

UNITED STATES DEPARTMENT OF THE INTERIOR

Harold L. Ickes, Secretary

GEOLOGICAL SURVEY

W. E. Wrather, Director

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Water-Supply Paper 916

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SUMMARY OF RECORDS OF SURFACE WATERS  
OF UPPER COLUMBIA RIVER BASIN  
IN MONTANA AND IDAHO  
1898-1938

BY

A. H. TUTTLE AND T. R. NEWELL

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Prepared in cooperation with the States of  
MONTANA AND IDAHO



UNITED STATES  
GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1943



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# SUMMARY OF RECORDS OF SURFACE WATERS OF UPPER COLUMBIA RIVER BASIN IN MONTANA AND IDAHO, 1898-1938

By A. H. TUTTLE and T. R. NEWELL

## INTRODUCTION

The Geological Survey, United States Department of the Interior, began to collect records of stream flow in the upper Columbia River Basin in Montana in July 1898, when gaging stations were established on the Bitterroot River near Missoula, the Blackfoot River near Bonner, and the Clark Fork at Missoula. The first gaging station in Idaho was established on the Priest River, at the town of Priest River, in June 1903. The work was expanded with the establishment of additional stations each succeeding year, the chief interest in records of stream flow in earlier years being in their value in investigations of irrigation projects on public lands. The work has been continued and enlarged until by September 30, 1938, records for periods of time varying in length had been collected by the Geological Survey and cooperating agencies at 113 gaging stations, of which 59 were still in operation on that date.

The purpose of this report is to bring together, in one volume, figures of monthly and yearly discharge for all gaging stations at which records have been collected in the upper Columbia River Basin in Montana and Idaho prior to October 1, 1938. Details of these records are contained in 45 volumes that have been issued from time to time by the Geological Survey. The monthly and yearly discharge given herein will serve most of the needs for stream-flow data, and the bibliography (pp. 3-15) will facilitate reference to more detailed information. Figures previously published for some of the items have been found to require revision or correction, and the revised or corrected figures are incorporated in this summary. Records for short periods not previously published have been estimated in order to complete the record for a year, if estimates for these periods could be made with reasonable accuracy.

## COOPERATION

Since 1906 the Geological Survey has cooperated with the State engineer of Montana in the collection of stream-flow data. In 1909, the first appropriations for this work were made by the States of Montana and Idaho. Cooperative agreements have been entered into annually with each of the two States since that time, except that the State of Idaho furnished no financial assistance during the period 1915-18. Since 1931 full cooperation has been maintained between the Geological Survey and the Dominion Water and Power Bureau,

Department of Mines and Resources, Canada, in the operation of certain gaging stations on streams common to both the United States and Canada. The records from these stations, herein designated "international gaging stations," are collected in such a manner as to be equally acceptable and available in either country.

In the execution of the work other Federal bureaus and many municipal and private organizations have cooperated with the Geological Survey, either by furnishing data or by assisting in collecting data. Acknowledgment for cooperation by such agencies is given in the Geological Survey's annual series of papers on surface water supply.

#### ACKNOWLEDGMENTS

The part of the manuscript consisting of records of stream flow in Montana was prepared by H. C. Eagle with the assistance of C. D. Bue, under the direction of A. H. Tuttle. The part consisting of records of stream flow in Idaho was prepared by E. Hazel Haugse, under the direction of T. R. Newell.

#### EXPLANATION OF DATA

In the tables of monthly discharge the column headed "Maximum" gives the highest daily mean discharge and not the momentary discharge when the water surface was at crest stage. Likewise, the column headed "Minimum" gives the lowest daily mean discharge. The column headed "Mean" gives the average flow during the month.

The monthly mean for a gaging station represents the flow passing the gage, but the discharge in second-feet per square mile and run-off in inches as computed from that mean may not reflect the normal characteristics of the drainage basin if the flow is regulated, if water is diverted around the gage, or if the flow has been depleted by irrigation. The two last-named items have not been computed for a gaging station at which existing conditions do not approximate natural conditions at that station or for areas over which the rainfall averages less than 20 inches yearly. Discharge in second-feet per square mile and run-off in inches for earlier years have been computed for the first time for some stations; for others the figures previously obtained for these two items have been revised on the basis of a more accurate determination of drainage area.

Many gaging stations on streams in the irrigated areas are situated above most of the diversions from those streams, and therefore the discharge recorded does not show the water supply available for further development, as prior appropriations below the station must first be satisfied.

The data in this report consist of records of monthly and yearly discharge in a form available for ready reference. If need arises for more information than is given herein, detailed results may readily be found by consulting the publications cited on the following pages.

Records of stream flow in the upper Columbia River Basin prior to those for 1911 were published on the basis of the calendar year. Beginning with the report for 1911, the records have been published on the basis of the water year, which ends September 30. The numbers in the column headed "Year," therefore, refer to either the calendar year or the water year, depending on the basis on which the publication cited was prepared. The records for October to December 1910 were duplicated when the change was made.

The water-supply papers and other publications of the Geological Survey may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C., who will, on application, furnish lists giving prices; or they may be consulted at the Geological Survey local offices in Helena, Mont., and Idaho Falls and Boise, Idaho, at the Geological Survey offices in other States, and at the public libraries in the principal cities.

#### Bibliography of stream-flow data in upper Columbia River Basin in Montana and Idaho

Publications of the Geological Survey are indicated by the following abbreviations: A, Annual Report; W, Water-Supply Paper. An asterisk (\*) indicates that the records in the publication so marked have been revised in a later publication. A dagger (†) indicates that the figures of discharge per square mile and run-off in inches have been revised on the basis of the latest determination of drainage area. A double dagger (‡) indicates that the records do not include those of monthly discharge.

Gaging station	Year	Publication
Agency Creek near Jocko, Mont.....	1909	W 272, p. 103
	1910	W 292, p. 106
	1911	W 312, p. 108
	1912	W 332, p. 112
	1913	W 362, p. 105
	1914	W 392, p. 87
	1915	W 412, p. 147
	1916	W 442, p. 108
Ashley Creek near Kalispell, Mont.....	1931	W 722, p. 139
	1932	W 737, p. 127
	1933	W 752, p. 129
	1934	W 767, p. 123
	1935	W 792, p. 116
	1936	W 812, p. 111
	1937	W 832, p. 118
	1938	W 862, p. 122
Ashley Creek near Kila, Mont.....	1916	W 442, p. 85
Ball Creek near Bonners Ferry, Idaho....	1928	W 672, p. 64
	1929	W 692, p. 111
	1930	W 707, p. 115
	1931	W 722, p. 106
	1932	W 737, p. 95
	1933	W 752, p. 96
	1934	W 767, p. 91
Bear Creek near Victor, Mont.....	1938	W 862, p. 107
Big Creek near Polson, Mont.....	1917	W 462, p. 81
	1918	W 482, p. 73
	1919-20	W 512, p. 129
	1921	W 532, p. 118
	1922	W 552, p. 117
	1923	W 572, p. 104
	1924-25	W 612, p. 90
	1926	W 632, p. 89
	1927	W 652, p. 64

Bibliography of stream-flow data in upper Columbia River Basin  
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Gaging station	Year	Publication
Big Creek near Polson, Mont.--Continued.	1928	W 672, p. 88
	1929	W 692, p. 144
	1930	W 707, p. 148
	1931	W 722, p. 141
	1932	W 737, p. 129
Big Knife Creek near Jocko, Mont.....	1909	W 272, p. 101
	1910	W 292, p. 103
	1911	W 312, p. 106
	1912	W 332, p. 110
	1913	W 362, p. 103
	1914	W 392, p. 86
	1915	W 412, p. 145
	1916	W 442, p. 107
Bitterroot River near Darby, Mont.....	1937	W 832, p. 100
	1938	W 862, p. 103
Bitterroot River near Grantsdale, Mont..	1902	W 85, p. 201
	1903	W 100, p. 408
	1904	W 135, p. 35
	1905	W 178, p. 21
	1906	W 214, p. 20
	1907	W 252, p. 90
Bitterroot River near Missoula, Mont....	1898	20th A, pt. 4, p. 492; IW 28, pp. 163, 168, 170
	1899	21st A, pt. 4, p. 419; IW 38, pp. 368, 369; IW 39, p. 454
	1900	22nd A, pt. 4, p. 441; IW 51, pp. 433, 434; IW 52, p. 522
	1901	IW 66, p. 131; W 75, p. 199
	1903	W 100, p. 406
	1904	W 135, p. 37
Bitterroot River, East Fork of, at Conner, Mont. (Published as East Fork of Bitterroot River near Darby prior to 1937.)	1910	IW 292, p. 72
	1911	IW 312, p. 70
	1912	IW 332, p. 70
	1913	W 362, p. 64
	1914	W 392, p. 57
	1915	IW 412, p. 115
	1937	W 832, p. 101
	1938	W 862, p. 104
Bitterroot River, West Fork of, near Darby, Mont.	1911	W 312, p. 68
	1912	W 332, p. 68
	1913	W 362, p. 62
	1914	W 392, p. 56
	1916	W 442, p. 75
	1917	W 462, p. 73 (Fragmentary record.)
Blackfoot River at Clearwater, Mont.....	1921	W 532, p. 106
	1922	W 552, p. 99
	1923	W 572, p. 88
Blackfoot River near Bonner, Mont.....	1898	20th A, pt. 4, p. 491; IW 28, pp. 163, 168, 170
	1899	21st A, pt. 4, p. 416; IW 38, pp. 362, 363; IW 39, p. 454
	1900	22nd A, pt. 4, p. 433; IW 51, pp. 430, 431; IW 52, p. 522
	1901	IW 66, pp. 130, 177; W 75, p. 198
	1903	W 100, p. 410
	1904	W 135, p. 33
	1905	W 178, p. 19
Blackfoot River, North Fork of, near Ovando, Mont.	1921	W 532, p. 107
	1922	W 552, p. 101
	1923	W 572, p. 89
Blodgett Creek near Hamilton, Mont.....	1938	W 862, p. 105
Blodgett Creek near Jocko, Mont.....	1909	W 272, p. 105
Boulder Creek near Leonia, Idaho.....	1928	W 672, p. 57
	1929	W 692, p. 104
	1930	W 707, p. 106
	1931	W 722, p. 98
	1932	W 737, p. 87
	1933	W 752, p. 88
	1934	W 767, p. 83
	1935	W 792, p. 86
	1936	W 812, p. 81
	1937	W 832, p. 83
	1938	W 862, p. 85



Bibliography of stream-flow data in upper Columbia River Basin  
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Gaging station	Year	Publication
Boundary Creek near Port Hill, Idaho....	1928	W 672, p. 72
	1929	W 692, p. 119
	1930	W 707, p. 123
	1931	W 722, p. 114
	1932	W 737, p. 103
	1933	W 752, p. 104
	1934	W 767, p. 99
	1935	W 792, p. 92
	1936	W 812, p. 87
	1937	W 832, p. 89
	1938	W 862, p. 91
Brush Creek near Copeland, Idaho.....	1928	W 672, p. 68
	1929	W 692, p. 115
	1930	W 707, p. 119
	1931	W 722, p. 110
	1932	W 737, p. 99
	1933	W 752, p. 100
	1934	W 767, p. 95
Burnt Fork Creek near Stevensville, Mont.	1920	W 512, p. 123
	1921	W 532, p. 112
	1922	W 552, p. 107
	1923	W 572, p. 94
	1924	W 592, p. 92
Caribou Creek near Moravia, Idaho.....	1928	W 672, p. 62
	1929	W 692, p. 109
	1930	W 707, p. 113
	1931	W 722, p. 104
	1932	W 737, p. 93
	1933	W 752, p. 94
	1934	W 767, p. 89
Clark Fork above Missoula, Mont.....	1929	W 692, p. 120
	1930	W 707, p. 124
	1931	W 722, p. 115
	1932	W 737, p. 104
	1933	W 752, p. 105
	1934	W 767, p. 100
	1935	W 792, p. 93
	1936	W 812, p. 88
	1937	W 832, p. 90
	1938	W 862, p. 92
Clark Fork at Missoula, Mont.....	1898	20th A, pt. 4, p. 491; IW 28, pp. 163, 169, 170
	1899	21st A, pt. 4, p. 418; IW 38, pp. 365, 366, 367; IW 39, p. 454
	1900	22nd A, pt. 4, p. 435; IW 51, pp. 432, 433; IW 52, p. 522
	1901	IW 66, pp. 131, 177; W 75, p. 198
	1902	W 85, p. 199
	1903	W 100, p. 403
	1904	W 135, p. 28
	1905	W 178, p. 16
	1906	W 214, p. 22
	1907	W 252, p. 83
Clark Fork at St. Regis, Mont.....	1911	W 312, p. 59
	1912	W 332, p. 59
	1913	W 362, p. 54
	1914	W 392, p. 49
	1915	W 412, p. 106
	1916	W 442, p. 68
	1917	W 462, p. 65
	1918	W 482, p. 62
	1919-20	W 512, p. 111
	1921	W 532, p. 88
	1922	W 552, p. 89
	1923	W 572, p. 78
	1929	W 692, p. 121
	1930	W 707, p. 126
	1931	W 722, p. 117
	1932	W 737, p. 106
	1933	W 752, p. 107
	1934	W 767, p. 102
	1935	W 792, p. 95
	1936	W 812, p. 90
	1937	W 832, p. 92
	1938	W 862, p. 94
Clark Fork below Missoula, Mont.....	1930	W 707, p. 125
	1931	W 722, p. 116
	1932	W 737, p. 105

Bibliography of stream-flow data in upper Columbia River Basin  
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Gaging station	Year	Publication
Clark Fork below Missoula, Mont.--Con...	1933	W 752, p. 106
	1934	W 767, p. 101
	1935	W 792, p. 94
	1936	W 812, p. 89
	1937	W 832, p. 91
	1938	W 862, p. 93
Clark Fork near Heron, Mont.....	1928-29	W 692, p. 123
	1930	W 707, p. 128
	1931	W 722, p. 119
	1932	W 737, p. 108
	1933	W 752, p. 109
	1934	W 767, p. 104
	1935	W 792, p. 97
	1936	W 812, p. 92
	1937	W 832, p. 94
	1938	W 862, p. 96
Clark Fork near Plains, Mont.....	1911	W 312, p. 61
	1912	W 332, p. 61
	1913	W 362, p. 55
	1914	W 392, p. 50
	1915	W 412, p. 107
	1916	W 442, p. 69
	1917	W 462, p. 67
	1918	W 482, p. 63
	1919-20	W 512, p. 114
	1921	W 532, p. 89
	1922	W 552, p. 91
	1923	W 572, p. 80
	1924	W 592, p. 80
	1925	W 612, p. 76
	1926	W 632, p. 76
	1927	W 652, p. 53
	1928	W 672, p. 73
	1929	W 692, p. 122
	1930	W 707, p. 127
	1931	W 722, p. 118
	1932	W 737, p. 107
	1933	W 752, p. 108
	1934	W 767, p. 103
	1935	W 792, p. 96
	1936	W 812, p. 91
	1937	W 832, p. 93
	1938	W 862, p. 95
Clearwater River at Clearwater, Mont....	1921	W 532, p. 108
	1922	W 552, p. 102
	1923	W 572, p. 90
Coeur d'Alene River at Enaville, Idaho..	1911	W 312, p. 126
	1912	W 332, p. 141
	1913	W 362, p. 128
Coeur d'Alene River at Prichard, Idaho..	1912	W 332, p. 139
	1913	W 362, p. 127
	1914	W 392, p. 106
Coeur d'Alene River near Cataldo, Idaho.	1911	W 312, p. 128
	1912	W 332, p. 142
	1913	W 362, p. 130
	1920-21	W 532, p. 147
	1922	W 552, p. 127
	1923	W 572, p. 121
	1924	W 592, p. 109
	1925	W 612, p. 98
	1926	W 632, p. 97
	1927	W 652, p. 69
	1928	W 672, p. 94
	1929	W 692, p. 152
	1930	W 707, p. 159
	1931	W 722, p. 153
	1932	W 737, p. 142
	1933	W 752, p. 141
	1934	W 767, p. 134
	1935	W 792, p. 126
	1936	W 812, p. 121
	1937	W 832, p. 130
	1938	W 862, p. 134
Coeur d'Alene River, North Fork of, near Enaville, Idaho.	1912	W 332, p. 144
	1913	W 362, p. 140

Bibliography of stream-flow data in upper Columbia River Basin  
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Gaging station	Year	Publication
Cow Creek near Bonners Ferry, Idaho.....	1928	W 672, p. 59
	1929	W 692, p. 106
	1930	W 707, p. 110
	1931	W 722, p. 101
	1932	W 737, p. 90
	1933	W 752, p. 91
	1934	W 767, p. 86
Crow Creek at Lozeau's ranch near Ronan, Mont.	1911	W 312, p. 94
	1912	W 332, p. 93
	1913	W 362, p. 84
	1914	W 392, p. 72
	1915	W 412, p. 131
	1916	W 442, p. 93
Crow Creek near Ronan, Mont.....	1906	W 214, p. 25
	1907-8	W 252, p. 97
	1909	W 272, p. 86
	1910	W 292, p. 90
	1911	W 312, p. 92
	1912	W 332, p. 92
	1913	W 362, p. 82
	1914	W 392, p. 71
	1915	W 412, p. 129
	1916	W 442, p. 91
	1917	W 462, p. 83
Deep Creek at Moravia, Idaho.....	1928	W 672, p. 60
	1929	W 692, p. 107
	1930	W 707, p. 111
	1931	W 722, p. 102
	1932	W 737, p. 91
	1933	W 752, p. 92
	1934	W 767, p. 87
	1935	W 792, p. 89
	1936	W 812, p. 84
	1937	W 832, p. 86
	1938	W 862, p. 88
Dry Creek near St. Ignatius, Mont.....	1908	W 252, p. 105
	1909	W 272, p. 92
	1910	W 292, p. 96
	1911	W 312, p. 97
	1912	W 332, p. 97
	1913	W 362, p. 89
	1914	W 392, p. 76
	1915	W 412, p. 135
	1916	W 442, p. 96
East Finley Creek near Jocko, Mont.....	1909	W 272, p. 108
	1910	W 292, p. 111
	1911	W 312, p. 112
	1912	W 332, p. 117
	1913	W 362, p. 110
	1914	W 392, p. 90
	1915	W 412, p. 149
Falls Creek near Jocko, Mont.....	1912	W 332, p. 106
	1913	W 362, p. 102
	1914	W 392, p. 84
	1915	W 412, p. 144
Finley Creek near Jocko, Mont.....	1909	W 272, p. 107
	1910	W 292, p. 110
	1911	W 312, p. 110
	1912	W 332, p. 114
	1913	W 362, p. 107
	1914	W 392, p. 89
	1915	W 412, p. 148
Flathead River at Columbia Falls, Mont..	1922	W 552, p. 109
	1928	W 672, p. 76
	1929	W 692, p. 131
	1930	W 707, p. 135
	1931	W 722, p. 125
	1932	W 737, p. 114
	1933	W 752, p. 115
	1934	W 767, p. 111
	1935	W 792, p. 105
	1936	W 812, p. 100
	1937	W 832, p. 104
	1938	W 862, p. 110

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Gaging station	Year	Publication
Flathead River at Flathead, British Columbia. (Published as Flathead River near Trail Creek, Mont., prior to 1935.)	1929	W 692, p. 129
	1930	W 707, p. 133
	1931	W 722, p. 123
	1932	W 737, p. 112
	1933	W 752, p. 113
	1934	W 767, p. 109
	1935	W 792, p. 103
	1936	W 812, p. 98
	1937	W 832, p. 102
	1938	W 862, p. 108
Flathead River near Columbia Falls, Mont.	1911	W 312, p. 75
	1912	W 332, p. 76
	1913	W 362, p. 69
	1914	W 392, p. 62
	1915	W 412, p. 119
	1916	W 442, p. 78
	1917	W 462, p. 76
	1929	W 692, p. 130
	1930	W 707, p. 134
	1931	W 722, p. 124
	1932	W 737, p. 113
	1933	W 752, p. 114
	1934	W 767, p. 110
	1935	W 792, p. 104
	1936	W 812, p. 99
	1937	W 832, p. 103
	1938	W 862, p. 109
Flathead River near Polson, Mont.....	1907-8	W 252, p. 92
	1909	W 272, p. 79
	1910	W 292, p. 81
	1911	W 312, p. 80
	1912	W 332, p. 81
	1913	W 362, p. 72
	1914	W 392, p. 64
	1915	W 412, p. 121
	1916	W 442, p. 81
	1917	W 462, p. 78
	1918	W 482, p. 69
	1919-20	W 512, p. 125
	1921	W 532, p. 115
	1922	W 552, p. 111
	1923	W 572, p. 98
	1924	W 592, p. 94
	1925	W 612, p. 85
	1926	*W 632, p. 85; W 652, p. 59
	1927	W 652, p. 59
	1928	W 672, p. 83
	1929	W 692, p. 138
	1930	W 707, p. 142
	1931	W 722, p. 132
	1932	*W 737, p. 121; W 752, p. 122
	1933	W 752, p. 122
	1934	W 767, p. 118
	1935	W 792, p. 112
	1936	W 812, p. 106
	1937	W 832, p. 113
	1938	W 862, p. 117
Flathead River, Middle Fork of, at Belton, Mont.	1911	W 312, p. 83
	1912	W 332, p. 83
	1913	W 362, p. 74
	1914	W 392, p. 65
	1915	W 412, p. 123
	1916	W 442, p. 82
	1917	W 462, p. 79
	1918	W 482, p. 71
	1919-20	W 512, p. 127
	1921	W 532, p. 116
	1922	W 552, p. 113
	1923	W 572, p. 100
Flathead River, South Fork of, near Columbia Falls, Mont.	1929	W 692, p. 139
	1930	W 707, p. 143
	1931	W 722, p. 133
	1932	W 737, p. 122
	1933	W 752, p. 124
	1911	W 312, p. 84
	1912	W 332, p. 86
	1913	W 362, p. 77
	1923	W 572, p. 101
	1924	W 592, p. 96
	1925	W 612, p. 87

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Flathead River, South Fork of, near Columbia Falls, Mont.--Continued.	1926	W 632, p. 86
	1927	W 652, p. 82
	1928	W 672, p. 84
	1929	W 692, p. 140
	1930	W 707, p. 144
	1931	W 722, p. 134
	1932	W 737, p. 123
	1933	W 752, p. 125
	1934	W 767, p. 119
	1935	W 792, p. 113
	1936	W 812, p. 107
	1937	W 832, p. 114
	1938	W 862, p. 118
Granite Creek near Libby, Mont.....	1933	W 752, p. 87
	1936-37	W 832, p. 82
	1938	W 862, p. 84
Grave Creek near Fortine, Mont.....	1923	W 572, p. 76
	1924	W 592, p. 79
Indian ditch near Jocko, Mont.....	1909	W 272, p. 110
	1910	W 292, p. 114
	1911	W 312, p. 114
	1912	W 332, p. 118
	1913	W 362, p. 111
	1914	W 392, p. 92
	1915	W 412, p. 151
	1916	W 442, p. 112
Jocko River at Ravalli, Mont.....	1907-8	W 252, p. 111
	1909	W 272, p. 99
	1910	W 292, p. 101
	1911	W 312, p. 104
Jocko River near Jocko, Mont.....	1909	W 272, p. 97
	1910	W 292, p. 99
	1911	W 312, p. 102
	1912	W 332, p. 102
	1913	W 362, p. 95
	1914	W 392, p. 80
	1915	W 412, p. 139
	1916	W 442, p. 101
	1918	W 482, p. 74
Jocko River, Middle Fork of, near Jocko, Mont.	1912	W 332, p. 109
	1913	W 362, p. 98
	1914	W 392, p. 81
	1915	W 412, p. 141
Jocko River, North Fork of, near Jocko, Mont.	1912	6th biennial report, Montana State Engineer, p. 87
	1913	W 362, p. 100
	1914	W 392, p. 83
	1915	W 412, p. 142
Jocko River, South Fork of, near Jocko, Mont.	1912	*W 332, p. 108; W 362, p. 93
	1913	W 362, p. 93
	1914	W 392, p. 78
	1915	W 412, p. 138
Kootenai River at Bonners Ferry, Idaho..	1904	W 135, p. 25
	1928	W 672, p. 49
	1929	W 692, p. 92
	1930	W 707, p. 92
	1931	W 722, p. 90
	1932	W 737, p. 77
	1933	W 752, p. 78
	1934	W 767, p. 75
	1935	W 792, p. 77
	1936	W 812, p. 73
	1937	W 832, p. 73
	1938	W 862, p. 75
Kootenai River at Katka, Idaho.....	1928	W 672, p. 47
	1929	W 692, p. 90
	1930	W 707, p. 90
	1931	W 722, p. 88
	1932	W 737, p. 75
	1933	W 752, p. 76
Kootenai River at Leonia, Idaho.....	1928	W 672, p. 46
	1929	W 692, p. 89
	1930	W 707, p. 89
	1931	W 722, p. 87
	1932	W 737, p. 74

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Kootenai River at Leonia, Idaho--Con....	1933	W 752, p. 75
	1934	W 767, p. 73
	1935	W 792, p. 75
	1936	W 812, p. 71
	1937	W 832, p. 71
	1938	W 862, p. 73
Kootenai River at Libby, Mont.....	1911	†W 312, p. 52
	1912	†W 332, p. 52
	1913	†W 362, p. 47
	1914	†W 392, p. 44
	1915	†W 412, p. 101
	1916	†W 442, p. 62
	1917	†W 462, p. 64
	1918	†W 482, p. 60
	1919	†W 512, p. 107
	1920-21	†W 532, p. 84
	1922	†W 552, p. 85
	1923	†W 572, p. 74
	1924	†W 592, p. 77
	1925	†W 612, p. 75
	1926	†W 632, p. 74
	1927	†W 652, p. 50
	1928	†W 672, p. 45
	1929	†W 692, p. 88
	1930	†W 707, p. 88
	1931	†W 722, p. 86
	1932	†W 737, p. 73
	1933	†W 752, p. 74
	1934	†W 767, p. 72
	1935	†W 792, p. 74
	1936	†W 812, p. 70
	1937	W 832, p. 70
	1938	W 862, p. 72
Kootenai River at Newgate, British Columbia.	1931-34	W 767, p. 67
	1935	W 792, p. 72
	1936	W 812, p. 68
	1937	W 832, p. 68
	1938	W 862, p. 70
Kootenai River at Port Hill, Idaho.....	1904	†W 135, p. 28
	1928	W 672, p. 55
	1929	W 692, p. 102
	1930	W 707, p. 104
	1931	W 722, p. 96
	1932	W 737, p. 84
	1933	W 752, p. 85
	1934	W 767, p. 81
	1935	W 792, p. 84
	1936	W 812, p. 79
	1937	W 832, p. 80
	1938	W 862, p. 82
Kootenai River near Copeland, Idaho.....	1928	†W 672, p. 53
	1929	W 692, p. 99
	1930	W 707, p. 100
	1931	W 722, p. 94
	1932	W 737, p. 81
	1933	W 752, p. 82
	1934	W 767, p. 79
	1935	W 792, p. 81
	1936	W 812, p. 77
	1937	W 832, p. 77
	1938	W 862, p. 79
Kootenai River near Rexford, Mont.....	1929	W 692, p. 87
	1930	W 707, p. 87
	1931	W 722, p. 85
	1932	W 737, p. 72
	1933	W 752, p. 73
	1934	W 767, p. 71
	1935	W 792, p. 73
	1936	W 812, p. 69
	1937	W 832, p. 69
	1938	W 862, p. 71
Little Bitterroot River near Hubbard, Mont.	1909	W 272, p. 82
	1910	W 292, p. 88
	1911	W 312, p. 90
	1912	W 332, p. 89
	1913	W 362, p. 80
	1914	W 392, p. 69
	1915	W 412, p. 127
	1916	W 442, p. 88

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Little Bitterroot River near Marion, Mont.	1910	W 292, p. 86
	1911	W 312, p. 87
	1912	W 332, p. 88
	1913	W 362, p. 79
	1914	W 392, p. 68
	1915	W 412, p. 125
	1916	W 442, p. 86
Little Bitterroot River near Niaraada, Mont. (Published as Little Bitterroot River near Dayton prior to 1916.)	1908	W 252, p. 96
	1909	W 272, p. 84
	1917	W 462, p. 82
Logan Creek at Tally Lake, near White- fish, Mont.	1931-32	W 737, p. 125
	1933	W 752, p. 127
	1934	W 767, p. 121
	1936	W 812, p. 109
	1937	W 832, p. 116
	1938	W 862, p. 120
Logan Creek near Whitefish, Mont.....	1931	W 722, p. 137
Lolo Creek near Lolo, Mont.....	1912	W 332, p. 72
	1913	W 362, p. 65
	1914	W 392, p. 59
	1915	W 412, p. 116
Long Canyon Creek near Port Hill, Idaho.	1928	W 672, p. 70
	1929	W 692, p. 117
	1930	W 707, p. 121
	1931	W 722, p. 112
	1932	W 737, p. 101
	1933	W 752, p. 102
	1934	W 767, p. 97
	1935	W 792, p. 90
	1936	W 812, p. 85
	1937	W 832, p. 87
	1938	W 862, p. 89
Mission Creek at Copeland, Idaho.....	1928	W 672, p. 66
	1929	W 692, p. 113
	1930	W 707, p. 117
	1931	W 722, p. 108
	1932	W 737, p. 97
	1933	W 752, p. 98
	1934	W 767, p. 93
Mission Creek near St. Ignatius, Mont...	1906	W 214, p. 27
	1907-8	W 252, p. 101
	1909	W 272, p. 90
	1910	W 292, p. 94
	1911	W 312, p. 95
	1912	W 332, p. 95
	1913	W 362, p. 86
	1914	W 392, p. 74
	1915	W 412, p. 133
	1916	W 442, p. 95
	1917	W 462, p. 85
Moyie River at Eastport, Idaho.....	1929-30	W 707, p. 107
	1931	W 722, p. 99
	1932	W 737, p. 88
	1933	W 752, p. 89
	1934	W 767, p. 84
	1935	W 792, p. 87
	1936	W 812, p. 82
	1937	W 832, p. 84
	1938	W 862, p. 86
Moyie River at Eileen, Idaho.....	1926-27	W 652, p. 51
	1928	W 672, p. 53
	1929	W 692, p. 105
	1930	W 707, p. 109
	1931	W 722, p. 100
	1932	W 737, p. 89
	1933	W 752, p. 90
	1934	W 767, p. 85
	1935	W 792, p. 83
	1936	W 812, p. 83
	1937	W 832, p. 85
	1938	W 862, p. 87
Moyie River at Snyder, Idaho.....	1912	W 332, p. 57
	1913	W 362, p. 52
	1914	W 392, p. 47
	1915	W 412, p. 104
	1916	W 442, p. 66

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Moyie River at Snyder, Idaho--Continued.	1919-20	W 512, p. 109
	1921	W 532, p. 86
	1922	W 552, p. 87
	1923	W 572, p. 77
Mud Creek near Ronan, Mont. ....	1908	W 252, p. 100
	1909	W 272, p. 88
	1910	W 292, p. 92
Myrtle Creek near Bonners Ferry, Idaho..	1928	W 672, p. 63
	1929	W 692, p. 110
	1930	W 707, p. 114
	1931	W 722, p. 105
	1932	W 737, p. 94
	1933	W 752, p. 95
	1934	W 767, p. 90
Nevada Creek near Finn, Mont. ....	1934	W 767, p. 108
	1935	W 792, p. 102
	1936	W 812, p. 97
	1937	W 832, p. 99
	1938	W 862, p. 102
Parker Creek near Copeland, Idaho. ....	1928	W 672, p. 69
	1929	W 692, p. 116
	1930	W 707, p. 120
	1931	W 722, p. 111
	1932	W 737, p. 100
	1933	W 752, p. 101
	1934	W 767, p. 96
Post Creek at Deschamp's ranch, near Ronan, Mont.	1911	W 312, p. 98
Post Creek at Fitzpatrick's ranch near Ronan, Mont. (Above North Fork of Post Creek.)	1906	W 214, p. 28
	1907	W 252, p. 107
	1908	*W 252, p. 107; W 272, p. 94
	1909	W 272, p. 94
	1910	W 292, p. 97
	1911	W 312, p. 98
Post Creek near St. Ignatius, Mont. (Below North Fork of Post Creek.)	1912	W 332, p. 99
	1913	W 362, p. 90
	1914	W 392, p. 77
	1915	W 412, p. 136
	1916	W 442, p. 98
	1917	W 462, p. 87
Priest River at Falk's ranch near Priest River, Idaho.	1911	W 312, p. 120
	1912	W 332, p. 126
Priest River at outlet of Priest Lake near Coolin, Idaho.	1911	W 332, p. 125
	1912-13	W 362, p. 118
	1914	W 392, p. 97
	1915	W 412, p. 155
	1916	W 442, p. 117
	1917	W 462, p. 89
	1918-20	W 512, p. 135
	1921	W 532, p. 120
	1922	W 552, p. 119
	1923	W 572, p. 106
	1924	W 592, p. 99
	1925	W 612, p. 92
	1926	W 632, p. 91
	1927	W 652, p. 65
	1928	W 672, p. 90
	1929	W 692, p. 146
	1930	W 707, p. 150
	1931	W 722, p. 143
	1932	W 737, p. 131
	1933	W 752, p. 132
	1934	W 767, p. 126
	1935	W 792, p. 119
	1936	W 812, p. 114
	1937	W 832, p. 121
	1938	W 862, p. 125
Priest River at Priest River, Idaho. ....	1903-5	W 572, p. 108
	1911	W 312, p. 122
	1923	W 572, p. 108
	1929	W 692, p. 147
	1930	W 707, p. 151



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Priest River near Priest River, Idaho...	1931	W 722, p. 144
	1932	W 737, p. 132
	1933	W 752, p. 133
	1934	W 767, p. 127
	1935	W 792, p. 120
	1936	W 812, p. 115
	1937	W 832, p. 122
	1938	W 862, p. 126
Prospect Creek near Thompson Falls, Mont.	1911	W 312, p. 118
Racetrack Creek near Anaconda, Mont.....	1911	W 312, p. 63
	1912	W 332, p. 63
Ranch Creek near Quigley, Mont.....	1922	W 552, p. 98
	1923	W 572, p. 86
	1924	W 592, p. 87
	1925	W 612, p. 82
	1926	W 632, p. 82
	1927	W 652, p. 57
Rattlesnake Creek at Missoula, Mont.....	1899	21st A, pt. 4, p. 417; IW38, p. 364; IW 39, p. 454
Revais Creek near Dixon, Mont.....	1911	W 312, p. 115
	1912	W 332, p. 120
	1913	W 362, p. 114
	1914	W 392, p. 94
	1915	W 412, p. 152
	1916	W 442, p. 114
	1918	W 462, p. 76
	1919	W 512, p. 133
Rock Creek near Copeland, Idaho.....	1928	W 672, p. 67
	1929	W 692, p. 114
	1930	W 707, p. 118
	1931	W 722, p. 109
	1932	W 737, p. 98
	1933	W 752, p. 99
	1934	W 767, p. 94
Rock Creek near Quigley, Mont.....	1912	W 332, p. 66; W 362, p. 62
	1922	W 552, p. 97
	1923	W 572, p. 84
	1924	W 592, p. 85
	1925	W 612, p. 81
	1926	W 632, p. 80
	1927	W 652, p. 56
Rock Creek, East Fork of, near Philips- burg, Mont.	1935	W 792, p. 101
	1936	W 812, p. 96
	1937	W 832, p. 98
	1938	W 862, p. 101
Rock Creek, Middle Fork of, near Philipsburg, Mont.	1937-38	W 862, p. 100
St. Joe River at Avery, Idaho.....	1911-12	W 332, p. 131
	1913	W 362, p. 141
	1914	W 392, p. 114
	1915	W 412, p. 173
	1916	W 442, p. 132
	1917	W 462, p. 106
St. Joe River at Calder, Idaho.....	1920	W 512, p. 160
	1921	W 532, p. 144
	1922	W 552, p. 137
	1923	W 572, p. 130
	1924	W 592, p. 118
	1925	W 612, p. 107
	1926	W 632, p. 106
	1927	W 652, p. 75
	1928	W 672, p. 101
	1929	W 692, p. 157
	1930	W 707, p. 165
	1931	W 722, p. 159
	1932	W 737, p. 148
	1933	W 752, p. 147
	1934	W 767, p. 139
	1935	W 792, p. 131
	1936	W 812, p. 126
	1937	W 832, p. 135
	1938	W 862, p. 139

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St. Maries River at Lotus, Idaho.....	1911-12	W 332, p. 136
	1920	W 512, p. 161
	1921	W 532, p. 145
	1922	W 552, p. 139
	1923	W 572, p. 132
	1924	W 592, p. 120
	1925	W 612, p. 109
	1926	W 632, p. 109
	1927	W 652, p. 76
	1928	W 672, p. 102
	1929	W 692, p. 158
	1930	W 707, p. 166
	1931	W 722, p. 160
	1932	W 737, p. 149
	1933	W 752, p. 148
	1934	W 767, p. 140
	1935	W 792, p. 132
	1936	W 812, p. 127
	1937	W 832, p. 136
	1938	W 862, p. 140
St. Regis River near St. Regis, Mont...	1911	W 312, p. 73
	1912	W 332, p. 74
	1913	W 362, p. 66
	1914	W 392, p. 60
	1915	W 412, p. 117
	1916-17	W 462, p. 73
Skalkaho Creek near Hamilton, Mont.....	1920-21	W 532, p. 109
	1922	W 552, p. 104
	1923	W 572, p. 92
	1924	W 592, p. 89
Smith Creek near Port Hill, Idaho	1928	W 672, p. 71
	1929	W 692, p. 118
	1930	W 707, p. 122
	1931	W 722, p. 113
	1932	W 737, p. 102
	1933	W 752, p. 103
	1934	W 767, p. 98
	1935	W 792, p. 91
	1936	W 812, p. 86
	1937	W 832, p. 88
	1938	W 862, p. 90
Snow Creek near Moravia, Idaho.....	1928	W 672, p. 61
	1929	W 692, p. 108
	1930	W 707, p. 112
	1931	W 722, p. 103
	1932	W 737, p. 92
	1933	W 752, p. 93
	1934	W 767, p. 88
Spokane River at Post Falls, Idaho.....	1913	W 362, p. 131
	1914	W 392, p. 109
	1915	W 412, p. 167
	1916	W 442, p. 126
	1917	W 462, p. 101
	1918-19	W 512, p. 151
	1920	W 512, p. 151
	1921	W 532, p. 130
	1922	W 552, p. 131
	1923	W 572, p. 124
	1924	W 592, p. 112
	1925	W 612, p. 101
	1926	W 632, p. 101
	1927	W 652, p. 71
	1928	W 672, p. 96
	1929	W 692, p. 153
	1930	W 707, p. 161
	1931	W 722, p. 155
	1932	W 737, p. 144
	1933	W 752, p. 143
	1934	W 767, p. 136
	1935	W 792, p. 128
	1936	W 812, p. 123
	1937	W 832, p. 132
	1938	W 862, p. 136
Stillwater River near Kalispell, Mont..	1922	W 552, p. 114
	1928	W 672, p. 85
	1929	W 692, p. 141
	1930	W 707, p. 145
	1931	W 722, p. 136

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	1932	W 737, p. 124
	1933	W 752, p. 126
	1934	W 767, p. 120
	1935	W 792, p. 114
	1936	W 812, p. 108
	1937	W 832, p. 115
	1938	W 862, p. 119
Swan River near Big Fork, Mont.....	1922	W 552, p. 116
	1923	W 572, p. 103
	1924	W 592, p. 97
	1925	W 612, p. 88
	1926	W 632, p. 88
	1927	W 652, p. 63
	1928	W 672, p. 87
	1929	W 692, p. 143
	1930	W 707, p. 147
	1931	W 722, p. 140
	1932	W 737, p. 128
	1933	W 752, p. 130
	1934	W 767, p. 124
	1935	W 792, p. 117
	1936	W 812, p. 112
	1937	W 832, p. 119
	1938	W 862, p. 123
Thompson River near Thompson Falls, Mont.	1911	W 312, p. 116
Trout Creek near Copeland, Idaho.....	1928	W 672, p. 65
	1929	W 692, p. 112
	1930	W 707, p. 116
	1931	W 722, p. 107
	1932	W 737, p. 96
	1933	W 752, p. 97
	1934	W 767, p. 92
Valley Creek near Ravalli, Mont.....	1909	W 272, p. 112
	1910	W 292, p. 115
Whitefish Creek near Kalispell, Mont...	1906	W 214, p. 25
	1928	W 672, p. 86
	1929	W 692, p. 142
	1930	W 707, p. 146
	1931	W 722, p. 138
	1932	W 737, p. 126
	1933	W 752, p. 128
	1934	W 767, p. 122
	1935	W 792, p. 115
	1936	W 812, p. 110
	1937	W 832, p. 117
	1938	W 862, p. 121
Willow Creek at Anfinson Ranch, near Corvallis, Mont.	1938	W 862, p. 106
Willow Creek near Corvallis, Mont.....	1920	W 512, p. 121
	1921	W 532, p. 111
	1922	W 552, p. 106
	1923	W 572, p. 93
	1924	W 592, p. 90

## GAGING-STATION RECORDS

## KOOTENAI RIVER BASIN

Kootenai River at Newgate, British Columbia

(International gaging station)

Location.- Two staff gages, one on main river and one on slough, lat. 49°01', long. 115°10', at highway bridges, 0.7 mile northwest of Newgate, British Columbia, and 0.9 mile north of the international boundary.

Drainage area.- 7,660 square miles.

Records available.- October 1930 to September 1938.

Extremes.- Maximum discharge observed, 83,500 second-feet June 18, 1933; minimum, 994 second-feet Feb. 7, 1936.

Remarks.- Records give total flow of main channel and slough. No diversion or regulation. This station is one of the international gaging stations maintained by Canada under agreement with the United States.

## Monthly discharge of Kootenai River at Newgate, British Columbia

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1930-31</b>						
October.....	4,210	3,170	3,670	0.49	0.55	226,000
November.....	3,110	2,270	2,720	.36	.40	162,000
December.....	2,500	1,780	2,120	.28	.32	130,000
January.....	2,300	1,500	1,970	.26	.30	121,000
February.....	2,200	1,620	1,870	.24	.25	104,000
March.....	2,520	1,710	1,990	.26	.30	122,000
April.....	5,980	1,990	2,880	.38	.42	171,000
May.....	32,800	7,270	16,600	2.17	2.50	1,020,000
June.....	26,400	14,500	20,700	2.70	3.01	1,230,000
July.....	14,700	7,000	9,880	1.29	1.49	608,000
August.....	6,830	4,200	5,350	.70	.81	329,000
September.....	5,720	3,600	4,340	.57	.64	258,000
The year.....	32,800	1,500	6,190	.80	10.99	4,480,000
<b>1931-32</b>						
October.....	3,540	2,720	3,020	.39	.45	186,000
November.....	3,390	-	2,440	.32	.36	145,000
December.....	-	-	2,300	.30	.35	141,000
January.....	-	-	1,800	.23	.26	111,000
February.....	9,950	-	2,400	.31	.33	138,000
March.....	5,900	2,710	3,260	.43	.50	200,000
April.....	9,020	3,530	6,570	.86	.96	391,000
May.....	51,300	9,060	27,500	3.59	4.14	1,690,000
June.....	60,500	30,900	43,900	5.73	6.39	2,610,000
July.....	30,000	10,400	16,500	2.15	2.49	1,010,000
August.....	9,900	7,060	8,090	1.06	1.22	497,000
September.....	7,290	3,980	5,510	.69	.77	316,000
The year.....	60,500	-	10,300	1.34	18.22	7,435,000
<b>1932-33</b>						
October.....	4,920	3,690	4,190	.55	.63	258,000
November.....	4,920	3,410	4,080	.53	.59	243,000
December.....	5,180	1,200	2,530	.33	.38	156,000
January.....	3,260	1,790	2,610	.34	.39	160,000
February.....	2,470	1,600	2,190	.29	.30	122,000
March.....	2,760	2,160	2,360	.31	.36	145,000
April.....	19,300	2,720	5,910	.77	.86	352,000
May.....	45,300	13,100	22,400	2.92	3.37	1,580,000
June.....	93,500	28,000	49,900	6.51	7.26	2,970,000
July.....	39,200	13,800	25,300	3.30	3.80	1,550,000
August.....	13,800	8,630	10,400	1.36	1.57	641,000
September.....	11,000	6,350	7,550	.99	1.10	449,000
The year.....	83,500	1,200	11,600	1.61	20.61	8,426,000

## KOOTENAI RIVER BASIN

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Monthly discharge of Kootenai River at Newgate, British Columbia--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1933-34</b>						
October.....	18,900	5,640	8,200	1.07	1.23	504,000
November.....	11,900	5,710	7,580	.96	1.07	439,000
December.....	9,790	3,080	5,320	.69	.80	327,000
January.....	7,040	3,540	4,490	.59	.68	276,000
February.....	4,270	2,650	3,550	.46	.48	197,000
March.....	5,890	3,240	4,350	.57	.66	268,000
April.....	55,100	5,400	24,100	3.15	3.51	1,440,000
May.....	63,400	29,200	41,400	5.40	6.23	2,550,000
June.....	55,700	16,800	29,500	3.72	4.15	1,700,000
July.....	18,100	9,480	13,400	1.75	2.02	821,000
August.....	10,000	5,530	6,850	.89	1.03	421,000
September.....	5,550	3,560	4,480	.58	.65	267,000
The year.....	63,400	2,650	12,700	1.66	22.51	9,210,000
<b>1934-35</b>						
October.....	3,720	3,320	3,470	.45	.52	213,000
November.....	6,180	3,270	4,220	.55	.61	251,000
December.....	3,560	1,680	2,750	.36	.42	169,000
January.....	4,350	1,580	2,610	.34	.39	160,000
February.....	4,030	2,720	3,160	.41	.43	176,000
March.....	3,170	2,470	2,700	.35	.40	166,000
April.....	9,300	2,390	4,600	.60	.67	274,000
May.....	45,200	8,490	21,100	2.75	3.17	1,500,000
June.....	45,000	26,600	37,500	4.90	5.47	2,230,000
July.....	35,700	14,400	23,500	3.04	3.50	1,430,000
August.....	14,800	6,350	9,590	1.25	1.44	590,000
September.....	6,450	3,980	5,230	.68	.76	311,000
The year.....	45,200	1,580	10,000	1.31	17.78	7,270,000
<b>1935-36</b>						
October.....	3,970	2,660	3,590	.47	.54	221,000
November.....	3,090	2,050	2,760	.36	.40	164,000
December.....	2,570	1,980	2,270	.30	.35	140,000
January.....	2,350	1,380	1,990	.26	.30	122,000
February.....	1,970	994	1,540	.20	.22	88,400
March.....	2,670	1,820	2,210	.29	.33	136,000
April.....	18,200	1,770	8,660	1.13	1.26	515,000
May.....	48,400	13,700	26,600	3.47	4.00	1,640,000
June.....	49,100	13,000	22,000	2.87	3.20	1,310,000
July.....	12,400	6,580	9,530	1.22	1.41	574,000
August.....	6,530	4,210	5,470	.71	.82	336,000
September.....	4,850	3,170	3,880	.61	.67	231,000
The year.....	49,100	994	7,540	.98	13.34	5,480,000
<b>1936-37</b>						
October.....	3,310	2,460	2,880	.38	.44	177,000
November.....	2,340	1,660	2,100	.27	.30	125,000
December.....	2,740	1,340	1,910	.25	.29	117,000
January.....	1,880	1,160	1,570	.20	.23	96,700
February.....	1,790	1,520	1,700	.22	.23	94,700
March.....	2,000	1,550	1,760	.23	.26	108,000
April.....	5,850	2,040	3,010	.39	.44	179,000
May.....	37,100	6,510	18,500	2.39	2.76	1,120,000
June.....	37,800	16,400	26,400	3.45	3.85	1,570,000
July.....	24,900	8,700	13,900	1.81	2.09	854,000
August.....	9,040	5,110	6,930	.90	1.04	426,000
September.....	4,980	3,800	4,490	.59	.66	267,000
The year.....	37,800	1,160	7,100	.93	12.59	5,130,000
<b>1937-38</b>						
October.....	9,610	3,540	4,230	.55	.63	260,000
November.....	8,500	3,720	5,060	.66	.74	301,000
December.....	4,070	1,850	2,900	.38	.44	178,000
January.....	3,880	2,010	2,760	.36	.42	170,000
February.....	2,580	1,880	2,270	.30	.31	126,000
March.....	3,480	2,260	2,720	.36	.42	167,000
April.....	23,900	2,730	9,370	1.22	1.36	558,000
May.....	68,800	14,500	30,900	4.03	4.65	1,900,000
June.....	52,600	29,700	41,700	5.44	6.07	2,480,000
July.....	28,400	9,690	17,800	2.32	2.68	1,100,000
August.....	9,420	5,250	6,570	.86	.99	404,000
September.....	5,720	4,250	4,920	.64	.71	293,000
The year.....	68,800	1,850	11,000	1.44	19.42	7,940,000

## Yearly discharge of Kootenai River at Newgate, British Columbia

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1931.....	6,190	0.80	10.99	4,480,000	6,130	0.80	10.88	4,440,000
1932.....	10,300	1.34	18.22	7,440,000	10,500	1.37	18.66	7,620,000
1933.....	11,600	1.51	20.61	8,430,000	12,500	1.63	22.11	9,040,000
1934.....	12,700	1.66	22.51	9,210,000	11,800	1.54	20.96	8,570,000
1935.....	10,000	1.31	17.78	7,270,000	9,900	1.29	17.52	7,160,000
1936.....	7,540	.98	13.34	5,480,000	7,390	.96	13.14	5,370,000
1937.....	7,100	.93	12.59	5,130,000	7,540	.98	13.37	5,450,000
1938.....	11,000	1.44	19.42	7,940,000	10,700	1.40	19.01	7,770,000

## Kootenai River near Rexford, Mont.

(International gaging station)

Location.- Wire-weight gage, lat. 48°52', long. 110°14', in sec. 21, T. 36 N., R. 28 W., at highway bridge 300 feet downstream from Sullivan Creek and 1.1 miles southwest of Rexford.

Drainage area.- 8,420 square miles.

Records available.- March 1929 to September 1938.

Extremes.- Maximum discharge, 87,300 second-feet June 18, 1933 (gage height, 15.70 feet); minimum, 1,100 second-feet Feb. 7, 1936, when stage-discharge relation was affected by ice.

Remarks.- No diversion or regulation. This station is one of the international gaging stations maintained by Canada under agreement with the United States.

## Monthly discharge of Kootenai River near Rexford, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1929						
March 24-31 .....	4,160	2,890	3,300	0.392	0.12	52,400
April.....	8,580	2,750	3,700	.439	.49	220,000
May.....	45,700	7,050	17,700	2.10	2.42	1,090,000
June.....	52,900	18,600	34,100	4.05	4.52	2,030,000
July.....	19,600	8,850	13,200	1.57	1.81	812,000
August.....	9,130	5,490	7,160	.860	.98	440,000
September.....	6,350	3,820	4,710	.559	.62	280,000
The period.....	-	-	-	-	-	4,920,000
1929-30						
October.....	4,340	3,180	3,610	.429	.49	222,000
November.....	3,030	1,980	2,610	.310	.35	155,000
December.....	3,180	1,750	2,500	.297	.34	154,000
January.....	2,620	1,800	2,120	.252	.29	130,000
February.....	3,990	2,200	2,560	.304	.32	142,000
March.....	3,180	2,170	2,420	.287	.33	149,000
April.....	19,600	3,180	9,490	1.13	1.26	565,000
May.....	41,100	13,600	18,700	2.22	2.56	1,150,000
June.....	46,400	24,800	31,700	3.76	4.20	1,890,000
July.....	25,900	9,700	17,700	2.10	2.42	1,090,000
August.....	10,300	5,700	8,030	.954	1.10	494,000
September.....	5,910	4,340	5,230	.621	.69	311,000
The year.....	46,400	1,750	8,900	1.06	14.35	6,450,000

## Monthly discharge of Kootenai River near Rexford, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1930-31</b>						
October.....	4,410	3,380	3,860	0.468	0.53	237,000
November.....	3,460	2,600	3,020	.359	.40	180,000
December.....	2,800	1,590	2,310	.274	.32	142,000
January.....	2,420	1,630	2,160	.257	.30	133,000
February.....	2,360	1,800	2,090	.248	.26	116,000
March.....	2,800	2,040	2,270	.270	.31	140,000
April.....	5,910	2,300	3,110	.369	.41	185,000
May.....	34,700	7,290	17,600	2.09	2.41	1,080,000
June.....	27,100	15,600	21,800	2.59	2.89	1,300,000
July.....	15,600	7,540	10,800	1.28	1.48	664,000
August.....	7,540	4,600	5,810	.690	.80	357,000
September.....	6,350	3,790	4,620	.549	.61	275,000
The year.....	34,700	1,590	6,630	.787	10.72	4,810,000
<b>1931-32</b>						
October.....	3,790	3,000	3,290	.391	.45	202,000
November.....	3,790	1,560	2,700	.321	.36	161,000
December.....	2,930	1,580	2,440	.290	.33	150,000
January.....	2,480	1,280	1,940	.230	.27	119,000
February.....	10,600	1,580	2,590	.308	.35	149,000
March.....	7,790	3,080	3,680	.437	.50	226,000
April.....	10,300	3,460	7,270	.863	.96	435,000
May.....	52,100	9,980	25,800	3.42	3.94	1,770,000
June.....	61,400	28,300	45,400	5.39	6.01	2,700,000
July.....	31,700	12,000	17,700	2.10	2.42	1,090,000
August.....	11,300	7,650	9,060	1.08	1.24	557,000
September.....	8,110	4,570	6,040	.717	.80	359,000
The year.....	61,400	1,280	10,900	1.29	17.61	7,920,000
<b>1932-33</b>						
October.....	5,550	4,010	4,690	.557	.64	288,000
November.....	5,550	4,010	4,630	.550	.61	276,000
December.....	6,640	1,700	2,930	.348	.40	180,000
January.....	3,830	2,150	3,040	.361	.42	187,000
February.....	2,790	1,650	2,370	.281	.29	132,000
March.....	3,160	2,580	2,780	.330	.38	171,000
April.....	20,800	3,240	6,600	.772	.86	387,000
May.....	42,300	14,500	22,800	2.71	3.12	1,400,000
June.....	87,300	31,100	50,600	6.00	6.69	3,000,000
July.....	40,000	14,800	27,400	3.25	3.75	1,680,000
August.....	14,500	8,910	10,900	1.29	1.49	670,000
September.....	11,600	6,640	7,810	.928	1.04	465,000
The year.....	87,300	1,650	12,200	1.45	19.69	8,840,000
<b>1933-34</b>						
October.....	20,300	5,760	8,541	1.01	1.16	525,200
November.....	13,400	5,760	7,835	.931	1.04	466,200
December.....	10,400	3,400	5,627	.656	.76	339,800
January.....	7,850	4,010	5,023	.597	.69	308,800
February.....	4,660	2,720	3,860	.458	.48	214,400
March.....	6,640	3,650	4,913	.583	.67	302,100
April.....	55,000	6,190	24,600	2.91	3.25	1,458,000
May.....	64,000	31,200	42,040	4.99	5.75	2,585,000
June.....	59,900	18,300	30,050	3.57	3.98	1,788,000
July.....	19,300	9,930	14,070	1.67	1.93	865,100
August.....	10,800	5,690	7,306	.868	1.00	449,300
September.....	5,910	3,680	4,743	.563	.63	383,200
The year.....	64,000	2,720	13,240	1.57	21.34	9,584,000
<b>1934-35</b>						
October.....	3,960	3,340	3,581	.425	.49	220,200
November.....	6,580	3,340	4,580	.544	.61	272,500
December.....	3,690	1,850	2,893	.344	.40	177,900
January.....	6,000	1,700	2,926	.348	.40	179,900
February.....	4,300	2,740	3,321	.394	.41	184,400
March.....	3,670	2,540	2,956	.351	.40	181,700
April.....	10,200	2,540	5,086	.604	.67	302,700
May.....	46,700	9,660	21,720	2.58	2.97	1,355,000
June.....	46,700	28,400	38,850	4.61	5.14	2,312,000
July.....	35,000	15,000	23,850	2.83	3.26	1,466,000
August.....	15,000	6,760	9,892	1.17	1.35	608,200
September.....	6,760	4,290	5,461	.649	.72	325,000
The year.....	46,700	1,700	10,450	1.24	16.82	7,566,000

## Monthly discharge of Kootenai River near Rexford, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1935-36						
October.....	4,220	3,110	3,948	0.469	0.54	242,800
November.....	3,640	2,400	3,066	.364	.41	182,500
December.....	2,900	1,800	2,567	.305	.35	157,800
January.....	2,620	1,680	2,285	.271	.31	140,500
February.....	2,100	1,100	1,666	.198	.21	95,820
March.....	3,260	1,870	2,484	.295	.34	152,700
April.....	19,000	1,740	9,256	1.10	1.23	550,800
May.....	47,500	14,600	27,970	3.32	3.83	1,720,000
June.....	48,400	14,300	23,100	2.74	3.06	1,374,000
July.....	12,600	6,900	9,776	1.16	1.34	601,100
August.....	6,900	4,510	5,735	.681	.79	352,600
September.....	5,480	3,320	4,086	.485	.54	243,200
The year.....	48,400	1,100	8,009	.951	12.96	5,814,000
1936-37						
October.....	3,310	2,630	2,925	.347	.40	179,800
November.....	2,590	1,720	2,167	.257	.29	129,000
December.....	2,810	1,140	1,991	.236	.27	122,400
January.....	-	-	1,620	.192	.22	99,610
February.....	-	-	1,839	.218	.23	102,100
March.....	2,100	-	1,883	.224	.26	115,800
April.....	6,000	2,150	3,146	.374	.42	187,200
May.....	36,500	6,330	17,950	2.13	2.46	1,104,000
June.....	37,200	19,200	26,490	3.15	3.51	1,576,000
July.....	24,800	8,940	14,360	1.71	1.97	882,800
August.....	9,220	5,280	7,125	.846	.98	438,100
September.....	5,080	3,980	4,634	.550	.61	275,800
The year.....	37,200	1,140	7,200	.855	11.62	5,213,000
1937-38						
October.....	10,100	3,720	4,357	.517	.60	267,900
November.....	8,920	4,060	5,423	.644	.72	322,700
December.....	4,330	1,700	3,092	.367	.42	190,100
January.....	3,970	1,900	2,981	.354	.41	183,300
February.....	2,700	1,900	2,366	.281	.29	131,400
March.....	3,720	2,380	2,929	.348	.40	180,100
April.....	23,700	2,990	9,795	1.16	1.29	582,800
May.....	69,900	15,400	33,930	3.79	4.37	1,963,000
June.....	58,800	32,800	44,080	5.24	5.85	2,623,000
July.....	30,900	10,100	18,150	2.16	2.49	1,116,000
August.....	9,820	5,470	6,939	.824	.95	426,700
September.....	5,970	4,330	5,120	.608	.68	304,600
The year.....	69,900	1,700	11,450	1.36	18.47	8,292,000

## Yearly discharge of Kootenai River near Rexford, Mont.

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1930.....	8,900	1.06	14.35	6,450,000	8,950	1.06	14.42	6,480,000
1931.....	6,630	.787	10.72	4,810,000	6,580	.781	10.61	4,763,000
1932.....	10,900	1.29	17.61	7,920,000	11,220	1.33	18.12	8,147,000
1933.....	12,200	1.45	19.69	8,840,000	13,020	1.55	21.00	9,423,000
1934.....	13,240	1.57	21.34	9,584,000	12,320	1.46	19.88	8,924,000
1935.....	10,450	1.24	16.82	7,566,000	10,330	1.23	16.62	7,478,000
1936.....	8,009	.951	12.96	5,814,000	7,800	.926	12.61	5,662,000
1937.....	7,200	.855	11.62	5,213,000	7,683	.912	12.40	5,662,000
1938.....	11,450	1.36	18.47	8,292,000	-	-	-	-



## Kootenai River at Libby, Mont.

Location.- Water-stage recorder, lat.  $46^{\circ}24'$ , long.  $115^{\circ}33'$ , in NW $\frac{1}{4}$  sec. 3, T. 30 N., R. 31 W., 1,200 feet downstream from highway bridge at Libby. Prior to Apr. 28, 1931, chain gage at highway bridge at different datum.

Drainage area.- 10,240 square miles.

Records available.- October 1910 to September 1938

Extremes.- Maximum discharge, 130,000 second-feet June 21, 1916 (gage height, 19.17 feet); minimum, 895 second-feet Jan. 11, 1930 (discharge measurement, ice present).

Remarks.- No diversion or regulation.

## Monthly discharge of Kootenai River at Libby, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1910-11						
October 13-31.....	10,800	7,560	9,090	0.888	0.63	343,000
November.....	10,400	5,970	7,910	.772	.86	471,000
December 1-13.....	5,970	4,530	5,420	.529	.26	140,000
March 8-31.....	7,890	3,550	5,360	.523	.47	255,000
April.....	22,400	6,280	10,600	1.04	1.16	631,000
May.....	29,500	17,800	22,700	2.22	2.56	1,400,000
June.....	72,500	24,100	53,500	5.22	5.82	3,180,000
July.....	45,900	15,900	28,700	2.80	3.23	1,760,000
August.....	17,300	8,920	12,200	1.19	1.37	750,000
September.....	9,650	6,590	8,040	.785	.68	476,000
1911-12						
October.....	6,590	4,800	5,780	.564	.65	355,000
November 1-26.....	6,280	3,780	4,890	.478	.46	252,000
March.....	4,020	2,600	2,930	.286	.33	160,000
April.....	11,600	4,020	9,080	.887	.99	540,000
May.....	36,100	10,000	22,500	2.20	2.54	1,390,000
June.....	35,400	17,600	26,100	2.55	2.84	1,550,000
July.....	27,600	15,000	19,600	1.91	2.20	1,210,000
August.....	15,000	10,000	12,300	1.20	1.38	756,000
September.....	10,800	6,590	8,940	.873	.97	532,000
1912-13						
October.....	7,230	5,670	6,410	.626	.72	394,000
November.....	7,560	4,390	6,090	.595	.66	362,000
December.....	4,140	2,650	3,310	.323	.37	204,000
January.....	3,330	2,080	2,770	.271	.31	170,000
February.....	4,150	2,040	2,990	.292	.30	166,000
March.....	3,700	2,510	3,110	.304	.35	191,000
April.....	23,000	3,550	11,300	1.10	1.23	672,000
May.....	69,600	11,600	26,900	2.63	3.03	1,650,000
June.....	77,300	30,700	51,700	5.05	5.63	3,080,000
July.....	31,400	15,000	20,300	1.98	2.28	1,250,000
August.....	15,900	10,000	13,000	1.27	1.46	799,000
September.....	14,100	7,890	9,580	.936	1.04	570,000
The year.....	77,300	2,040	13,100	1.28	17.38	9,510,000
1913-14						
October.....	8,920	6,280	7,260	.709	.82	446,000
November.....	6,280	4,530	5,560	.543	.61	331,000
December.....	5,370	2,760	3,730	.364	.42	229,000
January.....	7,560	2,940	4,260	.416	.48	262,000
February.....	3,780	1,690	3,130	.306	.32	174,000
March.....	5,670	3,330	4,300	.420	.48	264,000
April.....	17,300	4,270	11,500	1.12	1.25	684,000
May.....	43,500	15,000	30,700	3.00	3.46	1,890,000
June.....	56,900	24,700	37,000	3.61	4.03	2,200,000
July.....	39,000	13,500	25,400	2.48	2.86	1,560,000
August.....	13,300	7,560	10,100	.986	1.14	621,000
September.....	9,280	6,280	7,360	.719	.80	438,000
The year.....	56,900	1,690	12,600	1.23	16.67	9,100,000
1914-15						
October.....	9,650	7,230	8,000	.781	.90	492,000
November.....	12,800	6,280	8,570	.837	.93	510,000
December.....	6,280	-	4,270	.417	.48	263,000
January.....	-	2,500	3,270	.319	.37	201,000
February.....	3,060	2,530	2,790	.272	.28	155,000
March.....	5,370	2,620	3,540	.346	.40	218,000
April.....	20,800	4,530	11,300	1.10	1.23	672,000
May.....	27,600	15,900	19,600	1.91	2.20	1,210,000
June.....	34,000	15,900	21,200	2.07	2.31	1,260,000
July.....	28,800	16,800	20,600	2.01	2.32	1,270,000
August.....	15,900	8,920	11,700	1.14	1.31	719,000
September.....	8,920	5,970	6,840	.668	.75	407,000
The year.....	34,000	-	10,200	.996	13.48	7,380,000

Monthly discharge of Kootenai River at Libby, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1915-16						
October.....	6,910	5,370	6,180	0.604	0.70	380,000
November.....	7,230	3,780	5,420	.529	.59	323,000
December.....	4,800	2,940	3,880	.379	.44	239,000
March 11-31.....	10,800	5,970	8,920	.871	.68	372,000
April.....	20,300	8,570	12,800	1.25	1.40	762,000
May.....	39,700	16,400	23,500	2.29	2.64	1,440,000
June.....	129,000	24,700	62,400	6.09	6.80	3,710,000
July.....	71,500	19,800	45,800	4.47	5.15	2,820,000
August.....	19,800	12,400	15,200	1.48	1.71	935,000
September.....	17,300	7,890	11,300	1.10	1.23	672,000
1916-17						
October.....	7,890	5,670	6,480	.633	.73	398,000
November.....	5,970	3,330	5,000	.488	.54	298,000
December 1-6.....	5,080	4,530	4,900	.479	.11	58,300
March 29-31.....	3,780	3,330	3,550	.347	.04	21,100
April.....	8,230	3,330	5,910	.577	.64	352,000
May.....	45,900	7,230	25,800	2.52	2.90	1,590,000
June.....	65,000	28,800	42,700	4.17	4.65	2,540,000
July.....	43,500	15,000	28,300	2.76	3.18	1,740,000
August.....	13,700	8,230	10,900	1.06	1.22	670,000
September.....	8,230	5,970	6,730	.657	.73	400,000
1917-18						
October.....	6,310	4,000	5,070	.495	.57	312,000
November.....	4,170	3,120	3,830	.374	.42	228,000
December.....	8,540	1,960	4,080	.398	.46	251,000
January.....	13,700	2,300	5,480	.535	.62	337,000
February.....	4,500	2,250	3,560	.348	.36	198,000
March.....	7,400	3,100	4,280	.418	.48	263,000
April.....	15,700	5,440	10,700	1.04	1.16	637,000
May.....	36,800	14,000	22,800	2.23	2.57	1,400,000
June.....	75,600	19,800	44,100	4.31	4.81	2,620,000
July.....	21,900	12,400	17,400	1.70	1.96	1,070,000
August.....	12,500	8,540	10,400	1.02	1.18	640,000
September.....	8,880	5,820	6,850	.669	.75	408,000
The year.....	75,600	1,960	11,600	1.13	15.34	8,360,000
1918-19						
October.....	8,470	5,430	6,350	.620	.71	390,000
November.....	5,670	3,040	4,660	.455	.51	277,000
December.....	5,050	2,880	3,900	.381	.44	240,000
February.....	4,560	2,160	3,430	.335	.35	190,000
March.....	5,490	2,580	3,600	.352	.41	221,000
April.....	30,400	6,340	11,800	1.15	1.28	702,000
May.....	79,800	14,300	35,700	3.49	4.02	2,200,000
June.....	56,100	27,000	37,600	3.67	4.10	2,240,000
July.....	28,700	11,200	17,900	1.75	2.02	1,100,000
August.....	16,800	7,630	10,600	1.04	1.20	652,000
September.....	8,500	5,140	6,330	.618	.69	377,000
1919-20						
October.....	5,020	2,490	4,130	.403	.46	254,000
November 1-15.....	3,780	2,300	3,240	.316	.18	96,400
March.....	4,400	2,820	3,380	.330	.38	208,000
April.....	8,990	3,000	5,400	.527	.59	321,000
May.....	26,600	7,490	17,200	1.68	1.94	1,060,000
June.....	52,900	14,300	35,000	3.42	3.82	2,080,000
July.....	60,500	17,900	36,200	3.54	4.08	2,300,000
August.....	18,200	7,990	12,400	1.21	1.40	762,000
September.....	12,100	7,070	8,860	.865	.97	527,000
1920-21						
October.....	10,800	7,090	8,820	.861	.99	542,000
January 12-31.....	5,250	2,720	3,790	.370	.28	150,000
February.....	8,780	2,840	4,620	.451	.47	257,000
March.....	7,400	4,070	5,310	.519	.60	326,000
April.....	16,300	5,340	10,600	1.04	1.16	631,000
May.....	69,500	10,500	35,200	3.44	3.97	2,160,000
June.....	72,900	35,600	49,700	4.85	5.41	2,960,000
July.....	35,400	16,000	21,600	2.11	2.43	1,330,000
August.....	15,900	7,330	10,560	1.03	1.19	646,000
September.....	7,230	5,140	5,880	.574	.64	350,000
1921-22						
October.....	6,160	4,910	5,360	.523	.60	330,000
November.....	6,090	2,210	4,880	.477	.53	290,000
December 1-17.....	12,200	3,730	5,920	.578	.37	200,000
March 15-31.....	3,620	2,780	3,200	.313	.20	108,000
April.....	8,460	2,880	5,040	.492	.55	300,000
May.....	42,600	8,740	23,800	2.32	2.68	1,460,000
June.....	69,200	22,500	41,300	4.03	4.50	2,460,000
July.....	23,600	9,610	14,600	1.43	1.65	898,000
August.....	9,730	7,070	8,510	.831	.96	523,000
September.....	7,430	4,750	6,000	.586	.65	357,000

Monthly discharge of Kootenai River at Libby, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1922-23						
October.....	5,880	3,690	4,400	0.430	0.50	271,000
November.....	5,170	2,880	3,610	.353	.39	215,000
March.....	4,720	2,510	2,930	.286	.33	180,000
April.....	18,400	4,750	9,040	.883	.99	538,000
May.....	41,200	12,500	27,500	2.69	3.10	1,690,000
June.....	71,300	38,800	50,100	4.89	5.46	2,980,000
July.....	37,300	12,900	21,200	2.07	2.39	1,300,000
August.....	12,400	7,630	9,350	.913	1.05	575,000
September.....	7,560	4,690	5,920	.578	.64	352,000
1923-24						
October.....	4,660	3,780	4,240	.414	.48	261,000
November.....	3,660	3,120	3,310	.323	.36	197,000
December 1-18.....	3,440	2,820	3,090	.302	.20	110,000
February 20-29.....	3,550	3,060	3,340	.326	.12	66,200
March.....	3,350	2,510	2,830	.276	.32	174,000
April.....	7,040	2,510	4,330	.423	.47	258,000
May.....	43,300	8,370	24,300	2.37	2.73	1,490,000
June.....	23,800	15,500	18,700	1.83	2.04	1,110,000
July.....	19,500	7,990	11,800	1.15	1.33	726,000
August.....	10,200	7,340	8,810	.860	.99	542,000
September.....	7,270	4,240	5,550	.542	.60	330,000
1924-25						
October.....	5,220	4,000	4,320	.422	.49	266,000
April 22-30.....	18,700	14,800	16,300	1.59	.53	291,000
May.....	76,800	17,000	42,700	4.17	4.81	2,630,000
June.....	45,100	28,500	36,300	3.54	3.95	2,160,000
July.....	32,000	11,200	17,300	1.68	1.95	1,060,000
August.....	11,600	6,590	9,170	.896	1.03	564,000
September.....	6,740	5,970	6,200	.605	.68	369,000
1925-26						
October.....	5,870	3,780	4,510	.440	.51	277,000
November.....	3,780	2,720	3,340	.326	.36	199,000
December.....	2,920	2,300	2,790	.272	.31	172,000
January.....	2,620	2,160	2,400	.234	.27	148,000
February.....	2,620	2,340	2,430	.237	.25	135,000
March.....	3,330	2,340	2,780	.271	.31	171,000
April.....	21,900	2,530	9,610	.938	1.05	572,000
May.....	25,800	10,900	15,200	1.48	1.71	935,000
June.....	15,900	9,650	12,300	1.20	1.34	732,000
July.....	13,300	5,970	9,180	.896	1.03	564,000
August 1-10.....	6,280	5,370	5,750	.562	.21	118,000
The period.....	-	-	-	-	-	4,020,000
1926-27						
October.....	18,500	6,400	9,450	.923	1.06	581,000
November 1-27.....	8,400	3,900	5,960	.582	.58	319,000
June.....	82,100	23,200	52,500	5.13	5.72	3,120,000
July 1-20.....	36,100	23,500	31,300	3.06	2.28	1,240,000
1927-28						
April.....	24,500	5,370	9,180	.896	1.00	546,000
May.....	70,200	15,400	46,800	4.57	5.27	2,880,000
June.....	42,300	27,000	32,700	3.19	3.56	1,950,000
July.....	42,300	14,400	25,400	2.48	2.86	1,560,000
August.....	14,000	6,600	9,240	.902	1.04	568,000
September.....	6,600	4,250	5,440	.531	.59	324,000
The period.....	-	-	-	-	-	7,830,000
1928-29						
October.....	14,900	4,250	6,360	.621	.72	391,000
November.....	4,600	3,330	3,910	.382	.43	233,000
December.....	3,750	2,440	2,940	.287	.33	181,000
January.....	3,000	2,300	2,460	.240	.28	151,000
February.....	3,150	2,300	2,730	.267	.28	152,000
March.....	4,780	2,160	2,970	.290	.33	183,000
April.....	11,300	2,620	4,190	.409	.46	249,000
May.....	52,800	9,200	21,200	2.07	2.39	1,300,000
June.....	56,800	20,300	37,900	3.70	4.13	2,280,000
July.....	20,800	9,580	14,500	1.42	1.64	892,000
August.....	9,970	5,960	7,810	.763	.88	480,000
September.....	6,960	4,090	5,050	.493	.55	301,000
The year.....	56,600	2,160	9,330	.911	12.42	6,770,000
1929-30						
October.....	4,690	3,160	3,740	.365	.42	230,000
November.....	3,770	1,700	2,500	.244	.27	149,000
December.....	3,800	-	2,820	.275	.32	173,000
January.....	-	1,800	2,420	.236	.27	149,000
February.....	-	-	3,080	.301	.31	171,000
March.....	5,000	-	2,930	.286	.33	180,000
April.....	23,000	4,690	12,500	1.22	1.36	744,000
May.....	43,000	16,000	21,100	2.06	2.38	1,300,000
June.....	50,700	26,000	35,200	3.44	3.84	2,090,000
July.....	25,500	10,800	18,000	1.85	2.13	1,160,000
August.....	10,800	6,290	8,650	.845	.97	532,000
September.....	6,290	4,690	5,550	.542	.60	330,000
The year.....	50,700	-	9,960	.973	13.20	7,210,000

## Monthly discharge of Kootenai River at Libby, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1930-31						
October.....	4,690	3,800	4,140	0.404	0.47	255,000
November.....	4,000	2,800	3,330	.325	.36	198,000
December.....	2,990	2,090	2,560	.250	.29	157,000
January.....	3,380	2,090	2,710	.265	.31	167,000
February.....	3,120	1,990	2,380	.232	.24	132,000
March.....	3,520	2,300	2,590	.253	.29	159,000
April.....	7,170	2,520	3,940	.385	.43	234,000
May.....	40,600	8,740	20,700	2.02	2.33	1,270,000
June.....	29,000	17,200	23,800	2.32	2.59	1,420,000
July.....	18,400	8,100	12,000	1.17	1.35	738,000
August.....	8,100	4,700	6,060	.592	.68	373,000
September.....	6,120	4,020	4,730	.462	.52	281,000
The year.....	40,600	1,990	7,430	.726	9.86	5,380,000
1931-32						
October.....	4,020	3,050	3,440	.336	.39	212,000
November.....	3,890	1,760	2,860	.279	.31	170,000
December.....	3,020	1,830	2,620	.256	.30	161,000
January.....	2,440	1,520	2,090	.204	.24	129,000
February.....	16,800	1,600	3,120	.305	.33	179,000
March.....	11,100	3,220	4,450	.435	.50	274,000
April.....	15,000	4,840	10,300	1.01	1.13	613,000
May.....	56,200	13,900	34,000	3.32	3.83	2,090,000
June.....	61,400	28,000	47,000	4.59	5.12	2,800,000
July.....	33,800	11,200	18,000	1.76	2.03	1,110,000
August.....	11,000	7,790	9,070	.886	1.02	558,000
September.....	8,100	5,120	6,170	.603	.67	367,000
The year.....	61,400	1,520	11,900	1.16	15.87	8,660,000
1932-33						
October.....	5,520	4,220	4,700	.459	.53	289,000
November.....	6,600	4,220	4,930	.481	.54	293,000
December.....	8,110	1,370	4,190	.409	.47	258,000
January.....	4,110	2,550	3,340	.326	.38	205,000
February.....	3,150	1,320	2,420	.236	.25	134,000
March.....	4,220	2,810	3,240	.316	.36	199,000
April.....	31,100	4,350	9,240	.902	1.01	550,000
May.....	48,000	17,900	28,400	2.77	3.19	1,750,000
June.....	80,000	37,100	54,400	5.51	5.92	3,240,000
July.....	41,800	15,900	28,400	2.77	3.19	1,750,000
August.....	14,800	9,260	11,100	1.08	1.24	682,000
The period.....	-	-	-	-	-	9,350,000
1933-34						
January 9-31.....	8,100	5,940	6,736	.658	.56	307,300
February.....	7,350	4,140	5,951	.581	.60	330,500
March.....	11,700	5,150	7,804	.762	.88	479,800
April.....	61,000	11,300	31,060	3.03	3.38	1,848,000
May.....	63,700	34,400	45,330	4.43	5.11	2,787,000
June.....	61,700	19,800	32,180	3.14	3.50	1,915,000
July.....	20,600	10,600	15,260	1.49	1.72	938,200
August.....	11,700	6,220	7,874	.769	.89	484,200
September.....	6,360	4,260	5,266	.514	.57	313,400
The period.....	-	-	-	-	-	9,403,000
1934-35						
October.....	5,940	3,780	4,293	.419	.48	264,000
November.....	10,600	4,500	6,193	.605	.68	368,500
December.....	4,500	-	3,590	.351	.40	220,700
January.....	7,060	1,800	3,700	.361	.42	227,600
February.....	6,220	3,540	4,469	.436	.45	248,200
March.....	5,020	3,080	3,874	.378	.44	238,200
April.....	16,100	3,420	7,698	.752	.84	458,100
May.....	51,800	14,600	27,090	2.65	3.06	1,668,000
June.....	46,900	29,200	40,210	3.93	4.38	2,393,000
July.....	36,000	17,300	25,380	2.48	2.86	1,560,000
August.....	16,100	7,060	10,830	1.06	1.22	665,700
September.....	7,060	4,500	5,812	.568	.63	345,800
The year.....	51,800	1,800	11,960	1.17	15.86	8,656,000

## Monthly discharge of Kootenai River at Libby, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1935-36</b>						
October.....	4,500	3,540	4,101	0.400	0.46	252,200
November.....	4,140	2,550	3,391	.331	.37	201,800
December.....	3,080	1,800	2,784	.272	.31	171,200
January.....	2,840	1,500	2,161	.211	.24	132,900
February.....	2,160	-	1,728	.169	.18	99,390
March.....	4,140	2,290	3,104	.303	.35	190,800
April.....	26,800	2,220	12,960	1.27	1.42	771,000
May.....	47,500	19,800	31,430	3.07	3.54	1,932,000
June.....	48,800	16,100	25,020	2.44	2.72	1,489,000
July.....	14,600	6,920	10,340	1.01	1.16	635,500
August.....	6,920	4,500	5,816	.568	.65	357,600
September.....	5,280	3,300	4,154	.406	.45	247,200
The year.....	48,800	-	8,927	.872	11.85	6,481,000
<b>1936-37</b>						
October.....	3,420	2,970	3,177	.310	.36	195,400
November.....	2,860	2,000	2,409	.235	.26	143,300
December.....	3,440	1,400	2,340	.229	.26	143,900
January.....	-	1,230	1,764	.172	.20	108,500
February.....	2,420	1,940	2,152	.210	.22	119,500
March.....	2,720	-	2,423	.237	.27	149,000
April.....	8,000	2,720	4,480	.438	.49	226,600
May.....	40,400	8,380	22,370	2.18	2.51	1,375,000
June.....	38,800	21,400	29,250	2.86	3.19	1,740,000
July.....	26,800	9,340	15,600	1.52	1.75	959,100
August.....	9,660	5,540	7,425	.725	.84	456,600
September.....	5,410	4,260	4,818	.471	.53	286,700
The year.....	40,400	1,230	8,211	.802	10.88	5,944,000
<b>1937-38</b>						
October.....	10,300	4,020	4,494	.439	.51	276,300
November.....	9,980	4,260	5,307	.567	.63	345,500
December.....	4,880	1,800	3,387	.330	.38	207,900
January.....	4,800	1,850	3,514	.343	.40	216,100
February.....	3,440	1,900	2,820	.275	.29	156,600
March.....	4,760	2,860	3,587	.350	.40	220,500
April.....	33,800	3,780	12,900	1.26	1.41	767,800
May.....	78,800	18,000	35,960	3.51	4.05	2,211,000
June.....	65,700	32,600	45,810	4.47	4.99	2,726,000
July.....	30,900	10,300	18,130	1.77	2.04	1,115,000
August.....	10,000	5,630	7,250	.708	.82	445,800
September.....	6,290	4,740	5,385	.526	.59	320,400
The year.....	78,800	1,800	12,440	1.21	16.51	9,009,000

## Yearly discharge of Kootenai River at Libby, Mont.

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1913.....	13,100	1.28	17.38	9,510,000	13,200	1.29	17.48	9,554,000
1914.....	12,600	1.23	16.67	9,100,000	12,900	1.26	17.13	9,358,000
1915.....	10,200	.996	13.48	7,380,000	9,740	.951	12.90	7,054,000
1918.....	11,600	1.13	15.34	8,360,000	11,700	1.14	15.55	8,480,000
1929.....	9,350	.911	12.42	6,770,000	9,010	.879	11.95	6,520,000
1930.....	9,960	.973	13.20	7,210,000	10,000	.977	13.31	7,266,000
1931.....	7,430	.726	9.86	5,380,000	7,340	.717	9.74	5,317,000
1932.....	11,900	1.16	15.87	8,660,000	12,300	1.21	16.41	8,960,000
1935.....	11,960	1.17	15.86	8,656,000	11,640	1.14	15.44	8,428,000
1936.....	8,927	.972	11.85	6,481,000	8,731	.953	11.59	6,338,000
1937.....	8,211	.802	10.88	5,944,000	8,690	.849	11.52	6,291,000
1938.....	12,440	1.21	16.51	9,009,000	-	-	-	-
Highest.....	13,100	1.28	17.38	9,510,000	13,200	1.29	17.48	9,554,000
Average.....	10,640	1.03	14.11	7,705,000	10,480	1.02	13.91	7,597,000
Lowest.....	7,430	.726	9.86	5,380,000	7,340	.717	9.74	5,317,000

## Kootenai River at Leonia, Idaho

Location.- Water-stage recorder, lat. 48°37', long. 116°03', in SW $\frac{1}{4}$  sec. 17, T. 33 N., R. 34 W., at Leonia, 450 feet east of Montana-Idaho State line and half a mile upstream from Boulder Creek. Datum of gage is 1,700.00 feet above mean sea level, U. S. Coast and Geodetic Survey datum.

Drainage area.- 11,740 square miles.

Records available.- March 1928 to September 1938.

Extremes.- Maximum discharge, 95,500 second-feet June 18, 1933 (elevation, 1,818.11 feet); minimum, 996 second-feet Dec. 9, 1936; minimum elevation, 1,797.56 feet Dec. 10, 1929.

Floods of June 1894 and 1916 reached elevations of 1,824.6 and 1,821.6 feet, respectively (information furnished by Great Northern Railway Co.).

Remarks.- No diversion or regulation above station.

## Monthly discharge of Kootenai River at Leonia, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1928						
March 25-31.....	13,800	9,810	11,400	0.971	0.25	158,000
April.....	32,800	8,180	12,700	1.08	1.20	755,000
May.....	76,700	21,100	54,600	4.65	5.36	3,360,000
June.....	48,100	29,600	35,400	3.02	3.37	2,110,000
July.....	44,000	16,900	27,400	2.33	2.69	1,680,000
August.....	16,200	7,660	10,400	.886	1.02	640,000
September.....	7,660	5,570	6,680	.569	.63	397,000
The period .....	-	-	-	-	-	9,100,000
1928-29						
October.....	15,200	5,780	7,280	.620	.71	448,000
November.....	6,000	4,520	5,130	.437	.49	305,000
December.....	4,520	-	3,620	.308	.36	223,000
January.....	-	-	2,900	.247	.28	178,000
February.....	-	-	3,120	.266	.28	173,000
March.....	6,660	-	3,860	.329	.38	237,000
April.....	16,100	3,910	6,240	.532	.59	371,000
May.....	59,000	13,000	26,800	2.28	2.63	1,650,000
June.....	59,700	21,600	40,000	3.41	3.80	2,380,000
July.....	21,600	9,410	14,400	1.23	1.42	885,000
August.....	9,670	6,190	7,810	.665	.77	480,000
September.....	6,660	4,210	5,190	.442	.49	309,000
The year.....	59,700	-	10,500	.894	12.20	7,640,000
1929-30						
October.....	4,740	3,830	4,130	.352	.41	254,000
November.....	3,740	2,350	3,090	.263	.29	184,000
December.....	4,090	2,000	3,220	.274	.32	198,000
January.....	3,540	2,250	2,730	.233	.27	168,000
February.....	5,600	2,900	3,540	.302	.31	197,000
March.....	6,420	3,270	3,820	.325	.37	235,000
April.....	28,700	6,420	15,700	1.34	1.50	934,000
May.....	42,500	18,100	23,600	2.01	2.32	1,450,000
June.....	55,700	28,200	38,200	3.25	3.63	2,270,000
July.....	27,000	11,200	19,800	1.69	1.95	1,220,000
August.....	10,900	6,670	8,840	.753	.87	544,000
September.....	6,440	5,040	5,900	.503	.56	351,000
The year.....	55,700	2,000	11,100	.945	12.80	8,000,000
1930-31						
October.....	5,040	4,160	4,620	.394	.45	284,000
November.....	4,540	3,260	3,760	.320	.36	224,000
December.....	3,340	2,150	2,860	.244	.28	176,000
January.....	3,710	2,050	2,850	.243	.28	175,000
February.....	3,520	2,450	2,870	.244	.25	159,000
March.....	5,140	2,700	3,490	.297	.34	214,000
April.....	10,100	3,970	5,810	.495	.55	346,000
May.....	46,000	12,600	24,900	2.12	2.44	1,530,000
June.....	31,100	17,900	25,000	2.13	2.38	1,490,000
July.....	18,600	8,160	11,900	1.01	1.16	731,000
August.....	7,920	5,080	6,280	.535	.62	386,000
September.....	6,550	4,500	5,120	.436	.49	305,000
The year.....	46,000	2,050	8,320	.708	9.60	6,020,000

Monthly discharge of Kootenai River at Leonia, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1931-32</b>						
October.....	4,400	3,480	3,870	0.330	0.38	238,000
November.....	4,780	1,950	3,390	.289	.32	202,000
December.....	3,300	2,000	2,880	.245	.28	177,000
January.....	2,920	1,900	2,600	.221	.25	160,000
February.....	20,000	1,980	3,840	.327	.35	221,000
March.....	15,100	4,570	6,420	.547	.63	395,000
April.....	20,300	8,170	14,900	1.27	1.42	887,000
May.....	68,300	18,500	42,900	3.65	4.21	2,640,000
June.....	70,400	32,800	53,100	4.52	5.04	3,160,000
July.....	36,800	12,700	19,900	1.70	1.96	1,220,000
August.....	12,500	8,520	9,760	.831	.96	600,000
September.....	8,620	5,040	6,550	.558	.62	390,000
The year.....	70,400	1,900	14,200	1.21	16.42	10,300,000
<b>1932-33</b>						
October.....	6,010	4,580	5,180	.441	.51	319,000
November.....	7,840	4,320	5,920	.504	.56	352,000
December.....	10,900	2,800	5,360	.457	.53	330,000
January.....	5,390	3,200	4,110	.350	.40	253,000
February.....	4,060	1,700	3,140	.267	.28	174,000
March.....	5,530	3,560	4,020	.342	.39	247,000
April.....	44,200	5,770	13,300	1.13	1.26	791,000
May.....	61,000	23,000	35,800	3.05	3.52	2,200,000
June.....	95,500	46,400	64,900	5.53	6.17	3,860,000
July.....	45,300	17,300	30,800	2.62	3.02	1,890,000
August.....	16,300	9,980	12,300	1.05	1.21	756,000
September.....	12,200	7,990	9,100	.775	.86	541,000
The year.....	95,500	1,700	16,200	1.38	18.71	11,700,000
<b>1933-34</b>						
October.....	24,300	7,370	10,120	.862	.99	622,100
November.....	21,000	8,310	11,280	.961	1.07	671,200
December.....	43,200	7,460	13,700	1.17	1.35	842,100
January.....	17,400	8,370	11,330	.965	1.11	696,500
February.....	10,200	5,810	8,304	.707	.74	461,200
March.....	16,100	6,790	10,390	.885	1.02	638,800
April.....	74,400	15,500	39,940	3.40	3.79	2,377,000
May.....	68,900	38,100	51,880	4.42	5.10	3,190,000
June.....	66,700	20,800	33,690	2.87	3.20	2,004,000
July.....	21,000	10,900	15,710	1.34	1.54	966,100
August.....	11,700	6,500	8,233	.701	.81	506,200
September.....	6,620	4,730	5,606	.478	.53	333,600
The year.....	74,400	4,730	18,380	1.57	21.25	13,310,000
<b>1934-35</b>						
October.....	6,940	4,170	4,728	.403	.46	290,700
November.....	20,400	4,760	8,447	.720	.80	502,600
December.....	5,660	2,200	4,412	.376	.43	271,300
January.....	14,400	1,900	5,107	.435	.50	314,000
February.....	8,600	4,630	5,916	.504	.52	328,500
March.....	6,640	4,250	5,162	.440	.51	317,400
April.....	21,700	4,520	10,470	.892	1.00	622,800
May.....	63,200	19,700	34,540	2.94	3.39	2,124,000
June.....	56,900	30,200	44,440	3.79	4.23	2,644,000
July.....	36,700	17,300	25,690	2.19	2.52	1,579,000
August.....	16,000	7,440	11,110	.946	1.09	662,800
September.....	7,440	4,980	6,245	.532	.59	371,600
The year.....	63,200	1,900	13,880	1.18	16.04	10,050,000
<b>1935-36</b>						
October.....	4,930	3,880	4,618	.393	.45	284,000
November.....	4,700	2,680	3,765	.321	.36	224,000
December.....	3,530	2,000	3,081	.262	.30	189,400
January.....	3,320	1,970	2,881	.245	.28	177,100
February.....	2,800	1,320	1,994	.170	.18	114,700
March.....	5,400	2,760	3,748	.319	.37	230,400
April.....	34,900	2,620	16,930	1.44	1.61	1,007,000
May.....	51,900	26,100	37,450	3.19	3.68	2,303,000
June.....	53,700	17,200	27,300	2.33	2.60	1,624,000
July.....	15,600	7,550	11,060	.942	1.09	680,300
August.....	7,480	5,090	6,373	.543	.63	391,900
September.....	5,840	3,990	4,744	.404	.45	282,300
The year.....	53,700	1,320	10,340	.881	12.00	7,508,000

## Monthly discharge of Kootenai River at Leonia, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1936-37</b>						
October.....	3,890	3,190	3,532	0.301	0.35	217,000
November.....	3,190	2,290	2,748	.234	.26	163,500
December.....	4,520	1,070	2,717	.231	.27	167,000
January.....	2,400	1,290	1,922	.164	.19	118,200
February.....	2,600	2,200	2,380	.203	.21	132,200
March.....	3,080	2,500	2,695	.230	.23	165,700
April.....	11,600	3,250	6,586	.561	.63	391,900
May.....	46,900	12,200	28,200	2.40	2.77	1,734,000
June.....	43,300	23,400	32,410	2.76	3.08	1,929,000
July.....	27,800	9,840	16,170	1.38	1.59	994,000
August.....	10,100	6,080	7,921	.675	.78	487,000
September.....	5,920	4,650	5,307	.452	.50	315,800
The year.....	46,900	1,070	9,414	.802	10.90	6,816,000
<b>1937-38</b>						
October.....	10,600	4,340	4,829	.411	.47	296,900
November.....	10,800	5,050	6,768	.576	.64	402,700
December.....	7,110	2,600	4,252	.362	.42	261,400
January.....	6,430	2,760	4,463	.380	.44	274,400
February.....	4,000	2,570	3,387	.289	.30	188,100
March.....	6,740	3,510	4,788	.408	.47	294,400
April.....	51,100	5,200	19,270	1.64	1.83	1,147,000
May.....	82,800	23,900	43,920	3.74	4.31	2,700,000
June.....	71,100	35,700	50,090	4.27	4.76	2,981,000
July.....	33,700	11,100	20,080	1.71	1.97	1,235,000
August.....	10,800	5,990	7,762	.661	.76	477,200
September.....	6,680	5,050	5,682	.484	.54	338,100
The year.....	82,800	2,570	14,636	1.25	16.91	10,600,000

## Yearly discharge of Kootenai River at Leonia, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1929.....	10,500	0.894	12.20	7,640,000	10,100	0.860	11.66	7,300,000
1930.....	11,100	.945	12.80	8,000,000	11,100	.945	12.87	8,050,000
1931.....	8,320	.708	9.60	6,020,000	8,220	.700	9.49	5,950,000
1932.....	14,200	1.21	16.42	10,300,000	14,700	1.25	17.04	10,700,000
1933.....	16,200	1.38	18.71	11,700,000	17,800	1.52	20.52	12,800,000
1934.....	18,380	1.57	21.25	13,310,000	16,900	1.44	19.53	12,240,000
1935.....	13,880	1.18	16.04	10,050,000	13,370	1.14	15.46	9,682,000
1936.....	10,340	.881	12.00	7,508,000	10,140	.864	11.77	7,358,000
1937.....	9,414	.802	10.90	6,816,000	9,985	.851	11.55	7,229,000
1938.....	14,640	1.25	16.91	10,600,000	14,320	1.22	16.55	10,370,000
Highest....	18,380	1.57	21.25	13,310,000	17,800	1.52	20.52	12,800,000
Average....	12,700	1.08	14.68	9,194,000	12,650	1.08	14.64	9,168,000
Lowest.....	8,320	.708	9.60	6,020,000	8,220	.700	9.49	5,950,000



## Kootenai River at Katka, Idaho

Location.- Staff gage, lat. 48°42', long. 116°08', in NE¼ sec. 25, T. 62 N., R. 2 E., at Katka, 3,000 feet downstream from Great Northern Railway station and 3½ miles above Moyle River. Zero of gage is 1,700.00 feet above mean sea level, United States Coast and Geodetic Survey datum.

