Modified Streamflows 1990 Level of Irrigation

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Columbia River and Coastal Basins
1928-1989

1990 LEVEL MODIFIED STREAMFLOW 1928-1989

**DIVERSION AND RETURN FLOW PATTERNS
SUMMATION of DEPLETION ADJUSTMENTS
EVAPORATION ADJUSTMENTS
1990 LEVEL MODIFIED STREAMFLOW**

COLUMBIA RIVER AND COASTAL BASINS

prepared for
BONNEVILLE POWER ADMINISTRATION
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A. G. CROOK COMPANY

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MASTER *ds*

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Preface

This is the second report in a series prepared by the A. G. Crook Company under contract to the Bonneville Power Administration to describe development of modified streamflow data. The first report was "Adjusted Streamflow and Storage 1928-1989." That report contained listings of historical streamflow storage change, summation of storage change, and adjusted streamflow for the period 1928-1989 for the 105 projects and sites in the region. The "adjusted flows," or more precisely "adjusted for storage only" flows contained in that report are the basic components of modified flow.

This report describes development of modified flows at each of the projects or project sites, for the 1990 level of irrigation development for the 61-year period 1928-1989. The irrigation adjustments are computed by the application of rates of diversion and return flow to irrigated areas in the given year.

This report was prepared by the A. G. Crook Company under contract to the Bonneville Power Administration.

Many agencies made valuable contributions and suggestions. It would be difficult or impossible to give full and impartial credit to the many contributors. However, we particularly wish to acknowledge thanks to BC Hydro & Power Authority, Eugene Water & Electric Board, Puget Sound Power & Light Company, Seattle City Light, PacifiCorp Electric Operations, Washington Public Power Supply System, Tacoma City Light, Portland General Electric, Washington Water Power Company, West Kootenay Power, Ltd., U.S. Bureau of Reclamation, U. S. Army Corps of Engineers and the Bonneville Power Administration.

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I. PURPOSE AND SCOPE OF THIS REPORT

The annual operation plans described in the following sections require detailed system regulation computer model studies. These system regulation studies are necessary to evaluate potential new projects and to develop operational rule curves for the existing system of projects. The objective is to provide a basis for evaluating alternative system regulation scenarios. This provides essential input for optimizing the management of existing projects and planning future projects for the most beneficial use of the water supply and resources in the entire region.

Historical streamflows per se are inadequate for system regulation studies because the pattern of observed flow has continually changed with each successive stage of irrigation and storage development. The problem, therefore, is to adjust for past operation of storage projects and to determine the necessary adjustments that should be made to recorded flows to reflect current stages of irrigation development. Historical flows which have been adjusted to a common level of irrigation development by correcting for the effects of diversion demand, return flow, and change-of-contents and evaporation in upstream reservoirs and lakes are referred to as modified flows.

This report describes the development of irrigation depletion adjustments and modified flows for the 1990 level of development for the 61-year period 1928-1989. Incremental depletion adjustments were computed in this report for each month of the 61-year period to adjust the effects of actual irrigation in each year up to that which would have been experienced with the irrigation as practiced in 1990.

Incremental evaporation adjustments were computed to adjust streamflow to a condition as if existing dams had all been constructed and evaporating water for the entire 61-year period 1928-1989. This evaporation adjustment was for the period July 1928 up to the time that the reservoir first filled, and was the difference between post-dam reservoir evaporation and the pre-dam sum of river evaporation and vegetation transpiration. After initial filling, the reservoir evaporation is reflected in the observed streamflows, as gaged. The development of the evaporation adjustments is described in the Special Studies and Computer Applications to Streamflow Depletions, reference (22).

An analysis was made to determine the relative magnitude of the 1990 level of Municipal and Industrial depletion in the Pacific Northwest. Approximately 90 percent of the total water withdrawn in the Pacific Northwest is for irrigation. Public water supply and domestic account for about four percent, commercial about two percent, and industrial about two percent. The remaining amount is shared by livestock, mining, and thermoelectric. Water withdrawn for the non-agricultural categories has a return flow rate of 80 to 90 percent, which is much greater than the average return rate of approximately 50 percent for agriculture. This, coupled with the fact that non-agricultural withdrawals are only ten percent of the total withdrawals, results in a total depletion for this group of less than two percent. Therefore, Municipal and Industrial depletions are not considered to be significant in the estimating of modified flows. Additional information on the magnitude of Municipal and Industrial depletions is contained in the Technical Appendix.

Modified 1990 level flows were then computed for each of the projects, or project sites, for each month in the 61-year period by the addition of the depletion adjustments and the evaporation adjustments to the "adjusted for storage" flows. These modified flows represent the water supply for the 1990 level. Water data users are cautioned that these modified flows are not comparable to recorded outflows, project inflows, or regulated flows. As described previously they are used in system regulation studies for optimizing the management of existing projects and planning future projects, based on 1990 conditions, for the most beneficial use of the water supply and resources in the Pacific Northwest region.

II. PRIOR STUDIES

Modified flows were developed at selected locations by the Water Management Subcommittee of the Columbia Basin Interagency Committee for the 20-year period 1928-1948 for the 1960 and 2010 levels of development. These were later extended to the 30-year period 1928-1958. Seven reports were prepared to describe the procedures and to present data. See references (1) through (7).

The Depletions Task Force of the Columbia River Water Management Group (CRWMG) developed monthly mean modified streamflow at various sites in the Columbia River Basin and coastal tributaries for the 40-year period 1928-1968 for the 1970 level of irrigation development and for projected irrigation development to the year 2020. These data were compiled and made available in provisional data form for use in system regulation studies required for operation of the existing system and for use in basin planning studies.

Irrigated areas and streamflow depletion data for the years prior to 1946 were presented in a report by W. D. Simons, and published by the U. S. Geological Survey as Water Supply Paper 1220, reference (8). Additional information on irrigation and depletion is contained in reports by the Pacific Northwest River Basins Commission (PNRBC), references (9), (10), and (11). The Columbia River Basin Project return flow is described in a report by D. W. Hanlon, reference (12). A report by the Corps of Engineers describes the effects of future irrigation on other water uses, reference (13). A description of the Columbia River Basin Depletion Study was presented in a paper by Anderson, McLeod, Simons, and Dillard to the ASCE Convention in Atlanta, Georgia, October 23-25, 1979, reference (14).

The Depletion Task Force of the Columbia River Water Management Group developed monthly mean streamflow at various sites in the Columbia River Basin and coastal tributaries for the 50-year period 1928-1978 for the 1980 level of irrigation development and for projected irrigation development to the year 2030. See references (15), (16), (21), (22), (23), and (24).

III. COMPANION REPORTS

This report is the second in a series of reports by the A. G. Crook Company under contract to the Bonneville Power Administration. The first report, "Adjusted Streamflow and Storage, 1928-1989," reference (25), described the development of "adjusted" streamflow, or more precisely, "adjusted for storage only." These adjusted streamflows, based on historical records of discharge and lake or reservoir stage, are basic to development of modified flows. The first report contains the authority and purpose of the 61-year study; definitions; a section on computer utilization; and a complete listing of monthly values and the two period per month values of historical flow, storage change, summation of storage change, and adjusted flows for over 100 projects and sites in the Columbia and Coastal basins for the 61-year period 1928-1989. Project and site locations are shown in Figure 1, Page 4.

A third report presents 1990 level modified streamflow for the Missouri, Colorado and Peace and Slave River basins in British Columbia, Canada.

A fourth report presents statistics of seasonal volumes and streamflow for selected sites in the Columbia River basin. The data presented for these sites is based on the "1990 Level Modified Streamflow 1928 - 1989."

A fifth report is entitled "Technical Appendix" and contains detailed information on: Procedure for determining historical and modified streamflows; computer program descriptions; irrigation depletion methodology; Columbia River Project return flow study; annual update procedures and programs; and an analysis of the magnitude of municipal and industrial depletion.

A sixth report will describe the basin simulation or regulation studies that are utilized to provide regulated flows for the Snake River above Brownlee, the Yakima River, and the Deschutes River.

IV. THE REGION

The region of study for this report is the Canadian portion of the Columbia River drainage basin; the U. S. portion of the Columbia River drainage basin in Washington, Oregon, Idaho, western Montana, and in parts of Wyoming, Utah and Nevada; the Coastal and Puget Sound drainages in Washington; the Coastal and Closed Basin (excluding Goose Lake) drainage in Oregon; and the Bear River drainage in Idaho.

Climate in the region is characterized by marked areal variation. Annual precipitation ranges from less than 10 inches in the Columbia and Snake River Plateaus to well over 100 inches in much of the Coast and Cascade Ranges. Winter minimum daily temperatures along the Pacific Coast are usually in the range of 35 and 45 degrees Fahrenheit, and summer

Figure 1
Project and Gaging Station Locations

■ Project
= Gaging Station

maximums are between 65 and 75 degrees Fahrenheit. Inland, the seasonal temperature fluctuations are more extreme. In the Columbia and Snake River Plateaus, winter temperatures below zero and summer temperatures above 100 degrees Fahrenheit are not uncommon. The region is centered in the zone of prevailing westerly atmospheric flow. In the winter the westerly flow often contains mature occluded fronts which are associated with extensive zones of precipitation and general storm conditions several hundred miles in length. Uplift of the air masses upon contact with the Coast, Cascade, and Rocky Mountain Ranges results in atmospheric cooling and subsequent heavy precipitation on the windward side of these mountain ranges. Seasonally, the general airmass circulation is strongest in winter and causes the major storm activity to occur. Summer is characteristically storm-free, except for occasional convective activity which results in isolated thunderstorms.

The region's runoff patterns fall into two general categories: (1) the snowmelt regimen of the interior drainage lying East of the Cascade Range; and (2) the rainfall regime of the coastal drainages West of the Cascade Range.

East of the Cascades, the major portion of the runoff volume occurs during the snowmelt period, May through July. Streamflows gradually rise over a period of a month or more reaching a peak discharge generally during early June. Fluctuations in streamflow are caused primarily by variations in solar radiation and air temperature. Occasionally the rainfall adds significantly to the runoff. Recessions in flow following the peaks are prolonged by snowmelt, drainage from natural basin storage, and ground water outflow. During the winter, occasional rain and snowmelt over the low-lying portions of the basin cause rises in streamflow but rarely do such rises exceed the mean annual discharge on the main stem.

On streams West of the Cascades, precipitation from the predominant winter storms is generally in the form of rain rather than snow. Tributary streams respond to storm rains within a few hours of their occurrence. Peak discharges near the mouth of the Willamette Basin, which drains in excess of 11,000 square miles, occurs within four days of the corresponding rainfalls and other streams are even more flashy. The majority of the runoff from these areas is experienced in the winter period, October through March, but moderate streamflows continue through the spring and early summer months fed by late snowmelt from high areas and ground water outflows. Streamflow recession continues in the fall until renewed rainfall overcomes soil moisture deficiencies.

V. HISTORY OF WATER RESOURCE DEVELOPMENT IN THE PACIFIC NORTHWEST

Prior to the 1930's most water resource developments in the Pacific Northwest were constructed to accomplish single purpose objectives - mainly power generation, irrigation, flood control, and municipal and industrial water supply. These developments were

constructed on Coastal Basin streams and on tributaries of the Columbia River usually near large population concentrations or in the proximity of those areas where irrigation was feasible. Rock Island Dam, located below Wenatchee, Washington, was the first dam constructed on the main stem of the Columbia River. This run-of-river project, originally built and operated by the Puget Sound Power and Light Company, was constructed in 1932.

In the 1930's Congress authorized two major multiple-purpose projects, the Grand Coulee Project in Washington and the Bonneville Project in Oregon and Washington, which were the forerunners of intensive development of the area's major rivers. Construction of the Bonneville Project was initiated in 1933 with navigation, flood control, and power generation designated as the major project purposes. This project was started by the Works Progress Administration and completed by the Corps of Engineers. The Grand Coulee Project in Washington, constructed by the Bureau of Reclamation, was authorized in 1935 and the power function was assigned responsibility for paying off irrigation costs. The Bonneville Power Administration was created in 1937 and markets the energy produced by these and other Federal projects.

Following World War II, the Federal Government continued its policy of multipurpose water resource development, and major projects were constructed at McNary, Albeni Falls, Chief Joseph, The Dalles, and in the Willamette Basin (Corps' projects) and at Hungry Horse, Anderson Ranch, and Palisades (USBR projects). These projects, together with the completion of the initial power installation at Grand Coulee, accounted for nearly two-thirds of the capacity added to the Northwest's regional power system through the fifties. However, during the middle and late fifties, Federal hydroelectric development was largely curtailed. Construction continued on projects already well underway, but design and construction were delayed for new projects even though authorized.

The "no new starts" policy of the fifties was eventually rescinded and the construction of Federal projects was resumed. Between 1968 and the early seventies, when the first modern thermal plants were placed in service, Federal hydro projects supplied most of the region's additional generation requirements.

During the fifties, the Washington public utility districts stepped into the gap created by the lack of newly scheduled Federal generation by requesting licenses for the large mid-Columbia River projects. At the same time financing arrangements were arrived at whereby the power output of these projects was disposed of to other utilities, as the capability of these large plants far exceeded the loads of the licensees. Under such arrangements construction was started on Priest Rapids in 1956, Rocky Reach in 1957, Wanapum in 1959, and Wells in 1963, all located on the Middle Columbia River reach.

In the 1950's and early 1960's other actions of significance to the growth of water resource development were taking place. These culminated in 1964 in three accomplishments which greatly expanded the scope of power operations and affected the flow regime of the Columbia River. The three were: ratification of the Columbia River Treaty by

Canada; authorization of the Pacific Northwest-Southwest high-voltage transmission interconnection; and the Pacific Northwest Coordination Agreement. These actions were closely interdependent and the time schedule for completion of each was geared to the accomplishments expected of the other two.

Following a long series of negotiations, the Columbia River Treaty was ratified by the two governments in September 1964. The treaty provides for Canada to build three reservoirs - Duncan, Arrow Lakes, and Mica - with a total usable storage of 20.5 million acre-feet.

The projects are to be operated in a manner which will permit downstream power generation and reduction of flood damage in the United States. In return for benefits received, the United States is to give Canada half the dependable capacity and half the energy gain in the United States as a result of Canadian storage and pay Canada an amount equal to half of flood damages prevented. Because Canada's share of the downstream power benefits was surplus to its needs, purchase of the entitlement by a nonprofit corporation, the Columbia Storage Power Exchange (CSPE), was formed by utilities with an interest in the generating plants on the mid-Columbia River. CSPE has purchased Canada's share of the Treaty power for thirty years from completion of each Treaty reservoir. All interrelated agreements necessary to affect sale of the entitlement were completed October 1, 1964.

As the power purchased from Canada was surplus to needs of the Pacific Northwest in early years, the transmission interconnection with the Pacific Southwest became of increased importance and was approved August 14, 1964.

The third of the interrelated accomplishments in 1964 was the Pacific Northwest Coordination Agreement. The agreement is a contract for planned coordinated operation of the major power generating facilities.

Irrigation in the Columbia River basin began prior to 1840 at the site of missions established near Walla Walla, Washington, and Lewiston, Idaho. By 1900 the irrigated area had increased to a half million acres. During the next decade, irrigation expanded rapidly and totaled 2.3 million acres by 1910. Expansion continued as great expanses of land located in the arid area east of the Cascades could not support dry land farming and farmers turned to irrigation. Table 1, pages 15 and 16, is a summary of irrigated area for each of the major subareas in each state or province for the years 1928, 1966, 1980 and 1990. Summarizing from that tabulation, the total irrigated area above Bonneville Dam increased from 3.6 million acres in 1928 to 6.5 million acres in 1966, to 7.5 million acres in 1980, and decreased to 7 million acres in 1990. Of this 1990 total, 2.2 million acres were located in the Upper Columbia River Basin above the mouth of the Snake River, including approximately 200 thousand acres in Canada. There were 4.1 million acres in the Snake River basin and 740 thousand acres in the Lower Columbia between Ice Harbor and Bonneville Dams for a total of 7 million acres in the Columbia basin above Bonneville Dam. An additional 1.3 million acres were irrigated in the Willamette and other Lower Columbia

tributaries, the Puget Sound basins, coastal tributaries, the Klamath basin, Closed Basin in Oregon, and the Bear River and Great Salt Lake drainages in southeastern Idaho. This adds up to a total of 8.3 million acres irrigated in the Pacific Northwest during 1990.

All portions of the area have some irrigated land, but significant concentrations occur where large project-type developments have taken place. The plain of the Snake River from the Wyoming-Idaho state line to the Idaho-Oregon state line contains more than three million irrigated acres. In Washington, a large area in the Yakima River Valley and a large area east of the Columbia River from Moses Lake on the north to the mouth of the Snake River on the south collectively contains more than one million acres of irrigated land. A substantial amount of the irrigated land in Oregon is located in the Bend-Prineville-Madras area of the Deschutes and Crooked River basins. Sizeable blocks of irrigated land are located in the valleys of the Clark Fork, Flathead and Bitterroot Rivers in western Montana. The Klamath basin in southern Oregon and northern California contains 400,000 acres of irrigated land. The largest irrigated area in Canada is located in the Okanagan-Similkameen basin. Smaller tracts are located in the valleys of the Kettle, Columbia and Kootenay Rivers and their tributaries.

VI. ANNUAL OPERATION PLANNING

Some reservoir system operational guidelines are established annually. Annual operation plans include the Northwest Power Pool Operating Program; the Pacific Northwest Coordination Agreement Operating Plan; the Columbia River Treaty Detailed Operating Plans; and the "Water Budget" and "Fish Passage" plans prepared in response to the Northwest Power Planning Council's Fish and Wildlife Program.

The Columbia River Treaty requires that each year a hydroelectric operating plan entitled "Columbia River Treaty Assured Operating Plan" be agreed to by the entities for the operation of the Columbia River Treaty storage in Canada during the sixth succeeding year. This plan assures the entities of the manner of operation of the Canadian storage five years in advance, and is referred to as an Assured Operating Plan. Once adopted the Assured Operating Plans remain unchanged. This plan is prepared annually by the Columbia River Treaty Operating Committee.

Immediately prior to each operating year, a Detailed Operating Plan is prepared based on the Assured Operating Plan. The Detailed Operating Plan serves as the guide for the actual operation of the Canadian storage for the coming year. If considered advantageous or agreed by the entities, this plan may differ from the Assured Operating Plan prepared six years previously for the forthcoming year. If no agreement can be reached regarding changes in the Assured Operating Plan, the Detailed Operating Plan shall be identical with the Assured Operating Plan.

All but four of the Northwest Power Pool utilities are parties to the Pacific Northwest Coordination Agreement. Resources of some of the utilities in the Coordinated System are

dependent on contractual relations with the utilities outside of the Coordinated System and are also dependent on water regulation by these four utilities. In a similar manner, utilities outside the Coordinated System are dependent on contractual relations and water regulation by the Coordinated System utilities.

With this condition existing, it is necessary when preparing annual operating programs to analyze both the Coordinated System resources and other resources that are affected by (or are affecting) the Coordinated System resources. In addition, it is necessary to observe provisions of several existing contracts in making the analyses upon which the Northwest Power Pool's annual operating program is based.

Procedures used in preparing annual operating programs are split into those used for the utilities under the Coordination Agreement, and those used for the Total Northwest Power Pool. In many instances these are interrelated and have to be carried on concurrently. The Northwest Power Pool's Coordinating Group acts as a staff for the Operating Committee of the Northwest Power Pool and the Coordination Contract Committee of the Pacific Northwest Coordination Agreement. This Coordinating Group provides coordination of Northwest Power Pool and Pacific Northwest Coordination Agreement operating programs.

The power systems that are parties to the Pacific Northwest Coordination Agreement are required to follow the provisions of the Coordination Agreement in the planning and operation of their resources. The power systems that are not a party to the Coordination Agreement coordinate the planned use of their resources on a voluntary basis. A coordinated annual operating program entitled "Northwest Power Pool - Pacific Northwest Coordination Agreement Data and Pool Operating Program" is prepared prior to each fiscal year. This annual operating program has sections that describe the planned operation of those systems that are members of the Pacific Northwest Coordination Agreement.

Fundamental to the Pacific Northwest Coordination Agreement are certain basic coordination concepts that are followed in preparing Annual Operating Plans. Prior to the start of a contract year, a reservoir operating and storage schedule is developed to provide the optimum Firm Energy Load Carrying Capability (FELCC) of the coordinated system.

The Coordination Agreement provides that system regulation studies will be made wherein the most adverse historical streamflow sequence (critical streamflow period) for the Pacific Northwest as a whole is regulated by the existing hydroelectric system to serve the next year's estimated load demand. These studies determine on a monthly basis the firm energy each of the coordinated systems could produce on a coordinated basis with a recurrence of critical flow conditions. Each party to the agreement is entitled to the amount of energy thus determined for his system and all parties agree to mutually support one another in producing this power in actual operation.

In November 1982, the Northwest Power Planning Council (NWPCC), under guidelines of the Pacific Northwest Electric Power Planning and Conservation Act of 1980

(Regional Power Act, P.L. 96-501), developed the first regional Fish and Wildlife Program for the Columbia River and its tributaries. The Fish and Wildlife Program, with updating amendments, sets forth a regional plan to coordinate, refine, and develop operations to protect and enhance fish and wildlife resources in the Pacific Northwest. Annual reservoir operating plans are developed to implement the provisions in Section 300, "Water Budget and Mainstem Flows," and Section 400, "Downstream Passage." The Water Budget, described in Section 303, is designed to provide enough instream flow to carry the juvenile salmon and steelhead to the ocean. The Downstream Passage measures, described in Section 403, are designed to get these juveniles past the dams with minimal losses. Annual Water Budget planning is documented in a "Coordinated Plan of Operations" (CPO).

VII. STREAMFLOW DEPLETION

The irrigation consumptive use varies throughout the Columbia basin from about 1.0 to 3.0 acre-feet per acre, depending upon the location of the area, its elevation, and its cropping pattern. Total return flow is that portion of the water diverted for irrigation but not consumptively used. The net return flow is the amount that returns to the streams directly through waste ditches and drainage channels; or indirectly through groundwater movement but not lost to deep groundwater percolation, evaporation, or consumed by nonproductive vegetation. Depletion estimates are equal to diversions minus net return flows. The various paths generally traveled by waters diverted for irrigation are illustrated in figure 2, below.

FIGURE 2. IRRIGATION WATER DIVERSION
AND DEPLETION IN
COLUMBIA RIVER BASIN

The percentages shown in figure 2 are estimates that are representative of many subareas in the region. Of the total water diverted for irrigation, an estimated 65 percent was delivered to the farms and 35 percent was lost from the distribution systems through seepage and operational waste. Irrigated crops used some 35 percent, about 2% goes into the crop as cell water, 33% is lost to evapotranspiration, and 30 percent of the farm delivery was lost from the irrigated fields as surface runoff and deep percolation.

Total loss and waste amounted to 65 percent of the diversion, of which about 20 percent was estimated to be lost through deep groundwater percolation and evaporation and transpiration along waterways and in other seeped, non-cropped areas. This latter loss is referred to as nonbeneficial consumptive use because the water does not contribute to irrigated crop production. The remaining 45 percent of losses returned to surface waters.

Based upon crops grown in the subarea, data compiled by the agricultural colleges, and studies of existing projects' monthly percentages were derived for each subarea by which the annual values of diversions and return flow were distributed into mean monthly values. Much of the basic data was based on studies by King, reference (18). Figure 3, below, is a typical diversion-return flow pattern for the year.

Figure 3
TYPICAL IRRIGATION ADJUSTMENT

The 1990 level adjustments for depletion were estimated from records of diversion and return flow, or from calculated requirements of the crop under irrigation, efficiency of the irrigation system, and the acreage irrigated. In most cases, irrigated acreage data were more readily available than actual diversion amounts. Watermaster reports and gaged records of diversion were used to calculate representative annual rates of diversion for various irrigated areas. Information from various projects where return flow could be measured was used as a basis for estimating monthly return flow patterns from other projects.

Table 2, pages 17 and 18, is a breakdown of 1990 irrigation into source of supply, water shortage, and irrigation method for each subarea in each subregion. Summarizing from table 2, it is noted that 75 percent of the irrigation water is derived from surface water supply and 25 percent from groundwater. About 1.5 million acres or 20 percent of the irrigated area is subject to a water shortage. The method of application is presently 55 percent sprinkler and 45 percent gravity.

Table 3, page 19, is a summary of the incremental reservoir evaporation adjustments which were applied, and the time frame over which they were applied. Detailed information on the derivation of these reservoir evaporation adjustments is contained in reference 22.

VIII. STREAMFLOW DEPLETION COMPUTATION

The 1987 Farm Census Data gave a breakdown of land devoted to different crops. The largest requirement is for hay and pasture land with smaller tracts producing grain, potatoes, sugar beets and fruits, and vegetables. Water requirements for various crops were determined by the method described in the Soil Conservation Service Technical Release No. 21 dated April 1967 and revised in September 1970. These determinations are based on crop, latitude, average annual precipitation and temperature, and length of growing season.

Pairs of computer runs were then made (one for sprinkler and one for gravity application) to weight the crop mix in the various subareas and determine monthly diversion requirements and return flows using efficiency estimates for sprinkler and gravity applications. The computational procedure allowed for the variation in streamflow depletion between lands served by sprinkler and by gravity application. It also accounted for the difference in acres by years of the lands served by these two application methods.

A detailed explanation of the irrigation depletion methodology is contained in the Technical Appendix.

IX. PRESENTATION OF DATA

In this report, the region is divided into nine sections as follows:

- (A) The Columbia and Kootenay in Canada and the Kootenai in the U.S.;
- (B) The Clark Fork-Pend Oreille and the Spokane River basins;
- (C) The Columbia basin from the mouth of the Pend Oreille to the mouth of the Snake River;
- (D) The Snake River basin above Brownlee Dam;
- (E) The Snake River basin from Brownlee to the mouth;
- (F) The Columbia basin from the mouth of the Snake to Bonneville, and the Closed Basin in Oregon;
- (G) The Willamette drainage;
- (H) The Lower Columbia tributaries, the Puget Sound drainage, and Coastal Streams in Western Washington; and
- (I) The Klamath and Coastal Streams in Oregon.

Each of the nine sections of this report contains a map of that section; a description of procedures used for computing of adjustments at each of the projects within that section; diagrams to illustrate the procedure; equations used to compute adjustments, to accumulate, in downstream order, and to compute modified flow; a listing of the 1990 level irrigation modification applied at each project; and a listing of the 1990 level modified flow for each project within that section. Each section is complete within itself and each section is unique in some of the procedures used in the computing of adjustments. Special regulations studies were required in Section D and for other drainages within other sections.

A project index (Table 4) beginning on page 21, is included for the entire region, with projects arranged in downstream order, giving project name, stream, and page number of data.

TABLE 1

IRRIGATED AREA 1928, 1966, 1980, & 1990
COLUMBIA RIVER BASIN ABOVE MOUTH OF SNAKE RIVER
(THOUSANDS OF ACRES)

	BRITISH COLUMBIA				MONTANA				IDAHO				WASHINGTON				TOTAL			
	1928	1966	1980	1990	1928	1966	1980	1990	1928	1966	1980	1990	1928	1966	1980	1990	1928	1966	1980	1990
UPPER COLUMBIA ABOVE MICA	4.7	8.6	11.8	14													4.7	8.6	11.8	14
MICA TO HUGH KEENLEYSIDE	0.7	1.3	2.1	4.6													0.7	1.3	2.1	4.6
HUGH KEENLEYSIDE TO PEND OREILLE	0.3	0.8	0.9	1.8													0.3	0.8	0.9	1.8
EAST KOOTENAY (ABOVE LIBBY)	4.7	12.7	18.6	26.6	2	2	2.90	2.40									6.7	14.7	21.5	29
WEST KOOTENAY	2.3	7.5	15.7	14.5	5	5.6	8.40	6.80	1	1.4	3	2.3					8.3	14.5	27.1	23.6
UPPER CLARK FORK					125	131	129.5	146.6									125	131	129.5	146.6
BITTERROOT					108	105	112.8	95.4									108	109	112.8	95.4
FLATHEAD	0	0	0	0	39.8	153	174.9	162.2									39.8	153	174.9	162.2
LOWER CLARK FORK					15.5	29	31.7	20.3	0	0	0.8	0					15.5	29	32.5	20.3
PEND OREILLE	0.2	0.6	1.1	0.9					1.8	2.5	6	4.9	1.8	4.5	4.5	2.4	3.8	7.6	11.6	8.2
SPOKANE									12.3	21.5	27.5	18.5	12.3	20.5	27.9	34.1	24.6	42	55.4	52.6
KETTLE-FERRY STEVENS	4.6	10.7	21.1	27.1									5.7	23	23	24.1	10.3	33.7	44.1	51.2
TOTAL ABOVE GRAND COULEE	17.5	42.2	71.3	89.5	295.3	429.6	460.2	433.7	15.1	25.4	37.3	25.7	19.8	48	55.4	60.6	347.7	545.2	624.2	609.5
OKANAGAN-SIMILKAMEEN	80.4	117.1	133.7	103.2									19.4	24	30	33.2	99.8	141.1	163.7	136.4
METHOW													11.9	13	14.5	16.3	11.9	13	14.5	16.3
CHELAN													5.3	6	6	6.4	5.3	6	6	6.4
ENTIAI													1.9	2	2	2.1	1.9	2	2	2.1
WENATCHEE													24.6	26	26	26.8	24.6	26	26	26.8
BIG BEND													11.3	635	840	879.2	11.3	635	840	879.2
YAKIMA													333.1	505	588.5	545.7	333.1	505	588.5	545.7
TOTAL ABOVE MOUTH SNAKE	97.9	159.3	205	192.7	295.3	429.6	460.2	433.7	15.1	25.4	37.3	25.7	427.3	1259	1562	1570	835.6	1873	2265	2222.4

IRRIGATED AREA, 1928, 1966, 1980 & 1990
SNAKE RIVER BASIN
(THOUSANDS OF ACRES)

	NEVADA				IDAHO				UTAH				WYOMING				TOTAL			
	1928	1966	1980	1990	1928	1966	1980	1990	1928	1966	1980	1990	1928	1966	1980	1990	1928	1966	1980	1990
SOUTH FORK					17.8	17.8	15.5	6.1					81.4	92.4	90	90	99.2	110.2	105.5	96.1
HENRY'S FORK					63.2	209.2	319.1	300.6					4.1	4.1	4.1	4.1	67.3	213.3	323.2	304.7
HEISE - NEELEY					520.9	767	789.1	684.7									520.9	767	789.1	684.7
NEELEY - MILNER	1.6	1.6	2.8	2.8	478.4	445	563.3	440.1	3	7	5.6	5.6					483	453.6	571.7	448.5
NORTH STREAMS					98.6	210	278.9	202.9									98.6	210	278.9	202.9
WEST SIDE	4	4	2.8	2.8	172.2	678	737.5	809									176.2	682	740.3	811.8
SUBTOTAL	5.6	5.6	5.6	5.6	1351	2327	2703	2443	3	7	5.6	5.6	85.5	96.5	94.1	94.1	1445	2436	2809	2546.7
	NEVADA				IDAHO				OREGON				WASHINGTON				TOTAL			
	1928	1966	1980	1990	1928	1966	1980	1990	1928	1966	1980	1990	1928	1966	1980	1990	1928	1966	1980	1990
BRUNEAU					8	187	190.9	127									30.2	209.2	212.3	148.4
BOISE	4.2	4.2	4.4	4.4	343.9	465	495.6	438.1	18	18	17	17					343.9	465	495.6	438.1
PAYETTE					130.3	150	157.8	127.8									130.3	150	157.8	127.8
WEISER					37.6	62	64.9	38.3									37.6	62	64.9	38.3
OWYHEE					16	16	15.2	15.0	32.4	77.5	60	59.9					82.7	153.6	135.6	135.3
MALHEUR	34.3	60.1	60.4	60.4					63.1	174.1	197.8	181.1					63.1	174.1	197.8	181.1
BURNT POWDER									145.4	168.4	174.2	141.5					145.4	168.4	174.2	141.5
SUBTOTAL	38.5	64.3	64.8	64.8	535.8	880	924.4	746.2	258.9	438	449	399.5	0	0	0	0	833.2	1382	1438	1210.5
GRANDE RONDE									92.1	101	100.2	102.4					92.1	101	100.2	102.4
UPPER SALMON					84.3	124.8	126.6	111.3									84.3	124.8	126.6	111.3
SALMON					16.6	16.6	17.6	15.6									16.6	16.6	17.6	15.6
CLEARWATER					3.4	1.6	2.4	5									3.4	1.6	2.4	5
PALOUSE-LOWER SNAKE													26.6	32	69.6	77.3	26.6	32	69.6	77.3
SUBTOTAL	0	0	0	0	104.3	143	146.6	131.9	92.1	101	100.2	102.4	26.6	32	69.6	77.3	223	276	316.4	311.6
TOTAL ABOVE ICE HARBOR	44.1	69.9	70.4	70.4	1991	3350	3774	3322	354	546	554.8	507.5	112.1	128.5	163.7	171.4	2501	4094	4563	4076.8

TABLE 1

IRRIGATED AREA, 1928, 1966, 1980 & 1990
 LOWER COLUMBIA, PUGET SOUND, COASTAL, AND CLOSED BASIN
 (THOUSANDS OF ACRES)

	OREGON				WASHINGTON				TOTAL			
	1928	1966	1980	1990	1928	1966	1980	1990	1928	1966	1980	1990
WALLA WALLA	13.2	25.9	25.9	31.91	18.6	38.6	69.4	84.14	31.8	64.5	95.3	116.05
UMATILLA	50.6	64.6	180.9	215.43					50.6	64.6	180.9	215.43
JOHN DAY	47.1	71	58.8	42.75					47.1	71	58.8	42.75
DESCHUTES	81.5	256.8	216.2	208.43					81.5	256.8	216.2	208.43
HOOD	25.2	41.2	35	32.94					25.2	41.2	35	32.94
NORTH SIDE					15.2	43.9	104.1	123.83	15.2	43.9	104.1	123.83
TOTAL ICE HARBOR TO BONNEVILLE	217.6	459.5	516.8	531.46	33.8	82.5	173.5	207.97	251.4	542	690.3	739.43
LOWER COLUMBIA TRIBUTARIES IN WASHINGTON	0	2	1	1.09	0	16	14.5	23.31	0	18	15.5	24.4
WILLAMETTE	4	244	295.1	282.01					4	244	295.1	282.01
WASHINGTON COAST						13.4	20.2	20.31	0	13.4	20.2	20.31
ROGUE		118.2	77.5	66.18					0	118.2	77.5	66.18
UMPQUA		17.2	21.5	16.15					0	17.2	21.5	16.15
OREGON COAST		32.2	32.9	32.11					0	32.2	32.9	32.11
SUBTOTAL	0	167.6	131.9	114.44	0	13.4	20.2	20.31	0	181	152.1	134.75
PUGET SOUND					18	68	111.2	80.63	18	68	111.2	80.63
FORT ROCK		52.1	103.1	112.29					0	52.1	103.1	112.29
SILVLES		196.9	295.4	132.94					0	196.9	295.4	132.94
ALVORD		78	69.3	53.16					0	78	69.3	53.16
TOTAL CLOSED BASIN IN OREGON		327	467.8	298.39					0	327	467.8	298.39
KLAMATH			417.8	398.6					0	0	417.8	398.6
BEAR RIVER & GREAT SALT LAKE IN S. E. IDAHO	IRRIGATED AREA, 1928, 1966, 1980 & 1991								157.1	238.2	136.3	

