles southeast of Wasilla.	-	1947-49	1955	
					July 20	30.2
Susitna River	....do.....	Lat 63°06'35", long 147°31'10", ½ mile below Windy Creek, 3½ miles above Butte Creek, and 5 miles south of Denali.	950		1956	
					Aug. 6	8,830
West Fork....	Dennison Fork	Lat 63°54', long 142°08', at bridge on Taylor Highway, 5 miles above mouth and 15 miles southwest of Chicken.	-		1954	
					July 2	395
					1955	
					July 26	114
Mosquito Fork	South Fork...	Lat 64°04', long 141°57', at bridge on Taylor Highway, 1 mile west of Chicken and 2½ miles above mouth.	-		1954	
					July 2	1,070
					1955	
					July 26	260
South Fork...	Fortymile River.	Lat 64°06', long 141°47', at bridge on Taylor Highway, 5 miles east of Chicken.	-		1954	
					July 2	1,600
					1955	
					July 26	621

* Base flow.

Discharge measurements made at points other than gaging stations in Alaska during the water years 1954-56--Continued

Alaska west of longitude 141°--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
Fortymile River.	Yukon River..	Lat 64°18', long 141°24', at bridge on Taylor Highway, ¼ mile below O'Brien Creek and 4½ miles northwest of Steel Creek.	5,880		1954	
					July 4	3,510
					Oct. 6	577
					1955	
					July 27	1,370
					Aug. 28	4,130
					1956	
					July 18	1,420
					Aug. 26	1,980
Birch Creek..	....do.....	Lat 65°43', long 144°20', at bridge on Steese Highway, 12 miles southwest of Circle.	-		1954	
					July 9	568
					1955	
					July 30	782
Nabesna River	Tanana River.	Lat 63°00', long 141°57', 2 miles north of Northway Airport and 5 miles above mouth.	-		1955	
					Oct. 3	1,420
Tanana River.	Yukon River..	Lat 63°19'00", long 147°38'30", at bridge on Alaska Highway, 11 miles east of Tok Junction.	6,800	1950-53‡	1954	
					July 5	13,400
Jarvis Creek.	Delta River..	Lat 63°46'50", long 145°39'35", 3½ miles above Ober Creek and 18 miles south of Delta Junction.	136		1955	
					May 24	204
					Aug. 26	422
					Sept.30	184
					Nov. 3	*93.1
Do.....	....do.....	Lat 63°50'35", long 145°41'00", at trail crossing, 1½ miles below Ober Creek and 13½ miles south of Delta Junction.	184		1955	
					May 24	217
					June 16	453
					Aug. 26	403
					Sept.30	165
					Nov. 3	*81.5
Do.....	....do.....	Lat 63°55'00", long 145°38'05", 7 miles below Ober Creek and 9 miles southeast of Delta Junction.	208		1955	
					May 24	246
					Aug. 26	386
					Sept.30	125
					Nov. 4	*3.55
Do.....	....do.....	Lat 64°01'25", long 145°43'25", at bridge on Richardson Highway, 1 mile south of Delta Junction.	247	1948-49	1955	
					May 21	172
					May 24	193
					June 7	286
					June 16	266
					June 20	578
					June 23	284
					Aug. 3	683
					Aug. 26	299
					Sept.30	65.1
					Nov. 4	0
					1956	
					Jan. 31	0
					Mar. 2	0
					May 9	320
					June 13	265
					July 21	880
Nenana River.	Tanana River.	In S½ sec. 14, T. 8 S., R. 9 W., 1½ miles southwest of Rex and 0.5 mile west of cabin at mile 386.1 on Alaska RR.	-		1956	
					Mar. 27	563
Chatanika River.	Tolovana River.	Lat 65°05'05", long 147°43'25", at bridge on Elliott Highway, 1½ miles northwest of Olnes and 18½ miles north of Fairbanks.	-	1948-49	1954	
					July 8	130
					1955	
					July 31	268

* Base flow.
‡ Records of daily discharge published.

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA

Chemical analyses, in parts per million, water years October 1953 to September 1956

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
OLD TOM CREEK NEAR KASAAN																		
May 26, 1956		1.5	0.00	3.6	0.2	1.4	0.1	9	2.5	1.5	0.1	0.3	15	10	2	31	5.8	15
July 19		2.0	.00	7.1	.3	1.0	.6	19	2.0	1.0	.1	.2	23	19	3	44	6.6	5
July 23		2.0	.00	7.1	.3	1.0	.1	20	2.0	1.0	.1	.2	24	19	3	44	6.7	8
TWELVEMILE CREEK NEAR HOLLIS																		
Sept. 5, 1956		2.3	0.00	21	1.2	1.3	0.2	68	3.3	1.0	0.0	0.1	63	57	2	119	7.5	10
INDIAN CREEK NEAR HOLLIS																		
May 23, 1956		1.0	0.00	2.4	0.0	1.6	0.2	8	1.1	1.5	0.0	0.1	12	6	0	18	6.4	25
June 19		1.5	.00	4.0	.0	.9	.2	13	.5	.5	.0	.1		10	0	25	6.7	40
HARRIS RIVER NEAR HOLLIS																		
May 22, 1956		1.8	0.00	3.6	0.0	1.2	0.2	9	1.4	3.0	0.0	0.1	15	9	2	25	6.6	--
June 19		1.9	--	3.6	.2	1.1	.2	13	2.0	1.0	.0	.2	16	10	0	28	6.7	15
Aug. 20		2.1	.00	3.6	.2	1.3	.2	11	2.0	1.0	.0	.1	--	10	1	27	6.6	80
MAYBESO CREEK NEAR HOLLIS																		
May 22, 1956		1.5	0.00	4.4	0.0	0.9	0.2	12	1.4	0.0	0.1	0.1	15	11	1	31	6.8	25
June 20		1.8	.00	6.4	.0	.9	.1	15	3.3	1.5	.1	.2	21	16	4	43	6.8	10
June 22		1.3	.00	4.4	.0	.8	.1	10	1.8	1.0	.1	.1	--	11	3	29	6.4	40
July 3		2.3	.00	7.9	.0	1.2	.2	20	4.0	1.0	.1	.1	27	20	3	49	7.0	10
Aug. 20		2.3	.00	4.0	.2	1.4	.2	10	3.5	2.0	.1	.1	--	11	3	30	6.7	145
SAWMILL CREEK NEAR SITKA																		
Jan. 20, 1954		3.5	0.02	4.9	0.5	1.4	0.5	14	2.5	2.8	0.1	0.1	23	13	2	37	6.0	5
May 4		3.1	.07	4.5	.5	1.5	.2	18	4.3	3.0	--	.3	26	13	0	39	6.8	--
Sept. 1		2.5	.08	4.0	.3	1.5	.2	13	3.8	1.0	--	.2	20	11	1	27	6.9	--
Nov. 16		2.3	.08	4.7	.1	1.3	.1	15	3.4	2.3	--	.1	22	12	0	36	6.8	--

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
SAWMILL CREEK NEAR SITKA--Continued																		
Feb. 5, 1955		2.4	0.04	4.6	0.2	1.6	0.7	14	2.6	2.5	0.1	0.1	22	12	1	35	6.4	8
June 19		2.3	.05	4.8	.9	1.2	.5	15	2.5	4.0	.2	.1	24	17	5	37	7.0	--
Aug. 29		2.2	.08	5.2	1.2	1.0	.3	14	5.0	2.0	.0	.1	24	18	6	45	5.9	--
Feb. 3, 1956		2.0	.05	5.2	.7	2.0	.6	14	4.0	4.0	.0	.1	26	16	4	42	6.4	--
July 10		1.7	.00	5.2	.0	1.8	.5	--	--	3.0	--	.1	--	13	--	--	--	--
CHILKAT RIVER NEAR HAINES																		
Aug. 10, 1956		3.3	0.00	23	1.9	7.0	2.0	69	11	9.5	0.0	0.0	92	65	9	166	7.9	8
SLANA RIVER NEAR SLANA																		
July 17, 1954		6.0	0.00	37	7.8	1.9	0.9	98	46	1.0	0.0	0.2	149	124	44	254	7.8	--
Sept. 25		8.0	.01	44	9.5	2.6	.8	124	55	1.0	--	.4	182	149	47	300	7.2	0
Sept. 21, 1955		9.3	.00	47	10	2.4	1.2	120	51	10	.0	.3	190	158	60	330	7.6	0
May 10, 1956		7.6	.00	36	7.7	1.8	1.0	108	35	.5	--	.2	143	121	33	245	8.2	20
June 14		10	.09	34	6.7	2.5	1.0	100	35	.5	.0	.2	139	112	30	233	7.2	0
Aug. 4		6.6	.00	36	9.3	2.1	1.3	108	42	.0	--	.3	151	128	40	261	7.5	5
Aug. 31		12	.00	41	8.2	2.8	1.1	116	46	1.0	.0	.4	170	136	41	279	8.0	3
PORCUPINE CREEK NEAR SLANA																		
Sept. 20, 1955		9.6	0.00	40	6.9	2.8	1.0	122	34	0.2	0.0	1.0	156	128	28	266	7.6	0
AHTELL CREEK NEAR SLANA																		
Sept. 21, 1955		16	0.00	26	3.0	2.2	0.7	76	20	0.2	0.0	0.5	106	77	15	170	7.8	0
May 10, 1956		--	--	22	4.7	3.4	1.1	70	21	1.0	--	--	--	74	17	156	7.7	
June 14		--	--	20	3.0	2.6	1.1	63	17	1.0	--	--	--	62	11	139	7.4	
Aug. 4		11	.00	20	2.8	1.6	1.1	60	15	.2	.1	.3	82	61	12	133	6.7	