Drainage area.- 11,860 square miles.

Records available.- April 1928 to September 1933 (discontinued).

Extremes.- Maximum discharge, 96,500 second-feet June 18, 1933; maximum water-surface elevation, 1,796.80 feet June 18, 1933; minimum discharge (estimated), 1,750 second-feet Feb. 10, 1933; minimum water-surface elevation, 1,773.74 feet Dec. 11, 1929.

Remarks.- Discharge measurements made 8 miles upstream. Estimated inflow added to the measured discharge to obtain flow at Katka. No diversions or regulation above station.

## Monthly discharge of Kootenai River at Katka, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1928						
April 2-30.....	33,600	8,240	12,900	1.09	1.18	742,000
May.....	77,800	21,200	55,400	4.67	5.38	3,410,000
June.....	49,500	30,300	36,300	3.06	3.41	2,160,000
July.....	44,800	16,200	27,900	2.35	2.71	1,720,000
August.....	15,900	7,990	10,700	.902	1.04	658,000
September.....	7,990	5,500	6,690	.564	.63	398,000
The period.....	-	-	-	-	-	9,090,000
1928-29						
October.....	15,600	5,380	7,660	.646	.74	471,000
November.....	6,300	4,590	5,210	.439	.49	310,000
December.....	-	-	3,700	.312	.36	228,000
January.....	-	-	2,940	.248	.29	181,000
February.....	-	-	3,150	.266	.28	175,000
March.....	7,260	-	3,960	.334	.39	243,000
April.....	16,200	4,150	6,490	.547	.61	386,000
May.....	58,800	13,300	26,500	2.23	2.57	1,630,000
June.....	59,800	21,900	39,900	3.36	3.75	2,370,000
July.....	22,200	9,490	14,800	1.25	1.44	910,000
August.....	9,750	5,960	7,710	.650	.75	474,000
September.....	6,540	4,480	5,180	.437	.49	308,000
The year.....	59,800	-	10,600	.894	12.16	7,690,000
1929-30						
October.....	4,810	3,830	4,190	.353	.41	258,000
November.....	3,720	2,380	3,120	.263	.29	186,000
December.....	4,130	2,020	3,270	.276	.32	201,000
January.....	3,570	2,280	2,760	.233	.27	170,000
February.....	5,800	2,950	3,620	.305	.32	201,000
March.....	6,620	3,330	3,980	.327	.38	239,000
April.....	29,100	6,620	16,100	1.36	1.52	958,000
May.....	42,400	18,700	23,900	2.02	2.33	1,470,000
June.....	55,900	27,900	38,000	3.20	3.57	2,260,000
July.....	27,100	11,100	19,800	1.67	1.92	1,220,000
August.....	11,100	6,380	8,830	.745	.86	543,000
September.....	6,380	4,970	5,780	.487	.54	344,000
The year.....	55,900	2,020	11,100	.936	12.73	8,050,000
1930-31						
October.....	5,120	4,250	4,670	.394	.45	287,000
November.....	4,430	3,310	3,800	.320	.36	226,000
December.....	3,450	2,170	2,880	.243	.28	177,000
January.....	3,730	2,070	2,890	.244	.28	178,000
February.....	3,550	2,480	2,920	.246	.26	162,000
March.....	5,160	2,760	3,660	.300	.35	219,000
April.....	10,600	4,120	6,070	.512	.57	361,000
May.....	46,200	13,200	24,900	2.10	2.42	1,630,000
June.....	30,800	18,200	24,800	2.09	2.33	1,480,000
July.....	19,200	8,260	12,100	1.02	1.18	744,000
August.....	8,010	5,090	6,520	.533	.61	389,000
September.....	6,780	4,470	5,130	.433	.48	305,000
The year.....	46,200	2,070	8,360	.705	9.57	6,060,000

## Monthly discharge of Kootenai River at Katka, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1931-32</b>						
October.....	4,430	3,560	3,930	0.331	0.38	242,000
November.....	4,370	1,980	3,490	.293	.33	207,000
December.....	3,330	2,030	2,910	.245	.28	179,000
January.....	2,950	1,930	2,630	.222	.26	162,000
February.....	20,500	2,010	3,980	.336	.36	229,000
March.....	15,300	4,670	6,530	.551	.64	402,000
April.....	21,100	8,460	15,400	1.30	1.45	916,000
May.....	68,500	19,100	43,400	3.66	4.22	2,670,000
June.....	70,300	33,400	53,600	4.52	5.04	3,190,000
July.....	37,200	12,900	20,100	1.69	1.95	1,240,000
August.....	12,700	8,590	9,830	.829	.96	604,000
September.....	8,740	5,020	6,570	.554	.62	391,000
The year.....	70,300	1,930	14,400	1.21	16.49	10,400,000
<b>1932-33</b>						
October.....	6,110	4,470	5,150	.434	.50	317,000
November.....	8,260	4,730	6,170	.520	.58	367,000
December.....	11,500	2,850	5,520	.465	.54	339,000
January.....	5,550	3,250	4,190	.353	.41	258,000
February.....	4,100	1,750	3,180	.268	.28	177,000
March.....	5,650	3,600	4,120	.347	.40	253,000
April.....	45,700	5,920	13,400	1.13	1.26	797,000
May.....	60,800	23,800	36,600	3.09	3.56	2,250,000
June.....	95,300	46,900	65,400	5.51	6.15	3,890,000
July.....	46,000	17,700	31,000	2.61	3.01	1,910,000
August.....	16,800	10,100	12,500	1.05	1.21	769,000
September.....	12,500	8,120	9,100	.767	.86	541,000
The year.....	95,300	1,750	16,400	1.38	18.76	11,900,000

## Yearly discharge of Kootenai River at Katka, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1929.....	10,600	0.894	12.16	7,690,000	10,100	0.852	11.59	7,320,000
1930.....	11,100	.936	12.73	8,050,000	11,200	.944	12.80	8,100,000
1931.....	8,360	.705	9.57	6,060,000	8,270	.697	9.47	6,000,000
1932.....	14,400	1.21	16.49	10,400,000	14,900	1.26	17.12	10,800,000
1933.....	16,400	1.38	18.76	11,900,000	-	-	-	-

## Kootenai River at Bonners Ferry, Idaho

Location.- Wire gage, lat. 48°42'00", long. 116°18'45", in NE¼ sec. 27, T. 62 N., R. 1 E., on highway bridge at Bonners Ferry. Zero of gage is 1,743.005 feet above mean sea level (U. S. Coast and Geodetic Survey datum).

Drainage area.- 13,000 square miles.

Records available.- October 1927 to September 1938; gage heights only prior to April 1928. May to October 1904, gage heights from point three-quarters of a mile downstream. Gage heights collected by U. S. Weather Bureau May 1904 to September 1927.

Extremes.- Maximum discharge, 99,800 second-foot June 18, 1933; maximum water-surface elevation, 1,774.98 feet June 19, 1933; minimum daily discharge, 1,300 second-foot Feb. 8, 1936; minimum water-surface elevation, 1,741.14 feet Dec. 5, 1929.

Maximum water-surface elevation known, 1,777.2 feet sometime in June 1894.

Remarks.- No artificial regulation or diversion above station. Stage-discharge relation affected by backwater from Kootenay Lake.

## Monthly discharge of Kootenai River at Bonners Ferry, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1928						
April 2-30.....	36,600	9,060	14,200	1.09	1.18	817,000
May.....	82,800	23,300	60,000	4.52	5.53	3,690,000
June.....	52,600	31,200	37,700	2.90	3.24	2,240,000
July.....	45,900	16,600	28,700	2.21	2.55	1,760,000
August.....	16,500	8,190	11,000	.846	.98	676,000
September.....	8,170	5,630	6,840	.526	.59	407,000
The period.....	-	-	-	-	-	9,590,000
1928-29						
October.....	15,900	5,520	7,900	.608	.70	486,000
November.....	6,550	4,760	5,410	.416	.46	322,000
December.....	4,750	2,840	3,840	.295	.34	236,000
January.....	3,700	2,590	3,030	.233	.27	186,000
February.....	3,600	2,900	3,260	.251	.26	181,000
March.....	7,700	2,820	4,150	.319	.37	255,000
April.....	17,800	4,420	7,060	.543	.61	420,000
May.....	62,700	14,600	29,000	2.23	2.57	1,780,000
June.....	62,200	23,000	41,800	3.22	3.59	2,490,000
July.....	22,900	9,670	15,200	1.17	1.35	935,000
August.....	9,930	6,060	7,840	.603	.70	482,000
September.....	6,660	4,580	5,290	.407	.45	315,000
The year.....	62,700	2,590	11,200	.862	11.67	8,090,000
1929-30						
October.....	4,910	3,940	4,300	.331	.38	264,000
November.....	3,820	2,470	3,220	.248	.28	192,000
December.....	4,250	2,090	3,370	.259	.30	207,000
January.....	3,680	2,380	2,840	.218	.25	175,000
February.....	6,040	3,050	3,750	.288	.30	208,000
March.....	7,290	3,490	4,150	.319	.37	255,000
April.....	32,500	7,270	18,000	1.38	1.54	1,070,000
May.....	46,000	20,400	26,100	2.01	2.32	1,600,000
June.....	59,200	28,800	39,600	3.05	3.40	2,360,000
July.....	27,800	11,300	20,200	1.55	1.79	1,240,000
August.....	11,500	6,490	8,990	.692	.80	553,000
September.....	6,490	5,090	5,890	.453	.51	350,000
The year.....	59,200	2,090	11,700	.900	12.24	8,470,000
1930-31						
October.....	5,250	4,380	4,800	.369	.43	295,000
November.....	4,590	3,440	3,930	.302	.34	234,000
December.....	3,580	2,260	2,990	.230	.27	184,000
January.....	3,920	2,160	3,010	.232	.27	185,000
February.....	3,560	2,600	3,080	.237	.25	171,000
March.....	5,680	2,900	3,840	.295	.34	236,000
April.....	12,300	4,480	6,610	.524	.58	405,000
May.....	49,400	15,200	27,100	2.08	2.40	1,670,000
June.....	31,900	18,700	25,500	1.96	2.19	1,520,000
July.....	19,600	8,400	12,300	.946	1.09	756,000
August.....	8,150	5,170	6,420	.494	.57	395,000
September.....	6,880	4,560	5,220	.402	.45	311,000
The year.....	49,400	2,160	8,780	.675	9.18	6,360,000

## Monthly discharge of Kootenai River at Bonners Ferry, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1931-32						
October.....	4,510	3,640	4,020	0.309	0.36	247,000
November.....	5,030	2,100	3,620	.278	.31	215,000
December.....	3,450	2,150	3,040	.234	.27	187,000
January.....	3,080	2,080	2,780	.214	.25	171,000
February.....	21,600	2,160	4,280	.329	.35	246,000
March.....	16,100	5,000	7,010	.539	.62	431,000
April.....	23,600	9,410	17,300	1.33	1.48	1,030,000
May.....	74,700	21,400	47,800	3.68	4.24	2,940,000
June.....	73,700	36,500	56,200	4.32	4.82	3,340,000
July.....	38,100	13,100	20,600	1.58	1.82	1,270,000
August.....	12,900	8,720	9,970	.767	.88	613,000
September.....	8,870	5,120	6,680	.514	.57	397,000
The year.....	74,700	2,080	15,300	1.18	15.97	11,100,000
1932-33						
October.....	6,090	4,500	5,260	.405	.47	323,000
November.....	8,900	4,970	6,500	.500	.56	387,000
December.....	12,500	3,270	6,000	.462	.53	369,000
January.....	5,920	3,540	4,500	.346	.40	277,000
February.....	4,340	1,930	3,390	.261	.27	188,000
March.....	6,620	3,810	4,460	.343	.40	274,000
April.....	50,000	6,760	15,200	1.17	1.30	904,000
May.....	67,900	26,500	40,700	3.13	3.61	2,500,000
June.....	99,800	50,900	70,400	5.42	6.05	4,190,000
July.....	47,900	15,600	33,200	2.55	2.94	2,040,000
August.....	15,600	9,890	12,600	.969	1.12	775,000
September.....	12,600	8,180	9,220	.709	.79	549,070
The year.....	99,800	1,930	17,700	1.36	18.44	12,800,000
1933-34						
October.....	26,800	7,340	10,470	.805	.93	643,800
November.....	25,100	9,940	12,210	.939	1.05	726,500
December.....	47,000	7,930	14,210	1.15	1.33	916,900
January.....	19,000	9,180	12,460	.958	1.10	766,200
February.....	11,200	6,500	9,195	.707	.74	510,600
March.....	18,100	7,340	11,690	.899	1.04	713,500
April.....	87,800	17,700	44,890	3.46	3.86	2,677,000
May.....	75,900	41,000	58,450	4.34	5.00	3,471,000
June.....	70,200	21,600	36,080	2.78	3.10	2,148,000
July.....	21,800	11,100	16,400	1.26	1.45	1,001,000
August.....	12,300	6,640	8,420	.648	.75	517,700
September.....	6,640	4,620	5,581	.429	.48	332,100
The year.....	87,800	4,620	19,940	1.53	20.83	14,440,000
1934-35						
October.....	7,690	4,180	4,860	.374	.43	298,800
November.....	19,700	5,040	8,865	.682	.76	527,400
December.....	6,130	2,650	4,761	.366	.42	292,700
January.....	15,000	2,000	5,554	.427	.49	341,500
February.....	9,600	5,020	6,480	.498	.52	359,900
March.....	7,510	4,500	5,647	.434	.50	347,200
April.....	24,400	5,020	11,850	.912	1.02	705,200
May.....	69,000	22,800	39,110	3.01	3.47	2,405,000
June.....	61,200	35,200	49,160	3.78	4.22	2,925,000
July.....	40,500	17,800	27,680	2.13	2.46	1,702,000
August.....	16,600	7,800	11,540	.888	1.02	709,500
September.....	7,750	5,170	6,510	.501	.56	387,400
The year.....	69,000	2,000	15,200	1.17	15.87	11,000,000
1935-36						
October.....	5,160	4,020	4,783	.368	.42	294,100
November.....	4,900	2,800	3,912	.301	.34	232,800
December.....	3,630	2,200	3,224	.248	.29	198,200
January.....	3,450	2,100	2,999	.231	.27	184,400
February.....	3,000	1,300	2,086	.160	.17	120,000
March.....	5,650	2,960	4,013	.309	.36	246,800
April.....	41,200	2,790	19,690	1.51	1.68	1,172,000
May.....	55,700	29,100	41,260	3.17	3.66	2,537,000
June.....	55,700	17,500	28,750	2.21	2.47	1,711,000
July.....	16,000	7,800	11,280	.868	1.00	693,700
August.....	7,690	5,190	6,556	.504	.58	403,100
September.....	6,080	3,970	4,863	.374	.42	289,400
The year.....	55,700	1,300	11,130	.856	11.66	8,082,000

Monthly discharge of Kootenai River at Bonners Ferry, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1936-37</b>						
October.....	4,020	3,280	3,643	0.280	0.32	224,000
November.....	3,280	2,220	2,825	.217	.24	168,100
December.....	5,030	1,440	2,995	.230	.27	184,200
January.....	2,500	1,400	2,026	.156	.18	124,600
February.....	2,700	2,300	2,482	.191	.20	137,900
March.....	3,580	2,600	2,847	.219	.25	175,100
April.....	12,700	5,610	7,459	.574	.64	443,800
May.....	52,500	15,300	31,880	2.45	2.82	1,960,000
June.....	47,900	25,900	36,790	2.83	3.16	2,189,000
July.....	50,200	10,200	17,500	1.33	1.53	1,064,000
August.....	10,500	6,250	8,203	.631	.73	504,400
September.....	6,090	4,760	5,437	.418	.47	325,500
The year.....	52,500	1,400	10,560	.797	10.81	7,499,000
<b>1937-38</b>						
October.....	10,400	4,440	4,983	.383	.44	306,400
November.....	11,200	5,550	7,428	.571	.64	442,000
December.....	8,230	3,100	4,781	.368	.42	294,000
January.....	7,500	3,370	5,047	.388	.45	310,300
February.....	4,590	2,800	3,780	.291	.30	209,900
March.....	8,050	3,660	5,443	.419	.48	334,700
April.....	56,000	5,980	22,130	1.70	1.90	1,317,000
May.....	89,800	27,300	48,950	3.77	4.35	3,010,000
June.....	78,100	38,900	54,060	4.16	4.64	3,217,000
July.....	56,900	11,400	21,370	1.64	1.89	1,314,000
August.....	11,100	6,080	7,926	.610	.70	487,400
September.....	6,850	5,130	5,808	.447	.50	345,600
The year.....	89,800	2,800	16,010	1.23	16.71	11,590,000

Yearly discharge of Kootenai River at Bonners Ferry, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1929.....	11,200	0.862	11.67	8,090,000	10,600	0.815	11.13	7,710,000
1930.....	11,700	.900	12.24	8,470,000	11,800	.908	12.32	8,520,000
1931.....	8,780	.675	9.18	6,360,000	8,700	.669	9.08	6,300,000
1932.....	15,300	1.18	15.97	11,100,000	15,900	1.22	16.59	11,500,000
1933.....	17,700	1.36	18.44	12,800,000	19,300	1.48	20.19	14,000,000
1934.....	19,940	1.53	20.83	14,440,000	18,330	1.41	19.13	13,270,000
1935.....	15,200	1.17	15.87	11,000,000	14,650	1.13	15.31	10,610,000
1936.....	11,130	.856	11.66	8,082,000	10,930	.841	11.44	7,934,000
1937.....	10,360	.797	10.81	7,499,000	11,000	.846	11.48	7,965,000
1938.....	16,010	1.23	16.71	11,590,000	15,620	1.20	16.30	11,310,000
Highest....	19,940	1.53	20.83	14,440,000	19,300	1.48	20.19	14,000,000
Average....	13,730	1.06	14.34	9,943,000	13,680	1.05	14.30	9,912,000
Lowest.....	8,780	.675	9.18	6,360,000	8,700	.669	9.08	6,300,000

## Kootenai River near Copeland, Idaho

(International gaging station)

Location.- Water-stage recorder, lat. 48°54'45", long. 116°25'00", in NW¼ sec. 12, T. 64 N., R. 1 W., at Andrews Ranch, three-quarters of a mile below Mission Creek and 1½ miles northwest of Copeland. Zero of gage is 1,700.00 feet above mean sea level (U. S. Coast and Geodetic Survey datum).

Drainage area.- 13,400 square miles.

Records available.- October 1927 to May 1929 (gage heights only), May 1929 to September 1938 (discharge records). Gage-height records collected by Dominion Water and Power Bureau, Department of Mines and Resources, Canada, April 1925 to September 1927.

Extremes.- Maximum daily discharge, 90,500 second-feet June 19, 1933; maximum water-surface elevation, 1,767.98 feet June 20, 1933; minimum daily discharge, 1,350 second-feet Feb. 8, 1936; minimum water-surface elevation, 1,739.59 feet Jan. 25, 1930.

Remarks.- Stage-discharge relation affected by backwater from Kootenay Lake. This is one of the international gaging stations maintained by the United States under agreement with Canada.

## Monthly discharge of Kootenai River near Copeland, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1929</b>						
May.....	58,100	13,600	28,700	2.14	2.47	1,760,000
June.....	58,400	25,400	43,700	3.26	3.64	2,600,000
July.....	25,000	10,400	16,000	1.19	1.37	984,000
August.....	10,400	6,180	8,100	.604	.70	498,000
September.....	6,500	4,330	5,180	.387	.43	308,000
The period.....	-	-	-	-	-	6,150,000
<b>1929-30</b>						
October.....	4,980	4,020	4,370	.326	.38	269,000
November.....	3,890	2,500	3,290	.246	.27	196,000
December.....	4,310	2,210	3,420	.255	.29	210,000
January.....	3,710	2,460	2,900	.216	.25	178,000
February.....	6,000	3,040	3,790	.283	.29	210,000
March.....	7,070	3,570	4,200	.313	.36	258,000
April.....	33,300	7,650	18,500	1.38	1.54	1,100,000
May.....	44,300	21,500	26,800	2.00	2.31	1,650,000
June.....	60,200	29,300	40,300	3.01	3.36	2,400,000
July.....	28,400	11,800	20,600	1.54	1.78	1,270,000
August.....	11,300	6,660	9,120	.681	.79	561,000
September.....	6,590	5,180	5,990	.447	.50	356,000
The year.....	60,200	2,210	12,000	.896	12.12	8,660,000
<b>1930-31</b>						
October.....	5,360	4,430	4,870	.363	.42	299,000
November.....	4,680	3,540	3,990	.298	.33	237,000
December.....	3,580	2,300	3,030	.226	.26	186,000
January.....	4,200	2,200	3,100	.231	.27	191,000
February.....	3,810	2,720	3,220	.240	.25	179,000
March.....	6,070	3,050	4,000	.299	.34	246,000
April.....	11,800	4,740	7,040	.525	.59	419,000
May.....	50,000	14,500	28,100	2.10	2.42	1,730,000
June.....	32,400	18,900	26,200	1.96	2.19	1,560,000
July.....	20,400	8,680	12,600	.940	1.08	775,000
August.....	8,300	5,300	6,500	.485	.56	400,000
September.....	7,000	4,640	5,310	.396	.44	316,000
The year.....	50,000	2,200	9,020	.673	9.15	6,540,000
<b>1931-32</b>						
October.....	4,560	3,680	4,060	.303	.35	250,000
November.....	4,980	2,140	3,650	.272	.30	217,000
December.....	3,440	2,190	3,040	.227	.26	187,000
January.....	3,100	2,170	2,810	.210	.24	175,000
February.....	22,700	2,210	4,440	.331	.36	255,000
March.....	17,200	5,270	7,540	.563	.65	464,000
April.....	25,400	10,400	18,900	1.40	1.56	1,120,000
May.....	74,500	23,000	49,100	3.66	4.22	3,020,000
June.....	73,500	37,100	57,100	4.26	4.75	3,400,000
July.....	38,700	13,000	21,300	1.59	1.83	1,310,000
August.....	12,900	8,800	10,100	.754	.87	621,000
September.....	8,880	5,180	6,770	.505	.56	403,000
The year.....	74,500	2,140	15,700	1.17	15.95	11,400,000

Monthly discharge of Kootenai River near Copeland, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1932-33</b>						
October.....	6,310	4,490	5,290	0.395	0.46	325,000
November.....	9,410	5,030	6,690	.499	.56	398,000
December.....	12,900	3,470	6,250	.466	.54	384,000
January.....	6,210	3,720	4,680	.349	.40	288,000
February.....	4,500	1,990	3,490	.260	.27	194,000
March.....	6,980	3,940	4,610	.344	.40	283,000
April.....	50,700	7,280	15,800	1.18	1.32	940,000
May.....	69,000	28,800	43,300	3.23	3.72	2,660,000
June.....	90,500	51,700	70,800	5.28	5.89	4,210,000
July.....	50,300	18,600	34,100	2.54	2.93	2,100,000
August.....	17,900	9,940	12,700	.948	1.09	781,000
September.....	12,800	7,950	9,110	.680	.76	542,000
The year.....	90,500	1,990	18,100	1.35	18.34	13,100,000
<b>1933-34</b>						
October.....	24,300	7,550	10,140	.757	.87	623,600
November.....	22,300	9,630	12,740	.951	1.06	757,800
December.....	43,300	8,460	15,470	1.15	1.33	950,900
January.....	20,500	10,200	13,580	1.01	1.16	835,200
February.....	11,800	7,300	9,872	.737	.77	548,300
March.....	18,800	8,150	12,230	.913	1.05	751,800
April.....	86,000	19,200	46,110	3.44	3.84	2,744,000
May.....	75,500	46,100	59,190	4.42	5.10	3,640,000
June.....	71,700	23,000	38,310	2.86	3.19	2,279,000
July.....	22,500	11,500	16,390	1.22	1.41	1,008,000
August.....	12,000	6,570	8,356	.624	.72	513,800
September.....	6,640	4,800	5,690	.425	.47	338,600
The year.....	86,000	4,800	20,710	1.55	20.97	14,990,000
<b>1934-35</b>						
October.....	7,690	4,150	4,952	.370	.43	304,500
November.....	20,200	4,940	9,092	.679	.76	541,000
December.....	6,260	2,930	4,874	.364	.42	299,700
January.....	14,100	2,160	5,713	.426	.49	351,300
February.....	10,200	5,300	6,854	.511	.53	380,600
March.....	7,620	4,730	5,881	.439	.51	361,600
April.....	25,100	5,210	12,180	.909	1.01	724,800
May.....	67,100	25,000	40,420	3.02	3.48	2,485,000
June.....	61,800	34,300	49,760	3.71	4.14	2,961,000
July.....	39,900	18,300	27,750	2.07	2.39	1,706,000
August.....	16,800	7,820	11,680	.872	1.01	718,100
September.....	7,740	5,250	6,558	.489	.55	390,200
The year.....	67,100	2,160	15,500	1.16	15.72	11,220,000
<b>1935-36</b>						
October.....	5,220	4,100	4,636	.361	.42	297,400
November.....	4,950	2,850	3,964	.296	.33	235,900
December.....	3,710	2,250	3,295	.246	.28	202,600
January.....	3,500	2,150	3,064	.229	.26	188,400
February.....	3,150	1,350	2,160	.161	.17	124,300
March.....	5,800	3,250	4,163	.311	.36	256,000
April.....	43,400	2,940	20,680	1.56	1.74	1,243,000
May.....	57,700	30,000	42,560	3.18	3.67	2,617,000
June.....	55,900	17,900	29,290	2.19	2.44	1,743,000
July.....	16,500	7,920	11,480	.857	.99	705,800
August.....	7,820	5,200	6,611	.493	.57	406,500
September.....	5,980	4,090	4,907	.366	.41	292,000
The year.....	57,700	1,350	11,450	.854	11.64	8,312,000
<b>1936-37</b>						
October.....	4,050	3,400	3,720	.278	.32	228,700
November.....	3,350	2,290	2,889	.216	.24	171,900
December.....	5,450	1,530	3,084	.230	.27	189,600
January.....	2,560	1,410	2,069	.154	.18	127,200
February.....	2,600	2,290	2,524	.188	.20	140,200
March.....	3,570	2,640	2,957	.221	.25	181,800
April.....	13,200	3,940	7,865	.587	.65	468,000
May.....	52,300	13,500	32,850	2.45	2.82	2,020,000
June.....	48,600	27,200	38,320	2.86	3.19	2,280,000
July.....	31,000	10,300	17,910	1.34	1.54	1,101,000
August.....	10,600	6,510	8,370	.625	.72	514,700
September.....	6,240	4,830	5,488	.410	.46	326,600
The year.....	52,300	1,410	10,700	.799	10.84	7,750,000

## SURFACE WATERS OF UPPER COLUMBIA RIVER BASIN, 1896-1938

## Monthly discharge of Kootenai River near Copeland, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1937-38						
October.....	9,540	4,700	5,141	0.384	0.44	316,100
November.....	11,300	5,990	7,632	.570	.64	454,100
December.....	9,000	3,340	5,115	.382	.44	314,500
January.....	8,150	3,630	5,497	.410	.47	338,000
February.....	4,820	3,000	4,009	.299	.31	222,700
March.....	9,310	3,890	6,121	.457	.53	376,400
April.....	53,700	6,870	23,070	1.72	1.92	1,373,000
May.....	87,400	28,700	48,640	3.63	4.13	2,991,000
June.....	80,300	42,000	56,840	4.24	4.73	3,382,000
July.....	39,400	11,200	22,080	1.65	1.90	1,358,000
August.....	10,900	6,180	8,107	.605	.70	498,500
September.....	6,880	5,220	5,895	.440	.49	350,800
The year.....	87,400	3,000	16,540	1.23	16.75	11,980,000

## Yearly discharge of Kootenai River near Copeland, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1930.....	12,000	0.896	12.12	8,660,000	12,000	0.896	12.19	8,700,000
1931.....	9,020	.673	9.15	6,540,000	8,930	.666	9.05	6,470,000
1932.....	15,700	1.17	15.95	11,400,000	16,500	1.22	16.60	11,900,000
1933.....	18,100	1.35	18.34	13,100,000	19,600	1.48	20.04	14,300,000
1934.....	20,710	1.55	20.97	14,990,000	19,070	1.42	19.32	13,800,000
1935.....	15,500	1.16	15.72	11,220,000	14,940	1.11	15.14	10,810,000
1936.....	11,450	.854	11.64	8,312,000	11,250	.840	11.44	8,166,000
1937.....	10,700	.799	10.84	7,750,000	11,590	.850	11.53	8,244,000
1938.....	16,540	1.23	16.75	11,980,000	16,120	1.20	16.33	11,670,000

## Kootenai River at Port Hill, Idaho

## (International gaging station)

Location.- Water-stage recorder, lat. 49°00'00", long. 116°30'10", in SW $\frac{1}{4}$  sec. 8, T. 65 N., R. 1 W., 300 feet south of international boundary at Port Hill. Datum of gage is 1,700.00 feet above mean sea level, U. S. Coast and Geodetic Survey datum, and 1,699.80 feet above mean sea level, datum of Geodetic Survey of Canada (adjustment of 1928).

Drainage area.- 13,700 square miles.

Records available.- May to July 1904 and October 1927 to April 1928 (gage heights only), April 1928 to September 1938. October 1924 to September 1927 (gage heights only) in reports of Dominion Water and Power Bureau, Department of Mines and Resources, Canada.

Extremes.- Maximum daily discharge, 93,200 second-feet June 19, 1933; maximum elevation, 1,764.08 feet May 31, 1933; minimum daily discharge, 1,380 second-feet Feb. 8, 1936; minimum elevation, 1,739.32 feet Jan. 28, 1930.

Maximum elevation known, 1,772.7 feet June 1894.

Remarks.- Records include flow of Boundary Creek and represent entire flow passing international boundary. Elevations affected by backwater from Kootenay Lake. This is one of the international gaging stations maintained by the United States under agreement with Canada.

## Monthly discharge of Kootenai River at Port Hill, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1928						
April.....	34,500	11,000	15,600	1.14	1.27	928,000
May.....	83,000	25,500	60,000	4.38	5.05	3,690,000
June.....	70,000	32,500	40,400	2.95	3.29	2,400,000
July.....	45,000	16,900	29,000	2.12	2.44	1,780,000
August.....	16,200	8,000	10,800	.788	.91	664,000
September.....	7,850	5,400	6,560	.479	.53	390,000
The period.....	-	-	-	-	-	9,850,000



Monthly discharge of Kootenai River at Port Hill, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1928-29</b>						
October.....	15,000	5,350	7,490	0.547	0.63	461,000
November.....	5,900	4,200	4,900	.358	.40	292,000
December.....	4,150	2,900	3,560	.260	.30	219,000
January.....	3,600	2,400	2,830	.207	.24	174,000
February.....	3,400	2,500	3,010	.220	.23	167,000
March.....	7,500	2,600	4,200	.307	.35	258,000
April.....	15,800	4,500	6,790	.496	.55	404,000
May.....	59,000	13,700	29,200	2.13	2.46	1,800,000
June.....	59,500	26,000	44,600	3.26	3.64	2,650,000
July.....	25,000	10,500	16,200	1.18	1.36	996,000
August.....	10,500	6,100	7,940	.580	.67	488,000
September.....	6,500	4,300	5,150	.376	.42	306,000
The year.....	59,500	2,400	11,300	.825	11.25	8,220,000
<b>1929-30</b>						
October.....	5,050	4,080	4,430	.323	.37	272,000
November.....	3,930	2,520	3,330	.243	.27	198,000
December.....	4,360	2,290	3,450	.252	.29	212,000
January.....	3,750	2,500	2,950	.215	.25	181,000
February.....	5,980	3,060	3,820	.279	.29	212,000
March.....	7,010	3,630	4,260	.311	.36	262,000
April.....	35,000	7,820	19,500	1.42	1.58	1,160,000
May.....	44,600	22,400	27,900	2.04	2.35	1,720,000
June.....	61,200	29,700	40,900	2.99	3.34	2,430,000
July.....	28,800	12,100	20,800	1.62	1.75	1,280,000
August.....	11,400	6,770	9,220	.673	.78	567,000
September.....	6,670	5,250	6,060	.442	.49	361,000
The year.....	61,200	2,290	12,200	.891	12.12	8,860,000
<b>1930-31</b>						
October.....	5,480	4,490	4,940	0.361	0.42	304,000
November.....	4,800	3,610	4,040	.295	.33	240,000
December.....	3,670	2,340	3,090	.226	.26	190,000
January.....	4,400	2,240	3,190	.233	.27	196,000
February.....	3,930	2,840	3,310	.242	.25	184,000
March.....	6,260	3,120	4,120	.301	.35	253,000
April.....	12,600	4,870	7,380	.539	.60	439,000
May.....	52,000	15,700	29,600	2.16	2.49	1,820,000
June.....	33,200	19,300	26,900	1.96	2.19	1,600,000
July.....	21,200	8,800	12,800	.934	1.08	787,000
August.....	8,400	5,400	6,560	.479	.55	403,000
September.....	7,150	4,700	5,380	.393	.44	320,000
The year.....	52,000	2,240	9,310	.680	9.23	6,740,000
<b>1931-32</b>						
October.....	4,590	3,710	4,110	0.300	0.35	253,000
November.....	5,080	2,210	3,740	.273	.30	223,000
December.....	3,510	2,260	3,110	.227	.26	191,000
January.....	3,150	2,220	2,660	.209	.24	176,000
February.....	26,200	2,250	4,790	.350	.38	276,000
March.....	17,900	5,510	7,630	.572	.66	481,000
April.....	26,400	10,600	19,600	1.43	1.60	1,170,000
May.....	77,200	24,100	51,400	3.75	4.32	3,160,000
June.....	76,400	39,200	58,900	4.30	4.80	3,500,000
July.....	39,300	18,100	21,500	1.67	1.81	1,320,000
August.....	13,000	8,660	10,200	.745	.86	627,000
September.....	8,940	5,210	6,610	.497	.55	405,000
The year.....	77,200	2,210	16,200	1.18	16.13	11,800,000
<b>1932-33</b>						
October.....	6,400	4,530	5,370	.392	.45	330,000
November.....	9,750	5,120	6,930	.506	.56	412,000
December.....	13,700	3,640	6,500	.474	.55	400,000
January.....	6,360	3,840	4,810	.351	.40	296,000
February.....	4,590	2,060	3,580	.261	.27	199,000
March.....	7,110	4,020	4,700	.343	.40	289,000
April.....	52,300	7,430	16,200	1.18	1.32	964,000
May.....	72,300	29,800	45,100	3.29	3.79	2,770,000
June.....	93,200	53,400	73,700	5.38	6.00	4,590,000
July.....	51,900	18,800	34,700	2.53	2.92	2,130,000
August.....	18,100	10,000	12,900	.942	1.09	793,000
September.....	12,900	8,100	9,210	.672	.75	548,000
The year.....	93,200	2,060	18,700	1.36	18.50	13,500,000

## Monthly discharge of Kootenai River at Port Hill, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1933-34</b>						
October.....	25,000	7,690	10,400	0.759	0.88	639,200
November.....	22,800	9,900	13,100	.956	1.07	779,300
December.....	44,400	8,720	15,880	1.16	1.34	976,600
January.....	21,000	10,400	13,890	1.01	1.16	853,900
February.....	12,000	7,470	10,070	.735	.77	559,500
March.....	19,400	8,330	12,500	.912	1.05	768,800
April.....	89,300	19,700	48,000	3.50	3.90	2,856,000
May.....	77,500	48,300	61,400	4.48	5.16	3,775,000
June.....	72,900	23,200	38,990	2.85	3.18	2,320,000
July.....	22,700	11,600	16,520	1.21	1.40	1,016,000
August.....	12,100	6,600	8,405	.614	.71	516,800
September.....	6,670	4,840	5,729	.418	.47	340,900
The year.....	89,300	4,840	21,270	1.55	21.09	15,400,000
<b>1934-35</b>						
October.....	8,050	4,180	5,016	.366	.42	308,400
November.....	21,200	5,130	9,511	.694	.77	565,900
December.....	6,500	3,050	5,033	.367	.42	309,500
January.....	14,500	2,330	5,904	.431	.50	363,000
February.....	10,500	5,450	7,062	.515	.54	392,200
March.....	7,820	4,650	5,441	.441	.51	371,400
April.....	25,700	5,340	12,490	.912	1.02	743,300
May.....	69,400	25,800	42,260	3.08	3.55	2,599,000
June.....	64,300	35,100	51,510	3.76	4.20	3,065,000
July.....	40,800	18,400	28,150	2.05	2.36	1,731,000
August.....	16,900	7,880	11,760	.858	.99	723,400
September.....	7,790	5,290	6,603	.482	.54	392,900
The year.....	69,400	2,330	15,970	1.17	15.82	11,560,000
<b>1935-36</b>						
October.....	5,300	4,140	4,892	.357	.41	300,800
November.....	5,000	2,900	4,014	.293	.33	238,900
December.....	3,750	2,290	3,335	.243	.28	205,100
January.....	3,540	2,190	3,104	.227	.26	190,900
February.....	3,190	1,380	2,192	.160	.17	126,100
March.....	5,850	3,290	4,216	.308	.36	259,200
April.....	45,400	2,990	21,710	1.58	1.76	1,292,000
May.....	59,800	31,500	44,550	3.25	3.76	2,739,000
June.....	56,900	18,100	29,750	2.17	2.42	1,770,000
July.....	16,600	7,960	11,570	.845	.97	711,300
August.....	7,850	5,220	6,643	.485	.56	408,400
September.....	6,040	4,120	4,945	.361	.40	294,200
The year.....	59,800	1,380	11,760	.858	11.67	8,536,000
<b>1936-37</b>						
October.....	4,080	3,430	3,750	.274	.32	230,600
November.....	3,370	2,320	2,917	.213	.24	173,600
December.....	5,520	1,550	3,123	.228	.26	192,000
January.....	2,590	1,430	2,099	.153	.18	129,000
February.....	2,830	2,320	2,554	.186	.19	141,800
March.....	3,630	2,670	2,996	.219	.25	184,200
April.....	13,500	4,000	8,038	.587	.65	478,300
May.....	54,300	13,900	34,360	2.51	2.89	2,113,000
June.....	50,200	28,000	39,890	2.91	3.25	2,374,000
July.....	31,600	10,400	18,150	1.32	1.52	1,116,000
August.....	10,700	6,560	8,450	.617	.71	519,600
September.....	6,290	4,880	5,545	.405	.45	330,000
The year.....	54,300	1,430	11,030	.805	10.91	7,982,000
<b>1937-38</b>						
October.....	9,750	4,780	5,260	.384	.44	323,400
November.....	11,500	6,220	7,914	.578	.64	470,900
December.....	9,280	3,470	5,294	.386	.44	325,500
January.....	8,390	3,720	5,659	.413	.48	348,000
February.....	4,930	3,100	4,110	.300	.31	228,300
March.....	9,560	4,000	6,289	.459	.53	386,700
April.....	55,800	7,040	23,970	1.75	1.95	1,427,000
May.....	91,100	29,800	51,020	3.72	4.29	3,137,000
June.....	83,200	42,800	58,830	4.29	4.79	3,501,000
July.....	40,100	11,300	22,360	1.63	1.88	1,376,000
August.....	11,000	6,200	8,169	.596	.69	502,300
September.....	6,930	5,260	5,932	.433	.48	353,000
The year.....	91,100	3,100	17,100	1.25	16.92	12,380,000

## Yearly discharge of Kootenai River at Port Hill, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1929.....	11,300	0.825	11.25	8,220,000	10,900	0.796	10.85	7,920,000
1930.....	12,200	.891	12.12	8,860,000	12,300	.898	12.20	8,910,000
1931.....	9,310	.680	9.23	6,740,000	9,210	.672	9.13	6,670,000
1932.....	16,200	1.18	16.13	11,800,000	16,900	1.23	16.78	12,300,000
1933.....	18,700	1.36	18.50	13,500,000	20,400	1.49	20.23	14,800,000
1934.....	21,270	1.55	21.09	15,400,000	19,600	1.43	19.41	14,190,000
1935.....	15,970	1.17	15.82	11,560,000	15,370	1.12	15.23	11,130,000
1936.....	11,760	.858	11.67	8,536,000	11,550	.843	11.47	8,387,000
1937.....	11,030	.805	10.91	7,982,000	11,750	.858	11.61	8,506,000
1938.....	17,100	1.25	16.92	12,380,000	16,650	1.22	16.50	12,060,000
Highest.....	21,270	1.55	21.09	15,400,000	20,400	1.49	20.23	14,800,000
Average.....	14,480	1.06	14.36	10,500,000	14,460	1.06	14.34	10,490,000
Lowest.....	9,310	.680	9.23	6,740,000	9,210	.672	9.13	6,670,000

## Grave Creek near Fortine, Mont.

Location.- Wire-weight gage, lat. 48°49', long. 114°52', in SW $\frac{1}{4}$  sec. 5, T. 35 N., R. 25 W., 6 miles northeast of Fortine and 12 miles southeast of Eureka.

Records available.- April 1923 to June 1924.

Extremes.- Maximum discharge observed, 690 second-feet June 11, 1923 (gage height, 3.00 feet); minimum observed, 18 second-feet Apr. 1-5, 1924 (gage height, 0.86 foot).

Remarks.- No diversion or regulation.

## Monthly discharge of Grave Creek near Fortine, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1923				
April 16-30 .....	148	65	95.9	2,850
May.....	566	75	367	22,600
June.....	690	341	472	28,100
July.....	318	103	190	11,700
August.....	108	62	80.2	4,930
September.....	62	45	52.0	3,090
The period.....	-	-	-	73,000
1923-24				
October.....	45	34	38.8	2,390
November.....	40	27	32.2	1,920
December 1-29.....	113	29	48.7	2,800
January.....	-	-	-	-
February.....	-	-	-	-
March.....	-	-	-	-
April.....	103	18	45.9	2,730
May.....	518	129	383	23,600
June.....	447	186	331	19,700
July.....	-	-	-	-
August.....	-	-	-	-
September.....	-	-	-	-

## Granite Creek near Libby, Mont.

Location.- Staff gage, lat. 48°18', long. 115°35', in SE $\frac{1}{4}$  sec. 5, T. 29 N., R. 31 W., at Glacier silver-lead mine, 7 miles southwest of Libby.

Drainage area.- 23.6 square miles.

Records available.- January to September 1933, August 1936 to September 1938.

Extremes.- Maximum discharge observed, 1,960 second-feet Apr. 18, 1938 (gage height, 4.40 feet); no flow Jan. 4, 1933 (creek blocked by snow slide).

Remarks.- No regulation or diversion of importance.

## Monthly discharge of Granite Creek near Libby, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October.....	-	-	-	-
November.....	-	-	-	-
December.....	-	-	-	-
January 1933.....	51	0	26.3	1,620
February.....	61	12	18.4	1,020
March.....	33	12	18.0	1,110
April.....	344	30	97.9	5,630
May.....	494	95	193	11,900
June.....	948	202	454	25,600
July.....	217	52	134	8,240
August.....	58	21	37.5	2,510
September.....	60	17	31.6	1,680
The period.....	-	-	-	59,700
October 1933.....	232	21	74.0	4,550
November.....	583	44	92.5	5,500
December.....	1,170	40	188	9,720
Calendar year 1933.....	1,170	0	110	79,500
August 21-31, 1936.....	9.1	9.1	9.10	199
September.....	11	4.5	7.28	433
October.....	12	4.5	7.67	471
November.....	6.0	4.8	5.35	318
December.....	18	4.8	8.71	536
January 1937.....	-	-	3.94	242
February.....	-	-	4.50	250
March.....	26	-	8.97	551
April.....	142	24	75.6	4,500
May.....	415	142	270	16,620
June.....	390	101	189	11,250
July.....	104	19	45.2	2,780
August.....	24	6.0	12.8	787
September.....	16	4.3	7.79	464
Water year 1936-37.....	415	-	53.5	38,770
October 1937.....	82	4.5	15.8	973
November.....	67	19	37.5	2,230
December.....	49	16	26.0	1,600
Calendar year 1937.....	415	-	58.3	42,250
January 1938.....	43	18	26.7	1,640
February.....	23	9.1	15.6	865
March.....	70	14	32.7	2,010
April.....	1,960	32	258	15,380
May.....	523	115	276	16,960
June.....	440	92	188	11,200
July.....	89	18	44.8	2,750
August.....	16	-	10.2	626
September.....	16	5.1	8.38	498
water year 1937-38.....	1,960	4.5	78.4	56,730

## Boulder Creek near Leonia, Idaho

Location.- Water-stage recorder, lat.  $48^{\circ}36'$ , long.  $116^{\circ}06'$ , in NW $\frac{1}{4}$  sec. 32, T. 61 N., R. 3 E., half a mile downstream from McGinty Creek, 1 mile upstream from buildings of the Idamount Lead-Zinc Mines Co., 3 miles upstream from mouth, and 3 miles southwest of Leonia.

Drainage area.- 53 square miles.

Records available.- November 1928 to September 1938. April to September 1928, at site  $1\frac{1}{4}$  miles downstream.

Extremes.- Maximum discharge, 2,050 second-feet Apr. 18, 1938 (gage height, 5.50 feet); minimum, 2 second-feet Aug. 25, Sept. 5, 1931.

Remarks.- Prior to 1936 some water was diverted above station for mining purposes during certain periods and returned to creek below. Estimates of the average diversion are as follows: April to September 1929, 2 second-feet; October 1929 to June 1931, 1 second-foot; July to September 1931, 2 second-feet; June to September 1932, 2 second-feet; June to October 1934, 3 second-feet; June to October 1935, 1.5 second-feet.

Monthly discharge of Boulder Creek near Leonia, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1928						
May 19-31.....	880	276	613	10.6	5.13	15,800
June.....	263	54	126	2.17	2.42	7,500
July.....	102	14	44.6	.769	.89	2,740
August.....	17	9	11.1	.191	.22	682
September 1.....	9	9	9.0	.155	.01	18
The period.....	-	-	-	-	-	26,700
1928-29						
November 20-30.....	27	19	21.9	-	-	478
December.....	19	8	14.6	-	-	898
January.....	-	-	10.2	-	-	627
February.....	-	-	9.62	-	-	534
March.....	226	7.1	37.6	-	-	2,310
April.....	498	40	146	-	-	8,690
May.....	641	218	387	-	-	23,800
June.....	215	31	112	-	-	6,660
July.....	31	6.7	16.9	-	-	1,040
August.....	19	6.0	13.3	-	-	818
September.....	14	5.1	8.36	-	-	497
The period.....	-	-	-	-	-	46,400
1929-30						
October.....	17	6	8.5	-	-	523
November.....	12	4	8.7	-	-	518
December.....	194	7	28.0	-	-	1,720
January.....	-	-	11.4	-	-	701
February.....	165	-	44.8	-	-	2,490
March.....	177	25	50.7	-	-	3,120
April.....	568	180	342	-	-	20,400
May.....	292	105	177	-	-	10,900
June.....	234	38	92.9	-	-	5,530
July.....	37	9	18.7	-	-	1,150
August.....	9	6	6.9	-	-	424
September.....	10	5	7.2	-	-	428
The year.....	568	4	66.0	1.25	16.90	47,900
1930-31						
October.....	32	8	12.4	-	-	762
November.....	23	10	13.1	-	-	780
December.....	12	5	9.2	-	-	566
January.....	86	-	19.3	-	-	1,190
February.....	105	-	25.1	-	-	1,390
March.....	147	23	54.3	-	-	3,340
April.....	472	66	190	-	-	11,300
May.....	677	135	377	-	-	23,200
June.....	123	38	62.3	-	-	3,710
July.....	32	6	14.6	-	-	898
August.....	6	2	3.8	-	-	254
September.....	12	2	7.2	-	-	428
The year.....	677	2	66.1	1.25	16.92	47,800
1931-32						
October.....	27	6	12.6	-	-	775
November.....	62	9	20.6	-	-	1,230
December.....	23	14	16.7	-	-	1,030
January.....	-	-	16.0	-	-	984
February.....	1,100	-	116	-	-	6,670
March.....	200	-	97.2	-	-	5,980
April.....	626	182	361	-	-	21,500
May.....	1,040	278	626	-	-	38,500
June.....	540	57	226	-	-	13,400
July.....	52	-	26.0	-	-	1,600
August.....	-	-	6.3	-	-	418
September.....	8	5	5.9	-	-	351
The year.....	1,100	-	127	2.40	32.67	92,400

## SURFACE WATERS OF UPPER COLUMBIA RIVER BASIN, 1898-1938

Monthly discharge of Boulder Creek near Leonia, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1932-33						
October.....	48	6	16.3	0.308	0.36	1,000
November.....	364	16	112	2.11	.24	6,660
December.....	398	-	103	1.94	2.24	6,330
January.....	103	33	48.2	.909	1.05	2,960
February.....	-	-	28.4	.536	.56	1,580
March.....	88	-	40.7	.768	.89	2,500
April.....	1,010	72	272	5.13	5.72	16,200
May.....	1,040	391	644	12.2	14.07	39,600
June.....	868	189	512	9.66	10.78	30,500
July.....	175	20	75.4	1.42	1.64	4,640
August.....	25	5	11.2	.211	.24	689
September.....	51	4	17.6	.332	.37	1,050
The year.....	1,040	4	157	2.96	40.27	114,000
1933-34						
October.....	296	16	58.4	-	-	3,590
November.....	428	58	106	-	-	6,310
December.....	-	-	293	-	-	18,040
January.....	404	116	187	-	-	11,500
February.....	178	99	131	-	-	7,260
March.....	394	93	167	-	-	10,270
April.....	1,040	265	626	-	-	37,250
May.....	739	158	422	-	-	25,970
June.....	140	30	70.9	-	-	4,220
July.....	27	5	13.3	-	-	817
August.....	7	4	4.4	-	-	268
September.....	9	4	5.6	-	-	333
The year.....	-	4	174	3.28	44.52	125,800
1934-35						
October.....	165	6	22.9	-	-	1,410
November.....	1,280	56	222	-	-	13,240
December.....	79	35	53.3	-	-	3,280
January.....	250	25	65.9	-	-	4,050
February.....	98	53	71.8	-	-	3,990
March.....	128	44	67.4	-	-	4,140
April.....	485	54	195	-	-	11,630
May.....	992	376	623	-	-	38,290
June.....	668	82	241	-	-	14,340
July.....	96	15	44.5	-	-	2,740
August.....	15	8	11.4	-	-	700
September.....	11	6	8.0	-	-	478
The year.....	1,280	6	136	2.57	34.81	98,290
1935-36						
October.....	25	5	8.7	.164	.19	538
November.....	15	8	11.3	.213	.24	674
December.....	12	7	9.6	.181	.21	589
January.....	13	9	9.9	.187	.22	609
February.....	-	-	7.8	.147	.16	446
March.....	36	14	21.1	.398	.46	1,300
April.....	866	14	367	6.92	7.72	21,840
May.....	788	160	435	8.21	9.46	26,740
June.....	138	26	71.3	1.35	1.51	4,240
July.....	27	7	16.3	.308	.36	1,000
August.....	7	4	5.7	.108	.12	349
September.....	16	5	9.0	.170	.19	534
The year.....	866	4	81.1	1.53	20.34	58,860
1936-37						
October.....	16	8	9.3	.175	.20	573
November.....	9	5	7.3	.138	.15	434
December.....	132	6	19.4	.366	.42	1,190
January.....	-	-	7.9	.149	.17	468
February.....	-	-	8.4	.158	.16	464
March.....	30	9	16.4	.309	.36	1,010
April.....	381	29	120	2.26	2.52	7,110
May.....	722	269	527	9.94	11.46	32,410
June.....	460	115	243	4.58	5.11	14,460
July.....	106	17	46.5	.877	1.01	2,860
August.....	31	10	15.0	.283	.33	924
September.....	26	9	11.0	.208	.23	653
The year.....	722	5	86.4	1.63	22.12	62,580

Monthly discharge of Boulder Creek near Leonia, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1937-38						
October.....	94	11	20.4	0.385	0.44	1,260
November.....	209	26	92.2	1.74	1.94	5,490
December.....	218	30	74.3	1.40	1.61	4,570
January.....	187	35	72.7	1.37	1.58	4,470
February.....	59	29	39.7	.749	.78	2,200
March.....	133	33	66.4	1.25	1.44	4,080
April.....	1,570	68	408	7.70	8.59	24,300
May.....	876	331	582	11.0	12.68	35,790
June.....	456	63	206	3.89	4.34	12,240
July.....	57	13	31.2	.589	.68	1,920
August.....	14	8	10.5	.198	.23	643
September.....	12	7	8.8	.166	.19	522
The year.....	1,570	7	135	2.55	35.50	97,480

Note.- Monthly figures of discharge in second-feet per square mile and run-off in inches not published for water years 1929 to 1932, 1934, and 1935 because of diversion around gage as given under "Remarks;" diversion is a small percentage of yearly flow.

Yearly discharge of Boulder Creek near Leonia, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1930.....	66.0	1.25	16.90	47,900	65.1	1.23	16.67	47,300
1931.....	66.1	1.25	16.92	47,800	67.3	1.27	17.25	48,700
1932.....	127	2.40	32.67	92,400	142	2.68	36.56	103,000
1933.....	157	2.96	40.27	114,000	176	3.32	45.20	128,000
1934.....	174	3.28	44.52	125,800	160	3.02	40.97	115,800
1935.....	136	2.57	34.81	98,290	113	2.13	29.12	82,160
1936.....	91.1	1.53	20.94	58,860	81.6	1.54	20.97	59,260
1937.....	96.4	1.63	22.12	62,580	99.0	1.87	25.34	71,700
1938.....	135	2.55	34.50	97,480	125	2.32	31.51	88,970

Moyle River at Eastport, Idaho  
(International gaging station)

Location.- Water-stage recorder, lat. 49°00', long. 116°11', in SE¼ sec. 10, T. 65 N., R. 2 E., at Eastport, 1,000 feet downstream from international boundary.

Drainage area.- 570 square miles.

Records available.- August 1929 to September 1938 in reports of Geological Survey.

January to December 1915, March to December 1916, and discharge measurements during 1914 and 1917, in reports of the Dominion Water and Power Bureau of the Department of Mines and Resources, Canada.

Extremes.- Maximum discharge, 6,240 second-feet Apr. 28, 1934 (gage height, 9.46 feet); minimum, 23 second-feet Nov. 7, 1936 (gage height, 3.20 feet).

Remarks.- No diversions or regulation above station. This is one of the international gaging stations maintained by the United States under agreement with Canada.

## Monthly discharge of Moyie River at Eastport, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1929						
August 26-31.....	71	66	68.3	0.120	0.03	813
September.....	81	61	68.2	.120	.13	4,060
The period .....	-	-	-	-	-	4,870
1929-30						
October.....	85	58	64.0	.112	.13	3,940
November.....	71	40	56.7	.099	.11	3,370
December.....	110	35	62.4	.109	.13	3,840
January.....	83	34	53.4	.094	.11	3,280
February.....	160	54	80.5	.141	.15	4,470
March.....	543	90	171	.300	.35	10,500
April.....	2,960	511	1,560	2.74	3.06	92,800
May.....	3,180	1,460	1,910	3.35	3.86	117,000
June.....	3,100	625	1,560	2.39	2.67	80,900
July.....	605	154	308	.540	.62	18,900
August.....	145	71	100	.175	.20	6,150
September.....	85	66	73.4	.129	.14	4,370
The year.....	3,180	34	484	.849	11.53	350,000
1930-31						
October.....	99	69	79.0	.139	.16	4,860
November.....	106	75	85.7	.150	.17	5,100
December.....	81	-	68.3	.120	.14	4,200
January.....	96	-	71.6	.126	.15	4,400
February.....	117	60	81.2	.142	.15	4,510
March.....	318	85	156	.274	.32	9,590
April.....	1,270	210	524	.919	1.03	31,200
May.....	2,800	1,110	1,830	5.21	3.70	113,000
June.....	1,060	314	526	.923	1.03	31,300
July.....	308	90	175	.307	.35	10,800
August.....	88	50	64.0	.112	.13	3,940
September.....	70	46	56.1	.098	.11	3,340
The year.....	2,800	-	312	.547	7.44	226,000
1931-32						
October.....	69	50	55.3	.097	.11	3,400
November.....	122	-	86.5	.152	.17	5,150
December.....	-	-	84.9	.149	.17	5,220
January.....	-	-	91.8	.161	.19	5,640
February.....	1,060	-	191	.335	.36	11,000
March.....	620	250	367	.644	.74	22,600
April.....	2,030	635	1,360	2.39	2.67	80,900
May.....	5,320	1,710	3,400	5.96	6.87	209,000
June.....	3,580	711	2,070	3.63	4.05	123,000
July.....	642	133	318	.558	.64	19,600
August.....	125	73	93.1	.163	.19	5,720
September.....	77	55	61.8	.108	.12	3,680
The year.....	5,320	50	682	1.20	16.28	495,000
1932-33						
October.....	141	52	86.1	.151	.17	5,290
November.....	500	108	246	.432	.48	14,600
December.....	900	210	370	.649	.75	22,800
January.....	250	150	198	.347	.40	12,200
February.....	-	-	131	.230	.24	7,280
March.....	352	122	172	.302	.35	10,600
April.....	4,020	368	1,220	2.14	2.39	72,600
May.....	4,920	1,980	3,120	5.47	6.31	192,000
June.....	4,830	1,620	3,530	6.19	6.91	210,000
July.....	1,510	230	675	1.18	1.36	41,500
August.....	218	103	148	.260	.30	9,100
September.....	182	101	123	.216	.24	7,320
The year.....	4,920	52	836	1.47	19.90	605,000



## Monthly discharge of Moyie River at Eastport, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1933-34						
October.....	1,500	137	338	0.593	0.68	20,790
November.....	1,100	447	641	1.12	1.25	38,160
December.....	2,000	340	718	1.26	1.45	44,160
January.....	1,040	425	647	1.14	1.31	39,800
February.....	565	362	454	.796	.83	25,200
March.....	1,110	362	626	1.10	1.27	38,520
April.....	6,100	1,040	3,303	5.79	6.46	196,500
May.....	4,210	2,250	3,095	5.43	6.26	190,300
June.....	2,010	382	918	1.61	1.80	54,610
July.....	563	121	208	.365	.42	12,810
August.....	115	59	81.8	.144	.17	5,030
September.....	76	53	60.6	.106	.12	3,610
The year.....	6,100	53	925	1.62	22.02	669,500
1934-35						
October.....	148	55	78.1	.137	.16	4,800
November.....	387	100	249	.437	.49	14,800
December.....	230	100	174	.305	.35	10,700
January.....	600	90	241	.423	.49	14,830
February.....	399	226	296	.519	.54	16,440
March.....	330	188	255	.447	.52	15,670
April.....	2,070	219	905	1.59	1.77	53,870
May.....	4,210	1,670	2,742	4.81	5.55	168,600
June.....	3,400	804	1,978	3.47	3.87	117,700
July.....	868	255	503	.882	1.02	30,920
August.....	244	115	166	.291	.34	10,230
September.....	112	64	87.2	.153	.17	5,190
The year.....	4,210	55	641	1.12	15.27	463,800
1935-36						
October.....	132	65	85.3	.150	.17	5,250
November.....	140	70	87.4	.153	.17	5,200
December.....	86	67	75.5	.132	.15	4,640
January.....	83	65	74.5	.131	.15	4,580
February.....	75	65	67.8	.119	.13	3,900
March.....	177	90	131	.230	.27	8,050
April.....	3,440	99	1,656	2.91	3.25	98,560
May.....	3,220	1,310	2,327	4.08	4.70	143,100
June.....	1,310	262	652	1.14	1.27	38,790
July.....	246	74	150	.263	.30	9,230
August.....	72	46	59.1	.102	.12	3,570
September.....	93	46	59.6	.105	.12	3,550
The year.....	3,440	46	452	.793	10.80	328,400
1936-37						
October.....	57	47	49.1	.086	.10	3,020
November.....	48	35	42.2	.074	.08	2,510
December.....	124	-	56.3	.099	.11	3,460
January.....	-	-	41.9	.074	.09	2,570
February.....	-	-	54.7	.096	.10	3,040
March.....	148	-	79.4	.139	.16	4,880
April.....	1,110	160	514	.902	1.01	30,590
May.....	3,220	1,190	2,405	4.22	4.86	147,900
June.....	2,590	1,040	1,920	3.37	3.76	114,300
July.....	926	180	401	.704	.81	24,630
August.....	235	86	131	.230	.27	8,070
September.....	109	71	81.1	.142	.16	4,850
The year.....	3,220	-	483	.847	11.51	349,800
1937-38						
October.....	209	84	115	.202	.23	7,100
November.....	468	177	316	.554	.62	18,800
December.....	445	130	233	.409	.47	14,320
January.....	339	140	245	.430	.50	15,080
February.....	300	170	203	.356	.37	11,290
March.....	664	209	385	.675	.78	23,680
April.....	5,570	423	2,179	3.82	4.26	129,600
May.....	5,740	2,130	3,644	6.39	7.37	224,100
June.....	4,280	951	2,200	3.86	4.31	130,900
July.....	876	177	421	.739	.85	25,860
August.....	167	73	112	.196	.23	6,860
September.....	84	57	68.6	.120	.13	4,080
The year.....	5,740	57	845	1.48	20.12	611,700

Yearly discharge of Moyie River at Eastport, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1930.....	484	0.849	11.53	350,000	488	0.856	11.63	353,000
1931.....	312	.547	7.44	226,000	311	.546	7.42	226,000
1932.....	682	1.20	16.28	495,000	722	1.27	17.23	524,000
1933.....	836	1.47	19.90	605,000	919	1.61	21.88	666,000
1934.....	925	1.62	22.02	669,500	824	1.45	19.64	596,700
1935.....	641	1.12	15.27	463,800	620	1.09	14.76	448,500
1936.....	452	.793	10.80	328,400	444	.779	10.60	322,300
1937.....	483	.847	11.61	349,800	526	.923	12.54	381,000
1938.....	845	1.48	20.12	611,700	810	1.42	19.30	586,400

## Moyie River at Snyder, Idaho

Location.- Staff gage, lat. 48°52', long. 116°10', in sec. 23, T. 64 N., R. 2 E., at Snyder ranger station, a quarter of a mile west of Snyder station on Spokane International Railway, 3½ miles downstream from Round Prairie, 8 miles downstream from international boundary, and 12 miles upstream from mouth.

Drainage area.- 717 square miles.

Records available.- February 1912 to September 1916, March 1919 to September 1923. March 1911 to February 1912 at site at railway bridge, 1 mile downstream.

Extremes.- Maximum discharge observed, 10,800 second-feet June 19, 1916 (gage height, 11.0 feet); minimum observed, 56 second-feet Oct. 25 and 26, 1919 (gage height, 2.80 feet) but may have been less during periods of ice effect in December 1919, January, February, and December 1922, and February 1923.

Remarks.- No diversions or regulation above station.

Monthly discharge of Moyie River at Snyder, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1911						
March 10-31.....	1,110	221	679	0.947	0.77	29,600
April.....	3,970	364	1,610	2.25	2.51	95,800
May.....	6,450	1,910	3,820	5.33	6.14	235,000
June.....	5,580	1,780	3,770	5.26	5.87	224,000
July.....	1,910	288	849	1.18	1.36	52,200
August.....	288	161	249	.547	.40	15,500
September.....	200	161	174	.243	.27	10,400
The period.....	-	-	-	-	-	662,000
1911-12						
October.....	242	200	220	.307	.35	13,500
November.....	-	-	175	.244	.27	10,400
December.....	-	-	151	.211	.24	9,280
January.....	391	100	221	.308	.36	13,600
February.....	200	110	144	.201	.22	8,280
March.....	342	91	147	.205	.24	9,040
April.....	2,200	455	1,330	1.85	2.06	79,100
May.....	4,120	1,540	2,940	4.10	4.73	181,000
June.....	2,200	550	1,220	1.70	1.90	72,600
July.....	1,080	550	710	.990	1.14	43,700
August.....	425	171	245	.339	.39	14,900
September.....	315	171	219	.305	.34	13,000
The year.....	4,120	-	645	.900	12.24	468,000
1912-13						
October.....	265	171	202	.282	.33	12,400
November.....	840	171	479	.668	.75	28,500
December.....	315	171	199	.278	.32	12,200
January.....	-	-	216	.301	.35	13,300
February.....	455	265	314	.438	.46	17,400
March.....	315	265	280	.391	.45	17,200
April.....	3,090	265	1,640	2.29	2.56	97,600
May.....	8,020	1,540	4,380	6.11	7.04	269,000
June.....	8,020	1,340	3,640	5.08	5.67	217,000
July.....	1,440	310	763	1.06	1.22	46,900
August.....	310	170	251	.350	.40	15,400
September.....	265	180	219	.305	.34	13,000
The year.....	8,020	170	1,050	1.46	19.89	760,000

Monthly discharge of Moyle River at Snyder, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1913-14						
October 1-22.....	-	-	218	0.304	0.25	9,510
November.....	-	-	-	-	-	-
December 8-31.....	-	-	178	.248	.22	8,470
January.....	1,030	170	423	.590	.68	26,000
February.....	274	-	220	.307	.32	12,200
March.....	820	224	487	.679	.78	29,900
April.....	3,820	665	2,160	3.01	3.36	129,000
May.....	6,120	2,850	4,460	6.22	7.17	274,000
June.....	4,760	1,540	2,560	3.57	3.98	152,000
July.....	1,440	310	743	1.04	1.20	45,700
August.....	288	125	190	.265	.31	11,700
September.....	270	100	145	.202	.23	8,630
The year.....	-	-	-	-	-	-
1914-15						
October.....	265	154	213	.297	.34	13,100
November.....	1,160	386	666	.929	1.04	39,600
December.....	412	-	221	.308	.36	13,600
January.....	187	140	163	.227	.26	10,000
February.....	154	100	128	.179	.19	7,110
March.....	595	125	258	.360	.42	15,900
April.....	2,570	440	1,460	2.04	2.28	86,900
May.....	2,320	1,540	1,820	2.54	2.93	112,000
June.....	1,440	595	901	1.26	1.41	53,600
July.....	665	354	470	.656	.76	28,900
August.....	310	125	195	.272	.31	12,000
September.....	170	120	136	.190	.21	8,090
The year.....	2,570	-	553	.771	10.51	401,000
1915-16						
October.....	224	140	158	.220	.25	9,720
November.....	224	187	206	.287	.32	12,500
December.....	217	154	186	.259	.30	11,400
January.....	-	-	159	.222	.26	9,780
February.....	-	-	236	.329	.35	13,600
March.....	1,790	224	927	1.29	1.49	57,000
April.....	3,310	1,290	1,990	2.78	3.10	118,000
May.....	6,740	1,680	3,750	5.23	6.03	231,000
June.....	10,400	3,170	5,500	7.67	8.56	327,000
July.....	-	440	2,270	3.17	3.66	140,000
August.....	412	154	250	.349	.40	15,400
September.....	206	115	142	.198	.22	8,450
The year.....	10,400	115	1,310	1.83	24.94	954,000
1919						
March.....	509	191	244	.340	.39	15,000
April.....	4,840	558	2,020	2.82	3.15	120,000
May.....	7,230	2,250	4,260	5.94	6.85	262,000
June.....	3,960	1,180	2,420	3.38	3.77	144,000
July.....	930	251	516	.720	.83	31,700
August.....	233	81	144	.201	.23	8,850
September.....	117	81	93.2	.130	.14	5,550
The period.....	-	-	-	-	-	587,000
1919-20						
October.....	86	56	78.4	.109	.13	4,820
November.....	211	70	106	.148	.17	6,310
December.....	-	-	102	.142	.17	6,270
January.....	100	-	83.9	.117	.13	5,160
February.....	147	-	89.5	.125	.13	5,150
March.....	308	81	156	.218	.25	9,590
April.....	1,180	141	478	.667	.74	28,400
May.....	4,120	780	2,310	3.22	3.71	142,000
June.....	3,660	1,550	2,650	3.70	4.13	158,000
July.....	1,650	269	779	1.09	1.26	47,900
August.....	252	122	164	.229	.26	10,100
September.....	310	105	196	.273	.30	11,700
The year.....	4,120	56	600	.837	11.38	435,000

## Monthly discharge of Moyie River at Snyder, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1920-21</b>						
October.....	558	269	418	0.583	0.67	25,700
November.....	605	179	332	.463	.52	19,890
December.....	334	198	254	.354	.41	15,600
January.....	329	185	239	.333	.38	14,700
February.....	930	152	418	.583	.61	23,200
March.....	745	360	543	.757	.87	33,400
April.....	2,440	640	1,460	2.04	2.28	86,900
May.....	6,870	1,360	2,190	5.84	6.73	258,000
June.....	5,120	1,090	2,050	4.25	4.74	181,000
July.....	1,090	228	509	.710	.82	31,300
August.....	223	104	145	.202	.23	8,920
September.....	119	92	103	.144	.16	6,130
The year.....	6,870	92	974	1.36	18.42	705,000
<b>1921-22</b>						
October.....	128	101	108	.151	.17	6,640
November.....	177	-	124	.175	.19	7,380
December.....	527	-	169	.236	.27	10,400
January.....	-	-	84.2	.117	.13	5,180
February.....	-	-	74.6	.104	.11	4,140
March.....	137	-	111	.155	.18	6,820
April.....	950	142	454	.633	.71	27,000
May.....	4,680	990	2,750	3.84	4.45	169,000
June.....	4,840	527	2,360	3.29	3.67	140,000
July.....	498	151	279	.389	.45	17,200
August.....	142	88	110	.153	.18	6,760
September.....	120	72	88.0	.123	.14	5,240
The year.....	4,840	-	561	.782	10.63	406,000
<b>1922-23</b>						
October.....	278	72	119	.166	.19	7,320
November.....	167	103	129	.180	.20	7,680
December.....	-	-	120	.167	.19	7,380
January.....	283	90	170	.237	.27	10,500
February.....	-	-	105	.146	.15	5,830
March.....	440	109	149	.208	.24	9,160
April.....	2,370	468	1,210	1.69	1.89	72,000
May.....	4,200	1,580	3,260	4.55	5.25	200,000
June.....	5,520	1,580	2,950	4.11	4.59	176,000
July.....	1,290	283	656	.915	1.05	40,300
August.....	274	131	186	.259	.30	11,400
September.....	131	91	106	.148	.17	6,310
The year.....	5,520	-	765	1.07	14.49	554,000

## Yearly discharge of Moyie River at Snyder, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1912.....	645	0.900	12.24	468,000	673	0.939	12.78	488,000
1913.....	1,050	1.46	19.89	760,000	-	-	-	-
1914.....	-	-	-	-	1,040	1.45	19.77	755,000
1915.....	553	.771	10.51	401,000	508	.709	9.64	368,000
1916.....	1,310	1.83	24.94	954,000	-	-	-	-
1920.....	600	.837	11.38	435,000	660	.921	12.51	479,000
1921.....	974	1.36	18.42	705,000	923	1.29	17.45	668,000
1922.....	561	.782	10.63	406,000	558	.778	10.58	404,000
1923.....	765	1.07	14.49	554,000	-	-	-	-

## Moyie River at Eileen, Idaho

Location.- Water-stage recorder, lat. 48°46', long. 116°10', in NE¼ sec. 35, T. 63 N., R. 2 E., an eighth of a mile downstream from Skin Creek, a quarter of a mile south-east of Eileen, and 4 miles upstream from mouth.

Drainage area.- 755 square miles.

Records available.- October 1925 to September 1938.

Extremes.- Maximum discharge, 8,780 second-feet Apr. 29, 1934; maximum gage height, 4.8 feet May 17, June 10, 11, 1927, May 13, 17-19, 1928; minimum discharge, 40 second-feet Nov. 27, 1936 (gage height, -0.25 foot).

Remarks.- No diversions or regulation above station.

Monthly discharge of Moyie River at Eileen, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1925-26						
October.....	119	106	112	0.148	0.17	6,890
November.....	125	104	112	.148	.17	6,660
December.....	156	94	127	.168	.19	7,810
January.....	143	88	125	.166	.19	7,690
February.....	176	119	151	.200	.21	8,390
March.....	355	152	224	.297	.34	13,800
April.....	3,200	183	1,210	1.60	1.78	72,000
May.....	2,980	550	1,340	1.77	2.04	82,400
June.....	529	240	347	.460	.51	20,600
July.....	244	112	172	.228	.26	10,600
August.....	183	88	112	.148	.17	6,890
September.....	385	116	200	.265	.30	11,900
The year.....	3,200	88	353	.468	6.33	256,000
1926-27						
October.....	1,520	287	766	1.01	1.16	47,100
November.....	658	355	455	.603	.67	27,100
December.....	1,130	330	552	.731	.84	33,900
January.....	550	-	330	.437	.50	20,300
February.....	448	220	288	.381	.40	16,000
March.....	448	236	286	.379	.44	17,600
April.....	4,570	480	1,470	1.95	2.18	87,500
May.....	5,910	1,770	3,350	4.44	5.12	206,000
June.....	5,910	1,400	3,530	4.68	5.22	210,000
July.....	1,290	355	710	.940	1.08	43,700
August.....	355	220	274	.363	.42	16,800
September.....	1,910	305	902	1.19	1.33	53,700
The year.....	5,910	-	1,080	1.43	19.36	780,000
1927-28						
October.....	1,520	705	1,150	1.52	1.75	70,700
November.....	1,290	705	904	1.20	1.34	53,800
December.....	1,520	-	839	1.11	1.28	51,600
January.....	705	385	486	.644	.74	29,900
February.....	415	296	355	.470	.51	20,400
March.....	1,770	269	678	.898	1.04	41,700
April.....	3,440	790	1,350	1.79	2.00	80,300
May.....	5,910	2,060	4,580	6.07	7.00	282,000
June.....	2,940	735	1,410	1.87	2.09	83,900
July.....	1,180	385	763	1.01	1.16	46,900
August.....	374	192	262	.347	.40	16,100
September.....	188	127	151	.200	.22	8,980
The year.....	5,910	127	1,080	1.43	19.53	786,000
1928-29						
October.....	315	136	228	.302	.35	14,000
November.....	239	-	187	.248	.28	11,100
December.....	-	-	122	.162	.19	7,500
January.....	-	-	89.0	.118	.14	5,470
February.....	-	-	94.6	.125	.13	5,250
March.....	504	-	183	.242	.28	11,300
April.....	1,810	262	560	.742	.83	33,300
May.....	4,500	1,300	2,480	3.28	3.78	152,000
June.....	2,560	759	1,850	2.45	2.73	110,000
July.....	708	177	363	.481	.55	22,300
August.....	174	94	128	.170	.20	7,870
September.....	112	94	100	.132	.15	5,950
The year.....	4,500	-	534	.707	9.61	386,000

## Monthly discharge of Moyie River at Eileen, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1929-30						
October.....	127	88	96.1	0.127	0.15	5,910
November.....	98	70	89.0	.118	.13	5,500
December.....	155	63	93.2	.123	.14	5,730
January.....	124	60	83.2	.110	.13	5,120
February.....	250	82	126	.167	.17	7,000
March.....	700	149	255	.338	.39	15,700
April.....	3,540	636	1,880	2.49	2.78	112,000
May.....	3,540	1,720	2,160	2.86	3.30	133,000
June.....	3,540	779	1,570	2.08	2.32	93,400
July.....	735	213	400	.530	.61	24,600
August.....	202	104	145	.192	.22	8,920
September.....	114	95	104	.138	.15	6,190
The year.....	3,540	60	584	.774	10.49	423,000
1930-31						
October.....	146	104	120	.159	.18	7,380
November.....	159	117	128	.170	.19	7,620
December.....	120	-	102	.135	.16	6,270
January.....	183	-	113	.150	.17	6,950
February.....	238	-	147	.195	.20	8,160
March.....	504	133	275	.362	.42	16,800
April.....	1,650	340	719	.952	1.06	42,800
May.....	3,410	1,380	2,240	2.97	3.42	138,000
June.....	1,530	426	674	.893	1.00	40,100
July.....	414	151	246	.326	.38	15,100
August.....	131	77	97.8	.130	.15	6,010
September.....	100	72	86.7	.115	.13	5,160
The year.....	3,410	72	415	.550	7.46	300,000
1931-32						
October.....	112	77	87.7	.116	.13	5,390
November.....	183	-	128	.170	.19	7,620
December.....	-	-	121	.160	.18	7,440
January.....	-	-	138	.183	.21	8,480
February.....	1,490	-	287	.380	.41	16,500
March.....	814	303	474	.628	.72	29,100
April.....	2,620	917	1,860	2.46	2.74	111,000
May.....	6,610	2,260	4,360	5.77	6.65	268,000
June.....	4,830	908	2,570	3.40	3.79	153,000
July.....	838	185	429	.568	.65	26,400
August.....	182	120	139	.184	.21	8,550
September.....	124	101	108	.143	.16	6,430
The year.....	6,610	77	892	1.18	16.04	648,000
1932-33						
October.....	210	87	135	.179	.21	8,300
November.....	812	170	388	.514	.57	23,100
December.....	1,230	280	506	.670	.77	31,100
January.....	359	259	301	.399	.46	18,500
February.....	259	-	202	.268	.28	11,200
March.....	624	183	275	.364	.42	16,900
April.....	5,260	639	1,710	2.26	2.52	102,000
May.....	6,230	2,410	3,910	5.18	5.97	240,000
June.....	6,020	1,840	4,240	5.62	6.27	252,000
July.....	1,720	316	803	1.06	1.22	49,400
August.....	316	142	206	.273	.31	12,700
September.....	239	142	175	.232	.26	10,400
The year.....	6,230	87	1,070	1.42	19.26	776,000
1933-34						
October.....	1,600	186	402	.532	.61	24,730
November.....	1,290	624	821	1.09	1.22	48,860
December.....	2,790	485	991	1.31	1.51	60,930
January.....	1,440	707	942	1.25	1.44	57,930
February.....	873	498	708	.938	.98	39,340
March.....	1,630	541	901	1.19	1.37	55,380
April.....	8,380	1,540	4,281	5.67	6.33	254,700
May.....	5,970	2,530	3,933	5.21	6.01	241,800
June.....	2,260	491	1,081	1.43	1.60	64,300
July.....	461	137	264	.350	.40	16,230
August.....	139	91	109	.144	.17	6,720
September.....	104	88	93.1	.123	.14	5,540
The year.....	8,380	88	1,211	1.60	21.78	876,500

Monthly discharge of Moyie River at Eileen, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1934-35						
October.....	183	88	109	0.144	0.17	6,680
November.....	562	130	347	.460	.51	20,670
December.....	311	134	234	.310	.36	14,370
January.....	800	120	323	.428	.49	19,830
February.....	528	307	403	.534	.56	22,370
March.....	535	259	385	.510	.59	23,660
April.....	2,820	335	1,264	1.67	1.86	75,220
May.....	5,890	2,220	3,574	4.73	5.45	219,700
June.....	4,440	986	2,407	3.19	3.56	145,200
July.....	1,060	331	641	.849	.98	39,420
August.....	322	150	214	.283	.33	13,160
September.....	150	111	127	.168	.19	7,550
The year.....	5,890	88	837	1.11	15.05	605,800
1935-36						
October.....	181	103	124	.164	.19	7,610
November.....	187	100	132	.175	.20	7,840
December.....	124	94	114	.151	.17	7,000
January.....	131	85	114	.151	.17	7,000
February.....	-	-	90.1	.119	.13	5,180
March.....	288	130	199	.264	.30	12,230
April.....	4,610	152	2,200	2.91	3.25	130,900
May.....	4,010	1,490	2,865	3.79	4.37	176,200
June.....	1,570	340	813	1.08	1.20	49,590
July.....	326	110	200	.265	.31	12,270
August.....	103	81	91.2	.121	.14	5,610
September.....	131	81	94.7	.125	.14	5,640
The year.....	4,610	81	587	.777	10.57	425,900
1936-37						
October.....	88	81	83.3	.110	.13	5,120
November.....	81	56	69.4	.092	.10	4,130
December.....	211	64	91.8	.122	.14	5,650
January.....	-	-	69.7	.092	.11	4,280
February.....	-	-	85.7	.114	.12	4,760
March.....	249	-	130	.172	.20	8,000
April.....	1,530	264	739	.979	1.09	44,000
May.....	3,760	1,420	2,910	3.85	4.44	178,900
June.....	3,060	1,240	2,238	2.96	3.30	133,200
July.....	1,130	251	502	.665	.77	50,800
August.....	312	129	181	.240	.28	11,100
September.....	160	109	124	.164	.18	7,410
The year.....	3,760	-	604	.800	10.86	437,400
1937-38						
October.....	253	131	158	.209	.24	9,730
November.....	758	221	440	.583	.65	26,150
December.....	839	202	354	.469	.54	21,750
January.....	660	250	406	.538	.62	24,970
February.....	391	235	284	.376	.39	15,780
March.....	1,150	283	615	.815	.94	37,790
April.....	6,770	676	2,809	3.72	4.15	167,100
May.....	6,720	2,670	4,341	5.75	6.63	266,900
June.....	4,830	1,110	2,524	3.34	3.73	150,200
July.....	1,020	223	517	.685	.79	31,780
August.....	215	121	160	.212	.24	9,830
September.....	132	101	113	.150	.17	6,730
The year.....	6,770	101	1,062	1.41	19.09	768,700

## SURFACE WATERS OF UPPER COLUMBIA RIVER BASIN, 1898-1938

Yearly discharge of Moyle River at Eileen, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1926.....	353	0.468	6.33	256,000	473	0.626	8.47	342,000
1927.....	1,080	1.43	19.36	780,000	1,170	1.55	21.06	848,000
1928.....	1,080	1.43	19.53	786,000	885	1.17	15.98	643,000
1929.....	534	.707	9.61	386,000	513	.679	9.21	370,000
1930.....	584	.774	10.49	423,000	590	.781	10.60	427,000
1931.....	415	.550	7.46	300,000	414	.548	7.43	300,000
1932.....	892	1.18	16.04	648,000	950	1.26	17.09	690,000
1933.....	1,070	1.42	19.26	776,000	1,170	1.55	21.05	848,000
1934.....	1,211	1.60	21.78	876,500	1,083	1.43	19.48	783,700
1935.....	837	1.11	15.05	606,800	810	1.07	14.57	586,600
1936.....	587	.777	10.57	425,900	576	.763	10.38	418,300
1937.....	604	.800	10.86	437,400	663	.878	11.92	480,100
1938.....	1,062	1.41	19.09	768,700	1,014	1.34	18.24	734,300
Highest....	1,211	1.60	21.78	876,500	1,170	1.55	21.06	848,000
Average....	793	1.05	14.26	574,600	793	1.05	14.27	574,700
Lowest.....	353	.468	6.33	256,000	414	.548	7.43	300,000

Cow Creek near Bonners Ferry, Idaho

Location.- Staff gage, lat. 48°41', long. 116°15', in SW $\frac{1}{4}$  sec. 31, T. 62 N., R. 2 E., at Footbridge on Goldbeck Ranch, 3 miles southeast of Bonners Ferry.

Records available.- May 1928 to September 1934.

Extremes.- Maximum discharge observed, 60 second-feet June 9, 1933 (gage height, 5.48 feet); minimum observed, 0.4 second-foot Sept. 8, 9, 14-17, 28-30, 1932.

Remarks.- Some water diverted above station during summer for irrigation.

Monthly discharge of Cow Creek near Bonners Ferry, Idaho

Monthly discharge of Cow Creek near Bonfers Ferry, Idaho				
Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1928				
May 16-31.....	56	27	44.8	1,420
June.....	24	7.5	12.7	756
July.....	8.9	3.6	5.95	366
August.....	3.8	2.5	2.87	176
September.....	2.7	2.3	2.34	139
The period.....	-	-	-	2,860
1928-29				
October 1-6.....	3.3	2.3	2.90	35
March 17-31.....	3.7	1.6	2.13	63
April.....	4.6	1.6	2.35	140
May.....	22	4.3	12.0	738
June.....	12	4.3	7.49	446
July.....	4.7	1.2	1.92	118
August.....	1.4	1.0	1.13	69
1930				
March 17-31.....	7.4	3.2	4.11	122
April.....	15	3.8	8.10	482
May.....	13	7.4	9.41	579
June.....	10	1.5	6.01	358
July.....	1.5	.9	1.15	71
August.....	.9	.8	.81	50
September.....	1.0	.7	.80	48
The period.....	-	-	-	1,710
1930-31				
October 1-4.....	.90	.90	.90	7.1
March 10-31.....	6.0	1.4	2.88	126
April.....	7.2	1.6	3.76	224
May.....	18	6.6	12.6	775
June.....	7.4	1.8	3.43	204
July.....	1.8	.6	1.10	68
August.....	.7	.5	.53	33
September.....	1.2	.5	.72	43



## Monthly discharge of Cow Creek near Bonners Ferry, Idaho--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1932				
February 26-29.....	45	12	30.5	242
March.....	8.0	2.1	3.48	214
April.....	14	4.3	8.71	518
May.....	48	11	28.2	1,730
June.....	25	5.7	13.8	821
July.....	5.1	1.8	3.36	207
August.....	1.8	.5	1.16	71
September.....	.8	.4	.50	30
The period.....	-	-	-	3,830
1933				
March.....	8.8	-	4.55	280
April.....	32	6.2	10.5	625
May.....	50	14	24.2	1,490
June.....	60	15	37.3	2,220
July.....	13	3.0	7.25	446
August.....	3.2	1.3	2.05	126
September.....	2.0	1.1	1.47	87
The period.....	-	-	-	5,270
1934				
March.....	24	7.1	8.68	534
April.....	54	17	29.6	1,760
May.....	37	16	27.6	1,700
June.....	14	2.9	6.98	416
July.....	2.9	1.1	1.88	116
August.....	1.3	.6	.94	57
September.....	1.5	.6	.86	51
The period.....	-	-	-	4,630

## Deep Creek at Moravia, Idaho

Location.- Staff Gage, lat. 48°58', long. 116°24', in sec. 18, T. 61 N., R. 1 E., at concrete highway bridge 1 mile below Ruby Creek and 1 mile southwest of Moravia.

Drainage area.- 133 square miles.

Records available.- May 1928 to September 1938.

Extremes.- Maximum discharge observed, 1,300 second-feet Dec. 22, 1933 (gage height, 4.20 feet); minimum discharge, 7 second-feet Aug. 15, 24, 25, 1931; minimum gage height, 0.18 foot Sept. 3, 5, 1938.

Remarks.- No regulation or diversion of any size above station.