TABLE 2

IRRIGATED AREA 1000 ACRES
1990

		TOTAL IRRIGATED	WATER SOURCE			WATER SHORTAGE			IRRIGATION METHOD	
			SURFACE	GROUND	COMB	SURFACE	GROUND	TOTAL	GRAVITY	SPRINKLER
SUBREGION 1										
SUBAREA 1	BITTERROOT	95.41	94.26	1.14	0.00	28.39	0.00	28.39	38.95	56.46
SUBAREA 2	UPPER CLARK FORK	146.55	144.03	2.51	0.00	62.79	0.00	62.79	107.41	39.14
SUBAREA 3	LOWER CLARK FORK	20.34	19.13	1.18	0.00	5.15	0.00	5.15	5.81	14.72
SUBAREA 4	FLATHEAD	182.24	150.84	11.40	0.00	89.13	0.00	89.13	57.30	104.94
SUBAREA 5	KOOTENAI	11.49	10.96	0.55	0.08	4.22	0.00	4.22	4.35	7.15
SUBAREA 6	PEND OREILLE	7.86	7.78	0.48	0.00	0.00	0.00	0.00	2.45	5.21
SUBAREA 7	SPOKANE	52.86	5.77	46.89	0.00	0.24	3.16	3.40	0.05	52.61
TOTAL SUBREGION 1		498.34	432.09	64.13	0.08	189.91	3.16	193.08	216.11	280.23
SUBREGION 2										
SUBAREA 8	FERRY STEVENS	24.06	22.85	1.40	0.00	1.37	0.31	1.68	0.46	23.60
SUBAREA 9	MILTHOW OKANOGAN	49.52	43.84	5.68	0.00	4.67	0.00	4.67	0.94	48.58
SUBAREA 10	WINATCHEE - CHELAN	35.50	33.93	1.57	0.00	0.00	0.00	0.00	0.00	35.50
SUBAREA 11	BIG BEND	879.22	817.45	257.06	4.70	2.40	18.08	20.48	209.50	669.72
TOTAL SUBREGION 2		988.29	717.89	265.70	4.70	8.45	18.39	26.84	210.90	777.39
SUBREGION 3										
SUBAREA 12	YAKIMA	545.69	516.75	28.94	0.00	123.20	10.16	133.36	257.50	288.19
TOTAL SUBREGION 3		545.69	516.75	28.94	0.00	123.20	10.16	133.36	257.50	288.19
SUBREGION 4										
SUBAREA 13	SOUTH FORK	6.10	5.54	0.00	0.56	4.77	0.00	4.77	2.93	3.17
SUBAREA 14	HENRYS FORK	300.59	224.45	71.90	4.24	50.82	0.00	50.82	74.87	225.73
SUBAREA 15	HEISE - NEELY	684.74	354.72	295.39	34.63	33.80	0.00	33.80	271.38	413.36
SUBAREA 16	NEELEY - MILNER	448.49	135.50	295.73	17.25	24.37	8.76	33.13	273.20	175.29
SUBAREA 17	NORTH STREAMS	202.91	64.33	105.23	33.22	30.71	0.00	30.71	123.48	79.43
SUBAREA 18	WEST SIDE	811.75	580.61	194.64	36.50	70.52	20.44	90.96	485.52	326.23
TOTAL SUBREGION 4		2454.58	1365.16	962.89	126.40	214.98	29.20	244.18	1231.38	1223.20
SUBREGION 5										
SUBAREA 19	BRUNEAU	148.35	117.89	23.90	6.56	24.23	5.52	29.75	98.63	51.72
SUBAREA 20	BOISE	438.12	344.90	79.96	13.26	24.72	0.31	25.03	306.40	131.72
SUBAREA 21	PAYETTE	127.83	120.57	0.51	0.93	21.54	0.00	21.54	107.02	20.81
SUBAREA 22	WISER	38.32	37.31	0.64	0.00	9.39	0.57	9.96	28.99	9.33
SUBAREA 23	OWYHEE	59.92	58.42	1.50	0.00	4.59	0.00	4.59	54.34	5.58
SUBAREA 24	MATHEUR	181.12	175.21	5.50	0.00	25.54	0.00	25.54	162.40	18.72
SUBAREA 25	BURNT POWDER	141.54	138.64	4.91	0.00	59.05	1.42	60.48	119.99	21.55
TOTAL SUBREGION 5		1135.20	985.94	119.32	20.75	169.06	7.82	176.88	875.76	259.44
SUBREGION 6										
SUBAREA 26	GRAND RONDE	102.44	79.00	12.96	10.48	56.84	0.00	56.84	35.97	66.46
SUBAREA 27	UPPER SALMON	111.26	104.88	3.16	0.00	31.25	0.00	31.25	82.14	29.12
SUBAREA 28	SALMON	15.60	12.68	0.00	0.00	5.01	0.00	5.01	10.26	5.34
SUBAREA 29	CLEARWATER	5.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	5.00
SUBAREA 30	PAILOUSE LOWER SNAKE	77.32	63.76	13.56	0.00	2.82	1.46	4.38	0.00	77.32
TOTAL SUBREGION 6		311.61	260.45	29.68	10.48	96.02	1.46	97.49	128.37	183.24
SUBREGION 7										
SUBAREA 31	WALLA WALLA	116.05	91.89	24.36	0.00	57.10	10.35	67.45	3.10	112.95
SUBAREA 32	UMATILLA	215.43	178.30	37.13	0.00	9.08	3.81	12.89	19.53	195.90
SUBAREA 33	JOHN DAY	42.75	41.84	0.91	0.00	30.75	0.00	30.75	23.82	18.93
SUBAREA 34	DESCHUTES	208.43	197.92	7.02	3.48	104.05	0.00	104.05	68.78	141.65
SUBAREA 35	HOOD	32.94	32.94	0.00	0.00	5.06	0.00	5.06	0.68	32.26
SUBAREA 36	NORTH SIDE	123.83	100.47	17.37	0.00	0.00	1.29	1.29	3.20	120.63
TOTAL SUBREGION 7		739.43	649.16	86.79	3.48	206.04	15.45	221.48	117.11	622.32

TABLE 2

IRRIGATED AREA 1000 ACRES
1990

		TOTAL IRRIGATED	WATER SOURCE		COMB	WATER SHORTAGE		TOTAL	IRRIGATION METHOD	
			SURFACE	GROUND		SURFACE	GROUND		GRAVITY	SPRINKLER
SUBREGION 8										
SUBAREA 37	LOWER COLUMBIA	24.40	13.81	10.59	0.00	0.43	0.33	0.77	0.00	24.40
TOTAL SUBREGION 8		24.40	13.81	10.59	0.00	0.43	0.33	0.77	0.00	24.40
SUBREGION 9										
SUBAREA 38	WILLAMETTE	282.01	210.89	71.02	0.00	15.80	5.99	21.79	1.07	280.94
TOTAL SUBREGION 9		282.01	210.89	71.02	0.00	15.80	5.99	21.79	1.07	280.94
SUBREGION 10										
SUBAREA 39	TONGUE	20.31	13.01	7.30	0.00	0.38	0.00	0.38	0.00	20.31
SUBAREA 40	ROGUE	88.18	80.95	5.23	0.00	28.48	0.00	28.48	38.39	29.79
SUBAREA 41	UMPUGA	18.15	15.82	0.53	0.00	7.98	0.00	7.98	1.00	15.15
SUBAREA 42	COASTAL	32.11	31.59	0.53	0.00	8.52	0.00	8.52	0.71	31.40
TOTAL SUBREGION 10		134.75	121.17	13.58	0.00	43.33	0.00	43.33	38.10	98.65
SUBREGION 11										
SUBAREA 43	PUGET SOUND	80.63	35.80	45.03	0.00	0.00	0.00	0.00	0.00	80.63
TOTAL SUBREGION 11		80.63	35.80	45.03	0.00	0.00	0.00	0.00	0.00	80.63
SUBREGION 12										
SUBAREA 44	FORT ROCK	112.29	57.83	54.46	0.00	38.59	0.00	38.59	59.53	52.76
SUBAREA 45	SILVIES	132.94	93.19	35.35	4.40	78.88	0.00	78.88	105.85	27.09
SUBAREA 46	ALVORD	53.18	48.86	4.30	0.00	41.18	0.04	41.20	35.34	17.82
TOTAL SUBREGION 12		298.39	199.88	94.10	4.40	158.63	0.04	158.67	200.72	97.67
SUBREGION 13										
SUBAREA 47	KLAMATH **	398.62	283.47	19.04	0.00	94.18	1.07	95.24	222.57	79.95
TOTAL SUBREGION 13		398.62	283.47	19.04	0.00	94.18	1.07	95.24	222.57	79.95
SUBREGION 14										
SUBAREA 48	BEAR RIVER	132.52	114.75	15.32	2.45	38.38	0.00	38.38	67.81	64.71
SUBAREA 49	GREAT SALT LAKE	3.78	0.86	3.12	0.00	0.86	0.00	0.86	2.65	1.14
TOTAL SUBREGION 14		136.31	115.40	18.45	2.45	37.04	0.00	37.04	70.46	65.84
REGION TOTALS		1536.70	1143.13	744.01	9.31	424.89	7.14	432.03	638.07	804.53

** Includes 98,100 acres of subirrigated land

TABLE 3
INCREMENTAL EVAPORATION
(ROUNDED TO NEAREST 10 CFS)

	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	ENDING DATE
Mica			-140	-290	-360	-90	120	30		AUG 1976
Revelstoke Canyon			-70	-110	-110	-10	40			OCT 1983
Arrow Lakes			-40	-90	-110	30	140	60	50	JUN 1969
Canal Flats			-	-	-	-	-	-	-	-
Libby			-40	-90	-30	100	140	40		JUL 1974
Duncan			-10	-30	-40	-10	20			JUL 1967
Hungry Horse			-10	-20	-20	50	70			JUN 1954
Thompson Falls			-	-	-	-	-	-	-	-
Noxon Rapids			10	20	20	30	10			AUG 1959
Cabinet Gorge			-	-	-	-	-	-	-	-
Box Canyon			-	-	-	-	-	-	-	-
Boundary			-	-	-	-	-	-	-	-
Seven Mile			-	-	-	-	-	-	-	-
Waneta			-	-	-	-	-	-	-	-
Upper Falls			-	-	-	-	-	-	-	-
Monroe St.			-	-	-	-	-	-	-	-
Nine Mile			-	-	-	-	-	-	-	-
Long Lake			-	-	-	-	-	-	-	-
Little Falls			-	-	-	-	-	-	-	-
Grand Coulee	0	50	210	540	810	650	290	80		JUN 1942
Chief Joseph	10	10	10	20	10	10	0			JUN 1955
Wells	30	30	40	40	30	20	10			APR 1967
Rocky Reach	20	20	30	30	20	20	0			MAR 1961
Rock Island	0	0	0	0	0	0	0			-
Wanapum	40	40	60	70	50	40	10			JUL 1963
Priest Rapids	20	20	30	40	30	20	0			FEB 1960
Brownlee	0	10	30	80	110	90	40	10		MAY 1959
Oxbow	0	0	0	0	0	0	0	0		-
Hell's Canyon	0	0	0	10	10	0	0			OCT 1967
Dworshak	-10	-30	-30	-10	60	60	40			JUN 1973
Lower Granite	30	20	40	50	40	20	0			JAN 1975
Little Goose	20	20	30	40	40	20	0			FEB 1970
Lower Monumental	10	10	20	20	20	10	0			FEB 1969
Ice Harbor	10	10	20	30	20	10	0			MAR 1962
McNary	80	120	110	140	120	80	40			OCT 1953
John Day	110	150	140	180	150	110	50			MAR 1968
Round Butte	10	10	20	20	20	10	0			DEC 1964
The Dalles	20	20	20	20	20	10	10			FEB 1957
Bonneville	-	-	-	-	-	-	-			-
Lookout Point			-10	0	10	10	10			JUN 1955
Fern Ridge			0	-10	10	10	10			MAR 1943
Mossyrock				-10	20	40	30			MAY 1969
Low Ross			-10	-20	-10	20	10			JUL 1950

These monthly values of incremental evaporation are to be applied at-site and downstream for the time frame July 1928 through the ending date listed in the right hand column.

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TABLE 4
PROJECT INDEX TO DATA CONTAINED IN THIS REPORT

MCD	Mica	Upper Columbia	37
RVC	Revelstoke	Upper Columbia	39
ARD	Hugh Keenleyside	Upper Columbia	41
LIB	Libby	Kootenay	43
BFE	Bonnors Ferry	Kootenay	45
DCD	Duncan	Kootenay	47
COR	Corra Linn	Kootenay	48
CAN	Kootenay Canal	Kootenay	50
UBN	Upper Bonnington	Kootenay	51
LBN	Lower Bonnington	Kootenay	52
SLO	Slocan	Kootenay	53
BRI	Brilliant	Kootenay	54
MUC	Murphy Creek	Columbia	56
HGH	Hungry Horse	Pend Oreille	69
CFM	Columbia Falls	Pend Oreille	70
KER	Kerr	Pend Oreille	71
TOM	Thompson Falls	Pend Oreille	73
NOX	Noxon Rapids	Pend Oreille	75
CAB	Cabinet Gorge	Pend Oreille	77
PSL	Priest Lake	Pend Oreille	79
ALF	Albeni Falls	Pend Oreille	80
BOX	Box Canyon	Pend Oreille	82
BDY	Boundary	Pend Oreille	84
SEV	Seven Mile	Pend Oreille	86
WAT	Waneta	Pend Oreille	88
COE	Couer d'Alene Lake	Spokane	92
UPF	Upper Falls	Spokane	96
MON	Monroe Street	Spokane	98
NIN	Nine Mile	Spokane	99
LLK	Long Lake	Spokane	100
LFL	Little Falls	Spokane	101
GCL	Grand Coulee	Mid Columbia	115
CHJ	Chief Joseph	Mid Columbia	118
WEL	Wells	Mid Columbia	119
CHL	Chelan	Mid Columbia	121
RRH	Rocky Reach	Mid Columbia	122
RIS	Rock Island	Mid Columbia	124
WAN	Wanapum	Mid Columbia	126
PRD	Priest Rapids	Mid Columbia	129
YAK	Yakima	Mid Columbia	132

TABLE 4
PROJECT INDEX TO DATA CONTAINED IN THIS REPORT
cont'd.

<u>Project Identifier and Name</u>	<u>Stream</u>	<u>Page Number</u>
GAL Galloway	Wieser	151
BRN Brownlee	Snake	152
AXB Oxbow	Snake	155
HCD Hells Canyon	Snake	156
WHB Whitebird	Salmon	159
LIM Lime Point	Snake	160
TRY Troy	Grand Ronde	162
ANA Anatone	Snake	163
ORO Orofino	Clearwater	165
DWR Dworshak	Clearwater	166
SPD Spalding	Clearwater	167
LWG Lower Granite	Lower Snake	169
LGS Little Goose	Lower Snake	171
LMN Lower Monumental	Lower Snake	173
IHR Ice Harbor	Lower Snake	174
MCN McNary	Lower Columbia	190
JDA John Day	Lower Columbia	192
ROU Round Butte	Lower Deschutes	194
PEL Pelton	Lower Deschutes	196
RER Pelton Rereg	Lower Deschutes	197
TDA The Dalles	Lower Columbia	200
BON Bonneville	Lower Columbia	202
HCR Hills Creek	M. Fk. Willamette	209
LOP Lookout Point	M. Fk. Willamette	210
DEX Dexter	M. Fk. Willamette	211
FAL Fall Creek	M. Fk. Willamette	212
COT Cottage Grove	C. Fk. Willamette	213
DOR Dorena	Row	214
CAR Carman	Carman Smith	215
SMH Smith Inflow	Smith River	216
C-S Carman Smith PH	McKenzie	218
TRB Trail Bridge	McKenzie	219
CGR Cougar	McKenzie	220
BLU Blue River	McKenzie	221
LEA Leaburg	McKenzie	222
WAV Waltherville	McKenzie	223
FRN Fern Ridge	Long Tom River	225

TABLE 4
PROJECT INDEX TO DATA CONTAINED IN THIS REPORT
cont'd.

<u>Project Identifier and Name</u>		<u>Stream</u>	<u>Page Number</u>
DET	Detroit	North Santiam	226
BCL	Big Cliff	North Santiam	227
GPR	Green Peter	South Santiam	228
FOS	Foster	South Santiam	229
SAL	Salem	Willamette	230
SVN	T. W. Sullivan	Willamette	232
TMY	Timothy Meadows	Clackamas	233
OAK	Oak Grove	Clackamas	234
NFK	North Fork	Clackamas	235
FAR	Faraday	Clackamas	236
RML	River Mill	Clackamas	237
SWF	Swift	Lewis	243
YAL	Yale	Lewis	244
MER	Merwin	Lewis	245
PAK	Packwood	Cowlitz	247
MOS	Mossyrock	Cowlitz	248
MAY	Mayfield	Cowlitz	249
CS1	Cushman 1	Skokomish	250
CS2	Cushman 2	Skokomish	251
ALD	Alder	Nisqually	252
LAG	LaGrande	Nisqually	253
WHI	White River	White	254
ROS	Ross	Skagit	255
DIA	Diablo	Skagit	256
GOR	Gorge	Skagit	257
UBK	Upper Baker	Baker	258
SHA	Lower Baker	Baker	259
LOS	Lost Creek	Rogue	267
ACL	"A" Canal	Klamath	268
KLA	Upper Klamath Lake	Klamath	270
LNK	Link River	Klamath	271
JCB	John C. Boyle	Klamath	272
CPC	Copco No. 1 & 2	Klamath	273
IRG	Iron Gate	Klamath	274

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- (22) Depletions Task Force, Columbia River Water Management Group, "Special Studies and Computer Applications to Streamflow Depletion," October 1988.
- (23) Depletions Task Force, Columbia River Water Management Group, "Seasonal Volumes and Statistics, 1928-1978," October 1983.
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SECTION A

UPPER COLUMBIA AND KOOTENAY

COLUMBIA RIVER IN BRITISH COLUMBIA

KOOTENAY RIVER IN BRITISH COLUMBIA

KOOTENAI RIVER IN MONTANA AND IDAHO

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SECTION A

The area described in this section includes the Columbia-Kootenay drainage above the mouth of the Pend Oreille River, near Trail, British Columbia. The Columbia drainage is located entirely within Canada. The Kootenay River (Kootenai in the U. S.) has its source in Canada, enters the U. S., and then flows back into Canada. The drainage area of these two river basins above Trail, B.C., is 34,000 square miles; 28,000 in Canada and 6,000 in the U.S. See figure 4, page 31, for a map of the area.

Most of the irrigated land in these two basins is located adjacent to the major rivers and lakes and their principal tributaries. Irrigation in the region has increased from 21 thousand acres in 1928 to 77 thousand acres in 1990. The method of application began changing after the Second World War from gravity to sprinkler. In 1990, approximately 74 percent of the irrigated lands use sprinkler systems. The Upper Columbia-Kootenay drainage has been divided into eight subareas for use in the computation of irrigation adjustments, namely:

- (1) The Columbia above Mica;
- (2) The Columbia from Mica to Keenleyside;
- (3) The East Kootenay above Newgate;
- (4) The Kootenai in Montana;
- (5) The Kootenai in Idaho;
- (6) The West Kootenay from the Idaho border to Corra Linn;
- (7) The Slocan basin; and
- (8) The Columbia for Keenleyside to the mouth of the Pend Oreille.

Figure 5, page 32, shows where and how these various irrigation adjustments are to be applied.

The total acres of land irrigated by sprinkler and by gravity application during target years were tabulated for each subarea. The sources of this data were the Province of British Columbia Ministry of Environment Lands and Parks, States of Montana and Idaho, the 1987 Census of Agriculture data, diversion records, and other information from various sources. See Table 5, page 33, for a summary of land irrigated from surface sources in each subarea.

An examination revealed that the small percentage of lands served by ground water would not constitute a streamflow deletion at the sites investigated in this region, and therefore were not included in the computations. Diversions from ground water would affect only the ground water level, and the location and extent of the lands, coupled with the time lag of return flows, made the return flows basically ineffectual. At best, the modified streamflows developed in this section would be slightly underestimated and therefore conservative.

The United States 1987 Farm Census Data and the 1986 British Columbia Agriculture Census gave a breakdown of land devoted to different crops. The largest requirement was for hay and pasture land with smaller tracts producing grain, potatoes, sugar beets, fruits, and vegetable. Water requirements for various crops were determined by the method described in the Soil Conservation Service Technical Release No. 21. A computer program "TR 21" was used to complete monthly consumptive use for each subarea. These determinations were based on crop, latitude, average annual precipitation and temperature, and length of growing season. Pairs of computer runs were then made (one for sprinkler and one for gravity application) to weight the crop mix and determine monthly diversion requirements and return flows using estimated irrigation efficiencies for sprinkler and gravity application. See pages 34 and 35 for results of this determination. Adjustments to the 1990 level of development were then computed for each subarea from the monthly depletion rate and from irrigated area data for each year in the period 1928-1989. Page 36 contains a listing of equations used by the computer to accumulate adjustments and compute modified streamflow for each site.

The summation in downstream order of irrigation adjustments for the combination of sprinkler and gravity application was computed for each project or project site. Listing of these at-site summations and the modified flow for each site are presented subsequently in this section. Additional detail on the computation of irrigation adjustments is contained in the Technical Appendix.

UPPER COLUMBIA AND KOOTENAY

FIGURE 4

IRRIGATION ADJUSTMENT FOR UPPER COLUMBIA AND KOOTENAY RIVER BASINS

FIGURE 5

TABLE 5

IRRIGATED AREA
SUPPLIED BY SURFACE WATER
(Thousands of Acres)

UPPER COLUMBIA ABOVE MICA

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	4.6	4.6
1928	0	4.7	4.7
1948	0	6.4	6.4
1965	3.5	5.1	8.6
1979	5.8	6.0	11.8
1990	10.0	4.0	14.0

COLUMBIA BASIN MICA TO KEENLEYSIDE

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	0.7	0.7
1928	0	0.7	0.7
1948	0	1.0	1.0
1965	0.6	0.7	1.3
1979	1.2	0.9	2.1
1990	4.1	0.5	4.6

EAST KOOTENAY ABOVE NEWGATE

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	4.6	4.6
1928	0	4.7	4.7
1948	0	6.5	6.5
1965	4.6	8.1	12.7
1979	8.2	10.4	18.6
1990	20.0	6.6	26.6

WEST KOOTENAY-INTERNATIONAL
BORDER TO CORRA LINN

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	1.8	1.8
1928	0	1.8	1.8
1948	0	4.0	4.0
1965	2.7	3.6	6.3
1979	6.3	5.6	11.9
1990	10.5	4.0	14.5

KOOTENAI BASIN IN MONTANA

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	6.8	6.8
1928	0	7.0	7.0
1950	0	7.0	7.0
1966	2.2	6.0	8.2
1979	5.9	5.4	11.3
1990	4.8	4.4	9.2

KOOTENAI BASIN IN IDAHO

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	0.9	0.9
1928	0	1.0	1.0
1950	0	1.0	1.0
1966	0.8	0.6	1.4
1979	2.9	0.1	3.0
1990	2.3	0	2.3

SLOCAN BASIN APPLY AT BRILLIANT

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	0.5	0.5
1928	0	0.5	0.5
1948	0	0.9	0.9
1965	0.5	0.7	1.2
1979	2.0	1.8	3.8
1990	3.7	0.5	4.2

COLUMBIA BASIN
KEENLEYSIDE TO PEND OREILLE

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	0.3	0.3
1928	0	0.3	0.3
1948	0	0.5	0.5
1965	0.3	0.5	0.8
1979	0.5	0.4	0.9
1990	1.6	0.2	1.8

COLUMBIA RIVER BASIN ABOVE MICA DAM									
SPRINKLER SYSTEM ONLY					GRAVITY SYSTEM ONLY				
MONTH	DIVERSION	RETURN FLOW	DEPLETION	CFS PER 1000 A	MONTH	DIVERSION	RETURN FLOW	DEPLETION	CFS PER 1000 A
%	AF PER 1000 A	%	AF PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A	
APR	1	4	28	15	APR	1	4	48	31
MAY	16	7	46	28/2	MAY	16	7	84	339
JUN	28	9	63	48/2	JUN	28	9	108	516
JUL	31	11	77	5/2	JUL	31	11	131	579
AUG	485	13	90	3/5	AUG	27	13	155	686
SEP	95	14	97	3	SEP	4	14	167	431
OCT	0	11	77	71	OCT	0	11	131	48
NOV	0	8	63	63	NOV	0	9	108	2020
DEC	0	7	48	48	DEC	0	7	84	1808
JAN	0	6	42	42	JAN	0	6	72	1361
FEB	0	5	35	35	FEB	0	5	60	72
MAR	0	4	28	28	MAR	0	4	48	60
	100	100	698	1412		100	100	1195	1461

COLUMBIA RIVER BASIN, MICA TO KEENEYSIDE									
SPRINKLER SYSTEM ONLY					GRAVITY SYSTEM ONLY				
MONTH	DIVERSION	RETURN FLOW	DEPLETION	CFS PER 1000 A	MONTH	DIVERSION	RETURN FLOW	DEPLETION	CFS PER 1000 A
%	AF PER 1000 A	%	AF PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A	
APR	1	4	33	18	APR	1	4	57	38
MAY	16	5	42	360	MAY	16	5	71	434
JUN	28	8	67	585	JUN	28	8	114	707
JUL	31	10	83	693	JUL	31	10	143	835
AUG	22	14	117	440	AUG	22	14	200	501
SEP	4	12	100	13	SEP	4	12	172	29
OCT	0	11	92	85	OCT	0	11	157	149
NOV	0	10	83	83	NOV	0	10	143	143
DEC	0	8	67	67	DEC	0	8	114	114
JAN	0	7	58	58	JAN	0	7	100	100
FEB	0	6	50	50	FEB	0	6	86	86
MAR	0	5	42	42	MAR	0	5	71	71
	100	100	832	1690		100	100	1430	1747

COLUMBIA RIVER BASIN, KENNELYSIDE TO PEND ORILLI									
SPRINKLER SYSTEM ONLY					GRAVITY SYSTEM ONLY				
MONTH	DIVERSION	RETURN FLOW	DEPLETION	CFS PER 1000 A	MONTH	DIVERSION	RETURN FLOW	DEPLETION	CFS PER 1000 A
%	AF PER 1000 A	%	AF PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A	
APR	0	4	31	22	APR	0	4	54	42
MAY	14	7	55	278	MAY	14	7	94	323
JUN	23	9	70	480	JUN	23	9	120	572
JUL	32	11	86	678	JUL	32	11	147	817
AUG	25	13	101	478	AUG	25	13	174	566
SEP	5	14	109	9	SEP	5	14	187	39
OCT	0	11	88	77	OCT	0	11	147	137
NOV	0	9	70	70	NOV	0	9	120	120
DEC	0	7	55	55	DEC	0	7	94	94
JAN	0	6	47	47	JAN	0	6	80	80
FEB	0	5	39	39	FEB	0	5	67	67
MAR	0	4	31	31	MAR	0	4	54	54
	100	100	778	1581		100	100	1338	1635

SPRINKLER SYSTEM ONLY									
LAST KODIYAN, IDARU, MONTANA, AND H. C. ABOVE IN WCAIT									
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION	
	%	AT PFR	%	AT PFR	AT PFR	C/S PFR		%	AT PFR
APR	1	10	4	20	12	0.190	APR	1	20
MAY	15	316	5	34	282	4.580	MAY	15	398
JUN	31	651	6	55	536	10.069	JUN	31	820
JUL	35	727	10	69	658	10.700	JUL	35	916
AUG	18	326	14	96	229	3.225	AUG	16	410
SEP	3	54	12	83	78	0.477	SEP	3	88
OCT	0	0	11	78	78	1.233	OCT	0	0
NOV	0	0	10	69	69	1.158	NOV	0	0
DEC	0	0	8	55	55	0.896	DEC	0	0
JAN	0	0	7	48	48	0.784	JAN	0	0
FEB	0	0	6	41	41	0.744	FEB	0	0
MAR	0	0	5	34	34	0.580	MAR	0	0
	100	2088	100	689	1400			100	2631
									1184
									1449

SPRINKLER SYSTEM ONLY									
WEST KODIYAN, INTERNATIONAL BORDER TO CORRA LINN									
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION	
	%	AT PFR	%	AT PFR	AT PFR	C/S PFR		%	AT PFR
APR	1	24	4	30	281	0.115	APR	1	401
MAY	14	319	5	38	281	4.584	MAY	14	401
JUN	27	633	6	61	572	9.613	JUN	27	797
JUL	34	787	10	76	711	11.570	JUL	34	992
AUG	19	444	14	108	328	5.335	AUG	19	547
SEP	4	94	12	91	3	0.043	SEP	4	118
OCT	0	11	11	84	72	1.175	OCT	0	14
NOV	0	0	10	78	78	1.278	NOV	0	0
DEC	0	0	8	61	61	0.988	DEC	0	0
JAN	0	0	7	53	53	0.805	JAN	0	0
FEB	0	0	6	48	48	0.820	FEB	0	0
MAR	0	0	5	38	38	0.818	MAR	0	0
	100	2307	100	759	1542			100	2900
									1305
									1585

SPRINKLER SYSTEM ONLY									
SI OCEAN RIVER BASIN (APPLY AT BRILLIANT)									
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION	
	%	AT PFR	%	AT PFR	AT PFR	C/S PFR		%	AT PFR
APR	1	24	4	30	281	0.115	APR	1	401
MAY	14	319	5	38	281	4.584	MAY	14	401
JUN	27	633	6	61	572	9.613	JUN	27	797
JUL	34	787	10	76	711	11.570	JUL	34	992
AUG	19	444	14	108	328	5.335	AUG	19	547
SEP	4	94	12	91	3	0.043	SEP	4	118
OCT	0	11	11	84	72	1.175	OCT	0	14
NOV	0	0	10	78	78	1.278	NOV	0	0
DEC	0	0	8	61	61	0.988	DEC	0	0
JAN	0	0	7	53	53	0.805	JAN	0	0
FEB	0	0	6	48	48	0.820	FEB	0	0
MAR	0	0	5	38	38	0.818	MAR	0	0
	100	2307	100	759	1542			100	2900
									1305
									1585

SECTION A

EQUATIONS USED TO COMPUTE MODIFIED FLOWS

Depletions:

$$\begin{aligned} \text{MCD3DD9} &= \text{UPC3D9} \\ \text{RVC3DD9} &= \text{UPC3D9} + 0.35 (\text{ARD3D9}) \\ \text{ARD3DD9} &= \text{UPC3D9} + \text{ARD3D9} \\ \text{LIB3DD9} &= \text{EKO3D9} + 0.30 (\text{KMT3D9}) \\ \text{BFE3DD9} &= \text{EKO3D9} + \text{KMT3D9} \\ \text{COR3DD9} &= \text{EKO3D9} + \text{KMT3D9} + \text{KID3D9} + \text{WKO3D9} \\ \text{BRI3DD9} &= \text{COR3DD9} + \text{BRI3D9} \\ \text{MUC3DD9} &= \text{ARD3DD9} + \text{BRI3DD9} + 0.45 (\text{CTR3D9}) \\ \text{CTR3DD9} &= \text{ARD3DD9} + \text{BRI3DD9} + \text{CTR3D9} \end{aligned}$$

Evaporation:

$$\begin{aligned} \text{RVC3EE} &= \text{RVC3E} + \text{MCD3E} \\ \text{ARD3EE} &= \text{RVC3EE} + \text{ARD3E} \\ \text{COR3EE} &= \text{LIB3E} + \text{DCD3E} \\ \text{MUC3EE} &= \text{ARD3EE} + \text{COR3EE} \end{aligned}$$

Modified Flows:

$$\begin{aligned} \text{MCD3M9} &= \text{MCD3A} + \text{MCD3DD9} - \text{MCD3E} \\ \text{RVC3M9} &= \text{RVC3A} + \text{RVC3DD9} - \text{RVC3EE} \\ \text{ARD3M9} &= \text{ARD3A} + \text{ARD3DD9} - \text{ARD3EE} \\ \text{LIB3M9} &= \text{LIB3A} + \text{LIB3DD9} - \text{LIB3E} \\ \text{BFE3M9} &= \text{BFE3A} - \text{LIB3E} + \text{KMT3D9} + \text{EKO3D9} \\ \text{DCD3M9} &= \text{DCD3A} - \text{DCD3E} \\ \text{COR3M9} &= \text{COR3A} + \text{COR3DD9} - \text{COR3EE} \\ \text{CAN3M9} &= \text{COR3M9} \\ \text{UBN3M9} &= \text{COR3M9} \\ \text{LBN3M9} &= \text{COR3M9} \\ \text{SLO3M9} &= \text{COR3M9} \\ \text{BRI3M9} &= \text{BRI3A} + \text{BRI3DD9} - \text{COR3EE} \\ \text{MUC3M9} &= \text{MUC3A} + \text{MUC3DD9} - \text{MUC3EE} \end{aligned}$$

MICA

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-86	
1928-29	-56	0	10	9	7	6	6	4	2	-43	74	-85	-18
1929-30	-56	0	10	9	7	6	5	4	2	-42	-73	-84	-18
1930-31	-55	0	10	9	7	6	5	4	2	-42	-72	-83	-18
1931-32	-55	0	10	9	7	6	5	4	2	-41	-71	-82	-17
1932-33	-54	0	9	9	7	6	5	4	2	-41	-70	-81	-17
1933-34	-53	0	9	9	6	6	5	4	2	-40	-70	-80	-17
1934-35	-53	-1	9	8	6	5	5	4	2	-40	-69	-79	-17
1935-36	-52	-1	9	8	6	5	5	4	2	-39	-68	-78	-17
1936-37	-52	-1	9	8	6	5	5	3	2	-39	-67	-77	-17
1937-38	-51	-1	9	8	6	5	5	3	2	-38	-66	-76	-16
1938-39	-50	-1	8	8	6	5	5	3	2	-38	-65	-75	-16
1939-40	-50	-1	8	8	6	5	5	3	2	-37	-65	-74	-16
1940-41	-49	-1	8	7	6	5	4	3	2	-37	-64	-73	-16
1941-42	-49	-1	8	7	5	5	4	3	2	-36	-63	-72	-16
1942-43	-48	-1	8	7	5	5	4	3	1	-36	-62	-71	-16
1943-44	-47	-1	8	7	5	5	4	3	1	-35	-61	-70	-15
1944-45	-47	-1	7	7	5	4	4	3	1	-35	-60	-70	-15
1945-46	-46	-1	7	7	5	4	4	3	1	-35	-60	-69	-15
1946-47	-46	-1	7	7	5	4	4	3	1	-34	-59	-68	-15
1947-48	-45	-1	7	6	5	4	4	3	1	-34	-58	-67	-15
1948-49	-44	-1	7	6	5	4	4	3	1	-33	-57	-66	-15
1949-50	-44	-1	7	6	5	4	4	3	1	-33	-56	-65	-14
1950-51	-43	-1	7	6	5	4	4	3	1	-32	-55	-63	-14
1951-52	-42	-1	6	6	5	4	4	3	1	-31	-54	-62	-14
1952-53	-42	-1	6	6	4	4	4	3	1	-31	-53	-61	-14
1953-54	-41	-1	6	6	4	4	3	3	1	-30	-52	-60	-13
1954-55	-40	-1	6	6	4	4	3	2	1	-30	-52	-59	-13
1955-56	-39	-1	6	6	4	4	3	2	1	-29	-51	-58	-13
1956-57	-39	-1	6	6	4	4	3	2	1	-29	-50	-57	-13
1957-58	-38	-1	6	6	4	4	3	2	1	-28	-49	-56	-12
1958-59	-37	-1	6	5	4	4	3	2	1	-28	-48	-55	-12
1959-60	-36	-1	6	5	4	3	3	2	1	-27	-47	-54	-12
1960-61	-36	-1	6	5	4	3	3	2	1	-27	-46	-53	-12
1961-62	-35	-1	6	5	4	3	3	2	1	-26	-45	-52	-11
1962-63	-34	-1	6	5	4	3	3	2	1	-26	-44	-51	-11
1963-64	-34	-1	5	5	4	3	3	2	1	-25	-43	-50	-11
1964-65	-33	-1	5	5	4	3	3	2	1	-24	-42	-49	-11
1965-66	-32	-1	5	5	4	3	3	2	1	-23	-40	-46	-10
1966-67	-31	-1	5	5	3	3	3	2	1	-22	-38	-44	-10
1967-68	-29	-1	5	4	3	3	3	2	1	-21	-36	-42	-9
1968-69	-28	-1	4	4	3	3	2	2	1	-20	-34	-40	-9
1969-70	-26	-1	4	4	3	2	2	2	1	-19	-32	-37	-8
1970-71	-25	-1	4	3	3	2	2	1	1	-18	-31	-35	-8
1971-72	-23	-1	3	3	2	2	2	1	1	-17	-29	-33	-7
1972-73	-22	-1	3	3	2	2	2	1	0	-15	-27	-31	-7
1973-74	-21	-1	3	3	2	2	2	1	0	-14	-25	-28	-6
1974-75	-19	-1	2	2	2	1	1	1	0	-13	-23	-26	-6
1975-76	-18	-1	2	2	2	1	1	1	0	-12	-21	-24	-6
1976-77	-16	-1	2	2	1	1	1	1	0	-11	-19	-22	-5
1977-78	-15	-1	1	1	1	1	1	1	0	-10	-17	-19	-5
1978-79	-13	-1	1	1	1	1	1	0	0	-9	-15	-17	-4
1979-80	-12	-1	1	1	1	1	1	0	0	-8	-13	-15	-4
1980-81	-11	-1	1	1	1	0	0	0	0	-7	-12	-14	-3
1981-82	-9	-1	1	1	1	0	0	0	0	-6	-10	-12	-3
1982-83	-8	-1	1	1	0	0	0	0	0	-5	-9	-10	-3
1983-84	-7	-1	1	1	0	0	0	0	0	-4	-7	-9	-2
1984-85	-6	-1	0	0	0	0	0	0	0	-4	-6	-7	-2
1985-86	-5	-1	0	0	0	0	0	0	0	-3	-4	-5	-1
1986-87	-4	0	0	0	0	0	0	0	0	-2	-3	-3	-1
1987-88	-2	0	0	0	0	0	0	0	0	-1	-1	-2	-1
1988-89	-1	0	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	-33	-1	5	5	4	3	3	2	1	-25	-43	-50	-11