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
INDIAN RIVER NEAR CHISTOCHINA																		
Sept. 25, 1954		15	0.10	21	4.1	2.3	0.3	80	7.2	0.5	0.1	0.2	90	69	4	142	7.4	8
Sept. 21, 1955		21	.08	20	3.0	2.4	.7	76	8.0	.0	.1	.2	92	62	0	135	7.3	5
May 10, 1956		8.5	--	12	2.3	1.3	1.2	45	2.9	.5	--	.5	77	39	2	82	7.3	75
June 14		--	--	13	2.4	1.8	.7	52	3.0	1.0	--	--	--	42	0	93	7.3	--
Aug. 4		18	.05	15	3.4	2.8	.7	62	3.5	.5	.2	.4	74	51	1	109	7.3	20
CHISTOCHINA RIVER NEAR CHISTOCHINA																		
July 16, 1954		6.4	0.08	32	5.2	1.6	0.7	84	34	0.5	0.0	0.4	122	101	32	213	7.1	5
Sept. 21, 1955		12	.00	35	7.1	2.4	1.2	103	36	1.5	.0	.1	146	117	32	247	7.7	0
May 10, 1956		5.4	.00	21	2.6	1.3	.7	62	16	.8	--	.0	100	63	12	135	7.6	60
June 14		5.3	.00	25	4.5	1.6	1.1	71	25	.5	.0	.2	98	81	23	175	7.1	5
Aug. 4		6.9	.00	27	6.4	1.8	1.4	87	22	1.2	.1	.2	110	94	22	197	7.4	5
Aug. 31		9.5	.00	29	4.3	2.4	1.1	81	26	.2	.1	.3	113	90	24	191	7.8	10
SINONA CREEK NEAR CHISTOCHINA																		
Sept. 21, 1955		22	0.00	28	5.1	4.2	1.4	114	5.5	0.2	0.0	0.1	122	91	0	194	8.2	10
May 10, 1956		--	--	9.5	1.2	1.3	1.1	31	5.5	1.0	--	--		29	3	61	6.8	--
June 14		--	--	23	4.8	2.8	1.5	97	4.5	1.0	--	--		77	0	163	7.4	--
Aug. 4		16	.10	16	3.5	3.1	.9	66	6.0	.2	.2	.9		54	0	114	7.4	60
TULSONA CREEK NEAR CHISTOCHINA																		
Sept. 21, 1955		15	0.00	23	6.9	5.2	1.6	108	3.2	0.0		0.2	131	86	0	182	8.2	35
May 10, 1956				16	5.9	6.5	2.1	86	5.0	1.0				64	0	144	7.4	
SANFORD RIVER NEAR GAKONA																		
Sept. 13, 1955		18	0.20	6.0	3.3	8.9	1.0	37	11	4.0	0.0	0.3	71	28	0	91	7.4	
GAKONA RIVER NEAR PAXONS																		
July 26, 1955		6.1	0.09	56	5.2	2.1	1.8	78	96	2.0	0.0	3.2	210	161	97	341	7.8	

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
GULKANA RIVER ABOVE SUMMIT LAKE NEAR PAXSON																		
Sept. 19, 1955		15	0.00	13	2.9	2.7	0.8	58	1.5	0.8		0.3	66	44	0	99	7.4	5
GULKANA RIVER ABOVE GULKANA LAKE NEAR PAXSON																		
Sept. 27, 1954		10	0.09	16	3.0	2.8	0.5	66	3.1	0.9	0.0	0.3	70	52	0	115	7.3	7
Sept. 19, 1955		12	.00	12	2.8	2.3	.8	54	1.5	3.0	.1	.3	62	41	0	92	6.9	5
May 12, 1956		13	.00	15	2.7	2.6	.5	62	3.0	.8	.0	.1	69	48	0	107	7.7	8
Aug. 2		7.0	.05	11	2.0	1.8	.6	44	5.0	.8	.2	.2	51	36	0	79	6.5	5
Sept. 1		7.2	.00	13	1.5	1.7	.6	47	2.0	.2	.1	.1	49	39	0	85	6.8	5
HAGGARD CREEK NEAR SOURDOUGH																		
Sept. 27, 1954		7.1	0.21	8.7	3.0	1.8	0.2	36	2.9	2.3	0.0	1.4		34	5	65	6.8	110
Sept. 19, 1955		6.6	.00	8.3	3.1	1.4	.5	33	3.0	.0		.2	73	33	6	63	6.7	90
May 12, 1956		--	--	4.0	1.4	1.1	1.0	18	6.0	1.0		--		16	1	37	6.8	--
SOURDOUGH CREEK NEAR SOURDOUGH																		
Nov. 11, 1954		10	0.25	19	9.0	7.7	0.7	86	7.2	14	0.1	0.2		84	14	193	7.4	80
Sept. 19, 1955		7.7		9.1	4.1	2.6	.7	47	2.0	.0		.4	82	40	1	84	7.5	90
May 12, 1956		--		6.4	2.6	1.9	1.4	29	6.0	2.0		--		27	3	59	7.0	--
GULKANA RIVER NEAR GULKANA																		
Dec. 16, 1953		15	0.08	30	6.8	10	0.7	120	4.5	17	0.0	0.8	144	103	4	247	7.2	--
May 29, 1954		6.8	.00	15	2.9	2.8	.8	55	3.0	4.8	.0	.7	85	49	4	109	6.9	--
June 17		8.5	.10	16	4.1	5.3	.8	70	2.6	7.4	.0	.6	79	57	0	135	7.0	25
July 1		7.6	.10	18	4.1	6.7	.9	75	3.0	9.9	.0	.5	88	62	1	154	6.9	25
Sept. 25		8.8	.09	14	6.7	6.3	.8	73	3.2	9.9	.0	.8	--	62	3	153	7.2	35

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
GULKANA RIVER NEAR GULKANA--Continued																		
Sept. 21, 1955		10	0.00	17	4.6	5.6	1.0	72	3.0	7.5	0.0	0.3	84	61	0	146	7.9	25
May 12, 1956		4.9	--	11	2.7	2.9	1.3	42	1.8	3.2	--	.0	80	39	4	81	7.0	165
Aug. 4		1.7	.00	14	2.8	2.6	.6	55	2.5	2.5	.0	.7	79	46	1	98	7.1	70
Aug. 16		12	.00	15	3.4	4.6	1.0	59	4.0	4.5	.1	.4	90	51	3	119	7.5	50
Sept. 1		9.9	.00	14	3.0	3.2	.5	54	3.0	2.2	.1	.2	83	47	3	102	7.3	60
LITTLE NELCHINA RIVER NEAR EUREKA																		
May 18, 1955		6.1	--	21	1.9	4.1	1.1	58	18	0.8		0.2	--	60	13	139	6.1	60
Sept. 20		11	0.00	46	4.8	11	.8	117	64	1.0	0.0	.0	197	134	39	309	7.9	5
May 12, 1956		4.0	.00	15	1.7	4.5	1.5	50	14	.0		.2	98	44	3	92	7.4	165
CACHE CREEK NEAR EUREKA																		
July 22, 1954		8.0	0.10	21	5.7	12	0.2	95	22	0.5	0.1	0.9	118	76	0	197	7.4	
MENDELTNA CREEK NEAR GLENNALLEN																		
July 22, 1954		5.4	0.13	24	3.9	5.8	0.1	92	8.5	0.5	0.1	1.2	95	76	1	165	7.5	
Sept. 22, 1955		6.2		26	4.2	7.1	.4	100	13	.5	.0	.5	107	82	0	186	8.2	
WOODS CREEK NEAR GLENNALLEN																		
July 22, 1954		6.4	0.12	18	5.6	2.8	0.4	72	12	0.3		1.2		68	9	133	7.4	60
TOLSONA CREEK NEAR GLENNALLEN																		
Sept. 22, 1955		12		35	8.8	24	3.5	180	3.3	8.5	0.0	0.2	184	124	0	311	8.2	
May 12, 1956				12	3.3	3.8	1.5	50	9.0	1.0				44	2	93	7.2	
MOOSE CREEK AT GLENNALLEN																		
July 18, 1956		15	0.00	22	6.8	6.0	1.0	103	3.0	1.0	0.3	0.5	146	83	0	168	8.1	90