## Monthly discharge of Deep Creek at Moravia, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1928						
May 8-31.....	-	256	511	3.84	3.43	24,300
June.....	243	77	138	1.04	1.16	8,210
July.....	93	23	57.0	.429	.49	3,500
August.....	23	9	14.0	.105	.12	861
September.....	18	9	12.5	.094	.10	744
The period.....	-	-	-	-	-	37,600
1929						
March 17-31.....	205	60	89.1	.670	.37	2,650
April.....	276	48	113	.850	.95	6,720
May.....	390	188	269	2.02	2.33	16,500
June.....	254	65	139	1.05	1.17	8,270
July.....	65	16	30.2	.227	.26	1,860
August.....	14	8	9.7	.073	.08	596
The period.....	-	-	-	-	-	36,600
1930						
March 19-31.....	232	70	117	.880	.43	3,020
April.....	403	194	277	2.08	2.32	16,500
May.....	242	122	163	1.23	1.42	10,000
June.....	204	60	103	.774	.86	6,130
July.....	65	16	33.5	.252	.29	2,060
August.....	11	8	9.5	.071	.08	584
September.....	16	8	11.3	.085	.09	672
The period.....	-	-	-	-	-	39,000

## Monthly discharge of Deep Creek at Moravia, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1930-31						
October 1-11.....	34	11	18.1	0.136	0.06	395
March 10-31.....	210	64	130	.977	.80	5,670
April.....	360	138	210	1.58	1.76	12,500
May.....	303	104	222	1.67	1.92	13,600
June.....	112	32	57.9	.435	.49	3,450
July.....	32	10	19.0	.143	.16	1,170
August.....	10	7	8.6	.065	.07	529
September.....	14	10	12.3	.092	.10	732
1932						
February 27-29.....	819	477	667	5.02	.56	3,970
March.....	402	115	209	1.57	1.81	12,900
April.....	742	294	528	3.97	4.43	31,400
May.....	819	329	582	4.38	5.05	35,800
June.....	402	68	246	1.85	2.06	14,600
July.....	68	16	36.5	.274	.32	2,240
August.....	16	11	12.8	.096	.11	787
September.....	14	10	11.6	.087	.10	690
The period.....	-	-	-	-	-	102,000
1932-33						
October.....	45	14	21.9	.165	.19	1,350
November.....	263	26	92.3	.694	.77	5,490
December.....	421	83	144	1.08	1.24	8,850
January.....	179	66	98.9	.744	.86	6,080
February.....	92	-	59.5	.447	.47	3,300
March.....	279	46	114	.857	.99	7,010
April.....	975	205	449	3.38	3.77	26,700
May.....	666	477	565	4.25	4.90	34,700
June.....	704	205	459	3.45	3.85	27,300
July.....	205	-	85.9	.646	.74	5,280
August.....	-	13	17.7	.133	.15	1,090
September.....	26	13	18.3	.138	.15	1,090
The year.....	975	13	177	1.33	18.08	128,000
1933-34						
October.....	119	17	36.0	.271	.31	2,210
November.....	160	58	76.0	.571	.64	4,520
December.....	1,300	49	341	2.56	2.95	20,940
January.....	594	232	367	2.76	3.18	22,590
February.....	301	130	209	1.57	1.63	11,610
March.....	532	147	242	1.82	2.10	14,870
April.....	980	433	584	4.39	4.90	34,720
May.....	433	162	297	2.23	2.57	18,230
June.....	145	37	79.9	.601	.67	4,750
July.....	33	12	19.3	.145	.17	1,190
August.....	13	9	10.5	.079	.09	647
September.....	15	9	11.9	.089	.10	706
The year.....	1,300	9	189	1.42	19.31	137,000
1934-35						
October.....	138	14	32.6	.245	.28	2,000
November.....	258	31	119	.895	1.00	7,070
December.....	126	68	88.5	.665	.77	5,440
January.....	400	50	115	.865	1.00	7,100
February.....	143	96	114	.857	.89	6,340
March.....	316	88	161	1.21	1.39	9,890
April.....	638	143	327	2.46	2.74	19,470
May.....	825	220	562	4.23	4.88	34,580
June.....	506	112	263	1.98	2.21	15,670
July.....	136	26	63.9	.480	.55	3,930
August.....	24	14	17.9	.135	.16	1,100
September.....	20	14	15.4	.116	.13	914
The year.....	825	14	157	1.18	16.00	113,500

## Monthly discharge of Deep Creek at Moravia, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1935-36</b>						
October.....	41	15	21.7	0.163	0.19	1,330
November.....	35	24	29.8	.224	.25	1,780
December.....	41	20	30.2	.227	.26	1,860
January.....	44	27	33.0	.248	.29	2,030
February.....	-	-	32.9	.247	.27	1,890
March.....	115	59	78.0	.586	.68	4,800
April.....	920	60	442	3.32	3.70	26,290
May.....	630	151	364	2.74	3.16	22,410
June.....	162	40	92.5	.695	.78	5,500
July.....	38	12	23.2	.174	.20	1,450
August.....	13	10	11.0	.083	.10	678
September.....	78	10	19.8	.149	.17	1,180
The year.....	920	10	98.0	.737	10.05	71,180
<b>1936-37</b>						
October.....	18	16	17.5	.132	.15	1,080
November.....	21	15	17.6	.132	.15	1,050
December.....	132	-	38.9	.292	.34	2,390
January.....	-	-	18.4	.138	.16	1,130
February.....	-	-	23.8	.179	.19	1,320
March.....	142	25	55.5	.417	.48	3,410
April.....	830	132	348	2.62	2.92	20,720
May.....	730	265	419	3.15	3.63	25,740
June.....	460	120	219	1.65	1.84	13,060
July.....	113	24	50.8	.382	.44	3,120
August.....	38	13	19.2	.144	.17	1,180
September.....	120	14	22.5	.169	.19	1,340
The year.....	830	13	104	.782	10.66	75,540
<b>1937-38</b>						
October.....	44	21	28.0	.211	.24	1,720
November.....	425	29	140	1.05	1.17	8,310
December.....	690	111	173	1.30	1.50	10,650
January.....	478	100	198	1.49	1.72	12,190
February.....	150	90	111	.835	.87	6,150
March.....	730	111	272	2.05	2.36	16,750
April.....	1,260	252	617	4.64	5.18	36,710
May.....	930	442	642	4.83	5.57	39,450
June.....	460	116	265	1.99	2.22	15,740
July.....	109	20	51.1	.384	.44	3,140
August.....	19	12	16.3	.123	.14	1,000
September.....	20	11	15.0	.113	.13	893
The year.....	1,260	11	211	1.59	21.54	152,700

## Yearly discharge of Deep Creek at Moravia, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1933.....	177	1.33	18.08	128,000	194	1.46	19.78	140,000
1934.....	189	1.42	19.31	137,000	171	1.29	17.46	123,800
1935.....	157	1.18	16.00	113,500	144	1.08	14.65	104,000
1936.....	98.0	.737	10.05	71,180	97.4	.732	9.99	70,730
1937.....	104	.782	10.66	75,540	127	.955	12.93	91,700
1938.....	211	1.59	21.54	162,700	190	1.43	19.45	137,800

## Snow Creek near Moravia, Idaho

Location.- Staff gage, lat. 48°40', long. 116°24', in SW $\frac{1}{4}$  sec. 1, T. 61 N., R. 1 W., 2 miles northwest of Moravia and 5 miles southwest of Bonners Ferry.

Drainage area.- 19.5 square miles.

Records available.- May 1928 to September 1934.

Extremes.- Maximum discharge observed, 572 second-foot June 14, 15, 1933 (gage height, 2.50 feet); minimum discharge, 1 second-foot Aug. 16 to Sept. 10, Sept. 16-21, 1934; minimum gage height, 0.30 foot Sept. 16 and 22, 1932.

Remarks.- No diversions above station.

## Monthly discharge of Snow Creek near Moravia, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1928</b>						
May 8-31.....	352	121	237	12.2	10.89	11,300
June.....	107	43	68.3	3.50	3.90	4,080
July.....	45	7	22.2	1.14	1.31	1,360
August.....	10	4	4.8	.246	.28	295
September.....	4	2	2.6	.133	.15	155
The period.....	-	-	-	-	-	17,200
<b>1929</b>						
March 17-31.....	45	5	14.4	.738	.41	428
April.....	78	11	27.2	1.39	1.55	1,620
May.....	269	49	116	5.95	6.86	7,130
June.....	122	21	67.2	3.45	3.85	4,000
July.....	20	5	10.0	.513	.59	615
August.....	5	-	3.4	.174	.20	209
September.....	4	-	2.7	.138	.15	161
The period.....	-	-	-	-	-	14,200
<b>1930</b>						
March 20-31.....	36	13	22.5	1.15	.51	536
April.....	202	38	99.1	5.08	5.67	5,900
May.....	152	71	93.6	4.80	5.53	5,760
June.....	120	24	54.2	2.78	3.10	3,230
July.....	23	5	12.1	.621	.72	744
August.....	5	4	4.2	.215	.25	258
September.....	4	3	3.2	.164	.18	190
The period.....	-	-	-	-	-	16,600
<b>1931</b>						
March 11-31.....	30	13	19.1	.979	.76	796
April.....	75	17	33.2	1.70	1.90	1,980
May.....	275	68	116	5.95	6.86	7,130
June.....	75	13	28.3	1.45	1.62	1,680
July.....	12	4	6.5	.333	.38	400
August.....	4	2	2.4	.123	.14	148
September.....	7	2	3.1	.159	.18	184
The period.....	-	-	-	-	-	12,300
<b>1932</b>						
March 6-31.....	64	25	42.5	2.18	2.11	2,190
April.....	162	56	105	5.38	6.00	6,250
May.....	352	113	217	11.1	12.8	13,300
June.....	258	56	154	7.90	8.81	9,160
July.....	51	7	20.4	1.05	1.21	1,250
August.....	7	4	4.9	.251	.29	301
September.....	5	3	3.4	.174	.19	202
The period.....	-	-	-	-	-	32,700
<b>1932-33</b>						
October 1-8.....	3	3	3.0	.154	.05	48
March.....	35	9	15.8	.810	.93	972
April.....	186	31	76.0	3.90	4.35	4,520
May.....	334	95	154	7.90	9.11	9,470
June.....	572	139	285	14.6	16.29	17,000
July.....	142	14	59.7	3.06	3.53	3,670
August.....	13	4	7.8	.400	.46	480
September.....	8	3	5.9	.303	.34	351

## Monthly discharge of Snow Creek near Moravia, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1933-34						
October 1-7.....	-	-	7.9	0.405	0.11	109
March.....	60	-	37.3	1.91	2.20	2,290
April.....	377	70	193	9.90	11.05	11,460
May.....	236	120	186	8.54	11.00	11,430
June.....	92	20	55.6	2.85	3.18	3,310
July.....	16	3	8.3	.426	.49	508
August.....	3	1	1.6	.082	.09	101
September.....	4	1	1.7	.087	.10	101

## Caribou Creek near Moravia, Idaho

Location.- Staff gage, lat.  $48^{\circ}40'$ , long.  $116^{\circ}24'$ , in NE $\frac{1}{4}$  sec. 12, T. 61 N., R. 1 W., 600 feet upstream from highway bridge and  $1\frac{1}{2}$  miles northwest of Moravia. During 1928, 1930, and 1931 a staff gage in NE $\frac{1}{4}$  sec. 11, T. 61 N., R. 1 W., 1 mile upstream was used.

Drainage area.- 14 square miles.

Records available.- May 1928 to September 1934.

Extremes.- Maximum discharge, 376 second-feet June 15, 1933 (gage height, 5.58 feet); practically no flow Aug. 22-26, 1934.

Remarks.- Several small diversions between upper and lower gage sites for irrigation and railroad water supply.

## Monthly discharge of Caribou Creek near Moravia, Idaho

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1928				
May 9-31.....	234	94	164	7,480
June.....	85	20	45.8	2,730
July.....	26	6	13.5	830
August.....	6	4	4.5	277
September.....	4	3	3.3	196
The period.....	-	-	-	11,500
1929				
March 17-31.....	49	6	16.9	503
April.....	91	12	31.0	1,840
May.....	143	50	77.1	4,740
June.....	66	17	44.5	2,650
July.....	14	1	4.8	295
August.....	-	-	1.0	61
September.....	-	-	1.9	113
The period.....	-	-	-	10,200
1930				
March 22-31.....	38	14	25.0	496
April.....	113	41	74.5	4,430
May.....	85	47	61.3	3,770
June.....	83	17	34.8	2,070
July.....	17	4	8.7	535
August.....	4	2	2.9	178
September.....	3	2	2.1	125
The period.....	-	-	-	11,600
1931				
March 10-31.....	34	9	19.2	838
April.....	65	18	36.9	2,200
May.....	175	51	81.7	5,020
June.....	56	10	22.6	1,340
July.....	10	3	5.1	314
August.....	3	1	1.6	98
September.....	5	1	2.0	119
The period.....	-	-	-	9,930

## Monthly discharge of Caribou Creek near Moravia, Idaho--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1932				
February 28-29.....	142	125	134	532
March.....	105	21	41.5	2,550
April.....	147	39	91.2	5,430
May.....	188	82	136	8,360
June.....	156	54	106	6,310
July.....	50	2	15.9	978
August.....	2	-	1.3	80
September.....	-	-	.4	24
The period.....	-	-	-	24,300
1932-33				
October 1-8.....	.6	.3	.41	6.5
March.....	24	7	13.3	818
April.....	165	20	61.7	3,670
May.....	172	64	110	6,760
June.....	376	105	164	9,760
July.....	112	10	40.0	2,460
August.....	9	1	3.8	234
September.....	5	1	2.8	167
1934				
March.....	49	-	29.2	1,800
April.....	246	60	128	7,600
May.....	142	81	113	6,980
June.....	62	11	38.2	2,280
July.....	12	.7	4.59	282
August.....	1	0	.34	21
September.....	2	.3	.66	39
The period.....	-	-	-	19,000

## Myrtle Creek near Bonners Ferry, Idaho

Location.- Staff gage, lat. 48°42', long. 116°25', in sec. 23, T. 62 N., R. 1 W., 80 feet upstream from power plant of Bonners Ferry Light & Water Co. and  $5\frac{1}{2}$  miles west of Bonners Ferry.

Drainage area.- 37 square miles.

Records available.- May 1928 to September 1934.

Extremes.- Maximum discharge observed, 1,260 second-foot June 15, 1933 (gage height, 4.90 feet); minimum observed, 0.4 second-foot Sept. 6-22, 30, 1929; minimum gage height, 0.50 foot Sept. 8-22, 30, 1929.

Remarks.- Water supply for village of Bonners Ferry (probably not exceeding 1 second-foot) diverted above station. The Bonners Ferry municipal power plant diverted 461 acre-feet around gage during May and June 1928 and 261 acre-feet during August and September 1929.

## Monthly discharge of Myrtle Creek near Bonners Ferry, Idaho

Month	Discharge in second-foot				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1928						
May 8-31.....	780	249	551	-	-	26,200
June.....	283	90	152	-	-	9,040
July.....	98	18	46.7	-	-	2,870
August.....	20	11	13.7	-	-	842
September.....	10	8	6.7	-	-	518
The period.....	-	-	-	-	-	39,500
1929						
March 17-31.....	70	6.7	20.4	0.551	0.31	607
April.....	144	16	40.6	1.10	1.23	2,420
May.....	548	86	234	6.32	7.29	14,400
June.....	373	58	171	4.62	5.16	10,200
July.....	51	11	24.8	.670	.772	1,520
August.....	11	4.4	7.32	-	-	450
September.....	5.4	.4	1.09	-	-	64.9
The period.....	-	-	-	-	-	29,700

Monthly discharge of Myrtle Creek near Bonners Ferry, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1930						
April.....	373	51	175	4.73	5.28	10,400
May.....	353	135	190	5.14	5.93	11,700
June.....	220	44	109	2.95	3.29	6,490
July.....	48	8.4	22.1	.597	.69	1,360
August.....	18	3.6	7.35	.199	.23	452
September.....	12	3.6	6.45	.174	.19	384
The period.....	-	-	-	-	-	30,800
1931						
March 11-31.....	58	16	31.1	.841	.66	1,300
April.....	373	29	68.6	1.85	2.06	4,080
May.....	566	160	288	7.78	8.97	17,700
June.....	196	38	77.2	2.09	2.33	4,590
July.....	32	6	15.0	.405	.47	922
August.....	6	3	4.4	.119	.14	271
September.....	10	3	5.0	.135	.15	298
The period.....	-	-	-	-	-	29,200
1932						
February 27-29.....	445	197	304	8.22	.92	1,610
March.....	140	39	67.3	1.82	2.10	4,140
April.....	172	76	125	3.46	3.86	7,620
May.....	570	140	344	9.30	10.7	21,204
June.....	525	119	326	8.81	9.83	19,400
July.....	117	15	48.7	1.32	1.52	2,990
August.....	15	6	8.9	.241	.28	547
September.....	8	4	5.3	.143	.16	315
The period.....	-	-	-	-	-	58,000
1932-33						
October 1-8.....	-	-	5.0	.135	.04	79
March.....	39	14	21.6	.584	.67	1,330
April.....	270	30	86.7	2.34	2.61	5,160
May.....	505	130	218	5.89	6.79	13,400
June.....	1,080	370	567	15.3	17.07	33,700
July.....	352	42	150	4.05	4.67	9,220
August.....	41	14	25.0	.675	.78	1,540
September.....	35	13	22.2	.600	.67	1,320
1934						
March.....	121	35	56.1	1.52	1.75	3,450
April.....	620	107	300	8.11	9.05	17,830
May.....	490	266	368	9.95	11.47	22,620
June.....	214	39	119	3.22	3.59	7,090
July.....	37	8	16.3	.441	.51	1,000
August.....	8	4	6.1	.165	.19	375
September.....	10	4	6.1	.165	.18	363
The period.....	-	-	-	-	-	52,730

## Ball Creek near Bonners Ferry, Idaho

Location.- Staff gage, lat. 48°48', long. 116°25', in SW $\frac{1}{4}$  sec. 24, T. 63 N., R. 1 W., three-quarters of a mile upstream from mouth and 8.2 miles northwest of Bonners Ferry.

Drainage area.- 27 square miles.

Records available.- May 1928 to September 1934.

Extremes.- Maximum discharge observed, 644 second-feet June 15, 1933 (gage height, 4.60 feet); minimum observed, 2 second-feet Sept. 10, 1934 (gage height, 1.82 feet).

Remarks.- Minor diversions above station for irrigation.

Monthly discharge of Ball Creek near Bonners Ferry, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1928						
May 10-31.....	368	164	306	11.3	9.25	13,400
June.....	-	51	88.0	3.26	3.64	5,240
July.....	56	9	25.5	.944	1.09	1,570
August.....	10	6	7.2	.267	.31	443
September.....	6	4	4.8	.178	.20	286
The period.....	-	-	-	-	-	20,900

## Monthly discharge of Ball Creek near Bonners Ferry, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1928-29						
October 1-2.....	15	4	9.5	0.352	0.03	37
March 17-31.....	14	5	7.3	.270	.15	217
April.....	68	6	14.9	.552	.62	887
May.....	361	40	142	5.26	6.06	8,730
June.....	210	38	114	4.22	4.71	6,780
July.....	36	7	16.0	.593	.68	984
August.....	6	4	5.0	.185	.21	307
1930						
March 23-31.....	19	8	11.8	.437	.15	211
April.....	239	18	102	3.78	4.22	6,070
May.....	177	98	136	5.04	5.81	8,560
June.....	147	32	72.3	2.68	2.99	4,300
July.....	29	6	14.0	.519	.60	861
August.....	6	4	5.2	.193	.22	320
September.....	6	4	4.1	.152	.17	244
The period.....	-	-	-	-	-	20,400
1931						
March 13-31.....	15	6	9.2	.341	.24	347
April.....	59	8	19.8	.733	.82	1,180
May.....	314	96	173	6.41	7.39	10,600
June.....	145	26	56.4	2.09	2.33	3,360
July.....	23	6	12.7	.470	.54	781
August.....	6	4	4.8	.178	.21	295
September.....	13	4	5.4	.200	.22	321
The period.....	-	-	-	-	-	16,900
1932						
March 7-31.....	39	21	27.6	1.02	.95	1,370
April.....	95	40	71.0	2.63	2.93	4,260
May.....	344	80	217	8.04	9.27	13,300
June.....	329	123	218	8.07	9.00	13,000
July.....	110	11	37.2	1.38	1.59	2,290
August.....	10	6	7.1	.263	.30	437
September.....	6	4	4.6	.170	.19	274
The period.....	-	-	-	-	-	34,900
1932-33						
October 1-21.....	-	-	6.9	.256	.20	287
March 21-31.....	15	10	11.9	.441	.18	260
April.....	149	13	44.0	1.63	1.82	2,620
May.....	358	80	156	5.78	6.66	9,590
June.....	594	230	371	13.7	15.29	22,100
July.....	217	21	102	3.78	4.36	6,270
August.....	19	7	11.6	.430	.50	713
September.....	14	6	8.5	.315	.35	506
1934						
March.....	71	-	29.4	1.09	1.26	1,810
April.....	617	62	213	7.89	8.80	12,680
May.....	372	196	274	10.1	11.64	16,880
June.....	166	32	95.6	3.54	3.95	5,690
July.....	30	7	15.7	.581	.67	966
August.....	7	3	5.1	.189	.22	311
September.....	7	2	4.2	.156	.17	252
The period.....	-	-	-	-	-	38,590

## Trout Creek near Copeland, Idaho

Location.-- Staff gage, lat. 48°50', long. 116°26', in NE¼ sec. 10, T. 63 N., R. 1 W., 2½ miles upstream from mouth and 5½ miles southwest of Copeland.

Drainage area.-- 20 square miles.

Records available.-- May 1928 to September 1934.

Extremes.-- Maximum discharge observed, 533 second-feet June 16, 1933; minimum discharge, 2 second-feet on several days in 1928, 1930, 1931, and 1934.

Remarks.-- No diversions or regulation above station.



Monthly discharge of Trout Creek near Copeland, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1928</b>						
May 28-31.....	208	131	178	8.90	1.32	1,410
June.....	124	34	58.6	2.93	3.27	3,490
July.....	36	7	19.5	.975	1.12	1,200
August.....	6	4	4.5	.225	.26	277
September.....	4	2	2.6	.130	.14	155
The period.....	-	-	-	-	-	6,530
<b>1929</b>						
April 27-30.....	-	-	56.6	2.84	.42	451
May.....	270	39	118	5.90	6.80	7,260
June.....	131	29	70.0	3.50	3.90	4,170
July.....	26	6	13.2	.660	.76	812
August 1-3.....	-	-	5.0	.250	.03	30
The period.....	-	-	-	-	-	12,700
<b>1930</b>						
April.....	157	20	74.3	3.72	4.15	4,420
May.....	120	64	82.6	4.13	4.76	5,080
June.....	81	20	44.2	2.21	2.47	2,630
July.....	19	4	8.3	.415	.48	510
August.....	4	2	2.9	.145	.17	178
September.....	4	2	2.6	.130	.14	155
The period.....	-	-	-	-	-	13,000
<b>1931</b>						
March 30-31.....	-	-	6.0	.300	.02	24
April.....	60	6	18.0	.900	1.00	1,070
May.....	216	76	123	6.15	7.09	7,560
June.....	75	20	34.9	1.74	1.94	2,080
July.....	18	4	9.4	.470	.54	578
August.....	4	2	2.8	.140	.16	172
September.....	5	2	3.0	.150	.17	179
The period.....	-	-	-	-	-	11,700
<b>1932</b>						
March 7-31.....	23	13	17.6	.880	.82	873
April.....	89	23	55.9	2.80	3.12	3,330
May.....	280	70	184	9.20	10.6	11,300
June.....	240	50	147	7.35	8.20	8,750
July.....	46	7	21.1	1.06	1.22	1,300
August.....	7	4	4.8	.240	.28	295
September.....	4	3	3.3	.165	.18	186
The period.....	-	-	-	-	-	26,000
<b>1933</b>						
March 18-31.....	10	6	7.8	.39	.20	217
April.....	120	10	31.0	1.55	1.73	1,840
May.....	266	47	105	5.25	6.05	6,460
June.....	535	135	258	12.9	14.59	15,400
July.....	131	18	54.1	2.70	3.11	3,330
August.....	18	6	9.7	.485	.56	596
September.....	10	6	6.9	.345	.58	411
The period.....	-	-	-	-	-	28,500
<b>1933-34</b>						
October 1-24.....	-	-	7.5	.375	.54	359
March.....	42	-	23.6	1.18	1.36	1,450
April.....	371	40	138	6.90	7.70	8,240
May.....	211	129	166	8.50	9.67	10,220
June.....	137	30	66.6	3.33	3.72	3,960
July.....	28	6	15.0	.750	.86	920
August.....	6	2	3.4	.170	.20	212
September.....	3	2	2.4	.120	.13	143

## Mission Creek at Copeland, Idaho

Location.- Staff gage, lat. 48°54', long. 116°23', in SE $\frac{1}{4}$  sec. 18, T. 64 N., R. 1 E., 400 feet upstream from trestle on Kootenai Valley branch of Great Northern Railway and 0.8 mile south of Copeland.

Drainage area.- 31 square miles.

Records available.- May 1928 to September 1934.

Extremes.- Maximum discharge observed, 370 second-feet May 22, 1932; maximum gage height observed, 3.35 feet May 12, 1928; minimum discharge observed, 1 second-foot Aug. 26, 1934 (gage height, 0.50 foot).

Remarks.- Some flow naturally diverted from Mission Creek to Round Prairie Creek, in Moyie River Basin, at divide 5 miles above station. Quantity diverted is dependent upon collection of drift at point of diversion. No other diversion or regulation above station.

## Monthly discharge of Mission Creek at Copeland, Idaho

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1928				
May 9-31.....	256	116	194	8,850
June.....	100	20	46.1	2,740
July.....	45	12	26.5	1,630
August.....	12	8	9.5	584
September.....	8	6	7.1	422
The period.....	-	-	-	14,200
1928-29				
October 1-3.....	11	9	10.3	59.5
March 17-31.....	16	4.5	7.22	215
April.....	117	7.7	29.1	1,730
May.....	179	68	110	6,760
June.....	100	34	75.5	4,500
July.....	29	6.0	13.5	830
August.....	6.0	3.3	4.24	261
September.....	7.7	3.1	3.69	220
1930				
March 30-31.....	-	-	22.5	89
April.....	128	25	80.9	4,810
May.....	96	41	61.7	3,790
June.....	85	21	39.8	2,370
July.....	20	6	12.1	744
August.....	6	4	4.9	301
September.....	6	4	4.3	256
The period.....	-	-	-	12,400
1930-31				
October 1-11.....	16	3	6.5	142
March 14-31.....	22	8	15.0	536
April.....	114	16	44.2	2,630
May.....	178	38	102	6,270
June.....	36	13	20.8	1,240
July.....	13	4	7.9	486
August.....	4	3	3.3	203
September.....	8	3	3.9	232
1932				
March.....	21	9	12.6	775
April.....	125	23	72.5	4,310
May.....	351	107	241	14,800
June.....	193	33	91.1	5,420
July.....	30	6	14.0	861
August.....	6	4	4.6	283
September.....	4	3	3.6	214
The period.....	-	-	-	26,700
1932- 33				
October 1-21.....	-	-	4.1	171
March.....	20	-	8.4	516
April.....	244	21	70.1	4,170
May.....	249	104	174	10,700
June.....	216	55	128	7,620
July.....	49	10	20.6	1,270
August.....	10	3	6.3	397
September.....	8	3	5.0	298

Monthly discharge of Mission Creek at Copeland, Idaho--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1934				
March .....	78	-	32.8	2,020
April.....	281	67	158	9,400
May.....	176	45	97.9	6,020
June.....	42	13	23.9	1,420
July.....	13	4	7.6	466
August .....	5	2	3.4	206
September.....	6	2	3.4	202
The period .....	-	-	-	19,730

## Rock Creek near Copeland, Idaho

Location.- Staff gage, lat. 48°51', long. 116°22', in NW $\frac{1}{4}$  sec. 5, T. 63 N., R. 1 E., at trestle on Kootenai Valley branch of Great Northern Railway, 4.7 miles south of Copeland.

Drainage area.- 14.3 square miles.

Records available.- May 1928 to September 1934.

Extremes.- Maximum discharge observed, 86 second-foot Apr. 26, 1933 (gage height, 2.44 feet); minimum discharge, 0.1 second-foot July 20 to Sept. 7, 1931, Aug. 3, 5-10, 14, 15, 17-19, 1932, Aug. 23-25, 1934.

Remarks.- No diversions above station.

Monthly discharge of Rock Creek near Copeland, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1928						
May 8-31.....	21	3.5	8.53	0.597	0.53	406
June.....	5.6	2.3	3.70	.259	.29	220
July.....	8.6	-	2.62	.183	.21	161
August 1-20.....	-	-	.39	.027	.02	15
The period.....	-	-	-	-	-	802
1929						
March 17-31.....	9.5	.7	3.41	.238	.13	101
April.....	37	1.9	11.3	.825	.92	702
May.....	16	.4	7.52	.526	.61	462
June.....	14	.7	5.66	.396	.44	337
July 1-16.....	-	-	.956	.067	.04	30
The period.....	-	-	-	-	-	1,630
1930						
March 23-31.....	26	10	15.3	1.07	.36	273
April.....	20	5	12.2	.853	.95	726
May.....	16	3	5.4	.378	.44	332
June.....	6	1	2.7	.189	.21	161
July.....	2	.4	.59	.048	.06	42
August.....	.5	.3	.39	.027	.03	24
September.....	.4	.3	.37	.026	.03	22
The period.....	-	-	-	-	-	1,580
1931						
March 14-31.....	19	2.7	8.54	.597	.40	305
April.....	20	8.4	11.6	.811	.90	690
May.....	7.8	.8	2.91	.203	.23	179
June.....	1.1	.4	.57	.040	.05	34
July.....	.5	.1	.24	.017	.02	15
August.....	.1	.1	1.10	.0070	.008	6.1
September.....	.2	.1	.18	.013	.01	11
The period.....	-	-	-	-	-	1,240
1932						
April.....	62	20	32.8	2.29	2.56	1,950
May.....	29	4.4	13.7	.958	1.10	842
June.....	17	.8	4.21	.294	.33	251
July.....	1.7	.2	.49	.034	.04	30
August.....	.2	.1	.16	.011	.01	9.8
September.....	.3	.2	.21	.015	.02	12
The period.....	-	-	-	-	-	3,090

Monthly discharge of Rock Creek near Copeland, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1932-33						
October.....	-	-	0.33	0.023	0.03	20
November.....	-	-	2.00	.140	.16	119
December.....	-	-	1.85	.129	.15	114
January.....	-	-	1.89	.132	.15	116
February.....	-	-	1.25	.087	.09	69
March.....	31	-	8.0	.559	.64	492
April.....	86	24	42.7	2.99	3.34	2,540
May.....	41	6.1	19.5	1.36	1.57	1,200
June.....	5.3	1.3	2.91	.203	.23	173
July.....	-	-	.61	.043	.05	38
August.....	-	-	.20	.014	.02	12
September.....	-	-	.27	.019	.02	16
The year.....	86	-	6.78	.474	6.45	4,910
1933-34						
October 1-20.....	-	-	.28	.020	.01	11
November.....	-	-	-	-	-	-
December.....	-	-	-	-	-	-
January.....	-	-	-	-	-	-
February.....	-	-	-	-	-	-
March.....	54	-	21.0	1.47	1.69	1,290
April.....	72	9	25.7	1.80	2.01	1,530
May.....	11	1.5	6.07	.424	.49	373
June.....	1.8	.4	.82	.057	.06	49
July.....	.4	.2	.25	.017	.02	15
August.....	.2	.1	.19	.013	.01	12
September.....	.3	.2	.22	.015	.02	13

## Brush Creek near Copeland, Idaho

Location.-- Staff gage, lat. 48°53', long. 116°22'30", in SE¼ sec. 19, T. 64 N., R. 1 E., at wooden bridge on valley road paralleling Kootenai Valley branch of Great Northern Railway, 1.8 miles south of Copeland.

Drainage area.-- 7.2 square miles.

Records available.-- May 1928 to September 1934.

Extremes.-- Maximum discharge observed, 68 second-feet Apr. 26, 1933; no flow at times.

Remarks.-- Small diversion from Brush Lake about 2 miles above station for irrigation; some regulation at outlet of Brush Lake.

Monthly discharge of Brush Creek near Copeland, Idaho

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1928				
May 14-31.....	9.1	1.5	3.66	131
June.....	4.3	.5	2.01	120
July.....	2.4	-	.822	51
August 1-20.....	-	-	.060	2.4
The period.....	-	-	-	304
1929				
March 31.....	7.1	7.1	7.10	14
April.....	11.7	-	5.19	309
May.....	28	-	6.16	379
June.....	8.7	0	2.61	155
July 1-16 .....	-	-	.75	24
The period.....	-	-	-	881
1930				
March 23-31.....	25	14	19.2	343
April.....	16	1	8.1	482
May.....	2	1	1.2	74
June.....	9	1	2.9	173
July.....	1	-	.33	20
August.....	-	-	.10	6.1
September.....	-	-	.10	6.0
The period.....	-	-	-	1,100
1931				
April 22-30.....	6.2	1.5	2.94	52
May.....	10	.1	2.75	169
June.....	.3	.1	.19	11
July.....	.1	0	.01	.6
August.....	0	0	0	0
September.....	0	0	0	0
The period.....	-	-	-	233

## Monthly discharge of Brush Creek near Copeland, Idaho--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1932				
April.....	41	12	20.1	1,200
May.....	18	.9	8.5	523
June.....	7.2	.2	2.2	131
July.....	0.1	0	.02	1.2
August.....	0.1	0	.03	1.8
The period.....	-	-	-	1,860
1932-33				
October.....	-	-	.07	4.3
November.....	-	-	.21	12
December.....	-	-	.34	21
January.....	-	-	.87	53
February.....	-	-	.68	38
March.....	36	-	7.08	435
April.....	68	24	38.2	2,270
May.....	28	4.1	15.5	953
June.....	-	-	3.02	180
July.....	-	-	.20	12
August.....	-	-	.20	12
September.....	-	-	.15	8.9
The year.....	68	-	5.53	4,000
1933-34				
October 1-12.....	-	-	.10	2.4
March.....	15	-	7.50	461
April.....	33	5.8	13.4	796
May.....	13	.04	3.60	222
June.....	.2	.03	.081	4.8
July.....	.09	.00	.029	1.8
August.....	.07	.00	.016	1.0
September.....	.01	.00	.006	.4

## Parker Creek near Copeland, Idaho

Location.- Staff gage, lat. 48°55', long. 116°29', in SW $\frac{1}{4}$  sec. 8, T. 64 N., R. 1 W., at U. S. Forest Service bridge  $\frac{1}{2}$  miles west of Copeland.

Drainage area.- 16.5 square miles.

Records available.- May 1928 to September 1934.

Extremes.- Maximum discharge, 400 second-feet (estimated) June 15, 1933; minimum, 1 second-foot Sept 4-6, 1930.

Remarks.- No diversions above station.

## Monthly discharge of Parker Creek near Copeland, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1928						
May 12-31.....	-	-	144	8.73	6.49	5,710
June.....	-	24	54.7	3.32	3.70	3,250
July.....	39	-	20.2	1.22	1.41	1,240
August 1-10.....	-	-	5.6	.339	.13	111
The period.....	-	-	-	-	-	10,300
1929						
April.....	-	-	16.1	.976	1.09	958
May.....	-	-	78.9	4.78	5.51	4,850
June.....	90	20	55.6	3.37	3.76	3,310
July.....	10	4	9.26	.561	.65	569
August.....	3	-	2.2	.133	.15	135
September.....	-	-	2.0	.121	.14	119
The period.....	-	-	-	-	-	9,940
1930						
April.....	133	17	77.3	4.68	5.22	4,600
May.....	83	42	58.7	3.56	4.10	3,610
June.....	95	22	54.8	3.32	3.70	3,260
July.....	23	5	11.5	.697	.80	707
August.....	7	3	4.0	.242	.28	246
September.....	8	1	3.4	.206	.23	202
The period.....	-	-	-	-	-	12,600

Monthly discharge of Parker Creek near Copeland, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1931						
March 16-31.....	15	6	8.9	0.539	0.32	282
April.....	54	7	20.1	1.22	1.36	1,200
May.....	165	60	94.0	5.70	6.57	5,780
June.....	60	12	27.1	1.64	1.83	1,610
July.....	12	5	7.5	.455	.52	461
August.....	5	2	3.3	.200	.23	203
September.....	5	2	2.9	.176	.20	173
The period.....	-	-	-	-	-	9,710
1932						
March 14-31.....	19	13	15.4	.933	.62	550
April.....	85	23	51.5	3.12	3.48	3,060
May.....	170	58	114	6.91	7.97	7,010
June.....	140	48	93.7	5.68	6.34	5,580
July.....	46	-	16.7	1.01	1.16	1,030
August.....	-	-	4.7	.285	.33	289
September.....	-	-	3.0	.182	.20	179
The period.....	-	-	-	-	-	17,700
1932-33						
October 1-21.....	-	-	4.0	.242	.19	167
March 24-31.....	-	7	8.5	.515	.15	135
April.....	-	-	32.3	1.96	2.19	1,920
May.....	-	-	101	6.12	7.06	6,210
June.....	400	-	180	10.8	12.16	10,700
July.....	107	13	49.8	3.02	3.48	3,060
August.....	12	-	7.4	.448	.52	455
September.....	-	3	4.5	.273	.30	268
1933-34						
October 1-19.....	-	-	6.3	.382	.27	236
March.....	32	-	14.8	.897	1.03	908
April.....	-	-	99.9	6.05	6.75	5,940
May.....	219	-	131	7.94	9.15	8,050
June.....	-	-	61.7	3.74	4.17	3,670
July.....	-	-	13.4	.812	.94	825
August.....	-	-	3.5	.212	.24	214
September.....	-	-	3.3	.200	.22	198

## Long Canyon Creek near Port Hill, Idaho

Location.- Water-stage recorder, lat. 48°57', long. 116°32', in NW¼ sec. 36, T. 65 N., R. 2 W., on U. S. Forest Service bridge at mouth of canyon, 4 miles southwest of Port Hill.

Drainage area.- 29 square miles.

Records available.- May 1928 to September 1938.

Extremes.- Maximum daily discharge, 950 second-feet (estimated) June 15, 1933; maximum gage height, 6.55 feet, drift jam, June 14, 15, 1933; minimum discharge, 3 second-feet Nov. 1-3, 28, Dec. 4-10, 1936, Jan. 6-8, 1937; minimum gage height, 0.91 foot Nov. 8, 1930.

Remarks.- No diversions above gage.

Monthly discharge of Long Canyon Creek near Port Hill, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
May 18-31, 1928.....						
June.....	448	-	340	11.7	6.09	9,440
July.....	-	79	134	4.62	5.16	7,970
August.....	87	20	45.6	1.57	1.81	2,800
September 1-6.....	19	8	11.8	.407	.47	726
September 1-6.....	10	8	8.67	.209	.07	103
The period.....	-	-	-	-	-	21,000
April 1929.....						
May.....	-	7	28.6	.986	1.10	1,700
June.....	580	-	195	6.72	7.75	12,000
July.....	258	66	149	5.14	5.74	8,870
August.....	65	14	31.5	1.09	1.26	1,940
September.....	13	-	9.65	.333	.38	593
September.....	-	-	6.10	.210	.23	363
The period.....	-	-	-	-	-	25,500

## Monthly discharge of Long Canyon Creek near Port Hill, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
March 20-31, 1930.....	30	11	17.8	0.614	0.27	424
April.....	328	26	151	5.21	5.81	8,980
May.....	238	115	166	5.72	6.60	10,200
June.....	166	50	102	3.52	3.93	6,070
July.....	51	12	24.7	.852	.98	1,520
August.....	12	6.4	8.71	.300	.35	536
September.....	11	5.9	6.80	.234	.26	405
The period.....	-	-	-	-	-	28,100
October 1930.....	16	6	7.6	.262	.30	467
November 1-15.....	13	6	7.3	.252	.14	217
February 26-28, 1931.....	8	8	8.0	.276	.03	48
March.....	25	8	12.4	.428	.49	762
April.....	97	13	32.2	1.11	1.24	1,920
May.....	347	128	222	7.66	8.83	13,600
June.....	187	48	91.7	3.16	3.53	5,460
July.....	45	12	23.6	.814	.94	1,450
August.....	12	7	8.5	.293	.34	523
September.....	16	6	8.3	.286	.32	494
October 1931.....	-	7	9.3	.321	.37	572
November 1-20.....	-	-	13.7	.472	.35	543
March 2-31, 1932.....	59	31	38.8	1.34	1.50	2,310
April.....	127	69	100	3.45	3.85	5,950
May.....	436	116	284	9.79	11.29	17,500
June.....	327	109	233	8.03	.96	13,900
July.....	98	18	44.5	1.53	1.3	2,740
August.....	17	8	11.6	.400	.4	713
September.....	10	6	7.1	.245	.27	422
October 1932.....	26	6	10.7	.369	.42	658
November.....	74	7	24.9	.859	.96	1,480
December 1-8.....	96	30	65.6	2.26	.8	1,040
March 16-31, 1933.....	19	12	13.9	.479	.29	441
April.....	186	19	54.2	1.87	2.09	3,230
May.....	466	118	218	7.52	8.67	13,400
June.....	950	250	459	15.8	17.63	27,300
July.....	229	37	109	3.76	4.34	6,700
August.....	36	13	21.8	.752	.87	1,340
September.....	31	11	16.0	.552	.62	952
October 1933.....	133	15	34.8	1.20	1.38	2,140
November.....	86	42	53.1	1.83	2.04	3,160
December.....	157	33	57.0	1.97	2.27	3,500
March 1934.....	58	24	34.2	1.13	1.56	2,100
April.....	695	55	246	8.48	9.46	14,670
May.....	486	220	330	11.4	13.14	20,290
June.....	185	55	120	4.14	4.62	7,130
July.....	51	14	27.5	.948	1.09	1,690
August.....	14	8	9.8	.338	.39	605
September.....	10	7	8.0	.276	.31	474
October 1934.....	26	7	10.6	.366	.42	653
November.....	134	16	65.6	2.26	2.52	3,900
December.....	40	-	25.6	.883	1.02	1,570
January 1935.....	-	-	28.5	.983	1.13	1,750
February.....	-	-	31.7	1.09	1.14	1,760
March.....	33	19	23.3	.803	.93	1,430
April.....	79	17	37.7	1.30	1.45	2,240
May.....	595	77	237	8.17	9.42	14,560
June.....	445	101	228	7.86	8.77	13,560
July.....	121	23	54.0	1.86	2.14	3,320
August.....	22	9	13.7	.472	.54	841
September.....	10	5	7.0	.241	.27	415
Water year 1934-35.....	595	5	63.6	2.19	29.75	46,000
October 1935.....	18	5	7.1	.245	.28	436
November.....	8	5	6.0	.207	.23	355
December.....	6	5	5.1	.176	.20	311
Calendar year 1935.....	595	5	56.6	1.95	26.50	40,980
January 1936.....	5	4	4.9	.169	.19	300
February.....	-	-	4.0	.138	.15	230
March.....	9	4	5.8	.200	.23	355
April.....	204	5	34.7	2.92	3.26	5,040
May.....	420	143	245	8.45	9.74	15,060
June.....	138	27	66.3	2.29	2.56	3,950
July.....	28	8	15.4	.531	.61	944
August.....	7	4	5.6	.193	.22	347
September.....	11	4	5.7	.197	.22	341
Water year 1935-36.....	420	-	38.1	1.31	17.89	27,670

Monthly discharge of Long Canyon Creek near Port Hill, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October 1936.....	6	4	4.87	0.168	0.19	300
November.....	5	3	4.27	.147	.16	254
December.....	-	-	6.10	.210	.24	375
Calendar year 1936.....	420	-	37.9	1.31	17.77	27,500
January 1937.....	-	-	4.29	.148	.17	264
February.....	-	-	4.00	.138	.14	222
March.....	8	4	5.32	.183	.21	327
April.....	46	8	22.4	.772	.86	1,330
May.....	365	39	182	6.28	7.24	11,170
June.....	426	133	262	9.03	10.08	15,570
July.....	114	19	45.4	1.57	1.81	2,790
August.....	25	9	14.2	.490	.56	875
September.....	24	8	9.90	.341	.38	589
Water year 1936-37.....	426	-	47.1	1.62	22.04	34,070
October 1937.....	51	8	15.9	.548	.63	980
November.....	50	22	35.7	1.23	1.37	2,120
December.....	40	12	24.4	.841	.97	1,500
Calendar year 1937.....	426	-	52.1	1.80	24.42	37,740
January 1938.....	30	12	20.6	.710	.82	1,270
February.....	20	12	14.2	.490	.51	791
March.....	34	13	19.2	.662	.76	1,180
April.....	363	18	111	3.83	4.27	6,630
May.....	782	140	327	11.3	13.03	20,090
June.....	460	139	276	9.62	10.62	16,450
July.....	128	17	54.6	1.88	2.17	3,360
August.....	16	7	11.0	.379	.44	676
September.....	9	6	6.9	.238	.27	413
Water year 1937-38.....	782	6	76.6	2.64	35.86	55,460

## Smith Creek near Port Hill, Idaho

Location.-- Water-stage recorder, lat. 48°57'40", long. 116°33'20", in NE¼ sec. 26, T. 65 N., R. 2 W., at U. S. Forest Service bridge 1 mile south of Smith Creek ranger station and 4 miles southwest of Port Hill.

Drainage area.-- 70 square miles.

Records available.-- May 1928 to September 1938.

Extremes.-- Maximum discharge, 3,060 second-feet June 14, 1933 (gage height, 7.15 feet); minimum, 4 second-feet Dec. 4-10, 1936; minimum gage height, 0.78 foot Sept. 4, 1931.

Remarks.-- No diversions or regulation above gage.

Monthly discharge of Smith Creek near Port Hill, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1928						
May 12-31.....	1,340	790	1,170	16.7	12.42	46,400
June.....	613	-	336	4.80	5.36	20,000
July.....	257	41	118	1.69	1.95	7,260
August.....	38	13	21.9	.313	.36	1,350
September 1-8.....	14	9.5	11.4	.163	.05	181
The period.....	-	-	-	-	-	75,200
1929						
March 16-31.....	-	-	39.9	.570	.34	1,270
April.....	464	37	104	1.49	1.66	6,190
May.....	1,240	-	606	8.66	9.98	37,500
June.....	771	116	406	5.80	6.47	24,200
July.....	107	17	47.0	.671	.77	2,890
August.....	17	6.5	10.5	.150	.17	646
September.....	-	5.5	6.82	.097	.11	406
The period.....	-	-	-	-	-	72,900
1930						
March 21-31.....	92	32	52.6	.751	.31	1,150
April.....	1,040	90	489	6.99	7.80	29,100
May.....	799	302	458	6.54	7.54	28,200
June.....	538	83	201	2.87	3.20	12,000
July.....	91	16	40.9	.584	.67	2,510
August.....	15	6.8	10.4	.149	.17	640
September.....	17	6.4	8.36	.119	.13	497
The period.....	-	-	-	-	-	74,100



Monthly discharge of Smith Creek near Port Hill, Idaho--Continued

Month	Discharge in second-foot				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1930-31						
October.....	52	8	16.9	0.241	0.28	1,040
November.....	40	-	18.5	.264	.29	1,100
December.....	-	-	14.7	.210	.24	904
January.....	-	-	25.0	.357	.41	1,540
February.....	-	-	35.6	.509	.53	1,980
March.....	105	34	52.6	.751	.87	3,230
April.....	557	64	168	2.40	2.68	10,000
May.....	1,340	403	732	10.5	12.1	45,000
June.....	505	122	225	3.21	3.58	13,400
July.....	111	18	49.4	.706	.81	3,040
August.....	19	6	10.6	.151	.17	652
September.....	40	6	12.5	.179	.20	744
The year.....	1,340	6	114	1.63	22.16	82,600
1931-32						
October.....	50	9	16.3	.233	.27	1,000
November.....	90	-	35.5	.507	.57	2,110
December.....	-	-	24.4	.349	.40	1,500
January.....	-	-	18.2	.260	.30	1,120
February.....	-	-	139	1.99	2.15	8,000
March.....	300	95	134	1.91	2.20	8,240
April.....	458	142	288	4.11	4.59	17,100
May.....	1,380	402	881	12.6	14.53	54,200
June.....	1,090	261	705	10.1	11.27	42,000
July.....	271	28	108	1.54	1.78	6,640
August.....	46	11	19.8	.283	.33	1,220
September.....	19	8	10.8	.156	.17	649
The year.....	1,380	8	198	2.83	38.56	144,000
1932-33						
October.....	124	8	35.9	.513	.59	2,210
November.....	350	34	124	1.77	1.98	7,380
December 1-8.....	400	130	264	3.77	1.12	4,190
March 16-31.....	-	-	38.1	.544	.32	1,210
April.....	620	-	166	2.37	2.64	9,880
May.....	1,380	314	644	9.20	10.61	39,600
June.....	2,200	645	1,110	15.9	17.74	66,000
July.....	670	61	289	4.13	4.76	17,800
August.....	67	14	32.0	.457	.53	1,970
September.....	117	13	34.3	.490	.55	2,040
1933-34						
October.....	420	33	118	1.69	1.95	7,260
November.....	341	115	163	2.33	2.60	9,680
December 1-15.....	166	105	121	1.75	.96	3,610
March.....	262	70	108	1.54	1.78	6,640
April.....	1,750	206	746	10.7	11.94	44,370
May.....	1,260	615	902	12.9	14.87	55,450
June.....	502	88	279	3.99	4.45	16,630
July.....	85	18	43.7	.624	.72	2,690
August.....	20	7	11.2	.160	.18	688
September.....	20	6	9.87	.141	.16	587
1934-35						
October.....	72	8	22.2	.317	.37	1,360
November.....	580	59	220	3.14	3.50	13,090
December.....	109	-	74.6	1.07	1.23	4,590
January.....	-	-	76.2	1.09	1.26	4,680
February.....	-	-	80.5	1.15	1.20	4,470
March.....	100	48	61.7	.881	1.02	3,790
April.....	278	48	118	1.69	1.89	7,010
May.....	1,370	267	727	10.4	11.99	44,730
June.....	1,200	306	682	9.74	10.87	40,610
July.....	451	48	160	2.29	2.64	9,830
August.....	44	14	25.2	.360	.42	1,550
September.....	22	9	11.5	.164	.18	686
The year.....	1,370	8	188	2.69	36.57	136,400
1935-36						
October.....	65	8	17.9	.256	.30	1,100
November.....	22	13	14.6	.209	.23	867
December.....	13	11	11.6	.166	.19	714
January.....	14	10	12.2	.174	.20	752
February.....	-	-	8.2	.117	.13	470
March.....	25	10	18.0	.257	.30	1,100
April.....	830	18	333	4.76	5.31	19,800
May.....	1,330	443	804	11.5	13.3	49,410
June.....	431	55	184	2.63	2.93	10,920
July.....	66	12	29.7	.424	.49	1,820
August.....	12	6	8.5	.121	.14	526
September.....	18	6	10.3	.147	.16	615
The year.....	1,330	6	121	1.73	23.68	88,090

## Monthly discharge of Smith Creek near Port Hill, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1936-37						
October.....	11	8	8.35	0.119	0.14	514
November.....	-	-	7.93	.113	.13	472
December.....	-	-	10.7	.153	.18	657
January.....	-	-	8.61	.123	.14	530
February.....	-	-	8.00	.114	.12	444
March.....	20	8	13.5	.193	.22	833
April.....	116	20	62.4	.891	.99	3,710
May.....	1,160	138	623	8.90	10.26	38,280
June.....	1,060	262	625	8.93	9.96	37,220
July.....	232	32	86.5	1.24	1.43	5,320
August.....	68	17	28.0	.400	.46	1,720
September.....	64	14	20.8	.297	.33	1,240
The year.....	1,160	-	126	1.80	24.36	90,940
1937-38						
October.....	193	22	55.2	.789	.91	3,390
November.....	249	62	144	2.06	2.30	8,580
December.....	180	40	83.3	1.19	1.37	5,120
January.....	136	35	72.7	1.04	1.20	4,470
February.....	60	33	41.4	.591	.62	2,300
March.....	120	42	65.1	.930	1.07	4,000
April.....	1,440	58	369	5.27	5.88	21,930
May.....	1,790	359	906	12.9	14.87	55,680
June.....	1,400	300	810	11.6	12.94	48,200
July.....	266	31	118	1.69	1.95	7,260
August.....	30	11	19.4	.277	.32	1,190
September.....	20	8	10.4	.149	.17	617
The year.....	1,790	8	225	3.21	43.60	162,700

## Yearly discharge of Smith Creek near Port Hill, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1931.....	114	1.63	22.16	82,600	116	1.66	22.59	84,200
1932.....	198	2.83	38.56	144,000	-	-	-	-
1935.....	188	2.69	36.57	136,400	166	2.37	32.19	120,000
1936.....	121	1.73	23.68	88,090	120	1.71	23.41	87,060
1937.....	126	1.80	24.36	90,940	147	2.10	28.49	106,400
1938.....	225	3.21	43.60	162,700	211	3.01	40.90	152,700

Boundary Creek near Port Hill, Idaho  
(International gaging station)

Location.-- Water-stage recorder, lat. 48°59'50", long. 116°34'05", in SW $\frac{1}{4}$  sec. 11, T. 65 N., R. 2 W., 140 feet below bridge at mouth of canyon, 0.2 mile south of international boundary, and 3 miles west of Port Hill.

Drainage area.-- 97 square miles.

Records available.-- May 1928 to September 1938.

Extremes.-- Maximum discharge, 2,400 second-feet June 15, 1933 (gage height, 5.22 feet); minimum, 5 second-feet sometime during period Nov. 10 to Dec. 3, 1936 (gage height, 0.27 foot).

Remarks.-- No diversions above gage. This is one of the international gaging stations maintained by the United States under agreement with Canada.

## Monthly discharge of Boundary Creek near Port Hill, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1928						
May 17-31.....	1,600	1,240	1,400	14.4	8.04	41,700
June.....	-	181	507	5.23	5.84	30,200
July.....	234	53	139	1.43	1.65	8,560
August.....	50	28	34.8	.359	.41	2,140
September 1-8.....	31	21	27.5	.283	.08	436
The period.....	-	-	-	-	-	83,000

Monthly discharge of Boundary Creek near Port Hill, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1929						
April 18-30.....	295	32	137	1.41	0.68	3,530
May.....	1,080	196	542	5.59	6.44	33,300
June.....	711	127	398	4.10	4.57	23,700
July.....	116	25	56.4	.581	.67	3,470
August.....	28	15	19.6	.202	.23	1,210
September.....	20	14	15.4	.159	.18	916
The period.....	-	-	-	-	-	66,100
1929-30						
October.....	22	11	16.4	.169	.19	1,010
November 1-4.....	16	14	15.2	.157	.02	121
March 21-31.....	65	23	36.6	.377	.15	799
April.....	799	73	381	3.93	4.38	22,700
May.....	671	324	450	4.64	5.35	27,700
June.....	473	92	202	2.08	2.32	12,000
July.....	104	22	46.0	.474	.55	2,830
August.....	26	14	18.1	.187	.22	1,110
September.....	28	12	15.3	.158	.18	910
1930-31						
October.....	56	14	20.2	.208	.24	1,240
November.....	41	15	20.0	.206	.23	1,190
December.....	20	-	16.4	.169	.19	1,010
January.....	-	-	22.8	.235	.27	1,400
February.....	-	-	20.8	.214	.22	1,160
March.....	65	22	34.3	.354	.41	2,110
April.....	487	46	147	1.52	1.70	8,750
May.....	1,120	412	644	6.64	7.66	39,600
June.....	412	110	200	2.06	2.30	11,900
July.....	125	26	61.3	.632	.73	3,770
August.....	33	13	18.7	.193	.22	1,150
September.....	37	13	18.9	.195	.22	1,120
The year.....	1,120	13	103	1.06	14.39	74,400
1931-32						
October.....	57	14	21.1	.218	.25	1,300
November.....	77	-	34.5	.356	.40	2,050
December.....	-	-	27.6	.285	.33	1,700
January.....	-	-	19.8	.204	.24	1,220
February.....	-	-	140	1.44	1.55	8,050
March.....	250	-	97.0	1.00	1.15	5,960
April.....	515	140	328	3.38	3.77	19,500
May.....	1,550	510	1,020	10.5	12.11	62,700
June.....	1,200	250	754	7.77	8.67	44,900
July.....	240	35	96.6	.996	1.15	5,940
August.....	48	21	27.6	.285	.33	1,700
September.....	24	15	17.3	.178	.20	1,030
The year.....	1,550	14	215	2.22	30.15	156,000
1932-33						
October.....	94	14	33.2	.342	.39	2,040
November.....	384	18	78.4	.808	.90	4,670
December.....	310	-	95.6	.986	1.14	5,880
January.....	-	-	56.1	.578	.67	3,450
February.....	-	-	37.3	.385	.40	2,070
March.....	55	-	39.0	.402	.46	2,400
April.....	760	59	198	2.04	2.28	11,800
May.....	1,630	414	783	8.07	9.30	48,100
June.....	2,080	689	1,200	12.4	13.83	71,400
July.....	634	58	240	2.47	2.85	14,800
August.....	58	25	36.1	.372	.43	2,220
September.....	90	24	38.2	.394	.44	2,270
The year.....	2,080	14	237	2.44	33.09	171,000
1933-34						
October.....	445	30	91.1	.939	1.08	5,600
November.....	189	97	128	1.32	1.47	7,610
December.....	481	86	154	1.59	1.83	9,480
January.....	210	84	128	1.32	1.52	7,870
February.....	110	70	89.6	.924	.96	4,980
March.....	257	78	120	1.24	1.43	7,400
April.....	1,710	218	793	8.18	9.13	47,200
May.....	1,140	528	851	8.77	10.11	52,300
June.....	433	70	219	2.26	2.52	13,000
July.....	77	23	39.5	.407	.47	2,430
August.....	24	15	18.5	.191	.22	1,140
September.....	28	14	17.9	.185	.21	1,060
The year.....	1,710	14	221	2.28	30.95	160,100

Monthly discharge of Boundary Creek near Port Hill, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1934-35</b>						
October.....	62	17	26.2	0.270	0.31	1,610
November.....	288	43	118	1.22	1.36	7,030
December.....	80	-	51.7	.533	.61	3,180
January.....	-	-	72.8	.751	.87	4,480
February.....	120	59	83.4	.860	.90	4,630
March.....	92	48	65.8	.658	.76	3,930
April.....	327	50	137	1.41	1.57	8,140
May.....	1,400	316	769	7.93	9.14	47,300
June.....	1,200	298	700	7.22	8.06	41,630
July.....	413	58	152	1.57	1.81	9,370
August.....	54	25	36.2	.373	.43	2,230
September.....	33	18	21.8	.225	.25	1,300
The year.....	1,400	17	186	1.92	26.07	134,800
<b>1935-36</b>						
October.....	74	16	28.5	.294	.34	1,750
November.....	32	20	24.3	.251	.28	1,450
December.....	23	18	20.4	.210	.24	1,250
January.....	22	20	20.9	.215	.25	1,290
February.....	-	-	18.2	.188	.20	1,050
March.....	35	19	23.7	.244	.28	1,460
April.....	905	18	339	3.49	3.89	20,140
May.....	1,370	474	823	8.48	9.78	50,590
June.....	394	67	193	1.99	2.22	11,490
July.....	71	20	41.6	.429	.49	2,560
August.....	21	13	16.3	.168	.19	1,000
September.....	35	14	18.6	.192	.21	1,110
The year.....	1,370	13	131	1.35	18.37	95,140
<b>1936-37</b>						
October.....	18	12	14.2	.146	.17	871
November.....	16	9	14.1	.145	.16	839
December.....	-	-	19.0	.196	.23	1,170
January.....	-	-	14.7	.152	.18	904
February.....	-	-	13.0	.134	.14	722
March.....	20	13	15.1	.156	.18	930
April.....	126	19	62.3	.642	.72	3,710
May.....	1,100	160	604	6.23	7.18	37,150
June.....	1,020	283	601	6.20	6.92	35,750
July.....	247	40	98.8	1.02	1.18	6,080
August.....	63	22	31.5	.325	.37	1,930
September.....	50	17	22.8	.235	.26	1,360
The year.....	1,100	9	126	1.30	17.69	91,320
<b>1937-38</b>						
October.....	124	22	40.8	.421	.49	2,510
November.....	118	41	80.0	.825	.92	4,760
December.....	100	30	55.5	.572	.66	3,410
January.....	74	30	51.0	.526	.61	3,130
February.....	48	30	36.0	.371	.39	2,000
March.....	100	42	64.1	.661	.76	3,940
April.....	960	58	350	3.61	4.03	20,860
May.....	1,920	460	991	10.2	11.76	60,940
June.....	1,280	297	794	8.19	9.14	47,240
July.....	266	35	113	1.16	1.34	6,970
August.....	34	18	26.3	.271	.31	1,610
September.....	28	14	17.8	.184	.21	1,060
The year.....	1,920	14	219	2.26	30.62	158,400

Yearly discharge of Boundary Creek near Port Hill, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1931.....	103	1.06	14.39	74,400	105	1.08	14.71	76,000
1932.....	215	2.22	30.15	156,000	226	2.33	31.60	164,000
1933.....	237	2.44	33.09	171,000	251	2.69	35.04	181,000
1934.....	221	2.28	30.95	160,100	206	2.12	28.85	149,200
1935.....	186	1.92	26.07	134,800	176	1.81	24.65	127,500
1936.....	131	1.35	18.37	95,140	129	1.33	18.07	93,570
1937.....	126	1.30	17.69	91,320	137	1.41	19.20	99,220
1938.....	219	2.26	30.62	158,400	213	2.20	29.78	154,100

## PEND OREILLE RIVER BASIN

Clark Fork above Missoula, Mont.

Location.- Water-stage recorder, lat. 46°53', long. 113°56', in NW¼ sec. 19, T. 13 N., R. 18 W., 3 miles downstream from Blackfoot River and 3 miles east of Missoula.

Records available.- March 1929 to September 1938.

Extremes.- Maximum discharge, 21,600 second-feet June 2, 1933 (gage height, 9.90 feet); minimum, 86 second-feet Jan. 8, 1930 (gage height, 0.52 foot), ice jammed above gage.

Remarks.- Slight regulation from operation of power plant near Bonner. Several small diversions above station for irrigation.

## Monthly discharge of Clark Fork above Missoula, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1929				
March 16-31 .....	4,670	1,630	2,280	72,400
April.....	3,770	1,760	2,580	154,000
May.....	9,730	3,030	5,780	355,000
June.....	9,730	3,860	7,580	451,000
July.....	3,770	1,320	2,230	137,000
August.....	1,950	834	1,050	64,600
September.....	1,290	808	969	57,700
The period.....	-	-	-	1,290,000
1929-30				
October.....	1,570	1,190	1,310	80,600
November.....	1,570	897	1,310	78,000
December.....	1,330	716	951	58,500
January.....	843	224	679	41,800
February.....	3,620	1,010	2,010	112,000
March.....	2,680	1,060	1,790	111,000
April.....	8,390	2,380	5,010	298,000
May.....	8,390	5,000	6,280	386,000
June.....	7,100	2,240	4,030	240,000
July.....	2,100	2,120	1,580	97,200
August.....	1,330	875	1,130	69,500
September.....	1,720	674	1,200	71,400
The year.....	8,390	224	2,270	1,640,000
1930-31				
October.....	2,170	1,140	1,520	93,500
November.....	1,600	762	1,360	80,900
December.....	1,370	818	1,200	73,800
January.....	1,840	1,090	1,250	76,900
February.....	1,350	1,110	1,220	67,800
March.....	1,720	1,080	1,400	86,100
April.....	1,910	1,480	1,730	103,000
May.....	3,700	1,910	2,960	182,000
June.....	3,210	1,290	2,160	129,000
July.....	1,300	664	868	53,400
August.....	1,040	368	746	45,900
September.....	1,160	525	781	46,500
The year.....	3,700	368	1,430	†1,039,000
1931-32				
October.....	1,030	859	936	57,600
November.....	1,070	720	a985	58,600
December.....	-	-	e860	52,900
January.....	-	-	e810	49,800
February.....	-	-	e940	54,100
March.....	2,350	1,260	a1,400	86,100
April.....	3,090	1,740	2,480	148,000
May.....	12,200	2,720	7,370	453,000
June.....	10,000	3,400	6,600	393,000
July.....	3,400	1,180	2,100	129,000
August.....	1,380	942	1,070	65,800
September.....	1,140	762	915	54,400
The year.....	12,200	-	2,210	1,602,000

† Figure previously published in error.

a Partly estimated.

e Estimated.

## Monthly discharge of Clark Fork above Missoula, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1932-33				
October.....	1,510	680	1,130	69,500
November.....	1,500	1,200	1,340	79,500
December.....	1,440	469	940	57,800
January.....	-	-	910	56,000
February.....	-	-	871	48,400
March.....	1,880	1,130	1,370	84,200
April.....	5,540	1,330	2,270	135,000
May.....	14,100	3,820	6,690	411,000
June.....	19,400	5,170	13,800	821,000
July.....	4,940	1,620	2,750	169,000
August.....	1,740	868	1,280	78,700
September.....	1,380	1,180	1,290	76,800
The year.....	19,400	-	2,880	2,087,000
1933-34				
October.....	2,700	1,110	1,557	95,760
November.....	3,280	1,740	2,373	141,200
December.....	3,460	1,500	2,241	137,800
January.....	3,460	1,940	2,527	155,400
February.....	2,700	1,500	2,253	125,100
March.....	4,940	2,080	3,071	188,800
April.....	14,100	4,720	10,080	599,600
May.....	12,000	6,180	8,535	524,800
June.....	7,790	2,340	4,276	254,400
July.....	2,480	886	1,528	93,960
August.....	1,140	760	921	56,610
September.....	1,560	697	875	52,060
The year.....	14,100	697	3,350	2,425,000
1934-35				
October.....	1,560	1,040	1,235	75,930
November.....	1,540	1,260	1,385	82,430
December.....	1,400	877	1,218	74,870
January.....	1,540	670	1,122	68,960
February.....	1,540	950	1,162	64,560
March.....	1,600	940	1,222	75,150
April.....	3,060	1,080	1,903	113,200
May.....	9,440	2,960	5,098	313,400
June.....	7,920	2,780	5,480	326,100
July.....	3,150	904	1,924	118,300
August.....	1,160	670	895	55,060
September.....	778	654	699	41,590
The year.....	9,440	654	1,947	1,410,000
1935-36				
October.....	1,100	590	854	52,500
November.....	1,230	715	1,098	65,320
December.....	1,340	534	933	57,370
January.....	1,100	590	905	55,650
February.....	1,520	520	837	48,170
March.....	2,130	848	1,517	93,300
April.....	8,060	776	4,158	247,400
May.....	12,300	5,980	8,186	503,300
June.....	8,330	2,190	4,907	292,000
July.....	2,120	1,020	1,447	89,000
August.....	1,310	474	9,261	56,940
September.....	1,520	839	1,020	60,710
The year.....	12,300	474	2,234	1,622,000
1936-37				
October.....	1,260	793	1,061	65,220
November.....	1,320	767	1,067	63,500
December.....	1,130	548	990	60,900
January.....	920	400	606	37,250
February.....	1,120	604	850	47,220
March.....	1,280	724	1,037	63,770
April.....	2,000	1,200	1,615	96,120
May.....	4,830	1,930	3,936	242,000
June.....	3,920	1,830	3,211	191,100
July.....	1,890	920	1,286	79,080
August.....	1,110	575	810	49,820
September.....	1,240	340	653	38,870
The year.....	4,830	340	1,429	1,035,000

Monthly discharge of Clark Fork above Missoula, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1937-38				
October.....	1,000	843	921	56,600
November.....	990	789	882	52,470
December.....	1,650	500	935	57,490
January.....	1,070	350	830	51,010
February.....	1,180	500	949	52,720
March.....	1,890	910	1,257	77,320
April.....	4,210	1,120	2,641	157,100
May.....	19,100	3,920	7,940	488,200
June.....	15,900	6,810	9,450	562,300
July.....	9,060	2,020	4,784	294,100
August.....	2,100	861	1,458	89,640
September.....	1,250	1,030	1,121	66,680
The year.....	19,100	350	2,770	2,006,000

Yearly discharge of Clark Fork above Missoula, Mont.

Year	Year ending Sept. 30		Calendar year	
	Mean discharge in second-feet	Run-off in acre-feet	Mean discharge in second-feet	Run-off in acre-feet
1930.....	2,270	1,640,000	2,310	1,675,000
1931.....	1,430	1,039,000	1,330	959,700
1932.....	12,210	1,602,000	2,260	1,640,000
1933.....	12,880	2,087,000	3,110	2,255,000
1934.....	3,350	2,425,000	3,155	2,284,000
1935.....	1,947	1,410,000	1,867	1,352,000
1936.....	2,234	1,622,000	2,254	1,636,000
1937.....	1,429	1,035,000	1,398	1,012,000
1938.....	2,770	2,006,000		

Clark Fork at Missoula, Mont.

Location.-- Wire-weight gage, lat. 46°52', long. 114°00', in NE $\frac{1}{4}$  sec. 21, T. 13 N., R. 19 W., on bridge of Bitterroot Valley branch of Northern Pacific Railway in Missoula.  
Records available.-- July 1898 to June 1907.  
Remarks.-- Several small diversions above station.

Monthly discharge of Clark Fork at Missoula, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1898						
July.....	7,300	3,070	4,668	0.78	0.90	287,000
August.....	2,970	1,740	2,120	.36	.41	130,000
September.....	1,935	1,680	1,808	.30	.33	108,000
The year.....	-	-	-	-	-	-
1898-99						
October.....	2,000	1,805	1,841	.31	.36	113,000
November.....	1,870	1,620	1,762	.30	.33	105,000
December.....	1,680	1,680	1,680	.28	.32	103,000
June.....	35,800	18,700	25,858	4.34	4.84	1,540,000
July.....	22,400	4,900	11,208	1.88	2.17	689,000
August.....	4,900	2,650	3,592	.60	.69	221,000
September.....	2,725	1,950	2,287	.38	.42	136,000
The year.....	-	-	-	-	-	-

a Partly estimated.

## Monthly discharge of Clark Fork at Missoula, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1899-1900						
October.....	2,500	1,900	2,153	0.36	0.42	132,000
November.....	2,240	1,850	2,138	.36	.40	127,000
December.....	2,180	1,750	al, 946	.33	.38	120,000
January.....	1,950	730	al, 489	.24	.28	89,700
March.....	6,960	980	2,687	.45	.52	165,000
April.....	6,450	2,512	4,877	.82	.92	290,000
May.....	23,600	6,600	12,812	2.15	2.48	788,000
June.....	9,400	3,500	6,361	1.07	1.19	378,000
July.....	3,300	1,430	2,056	.34	.39	126,000
August.....	1,430	1,030	1,268	.21	.24	78,000
September.....	2,347	1,245	1,494	.25	.28	88,900
The year.....	-	-	-	-	-	-
1900-1901						
October.....	1,690	1,430	1,535	.26	.30	94,400
November.....	1,690	1,430	al, 560	.26	.29	92,800
December.....	1,885	980	al, 466	.25	.29	90,100
March.....	-	-	2,090	.35	.40	128,000
April.....	-	-	2,601	.44	.47	155,000
May.....	20,200	7,300	15,156	2.54	2.93	932,000
June.....	14,450	5,150	7,458	1.25	1.39	444,000
July.....	4,650	1,690	2,815	.47	.54	173,000
August.....	1,625	980	1,500	.22	.25	79,900
September.....	1,625	980	1,415	.24	.27	84,200
The year.....	-	-	-	-	-	-
1901-2						
October.....	1,625	1,430	1,472	.25	.29	90,500
November.....	1,625	1,365	1,478	.25	.28	87,900
December 1-10.....	-	-	1,413	.24	.09	27,800
March.....	1,900	1,580	1,766	.30	.35	109,000
April.....	3,050	1,715	2,383	.40	.45	142,000
May.....	17,350	2,787	10,236	1.72	1.98	629,000
June.....	15,775	5,212	8,852	1.49	1.66	527,000
July.....	6,975	2,787	4,725	.79	.91	290,000
August.....	2,637	1,865	2,136	.36	.42	131,000
September.....	1,865	1,715	1,778	.30	.33	106,000
The year.....	-	-	-	-	-	-
1902-3						
October.....	1,980	1,750	1,808	.30	.35	111,000
November.....	2,215	1,650	1,875	.31	.35	112,000
December.....	-	-	-	-	-	-
January.....	-	-	el, 900	.319	.37	117,000
February.....	-	-	el, 700	.285	.30	94,000
March.....	4,440	1,530	2,018	.339	.39	124,000
April.....	4,550	2,110	2,949	.495	.56	176,000
May.....	9,840	3,430	5,817	.976	1.13	358,000
June.....	21,900	6,240	13,950	2.340	2.61	830,000
July.....	5,800	2,440	3,976	.667	.77	244,000
August.....	2,440	1,710	1,995	.335	.39	123,000
September.....	-	-	el, 800	.302	.34	107,000
The year.....	-	-	-	-	-	-
1903-4						
October.....	-	-	el, 700	.285	.33	104,000
November.....	-	-	el, 500	.252	.28	89,300
December.....	-	-	el, 500	.252	.29	92,200
January.....	-	-	el, 300	.218	.25	79,900
February.....	-	-	el, 300	.218	.24	74,800
March.....	1,705	1,265	1,443	.242	.28	88,700
April.....	12,030	1,760	6,701	1.124	1.25	399,000
May.....	16,650	8,950	11,365	1.907	2.20	699,000
June.....	12,420	3,910	8,161	1.369	1.53	486,000
July.....	3,910	1,990	2,790	.468	.54	172,000
August.....	1,930	1,160	1,478	.248	.29	90,900
September.....	1,485	1,060	1,181	.198	.22	70,300
The year.....	-	-	-	-	-	-

a Partly estimated.

e Estimated.



Monthly discharge of Clark Fork at Missoula, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1904-5						
October.....	1,540	915	1,241	0.208	0.24	76,300
November.....	1,320	1,210	1,263	.212	.24	75,100
December.....	1,320	1,010	1,204	.202	.23	74,000
March.....	1,930	1,218	1,427	.239	.28	87,900
April.....	1,810	1,245	1,442	.242	.27	85,800
May.....	4,006	1,538	2,497	.419	.48	154,000
June.....	8,310	3,086	5,429	.911	1.02	323,000
July.....	4,096	1,385	2,182	.366	.42	134,000
August.....	1,569	870	1,132	.190	.22	69,600
September.....	908	748	819	.137	.15	48,700
The year.....	-	-	-	-	-	-
1905-6						
October.....	1,290	908	1,069	.179	.21	65,700
November 1-23.....	1,200	1,009	1,140	.191	.16	52,000
February 20-28.....	1,500	810	1,060	.178	.06	18,900
March.....	3,060	810	1,480	.248	.29	91,000
April.....	4,460	1,590	2,560	.430	.48	152,000
May.....	6,490	3,360	4,510	.757	.87	277,000
June.....	7,490	3,570	5,510	.924	1.03	328,000
July.....	3,780	1,220	2,060	.346	.40	127,000
August.....	1,500	915	1,170	.196	.23	71,900
September.....	1,460	915	1,100	.185	.21	65,500
The year.....	-	-	-	-	-	-
1906-7						
October.....	1,440	990	1,150	.193	.22	70,700
November.....	4,900	1,330	2,360	.396	.44	140,000
December.....	2,120	1,620	1,920	.322	.37	118,000
January.....	-	-	e770	.129	.15	7,300
February.....	-	-	e1,700	.285	.30	94,400
March.....	7,550	1,950	3,010	.505	.58	185,000
April.....	8,980	4,400	6,540	1.10	1.23	389,000
May.....	18,400	5,000	10,500	1.76	2.04	646,000
June.....	17,200	11,200	14,500	2.43	2.71	863,000
July.....	-	-	-	-	-	-
August.....	-	-	-	-	-	-
September.....	-	-	-	-	-	-
The year.....	-	-	-	-	-	-

e Estimated.

Clark Fork below Missoula, Mont.

Location.- Water-stage recorder, lat. 46°52', long. 114°07', in SE $\frac{1}{4}$  sec. 21, T. 13 N., R. 20 W., 2 miles downstream from Bitterroot River and 6 miles west of Missoula. Records available.- October 1929 to September 1938.

Extremes.- Maximum discharge, 36,800 second-feet June 11, 1933 (gage height, 10.14 feet); minimum, 388 second-feet Jan. 18, 1933 (gage height, 0.58 foot, ice present). Remarks.- Many diversions above station for irrigation.

Monthly discharge of Clark Fork below Missoula, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1929-30				
October.....	2,240	1,800	2,060	127,000
November.....	2,320	1,500	2,100	125,000
December.....	3,360	1,600	2,440	150,000
January.....	2,240	1,010	1,380	84,800
February.....	4,520	1,810	2,900	161,000
March.....	4,040	1,990	2,860	176,000
April.....	17,500	3,700	9,610	572,000
May.....	16,600	8,610	11,800	726,000
June.....	15,200	4,900	8,980	534,000
July.....	4,640	1,680	2,890	178,000
August.....	2,020	1,300	1,650	101,000
September.....	2,580	1,060	1,950	116,000
The year.....	17,500	1,010	4,227	3,050,000

## Monthly discharge of Clark Fork below Missoula, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1930-31				
October.....	3,600	2,420	2,900	178,000
November.....	3,150	2,040	2,590	154,000
December.....	2,530	1,050	1,890	116,000
January.....	2,300	948	1,800	111,000
February.....	2,200	1,680	1,910	106,000
March.....	2,500	1,830	2,110	130,000
April.....	3,370	2,380	2,960	176,000
May.....	11,800	3,710	7,950	489,000
June.....	8,960	2,460	5,270	314,000
July.....	2,650	700	1,340	82,400
August.....	1,020	621	753	46,500
September.....	1,940	594	1,170	69,600
The year.....	11,800	594	2,720	1,970,000
1931-32				
October.....	1,680	1,400	1,560	95,900
November.....	1,720	940	1,490	88,700
December.....	1,810	910	1,520	93,500
January.....	1,810	1,050	1,410	86,700
February.....	4,180	940	1,640	94,300
March.....	3,570	1,600	2,390	147,000
April.....	5,850	2,650	4,230	252,000
May.....	24,000	5,080	14,900	916,000
June.....	20,500	8,790	14,300	851,000
July.....	8,280	2,290	4,300	264,000
August.....	2,290	1,370	1,660	102,000
September.....	1,760	1,210	1,490	88,700
The year.....	24,000	910	4,250	3,080,000
1932-33				
October.....	2,470	1,410	1,940	119,000
November.....	2,740	2,040	2,320	138,000
December.....	2,380	610	1,480	91,000
January.....	2,290	580	1,660	102,000
February.....	1,560	640	1,110	61,600
March.....	2,840	1,440	2,030	125,000
April.....	11,700	2,380	4,030	240,000
May.....	22,200	6,810	11,200	689,000
June.....	36,300	13,200	27,200	1,620,000
July.....	12,400	2,200	5,620	346,000
August.....	-	-	a1,750	108,000
September.....	-	-	e1,700	101,000
The year.....	36,300	580	5,170	3,740,000
1933-34				
October.....	-	-	a2,700	166,000
November.....	-	-	e4,150	247,000
December.....	-	-	e3,950	243,000
January.....	-	-	a4,400	271,000
February.....	4,680	3,400	4,232	235,100
March.....	10,800	4,160	6,028	370,700
April.....	25,100	8,660	16,500	981,800
May.....	21,800	11,200	15,110	929,300
June.....	14,300	4,060	7,843	466,700
July.....	4,160	1,570	2,866	176,200
August.....	1,730	1,150	1,356	83,400
September.....	2,690	1,110	1,399	83,250
The year.....	25,100	1,110	5,875	4,253,000
1934-35				
October.....	3,040	1,960	2,392	147,100
November.....	3,150	2,440	2,845	169,300
December.....	2,520	1,730	2,207	135,700
January.....	2,520	875	1,995	122,700
February.....	2,520	1,760	2,035	113,000
March.....	3,770	1,800	2,421	148,800
April.....	5,830	2,030	3,556	211,600
May.....	19,200	5,560	10,090	620,400
June.....	16,800	5,290	10,930	650,400
July.....	6,560	1,760	3,488	214,500
August.....	1,680	935	1,263	77,630
September.....	1,170	946	1,010	60,110
The year.....	19,200	875	3,690	2,671,000

a Partly estimated.

e Estimated.

## Monthly discharge of Clark Fork below Missoula, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1935-36				
October.....	1,720	1,160	1,475	90,700
November.....	2,080	1,510	1,842	109,600
December.....	1,950	1,100	1,570	96,520
January.....	1,800	930	1,492	91,730
February.....	2,300	800	1,321	75,970
March.....	3,880	1,570	2,482	152,600
April.....	17,800	1,410	8,414	500,600
May.....	26,700	12,000	17,190	1,057,000
June.....	20,200	3,990	10,430	620,800
July.....	3,680	1,460	2,307	141,900
August.....	1,880	860	1,195	73,490
September.....	2,160	1,020	1,574	93,640
The year.....	26,700	800	4,277	3,105,000
1936-37				
October.....	2,140	1,300	1,679	103,200
November.....	2,220	1,370	1,749	104,100
December.....	1,870	1,080	1,625	99,950
January.....	1,180	660	871	53,550
February.....	1,500	872	1,249	69,380
March.....	2,060	1,310	1,743	107,200
April.....	3,110	1,780	2,379	141,500
May.....	11,300	3,000	8,306	510,700
June.....	9,320	3,820	7,247	431,200
July.....	3,710	1,290	2,043	125,600
August.....	1,480	817	1,117	68,670
September.....	1,710	660	909	54,080
The year.....	11,300	660	2,582	1,869,000
1937-38				
October.....	1,510	1,320	1,393	85,670
November.....	1,640	1,340	1,471	87,510
December.....	2,920	1,040	1,714	105,400
January.....	1,860	810	1,512	92,960
February.....	1,720	975	1,498	83,200
March.....	3,110	1,620	2,234	137,400
April.....	12,000	2,030	5,340	317,700
May.....	35,700	7,220	15,040	924,500
June.....	30,800	13,200	18,890	1,124,000
July.....	14,500	2,640	7,259	446,400
August.....	2,470	1,670	1,957	120,400
September.....	1,770	1,400	1,575	93,700
The year.....	35,700	810	4,999	3,619,000

## Yearly discharge of Clark Fork below Missoula, Mont.

Year	Year ending Sept. 30		Calendar year	
	Mean discharge in second-feet	Run-off in acre-feet	Mean discharge in second-feet	Run-off in acre-feet
1930.....	4,220	3,050,000	4,280	3,100,000
1931.....	2,720	1,970,000	2,490	1,800,000
1932.....	4,250	3,080,000	4,340	3,150,000
1933.....	5,170	3,740,000	5,590	4,050,000
1934.....	5,875	4,253,000	5,594	4,050,000
1935.....	3,690	2,671,000	3,475	2,516,000
1936.....	4,277	3,105,000	4,291	3,115,000
1937.....	2,582	1,869,000	2,542	1,840,000
1938.....	4,999	3,619,000	-	-

## Clark Fork at St. Regis, Mont.

Location.- Water-stage recorder, lat.  $47^{\circ}18'$ , long.  $115^{\circ}05'$ , in sec. 19, T. 18 N., R. 27 W., at St. Regis, half a mile downstream from St. Regis River. Prior to Nov. 29, 1933, staff gage at same site and datum.

Drainage area.- 10,500 square miles.

Records available.- October 1910 to September 1923, February 1929 to September 1938.

Extremes.- Maximum discharge observed, 62,800 second-feet May 30, 31, 1913 (gage height, 19.1 feet); minimum daily, 1,050 second-feet February 19-22, 1929.

Remarks.- Many diversions above station.

## Monthly discharge of Clark Fork at St. Regis, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1910-11				
October.....	-	-	4,620	284,000
November.....	6,700	3,960	5,210	310,000
December.....	4,990	2,990	3,850	237,000
January.....	3,720	2,920	3,170	195,000
February.....	3,560	2,390	2,920	162,000
March.....	8,900	2,450	4,980	306,000
April.....	16,700	6,480	9,270	552,000
May.....	23,000	13,800	16,900	1,040,000
June.....	33,800	15,000	25,200	1,500,000
July.....	17,700	4,600	9,300	572,000
August.....	5,190	3,120	4,060	250,000
September.....	4,050	3,120	3,680	219,000
The year.....	33,800	2,390	7,770	5,630,000
1911-12				
October.....	5,610	3,340	4,330	266,000
November.....	4,410	2,620	3,520	209,000
December.....	3,560	1,890	3,030	186,000
January.....	3,880	1,710	2,830	174,000
February.....	3,410	2,740	3,140	181,000
March.....	6,700	2,280	3,030	186,000
April.....	12,000	6,260	10,000	595,000
May.....	39,500	11,400	25,100	1,540,000
June.....	41,400	20,600	31,900	1,900,000
July.....	21,800	6,040	11,500	707,000
August.....	6,700	3,880	5,120	315,000
September.....	5,820	4,230	4,900	292,000
The year.....	41,400	1,710	9,030	6,550,000
1912-13				
October.....	4,990	4,410	4,740	291,000
November.....	5,610	4,050	4,640	276,000
December.....	4,050	3,120	3,550	218,000
January.....	4,050	2,280	3,120	192,000
February.....	5,610	2,500	3,520	195,000
March.....	5,190	3,260	3,950	243,000
April.....	21,800	4,990	13,200	786,000
May.....	62,800	14,700	31,100	1,910,000
June.....	61,000	22,600	40,300	2,400,000
July.....	21,000	6,560	12,300	756,000
August.....	6,340	3,380	4,930	303,000
September.....	3,550	2,700	3,130	186,000
The year.....	62,800	2,280	10,700	7,760,000
1913-14				
October.....	4,230	2,780	3,700	228,000
November.....	4,230	3,230	3,810	227,000
December.....	3,230	2,620	2,800	172,000
January.....	3,230	2,620	2,830	174,000
February.....	2,980	-	2,720	151,000
March.....	7,480	3,100	4,440	273,000
April.....	15,200	4,420	9,920	590,000
May.....	34,000	13,500	25,000	1,540,000
June.....	28,000	10,200	19,000	1,130,000
July.....	9,200	3,720	6,280	386,000
August.....	3,720	2,620	3,000	184,000
September.....	3,380	2,480	2,890	172,000
The year.....	34,000	-	7,220	5,230,000

a Partly estimated.

## Monthly discharge of Clark Fork at St. Regis, Mont.--Continued

Month	Discharge in second-feet			Run-off in
	Maximum	Minimum	Mean	acre-feet
1914-15				
October.....	5,240	3,100	4,110	253,000
November.....	6,120	4,230	4,950	295,000
December.....	4,230	2,410	2,980	183,000
January.....	3,230	2,200	2,590	159,000
February.....	2,980	2,200	2,710	151,000
March.....	4,420	2,620	3,190	196,000
April.....	10,500	3,890	7,000	417,000
May.....	14,200	7,720	10,600	652,000
June.....	17,300	11,700	15,000	933,000
July.....	11,400	5,900	8,650	532,000
August.....	6,340	3,100	4,300	264,000
September.....	4,230	2,980	3,770	224,000
The year.....	17,300	†2,200	5,830	4,220,000
1915-16				
October.....	4,060	3,380	3,710	228,000
November.....	3,550	2,980	3,300	200,000
December.....	3,550	2,290	3,100	191,000
January.....	-	-	e2,750	169,000
February.....	-	-	e4,300	247,000
March.....	15,900	-	a10,700	658,000
April.....	29,300	9,450	14,300	851,000
May.....	39,000	13,800	25,600	1,570,000
June.....	52,400	21,400	34,900	2,080,000
July.....	48,900	10,200	25,500	1,570,000
August.....	9,700	4,820	6,730	414,000
September.....	5,240	3,890	4,800	286,000
The year.....	52,400	-	11,700	8,460,000
1916-17				
October.....	5,460	4,420	5,110	314,000
November.....	5,240	2,780	4,250	253,000
December.....	-	-	a3,550	218,000
January.....	-	-	e3,430	211,000
February.....	-	-	e3,780	210,000
March.....	-	-	a3,890	239,000
April.....	14,500	4,420	9,530	567,000
May.....	59,100	10,800	32,300	1,990,000
June.....	52,400	33,500	41,100	2,450,000
July.....	32,600	7,240	17,700	1,090,000
August.....	7,000	3,380	4,840	298,000
September.....	5,030	3,550	4,230	252,000
The year.....	59,100	-	11,200	8,090,000
1917-18				
October.....	4,230	3,490	3,650	224,000
November.....	5,030	3,490	3,930	234,000
December.....	23,800	3,160	8,070	496,000
January.....	22,600	4,040	10,500	646,000
February.....	7,000	3,160	5,370	298,000
March.....	12,300	4,420	6,820	419,000
April.....	34,000	10,500	17,200	1,020,000
May.....	44,500	15,900	25,800	1,590,000
June.....	48,400	14,500	30,800	1,830,000
July.....	13,200	5,900	7,840	482,000
August.....	7,240	4,820	5,750	354,000
September.....	4,820	3,670	4,060	242,000
The year.....	48,400	3,160	10,800	7,840,000
1918-19				
October.....	5,240	4,040	4,330	266,000
November.....	4,230	2,590	3,800	226,000
December.....	3,850	1,990	3,100	191,000
January.....	-	-	e3,000	184,000
February.....	3,160	2,590	2,910	162,000
March.....	7,000	2,720	3,610	222,000
April.....	18,800	6,340	9,200	547,000
May.....	29,300	9,700	17,400	1,070,000
June.....	23,000	5,240	10,700	637,000
July.....	4,620	2,220	2,980	183,000
August.....	2,590	1,780	2,130	131,000
September.....	1,880	1,680	1,830	109,000
The year.....	29,300	1,680	5,420	3,930,000

† Figure previously published in error.

a Partly estimated.

e Estimated.

## Monthly discharge of Clark Fork at St. Regis, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1919-20				
October.....	2,590	1,880	2,280	140,000
November.....	2,860	2,100	2,570	153,000
December.....	-	-	e2,370	146,000
January.....	-	-	e2,290	141,000
February.....	-	-	e2,360	136,000
March.....	5,460	1,330	3,390	208,000
April.....	9,700	3,160	6,860	408,000
May.....	32,100	9,700	22,200	1,360,000
June.....	32,100	15,200	24,400	1,450,000
July.....	16,600	4,420	9,230	568,000
August.....	4,420	2,720	3,580	220,000
September.....	5,460	2,460	3,590	214,000
The year.....	32,100	-	7,090	5,140,000
1920-21				
October.....	5,900	4,420	4,980	306,000
November.....	5,240	2,720	4,150	247,000
December.....	4,620	2,720	3,510	216,000
January.....	4,420	2,720	3,480	214,000
February.....	6,120	2,590	3,940	219,000
March.....	8,700	4,620	6,100	375,000
April.....	13,500	6,560	10,600	631,000
May.....	41,800	10,200	28,200	1,730,000
June.....	38,000	12,900	26,000	1,550,000
July.....	13,200	3,850	6,800	418,000
August.....	3,670	2,460	2,970	183,000
September.....	3,490	2,340	3,030	180,000
The year.....	41,800	2,340	8,670	6,270,000
1921-22				
October.....	3,850	2,340	3,020	186,000
November.....	3,670	1,330	2,830	168,000
December.....	7,240	2,460	3,990	245,000
January.....	3,850	1,680	2,830	174,000
February.....	3,010	1,330	2,410	134,000
March.....	4,620	2,220	2,990	184,000
April.....	10,500	3,670	6,940	413,000
May.....	42,800	10,500	24,800	1,520,000
June.....	47,200	13,800	33,200	1,980,000
July.....	12,900	-	a7,380	454,000
August.....	-	-	a3,350	206,000
September.....	3,400	2,590	3,050	181,000
The year.....	47,200	1,330	8,070	5,840,000
1922-23				
October.....	2,750	2,490	2,630	162,000
November.....	3,010	2,620	2,830	168,000
December.....	3,670	1,680	2,650	163,000
January.....	4,230	2,220	3,200	197,000
February.....	3,670	1,990	2,570	143,000
March.....	7,240	2,860	3,650	224,000
April.....	13,800	6,230	9,490	565,000
May.....	30,200	9,970	20,800	1,280,000
June.....	33,100	15,600	23,200	1,380,000
July.....	15,900	5,030	9,490	584,000
August.....	4,620	3,160	3,800	234,000
September.....	3,160	2,340	2,640	157,000
The year.....	33,100	1,680	7,260	5,260,000
1929				
February 18-28.....	1,680	1,050	1,210	26,400
March.....	4,420	1,560	2,330	143,000
April.....	6,340	2,170	3,390	202,000
May.....	30,200	7,240	14,400	885,000
June.....	23,400	11,700	18,400	1,090,000
July.....	11,400	3,020	5,600	344,000
August.....	2,880	1,880	2,350	144,000
September.....	2,070	1,780	1,920	114,000
The period.....	-	-	-	2,950,000

a Partly estimated.

e Estimated.