MCD3DD9

USGS # 12227100

MICA

River: COLUMBIA

Drainage Area: 8290 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 1018.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												63170	
1928-29	41790	19310	7912	4904	4415	3786	3196	3144	<u>2961</u>	17850	57920	45050	17770
1929-30	39530	22810	8304	4015	3567	2559	2727	3997	13340	23970	58000	63490	20630
1930-31	45850	23110	8751	5176	3533	2834	2592	3219	5948	28060	60180	56480	20570
1931-32	39230	25500	11100	8110	4728	3203	2687	3348	8298	32210	68940	55790	21970
1932-33	45100	19490	10710	7081	5223	4279	3412	3291	5520	25730	62590	72580	22220
1933-34	48760	22520	12390	9138	5369	4931	3121	3962	<u>21720</u>	52410	62150	56540	<u>25390</u>
1934-35	40840	20360	12050	8895	5066	3642	3890	3886	4533	22500	59020	70920	21420
1935-36	39660	22640	10430	5731	4296	3769	3329	3268	10750	41640	60910	52210	21610
1936-37	41390	20590	10260	5181	3728	3108	2653	2796	5500	19400	47340	53170	18030
1937-38	34830	22870	12050	9258	5482	3642	2819	3423	7501	29110	61280	57230	20890
1938-39	32230	26730	11720	5907	5066	5108	3088	4099	9903	42280	44210	56750	20720
1939-40	42440	21300	11940	8290	<u>6644</u>	4009	3565	3952	9644	34960	56910	60130	22060
1940-41	36690	25620	<u>18370</u>	6898	5031	3510	3328	3805	13540	27280	48300	53460	20590
1941-42	38920	20300	13780	8108	5981	3627	3032	2841	6656	26930	47130	60960	19990
1942-43	43250	18610	10820	5253	3982	2864	2953	2969	13210	19190	<u>39110</u>	63160	18910
1943-44	41140	18200	11040	5198	3242	2680	3055	2876	6272	24120	48810	42720	<u>17500</u>
1944-45	36940	24450	12670	7866	4565	3809	3666	3427	3557	21790	47720	49050	18380
1945-46	35080	18140	9084	4823	3688	2679	2689	3018	6785	44190	65890	59100	21390
1946-47	39350	20950	8524	4702	4726	4445	3764	3681	10290	38050	60750	59480	21680
1947-48	32710	20880	15820	7829	4930	3884	3090	2842	5558	38970	81260	47020	22090
1948-49	41720	21620	11420	6874	4099	2809	2399	2831	6993	33420	39120	<u>37520</u>	17680
1949-50	32410	17090	7945	6213	4027	<u>2440</u>	<u>2366</u>	2930	4734	17700	66580	73520	19930
1950-51	39670	22930	9645	6198	4666	4013	3544	3497	6716	36420	47640	68290	21250
1951-52	37240	16480	10450	5300	3251	2677	2560	2645	8392	34040	52710	53780	19200
1952-53	37590	16870	10220	4463	3205	3148	3035	2990	3979	25580	53110	55550	18420
1953-54	38140	20690	12550	8755	4870	3627	3815	3452	4040	28250	59850	<u>81850</u>	22630
1954-55	49250	28680	11710	9192	6147	4104	3600	3484	4816	14720	58870	70130	22170
1955-56	38470	21050	8975	5505	4415	3654	2692	3035	8473	34990	65220	56850	21170
1956-57	37860	19320	10960	5723	4206	3301	3342	3395	5692	<u>53040</u>	56180	44060	20720
1957-58	28010	19170	10230	5538	4036	3740	3562	3607	6172	41760	68390	47720	20250
1958-59	38080	19280	11740	5927	4649	4050	3454	3187	6237	26800	61400	69330	21300
1959-60	37110	26320	13330	8031	6020	4223	3856	3901	9025	18000	48160	68500	20600
1960-61	38120	21050	12270	7866	4549	4316	3895	3886	6271	35570	84380	50270	22780
1961-62	40990	17620	12680	6202	4601	3627	4123	3123	9480	24530	52890	54810	19660
1962-63	42070	18660	10920	8533	5465	4392	<u>4957</u>	4627	8807	25180	58650	54820	20680
1963-64	39970	27000	12500	6570	4623	3964	3358	2969	5237	18380	61350	66570	21090
1964-65	35460	18940	15000	8736	4813	4093	3937	3538	8469	23840	55930	59850	20320
1965-66	49110	14770	12430	9369	5844	4310	4219	4509	10770	32310	55640	62630	22300
1966-67	41800	23020	12810	7617	5383	4439	3985	3548	5343	23640	87840	76220	24740
1967-68	47980	29340	13410	8113	4116	3937	4046	4567	4779	24690	59910	70280	23010
1968-69	39220	24160	11500	7464	4597	2801	3083	3420	11130	36740	70520	47130	21900
1969-70	34450	20170	11580	7184	4197	3400	3397	3004	4117	18850	60270	50160	18470
1970-71	36380	14810	7939	4120	<u>3041</u>	3129	3287	2836	6262	35020	59810	50460	19030
1971-72	47530	20480	10690	5801	3067	2774	2715	3756	6029	35910	<u>90480</u>	61340	24260
1972-73	47780	19160	10500	5939	4308	3529	3183	3541	5627	25570	49000	49790	19110
1973-74	35880	18320	11470	9502	4229	3673	3458	3151	8026	20410	69020	63620	20980
1974-75	44520	27950	10770	5985	4971	3560	3540	<u>2254</u>	6563	19160	44860	61090	19710
1975-76	35050	18400	11030	<u>11650</u>	5377	4174	3684	3058	8187	35050	44990	71210	21080
1976-77	<u>57410</u>	<u>32350</u>	11710	6062	4490	4408	3309	4415	8288	22790	49300	39940	20470
1977-78	39710	16240	7201	5125	4341	3707	3038	3564	7629	19060	52040	60360	18610
1978-79	35830	28430	12720	9481	5157	3337	3762	4067	5944	21740	48270	52680	19370
1979-80	36000	21310	9879	<u>3943</u>	4057	3625	3046	3237	11750	45580	50700	41890	19650
1980-81	<u>27130</u>	17240	11970	6491	6077	4248	3651	4536	7713	37300	41760	58910	19050
1981-82	49010	22300	8347	8040	4432	4118	3932	3528	4377	21290	68950	60890	21700
1982-83	36210	27480	11310	6447	4204	4382	3758	4411	7392	26180	49410	54150	19710
1983-84	39280	18110	9270	9673	4207	<u>5305</u>	4051	4007	7132	<u>11410</u>	49710	54770	18120
1984-85	41260	19800	10230	5555	4289	3568	4326	2545	6836	32680	46380	49200	19000
1985-86	28490	<u>13170</u>	8550	5248	3689	3597	3531	4380	7565	27030	73150	51160	19200
1986-87	37210	16230	8480	5747	4936	2917	3615	<u>5151</u>	9383	38310	58660	45910	19810
1987-88	27940	19570	<u>6851</u>	4906	3761	3274	4190	3579	11670	28400	56540	45050	18000
1988-89	34240	17700	11270	7431	4841	4794	4259	3316	7893	27110	54470	47100	18790
1989-90	38900	16410											
MEAN	39290	21030	11020	6801	4566	3697	3413	3497	7630	29000	57710	57060	20490
MEDIAN	39070	20420	11040	6447	4549	3654	3412	3427	6993	27030	57920	56510	20590

MCD3M9

REVELSTOKE CANYON

Accumulated depletions at site and upstream (1990 level of development)

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												-99	
1928-29	-65	0	12	11	8	7	7	5	2	-49	-85	-98	-21
1929-30	-64	0	12	11	8	7	6	5	2	-49	-84	-97	-21
1930-31	-63	-1	11	11	8	7	6	5	2	-48	-83	-96	-20
1931-32	-63	-1	11	10	8	7	6	5	2	-48	-82	-95	-20
1932-33	-62	-1	11	10	8	7	6	4	2	-47	-82	-94	-20
1933-34	-62	-1	11	10	8	7	6	4	2	-47	-81	-93	-20
1934-35	-61	-1	11	10	7	6	6	4	2	-46	-80	-92	-20
1935-36	-60	-1	10	10	7	6	6	4	2	-46	-79	-91	-19
1936-37	-60	-1	10	10	7	6	6	4	2	-45	-78	-90	-19
1937-38	-59	-1	10	9	7	6	6	4	2	-45	-77	-89	-19
1938-39	-58	-1	10	9	7	6	6	4	2	-44	-76	-88	-19
1939-40	-58	-1	10	9	7	6	5	4	2	-44	-75	-87	-19
1940-41	-57	-1	10	9	7	6	5	4	2	-43	-74	-86	-19
1941-42	-56	-1	9	9	7	6	5	4	2	-43	-74	-85	-18
1942-43	-56	-1	9	9	6	6	5	4	2	-42	-73	-84	-18
1943-44	-55	-1	9	8	6	5	5	4	2	-42	-72	-83	-18
1944-45	-55	-2	9	8	6	5	5	4	2	-41	-71	-82	-18
1945-46	-54	-2	9	8	6	5	5	4	2	-41	-70	-81	-18
1946-47	-53	-2	8	8	6	5	5	3	2	-40	-69	-80	-17
1947-48	-53	-2	8	8	6	5	5	3	2	-40	-68	-79	-17
1948-49	-52	-2	8	8	6	5	5	3	1	-39	-67	-77	-17
1949-50	-51	-2	8	8	6	5	5	3	1	-39	-66	-76	-17
1950-51	-51	-2	8	7	6	5	4	3	1	-38	-65	-75	-17
1951-52	-50	-2	8	7	6	5	4	3	1	-38	-64	-74	-16
1952-53	-49	-2	8	7	5	5	4	3	1	-37	-64	-73	-16
1953-54	-48	-2	8	7	5	5	4	3	1	-36	-63	-72	-16
1954-55	-48	-1	8	7	5	5	4	3	1	-36	-62	-71	-15
1955-56	-47	-1	7	7	5	5	4	3	1	-35	-61	-70	-15
1956-57	-46	-1	7	7	5	5	4	3	1	-35	-60	-69	-15
1957-58	-45	-1	7	7	5	4	4	3	1	-34	-59	-67	-15
1958-59	-44	-1	7	7	5	4	4	3	1	-34	-58	-66	-14
1959-60	-44	-1	7	7	5	4	4	3	1	-33	-57	-65	-14
1960-61	-43	-1	7	7	5	4	4	3	1	-32	-56	-64	-14
1961-62	-42	-1	7	7	5	4	4	3	1	-32	-55	-63	-14
1962-63	-41	-1	7	6	5	4	4	3	1	-31	-54	-62	-13
1963-64	-41	-1	7	6	5	4	4	3	1	-31	-53	-61	-13
1964-65	-40	-1	7	6	5	4	4	3	1	-30	-52	-60	-13
1965-66	-39	-1	7	6	5	4	4	3	1	-29	-50	-57	-12
1966-67	-38	-1	6	6	4	4	4	3	1	-28	-48	-55	-12
1967-68	-36	-1	6	6	4	4	3	2	1	-27	-46	-52	-11
1968-69	-34	-1	6	5	4	3	3	2	1	-25	-43	-50	-11
1969-70	-33	-1	5	5	4	3	3	2	1	-24	-41	-47	-10
1970-71	-31	-1	5	5	4	3	3	2	1	-23	-39	-45	-10
1971-72	-30	-1	5	4	3	3	3	2	1	-22	-37	-42	-9
1972-73	-28	-1	4	4	3	3	2	2	1	-20	-35	-40	-9
1973-74	-27	-1	4	4	3	2	2	2	1	-19	-33	-38	-8
1974-75	-25	-1	3	3	3	2	2	2	1	-18	-31	-35	-8
1975-76	-23	-1	3	3	2	2	2	1	0	-17	-28	-33	-7
1976-77	-22	-1	3	3	2	2	2	1	0	-15	-26	-30	-7
1977-78	-20	-2	2	2	2	2	1	1	0	-14	-24	-28	-6
1978-79	-19	-2	2	2	2	1	1	1	0	-13	-22	-25	-6
1979-80	-17	-2	2	2	1	1	1	1	0	-12	-20	-23	-5
1980-81	-15	-2	2	2	1	1	1	1	0	-10	-18	-20	-5
1981-82	-14	-1	1	1	1	1	1	1	0	9	-15	-18	-4
1982-83	-12	-1	1	1	1	1	1	1	0	-8	-13	-15	-4
1983-84	-10	-1	1	1	1	1	1	0	0	-6	-11	-13	-3
1984-85	-9	-1	1	1	1	1	1	0	0	-5	-9	-10	-2
1985-86	-7	-1	1	1	1	0	0	0	0	-4	-7	-8	-2
1986-87	-5	-1	1	1	0	0	0	0	0	-3	-4	-5	-1
1987-88	-3	0	0	0	0	0	0	0	0	-1	-2	-3	-1
1988-89	-2	0	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	-40	-1	6	6	5	4	4	3	1	-30	-52	-60	-13

RVC3DD9

USGS # 12229800 **REVELSTOKE CANYON** River: COLUMBIA Drainage Area: 10200 Sq. Mi.
 Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level). River Mile: 934

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												84670	
1928-29	54940	25280	10390	7044	8595	5551	4530	4453	<u>4568</u>	29000	82720	58820	24580
1929-30	51360	31200	11020	<u>5584</u>	4872	<u>3166</u>	3524	6343	20380	37590	82860	85110	28720
1930-31	61080	31710	11890	7491	4812	3703	<u>3230</u>	4619	9125	43350	85810	75070	28640
1931-32	50820	35740	16060	12290	7227	4417	3436	4905	12700	49160	97720	74070	30760
1932-33	60190	25590	15310	10620	8224	6517	4987	4774	8465	40050	89120	98150	31190
1933-34	66090	30720	18310	13930	8526	7771	4367	6266	<u>33190</u>	77620	88560	75120	<u>36070</u>
1934-35	53460	27080	17670	13530	7907	5278	6004	6100	6962	35490	84260	95810	30130
1935-36	51510	30930	14860	8399	6353	5527	4813	4730	16400	62410	86840	68860	30210
1936-37	54280	27410	14580	7493	5210	4231	3361	3677	8435	31200	68440	70320	25030
1937-38	43810	31340	17680	14170	8751	5269	3721	5077	11490	44800	87330	76110	29260
1938-39	39560	37880	17080	8677	7903	<u>8125</u>	4289	6573	15120	63330	64220	75440	29190
1939-40	55920	28680	17460	12630	11100	5989	5318	6255	14740	52980	81440	80250	31170
1940-41	46790	36030	<u>28860</u>	10290	7834	5006	4804	5918	20650	42190	69710	70680	29210
1941-42	50340	27010	20760	12310	9755	5247	4172	3773	10190	41770	68200	81450	28090
1942-43	57330	24060	15520	7607	5708	3753	3999	4063	20170	30810	<u>57250</u>	84640	26410
1943-44	53870	23390	15900	7517	4226	3400	4218	3857	9612	37750	70380	55220	<u>24180</u>
1944-45	47210	33950	18800	11930	6897	5595	5526	5082	5477	34540	68900	64320	25800
1945-46	44150	23270	12430	6906	5123	3398	3436	4166	10380	65940	93550	78730	29460
1946-47	51060	28070	11460	6708	7221	6832	5737	5653	17370	57320	85860	74850	29990
1947-48	44920	27840	22340	11550	6900	5572	3771	3589	7973	58870	113200	62630	30810
1948-49	55340	28850	17730	10090	6797	4045	3568	4054	12150	56170	60000	<u>52370</u>	26090
1949-50	43000	21830	10980	9504	7502	5440	5218	6207	7686	27390	98480	104300	29100
1950-51	53400	28850	13750	10080	8642	7312	6165	6091	11500	58910	69780	88430	30440
1951-52	47280	21070	14710	8181	6056	4767	4380	4406	13350	54330	78150	74140	27670
1952-53	48100	21900	13990	6765	5330	5740	5364	5166	7772	43260	80430	76050	26800
1953-54	49740	27860	18950	14480	8535	5437	4784	5668	6599	43450	87590	<u>113800</u>	32440
1954-55	65260	38340	17890	15880	9843	6050	6090	4429	7543	25210	85450	96210	31670
1955-56	49230	27020	13630	9315	6340	5191	4081	4496	12340	53660	90560	74200	29250
1956-57	46670	24730	15210	8638	6272	4200	4231	4094	8701	<u>77710</u>	79690	58840	28420
1957-58	37060	25030	13880	8693	6076	5490	4841	4821	10110	61600	93280	60310	27710
1958-59	46990	26520	18520	8947	6651	4978	4675	4806	9567	41610	84300	90250	29150
1959-60	47390	36100	19430	11940	7856	5838	5969	5518	13270	29140	69550	92340	28770
1960-61	49040	28270	19300	11850	6880	6298	5844	5489	9656	52060	114400	64780	31250
1961-62	50350	22830	17480	8461	6118	5426	6359	4441	13840	37500	75340	71390	26760
1962-63	53640	24760	16020	12560	7847	6293	7946	6475	13520	37480	80560	70790	28270
1963-64	50020	34300	16750	9151	6577	5453	4523	4000	7428	30520	90730	93360	29470
1964-65	48190	26790	22990	13080	6702	5983	5759	6086	12870	35950	76860	75390	28190
1965-66	62230	19470	17370	13870	7693	5760	5315	5315	11960	46750	79420	83330	30060
1966-67	54300	30520	17720	10700	7165	6267	5809	4923	7487	36050	123600	97040	33590
1967-68	58490	36310	19140	11920	6489	5479	5640	7520	8145	41360	91170	99120	32670
1968-69	53740	34930	17880	11960	6993	4156	4550	5259	16860	53850	98590	61310	30950
1969-70	43390	26660	17250	10880	6692	4505	4907	4832	6699	30110	81370	64510	25250
1970-71	46210	19650	11590	6273	<u>3993</u>	4226	5184	4365	10020	52170	83610	67510	26370
1971-72	63280	30860	16230	8773	5030	4488	4676	6343	9568	54090	<u>129900</u>	88160	35180
1972-73	64400	26370	15880	9734	6534	5320	4661	5588	8607	40730	70010	67690	27300
1973-74	45260	22780	15070	12210	6318	5381	5097	4729	13260	33930	100600	88130	29510
1974-75	58900	35500	13690	6877	8062	4037	4154	<u>3082</u>	9387	32530	70540	80710	27270
1975-76	45620	24850	20190	<u>17840</u>	9594	6422	5586	4864	12120	52630	64640	99260	30440
1976-77	<u>86500</u>	<u>50840</u>	16800	8149	5623	5433	4474	5597	13200	34000	70280	53940	29710
1977-78	51120	22740	9844	8872	8138	5314	3601	4716	11700	33300	80600	81780	26960
1978-79	50560	46650	19980	13470	6898	5075	4098	3860	7232	33580	68240	68050	27430
1979-80	46040	28730	14130	6562	7406	4523	4651	5164	20720	67320	68990	54530	27480
1980-81	<u>35720</u>	25560	17830	11880	<u>11150</u>	7710	<u>8481</u>	7179	13770	57830	62520	79420	28410
1981-82	66520	29810	14160	12510	7599	6692	5457	4708	6852	35880	102400	85720	31670
1982-83	56560	39310	15650	9661	7430	6247	7318	<u>8285</u>	14440	43330	73260	80120	30280
1983-84	54310	25780	13290	15730	7767	7721	6470	6542	11650	<u>20360</u>	74550	80510	27120
1984-85	55570	29000	15760	9067	7193	6365	6351	4995	12070	53280	69350	67260	28180
1985-86	40170	<u>18920</u>	13410	8269	5261	4826	4421	6910	12360	41950	99730	68020	27120
1986-87	46870	20590	11870	8180	6582	4593	4566	8016	15820	58430	83620	60820	27630
1987-88	36500	25090	<u>9336</u>	7182	5406	4391	5159	4981	19040	44880	79640	60530	25210
1988-89	44950	23630	15960	11520	6555	6200	4961	4835	12660	41870	77620	62040	26180
1989-90	50000	21850											
MEAN	51560	28530	16060	10270	6996	5400	4961	5225	11920	44960	82720	76560	28890
MEDIAN	50460	27250	15960	9734	6880	5433	4804	4981	11650	42190	81370	75250	28770

RVC3M9

HUGH KEENLYSIDE

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-123	
1928-29	-80	-1	15	14	10	9	8	6	3	-62	-106	-122	-26
1929-30	-79	-1	14	14	10	9	8	6	3	-61	-105	-121	-26
1930-31	-79	-1	14	13	10	9	8	6	3	-61	-104	-120	-25
1931-32	-78	-1	14	13	10	9	8	6	3	-60	-103	-119	-25
1932-33	-77	-1	14	13	10	9	8	6	3	-60	-102	-117	-25
1933-34	-77	-1	14	13	10	8	8	6	3	-59	-101	-116	-25
1934-35	-76	-1	13	13	10	8	8	6	3	-58	-100	-115	-25
1935-36	-75	-1	13	13	10	8	8	6	3	-58	-99	-114	-24
1936-37	-75	-2	13	12	9	8	8	6	3	-57	-98	-113	-24
1937-38	-74	-2	13	12	9	8	7	5	3	-57	-97	-112	-24
1938-39	-73	-2	13	12	9	8	7	5	2	-56	-96	-111	-24
1939-40	-72	-2	12	12	9	8	7	5	2	-56	-95	-110	-23
1940-41	-72	-2	12	12	9	8	7	5	2	-55	-94	-108	-23
1941-42	-71	-2	12	11	9	7	7	5	2	-55	-93	-107	-23
1942-43	-70	-2	12	11	9	7	7	5	2	-54	-92	-106	-23
1943-44	-70	-2	12	11	8	7	7	5	2	-53	-91	-105	-23
1944-45	-69	-2	11	11	8	7	7	5	2	-53	-90	-104	-23
1945-46	-68	-2	11	11	8	7	7	5	2	-52	-90	-103	-22
1946-47	-68	-2	11	10	8	7	6	5	2	-52	-89	-102	-22
1947-48	-67	-2	11	10	8	7	6	5	2	-51	-88	-101	-22
1948-49	-66	-2	11	10	8	7	6	5	2	-51	-87	-99	-22
1949-50	-65	-2	10	10	8	7	6	5	2	-50	-85	-98	-21
1950-51	-65	-2	10	10	8	7	6	4	2	-49	-84	-97	-21
1951-52	-64	-2	10	10	8	6	6	4	2	-49	-83	-96	-21
1952-53	-63	-2	10	10	7	6	6	4	2	-48	-82	-95	-21
1953-54	-62	-2	10	10	7	6	6	4	2	-48	-81	-93	-20
1954-55	-61	-2	10	10	7	6	6	4	2	-47	-80	-92	-20
1955-56	-60	-2	10	10	7	6	6	4	2	-46	-79	-91	-20
1956-57	-60	-2	10	9	7	6	6	4	2	-46	-78	-90	-19
1957-58	-59	-2	10	9	7	6	6	4	2	-45	-77	-89	-19
1958-59	-58	-2	10	9	7	6	6	4	2	-45	-76	-87	-19
1959-60	-57	-2	10	9	7	6	6	4	2	-44	-75	-86	-19
1960-61	-56	-2	9	9	7	6	6	4	2	-43	-74	-85	-18
1961-62	-56	-2	9	9	7	6	6	4	2	-43	-73	-84	-18
1962-63	-55	-2	9	9	7	6	6	4	2	-42	-72	-83	-18
1963-64	-54	-1	9	9	7	6	5	4	2	-41	-71	-81	-17
1964-65	-53	-1	9	9	7	6	5	4	2	-41	-70	-80	-17
1965-66	-52	-1	9	9	7	6	5	4	2	-39	-67	-77	-17
1966-67	-51	-1	9	8	6	5	5	4	2	-38	-65	-75	-16
1967-68	-49	-1	8	8	6	5	5	4	2	-37	-62	-72	-15
1968-69	-47	-2	8	8	6	5	5	3	1	-35	-60	-69	-15
1969-70	-45	-2	7	7	5	5	4	3	1	-34	-57	-66	-14
1970-71	-43	-2	7	7	5	5	4	3	1	-32	-55	-63	-14
1971-72	-41	-2	7	6	5	4	4	3	1	-31	-53	-60	-13
1972-73	-40	-2	6	6	5	4	4	3	1	-29	-50	-58	-13
1973-74	-38	-2	6	6	4	4	4	3	1	-28	-48	-55	-12
1974-75	-36	-2	5	5	4	4	3	2	1	-27	-45	-52	-11
1975-76	-34	-2	5	5	4	3	3	2	1	-25	-43	-49	-11
1976-77	-32	-2	5	5	4	3	3	2	1	-24	-40	-46	-10
1977-78	-30	-2	4	4	3	3	3	2	1	-22	-38	-43	-10
1978-79	-29	-2	4	4	3	3	2	2	1	-21	-35	-41	-9
1979-80	-27	-2	3	3	3	2	2	2	0	-19	-32	-36	-8
1980-81	-24	-2	3	3	2	2	2	1	0	-17	-28	-32	-7
1981-82	-21	-2	3	3	2	2	2	1	0	-15	-25	-28	-7
1982-83	-19	-1	2	2	2	2	2	1	0	-13	-21	-24	-6
1983-84	-16	-1	2	2	2	1	1	1	0	-10	-18	-20	-5
1984-85	13	-1	2	2	1	1	1	1	0	-8	-14	-16	-4
1985-86	-11	-1	1	1	1	1	1	1	0	-6	-11	-12	-3
1986-87	-8	-1	1	1	1	1	1	0	0	-4	-7	-8	-2
1987-88	-5	0	1	1	1	0	0	0	0	-2	-4	-4	-1
1988-89	-3	0	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	-52	-2	9	8	6	5	5	4	2	-40	-68	-79	-17

ARD3DD9

USGS # 12239500

HUGH KEENLYSIDE (ARROW LK)

River: COLUMBIA

Drainage Area: 14100 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 780.6

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												109700	
1928-29	68350	36330	19740	12500	8767	6609	<u>4999</u>	6777	11160	49000	111300	78080	34620
1929-30	66490	35220	16690	9933	8053	7665	8030	8123	35060	60160	104700	99090	38430
1930-31	72110	39740	14690	9482	6695	6431	5813	7653	15600	68100	114600	88590	37640
1931-32	59940	42450	23290	16650	11290	8165	8957	14210	30050	84040	141800	97110	44880
1932-33	73920	34300	20690	16350	12820	9643	7425	7890	17770	65870	129200	124600	43600
1933-34	79430	40730	27730	23360	14060	12100	9806	13300	<u>56590</u>	108900	113700	89680	49340
1934-35	63260	35280	22310	21240	12520	9948	11510	9447	15060	58890	117200	121500	41690
1935-36	64400	39520	19700	10750	8703	7056	5210	6851	28970	97470	118000	84650	41050
1936-37	61640	32990	17710	8587	<u>6485</u>	<u>4822</u>	5013	<u>5445</u>	11570	47630	96320	86040	32180
1937-38	51240	36800	22710	19080	10880	8962	7150	9102	21840	69910	122100	92830	39530
1938-39	<u>44370</u>	42770	20810	11530	8401	8316	6184	7698	26200	89280	85740	91760	37120
1939-40	61090	33520	25030	16670	15590	9005	8431	11320	26800	78430	105400	92930	40470
1940-41	57590	45530	34020	13950	9946	8090	7338	11440	33100	59080	86870	79700	37380
1941-42	55980	36190	31860	18060	14680	8322	7151	6684	17570	60470	89620	96880	37160
1942-43	63110	28400	18830	9823	8088	5983	6136	6038	27460	44580	<u>77470</u>	102300	33380
1943-44	58490	27080	19270	9695	7717	6791	5636	5654	15970	53800	89310	<u>62810</u>	<u>30260</u>
1944-45	53810	38390	24020	16270	8684	8027	7086	7437	<u>9919</u>	57200	95420	76200	33680
1945-46	49360	28130	15370	10290	7481	6902	6326	7719	21280	100200	129600	98780	40310
1946-47	58040	33440	<u>14020</u>	<u>8466</u>	8340	7004	7432	8968	27460	82950	118000	99090	39610
1947-48	51460	33190	30120	16510	10110	7789	6672	6392	15620	91330	155600	76450	41810
1948-49	66100	37690	23340	14120	8577	6720	6965	7036	24210	86510	83490	67680	36230
1949-50	55150	29970	15630	14300	11530	6566	6942	7602	13390	48370	138700	128700	39910
1950-51	66360	38770	20650	15260	12950	9696	8465	7023	20120	87960	95670	111100	41420
1951-52	54030	27040	21360	11160	8242	6924	6783	6401	25110	80990	105700	93300	37360
1952-53	59640	28760	18180	8870	7289	7418	7341	7049	12920	65340	107000	95740	35650
1953-54	60350	34290	26140	20510	12670	8932	9445	8700	11730	72150	120300	<u>149400</u>	44810
1954-55	80370	50260	23510	23540	15160	10400	8740	7482	13140	40600	129300	128400	44430
1955-56	61830	32520	20420	15450	10030	8708	6731	7574	27200	87770	127300	97900	42050
1956-57	57690	34520	23360	13320	10060	7677	7235	7569	17100	<u>123100</u>	114500	78050	41420
1957-58	48180	31870	19320	12770	9740	8519	9060	10480	20370	102300	138500	78820	40980
1958-59	59170	35750	28230	14860	11410	9982	8061	8797	21560	70650	135000	127200	44440
1959-60	63480	52580	32580	21170	14060	9917	9619	10920	26800	52350	113600	124000	44350
1960-61	61850	37230	27740	18430	10920	9590	9979	9722	18310	86210	150200	87640	44130
1961-62	65460	30890	25120	12850	8957	7397	8870	7381	26250	61380	115000	102500	39510
1962-63	73360	34660	24020	19420	13630	9616	11600	10810	23240	62110	116600	99520	41720
1963-64	66170	44510	22640	14360	10370	8810	7272	7095	13700	52910	143300	134500	43890
1964-65	70210	38800	<u>35330</u>	20130	10880	9606	8468	8170	24890	62330	116900	103300	42610
1965-66	81540	28570	23750	20560	11640	9418	8179	8677	22660	77970	124500	118600	44920
1966-67	70950	39830	24520	15440	12600	10180	9306	8412	13660	60640	179700	130100	48110
1967-68	74100	46860	26800	17680	10270	10070	10270	13830	14300	70290	139500	133500	47410
1968-69	72400	48180	25360	17380	11010	9312	7747	8124	31230	88740	138400	82280	45160
1969-70	54920	35120	25560	19220	12970	9814	7370	7011	11110	49950	114900	81580	35930
1970-71	55640	<u>26730</u>	16900	11820	9067	8234	10170	7751	18830	88790	124600	96130	39730
1971-72	77500	33020	21030	15780	12230	9366	<u>7253</u>	12310	17210	87790	<u>186400</u>	125900	<u>50580</u>
1972-73	82670	33950	19730	13740	10310	10760	8130	10060	15840	63470	98550	86760	38040
1973-74	54730	29860	22030	18610	11790	10280	9492	9402	24890	58700	146900	122700	43430
1974-75	75310	43620	18900	11840	12560	10460	9562	6865	15710	54160	105700	111700	39890
1975-76	58130	34100	25960	<u>28290</u>	17730	12960	9877	11110	23110	86380	95920	135800	45130
1976-77	<u>109200</u>	<u>66580</u>	25720	15810	11360	13330	9339	9649	24750	58640	100500	71980	43250
1977-78	64910	32270	15000	13530	9726	9814	9601	13080	26320	56920	105900	105100	38690
1978-79	61100	63060	30730	22450	14200	12250	11000	11060	18040	59450	97070	89520	40970
1979-80	56870	36730	19440	10670	16420	9518	5181	9780	36830	99910	95570	73770	39690
1980-81	47290	33730	27160	20980	<u>18600</u>	14660	<u>16350</u>	14210	22370	89530	94580	112500	42880
1981-82	80950	42420	25170	23620	15160	12230	10490	12950	17610	61130	145300	113800	46920
1982-83	72930	52060	28100	17970	13550	11490	14100	<u>18790</u>	28190	70650	105100	105800	45080
1983-84	67670	36330	18970	25390	13190	12030	15930	13520	21290	<u>38630</u>	110900	106800	40100
1984-85	71010	38390	22990	14460	12060	15370	13350	8475	24070	82740	99540	83820	40710
1985-86	49910	29100	26020	18000	12550	11170	11960	15360	24460	68600	137100	93620	41610
1986-87	62500	29320	18390	16350	13530	14250	10980	15590	26350	90640	113800	80410	41190
1987-88	49250	34460	14330	12620	11160	11430	9771	11620	36190	73730	111800	83960	38400
1988-89	58510	33000	23670	18390	14230	<u>16270</u>	11110	9379	25230	66510	109100	79870	38920
1989-90	65800	31700											
MEAN	63860	37080	22830	15910	11370	9488	8765	9425	22050	71710	116900	99720	40910
MEDIAN	62180	35170	22990	15780	11290	9418	8465	8677	21840	68600	114500	96990	40980

ARD3M9

LIBBY

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-254	
1928-29	-173	-8	29	31	24	21	20	15	9	-108	-186	-253	-49
1929-30	-173	-9	29	30	24	21	20	15	9	-107	-185	-252	-49
1930-31	-172	-9	29	30	23	20	19	15	9	-107	-184	-251	-49
1931-32	-171	-9	29	30	23	20	19	14	9	-106	-183	-249	-48
1932-33	-170	-9	29	30	23	20	19	14	8	-105	-182	-248	-48
1933-34	-170	-9	28	30	23	20	19	14	8	-105	-181	-247	-48
1934-35	-169	-9	28	29	23	20	19	14	8	-104	-180	-246	-48
1935-36	-168	-9	28	29	23	20	19	14	8	-104	-179	-245	-47
1936-37	-167	-9	28	29	22	20	19	14	8	-103	-178	-243	-47
1937-38	-166	-9	28	29	22	19	18	14	8	-103	-178	-242	-47
1938-39	-166	-9	27	29	22	19	18	14	8	-102	-177	-241	-47
1939-40	-165	-9	27	28	22	19	18	14	8	-102	-176	-240	-47
1940-41	-164	-9	27	28	22	19	18	14	8	-101	-175	-238	-47
1941-42	-163	-9	27	28	22	19	18	14	8	-101	-174	-237	-46
1942-43	-162	-9	27	28	21	19	18	13	8	-100	-173	-236	-46
1943-44	-162	-9	26	28	21	19	18	13	8	-100	-172	-235	-46
1944-45	-161	-9	26	27	21	19	18	13	8	-99	-171	-234	-46
1945-46	-160	-9	26	27	21	18	17	13	8	-99	-170	-232	-46
1946-47	-159	-9	26	27	21	18	17	13	8	-98	-170	-231	-45
1947-48	-158	-9	26	27	21	18	17	13	7	-98	-169	-230	-45
1948-49	-158	-9	25	27	21	18	17	13	7	-96	-166	-226	-44
1949-50	-155	-9	25	26	20	18	17	13	7	-94	-162	-221	-44
1950-51	-152	-9	24	25	20	17	16	12	7	-92	-159	-217	-43
1951-52	-149	-9	24	25	19	17	16	12	7	-90	-156	-212	-42
1952-53	-146	-8	23	24	19	16	16	12	7	-88	-153	-208	-41
1953-54	-143	-8	23	24	18	16	15	11	6	-87	-149	-203	-40
1954-55	-140	-8	22	23	18	16	15	11	6	-85	-146	-199	-39
1955-56	-137	-8	22	22	17	15	14	11	6	-83	-143	-194	-38
1956-57	-134	-8	21	22	17	15	14	11	6	-81	-139	-190	-38
1957-58	-130	-8	20	21	17	14	14	10	6	-79	-136	-185	-37
1958-59	-127	-8	20	21	16	14	13	10	6	-77	-133	-181	-36
1959-60	-124	-8	19	20	16	14	13	10	5	-75	-129	-176	-35
1960-61	-121	-8	19	20	15	13	13	9	5	-73	-126	-172	-34
1961-62	-118	-7	18	19	15	13	12	9	5	-71	-123	-167	-33
1962-63	-115	-7	18	18	14	12	12	9	5	-69	-120	-163	-33
1963-64	-112	-7	17	18	14	12	11	9	5	-67	-116	-158	-32
1964-65	-109	-7	17	17	13	12	11	8	5	-66	-113	-154	-31
1965-66	-106	-7	16	17	13	11	11	8	4	-63	-109	-149	-30
1966-67	-103	-7	15	16	12	11	10	8	4	-61	-105	-143	-29
1967-68	-99	-7	14	15	12	10	10	7	4	-58	-101	-137	-28
1968-69	-95	-7	14	14	11	10	9	7	4	-56	-96	-131	-27
1969-70	-91	-7	13	14	11	9	9	7	3	-53	-92	-125	-26
1970-71	-87	-6	12	13	10	9	8	6	3	-51	-88	-119	-24
1971-72	-83	-6	11	12	9	8	8	6	3	-48	-83	-114	-23
1972-73	-79	-6	11	11	9	8	7	5	3	-46	-79	-108	-22
1973-74	-75	-6	10	11	8	7	7	5	3	-43	-75	-102	-21
1974-75	-71	-6	9	10	8	7	6	5	2	-41	-71	-96	-20
1975-76	-67	-6	8	9	7	6	6	4	2	-39	-66	-90	-19
1976-77	-63	-6	8	8	6	6	5	4	2	-36	-62	-84	-18
1977-78	-59	-6	7	7	6	5	5	4	2	-34	-58	-79	-17
1978-79	-55	-6	6	7	5	4	4	3	1	-31	-53	-72	-16
1979-80	-51	-5	5	6	4	4	4	3	1	-28	-48	-65	-14
1980-81	-46	-5	5	5	4	4	3	3	1	-25	-43	-58	-13
1981-82	-41	-4	4	5	4	3	3	2	1	-22	-37	-51	-11
1982-83	-38	-4	4	4	3	3	3	2	1	-19	-32	-43	-10
1983-84	-31	-3	3	3	3	2	2	2	1	-15	-27	-36	-8
1984-85	-26	-3	3	3	2	2	2	1	1	-12	-21	-29	-7
1985-86	-21	-2	2	2	2	2	1	1	0	-9	-16	-22	-5
1986-87	-15	-2	2	2	1	1	1	1	0	-6	-11	-14	-3
1987-88	-10	-1	1	1	1	1	1	1	0	-3	-5	-7	-2
1988-89	-5	-1	1	1	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	-113	-7	18	19	14	13	12	9	5	-69	-119	-164	-32