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
NADINA RIVER 8 MILES ABOVE MOUTH NEAR COPPER CENTER																		
Aug. 27, 1956		19	0.75	34	9.1	11	1.5	71	80	3.5	0.0	0.1	194	122	64	291	6.8	0
NADINA RIVER AT MOUTH NEAR COPPER CENTER																		
Sept. 9, 1956		22	0.03	9.5	5.2	7.9	1.2	28	36	1.5	0.1	0.1	98	45	22	128	6.3	0
CHETASLINA RIVER NEAR CHITINA																		
July 2, 1956		18	0.08	5.2	3.1	6.3	1.7	16	22	3.0	0.2	0.1	68	26	13	84	6.1	0
LITTLE TONSINA RIVER NEAR TONSINA																		
May 10, 1956				10	1.8	1.7	1.9	35	5.0	1.0				32	4	74	6.9	
Aug. 16		7.0	0.00	13	2.4	1.4	.7	49	9.0	1.0	0.1	0.4	57	42	5	88	7.2	10
TIEKEL RIVER NEAR VALDEZ																		
Sept. 28, 1954		5.3	0.01	17	0.8	1.5	0.1	45	11	1.2	0.1	0.3	59	46	9	103	6.7	5
May 10, 1956		5.7	.00	16	1.3	1.8	.4	44	10	2.5	.0	1.3	61	45	9	106	7.3	15
June 13		4.8	.00	13	1.0	1.0	.6	35	7.7	.5	.1	1.9	48	37	8	82	7.2	10
Aug. 16		3.7	.00	13	1.0	1.0	.2	28	8.0	6.8	.0	.3	48	37	14	91	6.3	0
STUART CREEK NEAR VALDEZ																		
May 10, 1956				18	1.1	1.6	0.3	46	10	1.0				49	12	107	6.5	
TSINA RIVER NEAR VALDEZ																		
Sept. 28, 1954		3.1	0.09	16	0.8	1.0	0.8	42	13	0.4	0.0	0.4	57	43	9	95	7.2	3
May 10, 1956		4.5	.00	24	.6	1.3	1.0	59	16	1.0	.0	2.1	80	62	14	135	7.9	0
June 13		3.2	.00	14	1.1	.9	.9	36	9.0	.8	.2	1.8	50	39	10	86	7.2	5
Aug. 17		2.3	.00	8.3	.7	1.0	1.0	27	4.5	.2	.1	.4	32	24	2	55	6.6	5

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
POWER CREEK NEAR CORDOVA																		
Apr. 14, 1955	a 23.9	4.4	0.00	8.7	0.5	1.6	0.3	26	4.0	1.8	0.0	0.1	34	24	2	64	7.3	
SOLOMON GULCH NEAR VALDEZ																		
Apr. 13, 1955	a 8.3	5.1	0.00	7.1	0.5	3.9	0.8	16	10	5.5	0.0	0.1	41	20	7	70	7.1	
SHEEP CREEK NEAR VALDEZ																		
May 10, 1956				33	1.6	2.3	0.9	70	34	2.0				89	32	192	7.6	
LOWE RIVER NEAR VALDEZ																		
Dec. 18, 1953		6.3	0.01	39	0.5	1.9	1.6	93	24	2.4	0.0	2.0	124	99	23	210	7.7	5
Sept. 27, 1954		2.9	.12	15	.5	.7	1.3	32	17	.6	.0	.3	54	40	13	95	7.4	5
Apr. 16, 1955		5.0	.00	28	.8	1.2	2.7	57	32	.8	.0	1.4	100	73	26	167	7.6	--
May 10, 1956		4.0	.00	26	.8	1.1	1.8	53	24	1.2	.0	3.6	88	68	25	152	7.6	0
June 13		3.2	.00	18	.6	1.9	1.8	25	14	9.0	.0	1.1	62	47	27	114	5.4	3
Aug. 17		3.1	.04	11	.5	.6	2.7	33	6.8	.2	.1	.4	42	30	2	76	6.4	5
ROBE RIVER NEAR VALDEZ																		
May 10, 1956		4.5	0.00	14	0.9	1.0	1.0	43	3.1	3.0	0.0	3.4	52	39	3	93	7.1	5
June 13		3.4	.00	12	.6	.9	.9	35	4.9	1.8	.2	1.9	44	32	4	76	7.4	5
Aug. 17		3.2	.10	11	.8	.6	.4	33	3.7	.5	.1	.4	37	31	4	65	6.9	5
RESURRECTION RIVER NEAR SEWARD																		
Sept. 8, 1955		5.0	0.00	18	0.7	1.5	0.4	49	12	1.5	0.0	0.6	64	48	8	109	6.7	--
May 1, 1956		4.3	.00	23	1.2	3.0	.8	63	11	1.8	.1	1.1	77	62	11	137	7.7	0
July 3		6.2	.00	17	1.0	2.1	.4	51	8.8	2.8	.0	.6	64	46	5	106	7.8	5
DIAMOND GULCH NEAR HOMER																		
Sept. 9, 1955		24		6.4	2.6	7.7	2.1	40	3.8	2.5	0.0	0.4	70	27	0	73	7.8	

a Mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
STARISKI CREEK NEAR HAPPY VALLEY																		
May 2, 1956				2.4	1.7	3.0	1.8	13	2.5	3.0				13	1	41	6.3	
July 4				6.4	2.6	6.4	1.5	43	2.0	4.0				27	0	82	7.1	
DEEP CREEK NEAR NINILCHIK																		
Sept. 9, 1955		29	0.00	6.0	3.1	4.6	1.5	46	1.0	0.0	--	0.4	73	28	0	80	7.6	15
May 2, 1956		13	.00	9.5	.7	2.8	2.0	22	1.6	15	0.0	.9	--	27	9	74	6.5	40
July 4		26	.00	6.4	2.6	4.6	1.2	40	2.0	1.8	.0	.3	65	27	0	75	7.0	8
NINILCHIK RIVER NEAR NINILCHIK																		
Sept. 9, 1955		33	0.00	6.4	3.8	7.8	2.0	61	1.0	1.8	--	0.8	91	32	0	99	7.6	25
May 2, 1956		9.8	.00	3.2	1.4	2.4	2.2	22	1.0	2.2	0.0	.7	43	14	0	44	6.6	50
July 4		34	.25	7.9	3.1	9.0	2.1	57	2.0	2.0	.2	.3	89	32	0	102	7.5	15
KASILOF RIVER NEAR KASILOF																		
May 27, 1954	803	6.7	0.11	5.2	2.3	2.2	1.4	25	4.4	0.9	0.0	0.2	35	22	2	51	6.8	8
Jan. 19, 1955	590	5.7	.08	5.3	.8	.8	1.3	14	9.0	1.0	.0	.2	31	16	5	49	6.5	--
Sept. 9	6,000	5.4	.00	5.0	.5	1.2	1.7	19	4.5	1.2	.1	.4	29	15	0	42	6.5	5
May 2, 1956	a 661	8.4	.27	4.8	1.4	1.9	1.4	24	3.6	.8	.0	.3	35	18	0	51	7.0	25
May 28	819	4.8	.00	4.8	.9	1.2	1.3	11	11	.5	.0	.1	30	16	7	50	6.8	5
July 4	1,470	6.0	.19	5.2	.8	2.4	1.4	18	4.0	1.2	.1	.5	31	16	2	48	6.6	10
SNOW RIVER NEAR LAWING																		
Sept. 8, 1955		3.9	0.00	9.1	0.4	0.8	0.9	25	6.5	0.5	0.0	0.4	34	24	4	58	6.7	--
May 1, 1956		4.9	.00	9.9	.7	1.3	1.1	27	7.0	1.8	.0	1.2	41	28	5	68	7.2	5
July 3		4.7	.00	8.7	.5	1.8	1.0	24	8.8	1.2	.0	.6	39	24	4	60	7.5	15
FALLS CREEK NEAR LAWING																		
May 1, 1956				14	0.9	1.7	0.6	32	11	1.0				39	12	94	7.0	
July 3				7.9	.5	1.1	.8	19	6.5	1.0				22	6	91	6.6	

a Mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
VICTOR CREEK NEAR LAWING																		
May 1, 1956				19	1.0	2.3	0.9	36	18	33				52	2	119	6.8	
PTARMIGAN CREEK AT LAWING																		
Jan. 21, 1954	31	4.7	0.04	19	1.6	0.8	0.7	46	24	0.4	0.0	1.0	75	54	16	121	6.5	
Sept. 8, 1955	a118	5.8	.00	16	1.9	1.3	.8	44	16	.5	.1	2.2	66	48	12	108	6.9	
May 1, 1956	a37	5.9	.00	17	1.7	1.5	.8	43	15	1.2	.0	3.1	67	49	14	115	7.4	
May 31	82	4.8	.00	18	1.1	1.3	1.0	43	16	.8	.0	2.3	66	49	14	112	7.1	5
CARTER CREEK NEAR MOOSE PASS																		
Apr. 30, 1956		5.6	0.00	12	0.4	1.5	0.9	29	4.8	1.0	0.0	5.0	45	32	8	74	7.4	10
GRANT CREEK NEAR MOOSE PASS																		
Jan. 21, 1955	50	3.9	0.04	11	1.1	0.5	0.6	30	12	0.3	0.1	0.2	45	32	7	73	7.0	--
May 1, 1956	a20	4.0	.00	11	.5	1.0	1.0	29	9.2	.0	.1	1.0	42	30	6	72	7.4	0
May 30	157	3.3	.00	11	.3	.7	.5	28	6.7	.2	.0	.6	37	29	6	67	7.0	8
July 3	a460	4.9	.00	11	.5	1.2	.4	26	8.0	.2	.0	1.2	40	30	8	73	7.0	0
TRAIL RIVER NEAR LAWING																		
Sept. 8, 1955	a1,080	4.5	0.00	10	0.9	0.9	0.6	30	8.0	0.5	0.0	0.9	41	29	4	69	6.9	--
Apr. 3, 1956	320	4.5	.00	15	1.2	1.6	1.3	42	10	1.2	.0	.8	57	42	8	94	7.6	0
May 30	657	3.9	.00	13	1.2	1.2	.7	36	7.5	.8	.0	1.3	48	37	8	86	7.3	5
July 3	1,920	7.0	.00	13	.8	2.1	.4	35	9.0	.5	.1	1.6	52	36	7	86	6.8	0
CRESCENT CREEK NEAR COOPER LANDING																		
Jan. 20, 1955	31	5.0	0.04	15	1.3	1.4	0.2	44	10	1.8	0.0	0.3	57	43	7	94	7.0	--
Sept. 9	109	5.8	.00	14	.8	2.1	.6	42	6.5	1.2	.1	.9	53	38	4	88	6.7	0
May 1, 1956	74	5.5	.00	15	.8	2.6	1.1	42	7.2	2.8	.0	2.9	59	41	6	100	7.4	5
May 29	100	4.7	.00	13	.3	1.6	.3	35	3.7	1.0	.0	2.6	44	34	5	79	7.1	5
July 4	a210	5.8	.00	13	.5	1.2	.2	35	5.3	1.0	.0	.9	45	34	6	80	7.1	3

a Mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
QUARTZ CREEK NEAR COOPER LANDING																		
Sept. 9, 1955		7.6	0.00	13	1.2	2.0	0.2	41	8.0	1.5	0.0	0.7	54	37	4	88	6.5	--
May 1, 1956		6.4	.00	13	1.5	2.3	.7	47	6.3	2.0	.0	2.8	58	39	0	94	7.4	5
July 4		13	.00	12	.6	3.4	.2	42	6.0	.8	.0	.7	58	32	0	85	7.7	0
KENAI RIVER AT COOPER LANDING																		
Jan. 20, 1955	612	3.7	0.08	11	0.3	0.7	0.6	28	11	0.8	0.0	0.2	42	29	6	69	7.0	--
Sept. 9	4,560	5.0	.00	11	.3	1.0	.6	32	7.0	.5	.0	.8	42	29	2	69	6.6	--
May 1, 1956	473	3.7	.00	11	.5	1.1	.8	32	7.5	.2	.1	.6	42	30	3	72	7.5	0
May 29	2,160	3.2	.00	10	1.1	.9	.9	30	9.3	.5	.0	1.5	42	29	5	78	7.3	3
July 4	5,620	6.3	.00	16	.4	1.7	.5	42	7.2	.8	.0	.8	55	42	7	93	7.2	3
COOPER CREEK NEAR COOPER LANDING																		
Jan. 20, 1955	40	3.9	0.06	12	0.5	0.7	0.1	36	5.7	1.1	0.0	0.4	42	32	2	72	8.0	--
Sept. 9	102	4.9	.00	11	1.0	1.3	.6	36	2.5	1.2	.1	.8	41	32	2	71	7.2	0
May 1, 1956	a32	5.0	.00	14	.6	1.5	.8	42	4.1	2.2	.0	3.6	53	37	3	91	7.4	3
July 4	a254	5.5	.00	11	.3	1.6	.4	32	2.7	1.2	.0	1.1	40	29	2	66	6.5	0
MOOSE RIVER NEAR SOLDOTNA																		
Sept. 9, 1955		14	0.00	24	3.7	5.1	1.4	106	1.0	1.2	--	0.3	110	75	0	166	8.2	10
May 1, 1956		7.0	.28	9.1	1.4	2.1	3.2	38	.2	1.0	0.0	1.2	56	28	0	66	7.0	50
July 4		13	.00	22	3.7	5.0	.6	91	1.0	.0	.2	.4	91	70	0	152	7.7	10
KENAI RIVER NEAR SOLDOTNA																		
Sept. 9, 1955		5.9	0.00	9.1	0.7	1.2	0.8	30	4.5	1.0	0.0	0.6	39	26	1	64	6.8	--
May 2, 1956		6.5	.27	8.3	1.2	2.2	2.3	34	3.4	.8	.0	.4	42	26	0	64	7.0	25
July 4		6.2	.00	9.9	.2	2.6	1.1	30	6.0	.8	.0	.6	42	26	1	68	6.4	3
BEAVER CREEK NEAR KENAI																		
May 2, 1956		7.3	0.22	44.4	0.9	2.0	4.0	22	0.2	1.5	0.0	0.6	42	15	0	43	6.7	45

a Mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
RESURRECTION CREEK NEAR HOPE																		
May 2, 1956		7.6	0.00	15	1.2	3.2	0.6	46	6.5	4.5	0.0	1.6	63	42	5	100	7.5	10
TINCAN CREEK NEAR PORTAGE																		
Sept. 9, 1955.....		3.1		6.0	0.9	2.6		18	9.0	0.0		0.3	31	19	4	46	7.0	
LYON CREEK NEAR PORTAGE																		
Sept. 9, 1955		4.8		9.5	0.5	0.9	0.8	28	8.0	0.0	0.0	0.4	39	26	3	62	7.8	
TINCAN-LYON CREEK NEAR PORTAGE																		
July 4, 1956.....				5.6	0.7	0.6	0.6	18	4.5	1.0				17	2	43	6.9	
GRANITE CREEK NEAR PORTAGE																		
May 3, 1956		5.3	0.00	15	0.5	1.3	0.6	42	6.5	1.2	0.0	2.4	54	39	5	92	7.5	0
SILVERTIP CREEK NEAR SUNRISE																		
Sept. 9, 1955.....		6.9		12	0.4	1.3	0.1	39	7.0	0.0	0.0	0.3	47	32	0	74	7.8	
GRANITE CREEK NEAR SUNRISE																		
Sept. 9, 1955.....		6.6	0.00	12	0.4	1.6	0.7	35	8.2	0.0		0.6	47	32	3	77	7.0	0
July 4, 1956.....		12	.00	9.1	1.0	2.4	.6	32	6.0	.5	0.0	.6	48	27	1	67	7.6	0
CANYON CREEK NEAR SUNRISE																		
Sept. 9, 1955.....		6.1	0.00	11	1.0	1.6	0.3	37	7.0	0.5	--	0.4	46	32	1	76	7.0	0
May 3, 1956.....		6.0	.00	13	1.0	1.9	.4	38	5.6	2.2	0.0	2.8	52	37	5	85	7.4	5
July 4		14	.00	10	.7	3.4	.3	36	5.0	1.0	.0	.3	53	28	0	70	7.6	0