## Monthly discharge of Clark Fork at St. Regis, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1929-30				
October.....	2,980	2,210	2,430	149,000
November.....	2,700	1,990	2,410	143,000
December.....	4,120	2,440	3,010	185,000
January.....	2,700	1,450	2,100	129,000
February.....	4,850	2,700	3,750	207,000
March.....	6,120	2,840	3,740	230,000
April.....	21,800	5,900	13,100	780,000
May.....	18,800	11,400	14,800	910,000
June.....	18,800	6,560	11,100	660,000
July.....	6,340	2,440	3,960	243,000
August.....	2,700	1,990	2,280	140,000
September.....	2,980	1,790	2,520	150,000
The year.....	21,800	1,430	5,430	3,930,000
1930-31				
October.....	3,780	2,700	3,270	201,000
November.....	3,610	2,570	2,980	177,000
December.....	2,840	1,900	2,540	156,000
January.....	-	-	2,360	145,000
February.....	2,570	2,210	2,370	132,000
March.....	3,280	2,320	2,720	167,000
April.....	5,470	2,980	4,190	249,000
May.....	15,600	6,120	10,900	670,000
June.....	10,800	3,130	6,400	381,000
July.....	3,130	1,450	2,000	123,000
August.....	2,210	1,280	1,450	89,200
September.....	2,320	1,280	1,680	100,000
The year.....	15,600	1,280	3,580	2,590,000
1931-32				
October.....	1,990	1,990	1,990	122,000
November.....	2,210	1,450	1,940	115,000
December.....	2,700	1,520	2,160	133,000
January.....	2,440	1,520	1,910	117,000
February.....	5,260	1,450	2,130	123,000
March.....	4,660	1,990	3,350	206,000
April.....	10,800	5,050	7,490	446,000
May.....	32,700	9,450	24,700	1,330,000
June.....	25,000	11,700	18,500	1,090,000
July.....	10,800	3,280	5,940	365,000
August.....	3,280	2,100	2,530	156,000
September.....	2,440	1,990	2,170	129,000
The year.....	32,700	1,430	5,980	4,330,000
1932-33				
October.....	2,980	2,100	2,520	155,000
November.....	3,610	2,840	3,230	192,000
December.....	3,610	-	2,700	166,000
January.....	4,120	1,520	2,800	172,000
February.....	5,900	1,200	2,380	132,000
March.....	3,950	2,320	3,010	185,000
April.....	18,000	3,780	6,700	399,000
May.....	30,400	9,700	16,000	984,000
June.....	50,000	17,000	37,000	2,200,000
July.....	15,900	3,280	7,720	475,000
August.....	3,280	2,320	2,810	173,000
September.....	3,130	2,570	2,760	164,000
The year.....	50,000	1,200	7,460	5,400,000
1933-34				
October.....	10,800	2,570	4,565	280,700
November.....	10,800	5,050	7,047	419,300
December.....	32,300	4,480	10,710	658,300
January.....	12,700	6,500	8,520	523,900
February.....	7,720	5,250	6,927	384,700
March.....	21,900	5,790	10,130	622,800
April.....	35,200	15,200	24,890	1,481,000
May.....	29,000	16,000	21,090	1,297,000
June.....	17,800	5,680	10,750	639,600
July.....	5,790	2,440	3,675	226,000
August.....	2,500	1,840	2,083	128,100
September.....	3,030	1,760	1,986	118,200
The year.....	35,200	1,760	9,364	6,780,000

## SURFACE WATERS OF UPPER COLUMBIA RIVER BASIN, 1898-1938

Monthly discharge of Clark Fork at St. Regis, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1934-35				
October.....	4,220	2,380	2,954	181,600
November.....	4,550	3,240	3,885	231,200
December.....	3,330	2,390	2,942	180,900
January.....	5,250	1,920	2,987	183,600
February.....	3,860	2,460	2,902	161,200
March.....	4,780	2,460	3,167	194,800
April.....	9,950	2,920	5,972	355,400
May.....	27,000	9,950	15,900	977,400
June.....	23,200	8,370	16,080	957,000
July.....	9,680	2,690	5,457	335,500
August.....	2,690	1,620	2,057	126,500
September.....	1,620	1,510	1,558	92,730
The year.....	27,000	1,510	5,494	3,988,000
1935-36				
October.....	2,250	1,680	1,942	119,400
November.....	2,460	1,920	2,230	132,700
December.....	2,250	1,410	1,922	118,200
January.....	2,320	1,150	1,935	119,000
February.....	3,420	1,080	1,592	91,560
March.....	7,510	2,150	3,292	202,500
April.....	24,800	1,980	11,920	709,400
May.....	33,000	16,700	22,440	1,380,000
June.....	23,600	5,660	13,690	814,600
July.....	5,210	2,280	3,359	206,500
August.....	2,470	1,690	1,933	118,800
September.....	2,610	1,690	2,123	126,300
The year.....	33,000	1,080*	5,701	4,139,000
1936-37				
October.....	2,470	1,930	2,148	132,100
November.....	2,470	1,830	2,133	126,900
December.....	2,150	1,600	1,909	117,400
January.....	1,780	1,310	1,474	90,640
February.....	2,470	1,600	2,090	116,100
March.....	2,540	2,040	2,199	135,200
April.....	4,390	2,210	3,333	198,300
May.....	16,700	4,490	12,260	754,000
June.....	12,500	5,780	10,150	604,000
July.....	5,320	2,000	3,041	187,000
August.....	2,060	1,340	1,703	104,700
September.....	2,000	1,180	1,351	80,390
The year.....	16,700	1,180	3,656	2,647,000
1937-38				
October.....	1,920	1,680	1,854	114,000
November.....	2,160	1,800	1,946	115,800
December.....	3,300	1,680	2,217	136,300
January.....	2,400	1,340	2,060	126,600
February.....	2,340	1,260	1,980	110,000
March.....	4,320	2,100	2,974	182,900
April.....	19,100	2,980	8,770	521,900
May.....	45,700	11,000	20,540	1,263,000
June.....	42,100	17,500	24,030	1,430,000
July.....	16,800	3,800	9,119	560,700
August.....	3,510	2,270	2,730	167,800
September.....	2,350	1,900	2,140	127,300
The year.....	45,700	1,260	6,708	4,856,000



Yearly discharge of Clark Fork at St. Regis, Mont.

Year	Year ending Sept. 30		Calendar year	
	Mean discharge in second-feet	Run-off in acre-feet	Mean discharge in second-feet	Run-off in acre-feet
1911.....	7,770	5,630,000	7,540	5,460,000
1912.....	9,030	6,550,000	9,190	6,680,000
1913.....	10,700	7,760,000	10,500	7,600,000
1914.....	7,220	5,230,000	7,360	5,330,000
1915.....	5,830	4,220,000	5,670	4,110,000
1916.....	11,700	8,460,000	11,900	8,630,000
1917.....	11,200	8,090,000	11,400	8,260,000
1918.....	10,800	7,840,000	10,500	7,560,000
1919.....	5,420	3,930,000	5,090	3,680,000
1920.....	7,090	5,140,000	7,540	5,470,000
1921.....	8,670	6,270,000	8,420	6,100,000
1922.....	8,070	5,840,000	7,930	5,740,000
1923.....	7,260	5,260,000	-	-
1930.....	5,430	3,930,000	5,500	3,980,000
1931.....	3,580	2,590,000	3,350	2,430,000
1932.....	5,980	4,330,000	6,160	4,480,000
1933.....	7,460	5,400,000	8,620	6,240,000
1934.....	9,364	6,780,000	8,308	6,015,000
1935.....	5,494	3,988,000	5,186	3,754,000
1936.....	5,701	4,139,000	5,709	4,145,000
1937.....	3,656	2,647,000	3,642	2,636,000
1938.....	6,708	4,856,000	-	-
Highest.....	11,700	8,464,000	11,900	8,630,000
Average.....	7,461	5,404,000	7,476	5,415,000
Lowest.....	3,580	2,590,000	3,350	2,426,000

Clark Fork near Plains, Mont.

Location.- Water-stage recorder, lat. 47°26', long. 114°51' on lot 7, SW $\frac{1}{4}$  sec. 1, T. 19 N., R. 26 W., 2 miles upstream from Plains and 6 miles downstream from Flathead River.  
Drainage area.- 19,900 square miles.

Records available.- October 1910 to September 1938.

Extremes.- Maximum discharge, 126,000 second-feet May 28, 1928 (gage height, 18.4 feet); minimum, 3,200 second-feet Feb. 8, 1936.

Remarks.- Many diversions above station for irrigation. Flow partly regulated by natural storage in Flathead Lake.

Monthly discharge of Clark Fork near Plains, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1910-11				
October 28-31.....	9,760	9,400	9,490	75,300
November.....	14,700	9,400	12,400	738,000
December.....	13,100	9,060	10,500	646,000
January.....	8,720	6,970	8,010	493,000
February.....	6,970	6,020	6,440	358,000
March.....	10,900	6,240	9,070	496,000
April.....	11,700	10,900	11,200	171,000
May.....	36,600	28,200	31,900	379,000
June.....	-	-	-	-
July.....	46,600	18,000	30,600	1,390,000
August.....	19,700	9,400	14,400	885,000
September.....	10,100	8,720	9,570	569,000
1911-12				
October.....	10,500	8,100	9,520	585,000
November.....	8,400	6,470	7,770	462,000
December 1-8.....	8,400	6,240	7,090	112,000
January 1-22.....	-	-	5,500	240,000
February 13-29.....	6,470	5,620	5,970	201,000
March.....	8,100	5,290	5,860	360,000
April.....	22,700	7,530	15,500	922,000
May.....	73,600	23,300	49,300	3,030,000
June.....	74,500	50,100	65,200	3,880,000
July.....	51,000	19,200	32,400	1,990,000
August.....	18,600	9,760	13,100	806,000
September.....	10,900	9,400	10,100	601,000

Monthly discharge of Clark Fork near Plains, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1912-13				
October.....	9,400	8,400	8,840	544,000
November.....	9,760	8,400	9,040	538,000
December.....	-	-	7,500	461,000
January.....	8,400	6,240	7,360	453,000
February.....	-	6,470	7,940	441,000
March.....	7,810	6,240	7,030	432,000
April.....	34,200	7,810	18,800	1,120,000
May.....	106,000	29,700	53,900	3,310,000
June.....	115,000	71,500	98,200	5,840,000
July.....	69,200	23,800	42,800	2,630,000
August.....	23,100	12,300	17,000	1,050,000
September.....	11,500	9,350	10,100	601,000
The year.....	115,000	-	24,100	17,400,000
1913-14				
October.....	9,030	8,720	8,740	537,000
November.....	9,350	8,720	9,070	540,000
December.....	9,030	6,850	8,040	494,000
January.....	7,600	6,620	7,410	456,000
February.....	8,720	5,970	7,360	409,000
March.....	10,700	7,600	8,590	528,000
April.....	27,800	8,420	16,900	1,010,000
May.....	67,000	27,100	48,900	3,010,000
June.....	62,300	36,700	49,200	2,930,000
July.....	35,100	14,600	23,800	1,460,000
August.....	14,100	8,720	10,600	652,000
September.....	8,720	8,420	8,480	505,000
The year.....	67,000	5,970	17,300	12,500,000
1914-15				
October.....	11,900	8,130	9,830	604,000
November.....	16,600	11,100	14,200	845,000
December.....	11,900	7,860	9,510	585,000
January.....	9,100	7,200	7,970	490,000
February.....	8,050	7,090	7,350	408,000
March.....	7,600	6,850	7,180	441,000
April.....	24,400	7,860	15,500	922,000
May.....	35,900	26,400	31,200	1,920,000
June.....	37,400	32,800	35,400	2,110,000
July.....	32,800	19,400	26,500	1,630,000
August.....	18,800	10,400	14,400	885,000
September.....	10,700	9,350	9,960	593,000
The year.....	37,400	6,850	15,800	11,400,000
1915-16				
October.....	10,400	8,720	9,360	576,000
November.....	8,720	8,130	8,500	509,000
December.....	9,030	7,700	8,660	532,000
January 1-17.....	8,240	5,970	7,020	237,000
March 3-27.....	17,700	10,700	15,000	744,000
May.....	67,400	42,200	52,100	3,200,000
June.....	111,000	49,500	80,700	4,800,000
August.....	39,000	16,000	24,800	1,520,000
September.....	17,200	13,300	15,300	910,000
1917				
May 12-31.....	102,000	36,700	73,600	2,920,000
June.....	106,000	79,600	91,900	5,470,000
July.....	85,400	27,800	55,300	3,400,000
August.....	27,100	11,500	17,700	1,090,000
September.....	11,500	9,030	9,910	590,000
The period.....	-	-	-	13,500,000
1917-18				
October.....	9,210	7,620	8,190	504,000
November.....	8,400	6,540	7,390	440,000
December.....	29,600	5,850	11,600	713,000
January.....	29,600	12,800	21,300	1,310,000
February.....	16,100	10,500	13,000	722,000
March.....	18,100	10,100	12,600	775,000
April.....	36,600	18,100	26,100	1,550,000
May.....	69,100	39,800	56,600	3,480,000
June.....	99,500	47,200	73,300	4,560,000
July.....	57,100	19,600	32,600	2,000,000
August.....	18,600	13,200	15,700	965,000
September.....	13,200	8,800	10,300	613,000
The year.....	99,500	5,850	24,100	17,400,000

Monthly discharge of Clark Fork near Plains, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1918-19				
October.....	9,210	8,400	8,660	532,000
November.....	8,800	6,540	7,970	474,000
December.....	7,620	6,190	6,870	422,000
January.....	-	-	6,180	380,000
February.....	6,540	5,850	6,320	351,000
March.....	10,100	5,520	6,650	409,000
April.....	32,600	10,500	15,200	904,000
May.....	73,800	29,600	42,600	2,620,000
June.....	71,000	30,400	46,700	2,780,000
July.....	28,900	11,800	18,400	1,130,000
August.....	11,400	6,890	9,170	564,000
September.....	6,890	5,200	6,020	358,000
The year.....	73,800	5,200	15,100	10,900,000
1919-20				
October.....	5,200	4,890	5,100	314,000
November.....	5,520	4,890	5,200	309,000
March 9-31.....	8,200	5,200	6,590	301,000
April.....	17,100	6,540	10,700	637,000
May.....	58,000	17,600	43,100	2,650,000
June.....	72,900	47,200	61,700	3,670,000
July.....	56,200	20,700	37,700	2,320,000
August.....	19,600	10,500	14,000	861,000
September.....	10,500	8,800	9,590	571,000
1920-21				
October.....	12,300	9,720	11,200	689,000
November.....	10,600	8,910	9,760	581,000
December.....	9,720	7,740	8,650	532,000
January.....	8,910	7,740	8,390	516,000
February.....	9,720	7,010	8,610	473,000
March.....	14,500	9,720	11,800	726,000
April.....	28,300	13,200	20,700	1,230,000
May.....	99,000	25,800	60,600	3,730,000
June.....	99,000	55,500	80,800	4,810,000
July.....	52,500	17,900	31,500	1,940,000
August.....	17,400	9,310	12,200	750,000
September.....	8,910	7,010	8,000	476,000
The year.....	99,000	7,010	22,700	16,500,000
1921-22				
October.....	7,560	6,320	6,810	419,000
November.....	8,320	6,160	6,790	404,000
December.....	11,000	6,190	8,140	501,000
January.....	8,800	5,520	6,980	429,000
February.....	6,360	4,890	5,640	313,000
March.....	7,190	5,200	6,220	382,000
April.....	16,200	6,840	10,600	631,000
May.....	90,500	16,400	46,700	2,870,000
June.....	113,000	50,400	86,900	5,170,000
July.....	47,500	16,500	28,100	1,730,000
August.....	15,800	9,880	12,400	762,000
September.....	9,880	7,280	8,710	518,000
The year.....	113,000	4,890	19,500	14,100,000
1922-23				
October.....	7,280	6,340	6,970	429,000
November.....	6,800	6,340	6,560	390,000
December.....	6,700	4,900	5,870	361,000
January.....	7,450	5,950	6,790	418,000
February.....	6,810	5,350	6,070	337,000
March.....	10,900	5,980	6,720	413,000
April.....	23,200	10,300	14,600	869,000
May.....	77,200	24,300	49,900	3,070,000
June.....	94,300	61,400	73,500	4,360,000
July.....	58,300	18,800	34,800	2,140,000
August.....	18,800	10,500	13,600	848,000
September.....	10,500	6,800	8,260	492,000
The year.....	94,300	4,900	19,500	14,100,000

e Estimated.

Monthly discharge of Clark Fork near Plains, Mont.--Continued

Monthly discharge of Clark Fork near Plains, Mont.--Continued				
Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1923-24				
October.....	7,450	7,120	7,290	448,000
November.....	7,280	6,800	6,930	412,000
December.....	6,960	5,650	6,360	391,000
January.....	-	-	5,810	357,000
February.....	8,020	6,000	6,760	389,000
March.....	7,040	5,780	6,530	402,000
April.....	19,000	5,780	10,800	643,000
May.....	79,200	19,800	55,900	3,440,000
June.....	58,300	36,200	46,600	2,770,000
July.....	33,400	13,700	21,300	1,310,000
August.....	14,000	7,820	10,400	640,000
September.....	7,820	5,950	6,640	395,000
The year.....	79,200	-	†16,000	11,600,000
1924-25				
November.....	7,410	6,000	6,750	402,000
December 1-14.....	9,150	5,750	6,610	181,000
April 7-30.....	53,500	21,600	42,600	2,030,000
May.....	104,000	44,100	75,700	4,650,000
June.....	89,400	57,000	69,400	4,130,000
July.....	62,200	18,200	32,600	2,000,000
August.....	18,200	11,400	13,700	842,000
September.....	11,400	9,720	10,900	649,000
1925-26				
October.....	9,520	7,740	8,420	518,000
November.....	-	-	7,250	431,000
December.....	-	-	7,000	430,000
January.....	7,010	6,000	6,360	391,000
February.....	7,740	6,000	6,820	379,000
March.....	9,310	6,160	7,750	777,000
April.....	39,600	8,510	19,300	1,150,000
May.....	46,800	32,400	39,700	2,440,000
June.....	51,000	16,900	22,800	1,360,000
July.....	16,900	7,740	12,100	744,000
August.....	-	-	6,500	400,000
September.....	-	-	7,300	434,000
The year.....	46,800	6,000	12,600	9,150,000
1926-27				
October.....	14,000	8,200	11,100	682,000
November.....	13,600	11,000	12,200	726,000
December.....	16,400	10,800	14,300	879,000
January.....	11,200	8,500	9,580	589,000
February.....	10,300	7,740	8,420	467,000
March.....	9,720	8,510	9,170	564,000
April.....	40,500	10,100	13,800	821,000
May.....	77,600	34,700	55,200	3,390,000
June.....	117,000	74,400	101,000	6,010,000
July.....	89,400	26,400	52,800	3,520,000
August.....	25,800	13,600	18,200	1,120,000
September.....	15,500	13,200	14,300	851,000
The year.....	117,000	7,740	26,700	19,300,000
1927-28				
October.....	16,900	13,200	15,100	928,000
November.....	29,600	15,900	21,200	1,260,000
December.....	-	-	17,900	1,110,000
January.....	-	-	61,500	830,000
February.....	-	-	11,200	644,000
March.....	-	-	14,000	830,000
April.....	43,200	16,900	20,700	1,230,000
May.....	126,000	44,100	89,800	5,520,000
June.....	111,000	58,600	74,000	4,400,000
July.....	63,800	27,000	44,400	2,730,000
August.....	26,400	14,000	18,900	1,160,000
September.....	-	-	-	649,000
The year.....	126,000	-	29,400	21,300,000

† Figure previously published in error.

e Estimated.

## Monthly discharge of Clark Fork near Plains, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1928-29				
October.....	9,580	8,670	9,240	568,000
November.....	9,120	8,230	8,560	509,000
December.....	8,300	6,640	7,380	454,000
January.....	6,470	4,460	5,480	337,000
February.....	5,560	4,370	4,970	276,000
March.....	8,230	5,690	6,490	399,000
April.....	14,600	6,640	8,420	501,000
May.....	64,400	15,000	34,700	2,130,000
June.....	66,400	40,600	57,300	3,410,000
July.....	39,800	13,500	24,300	1,490,000
August.....	13,200	6,820	9,250	569,000
September.....	6,640	5,420	5,870	349,000
The year.....	66,400	4,370	15,200	11,000,000
1929-30				
October.....	5,690	5,180	5,330	328,000
November.....	5,180	4,460	4,820	287,000
December.....	6,140	4,460	5,160	317,000
January.....	5,180	3,860	4,340	267,000
February.....	7,200	4,550	6,040	335,000
March.....	8,230	5,070	5,780	355,000
April.....	43,000	7,810	22,800	1,360,000
May.....	46,400	38,200	41,400	2,550,000
June.....	47,300	28,000	39,100	2,330,000
July.....	27,400	11,500	18,100	1,110,000
August.....	11,000	6,470	8,460	520,000
September.....	6,820	5,840	6,330	377,000
The year.....	47,300	3,860	14,000	10,100,000
1930-31				
October.....	7,400	6,300	6,930	426,000
November.....	7,810	6,470	6,830	406,000
December.....	6,640	4,750	5,920	364,000
January.....	5,420	4,860	5,190	319,000
February.....	5,180	4,960	5,060	281,000
March.....	6,470	5,070	5,550	341,000
April.....	13,000	6,300	9,200	547,000
May.....	47,300	14,000	35,100	2,160,000
June.....	41,400	21,400	32,400	1,930,000
July.....	20,100	8,900	13,300	818,000
August.....	8,670	4,370	6,150	378,000
September.....	5,300	4,200	4,770	284,000
The year.....	47,300	4,200	11,400	8,250,000
1931-32				
October.....	4,960	4,550	4,760	293,000
November.....	4,960	4,460	4,760	283,000
December.....	5,420	4,460	4,930	303,000
January.....	4,860	4,050	4,540	279,000
February.....	7,400	4,460	5,290	304,000
March.....	10,700	5,420	8,300	510,000
April.....	28,700	10,700	19,500	1,160,000
May.....	83,600	28,700	59,300	3,650,000
June.....	71,200	53,400	64,000	3,810,000
July.....	51,600	17,200	31,200	1,920,000
August.....	16,100	8,670	11,800	726,000
September.....	8,900	6,470	7,480	445,000
The year.....	83,600	4,050	18,800	13,700,000
1932-33				
October.....	6,650	5,260	6,020	370,000
November.....	9,650	6,650	8,000	476,000
December.....	11,100	-	8,650	532,000
January.....	-	-	7,390	454,000
February.....	-	-	6,050	336,000
March.....	7,250	5,850	6,420	395,000
April.....	31,000	6,850	11,300	672,000
May.....	66,900	31,800	42,600	2,620,000
June.....	119,000	72,800	99,800	5,940,000
July.....	75,800	22,800	45,200	2,780,000
August.....	22,100	10,600	14,900	916,000
September.....	10,600	8,650	9,320	555,000
The year.....	119,000	5,260	22,200	16,000,000

## Monthly discharge of Clark Fork near Plains, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1933-34				
October.....	-	8,250	10,160	625,000
November.....	-	-	20,630	1,228,000
December.....	-	-	21,450	1,318,000
January.....	26,800	18,400	22,320	1,372,000
February.....	18,400	-	16,390	910,200
March.....	33,300	-	17,850	1,098,000
April.....	74,800	28,200	47,830	2,846,000
May.....	76,800	64,000	69,540	4,276,000
June.....	64,000	28,900	46,400	2,761,000
July.....	27,500	11,100	17,920	1,102,000
August.....	11,100	7,050	9,031	555,300
September.....	6,250	5,450	5,718	340,300
The year.....	76,800	5,450	25,460	18,430,000
1934-35				
October.....	7,450	5,450	6,031	370,800
November.....	10,600	7,250	9,337	555,600
December.....	10,000	7,050	8,665	532,800
January.....	10,000	-	7,635	469,500
February.....	8,400	7,630	8,053	447,200
March.....	8,990	7,250	7,890	485,100
April.....	20,400	7,630	11,460	682,000
May.....	66,400	21,000	41,110	2,528,000
June.....	70,200	44,900	61,830	3,679,000
July.....	44,900	17,500	29,530	1,815,000
August.....	16,900	8,200	11,500	707,100
September.....	8,010	5,570	6,533	388,700
The year.....	70,200	5,450	17,490	12,660,000
1935-36				
October.....	5,760	5,200	5,341	328,400
November.....	5,570	4,330	4,872	289,900
December.....	4,720	3,770	4,224	259,700
January.....	4,440	3,500	4,083	251,000
February.....	6,500	3,200	4,231	243,400
March.....	18,100	4,800	6,923	425,700
April.....	44,900	4,630	20,040	1,192,000
May.....	80,800	42,500	63,500	3,892,000
June.....	73,000	27,500	49,720	2,959,000
July.....	26,900	9,990	16,520	1,016,000
August.....	9,990	6,040	7,710	474,100
September.....	6,400	5,150	5,734	341,200
The year.....	80,800	3,200	16,080	11,670,000
1936-37				
October.....	5,500	4,800	5,010	308,100
November.....	4,980	4,130	4,588	273,000
December.....	4,460	3,590	4,075	250,600
January.....	3,590	-	3,344	205,600
February.....	4,630	-	3,940	218,800
March.....	4,980	4,460	4,636	285,100
April.....	9,020	4,630	6,112	363,700
May.....	50,000	9,600	32,630	2,006,000
June.....	48,200	36,900	44,430	2,644,000
July.....	35,400	12,500	21,950	1,350,000
August.....	12,000	6,780	9,092	559,000
September.....	6,780	4,460	5,380	320,100
The year.....	50,000	-	12,130	8,784,000
1937-38				
October.....	5,420	4,750	5,014	308,300
November.....	5,770	4,800	5,218	310,500
December.....	6,870	4,750	5,825	358,200
January.....	6,320	4,500	5,769	354,700
February.....	5,800	4,500	5,354	297,300
March.....	8,200	4,920	6,289	386,700
April.....	33,000	6,870	16,780	998,200
May.....	86,900	35,200	48,050	2,955,000
June.....	85,800	49,800	65,810	3,916,000
July.....	45,600	8,600	22,550	1,387,000
August.....	9,800	4,920	6,606	406,200
September.....	12,500	5,600	9,662	574,900
The year.....	86,900	4,500	16,920	12,250,000

Yearly discharge of Clark Fork near Plains, Mont.

Year	Year ending September 30		Calendar year	
	Mean discharge in second-feet	Run-off in acre-feet	Mean discharge in second-feet	Run-off in acre-feet
1913 .....	24,100	17,400,000	24,100	17,400,000
1914 .....	17,300	12,500,000	17,900	13,000,000
1915 .....	15,300	11,400,000	15,200	11,000,000
1918 .....	24,100	17,400,000	23,800	17,200,000
1919 .....	15,100	10,900,000	-	-
1921 .....	22,700	16,500,000	22,100	16,000,000
1922 .....	19,500	14,100,000	19,300	14,000,000
1923 .....	19,500	14,100,000	19,600	14,200,000
1924 .....	16,000	11,600,000	-	-
1926 .....	12,600	9,150,000	13,900	10,100,000
1927 .....	26,700	19,300,000	28,100	20,400,000
1928 .....	29,400	21,300,000	26,900	19,600,000
1929 .....	15,200	11,000,000	14,400	10,400,000
1930 .....	14,000	10,100,000	14,400	10,400,000
1931 .....	11,400	8,250,000	11,000	7,940,000
1932 .....	18,800	13,700,000	19,500	14,200,000
1933 .....	22,200	16,000,000	24,600	17,800,000
1934 .....	25,460	18,430,000	23,090	16,720,000
1935 .....	17,490	12,660,000	16,690	12,080,000
1936 .....	16,080	11,670,000	16,010	11,630,000
1937 .....	12,130	8,784,000	12,330	8,929,000
1938 .....	16,920	12,250,000	-	-
Highest .....	29,400	21,300,000	28,120	20,400,000
Average .....	18,750	13,570,000	19,100	13,840,000
Lowest .....	11,400	8,250,000	10,960	7,937,000

## Clark Fork near Heron, Mont.

Location.- Water-stage recorder, lat.  $48^{\circ}04'$ , long.  $115^{\circ}59'$ , in sec. 28, T. 27 N., R. 34 W., 500 feet upstream from Dead Horse Creek and  $1\frac{1}{2}$  miles northwest of Heron. Prior to Jan. 2, 1931, at datum 10 feet higher.

Drainage area.- 21,800 square miles.

Records available.- September 1928 to September 1938.

Extremes.- Maximum discharge, 137,000 second-feet June 17, 1933 (gage height, 46.62 feet); minimum, 620 second-feet (during period of extreme regulation) Dec. 23, 1935 (gage height, 7.59 feet).

Maximum stage known, 59.1 feet, present datum, June 1894.

Remarks.- Power-plant operation at Thompson Falls causes diurnal fluctuation during low periods. Considerable water diverted from tributaries upstream for irrigation.

Monthly discharge of Clark Fork near Heron, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1928				
September 21-30.....	10,600	8,920	9,750	193,000
1928-29				
October.....	11,100	8,100	9,450	581,000
November.....	11,300	7,900	9,010	536,000
December.....	9,130	5,540	7,180	441,000
January.....	-	-	5,900	363,000
February.....	-	-	5,390	299,000
March.....	9,340	-	7,450	458,000
April.....	-	6,580	10,900	649,000
May.....	72,100	21,300	40,000	2,460,000
June.....	-	45,000	60,700	3,610,000
July.....	42,600	15,200	26,000	1,600,000
August.....	14,700	7,700	10,600	652,000
September.....	7,900	4,800	6,530	389,000
The year.....	72,100	-	16,600	12,000,000

## Monthly discharge of Clark Fork near Héron, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1929-30				
October.....	6,880	5,260	6,210	382,000
November.....	7,060	5,000	5,640	336,000
December.....	7,420	3,640	6,040	371,000
January.....	6,880	3,180	4,720	290,000
February.....	12,200	-	7,430	413,000
March.....	11,300	5,410	7,550	464,000
April.....	48,000	11,800	27,500	1,640,000
May.....	50,600	41,300	45,600	2,800,000
June.....	50,600	30,900	42,600	2,530,000
July.....	29,900	13,400	20,100	1,240,000
August.....	12,900	7,720	9,860	606,000
September.....	7,720	6,180	6,990	416,000
The year.....	50,600	3,180	15,900	11,500,000
1930-31				
October.....	8,660	5,710	7,610	468,000
November.....	8,470	6,340	7,560	450,000
December.....	8,090	5,120	6,760	416,000
January.....	6,340	5,560	5,930	365,000
February.....	6,500	6,020	6,190	344,000
March.....	8,850	6,020	7,260	446,000
April.....	17,400	8,470	12,300	732,000
May.....	51,000	19,100	39,700	2,440,000
June.....	45,700	22,800	34,600	2,060,000
July.....	21,600	9,650	14,700	904,000
August.....	9,650	5,120	7,480	460,000
September.....	7,180	4,060	5,740	342,000
The year.....	51,000	4,060	13,000	9,430,000
1931-32				
October.....	7,600	4,680	5,680	349,000
November.....	7,790	4,140	5,450	324,000
December.....	6,200	4,140	5,570	342,000
January.....	-	-	5,560	342,000
February.....	14,400	-	6,330	364,000
March.....	14,100	8,560	11,500	707,000
April.....	34,600	15,100	25,100	1,490,000
May.....	94,900	35,300	69,200	4,250,000
June.....	78,600	59,200	70,800	4,210,000
July.....	56,800	20,200	35,600	2,190,000
August.....	19,600	9,780	13,500	830,000
September.....	9,780	7,420	8,390	499,000
The year.....	94,900	-	21,900	15,900,000
1932-33				
October.....	7,250	6,710	6,950	427,000
November.....	10,800	7,070	8,860	527,000
December.....	13,000	-	9,880	608,000
January.....	10,400	6,540	8,880	546,000
February.....	8,180	-	6,890	383,000
March.....	9,750	6,030	7,990	491,000
April.....	41,100	9,950	16,500	982,000
May.....	78,000	39,700	49,200	3,030,000
June.....	137,000	83,600	114,000	6,780,000
July.....	84,400	25,300	49,700	3,060,000
August.....	24,700	11,900	16,500	1,010,000
September.....	11,400	9,150	10,100	601,000
The year.....	137,000	-	25,500	18,400,000
1933-34				
October.....	22,600	7,800	11,320	695,900
November.....	27,800	18,500	21,830	1,299,000
December.....	71,700	17,500	30,350	1,866,000
January.....	37,200	22,400	28,020	1,723,000
February.....	22,100	16,500	20,190	1,121,000
March.....	44,700	16,500	23,010	1,415,000
April.....	87,400	35,500	59,140	3,519,000
May.....	85,300	70,500	77,100	4,741,000
June.....	70,000	32,400	50,290	2,992,000
July.....	31,400	13,600	20,590	1,266,000
August.....	12,700	7,070	9,896	608,500
September.....	8,180	5,550	6,740	401,100
The year.....	87,400	5,550	29,900	21,650,000



## Monthly discharge of Clark Fork near Heron, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1934-35				
October.....	10,800	5,710	7,038	432,800
November.....	12,300	8,370	11,070	658,900
December.....	11,600	8,370	10,110	621,900
January.....	11,000	6,030	8,788	540,400
February.....	10,800	8,560	9,740	540,900
March.....	11,200	6,540	9,580	589,000
April.....	27,200	9,550	15,640	930,400
May.....	74,200	29,800	48,610	2,989,000
June.....	77,600	48,400	66,520	3,958,000
July.....	48,000	19,000	32,110	1,974,000
August.....	18,800	10,000	13,500	830,300
September.....	10,400	5,710	7,473	444,700
The year.....	77,600	5,710	20,040	14,510,000
1935-36				
October.....	6,350	5,470	5,946	365,600
November.....	5,990	4,790	5,516	322,200
December.....	5,990	1,110	4,845	297,900
January.....	5,640	4,200	4,944	304,000
February.....	8,750	1,400	4,217	242,600
March.....	10,200	4,450	7,270	447,000
April.....	55,300	4,450	26,130	1,555,000
May.....	89,600	51,400	69,940	4,300,000
June.....	76,700	29,100	53,160	3,163,000
July.....	28,500	11,600	18,450	1,134,000
August.....	11,200	6,710	8,574	527,200
September.....	7,070	5,640	6,249	371,800
The year.....	89,600	1,110	17,960	13,040,000
1936-37				
October.....	5,870	5,240	5,466	336,100
November.....	5,390	4,420	5,008	298,000
December.....	5,710	3,250	4,732	290,900
January.....	-	2,970	3,527	216,900
February.....	-	-	4,232	255,000
March.....	5,870	4,490	5,122	314,900
April.....	12,700	5,240	8,397	499,700
May.....	54,900	12,700	38,000	2,336,000
June.....	53,000	39,700	47,610	2,833,000
July.....	38,300	13,400	23,840	1,466,000
August.....	13,400	7,250	9,969	613,000
September.....	7,250	5,240	6,001	357,100
The year.....	54,900	2,970	13,530	9,797,000
1937-38				
October.....	5,870	5,090	5,511	338,900
November.....	6,540	5,240	5,871	349,300
December.....	7,800	5,240	6,644	408,500
January.....	7,610	6,000	6,808	418,600
February.....	7,070	3,460	6,111	339,400
March.....	11,000	6,030	8,205	504,500
April.....	42,200	8,750	22,630	1,347,000
May.....	94,900	42,200	55,160	3,392,000
June.....	95,800	55,600	71,950	4,281,000
July.....	51,800	11,500	25,770	1,585,000
August.....	10,600	5,870	7,824	481,100
September.....	13,400	6,710	9,980	593,800
The year.....	95,800	3,460	19,390	14,040,000

## Yearly discharge of Clark Fork near Heron, Mont.

Year	Year ending September 30		Calendar year	
	Mean discharge in second-feet	Run-off in acre-feet	Mean discharge in second-feet	Run-off in acre-feet
1929.....	16,600	12,000,000	16,000	11,600,000
1930.....	15,900	11,500,000	16,200	11,700,000
1931.....	13,000	9,430,000	12,600	9,110,000
1932.....	21,900	15,900,000	22,600	16,400,000
1933.....	25,500	18,400,000	28,600	20,700,000
1934.....	29,900	21,650,000	26,930	19,500,000
1935.....	20,040	14,510,000	19,050	13,790,000
1936.....	17,960	13,040,000	17,870	12,970,000
1937.....	13,530	9,797,000	13,770	9,968,000
1938.....	19,390	14,040,000	-	-
Highest.....	29,900	21,650,000	28,600	20,700,000
Average.....	19,370	14,030,000	19,290	13,970,000
Lowest.....	13,000	9,430,000	12,600	9,110,000

## Racetrack Creek near Anaconda, Mont.

Location.- Chain gage, lat.  $46^{\circ}17'$ , long.  $112^{\circ}57'$  in sec. 15, T. 6 N., R. 11 W., 3 miles upstream from Racetrack range station, and 10 miles north of Anaconda.

Drainage area.- 38 square miles..

Records available.- July 1911 to November 1912.

Remarks.- Diversion above station for mining.

## Monthly discharge of Racetrack Creek near Anaconda, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1911				
July 11-31.....	108	53	73.9	3,080
August.....	55	39	45.9	2,820
September.....	38	30	33.4	1,990
October.....	36	24	29.6	1,820
The period.....	-	-	-	9,710
1912				
January 19-31.....	25	19	20.8	536
February.....	24	16	18.2	1,050
March 1-17.....	19	16	16.7	563
May 5-31.....	209	22	101	5,410
June.....	515	208	371	22,100
July.....	408	83	180	11,100
August.....	111	75	96.3	5,920
September.....	111	75	90.3	5,370
October.....	144	88	131	8,060
November 1-9.....	132	111	120	2,140

## Middle Fork of Rock Creek near Philipsburg, Mont.

Location.- Wire-weight gage, lat.  $46^{\circ}11'$ , long.  $113^{\circ}30'$ , in NE  $\frac{1}{4}$  sec. 17, T. 5 N., R. 15 W., three-quarters of a mile upstream from East Fork,  $2\frac{1}{2}$  miles upstream from West Fork, and 15 miles southwest of Philipsburg.

Records available.- September 1937 to September 1938.

Extremes.- Maximum discharge observed, 980 second-feet May 29, 1938 (gage height, 3.96 feet); minimum observed, 17 second-feet Jan. 29, 1938 (discharge measurement).

Remarks.- Several small diversions above station for irrigation.

## Monthly discharge of Middle Fork of Rock Creek near Philipsburg, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1937				
September 21-30.....	43	40	40.9	811
1937-38				
October.....	41	34	37.9	2,330
November.....	40	33	36.3	2,160
December.....	-	-	34.8	2,140
January 1-15.....	-	-	25	744
March 14-31.....	29	22	26.3	940
April.....	186	21	57.7	3,430
May.....	920	150	339	20,840
June.....	657	296	450	26,780
July.....	492	92	216	13,270
August.....	86	44	64.5	3,970
September.....	54	32	40.8	2,430

## Rock Creek near Quigley, Mont.

Location.- Wire-weight gage, lat.  $46^{\circ}35'$ , long.  $115^{\circ}41'$ , in SW $\frac{1}{4}$  sec. 36, T. 10 N., R. 17 W. (unsurveyed), at highway bridge a quarter of a mile upstream from Ranch Creek and 2 $\frac{1}{2}$  miles south of Quigley.

Drainage area.- 772 square miles.

Records available.- October 1911 to November 1912, May 1922 to September 1927.

Extremes.- Maximum discharge observed, 6,620 second-feet June 5, 1922 (gage height, 6.32 feet; minimum observed, 115 second-feet Dec. 17, 1924 (gage height, 1.00 foot).

Remarks.- No large diversions above station.

## Monthly discharge of Rock Creek near Quigley, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1911-12</b>						
October.....	425	250	322	0.417	0.48	19,800
November 1-22.....	280	250	260	.337	.28	11,300
February.....	-	-	e200	.259	.28	11,500
March.....	280	180	220	.285	.32	13,100
July.....	2,440	555	1,160	1.50	1.73	71,300
August.....	635	455	517	.670	.77	281,800
September.....	450	320	386	.500	.56	23,000
October.....	320	280	305	.395	.45	18,600
November 1-17.....	370	280	313	.405	.26	10,600
<b>1922</b>						
May.....	3,720	415	1,630	2.11	2.43	100,000
June.....	5,170	1,170	3,280	4.25	4.74	195,000
July.....	1,010	368	567	.734	.85	34,900
August.....	358	252	309	.400	.46	19,000
September.....	263	192	226	.293	.33	13,400
<b>1922-23</b>						
October.....	197	187	192	.249	.29	11,800
November.....	237	184	214	.277	.31	12,700
December.....	182	-	177	.229	.26	10,900
January.....	-	-	e180	.233	.26	11,100
February.....	-	-	e170	.220	.23	9,440
March.....	-	-	e230	.298	.34	14,100
April.....	615	275	365	.473	.53	21,700
May.....	2,760	422	1,280	1.66	1.91	78,700
June.....	2,520	1,200	1,690	2.19	2.44	101,000
July.....	1,200	393	692	.896	1.03	42,500
August.....	407	246	326	.422	.49	20,000
September.....	246	172	199	.258	.29	11,800
The year.....	2,760	-	478	.619	8.39	346,000
<b>1923-24</b>						
October.....	257	197	234	.303	.35	14,400
November.....	252	197	211	.273	.31	12,600
December.....	-	-	e190	.246	.28	11,700
January.....	-	-	e170	.220	.26	10,500
February.....	-	-	e215	.278	.30	12,400
March.....	-	-	e250	.324	.37	15,400
April.....	590	224	315	.405	.45	18,600
May.....	2,700	641	1,570	2.05	2.34	96,500
June.....	1,070	418	741	.960	1.07	44,100
July.....	409	240	338	.438	.50	20,800
August.....	237	150	204	.264	.30	12,500
September.....	157	138	146	.189	.21	8,690
The year.....	2,700	-	383	.496	6.74	278,000
<b>1924-25</b>						
October.....	-	-	-	-	-	-
November.....	240	182	201	.260	.14	5,580
December.....	351	115	172	.223	.26	10,600
January.....	-	-	186	.241	.28	11,400
February.....	-	-	179	.232	.24	9,940
March.....	323	148	204	.264	.30	12,500
April.....	1,080	285	655	.848	.95	39,000
May.....	3,540	810	2,230	2.89	3.33	137,000
June.....	2,520	997	1,660	2.15	2.40	95,900
July.....	1,190	288	449	.646	.74	30,700
August.....	288	194	283	.315	.36	14,900
September.....	224	176	193	.250	.28	11,500
The period.....	-	-	-	-	-	382,000

e Estimated.

## Monthly discharge of Rock Creek near Quigley, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1925-26						
October.....	218	198	205	0.266	0.31	12,600
November.....	218	159	189	.245	.27	11,200
December.....	189	152	172	.223	.26	10,600
January.....	204	137	162	.210	.24	9,960
February.....	172	141	160	.207	.22	8,890
March.....	229	137	175	.227	.26	10,800
April.....	1,520	154	537	.696	.78	32,000
May.....	1,520	686	1,070	1.39	1.60	65,800
June.....	1,080	371	780	1.01	1.13	46,400
July.....	371	189	260	.337	.39	16,000
August.....	229	159	186	.241	.28	11,400
September.....	208	170	194	.251	.28	11,500
The year.....	1,520	137	341	.442	6.02	247,000
1926-27						
October.....	235	208	226	.293	.34	13,900
November.....	294	163	209	.271	.30	12,400
December 1-18.....	326	185	268	.347	.23	9,570
March.....	286	200	236	.306	.35	14,500
April.....	1,630	200	434	.362	.63	25,800
May.....	3,840	745	1,950	2.50	2.89	119,000
July.....	1,810	500	879	1.14	1.30	54,000
August.....	500	337	429	.556	.64	26,400
September.....	337	302	318	.412	.46	18,900

## East Fork of Rock Creek near Philipsburg, Mont.

Location.-- Staff gage, lat. 46°08'10", long. 113°23'10", in NW $\frac{1}{4}$  sec. 5, T. 4 N., R. 14 W., 200 feet upstream from Flint Creek Canal, 300 feet downstream from Rock Creek Dam, 3 miles upstream from Meadow Creek, and 14 miles southwest of Philipsburg. Prior to Oct. 10, 1936, at site 600 feet upstream at different datum.

Records available.-- June 1935 to September 1938.

Extremes.-- Maximum discharge observed, 269 second-feet June 15, 1935 (gage height, 3.06 feet, site and datum then in use); minimum observed, 2.1 second-feet Jan. 8-17, 1938 (gage height, 0.56 foot).

Remarks.-- Flow completely regulated after Oct. 15, 1936, by Rock Creek Reservoir (capacity, 16,200 acre-feet).

## Monthly discharge of East Fork of Rock Creek near Philipsburg, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
June 4-30, 1935.....	253	84	162	8,670
July.....	116	32	59.5	3,660
August.....	31	21	24.7	1,520
September.....	21	17	18.9	1,120
The period.....	-	-	-	14,970
October 1935.....	17	15	15.2	936
November.....	18	16	16.6	990
December.....	18	15	16.5	1,020
January 1936.....	18	11	14.0	859
February.....	10	4.5	7.50	431
March.....	4.9	4.1	4.64	285
April.....	12	3.4	6.63	394
May.....	160	12	71.4	4,390
June.....	188	42	78.9	4,690
July.....	39	23	30.7	1,890
August.....	24	18	20.5	1,260
September.....	19	15	16.7	992
Water year 1935-36.....	188	3.4	25.0	18,140

Monthly discharge of East Fork of Rock Creek near Philipsburg, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1936.....	15	13	14.1	869
November.....	14	7.6	11.9	710
December.....	12	9.5	11.0	678
Calendar year 1936.....	188	3.4	24.0	17,450
January 1937.....	-	-	8.48	522
February.....	8.0	5.0	5.91	328
March.....	7.6	5.0	6.43	395
April.....	11	7.6	9.32	555
May.....	39	10	17.8	1,100
June.....	123	18	47.4	2,820
July.....	-	-	25.2	1,550
August.....	-	19	22.8	1,400
September.....	21	18	18.5	1,100
Water year 1936-37.....	123	5.0	16.6	12,030
October 1937.....	17	15	15.9	980
November.....	15	2.3	5.70	339
December.....	2.9	2.3	2.58	159
Calendar year 1937.....	123	2.3	15.5	11,250
January 1938.....	2.4	2.1	2.24	138
February.....	2.5	2.3	2.36	131
March.....	2.9	2.5	2.60	160
April.....	3.8	2.5	3.13	186
May.....	18	3.3	8.02	493
June.....	113	5.6	51.6	3,070
July.....	122	56	72.1	4,430
August.....	68	37	52.1	3,200
September.....	56	46	51.3	3,050
Water year 1937-38.....	122	2.1	22.6	16,340

## Ranch Creek near Quigley, Mont.

Location.- Staff gage, lat. 46°35', long. 113°40', in NE $\frac{1}{4}$  sec. 36, T. 10 N., R. 17 W. (unsurveyed), a quarter of a mile upstream from mouth and 2 $\frac{1}{4}$  miles south of Quigley.  
 Drainage area.- 42.7 square miles.  
 Records available.- May 1922 to September 1927.  
 Extremes.- Maximum discharge observed, 238 second-feet May 19, 20, 1922; minimum observed, 10.7 second-feet Feb. 1, 1924.  
 Remarks.- No large diversions above gage.

Monthly discharge of Ranch Creek near Quigley, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1922						
May, 2-31.....	238	76	143	3.35	3.74	8,510
June.....	226	86	155	3.63	4.05	9,220
July.....	81	38	55.4	1.30	1.50	3,410
August.....	38	26	32.0	.750	.87	1,970
September.....	31	23	25.2	.590	.66	1,500
The period.....	-	-	-	-	-	24,600
1922-23						
October.....	23	18	20.3	.475	.55	1,250
November.....	20	18	18.6	.436	.47	1,110
December.....	-	-	18.0	.422	.49	1,110
January.....	19	16	18.0	.422	.47	1,110
February.....	-	-	16.0	.375	.39	889
March.....	30	15	16.3	.382	.44	1,000
April.....	56	16	32.8	.768	.86	1,950
May.....	145	35	82.4	1.93	2.22	5,070
June.....	115	73	80.0	1.87	2.09	4,760
July.....	73	36	56.1	1.31	1.51	3,450
August.....	42	30	35.7	.836	.96	2,200
September.....	30	30	30.0	.703	.78	1,790
The year.....	145	15	35.4	.829	11.25	25,700

## Monthly discharge of Ranch Creek near Quigley, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1923-24</b>						
October.....	36	29	30.4	0.712	0.82	1,870
November.....	28	21	26.5	.621	.69	1,580
December.....	-	-	e16.0	.375	.43	984
January.....	-	-	e12.0	.281	.32	738
February.....	112	11	43.1	1.01	1.09	2,480
March.....	81	30	32.0	.750	.87	1,970
April.....	51	22	31.2	.731	.82	1,860
May.....	164	70	115.0	2.69	3.10	7,070
June.....	78	32	52.0	1.22	1.36	3,090
July.....	38	36	37.8	.886	1.02	2,320
August.....	36	20	26.5	.621	.72	1,630
September.....	21	18	19.8	.464	.52	1,180
The year.....	164	-	36.9	.864	11.76	26,800
<b>1924-25</b>						
November 17-30.....	27	22	25.1	.588	.31	697
December.....	27	15	22.2	.520	.60	1,360
January.....	19	18	18.5	.433	.50	1,140
February.....	21	16	18.6	.436	.45	1,030
March.....	25	18	20.3	.475	.55	1,250
April.....	101	25	61.8	1.45	1.62	3,680
May.....	145	73	112	2.63	3.03	6,890
June.....	101	68	80.5	1.89	2.11	4,790
July.....	76	34	45.4	1.06	1.22	2,790
August.....	36	32	33.2	.778	.90	2,040
September.....	32	25	27.9	.513	.57	1,660
The period.....	-	-	-	-	-	27,300
<b>1925-26</b>						
October.....	25	24	24.6	.576	.66	1,510
November.....	25	24	24.3	.569	.64	1,450
December.....	25	18	22.2	.520	.60	1,360
March 21-31.....	20	19	19.8	.469	.19	432
April.....	67	18	36.4	.852	.95	2,170
May.....	63	42	48.0	1.12	1.29	2,950
June.....	44	28	36.2	.848	.94	2,150
July.....	29	18	21.7	.508	.58	1,330
August.....	18	17	17.7	.415	.48	1,090
September.....	18	17	17.6	.412	.46	1,050
<b>1926-27</b>						
October.....	18	18	18.0	.422	.49	1,110
November.....	21	18	18.3	.429	.46	1,090
December 1-11.....	38	21	24.3	.569	.25	530
March.....	25	18	21.2	.497	.57	1,300
April.....	95	21	34.4	.206	.90	2,050
May.....	138	39	84.1	1.97	2.27	5,170
June.....	217	81	138	3.23	3.61	8,210
July.....	67	38	49.9	1.17	1.35	3,070
August.....	36	26	30.9	.724	.85	1,900
September.....	30	26	26.4	.618	.69	1,570

## Blackfoot River at Clearwater, Mont.

Location.-- Wire-weight gage, lat. 46°58', long. 113°22', in sec. 16, T. 14 N., R. 14 W., 300 feet upstream from Clearwater River, 200 feet upstream from highway bridge, and 1 mile south of Clearwater post office.

Drainage area.-- 1,320 square miles.

Records available.-- June 1921 to September 1923.

Extremes.-- Maximum discharge observed, 7,820 second-feet June 6, 1922 (gage height, 6.4 feet); minimum observed, 410 second-feet Nov. 13-21, 1923 (gage height, 1.00 foot).

Remarks.-- Several small diversions above station for irrigation.

## Monthly discharge of Blackfoot River at Clearwater, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1921				
June 9-30.....	6,290	2,270	3,930	171,000
July.....	2,200	832	1,290	79,300
August.....	812	543	665	40,900
September.....	572	487	520	30,900
The period.....	-	-	-	322,000

Monthly discharge of Blackfoot River at Clearwater, Mont.---Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1921-22				
October.....	543	487	517	31,800
November 1-19.....	514	487	504	19,000
April 26-30.....	1,030	960	998	9,900
May.....	7,480	937	3,420	210,000
June.....	7,820	1,740	4,910	292,000
July.....	1,680	772	1,090	67,000
August.....	772	543	642	39,500
September.....	572	435	504	30,000
1922-23				
October.....	460	435	441	27,100
November.....	460	410	429	25,500
April 16-30.....	1,130	514	791	23,500
May.....	6,630	1,230	3,520	216,000
June.....	5,950	2,480	3,970	236,000
July.....	2,200	894	1,340	82,400
August.....	851	572	695	42,700
September.....	572	487	512	30,500

## Blackfoot River near Bonner, Mont.

Location.-- Chain gage, lat. 46°53', long. 113°52', in NW¼ sec. 21, T. 13 N., R. 18 W., at highway bridge an eighth of a mile upstream from mouth and half a mile west of Bonner.

Drainage area.-- 2,465 square miles.

Records available.-- July 1898 to June 1901, May 1903 to October 1905.

Extremes.-- Maximum daily discharge, 17,240 second-feet June 20, 1899 (gage height, 8.70 feet); minimum daily, 320 second-feet Mar. 12, 1905 (gage height, 0.05 foot).

Remarks.-- Considerable regulation at power dam half a mile upstream. Several diversions above station for irrigation.

Monthly discharge of Blackfoot River near Bonner, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1898						
July.....	5,520	1,550	2,797	1.13	1.30	172,000
August.....	1,613	975	1,190	.48	.55	73,200
September.....	1,030	897	962	.39	.44	57,200
1898-99						
October.....	1,185	837	968	.39	.45	59,500
November.....	1,090	850	897	.36	.40	53,400
December.....	1,185	850	939	.38	.44	57,700
January.....	1,390	730	831	.34	.39	51,100
March.....	7,416	740	2,516	1.02	1.14	150,000
April.....	14,598	2,112	7,699	3.12	3.60	473,000
May.....	17,244	10,818	13,615	5.52	6.16	810,000
June.....	12,078	2,810	6,557	2.66	3.07	403,000
July.....	2,810	1,420	1,921	.78	.90	118,000
August.....	1,460	1,050	1,250	.51	.57	74,400
1899-1900						
October.....	1,205	965	1,073	.44	.51	66,000
November.....	1,275	990	1,074	.44	.49	63,900
December.....	1,420	965	1,012	.41	.47	62,200
January.....	945	662	787	.32	.37	48,400
February.....	743	460	634	.26	.27	35,200
March.....	3,125	380	1,278	.52	.60	78,600
April.....	3,749	1,310	2,707	1.10	1.23	161,000
May.....	12,559	3,514	6,566	2.66	3.07	404,000
June.....	4,074	1,880	3,116	1.26	1.41	185,000
July.....	1,830	1,026	1,349	.55	.63	83,000
August.....	1,067	864	944	.38	.44	58,000
September.....	986	743	859	.35	.39	51,100
The year.....	12,559	380	1,790	.726	9.88	1,300,000

a Partly estimated.

## SURFACE WATERS OF UPPER COLUMBIA RIVER BASIN, 1898-1938

Monthly discharge of Blackfoot River near Bonner, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1900-1901</b>						
October.....	945	662	773	0.31	0.36	47,500
November.....	824	662	a 760	.31	.35	45,200
December.....	1,067	581	a 749	.30	.35	46,000
January.....	1,060	550	673	.27	.31	41,400
February.....	1,310	450	580	.24	.25	32,200
March.....	3,988	550	1,017	.41	.47	62,500
April.....	2,950	585	1,186	.48	.54	70,600
May.....	12,302	3,899	8,552	3.47	4.00	526,000
June.....	7,676	2,650	3,698	1.50	1.67	220,000
The period.....	-	-	-	-	-	1,090,000
<b>1903</b>						
May 15-31.....	6,060	2,730	4,334	1.758	1.11	146,000
June.....	-	-	a 7,575	3.073	3.43	451,000
July.....	3,220	1,425	2,191	.889	1.02	135,000
August.....	1,470	920	1,105	.448	.52	67,900
September.....	1,070	780	889	.361	.40	52,000
<b>1903-4</b>						
October.....	1,180	890	1,011	.410	.47	62,200
November.....	1,040	830	920	.373	.42	54,700
December.....	1,470	805	920	.373	.45	56,600
January.....	810	605	666	.270	.31	41,000
February.....	635	525	574	.235	.25	33,000
March.....	1,020	525	668	.271	.31	41,100
April.....	7,500	705	3,785	1.535	1.71	225,000
May.....	8,820	4,250	6,066	2.461	2.84	373,000
June.....	6,540	2,530	4,217	1.711	1.91	251,000
July.....	2,395	1,140	1,638	.664	.77	101,000
August.....	1,140	740	898	.364	.42	55,200
September.....	810	550	684	.277	.31	40,700
The year.....	8,820	525	1,838	.746	10.15	1,330,000
<b>1904-5</b>						
October.....	1,260	440	581	.236	.27	35,700
November.....	550	440	509	.206	.23	30,300
December.....	610	420	472	.191	.22	29,000
January 1-11, 27-31.....	1,120	365	572	.232	.14	18,200
March.....	940	320	459	.186	.21	28,200
April.....	735	365	463	.188	.21	27,600
May.....	2,420	700	1,294	.525	.60	79,600
June.....	4,360	1,760	2,936	1.19	1.33	175,000
July.....	1,760	770	1,079	.437	.50	66,400
August.....	735	440	565	.229	.26	34,700
September.....	500	340	407	.165	.18	24,200
October.....	560	365	465	.189	.22	28,600

a Partly estimated.

## Nevada Creek near Finn, Mont.

Location.- Staff gage, lat. 46°48', long. 112°48', in NE¼ sec. 13, T. 12, N., R. 10 W., 6 miles west of Finn.

Records available.- May 1934 to September 1938.

Extremes.- Maximum discharge, 1,200 second-feet (estimated) Apr. 11, 1936 (gage height, 4.26 feet from floodmark); minimum discharge observed, 4.6 second-feet Sept. 18-20, 1937 (gage height, 0.94 foot).

Remarks.- Some diversions above station for irrigation.

Monthly discharge of Nevada Creek near Finn, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May 10-31, 1934.....	98	31	53.5	2,330
June.....	72	23	36.6	2,180
July.....	19	7.7	13.4	826
August.....	14	8.7	10.5	646
September.....	13	8.7	10.5	627
The period.....	-	-	-	6,610



Monthly discharge of Nevada Creek near Finn, Mont.---Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1934.....	16	11	12.7	780
November.....	14	-	12.5	744
April 1935.....	146	-	41.7	2,480
May.....	86	20	38.6	2,360
June.....	51	22	34.0	2,050
July.....	35	11	18.1	1,110
August.....	12	5.6	7.96	490
September.....	7.1	5.0	5.89	350
October 1935.....	13	5.6	8.8	540
November.....	-	-	8.5	508
December.....	-	-	9.0	553
January 1936.....	-	-	9.5	584
February.....	-	-	10.0	575
March.....	-	-	14.2	873
April.....	340	10	102	6,060
May.....	152	30	82.0	5,040
June.....	90	20	40.7	2,420
July.....	21	10	15.0	922
August.....	13	8.4	10.2	629
September.....	14	9.2	10.4	620
Water year 1935-36.....	340	5.6	26.6	19,340
October 1936.....	12	9.2	9.95	612
November.....	12	8.4	10.6	629
December.....	-	-	9.0	553
Calendar year 1936.....	340	8.4	26.9	19,540
January 1937.....	-	-	9.5	584
February.....	-	-	10.0	555
March.....	-	-	11.0	678
April.....	102	12	39.1	2,330
May.....	56	31	43.5	2,680
June.....	44	20	28.9	1,720
July.....	21	7.6	13.1	805
August.....	12	5.1	7.48	460
September.....	9.6	4.6	6.33	377
Water year 1936-37.....	102	4.6	16.5	11,980
October 1937.....	7.0	5.6	6.34	390
November.....	-	-	7.07	421
December.....	-	-	6	369
Calendar year 1937.....	102	4.6	15.7	11,370
January 1938.....	-	-	6	369
February.....	-	-	6	333
March.....	-	-	11.6	714
April.....	265	10	96.3	5,730
May.....	344	57	151	9,310
June.....	220	45	107	6,390
July.....	235	23	69.5	4,270
August.....	22	15	17.7	1,090
September.....	15	8.2	9.89	588
Water year 1937-38.....	344	-	41.4	29,970

North Fork of Blackfoot River near Ovando, Mont.

Location.- Wire-weight gage, lat. 47°03', long. 112°59', in NW $\frac{1}{4}$  sec. 22, T. 15 N., R. 11 W., at Pitkins ranch, 11 miles northeast of Ovando.

Drainage area.- 227 square miles.

Records available.- June 1921 to September 1923.

Extremes.- Maximum discharge observed, 2,900 second-feet June 5, 1922 (gage height, 7.58 feet); minimum observed, 27 second-feet Nov. 6-16, 1922, and Apr. 15, 1923 (gage height, 2.44 and 2.43 feet respectively).

Remarks.- Two small diversions above station for irrigation.

## Monthly discharge of North Fork of Blackfoot River near Ovando, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1921</b>						
June 8-30.....	2,400	644	1,330	5.86	5.01	60,700
July.....	604	140	280	1.23	1.42	17,200
August.....	136	57	84.4	.372	.43	5,190
September.....	56	38	46.4	.209	.23	2,760
The period.....	-	-	-	-	-	85,800
<b>1921-22</b>						
October.....	38	30	34.5	.162	.18	2,120
November 1-16.....	30	27	27.8	.122	.07	882
May.....	2,590	57	882	3.89	4.48	54,200
June.....	2,820	539	1,620	7.14	7.97	96,400
July.....	498	128	255	1.12	1.29	16,700
August.....	124	63	92.5	.407	.47	5,690
September.....	67	43	53.7	.237	.26	3,200
<b>1923</b>						
April 15-30.....	358	27	116	.511	.30	3,680
May.....	2,500	242	1,220	5.37	6.19	75,000
June.....	2,320	858	1,440	6.34	7.08	85,700
July.....	748	142	374	1.65	1.90	23,000
August.....	146	90	111	.489	.56	6,820
September 1-15.....	90	64	71.9	.317	.18	2,140

## Clearwater River at Clearwater, Mont.

Location.- Wire-weight gage, lat. 46°58', long. 113°22', in sec. 16 T. 14 N., R. 14 W., 400 feet upstream from mouth and 1 mile south of Clearwater post office.

Drainage area.- 398 square miles.

Records available.- June 1921 to September 1923.

Extremes.- Maximum discharge observed, 2,400 second-feet May 12 and 26, 1922 (gage height, 3.9 feet); minimum observed, 30 second-feet Oct. 23 and Nov. 21, 1922 (gage height, 0.7 foot).

Remarks.- Several diversions above station for irrigation.

## Monthly discharge of Clearwater River at Clearwater, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1921</b>						
June 9-30.....	1,310	375	687	1.73	1.41	30,000
July.....	375	112	203	.510	.59	12,500
August.....	105	55	82.1	.206	.24	5,050
September.....	55	45	54.2	.136	.15	3,230
The period.....	-	-	-	-	-	50,800
<b>1921-22</b>						
October.....	55	55	55.0	.138	.16	3,380
November 1-19.....	55	45	51.3	.129	.09	1,930
April 26-31.....	578	318	443	1.11	.21	4,390
May.....	2,400	615	1,560	3.92	4.52	95,900
June.....	2,250	505	1,270	3.19	3.56	75,600
July.....	470	155	300	7.54	.87	18,400
August.....	155	65	88.6	.223	.26	5,450
September.....	90	65	73.0	.183	.20	4,340
<b>1922-23</b>						
October.....	52	30	36.0	.090	.10	2,210
November.....	45	30	32.9	.083	.09	1,960
April 16-30.....	950	345	629	1.58	.88	18,700
May.....	1,600	860	1,280	3.22	3.71	78,700
June.....	1,400	470	947	2.38	2.66	56,400
July.....	470	138	271	.681	.79	16,700
August.....	155	90	118	.296	.34	7,260
September.....	90	45	65.3	.164	.18	3,890

## Rattlesnake Creek at Missoula, Mont.

Location.- Chain gage, lat. 46°52', long. 113°59', at Ivy Street Bridge in Missoula.

Records available.- May to December 1899.

Extremes.- Maximum discharge observed, 2,047 second-feet June 18 (gage height, 6.25 feet); minimum observed, 36 second-feet Dec. 16 (gage height, 2.30 feet).

Remarks.- Many diversions above station for irrigation. Some regulation by power plant of cabinet shop in Missoula.

## Monthly discharge of Rattlesnake Creek at Missoula, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1899				
May 27-31.....	-	-	846	-
June.....	2,047	490	1,197	71,200
July.....	1,200	94	511	31,400
August.....	87	52	63	3,870
September.....	72	46	57	3,390
October.....	80	44	70	4,300
November.....	94	52	64	3,810
December.....	94	36	74	4,550
The period.....	-	-	-	123,000

## West Fork of Bitterroot River near Darby, Mont.

Location.- Chain gage, lat. 45°54', long. 114°11', in sec. 27, T. 2 N., R. 21 W., 500 feet downstream from Trapper Creek ranger station, half a mile downstream from Trapper Creek, and 10 miles south of Darby.

Drainage area.- 572 square miles.

Records available.- September 1910 to September 1916.

Extremes.-Maximum discharge observed, 6,420 second-feet May 27, 1913 (gage height, 7.4 feet); minimum observed, 106 second-feet Aug. 28 to Sept. 7, 1914 (gage height, 1.85 feet).

Remarks.- No diversion or regulation.

## Monthly discharge of West Fork of Bitterroot River near Darby, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1910						
September 19-30.....	177	140	160	0.280	0.12	3,810
1910-11						
October.....	335	140	236	.413	.48	14,500
November.....	580	170	372	.650	.73	22,100
December.....	330	191	261	.456	.53	16,000
March 20-31.....	705	408	557	.974	.43	13,200
April.....	1,750	462	808	1.41	1.57	-
May.....	2,830	1,180	1,760	3.08	3.55	108,000
June.....	4,000	1,330	2,750	4.81	5.37	164,000
July.....	1,580	295	683	1.19	1.37	42,000
August.....	355	176	231	.404	.47	14,200
September.....	205	170	177	.309	.34	10,500
October.....	245	170	191	.334	.39	11,700
1912						
March 24-31.....	640	465	547	.956	.28	8,680
April.....	1,300	492	833	1.46	1.63	49,600
May.....	4,660	798	2,930	5.12	5.90	180,000
June.....	5,340	2,450	4,080	7.13	7.96	243,000
July.....	2,900	656	1,060	1.85	2.13	65,200
August 1-8.....	652	415	560	.379	.29	8,890
The period.....	-	-	-	-	-	555,000
1913						
April.....	2,170	216	1,060	1.85	2.07	63,100
May.....	6,420	975	3,130	5.47	6.31	192,000
June.....	5,520	1,480	3,220	5.63	6.28	192,000
July.....	1,480	472	909	1.59	1.83	55,900
August.....	465	202	288	.504	.58	17,700
September.....	209	175	189	.330	.37	11,200
1913-14						
November.....	227	192	210	.367	.41	12,500
March.....	310	-	229	.400	.46	14,100
April.....	1,300	340	760	1.33	1.48	45,200
May.....	3,200	765	2,070	3.62	4.17	127,000
June.....	3,050	798	1,430	2.50	2.79	85,100
July.....	865	271	477	.834	.96	29,300
August.....	290	106	167	.292	.34	10,300
September.....	290	106	168	.292	.33	10,000
1915						
July.....	975	370	647	-	-	39,800
August.....	370	150	252	-	-	15,500

## Monthly discharge of West Fork of Bitterroot River near Darby, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1915-16						
October 11-31.....	216	150	175	0.306	0.24	7,290
November 1-10.....	150	150	150	.162	.06	2,980
April.....	3,050	520	1,160	2.06	2.30	69,000
May.....	4,830	1,220	2,040	3.57	4.12	125,000
June.....	5,520	1,690	3,270	5.72	6.58	195,000
July.....	3,200	580	1,600	2.80	3.23	98,400
August.....	580	216	344	.602	.69	21,200

## Bitterroot River near Darby, Mont.

Location.- Wire-weight gage, lat. 45°59', long. 114°09', in NE $\frac{1}{4}$  sec. 36, T. 3 N., R. 21 W., at bridge on U. S. Highway 93, a quarter of a mile downstream from Chaffin Creek and 4 miles southeast of Darby.

Drainage area.- 1,050 square miles.

Records available.- April 1937 to September 1938.

Extremes.- Maximum discharge observed, 5,480 second-feet May 29, 1938 (gage height, 6.51 feet); minimum observed, 84 second-feet Dec. 9, 1937 (gage height, 1.06 feet).

Remarks.- Many diversions above station for irrigation.

## Monthly discharge of Bitterroot River near Darby, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1937				
April 4-30.....	611	169	322	17,260
May.....	2,650	487	1,066	120,900
June.....	1,880	753	1,380	82,140
July.....	680	230	376	23,110
August.....	244	116	146	8,980
September.....	160	106	129	7,660
The period.....	-	-	-	260,000
1937-38				
October.....	160	135	143	8,900
November.....	180	130	158	9,390
December.....	430	88	185	11,580
January.....	190	135	166	10,210
February.....	202	138	167	9,290
March.....	287	172	224	13,900
April.....	2,500	199	938	55,820
May.....	5,340	1,130	2,583	158,900
June.....	4,220	1,570	2,705	160,900
July.....	1,680	404	910	55,970
August.....	378	216	275	16,890
September.....	223	155	184	10,980
The year.....	5,340	88	721	522,200

## Bitterroot River near Grantsdale, Mont.

Location.- Chain gage, lat. 46°12', long. 114°10', in sec. 13, T. 5 N., R. 21 W., at highway bridge 2 miles southwest of Grantsdale.

Drainage area.- 1,550 square miles.

Records available.- April 1902 to December 1907.

Extremes.- Maximum discharge observed, 12,880 second-feet June 3, 1903 (gage height, 7.30 feet); minimum observed, 5 second-feet Sept. 19-22, 1905 (gage height, 1.0 foot).

Remarks.- Several diversions above station for irrigation.

## Monthly discharge of Bitterroot River near Grantsdale, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1902						
April 25-30.....	-	-	1,085	0.70	0.16	12,900
May.....	11,075	900	4,823	3.11	3.59	297,000
June.....	9,285	3,050	5,176	3.34	3.73	308,000
July.....	3,700	900	2,143	1.38	1.59	132,000
August.....	790	205	428	.28	.32	26,300
September.....	205	135	167	.11	.12	9,940
The period.....	-	-	-	-	-	786,140
1902-3						
October.....	280	205	242	.16	.18	14,900
November.....	615	280	353	.23	.26	21,000
December.....	1,150	340	472	.30	.35	29,000
January.....	700	395	518	.334	.38	31,800
February.....	530	395	471	.304	.32	26,200
March.....	1,150	340	519	.335	.39	31,900
April.....	3,050	615	1,409	.909	1.01	83,800
May.....	6,150	1,745	3,031	1.955	2.26	186,000
June.....	12,875	4,575	7,968	5.141	5.74	474,000
July.....	3,700	700	1,912	1.234	1.42	118,000
August.....	700	175	354	.215	.25	20,500
September.....	1,150	150	481	.310	.35	28,600
The year.....	12,875	150	1,472	.950	12.91	1,070,000
1903-4						
October.....	1,585	460	825	.532	.62	50,700
November.....	790	530	615	.397	.44	36,600
December.....	1,020	530	650	.419	.48	40,000
January.....	450	225	296	.191	.22	18,200
February.....	540	225	323	.208	.22	18,600
March.....	930	290	490	.316	.36	30,100
April.....	5,230	540	2,783	1.795	2.00	166,000
May.....	11,825	3,620	5,868	3.786	4.36	361,000
June.....	7,425	3,060	5,208	3.360	3.75	310,000
July.....	3,335	770	1,999	1.225	1.41	117,000
August.....	675	88	246	.159	.18	15,100
September.....	115	65	74	.048	.05	4,400
The year.....	11,825	65	1,609	1.04	14.09	1,170,000
1904-5						
October.....	170	55	118	.076	.09	7,260
November.....	225	130	179	.115	.13	10,600
December.....	225	170	181	.117	.14	11,100
January.....	392	360	a385	.248	.29	23,700
February.....	428	360	a394	.254	.26	21,900
March.....	592	360	465	.313	.36	29,800
April.....	2,105	360	915	.590	.66	54,400
May.....	3,215	920	1,544	.996	1.15	94,900
June.....	5,235	1,825	3,276	2.11	2.35	195,000
July.....	2,435	395	1,111	.717	.83	68,300
August.....	395	50	168	.108	.12	10,300
September.....	145	5	44	.029	.03	2,640
The year.....	5,235	5	732	.472	6.41	530,000
1905-6						
October.....	325	145	247	.159	.18	15,200
November.....	395	200	264	.170	.19	15,700
December.....	-	-	a260	.168	.19	16,000
January.....	470	200	a359	.232	.27	22,100
February.....	-	200	a380	.245	.26	21,100
March.....	725	325	450	.290	.34	27,800
April.....	3,550	510	1,370	.884	.99	81,500
May.....	4,110	1,825	2,800	1.81	2.09	172,000
June.....	4,110	1,570	2,540	1.64	1.83	151,000
July.....	1,700	110	866	.559	.64	53,200
August.....	260	60	127	.082	.09	7,800
September.....	260	80	157	.101	.11	9,340
The year.....	4,110	60	819	.528	7.18	593,000

a Partly estimated.

## Monthly discharge of Bitterroot River near Grantsdale, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1906-7						
October.....	1,450	150	386	.249	.29	23,700
November.....	8,100	470	1,650	1.06	1.18	98,200
December.....	1,020	592	750	.484	.56	46,100
January.....	685	430	541	.349	.40	33,300
February.....	952	685	793	.512	.53	44,000
March.....	1,210	430	684	.448	.52	42,700
April.....	3,840	880	2,010	1.30	1.45	120,000
May.....	9,450	1,730	5,610	3.62	4.17	345,000
June.....	11,800	4,580	7,250	4.68	5.22	431,000
July.....	7,390	1,800	4,040	2.61	3.01	248,000
August.....	1,730	515	803	.518	.60	49,400
September.....	830	550	583	.376	.42	34,700
The year.....	11,800	150	2,090	1.35	18.35	1,520,000
1907						
October.....	430	280	367	.237	.27	22,600
November.....	390	280	351	.226	.25	20,900
December.....	470	280	351	.226	.26	21,600

a Partly estimated.

## Yearly discharge of Bitterroot River near Grantsdale, Mont.

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1903.....	1,472	0.950	12.91	1,070,000	1,558	1.01	13.66	1,130,000
1904.....	1,609	1.04	14.09	1,170,000	1,473	.950	12.91	1,070,000
1905.....	732	.472	6.41	530,000	757	.488	6.61	548,000
1906.....	819	.528	7.18	593,000	986	.636	8.65	714,000
1907.....	2,090	1.35	18.35	1,520,000	1,952	1.26	17.10	1,410,000

## Bitterroot River near Missoula, Mont.

Location.-- Wire-weight gage, lat. 46°51', long. 114°06', in SW $\frac{1}{4}$  sec. 26, T. 13 N., R. 20 W., at highway bridge half a mile upstream from mouth and 7 miles southwest of Missoula.

Drainage area.-- 3,260 square miles.

Records available.-- July 1898 to November 1901, June to July 1903, January to December 1904.

Extremes.-- Maximum daily discharge, 37,440 second-feet June 20, 1899 (gage height, 11.45 feet); minimum daily, 370 second-feet Sept. 16-29, 1904 (gage height, 1.12 feet).

Remarks.-- Many diversions above station for irrigation.

## Monthly discharge of Bitterroot River near Missoula, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
July 1898.....	7,930	2,000	4,148	1.27	1.46	255,000
August.....	1,930	950	1,201	.37	.43	73,800
September.....	1,190	875	1,021	.31	.35	60,800

a Partly estimated.

Monthly discharge of Bitterroot River near Missoula, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October 1898.....	1,325	1,025	1,149	0.35	0.40	70,600
November.....	1,278	1,075	1,154	.35	.39	68,700
December.....	1,730	1,000	al,137	.35	.40	69,900
January 1899.....	-	-	el,200	.37	.43	73,800
February.....	-	-	el,000	.31	.32	55,600
March.....	1,255	950	1,070	.33	.38	65,800
April.....	4,230	1,122	2,842	.87	.97	169,000
May.....	15,800	2,680	7,729	2.37	2.73	475,000
June.....	37,437	11,400	21,876	6.71	7.49	1,300,000
July.....	23,600	5,440	14,497	4.45	5.13	891,000
August.....	5,330	1,985	3,411	1.05	1.21	210,000
September.....	2,160	1,122	1,622	.50	.56	96,500
Water year 1898-99.....	37,437	-	4,898	1.50	20.41	3,550,000
October 1899.....	2,160	1,122	1,470	.45	.52	90,400
November.....	1,830	1,165	1,477	.45	.50	87,900
December.....	1,540	1,165	1,351	.41	.47	83,100
Calendar year 1899.....	37,437	-	4,970	1.52	20.71	3,600,000
January 1900.....	1,540	1,080	1,221	.37	.43	75,100
February.....	-	-	al,084	.33	.34	60,200
March.....	2,280	910	al,652	.51	.59	102,000
April.....	4,600	1,950	3,626	1.11	1.24	216,000
May.....	18,150	6,400	9,871	3.03	3.49	607,000
June.....	10,650	4,060	7,352	2.26	2.52	458,000
July.....	3,570	980	1,820	.56	.65	112,000
August.....	1,010	800	869	.27	.31	53,400
September.....	1,350	950	1,137	.35	.39	67,700
Water year 1899-1900.....	18,150	800	2,753	.84	11.45	1,993,000
October 1900.....	8,250	1,010	2,838	.87	1.00	174,000
November.....	1,930	1,122	al,373	.42	.47	81,700
December.....	1,350	950	1,148	.35	.40	70,600
Calendar year 1900.....	18,150	800	2,842	.87	11.83	2,058,000
January 1901.....	-	-	al,360	.42	.49	83,600
February.....	-	-	al,401	.43	.45	77,800
March.....	2,750	1,390	1,691	.52	.60	104,000
April.....	-	-	al,866	.57	.51	81,400
May.....	18,375	7,210	11,025	3.38	3.90	678,000
June.....	11,700	3,050	5,020	1.54	1.72	299,000
July.....	3,650	1,225	2,667	.82	.95	164,000
August.....	1,200	940	995	.31	.36	61,200
September.....	1,320	940	1,130	.35	.39	67,500
Water year 1900-1901.....	18,375	940	2,684	.82	11.24	1,943,000
October 1901.....	1,250	1,080	1,157	.36	.42	71,100
November.....	1,175	1,100	1,149	.35	.39	68,400
June 1903.....	18,000	7,300	12,170	3.73	4.16	724,000
July.....	7,000	2,800	4,280	1.31	1.51	263,000
January 1904.....	1,075	685	799	.245	.28	49,100
February.....	1,525	545	788	.242	.26	45,300
March.....	3,060	830	1,434	.440	.51	89,200
April.....	9,140	1,435	4,592	1.409	1.57	273,000
May.....	18,320	5,140	9,031	2.770	3.19	555,000
June.....	11,520	4,940	as,397	2.576	2.87	500,000
July.....	6,050	1,870	3,469	1.064	1.23	213,000
August.....	1,770	545	al,190	.365	.42	73,200
September.....	615	370	455	.140	.16	27,100
October.....	685	405	568	.174	.20	35,000
November.....	685	680	614	.188	.21	36,500
December.....	650	440	530	.163	.19	32,600
Calendar year 1904.....	18,320	370	2,656	.815	11.09	1,928,000

a Partly estimated.  
e Estimated.

## East Fork of Bitterroot River at Conner, Mont.

Location.- Wire-weight gage, lat. 45°56', long. 114°08', in SW $\frac{1}{4}$  sec. 7, T. 2 N., R. 20 W., at highway bridge at Conner, about half a mile upstream from confluence with West Fork.

Drainage area.- 404 square miles; 394 square miles (revised) at previous site near Darby.

Records available.- April 1937 to September 1938. September 1910 to August 1914 at site near Darby 2 $\frac{1}{2}$  miles upstream.

Extremes.- Maximum discharge observed, 2,230 second-feet May 31, 1913 (gage height, 7.0 feet, site and datum then in use); minimum observed, 1.4 second-feet Aug. 17, 1937.

Remarks.- A few small diversions above station.

## Monthly discharge of East Fork of Bitterroot River at Conner, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile†	Inches	Acre-feet
1910-11						
September 20-30.....	104	84	93.5	0.237	0.10	2,040
October.....	166	84	104	.264	.30	6,400
November.....	166	66	111	.282	.31	6,600
December.....	145	50	108	.274	.32	6,640
April 7-30.....	428	145	216	.548	.49	10,300
May.....	749	286	583	1.48	1.71	38,800
June.....	1,730	655	1,200	3.05	3.40	71,400
July.....	890	200	369	.937	1.08	22,700
August.....	224	85	138	.350	.40	8,480
1912						
April 17-30.....	286	236	266	.675	.35	7,390
May.....	1,840	260	799	2.03	2.34	49,100
June.....	2,150	1,250	1,800	4.57	5.01	107,000
July.....	1,430	286	597	1.52	1.75	36,700
August.....	332	167	231	.586	.86	14,200
September 1-5.....	286	186	227	.576	.11	2,250
The period.....	-	-	-	-	-	217,000
1913						
April.....	446	150	287	.728	.81	17,100
May.....	2,200	292	1,010	2.56	2.95	62,100
June.....	2,140	760	1,480	3.76	4.20	88,100
July.....	810	266	439	1.11	1.28	27,000
August.....	252	102	173	.439	.51	10,600
The period.....	-	-	-	-	-	205,000
1913-14						
March.....	102	85	87.9	.223	.26	5,400
April.....	320	94	202	.513	.57	12,000
May.....	1,560	238	860	2.18	2.51	52,900
June.....	1,540	379	744	1.89	2.10	44,300
July.....	-	162	264	.670	.77	16,200
August.....	-	-	104	.264	.30	6,400
The period.....	-	-	-	-	-	137,000
1937						
April 4-30.....	136	44	76.6	.190	.19	4,100
May.....	650	110	408	1.01	1.16	25,110
June.....	411	130	310	.769	.86	18,420
July.....	118	48	80.5	.200	.23	4,950
August.....	55	5.3	23.1	.057	.07	1,420
September.....	39	8.0	22.5	.056	.06	1,340
The period.....	-	-	-	-	-	55,340
1937-38						
October.....	53	38	43.3	.107	.12	2,660
November.....	54	38	44.9	.111	.12	2,870
December.....	114	30	59.7	.148	.17	3,670
January.....	-	-	44.9	.111	.13	2,760
February.....	91	46	69.4	.172	.18	3,850
March.....	79	51	63.7	.158	-	3,920
April.....	452	59	168	.417	.47	10,100
May.....	1,700	328	721	1.79	2.06	44,360
June.....	1,430	496	853	2.12	2.36	50,740
July.....	609	105	291	.722	.83	17,910
August.....	100	45	63.5	.158	.18	3,910
September.....	47	20	33.6	.083	.09	2,000
The year.....	1,700	20	205	.509	6.71	148,500

† Figures for 1910-14 recomputed on basis of revised figure of drainage area.



## Skalkaho Creek near Hamilton, Mont.

Location.- Staff gage, lat. 46°10', long. 113°59', in SW $\frac{1}{4}$  sec. 28, T. 5 N., R. 19 W., at bridge on J. A. Brennan's ranch, 9 miles southeast of Hamilton.

Records available.- April 1920 to September 1924.

Extremes.- Maximum discharge observed, 1,110 second-feet June 14, 1922 (gage height, 3.80 feet); minimum observed, 14 second-feet Mar. 26 to Apr. 5, 1924 (gage height, 1.30 feet).

Remarks.- No diversions or regulation.

## Monthly discharge of Skalkaho Creek near Hamilton, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1920				
April 20-30.....	32	27	28.7	626
May.....	195	30	114	7,010
June.....	520	152	375	22,300
July.....	437	78	191	11,700
August.....	78	42	57.6	3,540
September.....	78	37	42.5	2,530
The period.....	-	-	-	47,700
1920-21				
October.....	60	36	42.7	2,630
November.....	60	34	36.9	2,200
December 1-8.....	36	32	32.8	520
March.....	31	27	29.0	1,780
April.....	47	28	39.4	2,340
May.....	755	50	342	21,000
June.....	886	226	524	31,200
July.....	210	74	123	7,560
August.....	74	47	57.3	3,520
September.....	60	37	44.9	2,670
1921-22				
October.....	37	34	36.0	2,210
November 1-17.....	34	32	33.4	1,130
April.....	37	27	31.7	1,890
May.....	474	37	171	10,500
June.....	1,070	243	652	38,800
July.....	243	89	149	9,160
August.....	82	47	62.0	3,810
September.....	60	37	43.8	2,610
1922-23				
October.....	37	32	34.8	2,140
April.....	69	30	39.2	2,330
May.....	437	47	176	10,800
June.....	595	236	412	24,500
July.....	363	100	191	11,700
August.....	100	47	68.2	4,190
September.....	47	37	41.5	2,470
1923-24				
October.....	41	30	33.6	2,070
November.....	30	26	28.4	1,690
December 1-3.....	26	26	26.0	155
March 26-31.....	14	14	14.0	167
April.....	32	14	21.7	1,290
May.....	462	48	268	16,500
June.....	259	103	175	10,400
July.....	103	48	73.0	4,490
August.....	48	26	35.4	2,180
September.....	26	21	25.1	1,490

## Blodgett Creek near Hamilton, Mont.

Location.- Wire-weight gage, lat. 46°17', long. 114°10', in sec. 12, T. 6 N., R. 21 W., at highway bridge about  $1\frac{1}{2}$  miles upstream from mouth and  $2\frac{1}{2}$  miles north of Hamilton. Drainage area.- 29.2 square miles.

Records available.- April to September 1938.

Extremes.- Maximum discharge observed, 606 second-feet May 28, 29 (gage height, 3.45 feet); minimum observed, 0.9 second-feet Aug. 1, 2 (gage height, 0.46 foot).

Remarks.- Many diversions above station for irrigation.

## Monthly discharge of Blodgett Creek near Hamilton, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1938				
April 16-30.....	492	24	166	4,930
May.....	606	55	220	13,550
June.....	369	85	201	11,970
July.....	76	1.0	21.8	1,340
August.....	1.2	.9	1.12	69
September.....	1.3	1.0	1.08	64
The period.....	-	-	-	31,920

## Willow Creek near Corvallis, Mont.

Location.- Staff gage, lat. 46°18', long. 114°00', in sec. 8, T. 6 N., R. 19 W., at Wiley Ranch, 6 miles southeast of Corvallis.

Records available.- April 1920 to May 1924.

Extremes.- Maximum discharge observed, 130 second-feet June 15, 1922 (gage height, 2.20 feet); minimum observed, 3.6 second-feet, Nov. 28 to Dec. 1, 1923, and Mar. 23-25, 1924 (gage height, 0.52 foot).

Remarks.- One small diversion above station for irrigation.

## Monthly discharge of Willow Creek near Corvallis, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1920				
April 20-30.....	8.8	7.8	8.26	180
May.....	25	8.3	15.6	959
June.....	53	14	35.9	2,140
July.....	58	12	26.2	1,610
August.....	12	9.4	10.3	633
September.....	9.4	7.1	8.27	492
The period.....	-	-	-	6,010
1920-21				
October.....	8.9	8.6	8.61	529
November.....	12.0	7.1	8.33	496
March.....	6.4	5.7	5.77	355
April.....	11	5.7	8.13	484
May.....	71	10	40.5	2,490
June.....	112	37	71.0	4,220
July.....	36	11	20.2	1,240
August.....	10	6.8	8.94	550
September.....	7.9	6.4	6.89	410
1921-22				
October.....	7.1	5.2	6.26	385
November 1-19.....	5.2	4.7	4.88	183
April.....	9.3	4.7	6.49	386
May.....	48	10	24.7	1,520
June.....	125	40	86.0	5,120
July.....	45	15	26.0	1,600
August.....	18	7.9	12.4	762
September.....	12	7.1	8.39	499
1922-23				
October.....	7.9	6.4	6.61	406
November.....	6.4	5.7	6.03	359
December.....	6.4	5.7	6.10	375
March 18-31.....	7.1	5.2	6.09	169
April.....	13	5.2	6.97	415
May.....	21	6.4	11.0	676
June.....	58	17	42.3	2,520
July.....	52	15	27.2	1,670
August.....	16	9.3	13.1	806
September.....	9.3	5.7	6.41	381
1923-24				
October.....	7.1	5.2	6.23	383
November.....	6.4	3.6	4.83	287
December.....	5.7	3.6	5.30	326
March 23-31.....	4.7	3.6	4.00	71.4
April.....	5.2	4.7	5.08	302
May 1-3.....	5.7	5.2	5.37	32.0

## Willow Creek at Anfinson Ranch, near Corvallis, Mont.

Location.- Staff gage, lat. 46°18', long. 114°01', in NW $\frac{1}{4}$  sec. 7, T. 6 N., R. 19 W., at Anfinson Ranch, 5 miles southeast of Corvallis.

Records available.- April to September 1938.

Extremes.- Maximum discharge observed, 73 second-feet June 19 (gage height, 2.28 feet); minimum observed, 0.1 second-foot Sept. 11.

Remarks.- Many diversions above station for irrigation.

## Monthly discharge of Willow Creek at Anfinson Ranch, near Corvallis, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1938				
April 14-30.....	9.3	0.9	4.89	165
May.....	61	.1	11.8	728
June.....	73	37	49.3	2,940
July.....	40	5.2	15.1	928
August.....	6.1	1.4	3.28	202
September.....	1.3	.1	.34	20
The period.....	-	-	-	4,980

## Bear Creek near Victor, Mont.

Location.-- Staff gage, lat. 46°23', long. 114°13', in NE $\frac{1}{4}$  sec. 9, T. 7 N., R. 21 W., 5 miles southwest of Victor.

Records available.-- April to September 1938.

Extremes.-- Maximum discharge observed, 865 second-feet Apr. 18 (gage height, 3.45 feet, from graph based on gage readings); minimum observed, 2.9 second-feet Sept. 23, 26-28.

Remarks.-- No diversions above station.