LIB3DD9

USGS # 12301921

LIBBY

River: KOOTENAI

Drainage Area: 8985 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 221.7

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												24480	
1928-29	8885	5072	6038	3831	2645	2208	2420	2544	3533	19440	38270	13870	8880
1929-30	7304	4702	3542	2330	2536	2175	2735	2507	10480	19380	33730	18100	9138
1930-31	8118	5174	3901	3084	2387	2370	2150	2313	3434	18650	22200	10730	7064
1931-32	5442	4390	3219	2687	2485	1967	2787	3884	8520	30750	45420	17050	10710
1932-33	8321	5604	4444	4549	3407	3005	2327	2826	7630	25400	52280	26880	12230
1933-34	10510	7858	8748	<u>8561</u>	<u>8517</u>	<u>6187</u>	4802	6138	<u>27680</u>	43360	30300	14130	14770
1934-35	7107	4735	3881	5262	3204	3190	3851	3377	6199	24120	38800	24150	10670
1935-36	9962	5380	3840	3113	2555	2098	<u>1656</u>	2683	10880	29020	23460	9634	8706
1936-37	<u>5381</u>	<u>3872</u>	<u>3021</u>	<u>2288</u>	2153	<u>1690</u>	1951	<u>2115</u>	3773	20330	27770	14560	7431
1937-38	6918	4509	4354	5473	3170	3186	2570	3179	11190	33440	43720	17760	11640
1938-39	6653	5010	4370	3381	2541	2905	2115	3262	9626	26290	23170	17230	8920
1939-40	6511	4620	5368	4921	3811	2494	2576	3351	8159	27050	23200	9970	8516
1940-41	5630	5529	5196	3636	2983	2561	2291	3373	8366	17730	<u>18300</u>	9052	7072
1941-42	5462	7858	7882	5605	6743	3530	2938	2801	9521	29460	37050	28080	12290
1942-43	11330	6909	5332	4207	3351	2805	3059	3240	19450	22190	32890	29390	12030
1943-44	10040	5451	4707	3632	2590	2280	2234	2265	3992	15750	20890	8642	<u>6864</u>
1944-45	5804	4706	4292	3170	<u>2138</u>	2187	2150	2209	<u>3025</u>	18820	32050	17360	8180
1945-46	8728	5545	4509	4182	3028	2691	2428	3271	11070	38100	40660	21360	12010
1946-47	8971	7584	5562	3748	3521	2598	3359	4480	11960	39990	35200	18280	12150
1947-48	8271	6884	<u>12660</u>	7876	4572	3277	2910	3077	9431	44640	54780	18870	14780
1948-49	11560	6303	4943	3859	2565	2519	2719	3470	10170	32190	22890	10710	9534
1949-50	6808	4369	4279	4468	3658	2627	2890	3837	7341	23830	50140	29680	12070
1950-51	10670	6093	7171	6619	6148	4324	<u>6077</u>	4139	11940	43910	38080	33760	14970
1951-52	12120	9782	10820	6396	4371	4235	3742	3342	14740	30650	30870	18890	12510
1952-53	8842	5779	4309	3059	2661	3539	3558	2979	5590	22670	44310	25760	11110
1953-54	9947	5821	4795	4259	3269	2480	3296	3390	6314	38070	49000	<u>41700</u>	14430
1954-55	14830	9912	6379	5736	4222	3132	2767	2670	4348	17530	47960	28630	12370
1955-56	10310	5948	7033	6589	4464	3783	2912	3883	13500	<u>44790</u>	51130	24440	14920
1956-57	9723	5739	5345	4043	3255	2272	2597	3340	5848	41240	31490	13120	10720
1957-58	7014	4705	4371	3680	2841	2469	2694	3124	6167	37080	28520	16050	9858
1958-59	7102	5530	5168	4246	3667	3485	2647	3183	9584	28970	55320	28500	13140
1959-60	11440	<u>14980</u>	11160	8034	5872	3866	3921	5329	12990	21250	39650	22680	13420
1960-61	9402	8276	4688	4184	2879	2813	3796	3695	6927	37400	59300	16520	13170
1961-62	9241	6540	7224	4734	3350	2941	3972	2816	11510	23450	36500	17630	10840
1962-63	9088	5632	5179	4946	4072	2554	4275	3410	6369	24660	39350	25440	11270
1963-64	9998	6494	5001	4505	3088	2774	2410	2412	5181	24200	51260	23930	11770
1964-65	9681	6978	7872	5408	3536	3221	3384	3495	9765	25750	45400	22860	12300
1965-66	10880	7608	6818	5527	3873	3485	3369	3490	10060	31590	43030	23980	12850
1966-67	9520	5926	4589	4082	3722	3172	3425	2874	4787	25420	64320	29510	13460
1967-68	10580	5968	4887	4218	2946	3111	3304	3838	4015	23750	42220	22900	10990
1968-69	9748	7396	6666	5552	3596	3216	2734	3327	15170	39310	47340	25060	14130
1969-70	8951	5900	5664	4228	3004	2306	2789	2744	3557	20240	32860	13270	8811
1970-71	6638	5132	4527	3411	2893	2847	4552	2995	8034	39220	47400	26050	12760
1971-72	11620	6399	4733	3995	2784	2518	3562	6261	6747	34200	61950	29210	14500
1972-73	14100	7430	8306	6222	3609	3057	3025	3376	5259	22460	31780	16040	10420
1973-74	7252	6088	4824	5416	3970	5470	4502	4413	11680	28670	<u>68290</u>	31640	<u>15190</u>
1974-75	12630	6924	4395	4186	3617	3045	3067	3145	4399	20420	40190	23710	10840
1975-76	10440	7705	5823	6358	6610	3789	3752	3626	9716	36910	30370	27050	12720
1976-77	<u>18070</u>	9939	5573	3938	3108	2751	2931	2902	5567	15390	20150	<u>8312</u>	8244
1977-78	7524	6833	4405	3582	3200	3433	2783	3972	8269	24840	38730	23160	10920
1978-79	8869	8207	5772	4356	3213	2786	2972	3492	4511	21660	25330	11950	8618
1979-80	5884	4505	3378	2941	3787	2509	2685	2898	11750	38180	29030	12030	9982
1980-81	7481	6015	5470	4876	5629	5637	4760	4494	8099	34200	35820	30820	12830
1981-82	13580	6909	5583	4538	3833	3598	4434	4067	5558	25650	44310	21220	11960
1982-83	10160	7807	6511	5159	4371	4742	4304	4694	8668	25720	30830	22440	11320
1983-84	9830	5936	4413	6160	3523	4801	3538	3392	6512	<u>13030</u>	36130	19550	9725
1984-85	8564	5903	4566	3929	3311	3164	2480	2620	7191	27430	26980	10850	8945
1985-86	6237	7743	6812	5809	3823	3491	3492	<u>6568</u>	9983	26400	38380	17190	11350
1986-87	8341	6280	6813	6074	3956	3176	3067	4568	10840	32960	20250	11200	9837
1987-88	6954	4783	3652	3109	2623	2599	2615	2739	9010	22460	27090	11820	8289
1988-89	6034	4977	5716	5008	3334	3065	2405	2988	9235	25040	32890	14590	9629
1989-90	9989	8184											
MEAN	9045	6377	5582	4635	3616	3115	3140	3456	8603	28140	37850	20180	11160
MEDIAN	8961	5958	5168	4259	3350	3005	2931	3327	8269	25750	36500	19220	11270

LIB3M9

BONNERS FERRY

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVL
1927-28												267	
1928-29	-183	-10	30	31	24	21	20	15	9	-113	-195	-266	-52
1929-30	-182	-10	29	31	24	21	20	15	9	-112	-194	-265	-52
1930-31	-181	-10	29	30	24	21	20	15	9	-112	-193	-263	-52
1931-32	-181	-10	29	30	23	20	19	15	8	-111	-192	-262	-51
1932-33	-180	-10	29	30	23	20	19	15	8	-111	-191	-261	-51
1933-34	-179	-10	29	30	23	20	19	14	8	-110	-190	-260	-51
1934-35	-178	-10	28	30	23	20	19	14	8	-110	-190	-258	-51
1935-36	-177	-10	28	29	23	20	19	14	8	-109	-189	-257	-51
1936-37	-177	-10	28	29	23	20	19	14	8	-109	-188	-256	-51
1937-38	-176	-10	28	29	22	20	19	14	8	-108	-187	-255	-50
1938-39	-175	-10	28	29	22	19	19	14	8	-108	-186	-254	-50
1939-40	-174	-10	27	29	22	19	18	14	8	-107	-185	-252	-50
1940-41	-173	-10	27	28	22	19	18	14	8	-107	-184	-251	-50
1941-42	-173	-10	27	28	22	19	18	14	8	-106	-183	-250	-50
1942-43	-172	-11	27	28	22	19	18	14	8	-106	-183	-249	-49
1943-44	-171	-11	27	28	22	19	18	13	8	-105	-182	-248	-49
1944-45	-170	-11	26	28	21	19	18	13	8	-105	-181	-246	-49
1945-46	-169	-11	26	27	21	19	18	13	8	-104	-180	-245	-49
1946-47	-169	-11	26	27	21	18	17	13	7	-104	-179	-244	-49
1947-48	-168	-11	26	27	21	18	17	13	7	-103	-178	-243	-48
1948-49	-167	-11	26	27	21	18	17	13	7	-101	-175	-238	-48
1949-50	-164	-11	25	26	20	18	17	13	7	-100	-172	-234	-47
1950-51	-161	-10	24	26	20	17	16	12	7	-98	-168	-229	-46
1951-52	-158	-10	24	25	19	17	16	12	7	-95	-164	-224	-45
1952-53	-154	-10	23	24	19	17	16	12	7	-93	-161	-219	-44
1953-54	-151	-10	23	24	18	16	15	12	6	-91	-157	-214	-43
1954-55	-148	-10	22	23	18	16	15	11	6	-89	-154	-209	-42
1955-56	-144	-10	22	23	17	15	15	11	6	-87	-150	-204	-41
1956-57	-141	-9	21	22	17	15	14	11	6	-85	-146	-199	-40
1957-58	-137	-9	20	21	17	14	14	10	6	-83	-143	-194	-39
1958-59	-134	-9	20	21	16	14	13	10	6	-81	-139	-189	-38
1959-60	-131	-9	19	20	16	14	13	10	5	-78	-135	-184	-37
1960-61	-127	-9	19	20	15	13	13	9	5	-76	-132	-179	-36
1961-62	-124	-9	18	19	15	13	12	9	5	-74	-128	-174	-35
1962-63	-120	-9	17	18	14	12	12	9	5	-72	-124	-169	-34
1963-64	-117	-8	17	18	14	12	11	9	5	-70	-121	-164	-33
1964-65	-114	-8	16	17	13	12	11	8	4	-68	-117	-159	-32
1965-66	-110	-8	16	17	13	11	11	8	4	-65	-113	-153	-31
1966-67	-106	-8	15	16	12	11	10	8	4	-62	-107	-146	-30
1967-68	-101	-8	14	15	11	10	10	7	4	-59	-102	-138	-28
1968-69	-96	-8	13	14	11	9	9	7	3	-56	-96	-131	-27
1969-70	-91	-7	12	13	10	9	8	6	3	-53	-91	-123	-26
1970-71	-86	-7	11	12	9	8	8	6	3	-49	-85	-116	-24
1971-72	-81	-7	10	11	8	7	7	5	3	-46	-79	-108	-23
1972-73	-76	-7	9	10	8	7	6	5	2	-43	-74	-100	-21
1973-74	-70	-7	8	9	7	6	6	4	2	-40	-68	-93	-20
1974-75	-65	-6	7	8	6	5	5	4	2	-36	-63	-85	-18
1975-76	-60	-6	7	7	5	5	5	3	1	-33	-57	-78	-17
1976-77	-55	-6	6	6	5	4	4	3	1	-30	-52	-70	-16
1977-78	-50	-6	5	5	4	4	3	3	1	-27	-46	-63	-14
1978-79	-45	-6	4	4	3	3	3	2	1	-23	-40	-54	-13
1979-80	-39	-5	3	3	2	2	2	2	1	-21	-36	-49	-11
1980-81	-35	-5	2	3	2	2	2	1	0	-19	-32	-43	-10
1981-82	-31	-4	2	3	2	2	2	1	0	-16	-28	-38	-9
1982-83	-27	-4	2	2	2	1	1	1	0	-14	-24	-32	-8
1983-84	-23	-3	2	2	1	1	1	1	0	-12	-20	-27	-6
1984-85	-20	-3	1	2	1	1	1	1	0	-9	-16	-22	-5
1985-86	-16	-2	1	1	1	1	1	1	0	-7	-12	-16	-4
1986-87	-12	-2	1	1	1	1	1	0	0	-5	-8	-11	-3
1987-88	-8	-1	1	1	0	0	0	0	0	-2	-4	-5	-1
1988-89	-4	-1	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	-116	-8	17	18	14	12	12	9	5	-71	-122	-168	-34

BFE3DD9

USGS # 12309501

BONNERS FERRY

River: KOOTENAI

Drainage Area: 12890 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 152.8

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												28470	
1928-29	10740	6694	7890	5437	3859	3055	3278	4165	7068	28950	41660	14970	11510
1929-30	7563	5139	4287	3252	3394	2866	3769	4164	18020	26040	39500	20000	11510
1930-31	8707	5743	4785	3959	3012	3026	3098	3858	6820	27050	25410	12080	8993
1931-32	8144	5074	4013	3846	3061	2799	4297	7028	17320	47700	56100	20350	14790
1932-33	9889	6534	5251	6530	6023	4521	3410	4474	15180	40650	70350	32990	17160
1933-34	12300	9070	10460	<u>12240</u>	14940	12480	9214	11700	<u>45000</u>	56380	35990	16170	20530
1934-35	8142	5431	4848	8892	4784	5574	6499	5661	11860	39040	49060	27450	14790
1935-36	11260	6360	4771	3941	3246	3019	<u>2105</u>	4027	19700	41190	28650	11050	11630
1936-37	6280	<u>4713</u>	<u>3631</u>	<u>2854</u>	3018	<u>2046</u>	2501	2861	7467	31810	36690	17070	10110
1937-38	7927	5287	4971	7457	4804	5068	3798	5457	22140	48880	53970	21140	15940
1938-39	7651	5657	5098	4136	3320	3929	2871	4827	16250	36440	28300	19370	11530
1939-40	7532	5319	5900	5695	4974	3172	3523	5429	13690	35440	26830	10870	10710
1940-41	6162	5907	5581	4302	3659	3230	2945	4812	12220	23470	21470	10270	8691
1941-42	<u>6022</u>	8954	10120	7904	12680	5119	4186	4227	16480	39800	46800	32870	16320
1942-43	12740	7602	6065	5460	4538	3453	4039	4805	35840	35040	44600	34710	18600
1943-44	11760	6107	5261	4253	3316	2996	2842	<u>2826</u>	5620	<u>19890</u>	23450	<u>9778</u>	<u>8185</u>
1944-45	6361	5199	4823	3835	<u>2663</u>	3044	3101	3108	<u>4973</u>	29900	38730	19270	10450
1945-46	7431	6170	5337	5610	4259	3870	3292	5623	20410	54560	50780	24850	16070
1946-47	10050	8451	6886	5002	5561	4519	5996	8564	22650	57330	42870	20560	16570
1947-48	9349	7755	<u>16900</u>	11150	6647	5196	4580	5059	18180	64190	69560	22900	20140
1948-49	13620	7401	5931	4695	3399	3331	3787	4906	20470	50060	28660	12220	13260
1949-50	7502	5466	5116	6324	5608	3718	4486	7293	15450	41800	68160	36350	17310
1950-51	12360	6650	9112	9697	10680	7532	<u>12590</u>	6879	21070	62060	46370	37070	20230
1951-52	13640	11090	13630	8382	6681	5546	5233	4886	27510	45860	38220	22720	16970
1952-53	10420	6652	5009	3807	3213	5488	6562	4781	11180	37340	54200	28680	14800
1953-54	11220	6559	5366	5151	4248	3149	4454	5341	13640	60040	64420	<u>49480</u>	19510
1954-55	17060	11350	7596	7407	5651	4093	3590	3505	7208	30120	62370	33350	16150
1955-56	11870	6818	9198	10160	7566	6828	4551	6664	28010	<u>68600</u>	63070	28330	21000
1956-57	11390	6809	6404	4807	4227	2779	3357	5690	11480	59960	37720	15130	14220
1957-58	7915	5312	5086	4388	3521	3236	3997	5074	12130	50490	32120	16460	12540
1958-59	7635	6083	5969	6025	5634	6163	4243	4748	19460	44320	68300	32570	17620
1959-60	12410	<u>17000</u>	14200	11410	9133	5277	5804	8989	23630	33570	49340	25450	18000
1960-61	10560	6904	5570	5705	3991	4272	7303	6808	13240	56370	73090	19040	17750
1961-62	9660	6949	7788	5656	4417	4111	5078	4115	20440	34690	43750	19780	13880
1962-63	10180	6347	6189	7105	6757	4310	7345	5920	12090	35250	46610	28130	14710
1963-64	11110	7032	5549	5664	4479	4216	3538	3476	10100	37750	65280	27140	15440
1964-65	10830	7800	8705	6696	5167	4929	5525	5770	19980	40080	57010	25810	16550
1965-66	11650	8199	7522	6681	4958	4210	4147	5428	19230	47740	54110	27090	16790
1966-67	9911	6038	5045	4633	4798	4388	6412	4872	9007	41070	79980	32310	17300
1967-68	10590	6191	5357	5135	4027	4354	5968	8030	7737	35350	51220	25770	14150
1968-69	10720	8672	8791	8309	5798	5184	4594	5900	28820	55620	57760	29550	19190
1969-70	10210	7079	7153	5612	3919	2916	3948	4237	6964	33000	41180	15360	11820
1970-71	7756	6117	5540	4015	3527	4659	9776	5118	17170	61580	60570	30790	18080
1971-72	13340	7718	5839	5317	3661	3325	5257	<u>15660</u>	13780	50700	72890	32030	19140
1972-73	14930	8167	10690	9470	4797	4399	3945	4798	8542	29620	34560	16650	12590
1973-74	7473	6932	6307	8494	6117	<u>14170</u>	10020	9217	23310	45480	<u>86630</u>	37430	<u>21790</u>
1974-75	14350	7767	7391	8161	6608	6128	8673	6526	8927	34970	51290	26590	15640
1975-76	11620	9331	8162	10790	<u>15910</u>	11520	8944	7212	18850	51690	36650	30670	18490
1976-77	<u>20520</u>	10360	7801	7180	5888	5121	5229	4708	9948	20310	<u>21460</u>	9973	10740
1977-78	8661	7708	6063	7061	6519	5466	5212	7672	15180	36240	44750	26040	14750
1978-79	10420	9801	7636	7773	6554	7602	4444	5926	9210	32910	29040	12930	12060
1979-80	6788	5363	4455	5331	6557	4980	4419	4405	19700	48120	33890	13450	13140
1980-81	8585	6818	6802	7756	12090	10820	9979	7938	13970	45130	42620	34620	17310
1981-82	14810	7805	7289	7206	7620	6891	11530	9411	12450	41380	54770	24970	17190
1982-83	11510	8930	8088	7685	7280	8031	8419	10110	15520	36830	36930	25410	15430
1983-84	11190	6493	5793	9045	5603	7321	5534	5210	10820	19980	42700	21430	12580
1984-85	9530	7195	5928	6372	6516	5591	3614	4042	14430	38270	32210	11580	12140
1985-86	6871	8328	9872	11980	6238	6664	6851	14550	18380	35350	41990	18910	15520
1986-87	9547	7339	10170	11920	6078	5346	5163	9134	19180	41680	22850	12520	13460
1987-88	7801	5450	5351	5051	4089	5385	5270	4831	17670	29280	29890	12690	11060
1988-89	6462	6179	8165	8597	6783	5405	4381	5295	18850	35770	38150	15910	13350
1989-90	11310	9335											
MEAN	10160	7237	6956	6692	5706	5112	5271	6032	16090	41320	46350	23060	15010
MEDIAN	10190	6818	6063	6324	4974	4521	4486	5295	15450	39800	43750	22810	15430

BFE3M9

USGS # 12322405

DUNCAN

River: DUNCAN

Drainage Area:

942 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile

8.3

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVI
1927-28												10240	
1928-29	5070	2140	1790	999	625	384	318	392	661	3890	9260	6130	2650
1929-30	4040	2070	<u>939</u>	<u>521</u>	<u>450</u>	<u>373</u>	<u>307</u>	<u>381</u>	1650	3810	7420	7120	<u>2435</u>
1930-31	4530	2310	1090	684	461	428	428	555	981	5170	8030	7320	2680
1931-32	4120	2720	1230	814	592	538	626	762	1790	6930	11830	9690	3477
1932-33	5790	2850	1450	1200	1160	789	505	512	1170	5140	14430	<u>16440</u>	4309
1933-34	8420	4240	3020	<u>2510</u>	1430	1100	845	958	<u>3770</u>	8390	8810	8620	<u>4366</u>
1934-35	5780	2960	1430	1540	900	725	780	577	1020	4700	10830	10850	3523
1935-36	5920	3530	1500	977	638	560	384	512	2100	8200	10840	8490	3647
1936-37	4510	2380	1270	608	527	395	373	392	736	4260	8410	8180	2685
1937-38	4830	3480	2210	1810	943	758	582	719	1670	6270	11230	8580	3603
1938-39	3970	3830	1750	956	658	648	483	544	1960	7700	7400	9110	3270
1939-40	5800	2920	<u>3080</u>	1700	1340	834	725	860	1860	6820	9280	8080	3620
1940-41	5260	4170	2520	1120	834	703	615	893	2630	5200	8420	7280	3317
1941-42	4940	3370	2620	1500	1210	780	626	599	1570	5190	7700	9360	3308
1942-43	5590	2540	1450	889	757	571	538	523	2440	3870	<u>6960</u>	10440	3065
1943-44	5510	2450	1650	858	658	560	483	457	1130	4580	7750	<u>5510</u>	2640
1944-45	5160	3210	2130	1360	757	593	516	<u>468</u>	<u>640</u>	4680	8610	7570	2989
1945-46	4510	2210	1110	825	581	527	483	577	1590	8750	11630	10350	3615
1946-47	5890	3210	1210	771	702	538	549	653	2060	7820	10730	10340	3726
1947-48	4760	3020	2900	1500	943	681	582	534	1220	7810	13330	7110	3704
1948-49	5950	2890	1410	825	559	450	417	425	1470	7500	7210	6010	2945
1949-50	4640	2540	1180	1050	878	538	483	479	831	3590	12530	11740	3387
1950-51	6610	3350	1770	1200	889	813	714	512	1590	7180	9070	12940	3913
1951-52	5740	2690	2120	977	748	582	582	523	1820	6710	10230	8710	3463
1952-53	5490	2360	1400	597	538	593	571	545	906	5300	10230	11040	3317
1953-54	6540	2950	2030	1560	1030	681	681	632	789	6250	11030	15040	4129
1954-55	8130	4290	1530	1180	1030	670	560	599	725	<u>2900</u>	12730	13140	3976
1955-56	6310	3120	1710	1390	702	516	527	555	2090	8130	12130	10140	3954
1956-57	5580	3140	2120	1100	801	461	461	555	1200	<u>10310</u>	10430	7350	3648
1957-58	4030	2640	1750	945	702	593	604	653	1230	9630	12630	8540	3680
1958-59	5830	3140	2340	1150	846	699	608	573	1570	5310	12930	12640	3990
1959-60	6270	4920	2710	1760	1090	758	690	790	2070	4310	10630	11240	3945
1960-61	5670	3760	2160	1420	841	785	788	736	1300	7496	<u>16410</u>	8306	4149
1961-62	6650	2509	1992	1194	737	555	673	565	2235	5236	10870	9067	3540
1962-63	6387	2840	2219	1666	1136	815	896	770	1808	5642	11040	9176	3716
1963-64	6186	4116	2065	1314	969	706	575	530	931	4610	12190	12730	3920
1964-65	6200	2873	2799	1739	1073	912	881	970	2531	5212	10390	9365	3762
1965-66	7212	<u>2054</u>	1940	1613	965	744	599	595	1662	6240	10930	10660	3790
1966-67	5650	3160	1690	1140	962	795	619	543	871	4704	16080	11190	3963
1967-68	5974	4015	1483	1394	1042	924	883	<u>1176</u>	825	5736	11830	10900	3858
1968-69	5881	3618	1796	1225	1111	<u>1421</u>	549	983	2473	7790	12040	6958	3836
1969-70	4531	3463	1869	1264	1135	1047	653	664	939	4680	11320	7595	3274
1970-71	4820	2140	1367	1054	956	822	632	622	1465	7494	10530	9108	3436
1971-72	7047	2304	1521	1074	993	1034	777	1156	1394	7175	14000	11040	4138
1972-73	7911	2594	1588	926	1051	1023	703	640	1370	5395	8294	7774	3293
1973-74	5090	2670	1572	1116	812	764	714	674	1892	4698	13480	10930	3714
1974-75	6440	3291	1087	778	899	867	598	427	898	4474	8944	9888	3235
1975-76	5270	2891	1934	1848	<u>1566</u>	1086	792	604	1583	7167	8326	12830	3844
1976-77	<u>9679</u>	<u>5832</u>	2210	1173	764	569	564	434	1974	4693	9040	5939	3582
1977-78	5641	2748	1217	910	1006	645	465	871	2153	4800	9877	9897	3370
1978-79	5229	4854	2371	1455	1009	653	610	568	1128	4935	8795	7406	3264
1979-80	5189	3233	1490	598	996	626	534	572	3154	9901	9117	7218	3564
1980-81	<u>3956</u>	2997	1826	1178	1487	1197	<u>953</u>	839	1640	7537	7191	11360	3537
1981-82	7557	3443	1647	1350	1009	1040	818	624	1020	4971	13490	9704	3905
1982-83	6409	4058	1839	1175	1009	1009	838	931	1834	6227	9207	10160	3744
1983-84	6729	2657	1266	1597	978	1034	603	780	1709	3172	10090	9254	3330
1984-85	6885	3093	1416	1075	1019	579	420	498	1809	7446	8519	7693	3393
1985-86	4014	2238	1500	1036	874	779	670	1107	1971	6903	12180	7830	3438
1986-87	5794	2291	1450	1140	1021	999	548	773	2299	8327	9891	7082	3487
1987-88	3994	2955	960	943	893	625	533	759	3232	6824	11240	8037	3419
1988-89	4934	2617	2038	1337	1098	1011	568	617	1953	5268	10060	7777	3288
1989-90	5368	2553											
MEAN	5706	3088	1782	1190	908	736	608	651	1623	6083	10490	9391	3537
MEDIAN	5660	2952	1710	1150	943	703	598	599	1590	5642	10430	9143	3564

DCD3M9

CORRA LINN

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-434	
1928-29	-317	-28	52	52	40	35	34	25	17	-180	-312	-431	-86
1929-30	-315	-28	52	52	40	35	33	25	17	-179	-310	-428	-85
1930-31	-313	-28	51	51	40	35	33	25	17	-178	-308	-426	-85
1931-32	-311	-28	51	51	39	34	33	25	16	-177	-306	-423	-84
1932-33	-309	28	50	50	39	34	32	24	18	-175	-304	-420	-84
1933-34	-307	-28	50	50	39	34	32	24	16	-174	-302	-417	-83
1934-35	-305	-28	49	49	38	33	32	24	16	-173	-300	-415	-83
1935-36	-303	-28	49	49	38	33	31	24	16	-172	-298	-412	-82
1936-37	-301	-28	48	48	37	33	31	23	16	-171	-296	-409	-82
1937-38	-299	-27	48	48	37	32	31	23	15	-170	-294	-406	-81
1938-39	-297	-27	47	47	37	32	30	23	15	-169	-292	-403	-81
1939-40	-295	-27	47	47	36	32	30	23	15	-168	-290	-401	-80
1940-41	-293	-27	46	46	36	31	30	22	15	-166	-288	-398	-80
1941-42	-291	-27	46	46	36	31	30	22	15	-165	-286	-395	-79
1942-43	-289	-27	45	46	35	31	29	22	15	-164	-284	-392	-79
1943-44	-287	-27	45	45	35	31	29	22	14	-163	-282	-390	-78
1944-45	-285	-27	44	45	35	30	29	22	14	-162	-280	-387	-78
1945-46	-283	-27	44	44	34	30	28	21	14	-161	-278	-384	-77
1946-47	-281	-27	43	44	34	30	28	21	14	-160	-276	-381	-77
1947-48	-279	-27	43	43	33	29	28	21	14	-158	-274	-379	-76
1948-49	-277	-26	42	43	33	29	27	21	13	-156	-270	-373	-75
1949-50	-272	-26	42	42	32	28	27	20	13	-154	-266	-367	-74
1950-51	-268	-26	41	41	32	28	26	20	13	-151	-261	-360	-73
1951-52	-263	-26	40	40	31	27	26	20	13	-148	-256	-353	-71
1952-53	-259	-25	39	40	31	27	25	19	12	-145	-251	-347	-70
1953-54	-254	-25	39	39	30	26	25	19	12	-142	-246	-340	-69
1954-55	-249	-24	38	38	29	26	24	18	12	-139	-241	-333	-68
1955-56	-244	-24	37	37	29	25	24	18	12	-137	-236	-326	-66
1956-57	-239	-24	36	37	28	25	23	18	11	-134	-232	-320	-65
1957-58	-235	-23	36	36	28	24	23	17	11	-131	-227	-313	-64
1958-59	-230	-23	35	35	27	24	22	17	11	-128	-222	-306	-62
1959-60	-225	-22	34	34	26	23	22	17	11	-125	-217	-299	-61
1960-61	-220	-22	33	33	26	23	21	16	10	-122	-212	-293	-60
1961-62	-215	-22	32	33	25	22	21	16	10	-120	-207	-286	-58
1962-63	-210	-21	32	32	25	22	20	15	10	-117	-202	-279	-57
1963-64	-206	-21	31	31	24	21	20	15	10	-114	-197	-273	-55
1964-65	-201	-21	30	30	23	20	19	15	10	-111	-192	-266	-54
1965-66	-196	-20	29	29	23	20	19	14	9	-106	-184	-255	-52
1966-67	-188	-19	28	28	22	19	18	14	8	-101	-174	-241	-50
1967-68	-178	-19	26	26	20	18	17	13	8	-95	-164	-227	-47
1968-69	-168	-18	24	24	19	16	16	12	7	-89	-154	-213	-44
1969-70	-158	-17	22	23	17	15	14	11	7	-83	-144	-199	-42
1970-71	-148	-16	21	21	16	14	13	10	6	-78	-134	-185	-39
1971-72	-138	-16	19	19	15	13	12	9	5	-72	-124	-172	-36
1972-73	-128	-15	17	17	13	12	11	8	5	-66	-114	-158	-34
1973-74	-118	-14	15	15	12	10	10	7	4	-60	-104	-144	-31
1974-75	-107	-13	13	13	10	9	9	7	4	-55	-94	-130	-28
1975-76	-97	-13	11	12	9	8	7	6	3	-49	-84	-116	-26
1976-77	-87	-12	10	10	8	7	6	5	2	-43	-74	-102	-23
1977-78	-77	-11	8	8	6	5	5	4	2	-37	-64	-89	-20
1978-79	-67	-10	6	6	5	4	4	3	1	-31	-53	-73	-17
1979-80	-56	-9	4	4	3	3	3	2	1	-28	-48	-66	-16
1980-81	-51	-9	4	4	3	3	2	2	1	-25	-43	-59	-14
1981-82	-45	-8	3	3	3	2	2	2	1	-22	-37	-51	-12
1982-83	-39	-7	3	3	2	2	2	1	1	-19	-32	-44	-11
1983-84	-34	-6	2	3	2	2	2	1	1	-15	-27	-37	-9
1984-85	-28	-5	2	2	2	1	1	1	0	-12	-21	-29	-7
1985-86	-22	-4	2	2	1	1	1	1	0	-9	-16	-22	-6
1986-87	-17	-3	1	1	1	1	1	1	0	-6	-11	-15	-4
1987-88	-11	-2	1	1	1	1	1	0	0	-3	-5	-7	-2
1988-89	-6	-1	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	-197	-20	30	30	23	21	19	15	9	-111	-192	-268	-54

COR3DD9

USGS # 12322730

CORRA LINN

River: KOOTENAY

Drainage Area: 17700 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 16.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												53900	
1928-29	20740	12270	13040	8717	6209	4586	4636	7074	10840	49240	75790	30300	20340
1929-30	17070	10370	7251	4730	5724	3557	6396	6466	30620	46410	66880	39720	20460
1930-31	19790	11700	7927	8332	<u>4797</u>	5090	5314	6697	11440	53100	52860	28040	17830
1931-32	15050	11920	7188	8974	5918	5170	6478	13800	28210	80980	102600	44440	27390
1932-33	21060	11440	9477	12030	11250	8387	5865	8013	21930	66900	128200	74410	31670
1933-34	27730	15650	18570	<u>20280</u>	<u>22630</u>	18640	13530	16740	<u>67230</u>	102700	74540	34820	36180
1934-35	17790	11020	8493	15580	8901	9583	10970	9521	17560	64100	93050	58580	27150
1935-36	23390	12980	8457	8695	5768	5611	<u>3710</u>	6778	32950	78160	61530	27350	22820
1936-37	<u>14720</u>	<u>9278</u>	6444	4857	5633	<u>3433</u>	4971	<u>4600</u>	11920	51970	68840	35090	18530
1937-38	16370	10890	11020	15500	9220	9309	6656	10280	34200	80580	96210	42920	28640
1938-39	15410	12660	9904	7659	8353	7303	4879	8167	28260	71270	54920	40810	22400
1939-40	17290	11040	14800	11360	10820	6645	6968	10740	24410	66990	55560	26170	21940
1940-41	15120	13820	12390	8133	7246	6097	5550	9921	24570	48110	<u>46250</u>	24900	18560
1941-42	15160	20610	20770	15360	21500	9073	7498	7258	25550	66700	80130	59580	29210
1942-43	23790	13350	10080	8851	7697	5673	6500	7864	54120	56390	80280	66680	28500
1943-44	22720	11390	9989	7415	6020	5288	4714	5479	10370	39850	47390	<u>20740</u>	<u>15970</u>
1944-45	15220	11630	10010	7638	5163	5718	5652	5818	<u>8795</u>	56110	76240	37740	20540
1945-46	15070	11560	8940	9525	7327	6931	6278	9671	32020	97900	97820	50940	29600
1946-47	21030	15840	10680	8498	9528	7439	9983	13510	34620	97510	82020	43760	29630
1947-48	18540	14500	<u>29070</u>	18250	10880	8373	7729	8009	26790	91820	131800	43310	34080
1948-49	25790	13790	11050	8503	5986	5098	6238	8324	30390	90200	54510	25370	23880
1949-50	16270	11010	8980	11400	10550	6919	7844	11940	23280	64290	121700	72540	30620
1950-51	25150	13300	18010	17040	17820	13150	<u>19370</u>	11140	31790	103600	84420	72210	35710
1951-52	25420	18230	22130	13450	11150	8531	8478	8520	40280	83100	74370	43380	29800
1952-53	20080	11720	7998	5600	5633	9602	10440	7925	16590	65610	99610	58630	26680
1953-54	23730	12890	11150	10850	8467	7269	8546	9397	20600	97560	112300	<u>98750</u>	35300
1954-55	35050	21840	13480	14650	10970	7535	6476	5946	13190	47300	121200	71770	30860
1955-56	24870	13910	16960	17320	12500	10780	7359	10990	43580	109000	119100	57070	36990
1956-57	22460	12980	12790	8647	8450	5545	6490	8924	18730	<u>111200</u>	73100	30230	26780
1957-58	16620	10890	10270	7759	8924	6201	7772	8947	19460	95800	65770	30060	23980
1958-59	16270	12120	11830	10120	8994	10000	6948	8081	28220	74750	123600	65960	31470
1959-60	25810	<u>33030</u>	25770	19270	14440	8525	8718	13960	38150	58350	95650	54190	32970
1960-61	21200	15040	11370	10890	6793	7774	12040	11690	22100	96280	140200	38060	32800
1961-62	20510	12530	13500	8887	7309	6200	8239	6859	33280	58520	86500	42200	25410
1962-63	22710	12720	12850	13410	12190	8056	12740	10710	21260	64240	88570	50190	27520
1963-64	21730	15150	10600	10730	8464	7483	6045	6153	16550	63120	117700	58810	28550
1964-65	24950	16250	17360	12560	8918	8209	8747	9342	30660	67510	99650	47170	29330
1965-66	26060	14620	13450	12780	8964	8055	6653	9581	30000	78290	98380	52250	30020
1966-67	20830	12630	9373	8949	9438	8684	9086	8848	14530	67750	149400	65070	32080
1967-68	22690	13590	11040	10460	7448	7519	9744	14470	12970	64840	99880	54930	27490
1968-69	24410	18900	14770	14160	10640	8200	7045	8997	44820	101800	108200	51010	34500
1969-70	18030	13730	12440	10360	7295	6496	6524	6937	11750	57960	82340	31280	22130
1970-71	15800	10820	8904	6968	6860	8127	13770	9100	26030	100500	108300	58710	31220
1971-72	26650	13080	10030	8787	6613	6448	8233	<u>24050</u>	21060	90650	135800	68480	35030
1972-73	33330	14030	13250	9924	8487	7594	7467	8280	14970	57080	68370	35700	23300
1973-74	16260	11370	10270	13630	11620	<u>19680</u>	11500	12690	34900	75190	<u>157100</u>	74440	<u>37410</u>
1974-75	30350	13920	8356	9561	7665	6276	7122	7448	13330	60780	99050	55140	26660
1975-76	24030	15920	12940	15200	20690	10270	9494	8251	28090	93150	74420	67250	31740
1976-77	<u>43350</u>	23510	10250	7215	7182	5737	6326	5341	16590	39660	49560	23030	19880
1977-78	18620	14040	9361	8704	9837	6914	6055	12150	26330	65990	87370	52280	26550
1978-79	21080	20760	12510	9260	6088	5304	7727	9037	14120	59540	57890	30380	21200
1979-80	15320	10540	6826	<u>4556</u>	8961	5107	6300	8342	37600	95120	61460	28880	24130
1980-81	17310	13300	11290	11460	17700	14530	13390	13350	23780	86770	81360	68730	31210
1981-82	31400	15000	12520	11390	9702	8598	15330	14310	18210	71880	114100	53950	31410
1982-83	26870	19130	14460	10560	10350	11690	11660	17790	27020	71950	78500	55770	29750
1983-84	26040	13530	9689	17490	8462	11510	8963	10140	21190	<u>38870</u>	91890	49250	25560
1984-85	22650	13370	8575	9044	7119	6029	5395	6096	23680	75560	66780	28510	22820
1985-86	14750	14810	14470	14950	8377	8044	10550	21270	30540	66750	85090	39130	27440
1986-87	20690	12370	12710	14270	9413	7235	6618	15790	31890	81330	52280	28700	24550
1987-88	15600	10210	<u>5945</u>	8621	6552	5426	5381	8239	33140	60930	67600	31780	21450
1988-89	15400	10620	13340	12180	7962	8551	5446	8591	32040	67740	78490	35330	24700
1989-90	21870	16300											
MEAN	21470	14050	12090	10880	9305	7882	8075	9907	25790	72910	88600	47430	27420
MEDIAN	21050	13300	11050	10360	8464	7483	7122	8947	25550	67740	84420	45810	27490