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
SIXMILE CREEK NEAR SUNRISE																		
May 2, 1956		5.7	0.00	14	1.1	1.8	0.8	40	7.0	2.2	0.1	2.0	55	39	7	91	7.6	0
July 4		5.6	.00	9.5	1.2	1.3	.5	29	5.5	.8	.0	.9	39	29	5	62	6.7	0
INGRAM CREEK NEAR PORTAGE																		
Sept. 9, 1955		6.4	0.00	9.9	1.2	1.2	0.7	33	7.5	0.0	--	0.3	43	30	3	71	6.9	0
May 3, 1956		4.2	.00	10	.4	.9	.5	28	5.0	1.2	0.1	1.2	38	27	4	61	7.5	5
July 4		4.4	.00	8.3	.3	1.4	.7	25	3.0	.0	.0	.3	30	22	1	52	6.5	5
PLACER RIVER NEAR PORTAGE																		
Sept. 9, 1955		3.0	0.00	7.7	0.4	0.7	0.3	24	4.0	0.5	0.0	0.1	29	21	1	52	6.5	--
May 3, 1956		3.3	.00	13	1.7	5.2	.6	41	5.8	8.2	.0	.7	59	39	6	108	7.2	8
July 4		3.7	.00	9.5	.7	1.4	.7	25	7.1	1.2	.0	.7	37	27	6	63	6.7	5
PORTAGE CREEK AT PORTAGE																		
Sept. 9, 1955		3.3	0.00	6.4	0.5	0.7	0.1	21	3.0	1.0	0.0	0.1	25	18	1	43	6.6	--
May 3, 1956		2.2	.00	10	.9	1.5	.4	34	3.1	2.2	.0	.4	38	29	1	70	7.5	0
July 4		3.1	.00	8.3	.0	1.2	.3	23	3.0	1.2	.0	.5	29	21	2	50	6.6	0
TWENTYMILE CREEK NEAR PORTAGE																		
Sept. 8, 1955		4.8	0.00	13	2.0	1.7	0.4	38	8.5	1.8	0.0	0.5	52	41	10	83	6.5	--
May 3, 1956		3.1	.18	15	1.7	2.5	.4	49	5.5	3.0	.0	.8	56	44	4	105	7.4	10
July 4		3.1	.00	11	.5	1.3	.3	30	5.5	1.0	.0	.9	39	30	5	67	6.8	0
GLACIER CREEK NEAR GIRDWOOD																		
May 3, 1956		4.2	0.00	15	1.0	1.6	0.7	41	7.2	1.2	0.0	2.1	53	42	8	96	7.2	5
July 4		6.5	.07	9.9	1.7	2.4	.2	36	6.0	.8	.1	.5	46	32	2	74	7.3	0

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
BIRD CREEK NEAR ANCHORAGE																		
May 3, 1956		6.3	0.00	17	2.4	3.6	0.6	48	10	4.0	0.1	3.4	71	52	13	123	7.7	0
July 4		6.2	.00	9.5	1.7	2.6	.3	34	6.0	1.0	.1	.6	45	31	3	70	6.8	5
CAMPBELL CREEK NEAR ANCHORAGE																		
May 3, 1956		7.8	0.11	13	2.4	1.2	0.6	36	13	1.0	0.0	1.8	59	42	13	96	7.4	10
July 4		5.6	.00	11	1.5	1.3	.6	29	12	1.5	.0	.6	48	34	10	82	6.9	5
SHIP CREEK NEAR ANCHORAGE																		
May 3, 1954		8.6	0.08	22	1.9	2.1	0.6	59	16	1.4	0.1	0.9	83	63	14	132	6.9	3
May 3, 1956		8.5	.00	21	2.4	2.0	.8	55	23	3.8	.0	1.2	90	62	17	131	7.5	8
July 4		4.9	.00	16	1.1	1.7	.2	38	18	.2	.0	.3	61	44	13	103	7.4	3
SHIP CREEK AT ANCHORAGE																		
May 3, 1954		11	0.08	31	5.3	3.0	0.6	105	15	2.6	0.1	0.9	122	99	13	204	7.4	5
EAGLE RIVER NEAR ANCHORAGE																		
May 3, 1956		5.0	0.00	28	5.1	3.0	1.0	86	22	1.8	0.0	1.3	109	91	20	190	7.5	8
July 4		2.6	.00	17	1.5	3.5	1.4	47	15	.5	.0	.5	65	49	10	107	7.6	3
PETERS CREEK NEAR ANCHORAGE																		
May 3, 1956		8.8	0.00	25	5.5	3.2	0.7	82	22	0.8	0.0	2.0	108	85	18	184	7.8	15
CARIBOU CREEK NEAR SUTTON																		
Sept. 28, 1954	--	11	0.10	47	7.2	21	0.6	115	90	2.7	0.1	0.4	237	147	53	374	7.4	3
Apr. 13, 1955	25	9.9	.00	63	9.1	25	1.1	138	115	12	.1	.8	304	195	82	487	7.1	5
May 12, 1956	a437	5.1	.18	22	3.9	9.2	.7	58	35	2.0	--	.0	--	71	23	225	7.6	160

a Mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
KING RIVER NEAR SUTTON																		
Sept. 28, 1954		9.8	0.10	24	2.7	3.6	0.3	64	23	1.2	0.1	0.8	98	71	20	157	7.7	3
May 12, 1956.....		6.0	.00	25	1.9	3.4	.6	69	17	2.8	.0	1.6	92	70	14	157	7.9	3
ESKA CREEK AT SUTTON																		
Mar. 29, 1956.....		8.4	0.00	15	2.9	6.1	1.5	62	4.4	0.2	0.2	0.4	70	49	0	117	7.2	
MATANUSKA RIVER AT PALMER																		
Apr. 27, 1954	1,030	7.8	0.00	36	4.4	7.6	0.6	88	40	7.0	0.0	0.9	157	108	36	251	7.1	3
May 25	7,720	7.5	.08	29	2.9	5.3	.8	85	26	1.8	.1	.9	116	84	15	193	7.0	5
YENTNA RIVER NEAR SKWENTNA																		
Aug. 17, 1955.....		5.0	0.20	26	4.6	2.1	1.8	62	38	1.2	0.0	0.0	110	84	33	190	6.8	
SUSITNA RIVER NEAR SUSITNA																		
Aug. 17, 1955.....		6.0	0.04	17	2.2	3.2	1.8	48	16	3.5	0.0	0.0	74	51	12	127	•7.1	
BELUGA RIVER AT BELUGA LAKE NEAR TYONEK																		
Aug. 17, 1955.....		6.9	0.24	6.0	0.7	2.3	1.4	8	14	2.5	0.0	0.0	38	18	11	60	6.0	
CHAKACHATNA RIVER AT CHAKACHAMNA LAKE NEAR TYONEK																		
Aug. 17, 1955.....		5.0	0.09	8.3	0.7	1.0	1.4	21	11	0.8	0.0	0.0	38	24	6	63	6.6	
TANALIAN RIVER NEAR PORT ALSWORTH																		
Sept. 5, 1954.....	1,190	5.4	0.07	6.2	0.2	1.2	0.1	16	7.5	1.0	--	0.1	30	16	3	45	6.9	
Aug. 3, 1955.....	1,940	5.2	.00	5.6	.9	1.1	.4	12	10	.2	0.1	.0	30	18	8	50	6.5	
Oct. 4	398	5.8	.00	5.6	1.4	1.1	.3	18	4.5	1.2	.0	.0	29	20	5	51	6.5	
June 27, 1956.....	1,390	4.9	.00	5.6	1.2	1.1	.5	16	5.6	1.2	--	.5	29	19	6	47	6.9	3

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
NEWHALEN RIVER NEAR ILLIAMNA																		
Sept. 5, 1954	20,500	6.7	0.10	7.3	0.9	1.2	0.1	24	6.5	1.0	--	0.2	36	22	2	55	7.1	8
Aug. 3, 1955	26,100	5.3	.00	6.7	.7	1.2	.4	10	13	.5	0.0	.0	33	20	11	68	6.5	
Oct. 4	11,600	5.9	.00	7.5	1.0	1.2	.6	24	4.5	.5	.0	.0	33	23	3	53	6.7	
KVICHAK RIVER NEAR IGIUGIG																		
June 27, 1956		1.5	0.00	5.2	0.9	1.2	0.7	19	3.0	1.1	0.0	0.0	23	17	1	42	7.3	0
NUYAKUK RIVER NEAR DILLINGHAM																		
Sept. 1, 1954	5,890	4.6	0.07	8.7	1.3	1.8	0.2	34	6.3	0.5	--	0.2	41	27	0	65	7.1	
June 29, 1955	17,800	4.5	.00	6.4	1.2	.7	.4	20	8.0	.0	0.0	.0	31	21	4	49	6.6	
Oct. 5, 1955	8,170	3.9	.00	8.7	1.2	.8	.1	28	5.0	.0	.0	.0	34	27	4	62	6.6	
June 27, 1956	19,100	3.0	.00	6.7	1.2	.7	.1	25	3.7	.5	--	.4	28	22	1	53	7.0	5
NUSHAGAK RIVER NEAR DILLINGHAM																		
June 28, 1956		6.2	0.00	5.6	1.6	1.3	0.1	24	2.0	0.5	0.0	0.1	29	21	1	52	7.2	5
UGANIK RIVER NEAR KODIAK																		
Oct. 4, 1955	356	3.3	0.00	6.0	0.7	1.8	0.3	14	7.5	1.5	0.0	0.0	28	18	6	46	6.6	
June 26, 1956	1,320	4.5	0.00	5.6	.7	1.2	.6	17	2.6	3.2	0.0	.7	27	17	3	48	7.1	0
BIG RIVER NEAR McGRATH																		
June 28, 1956		9.1	0.11	45	12	1.8	1.1	151	36	0.2	0.1	0.3	180	162	38	302	7.9	15
TAKOTNA RIVER NEAR McGRATH																		
June 28, 1956		5.1	0.19	11	4.6	1.6	0.1	53	2.7	0.2	0.0	0.4		47	3	94	7.3	45