## Monthly discharge of Bear Creek near Victor, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1938				
April 15-30.....	588	33	198	6,300
May.....	650	89	256	15,760
June.....	433	156	287	17,090
July.....	141	12	54.9	3,370
August.....	11	5	7.9	484
September.....	7	3	4.2	252
The period.....	-	-	-	43,260

## Burnt Fork Creek near Stevensville, Mont.

Location.-- Staff gage, lat. 46°28', long. 113°57', in SW $\frac{1}{4}$  sec. 11, T. 8 N., R. 19 W., at highway bridge at John Buck's ranch, 9 miles southeast of Stevensville.

Drainage area.-- 74 square miles.

Records available.-- May 1920 to August 1924.

Extremes.-- Maximum discharge observed, 620 second-feet June 10, 1922 (gage height, 2.64 feet); minimum observed, 15 second-feet Mar. 22-25, 1923 and Aug. 23, 1924 (gage height, 0.48 foot).

Remarks.-- Two small diversions above station.

## Monthly discharge of Burnt Fork Creek near Stevensville, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1920				
May.....	262	89	190	9,040
June.....	334	143	242	14,400
July.....	172	39	80.8	4,970
August.....	38	26	30.8	1,890
September.....	84	26	37.1	2,210
The period.....	-	-	-	32,500
1920-21				
October.....	57	40	43.7	2,690
November.....	50	32	42.3	2,520
July 17-31.....	45	35	37.7	1,120
August 1-6.....	35	30	32.3	384
1921-22				
May 7-31.....	488	70	261	12,900
June.....	615	148	429	25,500
July.....	135	34	67.0	4,120
August 1-5.....	45	39	42.0	417
1922-23				
October 4-31.....	27	19	22.9	1,270
November.....	32	22	26.7	1,590
December.....	29	19	21.7	1,330
March 22-31.....	35	15	21.4	424
April 1-21.....	168	24	42.8	1,780
May 27-31.....	118	100	107	1,060
June.....	276	118	190	11,300
July.....	141	44	73.4	4,510
August.....	45	21	30.5	1,880
September.....	27	21	23.5	1,400
1924				
May 10-31.....	268	104	175	7,630
June.....	107	45	75.2	4,470
July.....	45	19	30.9	1,900
August 1-23.....	24	15	20.9	954

## Lolo Creek near Lolo, Mont.

Location.- Staff gage, lat. 46°45', long. 114°14', in sec. 34, T. 12 N., R. 21 W., at highway bridge at Anderson Ranch, 7 miles upstream from Lolo and mouth.

Drainage area.- 249 square miles.

Records available.- October 1911 to September 1915.

Extremes.- Maximum discharge observed, 2,500 second-feet May 28, 1913 (gage height, 5.2 feet); minimum observed, 36 second-feet Mar. 20, 1912 (gage height, 1.64 feet).

Remarks.- Many small diversions above station for irrigation.

## Monthly discharge of Lolo Creek near Lolo, Mont.

Month		Discharge in second-feet			Run-off in acre-feet
		Maximum	Minimum	Mean	
1911-12					
October.....	117	36	83.5	5,130	
November.....	87	36	75.9	4,520	
December.....	79	33	48.3	2,970	
January.....	-	-	-	-	
February 5-29.....	99	68	76.2	3,780	
March 20-31.....	106	36	75.3	1,790	
April.....	533	164	398	23,700	
May.....	1,600	442	1,120	68,900	
June.....	1,600	675	1,190	70,800	
July.....	675	148	319	19,600	
August.....	156	72	112	6,890	
September.....	208	72	104	6,190	
1912-13					
October.....	106	85	97.9	6,020	
November.....	254	85	132	7,860	
December.....	106	37	71.5	4,400	
April 9-30.....	1,500	156	845	36,900	
May.....	2,500	675	1,570	96,500	
June.....	2,300	925	1,680	100,000	
July.....	698	228	329	20,200	
August.....	235	85	174	10,700	
September.....	85	61	69.8	4,150	
1913-14					
October.....	85	66	75.4	4,640	
November.....	99	66	82.5	4,910	
December.....	-	-	e75	4,610	
January.....	-	-	e70	4,300	
February.....	-	-	e55	3,050	
March.....	186	78	142	8,730	
April.....	857	129	508	30,200	
May.....	1,600	768	1,160	71,300	
June.....	1,000	375	706	42,000	
July.....	388	122	247	15,200	
August.....	122	56	82.5	5,070	
September.....	106	47	80.2	4,770	
The year.....	1,600	-	274	199,000	
1914-15					
October.....	180	108	142	8,730	
November.....	195	137	157	9,340	
December 1-6.....	142	122	128	1,520	
March 20-31.....	137	60	89.2	2,120	
April.....	471	196	350	20,800	
May.....	567	315	419	25,800	
June.....	840	471	611	36,400	
July.....	479	130	194	11,900	
August.....	144	85	104	6,400	
September.....	130	82	114	6,780	

e Estimated.

## St. Regis River near St. Regis, Mont.

Location.- Staff gage, lat. 47°18', long. 115°10', in NE $\frac{1}{4}$  sec. 28, T. 18 N., R. 28 W., at St. Regis ranger station, 3 miles upstream from town of St. Regis and mouth.

Drainage area.- 278 square miles.

Records available.- October 1910 to September 1917.

Extremes.- Maximum discharge observed, 7,740 second-feet May 28, 1917 (gage height, 8.65 feet); minimum observed, 85 second-feet Aug. 30 to Sept. 2, 1915 (gage height, 1.75 feet).

Remarks.- No diversion or regulation above station.

## Monthly discharge of St. Regis River near St. Regis, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1910-11</b>						
October.....	485	130	210	0.755	0.87	12,900
November.....	1,000	92	443	1.59	1.77	26,400
December.....	350	100	201	.723	.83	12,400
March.....	1,730	130	687	2.47	2.85	42,200
April.....	3,880	755	1,670	6.01	6.70	99,400
May.....	3,880	1,300	1,910	6.87	7.92	117,000
June.....	2,620	640	1,320	4.75	5.30	78,600
July.....	640	214	375	1.35	1.56	23,100
August.....	250	128	184	.662	.76	11,300
September.....	166	128	145	.522	.58	8,630
<b>1911-12</b>						
October.....	139	107	124	.446	.51	7,620
November 1-8.....	116	116	116	.417	.12	1,840
February 8-29.....	268	139	177	.637	.82	7,720
March.....	563	102	200	.719	.83	12,300
April.....	2,000	668	1,400	5.04	5.62	83,300
May.....	3,640	1,210	2,280	8.20	9.45	140,000
June.....	1,730	488	1,070	3.85	4.30	63,700
July.....	-	152	266	.957	1.10	16,400
August.....	152	107	123	.442	.51	7,580
September.....	139	116	132	.475	.53	7,960
<b>1912-13</b>						
October.....	152	107	131	.471	.54	8,060
March 16-31.....	375	220	275	.999	.59	8,730
April.....	3,100	352	1,740	6.26	6.98	104,000
May.....	6,220	1,400	3,270	11.8	13.60	201,000
June.....	3,940	765	1,760	6.33	7.06	108,000
July.....	765	220	401	1.44	1.66	24,700
August.....	238	120	174	.626	.72	10,700
September.....	135	90	108	.388	.43	6,430
<b>1913-14</b>						
October.....	185	90	123	.442	.51	7,560
November.....	185	90	162	.583	.65	9,640
March 7-31.....	1,102	238	629	2.26	2.10	31,200
April.....	2,840	580	1,750	6.29	7.02	104,000
May.....	2,710	1,040	1,900	6.83	7.87	117,000
June.....	1,120	330	617	2.22	2.48	36,700
July.....	330	150	229	.824	.95	14,100
August.....	150	120	145	.522	.60	8,920
September.....	330	150	204	.734	.82	12,100
<b>1914-15</b>						
October.....	202	150	175	.629	.73	10,800
November.....	1,040	220	590	2.12	2.36	35,100
March 15-31.....	580	185	422	1.52	.96	14,200
April.....	1,900	765	1,130	4.06	4.53	67,200
May.....	830	580	671	2.41	2.78	41,300
June.....	640	220	388	1.40	1.56	23,100
July.....	255	120	190	.683	.79	11,700
August.....	120	95	110	.396	.46	6,760
September 1-11.....	150	85	109	.392	.16	2,380
<b>1915-16</b>						
October.....	100	90	91.0	.327	.38	5,600
November 21-30.....	148	135	137	.493	.18	2,720
December 1-11.....	160	110	129	.464	.19	2,810
April.....	4,450	1,120	2,060	7.41	8.27	123,000
May.....	5,580	1,790	2,840	10.2	11.8	175,000
August.....	410	225	313	1.13	1.30	19,200
September.....	245	160	192	.691	.77	11,400
<b>1916-17</b>						
October 1-14.....	160	160	160	.575	.30	4,440
June.....	4,380	1,400	2,550	9.17	10.2	152,000
July.....	1,280	315	868	2.40	2.77	41,100

Flathead River at Flathead, British Columbia  
(Published as Flathead River near Trail Creek, Mont., prior to 1935)

(International gaging station)

**Location.**- Staff gage, lat. 49°00', long. 114°29', at highway bridge 0.2 mile north of international boundary, 0.2 mile northwest of Flathead, British Columbia, and 7 miles northwest of Trail Creek, Mont.

**Drainage area.**- 450 square miles.

**Records available.**- March 1929 to September 1938.

**Extremes.**- Maximum discharge observed, 10,600 second-feet June 17, 1933 (gage height, 6.90 feet); minimum observed, 65 second-feet Apr. 9, 1929 (gage height, 0.76 foot).

**Remarks.**- No diversion or regulation. This is one of the international gaging stations maintained by Canada under agreement with the United States.

## Monthly discharge of Flathead River at Flathead, British Columbia

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1929						
March 23-31.....	187	100	142	0.316	0.11	2,540
April.....	1,070	109	275	.611	.68	16,400
May.....	7,750	670	2,600	5.91	6.81	164,000
June.....	6,300	1,230	2,970	6.60	7.36	177,000
July.....	1,120	387	661	1.47	1.70	40,600
August.....	392	223	296	.658	.76	18,200
September.....	263	191	215	.478	.53	12,800
The period .....	-	-	-	-	-	432,000
1929-30						
October.....	194	161	178	.396	.46	10,900
November 1-8.....	157	140	146	.324	.10	2,320
March 29-30.....	296	291	294	.653	.05	1,170
April.....	2,580	301	1,130	2.51	2.80	67,200
May.....	4,560	1,580	2,420	5.38	6.20	149,000
June.....	3,780	1,070	2,120	4.71	5.26	126,000
July.....	972	392	622	1.38	1.59	38,200
August.....	387	227	289	.642	.74	17,800
September.....	244	187	208	.462	.52	12,400
1930-31						
October.....	182	170	176	.39	.45	10,800
November 1-11.....	173	160	166	.37	.15	3,620
April.....	1,280	118	318	.71	.79	18,900
May.....	5,140	1,450	2,440	5.42	6.25	150,000
June.....	2,420	637	1,190	2.64	2.94	70,800
July.....	563	240	387	.86	.99	23,800
August.....	258	150	188	.42	.48	11,600
September.....	197	140	164	.36	.40	9,760
1931-32						
October.....	160	138	147	.33	.38	9,040
November 1-21.....	236	138	186	.41	.32	7,750
April.....	1,380	307	756	1.68	1.87	45,000
May.....	8,030	984	4,050	9.00	10.38	249,000
June.....	6,520	1,750	3,680	8.18	9.13	219,000
July.....	1,640	507	892	1.98	2.28	54,800
August.....	493	307	394	.88	1.01	24,200
September.....	352	212	261	.58	.65	15,500
1932-33						
October.....	452	188	301	.669	.77	18,500
November.....	535	276	401	.891	.99	23,900
December.....	465	452	460	1.02	.15	3,650
April.....	2,420	168	534	1.19	1.33	31,800
May.....	7,820	1,530	3,140	6.98	8.05	193,000
June.....	10,100	2,500	5,480	12.2	13.61	326,000
July.....	2,340	595	1,270	2.82	3.25	78,100
August.....	566	324	423	.940	1.08	26,000
September.....	356	286	318	.707	.79	18,900
1933-34						
October.....	3,710	282	757	1.68	1.94	46,500
November.....	1,380	545	707	1.57	1.75	42,100
December 1-10.....	581	416	506	1.12	.42	10,000
April.....	6,560	368	2,960	6.58	7.34	176,000
May.....	6,860	3,400	4,840	10.76	12.41	298,000
June.....	3,910	1,000	1,980	4.40	4.91	118,000
July.....	983	390	603	1.34	1.54	37,100
August.....	379	212	275	.61	.70	16,900
September.....	208	182	192	.43	.48	11,400
1934-35						
October.....	208	170	181	.40	.46	11,100
November.....	1,230	192	574	1.28	1.43	34,200
December 1-18.....	403	246	294	.65	.44	10,500
April.....	914	170	358	.79	.88	21,200
May.....	7,750	906	3,250	7.22	8.32	200,000
June.....	6,170	2,030	3,690	8.20	9.15	220,000
July.....	2,150	581	1,100	2.44	2.81	67,600
August.....	566	274	374	.83	.96	23,000
September.....	270	201	230	.51	.57	13,700
1935-36						
October.....	224	186	198	.44	.51	12,200
November.....	194	141	174	.39	.44	10,300
December.....	141	126	134	.30	.35	8,230
April.....	2,790	240	1,080	2.40	2.68	64,500
May.....	6,270	2,220	3,630	8.07	9.30	223,000
June.....	3,850	686	1,420	3.16	3.53	84,500
July.....	633	256	406	.90	1.04	25,000
August.....	256	182	220	.49	.56	13,500
September.....	186	153	175	.39	.44	10,400

Monthly discharge of Flathead River at Flathead, British Columbia--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1936-37</b>						
October.....	153	128	138	0.31	0.36	8,480
November.....	141	110	124	.28	.31	7,370
December 1-4.....	132	115	122	.27	.04	971
April.....	1,060	80	299	.66	.74	17,800
May.....	5,240	1,440	3,110	6.91	7.97	191,000
June.....	3,890	1,250	2,210	4.91	5.48	131,000
July.....	1,130	378	654	1.45	1.67	40,200
August.....	450	240	308	.68	.78	18,900
September.....	236	165	183	.41	.46	10,900
<b>1937-38</b>						
October.....	1,030	186	273	.61	.70	16,800
November.....	628	370	462	1.00	1.12	26,900
April.....	5,330	190	1,720	3.82	4.26	102,000
May.....	8,950	1,610	4,340	9.64	11.11	267,000
June.....	6,100	1,690	3,800	8.44	9.42	226,000
July.....	1,640	548	931	2.07	2.39	57,200
August.....	554	280	383	.85	.98	23,500
September.....	280	208	249	.55	.61	14,800

## Flathead River near Columbia Falls, Mont.

Location.- Water-stage recorder, lat. 48°29', long. 114°05', in NW 1/4 sec. 7, T. 31 N., R. 19 W., at Potter Ranch, three-quarters of a mile upstream from Middle Fork and 10 miles northeast of Columbia Falls. Records for period 1910-17, obtained on staff gage, 1,000 feet downstream from present site at different datum.

Drainage area.- 1,620 square miles.

Records available.- September 1910 to September 1917, April 1929 to September 1936.

Extremes.- Maximum discharge, 29,500 second-feet June 20; 1916 (gage height, 9.8 feet, site and datum then in use); minimum, 340 second-feet January 26-31, 1936, ice present.

Remarks.- No diversion or regulation.

Monthly discharge of Flathead River near Columbia Falls, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1910</b>						
September 22-30.....	1,030	925	974	0.601	0.19	17,000
<b>1910-11</b>						
October.....	3,890	1,300	2,220	1.37	1.58	136,000
November.....	5,400	1,400	2,310	1.43	1.60	137,000
December.....	1,510	950	1,120	.692	.80	68,900
January.....	1,450	510	1,050	.648	.75	64,600
February.....	1,100	710	917	.566	.59	50,900
March.....	1,560	640	983	.607	.70	60,400
April.....	7,650	1,290	3,080	1.20	2.12	183,000
May.....	9,600	4,710	6,960	4.30	4.96	428,000
June.....	13,100	7,920	10,800	6.67	7.44	643,000
July.....	7,920	2,330	4,290	2.65	3.06	264,000
August.....	2,480	1,240	1,870	1.15	1.33	115,000
September.....	1,910	1,240	1,550	.957	1.07	92,200
The year.....	13,100	510	3,100	1.91	26.00	2,240,000
<b>1911-12</b>						
October.....	1,340	710	1,020	.630	.73	62,700
November.....	1,050	350	764	.472	.53	45,500
December.....	1,140	510	774	.478	.55	47,600
January.....	-	-	762	.470	.54	46,900
February.....	-	-	8657	.406	.44	37,800
March.....	870	450	632	.390	.45	38,900
April.....	3,690	540	2,510	1.55	1.73	149,000
May.....	10,700	3,320	7,230	4.46	5.14	445,000
June.....	8,480	4,290	6,440	3.98	4.44	383,000
July.....	5,370	2,480	3,930	2.43	2.80	242,000
August.....	2,480	1,340	1,700	1.05	1.21	105,000
September.....	1,910	1,140	1,510	.932	1.04	89,800
The year.....	10,700	-	2,330	1.44	19.60	1,690,000

a Partly estimated.

e Estimated.

## Monthly discharge of Flathead River near Columbia Falls, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1912-13</b>						
October.....	1,450	960	1,200	0.741	0.85	73,800
November.....	1,910	1,050	1,390	.858	.96	82,700
December.....	1,140	640	854	.527	.61	52,500
January.....	-	-	e650	.401	.46	40,000
February.....	-	-	e650	.401	.42	36,100
March.....	-	-	e650	.401	.46	40,000
April.....	7,000	710	2,960	1.85	2.04	176,000
May.....	20,800	3,140	8,580	5.50	6.11	528,000
June.....	25,800	8,880	14,900	9.20	10.26	887,000
July.....	8,880	2,640	4,390	2.71	3.12	270,000
August.....	2,800	1,500	2,050	1.27	1.46	126,000
September.....	1,500	960	1,300	.802	.89	77,400
The year.....	25,800	-	3,300	2.04	27.64	2,390,000
<b>1913-14</b>						
October.....	1,670	960	1,210	.747	.86	74,400
November.....	1,240	960	1,100	.679	.76	65,500
December.....	960	570	809	.499	.58	49,700
January.....	1,340	570	901	.556	.64	56,400
February.....	790	350	623	.385	.40	34,600
March.....	790	510	647	.399	.46	39,800
April.....	5,280	790	3,110	1.92	2.14	186,000
May.....	12,400	4,620	8,730	5.38	6.20	537,000
June.....	13,300	4,840	7,580	4.56	5.09	439,000
July.....	4,840	1,730	3,190	1.97	2.27	196,000
August.....	1,850	1,240	1,470	.907	1.05	90,400
September.....	1,910	1,140	1,380	.852	.95	82,100
The year.....	13,300	350	2,550	1.57	21.40	1,850,000
<b>1914-15</b>						
October.....	4,040	1,560	2,280	1.41	1.63	140,000
November.....	4,840	1,790	2,940	1.81	2.02	176,000
December.....	1,560	960	1,190	.735	.85	75,200
January.....	1,140	790	939	.580	.67	57,700
February.....	960	710	804	.496	.52	44,700
March.....	1,100	640	803	.496	.57	49,400
April.....	7,300	1,140	3,780	2.33	2.60	228,000
May.....	7,600	3,860	5,340	3.50	3.80	328,000
June.....	8,200	3,860	4,960	3.06	3.41	295,000
July.....	6,220	2,330	3,540	2.19	2.52	218,000
August.....	2,330	1,240	1,680	1.04	1.20	105,000
September.....	1,340	1,140	1,190	.735	.82	70,800
The year.....	8,200	640	2,460	1.52	20.61	1,780,000
<b>1915-16</b>						
October.....	1,730	1,100	1,370	.846	.98	84,200
November.....	1,290	700	1,110	.685	.76	66,000
December.....	850	630	696	.430	.50	42,800
January.....	-	-	e600	.370	.43	36,800
February.....	-	-	e800	.494	.53	46,000
March.....	3,080	1,240	2,060	1.27	1.46	127,000
April.....	6,220	2,000	3,660	2.26	2.52	218,000
May.....	12,300	4,840	7,030	4.34	5.00	432,000
June.....	29,500	6,480	16,800	10.4	11.6	1,000,000
July.....	21,800	3,700	11,100	6.86	7.90	682,000
August.....	3,700	2,070	2,930	1.81	2.09	180,000
September.....	3,620	1,440	2,480	1.53	1.71	148,000
The year.....	29,500	-	4,220	2.60	35.48	3,060,000
<b>1916-17</b>						
October.....	1,390	930	1,090	.673	.78	67,000
November.....	1,010	510	874	.540	.60	52,000
December.....	1,010	570	776	.479	.55	47,700
January.....	1,100	770	a1,000	.617	.71	61,500
February.....	1,100	700	a900	.555	.58	50,000
March.....	1,010	810	873	.539	.62	53,700
April.....	1,860	850	1,130	.698	.78	67,200
May.....	18,200	1,500	9,950	6.14	7.08	612,000
June.....	24,300	9,940	16,200	10.0	11.2	964,000
July.....	11,900	2,750	6,550	4.04	4.66	403,000
August.....	2,520	1,190	1,660	1.02	1.18	102,000
September.....	1,190	930	1,000	.617	.69	59,500
The year.....	24,300	510	3,510	2.17	29.43	2,540,000

a Partly estimated.  
e Estimated.



Monthly discharge of Flathead River near Columbia Falls, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1929						
April 9-30.....	4,800	655	1,970	1.22	1.00	86,000
May.....	19,400	3,740	8,310	5.13	5.91	511,000
June.....	15,400	4,420	9,380	5.79	6.46	558,000
July.....	4,420	1,520	2,690	1.66	1.91	165,000
August 1-10.....	1,520	1,200	1,360	.840	.31	27,000
1930						
May.....	11,200	5,000	7,110	4.39	5.06	437,000
June.....	10,800	3,980	6,760	4.17	4.65	402,000
July.....	3,740	-	2,720	1.68	1.94	167,000
August.....	-	935	1,410	.870	1.00	86,700
September.....	-	898	923	.570	.64	54,900
The period.....	-	-	-	-	-	1,150,000
1930-31						
October.....	1,150	680	876	.541	.62	53,900
November.....	795	608	677	.418	.47	40,300
December.....	708	510	562	.347	.40	34,600
January.....	655	482	561	.346	.40	34,500
February.....	-	592	614	.379	.39	34,100
March.....	1,200	-	729	.450	.52	44,800
April.....	-	1,060	2,520	1.56	1.74	150,000
May.....	14,700	5,100	8,810	5.44	6.27	542,000
June.....	8,110	3,000	4,820	2.98	3.32	287,000
July 1-8.....	2,880	2,080	2,420	1.49	.44	38,400
The period.....	-	-	-	-	-	1,260,000
1931-32						
October 14-23.....	635	569	602	.372	.14	11,900
November 24-30.....	556	492	518	.320	.08	7,190
December.....	675	418	527	.325	.37	32,400
January.....	472	390	421	.260	.30	25,900
February.....	3,980	400	760	.469	.51	43,700
March.....	3,980	1,020	1,510	.932	1.07	92,800
April.....	6,320	1,540	3,970	2.45	2.73	236,000
May.....	19,900	4,240	12,000	7.41	8.54	738,000
June.....	17,000	7,830	12,400	7.65	8.54	738,000
July 1-9.....	7,300	4,520	6,030	3.72	1.38	108,000
August 6-31.....	1,650	1,180	1,430	.883	.85	73,700
September.....	1,230	732	906	.559	.62	53,900
1932-33						
October 1-26.....	1,170	745	908	.560	.54	46,800
December 2-7.....	2,240	1,760	2,060	1.27	.28	24,500
February 24-28.....	770	745	760	.469	.09	7,540
April 12-26.....	6,560	1,000	2,280	1.41	.78	67,800
May 3-31.....	18,200	7,560	10,000	6.17	6.65	575,000
June 1-27.....	24,000	12,900	17,700	10.9	10.94	948,000
July 17-23.....	5,210	3,650	4,460	2.75	.72	61,900
1934						
April 20-30.....	19,000	11,800	16,950	10.5	4.29	369,700
May.....	18,200	11,200	14,680	9.06	10.44	902,900
June.....	13,200	3,900	7,287	4.50	5.02	433,600
July.....	3,820	1,610	2,475	1.53	1.76	152,200
August.....	1,560	940	1,186	.732	.84	72,950
September.....	970	-	758	.468	.52	45,120
The period.....	-	-	-	-	-	1,976,000
1934-35						
October.....	1,100	722	792	.600	.69	48,700
November.....	4,240	880	2,010	1.24	1.38	119,600
December.....	1,340	680	1,018	.628	.72	62,590
January.....	1,930	-	1,037	.640	.74	63,790
February.....	1,560	-	1,011	.624	.65	56,160
March 14-21.....	1,000	910	959	.592	.18	15,210
May 15-31.....	20,300	6,320	13,300	8.21	5.19	448,300
June.....	15,000	7,560	11,690	7.22	8.06	695,800
July.....	7,830	2,400	4,592	2.83	3.26	282,400
August.....	2,300	1,070	1,498	.925	1.07	92,090
September.....	1,070	822	936	.578	.64	55,720

Monthly discharge of Flathead River near Columbia Falls, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1935-36						
October.....	880	620	779	0.481	0.55	47,900
November.....	795	-	628	.388	.43	37,360
December.....	-	-	394	.243	.28	24,250
January.....	-	-	398	.246	.28	24,480
February.....	-	-	400	.247	.27	23,010
March.....	-	-	554	.342	.39	34,090
April.....	-	-	5,619	3.47	3.87	334,400
May.....	18,200	7,560	12,130	7.49	8.64	745,800
June.....	13,600	2,800	5,496	3.39	3.78	327,100
July.....	2,600	1,120	1,687	1.04	1.20	103,700
August.....	1,120	688	898	.554	.64	55,230
September.....	832	555	668	.412	.46	39,760
The year.....	18,200	-	2,475	1.53	20.79	1,797,000
1936-37						
October.....	550	483	518	.320	.37	31,860
November.....	483	-	420	.259	.29	25,000
December.....	615	-	416	.257	.30	25,610
January.....	-	-	325	.201	.23	19,980
February.....	418	-	377	.233	.24	20,930
March.....	560	348	435	.269	.31	26,720
April.....	3,900	397	1,374	.848	.95	81,730
May.....	13,600	4,420	9,039	5.58	6.43	555,800
June.....	11,500	5,000	8,422	5.20	5.80	501,100
July.....	5,640	1,470	2,760	1.71	1.97	169,700
August.....	1,700	840	1,185	.731	.84	72,850
September.....	810	639	708	.437	.49	42,100
The year.....	13,600	-	2,173	1.34	18.22	1,573,000
1937-38						
October.....	1,740	675	814	.502	.58	50,070
November.....	1,650	984	1,234	.762	.85	73,460
December.....	1,160	465	713	.440	.51	43,820
January.....	1,160	384	757	.467	.54	46,520
February.....	761	404	618	.381	.40	34,350
March.....	1,080	576	766	.473	.55	47,110
April.....	12,800	761	4,562	2.82	3.15	271,400
May.....	23,500	6,090	11,910	7.35	8.47	732,500
June.....	17,800	7,400	12,560	7.63	8.51	735,500
July.....	7,200	1,840	3,935	2.43	2.80	241,900
August.....	1,790	1,080	1,564	.842	.97	83,840
September.....	1,160	754	933	.576	.64	55,500
The year.....	23,500	384	3,337	2.06	27.97	2,416,000

Yearly discharge of Flathead River near Columbia Falls, Mont.

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1911.....	3,100	1.91	26.00	2,240,000	2,840	1.75	23.83	2,060,000
1912.....	2,330	1.44	19.60	1,690,000	2,410	1.49	20.21	1,750,000
1913.....	3,300	2.04	27.64	2,390,000	3,270	2.02	27.42	2,370,000
1914.....	2,550	1.57	21.40	1,850,000	2,830	1.75	23.70	2,050,000
1915.....	2,460	1.52	20.61	1,780,000	2,190	1.35	18.35	1,580,000
1916.....	4,220	2.60	35.48	3,060,000	4,180	2.58	35.17	3,040,000
1917.....	3,510	2.17	29.43	2,540,000	-	-	-	-
1936.....	2,475	1.53	20.79	1,797,000	2,438	1.50	20.49	1,770,000
1937.....	2,173	1.34	18.22	1,573,000	2,291	1.41	19.20	1,658,000
1938.....	3,337	2.06	27.97	2,416,000	-	-	-	-
Highest.....	4,220	2.60	35.48	3,060,000	4,180	2.58	35.17	3,040,000
Average.....	2,946	1.82	24.71	2,134,000	2,806	1.73	23.55	2,035,000
Lowest.....	2,173	1.34	18.22	1,573,000	2,190	1.35	18.35	1,580,000

## Flathead River at Columbia Falls, Mont.

Location.- Water-stage recorder, lat. 48°22', long. 114°11', in SW $\frac{1}{4}$  sec. 17, T. 30 N., R. 20 W., at Columbia Falls, 200 feet downstream from highway bridge on Roosevelt Highway. Zero of gage is 2,798.00 feet above mean sea level, adjustment of 1929 (levels by Corps of Engineers, U. S. Army).

Drainage area.- 4,440 square miles.

Records available.- May 1922 to September 1923, June 1928 to September 1938.

Extremes.- Maximum discharge, 102,000 second-feet June 1, 1923 (gage height, 17.3 feet); minimum, 798 second-feet Dec. 8, 1929 (gage height, -0.08 foot).

Remarks.- No diversion or regulation.

## Monthly discharge of Flathead River at Columbia Falls, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1922</b>						
May 14-30.....	77,400	26,100	53,500	12.0	7.58	1,800,000
June 4-30.....	82,200	15,900	38,900	8.76	8.80	2,010,000
July.....	15,300	4,110	7,850	1.77	2.04	483,000
August 1-25.....	4,000	2,680	3,460	.779	.72	172,000
<b>1928</b>						
June 25-30.....	38,200	34,000	35,600	8.02	1.79	427,000
July.....	39,700	8,820	18,900	4.26	4.91	1,160,000
August.....	8,210	3,510	4,980	1.12	1.29	306,000
September.....	3,360	2,170	2,800	.631	.70	167,000
The period.....	-	-	-	-	-	2,060,000
<b>1928-29</b>						
October.....	5,680	2,250	3,880	.874	1.01	239,000
November.....	3,810	2,470	2,880	.649	.72	171,000
December.....	2,540	1,610	2,010	.453	.52	124,000
January.....	2,010	1,410	1,720	.387	.45	106,000
February.....	1,610	1,410	1,530	.345	.36	85,000
March.....	3,140	1,680	1,930	.435	.50	119,000
April.....	17,400	2,260	5,450	1.23	1.37	324,000
May.....	67,800	12,500	29,000	6.52	7.52	1,780,000
June.....	47,300	15,800	29,000	6.52	7.27	1,730,000
July.....	14,700	4,360	7,970	1.79	2.06	490,000
August.....	4,270	2,400	3,150	.709	.82	194,000
September.....	2,540	1,660	1,970	.444	.50	117,000
The year.....	67,800	1,410	7,560	1.70	23.10	5,480,000
<b>1929-30</b>						
October.....	1,720	1,410	1,600	.360	.42	98,400
November.....	1,460	1,070	1,290	.291	.32	76,800
December.....	2,010	864	1,320	.297	.34	81,200
January.....	1,720	1,110	1,340	.302	.35	82,400
February.....	2,910	1,070	1,670	.376	.39	92,800
March.....	3,060	1,030	1,620	.365	.42	99,600
April.....	35,200	3,380	20,100	4.53	5.05	1,200,000
May.....	38,000	15,800	24,300	4.87	6.31	1,490,000
June.....	34,500	11,400	20,600	4.64	5.18	1,230,000
July.....	10,800	3,900	6,780	1.53	1.76	417,000
August.....	3,810	2,070	2,840	.640	.74	175,000
September.....	2,470	1,890	2,110	.475	.53	126,000
The year.....	38,000	864	7,130	1.61	21.81	5,170,000
<b>1930-31</b>						
October.....	3,810	1,950	2,580	.581	.67	159,000
November.....	3,380	1,890	2,530	.570	.64	151,000
December.....	2,330	1,320	1,800	.406	.47	111,000
January.....	2,760	1,320	1,710	.385	.44	105,000
February.....	2,470	1,780	2,090	.471	.49	116,000
March.....	4,560	1,780	2,670	.601	.69	164,000
April.....	20,100	3,300	8,040	1.81	2.02	478,000
May.....	58,600	18,300	30,400	6.85	7.90	1,870,000
June.....	29,300	7,790	15,700	3.54	3.95	934,000
July.....	7,250	3,060	4,690	1.06	1.22	288,000
August.....	3,300	1,780	2,300	.518	.60	141,000
September.....	2,840	1,610	2,250	.507	.57	134,000
The year.....	58,600	1,320	6,420	1.45	19.66	4,650,000

## Monthly discharge of Flathead River at Columbia Falls, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1931-32</b>						
October.....	2,330	1,660	1,920	0.432	0.50	118,000
November.....	3,550	1,410	2,270	.511	.57	135,000
December.....	2,200	1,510	1,820	.410	.47	112,000
January.....	1,600	1,110	1,340	.302	.35	82,400
February.....	17,000	1,150	2,990	.673	.73	172,000
March.....	13,200	3,990	5,510	1.24	1.43	339,000
April.....	23,800	5,990	14,300	3.22	3.59	851,000
May.....	84,100	17,100	42,400	9.55	11.0	2,610,000
June.....	52,400	23,800	37,600	8.47	9.45	2,240,000
July.....	21,800	5,750	11,300	2.54	2.93	695,000
August.....	5,520	3,580	4,170	.939	1.08	256,000
September.....	3,550	2,200	2,680	.604	.67	159,000
The year.....	84,100	1,110	10,700	2.41	32.77	7,770,000
<b>1932-33</b>						
October.....	3,460	1,950	2,640	.595	.69	162,000
November.....	9,840	3,060	5,220	1.18	1.32	311,000
December.....	10,200	2,980	4,610	1.04	1.20	283,000
January.....	3,220	1,510	2,300	.518	.60	141,000
February.....	2,140	1,720	1,880	.423	.44	104,000
March.....	2,680	1,890	2,100	.473	.55	129,000
April.....	40,500	2,760	10,300	2.32	2.59	613,000
May.....	66,700	18,100	30,500	6.87	7.92	1,880,000
June.....	88,600	35,100	61,900	13.9	15.5	3,680,000
July.....	32,000	7,250	16,800	3.78	4.36	1,030,000
August.....	6,990	3,580	4,890	1.10	1.27	301,000
September.....	3,900	2,760	3,210	.723	.81	191,000
The year.....	88,600	1,510	12,200	2.75	37.25	8,820,000
<b>1933-34</b>						
October.....	33,200	2,840	8,117	1.83	2.11	499,100
November.....	21,800	6,990	11,050	2.49	2.78	657,500
December.....	23,200	5,400	9,035	2.03	2.34	555,500
January.....	12,100	4,860	7,264	1.64	1.89	446,600
February.....	5,750	3,720	5,103	1.15	1.20	283,400
March.....	10,500	3,900	6,698	1.51	1.74	411,800
April.....	58,600	8,350	32,210	7.25	8.09	1,916,000
May.....	56,200	32,000	43,350	9.76	11.25	2,665,000
June.....	33,800	11,400	20,050	4.52	5.04	1,193,000
July.....	10,800	4,180	6,754	1.52	1.75	415,300
August.....	4,080	2,200	2,924	.659	.76	179,800
September.....	2,200	1,660	1,909	.430	.48	113,600
The year.....	58,600	1,660	12,900	2.91	39.43	9,337,000
<b>1934-35</b>						
October.....	5,990	1,510	2,254	.508	.59	138,600
November.....	13,900	3,810	6,722	1.51	1.68	400,000
December.....	3,990	1,950	2,892	.651	.75	177,800
January.....	9,230	1,610	3,484	.785	.90	214,200
February.....	5,180	2,330	3,355	.756	.79	186,300
March.....	3,900	2,070	2,816	.634	.73	173,200
April.....	17,400	2,260	7,227	1.63	1.82	430,000
May.....	67,800	15,800	34,030	7.66	8.83	2,092,000
June.....	54,800	20,900	34,910	7.86	8.77	2,077,000
July.....	20,900	6,110	11,990	2.70	3.11	737,000
August.....	5,870	2,680	3,845	.866	1.00	236,400
September.....	2,680	1,780	2,210	.498	.56	131,500
The year.....	67,800	1,510	9,662	2.18	29.53	6,994,000
<b>1935-36</b>						
October.....	1,780	1,410	1,657	.373	.43	101,900
November.....	1,720	1,280	1,446	.326	.36	86,020
December.....	1,280	941	1,113	.251	.29	68,440
January.....	1,360	899	1,132	.255	.29	69,630
February.....	1,540	983	1,171	.264	.28	67,380
March.....	1,880	1,170	1,629	.367	.42	100,100
April.....	38,400	1,120	16,680	3.76	4.20	992,700
May.....	67,800	28,100	43,130	9.71	11.20	2,652,000
June.....	51,100	8,930	19,410	4.37	4.88	1,155,000
July.....	8,350	3,260	5,180	1.17	1.35	318,500
August.....	3,190	1,940	2,510	.565	.65	154,500
September.....	2,190	1,500	1,790	.403	.45	106,500
The year.....	67,800	899	8,089	1.82	24.80	5,872,000

Monthly discharge of Flathead River at Columbia Falls, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1936-37</b>						
October.....	1,530	1,350	1,431	0.322	0.37	88,010
November.....	1,370	998	1,182	.266	.30	70,350
December.....	1,810	950	1,178	.265	.31	72,420
January.....	990	850	928	.209	.24	57,070
February.....	958	850	905	.204	.21	50,260
March.....	1,280	926	1,083	.244	.28	66,950
April.....	14,700	1,440	5,028	1.13	1.26	299,200
May.....	45,300	15,000	30,580	6.89	7.94	1,880,000
June.....	37,700	17,000	27,370	6.16	6.87	1,628,000
July.....	17,400	3,990	8,145	1.83	2.11	500,800
August.....	4,460	2,070	3,055	.688	.79	187,800
September.....	2,070	1,660	1,829	.412	.46	108,800
The year.....	45,300	850	6,920	1.56	21.14	5,009,000
<b>1937-38</b>						
October.....	3,460	1,760	2,012	.453	.52	123,700
November.....	3,460	2,610	3,027	.682	.76	180,100
December.....	3,220	1,440	2,332	.525	.61	143,400
January.....	3,720	1,700	2,501	.563	.65	153,800
February.....	2,760	1,750	2,180	.491	.51	121,100
March.....	3,460	1,870	2,481	.559	.64	152,500
April.....	53,900	2,610	15,190	3.42	3.82	903,700
May.....	69,600	16,400	35,100	7.91	9.12	2,158,000
June.....	52,900	18,400	32,610	7.34	8.19	1,941,000
July.....	17,200	4,810	9,629	2.17	2.50	592,100
August.....	4,620	2,680	3,453	.778	.90	212,300
September.....	2,680	1,980	2,273	.512	.57	135,300
The year.....	69,600	1,440	9,416	2.12	28.79	6,817,000

Yearly discharge of Flathead River at Columbia Falls, Mont.

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1929.....	7,560	1.70	23.10	5,480,000	7,180	1.62	21.93	5,200,000
1930.....	7,130	1.61	21.81	5,170,000	7,370	1.66	22.51	5,330,000
1931.....	6,420	1.45	19.66	4,650,000	6,350	1.43	19.42	4,600,000
1932.....	10,700	2.41	32.77	7,770,000	11,200	2.52	34.44	8,160,000
1933.....	12,200	2.75	37.25	8,820,000	13,500	3.04	41.27	9,780,000
1934.....	12,900	2.91	39.43	9,337,000	11,520	2.59	35.22	8,341,000
1935.....	9,662	2.18	29.53	6,994,000	9,026	2.03	27.59	6,534,000
1936.....	8,089	1.82	24.80	5,872,000	8,054	1.81	24.70	5,847,000
1937.....	6,920	1.56	21.14	5,009,000	7,219	1.63	22.05	5,226,000
1938.....	9,416	2.12	28.79	6,817,000	-	-	-	-
Highest.....	12,900	2.91	39.43	9,337,000	13,500	3.04	41.27	9,780,000
Average.....	6,420	1.45	19.66	4,650,000	6,350	1.43	19.42	4,600,000
Lowest.....	9,100	2.05	27.83	6,592,000	9,047	2.04	27.68	6,558,000

Flathead River near Polson, Mont.

**Location.**- Water-stage recorder, lat. 47°39', long. 114°20', in sec. 19, T. 22 N., R. 21 W., at highway bridge at Norrisvale, 12 miles downstream from Polson.

**Drainage area.**- 7,010 square miles.

**Records available.**- July 1907 to September 1938.

**Extremes.**- Maximum discharge, 82,100 second-feet, May 29, 30, 1928 (gage height, 17.1 feet); minimum prior to construction of Kerr Dam, 1,360 second-feet Dec. 9-14, 1919, Mar. 14, 1920 (gage height, -0.1 foot). A flow probably less than 5 second-feet occurred Apr. 13, 1939 as a result of regulation at Kerr Dam.

**Remarks.**- Several small diversions from tributaries above Flathead Lake. Flow somewhat regulated by natural storage in Flathead Lake prior to completion of Kerr Dam Apr. 12, 1938, which regulated flow thereafter.

## Monthly discharge of Flathead River near Polson, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1907						
July 23-31.....	26,600	21,800	24,300	3.47	1.16	434,000
August.....	20,700	9,330	13,900	1.98	2.28	855,000
September.....	9,330	7,090	8,290	1.18	1.32	493,000
1907-8						
October.....	6,850	4,160	5,520	.787	.91	339,000
November.....	4,160	3,130	3,620	.516	.58	215,000
December.....	3,130	2,810	3,000	.428	.49	184,000
January.....	2,810	2,360	2,450	.349	.40	156,000
February.....	2,440	2,280	2,420	.345	.37	139,000
March.....	2,910	2,280	2,460	.351	.40	151,000
April.....	18,400	2,530	7,040	1.00	1.12	419,000
May.....	33,600	18,700	29,000	4.14	4.77	1,780,000
June.....	62,100	32,700	48,800	6.96	7.76	2,900,000
July.....	33,600	14,500	27,100	3.86	4.43	1,670,000
August.....	14,900	5,230	9,570	1.37	1.58	588,000
September.....	5,750	4,300	4,940	.704	.79	294,000
The year.....	62,100	2,280	12,200	1.74	23.62	8,840,000
1908-9						
October.....	4,450	3,890	4,090	.583	.67	251,000
November.....	4,160	4,020	4,060	.579	.65	242,000
December.....	4,020	3,130	3,480	.497	.57	214,000
January.....	3,490	3,130	3,270	.466	.54	201,000
February.....	2,130	2,620	2,810	.401	.42	156,000
March.....	2,620	2,530	2,550	.364	.42	157,000
April.....	3,880	2,530	2,780	.397	.44	165,000
May.....	30,400	3,880	11,000	1.57	1.81	676,000
June.....	58,800	31,100	50,800	7.25	8.09	3,020,000
July.....	47,600	18,800	31,600	4.51	5.20	1,940,000
August.....	18,200	7,030	12,100	1.73	1.99	744,000
September.....	6,800	5,060	5,940	.833	.93	348,000
The year.....	58,800	2,530	11,210	1.60	21.73	8,110,000
1909-10						
October.....	4,880	3,700	4,320	.616	.71	286,000
November.....	9,700	3,770	6,320	.902	1.01	376,000
December.....	10,500	6,250	8,330	1.19	1.37	512,000
January.....	7,100	4,120	5,080	.725	.84	312,000
February.....	4,120	3,820	4,030	.575	.60	224,000
March.....	9,630	3,820	5,290	.755	.87	325,000
April.....	34,700	9,800	17,200	2.45	2.73	1,020,000
May.....	42,800	33,800	38,000	5.42	6.25	2,340,000
June.....	38,900	23,000	31,100	4.44	4.95	1,850,000
July.....	22,000	9,000	15,200	2.17	2.50	935,000
August.....	8,740	4,640	6,410	.914	1.05	394,000
September.....	4,720	3,640	4,270	.609	.68	254,000
The year.....	42,800	3,640	12,200	1.74	23.56	8,810,000
1910-11						
October.....	5,900	3,720	5,010	.715	.82	308,000
November.....	9,470	5,900	7,860	1.12	1.25	468,000
December.....	9,000	5,280	7,180	1.02	1.18	441,000
January.....	5,040	3,600	4,140	.591	.68	255,000
February.....	3,600	3,010	3,270	.466	.49	182,000
March.....	3,600	2,690	2,960	.422	.49	182,000
April.....	14,800	3,600	6,320	.902	1.01	376,000
May.....	30,400	14,800	24,800	3.54	4.08	1,520,000
June.....	44,200	25,800	38,300	5.46	6.09	2,280,000
July.....	41,000	14,800	26,100	3.72	4.29	1,600,000
August.....	14,400	6,520	8,750	1.25	1.44	538,000
September.....	6,520	5,040	5,770	.823	.92	343,000
The year.....	44,200	2,690	11,700	1.57	22.74	8,490,000

## Monthly discharge of Flathead River near Polson, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1911-12						
October.....	5,230	4,220	4,840	0.690	0.80	298,000
November.....	4,170	3,350	3,730	.532	.59	222,000
December.....	3,470	3,010	3,260	.465	.54	200,000
January.....	2,900	2,590	2,660	.379	.44	164,000
February.....	2,790	2,590	2,690	.384	.41	155,000
March.....	2,690	2,310	2,580	.340	.39	146,000
April.....	12,800	2,400	5,890	.840	.94	350,000
May.....	36,000	12,800	24,800	3.54	4.08	1,520,000
June.....	36,500	28,700	34,000	4.85	5.41	2,020,000
July.....	28,100	13,200	19,500	2.75	3.17	1,190,000
August.....	12,800	6,760	9,900	1.41	1.63	690,000
September.....	7,010	5,430	6,210	.886	.99	370,000
The year.....	36,500	2,310	9,980	1.42	19.36	7,240,000
1912-13						
October.....	5,630	4,850	5,150	.735	.85	317,000
November.....	5,630	4,670	5,260	.750	.84	313,000
December.....	4,850	2,150	4,190	.598	.69	258,000
January.....	3,880	3,120	3,450	.492	.57	212,000
February.....	3,230	2,900	3,020	.431	.45	168,000
March.....	2,900	2,790	2,850	.407	.47	175,000
April.....	14,800	2,790	6,510	.929	1.04	387,000
May.....	53,600	15,300	24,400	3.48	4.01	1,500,000
June.....	75,400	47,600	64,400	9.19	10.25	3,830,000
July.....	46,900	15,700	28,600	4.08	4.70	1,760,000
August.....	15,300	7,540	10,800	1.54	1.78	664,000
September.....	7,540	4,170	*5,540	.790	.88	330,000
The year.....	75,400	2,150	13,700	1.95	26.53	9,910,000
1913-14						
October.....	4,330	3,230	3,800	.542	.62	234,000
November.....	4,500	3,800	4,240	.605	.68	252,000
December.....	4,500	3,230	3,690	.526	.61	227,000
January.....	3,350	2,400	3,120	.445	.51	192,000
February.....	3,010	2,790	3,000	.428	.45	167,000
March.....	3,120	2,690	2,890	.412	.48	178,000
April.....	14,400	3,230	7,100	1.01	1.13	422,000
May.....	41,000	14,400	26,700	3.81	4.39	1,640,000
June.....	36,500	23,100	30,000	4.28	4.78	1,790,000
July.....	22,000	9,930	15,400	2.20	2.54	947,000
August.....	9,620	4,020	6,670	.951	1.10	410,000
September.....	4,850	3,740	4,040	.576	.64	240,000
The year.....	41,000	2,400	9,250	1.32	17.93	6,700,000
1914-15						
October.....	6,520	4,170	5,320	.759	.88	327,000
November.....	9,930	6,060	8,370	1.19	1.33	498,000
December.....	7,820	4,170	5,640	.805	.93	347,000
January.....	4,330	3,010	3,630	.518	.60	223,000
February.....	3,120	2,490	2,790	.398	.41	155,000
March.....	2,900	2,310	2,490	.355	.41	153,000
April.....	12,400	2,900	6,510	.929	1.04	387,000
May.....	21,000	13,200	18,200	2.60	3.00	1,120,000
June.....	19,000	17,100	18,100	2.58	2.88	1,080,000
July.....	19,000	12,800	16,200	2.31	2.66	996,000
August.....	13,200	6,520	9,740	1.39	1.60	599,000
September.....	6,230	4,500	5,260	.750	.84	313,000
The year.....	21,000	2,310	8,660	1.22	16.58	6,200,000
1915-16						
October.....	5,040	4,670	4,820	.688	.79	206,000
November.....	4,850	4,670	4,700	.670	.75	283,000
December.....	4,670	4,330	4,490	.641	.74	276,000
January.....	4,500	3,010	3,520	.502	.58	216,000
February.....	3,230	2,900	3,040	.434	.47	175,000
March.....	9,620	3,120	4,770	.680	.78	293,000
April.....	16,200	9,310	11,900	1.70	1.90	708,000
May.....	29,800	16,200	25,800	3.68	4.24	1,590,000
June.....	74,000	27,000	48,000	6.85	7.64	2,860,000
July.....	74,700	29,800	55,600	7.93	9.14	3,420,000
August.....	28,700	11,300	17,500	2.50	2.88	1,080,000
September.....	13,200	8,700	11,100	1.58	1.75	660,000
The year.....	74,700	2,900	16,300	2.32	31.67	11,900,000

\* Previously published in error.

## Monthly discharge of Flathead River near Polson, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1916-17						
October.....	9,310	5,210	6,730	0.960	1.11	414,000
November.....	5,630	4,020	4,600	.656	.73	274,000
December.....	4,330	3,120	3,630	.518	.60	223,000
January.....	2,790	2,490	2,670	.381	.44	164,000
February.....	2,590	2,400	2,470	.352	.37	137,000
March.....	2,310	2,000	2,240	.320	.37	138,000
April.....	5,040	2,230	2,960	.422	.47	176,000
May.....	46,200	4,670	22,400	3.20	3.69	1,380,000
June.....	59,100	43,600	51,700	7.38	8.23	3,080,000
July.....	52,200	18,500	35,500	5.06	5.83	2,180,000
August.....	17,500	7,010	11,400	1.63	1.88	701,000
September.....	6,760	3,740	4,770	.680	.76	284,000
The year.....	59,100	2,000	12,600	1.80	*24.48	9,150,000
1917-18						
October.....	3,600	2,690	3,070	.438	.50	189,000
November.....	2,690	2,490	2,610	.372	.42	155,000
December.....	2,900	2,310	2,580	.368	.42	159,000
January.....	11,300	3,350	8,720	1.24	1.43	536,000
February.....	5,840	3,010	4,130	.589	.61	229,000
March.....	4,670	2,900	3,770	.538	.62	232,000
April.....	16,600	3,630	10,300	1.47	1.64	613,000
May.....	34,600	17,500	29,700	4.24	4.89	1,830,000
June.....	58,400	27,000	44,200	6.31	7.04	2,630,000
July.....	41,600	12,400	23,000	3.28	3.78	1,410,000
August.....	12,000	6,060	8,430	1.20	1.38	518,000
September.....	5,840	3,880	4,690	.669	.76	279,000
The year.....	58,400	2,310	12,100	1.73	23.48	8,780,000
1918-19						
October.....	3,740	3,120	3,360	.479	.55	207,000
November.....	3,350	3,010	3,230	.461	.51	192,000
December.....	2,900	2,490	2,630	.375	.43	162,000
January.....	2,790	2,070	2,250	.321	.37	139,000
February.....	2,400	2,400	2,400	.342	.36	133,000
March.....	2,400	2,310	2,340	.334	.39	144,000
April.....	15,700	2,310	5,350	.763	.85	318,000
May.....	45,600	18,000	24,900	3.55	4.09	1,530,000
June.....	48,200	23,600	34,900	4.98	*5.56	2,080,000
July.....	23,100	7,820	14,500	2.07	2.39	892,000
August.....	7,540	3,880	5,410	.772	.89	333,000
September.....	4,170	2,490	3,110	.444	.50	185,000
The year.....	48,200	2,070	8,720	1.24	*16.89	6,310,000
1919-20						
October.....	2,490	2,070	2,300	.328	.38	141,000
November.....	2,690	1,860	2,220	.317	.35	132,000
December.....	2,640	1,360	1,670	.238	.27	103,000
January.....	1,680	1,460	1,560	.223	.26	95,900
February.....	1,620	1,550	1,600	.228	.25	92,000
March.....	1,620	1,360	1,510	.215	.25	92,800
April.....	6,060	1,570	2,630	.375	.42	156,000
May.....	29,300	6,290	18,200	2.60	3.00	1,120,000
June.....	44,200	26,400	36,200	5.16	5.76	2,150,000
July.....	38,100	15,300	27,000	3.85	4.44	1,660,000
August.....	14,400	7,540	9,900	1.41	1.63	609,000
September.....	7,820	4,020	5,160	.736	.82	307,000
The year.....	44,200	1,360	9,180	1.31	17.83	6,660,000
1920-21						
October.....	5,840	4,020	5,120	.730	.84	315,000
November.....	4,850	3,880	4,310	.615	.69	256,000
December.....	4,330	3,350	3,860	.551	.64	237,000
January.....	3,740	3,230	3,480	.496	.57	214,000
February.....	3,470	3,010	3,250	.464	.48	180,000
March.....	7,010	3,350	5,800	.827	.95	357,000
April.....	17,300	6,780	12,000	1.71	1.91	714,000
May.....	56,400	16,400	33,700	4.81	5.54	2,070,000
June.....	62,000	41,300	54,000	7.70	8.59	3,210,000
July.....	40,600	15,000	25,900	3.69	4.25	1,590,000
August.....	14,600	6,340	9,670	1.38	1.59	595,000
September.....	6,120	3,650	4,810	.686	.77	286,000
The year.....	62,000	3,010	13,900	1.98	26.82	10,000,000

\* Previously published in error.



## Monthly discharge of Flathead River near Polson, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1921-22</b>						
October.....	4,260	3,510	3,690	0.526	0.61	227,000
November.....	3,800	3,250	3,420	.488	.54	204,000
December.....	4,750	3,380	3,810	.544	.63	234,000
January.....	4,750	3,650	4,070	.581	.67	250,000
February.....	3,570	2,730	3,120	.445	.46	173,000
March.....	2,940	2,700	2,770	.395	.46	170,000
April.....	5,800	2,740	3,460	.494	.55	206,000
May.....	44,800	6,120	22,600	3.22	3.71	1,390,000
June.....	56,400	36,700	49,500	7.06	7.88	2,950,000
July.....	35,100	11,800	20,900	2.98	3.44	1,290,000
August.....	11,500	5,700	8,100	1.16	1.34	498,000
September.....	5,700	3,800	4,740	.676	.75	282,000
The year.....	56,400	2,700	10,900	1.55	21.04	7,870,000
<b>1922-23</b>						
October.....	3,650	3,130	3,400	.485	.56	209,000
November.....	3,130	2,670	2,880	.411	.46	171,000
December.....	2,910	2,420	2,650	.378	.44	163,000
January.....	3,110	2,330	2,740	.391	.45	168,000
February.....	2,950	2,510	2,760	.394	.41	153,000
March.....	2,530	2,420	2,480	.351	.40	151,000
April.....	11,200	2,510	5,090	.726	.81	303,000
May.....	46,300	12,700	29,300	4.18	4.82	1,800,000
June.....	55,900	39,000	47,800	6.82	7.61	2,840,000
July.....	38,800	15,400	26,400	3.77	4.35	1,620,000
August.....	14,600	6,780	9,970	1.42	1.64	613,000
September.....	6,670	3,800	4,900	.699	.78	292,000
The year.....	55,900	2,330	11,700	1.67	22.73	8,480,000
<b>1923-24</b>						
October.....	3,740	2,490	3,100	.442	.51	191,000
November.....	3,110	2,730	2,890	.412	.46	172,000
December.....	3,100	2,420	2,670	.381	.44	164,000
January.....	2,880	2,520	2,640	.377	.43	162,000
February.....	3,460	2,660	2,910	.415	.45	167,000
March.....	3,890	2,760	3,120	.445	.51	192,000
April.....	7,870	3,080	4,060	.579	.65	242,000
May.....	47,000	8,770	31,300	4.47	5.15	1,920,000
June.....	43,700	28,600	37,000	5.28	5.89	2,200,000
July.....	28,200	10,900	18,000	2.57	2.96	1,110,000
August.....	10,400	5,740	7,700	1.10	1.27	475,000
September.....	5,340	3,290	4,490	.641	.72	267,000
The year.....	47,000	2,420	10,000	1.43	19.44	7,260,000
<b>1924-25</b>						
October.....	3,320	3,080	3,190	.455	.52	196,000
November.....	3,320	3,130	3,200	.456	.51	190,000
December.....	3,250	3,130	3,170	.452	.52	195,000
January.....	-	-	e3,100	.442	.51	191,000
February.....	-	-	e3,500	.500	.52	194,000
March.....	5,110	4,020	e4,740	.676	.78	291,000
April.....	32,700	5,700	20,800	2.97	3.31	1,240,000
May.....	67,000	29,200	46,700	6.66	7.68	2,870,000
June.....	65,600	45,100	50,700	7.23	8.07	3,020,000
July.....	47,100	15,400	27,100	3.97	4.46	1,670,000
August.....	14,600	8,550	10,400	1.48	1.71	640,000
September.....	8,270	5,300	6,420	.916	1.02	382,000
The year.....	67,000	-	15,300	2.18	29.61	11,100,000
<b>1925-26</b>						
October.....	5,960	4,040	4,620	.659	.76	284,000
November.....	4,040	3,140	3,550	.506	.56	211,000
December.....	-	-	e3,300	.471	.54	203,000
January.....	-	-	e2,600	.371	.43	160,000
February.....	-	-	e2,200	.314	.33	122,000
March.....	4,040	2,850	3,200	.456	.53	197,000
April.....	21,700	3,830	9,210	1.31	1.46	549,000
May.....	29,300	23,400	26,000	3.71	4.28	1,600,000
June.....	23,400	13,600	17,300	2.47	2.76	1,030,000
July.....	13,300	5,660	9,060	1.29	1.49	557,000
August.....	5,510	3,240	4,230	.603	.70	260,000
September.....	5,080	3,340	4,420	.631	.70	263,000
The year.....	29,300	-	7,510	1.07	14.54	5,440,000

a Partly estimated.  
e Estimated.

## Monthly discharge of Flathead River near Poleon, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1926-27						
October.....	10,300	5,080	7,690	1.10	1.27	473,000
November.....	10,300	7,250	8,450	1.21	1.35	503,000
December.....	10,000	7,010	8,400	1.20	1.38	516,000
January.....	7,010	4,580	5,810	.829	.96	357,000
February.....	4,580	4,180	4,380	.625	.65	243,000
March.....	4,180	3,880	4,020	.573	.66	247,000
April.....	15,400	3,800	5,470	.780	.87	325,000
May.....	45,100	18,800	32,800	4.68	5.40	2,020,000
June.....	75,000	43,800	63,000	8.99	10.03	3,750,000
July.....	66,300	23,000	42,200	6.02	6.94	2,590,000
August.....	22,500	9,120	14,100	2.01	2.32	867,000
September.....	10,700	8,550	9,580	1.37	1.53	570,000
The year.....	75,000	3,800	17,200	2.45	*33.36	12,500,000
1927-28						
October.....	12,400	8,760	10,100	1.44	1.66	621,000
November.....	-	-	8,600	1.23	1.37	512,000
December.....	-	-	7,900	1.13	1.30	486,000
January.....	-	-	6,000	.856	.99	369,000
February.....	-	-	5,300	.756	.82	305,000
March.....	-	-	5,700	.813	.94	350,000
April.....	15,200	7,000	8,340	1.19	1.33	496,000
May.....	82,100	16,600	48,900	6.98	8.05	3,010,000
June.....	79,200	41,900	53,000	7.56	8.44	3,150,000
July.....	43,200	19,500	31,700	4.52	5.21	1,950,000
August.....	19,500	7,780	12,500	1.78	2.05	769,000
September.....	7,640	4,540	6,090	.869	.97	362,000
The year.....	82,100	-	17,100	2.44	33.13	12,400,000
1928-29						
October.....	5,330	4,440	4,950	.706	.81	304,000
November.....	5,160	4,150	4,560	.650	.73	271,000
December.....	4,290	3,290	3,630	.518	.60	223,000
January.....	3,290	2,860	3,090	.441	.51	190,000
February.....	2,860	2,660	2,730	.389	.41	152,000
March.....	3,070	2,660	2,830	.404	.47	174,000
April.....	6,180	3,070	3,650	.521	.58	217,000
May.....	41,100	7,060	20,400	2.91	3.36	1,250,000
June.....	44,600	28,200	39,600	5.65	6.30	2,360,000
July.....	27,500	9,750	16,800	2.40	2.77	1,030,000
August.....	9,460	4,570	6,520	.930	1.07	401,000
September.....	4,430	3,070	3,630	.518	.58	216,000
The year.....	44,600	2,660	9,380	1.34	18.19	6,790,000
1929-30						
October.....	2,950	2,400	2,630	.375	.43	162,000
November.....	2,450	1,960	2,210	.315	.35	132,000
December.....	2,360	1,890	2,180	.311	.36	134,000
January.....	2,500	1,540	1,970	.267	.31	115,000
February.....	2,500	1,920	2,150	.307	.32	119,000
March.....	2,830	2,230	2,470	.352	.41	152,000
April.....	23,700	2,550	10,200	1.46	1.63	607,000
May.....	28,200	24,300	25,900	3.69	4.25	1,590,000
June.....	30,300	20,300	27,100	3.87	4.32	1,610,000
July.....	19,700	8,610	13,100	1.87	2.16	806,000
August.....	8,340	4,010	5,860	.836	.96	360,000
September.....	4,010	3,200	3,530	.504	.56	210,000
The year.....	30,300	1,540	8,290	1.18	16.06	6,000,000
1930-31						
October.....	3,460	3,070	3,250	.464	.54	200,000
November.....	3,590	3,140	3,390	.484	.54	202,000
December.....	3,460	2,660	3,110	.444	.51	191,000
January.....	2,660	2,400	2,540	.362	.42	156,000
February.....	2,710	2,600	2,660	.379	.39	148,000
March.....	3,730	2,500	2,920	.417	.48	180,000
April.....	8,340	3,460	5,580	.796	.89	332,000
May.....	35,400	8,890	24,800	3.54	4.08	1,520,000
June.....	31,700	15,800	24,700	3.52	3.93	1,470,000
July.....	15,300	6,830	10,400	1.48	1.71	640,000
August.....	6,610	3,460	4,730	.675	.78	291,000
September.....	3,460	2,950	3,130	.447	.50	186,000
The year.....	35,400	2,400	7,630	1.09	14.77	5,520,000

\* Previously published in error.

Monthly discharge of Flathead River near Polson, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inchec	Acre-feet
1931-32						
October.....	3,000	2,440	2,750	0.392	0.45	169,000
November.....	2,780	2,370	2,530	.361	.40	151,000
December.....	2,630	2,490	2,560	.365	.42	157,000
January.....	2,680	2,270	2,480	.354	.41	152,000
February.....	2,580	2,140	2,260	.322	.35	130,000
March.....	5,690	2,680	4,620	.659	.76	284,000
April.....	17,500	5,500	11,200	1.60	1.78	666,000
May.....	51,200	17,500	35,300	5.04	5.81	2,170,000
June.....	45,500	39,300	42,900	6.12	6.83	2,550,000
July.....	38,000	12,400	23,400	3.34	3.85	1,440,000
August.....	12,000	5,880	8,490	1.21	1.40	522,000
September.....	5,880	3,780	4,660	.665	.74	277,000
The year.....	51,200	2,140	11,900	1.69	23.20	8,670,000
1932-33						
October.....	3,780	3,020	3,380	.482	.56	208,000
November.....	5,690	3,280	4,210	.601	.67	251,000
December.....	7,150	5,320	5,980	.853	.98	368,000
January.....	5,130	4,060	4,570	.652	.75	281,000
February.....	4,080	3,260	3,670	.524	.55	204,000
March.....	3,260	3,140	3,190	.455	.52	196,000
April.....	13,600	3,140	4,840	.705	.79	294,000
May.....	38,000	15,200	24,800	3.54	4.08	1,520,000
June.....	76,600	39,900	63,100	9.00	10.04	3,750,000
July.....	57,100	17,500	34,300	4.89	5.64	2,110,000
August.....	17,000	6,710	10,900	1.55	1.79	670,000
September.....	6,710	4,490	5,500	.785	.88	327,000
The year.....	76,600	3,020	14,100	2.01	27.25	10,200,000
1933-34						
October.....	11,300	4,200	5,223	.745	.86	321,200
November.....	14,800	10,900	13,420	1.91	2.13	798,700
December.....	14,000	9,000	10,940	1.56	1.80	672,600
January.....	14,400	9,310	12,050	1.72	1.98	741,000
February.....	9,310	6,290	7,920	1.13	1.18	439,900
March.....	9,630	5,880	7,316	1.04	1.20	449,800
April.....	46,900	9,950	22,310	3.18	3.55	1,327,000
May.....	51,500	46,200	49,210	7.02	8.09	3,026,000
June.....	49,500	22,800	35,020	5.00	5.58	2,084,000
July.....	21,800	8,310	14,310	2.04	2.35	880,000
August.....	8,560	4,580	6,221	.887	1.02	382,500
September.....	4,410	2,760	3,600	.514	.57	214,200
The year.....	51,500	2,760	15,660	2.23	30.31	11,340,000
1934-35						
October.....	3,260	2,420	2,792	.398	.46	171,600
November.....	6,510	3,140	5,277	.753	.84	314,000
December.....	6,510	3,780	5,174	.738	.85	318,100
January.....	4,490	3,510	4,043	.577	.67	248,600
February.....	4,800	4,340	4,666	.651	.68	253,600
March.....	4,340	3,920	4,101	.585	.67	252,100
April.....	10,100	3,920	5,279	.753	.84	314,100
May.....	45,600	10,700	25,080	3.58	4.13	1,542,000
June.....	49,500	35,200	45,260	6.46	7.21	2,693,000
July.....	34,600	13,100	22,520	3.21	3.70	1,585,000
August.....	12,300	5,890	8,555	1.22	1.41	526,100
September.....	5,500	3,510	4,329	.618	.69	257,600
The year.....	49,500	2,420	11,430	1.63	22.15	8,276,000
1935-36						
October.....	3,320	2,570	2,886	.412	.48	177,500
November.....	2,870	2,230	2,362	.337	.38	140,600
December.....	2,340	2,010	2,155	.307	.35	132,500
January.....	2,340	1,930	2,150	.307	.35	132,200
February.....	2,030	1,840	1,912	.273	.29	110,000
March.....	2,570	1,930	2,165	.309	.36	133,100
April.....	22,800	1,840	7,507	1.07	1.19	446,700
May.....	50,200	23,400	40,200	5.73	6.61	2,472,000
June.....	48,900	20,000	33,940	4.84	5.40	2,019,000
July.....	18,900	7,160	11,900	1.70	1.96	727,700
August.....	7,160	3,600	5,060	.722	.83	311,100
September.....	3,600	2,570	3,003	.428	.48	178,700
The year.....	50,200	1,840	9,617	1.37	18.68	6,981,000

Monthly discharge of Flathead River near Polson, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1936-37						
October.....	2,510	2,030	2,277	0.325	0.37	140,000
November.....	2,180	1,750	1,897	.271	.30	112,900
December.....	1,930	1,430	1,680	.240	.28	103,300
January.....	1,800	1,660	1,713	.244	.28	105,300
February.....	1,800	1,700	1,738	.248	.26	96,500
March.....	1,980	1,580	1,828	.261	.30	112,400
April.....	5,140	1,880	2,710	.387	.43	161,300
May.....	35,200	5,500	20,740	2.96	3.41	1,275,000
June.....	35,800	28,900	33,390	4.76	5.31	1,987,000
July.....	28,300	9,780	17,260	2.46	2.84	1,061,000
August.....	9,180	4,640	6,556	.935	1.08	403,100
September.....	4,480	2,870	3,528	.503	.56	210,000
The year.....	35,800	1,430	7,968	1.14	15.42	5,768,000
1937-38						
October.....	3,000	2,400	2,708	.386	.44	166,500
November.....	3,240	2,450	2,889	.412	.46	171,900
December.....	3,310	1,700	3,062	.437	.50	188,300
January.....	3,440	3,000	3,132	.447	.52	192,600
February.....	3,240	2,820	2,981	.425	.44	185,500
March.....	3,310	2,820	2,951	.418	.48	180,200
April.....	17,300	32	7,547	1.08	1.20	449,100
May.....	43,900	18,300	27,220	3.88	4.47	1,674,000
June.....	48,500	30,000	41,720	5.95	6.64	2,483,000
July.....	28,200	3,440	11,430	1.63	1.88	702,900
August.....	6,630	1,380	3,350	.478	.55	206,000
September.....	9,340	3,150	6,674	.952	1.06	397,100
The year.....	48,500	32	9,637	1.37	18.64	6,977,000

Yearly discharge of Flathead River near Polson, Mont.

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1908.....	12,200	1.74	23.62	8,840,000	12,100	1.73	23.53	8,800,000
1909.....	11,200	1.60	21.73	8,110,000	11,800	1.68	22.93	8,560,000
1910.....	12,200	1.74	23.56	8,810,000	12,300	1.75	23.72	8,870,000
1911.....	11,700	1.67	22.74	8,490,000	11,000	1.57	21.42	8,000,000
1912.....	9,980	1.42	19.36	7,240,000	10,200	1.46	19.84	7,410,000
1913.....	13,700	1.95	26.53	9,910,000	13,500	1.93	26.08	9,740,000
1914.....	9,250	1.32	17.93	6,700,000	9,890	1.41	19.16	7,160,000
1915.....	8,560	1.22	16.58	6,200,000	8,120	1.16	15.72	5,880,000
1916.....	16,300	2.32	31.67	11,900,000	16,400	2.34	31.83	11,900,000
1917.....	12,600	1.80	24.48	9,150,000	12,100	1.73	23.38	8,740,000
1918.....	12,100	1.73	23.48	8,780,000	12,200	1.74	23.63	8,840,000
1919.....	8,720	1.24	16.89	6,310,000	8,470	1.21	16.40	6,130,000
1920.....	9,180	1.31	17.83	6,660,000	9,770	1.39	19.00	7,090,000
1921.....	13,900	1.98	26.82	10,000,000	13,600	1.94	26.43	9,880,000
1922.....	10,900	1.55	21.04	7,870,000	10,700	1.53	20.72	7,750,000
1923.....	11,700	1.67	22.73	8,480,000	11,700	1.67	22.68	8,470,000
1924.....	10,000	1.43	19.44	7,260,000	10,100	1.44	19.58	7,310,000
1925.....	15,300	2.18	29.61	11,100,000	15,500	2.21	29.92	11,200,000
1926.....	7,510	1.07	14.54	5,440,000	8,600	1.23	16.68	6,230,000
1927.....	17,200	2.45	33.36	12,500,000	17,400	2.48	33.69	12,600,000
1928.....	17,100	2.44	33.13	12,400,000	15,900	2.27	30.94	11,600,000
1929.....	9,380	1.34	18.19	6,790,000	8,870	1.27	17.19	6,420,000
1930.....	8,290	1.18	16.06	6,000,000	8,510	1.21	16.51	6,160,000
1931.....	7,630	1.09	14.77	5,520,000	7,460	1.06	14.45	5,400,000
1932.....	11,900	1.69	23.20	8,670,000	12,400	1.77	24.14	9,020,000
1933.....	14,100	2.01	27.25	10,200,000	15,400	2.20	29.83	11,100,000
1934.....	15,660	2.23	30.31	11,340,000	14,300	2.04	27.67	10,350,000
1935.....	11,430	1.63	22.15	8,276,000	10,940	1.56	21.21	7,923,000
1936.....	9,617	1.37	18.68	6,981,000	9,487	1.35	18.42	6,887,000
1937.....	7,968	1.14	15.42	5,768,000	8,203	1.17	15.87	5,938,000
1938.....	9,637	1.37	18.64	6,977,000	-	-	-	-
Highest.....	17,200	2.45	33.36	12,500,000	17,400	2.48	33.69	12,600,000
Average.....	11,510	1.64	22.31	8,344,000	11,560	1.65	22.42	8,379,000
Lowest.....	7,510	1.07	14.54	5,440,000	7,460	1.06	14.45	5,400,000

## Middle Fork of Flathead River at Belton, Mont.

Location.— Staff gage, lat. 48°30', long. 113°59', in NW¼ sec. 36, T. 32 N., R. 19 W., at Belton.

Drainage area.— 900 square miles.

Records available.— October 1910 to September 1923, February 1929 to June 1933.

Extremes.— Maximum discharge observed, 49,000 second-feet June 21, 1916 (gage height, 20.0 feet); minimum observed, 115 second-feet Mar. 1, 1929 (gage height, 1.50 feet, ice present).

Remarks.— No diversion or regulation.

## Monthly discharge of Middle Fork of Flathead River at Belton, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1910-11						
October.....	3,270	960	1,570	1.74	2.01	96,500
November.....	3,700	1,110	1,960	2.18	2.43	117,000
December.....	1,200	560	808	.898	1.04	49,700
January.....	620	340	538	.598	.69	33,100
February.....	570	440	505	.561	.58	28,000
March.....	2,100	400	891	.990	1.14	54,800
April.....	8,210	1,100	3,020	3.36	3.75	180,000
May.....	11,900	4,550	7,030	7.81	9.00	432,000
June.....	12,600	5,470	8,390	9.32	10.40	499,000
July.....	5,090	1,400	2,760	3.07	3.54	170,000
August.....	1,400	1,020	1,140	1.27	1.46	70,100
September.....	1,400	960	1,120	1.24	1.38	66,600
The year.....	12,600	340	2,480	2.76	37.42	1,800,000
1911-12						
October.....	1,240	900	1,140	1.27	1.46	70,100
November.....	900	670	769	.843	.94	45,200
December.....	620	400	451	.479	.55	26,500
January.....	-	-	403	.448	.52	24,800
February.....	450	412	415	.461	.50	23,900
March.....	412	182	377	.419	.48	23,200
April.....	6,280	376	3,360	3.73	4.16	200,000
May.....	12,200	3,240	7,990	8.88	10.24	491,000
June.....	7,330	2,960	5,620	6.24	6.96	334,000
July.....	2,830	1,390	1,950	2.17	2.50	120,000
August.....	1,390	971	1,130	1.26	1.45	69,500
September.....	1,480	732	1,060	1.18	1.32	63,100
The year.....	12,200	182	2,060	2.29	31.08	1,490,000
1912-13						
October.....	-	-	810	.900	1.04	49,800
November.....	2,100	907	1,300	1.44	1.61	77,400
December.....	-	-	600	.667	.77	36,900
April 6-30.....	7,690	535	3,620	4.02	3.74	180,000
May.....	26,900	2,410	9,850	10.9	12.57	606,000
June 1-12.....	20,500	11,800	16,200	18.0	8.03	386,000
July 3-31.....	4,810	1,400	2,940	3.27	3.53	169,000
August.....	1,770	1,100	1,390	1.54	1.78	85,500
September 1-21.....	1,100	590	841	.934	.73	35,000
1913-14						
November 12-30.....	1,100	650	891	.990	.70	33,600
December.....	710	342	493	.548	.63	30,700
January.....	-	-	424	.471	.54	26,100
February.....	-	-	403	.448	.47	22,400
March.....	960	380	668	.742	.86	41,100
April.....	6,190	830	3,620	4.02	4.48	215,000
May.....	11,500	4,630	7,300	8.11	9.35	449,000
June 1-8.....	10,000	3,770	7,160	7.96	2.37	114,000
September 14-30.....	1,240	485	628	.698	.44	21,200
1914-15						
October.....	1,670	510	1,100	1.22	1.41	67,600
November.....	2,300	1,100	1,440	1.60	1.78	85,700
December.....	1,240	265	492	.547	.63	30,300
March.....	928	182	474	.527	.61	29,100
April.....	6,400	895	3,140	3.49	3.89	187,000
May.....	6,820	2,410	4,170	4.63	5.34	266,000
June.....	6,400	3,170	3,960	4.40	4.91	236,000
July.....	3,770	1,770	2,630	2.92	3.37	162,000
August.....	1,770	830	1,170	1.30	1.60	71,900
September.....	1,400	830	1,060	1.18	1.32	63,100

a Partly estimated.

e Estimated.

## Monthly discharge of Middle Fork of Flathead River at Belton, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1915-16</b>						
October.....	1,160	960	1,090	1.21	1.40	67,000
November.....	1,400	895	1,080	1.20	1.34	64,300
December.....	895	710	809	.899	1.04	49,700
January.....	710	562	624	.693	.80	38,400
February.....	620	535	568	.631	.68	32,700
March.....	3,170	590	1,460	1.62	1.87	89,800
April.....	9,540	1,580	3,480	3.87	4.32	207,000
May.....	16,200	3,930	6,960	7.73	8.91	428,000
June.....	42,000	5,580	14,700	16.3	18.19	875,000
July.....	14,200	1,770	6,440	7.16	8.26	396,000
August.....	1,970	1,160	1,470	1.63	1.88	90,400
September.....	7,260	895	1,920	2.13	2.38	114,000
The year.....	42,000	535	3,380	3.76	51.07	2,450,000
<b>1916-17</b>						
October.....	1,020	710	801	.890	1.02	49,300
November.....	1,240	960	1,140	1.27	1.42	67,800
December.....	960	440	661	.734	.85	40,600
January.....	-	-	-	-	-	-
February.....	-	-	-	-	-	-
March 12-31.....	310	280	296	.329	.24	11,700
April.....	1,670	280	870	.967	1.08	51,800
May.....	20,800	1,320	9,290	10.3	11.9	571,000
June.....	17,700	5,980	10,800	12.0	13.4	643,000
July.....	9,060	1,870	4,490	4.99	5.75	276,000
August.....	2,300	740	1,290	1.43	1.65	79,300
September.....	710	535	599	.666	.74	35,600
<b>1917-18</b>						
October.....	510	310	378	.420	.48	23,200
November.....	325	295	311	.346	.39	18,500
December 1-16.....	325	310	313	.348	.21	9,930
January.....	-	-	-	-	-	-
February.....	830	325	564	.627	.65	31,300
March.....	1,620	420	730	.811	.94	44,900
April.....	5,380	1,320	3,280	3.64	4.06	195,000
May.....	16,600	3,460	7,420	8.24	9.50	456,000
June.....	22,300	3,540	10,400	11.6	12.9	619,000
July.....	4,120	1,310	2,200	2.44	2.81	135,000
August.....	1,390	880	1,180	1.31	1.51	72,600
September.....	820	552	675	.750	.84	40,200
<b>1918-19</b>						
October.....	760	525	630	.700	.81	38,700
November.....	552	390	490	.544	.61	29,200
December.....	452	356	396	.440	.51	24,300
January.....	1,310	320	668	.742	.86	41,100
February.....	580	320	437	.486	.51	24,300
March 20-31.....	475	430	454	.504	.22	10,800
April.....	8,600	475	3,130	3.48	3.88	86,000
May.....	13,600	3,000	7,520	8.36	9.64	462,000
June.....	7,030	2,400	4,530	5.03	5.61	270,000
July.....	3,260	580	1,550	1.72	1.98	95,300
August.....	940	475	671	.746	.86	41,300
September.....	475	390	424	.471	.53	25,200
<b>1919-20</b>						
October.....	390	290	334	.371	.43	20,500
November.....	390	290	331	.368	.41	19,700
December.....	-	-	-	-	-	-
January 1-8.....	580	475	494	.549	.16	7,840
February 13-20.....	320	260	294	.327	.10	4,660
March 9-31.....	475	260	389	.432	.37	17,700
April.....	4,070	430	1,280	1.42	1.59	76,200
May.....	11,500	2,290	7,000	7.78	8.97	430,000
June.....	10,300	4,810	7,860	8.73	9.74	468,000
July.....	5,280	1,680	2,910	3.23	3.72	179,000
August.....	1,600	700	941	1.06	1.21	57,900
September.....	1,430	640	1,150	1.28	1.43	68,400

Monthly discharge of Middle Fork of Flathead River at Belton, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1920-21						
October.....	1,550	1,010	1,330	1.48	1.71	81,800
November.....	1,010	880	985	1.09	1.22	58,600
December.....	880	430	711	.790	.91	43,700
January.....	452	320	413	.459	.53	25,400
February.....	1,230	260	406	.451	.47	22,500
March.....	1,550	475	1,160	1.29	1.49	71,300
April.....	6,610	1,390	3,540	3.93	4.38	211,000
May.....	21,500	2,510	10,600	11.8	13.60	652,000
June.....	14,200	10,000	12,300	13.7	15.29	732,000
July.....	10,000	1,430	4,000	4.44	5.12	246,000
August.....	1,430	760	1,070	1.19	1.37	65,800
September.....	700	475	557	.619	.69	33,100
The year.....	21,500	260	3,100	3.44	46.78	2,240,000
1921-22						
October.....	580	430	491	.546	.63	30,200
November.....	430	320	392	.436	.49	23,300
December.....	6,610	355	1,200	1.33	1.53	73,800
January.....	1,080	475	892	.991	1.14	54,800
February 1-20.....	640	320	398	.442	.33	15,800
March 8-31.....	580	122	233	.259	.23	11,100
April.....	1,390	152	584	.649	.72	34,800
May.....	19,200	1,550	10,400	11.6	13.37	640,000
June.....	22,100	3,610	10,400	11.6	12.94	619,000
July.....	3,470	1,160	2,030	2.26	2.61	125,000
August.....	1,010	430	708	.787	.91	43,500
September.....	640	320	486	.540	.60	28,900
1922-23						
October.....	320	290	318	.353	.41	19,600
November.....	410	320	347	.386	.43	20,600
December 1-13.....	410	320	370	.411	.20	9,540
January.....	-	-	-	-	-	-
February.....	-	-	-	-	-	-
March 22-31.....	1,010	320	532	.591	.22	10,600
April.....	7,470	1,080	2,740	3.04	3.39	163,000
May.....	16,500	5,380	11,200	12.4	14.30	689,000
June.....	15,000	6,610	11,200	12.4	13.83	666,000
July.....	6,400	1,640	2,620	2.91	3.36	161,000
August.....	1,550	515	746	.829	.96	45,900
September.....	700	390	566	.624	.70	33,700
1929						
February 24-28.....	165	120	145	.161	.27	1,440
March.....	950	115	348	.387	.45	21,400
April.....	5,470	485	1,470	1.65	1.82	87,500
May.....	17,600	3,170	7,470	8.30	9.57	459,000
June.....	13,300	3,170	6,240	6.93	7.73	371,000
July.....	3,030	880	1,610	1.79	2.08	99,000
August.....	880	524	642	.713	.82	39,500
September.....	547	309	397	.442	.49	23,600
The period.....	-	-	-	-	-	1,100,000
1929-30						
October.....	330	265	299	.332	.38	18,400
November.....	280	175	240	.267	.30	14,300
December.....	-	-	218	.242	.28	13,400
January.....	-	-	211	.254	.27	13,000
February.....	1,080	-	443	.492	.51	24,600
March.....	729	330	424	.471	.54	26,100
April.....	10,300	701	6,240	6.93	7.73	371,000
May.....	9,430	3,590	6,010	6.68	7.70	370,000
June.....	7,660	2,400	4,630	5.37	5.99	287,000
July.....	2,400	880	1,470	1.63	1.88	90,400
August.....	880	500	659	.732	.84	40,500
September.....	647	432	516	.573	.64	30,700
The year.....	10,300	-	1,800	2.00	27.06	1,300,000

## Monthly discharge of Middle Fork of Flathead River at Belton, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1930-31</b>						
October.....	1,010	477	644	0.716	0.83	39,600
November.....	818	454	611	.679	.76	36,400
December.....	524	285	397	.441	.51	24,400
January.....	595	238	351	.390	.46	21,600
February.....	622	389	495	.551	.57	27,500
March.....	1,010	349	619	.688	.79	38,100
April.....	5,470	758	2,180	2.42	2.70	130,000
May.....	16,000	3,730	7,540	8.38	9.66	464,000
June.....	6,600	1,560	3,280	3.64	4.08	195,000
July.....	1,380	701	1,010	1.12	1.29	62,100
August.....	818	389	547	.608	.70	33,600
September.....	758	368	558	.620	.69	33,200
The year.....	16,000	238	1,530	1.70	23.02	1,110,000
<b>1931-32</b>						
October.....	547	368	420	.467	.54	25,800
November.....	1,080	349	577	.641	.72	34,300
December.....	410	295	351	.390	.45	21,600
January.....	350	238	287	.319	.37	17,600
February.....	7,010	265	862	.958	1.03	49,600
March.....	3,730	880	1,300	1.44	1.66	79,900
April.....	6,020	1,580	3,510	3.90	4.35	209,000
May.....	25,200	3,510	10,300	11.40	13.14	633,000
June.....	11,600	4,960	7,880	8.76	9.77	469,000
July.....	5,130	1,300	2,480	2.76	3.18	152,000
August.....	1,150	647	863	.958	1.10	53,100
September.....	758	368	502	.558	.62	29,900
The year.....	25,200	238	2,440	2.71	36.93	1,770,000
<b>1932-33</b>						
October.....	818	350	538	.598	.69	33,100
November.....	2,770	622	1,160	1.29	1.44	69,000
December.....	2,640	596	1,070	1.19	1.37	65,800
January.....	758	331	512	.569	.65	31,500
February.....	476	226	356	.395	.41	19,800
March.....	647	331	429	.477	.55	26,400
April.....	11,400	647	2,670	2.97	3.31	159,000
May.....	19,400	4,180	7,700	8.65	9.86	473,000
June.....	23,400	7,630	15,200	16.9	18.74	904,000
The period.....	-	-	-	-	-	1,780,000

## Yearly discharge of Middle Fork of Flathead River at Belton, Mont.

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1911.....	2,480	2.76	37.42	1,800,000	2,310	2.57	34.89	1,675,000
1912.....	2,060	2.29	31.08	1,490,000	2,090	2.32	31.55	1,514,000
1916.....	3,380	3.76	51.07	2,450,000	3,350	3.72	50.58	2,429,000
1921.....	3,100	3.44	46.78	2,240,000	3,020	3.35	45.59	2,186,000
1930.....	1,800	2.00	27.06	1,300,000	1,870	2.08	28.20	1,354,000
1931.....	1,530	1.70	23.02	1,110,000	1,500	1.67	22.63	1,087,000
1932.....	2,440	2.71	36.93	1,770,000	2,560	2.84	38.72	1,861,000

## South Fork of Flathead River near Columbia Falls, Mont.

Location.- Water-stage recorder, lat. 48°22', long. 114°03', in NE¼ sec. 17, T. 30 N., R. 19 W., 2 miles upstream from mouth and 9 miles east of Columbia Falls. Datum of gage is 3,031.3 feet above mean sea level, datum of 1929. September 1910 to September 1916, a chain gage, and Apr. 23, 1923, to Sept. 30, 1928, a recorder, at site at highway bridge 1½ miles downstream.

Drainage area.- 1,640 square miles.

Records available.- September 1910 to September 1916, April 1923 to September 1938.

Extremes.- Maximum discharge observed, about 46,200 second-feet June 19, 1916 (gage height, 16.6 feet, site and datum then in use), from rating curve extended above 20,000 second-feet; minimum discharge, 206 second-feet Dec. 6, 1935 (gage height, 0.44 foot, ice on control).

Remarks.- No diversion or regulation above station.