COR3M9

USGS # 12322745

KOOTENAI CANAL

River: KOOTENAY

Drainage Area: 17700 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 16.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												53900	
1928-29	20740	12270	13040	8717	6209	4586	4636	7074	10840	49240	75790	30300	20340
1929-30	17070	10370	7251	4730	5724	3557	6396	6466	30620	46410	66880	39720	20460
1930-31	19790	11700	7927	6332	<u>4797</u>	5090	5314	6697	11440	53100	52860	28040	17830
1931-32	15050	11920	7188	6974	5918	5170	6478	13800	28210	80980	102600	44440	27390
1932-33	21060	11440	9477	12030	11250	8387	5865	8013	21930	66900	128200	74410	31670
1933-34	27730	15650	18570	<u>20280</u>	<u>22630</u>	18640	13530	16740	<u>67230</u>	102700	74540	34820	36180
1934-35	17790	11020	8493	15580	8901	9583	10970	9521	17560	64100	93050	58580	27150
1935-36	23390	12980	8457	6695	5768	5611	<u>3710</u>	6778	32950	78160	61530	27350	22820
1936-37	<u>14720</u>	<u>9278</u>	6444	4857	5633	<u>3433</u>	4971	<u>4600</u>	11920	51970	68840	35090	18530
1937-38	16370	10690	11020	15500	9220	9309	6656	10280	34200	80580	96210	42920	28640
1938-39	15410	12660	3904	7659	6353	7303	4879	8167	28260	71270	54920	40810	22400
1939-40	17290	11040	14800	11360	10820	6645	6968	10740	24410	66990	55560	26170	21940
1940-41	15120	13820	12390	8133	7246	6097	5550	9921	24570	48110	<u>46250</u>	24900	18560
1941-42	15160	20610	20770	15360	21500	9073	7498	7258	25550	66700	80130	59580	29210
1942-43	23790	13350	10080	8851	7697	5673	6500	7864	54120	56390	80280	66680	28500
1943-44	22720	11390	9989	7415	6020	5288	4714	5479	10370	39850	47390	<u>20740</u>	<u>15970</u>
1944-45	15220	11630	10010	7638	5163	5718	5652	5818	<u>8795</u>	56110	76240	37740	20540
1945-46	15070	11560	8940	9525	7327	6931	6278	9671	32020	97900	97820	50940	29600
1946-47	21030	15840	10680	8498	9528	7439	9983	13510	34620	97510	82020	43760	29630
1947-48	18540	14500	<u>29070</u>	18250	10880	8373	7729	8009	26790	91820	131800	43310	34080
1948-49	25790	13790	11050	8503	5986	5098	6238	8324	30390	90200	54510	25370	23880
1949-50	16270	11010	8980	11400	10550	6919	7844	11940	23280	64290	121700	72540	30620
1950-51	25150	13300	18010	17040	17820	13150	<u>19370</u>	11140	31790	103600	84420	72210	35710
1951-52	25420	18230	22130	13450	11150	8531	8478	8520	40280	83100	74370	43380	29800
1952-53	20080	11720	7998	5600	5633	9602	10440	7925	16590	65610	99610	58630	26680
1953-54	23730	12890	11150	10850	8467	7269	8546	9397	20600	97560	112300	<u>98750</u>	35300
1954-55	35050	21840	13480	14650	10970	7535	6476	5946	13190	47300	121200	71770	30860
1955-56	24870	13910	16960	17320	12500	10780	7359	10990	43580	109000	119100	57070	36990
1956-57	22460	12980	12790	8647	8450	5545	6490	8924	18730	<u>111200</u>	73100	30230	26780
1957-58	16620	10890	10270	7759	6924	6201	7772	8947	19460	95800	65770	30060	23980
1958-59	16270	12120	11830	10120	8994	10000	6948	8081	28220	74750	123600	65960	31470
1959-60	25810	<u>33030</u>	25770	19270	14440	8525	8718	13960	38150	58350	95650	54190	32970
1960-61	21200	15040	11370	10890	6793	7774	12040	11690	22100	96280	140200	38060	32800
1961-62	20510	12530	13500	8887	7309	6200	8239	6859	33280	58520	86500	42200	25410
1962-63	22710	12720	12850	13410	12190	8056	12740	10710	21260	64240	88570	50190	27520
1963-64	21730	15150	10600	10730	8464	7483	6045	6153	16550	63120	117700	58810	28550
1964-65	24950	16250	17360	12560	8918	8209	8747	9342	30660	67510	99650	47170	29330
1965-66	26060	14620	13450	12780	8964	8055	6653	9581	30000	78290	98380	52250	30020
1966-67	20830	12630	9373	8949	9438	8684	9086	8848	14530	67750	149400	65070	32080
1967-68	22690	13590	11040	10460	7448	7519	9744	14470	12970	64840	99880	54930	27490
1968-69	24410	18900	14770	14160	10640	8200	7045	8997	44820	101800	108200	51010	34500
1969-70	18030	13730	12440	10360	7295	6496	6524	6937	11750	57860	82340	31280	22130
1970-71	15800	10820	8904	6968	8660	8127	13770	9100	26030	100500	108300	58710	31220
1971-72	26650	13080	10030	8787	6613	6448	8233	<u>24050</u>	21060	90650	135800	68480	35030
1972-73	33330	14030	13250	9924	8487	7594	7467	8280	14970	57080	68370	35700	23300
1973-74	16260	11370	10270	13630	11620	<u>19680</u>	11500	12690	34900	75190	<u>157100</u>	74440	<u>37410</u>
1974-75	30350	13920	8356	9561	7665	6276	7122	7448	13330	60780	99050	55140	26660
1975-76	<u>24030</u>	15920	12940	15200	20690	10270	9494	8251	28090	93150	74420	67250	31740
1976-77	<u>43350</u>	23510	10250	7215	7182	5737	6326	5341	16590	39660	49560	23030	19880
1977-78	18620	14040	9361	8704	9837	6914	6055	12150	26330	65990	87370	52280	26550
1978-79	21080	20760	12510	9260	6088	5304	7727	9037	14120	59540	57890	30380	21200
1979-80	15320	10540	6826	<u>4556</u>	8961	5107	6300	8342	37600	95120	61460	28880	24130
1980-81	17310	13300	11290	11460	17700	14530	13390	13350	23780	86770	81360	68730	31210
1981-82	31400	15000	12520	11390	9702	8598	15330	14310	18210	71880	114100	53950	31410
1982-83	26870	19130	14460	10560	10350	11690	11660	17790	27020	71950	78500	55770	29750
1983-84	26040	13530	9689	17490	8462	11510	8963	10140	21190	<u>38870</u>	91890	49250	25560
1984-85	22650	13370	8575	9044	7119	6029	5395	6096	23680	<u>75560</u>	66780	28510	22820
1985-86	14750	14810	14470	14950	8377	8044	10550	21270	30540	66750	85090	39130	27440
1986-87	20690	12370	12710	14270	9413	7235	6618	15790	31890	81330	52280	28700	24550
1987-88	15600	10210	<u>5945</u>	6621	6552	5426	5381	8239	33140	60930	67600	31780	21450
1988-89	15400	10620	13340	12180	7962	8551	5446	8591	32040	67740	78490	35330	24700
1989-90	21870	16300											
MEAN	21470	14050	12090	10880	9305	7882	8075	9907	25790	72910	88600	47430	27420
MEDIAN	21050	13300	11050	10360	8464	7483	7122	8947	25550	67740	84420	45810	27490

CAN3M9

USGS # 12322750

UP. BONNINGTON

River: KOOTENAY

Drainage Area: 17700 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 14.8

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												53900	
1928-29	20740	12270	13040	8717	6209	4586	4636	7074	10840	49240	75790	30300	20340
1929-30	17070	10370	7251	4730	5724	3557	6396	6466	30620	46410	66880	39720	20460
1930-31	19790	11700	7927	6332	<u>4797</u>	5090	5314	6697	11440	53100	52860	28040	17830
1931-32	15050	11920	7188	6974	5918	5170	6478	13800	28210	80980	102600	44440	27390
1932-33	21060	11440	9477	12030	11250	8387	5865	8013	21930	66900	128200	74410	31670
1933-34	27730	15650	18570	<u>20280</u>	<u>22630</u>	18640	13530	16740	<u>67230</u>	102700	74540	34820	36180
1934-35	17790	11020	8493	15580	8901	9583	10970	9521	17560	64100	93050	58580	27150
1935-36	23390	12980	8457	6695	5768	5611	<u>3710</u>	6778	32950	78160	61530	27350	22820
1936-37	<u>14720</u>	<u>9278</u>	6444	4857	5633	<u>3433</u>	4971	<u>4600</u>	11920	51970	68840	35090	18530
1937-38	16370	10690	11020	15500	9220	9309	6656	10280	34200	80580	96210	42920	28640
1938-39	15410	12660	9904	7659	6353	7303	4879	8167	28260	71270	54920	40810	22400
1939-40	17290	11040	14800	11360	10820	6645	6968	10740	24410	66990	55560	26170	21940
1940-41	15120	13820	12390	8133	7246	8097	5550	9921	24570	48110	<u>46250</u>	24900	18560
1941-42	15160	20610	20770	15360	21500	9073	7498	7258	25550	66700	80130	59580	29210
1942-43	23790	13350	10080	8851	7697	5673	6500	7864	54120	56390	80280	66680	28500
1943-44	22720	11390	9989	7415	6020	5288	4714	5479	10370	39850	47390	<u>20740</u>	<u>15970</u>
1944-45	15220	11630	10010	7638	5163	5718	5652	5818	<u>8795</u>	56110	76240	37740	20540
1945-46	15070	11560	8940	9525	7327	6931	6278	9671	32020	97900	97820	50940	29600
1946-47	21030	15840	10680	8498	9528	7439	9983	13510	34620	97510	82020	43760	29630
1947-48	18540	14500	<u>29070</u>	18250	10880	8373	7729	8009	26790	91820	131800	43310	34080
1948-49	25790	13790	11050	8503	5986	5098	6238	8324	30390	90200	54510	25370	23880
1949-50	16270	11010	8980	11400	10550	6919	7844	11940	23280	64290	121700	72540	30620
1950-51	25150	13300	18010	17040	17820	13150	<u>19370</u>	11140	31790	103600	84420	72210	35710
1951-52	25420	18230	22130	13450	11150	8531	8478	8520	40280	83100	74370	43380	29800
1952-53	20080	11720	7998	5600	5633	9602	10440	7925	16590	65610	99610	58630	26680
1953-54	23730	12890	11150	10850	8487	7269	8546	9397	20600	97560	112300	<u>98750</u>	35300
1954-55	35050	21840	13480	14650	10970	7535	6476	5946	13190	47300	121200	71770	30860
1955-56	24870	13910	16960	17320	12500	10780	7359	10990	43580	109000	119100	57070	36990
1956-57	22460	12980	12790	8647	8450	5545	6490	8924	18730	<u>111200</u>	73100	30230	26780
1957-58	16620	10890	10270	7759	6924	6201	7772	8947	19460	95800	65770	30060	23980
1958-59	16270	12120	11830	10120	8994	10000	6948	8081	28220	74750	123600	65960	31470
1959-60	25710	<u>33030</u>	25770	19270	14440	8525	8718	13960	38150	58350	95650	54190	32970
1960-61	21200	15040	11370	10890	6793	7774	12040	11690	22100	96280	140200	38060	32800
1961-62	20510	12530	13500	8887	7309	6200	8239	6859	33280	58520	86500	42200	25410
1962-63	22710	12720	12850	13410	12190	8056	12740	10710	21260	64240	88570	50190	27520
1963-64	21730	15150	10600	10730	8464	7483	6045	6153	16550	63120	117700	58810	28550
1964-65	24950	16250	17360	12560	8918	8209	8747	9342	30660	67510	99650	47170	29330
1965-66	26060	14620	13450	12780	8964	8055	6653	9581	30000	78290	98380	52250	30020
1966-67	20830	12630	9373	8949	9438	8684	9086	8848	14530	67750	149400	65070	32080
1967-68	22690	13590	11040	10460	7448	7519	9744	14470	12970	64840	99880	54930	27490
1968-69	24410	18900	14770	14160	10640	8200	7045	8997	44820	101800	108200	51010	34500
1969-70	18030	13730	12440	10360	7295	6496	6524	6937	11750	57860	82340	31280	22130
1970-71	15800	10820	8904	6968	6860	8127	13770	9100	26030	100500	108300	58710	31220
1971-72	26650	13080	10030	8787	6613	6448	8233	<u>24050</u>	21060	90650	135800	68480	35030
1972-73	33330	14030	13250	9924	8487	7594	7467	8280	14970	57080	68370	35700	23300
1973-74	16260	11370	10270	13630	11620	<u>19680</u>	11500	12690	34900	75190	<u>157100</u>	74440	<u>37410</u>
1974-75	30350	13920	8356	9561	7665	6276	7122	7448	13330	60780	99050	55140	26680
1975-76	24030	15920	12940	15200	20690	10270	9494	8251	28090	93150	74420	67250	31740
1976-77	<u>43350</u>	23510	10250	7215	7182	5737	6326	5341	16590	39660	49560	23030	19880
1977-78	18620	14040	9361	8704	9837	6914	6055	12150	26330	65990	87370	52280	26550
1978-79	21080	20760	12510	9260	6088	5304	7727	9037	14120	59540	57890	30380	21200
1979-80	15320	10540	6826	<u>4556</u>	8961	5107	6300	8342	37600	95120	61460	28880	24130
1980-81	17310	13300	11290	11460	17700	14530	13390	13350	23780	86770	81360	68730	31210
1981-82	31400	15000	12520	11390	9702	8598	15330	14310	18210	71880	114100	53950	31410
1982-83	26870	19130	14460	10560	10350	11690	11660	17790	27020	71950	78500	55770	29750
1983-84	26040	13530	9689	17490	8462	11510	8963	10140	21190	<u>38870</u>	91890	49250	25560
1984-85	22650	13370	8575	9044	7119	6029	5395	6096	23680	75560	66780	28510	22820
1985-86	14750	14810	14470	14950	8377	8044	10550	21270	30540	66750	85090	39130	27440
1986-87	20690	12370	12710	14270	9413	7235	6618	15790	31890	81330	52280	28700	24550
1987-88	15600	10210	<u>5945</u>	6621	6552	5426	5381	8239	33140	60930	67600	31780	21450
1988-89	15400	10620	13340	12180	7962	8551	5446	8591	32040	67740	78490	35330	24700
1989-90	21870	16300											
MEAN	21470	14050	12090	10880	9305	7882	8075	9907	25790	72910	88600	47430	27420
MEDIAN	21050	13300	11050	10360	8464	7483	7122	8947	25550	67740	84420	45810	27490

UBN3M9

USGS # 12322765

LO. BONNINGTON

River: KOOTENAY

Drainage Area: 17700 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 14.3

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												53900	
1928-29	20740	12270	13040	8717	6209	4586	4636	7074	10840	49240	75790	30300	20340
1929-30	17070	10370	7251	4730	5724	3557	6396	6466	30620	46410	66880	39720	20460
1930-31	19790	11700	7927	6332	<u>4797</u>	5090	5314	6697	11440	53100	52860	28040	17830
1931-32	15050	11920	7188	6974	5918	5170	6478	13800	28210	80980	102600	44440	27390
1932-33	21060	11440	9477	12030	11250	8387	5865	8013	21930	66900	128200	74410	31670
1933-34	27730	15650	18570	<u>20280</u>	<u>22630</u>	18640	13530	16740	<u>67230</u>	102700	74540	34820	36180
1934-35	17790	11020	8493	15580	8901	9583	10970	9521	17560	64100	93050	58580	27150
1935-36	23390	12980	8457	8695	5768	5611	<u>3710</u>	6778	32950	78160	61530	27350	22820
1936-37	<u>14720</u>	<u>9278</u>	6444	4857	5633	<u>3433</u>	4971	<u>4600</u>	11920	51970	68840	35090	18530
1937-38	16370	10690	11020	15500	9220	9309	6656	10280	34200	80580	96210	42920	28640
1938-39	15410	12660	9904	7659	6353	7303	4879	8167	28260	71270	54920	40810	22400
1939-40	17290	11040	14800	11360	10820	6645	6968	10740	24410	66990	55560	26170	21940
1940-41	15120	13820	12390	8133	7246	6097	5550	9921	24570	48110	<u>46250</u>	24900	18560
1941-42	15160	20610	20770	15360	21500	9073	7498	7258	25550	66700	80130	59580	29210
1942-43	23790	13350	10080	8851	7697	5673	6500	7864	54120	56390	80280	66680	28500
1943-44	22720	11390	9989	7415	6020	5288	4714	5479	10370	39850	47390	<u>20740</u>	<u>15970</u>
1944-45	15220	11630	10010	7638	5163	5718	5652	5818	<u>8795</u>	56110	76240	37740	20540
1945-46	15070	11560	8940	9525	7327	6931	6278	9671	32020	97900	97820	50940	29600
1946-47	21030	15840	10680	8498	9528	7439	9983	13510	34620	97510	82020	43760	29630
1947-48	18540	14500	<u>29070</u>	18250	10880	8373	7729	8009	26790	91820	131800	43310	34080
1948-49	25790	13790	11050	8503	5986	5098	6238	8324	30390	90200	54510	25370	23880
1949-50	16270	11010	8980	11400	10550	6919	7844	11940	23280	64290	121700	72540	30620
1950-51	25150	13300	18010	17040	17820	13150	<u>19370</u>	11140	31790	103600	84420	72210	35710
1951-52	25420	18230	22130	13450	11150	8531	8478	8520	40280	83100	74370	43380	29800
1952-53	20080	11720	7998	5600	5633	9602	10440	7925	16590	65610	99610	58630	26680
1953-54	23730	12890	11150	10850	8467	7269	8546	9397	20600	97560	112300	<u>98750</u>	35300
1954-55	35050	21840	13480	14650	10970	7535	6476	5946	13190	47300	121200	71770	30860
1955-56	24870	13910	16960	17320	12500	10780	7359	10990	43580	109000	119100	57070	36990
1956-57	22460	12980	12790	8847	8450	5545	6490	8924	18730	<u>112200</u>	73100	30230	26780
1957-58	16620	10890	10270	7759	6924	6201	7772	8947	19460	95800	65770	30060	23980
1958-59	16270	12120	11830	10120	8994	10000	6948	8081	28220	74750	123600	65960	31470
1959-60	25810	<u>33030</u>	25770	19270	14440	8525	8718	13960	38150	58350	95650	54190	32970
1960-61	21200	15040	11370	10890	6793	7774	12040	11690	22100	96280	140200	38060	32800
1961-62	20510	12530	13500	8887	7309	6200	8239	6859	33280	58520	86500	42200	25410
1962-63	22710	12720	12850	13410	12190	8056	12740	10710	21260	64240	88570	50190	27520
1963-64	21730	15150	10600	10730	8464	7483	6045	6153	16550	63120	117700	58810	28550
1964-65	24950	16250	17360	12560	8918	8209	8747	9342	30660	67510	99650	47170	29330
1965-66	26060	14620	13450	12780	8964	8055	6653	9581	30000	78290	98380	52250	30020
1966-67	20830	12630	9373	8949	9438	8684	9086	8848	14530	67750	149400	65070	32080
1967-68	22690	13590	11040	10460	7448	7519	9744	14470	12970	64840	99880	54930	27490
1968-69	24410	18900	14770	14160	10640	8200	7045	8997	44820	101800	108200	51010	34500
1969-70	18030	13730	12440	10360	7295	6496	6524	6937	11750	57860	82340	31280	22130
1970-71	15800	10820	8904	6968	6860	8127	13770	9100	26030	100500	108300	58710	31220
1971-72	26650	13080	10030	8787	6613	6448	8233	<u>24050</u>	21060	90650	135800	68480	35030
1972-73	33330	14030	13250	9924	8487	7594	7467	8280	14970	57080	68370	35700	23300
1973-74	16260	11370	10270	13630	11620	<u>19680</u>	11500	12690	34900	75190	<u>157100</u>	74440	<u>37410</u>
1974-75	30350	13920	8356	9561	7665	6276	7122	7448	13330	60780	99050	55140	26660
1975-76	24030	15920	12940	15200	20690	10270	9494	8251	28090	93150	74420	67250	31740
1976-77	<u>43350</u>	23510	10250	7215	7182	5737	6326	5341	16590	39660	49560	23030	19880
1977-78	18620	14040	9361	8704	9837	6914	6055	12150	26330	65990	87370	52280	26550
1978-79	21080	20760	12510	9260	6088	5304	7727	9037	14120	59540	57890	30380	21200
1979-80	15320	10540	6826	<u>4556</u>	8961	5107	6300	8342	37600	95120	61460	28880	24130
1980-81	17310	13300	11290	11460	17700	14530	13390	13350	23780	86770	81360	68730	31210
1981-82	31400	15000	12520	11390	9702	8598	15330	14310	18210	71880	114100	53950	31410
1982-83	26870	19130	14460	10560	10350	11690	11660	17790	27020	71950	78500	55770	29750
1983-84	26040	13530	9689	17490	8462	11510	8963	10140	21190	<u>38870</u>	91890	49250	25560
1984-85	22650	13370	8575	9044	7119	6029	5395	6096	23680	75580	66780	28510	22820
1985-86	14750	14810	14470	14950	8377	8044	10550	21270	30540	66750	85090	39130	27440
1986-87	20690	12370	12710	14270	9413	7235	6618	15790	31890	81330	52280	28700	24550
1987-88	15600	10210	<u>5945</u>	6621	6552	5426	5381	8239	33140	60930	67600	31780	21450
1988-89	15400	10620	13340	12180	7962	8551	5446	8591	32040	67740	78490	35330	24700
1989-90	21870	16300											
MEAN	21470	14050	12090	10880	9305	7882	8075	9907	25790	72910	88600	47430	27420
MEDIAN	21050	13300	11050	10360	8464	7483	7122	8947	25550	67740	84420	45810	27490

LBN3M9

USGS # 12322770

SLOCAN

River: KOOTENAY

Drainage Area: 17700 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 13.4

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												53900	
1928-29	20740	12270	13040	8717	6209	4586	4636	7074	10840	49240	75790	30300	20340
1929-30	17070	10370	7251	4730	5724	3557	6396	8466	30620	48410	66880	39720	20460
1930-31	19790	11700	7927	6332	<u>4797</u>	5090	5314	6697	11440	53100	52860	28040	17830
1931-32	15050	11920	7188	6974	5918	5170	6478	13800	28210	80980	102600	44440	27390
1932-33	21060	11440	9477	12030	11250	8387	5865	8013	21930	68900	128200	74410	31670
1933-34	27730	15650	18570	<u>20280</u>	<u>22630</u>	18640	13530	16740	<u>67230</u>	102700	74540	34820	36180
1934-35	17790	11020	8493	15580	8901	9583	10970	9521	17560	64100	93050	58580	27150
1935-36	23390	12980	8457	6695	5768	5611	<u>3710</u>	6778	32950	78160	61530	27350	22820
1936-37	<u>14720</u>	<u>9278</u>	6444	4857	5633	<u>3433</u>	4971	<u>4600</u>	11920	51970	68840	35090	18530
1937-38	16370	10690	11020	15500	9220	9309	6856	10280	34200	80580	96210	42920	28640
1938-39	15410	12660	9904	7659	6353	7303	4879	8167	28260	71270	54920	40810	22400
1939-40	17290	11040	14800	11360	10820	6645	6968	10740	24410	66990	55560	26170	21940
1940-41	15120	13820	12390	8133	7246	6097	5550	9921	24570	48110	<u>46250</u>	24900	18560
1941-42	15160	20610	20770	15360	21500	9073	7498	7258	25550	66700	80130	59580	29210
1942-43	23790	13350	10080	8851	7697	5673	6500	7864	54120	56390	80280	66680	28500
1943-44	22720	11390	9989	7415	6020	5288	4714	5479	10370	39850	47390	<u>20740</u>	<u>15970</u>
1944-45	15220	11630	10010	7638	5163	5718	5652	5818	<u>8795</u>	56110	76240	37740	20540
1945-46	15070	11560	8940	9525	7327	6931	6278	9671	32020	97900	97820	50940	29600
1946-47	21030	15840	10680	8498	9528	7439	9983	13510	34620	97510	82020	43760	29630
1947-48	18540	14500	<u>29070</u>	18250	10880	8373	7729	8009	26790	91820	131800	43310	34080
1948-49	25790	13790	11050	8503	5986	5098	6238	8324	30390	90200	54510	25370	23880
1949-50	16270	11010	8980	11400	10550	6919	7844	11940	23280	64290	121700	72540	30620
1950-51	25150	13300	18010	17040	17820	13150	<u>19370</u>	11140	31790	103600	84420	72210	35710
1951-52	25420	18230	22130	13450	11150	8531	8478	8520	40280	83100	74370	43380	29800
1952-53	20080	11720	7998	5600	5633	9602	10440	7925	16590	65610	99610	58630	26680
1953-54	23730	12890	11150	10850	8467	7269	8546	9397	20600	97560	112300	<u>98750</u>	35300
1954-55	35050	21840	13480	14650	10970	7535	6476	5946	13190	47300	121200	71770	30860
1955-56	24870	13910	16960	17320	12500	10780	7359	10990	43580	109000	119100	57070	36990
1956-57	22460	12980	12790	8647	8450	5545	6490	8924	18730	<u>111200</u>	73100	30230	26780
1957-58	16620	10890	10270	7759	6924	6201	7772	8947	19460	95800	65770	30060	23980
1958-59	16270	12120	11830	10120	8994	10000	6948	8081	28220	74750	123600	65960	31470
1959-60	25810	<u>33030</u>	25770	19270	14440	8525	8718	13960	38150	58350	95650	54190	32970
1960-61	21200	15040	11370	10890	6793	7774	12040	11690	22100	96280	140200	38060	32800
1961-62	20510	12530	13500	8887	7309	6200	8239	6859	33280	58520	86500	42200	25410
1962-63	22710	12720	12850	13410	12190	8056	12740	10710	21260	64240	88570	50190	27520
1963-64	21730	15150	10600	10730	8464	7483	6045	6153	16550	63120	117700	58810	28550
1964-65	24950	16250	17360	12560	8918	8209	8747	9342	30660	67510	99650	47170	29330
1965-66	26060	14620	13450	12780	8964	8055	6653	9581	30000	78290	98380	52250	30020
1966-67	20830	12630	9373	8949	9438	8684	9086	8848	14530	67750	149400	65070	32080
1967-68	22690	13590	11040	10460	7448	7519	9744	14470	12970	64840	99880	54930	27490
1968-69	24410	18900	14770	14160	10640	8200	7045	8997	44820	101800	108200	51010	34500
1969-70	18030	13730	12440	10360	7295	6496	6524	6937	11750	57860	82340	31280	22130
1970-71	15800	10820	8904	6968	6860	8127	13770	9100	26030	100500	108300	58710	31220
1971-72	26650	13080	10030	8787	6613	6448	8233	<u>24050</u>	21060	90650	135800	68480	35030
1972-73	33330	14030	13250	9924	8487	7594	7467	8280	14970	57080	68370	35700	23300
1973-74	16260	11370	10270	13630	11620	<u>19680</u>	11500	12690	34900	75190	<u>157100</u>	74440	<u>37470</u>
1974-75	30350	13920	8356	9561	7665	6276	7122	7448	13330	60780	99050	55140	26660
1975-76	24030	15920	12940	15200	20690	10270	9494	8251	28090	93150	74420	67250	31740
1976-77	<u>43350</u>	23510	10250	7215	7182	5737	6326	5341	16590	39660	49560	23030	19880
1977-78	18620	14040	9361	8704	9837	6914	6055	12150	26330	65990	87370	52280	26550
1978-79	21080	20760	12510	9260	6088	5304	7727	9037	14120	59540	57890	30380	21200
1979-80	15320	10540	6826	<u>4556</u>	8961	5107	6300	8342	37600	95120	61460	28880	24130
1980-81	17310	13300	11290	11460	17700	14530	13390	13350	23780	86770	81360	68730	31210
1981-82	31400	15000	12520	11390	9702	8598	15330	14310	18210	71880	114100	53950	31410
1982-83	26870	19130	14460	10560	10350	11690	11660	17790	27020	71950	78500	55770	29750
1983-84	26040	13530	9689	17490	8462	11510	8963	10140	21190	<u>38870</u>	91890	49250	25560
1984-85	22650	13370	8575	9044	7119	6029	5395	6096	23680	75560	66780	28510	22820
1985-86	14750	14810	14470	14950	8377	8044	10550	21270	30540	66750	85090	39130	27440
1986-87	20690	12370	12710	14270	9413	7235	6618	15790	31890	81330	52280	28700	24550
1987-88	15600	10210	<u>5945</u>	6621	6552	5426	5381	8239	33140	60930	67600	31780	21450
1988-89	15400	10620	13340	12180	7962	8551	5446	8591	32040	67740	78490	35330	24700
1989-90	21870	16300											
MEAN	21470	14050	12090	10880	9305	7882	8075	9907	25790	72910	88600	47430	27420
MEDIAN	21050	13300	11050	10360	8464	7483	7122	8947	25550	67740	84420	45810	27490

SLO3M9

BRILLIANT

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-478	
1928-29	-353	33	58	58	45	39	37	28	19	-198	-342	-475	-94
1929-30	-350	-33	57	57	44	39	37	28	19	-196	-340	-471	-94
1930-31	-348	-33	57	56	44	38	36	27	19	-195	-338	-468	-93
1931-32	-346	-33	56	56	43	38	36	27	18	-194	-336	-465	-92
1932-33	-344	-33	56	55	43	38	36	27	18	-193	-334	-462	-92
1933-34	-341	-33	55	55	43	37	35	27	18	-191	-332	-459	-92
1934-35	-339	-33	55	54	42	37	35	26	18	-190	-329	-456	-91
1935-36	-337	-33	54	54	42	36	35	26	18	-189	-327	-453	-90
1936-37	-335	-33	54	53	41	36	34	26	18	-188	-325	-450	-90
1937-38	-332	-32	53	53	41	36	34	26	17	-186	-323	-447	-90
1938-39	-330	-32	52	52	40	35	34	25	17	-185	-321	-444	-89
1939-40	-328	-32	52	52	40	35	33	25	17	-184	-319	-441	-88
1940-41	-326	-32	51	51	40	35	33	25	17	-183	-316	-438	-88
1941-42	-323	-32	51	51	39	34	33	25	17	-181	-314	-435	-88
1942-43	-321	32	50	50	39	34	32	24	16	-180	-312	-432	-87
1943-44	-319	-32	50	50	38	34	32	24	16	-179	-310	-429	-86
1944-45	-317	-32	49	49	38	33	32	24	16	-178	-308	-426	-86
1945-46	-314	-32	49	49	38	33	31	24	16	-176	-306	-423	-85
1946-47	-312	-32	48	48	37	33	31	23	16	-175	-303	-420	-85
1947-48	-310	-31	48	48	37	32	31	23	15	-174	-301	-417	-84
1948-49	-308	-31	47	47	36	32	30	23	15	-171	-297	-411	-83
1949-50	-303	-31	46	46	36	31	30	22	15	-169	-292	-405	-82
1950-51	-299	-31	46	46	35	31	29	22	15	-166	-287	-398	-81
1951-52	-294	-30	45	45	35	30	29	22	14	-163	-282	-391	-79
1952-53	-289	-30	44	44	34	30	28	21	14	-160	-277	-384	-78
1953-54	-284	-29	43	43	33	29	28	21	14	-157	-272	-377	-77
1954-55	-279	-29	42	42	33	29	27	21	14	-154	-267	-370	-75
1955-56	-274	-29	42	42	32	28	27	20	13	-151	-262	-363	-74
1956-57	-269	-28	41	41	32	28	26	20	13	-148	-257	-356	-73
1957-58	-264	-28	40	40	31	27	26	19	13	-146	-252	-349	-71
1958-59	-259	-27	39	39	30	27	25	19	13	-143	-247	-342	-70
1959-60	-254	-27	38	38	30	26	25	19	12	-140	-242	-335	-68
1960-61	-249	-27	38	38	29	25	24	18	12	-137	-237	-328	-67
1961-62	-244	-26	37	37	28	25	24	18	12	-134	-232	-322	-66
1962-63	-239	-26	36	36	28	24	23	17	12	-131	-227	-315	-64
1963-64	-234	-25	35	35	27	24	23	17	11	-128	-222	-308	-63
1964-65	-230	-25	35	34	27	23	22	17	11	-125	-217	-301	-62
1965-66	-225	-24	34	34	26	23	22	16	11	-120	-207	-287	-59
1966-67	-215	24	32	32	25	22	20	15	10	-113	-196	-271	-56
1967-68	-202	-23	30	30	23	20	19	14	9	-106	-184	-255	-53
1968-69	-191	-22	27	27	21	19	18	13	8	-99	-172	-239	-50
1969-70	-179	-21	25	25	20	17	16	12	8	-93	-161	-222	-47
1970-71	-167	-20	23	23	18	16	15	11	7	-86	-149	-206	-43
1971-72	-155	-19	21	21	16	14	13	10	6	-79	-137	-190	-40
1972-73	-143	-18	19	19	15	13	12	9	5	-73	-126	-174	-37
1973-74	-131	-17	17	17	13	11	11	8	5	-66	-114	-158	-34
1974-75	-119	-16	14	14	11	10	9	7	4	-59	-102	-141	-31
1975-76	-107	-15	12	12	10	8	8	6	3	-52	-91	-125	-28
1976-77	-95	-14	10	10	8	7	7	5	2	-46	-79	-109	-25
1977-78	-83	-13	8	8	6	5	5	4	2	-39	-67	-93	-22
1978-79	-71	-12	6	6	5	4	4	3	1	-32	-55	-75	-18
1979-80	-58	11	3	4	3	2	2	2	1	-29	-49	-68	-17
1980-81	-52	-10	3	3	2	2	2	2	1	-25	-44	-60	-15
1981-82	-47	-8	3	3	2	2	2	1	1	-22	-38	-53	-13
1982-83	-41	-7	2	2	2	2	2	1	0	-19	-33	-45	-11
1983-84	-35	-6	2	2	2	1	1	1	0	-16	-27	-38	-9
1984-85	-29	-5	2	2	1	1	1	1	0	-13	-22	-30	-8
1985-86	-23	-4	1	1	1	1	1	1	0	-10	-16	-23	-6
1986-87	-17	-3	1	1	1	1	1	1	0	-6	-11	-15	-4
1987-88	-12	-2	1	1	1	0	0	0	0	-3	-5	-8	-2
1988-89	-6	-1	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	-219	-23	33	33	26	23	22	16	11	122	-211	-296	-60