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
STONY RIVER AT STONY RIVER																		
June 28, 1956		6.8	0.00	8.7	1.9	1.2	0.8	34	6.2	0.0		0.2	43	30	2	68	7.2	15
HOLITNA RIVER NEAR SLEETMUTE																		
June 28, 1956		8.8	0.00	7.9	2.6	1.4	0.1	36	2.0	0.0	0.0	0.1	41	30	1	69	7.2	8
KUSKOKWIM RIVER AT CROOKED CREEK																		
June 29, 1955.....	80,800	9.1	0.00	29	5.0	1.8	0.8	91	21	0.0	0.1	0.0	112	93	18	188	7.4	
Oct. 5, ...	91,100	9.5	.08	16	4.4	2.0	.6	34	34	1.0	.0	.4	85	58	30	129	6.9	
June 28, 1956	73,900	7.2	.00	29	5.7	1.6	.6	103	17	.0	.1	.1	112	96	11	194	7.9	10
ANIAK RIVER AT ANIAK																		
June 28, 1956		8.2	0.00	7.5	2.4	2.0	0.3	32	6.2	0.5	0.1	0.1	43	29	2	68	7.6	8
KUSKOKWIM RIVER AT BETHEL																		
June 14, 1955		8.6	0.00	15	3.1	1.5	0.6	40	23	0.0	0.0	0.0	72	50	17	117	6.9	
Nov. 28		11	.36	31	5.2	2.9	.7	112	18	1.0	.1	.7	126	99	7	205	7.3	
Dec. 17		13	.00	33	6.9	4.0	.8	120	17	1.0	.1	.4	135	111	12	229	7.1	
BROWN'S SLOUGH AT BETHEL																		
Nov. 14, 1955		8.6	0.51	3.2	1.3	3.0	0.4	19	1.0	3.2	0.1	0.4	31	13	0	42	6.4	
EEK RIVER AT EEK VILLAGE																		
June 20, 1956.....		16.8	0.00	9.9	1.2	3.0	0.6	33	8.2	1.2	0.0	0.4	47					
LOGGING CABIN CREEK NEAR 40 MILE ROADHOUSE																		
Aug. 3, 1955		16	0.12	8.3	2.6	2.9	0.8	26	15	0.2	0.0	0.0	76	31	10	73	6.9	50

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
WEST FORK DENNISON RIVER NEAR CHICKEN																		
July 27, 1955	114	14	0.16	8.7	2.9	2.8	0.6	29	6.0	2.0	0.0	1.1	--	34	10	72	7.2	--
Aug. 3		13	.18	7.5	4.1	3.0	.8	36	13	.0	.0	.0	82	36	6	73	7.0	80
July 19, 1956		8.4	.00	8.3	2.6	2.6	.6	30	4.3	.0	.0	.2	85	31	7	66	7.2	155
MOSQUITO FORK FORTYMILE RIVER NEAR CHICKEN																		
July 27, 1955		9.8	0.13	14	4.0	3.5	0.8	44	20	2.0	0.0	0.1		51	15	111	7.2	--
Aug. 3		11	.20	12	3.7	3.7	.9	48	13	.5	.0	.0	88	45	6	97	7.3	60
July 19, 1956		10	.00	12	3.5	3.2	.7	46	9.8	.0	.0	.8		44	7	96	7.5	70
WALKER FORK FORTYMILE RIVER NEAR JACK WADE																		
Aug. 4, 1955		12		9.9	1.9	1.9	0.7	30	7.5	0.1		1.2	79	32	8	72	6.0	80
SOUTH FORK FORTYMILE RIVER NEAR CHICKEN																		
Oct. 7, 1954		10	0.06	20	5.6	5.5	0.5	74	22	0.8	--	0.8	101	73	12	166	6.8	25
July 27, 1955		13	.14	9.9	3.1	3.5	.8	23	19	2.0	0.0	.1	--	37	19	87	7.4	--
Aug. 4		13	--	12	1.1	3.2	.7	38	6.5	.1	--	.7	86	34	3	84	6.2	70
July 19, 1956		.3	.00	23	4.3	4.8	.7	78	11	.5	.0	.2	146	75	11	151	7.5	90
LIBERTY CREEK NEAR LIBERTY																		
Aug. 4, 1955		8.8	0.10	42	22	4.0	1.1	136	84	1.5	0.0	0.4	231	195	84	376	7.7	20
O'BRIEN CREEK NEAR LIBERTY																		
Aug. 4, 1955		8.9	0.12	45	12	3.1	1.4	134	66	0.5	0.0	0.6	224	166	56	331	7.5	30
FORTYMILE RIVER NEAR BOUNDARY																		
July 4, 1954		10	0.14	15	4.2	3.3	0.6	55	14	0.4	0.0	1.1	--	55	10	119	7.2	--
Oct. 7		9.5	.03	31	8.1	5.6	1.1	102	38	2.2	--	.8	146	111	27	236	7.1	20
July 27, 1955		8.3	.16	21	5.5	3.6	1.0	59	32	2.0	.0	.7	--	75	27	161	7.7	--

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
FORTYMILE RIVER NEAR BOUNDARY--Continued																		
Aug. 4, 1955		11	0.18	19	5.3	3.9	1.0	64	19	0.5	0.0	0.0	113	69	17	142	7.0	60
July 18, 1956		10	.00	21	4.8	3.4	.7	68	19	.0	.0	.6		72	16	149	7.6	60
Sept. 19		10	.06	21	6.0	3.6	1.0	70	21	.0	.3	.2		77	20	164	7.2	50
YUKON RIVER AT EAGLE																		
Mar. 19, 1954	11,000	4.5	0.02	27	4.5	1.2	0.3	90	12	0.4	--	0.2	94	86	12	171	7.3	--
July 3	126,000	7.5	.08	28	7.2	1.9	.4	96	25	.5	0.0	.4	118	99	21	204	7.4	5
Oct. 10	65,400	8.6	.02	30	7.9	2.6	.8	104	30	.8	.1	.5	132	107	22	221	7.2	5
Apr. 7, 1955	13,900	7.5	.02	35	9.9	2.9	1.3	126	25	.5	.2	.5	145	128	25	251	6.4	5
June 22	165,000	6.0	.03	23	7.1	1.7	1.1	80	27	.0	--	.6	106	87	21	182	7.9	--
July 17, 1956	155,000	6.9	.00	27	5.7	2.5	1.8	90	23	.5	.1	.3	112	91	17	191	7.3	8
MISSION CREEK AT EAGLE																		
July 19, 1956		7.6	0.02	32	13	5.6	1.2	115	40	3.0	0.1	0.2	160	133	39	279	7.6	20
AMERICAN CREEK NEAR EAGLE																		
Aug. 4, 1955		8.0	0.10	73	33	4.1	2.1	238	122	1.5	0.2	1.2	362	318	123	550	8.0	10
YUKON RIVER AT CIRCLE																		
June 16, 1956		5.8	0.00	23	5.7	2.2	1.4	79	18	0.5	0.0	0.6	113	81	16	167	7.5	45
July 9		6.4	.00	43	6.3	2.2	1.6	114	40	.0	.0	.2	158	133	40	252	7.3	10
PTARMIGAN CREEK NEAR CENTRAL																		
June 16, 1956				5.2	0.7	0.6	0.3	16	6.0	1.0				16	3	39	6.8	
NORTH FORK TWELVEMILE CREEK NEAR CENTRAL																		
June 16, 1956		5.0		7.9	1.7	0.7	0.9	26	6.2	0.8		0.6	57	27	5	58	6.8	65

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
MAMMOTH CREEK NEAR CENTRAL																		
June 16, 1956				12	2.6	1.2	0.7	30	17	1.0				41	16	88	7.0	
CROOKED CREEK NEAR CENTRAL																		
June 16, 1956		4.0		7.9	1.9	0.6	0.6	18	11	0.5		0.7	62	28	13	60	6.5	70
BIRCH CREEK NEAR CIRCLE																		
June 16, 1956		4.4		13	2.9	3.6	1.3	34	18	2.0		0.8	85	44	16	104	7.0	60
BARTELL CREEK NEAR TOK JUNCTION																		
Sept. 21, 1955		11		100	28	5.8	0.0	212	185	0.0	0.0	1.1	435	364	190	647	8.2	
LITTLE TOK RIVER NEAR TOK JUNCTION																		
July 17, 1954		7.7	0.02	40	8.1	3.2	0.9	105	45	0.5	0.0	0.5	158	133	47	269	7.8	--
Sept. 21, 1955.....		10	.00	48	9.8	3.4	1.2	152	44	.2	.0	.5	192	160	36	322	8.2	0
May 10, 1956.....		8.2	.00	35	7.1	2.1	1.7	110	33	.0	.3	--	141	116	26	234	7.9	40
June 14		8.8	.00	39	8.5	3.3	1.8	124	34	.5	--	.8	158	132	29	264	8.2	5
Aug. 4.....		8.7	.00	41	9.7	2.9	1.2	135	36	.0	.3	.5	166	142	32	282	7.5	5
TOK RIVER AT BRIDGE ON GLENN HIGHWAY NEAR TOK JUNCTION																		
Sept. 13, 1954.....		8.3	0.07	52	14	2.5	0.8	155	64	0.0	0.1	0.3	218	187	60	340	7.8	5
Sept. 25		7.9	.01	52	13	2.8	1.2	156	64	.8	.1	.5	219	183	55	360	7.3	0
Sept. 20, 1955		9.6	.00	52	12	2.8	1.4	160	56	.2	.0	.6	214	179	48	256	8.2	0
May 4, 1956.....		9.1	.00	36	16	2.5	1.5	136	49	.2	.1	.9	182	156	44	308	7.3	5
May 11		8.4	.00	38	8.6	1.8	1.0	112	39	.0	--	.0	170	130	38	260	7.8	40
June 14		7.5	.00	37	9.9	2.2	1.2	117	37	1.0	.0	.5	154	133	37	261	8.0	5
Aug. 31		11	.00	49	11	3.1	1.2	152	50	.5	.0	.6	201	168	43	327	8.0	3