## Monthly discharge of South Fork of Flathead River near Columbia Falls, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1911						
February.....	1,770	1,170	1,530	0.933	0.97	85,000
March.....	2,390	1,770	1,980	1.21	1.40	122,000
April.....	7,170	1,300	3,770	2.30	2.57	224,000
May.....	17,500	5,560	12,200	7.44	8.58	750,000
June.....	21,800	9,540	16,000	9.76	10.89	952,000
July.....	7,920	1,790	4,160	2.54	2.93	256,000
August.....	2,210	663	1,190	.726	.84	73,200
September.....	1,170	560	830	.506	.56	49,400
The period.....	-	-	-	-	-	2,510,000
1911-12						
October.....	1,520	940	1,130	.689	.79	69,500
November.....	2,040	860	1,380	.841	.94	82,100
April 7-30.....	6,410	2,760	5,030	3.07	2.74	239,000
May.....	14,100	4,780	10,900	6.65	7.68	670,000
June.....	16,000	10,700	12,500	7.62	8.50	744,000
July.....	10,500	1,420	4,900	2.99	3.45	301,000
August.....	1,570	735	1,090	.665	.77	67,000
September.....	2,210	930	1,610	.982	1.10	95,800
1912-13						
October.....	1,520	735	930	.567	.65	57,200
November.....	1,570	988	1,250	.762	.85	74,400
December.....	1,120	-	770	.470	.54	47,300
April 20-30.....	9,540	4,530	6,130	3.74	1.53	134,000
May.....	35,600	3,380	15,200	9.27	10.69	935,000
June.....	39,000	12,600	27,200	16.6	18.52	1,620,000
July.....	12,400	3,600	7,010	4.27	4.92	431,000
August.....	4,060	3,220	3,780	2.30	.265	232,000
1923						
April 13-30.....	8,320	2,020	4,960	3.02	2.04	177,000
May.....	20,900	4,860	11,600	7.07	8.15	713,000
June.....	20,000	6,850	11,400	6.95	7.75	678,000
July.....	6,490	1,730	3,530	2.15	2.48	217,000
August.....	1,670	826	1,230	.750	.86	75,600
September.....	788	417	601	.366	.41	35,800
1923-24						
October.....	779	345	568	.346	.40	34,900
November.....	660	551	564	.344	.38	33,600
December 1-7.....	622	551	569	.347	.09	7,900
March 6-31.....	760	551	632	.385	.37	32,600
April.....	5,900	544	2,800	1.71	1.91	167,000
May.....	24,400	7,650	15,200	9.27	10.69	935,000
June.....	12,600	4,680	8,330	5.08	5.67	496,000
July.....	4,480	1,270	2,410	1.47	1.70	148,000
August.....	1,240	518	908	.554	.64	55,800
September.....	481	432	453	.276	.31	27,000
1924-25						
October.....	985	392	553	.337	.38	34,000
November.....	1,330	704	913	.557	.62	54,500
December 1-8.....	731	713	726	.443	.13	11,500
April 8-20.....	21,100	10,000	14,400	8.78	4.24	371,000
May 25-31.....	22,300	17,700	20,100	12.3	3.20	279,000
June (15 days).....	16,000	6,480	11,300	6.89	3.84	336,000
July 1-27.....	8,260	2,310	4,070	2.48	2.49	218,000
August 15-31.....	3,280	1,200	1,860	1.13	.71	62,700
September (22 days).....	1,260	985	1,100	.671	.55	48,000
1925-26						
October.....	985	586	734	.448	.52	45,100
March 16-25.....	2,410	1,160	1,560	.951	.35	30,900
July 26-31.....	890	740	814	.496	.11	9,690
August 1-23.....	713	460	547	.333	.28	25,000
1926-27						
October 8-31.....	5,700	2,310	3,290	2.01	1.79	157,000
November 1-23.....	2,310	1,380	1,720	1.05	.90	78,000
April 8-19.....	1,440	1,260	1,330	.811	.36	31,700
May.....	26,400	5,450	12,800	7.80	8.99	787,000
June.....	36,400	11,700	22,100	13.5	15.06	1,320,000
July.....	12,300	2,520	6,200	3.78	4.36	381,000
August.....	2,520	1,060	1,580	.963	1.11	97,200
September.....	2,020	1,300	1,540	.939	1.05	91,600
1927-28						
October.....	4,730	2,720	3,380	2.06	2.38	208,000
November.....	4,600	2,530	3,380	2.06	2.30	201,000
December 1-8.....	6,010	3,010	4,650	2.48	.65	55,500
May.....	32,900	8,850	22,300	13.6	15.68	1,370,000
June.....	15,700	10,100	12,200	7.44	8.30	726,000
July.....	11,900	2,530	5,580	3.40	3.92	343,000
August.....	2,350	1,000	1,490	.909	1.05	91,800
September.....	965	567	715	.436	.49	42,500

## Monthly discharge of South Fork of Flathead River near Columbia Falls, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1928-29						
October.....	1,170	614	915	0.558	0.64	56,300
November.....	1,090	636	740	.451	.50	44,000
December.....	-	-	528	.322	.37	32,500
January.....	510	375	453	.276	.32	27,900
February.....	470	390	430	.262	.27	23,900
March.....	1,130	455	606	.369	.42	37,300
April.....	6,900	728	2,110	1.29	1.44	126,000
May.....	23,800	4,940	10,900	6.65	7.67	670,000
June.....	16,500	6,060	10,600	6.46	7.21	631,000
July.....	5,400	1,210	2,490	1.52	1.75	153,000
August.....	1,170	554	811	.494	.57	49,900
September.....	597	448	493	.301	.34	29,300
The year.....	23,800	375	2,600	1.58	21.50	1,880,000
1929-30						
October.....	547	408	445	.271	.31	27,400
November.....	455	292	392	.239	.27	23,300
December.....	-	-	372	.227	.26	22,900
January.....	-	258	309	.188	.22	19,000
February.....	846	289	538	.328	.34	29,900
March.....	1,340	243	470	.286	.33	28,900
April.....	14,600	1,550	8,490	5.13	5.78	505,000
May.....	13,500	5,890	9,180	5.60	6.46	564,000
June.....	11,200	3,360	6,830	4.16	4.64	406,000
July.....	3,110	973	1,860	1.13	1.30	114,000
August.....	936	542	690	.421	.49	42,400
September.....	686	488	558	.340	.38	33,200
The year.....	14,600	243	2,510	1.53	20.78	1,820,000
1930-31						
October.....	-	-	922	.562	.65	56,700
November.....	1,550	697	1,000	.609	.66	59,500
December.....	849	651	758	.462	.53	46,600
January.....	808	580	694	.425	.49	42,700
February.....	864	703	755	.460	.48	41,900
March.....	2,180	728	1,200	.752	.84	73,800
April.....	7,080	1,380	3,300	2.01	2.24	196,000
May.....	21,400	7,080	11,800	7.20	8.30	726,000
June.....	11,600	2,320	5,660	3.45	3.86	337,000
July.....	2,160	825	1,370	.835	.96	84,200
August.....	928	456	618	.377	.43	36,000
September.....	893	409	691	.421	.47	41,100
The year.....	21,400	409	2,410	1.47	19.92	1,740,000
1931-32						
October.....	766	509	615	.375	.43	37,800
November.....	1,270	450	820	.500	.56	48,800
December.....	1,150	498	788	.480	.55	46,500
January.....	759	374	552	.337	.39	33,900
February.....	6,060	379	1,440	.878	.95	82,800
March.....	4,120	1,660	2,130	1.30	1.50	131,000
April.....	9,340	2,480	5,480	3.34	3.73	326,000
May.....	29,100	5,560	14,500	8.84	10.19	892,000
June.....	17,200	7,620	12,300	7.50	8.37	732,000
July.....	6,900	1,570	3,480	2.12	2.44	214,000
August.....	1,520	893	1,140	.695	.80	70,100
September.....	999	570	719	.438	.49	42,800
The year.....	29,100	374	3,660	2.23	30.40	2,660,000
1932-33						
October.....	1,240	502	832	.507	.58	51,100
November.....	4,270	1,020	2,290	1.40	1.56	136,000
December.....	-	1,060	1,910	1.16	1.34	117,000
January.....	1,560	845	1,170	.713	.82	71,900
February.....	1,200	676	910	.554	.58	50,500
March.....	1,060	728	878	.535	.62	54,000
April.....	15,900	915	4,010	2.44	2.72	239,000
May.....	26,700	6,080	11,100	6.76	7.80	682,000
June.....	36,500	12,500	25,000	15.20	17.00	1,490,000
July 1-10.....	11,000	6,260	852	.519	.20	17,500
August.....	-	-	-	-	-	-
September 21-30.....	1,090	845	985	.600	.22	19,500

## Monthly discharge of South Fork of Flathead River near Columbia Falls, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1933-34</b>						
October.....	12,800	793	2,899	1.77	2.04	178,300
November.....	9,730	2,360	4,128	2.52	2.81	245,600
December.....	-	2,240	3,504	2.14	2.47	215,400
January.....	-	-	2,729	1.66	1.91	187,800
February.....	2,240	1,470	2,042	1.25	1.30	113,400
March.....	4,550	1,640	2,945	1.80	2.08	181,100
April.....	21,700	3,600	11,770	7.18	8.01	700,300
May.....	20,800	11,200	15,230	9.29	10.71	956,200
June.....	-	3,560	6,920	4.22	4.71	411,800
July.....	3,240	-	1,907	1.16	1.34	117,200
August.....	-	584	775	.475	.55	47,650
September.....	596	500	539	.529	.37	32,050
The year.....	21,700	500	4,623	2.82	38.30	3,347,000
<b>1934-35</b>						
October.....	3,120	461	879	.536	.62	54,070
November.....	3,600	1,280	2,064	1.26	1.41	122,800
December.....	1,280	686	997	.608	.70	61,290
January.....	1,980	505	924	.563	.65	56,790
February.....	1,400	805	1,029	.627	.65	57,130
March.....	1,700	935	1,280	.780	.90	78,730
April.....	6,800	772	3,058	1.86	2.08	181,900
May.....	26,100	5,580	12,750	7.77	8.96	784,200
June.....	20,600	6,440	11,990	7.31	8.16	713,500
July.....	6,440	1,480	3,213	1.96	2.26	197,600
August.....	1,400	-	964	.588	.68	59,290
September.....	-	-	574	.350	.39	34,140
The year.....	26,100	461	3,317	2.02	27.46	2,401,000
<b>1935-36</b>						
October.....	488	337	451	.275	.32	27,750
November.....	450	355	396	.241	.27	23,550
December.....	405	209	313	.191	.22	19,270
January.....	-	-	346	.211	.24	21,270
February.....	-	-	349	.213	.23	20,080
March.....	584	319	474	.289	.33	29,120
April.....	16,100	324	7,222	4.40	4.91	429,700
May.....	30,000	10,500	17,460	10.6	12.22	1,074,000
June.....	20,800	2,940	7,140	4.35	4.85	424,900
July.....	2,700	919	1,560	.951	1.10	95,930
August.....	903	505	676	.412	.48	41,560
September.....	608	430	498	.304	.34	29,620
The year.....	30,000	209	3,081	1.88	25.51	2,237,000
<b>1936-37</b>						
October.....	505	-	432	.263	.30	26,580
November.....	-	-	361	.220	.25	21,510
December.....	-	-	410	.250	.29	25,230
January.....	-	-	266	.162	.19	16,350
February.....	-	-	302	.184	.19	16,750
March.....	-	-	402	.245	.28	24,710
April.....	5,950	-	2,020	1.23	1.37	120,200
May.....	16,400	5,470	11,360	6.93	7.99	698,300
June.....	11,700	5,150	8,780	5.35	5.97	522,500
July.....	5,000	1,210	2,296	1.40	1.61	141,200
August.....	1,410	570	873	.532	.61	53,680
September.....	575	444	504	.507	.34	29,970
The year.....	16,400	-	2,344	1.43	19.39	1,697,000
<b>1937-38</b>						
October.....	674	480	551	.336	.39	33,850
November.....	1,060	652	824	.502	.56	49,030
December.....	1,300	692	961	.586	.68	59,100
January.....	1,340	756	957	.584	.67	58,840
February.....	1,200	848	946	.577	.60	52,550
March.....	1,300	674	939	.573	.66	57,740
April.....	18,100	915	5,312	3.24	3.62	316,100
May.....	22,800	5,420	11,620	7.09	8.17	714,600
June.....	17,300	5,420	10,470	6.38	7.12	623,100
July.....	4,960	1,200	2,622	1.60	1.84	161,200
August.....	1,160	652	893	.545	.63	54,920
September.....	668	471	568	.346	.39	33,780
The year.....	22,800	471	3,059	1.87	25.33	2,215,000

Yearly discharge of South Fork of Flathead River near Columbia Falls, Mont.

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1929.....	2,600	1.58	21.50	1,880,000	2,520	1.53	20.83	1,822,000
1930.....	2,510	1.53	20.78	1,820,000	2,630	1.60	21.80	1,905,000
1931.....	2,410	1.47	19.92	1,740,000	2,370	1.45	19.60	1,716,000
1932.....	3,660	2.23	30.40	2,660,000	3,900	2.38	32.34	2,829,000
1933.....	4,623	2.82	38.30	3,347,000	4,069	2.48	33.71	2,946,000
1934.....	3,317	2.02	27.46	2,401,000	3,086	1.88	25.54	2,234,000
1935.....	3,081	1.88	25.51	2,237,000	3,085	1.88	25.54	2,240,000
1937.....	2,344	.43	19.39	1,697,000	2,439	1.49	20.18	1,766,000
1938.....	3,059	1.87	25.33	2,215,000	-	-	-	-

## Stillwater River near Whitefish, Mont.

Location.- Water-stage recorder, lat. 48°19', long. 114°23', in SW $\frac{1}{4}$  sec. 34, T. 30.N., R. 22.W., 600 feet downstream from highway bridge 7 miles southwest of Whitefish, and 10 miles upstream from Whitefish Creek.

Records available.- November 1930 to September 1938.

Extremes.- Maximum discharge, 2,680 second-feet Apr. 28, 1934 (gage height, 14.47 feet); minimum, 55 second-feet (estimated) Jan. 20-22, 1937, ice present.

Remarks.- Some regulation for logging operations during summer. No diversion.

## Monthly discharge of Stillwater River near Whitefish, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1930-31				
November 8-30.....	92	64	78.6	3,590
December.....	90	61	73.6	4,530
January.....	104	62	78.7	4,840
February.....	131	82	102	5,660
March.....	206	98	143	8,790
April.....	498	186	366	21,800
May.....	825	464	663	40,800
June.....	464	225	331	19,700
July.....	218	100	155	9,530
August.....	98	62	76.1	4,680
September.....	72	58	67.0	3,990
The period.....	-	-	-	128,000
1931-32				
October.....	66	62	64.0	3,940
November.....	81	62	70.2	4,180
December.....	87	60	73.1	4,490
January.....	102	72	87.6	5,390
February.....	118	63	74.5	4,290
March.....	244	87	141	8,670
April.....	1,160	225	720	42,800
May.....	1,910	1,120	1,610	99,000
June.....	1,760	805	1,290	76,800
July.....	785	251	454	27,900
August.....	238	162	194	11,900
September.....	162	100	126	7,500
The year.....	1,910	60	409	297,000
1932-33				
October.....	130	102	116	7,130
November.....	192	131	160	9,520
December.....	174	98	121	7,440
January.....	146	100	122	7,500
February.....	120	89	103	5,720
March.....	143	112	121	7,440
April.....	1,550	156	466	27,700
May.....	1,870	1,280	1,570	96,500
June.....	1,930	905	1,570	93,400
July.....	885	264	497	30,600
August.....	264	151	203	12,500
September.....	174	140	155	9,220
The year.....	1,930	89	435	315,000
1933-34				
October.....	321	121	165	10,130
November.....	398	218	291	17,340
December.....	-	192	295	18,130
January.....	-	306	495	30,410
February.....	321	-	274	15,240
March.....	905	-	513	31,530
April.....	2,680	965	1,855	110,400
May.....	2,520	1,000	1,556	95,660
June.....	985	430	651	38,730
July.....	414	162	265	16,290
August.....	162	98	120	7,360
September.....	99	88	93.5	5,570
The year.....	2,680	88	548	396,800

## Monthly discharge of Stillwater River near Whitefish, Mont.--Continued

Monthly discharge of Stillwater River near Whitefish, Mont.--Continued				
Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1934-35				
October.....	180	96	115.	7,050
November.....	225	151	188	11,120
December.....	168	123	137	8,390
January.....	136	119	127	7,800
February.....	140	125	130	7,210
March.....	156	112	138	8,460
April.....	1,260	113	434	25,850
May.....	2,220	1,260	1,711	105,200
June.....	1,750	728	1,154	68,670
July.....	709	264	470	28,880
August.....	258	146	186	11,440
September.....	146	94	115	6,820
The year.....	2,220	94	410	296,900
1935-36				
October.....	103	80	96.0	5,900
November.....	117	88	98.0	5,830
December.....	104	75	90.3	5,550
January.....	110	75	94.4	5,810
February.....	-	-	66.4	3,820
March.....	93	79	85.3	5,240
April.....	1,750	71	657	39,100
May.....	1,620	785	1,196	73,520
June.....	785	328	525	31,260
July.....	314	120	189	11,600
August.....	117	73	89.7	5,510
September.....	84	70	76.5	4,550
The year.....	1,750	-	272	197,700
1936-37				
October.....	74	69	71.6	4,400
November.....	77	63	68.6	4,080
December.....	129	58	75.5	4,640
January.....	70	55	60.8	3,740
February.....	87	60	74.1	4,110
March.....	87	70	78.0	4,790
April.....	566	83	214	12,730
May.....	1,240	583	1,045	64,260
June.....	985	498	714	42,490
July.....	464	162	274	16,820
August.....	168	92	130	7,970
September.....	91	75	81.7	4,860
The year.....	1,240	55	242	174,900
1937-38				
October.....	87	59	77.8	4,790
November.....	107	82	94.1	5,600
December.....	112	73	94.2	5,790
January.....	102	79	92.7	5,700
February.....	-	-	94.3	5,240
March.....	-	-	107	6,570
April.....	986	102	525	31,240
May.....	1,260	929	1,070	65,780
June.....	1,220	546	776	46,170
July.....	512	203	359	22,060
August.....	197	120	155	9,540
September.....	134	103	116	6,910
The year.....	1,260	59	297	215,400

## Yearly discharge of Stillwater River near Whitefish, Mont.

Year	Year ending Sept. 30		Calendar year	
	Mean discharge in second-feet	Run-off in acre-feet	Mean discharge in second-feet	Run-off in acre-feet
1931.....	-	-	183	132,400
1932.....	409	297,000	425	308,300
1933.....	435	315,000	464	336,200
1934.....	548	396,800	522	377,800
1935.....	410	296,900	397	287,600
1936.....	272	197,700	267	193,500
1937.....	242	174,900	246	178,000
1938.....	297	215,400	-	-

## Stillwater River near Kalispell, Mont.

Location.- Staff gage, lat. 48°17', long. 114°20', in NE $\frac{1}{4}$  sec. 14, T. 29 N., R. 22 W., on highway bridge 5 miles north of Kalispell.

Records available.- April to August 1922, June 1928 to September 1930.

Extremes.- Maximum discharge observed, 2,750 second-feet May 22, 1922 (gage height, 10.50 feet); minimum observed, 26 second-feet Nov. 11, 1930 (gage height, 0.30 feet).

Remarks.- Partial regulation for logging operations during summer. No diversion.

## Monthly discharge of Stillwater River near Kalispell, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1922				
April 27-30.....	338	234	261	2,070
May.....	2,750	334	1,340	82,400
June.....	1,860	370	990	58,900
July.....	647	220	398	24,500
August.....	230	184	208	12,800
1928				
June 25-30.....	1,600	908	1,240	14,800
July.....	1,190	238	707	43,500
August.....	362	142	246	15,100
September.....	249	52	113	6,720
The period.....	-	-	-	80,100
1928-29				
October.....	128	68	93.5	5,750
November.....	238	55	115	6,840
March 20-31.....	146	90	105	2,500
April.....	471	116	186	11,100
May.....	1,160	471	827	50,800
June.....	1,040	405	798	47,500
July.....	581	102	261	16,000
August.....	261	85	131	8,060
September.....	108	35	64.7	3,850
1929-30				
October.....	300	68	112	6,890
November.....	154	31	72.5	4,310
December.....	105	53	82.4	5,070
January.....	96	35	52.4	3,220
February.....	97	58	74.5	4,140
March.....	120	55	84.9	5,220
April.....	658	112	257	15,300
May.....	1,060	305	570	35,000
June.....	1,340	264	618	36,800
July.....	284	84	187	11,500
August.....	135	73	98.1	6,030
September.....	120	69	87.0	5,180
The year.....	1,340	31	192	139,000
1930				
October.....	112	90	101	6,210
November 1-7.....	-	-	106	1,470

## Logan Creek at Tally Lake, near Whitefish, Mont.

Location.- Staff gage, lat.  $48^{\circ}27'$ , long.  $114^{\circ}34'$ , in NW $\frac{1}{4}$  sec. 17, T. 31 N., R. 23 W., about 2 $\frac{1}{2}$  miles north of Tally Lake and 10 miles west of Whitefish. August 1931 to September 1934, staff gage at site 2 $\frac{1}{2}$  miles upstream.

Records available.- August 1931 to September 1934, April 1935 to September 1938.

Extremes.- Maximum gage height, 7.22 feet May 28, 29, 1933 (discharge not determined); minimum discharge, 0.8 second-foot Sept. 6, 1931.

Remarks.- No diversion. Natural storage in Tally Lake.

## Monthly discharge of Logan Creek at Tally Lake near Whitefish, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1931				
August 20-31.....	3.5	2.2	2.92	69
September.....	7.4	1.2	4.05	241
1931-32				
October.....	10.8	5.4	7.80	480
November.....	22.2	10.3	15.6	928
December 1-20.....	14.8	10.3	12.2	484
March 16-31.....	29	19.0	24.2	768
April 1-16.....	203	30	75.1	2,380
July 7-31.....	156	27	61.5	3,050
August.....	25.4	16.2	20.5	1,260
September.....	19.0	10.3	14.4	857

## Monthly discharge of Logan Creek at Tally Lake near Whitefish, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1932-33				
October.....	24.6	12.7	19.4	1,190
November.....	41	23.8	31.5	1,870
December.....	40	18.3	24.5	1,510
January.....	27.0	19.8	23.1	1,420
February.....	21.4	15.5	18.6	1,030
March.....	23.8	19.0	20.7	1,270
April 1-26.....	206	23.8	54.4	2,810
The period.....	-	-	-	11,100
1934				
May 18-31.....	431	203	296	8,220
June.....	216	67	136	8,080
July.....	80	18.3	41.5	2,550
August.....	16.9	9.1	11.6	711
September 1-15.....	9.1	9.1	9.10	271
The period.....	-	-	-	19,830
1936				
May.....	680	142	400	24,570
June.....	154	45	83.4	4,960
July.....	43	9.8	23.7	1,460
August.....	9.4	5.1	6.49	399
September.....	9.8	5.1	8.52	507
The period.....	-	-	-	31,900
1936-37				
October.....	13	9.4	11.5	708
November.....	14	12	12.9	770
December.....	23	15	15.6	960
January.....	-	-	7.37	453
February.....	-	-	9.66	537
March.....	16	-	13.8	849
April.....	149	15	43.3	2,580
May.....	515	160	344	21,170
June.....	200	102	150	8,910
July.....	98	25	50.0	3,070
August.....	24	5.8	14.2	873
September.....	5.5	4.5	5.01	298
The year.....	515	-	56.9	41,180
1937-38				
October.....	14	5.5	11.8	724
November.....	19	14	16.4	974
December.....	24	16	19.2	1,180
January.....	24	18	20.0	1,230
February.....	19	16	17.9	996
March.....	25	17	19.2	1,180
April.....	360	25	153	9,090
May.....	590	298	383	23,540
June.....	280	110	149	8,870
July.....	106	24	62.8	3,860
August.....	21	7.8	11.8	725
September.....	19	7.4	14.4	858
The year.....	590	5.5	73.5	53,230

## Logan Creek near Whitefish, Mont.

Location.-- Staff gage, lat. 48°29', long. 114°33', in NE $\frac{1}{4}$  sec. 4, T. 31 N., R. 33 W., just upstream from Good Creek, 20 miles west of Whitefish.

Records available.-- April to September 1931.

Extremes.-- Maximum discharge observed, 240 second-feet May 8 (gage height, 2.48 feet); minimum observed, 1.2 second-feet, Sept. 4-5 (gage height, 0.34 foot).

Remarks.-- No diversion. Natural storage at Tally Lake 5 miles upstream.

## Monthly discharge of Logan Creek near Whitefish, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1931				
April 17-30.....	188	132	157	4,360
May.....	240	100	168	10,300
June.....	87	35	53.6	3,190
July.....	34	8.7	22.9	1,410
August.....	12	2.0	5.31	326
September.....	7.4	1.2	4.02	239
The period.....	-	-	-	19,800

## Whitefish Creek near Kalispell, Mont.

Location.- Water-stage recorder, lat. 48°19', long. 114°16', in SW $\frac{1}{4}$  sec. 34, T. 30 N., R. 21 W., 8 miles north of Kalispell and 8 miles upstream from mouth. Datum of gage is 2,969.7 feet above mean sea level, datum of 1929.

Records available.- November to December 1906 (gage heights only), July 1928 to September 1938.

Extremes.- Maximum discharge, 1,260 second-feet June 3, 1932 (gage height, 4.26 feet); minimum, 4.5 second-feet Oct. 18, 1934 (gage height, 0.83 foot).

Remarks.- No diversion. Some regulation at Whitefish Lake.

## Monthly discharge of Whitefish Creek near Kalispell, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1928				
July 14-31.....	460	265	350	12,500
August.....	250	116	145	8,920
September.....	126	84	102	6,070
The period.....	-	-	-	17,500
1928-29				
October.....	102	49	76.0	*4,670
November.....	93	70	82.1	*4,890
March 15-31.....	116	63	81.4	*2,740
April.....	178	63	89.0	*5,300
May.....	637	178	397	*24,400
June.....	684	165	563	*33,500
July.....	368	105	213	*13,100
August.....	102	22	39.7	*2,440
September.....	76	22	54.3	*3,230
1929-30				
October.....	63	7.2	19.7	1,210
November.....	68	14	29.2	1,740
December.....	59	26	44.4	2,730
January.....	56	16	35.9	2,210
February.....	70	26	45.0	2,500
March.....	116	22	58.6	3,600
April.....	347	41	141	8,390
May.....	368	88	295	18,100
June.....	827	88	406	24,200
July.....	212	88	128	7,870
August.....	102	52	61.5	3,780
September.....	52	19	39.1	2,330
The year.....	827	7.2	106	78,700
1930-31				
October.....	17	7.2	8.36	514
November.....	140	9.8	29.8	1,770
December.....	49	35	42.6	2,620
January.....	54	28	40.8	2,510
February.....	82	23	41.5	2,300
March.....	140	66	95.3	5,860
April.....	227	122	163	9,700
May.....	643	248	463	28,500
June.....	453	234	326	19,400
July.....	230	102	148	9,100
August.....	103	15	29.5	1,810
September.....	34	15	23.9	1,420
The year.....	643	7.2	118	85,500
1931-32				
October.....	123	27	68.6	4,220
November.....	101	59	78.1	4,650
December.....	-	-	56.6	3,480
January.....	-	-	71.6	4,400
February.....	-	-	64.8	3,730
March.....	117	-	78.1	4,800
April.....	472	96	275	16,400
May.....	1,070	420	799	49,100
June.....	1,230	574	914	54,400
July.....	533	143	318	19,600
August.....	137	91	117	7,190
September.....	143	79	102	6,070
The year.....	1,230	27	245	178,000

\* Previously published figure is erroneous.



## Monthly discharge of Whitefish Creek near Kalispell, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1932-33				
October.....	94	29	54.8	3,370
November.....	174	26	59.7	3,550
December.....	178	35	86.2	5,300
January.....	-	-	86	5,290
February.....	125	24	67	3,720
March.....	-	59	105	6,460
April.....	408	114	186	11,100
May.....	721	397	504	31,000
June.....	1,140	764	970	57,700
July.....	742	200	379	23,300
August.....	207	128	169	10,400
September.....	143	109	119	7,080
The year.....	1,140	24	232	168,000
1933-34				
October.....	152	91	110	6,750
November.....	217	155	177	10,520
December.....	306	140	231	14,220
January.....	256	177	209	12,870
February.....	177	43	157	8,720
March.....	340	49	151	9,300
April.....	960	175	549	32,660
May.....	982	806	868	53,400
June.....	850	171	551	32,760
July.....	389	45	222	13,670
August.....	149	14	64.5	3,970
September.....	168	7.5	59.3	3,530
The year.....	982	7.5	280	202,400
1934-35				
October.....	106	5.0	40.0	2,460
November.....	214	11	117	6,930
December.....	167	17	101	6,200
January.....	157	35	74.2	4,560
February.....	167	35	85.1	4,720
March.....	93	68	81.2	4,990
April.....	268	78	144	8,560
May.....	856	348	566	34,820
June.....	905	668	823	48,940
July.....	622	235	393	24,180
August.....	228	17	99.8	6,140
September.....	210	9.8	91.8	5,460
The year.....	905	5.0	218	158,000
1935-36				
October.....	164	8.0	81.6	5,020
November.....	164	7.5	42.2	2,510
December.....	59	9.8	23.0	1,410
January.....	-	-	29.7	1,820
February.....	-	-	25.5	1,470
March.....	407	93	212	13,050
April.....	530	80	249	14,790
May.....	856	547	693	42,590
June.....	690	187	391	23,250
July.....	174	88	120	7,350
August.....	88	20	53.2	3,270
September.....	157	44	82.7	4,920
The year.....	856	7.5	167	121,400
1936-37				
October.....	100	25	46.2	2,840
November.....	42	13	20.1	1,200
December.....	52	14	32.5	2,000
January.....	-	-	26.5	1,630
February.....	-	-	37.9	2,100
March.....	285	-	137	8,410
April.....	194	23	113	6,710
May.....	614	135	368	23,840
June.....	661	389	520	30,960
July.....	385	106	235	14,440
August.....	111	84	98.3	6,040
September.....	81	25	62.0	3,690
The year.....	661	13	143	103,900

Monthly discharge of Whitefish Creek near Kalispell, Mont.---Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1937-38				
October.....	40	5.2	24.7	1,520
November.....	144	5.2	95.1	5,660
December.....	81	-	32.6	2,010
January.....	19	10	13.9	853
February.....	-	-	15.5	863
March.....	86	-	63.0	3,880
April.....	312	67	158	9,370
May.....	758	324	496	30,500
June.....	758	452	660	39,300
July.....	435	132	226	13,870
August.....	205	24	118	7,270
September.....	255	18	111	6,610
The year.....	758	5.2	168	121,700

Yearly discharge of Whitefish Creek near Kalispell, Mont.

Year	Year ending Sept. 30		Calendar year	
	Mean discharge in second-feet	Run-off in acre-feet	Mean discharge in second-feet	Run-off in acre-feet
1930.....	106	78,700	108	77,900
1931.....	118	85,500	128	93,000
1932.....	245	178,000	245	178,000
1933.....	232	168,000	259	188,000
1934.....	280	202,400	258	186,500
1935.....	218	158,000	209	151,500
1936.....	167	121,400	163	118,600
1937.....	143	103,900	148	107,000
1938.....	168	121,700	-	-

Ashley Creek near Kila, Mont.

Location.- Staff gage, lat. 48°10', long. 114°36', in sec. 25, T. 28 N., R. 24 W., 1½ miles downstream from outlet of Ashley Lake and 7 miles northwest of Kila.

Records available.- July to December 1916.

Extremes.- Maximum discharge observed, 20.2 second-feet Aug. 9 (gage height, 1.82 feet); minimum observed, 4.2 second-feet Sept. 29 (gage height, 1.14 feet).

Remarks.- No diversion. Flood water stored in Ashley Lake for release during irrigation season.

Monthly discharge of Ashley Creek near Kila, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1916				
July 23-31.....	18	17	17.9	320
August.....	20	14	15.7	965
September.....	16	7.8	14.2	845
October.....	20	15	17.4	1,070
November.....	19	12	15.1	898
December 1-19.....	18	15	16.9	637
The period.....	-	-	-	4,740

Ashley Creek near Kalispell, Mont.

Location.- Wire-weight gage, lat. 48°11', long. 114°24', in SE¼ sec. 16, T. 28 N., R. 22 W., 4 miles west of Kalispell.

Records available.- April 1931 to March 1933, April 1934 to September 1938.

Extremes.- Maximum discharge observed, 285 second-feet Apr. 26, 1934 (gage height, 9.30 feet); no flow at times.

Remarks.- Some diversions. Natural storage in Smith Lake.

Monthly discharge of Ashley Creek near Kalispell, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1931				
April 20-30.....	8.1	1.0	3.99	87
May.....	44	12	26.7	1,640
June.....	29	5.9	17.1	1,020
July.....	25	3.2	11.7	720
August.....	5.9	0	.94	58
September.....	0	0	0	0
The period.....	-	-	-	3,520
1931-32				
October.....	0	0	0	0
November.....	0	0	0	0
December.....	0	0	0	0
January.....	0	0	0	0
February.....	0	0	0	0
March.....	-	0	7.1	437
April.....	86	19	50.7	3,020
May.....	124	68	97.1	5,970
June.....	68	12	40.2	2,390
July.....	18	6.4	11.9	732
August.....	12	1.1	4.49	276
September.....	6.1	1.1	2.70	161
The year.....	-	-	-	13,000
1932-33				
October.....	13.8	.2	3.32	204
November.....	16.8	1.1	6.72	400
December.....	18.3	0	1.28	78
January.....	0	0	0	0
February.....	0	0	0	0
March 1-17.....	0	0	0	0
The period.....	-	-	-	682
1934				
May 19-31.....	178	99	135	3,480
June.....	94	32	63.6	3,790
July.....	60	16	35.6	2,190
August.....	40	29	35.9	2,210
September.....	32	21	26.7	1,590
The period.....	-	-	-	13,260
1934-35				
October.....	24	7.4	15.8	971
November.....	26	5.0	15.6	928
December.....	18	7.0	12.7	778
January.....	49	7	21.2	1,300
February.....	40	11	19.6	1,090
March.....	40	11	23.0	1,420
April.....	119	21	58.0	3,450
May.....	166	109	130	7,990
June.....	124	34	58.1	3,460
July.....	40	34	36.9	2,270
August.....	35	3.5	14.8	907
September.....	20	8.2	15.0	894
The year.....	166	3.5	35.2	25,460
1935-36				
October.....	14	5.5	10.1	621
November.....	9.5	-	6.95	413
December.....	9.5	-	5.98	368
January.....	-	.8	4.89	300
February.....	-	-	1.15	66
March.....	53	-	18.6	1,140
April.....	148	-	66.6	3,960
May.....	154	33	104	6,370
June.....	53	26	42.2	2,510
July.....	40	3.2	18.0	1,110
August.....	3.2	0	1.33	82
September.....	5.2	.5	3.01	179
The year.....	154	0	23.6	17,120

Monthly discharge of Ashley Creek near Kalispell, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1936-37				
October.....	4.0	0.5	2.71	167
November.....	2.4	.1	1.68	100
December.....	-	-	1.90	117
January.....	-	-	1.50	92
February.....	1.4	.5	.98	54
March.....	20	1.0	3.94	242
April.....	56	24	35.2	2,090
May.....	53	20	35.0	2,150
June.....	49	36	42.5	2,530
July.....	37	28	32.4	1,990
August.....	26	.9	8.27	509
September.....	2.0	0	.14	8.1
The year.....	56	0	13.9	10,050
1937-38				
October.....	3.7	0	1.02	63
November.....	4.0	0	.99	59
December.....	-	-	2.5	184
January.....	-	-	3.0	184
February.....	-	-	2.0	111
March.....	37	-	8.90	547
April.....	37	18	32.4	1,930
May.....	60	23	44.8	2,760
June.....	60	32	39.5	2,580
July.....	31	14	21.7	1,330
August.....	14	7.4	9.85	606
September.....	13	6.4	9.65	574
The year.....	60	0	14.7	10,670

## Swan River near Big Fork, Mont.

Location.- Water-stage recorder, lat. 48°01', long. 113°59', in NW¼ sec. 14, T. 26 N., R. 19 W., at outlet of Swan Lake, 7 miles southeast of village of Big Fork.

Drainage area.- 647 square miles.

Records available.- April 1922 to September 1938. October 1910 to May 1911 (gage heights only) at site 2 miles upstream from Swan Lake.

Extremes.- Minimum discharge, 8,280 second-feet June 18, 1933 (gage height, 7.00 feet); minimum, 85 second-feet Jan. 26-29, 1930 (gage height, 0.04 foot).

Remarks.- No diversion. Natural storage in Swan Lake.

Monthly discharge of Swan River near Big Fork, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1922						
April 28-30.....	1,700	1,540	1,640	2.53	0.28	9,760
May.....	4,530	1,840	2,910	4.50	5.19	179,000
June.....	5,440	2,040	3,770	5.83	6.50	224,000
July.....	1,980	763	1,240	1.92	2.21	76,200
August.....	768	526	646	.998	1.15	39,200
September.....	562	424	498	.769	.86	29,600
1922-23						
October.....	424	374	397	.614	.71	24,400
November.....	393	345	366	.566	.63	21,800
December.....	490	318	358	.553	.64	22,000
January.....	562	364	478	.739	.85	29,400
February.....	354	268	320	.495	.62	17,800
March.....	414	268	280	.433	.50	17,200
April.....	1,720	468	1,090	1.68	1.87	64,900
May.....	4,000	1,490	2,520	3.89	4.48	155,000
June.....	4,680	2,440	3,120	4.82	5.38	186,000
July.....	2,420	933	1,600	2.47	2.85	98,400
August.....	924	569	691	1.05	1.21	41,900
September.....	556	378	455	.672	.75	-
The year.....	4,680	268	973	1.50	20.39	705,000

a Partly estimated.

Monthly discharge of Swan River near Big Fork, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1923-24						
October.....	430	340	397	0.614	0.71	24,200
November.....	474	340	372	.575	.64	22,100
December.....	451	331	385	.595	.69	23,700
January.....	331	280	300	.464	.53	18,400
February.....	520	314	435	.672	.72	25,000
March.....	474	409	435	.672	.77	26,700
April.....	1,600	419	1,120	1.73	1.93	66,600
May.....	5,350	1,660	3,660	5.66	6.52	225,000
June.....	2,890	1,650	2,270	3.51	3.92	135,000
July.....	1,600	634	1,050	1.62	1.87	64,600
August.....	608	443	517	.799	.92	31,800
September.....	443	360	389	.601	.67	23,100
The year.....	5,330	280	946	1.46	19.89	686,000
1924-25						
October.....	433	352	381	.589	.68	23,400
November.....	620	424	517	.799	.89	30,800
December 1-13.....	505	414	449	.694	.34	11,600
March 22-31.....	1,490	706	980	1.51	.56	19,400
April.....	4,560	1,670	3,230	4.99	5.57	192,000
May.....	6,660	2,280	4,470	6.91	7.97	275,000
June.....	4,620	2,750	3,380	5.22	5.82	201,000
July.....	3,100	1,020	1,700	2.63	3.03	105,000
August.....	1,110	722	885	1.37	1.58	54,400
September.....	806	634	716	1.11	1.24	42,600
1925-26						
October.....	655	505	562	.869	1.00	34,600
November.....	560	479	512	.791	.88	30,500
December.....	770	505	595	.920	1.06	36,600
March 21-31.....	1,150	770	991	1.53	.63	21,600
April.....	3,860	690	1,870	2.89	3.22	111,000
May.....	3,700	1,780	2,590	4.00	4.61	159,000
June.....	2,250	1,200	1,680	2.60	2.90	100,000
July.....	1,300	505	810	1.25	1.44	49,800
August.....	479	404	442	.683	.79	27,200
September.....	655	532	603	.932	1.04	35,900
1926-27						
October.....	1,560	568	977	1.51	1.74	60,100
November.....	1,560	640	912	1.41	1.57	54,300
December.....	2,120	720	1,210	1.87	2.16	74,400
March 13-31.....	720	530	617	.954	.67	23,300
April.....	4,190	805	1,530	2.36	2.63	91,000
May.....	4,700	2,000	3,180	4.91	5.66	196,000
June.....	6,860	2,780	5,170	7.99	8.91	308,000
July.....	4,360	1,460	2,570	3.97	4.58	158,000
August.....	1,460	848	1,050	1.62	1.87	64,600
September.....	980	720	882	1.36	1.52	52,500
1927-28						
October.....	1,160	762	998	1.54	1.78	61,400
November.....	1,890	890	1,510	2.33	2.60	89,800
December.....	2,000	805	1,290	1.98	2.28	78,700
March 4-31.....	1,710	640	1,100	1.70	1.77	61,100
April.....	4,140	1,460	2,060	3.18	3.55	123,000
May.....	7,820	3,070	5,470	8.46	9.75	356,000
June.....	5,460	3,220	3,960	6.12	6.83	256,000
July.....	4,640	1,710	2,830	4.37	5.04	174,000
August.....	1,560	910	1,150	1.73	2.05	70,700
September.....	910	560	712	1.10	1.23	42,400
1928-29						
October.....	815	560	726	1.12	1.29	44,600
November.....	682	560	607	.938	1.05	36,100
December.....	560	420	479	.740	.85	29,500
January.....	522	329	423	.654	.75	26,000
February.....	329	273	300	.464	.48	16,700
March.....	600	300	407	.629	.73	25,000
April.....	2,100	560	938	1.45	1.62	55,800
May.....	5,300	1,840	2,900	4.48	5.16	178,000
June.....	4,310	2,500	3,400	5.26	5.87	202,000
July.....	2,500	815	1,460	2.26	2.61	89,800
August.....	815	454	583	.901	1.04	35,800
September.....	454	358	390	.603	.67	23,200
The year.....	5,300	273	1,050	1.62	22.12	762,000

## Monthly discharge of Swan River near Big Fork, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1929-30						
October.....	389	323	366	0.566	0.65	22,400
November.....	358	268	308	.476	.53	18,300
December.....	560	257	404	.624	.72	24,000
January.....	389	85	218	.337	.39	13,000
February.....	246	93	168	.260	.27	9,330
March.....	389	133	180	.278	.32	11,100
April.....	2,780	454	1,730	2.67	2.98	103,000
May.....	2,780	1,580	2,210	3.42	3.94	136,000
June.....	2,920	1,710	2,220	3.43	3.83	132,000
July.....	1,580	560	1,020	1.58	1.82	62,700
August.....	560	289	411	.635	.73	25,300
September.....	408	246	319	.493	.55	19,000
- The year.....	2,920	85	796	1.23	16.73	576,000
1930-31						
October.....	725	346	495	.765	.88	30,400
November.....	630	404	495	.765	.85	29,500
December.....	452	335	386	.597	.69	25,700
January.....	409	320	354	.547	.63	21,800
February.....	414	355	382	.590	.61	21,200
March.....	884	350	545	.842	.97	33,500
April.....	1,130	730	949	1.47	1.64	56,500
May.....	4,950	1,140	2,930	4.53	5.22	180,000
June.....	3,310	1,100	2,210	3.42	3.82	132,000
July.....	1,050	480	705	1.09	1.26	45,300
August.....	506	325	399	.617	.71	24,500
September.....	532	306	421	.651	.73	25,100
The year.....	4,950	306	858	1.33	18.01	622,000
1931-32						
October.....	480	355	401	.620	.71	24,700
November.....	480	355	414	.640	.71	24,600
December.....	387	315	359	.555	.64	22,100
January.....	365	315	348	.538	.62	21,400
February.....	486	279	315	.487	.53	18,100
March.....	804	458	587	.907	1.05	36,100
April.....	2,880	855	1,940	3.00	3.35	115,000
May.....	5,520	1,690	3,460	5.35	6.17	213,000
June.....	4,670	2,540	3,690	5.69	6.55	219,000
July.....	3,510	940	1,800	2.78	3.20	111,000
August.....	922	673	699	1.08	1.24	45,000
September.....	601	474	516	.798	.89	30,700
The year.....	5,520	279	1,210	1.87	25.46	879,000
1932-33						
October.....	638	458	551	.852	.98	33,900
November.....	1,050	608	792	1.22	1.36	47,100
December.....	931	533	653	1.01	1.16	40,200
January.....	578	455	503	.777	.90	30,900
February.....	442	310	386	.596	.62	21,400
March.....	533	404	437	.675	.78	26,900
April.....	3,050	563	1,200	1.85	2.06	71,400
May.....	3,130	1,610	2,230	3.45	3.98	137,000
June.....	8,280	3,660	5,750	8.89	9.92	342,000
July.....	4,050	1,070	2,150	3.32	3.83	132,000
August.....	1,030	586	765	1.18	1.36	47,000
September.....	626	533	571	.882	.98	34,000
The year.....	8,280	310	1,330	2.06	27.93	964,000
1933-34						
October.....	2,200	483	1,137	1.76	2.03	69,930
November.....	1,540	770	938	1.45	1.62	55,840
December.....	4,550	797	1,796	2.78	3.20	110,400
January.....	1,980	925	1,298	2.01	2.32	79,800
February.....	905	709	839	1.30	1.35	46,600
March.....	1,400	726	1,027	1.59	1.83	63,160
April.....	3,750	1,570	2,661	4.11	4.59	158,300
May.....	3,560	2,650	3,027	4.68	5.40	186,100
June.....	3,560	1,370	2,053	3.17	3.54	122,200
July.....	1,380	618	926	1.43	1.65	56,970
August.....	602	392	485	.750	.86	29,800
September.....	429	362	394	.609	.68	23,430
The year.....	4,550	362	1,385	2.14	29.07	1,003,000

## Monthly discharge of Swan River near Big Fork, Mont.--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1934-35						
October.....	726	374	457	0.706	0.81	28,090
November.....	851	602	728	1.13	1.26	43,500
December.....	586	449	504	.779	.90	30,990
January.....	563	392	474	.733	.85	29,130
February.....	540	429	477	.737	.77	26,500
March.....	594	423	520	.804	.93	31,990
April.....	2,050	489	1,110	1.72	1.92	66,050
May.....	4,550	1,770	2,655	4.10	4.73	163,500
June.....	4,250	2,050	3,183	4.92	5.49	189,400
July.....	2,200	797	1,358	2.10	2.42	83,510
August.....	788	455	591	.913	1.05	36,350
September.....	455	356	391	.604	.67	23,240
The year.....	4,550	356	1,038	1.60	21.80	751,800
1935-36						
October.....	386	327	348	.538	.62	21,420
November.....	392	310	355	.549	.61	21,140
December.....	350	302	324	.501	.58	19,950
January.....	386	288	349	.539	.62	21,480
February.....	321	279	298	.461	.50	17,160
March.....	429	327	391	.604	.70	24,030
April.....	4,750	306	2,109	3.26	3.64	125,500
May.....	5,970	2,970	3,973	6.14	7.08	244,500
June.....	5,550	1,420	2,708	4.19	4.68	161,200
July.....	1,420	533	847	1.31	1.51	52,060
August.....	533	339	418	.646	.74	25,700
September.....	398	321	356	.550	.61	21,190
The year.....	5,970	279	1,040	1.61	21.89	755,100
1936-27						
October.....	339	284	312	.482	.56	19,160
November.....	306	270	290	.448	.50	17,270
December.....	368	258	307	.474	.55	18,880
January.....	327	267	289	.447	.52	17,770
February.....	267	255	262	.405	.42	14,530
March.....	306	252	277	.428	.49	17,050
April.....	1,200	321	675	1.04	1.16	40,160
May.....	3,300	1,200	2,217	3.43	3.95	136,300
June.....	3,130	1,840	2,443	3.78	4.22	145,500
July.....	1,780	540	982	1.52	1.75	60,400
August.....	570	321	440	.680	.78	27,030
September.....	315	264	290	.448	.50	17,250
The year.....	3,300	252	734	1.13	15.40	531,100
1937-38						
October.....	344	284	308	.476	.55	18,950
November.....	464	354	394	.609	.68	23,420
December.....	498	344	428	.662	.76	26,340
January.....	427	317	379	.586	.68	23,320
February.....	376	308	334	.516	.54	18,570
March.....	498	317	395	.611	.70	24,280
April.....	2,640	471	1,232	1.90	2.12	73,290
May.....	4,350	1,360	2,277	3.52	4.06	140,000
June.....	4,050	1,970	2,777	4.29	4.79	165,200
July.....	1,830	605	1,078	1.67	1.92	66,380
August.....	583	398	472	.730	.84	29,000
September.....	398	326	367	.567	.63	21,830
The year.....	4,350	284	871	1.35	18.27	630,500

Yearly discharge of Swan River near Big Fork, Mont.

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1923.....	973	1.50	20.39	705,000	976	1.51	20.45	707,000
1924.....	946	1.46	19.89	686,000	939	1.45	19.76	682,000
1929.....	1,050	1.62	22.12	762,000	990	1.53	20.83	717,000
1930.....	796	1.23	16.73	576,000	822	1.27	17.25	595,000
1931.....	858	1.33	18.01	622,000	842	1.30	17.65	609,000
1932.....	1,210	1.87	25.46	879,000	1,280	1.98	26.90	928,000
1933.....	1,330	2.06	27.93	964,000	1,490	2.30	31.28	1,080,000
1934.....	1,385	2.14	29.07	1,003,000	1,200	1.85	25.19	868,700
1935.....	1,038	1.60	21.80	751,800	983	1.52	20.64	712,000
1936.....	1,040	1.61	21.89	755,100	1,030	1.59	21.69	747,900
1937.....	734	1.13	15.40	531,100	752	1.16	15.78	544,500
1938.....	871	1.35	18.27	630,500	-	-	-	-
Highest.....	1,385	2.14	29.07	1,003,000	1,490	2.30	31.28	1,080,000
Average.....	1,020	1.58	21.41	738,800	1,028	1.59	21.58	744,600
Lowest.....	734	1.13	15.40	531,100	752	1.16	15.78	544,500

Big Creek near Polson, Mont.

Location.- Water-stage recorder, lat. 47°42', long. 114°02', in NW¼ sec. 4, T. 22 N., R. 19 W., just downstream from Mission Range Power Co.'s plant three-quarters of a mile upstream from mouth and 7 miles east of Polson.  
Records available.- June 1917 to September 1932.  
Extremes.- Maximum discharge, 104 second-feet June 9, 1917; no flow at short intervals during November and December 1922, when power plant was shut down.  
Remarks.- Flow regulated by power plant.

Monthly discharge of Big Creek near Polson, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1917				
June.....	90	22.5	33.2	1,980
July.....	25	7.6	14.3	879
August.....	15	7.1	9.15	563
September.....	11.5	3.7	7.25	431
The period.....	-	-	-	3,850
1917-18				
October.....	11.5	3.2	8.44	519
November.....	6.7	2.5	4.42	263
December.....	28	4.5	8.21	505
January.....	27	1.8	a7.25	445
February.....	6.2	5.0	a5.55	308
March.....	12.0	3.7	6.34	390
April.....	23.2	8.1	14.4	857
May.....	30	5.8	a13.1	806
June.....	38	5.8	19.5	1,160
July.....	18.0	5.4	8.23	506
August.....	8.1	5.0	6.08	374
September.....	7.1	4.5	5.66	337
The year.....	38	1.8	8.94	6,470
1918-19				
October.....	8.1	5.8	6.92	426
November.....	8.1	5.4	6.40	381
December.....	5.8	2.8	4.15	255
January.....	-	-	e4.50	277
February.....	6.7	3.7	a5.51	306
March.....	8.6	2.2	4.54	279
April.....	14.4	5.4	8.15	485
May.....	53.0	2.8	18.1	1,110
June.....	30.0	4.5	17.0	1,010
July.....	7.1	2.0	4.05	249
August.....	8.6	1.7	4.56	280
September.....	5.8	1.4	4.06	242
The year.....	53.0	1.4	7.32	5,300

a Partly estimated.  
e Estimated.



## Monthly discharge of Big Creek near Polson, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1919-20				
October.....	5.5	3.5	4.74	291
November.....	6.3	2.8	4.90	292
December.....	5.8	3.7	4.69	288
January.....	6.9	2.6	4.01	247
February.....	4.3	1.9	3.58	206
March.....	3.9	1.7	3.21	197
April.....	4.5	2.6	3.55	211
May.....	29.4	3.4	6.77	416
June.....	17.8	3.1	6.12	364
July.....	5.3	2.8	4.30	264
August.....	5.6	2.3	3.51	216
September.....	3.5	2.4	3.11	185
The year.....	29.4	1.7	4.38	3,180
1920-21				
October.....	6.2	1.8	3.81	234
November.....	-	-	5.44	324
December.....	-	-	5.69	350
January.....	-	-	5.16	317
February.....	-	-	4.60	255
March.....	-	-	4.73	291
April.....	-	1.6	2.93	174
May.....	13.4	1.9	5.70	350
June.....	18.5	3.5	9.20	547
July.....	6.6	2.0	4.77	293
August.....	5.5	2.4	4.64	285
September.....	4.9	3.2	4.33	258
The year.....	18.5	1.6	5.08	3,680
1921-22				
October.....	4.6	3.0	4.14	255
November.....	6.8	2.7	5.32	317
December.....	-	-	5.10	314
January.....	5.4	3.8	4.59	282
February.....	5.3	3.3	4.68	260
March.....	5.3	3.1	4.09	251
April.....	6.6	3.5	4.55	271
May.....	38	4.8	14.2	873
June.....	40	3.9	15.3	910
July.....	8.4	3.6	5.06	311
August.....	6.7	3.2	5.36	330
September.....	4.6	2.8	4.11	245
The year.....	40	2.7	6.38	4,620
1922-23				
October.....	5.2	3.0	4.47	275
November.....	7.5	4.2	5.82	346
December.....	7.8	5.0	6.55	403
January.....	7.3	5.0	6.44	396
February.....	6.8	4.9	5.80	322
March.....	5.9	4.9	5.22	321
April.....	6.8	4.9	5.78	344
May.....	12.3	5.7	7.57	465
June.....	18.4	5.8	9.76	581
July.....	9.7	5.9	8.08	497
August.....	9.0	5.4	6.52	401
September.....	7.1	5.1	6.23	371
The year.....	18.4	3.0	6.52	4,720
1923-24				
October.....	5.6	2.4	3.83	236
November.....	5.4	2.4	4.24	252
December.....	5.2	3.1	4.09	251
January.....	4.2	3.0	3.39	208
February.....	5.5	2.9	4.41	254
March.....	5.3	2.6	3.99	245
April.....	4.6	2.7	3.58	213
May.....	22.6	6.0	13.7	842
June.....	10.4	5.0	7.63	454
July.....	5.6	4.6	5.12	315
August.....	5.4	4.0	4.51	277
September.....	7.0	4.4	5.41	322
The year.....	22.6	2.4	5.33	3,870

## Monthly discharge of Big Creek near Polson, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1924-25				
October.....	4.2	2.2	2.99	184
November.....	5.1	2.2	3.91	233
December.....	5.1	2.7	4.21	259
January.....	4.5	2.8	3.68	226
February.....	4.6	2.7	3.46	192
March.....	6.0	2.5	3.42	210
April.....	21.0	4.6	11.4	678
May.....	51.8	10.0	22.2	1,360
June.....	19.4	4.2	13.3	791
July.....	-	-	3.31	204
August.....	-	-	4.25	261
September.....	-	-	4.74	282
The year.....	51.8	-	6.74	4,880
1925-26				
October.....	5.1	3.1	4.23	260
November.....	5.5	3.2	4.59	273
December.....	5.8	3.4	5.03	309
January.....	4.8	3.0	4.02	247
February.....	4.8	3.0	4.04	224
March.....	4.8	2.9	3.95	243
April.....	27.0	3.0	9.52	566
May.....	28.6	3.0	9.94	611
June.....	5.2	3.2	4.11	245
July.....	5.3	2.7	4.52	278
August.....	6.0	3.7	5.21	320
September.....	6.1	3.1	5.03	299
The year.....	28.6	2.7	5.36	3,880
1926-27				
October.....	6.0	3.7	4.95	304
November.....	6.3	3.4	5.11	304
December.....	5.5	2.7	4.34	267
January.....	5.2	3.1	4.00	246
February.....	5.0	3.0	4.26	237
March.....	4.9	2.4	4.18	257
April.....	43	3.3	10.9	649
May.....	35	2.3	15.1	928
June.....	55	17	32.4	1,930
July.....	20	5.5	10.9	670
August.....	8.3	4.6	6.31	388
September.....	7.3	4.3	5.81	346
The year.....	55	2.3	9.01	6,530
1927-28				
October.....	5.7	3.4	4.32	266
November.....	5.8	3.5	4.96	295
December.....	6.0	3.2	4.64	285
January.....	5.6	3.3	4.53	279
February.....	5.2	3.4	4.22	243
March.....	4.5	2.9	3.55	206
April.....	19.3	3.0	9.91	590
May.....	37.4	22.4	32.0	1,970
June.....	30.1	22.4	25.5	1,520
July.....	27.0	5.4	18.1	1,110
August.....	7.9	4.1	6.17	379
September.....	6.8	3.0	4.69	279
The year.....	37.4	2.9	10.2	7,420
1928-29				
October.....	5.4	3.4	4.50	277
November.....	6.1	3.0	4.64	276
December.....	6.5	4.0	5.30	326
January.....	4.8	3.6	4.30	264
February.....	4.4	3.0	3.84	213
March.....	4.1	2.9	3.57	220
April.....	20.0	3.0	4.54	270
May.....	26.8	15.6	19.60	1,210
June.....	25.7	16.1	19.90	1,180
July.....	15.6	3.2	6.40	394
August.....	5.0	3.6	4.37	269
September.....	5.0	3.8	4.47	266
The year.....	26.8	2.9	7.13	5,160

Monthly discharge of Big Creek near Polson, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1929-30				
October.....	5.1	3.7	4.55	280
November.....	5.3	3.6	4.54	270
December.....	5.1	3.9	4.53	279
January.....	4.9	4.0	4.53	279
February.....	4.9	3.3	4.37	243
March.....	4.6	3.3	3.90	240
April.....	12.7	3.5	7.07	421
May.....	7.3	3.8	5.15	317
June.....	6.5	3.9	4.56	271
July.....	6.1	4.3	5.35	329
August.....	6.5	5.0	5.79	356
September.....	6.7	4.7	6.04	359
The year.....	12.7	3.3	5.03	3,640
1930-31				
October.....	7.1	5.7	6.42	395
November.....	7.9	5.9	6.83	406
December.....	8.3	4.7	6.18	380
January.....	6.2	2.9	4.47	275
February.....	6.2	3.2	5.22	290
March.....	5.9	2.7	4.34	267
April.....	5.8	4.3	5.36	319
May.....	6.2	4.3	5.41	333
June.....	6.5	5.0	5.64	336
July.....	6.7	4.8	5.82	358
August.....	6.9	5.0	6.12	376
September.....	7.1	3.2	5.85	348
The year.....	8.3	2.7	5.64	4,080
1931-32				
October.....	8.3	4.9	6.73	414
November.....	8.6	3.4	6.34	377
December.....	7.1	4.7	6.02	370
January.....	6.3	3.3	5.61	345
February.....	6.4	1.9	4.71	271
March.....	9.0	2.7	5.44	334
April.....	7.2	4.6	6.42	382
May.....	8.0	1.7	6.02	370
June.....	7.8	4.5	6.92	412
July.....	8.0	3.0	7.18	441
August.....	7.9	4.5	7.51	462
September.....	7.9	6.7	7.56	450
The year.....	9.0	1.7	6.37	4,630

Yearly discharge of Big Creek near Polson, Mont.

Year	Year ending Sept. 30		Calendar year	
	Mean discharge in second-feet	Run-off in acre-feet	Mean discharge in second-feet	Run-off in acre-feet
1918.....	8.94	6,470	8.63	6,240
1919.....	7.32	5,300	7.06	5,110
1920.....	4.38	3,180	4.43	3,210
1921.....	5.08	3,680	5.05	3,660
1922.....	6.38	4,620	6.57	4,760
1923.....	6.52	4,720	6.13	4,440
1924.....	5.33	3,870	5.24	3,810
1925.....	6.74	4,880	6.97	5,050
1926.....	5.36	3,880	5.40	3,910
1927.....	9.01	6,530	8.97	6,500
1928.....	10.2	7,420	10.3	7,460
1929.....	7.13	5,160	7.07	5,120
1930.....	5.03	3,640	5.52	4,000
1931.....	5.64	4,080	5.61	4,060
1932.....	6.37	4,630	-	-
Highest.....	10.2	7,420	10.3	7,460
Average.....	6.63	4,800	6.64	4,810
Lowest.....	4.38	3,180	4.43	3,210

## Little Bitterroot River near Marion, Mont.

Location.- Staff gage, lat. 48°05', long. 114°41', in T. 27 N., R. 24 W., at log bridge downstream from outlet of Little Bitterroot Lake, near Marion.

Records available.- January 1910 to September 1916.

Extremes.- Maximum discharge observed, 53 second-feet Apr. 27, 1916 (gage height, 3.05 feet); no flow Jan. 19-23, 1915 (gage height, 0.30 foot).

Remarks.- No diversion. Some water stored in the lake above station gage during spring and summer of 1916.

## Monthly discharge of Little Bitterroot River near Marion, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
January 1910.....	-	-	e4.00	246
February.....	-	-	e4.00	222
March.....	-	-	e28.0	1,720
April.....	36	-	a28.4	1,690
May.....	43	3.5	22.0	1,560
June.....	36	16	26.0	1,560
July.....	31	11	20.0	1,230
August.....	11	1.2	3.7	228
September.....	17	1.1	8.3	494
The period....	-	-	-	8,730
October 1910.....	10.2	2.6	6.4	394
November.....	5.0	2.0	3.3	196
December.....	4.0	1.6	2.8	172
April 24-30, 1911.....	8.7	8.7	8.70	121
May.....	18.0	8.7	15.2	935
June.....	19	14	16.1	958
July.....	18	3.7	10.6	652
August.....	6.0	2.4	3.43	211
September.....	3.3	2.4	2.60	155
October 1911.....	2.6	2.6	2.60	160
November.....	2.6	2.6	2.60	155
December.....	3.3	2.4	3.14	193
April 1912.....	8.3	2.7	5.10	303
May.....	14	8.1	10.8	664
June.....	11	4.6	6.95	414
July.....	9.7	4.2	7.21	443
August.....	6.2	1.0	2.15	132
September.....	3.0	2.1	2.39	142
October 1912.....	2.0	1.2	1.56	95.9
November 1-13.....	1.3	1.1	1.13	29.1
April 13-30, 1913.....	14.4	3.0	8.41	300
May.....	26.2	14.4	19.7	1,210
June.....	26.2	21.5	23.3	1,390
July.....	21.5	.8	2.82	173
August.....	1.5	.6	1.14	70
September.....	2.6	1.2	1.76	105
October 1913.....	2.6	1.5	1.90	117
November.....	1.5	1.5	1.50	89
December.....	1.5	.8	1.18	73
April 1914.....	10.3	5.0	6.94	413
May.....	11.9	7.3	10.5	646
June.....	10.3	5.2	7.43	442
July.....	8.0	.6	4.54	279
August.....	.8	.6	.62	38
September.....	1.2	.8	.85	61
October 1914.....	3.8	.8	2.81	173
November.....	1.2	.8	.87	52
December.....	1.6	1.2	1.32	81
January 1915.....	1.4	0	.29	18
February.....	.6	.1	.37	21
March.....	1.2	.5	.74	46
April.....	.8	.1	.51	30
May.....	3.0	.1	1.06	65
June.....	2.8	.1	1.23	73
July.....	2.5	.8	1.35	83
August.....	5.9	.1	1.14	70
September.....	5.8	3.0	3.83	228
Water year 1914-15.....	5.8	0	1.30	940

a Partly estimated.

e Estimated.

Monthly discharge of Little Bitterroot River near Marion, Mont.-Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1915.....	3.6	.5	2.15	132
November.....	1.2	.5	.66	39
December.....	1.2	.5	.63	33
Calendar year 1915.....	5.8	0	1.16	843
January 1916.....	4.3	.5	1.52	94
February.....	18.5	5.0	12.7	730
March.....	14.2	9.4	11.5	707
April.....	53	13.3	34.4	2,050
May.....	50	34	38.7	2,380
June.....	40	36	38.5	2,290
July.....	42	1.5	27.2	1,670
August.....	1.5	.2	.94	58
September.....	1.8	.2	.75	45
Water year 1915-16.....	53	.2	14.1	10,200

## Little Bitterroot River near Hubbard, Mont.

Location.- Staff gage, lat. 47°53', long. 114°40', upstream from canyon leading to second fall of Little Bitterroot River,  $\frac{1}{2}$  miles west of ranch buildings of Hubbard Cattle Co., near Hubbard post office, 15 miles south of Marion.

Records available.- October 1909 to September 1916. April to October 1909 at site about 1 mile downstream.

Extremes.- Maximum discharge observed, 340 second-feet May 6, 1916 (gage height, 4.0 feet); minimum observed, 1.4 second-feet, Oct. 20-27 and Nov. 10, 1914 (gage height, 0.9 foot).

Remarks.- No diversion. Natural storage in Little Bitterroot Lake 15 miles above station.

Monthly discharge of Little Bitterroot River near Hubbard, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1909				
April 22-30.....	66	48	57	1,020
May 1-22.....	122	58	89	3,880
August.....	40	13	22	1,350
September.....	13	13	13	774
1909-10				
October.....	13	13	13	799
November.....	56	13	24	1,430
January.....	-	-	e18	1,110
February.....	-	-	e18	1,000
March.....	206	-	133	8,180
April.....	176	76	133	7,910
May.....	119	52	80	4,920
June.....	70	32	47	2,800
July.....	44	18	29	1,780
August.....	17	10	12	740
September.....	19	10	13	774
1910-11				
October.....	19	16	16	984
November.....	19	16	17	1,010
December.....	-	-	e16	984
April.....	72	25	42.8	2,550
May.....	80	54	65.1	4,000
June.....	80	32	50.0	2,980
July.....	51	14	28.3	1,740
August.....	34	12	17.4	1,070
September.....	22	8	10.5	625
1911-12				
October.....	8	6.6	6.72	413
April.....	77	70	72.4	4,310
May.....	78	53	70.6	4,340
June.....	50	16	30.4	1,810
July.....	18	15	16.3	1,000
August.....	15	10	12.5	769
September.....	12	10	11.0	655
1912-13				
October.....	11	8	10.4	640
November 1-11.....	17	8	11.9	260
July 23-31.....	14	12	12.3	220
August.....	12	10	11.2	689
September.....	10	8	9.4	559

e Estimated.

Monthly discharge of Little Bitterroot River near Hubbard, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1913-14				
October.....	12	6	10.5	646
November 1-14.....	10	6	7.6	211
April.....	61	23	47.0	2,800
May.....	-	28	46.6	2,870
June.....	26	18	22.9	1,360
July.....	18	8	12.6	775
August.....	8	2	4.4	271
September.....	3	2	2.6	155
1914-15				
October.....	2.4	1.4	1.90	117
November.....	7.7	1.4	3.13	186
April.....	64	22	37.0	2,200
May.....	45	25	33.4	2,050
June.....	37	13	20.5	1,220
July.....	16	10	13.2	812
August.....	14	6.8	9.38	577
September.....	12	7.1	10.2	607
1915-16				
October.....	12	8	8.61	529
November 1-13.....	8.0	6.5	6.82	176
April.....	260	134	187	11,100
May.....	340	111	177	10,900
June.....	144	96	118	7,020
July.....	92	20	58.4	3,590
August.....	19	14	16.7	1,030
September.....	14	12	13.1	780

## Little Bitterroot River near Niarada, Mont.

Location.- Staff gage, lat. 47°48', long. 114°39', in T. 24 N., R. 24 W., at Angus McDonald's ranch, 2 miles southwest of Niarada.

Records available.- April 1916 to September 1917. April 1908 to December 1909 published as Little Bitterroot River near Dayton.

Extremes.- Maximum discharge observed, 412 second-feet May 7, 1916 (gage height, 5.30 feet); minimum observed, 3.0 second-feet Aug. 23, 1917 (gage height, 0.60 foot).

Remarks.- Several small diversions for irrigation above station. Natural storage in Little Bitterroot Lake.

Monthly discharge of Little Bitterroot River near Niarada, Mont.

Month		Discharge in second-feet			Run-off in acre-feet
		Maximum	Minimum	Mean	
1908					
April 18-30.....		262	101	177	4,550
May.....		158	97	134	8,240
June.....		344	82	124	7,380
July.....		80	46	61.3	3,770
August.....		44	21	29.5	1,810
September.....		31	13	19.3	1,150
The period.....		-	-	-	26,900
1908-9					
October.....		36	19	23.3	1,430
March 19-31.....		47	28	39.6	1,020
April.....		102	42	65.8	3,920
May.....		258	79	143	8,790
June.....		190	59	129	7,580
July.....		72	26	44.1	2,710
August.....		42	20	26.3	1,520
September.....		24	18	21.0	1,250
October.....		21	20	20.4	1,250
November.....		110	21	37.2	2,210
1916					
April 12-30.....		384	193	262	9,870
May.....		412	161	239	14,700
June.....		224	133	174	10,400
July.....		130	30	82.8	5,090
August.....		28	18	23.1	1,420
September.....		18	15	16.5	982
The period.....		-	-	-	42,500
1916-17					
October.....		22	15	17.2	1,060
November.....		18	15	15.6	925
April.....		116	30	62.6	3,720
May.....		325	92	163	10,000
June.....		129	44	78.9	4,690
July.....		30	18	19.6	1,200
August.....		17	3	9.10	558
September.....		6	4	5.30	315

## Crow Creek near Ronan, Mont.

Location.- Staff gage, lat. 47°29', long. 114°05' in SW $\frac{1}{4}$  sec. 13, T. 20 N., R. 20 W., 500 feet upstream from old highway bridge, about a quarter of a mile upstream from present bridge on state road from St. Ignatius to Ronan, and 3 miles south of Ronan.

Records available.- September 1906 to September 1917.

Extremes.- Maximum discharge observed, 1,400 second-feet June 6, 1908 (gage height, 10.85 feet); minimum observed, 3.2 second-feet Sept. 19-21, 1917 (gage height, 0.32 foot).

Remarks.- Water diverted above station by Pablo feeder canal to irrigate about 12,400 acres. No regulation.

## Monthly discharge of Crow Creek near Ronan, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1906				
September 21-30.....	27	22	23.9	474
1906-7				
October.....	42	22	29.9	1,840
November.....	156	27	51.5	3,060
December.....	59	27	34.2	2,100
January.....	-	-	e25.0	1,540
February.....	-	-	e20.0	1,110
March.....	119	25	39.8	2,450
April.....	61	30	43.7	2,600
May.....	386	33	148	9,100
June.....	427	244	306	18,200
July.....	392	93	196	12,100
August.....	89	44	62.8	3,860
September.....	59	33	41.1	2,450
The year.....	427		83.4	60,400
1907-8				
October.....	34	24	27.5	1,690
November.....	24	20	21.2	1,260
December.....	21	18	20.0	1,230
March.....	27	18	21.5	1,320
April.....	150	18	57.0	3,390
May.....	314	54	179	11,000
June.....	1,400	151	a536	31,900
July.....	250	55	109	6,700
August.....	52	32	37.5	2,310
September.....	271	22	42.0	2,500
1908-9				
October.....	59	23	34.0	2,090
November.....	39	20	24.2	1,440
May.....	264	28	76.7	4,720
June.....	426	162	274	16,300
July.....	232	38	133	8,180
August.....	38	24	30.9	1,900
September.....	34	22	25.8	1,540
1909-10				
October.....	32	18	21.6	1,330
November.....	158	18	53.4	3,180
January.....	-	-	e25	1,540
February.....	-	-	e25	1,390
March.....	112	28	46.8	2,880
April.....	228	35	105	6,250
May.....	300	106	197	12,100
June.....	170	76	127	7,560
July.....	56	23	33.4	2,050
August.....	25	22	22.9	1,410
September.....	25	14	20.0	1,190
1910-11				
October.....	37	20	23.9	1,470
November.....	43	25	31.8	1,890
December.....	31	17	23.7	1,460
January.....	-	-	e10.0	615
February.....	-	-	e10.0	555
March.....	22	15	16.2	996
April.....	91	17	33.9	2,020
May.....	222	63	105	6,460
June.....	475	130	339	20,200
July.....	294	68	146	8,980
August.....	73	31	43.5	2,670
September.....	46	23	33.5	1,990
The year.....	475	-	68.1	49,300

a Discharge interpolated June 6-28.

e Estimated.

## Monthly discharge of Crow Creek near Ronan, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1911-12				
October.....	46	24	35.0	2,150
November.....	36	15	22.2	1,320
December.....	-	-	215.0	922
March 15-31.....	26	17	22.4	755
April.....	57	-	30.6	1,820
May.....	-	23	130	7,990
June.....	-	-	227	13,500
July.....	262	56	117	7,190
August.....	91	17	49.5	3,040
September.....	46	12	27.1	1,610
1912-13				
October.....	23	12	15.4	947
November.....	-	-	12.0	714
December.....	-	-	7.0	450
April.....	94	2.0	36.7	2,180
May.....	462	47	115	7,070
June.....	474	264	369	22,000
July.....	213	14	87.2	5,360
August.....	62	7.0	39.3	2,420
September.....	57	7.0	36.0	2,140
1913-14				
October.....	125	20	39.6	2,450
November.....	44	28	31.9	1,900
December.....	26	20	23.1	1,420
January.....	25	17	19.9	1,220
February.....	-	-	17.0	944
March.....	22	14.5	19.3	1,190
April.....	69	17	35.9	2,140
May.....	260	57	152	9,350
June.....	367	59	164	9,760
July.....	72	24	46.9	2,880
August.....	39	5	14.9	916
September.....	18.2	3.3	5.74	342
The year.....	367	3.3	47.6	34,500
1914-15				
October.....	159	14	45.6	2,800
November.....	55	35	47.4	2,820
December 1-12.....	33	25	27.0	643
March.....	85	47	60.6	3,730
April.....	243	57	110	6,550
May.....	248	97	187	11,500
June.....	378	151	194	11,500
July.....	378	62	188	11,600
August.....	54	28	35.1	2,160
September.....	164	30	47.6	2,830
1915-16				
October.....	64	46	52.8	3,250
November.....	46	41	42.1	2,510
December.....	41	32	33.9	2,080
March 5-31.....	170	56	74.2	3,970
April.....	114	46	57.7	3,430
May.....	294	76	150	9,220
June.....	664	138	435	25,900
July.....	560	18	299	18,400
August.....	58	5.5	21.0	1,290
September.....	188	36	78.2	4,650
1916-17				
October.....	46	9.5	25.6	1,570
November.....	12	6.5	8.07	480
December 1-11.....	9.5	7.5	8.61	188
March 25-31.....	36	36	36.0	500
April.....	87	41	53	3,150
May.....	375	100	279	17,200
June.....	700	375	526	31,300
July.....	420	28	126	7,750
August.....	28	5.7	12.5	769
September.....	7.3	3.2	4.29	255



Crow Creek at Lozeau's ranch, near Ronan, Mont.

Location.- Chain gage, lat. 47°30', long. 114°15', in E½ sec. 15, T. 20 N., R. 21 E., at Louis Lozeau's ranch, about a mile downstream from Mud Creek, 2½ miles upstream from mouth, and 8 miles southwest of Ronan.

Records available.- April 1911 to September 1916.

Extremes.- Maximum discharge observed, 960 second-feet June 29, 1911 (gage height, 5.4 feet); minimum observed, 4 second-feet Mar. 21, 1913 (gage height, 0.8 foot).

Remarks.- Several diversions above station for irrigation. No regulation.

## Monthly discharge of Crow Creek at Lozeau's ranch, near Ronan, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1911				
May.....	386	100	156	9,590
June.....	960	124	413	24,600
July.....	515	61	181	11,100
August.....	61	33	48.6	2,990
September.....	78	46	55.7	3,310
1911-12				
October.....	78	46	63.1	3,880
November.....	61	23	48.6	2,890
December.....	61	28	41.8	2,570
January.....	64	33	44.4	2,730
February.....	122	33	52.2	3,000
March.....	75	14	41.2	2,530
April.....	78	36	52.8	3,140
May.....	282	46	136	8,360
June.....	527	200	284	16,900
July.....	320	97	173	10,600
August.....	187	36	88.7	5,450
September.....	97	47	68.6	4,080
The year.....	527	14	91.1	66,100
1912-13				
October.....	77	33	55.2	3,390
November.....	61	50	50.7	3,020
December.....	54	-	42.1	2,590
March 2-31.....	534	4	70.8	4,210
April.....	111	50	66.8	3,980
May.....	628	50	155	9,530
June.....	616	155	299	17,800
July.....	170	78	101	6,210
August.....	78	37	55.8	3,430
September.....	65	37	56.5	3,360
1913-14				
October.....	115	55	62.7	3,860
November.....	78	55	64.3	3,830
December.....	55	55	55	3,380
January.....	53	43	49.1	3,020
February.....	80	-	44.6	2,480
March.....	164	43	65.9	4,050
April.....	99	43	69.5	4,140
May.....	179	65	120	7,380
June.....	355	110	207	12,300
July.....	127	49	85.2	5,240
August.....	80	35	45.1	2,770
September.....	99	35	42.1	3,100
The year.....	355	-	76.8	55,600
1914-15				
October.....	-	-	105	6,460
November.....	179	72	101	6,010
December 1-15.....	80	43	55.5	1,650
March 22-31.....	110	65	79.5	1,580
April.....	410	53	153	9,100
May.....	301	150	209	12,900
June.....	357	139	206	12,300
July.....	397	139	187	11,500
August.....	123	42	72.1	4,430
September.....	70	50	62.1	3,700
1915-16				
October.....	116	70	92.5	5,690
November.....	116	57	67.5	4,020
December.....	65	50	57.6	3,540
January 1-6.....	50	48	49.3	587
March.....	520	40	149	9,160
April.....	120	63	85.6	5,090
May.....	282	74	130	7,990
June 1-16.....	640	120	281	8,920
July 8-31.....	717	92	385	18,300
August.....	109	66	79.7	4,900
September.....	296	86	131	7,800

## SURFACE WATERS OF UPPER COLUMBIA RIVER BASIN, 1898-1938

## Mud Creek near Ronan, Mont.

Location.- Staff gage, lat. 47°33', long. 114°08', in T. 21 N., R. 20 W. at Jeffrey's ranch, 3 miles northwest of Ronan.

Records available.- April 1908 to December 1910.

Extremes.- Maximum daily discharge, 39 second-feet June 23, 27-30, 1909 (gage height, 4.5 feet); minimum daily, 1.6 second-feet April 7, 8, 1909 (gage height, 2.25 feet).

Remarks.- Pablo ditch diverts water for irrigation 200 feet below station. No regulation.

## Monthly discharge of Mud Creek near Ronan, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1908				
April 17-30.....	7	5	6.29	175
August.....	14	8	9.77	601
September.....	9	2.8	5.30	315
1908-9				
October.....	8.5	8	8.10	498
November.....	8	7	7.60	452
December.....	7.5	6	6.89	260
March.....	8.3	1.7	4.10	252
April.....	5.2	1.6	2.85	170
May.....	6.9	2.5	4.96	305
June.....	39	1.8	16.5	982
July.....	33	17	24.7	1,520
August.....	20	8.3	14.2	873
September.....	16	6.3	9.56	569
1909-10				
October.....	6.9	2.9	6.27	386
November.....	6.3	5.2	5.60	333
December.....	5.2	3.9	4.37	269
January.....	-	-	64.0	246
February.....	-	-	65.0	278
March.....	20	6.8	10.7	658
April.....	14	6.8	7.56	450
May.....	20	8.8	12.7	781
June.....	14	11	12.4	738
July.....	7.2	3.5	5.12	315
August.....	4.6	4.0	4.17	256
September.....	4.1	3.5	3.65	217
Water year 1909-10 .....	20	2.9	6.81	4,930
1910				
October.....	3.5	3.4	3.46	213
November.....	4.1	3.4	3.82	227
December.....	3.8	3.4	3.48	214
Calendar year 1910.....	20	3.4	6.34	4,590

e Estimated

## Mission Creek near St. Ignatius, Mont.

Location.- Staff gage, lat. 47°20', long. 114°07' in SW $\frac{1}{4}$  sec. 10, T. 18 N., R. 20 W., about 1 mile downstream from St. Ignatius.

Records available.- September 1906 to September 1917.

Extremes.- Maximum discharge, 2,000 second-feet (estimated) June 10, 1908; minimum discharge observed, 8 second-feet at times during 1908 and Feb. 28, 1911 (gage height, 0.2 foot).

Remarks.- Several diversions above station for irrigation. Flow regulated by St. Marys Lake.

## Monthly discharge of Mission Creek near St. Ignatius, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
September 21-30.....	65	50	54.4	1,080

Monthly discharge of Mission Creek near St. Ignatius, Mont.--Continued

Month	Discharge in second-feet			Run-off in acra-feet
	Maximum	Minimum	Mean	
1906-7				
October.....	57	45	50.5	3,110
November.....	69	34	49.1	2,860
December.....	40	33	36.5	2,240
January.....	32	10	a16.9	1,040
February.....	21	13	14.4	800
March.....	34	16	20.2	1,240
April.....	54	27	36.7	2,180
May.....	236	41	103	6,330
June.....	442	154	a236	14,000
July.....	550	160	293	18,000
August.....	160	75	107	6,580
September.....	87	51	70.9	4,220
The year.....	550	10	86.5	62,600
1907-8				
October.....	48	30	38.5	2,370
November.....	30	14	21.1	1,260
December.....	14	10	11.8	726
January.....	10	8	a9.87	607
February.....	10	8	9.03	519
March.....	11	8	9.97	613
April.....	86	10	29.7	1,770
May.....	236	53	120	7,380
June.....	2,000	218	a823	49,000
July.....	440	92	230	14,100
August.....	92	55	73.5	4,520
September.....	120	44	58.6	3,490
The year.....	2,000	8	119	86,400
1908-9				
October.....	55	44	47.7	2,930
November.....	44	34	41.3	2,460
December.....	34	25	29.5	1,810
January.....	58	22	29.3	1,800
February.....	22	16	19.0	1,060
March.....	16	16	16.0	984
April.....	16	13	15.0	893
May.....	207	16	49.7	3,060
June.....	602	151	275	16,400
July.....	311	127	191	11,700
August.....	118	58	81.6	5,020
September.....	73	45	51.8	3,080
The year.....	602	13	70.7	51,200
1909-10				
October.....	63	40	47.5	2,920
November.....	58	30	41.3	2,460
December.....	30	21	24.4	1,500
January.....	17	12	14.5	892
February.....	52	12	22.3	1,240
March.....	57	13	21.6	1,330
April.....	112	17	37.3	2,220
May.....	200	52	98.0	6,030
June.....	210	69	120	7,140
July.....	89	32	48.8	3,000
August.....	36	19	28.0	1,720
September.....	28	20	22.1	1,320
The year.....	210	12	43.9	31,800
1910-11				
October.....	32	26	27.9	1,720
November.....	36	25	28.6	1,700
December.....	24	17	19.1	1,170
January.....	16	10	14.7	904
February.....	13	8	11.0	611
March.....	-	-	e14.0	861
April.....	29	10	16.3	970
May.....	82	29	47.0	2,890
June.....	380	70	234	13,900
July.....	243	104	171	10,500
August.....	100	58	77.6	4,770
September.....	66	48	52.6	3,130
The year.....	380	8	59.6	43,100

a Partly estimated.  
e Estimated.

## Monthly discharge of Mission Creek near St. Ignatius, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1911-12				
October.....	61	36	45	2,770
November.....	36	27	30.5	1,810
February.....	13	12	12.4	713
March.....	14	11	12.0	738
April.....	38	16	23.8	1,420
May.....	202	20	96.3	5,920
June.....	343	70	223	12,400
July.....	175	157	165	3,600
August.....	166	63	109	6,700
September.....	106	51	61.5	3,660
1912-13				
October.....	51	40	46.7	2,870
November.....	36	27	31.3	1,860
December.....	27	20	23.2	1,430
January.....	18	14	16.3	1,000
February.....	18	14	16.0	889
March.....	14	14	14.0	861
April.....	40	14	26.5	1,580
May.....	265	26	91.6	5,630
June.....	370	201	262	15,600
July.....	335	102	160	9,840
August.....	102	61	82.1	5,050
September.....	54	29	38.8	2,310
The year.....	370	14	67.6	48,900
1913-14				
October.....	38	29	30.3	1,860
November.....	29	22	25.8	1,540
December.....	22	10	15.8	972
January.....	16	11	15.7	965
February.....	16	11	12.7	705
March.....	14	11	11.9	732
April.....	22	11	15.4	916
May.....	201	26	91.4	5,620
June.....	358	132	209	12,400
July.....	226	68	137	8,420
August.....	61	29	37.8	2,320
September.....	38	16	33.2	1,980
The year.....	358	10	53.2	39,400
1914-15				
October.....	76	38	52.0	3,200
November.....	61	29	36.8	2,190
December.....	29	22	26.4	1,620
March 16-31.....	16	16	16.0	508
April.....	111	19	55.8	3,320
May.....	178	61	120	7,380
June.....	385	201	246	14,600
July.....	358	226	295	18,100
August.....	213	132	167	10,300
September.....	111	38	61.1	3,640
1915-16				
October.....	61	29	54.2	3,330
November.....	48	38	40.5	2,410
December.....	38	29	33.2	2,040
January.....	29	16	23.2	1,430
February.....	22	16	16.7	961
March.....	24	14	17.1	1,050
April.....	59	20	36.4	2,170
May.....	108	53	70.9	4,360
June.....	590	78	228	13,600
July.....	400	221	332	20,400
August.....	284	68	121	7,440
September.....	135	62	80.8	4,810
The year.....	590	14	88.1	64,000

Monthly discharge of Mission Creek near St. Ignatius, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1916-17				
October.....	50	35	38.2	2,350
November.....	35	27	29.2	1,740
December.....	27	16	22.8	1,400
January.....	16	16	16.0	984
February.....	16	12	13.7	761
March.....	12	12	12.0	738
April.....	31	11	21.9	1,300
May.....	245	21	85.2	5,240
June.....	426	98	253	15,100
July.....	265	105	206	12,700
August.....	100	65	80.7	4,960
September.....	84	65	77.1	4,590
The year.....	426	11	71.6	51,900

Yearly discharge of Mission Creek near St. Ignatius, Mont.

Year	Year ending September 30		Calendar year	
	Mean discharge in second-feet	Run-off in acre-feet	Mean discharge in second-feet	Run-off in acre-feet
1907 .....	86.5	62,600	81.1	58,700
1908 .....	119	86,400	125	82,200
1909 .....	70.7	51,200	70.3	50,900
1910 .....	43.9	31,800	40.7	29,500
1911 .....	59.6	45,100	-	-
1913 .....	67.6	48,900	65.1	47,100
1914 .....	53.2	39,400	56.7	41,100
1916 .....	88.1	64,000	85.0	61,700
1917 .....	71.6	51,900	-	-

## Dry Creek near St. Ignatius, Mont.

Location.- Staff gage, lat. 47°17', long. 114°00', in T. 18 N., R. 19 W., at Felsman's ranch,  $1\frac{1}{2}$  miles downstream from St. Marys Lake, above the only tributary, and 5 miles southeast of St. Ignatius.

Records available.- April 1908 to September 1916.

Extremes.- Maximum discharge, 250 second-feet (estimated) June 6-7, 1908; no flow at times.

Remarks.- One small diversion above gage. Flow regulated by St. Marys Lake.

Monthly discharge of Dry Creek near St. Ignatius, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1908				
April 16-30 .....	21	7	12.2	363
May.....	48	10	27.3	1,680
June.....	250	48	119	7,080
July.....	92	28	54.7	3,560
August.....	28	3	11.5	707
September.....	17	1	6.93	412
The period.....	-	-	-	13,600
1908-9				
October.....	7	3	5.16	317
November.....	5	0	3.13	186
May 9-31 .....	44	0	10.8	492
June.....	144	32	75.0	4,460
July.....	95	29	49.4	3,040
August.....	29	2.2	8.97	552
September.....	4.2	1.0	2.35	140

## Monthly discharge of Dry Creek near St. Ignatius, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1909-10				
October.....	7.0	0	3.54	218
November.....	7.0	0	.99	58.9
December.....	-	-	-	-
January.....	0	0	0	0
February.....	0	0	0	0
March.....	0	0	0	0
April.....	22	0	3.7	220
May.....	48	7	28.7	1,760
June.....	48	19	27.2	1,620
July.....	25	1	10.1	621
August.....	-	-	0	-
September.....	-	-	0	-
1910-11				
October.....	0	0	0	0
November.....	0	0	0	0
December.....	0	0	0	0
January.....	0	0	0	0
February.....	0	0	0	0
March.....	0	0	0	0
April.....	0	0	0	0
May.....	11	0	44.0	246
June.....	150	4	77.2	4,590
July.....	78	20	41.0	2,520
August.....	20	0	4.9	301
September.....	-	-	0	0
The year.....	150	0	10.6	7,660
1911-12				
October.....	0	0	0	0
November.....	0	0	0	0
December.....	0	0	0	0
January.....	0	0	0	0
February.....	0	0	0	0
March.....	0	0	0	0
April.....	11	1	44.3	256
May.....	40	2	23.6	1,450
June.....	78	34	56.9	3,390
July.....	78	26	42.3	2,600
August.....	33	5	16.2	996
September.....	7	1	4.4	262
The year.....	78	0	12.3	8,950
1912-13				
October.....	1	0	.13	8
November.....	0	0	0	0
December.....	0	0	0	0
January.....	0	0	0	0
February.....	0	0	0	0
March.....	0	0	0	0
April.....	6	0	43.72	221
May.....	67	0	15.3	941
June.....	72	39	53.2	3,170
July.....	57	16	30.7	1,890
August.....	19	10	13.8	848
September.....	10	5	3.7	220
The year.....	72	0	10.1	7,290
1913-14				
October.....	0	0	0	0
November.....	0	0	0	0
December.....	0	0	0	0
January.....	0	0	0	0
February.....	0	0	0	0
March.....	0	0	0	0
April.....	10	0	2.39	142
May.....	202	4	33.7	2,070
June.....	150	25	66.0	3,930
July.....	101	14	39.6	2,430
August.....	14	7	9.48	583
September.....	7	3	4.93	293
The year.....	202	0	13.1	9,450

a Partly estimated.

Monthly discharge of Dry Creek near St. Ignatius, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1914-15				
October.....	38	3.0	15.6	959
November.....	10	6.0	7.87	468
December 1-12.....	6	2.0	4.17	99.3
March 20-31.....	6	.5	3.66	87.1
April.....	44	4.0	20.3	1,210
May.....	49	16	36.9	2,270
June.....	113	34	62.8	3,740
July.....	86	47	66.1	4,060
August.....	54	16	25.8	1,590
September.....	20	14	16.1	958
1915-16				
October.....	17	4.0	10.2	627
November 1-13.....	6.0	5.0	5.77	149
April.....	24	4.0	9.87	587
May.....	33	17	23.8	1,460
June.....	220	20	72.6	4,320
July.....	111	6.5	61.5	3,780
August.....	9.3	6.8	7.84	482
September.....	21	6.5	11.2	666

## Post Creek at Fitzpatrick's ranch, near Ronan, Mont.

Location.-- Staff gage, lat. 47°28', long. 114°01', in T. 20 N., R. 19 W., near the house of J. G. Fitzpatrick, 8 miles southeast of Ronan, 10 miles north of St. Ignatius, and 2 miles upstream from North Fork of Post Creek.

Records available.-- September 1906 to May 1911.

Extremes.-- Maximum discharge, 2,800 second-feet June 10, 1908 (gage height, 8.48 feet, estimated from high-water mark); minimum daily discharge, 20 second-feet Jan. 17-30, 1908 (ice present).

Remarks.-- Two small diversions above gage.

Monthly discharge of Post Creek at Fitzpatrick's ranch, near Ronan, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
September 21-30, 1906.....	59	54	57.0	1,130
October 1906.....	64	50	55.5	3,410
November.....	88	54	65.5	3,900
December.....	54	50	50.3	3,090
January 1907.....	-	-	e40.0	2,460
February.....	-	-	e40.0	2,220
March.....	39	35	37.2	2,290
April.....	56	39	45.4	2,700
May.....	290	39	106	6,520
June.....	412	153	261	15,500
July.....	410	196	259	15,900
August.....	196	58	116	7,130
September.....	99	38	55.7	3,310
Water year 1906-7.....	412	-	94.5	68,400
October 1907.....	38	31	33.7	2,070
November.....	31	25	28.6	1,700
December.....	28	25	26.8	1,650
Calendar year 1907.....	412	25	87.6	63,400
January 1908.....	25	20	22.6	1,390
February.....	30	22	25.1	1,440
March.....	35	27	30.7	1,890
April.....	103	29	53.7	3,200
May.....	178	72	123	7,560
June.....	2,800	191	1,030	61,300
July.....	346	144	253	15,600
August.....	136	51	79.5	4,890
September.....	136	41	67.2	4,000
Water year 1907-8.....	2,800	20	147	107,000

e Estimated.

## Monthly discharge of Post Creek at Fitzpatrick's ranch, near Ronan, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1908.....	51	32	35.3	2,170
November.....	36	36	36.0	2,140
December.....	36	24	32.5	2,000
Calendar year 1908.....	2,800	20	148	108,000
January 1909.....	32	24	26.5	1,630
February.....	24	24	24	1,350
March.....	57	24	29.1	1,790
April.....	32	24	28.1	1,670
May.....	213	32	66.3	4,080
June.....	1,020	136	304	18,100
July.....	331	78	210	12,900
August.....	78	78	78	4,800
September.....	78	55	62.2	3,700
Water year 1908-9.....	1,020	24	77.8	56,300
October 1909.....	63	50	52.5	3,230
November.....	70	50	55.7	3,310
December.....	51	32	43.9	2,700
Calendar year 1909.....	1,020	24	81.8	59,200
January 1910.....	35	26	28.8	1,770
February.....	35	24	31.2	1,730
March.....	54	27	37.2	2,290
April.....	127	27	59.3	3,530
May.....	260	86	165	10,100
June.....	356	116	172	10,200
July.....	140	56	93.8	5,770
August.....	62	45	55.2	3,390
September.....	45	27	35.9	2,140
Water year 1909-10.....	356	24	69.3	50,200
October 1910.....	50	31	38.5	2,370
November.....	96	35	52.5	3,120
December.....	40	27	31.9	1,960
Calendar year 1910.....	356	24	66.8	48,400
January 1911.....	24	16	20.0	1,230
February.....	20	20	20.0	1,110
March.....	37	20	26.4	1,620
April.....	54	28	36.8	2,190
May 1-9.....	105	54	71.1	1,270
The period Oct. 1 to May 9.....	-	-	-	14,900

## Post Creek at Deschamp's ranch, near Ronan, Mont.

Location.- Staff gage, lat.  $47^{\circ}28'$ , long.  $114^{\circ}02'$ , in T. 20 N., R. 19 W., at Deschamp's ranch, just upstream from North Fork of Post Creek, 7 miles southeast of Ronan, and 10 miles north of St. Ignatius.