BRI3DD9

USGS # 12322970

BRILLIANT

River: KOOTENAY

Drainage Area: 19300 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 1.9

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												59610	
1928-29	21410	12200	13500	9283	6673	5046	5260	7679	11590	54280	84200	34240	22170
1929-30	18480	10970	7587	<u>5019</u>	6196	3957	6909	6874	33030	52160	74160	44360	22510
1930-31	21340	12080	8205	6703	<u>5065</u>	5580	5824	7319	12740	61190	62810	33410	20270
1931-32	16840	13040	7578	7720	6343	5609	7106	14410	31730	90160	113000	49900	30290
1932-33	23890	13120	10440	13090	12700	8829	6382	8480	24100	73870	141600	83100	35060
1933-34	31920	18770	21490	<u>23430</u>	<u>24600</u>	20710	15230	16770	<u>74700</u>	113700	82940	39080	40370
1934-35	20100	12230	9571	17540	10100	10580	11210	10360	19570	71500	105800	66670	30500
1935-36	26570	14800	9676	7340	6302	6045	<u>4161</u>	7242	36630	88330	70680	31720	25820
1936-37	16800	<u>10430</u>	7203	5138	5776	<u>3406</u>	4985	<u>5064</u>	12460	57330	79130	41030	20790
1937-38	18940	12400	11850	16840	9801	9767	7303	11050	36490	89980	114800	48460	32370
1938-39	17000	13550	10860	8443	7011	7960	5399	8778	31200	81610	64140	48300	25470
1939-40	19250	11970	15770	13200	12460	7388	7802	11470	27130	74470	64220	29640	24590
1940-41	16530	14540	13750	9207	7747	6574	6007	10990	27780	55280	<u>53420</u>	27950	20880
1941-42	<u>16160</u>	23410	23550	17100	23270	9989	8100	7929	27570	72620	89050	65090	32100
1942-43	25960	14400	10850	9532	8339	6317	7115	8402	57840	62370	90150	74520	31390
1943-44	25580	12480	11010	8309	6684	5844	5238	5952	11630	45450	53840	<u>23220</u>	<u>17970</u>
1944-45	16760	13010	11590	8987	6097	6482	6343	6493	<u>9863</u>	62560	68660	42620	23200
1945-46	16690	12630	9836	10470	8102	7604	6901	10440	34590	108900	110200	57600	32940
1946-47	23330	17430	11800	9392	10410	8124	10750	14560	37420	106600	91400	48700	32610
1947-48	20600	15770	<u>31280</u>	20110	11940	9192	8397	8624	28480	100100	146700	47310	37370
1948-49	28380	15470	12540	9569	6790	5683	6746	8977	32990	99680	61520	28500	26530
1949-50	18120	12130	9951	12470	11710	7807	<u>8631</u>	12660	24730	68980	133800	79880	33470
1950-51	27680	14570	19560	18740	19400	14520	<u>20720</u>	12130	34340	112500	93960	79880	39130
1951-52	28010	19860	24410	14840	12330	9474	9201	9201	43250	92090	84000	48790	33000
1952-53	22150	12810	8730	6171	6165	10220	11170	8660	17940	72010	110700	66200	29480
1953-54	26530	14530	12720	12390	9592	8203	9306	10270	21960	106200	124000	<u>110000</u>	39000
1954-55	38890	24570	15200	16420	12490	8545	7246	6590	14510	51110	135000	82170	34480
1955-56	28210	15340	18580	19150	13660	11750	8110	11740	46960	119700	132600	63530	40810
1956-57	24770	14280	14310	9803	9365	6273	7129	9603	20360	<u>123500</u>	82230	33550	29760
1957-58	18430	11980	11570	8874	7758	6928	8659	10090	21390	106400	75030	33120	26800
1958-59	17560	13230	13480	11360	9913	10960	7679	8780	30230	81830	137200	74220	34780
1959-60	28800	<u>37040</u>	29110	21730	15980	9542	9587	15110	41430	63990	106900	61800	36740
1960-61	23580	16740	12830	12270	7742	8628	13050	12880	24350	105200	156300	42550	36360
1961-62	22320	13710	14720	9928	8097	6879	8971	7531	36210	64720	98180	48810	28380
1962-63	25730	14320	14690	15220	13650	9214	13910	11870	23620	71250	99900	55970	30830
1963-64	24130	16600	11710	11950	9532	8330	6751	6804	17980	68680	132300	67910	31890
1964-65	28910	18820	19880	14290	10020	9105	9584	10280	33360	74010	110600	52300	32660
1965-66	28500	16280	14990	14280	10070	9009	7435	10480	32650	85870	109900	58950	33300
1966-67	23130	13820	10380	9993	10550	9656	10020	9764	16010	73920	166900	74060	35720
1967-68	25290	14830	12360	11900	8494	8461	10780	16090	14540	71800	113500	63090	30960
1968-69	27920	21550	16810	15770	11840	8931	7748	9789	48230	112100	120200	56340	38200
1969-70	19880	15070	14220	12170	8511	7391	7309	7734	12930	63150	92620	35000	24710
1970-71	17410	11930	10010	7879	7683	8985	15360	10140	28330	111200	121500	67230	34880
1971-72	30070	14630	11400	9889	7515	7251	8903	<u>25450</u>	23250	99710	152200	77960	39070
1972-73	37020	15770	14840	11080	9370	8405	8133	9125	16380	63280	76890	40490	26000
1973-74	17940	12400	11680	15230	12900	<u>20800</u>	12500	13670	37540	81970	<u>174000</u>	84480	<u>41290</u>
1974-75	34080	15440	9185	10290	8353	6915	7750	8111	14490	66150	110500	62270	29550
1975-76	26710	18100	14450	16950	22290	11370	10320	9031	30380	102400	84690	77280	35450
1976-77	<u>49080</u>	26910	11850	8225	7967	6369	6951	6005	18430	45400	57320	26230	22630
1977-78	20360	15600	10490	9656	10700	7600	6666	13130	28960	72860	98430	59670	29600
1978-79	23880	23620	14490	10540	6987	5986	8339	9946	15520	65950	66070	34490	23890
1979-80	16950	11720	7673	5285	9735	5753	6877	9195	41160	106500	68840	32410	26900
1980-81	19140	14830	12670	12720	18960	15960	14670	14830	26060	95830	92130	78640	34850
1981-82	35440	16930	14510	13390	11140	9848	16450	15540	19870	78740	129200	63190	35390
1982-83	30550	21460	16460	12120	11480	12720	12790	19700	29730	79760	89820	63070	33420
1983-84	29350	15600	10960	19650	9702	12620	9933	11340	23580	<u>43250</u>	104500	58250	29040
1984-85	25550	15100	9869	10130	7913	6690	5966	6682	25890	84000	76850	32210	25660
1985-86	16350	16650	16180	16830	9410	8851	11320	22650	33160	73530	97050	44450	30580
1986-87	22880	13640	14010	15470	10310	7954	7255	17090	34300	90510	58840	32040	27150
1987-88	17210	11150	<u>6623</u>	7253	7270	6009	5964	8967	36460	69200	77400	36670	24180
1988-89	17220	11720	15110	13910	9082	9454	6167	9380	34520	75210	88370	39910	27570
1989-90	24120	18130											
MEAN	23910	15610	13490	12170	10300	8686	8824	10750	28110	80600	99690	53610	30540
MEDIAN	23450	14580	12540	11900	9532	8330	7750	9789	27780	74470	93960	51100	30830

BRI3M9

MURPHY CREEK

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-608	
1928-29	-439	-35	73	72	56	49	46	34	22	-262	-454	-604	-122
1929-30	-436	-35	73	71	55	48	45	34	22	-261	-451	-600	-121
1930-31	-433	-35	72	71	55	48	45	34	22	-259	-448	-596	-120
1931-32	-430	-35	71	70	54	47	45	33	22	-257	-444	-592	-119
1932-33	-427	-35	70	69	53	47	44	33	21	-255	-441	-587	-119
1933-34	-424	-35	70	69	53	46	44	33	21	-253	-438	-583	-118
1934-35	-421	-35	69	68	52	46	43	32	21	-251	-435	-579	-117
1935-36	-418	-35	68	67	52	45	43	32	21	-250	-432	-575	-116
1936-37	-415	-35	67	66	51	45	42	32	20	-248	-428	-570	-116
1937-38	-412	-35	67	66	51	44	42	31	20	-246	-425	-566	-115
1938-39	-409	-35	66	65	50	44	41	31	20	-244	-422	-562	-114
1939-40	-406	-35	65	64	50	43	41	31	20	-242	-419	-558	-113
1940-41	-403	-35	64	64	49	43	40	30	19	-240	-416	-553	-113
1941-42	-400	-35	64	63	48	42	40	30	19	-239	-412	-549	-112
1942-43	-397	-35	63	62	48	42	40	30	19	-237	-409	-545	-111
1943-44	-394	-35	62	61	47	41	39	29	19	-235	-406	-541	-110
1944-45	-391	-35	61	61	47	41	39	29	18	-233	-403	-536	-110
1945-46	-388	-35	61	60	46	40	38	29	18	-231	-400	-532	-109
1946-47	-385	-35	60	59	46	40	38	28	18	-229	-396	-528	-108
1947-48	-382	-35	59	59	45	39	37	28	18	-228	-393	-524	-107
1948-49	-379	-35	58	58	45	39	37	28	17	-224	-388	-516	-106
1949-50	-374	-34	57	57	44	38	36	27	17	-221	-382	-509	-105
1950-51	-369	-34	57	56	43	38	36	27	17	-218	-376	-501	-103
1951-52	-363	-33	56	55	43	37	35	26	17	-214	-370	-493	-101
1952-53	-357	-33	55	54	42	37	35	26	16	-211	-364	-484	-100
1953-54	-351	-32	54	53	41	36	34	26	16	-207	-358	-476	-98
1954-55	-345	-32	53	53	41	35	33	25	16	-203	-352	-468	-97
1955-56	-340	-31	52	52	40	35	33	25	16	-200	-346	-460	-95
1956-57	-334	-31	51	51	39	34	32	24	15	-196	-339	-452	-93
1957-58	-328	-30	50	50	38	34	32	24	15	-193	-333	-443	-92
1958-59	-322	-30	50	49	38	33	31	23	15	-189	-327	-435	-90
1959-60	-316	-29	49	48	37	32	31	23	15	-186	-321	-427	-88
1960-61	-310	-29	48	47	36	32	30	23	14	-182	-315	-419	-87
1961-62	-304	-28	47	46	36	31	29	22	14	-179	-309	-411	-85
1962-63	-299	-28	46	45	35	31	29	22	14	-175	-303	-402	-83
1963-64	-293	-27	45	45	34	30	28	21	13	-172	-296	-394	-81
1964-65	-287	-27	44	44	34	29	28	21	13	-168	-290	-386	-80
1965-66	-281	-26	43	43	33	29	27	20	12	-161	-278	-370	-77
1966-67	-269	-26	41	41	31	27	26	19	12	-153	-264	-350	-73
1967-68	-255	-25	38	38	29	26	24	18	11	-145	-250	-331	-69
1968-69	-242	-24	36	35	27	24	23	17	10	-136	-236	-312	-66
1969-70	-228	-23	33	33	25	22	21	16	9	-128	-222	-293	-62
1970-71	-214	-22	31	30	23	20	19	15	8	-120	-207	-274	-58
1971-72	-200	-21	28	28	22	19	18	13	7	-112	-193	-255	-54
1972-73	-186	-20	25	25	20	17	16	12	7	-104	-179	-236	-51
1973-74	-173	-19	23	23	18	15	15	11	6	-96	-165	-217	-47
1974-75	-159	-18	20	20	16	14	13	10	5	-88	-151	-198	-44
1975-76	-145	-17	18	18	14	12	11	8	4	-79	-137	-179	-40
1976-77	-131	-16	15	15	12	10	10	7	3	-71	-123	-160	-36
1977-78	-117	-15	13	13	10	9	8	6	2	-63	-108	-141	-32
1978-79	-104	-14	10	10	8	7	6	5	2	-54	-93	-120	-28
1979-80	-89	-13	7	8	6	5	5	4	1	-49	-84	-108	-26
1980-81	-80	-12	6	7	5	5	4	3	1	-43	-75	-96	-23
1981-82	-71	-11	6	6	5	4	4	3	1	-38	-65	-84	-20
1982-83	-62	-9	5	5	4	4	3	2	1	-33	-56	-72	-17
1983-84	-53	-8	4	5	3	3	3	2	1	-27	-47	-60	-15
1984-85	-44	-7	4	4	3	3	2	2	1	-22	-37	-48	-12
1985-86	-36	-5	3	3	2	2	2	1	0	-16	-28	-36	-9
1986-87	-27	-4	2	2	2	2	1	1	0	-11	-19	-24	-6
1987-88	-18	-3	1	2	1	1	1	1	0	-5	-9	-12	-3
1988-89	-9	-1	1	1	1	1	0	0	0	0	0	0	-1
1989-90	0	0											
MEAN	-275	-25	43	42	33	29	27	20	13	-164	-283	-380	-78

MUC3DD9

USGS # 12323040

MURPHY CREEK

River: COLUMBIA

Drainage Area: 34000 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap, and irrigation (1990 level).

River Mile: 759

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												169300	
1928-29	89760	48520	33240	21780	15440	11660	10260	14460	22760	103300	195500	112300	56790
1929-30	84970	46190	24280	14950	14250	11620	14940	15000	68090	112300	178900	143400	60940
1930-31	93440	51810	22900	16190	<u>11760</u>	12010	11640	14970	28340	129300	177400	122000	57910
1931-32	76770	55490	30860	24370	<u>17630</u>	13770	16080	28620	61780	174200	254800	147000	75180
1932-33	97810	47420	31130	29440	25520	18470	13810	16370	41870	139700	270800	207700	78660
1933-34	111400	59500	49230	<u>46800</u>	38650	<u>32820</u>	25030	30060	<u>131300</u>	222600	196700	128800	<u>89720</u>
1934-35	83350	47490	31880	38790	22620	20530	22720	19800	34630	130400	223000	188200	72190
1935-36	90970	54110	29380	18090	15010	13100	<u>9371</u>	14090	65800	185800	188700	116400	66870
1936-37	78430	43430	24920	<u>13730</u>	12260	<u>8229</u>	9998	<u>10510</u>	24030	105000	175400	127100	52980
1937-38	70170	49200	34570	35930	20680	18730	14450	20150	58330	159900	236800	141300	71900
1938-39	<u>61360</u>	56310	31670	19970	15410	16280	11560	16480	57400	170900	149900	140100	62590
1939-40	80330	45490	40790	29870	28050	16390	16030	22790	53930	152900	169600	122600	65050
1940-41	74120	60070	47770	23160	17690	14670	13350	22420	60880	114400	<u>140300</u>	107600	58260
1941-42	72140	59600	55410	35170	37960	18310	15250	14610	45130	133100	178700	162000	69260
1942-43	89060	42790	29680	19360	16430	12300	13250	14440	85300	107000	167600	176800	64760
1943-44	84070	39560	30280	18000	14400	12630	10870	11610	27600	99250	143200	<u>86030</u>	<u>48230</u>
1944-45	70570	51400	35610	25250	14780	14510	13410	13930	<u>19780</u>	119800	182300	118800	56890
1945-46	66040	40760	25210	20760	15580	14510	13230	18160	55870	209100	239700	156400	73250
1946-47	81360	50870	25820	17860	18750	15130	18180	23520	64880	189600	209400	147800	72220
1947-48	72060	48960	61400	36620	22060	16980	15070	15020	44110	191400	302300	123700	79180
1948-49	94470	53160	35880	23690	15370	12400	13710	16010	57200	186200	145000	96170	62760
1949-50	73260	42100	25580	26770	23240	14370	15570	20260	38120	117300	272500	208600	73380
1950-51	94030	53330	40210	34000	32360	24220	29180	19160	54460	200400	189600	191000	80550
1951-52	82040	46900	45770	26000	20580	16400	15980	15600	68360	173100	189700	142100	70360
1952-53	81790	41570	26910	15040	13450	17640	18510	15710	30850	137300	217700	161900	65120
1953-54	86880	48810	38860	32910	22260	17140	18750	18970	33700	178400	244300	<u>259300</u>	83810
1954-55	119300	74830	38720	39970	27650	18940	15990	14070	27640	91710	264400	210600	78900
1955-56	90030	47860	39000	34610	23690	20460	14840	19310	74170	207400	259900	161400	82860
1956-57	82450	48800	37670	23130	19430	13950	14360	17170	37460	<u>246600</u>	196700	111600	71170
1957-58	66600	43850	30890	21650	17500	15450	17720	20570	41750	208700	213500	111900	67780
1958-59	76720	48980	41710	26220	21330	20950	15740	17580	51790	152500	272200	201400	79220
1959-60	92280	89620	<u>61690</u>	42900	30050	19460	19210	26040	68230	116300	220500	185800	81080
1960-61	85420	53970	40570	30710	18660	18850	24130	24070	44270	192900	318700	125600	81630
1961-62	85080	43760	40110	23630	17940	15060	18990	15990	64350	126100	211400	146100	67580
1962-63	95050	48210	38930	35240	27990	19710	26430	23740	48190	132700	212500	148200	71620
1963-64	86760	60010	34380	26830	20830	18040	14680	14480	32840	122600	271000	196800	75010
1964-65	94720	56490	53470	35130	21980	19690	19280	19600	59850	136600	223500	152100	74600
1965-66	106600	44140	38840	34750	22270	19060	16270	20140	56970	162400	228600	174000	77350
1966-67	92670	52480	35160	26450	24030	20950	20620	19300	30930	135300	<u>344800</u>	200400	83780
1967-68	97020	60350	38770	30130	19910	19440	22050	31430	30450	141300	248000	192000	77710
1968-69	97520	67840	42840	34120	23820	19630	16640	19760	80450	200100	254100	136300	83010
1969-70	72440	49550	39390	30650	20850	16930	16080	15980	25350	114900	208200	113500	60480
1970-71	70760	<u>37630</u>	26690	19260	16540	17550	27030	18560	48620	199300	245400	158400	74050
1971-72	103600	47190	32800	24750	18310	16020	17090	<u>39160</u>	41660	187700	333000	199900	88570
1972-73	116200	48590	35240	25310	20840	19270	15810	19980	33390	128500	175400	125800	64000
1973-74	73340	41000	33350	34030	25280	31210	23620	23880	64580	142900	323800	204900	85330
1974-75	106300	57820	27430	22750	19290	15700	16270	15160	29630	122500	219800	172900	69080
1975-76	82790	50550	39080	42710	<u>39500</u>	25020	21160	19640	54930	191600	182800	211500	80400
1976-77	<u>156000</u>	<u>91410</u>	35950	23300	19370	16860	15230	15510	41900	102500	155600	94220	64240
1977-78	82390	45780	25030	21670	20170	16100	14740	24950	56410	132000	208200	164500	67940
1978-79	81320	83120	42070	30170	19660	16740	18320	20070	32440	127300	164700	121800	63360
1979-80	72720	47400	26440	15670	23730	13680	15890	18770	79370	211600	165100	104100	66370
1980-81	64060	46460	36240	30180	36220	29780	<u>29260</u>	28540	50220	186300	186900	190100	76560
1981-82	114100	56200	36640	33490	23670	21170	27490	26810	36220	141800	276800	175700	81060
1982-83	100900	70800	40780	26720	22790	23640	25540	36290	57110	151700	197000	167400	77030
1983-84	94090	48450	27330	42660	21230	25240	21410	23710	45900	<u>81270</u>	218200	163500	67770
1984-85	93600	50780	29380	22810	18240	16560	15760	14160	49820	168900	177700	114200	64600
1985-86	63400	42510	38490	32120	20190	18440	20870	37450	57290	142200	234900	135200	70430
1986-87	82590	40940	30570	28660	21350	17120	15780	32890	61840	181900	170600	110000	66500
1987-88	63900	43130	<u>19770</u>	18610	17670	14260	14620	19080	73020	143900	189500	118000	61320
1988-89	72870	42870	38670	32680	21480	20960	15610	18440	60170	142600	199100	118700	65550
1989-90	86220	46620											
MEAN	86490	51850	35790	27670	21400	17820	17450	20250	50550	152700	216600	152000	71090
MEDIAN	84520	48810	35610	26720	20680	17120	15990	19160	50220	142600	209400	147400	71170

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COLUMBIA AT TRAIL

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-618	
1928-29	-447	-36	75	73	56	49	47	35	23	-266	-461	-614	-124
1929-30	-444	-36	74	72	56	49	46	34	23	-264	-457	-609	-123
1930-31	-441	-36	73	72	55	48	46	34	22	-262	-454	-605	-122
1931-32	-438	-36	72	71	55	48	45	34	22	-260	-451	-601	-121
1932-33	-435	-36	72	70	54	47	45	33	22	-259	-448	-596	-121
1933-34	-432	-36	71	70	54	47	44	33	22	-257	-444	-592	-120
1934-35	-429	-36	70	69	53	46	44	33	21	-255	-441	-588	-119
1935-36	-426	-36	69	68	53	46	43	32	21	-253	-438	-583	-118
1936-37	-423	-36	68	67	52	45	43	32	21	-251	-435	-579	-118
1937-38	-420	-36	68	67	51	45	42	32	21	-249	-431	-575	-117
1938-39	-417	-36	67	66	51	44	42	31	20	-247	-428	-570	-116
1939-40	-414	-36	66	65	50	44	41	31	20	-246	-425	-566	-115
1940-41	-410	-36	65	64	50	43	41	31	20	-244	-422	-562	-115
1941-42	-407	-36	65	64	49	43	41	30	20	-242	-418	-558	-114
1942-43	-404	-36	64	63	49	42	40	30	19	-240	-415	-553	-113
1943-44	-401	-36	63	62	48	42	40	30	19	-238	-412	-549	-112
1944-45	-398	-36	62	62	47	41	39	29	19	-236	-409	-545	-112
1945-46	-395	-36	62	61	47	41	39	29	19	-234	-405	-540	-111
1946-47	-392	-35	61	60	46	40	38	29	18	-233	-402	-536	-110
1947-48	-389	-35	60	59	46	40	38	28	18	-231	-399	-532	-109
1948-49	-386	-35	59	59	45	39	37	28	18	-227	-393	-524	-108
1949-50	-381	-35	58	58	45	39	37	28	18	-224	-388	-517	-107
1950-51	-375	-35	58	57	44	38	36	27	17	-221	-382	-508	-105
1951-52	-369	-34	57	56	43	38	36	27	17	-217	-375	-500	-103
1952-53	-364	-34	56	55	42	37	35	26	17	-213	-369	-492	-102
1953-54	-358	-33	55	54	42	36	34	26	16	-210	-363	-484	-100
1954-55	-352	-33	54	53	41	36	34	25	16	-208	-357	-475	-98
1955-56	-346	-32	53	52	40	35	33	25	16	-203	-351	-467	-96
1956-57	-340	-32	52	51	40	35	33	25	16	-199	-344	-459	-95
1957-58	-334	-31	51	51	39	34	32	24	15	-195	-338	-450	-93
1958-59	-328	-31	50	50	38	33	32	24	15	-192	-332	-442	-91
1959-60	-322	-30	49	49	38	33	31	23	15	-188	-326	-434	-89
1960-61	-316	-30	48	48	37	32	30	23	15	-185	-319	-425	-88
1961-62	-310	-29	48	47	36	32	30	22	14	-181	-313	-417	-86
1962-63	-304	-29	47	46	35	31	29	22	14	-178	-307	-409	-85
1963-64	-298	-28	46	45	35	30	29	22	14	-174	-301	-400	-83
1964-65	-292	-28	45	44	34	30	28	21	13	-170	-295	-392	-81
1965-66	-286	-27	44	43	33	29	28	21	13	-163	-283	-376	-78
1966-67	-274	-26	42	41	32	28	26	20	12	-155	-268	-356	-74
1967-68	-260	-25	39	39	30	26	25	18	11	-147	-254	-337	-70
1968-69	-247	-24	37	36	28	24	23	17	10	-139	-240	-318	-67
1969-70	-233	-23	34	33	26	23	21	16	9	-131	-226	-299	-63
1970-71	-219	-22	31	31	24	21	20	15	9	-122	-212	-280	-60
1971-72	-205	-22	29	28	22	19	18	14	8	-114	-197	-261	-56
1972-73	-191	-21	26	26	20	17	16	12	7	-106	-183	-242	-52
1973-74	-177	-20	24	23	18	16	15	11	6	-98	-169	-223	-48
1974-75	-164	-19	21	21	16	14	13	10	5	-90	-155	-204	-45
1975-76	-150	-18	18	18	14	12	12	9	4	-82	-141	-184	-41
1976-77	-136	-17	16	16	12	11	10	7	4	-73	-127	-165	-37
1977-78	-122	-16	13	13	10	9	8	6	3	-65	-112	-146	-34
1978-79	-108	-15	11	11	8	7	7	5	2	-56	-97	-126	-30
1979-80	-94	-14	8	8	6	5	5	4	2	-51	-87	-113	-27
1980-81	-84	-12	7	7	6	5	5	3	1	-45	-78	-101	-24
1981-82	-75	-11	6	6	5	4	4	3	1	-40	-68	-88	-21
1982-83	-65	-10	6	6	4	4	4	3	1	-34	-58	-75	-18
1983-84	-56	-8	5	5	4	3	3	2	1	-28	-49	-63	-15
1984-85	-47	-7	4	4	3	3	3	2	1	-23	-39	-50	-12
1985-86	-37	-6	3	3	2	2	2	2	1	-17	-29	-38	-9
1986-87	-28	-4	2	2	2	2	2	1	0	-11	-19	-25	-6
1987-88	-19	-3	2	2	1	1	1	1	0	-6	-10	-13	-4
1988-89	-9	-1	1	1	1	1	1	0	0	0	0	0	-1
1989-90	0	0											
MEAN	-281	26	44	43	33	29	27	20	13	-166	-288	-386	-79

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SECTION B
CLARK FORK - PEND OREILLE
AND SPOKANE

CLARK FORK, FLATHEAD, PEND OREILLE
MONTANA, IDAHO AND WASHINGTON

PEND d'OREILLE IN BRITISH COLUMBIA

SPOKANE RIVER
IDAHO AND WASHINGTON

HUNGRY HORSE
THROUGH
LONG LAKE

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SECTION B

The area described in this section includes the Clark Fork-Pend Oreille and the Spokane River basin. Both of these streams are major tributaries to the Columbia above Grand Coulee Dam. The Clark Fork-Pend Oreille drains 25,800 square miles in Montana, Idaho, Washington, and British Columbia. The Spokane River drains 6,200 square miles in Idaho and Washington. See figure 6, page 63, for a map of the area.

Irrigation is concentrated in the valleys of the Flathead, Bitterroot, Clark Fork above St. Regis, and Spokane Rivers. Total irrigation in the area has increased from 317,000 acres in 1928 to 496,000 in 1980 and decreased to 469,000 in 1990. Most of the irrigation is for hay and pasture lands, although some irrigation is for the production of grain, sugar beets, potatoes, fruit, and vegetables. Use of sprinklers has increased markedly in recent years. Application is nearly 100 percent sprinkler in the Spokane basin. The Upper Clark Fork has approximately 75 percent gravity application.

Adjustments were computed separately for sprinkler and gravity application for eight different subareas, namely:

- (1) The Upper Clark Fork and Blackfoot River basins above Missoula;
- (2) The Bitterroot River basin;
- (3) The Lower Clark Fork from Missoula to Lake Pend Oreille;
- (4) Privately developed land upstream from the Flathead Indian Reservation;
- (5) The Flathead Reservation from Flathead Lake to Plains;
- (6) The Pend Oreille basin in Idaho and Washington from Cabinet Gorge to the Canadian border;
- (7) The Salmon River (tributary to the Pend d'Oreille) in British Columbia; the Pend d'Oreille River in British Columbia, Canada; and
- (8) The Spokane River basin from Lake Coeur d'Alene to the Columbia River.

Figure 7, page 64, is a schematic diagram depicting where and how the various irrigation adjustments are to be applied.

The total acres of land irrigated by sprinkler and by gravity application during target years were tabulated for each subarea. These data came from 1987 Census of Agriculture data, the states of Washington, Montana and Idaho and other information from various

sources. See Table 6, page 65, for a summary of land irrigated from surface sources in each subarea.

An examination of the Clark Fork-Pend Oreille basin revealed that the small percentage of lands served by groundwater would not constitute streamflow depletions and therefore were not included in the computations. Diversion from groundwater in this basin would affect only the groundwater level, and the location and extent of the lands, coupled with the time lag of return flow, made the return flows basically ineffective. At best, the modified streamflows developed for the Clark Fork-Pend Oreille would be slightly underestimated and therefore conservative.

Monthly diversion and return flow patterns were determined for sprinkler and gravity application for each subarea (See pages 66 and 67). The monthly adjustments to the 1990 level of development were then computed for each month of the 61-year period 1928-1989.

In the Spokane basin, the groundwater is basically an underground river that interfaces with the Spokane River, and therefore all irrigated lands in this basin, regardless of water supply source, were included in the determination of the irrigation adjustment. The water supply source for irrigation has essentially been converted from surface water, via the Rathdrum Prairie and the Spokane Valley Farms canals, to groundwater pumping. Streamflow modifications were computed by adding historical canal diversions and then subtracting 1990 level adjustments. Early in the century the Spokane Valley Farms canal was installed to divert water from the Spokane River for irrigation of lands downstream from Lake Coeur d'Alene. Monthly diversions averaged about 250 cfs from May to August and somewhat smaller amounts in April and September. In 1946, the Rathdrum Prairie Canal began diverting water to the first unit of the Rathdrum Prairie Project. These diversions averaged 50 cfs in June, July, and August, and 30 cfs in May and September. In 1968, the Spokane Valley Farms Canal was abandoned and the irrigation project was supplied by groundwater pumping. Adjustment for irrigation in the Spokane River was made by adding back the historical diversions from the Spokane Valley Farms Canal and the Rathdrum Prairie Canal for the entire period of record and subtracting 1990 levels of adjustment.

The adjustment required to serve the Rathdrum Prairie unit (50 cfs in June, July, and August, and 30 cfs in May and September), is effective at Post Falls and downstream. The Spokane Valley Farms adjustment for groundwater pumping is effective at Upper Falls and downstream. This pumping adjustment is smaller than the historical canal diversion, so the streamflow adjustment is positive rather than negative. Historical diversions, the Rathdrum Prairie adjustment, and the Spokane Valley Farms adjustment are shown on subsequent pages of this section.

The summation in downstream order of irrigation adjustments for the combination of sprinkler and gravity applications and for the canal adjustments on the Spokane were computed for each appropriate project site. The computer equations used to accumulate adjustments and compute modified flow are given on page 68. Listings of the at-site summations of irrigation adjustments and the modified flow for each site are presented subsequently in this section.

CLARK FORK PEND ORIELLE AND SPOKANE

FIGURE 6

IRRIGATION ADJUSTMENT FOR CLARK FORK - PEND OREILLE AND SPOKANE RIVER BASINS

FIGURE 7

TABLE 6

IRRIGATED AREA
SUPPLIED BY SURFACE WATER
(Thousands of Acres)

UPPER CLARK FORK

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	125.8	125.8
1928	0	125.0	125.0
1950	0	128.0	128.0
1966	5.7	121.6	127.3
1980	32.4	94.9	127.3
1990	36.6	107.4	144.0

BITTERROOT

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	111.0	111.0
1928	0	108.0	108.0
1950	0	108.0	108.0
1966	36.0	70.0	106.0
1980	65.4	46.0	111.4
1990	55.3	39.0	94.3

UPPER FLATHEAD

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	6.2	6.2
1928	0	6.0	6.0
1950	0	8.5	8.5
1966	9.4	16.7	26.1
1980	21.9	13.4	35.3
1990	21.6	13.2	34.8

FLATHEAD IRRIGATION DISTRICT

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	31.8	31.8
1928	0	33.8	33.8
1950	0	93.8	93.8
1966	30.6	86.3	116.9
1980	78.9	48.4	127.3
1990	71.9	44.1	116.0

PEND OREILLE (U. S. ONLY)

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	3.5	3.5
1928	0	3.6	3.6
1950	0	5.3	5.3
1966	5.2	1.8	7.0
1980	8.2	0	8.2
1990	4.7	2.5	7.2

PEND d'OREILLE (CANADA)

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	0.2	0.2
1928	0	0.2	0.2
1950	0	0.4	0.4
1966	0.3	0.3	0.6
1980	0.6	0.5	1.1
1990	0.6	0.3	0.9

LOWER CLARK FORK

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	15.3	15.3
1928	0	15.5	15.5
1950	0	20.0	20.0
1966	8.0	19.0	27.0
1980	21.1	8.8	29.8
1990	13.5	5.6	19.1

SPOKANE

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	25.3	25.3
1928	0	24.6	24.6
1950	0	0	25.0
1966	0	0	42.0
1980	55.2	0.2	55.4
1990	52.6	0.1	52.7

1990 LEVEL OF DEVELOPMENT

UPPER CLARK FORK, AND BITTERROOT, MONTANA												
SPRINKLER SYSTEM ONLY							GRAVITY SYSTEM ONLY					
MONTH	DIVERSION		RETURN FLOW		DEPLETION			MONTH	DIVERSION		RETURN FLOW	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A			%	AF PER 1000 A	%	AF PER 1000 A
APR	0	3	4	29	28	0.438	APR	0	4	4	80	58
MAY	5	134	9	65	68	1.109	MAY	5	179	9	136	43
JUN	25	634	10	73	561	9.427	JUN	25	849	10	151	698
JUL	48	1212	13	94	1118	18.179	JUL	48	1624	13	196	1428
AUG	21	522	15	109	413	6.725	AUG	21	700	15	227	473
SEP	0	0	13	94	94	1.588	SEP	0	0	13	196	196
OCT	0	0	10	73	73	1.162	OCT	0	0	10	151	151
NOV	0	0	7	51	51	0.855	NOV	0	0	7	108	108
DEC	0	0	6	44	44	0.709	DEC	0	0	6	91	91
JAN	0	0	5	38	38	0.591	JAN	0	0	5	76	76
FEB	0	0	4	29	29	0.523	FEB	0	0	4	60	60
MAR	0	0	4	29	29	0.473	MAR	0	0	4	60	60
	100	2506	100	727	1778			100	3358	100	1511	1846

LOWER CLARK FORK, IDAHO AND MONTANA												
SPRINKLER SYSTEM ONLY							GRAVITY SYSTEM ONLY					
MONTH	DIVERSION		RETURN FLOW		DEPLETION			MONTH	DIVERSION		RETURN FLOW	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A			%	AF PER 1000 A	%	AF PER 1000 A
APR	1	33	0	0	33	0.557	APR	1	45	0	0	45
MAY	11	271	6	40	231	3.761	MAY	11	369	6	88	281
JUN	21	510	15	100	410	6.888	JUN	21	694	15	220	474
JUL	31	745	18	121	625	10.160	JUL	31	1014	18	263	750
AUG	23	546	20	134	412	6.706	AUG	23	743	20	293	450
SEP	11	258	16	107	151	2.538	SEP	11	351	16	234	117
OCT	1	27	11	74	48	0.752	OCT	1	37	11	161	124
NOV	0	0	7	47	47	0.788	NOV	0	0	7	102	102
DEC	0	0	4	27	27	0.438	DEC	0	0	4	59	59
JAN	0	0	2	13	13	0.218	JAN	0	0	2	29	29
FEB	0	0	1	7	7	0.121	FEB	0	0	1	15	15
MAR	0	0	0	0	0	0.000	MAR	0	0	0	0	0
	100	2392	100	870	1722			100	3253	100	1464	1789

1990 LEVEL OF DEVELOPMENT

UPPER FLATHEAD, AND FLATHEAD IRRIGATION DISTRICT											
SPRINKLER SYSTEM ONLY							GRAVITY SYSTEM ONLY				
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION		RETURN FLOW	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A
APR	0	8	5	40	34	0.567	APR	0	8	5	89
MAY	11	274	9	72	202	3.283	MAY	11	345	9	124
JUN	23	568	10	80	488	8.160	JUN	23	713	10	138
JUL	37	893	11	88	805	13.092	JUL	37	1125	11	152
AUG	23	568	12	96	470	7.640	AUG	23	713	12	185
SEP	5	124	11	88	36	0.598	SEP	5	156	11	152
OCT	0	0	10	80	80	1.304	OCT	0	0	10	138
NOV	0	0	9	72	72	1.213	NOV	0	0	9	124
DEC	0	0	7	56	56	0.913	DEC	0	0	7	96
JAN	0	0	6	48	48	0.782	JAN	0	0	6	83
FEB	0	0	5	40	40	0.722	FEB	0	0	5	69
MAR	0	0	5	40	40	0.652	MAR	0	0	5	69
	100	2429	100	802	1027			100	3061	100	1378

PEND OREILLE, IDAHO, WASHINGTON AND B. C.											
SPRINKLER SYSTEM ONLY							GRAVITY SYSTEM ONLY				
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION		RETURN FLOW	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A
APR	0	3	8	28	23	0.381	APR	0	4	6	78
MAY	13	257	6	26	231	3.757	MAY	13	380	6	78
JUN	24	464	7	30	434	7.298	JUN	24	687	7	91
JUL	35	684	10	43	642	10.435	JUL	35	1013	10	129
AUG	25	491	11	47	444	7.217	AUG	25	726	11	142
SEP	2	43	11	47	4	0.080	SEP	2	64	11	142
OCT	0	0	11	47	47	0.765	OCT	0	0	11	142
NOV	0	0	10	43	43	0.718	NOV	0	0	10	129
DEC	0	0	8	34	34	0.558	DEC	0	0	8	104
JAN	0	0	8	34	34	0.556	JAN	0	0	8	104
FEB	0	0	6	26	26	0.462	FEB	0	0	6	78
MAR	0	0	6	26	26	0.417	MAR	0	0	6	78
	100	1943	100	427	1515			100	2676	100	1294