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
CLEARWATER CREEK NEAR TOK JUNCTION																		
Sept. 20, 1955		9.6	0.00	58	17	2.0	1.6	168	82	1.0	0.0	0.7	255	215	77	414	6.0	0
May 11, 1956		--		26	4.4	1.7	2.8	65	36	1.0				83	30	178	7.3	
TOK RIVER NEAR TOK JUNCTION																		
July 16, 1954		9.1	0.00	48	11	2.6	1.0	140	53	0.5	0.1	0.7	195	165	50	324	7.4	0
July 17		7.8	.00	50	11	2.4	1.1	141	61	.5	.0	.5	203	170	54	337	8.1	--
May 11, 1956		5.9	.00	33	6.9	1.4	1.2	94	32	1.0	--	.7	154	111	34	220	7.8	55
June 16		7.2	.00	36	8.4	2.1	1.5	110	38	1.5	.1	.8	150	124	34	257	8.0	0
Aug. 4, ...		8.3	.00	39	14	2.2	1.7	136	48	1.0	.1	.6	182	155	43	308	7.5	5
Aug. 31		11	.00	51	11	3.3	1.4	151	54	.5	.0	.5	207	172	49	338	8.1	3
YERRICK CREEK NEAR TANACROSS																		
May 18, 1955		4.4	0.17	15	2.2	1.2	2.4	38	20	0.5	0.0	2.1		46	15	107	7.0	50
Sept. 20		11	.00	22	3.2	2.3	2.8	61	26	.0	.0	.7	98	68	18	161	7.8	5
May 11, 1956		--	--	14	2.5	1.6	2.0	40	17	1.0	--	--		45	12	105	7.0	--
ROBERTSON RIVER NEAR TANACROSS																		
July 16, 1954		3.4	0.00	33	7.1	1.3	1.3	81	50	0.5	0.0	0.2	137	112	45	231	7.6	--
Sept. 18		5.3	.00	46	12	2.0	1.6	108	75	.5	.1	.5	196	164	76	330	7.4	0
May 18, 1955		4.9	.00	39	9.4	1.4	1.9	98	55	.2	.0	.4	160	136	56	270	6.8	20
Sept. 20		5.5	.00	48	14	2.2	2.5	122	75	.5	.0	.5	208	177	77	349	7.8	0
May 3, 1956		7.3	.00	37	10	1.9	1.8	102	59	.2	.1	.2	168	133	50	280	7.7	5
May 11		3.1	.00	36	8.6	1.4	1.4	91	50	1.0	--	.3	172	125	51	250	7.8	45
June 16		3.3	.00	35	8.2	1.2	1.8	91	48	.5	.0	1.0	144	121	46	245	7.8	5
Sept. 1		5.7	.00	45	9.7	1.7	1.6	108	67	.8	.0	.5	185	152	64	295	8.1	0
CHIEF CREEK NEAR TANACROSS																		
May 17, 1955		6.4	0.23	5.6	1.9	1.1	0.8	21	2.0	0.5		1.8		22	5	45	7.1	120
May 11, 1956				6.7	.7	.6	1.7	16	11	.0				20	6	42	6.5	

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
BERRY CREEK NEAR DOT LAKE																		
May 17, 1955		4.9	0.17	5.6	1.6	1.3	1.0	23	4.8	1.0		0.6		21	2	46	7.3	90
Sept. 20,.....		16	.00	13	2.7	4.8	1.2	56	9.0	.2		.4	75	44	0	108	7.2	25
May 11, 1956		--	--	5.6	1.4	1.5	1.4	21	9.0	1.0		--		20	2	47	6.4	--
JOHNSON RIVER NEAR DOT LAKE																		
Sept. 18, 1954		5.3	0.00	43	9.7	2.4	2.8	87	79	0.0	0.0	0.5	186	147	76	299	7.4	0
May 17, 1955.....		4.3	.00	31	5.9	1.5	1.9	76	49	.5	.0	.8	132	102	39	212	7.2	20
Sept. 20		5.1	.00	46	12	2.5	3.1	112	80	.5	.1	.5	205	164	72	336	7.8	0
May 11, 1956		2.5	.00	29	5.7	1.3	1.7	70	39	1.0	--	.2	136	96	38	202	7.7	50
June 15		9.8	.00	31	5.2	2.4	2.3	84	39	.0	.0	.3	131	99	30	219	7.9	5
Aug. 3		5.8	.00	29	13	1.7	2.7	88	60	.2	.1	.3	156	126	53	266	7.2	5
Sept. 1		5.1	.00	38	8.6	1.8	2.4	89	59	.5	.0	.5	160	130	57	272	7.2	0
LITTLE GERSTLE RIVER NEAR BIG DELTA																		
May 17, 1955		6.1	0.22	21	4.5	0.9	2.2	62	24	0.0	0.0	1.4	--	71	20	146	6.8	75
Sept. 20		8.8	.00	48	11	2.5	2.7	134	62	.0	.1	.9	202	165	55	333	7.5	5
May 11, 1956.....		1.7	.22	16	3.5	.7	1.7	46	16	.5	--	.0	103	54	17	109	7.7	165
June 15		10	.06	22	6.1	3.7	1.7	79	20	.8	.3	.6	104	80	15	176	7.7	5
Aug. 3		8.5	.00	31	9.2	1.7	2.4	101	38	1.2	.3	.7	143	115	32	235	7.7	5
Sept. 1		6.0	.05	30	8.7	1.4	1.9	104	37	.5	.2	1.3	138	111	25	230	7.5	10
GERSTLE RIVER NEAR BIG DELTA																		
Sept. 18, 1954.....		4.7	0.00	41	11	2.9	2.2	93	70	0.5	0.3	0.5	179	148	71	304	7.4	0
May 17, 1955		4.7	.04	27	5.9	1.4	1.7	66	38	.8	.4	.5	113	92	38	199	6.8	10
Sept. 20		5.6	.00	47	12	3.7	2.7	117	74	1.2	.4	.5	205	167	71	340	7.6	5
May 11, 1956.....		2.4	.00	25	5.0	1.3	2.0	59	38	.5	--	.0	116	83	35	171	7.5	140
June 15		3.7	.00	26	6.1	3.1	1.8	71	34	2.8	.4	1.0	114	90	32	196	7.8	5
Aug. 3		6.2	.00	30	8.4	2.1	2.0	86	49	.8	.3	.3	141	109	39	235	7.6	5
Sept. 1		5.1	.00	35	8.5	2.3	2.1	81	54	.8	.2	.4	148	122	56	247	6.8	3