Records available.- April to November 1911.

Extremes.- Maximum daily discharge, 546 second-feet June 25 (gage height, 2.95 feet); minimum daily, 16 second-feet Apr. 20 (gage height, 0.6 foot).

Remarks.- Several small diversions above gage.

## Monthly discharge of Post Creek at Deschamp's ranch, near Ronan, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1911				
April 20-30.....	55	16	42.5	927
May.....	131	44	69.3	4,260
June.....	546	97	329	19,600
July.....	294	128	184	11,300
August.....	128	52	87.5	5,380
September.....	60	32	40.0	2,380
October.....	44	32	35.5	2,180
November 1-11.....	32	32	32.0	698
The period.....	-	-	-	44,300



## Post Creek near St. Ignatius, Mont.

Location.- Chain gage, lat.  $47^{\circ}24'$ , long.  $114^{\circ}05'$ , on line between SW $\frac{1}{4}$  sec. 24 and SE $\frac{1}{4}$  sec. 23, T. 19 N., R. 20 W., on highway bridge on stage road between St. Ignatius and Ronan, 1 mile downstream from North Fork of Post Creek and 5 miles north of St. Ignatius.

Records available.- September 1911 to September 1917.

Extremes.- Maximum discharge observed, 680 second-feet June 29, 1916 (gage height, 5.20 feet); minimum observed, 20 second-feet Sept. 3, 1914 (gage height, 2.0 feet).

Remarks.- Several diversions above station. Natural storage in McDonald Lake.

## Monthly discharge of Post Creek near St. Ignatius, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
September 19-30, 1911.....	81	64	67.7	1,610
October.....	112	59	72.3	4,450
November.....	59	49	53.1	3,160
December.....	54	43	48.4	2,980
April 1912.....	60	42	49.4	2,940
May.....	242	48	111	6,820
June.....	414	158	239	17,200
July.....	345	102	196	12,100
August.....	225	58	101	6,210
September.....	142	66	95.2	5,660
November 1912.....	66	54	60.6	3,610
December.....	58	51	52.9	3,250
January 1913.....	52	43	45.8	2,820
February.....	-	37	45.9	2,550
March.....	56	38	43.7	2,690
April.....	73	43	58.5	3,480
May.....	377	56	120	7,380
June.....	404	225	335	19,900
July.....	324	142	192	11,800
August.....	160	-	116	7,130
September.....	46	31	33.3	1,980
The period.....	-	-	-	66,600
October 1913.....	49	31	40.6	2,500
November.....	56	46	49.3	2,930
December.....	46	43	43.8	2,690
Calendar year 1913.....	404	31	93.7	67,800
January 1914.....	59	40	43.1	2,650
February.....	110	32	42.2	2,340
March.....	62	25	41.3	2,540
April.....	48	25	32.8	1,950
May.....	311	28	125	7,690
June.....	431	125	244	14,500
July.....	248	62	180	11,100
August.....	57	22	32.2	1,980
September.....	44	20	25.7	1,530
Water year 1913-14.....	431	20	75.1	54,400
October 1914.....	93	22	32.5	2,000
November.....	86	44	71.0	4,220
December 1-15.....	66	40	53.1	1,580
April 1915.....	142	51	89.5	5,330
May.....	431	89	189	11,600
June.....	377	170	228	13,600
July.....	286	180	223	13,700
August.....	170	95	132	8,120
September.....	134	72	85.1	5,060
October 1915.....	95	32	43.3	2,660
November.....	63	55	61.7	3,670
December.....	63	55	55.4	3,410
January 1916.....	55	47	47.5	2,920
February.....	151	39	55.6	3,200
March.....	109	39	62.8	3,860
April.....	95	63	71.0	4,220
May.....	127	64	96.7	5,950
June.....	680	117	328	19,500
July.....	590	206	378	23,200
August.....	206	104	152	9,350
September.....	206	77	116	6,900
Water year 1915-16.....	680	32	122	88,800

a Partly estimated.

## Monthly discharge of Post Creek near St. Ignatius, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1916.....	77	30	50.5	3,100
November.....	34	24	25.6	1,770
December.....	34	24	26.7	1,640
Calendar year 1916.....	680	24	118	85,610
January 1917.....	38	30	32.6	2,000
February.....	38	23	30.7	1,700
March.....	65	23	30.7	1,880
April.....	74	30	39.5	2,350
May.....	200	23	79.3	4,860
June.....	466	84	275	16,300
July.....	377	30	160.5	9,850
August.....	38	23	29.3	1,800
September.....	55	23	30	1,780
Water year 1916-17.....	466	23	67.7	49,000

a Partly estimated.

## South Fork of Jocko River near Jocko, Mont.

Location.— Staff gage, lat. 47°12', long. 113°51', in NE¼ sec. 35, T. 17 N., R. 18 W., 300 feet downstream from confluence with Middle Fork and 10 miles northeast of Jocko.

Records available.— May 1912 to September 1915.

Extremes.— Maximum discharge observed, 1,080 second-feet May 31, 1913 (gage height, 4.15 feet); minimum observed, 29 second-feet Dec. 7, 1912 (gage height, 1.93 feet).

Remarks.— No diversion or regulation.

## Monthly discharge of South Fork of Jocko River near Jocko, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1912				
May 11-31.....	668	320	501	20,900
June.....	685	277	529	31,500
July.....	269	138	182	11,200
Aug.st.....	137	115	126	7,750
September.....	112	54	80.0	4,760
The period.....	-	-	-	76,100
1912-13				
October.....	54	43	47.5	2,920
November.....	62	37	52.0	3,090
December.....	37	28	33.2	2,040
May.....	782	117	328	20,200
June.....	760	254	506	30,100
July.....	246	129	167	10,300
August.....	137	94	121	7,440
September.....	91	53	65.1	3,870
1913-14				
October.....	78	40	56.3	3,460
November 1-15.....	39	30	34.3	1,020
April.....	127	34	67.9	4,040
May.....	405	120	285	17,500
June.....	360	168	265	15,800
July.....	166	72	120	7,380
August.....	70	47	56.0	3,440
September.....	58	40	48.7	2,900
1914-15				
October.....	164	52	116	7,130
November.....	98	-	50.1	2,980
April.....	176	55	125	7,440
May.....	251	137	198	12,200
June.....	251	172	214	12,700
July.....	167	106	138	8,480
August.....	105	65	84.1	5,170
September.....	78	53	64.3	3,830

## Jocko River near Jocko, Mont.

Location.— Staff gage, lat. 47°10', long. 113°59', in sec. 10, T. 16 N., R. 19 W., 500 feet upstream from headworks of Jocko K Canal, 800 feet upstream from Big Knife Creek, and 2 miles northeast of Jocko.

Records available.— April 1918 to September 1919. August 1908 to September 1916 at site 2 miles downstream (gage heights and discharge measurements only prior to April 1909)

Extremes.— Maximum discharge, 6,200 second-feet June 6, 1908 (gage height, 12.25 feet, site and datum then in use, from high-water mark), float measurement; minimum observed, 48 second-feet Mar. 7, 1919 (gage height, 3.04 feet).

Remarks.— No diversion or regulation above present site. Jocko K Canal diverts between the two sites.

## Monthly discharge of Jocko River near Jocko, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 13-30, 1909.....	111	65	86.7	3,100
May.....	957	116	369	22,700
June.....	1,480	497	946	56,300
July.....	551	254	355	21,800
August.....	249	153	194	11,900
September.....	165	128	140	8,330
The period.....	-	-	-	124,100
October 1909.....	134	105	117	7,190
November.....	191	84	123	7,520
January 1910.....	-	-	e85	5,250
February.....	-	-	e85	4,720
March.....	154	85	110	6,760
April.....	713	111	327	19,500
May.....	880	403	551	33,900
June.....	630	105	311	18,500
July.....	100	24	55.3	3,400
August.....	57	21	32.3	1,990
September.....	78	51	58.8	3,600
October 1910.....	138	52	67.8	4,130
November.....	146	85	104	6,190
December.....	-	-	e75	4,610
Calendar year 1910.....	880	21	155	112,000
January 1911.....	-	-	e70	4,300
February.....	-	-	e65	3,610
March.....	-	-	e80	4,920
April.....	380	80	176	10,500
May.....	856	280	408	25,100
June.....	935	550	724	43,100
July.....	619	103	243	14,900
August.....	134	98	118	7,260
September.....	126	96	109	6,490
Water year 1910-11.....	935	-	187	135,000
October 1911.....	118	89	107	6,580
November.....	106	80	96	5,710
December.....	-	-	e75	4,610
Calendar year 1911.....	935	-	189	137,000
January 1912.....	-	-	e70	4,300
February.....	-	-	e60	3,450
March.....	-	-	e65	4,000
April.....	335	86	244	14,500
May.....	1,000	265	700	43,000
June.....	1,000	550	808	48,100
July.....	550	147	301	18,500
August.....	172	148	162	9,960
September.....	172	134	157	9,540
Water year 1911-12.....	1,000	-	237	172,000
October 1912.....	152	120	135	8,500
November.....	143	102	120	7,140
December.....	101	77	89.6	5,510
Calendar year 1912.....	1,000	-	243	176,000
April 22-30, 1913.....	355	265	289	5,160
May.....	1,580	184	619	38,100
June.....	1,580	542	1,040	61,900
July.....	515	155	297	18,500
August.....	208	152	185	11,400
September.....	173	123	137	8,150
October 1913.....	162	125	137	8,420
November.....	162	108	137	8,150
December 1-12.....	-	-	83.9	2,000
April 1914.....	355	78	241	14,500
May.....	762	323	608	37,400
June.....	935	298	493	29,300
July.....	282	53	134	8,240
August.....	113	53	89.7	5,620
September.....	104	81	87.7	5,220

e Estimated.

## Monthly discharge of Jocko River near Jocko, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1914.....	-	95	189	11,600
March 26-31, 1915.....	131	119	125	1,490
April.....	550	134	317	18,900
May.....	570	347	485	29,800
June.....	625	368	499	29,700
July.....	380	223	308	18,900
August.....	211	142	154	9,470
September.....	173	122	160	9,520
October 1915.....	156	106	140	8,610
November 1-5.....	122	122	122	1,210
March 15-31, 1916.....	208	144	189	4,370
April.....	585	207	309	18,400
May.....	712	405	514	31,600
June.....	1,630	518	1,080	64,300
July.....	1,500	285	750	46,700
August.....	306	178	248	15,200
September.....	266	128	169	10,100
April 11-30, 1918.....	885	370	536	21,300
May.....	1,130	455	845	52,000
June.....	2,720	425	1,370	81,500
July.....	374	192	264	16,200
August.....	209	130	168	10,300
September.....	128	101	111	6,600
The period.....	-	-	-	188,000
October 1918.....	107	93	99.9	6,140
December.....	73	51	64.6	3,970
January 1919.....	60	51	56.0	3,440
February.....	58	51	54.0	3,000
March.....	83	48	55.9	3,440
April.....	560	90	199	11,800
May.....	1,080	245	467	28,700
June.....	455	181	308	18,300
July.....	209	112	149	9,160
August.....	116	79	95.0	5,840
September.....	78	64	71.2	4,240

## Jocko River at Ravalli, Mont.

Location.- Chain gage, lat. 47°17', long. 114°11', in sec. 32, T. 18 N., R. 20 W., 400 feet downstream from railroad station at Ravalli.

Records available.- October 1906 to April 1911.

Extremes.- Maximum discharge, 7,500 second-feet (estimated) June 10, 1908 (gage height, 7.63 feet, from high-water mark); minimum discharge observed, 92 second-feet Feb. 21 to Mar. 11, 1908 (gage height, 1.3 feet).

Remarks.- Several diversions above station for irrigation.

## Monthly discharge of Jocko River at Ravalli, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 18-31, 1906.....	262	152	179	4,970
November.....	493	162	224	13,300
December.....	208	173	188	11,600
January 1907.....	184	152	166	10,200
February.....	324	173	200	11,100
March.....	324	196	246	15,100
April.....	472	234	344	20,500
May.....	1,500	308	842	51,800
June.....	1,860	815	1,190	70,800
July.....	1,180	358	585	36,000
August.....	376	262	312	19,200
September.....	277	234	245	14,600
The period.....	-	-	-	279,200
October 1907.....	234	184	208	12,800
November.....	184	162	177	10,500
December.....	162	142	157	9,650
Calendar year 1907.....	1,860	142	390	282,000
January 1908.....	142	108	125	7,690
February.....	514	92	131	7,540
March.....	142	92	114	7,010
April.....	605	124	238	14,200
May.....	760	324	550	33,800
June.....	7,500	731	2,410	143,000
July.....	693	329	479	29,500
August.....	329	286	302	18,600
September.....	428	228	286	17,000

## Monthly discharge of Jocko River at Ravalli, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1908.....	247	210	220	13,500
November.....	210	193	200	11,900
December.....	193	160	172	10,600
Calendar year 1908.....	7,500	92	433	314,000
January 1909.....	-	-	e150	9,220
February.....	-	-	e150	8,330
March.....	202	164	181	11,100
April.....	202	182	187	11,100
May.....	1,240	182	486	29,900
June.....	1,540	345	914	54,400
July.....	620	264	406	25,000
August.....	315	224	255	15,700
September.....	207	192	195	11,600
Water year 1908-9.....	1,540	-	293	212,000
October 1909.....	192	179	183	11,300
November.....	224	168	185	11,000
December.....	179	179	a179	11,000
Calendar year 1909.....	1,540	-	290	210,000
January 1910.....	-	-	e170	10,500
February.....	-	-	e170	9,440
March.....	-	-	e200	15,300
April.....	1,120	235	602	35,800
May.....	1,590	705	942	57,900
June.....	705	205	392	23,300
July.....	180	110	138	8,480
August.....	180	110	125	7,690
September.....	180	155	167	9,940
Water year 1909-10.....	1,590	110	288	209,000
October 1910.....	250	167	180	11,100
November.....	220	167	191	11,400
December.....	167	120	148	9,100
Calendar year 1910.....	1,590	110	286	207,000
January 1911.....	140	100	114	7,010
February.....	138	98	110	6,110
March.....	175	98	131	8,060
April 1-8.....	200	175	191	3,030
The period.....	-	-	-	55,800

a Partly estimated.

e Estimated.

## Middle Fork of Jocko River near Jocko, Mont.

Location.- Staff gage, lat. 47°11', long. 113°50', near north line of sec. 35, T. 17 N., R. 18 W., 300 feet upstream from confluence with South Fork and 10 miles northeast of Jocko.

Records available.- May 1912 to September 1915.

Extremes.- Maximum discharge observed, 134 second-feet June 1, 1912 (gage height, 1.4 feet); minimum observed, 8 second-feet Dec. 13, 1913 (gage height, 0.45 foot).

Remarks.- No diversion or regulation.

## Monthly discharge of Middle Fork of Jocko River near Jocko, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1912				
May.....	133	31	81.5	5,010
June.....	134	68	92.1	5,480
July.....	67	50	58.3	3,580
August.....	50	32	38.7	2,330
September.....	32	25	29.0	1,730
The period.....	-	-	-	18,200

Monthly discharge of Middle Fork of Joeko River near Joeko, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1912-13				
October.....	25	19	21.6	1,330
November.....	20	16	18.6	1,110
December.....	16	15	15.1	928
April 26-30.....	24	23	23.6	234
May.....	114	22	63.1	3,880
June.....	111	65	81.0	4,820
July.....	64	41	51.5	3,170
August.....	40	24	33.2	2,040
September.....	24	19	21.2	1,260
1913-14				
October.....	22	13	16.9	1,040
November.....	13	10	11.4	678
December 1-13.....	9	8	8.7	224
April.....	29	13	19.7	1,170
May.....	71	28	52.0	3,200
June.....	58	36	43.9	2,610
July.....	35	28	30.8	1,890
August.....	28	20	23.8	1,460
September.....	20	17	18.4	1,090
1914-15				
October.....	47	18	32.7	2,010
November.....	25	10	14.9	887
December 1-12.....	10	9	9.7	231
April.....	47	18	32.8	1,950
May.....	45	31	37.3	2,290
June.....	39	35	36.5	2,170
July.....	38	30	34.1	2,100
August.....	30	20	23.6	1,450
September.....	24	18	21.6	1,290

## North Fork of Joeko River near Joeko, Mont.

Location.-- Staff gage, lat. 47°12', long. 113°50', in NW¼ sec. 23, T. 17 N., R. 18 W., three-quarters of a mile upstream from Falls Creek, and 11 miles northeast of Joeko.  
Records available.-- May 1912 to September 1915.  
Extremes.-- Maximum discharge observed, 492 second-feet May 31, 1913 (gage height, 3.4 feet); minimum observed, 6 second-feet Dec. 13, 1913 (gage height, 0.55 foot).  
Remarks.-- No diversion or regulation.

Monthly discharge of North Fork of Joeko River near Joeko, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1912				
May.....	303	56	201	12,400
June.....	322	145	236	14,000
July.....	140	37	75.2	4,620
August.....	36	22	29.5	1,810
September.....	35	21	25.3	1,510
The period.....	-	-	-	34,300
1912-13				
October.....	27	23	24.4	1,500
November.....	35	24	28.8	1,710
December.....	23	13	12.5	953
April 26-30.....	50	24	37	367
May.....	492	57	231	14,200
June.....	466	145	305	18,100
July.....	135	34	60.3	3,710
August.....	33	20	27.8	1,710
September.....	20	11	13.9	827
1913-14				
October.....	15	12	13.0	779
November.....	12	7	9.30	553
December 1-13.....	7	6	6.69	172
April.....	92	21	47.8	2,840
May.....	383	87	252	15,500
June.....	295	85	162	9,640
July.....	83	20	54.6	3,360
August.....	19	9.5	13.8	848
September.....	26	8.0	13.3	785

## Monthly discharge of North Fork of Jocko River near Jocko, Mont.--Continued

Monthly discharge of North Fork of Jocko River near Jocko, Mont.--Continued				
Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1914-15				
October.....	106	16	61.5	3,780
November.....	60	17	29.1	1,730
December 1-12.....	17	15	15.8	376
March 26-31.....	31	31	31.0	369
April.....	198	31	114	6,780
May.....	187	92	159	9,780
June.....	177	96	123	7,320
July.....	96	40	71.0	4,370
August.....	39	18	24.5	1,510
September.....	31	20	25.8	1,540

## Falls Creek near Jocko, Mont.

Location.- Staff gage, lat. 47°13', long. 113°51', in NE $\frac{1}{4}$  sec. 22, T. 17 N., R. 18 W., a quarter of a mile upstream from mouth and 10 miles northeast of Jocko.

Records available.- May 1912 to September 1915.

Extremes.- Maximum discharge observed, 89 second-feet May 31 and June 1, 1912 (gage height, 1.5 feet); minimum observed, 1.0 second-foot Dec. 6, 1913 (gage height, 0.0 foot).

Remarks.- No diversion or regulation.

## Monthly discharge of Falls Creek near Jocko, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1912				
May 11-31.....	89	38	68.0	2,830
June.....	89	20	54.3	3,230
July.....	20	8.0	14.6	898
August.....	8.0	7.0	7.29	448
September.....	7.0	7.0	7.00	417
The period.....	-	-	-	7,820
1912-13				
October.....	7.0	4.5	5.46	336
May.....	102	8.6	34.1	2,100
June.....	96	27	49.0	2,920
July.....	36	6.1	13.2	812
August.....	6.4	4.4	5.35	329
September.....	4.3	2.5	3.11	186
1913-14				
October.....	4.2	2.8	3.13	192
November.....	2.8	1.0	2.02	120
December 1-6.....	-	-	1.00	11.9
April.....	10.2	2.6	5.68	338
May.....	83	9.9	49.0	3,010
June.....	57	19	31.7	1,890
July.....	18	5.6	11.4	701
August.....	5.5	2.4	3.87	238
September.....	11.5	2.1	4.50	268
1914-15				
October.....	31	4.8	16.0	984
November.....	9.8	3.8	6.19	368
December 1-12.....	3.8	1.5	2.99	71.2
March 26-31.....	4.9	3.9	4.40	52.4
April.....	58	3.8	29.5	1,760
May.....	60	18	46.8	2,880
June.....	58	25	41.9	2,490
July.....	29	13	21.4	1,320
August.....	14	3.4	6.79	418
September.....	16	4.0	10.8	643

## Big Knife Creek near Jocko, Mont.

Location.- Staff gage, lat. 47°09', long. 113°57', in NW $\frac{1}{4}$  sec. 14, T. 16 N., R. 19 W., 200 feet upstream from headgate of Big Knife Canal and 2 $\frac{1}{2}$  miles northeast of Jocko.

Records available.- August 1910 to September 1916, August 1908 to August 1910 at site 1 mile downstream.

Extremes.- Maximum discharge observed, 78 second-feet June 30, 1916 (gage height, 3.65 feet); minimum observed, 4.3 second-feet Apr. 17, 1911 (gage height, 1.83 feet).

Remarks.- Discharge in August and September 1910 affected by operation of canal.

## Monthly discharge of Big Knife Creek near Jocko, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1909				
April 13-30.....	7.8	6.8	7.08	253
May.....	22	7.7	12.0	738
June.....	52	28	37.4	2,230
July.....	43	22	27.9	1,720
August.....	22	15.4	18.0	1,110
September.....	17.6	13.0	14.4	857
The period.....	-	-	-	6,910
1909-10				
October.....	13.5	10.5	11.7	719
November.....	11.2	9.7	10.3	613
January.....	-	-	e7.8	480
February.....	-	-	e7.5	416
March.....	8.9	7.5	7.8	481
April.....	22	7.5	12.3	732
May.....	32	13	19.1	1,170
June.....	22	13	17.1	1,020
July.....	15	12	13.0	799
August.....	12	3.7	9.38	577
September.....	3.3	.9	1.31	78
1910-11				
October.....	7.3	6.2	6.58	405
November.....	6.6	5.5	5.99	356
December.....	-	-	5.00	307
January.....	-	-	5.00	307
February.....	-	-	4.00	222
March.....	-	-	4.70	289
April.....	6.6	4.3	4.70	280
May.....	18	5.6	8.98	552
June.....	40	21	32.0	1,900
July.....	30	16	20.6	1,270
August.....	16	12	13.4	824
September.....	12	9.4	10.7	637
The year.....	40	-	10.2	7,350
1911-12				
October.....	10	8.2	8.88	546
November.....	8.0	-	7.15	425
December.....	-	-	6.00	369
May 10-31.....	40	8.0	22.4	977
June.....	50	30	37.5	2,230
July.....	40	19	26.5	1,630
August.....	19	13	15.6	959
September.....	13	9.5	10.7	637
1912-13				
October.....	9.4	7.8	8.45	520
April 22-30.....	7.4	6.5	6.90	124
May.....	38	6.5	15.1	928
June.....	40	28	34.2	2,040
July.....	28	16	20.2	1,240
August.....	16	14	14.8	910
September.....	14	10	11.8	702
1913-14				
October.....	12	9.4	10.2	627
November.....	9.4	7.3	8.40	500
December 1-12.....	7.1	5.8	6.38	152
April.....	5.9	4.6	5.46	325
May.....	26	6.0	16.1	990
June.....	33	21	26.7	1,590
July.....	23	14.2	17.6	1,080
August.....	14.1	10.2	11.8	726
September.....	12.2	9.5	10.5	625
1914-15				
October.....	14.8	-	10.5	646
May 24-31.....	34	30	31.2	495
June.....	34	27	31.0	1,840
July.....	28	20	24.7	1,520
August.....	20	13	16.5	1,010
September.....	14	11	12.5	744

e Estimated.



Monthly discharge of Big Knife Creek near Jocko, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1915-16				
October.....	14	8.4	10.4	640
November.....	8.2	-	7.61	453
December.....	-	-	7.05	433
April 14-30.....	13	8.9	9.95	336
May.....	25	12	17.1	1,050
June.....	78	20	47.0	2,800
July.....	74	23	49.5	3,040
August.....	37	20	27.6	1,700
September.....	21	14	17.8	1,060

## Agency Creek near Jocko, Mont.

Location.- Staff gage, lat. 47°08', long. 113°57', in T. 16 N., R. 19 W., just upstream from intake of Matt ditch, 2 miles east of Jocko.  
Records available.- August 1908 to September 1916 (gage heights only prior to April 1909).  
Extremes.- Maximum discharge observed, 228 second-feet June 20, 1916 (gage height, 3.30 feet); minimum observed, 2.0 second-feet Dec. 12, 1913 (gage height, 1.38 feet).  
Remarks.- No diversion or regulation.

Monthly discharge of Agency Creek near Jocko, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 16-30, 1909.....	10.6	4.4	6.43	191
May.....	69	10.3	22.9	1,410
June.....	104	49	69.8	4,150
July.....	70	15.3	34.0	2,090
August.....	24	8.6	12.1	744
September.....	10.3	7.6	8.51	506
The period.....	-	-	-	9,090
October 1909.....	8.0	6	6.58	405
November.....	6.8	5.1	5.95	354
January 1910.....	-	-	e6	369
February.....	-	-	e6	333
March.....	-	-	e6.5	400
April.....	50	5	17.6	1,050
May.....	60	23	38.0	2,340
June.....	41	13	23.3	1,390
July.....	13	6.6	9.12	561
August.....	6.5	5.1	5.61	345
September.....	6.7	4.5	5.24	312
October 1910.....	5.5	4.2	4.83	297
November.....	7.8	4.6	5.45	325
December.....	-	-	5.00	307
Calendar year 1910.....	60	-	11.1	8,030
January 1911.....	-	-	5.30	326
February.....	-	-	4.00	222
March.....	-	-	3.60	221
April.....	12	3.1	5.16	307
May.....	51	9.2	17.8	1,090
June.....	68	34	45.7	2,720
July.....	33	11	18.5	1,140
August.....	11	6.6	8.49	522
September.....	9.6	6.4	8.03	478
Water year 1910-11.....	68	-	11.0	7,960
October 1911.....	9.0	6.3	7.79	479
November.....	6.0	4.0	4.73	281
December.....	-	-	4.00	246
Calendar year 1911.....	68	-	11.1	8,030
April 1912.....	10	4.0	7.19	428
May.....	44	7.8	28.4	1,750
June.....	56	28	44.8	2,670
July.....	49	14	27.0	1,660
August.....	14	9.2	11.6	713
September.....	11	7.7	9.56	569

e Estimated.

Monthly discharge of Agency Creek near Jocko, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1912.....	7.6	6.5	6.97	429
April 22-30, 1913.....	6.7	6.5	6.38	114
May.....	80	4.8	28.8	1,770
June.....	70	37.2	47.2	2,810
July.....	37.2	11.4	20.8	1,280
August.....	11.6	6.7	9.65	593
September.....	6.5	4.0	5.03	299
October 1913.....	7.2	4.6	5.66	348
November.....	6.4	2.2	3.99	237
April 1914.....	8.9	2.8	5.90	351
May.....	70	9.0	42.8	2,630
June.....	55	29	39.2	2,330
July.....	28	9.6	17.8	1,090
August.....	9.4	5.5	7.36	453
September.....	7.2	4.8	5.70	339
October 1-20, 1914.....	10.6	5.6	8.37	332
June.....	50	30	37.2	2,210
July.....	46	17.5	29.7	1,830
August.....	18.2	7.0	11.8	726
September.....	31.0	7.3	10.6	631
October 1915.....	46	7.0	13.4	842
November 1-5.....	7.0	6.4	6.70	66
April 14-30, 1916.....	16	6.0	8.59	290
May.....	49	11	19.9	1,220
June.....	228	21	94.6	5,630
July.....	110	22	58.5	3,600
August.....	20	8.6	12.0	738
September.....	9.0	5.8	8.08	481

## Blodgett Creek near Jocko, Mont.

Location.- Staff gage, lat. 47°09', long. 113°58', in T. 16 N., R. 19 W.,  $1\frac{1}{2}$  miles northeast of Jocko.

Records available.- May to December 1909.

Extremes.- Maximum discharge observed, 3.4 second-feet June 3 (gage height, 1.00 foot); minimum observed, 0.4 second-foot at times in November and December (gage height, 0.50 foot).

Monthly discharge of Blodgett Creek near Jocko, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1909				
May 22-31.....	2.2	1.1	1.67	33.1
June.....	3.4	2.0	2.61	155
July.....	2.2	1.3	1.72	106
August.....	1.3	.8	1.03	63.3
September.....	1.0	.6	.69	41.1
October.....	.7	.5	.55	33.8
November.....	.5	.4	.44	26.2
The period.....	-	-	-	458

## Finley Creek near Jocko, Mont.

Location.- Staff gage, lat. 47°06', long. 114°03', in sec. 31, T. 16 N., R. 19 W., at ford about 100 feet upstream from highway bridge, an eighth of a mile downstream from confluence of East and West Forks, 4 miles southwest of Jocko, and 5 miles southeast of Arlee.

Records available.- August 1908 to September 1915 (gage heights only prior to April 1909).

Extremes.- Maximum discharge observed, 269 second-feet June 3, 1909 (gage height, 2.3 feet); minimum observed, 4.5 second-feet Dec. 12, 1913 (gage height, 0.95 foot).

Remarks.- Several diversions for irrigation. No regulation.

## Monthly discharge of Finley Creek near Jocko, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 15-30, 1909.....	56	19.4	32.5	1,030
May.....	185	34	70.5	4,330
June.....	269	68	147	8,750
July.....	62	19.4	35.0	2,150
August.....	24	9.3	15.0	922
September.....	19.4	9.3	12.2	726
The period.....	-	-	-	17,900
October 1909.....	12.0	9.3	9.39	577
November.....	19.4	9.3	11.1	660
April 1910.....	136	20	55.3	3,290
May.....	115	43	60.2	3,700
June.....	43	12	23.1	1,370
July.....	11	6.2	8.45	520
August.....	6.2	4.7	5.38	331
September.....	7.8	5.0	6.97	415
October 1910.....	8.6	7.4	8.22	505
November.....	11	8.2	9.23	549
January 1911.....	-	-	6.10	375
February.....	-	-	8.00	444
March.....	-	-	10.0	615
April.....	24	8.2	11.6	690
May.....	57	19	38.6	2,370
June.....	110	46	81.9	4,870
July.....	44	14	24.9	1,530
August.....	13	7.1	10.1	621
September.....	10	7	8.12	483
October 1911.....	13	8.8	9.90	609
November.....	8.8	-	7.32	436
December.....	-	-	7.00	430
Calendar year 1911.....	110	-	18.6	13,500
January 1912.....	-	-	7.0	430
February.....	-	-	8.0	460
March.....	-	-	9.0	553
April.....	29	12	23.1	1,370
May.....	124	30	76.8	4,720
June.....	118	46	88.8	5,280
July.....	78	18	41.1	2,530
August.....	24	13	16.4	1,010
September.....	16	11	14.4	857
Water year 1911-12.....	124	-	25.7	18,700
October 1912.....	11	11	11.0	676
November.....	-	-	8.0	476
December.....	-	-	7.0	430
Calendar year 1912.....	124	-	25.9	18,800
April 22-30, 1913.....	73	55	61.2	1,090
May.....	158	38	73.5	4,520
June.....	130	48	77.8	4,630
July.....	48	10	29.1	1,790
August.....	11	6.4	8.90	547
September.....	8.8	4.6	5.82	346
October 1913.....	12	5.8	9.04	556
November.....	8.7	6.3	7.34	437
December 1-12.....	6.3	4.5	5.57	133
April 1914.....	28	9.6	20.2	1,200
May.....	87	28	69.5	4,270
June.....	100	43	66.6	3,960
July.....	41	9.3	21.7	1,330
August.....	9.3	6.2	8.54	525
September.....	7.1	5.8	6.22	370
October 1-20, 1914.....	14.8	6.0	9.79	388
May 24-31, 1915.....	91	82	85.0	1,350
June.....	95	42	73.4	4,370
July.....	61	23	38.1	2,340
August.....	24	7.8	14.7	904
September.....	14	7.4	9.53	567

e Estimated.

## East Finley Creek near Jocko, Mont.

Location.-- Staff gage, lat. 47°06', long. 114°02', near south line of sec. 32, T. 16 N., R. 19 W., just upstream from intake of Indian ditch, 200 feet downstream from crossing of Bureau of Reclamation canal, 4 miles southwest of Jocko, and 6 miles southeast of Arlee.

Records available.-- August 1908 to September 1915 (gage heights only prior to April 1909).

Extremes.-- Maximum discharge observed, 132 second-feet June 3, 1909 (gage height, 2.84 feet); minimum observed, 2.5 second-feet Apr. 2, 1912 (gage height, 1.23 feet).

Remarks.-- Bureau of Reclamation canal diverts water above station at times. No regulation.

## Monthly discharge of East Finley Creek near Jocko, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 15-30, 1909.....	5.3	3.6	4.26	135
May.....	94	6.9	26	1,600
June.....	132	34	67.5	4,020
July.....	48	14	25.5	1,570
August.....	19	6	9.69	596
September.....	11	4.1	6.97	415
The period.....	-	-	-	8,340
October 1909.....	6.5	4.1	5.18	318
November.....	6.8	4.1	5.21	310
January 1910.....	-	-	e5.0	307
February.....	-	-	e5.0	278
March.....	11	5.0	6.52	401
April.....	64	6.3	20.7	1,230
May.....	85	24	40.3	2,480
June.....	39	13	21.8	1,300
July.....	12	5.2	7.82	481
August.....	5.1	4.1	4.35	267
September.....	6.3	3.6	4.63	276
October 1910.....	5.5	3.5	5.07	312
November.....	6.9	4.9	5.76	343
December.....	-	-	5.0	307
January 1911.....	-	-	3.00	184
February.....	-	-	3.00	167
March.....	-	-	3.10	191
April.....	24	3.3	6.52	388
May.....	50	15	25.5	1,570
June.....	82	27	53.6	3,190
July.....	24	3.1	14.0	861
The period.....	-	-	-	7,510
January 1912.....	-	-	3.0	184
February.....	-	-	2.5	144
March.....	-	-	2.5	154
April.....	30	2.5	10.8	643
May.....	51	7.9	35.6	2,190
June.....	58	28	41.5	2,470
July.....	37	8.8	17.8	1,090
August.....	11	7.4	8.68	534
September.....	9.4	6.4	7.60	452
The period.....	-	-	-	7,860
October 1912.....	7.1	5.4	6.28	386
November.....	-	-	e4.0	238
December.....	-	-	e3.5	215
Calendar year 1912.....	58	-	12.0	8,700
April 22-30, 1913.....	30	11	16.0	286
May.....	103	9.2	35.6	2,190
June.....	88	34	53.2	3,170
July.....	34	10	19.1	1,170
August.....	11	6.5	8.95	550
September.....	6.3	4.1	5.26	313
October 1913.....	11	4.6	7.11	437
November.....	9.3	5.5	6.60	393
December 1-12.....	5.5	4.5	5.04	120
April 1914.....	10.4	2.8	6.56	390
May.....	55	10.6	39.6	2,430
June.....	59	23	34.8	2,070
July.....	25	7.1	13.6	836
August.....	7.0	4.7	5.79	356
September.....	7.3	4.2	5.53	329

e Estimated.

Monthly discharge of East Finley Creek near Jocko, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1914.....	16	-	9.06	557
May 24-31, 1915.....	71	45	54.1	858
June.....	71	24	47.0	2,800
July.....	55	17	28.5	1,750
August.....	16	7.0	10.5	646
September.....	14	7.6	9.14	544

## Indian ditch near Jocko, Mont.

Location.- Staff gage, lat. 47°06', long. 114°02', near south line of sec. 32, T. 16 N., R. 19 W., 200 feet downstream from intake on East Finley Creek, 4 miles southwest of Jocko, and 6 miles southeast of Arlee.

Records available.- August 1908 to September 1916.

Remarks.- Flow completely regulated by diversion dam. Water diverted during greater part of year for stock and irrigation uses.

Monthly discharge of Indian ditch near Jocko, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1909				
April 17-30.....	3.0	1.8	2.02	56
May.....	28	1.6	8.45	520
June.....	20	2.0	10.7	637
July.....	22	8.0	14.2	873
August.....	12.5	4.4	6.78	417
September.....	7.6	4.2	5.11	304
The period.....	-	-	-	2,810
1909-10				
October.....	5.0	3.4	4.08	251
November.....	4.6	3.5	3.98	237
April.....	24	1.0	10.3	613
May.....	18	12	14.6	898
June.....	22	14	19.2	1,140
July.....	13	5.4	8.28	509
August.....	5.3	2.3	3.87	238
September.....	6.2	3.6	4.43	264
1910-11				
October.....	5.1	3.6	4.74	291
November.....	6.4	4.3	5.38	320
April.....	17	2.6	5.21	310
May.....	26	0	10.4	640
June.....	23	11	16.5	982
July.....	14	2.5	9.59	590
1912				
January.....	-	-	2.0	123
February.....	-	-	1.5	86
March.....	-	-	1.5	92
April.....	5.3	.6	3.64	217
May.....	23	2.4	10.5	646
June.....	29	4.1	19.1	1,140
July.....	18	3.1	5.62	346
August.....	4.0	1.4	2.81	173
September.....	6.7	3.1	5.08	302
The period.....	-	-	-	3,120
1912-13				
October.....	8.4	6.0	7.15	440
April 22-30.....	10.0	7.2	9.20	164
May.....	10.0	5.5	7.99	491
June.....	27.9	9.0	20.2	1,200
July.....	14.2	2.2	5.84	359
August.....	8.3	5.1	6.55	403
September.....	5.0	3.4	4.11	245

e Estimated.

## Monthly discharge of Indian ditch near Jocko, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1913-14				
October.....	7.5	3.5	5.92	364
November.....	6.9	3.6	5.50	327
December 1-12.....	3.6	2.2	2.84	68
April.....	9.5	2.2	5.95	354
May.....	25	5.5	16.1	990
June.....	16	5.9	11.2	666
July.....	11	4.8	7.76	477
August.....	5.3	3.9	4.90	301
September.....	8.5	3.9	6.23	371
1914-15				
October.....	9.8	-	7.64	470
June.....	11.5	.7	5.54	330
July.....	13.8	2.8	7.02	432
August.....	9.4	1.9	5.35	329
September.....	10.6	5.0	6.96	414
1915-16				
October.....	7.6	1.7	4.21	259
November 1-5.....	6.0	5.5	5.76	57
April 14-30.....	3.0	.7	1.32	45
May.....	1.7	.4	1.04	64
June.....	16	.0	7.60	452
July.....	29	3.0	9.47	582
August.....	22	2.4	4.20	258
September.....	6.6	1.7	3.66	218

## Valley Creek near Ravalli, Mont.

Location.- Staff gage, lat. 47°14', long. 114°10', in T. 17 N., R. 20 W., near mouth at crossing of highway between Jocko and Ravalli, 3 miles south of Ravalli and 8 miles west of Arlee.

Records available.- April 1909 to June 1910.

Extremes.- Maximum daily discharge, 290 second-feet June 2, 3, 1909 (gage height, 2.7 feet); minimum daily, 19.1 second-feet at times during August to December 1909 (gage height, 1.15 feet).

## Monthly discharge of Valley Creek near Ravalli, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1909				
April 17-30.....	-	-	28.3	786
May.....	252	33	116	7,130
June.....	290	69	169	10,100
July.....	69	33	52.6	3,230
August.....	33	19.1	24.3	1,490
September.....	38	19.1	21.9	1,300
The period.....	-	-	-	24,000
1909-10				
October.....	21	19.1	20.2	1,240
November.....	49	19.1	24.0	1,430
March 20-31.....	-	-	76.4	1,820
April.....	172	40	98.7	5,870
May.....	161	64	107	6,580
June.....	79	26	42.3	2,520

## Revais Creek near Dixon, Mont.

Location.- Staff gage, lat. 47°17', long. 114°23', in T. 18 N., R. 22 W., downstream from highway bridge 4 miles southwest of Dixon.

Records available.- April 1911 to September 1916, October 1917 to September 1919.

Extremes.- Maximum discharge observed, 512 second-feet June 19, 1916 (gage height, 3.7 feet); minimum observed, 3 second-feet Jan. 23 to Mar. 19 and Sept. 13, 1918.

Remarks.- No diversion or regulation.

## Monthly discharge of Revais Creek near Dixon, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1911				
May.....	144	45	69.3	4,260.
June.....	154	55	102	6,070
July.....	67	14	32.1	1,970
August.....	18	11	13.8	848
September.....	18	8	13.6	809
The period.....	-	-	-	14,000
1911-12				
October.....	18	11	14.8	910
November.....	14	11	11.3	672
December.....	11	8	10.4	640
January.....	11	8	8.9	547
February.....	8	8	8.0	460
March.....	12	8	8.5	523
April.....	67	12	40.8	2,430
May.....	226	45	130	7,990
June.....	154	36	87.1	5,180
July.....	45	14	24.2	1,490
August.....	14	11	11.9	732
September.....	11	11	11.0	655
The year.....	226	8	30.6	22,200
1912-13				
October.....	8	8	8.0	492
November.....	11	8	8.7	518
December.....	8	8	8.0	492
January.....	8	7	7.6	467
February.....	11	7	7.8	433
March.....	8	7	7.4	455
April.....	81	7	41.4	2,460
May.....	336	40	147	9,040
June.....	266	50	123	7,320
July.....	50	14	27.9	1,720
August.....	14	9.5	10.7	658
September.....	11	7	8.2	488
The year.....	336	7	33.9	24,500
1913-14				
October.....	12	7	8.3	510
November.....	16	9.5	12.2	726
December.....	11	7	7.8	480
January.....	8	6	6.5	400
February.....	8	6	6.5	361
March.....	11	6	8.5	523
April.....	97	8	42.6	2,530
May.....	202	50	118	7,260
June.....	177	29	65.5	3,900
July.....	29	11	17.1	1,050
August.....	11	6	7.5	461
September.....	8	6	6.5	387
The year.....	202	6	25.6	18,600
1914-15				
October.....	14	6.0	9.8	603
November.....	18	11.0	15.6	928
December 1-12.....	14	8.0	10.0	238
March 14-31.....	12.5	6.0	9.06	323
April.....	74	11.9	38.9	2,310
May.....	139	26.0	74.8	4,600
June.....	61	23.0	42.3	2,520
July.....	26	11.0	19.9	1,220
August.....	16	8.0	10.6	652
September.....	12.5	7.0	8.86	527
1915-16				
October.....	10.4	7.6	8.76	539
November.....	8.9	7.6	7.73	480
December.....	8.9	6.6	6.95	427
January.....	8.3	6.6	6.68	411
February.....	10.4	6.6	7.95	457
March.....	102	6.6	36.9	2,270
April.....	214	37	73.8	4,390
May.....	271	61	114	7,010
June.....	472	100	238	14,200
July.....	228	26	61.2	4,990
August.....	24	10.1	16.4	1,010
September.....	13.1	7.4	9.85	586
The year.....	472	6.6	50.5	36,800

## Monthly discharge of Revais Creek near Dixon, Mont.--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1917-18				
October.....	9	8	8.26	508
November.....	8	8	8.00	476
December.....	142	8	18.7	1,150
January.....	138	3	46.5	2,860
February.....	3	3	3.00	167
March.....	42	3	8.55	526
April.....	106	22	69.6	4,140
May.....	191	78	122	7,500
June.....	204	38	132	7,860
July.....	38	16	22.3	1,370
August.....	16	5	9.94	611
September.....	5	2	4.93	293
The year.....	204	3	37.9	27,500
1919				
April.....	112	15	42.0	2,500
May.....	144	55	92.1	5,660
June.....	87	21	43.6	2,590
July.....	21	7	9.97	613
August.....	11	4	5.42	333
September.....	7	4	4.37	260
The period.....	-	-	-	12,000

## Yearly discharge of Revais Creek near Dixon, Mont.

Year	Year ending Sept. 30		Calendar year	
	Mean discharge in second-feet	Run-off in acre-feet	Mean discharge in second-feet	Run-off in acre-feet
1912.....	30.6	22,200	29.6	21,510
1913.....	33.9	24,500	34.2	24,760
1914.....	25.6	18,600	-	-
1916.....	50.5	36,800	-	-
1918.....	37.9	27,500	-	-

## Thompson River near Thompson Falls, Mont.

Location.- Staff gage, lat. 47°36', long. 115°14', in SE $\frac{1}{4}$  sec. 7, T. 21 N., R. 28 W., at the second highway bridge, 1 mile upstream from mouth of Thompson River and 8 miles east of Thompson Falls.

Records available.- February to September 1911. 1912 (occasional gage readings and discharge figures).

Extremes.- Maximum daily discharge, 1,690 second-feet May 6, 1911 (gage height, 5.80 feet); minimum discharge observed, 140 second-feet Mar. 20, 1912.

Remarks.- One large diversion for irrigation half a mile above station.

## Monthly discharge of Thompson River near Thompson Falls, Mont.

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1911				
January.....	-	-	e150	9,220
February.....	-	-	a160	8,690
March.....	625	150	338	20,800
April.....	1,260	460	963	57,300
May.....	1,690	970	1,240	76,200
June.....	1,580	890	1,180	70,200
July.....	970	575	547	33,600
August.....	430	198	307	18,900
September.....	335	190	256	15,200
The period.....	-	-	-	310,000

a Partly estimated.

e Estimated.



## Prospect Creek near Thompson Falls, Mont.

Location.- Staff gage, lat.  $47^{\circ}35'$ , long.  $115^{\circ}22'$ , in NE $\frac{1}{4}$  sec. 18, T. 21 N., R. 29 W., at first highway bridge upstream from Dry Creek, 1 mile southwest of Thompson Falls.

Drainage area.- 139 square miles.

Records available.- February to September 1911. 1912 (occasional figures of discharge).

Extremes.- Maximum daily discharge, 1,250 second-feet Mar. 23, 1911 (gage height, 6.1 feet); minimum discharge observed, 47 second-feet Sept. 13, 1912 (gage height, 2.6 feet).

Remarks.- No diversion or regulation.

## Monthly discharge of Prospect Creek near Thompson Falls, Mont.

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1911						
February 12-28.....	98	82	85.4	0.614	0.39	2,880
March.....	1,250	80	385	2.77	3.19	23,700
April.....	1,080	397	716	5.15	5.75	42,600
May.....	990	365	790	5.68	6.55	48,600
June.....	840	322	549	3.95	4.41	32,700
July.....	307	122	189	1.36	1.57	11,600
August.....	120	65	95.2	.685	.79	5,850
September.....	66	50	59.6	.429	.48	3,550
The period.....	-	-	-	-	-	171,000

## Priest River at outlet of Priest Lake, near Coolin, Idaho

Location.- Water-stage recorder, lat.  $48^{\circ}29'$ , long.  $116^{\circ}54'$ , in SW $\frac{1}{4}$  sec. 5, T. 59 N., R. 4 W., at southwest end of Priest Lake, 2 miles northwest of Coolin. Zero of gage, 2,435.06 feet, datum of Coast and Geodetic Survey, or 2,437.99 feet, datum of Geological Survey, above mean sea level.

Drainage area.- 572 square miles.

Records available.- June 1911 to September 1918 (only fragmentary gage heights prior to July 1912), May 1919 to September 1938.

Extremes.- Maximum discharge recorded, 7,290 second-feet May 30, 1917 (gage height, 6.83 feet); minimum recorded, 118 second-feet Nov. 25, 1936 (gage height, -0.32 foot).

Remarks.- No diversions above station.

## Monthly discharge of Priest River at outlet of Priest Lake, near Coolin, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1912						
July 13-31.....	1,570	1,080	1,300	2.27	1.60	49,000
August.....	1,080	548	786	1.37	1.58	48,300
September.....	695	520	604	1.06	1.18	35,900
1912-13						
October.....	520	425	474	.829	.96	29,100
November.....	1,110	470	824	1.44	1.61	49,000
December.....	1,040	685	837	1.46	1.68	51,500
May.....	5,450	2,100	3,340	5.84	6.73	205,000
June.....	5,970	3,410	4,390	8.55	9.54	291,000
July.....	3,220	1,280	2,080	3.64	4.20	128,000
August.....	1,210	578	835	1.46	1.68	51,200
September.....	568	458	514	.899	1.00	30,600
1913-14						
October.....	485	385	451	.798	.91	27,700
November.....	715	408	542	.948	1.06	32,300
December.....	715	465	586	1.02	1.18	36,000
January.....	-	-	779	1.36	1.57	47,900
February.....	-	-	745	1.30	1.35	41,300
March.....	911	625	717	1.25	1.44	44,100
April.....	3,170	943	2,060	3.60	4.02	123,000
May.....	5,050	3,170	4,300	7.52	8.67	264,000
June.....	4,510	2,760	3,520	6.15	6.86	209,000
July.....	2,700	985	1,790	3.11	3.58	109,000
August.....	985	385	628	1.10	1.27	38,600
September.....	465	280	380	.664	.74	22,600
The year.....	5,030	280	1,380	2.41	32.65	996,000

## Monthly discharge of Priest River at outlet of Priest Lake, near Coolin, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1914-15</b>						
October.....	735	466	567	0.991	1.14	34,900
November.....	1,180	735	1,050	1.84	2.05	62,500
December.....	980	584	764	1.34	1.54	47,000
January.....	572	428	496	.867	1.00	30,500
February.....	441	405	422	.738	.77	23,400
March.....	760	446	552	.965	1.12	33,900
April.....	2,400	780	1,760	3.08	3.44	105,000
May.....	2,400	2,120	2,240	3.82	4.52	138,000
June.....	2,120	1,200	1,580	2.76	3.08	94,000
July.....	1,160	780	939	1.64	1.89	57,700
August.....	780	408	596	1.04	1.20	36,600
September.....	408	308	332	.580	.65	19,800
The year.....	2,400	308	943	1.65	22.40	683,000
<b>1915-16</b>						
October.....	-	-	289	.505	.58	17,800
November.....	418	329	375	.656	.73	22,500
December.....	472	397	447	.781	.90	27,500
January.....	477	389	431	.753	.87	26,500
February.....	468	389	435	.760	.82	25,000
March.....	1,160	459	707	1.24	1.43	43,500
April.....	1,680	1,080	1,280	2.24	2.50	76,200
May.....	4,730	1,720	3,760	6.57	7.57	231,000
June.....	5,640	4,280	4,810	8.41	9.38	286,000
July.....	4,730	1,630	3,200	5.59	6.44	197,000
August.....	1,540	661	999	1.75	2.02	61,400
September.....	655	454	552	.965	1.08	32,800
The year.....	5,640	-	1,440	2.52	34.32	1,050,000
<b>1916-17</b>						
October.....	440	-	330	.577	.67	20,300
November.....	-	-	250	.437	.49	14,900
December.....	-	-	246	.430	.50	15,100
January.....	-	-	283	.495	.57	17,400
February.....	-	-	296	.517	.54	16,400
March.....	-	-	321	.561	.65	19,700
April.....	-	-	557	.974	1.09	33,100
May.....	7,240	-	3,780	6.61	7.62	232,000
June.....	7,240	4,140	5,910	10.3	11.49	352,000
July.....	4,000	1,020	2,200	3.85	4.44	135,000
August.....	980	418	621	1.09	1.26	38,200
September.....	400	261	330	.577	.64	19,600
The year.....	7,240	-	1,260	2.20	29.96	914,000
<b>1917-18</b>						
October.....	258	178	221	.386	.44	13,600
November.....	193	172	184	.322	.36	10,900
December.....	-	178	299	.523	.60	18,400
January.....	769	-	707	1.24	1.43	43,500
February.....	611	524	567	.991	1.03	31,500
March.....	827	485	558	.976	1.13	34,300
April.....	2,350	875	1,570	2.74	3.06	93,400
May.....	3,670	2,400	3,300	5.77	6.65	203,000
June.....	-	2,350	3,360	5.87	6.55	200,000
July.....	2,240	875	1,400	2.45	2.82	86,100
August.....	804	538	656	1.15	1.33	40,300
September.....	548	334	434	.759	.85	25,800
The year.....	-	172	1,110	1.94	26.25	801,000
<b>1919</b>						
May.....	5,800	3,410	4,260	7.45	8.59	262,000
June.....	5,350	2,570	3,600	6.29	7.02	214,000
July.....	2,400	819	1,420	2.48	2.86	87,300
August.....	798	382	569	.995	1.15	35,000
September.....	374	222	304	.531	.59	18,100
The period.....	-	-	-	-	-	616,000

## Monthly discharge of Priest River at outlet of Priest Lake, near Coolin, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1919-20						
October.....	229	188	209	0.365	0.42	12,900
November.....	285	-	253	.442	.49	15,100
December.....	319	-	257	.449	.52	15,800
January.....	319	-	298	.521	.60	18,500
February.....	319	288	303	.530	.57	17,400
March.....	378	274	324	.566	.65	19,900
April.....	910	387	562	.983	1.10	33,400
May.....	3,170	950	2,300	4.02	4.64	141,000
June.....	3,050	2,300	2,710	4.74	5.29	161,000
July.....	2,240	834	1,450	2.55	2.92	89,200
August.....	814	395	560	.979	1.13	34,400
September.....	691	342	485	.848	.95	28,900
The year.....	3,170	188	810	1.42	19.28	587,000
1920-21						
October.....	827	686	766	1.34	1.54	47,100
November.....	990	558	737	1.29	1.44	43,900
December.....	990	-	882	1.54	1.78	54,200
January.....	875	732	808	1.41	1.63	49,700
February.....	950	668	806	1.41	1.47	44,800
March.....	-	808	1,050	1.84	2.12	64,600
April.....	-	-	2,480	4.35	4.85	149,000
May.....	6,440	2,700	4,400	7.69	8.87	271,000
June.....	5,960	2,820	4,680	8.18	9.13	278,000
July.....	2,760	601	1,490	2.60	3.00	91,600
August.....	788	421	571	1.00	1.15	35,100
September.....	599	259	308	.54	.60	18,500
The year.....	6,440	259	1,580	2.76	37.58	1,150,000
1921-22						
October.....	330	236	263	.460	.53	16,200
November.....	416	325	354	.619	.69	21,100
December.....	594	395	502	.878	1.01	30,900
January.....	558	426	464	.811	.94	28,500
February.....	448	362	407	.712	.74	22,600
March.....	387	346	364	.636	.73	22,400
April.....	1,050	362	554	.969	1.08	33,000
May.....	4,800	1,070	2,850	4.98	5.74	175,000
June.....	5,120	1,930	3,810	6.66	7.43	227,000
July.....	1,880	620	1,060	1.85	2.13	65,200
August.....	604	358	451	.788	.91	27,700
September.....	374	248	323	.565	.63	19,200
The year.....	5,120	236	951	1.66	22.56	689,000
1922-23						
October.....	358	229	270	.472	.54	16,600
November.....	362	285	324	.566	.63	19,300
December.....	416	259	300	.524	.60	18,400
January.....	564	412	513	.897	1.03	31,500
February.....	472	358	414	.724	.75	23,000
March.....	370	338	354	.619	.71	21,800
April.....	-	362	994	1.74	1.94	59,100
May.....	4,080	-	3,480	6.08	7.01	214,000
June.....	4,080	2,700	3,570	6.25	6.97	212,000
July.....	2,700	852	1,580	2.76	3.18	97,200
August.....	830	444	585	1.02	1.18	36,000
September.....	431	247	325	.568	.63	19,500
The year.....	4,080	229	1,060	1.85	25.17	768,000
1923-24						
October.....	250	219	231	.404	.47	14,200
November.....	261	216	234	.409	.46	13,900
December.....	307	254	273	.477	.55	16,800
January.....	319	254	271	.474	.55	16,700
February.....	580	339	493	.862	.93	28,400
March.....	575	490	523	.914	1.05	32,200
April.....	-	438	553	.967	1.08	32,900
May.....	4,220	-	3,170	5.54	6.39	195,000
June.....	2,760	978	1,740	3.04	3.39	104,000
July.....	938	402	589	1.03	1.19	36,200
August.....	389	280	331	.579	.67	20,400
September.....	273	170	214	.374	.42	12,700
The year.....	4,220	170	720	1.26	17.15	523,000

Monthly discharge of Priest River at outlet of Priest Lake, near Coolin, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1924-25						
October.....	248	173	194	0.339	0.39	11,900
November.....	419	258	386	.675	.75	23,000
December.....	484	368	429	.750	.86	26,400
January.....	542	479	499	.872	1.01	30,700
February.....	776	553	717	1.25	1.30	39,800
March.....	735	660	691	1.21	1.40	42,500
April.....	4,080	710	2,690	4.70	5.24	160,000
May.....	5,570	3,660	4,420	7.73	8.91	272,000
June.....	4,220	2,120	3,030	5.30	5.91	180,000
July.....	2,000	618	1,140	1.99	2.29	70,100
August.....	602	276	415	.726	.84	25,500
September.....	262	185	210	.367	.41	12,500
The year.....	5,570	173	1,240	2.17	29.31	894,000
1925-26						
October.....	190	148	159	.278	.32	9,780
November.....	184	143	158	.276	.31	9,400
December.....	291	192	255	.446	.51	15,700
January.....	291	244	268	.469	.54	16,500
February.....	318	258	292	.510	.53	16,200
March.....	354	258	295	.516	.59	18,100
April.....	2,640	310	1,000	1.75	1.95	59,500
May.....	3,080	1,280	2,180	3.81	4.39	134,000
June.....	1,230	537	807	1.41	1.57	48,000
July.....	522	265	391	.684	.79	24,000
August.....	283	207	242	.423	.49	14,900
September.....	428	265	330	.577	.64	19,600
The year.....	3,080	143	533	.932	12.63	386,000
1926-27						
October.....	946	428	690	1.21	1.40	42,400
November.....	803	598	648	1.13	1.26	38,600
December.....	1,280	875	1,100	1.92	2.21	67,600
January.....	-	-	925	1.62	1.87	56,900
February.....	-	-	687	1.20	1.25	38,200
March.....	703	643	671	1.17	1.35	41,300
April.....	2,400	643	1,020	1.78	1.99	60,700
May.....	4,950	2,520	3,650	6.38	7.36	224,000
June.....	5,410	3,270	4,480	7.83	8.74	267,000
July.....	-	-	1,790	3.13	3.61	110,000
August.....	-	-	564	.986	1.14	34,700
September.....	1,180	334	821	1.44	1.61	48,900
The year.....	5,410	334	1,420	2.48	33.79	1,030,000
1927-28						
October.....	1,570	1,090	1,370	2.40	2.77	84,200
November.....	1,420	1,180	1,280	2.24	2.50	76,200
December.....	1,370	841	1,130	1.98	2.28	69,500
January.....	832	571	678	1.19	1.37	41,700
February.....	571	527	547	.956	1.03	31,500
March.....	1,570	513	722	1.26	1.45	44,400
April.....	2,220	1,420	1,650	2.88	3.21	98,200
May.....	5,250	2,220	3,870	6.77	7.80	238,000
June.....	4,500	1,840	2,880	5.03	5.61	171,000
July.....	1,840	803	1,310	2.29	2.64	80,600
August.....	769	374	536	.937	1.08	33,000
September.....	370	237	296	.517	.58	17,600
The year.....	5,250	237	1,360	2.38	32.32	986,000
1928-29						
October.....	276	234	263	.460	.53	16,200
November.....	302	254	274	.479	.53	16,300
December.....	287	201	255	.446	.51	15,700
January.....	240	214	225	.393	.45	13,800
February.....	230	214	221	.386	.40	12,300
March.....	338	217	247	.432	.50	15,200
April.....	796	334	409	.715	.80	24,300
May.....	3,660	868	2,410	4.21	4.85	148,000
June.....	3,140	1,730	2,290	4.00	4.46	136,000
July.....	1,680	620	1,060	1.85	2.13	65,200
August.....	603	302	434	.759	.88	26,700
September.....	295	190	236	.413	.46	14,000
The year.....	3,660	190	697	1.22	16.50	504,000

Monthly discharge of Priest River at outlet of Priest Lake, near Coolin, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1929-30						
October.....	194	165	178	0.311	0.36	10,900
November.....	177	129	156	.273	.30	9,280
December.....	224	120	176	.308	.36	10,800
January.....	224	159	193	.337	.39	11,900
February.....	252	188	226	.395	.41	12,600
March.....	407	238	286	.500	.58	17,600
April.....	3,630	439	1,400	2.45	2.73	83,300
May.....	3,310	1,830	2,340	4.09	4.72	144,000
June.....	2,000	1,000	1,560	2.38	2.66	80,900
July.....	1,000	451	695	1.22	1.41	42,700
August.....	435	261	352	.615	.71	21,600
September.....	255	170	208	.364	.41	12,400
The year.....	3,630	120	633	1.11	15.04	458,000
1930-31						
October.....	188	161	175	.306	.35	10,800
November.....	214	181	198	.346	.39	11,800
December.....	204	181	194	.339	.39	11,900
January.....	235	181	197	.344	.40	12,100
February.....	247	172	208	.364	.38	11,600
March.....	606	241	309	.540	.62	19,000
April.....	1,510	684	1,080	1.89	2.11	64,300
May.....	4,220	1,610	3,310	5.79	6.68	204,000
June.....	2,500	1,130	1,640	2.87	3.20	97,600
July.....	1,110	467	733	1.28	1.48	45,100
August.....	462	198	302	.528	.61	18,600
September.....	195	169	182	.318	.35	10,800
The year.....	4,220	161	714	1.25	16.96	518,000
1931-32						
October.....	189	144	162	.283	.33	9,960
November.....	291	195	246	.450	.48	14,600
December.....	349	251	299	.523	.60	18,400
January.....	371	350	351	.614	.71	21,600
February.....	486	303	345	.603	.65	19,800
March.....	922	573	762	1.35	1.53	46,900
April.....	3,800	954	2,440	4.27	4.76	145,000
May.....	6,890	3,880	5,600	9.79	11.29	344,000
June.....	5,040	2,780	4,180	7.51	8.16	249,000
July.....	2,700	770	1,510	2.64	3.04	92,800
August.....	750	364	510	.692	1.03	31,400
September.....	394	218	283	.495	.55	16,800
The year.....	6,890	144	1,390	2.45	33.13	1,010,000
1932-33						
October.....	308	178	236	.413	.48	14,500
November.....	788	320	527	.921	1.03	31,400
December.....	-	750	855	1.49	1.72	52,600
January.....	766	590	669	1.17	1.55	41,100
February.....	590	424	481	.841	.88	26,700
March.....	488	429	448	.783	.90	27,500
April.....	2,630	499	942	1.65	1.84	56,100
May.....	4,870	2,860	3,690	6.45	7.44	227,000
June.....	5,940	3,950	5,120	8.95	9.99	305,000
July.....	3,790	969	2,100	3.67	4.23	129,000
August.....	942	370	615	1.08	1.24	37,800
September.....	379	329	349	.610	.68	20,800
The year.....	5,940	178	1,340	2.34	31.78	970,000
1933-34						
October.....	644	338	386	.675	.78	23,740
November.....	820	671	757	1.32	1.47	45,050
December.....	1,860	685	1,143	2.00	2.51	70,300
January.....	1,860	1,360	1,622	2.84	3.27	99,710
February.....	1,360	988	1,129	1.97	2.05	62,690
March.....	1,630	996	1,119	1.96	2.26	68,810
April.....	5,780	1,740	3,445	6.02	6.72	205,000
May.....	5,690	3,140	4,135	7.23	8.34	254,200
June.....	3,000	1,020	1,827	3.19	3.56	108,700
July.....	996	405	650	1.14	1.51	40,000
August.....	400	226	299	.523	.60	18,370
September.....	215	140	174	.304	.34	10,350
The year.....	5,780	140	1,391	2.45	33.01	1,007,000

Monthly discharge of Priest River at outlet of Priest Lake, near Coolin, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1934-35						
October.....	237	136	164	0.287	0.33	10,070
November.....	671	199	491	.858	.96	29,240
December.....	664	567	614	1.07	1.23	37,750
January.....	706	537	621	1.09	1.26	38,180
February.....	720	611	677	1.18	1.23	37,580
March.....	650	567	604	1.06	1.22	37,160
April.....	2,360	573	1,084	1.90	2.12	64,480
May.....	4,960	2,490	3,739	6.54	7.54	229,900
June.....	5,040	2,350	3,877	6.78	7.56	230,700
July.....	2,350	847	1,534	2.68	3.09	94,340
August.....	816	415	572	1.00	1.15	35,150
September.....	406	244	300	.524	.58	17,880
The year.....	5,040	136	1,191	2.08	28.27	862,400
1935-36						
October.....	240	194	216	.378	.44	13,310
November.....	218	178	197	.344	.38	11,720
December.....	253	212	228	.399	.46	13,990
January.....	325	263	301	.526	.61	18,520
February.....	266	240	249	.435	.47	14,350
March.....	291	243	270	.472	.54	16,630
April.....	3,540	270	1,124	1.97	2.20	66,900
May.....	4,540	3,000	3,890	6.80	7.84	239,200
June.....	2,900	1,020	1,813	3.17	3.54	107,900
July.....	980	401	679	1.19	1.37	41,730
August.....	392	200	292	.493	.57	17,310
September.....	227	162	193	.337	.38	11,500
The year.....	4,540	162	789	1.38	18.80	573,100
1936-37						
October.....	167	141	152	.266	.31	9,380
November.....	151	120	133	.233	.26	7,940
December.....	203	120	152	.266	.31	9,350
January.....	200	172	189	.330	.38	11,640
February.....	270	200	236	.413	.43	13,100
March.....	250	212	224	.392	.45	13,800
April.....	940	233	496	.867	.97	29,540
May.....	3,140	980	2,258	3.95	4.55	138,800
June.....	3,140	2,160	2,628	4.59	5.12	156,400
July.....	2,100	713	1,269	2.22	2.56	78,000
August.....	707	357	495	.865	1.00	30,450
September.....	374	266	333	.582	.65	19,800
The year.....	3,140	120	716	1.25	11.99	518,200
1937-38						
October.....	328	263	295	.498	.57	17,540
November.....	1,060	321	611	1.07	1.19	36,350
December.....	1,060	828	932	1.63	1.88	57,310
January.....	1,020	835	926	1.62	1.87	56,940
February.....	902	608	754	1.32	1.38	41,900
March.....	850	577	711	1.24	1.43	43,720
April.....	3,780	850	1,797	3.14	3.50	106,900
May.....	5,780	3,780	4,395	7.68	8.85	270,200
June.....	5,780	2,420	4,010	7.01	7.82	238,600
July.....	2,300	686	1,338	2.34	2.70	82,260
August.....	660	302	441	.771	.89	27,140
September.....	298	209	250	.437	.49	14,850
The year.....	5,780	209	1,373	2.40	32.57	993,700

Yearly discharge of Priest River at outlet of Priest Lake, near Coolin, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1914.....	1,380	2.41	32.65	996,000	1,440	2.52	34.23	1,040,000
1915.....	943	1.65	22.40	683,000	837	1.46	19.88	606,000
1916.....	1,440	2.52	34.32	1,050,000	1,420	2.48	33.77	1,030,000
1917.....	1,260	2.20	29.96	914,000	1,250	2.19	29.70	906,000
1918.....	1,110	1.94	26.25	801,000	-	-	-	-
1920.....	810	1.42	19.28	587,000	949	1.66	22.61	689,000
1921.....	1,580	2.76	37.58	1,150,000	1,480	2.59	35.05	1,070,000
1922.....	951	1.66	22.56	689,000	932	1.63	22.10	675,000
1923.....	1,060	1.85	25.17	768,000	1,050	1.84	24.88	759,000
1924.....	720	1.26	17.15	523,000	743	1.30	17.67	540,000
1925.....	1,240	2.17	29.31	894,000	1,200	2.10	28.45	868,000
1926.....	533	.932	12.63	386,000	690	1.21	16.36	499,000
1927.....	1,420	2.48	33.79	1,030,000	1,530	2.67	36.47	1,110,000
1928.....	1,360	2.38	32.32	986,000	1,110	1.94	26.34	804,000
1929.....	697	1.22	16.50	504,000	673	1.18	15.95	486,000
1930.....	633	1.11	15.04	458,000	638	1.12	15.15	462,000
1931.....	714	1.25	16.96	518,000	725	1.27	17.24	526,000
1932.....	1,390	2.43	33.13	1,010,000	1,470	2.57	34.95	1,070,000
1933.....	1,340	2.34	31.78	970,000	1,400	2.45	33.11	1,010,000
1934.....	1,391	2.43	33.01	1,007,000	1,305	2.28	30.97	944,900
1935.....	1,191	2.08	28.27	862,400	1,139	1.99	27.03	824,400
1936.....	789	1.38	18.80	573,100	772	1.35	18.40	560,700
1937.....	716	1.25	11.99	518,200	833	1.46	19.75	602,700
1938.....	1,373	2.40	32.57	993,700	1,282	2.24	30.42	928,000
Highest.....	1,580	2.76	37.58	1,150,000	1,530	2.67	36.47	1,110,000
Average.....	1,085	1.90	25.77	786,300	1,081	1.89	25.67	783,100
Lowest.....	533	.932	12.63	386,000	638	1.12	15.15	462,000

Priest River at Falk's ranch, near Priest River, Idaho

Location.- Staff gage, lat. 48°16', long. 116°52', in sec. 20, T. 57 N., R. 4 W., at Falk's ranch, 4 miles upstream from West Branch of Priest River, 8 miles north of Priest River, and 18 miles downstream from Priest Lake.

Records available.- March 1911 to November 1912.

Drainage area.- 792 square miles.

Extremes.- Maximum discharge observed, 6,140 second-feet May 28, 29, 1912 (gage height, 8.4 feet); minimum observed, 344 second-feet Oct. 23 to Nov. 5, 1911 (gage height, 2.2 feet)

Remarks.- No diversion or regulation.

Monthly discharge of Priest River at Falk's ranch, near Priest River, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1911						
March 2-31.....	1,180	544	739	0.933	1.04	44,000
April.....	2,640	1,200	1,580	1.99	2.22	94,000
May.....	5,650	2,640	4,490	5.67	6.54	276,000
June.....	4,360	2,450	3,670	4.63	5.17	218,000
July.....	2,360	1,050	1,590	2.01	2.32	97,800
August.....	1,050	588	831	1.05	1.21	51,100
September.....	678	509	572	.722	.81	34,000
The period.....	-	-	-	-	-	815,000
1911-12						
October.....	503	344	398	.503	.58	24,500
November.....	724	344	453	.572	.64	27,000
December.....	592	384	515	.650	.75	31,700
May.....	6,140	2,560	4,390	5.54	6.39	270,000
June.....	5,520	1,760	3,330	4.20	4.69	198,000
July.....	1,760	1,010	1,330	1.68	1.94	81,800
August.....	961	549	758	.957	1.10	46,600
September.....	724	592	637	.804	.90	37,900
1912						
October.....	592	465	527	.665	.77	32,400
November 1-20.....	1,260	507	929	1.17	.87	36,900

## Priest River near Priest River, Idaho

Location Water-stage recorder, lat. 48°13', long. 116°55', in NE $\frac{1}{4}$  sec. 11, T. 56 N., R. 5 W., 500 feet downstream from Saddler Creek, a quarter of a mile downstream from Lower West Branch,  $2\frac{1}{2}$  miles north of Priest River, and  $3\frac{1}{2}$  miles upstream from mouth.

Drainage area.— 902 square miles.

Records available.— October 1930 to September 1938.

Extremes.— Maximum discharge recorded, 8,890 second-feet May 23, 1932 (gage height, 8.03 feet); minimum recorded, 184 second-feet Jan. 7, 1937 (gage height, 0.54 foot).

Remarks.— No diversions above station. Some regulation on tributary.

## Monthly discharge of Priest River near Priest River, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acres-feet
<b>1930-31</b>						
October.....	305	250	277	0.307	0.35	17,000
November.....	346	275	307	.340	.38	18,300
December.....	309	279	298	.330	.38	18,300
January.....	482	265	329	.366	.42	20,200
February.....	654	262	396	.459	.46	22,000
March.....	1,250	435	785	.870	1.00	48,300
April.....	2,020	1,100	1,550	1.72	1.92	92,200
May.....	4,850	2,220	3,770	4.18	4.82	232,000
June.....	2,920	1,350	1,950	2.16	2.41	116,000
July.....	1,290	589	885	.981	1.13	54,400
August.....	600	266	414	.459	.53	25,500
September.....	314	229	266	.295	.33	15,800
The year.....	4,850	229	940	1.04	14.13	680,000
<b>1931-32</b>						
October.....	360	217	266	.295	.34	16,400
November.....	498	292	395	.438	.49	23,500
December.....	-	-	480	.532	.61	29,500
January.....	-	-	490	.543	.63	30,100
February.....	700	-	506	.561	.60	29,100
March.....	2,300	750	1,270	1.41	1.63	78,100
April.....	5,600	2,500	4,180	4.63	5.17	249,000
May.....	8,890	5,650	7,540	8.36	9.64	464,000
June.....	6,320	3,250	5,150	5.71	6.37	306,000
July.....	3,130	1,020	1,860	2.06	2.38	114,000
August.....	984	492	677	.751	.87	41,600
September.....	492	343	406	.450	.50	24,200
The year.....	8,890	217	1,940	2.15	29.23	1,410,000
<b>1932-33</b>						
October.....	602	310	414	.459	.53	25,500
November.....	1,160	635	896	.993	1.11	53,300
December.....	1,300	-	1,080	1.20	1.38	66,400
January.....	1,080	796	915	1.01	1.16	56,300
February.....	796	596	698	.774	.81	38,800
March.....	-	583	692	.767	.88	42,500
April.....	4,320	-	1,900	2.11	2.35	113,000
May.....	6,020	4,320	4,910	5.44	6.27	302,000
June.....	7,080	4,600	6,220	6.90	7.70	370,000
July.....	4,460	1,200	2,500	2.77	3.19	154,000
August.....	1,200	516	803	.890	1.03	49,400
September.....	540	445	487	.540	.60	29,000
The year.....	7,080	310	1,800	2.00	27.01	1,300,000
<b>1933-34</b>						
October.....	936	450	535	.593	.68	32,910
November.....	1,340	882	1,072	1.19	1.33	63,820
December.....	5,010	860	2,367	2.62	3.02	145,500
January.....	3,550	2,270	2,742	3.04	3.50	168,600
February.....	2,270	1,480	1,884	2.09	2.18	104,600
March.....	3,070	1,710	2,008	2.23	2.57	123,500
April.....	6,900	3,130	4,452	4.94	5.51	264,900
May.....	6,750	3,490	4,791	5.31	6.12	294,600
June.....	3,430	1,240	2,197	2.44	2.72	130,800
July.....	1,210	548	819	.908	1.05	50,370
August.....	536	325	416	.461	.53	25,580
September.....	325	255	287	.318	.35	17,070
The year.....	5,900	255	1,964	2.18	29.56	1,422,000



## Monthly discharge of Priest River near Priest River, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1934-35</b>						
October.....	647	242	329	0.365	0.42	20,260
November.....	1,070	420	869	.963	1.07	51,730
December.....	1,100	806	892	.989	1.14	54,820
January.....	1,400	650	963	1.07	1.23	59,210
February.....	1,160	949	1,045	1.16	1.21	58,010
March.....	1,230	892	1,071	1.19	1.37	65,880
April.....	3,550	1,050	2,046	2.27	2.65	121,700
May.....	6,150	3,620	5,111	5.67	6.54	314,200
June.....	6,000	2,710	4,546	5.04	5.62	270,500
July.....	2,710	1,050	1,758	1.95	2.25	108,100
August.....	1,000	550	735	.815	.94	45,220
September.....	540	348	426	.471	.53	25,310
The year.....	6,150	242	1,651	1.83	24.85	1,195,000
<b>1935-36</b>						
October.....	396	313	345	.382	.44	21,190
November.....	381	322	355	.394	.44	21,100
December.....	427	343	372	.412	.48	22,860
January.....	602	370	464	.514	.59	28,550
February.....	410	370	360	.399	.43	20,710
March.....	669	420	538	.596	.69	33,060
April.....	4,460	422	1,832	2.03	2.26	109,000
May.....	5,570	3,490	4,716	5.23	6.03	290,000
June.....	3,430	1,240	2,169	2.40	2.68	129,000
July.....	1,400	515	863	.957	1.10	53,080
August.....	504	280	381	.422	.49	23,450
September.....	381	265	307	.340	.38	18,290
The year.....	5,570	265	1,061	1.18	16.01	770,300
<b>1936-37</b>						
October.....	277	234	253	.280	.32	15,580
November.....	237	215	227	.252	.28	13,490
December.....	555	212	293	.325	.37	18,010
January.....	343	191	284	.315	.36	17,480
February.....	440	320	370	.410	.43	20,550
March.....	695	399	459	.509	.59	28,240
April.....	2,400	766	1,366	1.54	1.72	82,500
May.....	3,940	2,200	3,144	3.49	4.02	193,300
June.....	3,800	2,670	3,235	3.59	4.00	192,500
July.....	2,620	918	1,562	1.73	1.99	96,040
August.....	904	479	657	.728	.84	40,400
September.....	571	377	445	.493	.55	26,490
The year.....	3,940	191	1,028	1.14	15.47	744,600
<b>1937-38</b>						
October.....	462	382	416	.461	.53	25,600
November.....	2,080	457	1,038	1.15	1.28	61,790
December.....	2,560	1,190	1,435	1.59	1.83	88,260
January.....	2,840	1,230	1,709	1.89	2.18	105,100
February.....	1,420	983	1,199	1.33	1.58	66,570
March.....	2,890	998	1,728	1.92	2.21	106,300
April.....	5,700	1,750	3,472	3.85	4.30	206,600
May.....	6,960	4,820	5,578	6.18	7.12	343,000
June.....	6,800	2,840	4,714	5.23	5.84	280,500
July.....	2,720	834	1,597	1.76	2.03	97,590
August.....	800	435	579	.642	.74	35,600
September.....	430	340	377	.418	.47	22,430
The year.....	6,960	340	1,988	2.20	25.91	1,439,000

## Yearly discharge of Priest River near Priest River, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1931.....	940	1.04	14.13	680,000	961	1.07	14.46	696,000
1932.....	1,940	2.15	29.23	1,410,000	2,040	2.26	30.81	1,480,000
1933.....	1,800	2.00	27.01	1,300,000	1,930	2.14	29.02	1,400,000
1934.....	1,964	2.18	29.56	1,422,000	1,805	2.00	27.16	1,307,000
1935.....	1,651	1.83	24.85	1,195,000	1,565	1.74	23.58	1,133,000
1936.....	1,061	1.18	16.01	770,300	1,036	1.15	15.62	752,200
1937.....	1,028	1.14	15.47	744,600	1,206	1.34	18.14	873,200
1938.....	1,988	2.20	29.91	1,439,000	1,847	2.05	27.80	1,337,000

## Priest River at Priest River, Idaho

Location.- Staff gage, lat. 48°11', long. 116°54', in sec. 24, T. 56 N., R. 5 W., at highway bridge three-quarters of a mile northeast of town of Priest River and 1½ miles upstream from mouth. Datum of gage is 2,052.24 feet above mean sea level.

Drainage area.- 904 square miles.

Records available.- June 1903 to April 1905, November 1910 to April 1911 (January to April 1911 incomplete), May to December 1923, February 1929 to September 1930.

Extremes.- Maximum discharge observed, 6,300 second-feet Apr. 30, 1904; minimum discharge, 216 second-feet Nov. 21, 1929.

Remarks.- No diversion above station. Some regulation caused by flash dam on West Branch of Priest River.

## Monthly discharge of Priest River at Priest River, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
July 1903.....	4,700	1,740	3,060	3.38	3.90	188,000
August.....	1,690	950	1,360	1.50	1.75	83,600
September.....	1,080	835	928	1.03	1.15	55,200
The period.....	-	-	-	-	-	327,000
October 1903.....	1,080	810	978	1.08	1.24	60,100
November.....	1,320	890	1,040	1.15	1.28	61,900
December.....	1,370	1,050	1,140	1.26	1.45	70,100
January 1904.....	1,120	920	1,010	1.12	1.29	62,100
February.....	950	862	930	1.03	1.11	53,500
March.....	1,540	890	1,190	1.32	1.52	73,200
April.....	6,300	1,160	3,510	3.88	4.33	209,000
May.....	5,920	4,350	5,330	5.90	6.80	328,000
June.....	5,250	3,050	4,400	4.87	5.43	262,000
July.....	3,120	1,240	2,030	2.25	2.59	125,000
August.....	1,240	675	877	.970	1.12	53,900
September.....	675	530	580	.642	.72	34,500
Water year 1903-4.....	6,300	530	1,920	2.12	28.88	1,390,000
October 1904.....	545	500	517	.572	.66	31,800
November.....	835	485	564	.624	.70	33,600
December.....	718	598	624	.690	.80	38,400
Calendar year 1904.....	6,300	485	1,800	1.99	27.07	1,300,000
January 1905.....	740	-	621	.687	.79	38,200
February.....	1,020	-	722	.799	.83	40,100
March.....	1,790	890	1,340	1.48	1.71	82,400
April.....	2,360	1,590	1,780	1.97	2.20	106,000
The period.....	-	-	-	-	-	370,000
November 18-30, 1910.....	3,250	860	1,530	1.69	.88	42,500
December.....	1,980	860	1,120	1.24	1.43	68,900
May 11-31, 1923.....	-	4,710	5,200	5.75	4.49	217,000
June.....	-	-	4,370	4.83	5.39	260,000
July.....	-	1,050	1,820	2.01	2.32	112,000
August.....	1,050	602	782	.865	1.00	48,100
September.....	575	380	459	.508	.57	27,300
The period.....	-	-	-	-	-	664,000
October 1923.....	425	335	363	.402	.46	22,300
November.....	525	315	380	.420	.47	22,600
December.....	575	335	408	.451	.52	25,100
Feb. 27-28, 1929.....	383	380	382	.423	.03	1,520
March.....	1,020	390	571	.632	.73	35,100
April.....	1,980	572	958	1.06	1.18	57,000
May.....	-	1,300	2,960	3.27	3.77	182,000
June.....	-	2,130	2,850	3.15	3.51	170,000
July.....	2,130	791	1,290	1.43	1.65	79,300
August.....	758	451	587	.649	.75	36,100
September.....	431	301	358	.396	.44	21,300
The period.....	-	-	-	-	-	582,000
October 1929.....	318	271	292	.323	.37	18,000
November.....	293	216	262	.290	.32	15,600
December.....	469	222	356	.394	.45	21,900
January 1930.....	384	249	307	.340	.39	18,900
February.....	469	301	366	.405	.42	20,300
March.....	888	354	524	.580	.67	32,200
April.....	4,300	771	1,840	2.04	2.28	109,000
May.....	3,600	2,020	2,710	3.00	3.46	167,000
June.....	2,420	1,250	1,610	1.78	1.99	95,800
July.....	1,210	612	864	.956	1.10	53,100
August.....	583	337	442	.489	.56	27,200
September.....	327	258	287	.317	.35	17,100
Water year 1929-30.....	4,300	216	824	.912	12.36	596,000

## SPOKANE RIVER BASIN

## Coeur d'Alene River at Prichard, Idaho

Location.- Staff gage, lat. 47°40', long. 115°58', in sec. 20, T. 50 N., R. 4 E., at Prichard ranger station, three-eighths of a mile upstream from Prichard Creek and half a mile upstream from Prichard.

Records available.- October 1911 to September 1914.

Extremes.- Maximum discharge observed, 7,610 second-feet May 10, 11, 1913 (gage height, 6.1 feet); minimum observed, 124 second-feet Oct. 23 to Nov. 1, 1911.

Remarks.- No diversion or regulation.

## Monthly discharge of North Fork of Coeur d'Alene River at Prichard, Idaho

Month		Discharge in second-feet			Run-off in acre-feet
		Maximum	Minimum	Mean	
1911-12					
October 23-31.....		124	124	124	2,210
November.....		2,340	124	502	29,900
December.....		335	148	210	12,900
January.....		1,120	208	466	28,700
February.....		1,320	440	728	41,900
March.....		2,040	245	612	37,600
April.....		5,280	1,890	3,330	198,000
May.....		4,920	1,870	2,850	175,000
June.....		2,320	470	1,000	59,500
July.....		610	193	310	19,100
August.....		250	145	178	10,900
September.....		340	192	251	14,900
The period.....		-	-	-	631,000
1912-13					
October.....		515	192	262	16,100
November.....		3,490	340	1,300	77,400
December.....		560	315	388	23,900
March.....		1,340	526	802	49,300
April.....		7,380	1,140	4,110	245,000
May.....		7,610	2,630	4,680	288,000
June.....		3,670	703	1,580	94,000
July.....		940	317	530	32,600
August.....		317	172	238	14,600
September.....		268	158	170	10,100
1913-14					
October.....		273	149	189	11,600
November.....		639	163	409	24,300
December.....		576	213	333	20,500
January.....		2,180	210	725	44,600
February.....		730	254	403	22,400
March.....		3,160	730	1,600	98,400
April.....		5,990	1,120	3,430	204,000
May.....		3,500	730	1,830	113,000
June.....		730	354	482	28,700
July.....		296	164	227	14,000
August.....		164	131	153	9,410
September.....		414	126	171	10,200
The year.....		5,990	126	830	601,000

## Coeur d'Alene River at Enaville, Idaho

Location.- Staff gage, lat. 47°34', long. 116°15', in sec. 30, T. 49 N., R. 2 E., at Enaville, half a mile upstream from South Fork of Coeur d'Alene River.

Records available.- March 1911 to April 1913.

Extremes.- Maximum discharge observed, 9,420 second-feet Apr. 12, 1912 (gage height, 10.7 feet); minimum, 210 second-feet Sept. 29, 30, 1911 (gage height, 2.20 feet).

Remarks.- No diversion or regulation.

## Monthly discharge of Coeur d'Alene River at Enavilla, Idaho

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1911				
March 3-31.....	5,810	440	2,790	160,000
April.....	8,480	2,850	4,940	294,000
May.....	7,730	2,970	4,920	303,000
June.....	4,270	1,100	2,220	132,000
July.....	1,100	465	705	43,300
August.....	760	296	436	26,800
September.....	540	210	389	23,100
The period.....	-	-	-	982,000
1911-12				
October 1-28.....	315	217	255	14,200
February.....	2,250	910	1,840	106,000
March.....	3,780	660	1,200	73,800
April.....	9,420	3,160	5,780	344,000
May.....	7,250	3,520	4,850	298,000
June.....	3,160	850	1,640	97,600
July.....	970	495	728	44,800
August.....	495	240	416	25,600
September.....	728	360	524	31,200
1912				
October.....	810	360	489	30,100
November.....	5,810	585	2,210	132,000
December.....	1,170	680	921	56,600
The period.....	-	-	-	219,000

## Coeur d'Alene River near Cataldo, Idaho

Location.- Water-stage recorder, lat. 47°34', long. 116°18', in sec. 26, T. 49 N., R. 1 E.,  $\frac{1}{2}$  miles upstream from Cataldo and 3 miles downstream from South Fork of Coeur d'Alene River. Prior to October 1925 staff gage at same site and datum. Datum of gage is 2,100.00 feet above mean sea level.

Drainage area.- 1,220 square miles.

Records available.- April 1911 to December 1912, July 1920 to September 1938.

Extremes.- Maximum discharge, 55,300 second-feet Dec. 22 or 23, 1933 (gage height, 56.9 feet, from high-water mark); minimum, 122 second-feet Dec. 4, 1929; minimum gage height, 37.03 feet Sept. 6, 1931.

Remarks.- No diversion or regulation of consequence above station.