SECTION B

EQUATIONS USED TO COMPUTE MODIFIED FLOWS

Depletions:

$$\begin{aligned}\text{KER3DD9} &= \text{FLT3DP} + 0.1 (\text{FID3D9}) \\ \text{TOM3DD9} &= \text{FLT3D9} + \text{FID3D9} + \text{UCF3D9} + \text{BIT3D9} + .85 (\text{LCF3D9}) \\ \text{NOX3DD9} &= \text{FLT3D9} + \text{FID3D9} + \text{UCF3D9} + \text{BIT3D9} + .95 (\text{LCF3D9}) \\ \text{CAB3DD9} &= \text{FLT3D9} + \text{FID3D9} + \text{UCF3D9} + \text{BIT3D9} + \text{LCF3D9} \\ \text{ALF3DD9} &= \text{CAB3DD9} + 0.5 (\text{PEN3D9}) \\ \text{BOX3DD9} &= \text{CAB3DD9} + .75 (\text{PEN3D9}) \\ \text{BDY3DD9} &= \text{CAB3DD9} + .90 (\text{PEN3D9}) \\ \text{SEV3DD9} &= \text{CAB3DD9} + \text{PEN3D9} + \text{POC3D9} \\ \text{COE3DD9} &= \text{RAT3D9} + \text{SPO3D9} + \text{RPR3D9} \\ \text{UPF3DD9} &= \text{COE3DD9} + \text{SVF3D9}\end{aligned}$$

Evaporation:

$$\text{NOX3EE} = \text{NOX3E} + \text{HGH3E}$$

Modified Flows:

$$\begin{aligned}\text{HGH3M9} &= \text{HGH3A} - \text{HGH3E} \\ \text{CFM3M9} &= \text{CFM3A} - \text{HGH3E} \\ \text{KER3M9} &= \text{KER3A} + \text{KER3DD9} - \text{HGH3E} \\ \text{TOM3M9} &= \text{TOM3A} + \text{TOM3DD9} - \text{HGH3E} \\ \text{NOX3M9} &= \text{NOX3A} + \text{NOX3DD9} - \text{NOX3EE} \\ \text{CAB3M9} &= \text{CAB3A} + \text{CAB3DD9} - \text{NOX3EE} \\ \text{PSL3M9} &= \text{PSL3A} \\ \text{ALF3M9} &= \text{ALF3A} + \text{ALF3DD9} - \text{NOX3EE} \\ \text{BOX3M9} &= \text{BOX3A} + \text{BOX3DD9} - \text{NOX3EE} \\ \text{BDY3M9} &= \text{BDY3A} + \text{BDY3DD9} - \text{NOX3EE} \\ \text{SEV3M9} &= \text{SEV3A} + \text{SEV3DD9} - \text{NOX3EE} \\ \text{WAT3M9} &= \text{WAT3A} + \text{SEV3DD9} - \text{NOX3EE} \\ \text{COE3M9} &= \text{COE3A} + \text{COE3DD9} \\ \text{PFL3M9} &= \text{COE3M9} \\ \text{UPF3M9} &= \text{UPF3A} + \text{UPF3DD9} \\ \text{MON3M9} &= \text{UPF3M9} \\ \text{NIN3M9} &= \text{NIN3A} + \text{UPF3DD9} \\ \text{LLK3M9} &= \text{LLK3A} + \text{UPF3DD9} \\ \text{LFL3M9} &= \text{LLK3M9}\end{aligned}$$

USGS # 12362001

HUNGRY HORSE

River: SF FLATHEAD

Drainage Area:

1654 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile:

5.2

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												5599	
1928-29	1437	645	915	740	528	452	430	606	2109	10920	10630	2506	2668
1929-30	761	<u>423</u>	445	392	372	309	538	470	8487	9188	6850	1884	2510
1930-31	640	488	922	1004	758	694	755	1198	3305	11810	5681	1388	2398
1931-32	568	621	615	820	788	552	1445	2135	5485	14460	12280	3496	3604
1932-33	1089	649	832	2292	1907	1170	910	878	4008	11150	<u>25030</u>	5416	4604
1933-34	1376	800	2899	<u>4128</u>	<u>3504</u>	2729	2043	2945	<u>17770</u>	15240	6940	1927	4700
1934-35	725	469	879	2064	997	924	1029	1280	3058	12760	12010	3233	3292
1935-36	914	504	451	396	<u>313</u>	346	349	474	7222	17470	7160	1580	3106
1936-37	626	428	432	<u>361</u>	410	<u>266</u>	<u>302</u>	<u>402</u>	2020	11370	8800	2316	2321
1937-38	823	434	551	824	961	957	946	939	5312	11630	10490	2642	3046
1938-39	843	498	572	562	804	754	515	1302	7618	15930	7652	2747	3331
1939-40	782	470	467	477	697	556	579	1378	4561	10570	5781	1346	2309
1940-41	557	429	508	491	477	465	497	953	3255	<u>6623</u>	3985	<u>1172</u>	<u>1622</u>
1941-42	507	715	1522	1192	2357	958	604	623	5460	9276	9177	3553	3002
1942-43	964	614	523	1084	1098	751	739	932	9805	11130	16060	8172	4323
1943-44	1620	763	743	639	616	450	382	450	2591	8875	5434	1688	2026
1944-45	704	605	630	598	590	813	721	745	1836	11950	10830	3315	2788
1945-46	862	597	922	1916	1130	877	720	1326	7178	14100	10870	3525	3677
1946-47	1080	645	1539	1725	1937	1474	1750	1873	6516	17750	11690	3748	4322
1947-48	1178	908	2494	1429	950	932	693	634	3972	18150	15250	3038	4141
1948-49	1199	568	482	467	439	356	357	579	5620	15960	7926	1870	2999
1949-50	712	552	703	1394	1476	967	863	1097	3490	12430	19960	<u>9737</u>	4457
1950-51	<u>2232</u>	867	1945	2367	2671	1634	2210	1107	5387	15260	11080	6238	4430
1951-52	1498	1058	2319	1662	1094	796	702	618	7376	14170	8674	2543	3545
1952-53	825	502	<u>413</u>	387	590	1071	1050	855	3558	10500	16640	5315	3476
1953-54	1103	532	450	723	729	717	924	1000	3293	17940	14770	8393	4235
1954-55	1613	1011	1422	1475	1213	976	823	756	1761	9436	15890	5638	3507
1955-56	1150	633	1580	1773	1745	1308	1076	1343	5991	16980	14770	3398	4313
1956-57	1073	672	933	986	1355	1005	737	805	2887	17260	9158	1966	3255
1957-58	685	596	627	775	679	520	686	807	2994	17040	8408	2006	3002
1958-59	703	817	1523	2830	2491	2169	1519	1340	6166	12060	23670	7161	<u>5200</u>
1959-60	1546	1898	<u>4587</u>	3514	1970	1120	934	1932	5727	9254	14830	4010	4271
1960-61	1135	649	690	955	643	660	1935	1796	4016	14720	14790	2216	3683
1961-62	681	770	1284	922	995	904	1071	888	7751	13750	13540	3493	3840
1962-63	1054	633	1345	1600	1660	1130	1977	1399	3318	10130	9179	3014	3038
1963-64	824	651	531	594	745	912	562	688	2132	12010	20960	5175	3809
1964-65	1206	1487	1445	1383	2260	1528	1619	1698	6063	13650	17730	5220	4609
1965-66	1650	2341	1444	1267	1043	890	714	1204	4770	12630	10890	3275	3519
1966-67	931	604	736	861	1219	1133	1075	857	2203	13920	19930	5184	4059
1967-68	1055	593	1058	1678	1057	1075	1519	2304	2168	10500	13310	3624	3326
1968-69	1436	3003	2838	2104	1316	1687	991	1010	7338	12910	9240	3831	3984
1969-70	991	888	952	757	725	753	785	799	1562	13870	16640	3114	3493
1970-71	1058	861	919	1078	1144	1672	<u>3979</u>	1402	4888	<u>18320</u>	15780	5298	4696
1971-72	1397	726	718	824	743	837	868	3379	3881	14900	19970	5693	4494
1972-73	1763	935	984	896	1110	1003	496	920	2291	9536	8839	2057	2579
1973-74	699	546	672	2179	1677	<u>3030</u>	1459	1614	5742	11300	24370	7282	5042
1974-75	1538	864	611	803	664	744	624	815	<u>1280</u>	9389	20260	7892	3794
1975-76	1765	1278	1547	2266	2758	1473	1165	968	5143	16760	11720	5027	4332
1976-77	1640	760	534	597	600	501	587	659	4019	7852	5433	1370	2051
1977-78	828	974	1280	1214	1606	866	701	2095	6079	10840	14320	5556	3870
1978-79	1488	1345	797	763	665	497	754	1322	2964	15060	11320	2574	3308
1979-80	856	559	551	418	766	477	546	715	6168	13250	7933	2528	2900
1980-81	1038	1213	757	1399	2781	1918	1475	1622	5047	13880	12380	3879	3958
1981-82	1025	622	570	648	731	652	1655	1502	2960	12800	18000	6415	3966
1982-83	1401	738	887	911	861	1078	857	1544	3371	10050	10020	4831	3056
1983-84	1292	832	937	1585	851	1695	838	1131	4087	8548	12180	3446	3114
1984-85	961	972	1039	1148	880	600	686	719	5292	15330	9727	1723	3266
1985-86	1067	<u>3251</u>	3141	3551	1133	994	1833	<u>4393</u>	5788	10990	8595	2073	3902
1986-87	802	1022	1078	1530	974	707	670	1667	6619	10270	<u>3737</u>	1548	2560
1987-88	839	624	491	514	566	575	446	1149	5239	10160	6149	1235	2333
1988-89	<u>495</u>	501	1373	1580	1110	858	819	1193	7271	12470	12240	3253	3600
1989-90	1460	1196											
MEAN	1077	852	1099	1271	1163	982	992	1233	4742	12760	12260	3781	3519
MEDIAN	1046	650	887	1004	974	890	819	1097	4770	12470	11320	3357	3519

HGH3M9

USGS # 12363000

COLUMBIA FALLS

River: FLATHEAD

Drainage Area: 4464 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 143

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												18890	
1928-29	4929	2727	3879	2882	2014	1719	1526	1927	5449	28990	28970	7986	7776
1929-30	3098	1899	1600	1293	1317	1338	1671	1624	20140	24310	20600	6801	7144
1930-31	2785	2038	2580	2534	1802	1714	2094	2667	8043	30360	15690	4707	6446
1931-32	2251	2179	1920	2271	1815	1340	2987	5506	14340	42360	37580	11370	10500
1932-33	4124	2610	2642	5225	4615	2298	1876	2102	10320	30470	61930	16850	12090
1933-34	4842	3139	8117	<u>11050</u>	<u>9035</u>	7264	5103	6698	<u>32210</u>	43360	20070	6774	13170
1934-35	2874	1839	2254	6722	2892	3484	3355	2816	7227	34040	34930	12010	9553
1935-36	3795	2140	1657	1446	<u>1113</u>	1132	1171	1629	16680	43140	19430	5200	8231
1936-37	2460	1720	<u>1431</u>	<u>1182</u>	1178	<u>928</u>	<u>905</u>	<u>1083</u>	5028	30590	27390	8165	6865
1937-38	3005	1759	2012	3027	2332	2501	2180	2481	15190	35110	32630	9649	9340
1938-39	3403	2203	2200	1946	2254	2141	1303	3215	18520	38970	20010	8556	8766
1939-40	2966	1898	1582	1587	2128	1544	1585	3041	10570	27940	16250	4454	6307
1940-41	2053	1911	2017	1675	1559	1449	1358	2202	8735	<u>18080</u>	<u>11280</u>	<u>4198</u>	<u>4725</u>
1941-42	<u>1930</u>	3104	4852	3620	7336	3308	2156	1788	13040	25550	25230	12480	8725
1942-43	3996	2641	2063	2960	3145	2355	2525	2634	24530	27640	38500	20310	11110
1943-44	4999	2544	2298	1892	1655	1291	1143	1260	5748	21090	14410	4875	5280
1944-45	2539	2178	2264	1937	1605	1909	1787	1853	3959	30010	28590	10000	7412
1945-46	3097	2437	2746	5007	3026	2383	2019	3326	17540	39570	30080	10980	10210
1946-47	3833	2563	4125	4086	3800	2658	3418	4186	17030	46500	31120	11370	11260
1947-48	4512	3521	8546	4803	2852	2460	1893	1837	10370	45850	39370	9465	11310
1948-49	5297	2449	1837	1573	1370	1269	1309	1682	13140	40030	22420	6778	8302
1949-50	3195	2295	2398	4375	4271	2563	2379	3128	8375	32780	51690	25160	11910
1950-51	6835	3140	6376	6781	6938	4601	5955	3276	13260	43860	31200	19880	12720
1951-52	5805	5387	9197	5027	3596	2460	2129	1900	19550	37250	22730	9095	10360
1952-53	3763	2230	1587	1330	1411	2941	3187	2336	8814	29690	45290	16790	9954
1953-54	4811	2453	1659	2178	2147	1814	2174	2441	6800	<u>48370</u>	42760	<u>26630</u>	12080
1954-55	6881	4783	4705	4553	3426	2534	2093	1911	4041	23210	42710	17230	9858
1955-56	4714	2527	5928	5874	4313	3335	2352	2703	13750	44340	40570	12370	11910
1956-57	4529	2786	3456	2758	2929	2185	1932	2310	7246	48050	26480	7295	9386
1957-58	3052	1972	1897	1944	1701	1505	1777	2289	7963	43150	20730	5939	7873
1958-59	2766	2653	4267	5804	5376	4936	3393	3062	14700	31230	56720	18790	12810
1959-60	5384	6680	<u>11220</u>	8190	5367	3064	2739	4965	15670	24280	38140	12520	11500
1960-61	4348	2621	2240	2743	2021	1795	3825	3945	9357	38850	40870	8203	10080
1961-62	3136	2658	4050	2736	2219	2071	2595	2078	17720	32940	32080	9792	9516
1962-63	4003	2392	3721	4400	4425	2862	4838	3516	8911	26510	27830	12190	8810
1963-64	3641	2479	1954	1946	1817	1834	1480	1527	4874	32380	60330	15880	10830
1964-65	4719	4370	4963	3740	4282	3255	3301	2885	13980	35480	46360	15550	11920
1965-66	5891	5483	4065	3240	2803	2427	1885	2667	12060	32500	31700	11110	9678
1966-67	3733	2594	2368	2770	3296	2901	3046	2338	5201	35410	51980	16530	11030
1967-68	4317	2268	2650	4184	2454	2287	3327	5329	5317	28020	34070	11240	8789
1968-69	4674	7410	7487	5850	3396	3507	2374	2350	19140	34420	26650	11740	10780
1969-70	3515	2436	2940	2219	1758	1778	1824	1838	3512	34740	42460	9642	9074
1970-71	3538	2570	2403	2365	2479	3221	<u>8407</u>	3203	11830	46580	41630	16700	12080
1971-72	5664	2706	2316	2378	1925	1921	1948	8662	10260	40390	52270	17240	12310
1972-73	6502	3363	3130	2502	2471	2518	1885	2125	6012	26060	25270	7348	7457
1973-74	2932	2201	2117	5820	4371	<u>7943</u>	4064	3856	15190	31510	<u>64450</u>	22950	<u>13940</u>
1974-75	6387	3407	2083	2276	1885	1758	1603	1801	<u>2920</u>	25590	55140	22140	10600
1975-76	6135	4429	4033	5788	7649	3584	2789	2271	12580	42520	28920	16080	11430
1976-77	<u>7394</u>	3456	2104	1825	1681	1464	1531	1562	8819	19560	13550	4440	5635
1977-78	3037	3279	3188	2776	3371	2059	1724	3928	13140	29000	35530	15430	9727
1978-79	5568	4981	2783	2676	1958	1440	1815	3094	7025	37730	29130	8396	8919
1979-80	3198	2129	1673	1451	1990	1392	1397	1741	15190	36280	22150	7638	8031
1980-81	3657	4282	2996	4401	7039	5930	3935	4316	12480	35630	31780	13120	10830
1981-82	4441	2529	2075	2020	2015	1728	3762	3678	6717	32290	45530	18300	10440
1982-83	5338	2799	2920	2733	2426	2866	2393	3998	9172	26800	26890	14610	8610
1983-84	5071	3137	2762	4594	2354	4626	2955	3124	10110	21150	31050	10990	8483
1984-85	4023	3687	3420	3368	2399	1950	1875	1961	13060	38410	26820	6768	9007
1985-86	3820	<u>7667</u>	8323	9711	3301	2696	3857	<u>10340</u>	14800	27540	24010	7015	10270
1986-87	3213	3034	3191	3899	2681	1733	1728	4240	16630	29610	12210	5606	7342
1987-88	3522	2240	1561	1311	1439	1314	1180	2284	12510	25320	17760	4624	6259
1988-89	2024	<u>1553</u>	3612	4121	2706	2245	1834	2790	16680	32410	32440	10290	9408
1989-90	4853	4508											
MEAN	4142	3050	3417	3564	3032	2550	2502	3005	11690	33540	32890	11860	9609
MEDIAN	3915	2602	2650	2776	2454	2287	2094	2634	11830	32500	31120	11050	9678

CFM3M9

KERR (FLATHEAD LAKE)

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-486	
1928-29	-248	-27	45	51	39	33	31	28	12	-157	-318	-461	-82
1929-30	-245	-27	44	51	38	33	30	27	12	-155	-314	-455	-81
1930-31	-242	-26	44	50	38	32	30	27	12	-153	-310	-450	-80
1931-32	-240	-26	43	49	37	32	29	26	12	-151	-306	-444	-79
1932-33	-237	-26	42	48	36	31	29	26	11	-149	-303	-438	-78
1933-34	-234	-26	41	47	36	31	28	26	11	-148	-299	-433	-78
1934-35	-231	-26	41	47	35	30	28	25	11	-146	-295	-427	-77
1935-36	-228	-26	40	46	35	30	27	25	11	-144	-291	-422	-75
1936-37	-225	-26	39	45	34	29	27	24	10	-142	-287	-416	-75
1937-38	-222	-25	39	44	33	29	26	24	10	-140	-284	-410	-74
1938-39	-219	-25	38	44	33	28	26	23	10	-138	-280	-405	-73
1939-40	-216	-25	37	43	32	28	25	23	10	-137	-276	-399	-72
1940-41	-214	-25	36	42	32	27	25	23	9	-135	-272	-394	-71
1941-42	-211	-25	36	41	31	27	24	22	9	-133	-268	-388	-70
1942-43	-208	-25	35	40	30	26	24	22	9	-131	-264	-382	-70
1943-44	-205	-25	34	40	30	26	24	21	9	-129	-261	-377	-68
1944-45	-202	-24	33	39	29	25	23	21	8	-128	-257	-371	-68
1945-46	-199	-24	33	38	29	24	23	20	8	-126	-253	-366	-67
1946-47	-196	-24	32	37	28	24	22	20	8	-124	-249	-360	-66
1947-48	-193	-24	31	36	27	23	22	20	8	-122	-245	-354	-65
1948-49	-191	-24	31	36	27	23	21	19	7	-120	-241	-349	-64
1949-50	-188	-24	30	35	26	22	21	19	7	-119	-238	-343	-63
1950-51	-185	-24	29	34	26	22	20	18	7	-113	-227	-327	-61
1951-52	-176	-23	27	32	24	21	19	17	6	-108	-215	-311	-58
1952-53	-168	-22	26	30	23	19	18	16	6	-102	-204	-295	-55
1953-54	-159	-21	24	28	21	18	17	15	5	-97	-193	-279	-52
1954-55	-151	-20	22	26	20	17	16	14	5	-91	-182	-262	-49
1955-56	-142	-20	21	25	18	16	15	13	4	-86	-171	-246	-47
1956-57	-134	-19	19	23	17	15	13	12	4	-81	-160	-230	-44
1957-58	-125	-18	17	21	16	13	12	11	3	-75	-149	-214	-41
1958-59	-117	-17	16	19	14	12	11	10	3	-70	-138	-198	-38
1959-60	-108	-16	14	17	13	11	10	9	2	-64	-127	-182	-35
1960-61	-100	-15	12	15	11	10	9	8	2	-59	-116	-166	-33
1961-62	-91	-15	11	13	10	9	8	7	1	-53	-105	-150	-30
1962-63	-83	-14	9	11	9	7	7	6	1	-48	-93	-133	-27
1963-64	-74	-13	7	9	7	6	6	5	0	-43	-82	-117	-24
1964-65	-66	-12	6	8	6	5	4	4	0	-37	-71	-101	-22
1965-66	-57	-11	4	6	4	4	3	3	-1	-32	-60	-85	-19
1966-67	-49	-11	2	4	3	2	2	2	-1	-29	-55	-77	-17
1967-68	-44	-10	2	3	2	2	2	2	-1	-26	-49	-70	-16
1968-69	-40	-9	2	3	2	2	2	2	-1	-23	-44	-62	-14
1969-70	-36	-8	1	2	2	2	1	1	-1	-21	-39	-55	-13
1970-71	-31	-7	1	2	1	1	1	1	-1	-18	-33	-47	-11
1971-72	-27	-6	1	2	1	1	1	1	-1	-15	-28	-40	-9
1972-73	-23	-6	0	1	1	1	1	1	-1	-12	-23	-32	-8
1973-74	-19	-5	0	1	0	0	0	0	-1	-10	-17	-24	-6
1974-75	-14	-4	0	0	0	0	0	0	-1	-7	-12	-17	-5
1975-76	-10	-3	-1	0	0	0	0	0	-1	-4	-7	-9	-3
1976-77	-6	-2	-1	1	-1	0	0	0	-1	-1	-1	-2	-1
1977-78	-2	-1	-1	-1	-1	-1	-1	-1	-1	2	4	6	0
1978-79	3	-1	-2	-2	-1	-1	-1	-1	-1	4	9	14	2
1979-80	7	0	-2	-2	-2	-1	-1	-1	-1	7	15	21	3
1980-81	11	1	-2	-2	-2	-2	-1	-1	0	3	7	10	2
1981-82	5	1	-1	-1	-1	-1	-1	-1	0	3	6	8	2
1982-83	5	1	-1	-1	-1	-1	0	0	0	2	5	7	1
1983-84	4	1	-1	-1	0	0	0	0	0	2	4	6	1
1984-85	3	0	0	-1	0	0	0	0	0	2	3	4	1
1985-86	2	0	0	0	0	0	0	0	0	1	2	3	1
1986-87	2	0	0	0	0	0	0	0	0	1	1	2	0
1987-88	1	0	0	0	0	0	0	0	0	0	0	0	0
1988-89	0	0	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	-113	-15	18	21	16	13	12	11	4	-71	-142	-209	-38

KER3DD9

USGS # 12371800

KERR (FLATHEAD LAKE)

River: FLATHEAD

Drainage Area: 7086 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 72

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												23730	
1928-29	6935	3847	5204	4017	2920	2436	2573	3273	6433	32880	35860	8880	9631
1929-30	3117	2014	2109	1853	2751	<u>1387</u>	2680	2740	21520	26940	24280	7363	8213
1930-31	2585	2805	3431	3464	2383	2401	3028	3786	8886	33850	18940	5023	7574
1931-32	2194	2640	2218	2773	2579	2148	3099	6824	17420	44920	41020	12730	11710
1932-33	4634	2678	3176	6362	5693	3566	2704	3201	11410	34060	70190	19020	13890
1933-34	5694	3855	8880	<u>13450</u>	<u>12280</u>	<u>9939</u>	6533	8794	<u>36550</u>	49940	24970	8209	15790
1934-35	3013	2183	3233	7799	3959	3997	4467	3973	9155	38280	41370	13830	11280
1935-36	4167	2335	2031	2115	1963	1971	1899	2625	18960	48240	24190	5424	9677
1936-37	2252	1530	1805	1669	<u>1676</u>	1610	1785	2079	6027	33140	31190	8815	7822
1937-38	3121	1993	2537	3624	3096	2932	2690	3470	16010	37030	37090	10120	10320
1938-39	3240	2513	2398	2248	2659	2841	2043	3970	19110	45290	23560	9381	9981
1939-40	2659	1908	1641	1939	2787	1827	2394	4345	12630	30770	18930	4807	7229
1940-41	1745	2139	2311	2290	2179	2136	2092	3045	9745	<u>19980</u>	<u>13050</u>	<u>3994</u>	<u>5404</u>
1941-42	1694	3162	5567	4718	8651	4040	3055	2511	15400	29610	30950	14730	10370
1942-43	4386	3009	2605	3816	4346	3482	3142	3029	29770	32180	45450	24870	13350
1943-44	5700	2802	3169	2886	2321	1942	1726	<u>1967</u>	6860	23500	17250	4844	6259
1944-45	2135	2092	2721	2569	2339	2675	2475	2689	5085	32990	34130	11710	8657
1945-46	2860	2376	3433	5818	4399	3464	3289	4420	20650	45320	35820	13110	12110
1946-47	4103	3103	5111	5099	5545	3866	4326	6016	19550	54070	37700	12960	13500
1947-48	5691	4437	10080	6506	4185	4033	3390	3315	13340	53310	48750	12520	14140
1948-49	6869	3006	2586	2647	2280	2136	2656	3315	16190	45240	26260	7549	10100
1949-50	3327	2489	2748	5424	4994	3640	3712	5391	11520	36800	59760	31860	14330
1950-51	<u>8858</u>	3592	7612	8272	9084	6645	8396	4780	17010	52970	37780	24370	15830
1951-52	6595	6474	11140	6643	4768	3967	4109	3418	23630	45240	28860	10840	12990
1952-53	3908	2609	2063	1639	1929	4218	4100	3454	10520	33970	52910	19270	11720
1953-54	5153	2506	2041	2975	2949	2841	3442	3901	8895	<u>55080</u>	49560	<u>32310</u>	14380
1954-55	8288	5639	5249	5681	3995	3314	3367	2083	5540	26520	48430	20120	11530
1955-56	5038	2751	6586	6998	5729	4452	3398	3811	18140	51320	48530	15100	14330
1956-57	5136	3329	3954	3617	4111	2911	3353	3828	9229	53860	30920	8288	11100
1957-58	2901	1648	2563	2873	2656	2746	3199	3215	10570	49040	25360	7166	9541
1958-59	2601	2728	4901	7070	7543	7045	5614	4151	19040	39130	66860	23520	15840
1959-60	6416	8207	<u>13840</u>	10850	7172	4723	3880	7095	20680	30150	46150	15950	14580
1960-61	5536	3317	2906	3693	2832	2630	5046	5420	11970	46400	50220	9672	12480
1961-62	3592	2927	4733	3959	2784	2716	4531	3398	21480	39550	37490	11490	11560
1962-63	4318	2863	4793	5573	5274	3972	6509	5032	10970	29420	32390	14190	10450
1963-64	3917	3193	2319	2459	2508	2648	2701	2745	6644	36850	68330	20080	12840
1964-65	5707	5770	5560	4784	5786	4761	4751	5122	18320	43270	55870	19250	14930
1965-66	7633	6908	5298	4517	3734	3487	3257	3664	15020	36750	40110	14250	12070
1966-67	4005	3205	3110	4140	4807	4258	4742	3843	7430	40090	61200	19050	13330
1967-68	4366	2411	3342	5010	3434	3196	4858	7269	6656	31100	39670	13420	10390
1968-69	6150	<u>9286</u>	9018	7468	4729	5176	3643	4084	23370	40100	31910	14500	13310
1969-70	3743	3147	3552	2828	2434	2950	2950	3224	4892	39620	49120	11970	10890
1970-71	3990	2694	3176	3501	3203	4576	<u>10900</u>	4551	13970	53680	48660	19820	14390
1971-72	6563	7729	2953	3072	2749	2698	3847	11500	13260	45740	60650	20270	14670
1972-73	7430	3805	3720	3423	3296	3286	2742	3188	7380	28220	28260	7832	8573
1973-74	2579	2160	1983	6868	5605	9669	5504	5275	18900	36790	<u>73340</u>	26720	<u>16270</u>
1974-75	7137	3768	2502	2651	2491	2745	2764	2749	<u>4221</u>	28920	60940	24700	12150
1975-76	7141	5265	5393	6945	9271	4951	4048	3396	15620	48620	33150	18740	13580
1976-77	8759	4185	2373	2411	2153	2331	2370	2343	10120	22480	15410	4840	6667
1977-78	2893	4045	3556	3334	5101	3036	2760	5591	17530	34080	40720	18990	11830
1978-79	6907	6069	3234	2875	2342	2781	3081	4726	9579	43440	33490	9568	10710
1979-80	3360	2441	1786	1506	2740	2099	2320	2976	16940	42180	26480	9636	9554
1980-81	4145	4645	3379	4578	8012	7269	5313	5665	14460	41880	39520	15920	12930
1981-82	5181	2477	2044	2653	2585	2394	4969	5121	8683	37390	51640	22190	12290
1982-83	6195	3329	3510	3182	3018	3624	3110	5558	10730	30140	31570	17740	10180
1983-84	5756	3047	2976	5452	2892	5411	3565	4663	12220	24110	36050	12960	9913
1984-85	4123	3675	3787	4032	2585	2054	2262	2645	15420	42650	31040	6528	10090
1985-86	3740	8519	8894	9868	3598	3530	5079	<u>12970</u>	17570	30900	28150	7565	11700
1986-87	2998	2937	3600	4644	3216	2051	2110	6021	18730	33120	13720	6642	8348
1987-88	3446	<u>1465</u>	<u>1052</u>	<u>1401</u>	1703	1559	<u>1466</u>	2671	14190	28230	20310	4873	6867
1988-89	<u>1385</u>	1467	3663	4363	3182	2580	2317	3739	19610	36510	35480	11100	10460
1989-90	5240	4446											
MEAN	4596	3461	4052	4438	4000	3537	3642	4321	14120	38320	38540	13980	11420
MEDIAN	4156	2971	3234	3816	3182	3036	3257	3811	13970	37030	36050	12960	11560

KERR3M9

THOMPSON FALLS

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVL
1927-28												-1053	
1928-29	703	-236	16	67	46	42	41	38	9	-503	-784	-1007	-252
1929-30	-680	-235	10	61	41	38	37	35	-11	-488	-753	-960	-244
1930-31	-656	-234	4	54	36	34	34	31	-12	-474	-722	-914	-237
1931-32	-633	-233	-2	48	32	30	30	28	-14	-460	-691	-867	-229
1932-33	-609	-232	-8	42	27	26	26	25	-16	-446	-660	-820	-223
1933-34	-586	-231	-14	35	22	22	23	21	-18	-431	-629	-774	-215
1934-35	-562	-230	-20	29	17	18	19	18	-19	-417	-598	-727	-208
1935-36	-539	-230	-26	22	12	14	15	15	-21	-403	-567	-681	-200
1936-37	-515	-229	-32	16	8	10	12	12	-23	-389	-536	-634	-193
1937-38	-492	-228	-38	10	3	6	8	8	-25	-374	-505	-588	-186
1938-39	-468	-227	-44	3	-2	2	4	5	-27	-360	-473	-541	-179
1939-40	-445	-226	-50	-3	-7	-2	1	2	-28	-346	-442	-495	-171
1940-41	-421	-225	-56	-9	-11	-6	-3	-1	-30	-332	-411	-448	-164
1941-42	-398	-224	-62	-16	-16	-10	-7	-5	-32	-317	-380	-402	-157
1942-43	-374	-223	-68	-22	-21	-14	-10	-8	-34	-303	-349	-355	-150
1943-44	-351	-222	-74	-29	-26	-18	-14	-11	-35	-289	-318	-309	-142
1944-45	-327	-221	-80	-35	-30	-22	-18	-15	-37	-275	-287	-262	-135
1945-46	-304	-220	-86	-41	-35	-27	-21	-18	-39	-260	-256	-216	-128
1946-47	-280	-219	-92	-48	-40	-31	-25	-21	-41	-246	-225	-169	-120
1947-48	-257	-218	-98	-54	-45	-35	-29	-24	-43	-232	-194	-123	-113
1948-49	-233	-217	-104	-61	-49	-39	-32	-28	-44	-218	-163	-76	-106
1949-50	-210	-216	-110	-67	-54	-43	-36	-31	-46	-203	-131	-30	-98
1950-51	-186	-216	-116	-73	-59	-47	-40	-34	-45	-191	-116	-12	-95
1951-52	-171	-207	-115	-74	-59	-47	-40	-34	-44	-178	-100	5	-89
1952-53	-156	-199	-115	-75	-59	-47	-40	-35	-43	-165	-84	22	-83
1953-54	-141	-191	-114	-75	-60	-47	-40	-35	-42	-152	-68	40	-77
1954-55	-125	-183	-113	-76	-60	-47	-41	-35	-41	-139	-53	57	-71
1955-56	-110	-175	-112	-76	-60	-48	-41	-35	-40	-126	-37	74	-65
1956-57	-95	-167	-111	-77	-60	-48	-41	-35	-39	-113	-21	92	-60
1957-58	-80	-159	-110	-78	-60	-48	-41	-35	-38	-100	-5	109	-54
1958-59	-65	-151	-109	-78	-61	-48	-41	-36	-37	-87	11	126	-48
1959-60	-50	-143	-108	-79	-61	-48	-42	-36	-36	-74	26	144	-42
1960-61	-35	-135	-108	-80	-61	-48	-42	-36	-35	-62	42	161	-36
1961-62	-19	-127	-107	-80	-61	-49	-42	-36	-34	-49	58	178	-30
1962-63	-4	-119	-106	-81	-62	-49	-42	-36	-33	-36	74	196	-25
1963-64	11	-111	-105	-81	-62	-49	-43	-36	-32	-23	90	213	-19
1964-65	26	-103	-104	-82	-62	-49	-43	-36	-31	-10	105	230	-13
1965-66	41	-95	-103	-83	-62	-49	-43	-37	-30	3	121	248	-7
1966-67	56	-86	-102	-83	-62	-50	-43	-37	-27	9	124	246	-4
1967-68	62	-78	-96	-79	-59	-47	-41	-35	-25	15	127	245	0
1968-69	68	-69	-90	-75	-56	-44	-38	-33	-23	22	130	244	4
1969-70	74	-60	-85	-70	-52	-41	-36	-30	-20	28	133	243	7
1970-71	80	-51	-79	-66	-49	-39	-34	-28	-18	34	136	242	11
1971-72	86	-42	-73	-62	-45	-36	-31	-26	-16	40	139	240	15
1972-73	92	-33	-67	-57	-42	-33	-29	-24	-13	47	142	239	19
1973-74	99	-24	-61	-53	-39	-30	-26	-22	-11	53	145	238	23
1974-75	105	-15	-55	-49	-35	-28	-24	-20	-8	59	148	237	27
1975-76	111	-7	-49	-45	-32	-25	-21	-18	-6	65	150	236	30
1976-77	117	2	-43	-40	-29	-22	-19	-16	-4	72	153	234	34
1977-78	123	11	-37	-36	-25	-19	-17	-13	-1	78	156	233	38
1978-79	129	20	-32	-32	-22	-17	-14	-11	1	84	159	232	42
1979-80	135	29	-26	-27	-18	-14	-12	-9	3	90	162	231	46
1980-81	141	38	-20	-23	-15	-11	-9	-7	-1	51	142	233	44
1981-82	114	9	-17	-16	-12	-9	-8	-7	-1	44	124	204	36
1982-83	99	7	-15	-14	-10	-8	-7	-6	-1	37	106	176	31
1983-84	85	6	-13	-12	-9	-7	-6	-5	-1	31	89	147	26
1984-85	71	5	-11	-10	-7	-6	-5	-4	-1	24	71	118	21
1985-86	56	3	-8	-8	-6	-5	-4	-3	-1	17	53	89	16
1986-87	42	2	-6	-6	-4	-3	-3	-3	-1	10	35	61	10
1987-88	28	0	-4	-4	-3	-2	-2	-2	-1	3	18	32	5
1988-89	13	-1	-2	-2	-1	-1	-1	-1	0	0	0	0	0
1989-90	0	0											
MEAN	-149	-126	-62	-35	-28	-21	-17	-14	-23	-137	-121	-99	-69