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
TANANA RIVER AT BIG DELTA																		
May 17, 1955	a13,000	13	0.03	30	6.0	3.4	1.7	98	22	0.8	0.0	0.4	125	100	19	210	7.0	5
Sept. 20	a15,000	13	.00	33	6.9	5.3	1.5	112	26	2.0	.0	.5	143	111	19	254	7.0	5
May 11, 1956	31,200	7.8	--	23	5.5	3.1	1.8	77	18	1.5	--	.7	126	80	17	166	7.4	170
Aug. 3	39,200	8.0	.00	27	6.9	4.5	2.0	96	27	2.0	.1	2.1	127	96	17	209	7.4	5
Sept. 1	4,500	12	.00	28	5.8	4.9	1.7	92	22	2.5	.0	.4	122	94	18	205	7.4	0
PHELAN CREEK NEAR RAPIDS																		
Sept. 27, 1954		5.7	0.01	27	5.2	3.2	1.6	73	37	0.5	0.1	0.0	116	89	29	193	7.1	5
Sept. 19, 1955		8.2	.00	25	2.8	3.3	1.6	65	32	.5	.1	.2	106	74	21	174	7.1	
McCALLUM CREEK NEAR RAPIDS																		
Aug. 2, 1956		5.8	0.00	19	2.9	1.7	0.9	60	15	0.0	0.1	0.2	75	59	10	132	7.0	0
MILLER CREEK NEAR RAPIDS																		
Sept. 27, 1954		3.9	0.09	34	7.6	4.1	0.9	81	58	1.3	0.1	0.6	151	116	50	253	7.8	5
Sept. 19, 1955		4.1	.00	32	7.0	2.6	1.5	80	55	1.5	--	.0	143	109	43	236	7.1	0
Aug. 2, 1956		3.6	.00	18	4.9	1.7	1.1	50	26	.0	.1	.4	80	65	24	137	7.0	5
Sept. 1		2.5	.00	23	3.3	1.5	.7	55	32	.8	.0	.1	91	71	26	159	7.4	0
CASTNER CREEK NEAR RAPIDS																		
Sept. 27, 1954		7.5	0.11	48	22	4.4	1.5	147	96	0.9	0.0	0.1	253	210	90	415	7.9	3
Sept. 19, 1955		6.0	.00	40	16	4.0	1.8	124	72	.8	--	.0	202	166	64	341	7.9	0
Aug. 2, 1956		3.0	.03	21	6.7	1.4	1.4	64	32	.2	.1	.1	97	80	28	169	7.1	5
Sept. 1		2.5	.00	34	11	1.7	1.1	99	54	.2	.0	.2	154	130	49	261	8.1	0
DELTA RIVER NEAR RAPIDS																		
Sept. 19, 1955		11	0.00	25	5.0	4.0	1.4	89	20	1.5	0.1	0.3	112	83	10	180	7.4	5
May 12, 1956		7.2	.00	23	7.4	4.6	1.4	82	24	3.0	.0	.4	111	88	21	193	8.0	5
Aug. 2		5.2	.00	22	5.1	1.9	1.5	72	23	.8	.0	.3	95	76	17	162	7.2	3

a Mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
JARVIS CREEK NEAR BIG DELTA																		
Sept. 27, 1954		3.9	0.10	39	14	2.3	0.5	112	66	0.4	0.0	0.5	182	155	63	318	7.4	5
Sept. 20, 1955		5.2	.00	39	13	2.4	1.2	114	55	.2	.0	.3	172	151	57	312	7.7	0
Aug. 2, 1956		3.4	.00	29	10	3.1	2.2	96	39	.0	.3	.4	134	113	35	227	7.5	5
DELTA RIVER AT BIG DELTA																		
May 17, 1955		7.4	0.06	27	6.4	2.8	3.8	86	31	1.0	0.0	0.9	122	94	23	205	7.2	10
Sept. 20		8.1	.00	32	9.6	3.9	3.2	102	44	1.8	.1	.4	153	119	36	261	7.5	0
May 3, 1956		8.0	.00	26	6.3	2.9	3.3	89	27	.2	.1	.5	118	91	18	194	7.7	5
May 11		4.7	.00	28	7.5	3.1	3.0	88	35	1.5	.0	.4	126	101	29	220	8.0	25
Sept. 1		7.4	.00	30	5.6	3.2	2.8	87	33	1.0	.0	.4	126	98	27	215	7.9	5
SHAW CREEK AT SHAW CREEK																		
May 17, 1955		8.1	0.28	8.3	3.1	1.6	2.3	34	12	0.0	0.0	0.4		33	6	78	6.3	90
Sept. 20		14	.00	15	8.8	2.6	1.2	68	9.0	.0	--	.8	97	74	18	134	7.7	25
June 17, 1956		16	.22	19	6.4	4.1	1.5	85	12	.0	.1	.5		74	4	160	8.0	30
Aug. 3		12	.17	29	.2	3.8	1.7	82	13	.2	.1	.6		73	6	155	6.8	40
BANNER CREEK NEAR RICHARDSON																		
Sept. 20, 1955		18	2.1	17	6.9	4.8	2.2	50	35	0.0	0.4	1.9	158	71	30	168	7.7	360
SALCHA RIVER AT SALCHAKET																		
Oct. 11, 1954	1,510	8.5	0.09	18	4.7	1.8	0.4	61	20	0.2	--	1.3	85	64	14	137	7.2	10
May 17, 1955	a7,450	5.3	.13	9.9	2.6	1.8	1.9	30	12	.5	0.0	1.4	--	35	11	86	6.2	70
Sept. 20	3,180	9.7	.00	17	4.3	1.5	.7	59	15	.0	.0	.5	78	60	12	134	7.4	10
June 17, 1956	a2,660	6.8	.00	14	3.0	1.5	.8	44	12	.2	.1	.6	61	47	11	105	6.7	20
Aug. 3	a2,800	8.3	.10	14	4.4	2.2	1.2	49	13	.8	.3	.7	69	53	13	122	6.5	10
LITTLE SALCHA RIVER NEAR SALCHAKET																		
June 17, 1956				9.9	3.8	2.9	0.9	48	6.5	1.0				40	1	92	7.2	
Aug. 3		12	0.10	17	3.6	2.2	.9	41	11	15	0.3	0.5	83	57	24	189	6.1	20

a Mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
NENANA RIVER NEAR WINDY																		
Apr. 23, 1955	165	8.0	0.00	33	4.0	4.2	2.0	90	32	2.0		0.2	129	99	25	222	7.6	
HEALY CREEK NEAR HEALY																		
Sept. 26, 1956		4.2	0.00	51	29	4.0	1.2	179	99	3.5	0.0	0.8	328	246	100	476	8.2	
TOLOVANA RIVER NEAR LIVENGOOD																		
June 16, 1956		6.6		8.3	5.0	1.8	0.3	36	9.6	0.0		0.6		41	12	82	7.6	165
LIVENGOOD CREEK AT LIVENGOOD																		
June 16, 1956				12	5.6	1.6	0.6	51	11	1.0				53	11	104	7.2	
WASHINGTON CREEK NEAR FAIRBANKS																		
June 17, 1956		9.5	0.19	18	8.2	2.2	0.6	80	16	1.0	0.2	0.6		79	13	162	8.0	35
Sept. 19		9.1	.26	12	6.6	1.1	.4	56	11	.5	.1	.2		57	11	114	7.0	100
TATALINA RIVER NEAR LIVENGOOD																		
June 16, 1956		6.0	0.00	7.9	3.4	1.3	0.4	27	12	0.0	0.9	0.9	91	34	12	69	7.4	155
FAITH CREEK NEAR CHATANIKA																		
June 16, 1956				7.5	1.0	0.8	0.6	23	7.5	1.0				23	4	54	6.9	
CHATANIKA RIVER NEAR CHATANIKA																		
June 16, 1956				12	3.3	1.4	0.8	39	14	1.0				44	12	98	7.1	

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Chemical analyses, in parts per million, water years October 1953 to September 1956--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
CHATANIKA RIVER NEAR FAIRBANKS																		
June 17, 1956		6.4	0.00	14	3.3	1.0	0.7	43	16	0.2	0.0	1.0	64	48	13	109	6.9	20
TOZITNA RIVER NEAR TANANA																		
Aug. 20, 1956		7.2	0.11	6.7	2.2	1.0	0.4	23	4.4	0.5	0.2	0.2		26	7	54	6.7	100
YUKON RIVER BELOW TOZITNA RIVER NEAR TANANA																		
July 19, 1956		5.7	0.00	34	6.0	2.1	1.3	106	22	0.0	0.0	0.2	123	110	23	217	7.5	15
CROOKED CREEK NEAR LONG																		
Aug. 12, 1956		15	0.47	11	4.1	2.6	0.8	50	3.7	0.5		0.3		44	3	90	7.0	80
MELOZITNA RIVER NEAR RUBY																		
Aug. 16, 1956		7.1	0.13	3.6	2.1	1.1	0.4	16	3.4	0.5	0.2	0.2		18	5	39	6.4	60
YUKON RIVER NEAR KALTAG																		
July 30, 1956		7.0		26	5.1	4.9	1.3	70	32	0.0		2.1	112	86	28	183	7.5	
ANDREAFSKY RIVER AT ANDREAFSKY																		
June 29, 1954		--	--	--	--	6.1	0.4	46	--	--		--	--	57	--	139	6.9	
July 25		7.3	0.00	12	2.7	3.0	0.2	52	4.3	1.0		0.3	57	41	0	90	7.0	
Oct. 13		8.2	.00	14	3.3	3.0	.2	56	9.0	1.0		.3	67	48	3	105	6.9	
NOATAK RIVER NEAR KOTZEBUE																		
July 29, 1956		3.0	0.00	34	6.0	2.1	0.4	111	19	2.2	0.0	0.1	122	110	19	212	7.9	0

MISCELLANEOUS ANALYSES OF STREAMS IN ALASKA--Continued

Periodic determinations of suspended-sediment discharge, water year October 1953 to September 1954

Date	Discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Discharge (tons per day)
FORTY MILE RIVER AT STEEL CREEK, ALASKA			
1954			
July 4	3,510	67	635
FORTY MILE RIVER NEAR BOUNDARY, ALASKA			
1954			
Oct. 6	577	4	6

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