## Monthly discharge of Coeur d'Alene River near Cataldo, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1911						
April 25-30.....	13,500	6,980	10,400	8.52	1.90	124,000
May.....	12,200	3,980	7,190	5.89	6.79	442,000
June.....	6,140	1,400	2,820	2.31	2.58	168,000
July.....	1,400	610	901	.739	.85	55,400
August.....	780	405	555	.455	.52	34,100
September.....	500	365	430	.352	.39	25,600
The period.....	-	-	-	-	-	849,000
1911-12						
October.....	405	300	345	.283	.33	21,200
November.....	5,340	300	1,120	.918	1.02	66,600
December.....	980	405	636	.521	.60	39,100
January.....	2,910	405	1,160	.951	1.10	71,300
February.....	4,450	1,400	2,430	1.99	2.15	140,000
March.....	5,340	780	1,600	1.31	1.51	98,400
April.....	14,400	4,290	8,500	6.97	7.78	506,000
May.....	12,700	5,150	7,990	6.55	7.55	491,000
June.....	5,150	1,140	2,520	2.07	2.31	150,000
July.....	1,400	555	837	.686	.79	51,500
August.....	610	365	483	.396	.46	29,700
September.....	1,140	405	594	.427	.54	35,300
The year.....	14,400	300	2,340	1.92	26.14	1,700,000

## Monthly discharge of Coeur d'Alene River near Cataldo, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1912						
October.....	780	405	547	0.448	0.52	33,600
November.....	7,410	665	2,600	2.13	2.38	155,000
December.....	1,310	665	907	.743	.86	55,800
The period.....	-	-	-	-	-	244,000
1920						
August.....	585	374	444	.364	.42	27,300
September.....	1,130	312	625	.512	.57	37,200
The period.....	-	-	-	-	-	64,500
1920-21						
October.....	1,360	850	1,070	.877	1.01	65,800
November.....	3,770	565	1,540	1.26	1.41	91,600
December.....	14,000	910	1,960	1.61	1.86	121,000
January.....	11,600	3,120	5,010	4.11	4.74	308,000
February.....	17,800	1,220	4,440	3.64	3.79	247,000
March.....	22,000	3,000	6,560	5.38	6.20	403,000
April.....	16,400	3,910	8,200	6.72	7.50	488,000
May.....	15,500	4,050	8,760	7.18	8.28	539,000
June.....	4,200	1,150	2,500	1.89	2.11	137,000
July.....	1,220	540	812	.666	.77	49,900
August.....	540	375	470	.385	.44	28,900
September.....	440	355	390	.320	.36	23,200
The year.....	22,000	355	3,450	2.83	38.47	2,500,000
1921-22						
October.....	640	315	410	.336	.39	25,200
November.....	1,090	315	488	.400	.45	29,000
December.....	18,100	850	3,060	2.51	2.89	188,000
January.....	910	-	635	.520	.60	39,000
February.....	565	-	496	.407	.42	27,500
March.....	1,820	440	830	.680	.78	51,000
April.....	9,720	1,580	4,920	4.03	4.50	293,000
May.....	17,600	4,680	9,230	7.57	8.73	568,000
June.....	6,200	1,090	2,790	2.29	2.56	166,000
July.....	1,030	515	728	.697	.69	44,800
August.....	565	335	434	.356	.41	26,700
September.....	440	315	362	.297	.33	21,500
The year.....	18,100	315	2,040	1.67	22.75	1,480,000
1922-23						
October.....	540	295	351	.288	.33	21,600
November.....	540	335	386	.316	.35	23,000
December.....	3,000	-	686	.562	.65	42,200
January.....	11,600	1,020	3,050	2.50	2.88	188,000
February.....	1,080	-	616	.505	.53	34,200
March.....	9,470	885	2,000	1.64	1.89	123,000
April.....	17,000	4,990	9,120	7.48	8.54	543,000
May.....	14,900	3,940	7,720	6.33	7.30	475,000
June.....	7,720	1,740	4,090	3.35	3.74	243,000
July.....	1,740	672	1,130	.926	1.07	69,500
August.....	885	468	587	.481	.55	36,100
September.....	468	380	398	.326	.36	23,700
The year.....	17,000	-	2,520	2.07	27.99	1,820,000
1923-24						
October.....	885	400	460	.377	.43	28,300
November.....	1,290	360	552	.452	.50	32,800
December.....	1,740	605	845	.693	.80	52,000
January.....	1,580	-	551	.452	.52	33,900
February.....	11,300	2,480	4,770	3.91	4.22	274,000
March.....	3,370	1,500	2,370	1.94	2.24	146,000
April.....	8,250	1,500	4,990	4.09	4.56	297,000
May.....	15,800	1,740	5,570	4.57	5.27	342,000
June.....	1,580	630	1,080	.885	.99	64,300
July.....	655	400	530	.434	.50	32,600
August.....	465	300	358	.293	.34	22,000
September.....	380	260	305	.250	.28	18,100
The year.....	15,800	260	1,850	1.52	20.65	1,340,000

## Monthly discharge of Coeur d'Alene River near Cataldo, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1924-25						
October.....	710	280	359	0.294	0.34	22,100
November.....	2,060	510	1,020	.836	.93	60,700
December.....	7,270	580	1,810	1.48	1.71	111,000
January.....	8,840	630	1,430	1.17	1.35	87,900
February.....	23,700	2,180	6,770	5.55	5.78	378,000
March.....	11,300	2,080	4,840	3.97	4.58	298,000
April.....	21,700	5,660	11,300	9.26	10.33	672,000
May.....	9,090	3,810	6,740	5.52	6.66	414,000
June.....	3,380	1,260	2,150	1.76	1.96	128,000
July.....	1,190	590	835	.684	.79	51,300
August.....	618	410	514	.421	.49	31,600
September.....	485	320	378	.310	.35	22,500
The year.....	23,700	280	3,140	2.57	34.97	2,280,000
1925-26						
October.....	385	300	334	.274	.32	20,500
November.....	510	280	363	.298	.33	21,600
December.....	1,720	410	908	.743	.86	55,700
January.....	810	460	631	.517	.60	38,800
February.....	3,960	535	1,900	1.56	1.62	106,000
March.....	5,480	1,990	3,290	2.70	3.11	202,000
April.....	10,800	1,720	5,050	4.14	4.62	300,000
May.....	4,780	1,120	2,180	1.79	2.06	134,000
June.....	1,050	510	768	.630	.70	45,700
July.....	618	300	404	.331	.38	24,800
August.....	598	260	314	.257	.30	19,500
September.....	1,050	340	568	.466	.52	33,800
The year.....	10,800	260	1,390	1.14	15.42	1,000,000
1926-27						
October.....	2,010	482	1,050	.861	.99	64,600
November.....	11,300	665	1,890	1.55	1.73	112,000
December.....	12,600	1,080	3,350	2.74	3.16	206,000
January.....	3,120	-	1,700	1.39	1.60	105,000
February.....	6,940	1,110	2,620	2.15	2.24	146,000
March.....	4,280	2,010	2,690	2.20	2.54	165,000
April.....	25,800	3,450	7,970	6.53	7.29	474,000
May.....	15,800	6,040	9,570	7.84	9.04	588,000
June.....	8,250	2,100	5,100	4.18	4.66	303,000
July.....	2,010	720	1,210	.992	1.14	74,400
August.....	709	454	542	.444	.51	33,300
September.....	1,550	501	839	.688	.77	49,900
The year.....	25,800	454	3,210	2.63	35.67	2,320,000
1927-28						
October.....	3,450	762	1,980	1.62	1.87	122,000
November.....	16,900	1,590	6,530	5.35	5.97	389,000
December.....	11,000	1,200	3,720	3.05	3.52	229,000
January.....	8,440	1,400	2,860	2.34	2.70	176,000
February.....	2,420	1,240	1,770	1.45	1.56	102,000
March.....	11,000	1,200	4,910	4.02	4.64	302,000
April.....	12,600	3,110	5,800	4.75	5.30	345,000
May.....	14,600	3,110	8,350	6.84	7.89	513,000
June.....	2,850	1,060	1,710	1.40	1.56	102,000
July.....	1,060	515	735	.602	.69	45,200
August.....	520	359	422	.346	.40	25,900
September.....	367	317	339	.278	.31	20,200
The year.....	16,900	317	3,270	2.68	36.41	2,370,000
1928-29						
October.....	640	328	449	.368	.42	27,600
November.....	1,240	306	563	.461	.51	33,500
December.....	565	197	370	.303	.35	22,800
January.....	431	-	305	.250	.29	18,800
February.....	-	-	276	.226	.24	15,300
March.....	7,060	274	1,760	1.44	1.66	108,000
April.....	10,700	1,650	4,550	3.73	4.16	271,000
May.....	8,510	2,240	5,560	4.56	5.26	342,000
June.....	2,330	940	1,570	1.29	1.44	93,400
July.....	882	446	617	.506	.58	37,900
August.....	446	307	358	.293	.34	22,000
September.....	402	295	335	.274	.31	10,900
The year.....	10,700	197	1,400	1.15	15.56	1,010,000

## Monthly discharge of Coeur d'Alene River near Cataldo, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1929-30</b>						
October.....	399	289	317	0.260	0.30	19,500
November.....	320	172	238	.195	.22	14,200
December.....	1,460	141	511	.419	.48	31,400
January.....	442	165	241	.198	.23	14,800
February.....	6,280	280	1,530	1.25	1.30	85,000
March.....	6,280	1,030	2,240	1.84	2.12	138,000
April.....	7,260	3,110	4,790	3.93	4.38	285,000
May.....	4,220	1,740	2,570	2.11	2.43	158,000
June.....	2,330	940	1,520	1.25	1.40	90,400
July.....	882	410	601	.493	.57	37,000
August.....	399	266	329	.270	.31	20,200
September.....	320	228	278	.228	.25	16,500
The year.....	7,260	141	1,260	1.03	13.99	910,000
<b>1930-31</b>						
October.....	430	218	334	.274	.32	20,500
November.....	855	314	428	.351	.39	25,500
December.....	327	206	276	.226	.26	17,000
January.....	1,630	206	495	.406	.47	30,400
February.....	1,970	566	1,040	.852	.89	57,800
March.....	10,600	977	3,420	2.80	3.23	210,000
April.....	12,900	3,570	6,560	5.38	6.00	390,000
May.....	8,830	1,430	4,190	3.43	3.95	258,000
June.....	1,390	580	919	.753	.84	54,700
July.....	580	314	416	.341	.39	25,600
August.....	327	252	276	.226	.26	17,000
September.....	430	238	318	.261	.29	18,900
The year.....	12,900	206	1,560	1.28	17.29	1,130,000
<b>1931-32</b>						
October.....	418	266	322	.264	.30	19,800
November.....	687	246	394	.323	.36	23,400
December.....	610	201	353	.289	.33	21,700
January.....	2,020	399	762	.625	.72	46,900
February.....	16,000	463	1,980	1.62	1.75	114,000
March.....	9,250	1,970	4,850	3.98	4.59	295,000
April.....	21,500	6,800	12,100	9.92	11.07	720,000
May.....	15,500	5,020	10,900	8.93	10.30	670,000
June.....	6,230	1,390	3,400	2.79	3.11	202,000
July.....	1,590	543	906	.743	.86	55,700
August.....	547	402	462	.379	.44	28,400
September.....	418	358	380	.311	.35	22,600
The year.....	21,500	201	3,060	2.51	34.18	2,220,000
<b>1932-33</b>						
October.....	605	340	427	.350	.40	26,300
November.....	6,990	511	2,460	2.02	2.25	146,000
December.....	9,250	700	2,350	1.93	2.22	144,000
January.....	3,830	880	1,720	1.41	1.63	106,000
February.....	977	650	760	.623	.65	42,200
March.....	4,550	769	2,270	1.86	2.14	140,000
April.....	21,200	3,080	8,820	7.23	8.07	525,000
May.....	12,900	6,760	9,100	7.46	8.60	560,000
June.....	16,000	2,380	6,770	5.55	6.19	403,000
July.....	2,270	693	1,280	1.05	1.21	78,700
August.....	706	462	571	.468	.54	35,100
September.....	558	442	485	.398	.44	28,900
The year.....	21,200	340	3,090	2.53	34.34	2,240,000
<b>1933-34</b>						
October.....	3,110	384	871	.714	.82	53,560
November.....	9,020	883	2,131	1.75	1.95	126,800
December.....	50,000	842	13,230	10.8	12.45	813,700
January.....	22,200	3,570	8,323	6.82	7.86	511,800
February.....	5,870	2,440	4,265	3.50	3.64	236,800
March.....	20,000	2,860	6,490	5.32	6.13	399,100
April.....	12,200	4,110	6,336	5.19	5.79	377,000
May.....	3,570	1,470	2,444	2.00	2.31	150,300
June.....	1,390	714	971	.796	.89	57,780
July.....	687	372	516	.423	.49	31,700
August.....	395	268	320	.262	.30	19,690
September.....	344	254	298	.244	.27	17,740
The year.....	50,000	254	3,862	3.17	42.90	2,796,000

## Monthly discharge of Coeur d'Alene River near Cataldo, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1934-35</b>						
October.....	3,080	273	636	0.521	0.60	39,090
November.....	3,440	874	1,907	1.56	1.74	113,500
December.....	6,320	924	1,857	1.52	1.75	114,200
January.....	5,600	800	2,214	1.81	2.09	136,100
February.....	3,260	1,520	2,297	1.88	1.96	127,600
March.....	7,590	1,500	3,004	2.46	2.84	184,700
April.....	13,400	2,750	7,915	6.49	7.24	471,000
May.....	13,900	6,520	9,218	7.56	8.72	566,800
June.....	6,140	1,220	2,721	2.23	2.49	161,900
July.....	1,210	560	808	.662	.76	49,690
August.....	590	365	462	.379	.44	28,390
September.....	374	300	330	.270	.30	19,640
The year.....	13,900	273	2,780	2.28	30.93	2,013,000
<b>1935-36</b>						
October.....	360	288	324	.266	.31	19,910
November.....	406	270	338	.277	.31	20,110
December.....	470	245	317	.260	.30	19,510
January.....	1,320	296	550	.451	.52	33,610
February.....	994	290	383	.314	.34	22,010
March.....	4,400	1,000	2,026	1.66	1.91	124,600
April.....	21,000	800	10,730	8.80	9.82	636,500
May.....	11,600	2,390	6,296	5.16	5.95	387,200
June.....	2,860	924	1,742	1.43	1.60	103,600
July.....	886	450	656	.538	.62	40,350
August.....	415	300	347	.284	.33	21,360
September.....	365	276	321	.263	.29	19,100
The year.....	21,000	245	1,997	1.64	22.30	1,450,000
<b>1936-37</b>						
October.....	306	270	285	.234	.27	17,510
November.....	275	210	253	.207	.23	15,050
December.....	1,870	225	521	.427	.49	32,060
January.....	366	240	269	.220	.25	16,570
February.....	355	220	277	.227	.24	15,370
March.....	2,700	328	1,393	1.14	1.31	85,660
April.....	13,700	2,710	6,437	5.28	5.89	383,000
May.....	16,600	3,670	8,090	6.63	7.64	497,400
June.....	3,820	1,510	2,327	1.91	2.13	138,400
July.....	1,350	554	818	.670	.77	50,270
August.....	709	372	484	.397	.46	29,770
September.....	458	328	362	.297	.33	21,540
The year.....	16,600	210	1,799	1.47	20.01	1,303,000
<b>1937-38</b>						
October.....	422	182	281	.230	.26	17,260
November.....	4,400	240	1,531	1.25	1.40	91,130
December.....	4,700	1,070	2,541	2.08	2.40	156,300
January.....	5,690	1,360	2,721	2.23	2.57	167,300
February.....	1,860	1,010	1,278	1.05	1.09	70,970
March.....	8,120	1,580	3,759	3.08	3.55	231,100
April.....	34,800	2,960	10,200	8.36	9.33	607,000
May.....	12,000	3,700	5,846	4.79	5.52	359,400
June.....	3,320	1,050	1,892	1.55	1.73	112,600
July.....	1,020	500	735	.602	.69	45,200
August.....	488	311	407	.334	.39	25,010
September.....	500	280	323	.265	.30	19,240
The year.....	34,800	182	2,628	2.15	29.23	1,903,000



Yearly discharge of Coeur d'Alene River near Cataldo, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1912.....	2,340	1.92	26.14	1,700,000	2,500	2.05	27.95	1,820,000
1921.....	3,450	2.83	38.47	2,500,000	3,410	2.80	37.92	2,470,000
1922.....	2,040	1.67	22.75	1,480,000	1,830	1.50	20.35	1,320,000
1923.....	2,520	2.07	27.99	1,820,000	2,550	2.09	28.39	1,850,000
1924.....	1,850	1.52	20.65	1,340,000	1,960	1.61	21.90	1,420,000
1925.....	3,140	2.57	34.97	2,280,000	3,010	2.47	33.50	2,180,000
1926.....	1,590	1.14	15.42	1,000,000	1,780	1.46	19.79	1,290,000
1927.....	3,210	2.63	35.67	2,320,000	3,700	3.03	41.15	2,680,000
1928.....	3,270	2.68	36.41	2,370,000	2,360	1.93	26.33	1,720,000
1929.....	1,400	1.15	15.56	1,010,000	1,370	1.12	15.28	993,000
1930.....	1,280	1.03	13.99	910,000	1,250	1.02	13.96	908,000
1931.....	1,560	1.28	17.29	1,130,000	1,560	1.28	17.31	1,130,000
1932.....	3,060	2.51	34.18	2,220,000	3,410	2.80	38.06	2,470,000
1933.....	3,090	2.53	34.34	2,240,000	4,020	3.30	44.69	2,910,000
1934.....	3,862	3.17	42.90	2,796,000	2,857	2.34	31.77	2,069,000
1935.....	2,780	2.28	30.93	2,013,000	2,494	2.04	27.76	1,805,000
1936.....	1,997	1.64	22.30	1,450,000	2,004	1.64	22.37	1,455,000
1937.....	1,799	1.47	20.01	1,303,000	2,076	1.70	23.08	1,503,000
1938.....	2,628	2.15	29.23	1,903,000	2,385	1.95	26.54	1,727,000
Highest.....	3,862	3.17	42.90	2,796,000	4,020	3.30	44.69	2,910,000
Average.....	2,455	2.01	27.33	1,778,000	2,449	2.01	27.27	1,775,000
Lowest.....	1,260	1.03	13.99	910,000	1,250	1.02	13.96	908,000

## Spokane River at Post Falls, Idaho

Location.- Water-stage recorder, lat. 47°42', long. 116°58', in sec. 4, T. 50 N., R. 5 W., 1,500 feet downstream from power plant of Washington Water Power Co., 3,300 feet downstream from intake of Spokane Valley Farm Co.'s canal, and 1 mile west of village of Post Falls. Zero of gage is 2,000 feet above mean sea level.

Drainage area.- 3,880 square miles.

Records available.- January 1913 to September 1938.

Extremes.- Maximum discharge, 50,100 second-feet Dec. 25, 1933; minimum, 422 second-feet Nov. 26, 1935, Oct. 14, 1937; minimum gage height, 65.32 feet Oct. 14, 1937

Remarks.- Records good. Spokane Valley Farms Co.'s canal diverts water at point 3,300 feet above station for irrigation. Flow partly regulated by storage and release of water at Coeur d'Alene Lake. Monthly figures showing discharge in second-feet per square mile and run-off in inches are not published, owing to regulation by Coeur d'Alene Lake. The yearly figures represent more nearly the natural flow.

Monthly discharge of Spokane River at Post Falls, Idaho

Month	Observed				Diversion through Spokane Valley Farms Co.'s Canal (acre-feet)	Adjusted for diversion			
	Discharge in second-feet			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-feet		Run- off in inches
	Maximum	Minimum	Mean				Mean	Per square mile	
1912-13									
October..	-	-	-	-	2,757	124,000	2,020	-	-
November.	-	-	-	-	2,618	240,000	4,030	-	-
December.	-	-	-	-	2,580	216,000	3,510	-	-
January..	4,880	2,520	3,918	240,893	2,370	243,263	3,956	-	-
February..	5,090	2,760	3,706	205,825	2,287	208,112	3,747	-	-
March....	7,880	4,290	5,648	347,286	2,868	350,154	5,695	-	-
April.....	28,700	8,160	19,560	1,164,139	3,582	1,167,721	19,620	-	-
May.....	31,500	19,900	25,640	1,576,264	4,276	1,580,540	25,710	-	-
June.....	31,500	10,400	20,780	1,236,496	4,165	1,240,661	20,850	-	-
July.....	10,400	1,470	4,542	279,293	4,304	283,597	4,612	-	-
August....	1,560	1,380	1,479	90,922	4,304	95,226	1,549	-	-
September	1,770	1,300	1,409	83,861	3,929	87,790	1,475	-	-
The year	31,500	1,300	-	-	40,040	5,837,064	8,060	2.08	28.24

## Monthly discharge of Spokane River at Post Falls, Idaho--Continued

Month	Observed				Diversion through Spokane Valley Farms Co's Canal (acre-feet)	Adjusted for diversion			
	Discharge in second-feet			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-feet		Run-off in inches
	Maximum	Minimum	Mean				Mean	Per square mile	
1913-14									
October..	4,900	1,380	2,323	142,830	3,743	146,573	2,384	-	-
November..	5,290	1,560	3,593	213,779	2,977	216,756	3,643	-	-
December..	4,170	1,300	2,274	139,795	3,203	142,998	2,526	-	-
January...	7,490	1,560	2,700	166,017	3,507	169,524	2,757	-	-
February...	6,780	3,200	5,508	294,803	3,229	298,032	5,566	-	-
March....	13,500	6,780	10,010	615,213	3,838	619,051	10,070	-	-
April.....	20,600	2,240	16,260	967,736	4,310	972,046	16,330	-	-
May.....	17,600	8,750	15,210	935,306	4,735	940,041	15,290	-	-
June.....	7,740	1,470	4,522	269,098	4,582	273,680	4,599	-	-
July.....	2,240	1,220	1,515	93,124	4,735	97,859	1,592	-	-
August....	1,560	1,050	1,366	85,210	4,735	89,945	1,463	-	-
September	1,660	884	1,198	71,294	4,580	75,874	1,275	-	-
The year	20,600	884	5,517	3,994,205	48,174	4,042,379	5,584	1.44	19.54
1914-15									
October..	1,660	875	1,224	75,243	2,757	78,000	1,269	-	-
November..	5,090	920	4,126	245,534	2,265	247,799	4,164	-	-
December..	4,710	1,500	3,128	192,357	2,152	194,509	3,163	-	-
January...	2,770	1,150	1,748	107,504	2,077	109,581	1,782	-	-
February...	1,770	970	1,508	72,655	1,745	74,400	1,539	-	-
March....	10,100	1,150	5,469	336,258	2,333	338,591	5,507	-	-
April.....	11,900	6,240	10,870	646,572	3,352	649,924	10,930	-	-
May.....	11,300	1,770	6,675	410,400	4,481	414,881	6,748	-	-
June.....	9,290	1,880	4,325	257,355	5,256	262,591	4,413	-	-
July.....	2,770	1,380	2,053	126,248	5,411	131,659	2,141	-	-
August....	1,770	1,380	1,555	95,623	5,578	101,201	1,646	-	-
September	1,560	1,380	1,488	88,542	5,379	93,921	1,578	-	-
The year	11,900	875	3,666	2,654,291	42,766	2,697,057	3,725	.960	13.03
1915-16									
October..	1,560	1,220	1,445	88,840	2,287	91,127	1,482	-	-
November..	2,370	1,380	1,521	90,486	2,777	93,263	1,568	-	-
December..	3,050	2,000	2,182	134,142	2,616	136,758	2,224	-	-
January...	4,710	2,120	2,572	158,122	1,501	159,623	2,596	-	-
February...	7,490	2,770	5,028	289,230	1,587	290,817	5,056	-	-
March....	25,200	5,900	14,320	880,364	3,537	883,901	14,380	-	-
April.....	23,600	19,500	21,450	1,276,165	4,272	1,280,437	21,520	-	-
May.....	27,900	18,000	22,280	1,370,182	5,712	1,375,894	22,370	-	-
June.....	19,800	16,900	18,270	1,087,140	5,984	1,093,124	18,370	-	-
July.....	16,600	2,370	10,720	659,068	5,873	664,941	10,820	-	-
August....	2,240	1,560	1,678	103,180	6,186	109,366	1,779	-	-
September	1,560	1,470	1,527	90,863	4,677	95,540	1,606	-	-
The year	27,900	1,220	8,579	6,227,782	47,009	6,274,791	8,644	2.23	30.35
1916-17									
October..	1,560	1,380	1,490	91,636	3,596	95,232	1,548	-	-
November..	2,120	1,380	1,732	103,061	2,348	105,409	1,772	-	-
December..	1,880	1,660	1,798	110,579	1,722	112,301	1,826	-	-
January...	1,880	1,770	1,862	114,506	0	114,506	1,862	-	-
February...	3,350	1,770	2,676	148,621	2,239	150,860	2,716	-	-
March....	3,670	2,000	2,652	163,061	2,358	165,419	2,690	-	-
April.....	25,200	3,050	14,110	839,782	2,354	842,136	14,150	-	-
May.....	39,800	23,200	31,750	1,952,331	5,096	1,957,427	31,830	-	-
June.....	37,000	16,300	25,670	1,521,322	6,141	1,527,463	25,670	-	-
July.....	15,700	2,280	5,885	361,864	7,160	369,024	6,001	-	-
August....	2,410	1,920	2,133	131,167	5,978	137,145	2,230	-	-
September	2,040	1,700	1,841	109,547	5,660	113,207	1,902	-	-
The year	39,800	1,380	7,801	5,647,477	42,652	5,690,129	7,860	2.03	27.55
1917-18									
October..	1,980	1,420	1,610	99,015	3,074	102,089	1,660	-	-
November..	1,730	960	1,328	79,002	2,380	81,382	1,368	-	-
December..	29,200	960	6,343	390,010	2,460	392,470	6,383	-	-
January...	39,200	10,400	23,650	1,447,934	1,845	1,449,779	23,680	-	-
February...	10,700	6,210	8,849	491,445	2,221	493,666	8,889	-	-
March....	15,100	5,070	7,568	465,342	3,074	468,416	7,618	-	-
April.....	19,400	14,700	17,190	1,022,678	3,570	1,026,248	17,250	-	-
May.....	19,400	11,300	15,830	973,091	5,534	978,625	15,920	-	-
June.....	11,000	1,620	7,347	437,157	6,545	443,702	7,457	-	-
July.....	2,390	1,090	1,586	97,527	7,379	104,906	1,706	-	-
August....	1,420	1,090	1,212	74,519	6,764	81,283	1,322	-	-
September	1,520	1,090	1,238	73,666	4,165	77,831	1,308	-	-
The year	39,200	960	7,806	5,651,366	49,011	5,700,397	7,874	2.03	27.55

Monthly discharge of Spokane River at Post Falls, Idaho--Continued

Month	Observed				Diversión through Spokane Valley Farms Co's Canal (acre-feet)	Adjusted for diversion			
	Discharge in second-feet			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-feet		Run-off in inches
	Maximum	Minimum	Mean				Mean	Per square mile	
1918-19									
October..	1,850	1,160	1,284	78,962	3,074	82,036	1,334	-	-
November.	2,110	1,240	1,763	104,926	2,380	107,306	1,803	-	-
December.	7,050	1,850	3,601	221,435	2,460	223,895	3,641	-	-
January..	14,400	1,420	5,174	318,129	1,845	319,974	5,204	-	-
February..	11,600	2,110	5,842	324,456	2,221	326,677	5,882	-	-
March.....	13,800	5,070	7,995	491,583	3,074	494,657	8,045	-	-
April.....	24,500	14,400	19,800	1,178,380	3,570	1,181,950	19,860	-	-
May.....	25,800	16,100	19,160	1,177,983	5,534	1,183,517	19,250	-	-
June.....	16,100	2,390	7,575	450,764	7,140	457,904	7,695	-	-
July.....	3,120	1,330	1,701	104,588	7,993	112,581	1,831	-	-
August....	1,520	1,020	1,177	72,357	7,379	79,736	1,297	-	-
September	1,330	1,020	1,127	67,061	4,707	71,768	1,206	-	-
The year	25,800	1,020	6,341	4,590,624	45,377	4,642,001	6,412	1.65	22.39
1919-20									
October..	1,240	960	1,141	70,155	3,257	73,412	1,194	-	-
November.	1,330	1,090	1,155	68,727	2,293	71,020	1,194	-	-
December.	1,330	1,090	1,225	75,352	405	75,757	1,232	-	-
January..	1,420	1,160	1,266	77,871	0	77,871	1,266	-	-
February..	4,130	1,240	1,957	113,137	0	113,137	1,957	-	-
March.....	11,300	1,240	5,663	348,198	2,886	351,084	5,710	-	-
April.....	13,100	5,070	9,737	579,412	4,159	583,571	9,807	-	-
May.....	19,400	12,600	15,650	962,380	5,933	968,313	15,750	-	-
June.....	12,800	2,820	7,907	470,749	7,232	477,711	8,029	-	-
July.....	4,500	860	1,730	106,354	8,265	114,619	1,864	-	-
August....	1,420	1,020	1,225	75,332	7,876	83,208	1,353	-	-
September	1,420	960	1,101	65,494	3,578	69,072	1,161	-	-
The year	19,400	860	4,150	3,012,891	45,884	3,058,775	4,213	1.09	14.83
1920-21									
October..	4,310	960	2,501	153,798	2,577	156,375	2,543	-	-
November.	8,380	1,090	3,852	229,210	2,289	231,499	3,890	-	-
December.	8,280	1,650	4,213	259,061	1,926	260,987	4,244	-	-
January..	13,700	6,160	9,675	594,902	2,025	596,927	9,708	-	-
February..	13,300	4,420	8,725	484,542	1,607	486,149	8,754	-	-
March.....	18,600	9,560	13,980	859,557	1,664	861,221	14,010	-	-
April.....	20,200	14,100	16,530	983,802	2,055	985,857	16,560	-	-
May.....	25,400	17,400	21,880	1,345,587	3,719	1,349,306	21,940	-	-
June.....	19,200	1,840	10,090	600,655	8,856	609,511	10,240	-	-
July.....	4,240	940	1,428	87,828	8,793	96,621	1,571	-	-
August....	1,320	1,020	1,154	70,969	8,182	79,151	1,287	-	-
September	1,160	940	1,054	62,737	5,349	68,086	1,144	-	-
The year	25,400	940	7,918	5,732,648	49,042	5,781,690	7,986	2.06	27.95
1921-22									
October..	-	990	1,115	68,549	2,418	70,967	1,154	-	-
November.	3,380	-	1,547	92,033	1,204	93,237	1,567	-	-
December.	8,820	4,780	6,422	394,889	813	395,702	6,435	-	-
January..	4,550	1,190	2,217	136,304	0	136,304	2,217	-	-
February..	1,540	1,080	1,268	70,413	0	70,413	1,268	-	-
March.....	4,210	1,380	2,284	140,430	0	140,430	2,284	-	-
April.....	14,100	4,550	10,350	615,689	1,452	617,141	10,370	-	-
May.....	24,900	14,100	19,590	1,204,354	5,724	1,210,088	19,680	-	-
June.....	18,800	1,330	11,780	701,117	8,592	709,709	11,920	-	-
July.....	4,080	930	1,316	80,896	9,501	90,397	1,471	-	-
August....	1,080	908	992	60,978	8,626	69,604	1,132	-	-
September	1,040	908	973	57,900	4,915	62,815	1,056	-	-
The year	24,900	908	5,005	3,623,562	43,245	3,666,807	5,065	1.31	17.78
1922-23									
October..	1,200	951	1,034	63,594	2,323	65,917	1,072	-	-
November.	1,530	1,220	1,347	80,152	845	80,997	1,361	-	-
December.	3,040	1,090	1,565	96,238	0	96,238	1,565	-	-
January..	9,920	3,540	6,773	416,430	0	416,430	6,773	-	-
February..	4,310	-	2,368	131,484	0	131,484	2,368	-	-
March.....	7,000	2,210	3,410	209,693	0	209,693	3,410	-	-
April.....	20,000	9,000	15,870	944,132	0	944,132	15,870	-	-
May.....	21,000	16,200	19,000	1,168,066	1,751	1,169,817	19,030	-	-
June.....	17,400	3,500	13,420	798,347	10,703	809,050	13,600	-	-
July.....	5,930	918	2,249	138,313	13,730	152,043	2,472	-	-
August....	1,400	878	1,070	65,802	12,490	78,292	1,273	-	-
September	-	-	1,272	75,669	5,377	81,046	1,362	-	-
The year	21,000	878	5,785	4,187,920	47,219	4,235,139	5,850	1.51	20.49

\* Previously published in error.

## Monthly discharge of Spokane River at Post Falls, Idaho--Continued

Month	Observed				Diversión through Spokane Valley Farms Co's Canal (acre-feet)	Adjusted for diversion			
	Discharge in second-feet			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-feet		Run-off in inches
	Maximum	Minimum	Mean				Mean	Per square mile	
1923-24									
October..	1,220	943	1,100	67,638	871	68,509	1,114	-	-
November..	-	1,140	1,375	81,818	0	81,818	1,375	-	-
December..	5,230	1,160	2,330	143,266	0	143,266	2,330	-	-
January..	2,660	1,440	1,726	106,155	0	106,155	1,726	-	-
February..	12,600	4,700	9,918	570,486	0	570,486	9,918	-	-
March....	9,170	1,890	6,488	398,916	0	398,916	6,488	-	-
April.....	12,000	2,050	7,962	473,792	4,838	478,630	8,043	-	-
May.....	17,400	3,670	14,540	894,110	11,564	905,674	14,730	-	-
June.....	4,340	1,050	2,419	143,921	14,146	158,067	2,657	-	-
July.....	1,480	980	1,179	72,476	14,221	86,697	1,410	-	-
August....	1,380	950	1,149	70,669	13,609	84,278	1,370	-	-
September	1,090	895	974	57,969	5,629	63,598	1,069	-	-
The year	17,400	895	4,244	3,081,216	64,878	3,146,094	4,334	1.12	15.24
1924-25									
October..	1,080	845	948	58,264	0	58,264	948	-	-
November..	6,760	870	1,949	115,974	0	115,974	1,949	-	-
December..	8,790	1,340	4,974	305,812	0	305,812	4,974	-	-
January..	6,930	-	3,785	232,701	0	232,701	3,785	-	-
February..	22,800	8,790	14,660	814,393	0	814,393	14,660	-	-
March....	12,700	7,920	10,190	626,261	0	626,261	10,190	-	-
April.....	30,600	13,100	23,180	1,379,107	6,278	1,385,385	23,290	-	-
May.....	20,000	16,600	19,070	1,172,826	11,213	1,184,039	19,250	-	-
June.....	15,800	2,680	8,321	495,134	11,284	506,418	8,511	-	-
July.....	2,680	840	1,412	86,803	15,481	102,284	1,664	-	-
August....	1,710	1,190	1,493	91,815	14,815	106,630	1,734	-	-
September	1,410	1,130	1,276	75,907	6,668	82,575	1,338	-	-
The year	30,600	840	7,535	5,454,997	65,739	5,520,736	7,626	1.97	26.73
1925-26									
October..	1,520	1,000	1,228	75,491	0	75,491	1,228	-	-
November..	1,580	1,030	1,168	69,501	0	69,501	1,168	-	-
December..	2,450	1,010	1,377	84,655	0	84,655	1,377	-	-
January..	3,440	1,260	2,027	124,661	0	124,661	2,027	-	-
February..	7,540	2,840	5,940	329,911	0	329,911	5,940	-	-
March....	8,520	5,930	7,145	439,359	2,473	441,832	7,185	-	-
April.....	14,800	6,470	10,150	604,007	8,269	612,276	10,290	-	-
May.....	13,100	1,590	6,625	407,345	13,301	420,646	6,841	-	-
June.....	2,110	1,320	1,584	94,255	14,634	108,889	1,830	-	-
July.....	1,880	1,080	1,463	89,970	14,414	104,384	1,697	-	-
August....	1,480	672	991	60,944	14,051	74,995	1,220	-	-
September	1,420	630	1,006	59,867	5,580	65,447	1,100	-	-
The year	14,800	630	3,370	2,439,966	72,722	2,512,688	3,471	.895	12.15
1926-27									
October..	4,180	1,140	1,743	107,147	0	107,147	1,743	-	-
November..	10,400	2,440	4,605	274,036	0	274,036	4,605	-	-
December..	16,200	4,100	10,400	639,749	0	639,749	10,400	-	-
January..	6,710	2,280	4,965	305,316	0	305,316	4,965	-	-
February..	-	3,910	7,035	390,704	0	390,704	7,035	-	-
March....	-	7,610	8,730	536,807	3,471	540,278	8,786	-	-
April.....	23,800	9,080	12,180	725,058	5,496	730,554	12,270	-	-
May.....	27,900	20,000	23,850	1,466,578	9,921	1,476,499	24,010	-	-
June.....	21,400	11,000	17,610	1,048,066	14,364	1,062,430	17,850	-	-
July.....	9,290	1,150	2,560	157,408	14,705	172,113	2,799	-	-
August....	1,740	1,310	1,580	97,150	15,068	112,218	1,825	-	-
September	-	1,150	1,424	84,734	5,373	90,107	1,514	-	-
The year	27,900	1,140	8,057	5,832,753	68,396	5,901,151	8,151	2.10	28.50
1927-28									
October..	9,970	1,660	5,460	335,702	0	335,702	5,460	-	-
November..	22,400	4,200	13,130	781,190	0	781,190	13,100	-	-
December..	23,300	6,660	14,920	917,355	0	917,355	14,900	-	-
January..	12,900	4,940	8,732	536,906	0	536,906	8,730	-	-
February..	7,390	3,550	6,220	357,778	0	357,778	6,220	-	-
March....	17,400	1,890	10,930	672,178	575	672,753	10,940	-	-
April.....	19,600	12,400	15,230	906,248	4,013	910,261	15,300	-	-
May.....	26,300	18,200	22,620	1,390,810	11,671	1,402,481	22,810	-	-
June.....	18,900	2,060	7,806	464,509	14,864	479,373	8,056	-	-
July.....	2,740	1,090	1,524	93,719	15,624	109,343	1,778	-	-
August....	1,190	813	1,003	61,644	14,214	75,858	1,234	-	-
September	1,120	853	913	54,309	6,129	60,438	1,016	-	-
The year	26,300	813	9,053	6,572,348	67,090	6,639,438	9,146	2.36	32.12

Monthly discharge of Spokane River at Post Falls, Idaho--Continued

Month	Observed				Diversión through Spokane Valley Farms Co.'s Canal (acre-feet)	Adjusted for diversion			
	Discharge in second-feet			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-feet		Run-off in inches
	Maximum	Minimum	Mean				Mean	Per square mile	
1928-29									
October..	1,320	820	1,097	67,448	0	67,448	1,097	-	-
November.	1,320	965	1,149	68,390	0	68,390	1,149	-	-
December.	1,650	795	1,189	73,121	0	73,121	1,189	-	-
January..	1,420	900	1,087	66,843	0	66,843	1,087	-	-
February.	1,110		1,025	56,906	0	56,906	1,025	-	-
March....	8,000	1,040	1,751	107,683	0	107,683	1,751	-	-
April....	12,600	3,400	7,065	420,397	1,311	421,708	7,087	-	-
May.....	14,000	11,300	13,090	805,091	9,376	814,467	13,240	-	-
June.....	10,700	1,780	5,059	301,051	12,403	313,454	5,267	-	-
July.....	2,450	795	1,187	72,982	12,833	85,815	1,396	-	-
August....	1,590	770	1,113	68,430	13,583	82,013	1,334	-	-
September	1,530	1,070	1,242	73,924	5,591	79,515	1,336	-	-
The year	14,000	770	3,014	2,182,266	55,097	2,237,363	3,090	0.796	10.80
1929-30									
October..	1,230	820	960	59,018	0	59,018	960	-	-
November.	1,320	900	972	57,828	0	57,828	972	-	-
December.	1,150	845	935	57,461	0	57,461	935	-	-
January..	1,650	900	1,307	80,370	0	80,370	1,310	-	-
February.	6,910	965	2,487	138,129	0	138,129	2,490	-	-
March....	10,200	2,040	3,873	238,155	436	238,591	3,880	-	-
April....	12,000	10,200	11,270	670,810	6,785	677,595	11,380	-	-
May.....	11,300	3,830	7,055	433,825	12,004	445,829	7,250	-	-
June.....	6,250	1,370	3,531	210,129	12,014	222,143	3,733	-	-
July.....	1,840	770	1,018	62,588	13,069	75,657	1,231	-	-
August....	1,230	965	1,108	68,142	14,396	82,538	1,342	-	-
September	1,190	1,000	1,071	63,729	5,691	69,420	1,167	-	-
The year	12,000	770	2,956	2,140,184	64,395	2,204,579	3,045	.785	10.65
1930-31									
October..	1,110	900	1,020	62,698	0	62,698	1,020	-	-
November.	1,110	900	965	57,441	0	57,441	965	-	-
December.	1,190	965	1,015	62,400	0	62,400	1,010	-	-
January..	1,190	930	996	61,260	0	61,260	996	-	-
February.	4,320	930	1,913	106,255	0	106,255	1,910	-	-
March....	12,000	1,910	6,776	416,628	561	417,189	6,785	-	-
April....	15,600	10,900	13,550	806,083	5,161	811,244	13,640	-	-
May.....	14,800	3,500	11,000	676,185	12,821	689,006	11,210	-	-
June.....	3,500	1,000	2,005	119,286	14,221	133,507	2,244	-	-
July.....	1,070	820	935	57,471	15,070	72,541	1,180	-	-
August....	1,420	820	1,072	65,940	15,606	81,546	1,326	-	-
September	1,280	820	1,023	60,883	6,405	67,288	1,131	-	-
The year	15,600	820	3,526	2,552,530	69,845	2,622,375	3,622	.934	12.67
1931-32									
October..	1,370	820	1,045	64,225	0	64,225	1,045	-	-
November.	965	795	882	52,512	0	52,512	882	-	-
December.	965	900	910	55,964	0	55,964	910	-	-
January..	4,320	1,190	2,582	158,737	0	158,737	2,582	-	-
February.	8,900	1,480	2,430	139,755	0	139,755	2,430	-	-
March....	16,400	7,830	11,790	725,038	0	725,038	11,790	-	-
April....	28,900	17,300	23,770	1,414,215	1,341	1,415,556	23,790	-	-
May.....	32,400	22,700	28,990	1,782,347	10,631	1,792,978	29,160	-	-
June.....	21,300	2,820	12,500	743,881	14,918	758,799	12,750	-	-
July.....	3,310	930	1,643	101,048	15,642	116,690	1,897	-	-
August....	965	795	847	52,066	14,820	66,886	1,088	-	-
September	965	795	848	50,489	7,902	58,391	981	-	-
The year	32,400	795	7,356	5,340,277	65,254	5,405,531	7,446	1.92	26.13
1932-33									
October..	1,150	820	988	60,744	0	60,744	988	-	-
November.	9,450	795	4,931	293,415	0	293,415	4,930	-	-
December.	8,900	1,150	4,667	286,988	0	286,988	4,670	-	-
January..	7,450	1,650	4,533	278,717	0	278,717	4,530	-	-
February.	3,400	1,480	2,483	137,891	0	137,891	2,480	-	-
March....	9,550	1,910	5,588	343,577	964	344,541	5,604	-	-
April....	27,400	9,880	14,210	845,712	4,340	850,052	14,280	-	-
May.....	28,900	20,000	22,670	1,393,587	13,170	1,406,757	22,880	-	-
June.....	27,000	12,400	21,830	1,298,777	14,324	1,313,601	22,080	-	-
July.....	11,700	845	3,119	191,792	13,609	205,401	3,340	-	-
August....	1,040	795	839	51,560	14,731	66,291	1,079	-	-
September	1,150	770	916	54,496	7,095	61,591	1,035	-	-
The year	28,900	770	7,234	5,237,256	68,733	5,305,989	7,329	1.89	25.65

## Monthly discharge of Spokane River at Post Falls, Idaho--Continued

Month	Observed				Diversion through Spokane Valley Farms Co.'s Canal (acre-feet)	Adjusted for diversion			
	Discharge in second-feet			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-feet		Run-off in inches
	Maximum	Minimum	Mean				Mean	Per square mile	
1933-34									
October..	8,290	965	2,720	167,276	0	167,276	2,720	-	-
November..	12,000	2,170	6,537	388,959	0	388,959	6,537	-	-
December..	49,800	2,040	23,660	1,454,995	0	1,454,995	23,660	-	-
January..	33,500	17,700	24,930	1,533,025	0	1,533,025	24,930	-	-
February..	19,800	9,220	13,750	763,577	0	763,577	13,750	-	-
March....	20,400	8,900	12,730	782,479	0	782,479	12,730	-	-
April.....	26,300	17,400	21,170	1,259,702	4,320	1,264,022	21,240	-	-
May.....	17,000	3,500	9,156	562,988	15,864	578,852	9,414	-	-
June.....	4,880	745	2,113	125,722	15,862	141,584	2,380	-	-
July.....	1,190	720	914	56,202	15,275	71,477	1,162	-	-
August....	989	610	822	50,541	14,670	65,211	1,061	-	-
September	948	632	721	42,908	6,867	49,765	836	-	-
The year	49,800	610	9,929	7,188,374	72,848	7,261,222	10,030	2.59	35.15
1934-35									
October..	1,070	626	793	48,783	0	48,783	793	-	-
November..	6,320	1,030	4,113	244,721	0	244,721	4,113	-	-
December..	8,010	906	4,355	267,780	0	267,780	4,355	-	-
January..	7,550	3,820	5,470	336,337	0	336,337	5,470	-	-
February..	7,550	5,260	6,517	361,924	0	361,924	6,517	-	-
March....	11,100	4,000	7,888	485,018	561	485,579	7,897	-	-
April.....	23,800	7,780	14,670	873,124	4,080	877,204	14,740	-	-
May.....	25,600	20,200	23,050	1,417,388	14,949	1,432,337	23,290	-	-
June.....	19,600	1,810	9,810	583,736	16,620	600,356	10,090	-	-
July.....	2,960	782	1,453	89,359	16,580	105,939	1,263	-	-
August....	1,400	808	1,004	61,714	15,947	77,661	1,263	-	-
September	1,450	1,000	1,246	74,142	7,567	81,709	1,373	-	-
The year	25,500	626	6,691	4,844,026	76,304	4,920,330	6,796	1.75	23.75
1935-36									
October..	1,430	840	1,055	64,879	0	64,879	1,055	-	-
November..	920	452	627	37,325	0	37,325	627	-	-
December..	1,000	566	784	48,179	0	48,179	784	-	-
January..	2,610	636	1,632	100,374	0	100,374	1,632	-	-
February..	2,280	1,520	1,972	113,415	0	113,415	1,972	-	-
March....	7,780	1,380	5,773	354,942	0	354,942	5,773	-	-
April.....	35,400	3,220	16,980	1,010,261	0	1,010,261	16,980	-	-
May.....	31,700	12,300	21,990	1,352,331	14,707	1,367,038	22,230	-	-
June.....	11,700	920	5,249	312,357	17,129	329,486	5,537	-	-
July.....	2,000	629	1,059	65,107	16,366	81,473	1,325	-	-
August....	1,580	746	1,070	65,780	14,965	80,745	1,313	-	-
September	1,430	906	1,151	68,501	6,609	75,110	1,262	-	-
The year	35,400	452	4,950	3,593,451	69,776	3,663,227	5,046	1.30	17.69
1936-37									
October..	1,520	1,080	1,375	84,536	0	84,536	1,375	-	-
November..	1,000	584	787	46,840	0	46,840	787	-	-
December..	998	648	811	49,849	0	49,849	811	-	-
January..	1,700	820	1,330	81,759	0	81,759	1,330	-	-
February..	1,300	850	1,075	59,718	0	59,718	1,075	-	-
March....	5,260	1,100	2,587	159,055	0	159,055	2,587	-	-
April.....	18,600	6,000	12,420	739,041	0	739,041	12,420	-	-
May.....	23,100	16,200	20,320	1,249,587	9,338	1,258,925	20,470	-	-
June.....	15,400	3,060	7,514	447,134	15,822	462,956	7,780	-	-
July.....	3,220	733	1,321	81,235	16,332	97,567	1,587	-	-
August....	1,300	726	979	60,212	15,477	75,689	1,231	-	-
September	1,470	990	1,283	76,320	6,752	83,072	1,396	-	-
The year	23,100	584	4,331	3,135,286	63,721	3,199,007	4,419	1.14	15.47
1937-38									
October..	1,600	596	952	58,542	0	58,542	952	-	-
November..	7,780	1,000	2,029	120,714	0	120,714	2,029	-	-
December..	8,730	2,100	5,542	340,740	0	340,740	5,542	-	-
January..	9,740	2,830	7,406	455,385	0	455,385	7,406	-	-
February..	6,430	2,680	4,463	247,855	0	247,855	4,463	-	-
March....	13,600	4,090	9,567	588,278	0	588,278	9,567	-	-
April.....	33,500	8,850	18,630	1,108,304	934	1,109,238	18,640	-	-
May.....	27,300	15,400	19,290	1,186,314	11,092	1,197,406	19,470	-	-
June.....	15,100	1,190	7,111	423,114	15,751	438,865	7,375	-	-
July.....	2,340	778	1,303	80,089	16,812	96,901	1,576	-	-
August....	1,220	610	921	56,634	16,259	72,893	1,186	-	-
September	1,340	899	1,119	66,583	7,751	74,334	1,249	-	-
The year	33,500	596	6,537	4,732,552	68,599	4,801,151	6,632	1.71	23.20

Yearly discharge of Spokane River at Post Falls, Idaho

Year	Observed		Diversion through Spokane Valley Farms Co.'s Canal (acre-feet)	Adjusted for diversion			
	Mean discharge in second- feet	Run-off in acre-feet		Run-off in acre-feet	Discharge in second-feet		Run- off in inches
					Mean	Per square mile	
Year ending Sept. 30							
1914.....	5,517	3,994,000	48,170	4,042,000	5,584	1.44	19.54
1915.....	3,666	2,654,000	42,770	2,697,000	3,725	1.960	13.03
1916.....	8,579	6,228,000	47,010	6,275,000	8,644	2.23	30.35
1917.....	7,801	5,647,000	42,650	5,690,000	7,860	2.03	27.55
1918.....	7,806	5,651,000	49,010	5,700,000	7,874	2.03	27.55
1919.....	6,541	4,591,000	*51,380	*4,642,000	*6,412	1.65	22.39
1920.....	4,150	3,013,000	45,880	3,059,000	4,213	1.09	14.83
1921.....	7,918	5,733,000	49,040	5,782,000	7,986	2.06	27.95
1922.....	5,005	3,624,000	43,250	3,667,000	5,065	1.31	17.78
1923.....	5,785	4,188,000	47,220	4,235,000	5,850	1.51	20.49
1924.....	4,244	3,081,000	64,880	3,146,000	4,334	1.12	15.24
1925.....	7,535	5,455,000	65,740	5,521,000	7,626	1.97	26.73
1926.....	3,370	2,440,000	72,720	2,513,000	3,471	1.895	12.15
1927.....	8,057	5,833,000	68,400	5,901,000	8,151	2.10	28.50
1928.....	9,053	6,572,000	67,090	6,639,000	9,146	2.36	32.12
1929.....	3,014	2,182,000	55,100	2,237,000	3,090	1.796	10.80
1930.....	2,956	2,140,000	64,400	2,204,000	3,045	1.785	10.65
1931.....	3,526	2,553,000	69,850	2,623,000	3,622	1.934	12.67
1932.....	7,356	5,340,000	65,250	5,405,000	7,446	1.92	26.13
1933.....	7,234	5,237,000	68,730	5,306,000	7,329	1.89	25.65
1934.....	9,929	7,188,000	72,850	7,261,000	10,030	2.59	35.15
1935.....	6,691	4,844,000	76,300	4,920,000	6,796	1.75	23.75
1936.....	4,950	3,993,000	69,780	3,663,000	5,046	1.30	17.69
1937.....	4,331	3,135,000	63,720	3,199,000	4,419	1.14	15.47
1938.....	6,537	4,733,000	68,600	4,802,000	6,632	1.71	23.20
Highest....	9,929	7,188,000	76,300	7,261,000	10,030	2.59	35.15
Average....	6,054	4,386,000	59,190	4,445,000	6,136	1.58	21.49
Lowest.....	2,956	2,140,000	42,650	2,204,000	3,045	1.785	10.65
Calendar year							
1913.....	7,903	5,721,000	42,010	5,763,000	7,961	2.05	27.82
1914.....	5,540	4,011,000	45,430	4,056,000	5,603	1.44	19.54
1915.....	3,391	2,455,000	43,270	2,498,000	3,450	1.889	12.06
1916.....	8,568	6,220,000	47,000	6,267,000	8,632	2.22	30.21
1917.....	8,164	5,910,000	42,900	5,953,000	8,223	2.12	28.77
1918.....	7,581	5,489,000	49,010	5,538,000	7,649	1.97	26.73
1919.....	6,077	4,400,000	*49,420	*4,449,000	*6,145	1.58	21.44
1920.....	4,740	3,441,000	46,720	3,488,000	4,804	1.24	16.88
1921.....	7,799	5,646,000	46,680	5,693,000	7,863	2.03	27.55
1922.....	4,569	3,308,000	41,980	3,350,000	4,627	1.19	16.15
1923.....	5,558	4,241,000	44,920	4,286,000	5,620	1.53	20.76
1924.....	4,502	3,269,000	64,010	3,333,000	4,591	1.18	16.06
1925.....	7,189	5,205,000	65,740	5,271,000	7,280	1.88	25.51
1926.....	4,463	3,231,000	72,720	3,304,000	4,564	1.18	16.01
1927.....	9,456	6,846,000	68,400	6,914,000	9,551	2.46	33.38
1928.....	6,539	4,747,000	67,090	4,814,000	6,632	1.71	23.27
1929.....	2,966	2,148,000	55,100	2,203,000	3,043	1.784	10.64
1930.....	2,968	2,148,000	64,400	2,212,000	3,057	1.788	10.69
1931.....	3,512	2,543,000	69,850	2,613,000	3,609	1.930	12.62
1932.....	8,002	5,809,000	65,250	5,874,000	8,091	2.09	28.44
1933.....	9,127	6,607,000	68,730	6,676,000	9,222	2.38	32.30
1934.....	7,926	5,738,000	72,850	5,811,000	8,027	2.07	28.09
1935.....	6,123	4,433,000	76,300	4,509,000	6,229	1.61	21.85
1936.....	4,992	3,624,000	69,780	3,694,000	5,089	1.31	17.83
1937.....	4,799	3,474,000	63,720	3,538,000	4,887	1.26	17.10
1938.....	6,135	4,442,000	69,400	4,511,000	6,231	1.61	21.85
Highest....	9,456	6,846,000	76,300	6,914,000	9,551	2.46	33.38
Average....	6,111	4,427,000	58,180	4,485,000	6,192	1.60	21.68
Lowest.....	2,966	2,148,000	41,980	2,203,000	3,043	1.784	10.64

\* Previously published in error.

## North Fork of Coeur d'Alene River near Enaville, Idaho

Location.- Staff gage, lat. 47°37', long. 116°15', in sec. 6, T. 49 N., R. 2 E., at Canning's ranch, 1 mile upstream from mouth, 5 miles north of Enaville, and below all tributaries.

Records available.- October 1911 to December 1912.

Extremes.- Maximum discharge observed, 2,250 second-feet Apr. 11, 1912 (gage height, 12.3 feet); minimum observed, 30 second-feet Oct. 23-29, Oct. 31 to Nov. 5, Nov. 11-13, 1911 (gage height, 7.60 feet).

Remarks.- No diversion or regulation.

Monthly discharge of North Fork of Coeur d'Alene River near Enaville, Idaho

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1911-12				
October 23-31.....	35	30	30.6	546
November.....	1,090	30	168	10,000
December.....	116	51	69.9	4,300
January.....	690	51	178	10,900
February.....	970	187	439	25,300
March.....	540	80	190	11,700
April.....	2,250	565	1,330	79,100
May.....	1,550	640	944	58,000
June.....	590	133	242	14,000
July.....	180	58	94.1	5,790
August.....	151	41	52.0	3,200
September.....	180	44	67.9	4,040
The period.....	-	-	-	227,000
1912				
October.....	142	41	69.4	4,270
November.....	1,760	72	449	26,700
December.....	285	79	125	7,690
The period.....	-	-	-	38,700

## St. Joe River at Avery, Idaho

Location.- Staff gage, lat. 47°15', long. 115°49', in sec. 15, T. 45 N., R. 5 E., at Avery, Shoshone County, half a mile downstream from North Fork.

Records available.- January 1911 to June 1917 (only fragmentary gage heights prior to April 1911).

Extremes.- Maximum discharge observed, 17,900 second-feet May 28, 1913 (gage height, 7.3 feet); minimum not determined, probably occurred during winter.

Remarks.- Above all important diversions; no regulation.

Monthly discharge of St. Joe River at Avery, Idaho

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1911				
April.....	8,000	1,630	3,570	212,000
May.....	8,600	3,220	4,920	303,000
June.....	6,400	1,520	3,340	199,000
July.....	1,750	570	977	60,100
August.....	630	340	462	28,400
September.....	400	340	343	20,400
The period.....	-	-	-	823,000
1911-12				
October.....	390	340	375	23,100
November.....	1,590	340	566	33,700
February.....	670	390	523	30,100
March.....	1,140	285	503	30,900
April.....	6,880	1,190	2,720	162,000
May.....	8,120	2,380	5,570	342,000
June.....	5,360	1,820	3,450	205,000
July.....	1,680	650	960	59,000
August.....	650	350	457	28,100
September.....	880	315	423	25,200
1912-13				
October.....	573	360	428	26,300
November.....	1,280	620	913	54,300
December.....	1,280	480	616	37,900
April.....	7,390	770	3,750	223,000
May.....	17,000	2,600	8,980	552,000
June.....	13,100	2,390	5,900	351,000
July.....	2,310	645	1,220	75,000
August.....	781	384	550	33,800
September.....	384	280	348	20,700



## Monthly discharge of St. Joe River at Avery, Idaho--Continued

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1913-14				
October.....	432	280	326	20,000
November.....	690	310	491	29,200
December.....	-	-	399	24,500
January.....	-	-	470	28,900
February.....	-	-	420	23,500
March.....	2,420	598	1,590	35,500
April.....	6,800	1,040	3,830	228,000
May.....	6,800	2,870	5,180	319,000
June.....	2,990	968	1,640	97,600
July.....	968	485	695	42,700
August.....	498	350	402	24,700
The period.....	-	-	-	923,000
1914-15				
October.....	610	393	476	29,300
November.....	3,850	637	1,530	91,000
December.....	983	-	646	39,700
January.....	-	-	550	33,800
February.....	-	-	568	31,500
March.....	1,580	439	823	50,600
April.....	4,110	1,300	2,560	152,000
May.....	2,870	1,580	2,080	128,000
June.....	2,100	890	1,420	84,500
July.....	890	548	696	42,800
August.....	548	350	422	25,900
September.....	462	330	361	21,600
The year.....	4,110	330	1,010	731,000
1915-16				
October.....	393	300	343	21,100
November.....	610	270	400	23,800
December.....	718	290	441	27,100
January.....	-	-	440	27,100
February.....	-	-	566	32,600
March.....	4,910	-	1,950	120,000
April.....	8,960	2,100	3,850	229,000
May.....	11,400	3,410	5,710	351,000
June.....	10,400	4,700	7,040	419,000
July.....	4,960	1,050	2,500	154,000
August.....	1,080	433	663	40,800
September.....	608	378	431	25,600
The year.....	11,400	270	2,030	1,470,000
1916-17				
October.....	433	318	359	22,100
November 1-12.....	982	345	525	12,500
April.....	4,700	433	2,110	126,000
May.....	15,800	3,160	8,610	529,000
June.....	11,300	3,260	6,360	378,000

## St. Joe River at Calder, Idaho

Location.- Water-stage recorder, lat. 47°16', long. 116°11', in sec. 3, T. 45 N., R. 2

E., 150 feet southwest of Chicago, Milwaukee & St. Paul Railway station at Calder.

Datum of gage is about 2,100 feet above mean sea level.

Drainage area.- 1,080 square miles.

Records available.- July 1920 to September 1938.

Extremes.- Maximum discharge, 53,000 second-feet Dec. 23, 1933, computed on basis of slope between gages downstream; maximum gage height, 93.1 feet, from high-water mark, Apr. 18, 1938; minimum discharge, 96 second-feet Dec. 5, 1928 (gage height, 78.43 feet).

Remarks.- No diversions above gage. Operation of splash dam at Marble Creek causes some diurnal fluctuation during log-driving season.

## Monthly discharge of St. Joe River at Calder, Idaho

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1920						
July 13-31.....	2,000	718	1,200	1.11	0.78	45,200
August.....	1,180	435	647	.599	.69	39,800
September.....	1,620	435	805	.745	.83	47,900

## Monthly discharge of St. Joe River at Calder, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
<b>1920-21</b>						
October.....	1,560	870	1,240	1.15	1.33	76,200
November.....	3,490	630	1,440	1.33	1.48	85,700
December.....	7,150	655	1,330	1.23	1.42	81,800
January.....	3,460	930	1,620	1.50	1.73	99,600
February.....	5,150	703	2,140	1.98	2.06	119,000
March.....	11,500	1,910	4,040	3.74	4.31	248,000
April.....	10,900	3,010	5,900	5.46	6.09	351,000
May.....	16,800	6,150	12,500	11.6	13.37	769,000
June.....	9,400	2,030	5,040	4.67	5.21	300,000
July.....	2,030	601	1,150	1.06	1.22	70,700
August.....	685	420	535	.495	.57	32,900
September.....	691	440	518	.480	.54	30,800
The year.....	16,800	420	3,120	2.89	39.33	2,260,000
<b>1921-22</b>						
October.....	730	430	479	.444	.51	29,500
November.....	1,580	310	559	.518	.58	33,300
December.....	9,380	615	2,000	1.85	2.13	123,000
January.....	900	-	481	.445	.51	29,600
February.....	-	-	456	.422	.44	25,300
March.....	1,360	-	689	.638	.74	42,400
April.....	6,220	1,260	3,170	2.94	3.28	189,000
May.....	16,600	5,980	9,450	8.75	10.09	581,000
June.....	11,700	2,040	5,850	5.42	6.05	348,000
July.....	1,940	750	1,200	1.11	1.28	73,800
August.....	780	430	596	.552	.64	36,600
September.....	640	340	401	.371	.41	23,900
The year.....	16,600	-	2,120	1.96	26.66	1,640,000
<b>1922-23</b>						
October.....	468	276	334	.309	.36	20,500
November.....	967	202	374	.346	.39	22,300
December.....	1,640	-	516	.478	.55	31,700
January.....	4,540	350	1,260	1.17	1.35	77,500
February.....	798	-	539	.499	.52	29,900
March.....	5,950	580	1,240	1.15	1.33	76,200
April.....	11,400	2,960	6,200	5.74	6.40	369,000
May.....	13,000	4,380	8,260	7.65	8.82	508,000
June.....	8,310	2,700	5,440	5.04	5.62	324,000
July.....	2,620	892	1,510	1.40	1.61	92,800
August.....	932	526	682	.631	.73	41,900
September.....	558	375	453	.419	.47	27,000
The year.....	13,000	-	2,240	2.07	28.15	1,620,000
<b>1923-24</b>						
October.....	978	323	460	.426	.49	28,300
November.....	1,640	311	551	.510	.57	32,800
December.....	1,280	254	600	.556	.64	36,900
January.....	-	-	539	.499	.58	33,100
February.....	-	1,350	2,180	2.02	2.18	125,000
March.....	1,700	943	1,250	1.16	1.34	76,900
April.....	9,170	957	4,100	3.80	4.24	244,000
May.....	12,500	2,760	7,680	7.11	8.20	472,000
June.....	2,740	1,080	1,830	1.69	1.89	105,000
July.....	1,090	500	761	.705	.81	46,800
August.....	565	360	447	.414	.48	27,500
September.....	480	360	397	.368	.41	23,600
The year.....	12,500	-	1,730	1.60	21.83	1,260,000
<b>1924-25</b>						
October.....	590	345	414	.383	.44	25,500
November.....	2,330	540	995	.921	1.03	59,200
December.....	6,300	590	1,620	1.50	1.73	99,600
January.....	-	-	1,440	1.33	1.53	88,500
February.....	-	1,390	4,050	3.75	3.90	225,000
March.....	5,060	1,390	2,640	2.44	2.81	162,000
April.....	16,600	5,800	10,500	9.72	10.84	625,000
May.....	13,200	6,270	10,500	9.72	11.21	646,000
June.....	5,690	2,130	3,700	3.43	3.83	220,000
July.....	2,060	766	1,200	1.11	1.28	73,800
August.....	921	612	632	.585	.67	38,900
September.....	612	440	490	.454	.51	29,200
The year.....	-	-	3,170	2.94	39.78	2,290,000

## Monthly discharge of St. Joe River at Calder, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1925-26						
October.....	560	345	390	0.361	0.42	24,000
November.....	524	275	281	.353	.39	22,700
December.....	2,030	450	792	.733	.85	48,700
January.....	780	-	509	.471	.54	31,300
February.....	2,560	492	1,110	1.03	1.07	61,600
March.....	3,770	1,350	2,270	2.10	2.42	140,000
April.....	10,800	1,470	5,260	4.87	5.43	313,000
May.....	7,300	1,750	3,590	3.32	3.83	221,000
June.....	1,680	722	1,150	1.06	1.18	68,400
July.....	923	395	554	.513	.59	34,100
August.....	786	321	405	.375	.43	24,900
September.....	1,230	395	549	.508	.57	32,700
The year.....	10,800	275	1,410	1.31	17.72	1,020,000
1926-27						
October.....	1,950	534	1,100	1.02	1.18	67,600
November.....	7,420	865	2,030	1.88	2.10	121,000
December.....	9,600	-	2,950	2.73	3.15	181,000
January.....	2,070	842	1,380	1.28	1.48	84,800
February.....	3,110	984	1,390	1.29	1.34	77,200
March.....	2,840	1,240	1,670	1.55	1.79	103,000
April.....	17,000	2,150	5,130	4.75	5.30	305,000
May.....	17,300	6,270	9,720	9.00	10.38	598,000
June.....	13,400	3,540	8,400	7.78	8.68	500,000
July.....	3,270	1,110	1,830	1.69	1.95	113,000
August.....	1,070	573	773	.716	.83	47,500
September.....	1,340	538	798	.739	.82	47,500
The year.....	17,300	534	3,100	2.87	39.00	2,250,000
1927-28						
October.....	2,800	1,050	1,620	1.50	1.73	99,600
November.....	12,400	1,380	6,020	5.57	6.21	358,000
December.....	9,720	-	3,530	3.27	3.77	217,000
January.....	-	-	2,670	2.47	2.85	164,000
February.....	2,060	1,140	1,540	1.43	1.54	88,600
March.....	7,270	1,190	3,380	3.13	3.61	208,000
April.....	11,800	2,360	4,480	4.15	4.63	267,000
May.....	16,300	6,560	12,220	11.3	13.03	750,000
June.....	6,020	1,950	3,410	3.16	3.53	203,000
July.....	1,760	746	1,130	1.05	1.21	69,500
August.....	734	433	550	.509	.59	33,800
September.....	456	333	381	.353	.39	22,700
The year.....	16,300	333	3,420	3.17	43.09	2,480,000
1928-29						
October.....	890	305	413	.382	.44	25,400
November.....	800	263	372	.344	.38	22,100
December.....	728	147	291	.269	.31	17,900
January.....	281	-	204	.189	.22	12,500
February.....	-	-	239	.221	.23	13,300
March.....	3,120	-	986	.913	1.05	60,600
April.....	7,450	956	2,820	2.61	2.91	168,000
May.....	8,510	3,840	5,850	5.42	6.25	360,000
June.....	4,500	1,690	3,110	2.88	3.21	185,000
July.....	1,630	691	1,020	.944	1.09	62,700
August.....	659	411	519	.481	.55	31,900
September.....	415	321	363	.336	.37	21,600
The year.....	8,510	147	1,360	1.26	17.01	981,000
1929-30						
October.....	592	222	323	.299	.34	19,900
November.....	338	175	258	.239	.27	15,400
December.....	2,160	230	590	.546	.63	36,300
January.....	472	200	290	.269	.31	17,800
February.....	3,510	300	992	.919	.96	55,100
March.....	3,920	719	1,580	1.46	1.68	97,200
April.....	8,240	3,510	5,850	5.42	6.05	349,000
May.....	5,790	2,980	3,770	3.49	4.02	232,000
June.....	3,200	1,210	2,110	1.95	2.18	126,000
July.....	1,210	521	820	.759	.88	50,400
August.....	526	387	466	.431	.50	28,700
September.....	510	316	373	.345	.38	22,200
The year.....	8,240	175	1,450	1.34	18.20	1,050,000

## Monthly discharge of St. Joe River at Calder, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1930-31						
October.....	760	338	464	0.430	0.50	28,500
November.....	1,600	375	535	.495	.55	31,800
December.....	420	290	349	.323	.37	21,500
January.....	1,600	290	613	.568	.65	37,700
February.....	990	498	673	.623	.65	37,400
March.....	4,460	582	1,620	1.50	1.73	99,600
April.....	6,710	2,510	4,110	3.81	4.25	245,000
May.....	8,510	2,580	5,420	5.02	5.79	333,000
June.....	2,450	826	1,390	1.29	1.43	82,700
July.....	795	460	594	.550	.63	36,500
August.....	521	281	379	.351	.40	23,300
September.....	498	261	337	.312	.35	20,100
The year.....	8,510	261	1,380	1.28	17.30	997,000
1931-32						
October.....	477	264	333	.308	.36	20,500
November.....	760	250	391	.362	.40	23,300
December.....	-	-	389	.360	.42	23,900
January.....	1,060	330	437	.405	.47	26,900
February.....	6,240	-	934	.865	.93	53,700
March.....	5,570	878	2,100	1.94	2.24	129,000
April.....	13,400	3,590	7,470	6.92	7.72	444,000
May.....	16,600	6,240	12,000	11.1	12.80	738,000
June.....	6,950	2,200	4,770	4.42	4.93	284,000
July.....	2,140	763	1,260	1.17	1.35	77,500
August.....	757	477	598	.554	.64	36,800
September.....	515	376	435	.403	.45	25,900
The year.....	16,600	250	2,600	2.41	32.71	1,880,000
1932-33						
October.....	707	366	463	.429	.49	28,500
November.....	3,430	502	1,470	1.36	1.52	87,500
December.....	5,570	550	1,480	1.37	1.58	91,000
January.....	2,600	550	952	.881	1.02	58,500
February.....	600	450	524	.485	.50	29,100
March.....	2,270	592	1,170	1.08	1.24	71,900
April.....	15,200	1,640	5,780	5.35	5.97	344,000
May.....	14,100	5,260	8,600	7.96	9.18	529,000
June.....	18,400	3,670	10,100	9.35	10.40	601,000
July.....	3,350	857	1,690	1.56	1.80	104,000
August.....	956	516	671	.621	.72	41,300
September.....	697	456	542	.502	.56	32,300
The year.....	18,400	366	2,790	2.58	34.98	2,020,000
1933-34						
October.....	6,950	443	1,433	1.33	1.53	88,100
November.....	11,800	1,330	2,824	2.61	2.91	168,000
December.....	40,000	1,250	8,887	8.25	9.49	546,500
January.....	11,500	3,050	5,442	5.04	5.81	334,600
February.....	4,370	2,390	3,342	3.09	3.22	185,600
March.....	18,600	2,580	6,414	5.94	6.85	394,400
April.....	12,800	6,710	9,178	8.50	9.48	546,100
May.....	6,710	2,510	4,404	4.08	4.70	270,800
June.....	2,390	890	1,445	1.34	1.50	85,980
July.....	857	464	632	.585	.67	38,870
August.....	481	302	380	.352	.41	23,390
September.....	472	287	344	.319	.36	20,480
The year.....	40,000	287	3,733	3.46	46.93	2,703,000
1934-35						
October.....	3,070	317	646	.598	.69	39,700
November.....	2,310	807	1,342	1.24	1.38	79,830
December.....	3,340	644	1,091	1.01	1.15	67,080
January.....	2,500	450	1,144	1.06	1.22	70,310
February.....	1,450	958	1,178	1.09	1.14	65,440
March.....	5,100	939	1,756	1.65	1.88	108,000
April.....	10,400	1,560	5,621	5.20	5.80	334,500
May.....	12,900	7,040	9,232	8.55	9.86	567,600
June.....	7,510	1,950	3,978	3.68	4.11	236,700
July.....	1,890	701	1,152	1.07	1.23	70,830
August.....	742	393	535	.495	.57	32,870
September.....	472	325	366	.339	.37	21,790
The year.....	12,900	317	2,341	2.17	29.40	1,695,000

## Monthly discharge of St. Joe River at Calder, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1935-36						
October.....	490	301	344	0.319	0.37	21,160
November.....	393	264	332	.307	.34	19,730
December.....	449	212	324	.300	.35	19,900
January.....	753	264	383	.355	.41	23,540
February.....	1,000	270	344	.319	.34	19,810
March.....	2,300	535	1,078	.998	1.15	66,280
April.....	17,500	568	9,307	8.62	9.62	553,800
May.....	15,000	4,410	8,122	7.52	8.67	499,400
June.....	4,750	1,350	2,767	2.56	2.86	164,600
July.....	1,310	584	882	.817	.94	54,220
August.....	601	379	465	.431	.50	28,590
September.....	472	304	363	.336	.37	21,600
The year.....	17,500	212	2,056	1.90	25.92	1,493,000
1936-37						
October.....	376	278	307	.284	.33	18,850
November.....	382	198	259	.240	.27	15,410
December.....	717	260	359	.332	.38	22,060
January.....	270	200	238	.220	.25	14,640
February.....	320	210	258	.239	.25	14,340
March.....	1,230	300	725	.671	.77	44,590
April.....	7,390	1,010	3,097	2.87	3.20	184,300
May.....	11,700	3,630	7,997	7.40	8.53	491,700
June.....	5,470	1,830	3,180	2.94	3.28	189,200
July.....	1,740	634	1,027	.951	1.10	63,160
August.....	795	400	531	.492	.57	32,650
September.....	462	326	360	.333	.37	21,410
The year.....	11,700	198	1,536	1.42	19.30	1,112,000
1937-38						
October.....	458	310	354	.328	.38	21,780
November.....	1,650	316	672	.622	.69	39,970
December.....	2,130	358	1,017	.942	1.09	62,560
January.....	2,000	500	992	.919	1.06	61,020
February.....	1,010	584	778	.720	.75	43,220
March.....	4,170	1,230	2,072	1.92	2.21	127,400
April.....	39,400	1,650	9,112	8.44	9.42	542,200
May.....	15,400	5,470	8,458	7.83	9.03	520,100
June.....	6,700	1,850	3,778	3.50	3.90	224,800
July.....	1,740	729	1,149	1.06	1.22	70,650
August.....	795	420	576	.533	.61	35,440
September.....	765	342	407	.377	.42	24,230
The year.....	39,400	310	2,449	2.27	30.78	1,773,000

## Yearly discharge of St. Joe River at Calder, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1921.....	3,120	2.89	39.33	2,260,000	3,040	2.81	38.32	2,210,000
1922.....	2,120	1.96	26.66	1,540,000	1,970	1.82	24.74	1,420,000
1923.....	2,240	2.07	28.15	1,620,000	2,270	2.10	28.55	1,640,000
1924.....	1,730	1.60	21.83	1,260,000	1,850	1.71	23.33	1,340,000
1925.....	3,170	2.94	39.78	2,290,000	3,040	2.81	38.24	2,200,000
1926.....	1,410	1.31	17.72	1,020,000	1,790	1.66	22.49	1,300,000
1927.....	3,100	2.87	39.00	2,250,000	3,520	3.26	44.28	2,550,000
1928.....	3,420	3.17	43.09	2,480,000	2,580	2.39	32.51	1,870,000
1929.....	1,360	1.26	17.01	981,000	1,360	1.26	17.12	987,000
1930.....	1,450	1.34	18.20	1,050,000	1,460	1.35	18.38	1,060,000
1931.....	1,580	1.28	17.30	997,000	1,560	1.26	17.06	983,000
1932.....	2,600	2.41	32.71	1,880,000	2,790	2.58	35.12	2,020,000
1933.....	2,790	2.58	34.98	2,020,000	3,610	3.34	45.32	2,610,000
1934.....	3,733	3.46	46.93	2,703,000	3,883	3.67	48.22	2,987,000
1935.....	2,341	2.17	29.40	1,695,000	2,167	2.01	27.24	1,569,000
1936.....	2,056	1.90	25.92	1,493,000	2,050	1.90	25.84	1,488,000
1937.....	2,334	1.42	19.30	1,112,000	1,630	1.51	20.48	1,180,000
1938.....	2,449	2.27	30.78	1,773,000	2,403	2.22	30.20	1,740,000
Highest.....	3,733	3.46	46.93	2,703,000	3,610	3.34	45.32	2,610,000
Average.....	2,334	2.16	29.34	1,690,000	2,321	2.15	29.19	1,681,000
Lowest.....	1,360	1.26	17.01	981,000	1,360	1.26	17.06	983,000

## St. Joe River near Calder, Idaho

Location.- Staff gage, lat. 47°16', long. 116°14', in sec. 5, T. 45 N., R. 2 E., at logging camp, 2½ miles downstream from Calder.

Records available.- April 1911 to September 1912.

Extremes.- Maximum discharge observed, 15,400 second-feet May 21, 1912 (gage height, 9.0 feet); minimum observed, 380 second-feet Nov. 2, 1911 (gage height, 1.6 feet).

Remarks.- No diversion or regulation.

## Monthly discharge of St. Joe River near Calder, Idaho

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1911				
April 14-30.....	12,600	2,620	6,840	231,000
May.....	14,100	4,200	7,360	453,000
June.....	8,660	2,080	4,300	256,000
July.....	2,210	830	1,330	81,800
August.....	910	520	682	41,900
September.....	830	470	564	33,600
The period.....	-	-	-	1,100,000
1911-12				
October.....	690	420	507	31,200
November.....	4,200	380	962	57,200
December.....	830	420	598	36,800
January.....	1,970	420	1,040	64,000
February.....	1,970	760	1,230	70,800
March.....	2,620	570	1,030	63,300
April.....	8,660	2,920	5,480	326,000
May.....	15,400	4,830	9,860	606,000
June.....	8,520	1,970	4,970	296,000
July.....	2,080	750	1,170	71,900
August.....	870	545	641	39,400
September.....	1,200	495	634	37,700
The year.....	15,400	380	2,340	1,700,000

## St. Maries River at Lotus, Idaho

Location.- Staff gage, lat. 47°14', long. 116°37', in sec. 20, T. 45 N., R. 2 W., just downstream from Lotus. Datum of gage is about 2,160 feet above mean sea level.

Drainage area.- 420 square miles.

Records available.- July 1911 to October 1912, July 1920 to September 1938.

Extremes.- Maximum discharge observed, 23,800 second-feet Dec. 22, 23, 1933 (gage height, 12.1 feet); minimum discharge, 16 second-feet (estimated) Nov. 21, 1929; minimum gage height, 2.71 feet Nov. 20, 1929.

Remarks.- No diversion or regulation; occasional backwater effect from logs.

## Monthly discharge of St. Maries River at Lotus Idaho

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1911				
July 10-31.....	160	79	114	4,970
August 1-12.....	107	79	96.5	2,300
1911-12				
October.....	160	68	93.3	5,740
November.....	850	79	205	12,200
December 1-9.....	182	140	158	2,820
February.....	1,850	260	869	50,000
March.....	1,670	182	491	30,200
April.....	4,670	1,580	3,330	198,000
May.....	4,020	1,500	2,530	156,000
June.....	1,670	300	735	43,700
July.....	402	124	211	13,000
August.....	152	82	104	6,400
September.....	495	94	151	8,980
October 1912.....	300	94	150	9,220
1920				
July 15-31.....	129	79	95.3	3,210
August.....	111	54	66.4	4,080
September.....	275	58	111	6,600

## Monthly discharge of St. Maries River at Lotus, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1920-21						
October.....	292	98	164	0.390	0.45	10,100
November.....	590	70	256	.610	.68	15,200
December.....	2,700	93	376	.895	1.03	23,100
January.....	2,350	369	827	1.97	2.27	50,800
February.....	1,910	224	711	1.69	1.76	39,500
March.....	7,710	860	1,950	4.64	5.35	120,000
April.....	3,450	820	1,630	3.88	4.33	97,000
May.....	1,400	590	1,040	2.48	2.86	64,000
June.....	565	193	344	.819	.91	20,500
July.....	266	79	130	.310	.36	7,990
August.....	143	62	74.3	.177	.20	4,570
September.....	346	60	155	.369	.41	9,220
The year.....	7,710	60	638	1.52	20.61	462,000
1921-22						
October.....	465	205	277	.660	.76	17,000
November.....	780	260	372	.886	.99	22,100
December.....	2,120	-	412	.981	1.13	25,300
January.....	-	-	81.9	.195	.22	5,040
February.....	-	-	53.2	.127	.13	2,950
March.....	-	-	70.6	.168	.19	4,340
April.....	2,780	760	1,810	4.31	4.81	108,000
May.....	2,780	1,070	1,810	4.31	4.97	111,000
June.....	1,120	-	552	1.31	1.46	32,800
July.....	-	-	97.1	.231	.27	5,970
August.....	-	-	79.5	.189	.22	4,890
September.....	-	-	57.5	.137	.15	3,420
The year.....	2,780	-	474	1.13	15.30	343,000
1922-23						
October.....	92	45	57.1	.136	.16	3,510
November.....	382	32	77.3	.184	.21	4,600
December.....	-	-	80.6	.192	.22	4,960
January.....	2,920	-	610	1.45	1.67	37,500
February.....	-	-	159	.379	.39	8,830
March.....	2,310	-	644	1.53	1.76	39,600
April.....	3,950	1,010	1,860	4.43	4.94	111,000
May.....	1,340	425	821	1.95	2.25	50,500
June.....	3,030	256	817	1.95	2.18	48,600
July.....	243	92	159	.379	.44	9,780
August.....	231	64	87.4	.208	.24	5,370
September.....	64	49	54.1	.129	.14	3,220
The year.....	3,950	-	452	1.08	14.60	327,000
1923-24						
October.....	144	51	69.6	.166	.19	4,280
November.....	490	53	125	.298	.33	7,440
December.....	1,120	-	204	.486	.56	12,500
January.....	-	-	148	.352	.41	9,100
February.....	-	672	1,170	2.79	3.01	67,300
March.....	1,020	243	495	1.18	1.36	30,400
April.....	1,480	275	764	1.82	2.03	45,500
May.....	-	204	647	1.54	1.78	39,800
June.....	200	86	146	.348	.39	8,690
July.....	102	47	66.5	.158	.18	4,090
August.....	93	37	48.9	.116	.13	3,010
September.....	135	36	54.0	.129	.14	3,210
The year.....	-	36	324	.771	10.51	235,000
1924-25						
October.....	171	49	66.7	.159	.18	4,100
November.....	1,090	110	284	.676	.75	16,900
December.....	900	120	310	.758	.85	19,100
January.....	-	-	583	1.39	1.60	35,800
February.....	-	458	1,590	3.79	3.95	88,500
March.....	2,060	590	1,260	3.00	3.46	77,500
April.....	3,850	790	2,150	5.12	5.71	128,000
May.....	1,750	490	989	2.55	2.71	60,800
June.....	490	171	348	.829	.92	20,700
July.....	146	65	102	.243	.28	6,270
August.....	106	44	61.8	.147	.17	3,800
September.....	55	46	50.6	.120	.13	3,010
The year.....	-	44	641	1.53	20.71	464,000

## Monthly discharge of St. Maries River at Lotus, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1925-26						
October.....	204	54	69.6	0.166	0.19	4,280
November.....	160	-	76.6	.182	.20	4,560
December.....	885	54	244	.581	.67	15,000
January.....	-	-	148	.352	.41	9,100
February.....	2,800	-	789	1.87	1.95	43,700
March.....	1,750	458	902	2.15	2.48	55,500
April.....	1,320	458	810	1.93	2.15	48,200
May.....	490	157	319	.760	.86	19,600
June.....	270	78	135	.321	.36	8,030
July.....	98	47	65.6	.156	.18	4,030
August.....	122	41	54.0	.129	.15	3,320
September.....	306	60	96.5	.230	.26	5,740
The year.....	2,800	-	305	.726	9.88	221,000
1926-27						
October.....	236	68	137	.326	.37	8,420
November.....	2,860	96	541	1.29	1.44	32,200
December.....	2,570	-	654	1.56	1.60	40,200
January.....	-	-	409	.974	1.12	25,100
February.....	3,810	315	1,180	2.81	2.93	65,500
March.....	1,640	652	1,030	2.45	2.82	63,300
April.....	3,420	960	1,720	4.10	4.57	102,000
May.....	2,370	780	1,390	3.51	3.82	85,500
June.....	1,640	315	814	1.94	2.16	48,400
July.....	315	92	178	.424	.49	10,900
August.....	105	64	83.4	.199	.23	5,130
September.....	380	82	161	.383	.43	9,580
The year.....	3,810	64	686	1.63	22.18	496,000
1927-28						
October.....	1,220	105	360	.657	.99	22,100
November.....	5,800	287	1,800	4.29	4.79	107,000
December.....	3,810	-	1,110	2.64	3.04	68,200
January.....	-	-	922	2.20	2.54	56,700
February.....	1,250	350	662	1.58	1.70	38,100
March.....	4,840	300	2,010	4.79	5.52	124,000
April.....	3,990	880	1,640	3.90	4.35	97,600
May.....	2,120	510	1,170	2.79	3.22	71,900
June.....	442	158	270	.643	.72	16,100
July.....	192	71	118	.281	.32	7,260
August.....	71	44	60.0	.143	.16	3,690
September.....	76	45	50.5	.120	.13	3,000
The year.....	5,800	44	848	2.02	27.48	616,000
1928-29						
October.....	118	53	72.4	.172	.20	4,450
November.....	245	51	87.4	.208	.23	5,200
December.....	126	23	66.2	.158	.18	4,070
January.....	107	24	49.2	.117	.13	3,030
February.....	51	24	33.5	.080	.08	1,860
March.....	1,030	60	354	.843	.97	21,800
April.....	1,500	102	656	1.56	1.74	39,000
May.....	835	230	556	1.32	1.52	34,200
June.....	478	141	254	.605	.68	15,100
July.....	134	46	77.5	.185	.21	4,770
August.....	45	30	37.4	.089	.10	2,300
September.....	45	29	33.8	.080	.09	2,010
The year.....	1,500	23	190	.452	6.13	138,000
1929-30						
October.....	172	38	48.6	.116	.13	2,990
November.....	102	16	43.7	.104	.12	2,600
December.....	250	22	114	.271	.31	7,010
January.....	64	18	28.2	.067	.08	1,730
February.....	2,000	34	381	.907	.94	21,200
March.....	2,270	96	496	1.18	1.36	30,500
April.....	790	478	583	1.39	1.55	34,700
May.....	1,830	219	456	1.09	1.26	28,000
June.....	790	130	264	.629	.70	15,700
July.....	145	43	69.6	.166	.19	4,280
August.....	48	36	41.9	.100	.12	2,580
September.....	90	36	54.9	.131	.15	3,270
The year.....	2,270	16	214	.510	6.91	155,000



Monthly discharge of St. Maries River at Lotus, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1930-31						
October.....	203	51	67.3	0.160	0.18	4,140
November.....	573	39	87.3	.208	.23	5,190
December.....	-	-	37.9	.090	.10	2,320
January.....	-	-	87.0	.207	.24	5,350
February.....	790	117	240	.571	.59	13,300
March.....	2,120	181	916	2.18	2.51	56,300
April.....	3,990	573	1,350	3.21	3.58	80,300
May.....	930	215	476	1.13	1.30	29,300
June.....	200	79	120	.286	.32	7,140
July.....	79	32	50.0	.119	.14	3,070
August.....	35	21	26.4	.063	.07	1,620
September.....	92	22	43.7	.104	.12	2,600
The year.....	3,990	21	291	.693	9.38	211,000
1931-32						
October.....	140	34	59.3	.141	.16	3,650
November.....	161	-	65.8	.157	.18	3,920
December.....	-	-	54.3	.129	.15	3,340
January.....	-	-	115	.274	.32	7,070
February.....	3,200	-	382	.910	.98	22,000
March.....	3,500	370	1,450	3.45	3.98	89,200
April.....	4,410	1,760	2,810	6.69	7.46	167,000
May.....	4,200	930	2,120	5.05	5.82	130,000
June.....	930	195	497	1.18	1.32	29,600
July.....	218	72	121	.288	.33	7,440
August.....	70	45	55.5	.132	.15	3,410
September.....	51	40	44.8	.107	.12	2,670
The year.....	4,410	-	647	1.54	20.97	469,000
1932-33						
October.....	151	42	69.8	.166	.19	4,290
November.....	1,370	89	343	.817	.91	20,400
December.....	880	50	256	.610	.70	15,700
January.....	400	-	206	.490	.56	12,700
February.....	220	-	122	.290	.30	6,780
March.....	2,760	230	972	2.31	2.66	59,800
April.....	3,740	1,000	2,400	5.71	6.37	143,000
May.....	2,580	1,230	1,510	3.60	4.15	92,800
June.....	2,240	262	798	1.90	2.12	47,500
July.....	253	77	138	.329	.38	8,480
August.....	121	48	67.9	.162	.19	4,180
September.....	121	48	77.0	.183	.20	4,580
The year.....	3,740	42	581	1.38	18.73	420,000
1933-34						
October.....	690	56	168	.400	.46	10,350
November.....	2,080	149	359	.855	.95	21,370
December.....	10,900	179	3,322	7.91	9.12	204,300
January.....	6,620	790	2,290	5.45	6.28	140,800
February.....	1,360	344	869	2.07	2.15	48,270
March.....	3,330	645	1,387	3.30	3.80	85,310
April.....	2,760	600	1,090	2.60	2.90	64,970
May.....	512	166	285	.679	.78	17,550
June.....	374	93	160	.381	.43	9,530
July.....	107	56	77.1	.184	.21	4,740
August.....	56	35	45.5	.108	.12	2,780
September.....	75	34	46.2	.110	.12	2,750
The year.....	10,900	34	846	2.01	27.32	612,700
1934-35						
October.....	852	46	120	.286	.33	7,370
November.....	401	87	194	.462	.52	11,530
December.....	3,360	87	348	.829	.96	21,390
January.....	2,280	130	544	1.50	1.50	33,430
February.....	1,440	315	497	1.13	1.23	27,610
March.....	4,330	315	1,039	2.47	2.85	63,880
April.....	3,990	637	2,170	5.17	5.77	129,100
May.....	1,980	832	1,346	3.20	3.69	82,750
June.....	784	162	359	.855	.95	21,340
July.....	208	72	115	.274	.32	7,070
August.....	82	44	59.4	.141	.16	3,650
September.....	52	39	42.3	.101	.11	2,520
The year.....	4,330	39	569	1.35	18.39	411,600

## Monthly discharge of St. Maries River at Lotus, Idaho--Continued

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1935-36						
October.....	92	33	56.7	0.135	0.16	3,490
November.....	114	33	70.5	.168	.19	4,200
December.....	220	39	89.7	.214	.25	5,510
January.....	330	50	138	.329	.38	8,490
February.....	500	60	113	.269	.29	6,510
March.....	2,360	247	817	1.95	2.25	50,210
April.....	3,670	208	2,058	4.90	5.47	122,500
May.....	2,120	338	1,015	2.42	2.79	62,430
June.....	1,630	142	396	.943	1.05	23,580
July.....	139	56	97.5	.232	.27	5,990
August.....	56	32	43.4	.103	.12	2,670
September.....	84	37	49.2	.117	.13	2,930
The year.....	3,670	32	411	.979	13.35	298,500
1936-37						
October.....	52	39	46.1	.110	.13	2,830
November.....	80	21	41.9	.100	.11	2,490
December.....	205	25	80.5	.192	.22	4,950
January.....	40	30	36.5	.087	.10	2,250
February.....	70	30	42.3	.101	.11	2,350
March.....	1,130	80	513	1.22	1.41	31,560
April.....	6,370	823	2,141	5.10	5.69	127,400
May.....	2,200	527	1,156	2.75	3.17	71,090
June.....	480	197	337	.802	.89	20,050
July.....	185	66	104	.248	.29	6,380
August.....	84	45	59.3	.141	.16	3,650
September.....	98	43	49.5	.118	.13	2,950
The year.....	6,370	21	384	.914	12.41	278,000
1937-38						
October.....	101	45	66.5	.158	.18	4,090
November.....	1,380	63	280	.667	.74	16,630
December.....	1,900	119	577	1.37	1.58	35,470
January.....	1,830	238	618	1.47	1.70	37,990
February.....	549	276	382	.910	.95	21,220
March.....	3,670	662	1,567	3.73	4.30	96,370
April.....	7,980	812	2,002	4.77	5.32	119,100
May.....	1,560	460	789	1.88	2.17	48,520
June.....	434	138	246	.586	.65	14,670
July.....	134	63	92.9	.221	.25	5,710
August.....	73	41	54.6	.130	.15	3,360
September.....	266	38	60.2	.143	.16	3,580
The year.....	7,980	38	562	1.34	18.15	406,700

## Yearly discharge of St. Maries River at Lotus, Idaho

Year	Year ending Sept. 30				Calendar year			
	Discharge in second-feet		Run-off		Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet	Mean	Per square mile	Inches	Acre-feet
1921.....	638	1.52	20.61	462,000	660	1.57	21.33	478,000
1922.....	474	1.13	15.30	343,000	403	.960	13.01	291,000
1923.....	452	1.08	14.60	327,000	467	1.11	15.09	339,000
1924.....	324	.771	10.51	235,000	346	.824	11.21	251,000
1925.....	641	1.53	20.71	464,000	619	1.47	19.99	448,000
1926.....	305	.726	9.88	221,000	384	.914	12.43	278,000
1927.....	686	1.63	22.18	496,000	847	2.02	27.39	613,000
1928.....	848	2.02	27.48	616,000	594	1.41	19.27	432,000
1929.....	190	.452	6.13	138,000	189	.450	6.08	137,000
1930.....	214	.510	6.91	155,000	212	.505	6.86	154,000
1931.....	291	.693	9.38	211,000	290	.690	9.36	210,000
1932.....	647	1.54	20.97	469,000	688	1.64	22.28	499,000
1933.....	581	1.38	18.73	420,000	851	2.03	27.46	616,000
1934.....	846	2.01	27.32	612,700	576	1.37	18.60	417,000
1935.....	569	1.35	18.39	411,600	531	1.26	17.18	384,600
1936.....	411	.979	13.35	298,500	407	.969	13.21	295,600
1937.....	384	.914	12.41	278,000	447	1.06	14.45	323,900
1938.....	562	1.34	18.15	406,700	513	1.22	16.57	371,100
Highest.....	848	2.02	27.48	616,000	851	2.03	27.46	616,000
Average.....	504	1.20	16.28	364,700	501	1.19	16.21	363,200
Lowest.....	190	.452	6.13	138,000	189	.450	6.08	137,000

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