TOM3DD9

USGS # 12390001

THOMPSON FALLS

River: CLARK FORK

Drainage Area: 20988 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 208

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												37310	
1928-29	13440	8840	9854	8362	6950	5031	5017	7220	11640	48720	55340	16500	16450
1929-30	5665	4227	4965	4448	5965	4018	6840	6307	35440	43790	37330	12360	14270
1930-31	4998	5627	7356	7183	5402	5282	5650	6679	12990	45630	27370	<u>7715</u>	11860
1931-32	<u>3381</u>	4248	4358	5209	5143	4379	6376	10930	26650	71430	64270	20990	18950
1932-33	7885	5526	6000	10550	8700	6636	5291	6689	18500	53690	110800	30750	22580
1933-34	9695	7778	14320	<u>21480</u>	<u>23680</u>	<u>21020</u>	15000	20110	<u>64550</u>	72840	37510	11970	26740
1934-35	5739	4254	6672	12320	7733	7882	8266	8069	15930	56240	59990	21390	17900
1935-36	7101	4522	4600	4787	<u>4171</u>	4045	4175	7672	32730	73970	41330	10270	16650
1936-37	4821	4234	4649	4505	4208	<u>3351</u>	<u>4133</u>	5072	9777	46600	43700	13860	12440
1937-38	5628	3802	4961	6157	6064	5770	5248	7089	26230	59980	63450	21940	18060
1938-39	6521	5527	5974	5861	6087	5900	4730	8620	28970	67710	36070	14630	16450
1939-40	4829	4155	4608	5024	5994	4489	5579	8922	20930	45390	28450	8126	12220
1940-41	3533	3989	5568	5235	4895	4557	4546	5880	13760	<u>27940</u>	21860	8045	<u>9166</u>
1941-42	3860	6671	9760	9098	13510	7472	6297	6875	25620	45970	53880	24050	17780
1942-43	7806	5981	5751	7860	8175	6514	8088	9364	53960	57360	83490	44180	24870
1943-44	11590	6814	7194	7045	5343	4546	4531	<u>5019</u>	11270	34310	32480	12190	11870
1944-45	5500	4735	5641	5679	4438	5759	5305	5573	9243	49910	55280	19930	14780
1945-46	5652	4948	6587	9328	7591	6721	6270	8560	31040	65270	53350	21100	18910
1946-47	7296	6907	10940	11480	13570	8825	10020	13890	33200	91900	64530	23070	24710
1947-48	10130	8622	16310	12440	9410	9350	8221	8341	26900	94590	96020	25470	27160
1948-49	13940	7576	6962	6914	5131	4721	6724	8110	28480	80640	48450	14390	19400
1949-50	7071	6127	6945	10020	9653	6133	7902	11930	21860	57950	101400	<u>51510</u>	24900
1950-51	<u>16250</u>	8463	13580	15560	14720	11330	15960	11080	31990	88380	64800	37720	27550
1951-52	12590	11640	17020	12030	8876	7926	8118	7920	38880	76730	47540	18990	22380
1952-53	7902	5464	5414	4955	4944	8427	6683	7452	17080	49800	89200	31610	20070
1953-54	9884	5580	5455	6372	6570	5769	7393	9473	19850	85700	75850	47720	23900
1954-55	13580	10160	9594	9810	7538	6355	6662	5528	11770	46410	79890	38390	20510
1955-56	10230	6406	11180	11670	12510	9864	8246	12120	42380	<u>94740</u>	81130	26440	27260
1956-57	10670	7384	8250	7603	8395	5261	8132	10130	17630	88320	56410	15620	20400
1957-58	6864	4686	6312	6471	6101	6065	6622	7503	18960	80750	49460	16070	18060
1958-59	6891	5593	8843	13170	14120	12500	10340	10630	35070	64990	105400	36540	27000
1959-60	11450	13590	<u>24240</u>	19680	14650	9988	8257	13790	35230	49660	69800	22860	24410
1960-61	10080	7145	6359	7573	6039	6201	9970	10460	19320	68410	78710	15770	20500
1961-62	6714	6287	8832	7607	6576	5950	9721	7449	37060	65420	65440	21360	20700
1962-63	9119	6658	9703	10750	10900	7775	14770	11110	19730	48970	54360	24150	18990
1963-64	7728	6981	5741	6014	5873	5876	5790	6019	12940	58950	113400	35070	22490
1964-65	11320	10950	9992	9253	12100	10300	10240	10350	35960	74620	95460	33190	27000
1965-66	14050	14490	11400	9660	8227	7597	6636	8608	26160	54640	55970	21120	19920
1966-67	7270	6512	6393	7924	8597	7482	8400	7789	13290	63770	105500	31970	22920
1967-68	9025	5681	8311	10790	8128	8050	11110	14680	14040	48390	67430	23390	19070
1968-69	11060	<u>15610</u>	15850	13790	9444	11060	9407	10620	44080	72420	54040	27760	24640
1969-70	8182	7468	8510	7316	6627	7208	7338	7659	10900	66510	85490	25030	20720
1970-71	9125	7587	8109	7983	7567	9978	<u>20910</u>	10340	25560	91880	84480	32860	26350
1971-72	11670	7166	7127	7511	6566	6980	9866	25440	27200	79700	110000	36450	27970
1972-73	14040	8932	8568	7650	8109	7825	6249	7090	12000	39780	39710	12550	14410
1973-74	5339	5085	4758	11480	9280	19150	11260	11800	34760	63410	<u>119800</u>	43360	<u>28270</u>
1974-75	12990	8159	6431	6691	5980	6338	6312	6286	<u>8871</u>	50630	107800	48930	22980
1975-76	15130	11490	12160	14080	18740	11280	9601	9596	32600	91580	64880	33860	27140
1976-77	15800	9490	7129	6522	5754	5607	5893	5508	15030	31030	23530	8207	11650
1977-78	5371	6848	7207	7366	11250	7278	6776	13050	32320	59040	70840	35490	21950
1978-79	12010	11540	8026	7487	6397	7237	8315	10740	18030	72250	56240	17100	19670
1979-80	7305	6295	5281	5677	6639	5521	6180	6952	26660	72350	58290	21600	19080
1980-81	8752	9553	8678	10240	15170	13930	11330	11620	23530	70230	71840	27900	23610
1981-82	9396	6201	6505	6881	6778	6120	12250	12370	19030	65910	90390	42000	23670
1982-83	11820	7634	8766	7584	6999	8070	7665	11630	17360	46220	51080	30330	17980
1983-84	11220	7739	8013	10560	6734	11790	8150	9723	20750	42350	63250	23980	18670
1984-85	8655	8704	8639	8615	6420	5893	6083	6531	25580	64170	47580	10940	17350
1985-86	7815	14390	14880	16010	8571	8061	12540	<u>26590</u>	33110	50460	50540	14340	21440
1986-87	6488	7521	8375	9183	7142	5567	5782	10510	27720	48460	<u>21780</u>	10620	14140
1987-88	6279	4820	<u>4202</u>	<u>4276</u>	4566	4221	4400	6745	23240	43470	33190	9046	12370
1988-89	3813	<u>3480</u>	6571	8009	6337	5688	5657	8829	33990	59070	55200	17930	17900
1989-90	9679	9251											
MEAN	8865	7318	8367	8898	8324	7539	8066	9650	24910	61990	64460	24190	20220
MEDIAN	8418	6831	7207	7860	6999	6636	7393	8620	25560	59980	59990	22400	20070

TOM3M9

NOXON RAPIDS

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												-1055	
1928-29	-705	-238	16	67	45	42	41	38	-9	-503	-786	-1008	-252
1929-30	-681	-237	9	60	41	38	37	35	-10	-489	-754	-961	-245
1930-31	-658	-236	3	54	36	34	34	31	-12	-474	-723	-914	-238
1931-32	-634	-235	-3	47	31	30	30	28	-14	-460	-692	-868	-230
1932-33	-610	-234	-9	41	26	26	26	25	-16	-446	-661	-821	-223
1933-34	-587	-233	-15	34	22	22	23	21	-18	-431	-629	-774	-216
1934-35	-563	-232	-21	28	17	17	19	18	-19	-417	-598	-727	-208
1935-36	-539	-231	-27	22	12	13	15	15	-21	-403	-567	-681	-200
1936-37	-516	-230	-33	15	7	9	12	12	-23	-388	-536	-634	-194
1937-38	-492	-229	-39	9	2	5	8	8	-25	-374	-504	-587	-186
1938-39	-468	-228	-45	2	-2	1	4	5	-26	-360	-473	-540	-179
1939-40	-445	-227	-51	-4	-7	-3	1	2	-28	-345	-442	-493	-171
1940-41	-421	-226	-57	-11	-12	-7	-3	-1	-30	-331	-411	-447	-164
1941-42	-397	-225	-63	-17	-17	-11	-7	-5	-32	-317	-379	-400	-157
1942-43	-374	-224	-70	-23	-22	-15	-11	-8	-33	-302	-348	-353	-150
1943-44	-350	-223	-76	-30	-26	-19	-14	-11	-35	-288	-317	-306	-142
1944-45	-326	-222	-82	-36	-31	-23	-18	-15	-37	-274	-286	-260	-135
1945-46	-303	-221	-88	-43	-36	-27	-22	-18	-39	-259	-254	-213	-128
1946-47	-279	-220	94	-49	-41	-31	-25	-21	-40	-245	-223	-166	-120
1947-48	-256	-219	-100	-55	-45	-35	-29	-24	-42	-231	-192	-119	-113
1948-49	-232	-218	-106	-62	-50	-39	-33	-28	-44	-216	-161	-73	-105
1949-50	-208	-217	-112	-68	-55	-43	-36	-31	-46	-202	-129	-26	-98
1950-51	-185	-216	-118	-75	-60	-47	-40	-34	-45	-189	-113	-8	-94
1951-52	-169	-208	-117	-75	-60	-47	-40	-34	-44	-176	-97	10	-88
1952-53	-154	-200	-116	-78	-60	-47	-40	-35	-43	-163	-81	27	-82
1953-54	-138	-192	-116	-77	-60	-48	-41	-35	-42	-150	-65	45	-76
1954-55	-123	-183	-115	-77	-61	-48	-41	-35	-41	-137	-49	63	-71
1955-56	-107	-175	-114	-78	-61	-48	-41	-35	-40	-124	-33	81	-65
1956-57	-92	-167	-113	-79	-61	-48	-41	-35	-38	-111	-17	99	-59
1957-58	-77	-159	-112	-79	-61	-48	-41	-35	-37	-98	-1	116	-53
1958-59	-61	-151	-111	-80	-62	-49	-42	-36	-36	-84	15	134	-47
1959-60	-46	-143	-111	-81	-62	-49	-42	-36	-35	-71	32	152	-41
1960-61	-30	-134	-110	-81	-62	-49	-42	-36	-34	-58	48	170	-35
1961-62	-15	-126	-109	-82	-62	-49	-42	-36	-33	-45	64	187	-29
1962-63	1	-118	-108	-83	-63	-49	-43	-36	-32	-32	80	205	-23
1963-64	16	-110	-107	-83	-63	-50	-43	-36	-31	-19	96	223	-17
1964-65	31	-102	-106	-84	-63	-50	-43	-36	-30	-6	112	241	-11
1965-66	47	-93	-105	-84	-63	-50	-43	-37	-29	7	128	258	-5
1966-67	62	-85	-105	-85	-63	-50	-43	-37	-27	13	131	257	-2
1967-68	68	-76	-99	-81	-60	-47	-41	-35	-24	19	134	256	2
1968-69	75	-67	-93	-76	-57	-45	-39	-33	-22	26	137	255	6
1969-70	81	-58	-87	-72	-53	-42	-36	-30	-20	32	140	254	10
1970-71	87	-49	-81	-68	-50	-39	-34	-28	-17	38	143	253	13
1971-72	93	-40	-75	-63	-46	-36	-31	-26	-15	45	146	251	17
1972-73	99	-31	-69	-59	-43	-34	-29	-24	-12	51	149	250	21
1973-74	105	-22	-63	-55	-40	-31	-26	-22	-10	57	152	249	25
1974-75	111	-13	-57	-50	-36	-28	-24	-20	-8	63	155	248	29
1975-76	118	-5	-51	-46	-33	-25	-22	-18	-5	70	158	247	33
1976-77	124	4	-45	-42	-29	-22	-19	-16	-3	76	161	246	37
1977-78	130	13	-39	-37	-26	-20	-17	-13	-1	82	164	245	41
1978-79	136	22	-33	-33	-22	-17	-14	-11	2	88	167	244	45
1979-80	142	31	-27	-28	-19	-14	-12	-9	4	95	170	242	48
1980-81	148	40	21	-24	-16	-11	-10	-7	-1	53	146	240	45
1981-82	118	11	17	-17	-12	-9	-8	-7	-1	46	128	210	37
1982-83	103	9	-15	-15	-11	-8	-7	-6	-1	39	110	180	32
1983-84	88	7	-13	-12	-9	-7	-6	-5	-1	32	91	151	27
1984-85	73	6	-11	-10	-7	-6	-5	-4	-1	25	73	121	21
1985-86	58	4	-9	-8	-6	-5	-4	-3	-1	18	55	91	16
1986-87	43	2	-6	-6	-4	-3	-3	-3	-1	11	36	62	11
1987-88	28	1	-4	-4	-3	-2	-2	-2	-1	4	18	32	5
1988-89	13	-1	-2	-2	-1	-1	-1	-1	0	0	0	0	0
1989-90	0	0											
MEAN	-146	-125	-63	-36	-28	-21	-17	-14	-22	-135	-118	-94	-68

NOX3DD9

USGS # 12391301

NOXON RAPIDS

River: CLARK FORK

Drainage Area: 21833 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 169.7

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												36970	
1928-29	12520	6862	7663	6485	4538	3352	3354	5954	11600	49150	52900	15010	14990
1929-30	4686	2771	3738	3199	4703	2380	6019	5876	36240	43140	36330	11490	13370
1930-31	4117	4106	5791	5678	4104	3889	4647	6185	13480	45460	25630	<u>6628</u>	10840
1931-32	2572	3133	3210	3804	3689	3337	5255	11630	28760	74630	64570	21700	18860
1932-33	7101	4213	4757	9005	7552	5874	3989	6028	20720	54880	115400	30730	22510
1933-34	8655	6201	12850	<u>19440</u>	<u>29020</u>	<u>23310</u>	16450	22050	<u>69800</u>	73430	36620	11770	27500
1934-35	4299	3158	5479	11510	6843	6736	7610	7428	17290	58290	58520	20370	17320
1935-36	6630	3311	3119	3353	<u>2773</u>	2875	<u>2341</u>	5774	35020	73820	39740	9469	15710
1936-37	3459	2648	3032	<u>2873</u>	2834	<u>1574</u>	2413	<u>3482</u>	9700	47240	41940	12700	11200
1937-38	4205	<u>2346</u>	3371	4668	4720	4652	3892	6754	28640	61300	63130	21740	17480
1938-39	5472	<u>3577</u>	4419	4390	4590	4300	3352	7778	30440	67590	36690	14380	15650
1939-40	4076	2741	<u>3006</u>	3428	4504	2973	4332	8665	21630	45990	28470	7138	11420
1940-41	<u>2373</u>	2570	3995	3722	3001	2941	3138	4680	13090	<u>28040</u>	21600	7156	<u>8041</u>
1941-42	2495	5180	8179	7931	13780	6965	5212	5764	26110	45250	52680	23590	16960
1942-43	6372	4630	4343	6579	6990	5353	6856	7926	57050	59330	85270	44880	24630
1943-44	10820	5563	5955	5828	4405	3257	3147	3525	10330	33130	30140	10820	10590
1944-45	4051	3348	4256	4273	2911	4583	4489	4773	<u>9089</u>	50800	53240	19120	13780
1945-46	4878	3851	5446	8298	8609	5989	5124	7664	32400	66240	53100	20670	18400
1946-47	6063	5541	9278	10390	14050	8195	9691	14370	34290	91790	63800	23040	24280
1947-48	8965	7387	14870	11140	8350	8217	7288	7698	28000	<u>98740</u>	101100	25550	27280
1948-49	12600	5932	5754	5781	3563	3427	6075	7962	31170	82270	49360	14040	19060
1949-50	5710	4514	5185	8084	8053	5233	7789	12780	24530	60770	101300	<u>52330</u>	24720
1950-51	<u>15160</u>	6860	11690	14780	14630	11120	17420	11020	33830	90040	66590	38150	27660
1951-52	11360	10210	15280	10140	7651	6383	6305	6971	39260	76520	47210	18410	21330
1952-53	6990	4021	3588	3228	3252	7230	8055	6664	16870	51780	87610	31210	19200
1953-54	9142	4021	3751	4656	5659	4063	6060	9433	20310	87740	76050	47890	23340
1954-55	13080	9232	8514	9152	6503	5065	5762	4091	11540	47690	80780	37880	19970
1955-56	9758	5426	10280	11100	13080	9445	7129	11230	44700	98230	82360	26630	27470
1956-57	10050	6128	7020	6265	7371	3592	7244	9214	19060	91930	57160	15190	20100
1957-58	6256	3011	5064	5092	4974	4609	5803	6982	19910	81870	49580	15650	17490
1958-59	5839	4391	8060	12510	13370	11860	10710	10270	29160	65380	104700	35250	25960
1959-60	10470	12900	<u>22690</u>	18520	13910	8077	6620	13760	37150	52590	69680	21720	23990
1960-61	8558	5745	4859	6123	4822	4785	9796	10700	20950	73480	78140	14980	20250
1961-62	5863	5183	7946	6570	4976	4396	8342	8159	39670	68820	64870	19670	20380
1962-63	8144	5582	8454	9528	9756	5912	14720	11400	20580	49380	51520	22370	18100
1963-64	6965	5704	4568	5145	3967	4195	4277	5486	13810	60600	110900	33020	21510
1964-65	10090	9600	8676	8073	11380	9587	10480	11770	39790	78500	94210	32230	27050
1965-66	12860	13130	10140	8405	6788	6263	5740	8963	28910	54750	54330	20020	19220
1966-67	6429	5149	4733	6614	7845	6690	8486	8311	14670	65380	103500	30350	22350
1967-68	7762	3763	6799	9554	6461	6104	11290	15210	15080	48580	63080	21650	17930
1968-69	9753	<u>13850</u>	14310	12670	8136	9477	7990	10200	48190	75550	52700	26480	24160
1969-70	6720	5920	7077	6018	5255	5904	6742	8008	11640	67040	84660	23700	19920
1970-71	7770	6070	6891	7062	6409	9115	<u>21620</u>	10910	27350	96480	68080	31650	26430
1971-72	10820	6115	6011	6032	5188	5078	9177	<u>29050</u>	28820	82400	111400	34860	27910
1972-73	12820	7432	7537	6652	6405	6652	5251	7664	12790	38260	37960	11490	13450
1973-74	4341	4196	3798	11000	9093	20950	11210	11810	37160	67500	<u>123300</u>	42820	<u>28910</u>
1974-75	12160	7272	5461	5542	4975	5238	5518	6808	10210	51880	107700	47300	22530
1975-76	14080	10600	11100	12930	18950	10850	9212	9638	32350	92770	63450	32160	26570
1976-77	14710	8896	6254	5615	4693	4689	5153	6018	14030	30640	22580	7196	10900
1977-78	4502	6153	6081	6376	11190	6659	6523	14390	33870	59070	68090	33840	21440
1978-79	11590	10980	6835	6156	4810	4694	7087	10510	18250	72240	53440	15630	18570
1979-80	6321	5375	4237	4356	5483	4484	5959	7934	27260	70700	56560	20420	18270
1980-81	8320	8279	7678	9101	14850	13380	10720	11290	23510	68040	69300	26180	22600
1981-82	9004	5367	5769	6361	6406	5336	13300	13480	20100	68280	92800	42670	24080
1982-83	11550	7088	8345	7175	6822	8143	7708	12570	17990	47660	51670	29580	18080
1983-84	10850	6987	7321	10140	5343	11070	7863	9680	20930	43260	63050	23950	18350
1984-85	8134	8114	7561	7797	5408	4653	4850	7015	26740	63640	46640	10300	16770
1985-86	6997	13090	13900	15710	7751	7148	12170	28300	33340	49940	49510	13650	20950
1986-87	5946	6499	7425	8494	6540	4685	5491	10780	28960	48050	<u>27020</u>	10090	13700
1987-88	5460	3596	3214	3562	3879	3576	3378	5826	23910	42860	31930	8622	11650
1988-89	3267	2791	5898	7155	5647	5262	4443	8793	35570	59670	53820	17210	17490
1989-90	8792	8148											
MEAN	7916	6071	7090	7725	7397	6489	7345	9591	26030	63120	63960	23440	19680
MEDIAN	7431	5572	6081	6614	6406	5336	6523	8311	26110	61300	58520	21710	19220

NOX3M9

CABINET GORGE

Accumulated depletions at site and upstream (1990 level of development)

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												1056	
1928-29	-706	-238	15	66	45	42	41	38	-9	-503	-786	-1009	-253
1929-30	-682	-237	9	60	41	38	37	35	-10	-489	-755	962	-245
1930-31	-658	-236	3	53	36	34	34	31	-12	-475	-724	-915	238
1931-32	-635	-235	-3	47	31	29	30	28	-14	-460	-692	868	230
1932-33	-611	-234	-9	40	26	25	26	25	-16	-446	-661	-821	-223
1933-34	-587	-233	-15	34	21	21	23	21	-17	-431	-630	-774	-216
1934-35	-563	-232	-22	28	17	17	19	18	-19	-417	-598	-727	-209
1935-36	-540	-231	-24	21	12	13	15	15	-21	-403	-567	-680	-201
1936-37	-516	-230	-34	15	7	9	11	12	-23	-388	-536	634	-194
1937-38	-492	-229	-40	8	2	5	8	8	-25	-374	-504	-587	186
1938-39	-469	-228	-46	2	-3	1	4	5	-26	-359	-473	-540	-179
1939-40	-445	-227	-52	-5	-7	-3	0	2	-28	-345	-442	493	-171
1940-41	-421	-226	-58	-11	-12	-7	-3	-1	-30	-331	-410	-446	-164
1941-42	-397	-225	-64	-18	-17	-11	-7	-5	-32	-316	-379	-399	-157
1942-43	-374	-224	-70	-24	-22	-15	-11	-8	-33	-302	-348	-352	-150
1943-44	-350	-223	-76	-30	-27	-19	-14	-11	-35	-288	-316	-305	-142
1944-45	-326	-222	-83	-37	-31	-23	-18	-15	-37	-273	-285	-258	-135
1945-46	-302	-221	-89	-43	-36	-27	-22	-18	-39	-259	-254	-211	-127
1946-47	-279	-220	-95	-50	-41	-31	-25	-21	-40	-244	-222	-165	-120
1947-48	-255	-219	-101	-56	-46	-35	-29	-24	-42	-230	-191	-118	-112
1948-49	-231	-218	-107	-63	-51	-39	-33	-28	-44	-216	-160	-71	-105
1949-50	-208	-217	-113	-69	-55	-43	-36	-31	-46	-201	-128	-24	-98
1950-51	-184	-216	-119	-75	-60	-47	-40	-34	-45	-188	-112	-6	-94
1951-52	-168	-208	-118	-76	-60	-47	-40	-34	-43	-175	-96	12	-88
1952-53	-153	-200	-117	-77	-61	-48	-40	-35	-42	-162	-80	30	-82
1953-54	-137	-192	-117	-77	-61	-48	-41	-35	-41	-149	-63	48	-76
1954-55	-122	-184	-116	-78	-61	-48	-41	-35	-40	-136	-47	66	-70
1955-56	-106	-175	-115	-79	-61	-48	-41	-35	-39	-122	-31	84	-64
1956-57	-90	-167	-114	-79	-62	-48	-41	-35	-38	-109	-15	102	-58
1957-58	-75	-159	-113	-80	-62	-49	-42	-35	-37	-96	2	120	-52
1958-59	-59	-151	-112	-81	-62	-49	-42	-36	-36	-83	18	138	-46
1959-60	-44	-142	-112	-81	-62	-49	-42	-36	-35	-70	34	156	-40
1960-61	-28	-134	-111	-82	-63	-49	-42	-36	-34	-57	50	174	-34
1961-62	-12	-126	-110	-83	-63	-49	-42	-36	-33	-44	67	192	-28
1962-63	3	-118	-109	-83	-63	-50	-43	-36	-32	-30	83	210	-22
1963-64	19	-109	-108	-84	-63	-50	-43	-36	-31	-17	99	228	-16
1964-65	34	-101	-107	-85	-63	-50	-43	-36	-30	-4	115	246	-10
1965-66	50	-93	-107	-85	-64	-50	-43	-37	-29	9	132	264	-4
1966-67	65	-85	-106	-86	-64	-50	-44	-37	-26	15	135	263	-1
1967-68	72	-76	-100	-82	-61	-48	-41	-35	-24	22	138	261	3
1968-69	78	-67	-94	-77	-57	-45	-39	-33	-22	28	141	260	7
1969-70	84	-58	-88	-73	-54	-42	-36	-30	-19	34	144	259	11
1970-71	90	-49	-82	-69	-50	-39	-34	-28	-17	40	147	258	15
1971-72	96	-40	-76	-64	-47	-36	-31	-26	-15	47	150	257	18
1972-73	102	-31	-70	-60	-43	-34	-29	-24	-12	53	153	256	22
1973-74	109	-22	-64	-55	-40	-31	-27	-22	-10	59	156	255	26
1974-75	115	-12	-58	-51	-37	-28	-24	-20	-7	65	159	254	30
1975-76	121	-3	-52	-47	-33	-25	-22	-18	-5	72	162	253	34
1976-77	127	6	-46	-42	-30	-23	-19	-16	-3	78	165	252	38
1977-78	133	15	-40	-38	-26	-20	-17	-13	0	84	168	250	42
1978-79	140	24	-34	-33	-23	-17	-14	-11	2	91	171	249	46
1979-80	146	33	-28	-29	-19	-14	12	-9	4	97	174	248	50
1980-81	152	42	-22	-25	-16	-12	10	-7	-1	54	148	243	46
1981-82	120	11	-18	-17	-12	-9	-8	-7	1	47	130	213	38
1982-83	105	10	-15	-15	-11	-8	-7	6	-1	40	111	183	33
1983-84	90	8	13	13	-9	-7	-6	5	1	33	92	153	27
1984-85	75	6	11	10	8	-6	-5	4	-1	25	74	123	22
1985-86	59	4	-9	8	-6	-5	-4	-3	-1	18	55	93	16
1986-87	44	2	-7	-6	-4	-3	-3	-3	1	11	37	63	11
1987-88	29	1	-4	-4	-3	-2	-2	-2	-1	4	18	32	6
1988-89	14	-1	-2	-2	-1	-1	-1	-1	0	0	0	0	0
1989-90	0	0											
MEAN	-144	-125	-64	-36	-29	-21	-17	-14	-22	-134	-116	-92	-67

CAB3DD9

USGS # 12391900	CABINET GORGE					River CLARK FORK				Drainage Area: 22067 Sq. Mi		River Mile: 149.9	
Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)													
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												39400	
1928-29	14080	8135	8874	7682	5685	4456	4445	7104	12890	51290	55720	16790	16480
1929-30	5921	3892	4855	4297	5812	3447	7168	7036	38050	45480	38580	13000	14790
1930-31	5340	5247	6942	6835	5233	4994	5760	7335	14800	47570	27580	7962	12170
1931-32	3720	4233	4302	4897	4787	4429	6375	12930	30420	77640	67670	23750	20440
1932-33	8472	5396	5896	10200	8781	7073	5126	7193	22110	57350	120000	33200	24220
1933-34	10100	7428	14120	<u>21040</u>	<u>30880</u>	<u>25090</u>	17990	23690	<u>72550</u>	76740	39090	13330	29370
1934-35	5526	4286	6617	12780	8081	7929	8832	8645	18680	60720	61500	22290	18850
1935-36	7973	4463	4223	4444	<u>3843</u>	3949	<u>3392</u>	6920	36750	76910	42320	10980	17200
1936-37	4644	3781	<u>4121</u>	<u>3949</u>	3901	<u>2604</u>	3465	<u>4560</u>	10880	49330	44340	14360	12530
1937-38	5434	3451	4461	5769	5846	5784	5002	7929	30260	63930	66280	23470	19000
1938-39	6635	4806	5604	5520	5720	5478	4545	9002	32110	70540	38970	15830	17130
1939-40	5260	3912	4167	4560	5631	4099	5475	9871	23170	48200	30270	8344	12760
1940-41	<u>3504</u>	3694	5154	4867	4714	4300	4319	5847	14350	<u>29470</u>	<u>23210</u>	8400	<u>9336</u>
1941-42	3630	6347	9387	9219	15290	8496	6443	6962	27680	47470	55160	25320	18480
1942-43	7634	5814	5514	7784	8243	6698	8230	9199	59460	62110	88890	47230	26400
1943-44	12160	6843	7238	7073	5607	4423	4286	4685	11540	34730	32010	12140	11910
1944-45	5219	4501	5423	5444	4072	5800	5717	6002	<u>10340</u>	52890	55870	20710	15200
1945-46	6049	5008	6627	9504	7885	7306	6450	9633	34150	69080	55740	22290	20020
1946-47	7300	6742	10520	11690	15610	9602	11150	15860	36130	95250	66770	24740	26020
1947-48	10240	8620	16350	12570	9706	9626	8658	8981	29670	<u>102300</u>	105600	27250	29130
1948-49	13980	7135	6948	6985	4773	4809	7331	9236	32900	85550	51850	15480	20650
1949-50	6903	5647	6410	9348	9379	8575	9189	14190	26160	63310	105300	<u>55040</u>	26490
1950-51	<u>16630</u>	8079	13040	16240	16150	12710	19070	12480	35720	93530	69660	40340	29520
1951-52	12710	11520	16670	11530	8981	7738	7735	8250	41070	79510	49400	19970	22950
1952-53	10200	5209	4818	4474	4496	8521	9349	7938	18220	53760	90700	33030	20890
1953-54	10400	5275	5016	5928	6964	5276	7428	10860	21960	90720	78950	50320	25030
1954-55	14470	10510	9808	10530	7950	6506	7230	5407	12930	49690	83550	40090	21590
1955-56	11070	6747	11620	12490	14650	10930	8611	12830	47070	101600	85600	28450	29320
1956-57	11320	7450	8368	7684	8894	5040	8639	10610	20510	94810	59660	16640	21720
1957-58	7462	4228	6412	6552	6406	5870	7037	8319	21360	84530	51920	17340	19030
1958-59	6993	5604	9309	13840	14960	13520	12380	11760	31020	68080	108800	37310	27800
1959-60	11770	14290	<u>24410</u>	20110	15460	9469	8054	15430	39370	54940	72730	24470	25860
1960-61	10310	7346	6089	7489	5958	5873	11940	12560	23460	74900	81300	17180	22030
1961-62	7151	5946	8884	7429	5947	5627	10100	9407	41650	69340	66710	22030	21680
1962-63	9960	6163	9644	10990	11220	7378	16870	13300	22770	52410	54010	24380	19910
1963-64	8140	6506	5460	5973	4933	5474	5673	6749	15660	62790	115400	35840	23170
1964-65	11660	11000	10100	9603	13650	11880	12610	13980	41940	79870	97000	34850	29030
1965-66	14910	14760	11810	9874	8503	8008	7511	10800	32100	58930	57950	22660	21520
1966-67	7645	6519	6383	8685	9139	8446	10900	10530	16950	69010	108500	33150	24650
1967-68	9220	5241	8125	11260	8077	7952	13790	17410	17570	53030	69280	24840	20460
1968-69	10710	<u>15090</u>	15500	14000	9073	10150	8179	11010	49350	77510	56190	29010	25530
1969-70	8249	7274	8368	7005	6117	6254	7225	8593	12760	69370	88720	25290	21300
1970-71	8959	6816	7932	7826	7424	10340	<u>24350</u>	13070	30110	101000	89920	34230	26480
1971-72	11740	6829	6681	6645	6090	6233	10540	<u>32190</u>	31290	87590	118400	38200	<u>30200</u>
1972-73	15110	7883	8310	7084	6591	7836	6729	9364	14210	40750	41000	12890	14850
1973-74	4704	4138	4738	12220	10320	22610	12710	12920	38250	67910	<u>125200</u>	44110	29970
1974-75	13720	8146	6124	5640	5630	6297	6334	7946	11230	55320	110700	49980	23950
1975-76	15060	11390	12130	13940	21180	12580	11050	11280	35640	97050	67270	34680	28660
1976-77	16460	9629	6796	6309	5438	5316	5761	6699	14520	32430	23860	<u>7716</u>	11770
1977-78	4982	6448	6549	7112	12540	7677	7618	15460	36640	63500	72510	36550	23180
1978-79	12210	11710	7321	6836	5456	5146	7572	11250	19910	77400	57590	18560	20140
1979-80	7633	5782	4991	6808	5894	4855	6109	8340	28880	75220	60360	22160	19760
1980-81	8876	8228	8004	9690	16720	14890	12380	12330	25250	72600	74070	29230	24400
1981-82	9902	5574	6349	6899	6635	5649	15470	15570	22940	73410	96690	45220	25860
1982-83	12710	7799	8814	7659	7457	9148	8892	14610	19860	51140	55690	32670	19760
1983-84	11610	7745	7987	10930	5852	12320	9010	10780	22730	46520	67660	26280	19930
1984-85	8613	9056	8005	8432	6049	5386	5676	7908	29230	67900	50860	11660	18270
1985-86	7691	14170	14230	16400	7992	7347	12720	30400	36160	52670	52540	14900	22260
1986-87	6209	7182	8266	9652	7375	5209	6361	12460	32140	53000	24280	11830	15370
1987-88	6821	4839	4150	4508	4959	4137	4415	7323	27370	46410	34790	9862	13300
1988-89	3882	<u>3230</u>	6975	8451	6709	6033	5472	10200	39330	64180	57960	19490	19350
1989-90	10580	9688											
MEAN	9164	7103	8163	8872	8579	7682	8670	11000	27940	66100	67220	25460	21330
MEDIAN	8745	6631	6975	7684	6964	6506	7572	9871	27680	64160	61500	24070	21300

CAB3M9

USGS # 12393560

PRIEST LAKE

River: PRIEST

Drainage Area:

572 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile:

43.2

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												1109	
1928-29	201	118	317	306	301	<u>129</u>	331	347	947	2821	2025	526	699
1929-30	126	85	144	<u>61</u>	383	144	379	405	2425	<u>1835</u>	1284	275	627
1930-31	122	65	206	238	178	327	395	640	1559	3236	1081	352	702
1931-32	<u>37</u>	127	193	329	379	343	476	1039	3460	5857	3623	722	1382
1932-33	226	148	328	821	932	539	396	448	1843	4327	4882	1128	1336
1933-34	219	313	605	781	1659	1444	950	1373	<u>4690</u>	3457	1012	274	1399
1934-35	115	<u>55</u>	301	1011	622	683	634	604	1642	4430	3131	971	1185
1935-36	257	122	190	228	251	324	225	301	2551	3750	1054	287	796
1936-37	52	150	118	110	259	193	299	<u>209</u>	1012	3069	2308	659	704
1937-38	219	222	354	1111	870	895	631	845	2948	4770	3109	590	1381
1938-39	157	131	276	251	343	450	286	520	2546	3386	1610	580	880
1939-40	98	115	195	250	718	363	491	1012	2727	3417	1082	256	894
1940-41	59	233	341	342	<u>433</u>	450	411	1307	2366	3255	1522	498	937
1941-42	249	770	927	1043	<u>1988</u>	803	569	497	1955	3139	2662	1154	1316
1942-43	375	181	256	458	402	332	358	434	3578	3254	3305	1155	1173
1943-44	301	136	339	282	415	299	245	239	1356	2336	1265	314	628
1944-45	94	148	207	381	277	412	413	533	<u>914</u>	5523	3147	637	1061
1945-46	170	211	290	595	491	467	428	698	2984	6200	3810	1053	1453
1946-47	308	284	329	580	619	502	748	1043	2720	4786	2456	639	1253
1947-48	288	382	<u>1601</u>	932	572	509	497	409	1807	6127	4117	1086	1530
1948-49	494	257	361	386	372	255	418	421	2584	5117	1622	418	1062
1949-50	186	176	304	842	769	473	507	666	1510	4437	4903	1534	1361
1950-51	411	150	1078	1164	1328	1083	1325	750	2256	5034	2459	773	1485
1951-52	224	290	1034	702	1036	629	453	458	2892	5043	2556	814	1346
1952-53	164	119	133	175	347	561	471	470	1462	4709	4078	1089	1150
1953-54	382	154	227	382	410	474	428	470	1433	5800	4620	1979	1402
1954-55	592	368	311	860	601	412	374	343	1168	3406	5554	<u>2202</u>	1350
1955-56	424	272	882	888	785	721	545	565	3048	<u>6356</u>	3669	930	1592
1956-57	292	189	377	312	413	314	469	554	1629	5918	2139	483	1096
1957-58	214	125	302	299	397	359	815	1064	2059	5155	1766	406	1082
1958-59	66	128	230	523	533	816	498	497	2003	4265	4335	762	1222
1959-60	241	<u>778</u>	1033	874	796	576	481	870	2772	4649	3927	830	1485
1960-61	289	272	466	720	413	526	1004	1067	2225	6179	4977	706	1570
1961-62	198	155	457	313	423	283	320	371	2354	3861	2898	577	1019
1962-63	231	270	504	899	1032	687	736	766	1900	3873	2403	813	1178
1963-64	227	167	185	613	449	467	282	354	1096	4168	4498	864	1114
1964-65	327	305	324	646	559	465	437	452	2452	4541	3226	704	1204
1965-66	359	230	152	498	437	454	291	616	2095	4016	2673	688	1045
1966-67	166	135	124	586	1005	805	701	753	1288	4377	5113	797	1321
1967-68	137	80	429	574	408	420	711	1411	1348	3892	3194	629	1103
1968-69	380	525	856	1185	1051	611	540	491	3271	6007	3160	1179	1609
1969-70	219	293	436	544	475	430	387	450	1057	4070	2783	466	970
1970-71	108	175	265	349	546	503	790	571	2018	5661	3462	1087	1296
1971-72	216	280	323	476	438	437	466	1605	1700	5495	3868	1265	1384
1972-73	361	209	298	412	390	447	317	569	1398	3610	2012	375	869
1973-74	41	169	442	1249	1086	<u>2098</u>	1122	1007	2961	5224	<u>7074</u>	1964	<u>2035</u>
1974-75	379	178	185	717	585	406	403	460	938	4910	4773	1201	1264
1975-76	498	368	506	832	1116	709	562	392	1962	5196	2745	910	1319
1976-77	<u>768</u>	355	385	261	143	223	248	282	1137	1878	<u>1005</u>	<u>170</u>	<u>573</u>
1977-78	155	218	296	484	605	414	368	785	2397	4471	3012	836	1173
1978-79	328	426	309	236	<u>56</u>	306	555	422	1200	4019	1303	366	796
1979-80	96	124	307	182	548	243	492	812	3027	4320	1595	551	1025
1980-81	321	472	<u>16</u>	642	1129	1010	1187	1138	1902	4197	3068	1593	1390
1981-82	425	274	619	685	662	506	<u>1382</u>	1348	1781	4886	4543	1525	1552
1982-83	397	415	535	561	717	778	935	2008	2501	4977	3709	1696	1606
1983-84	668	308	339	<u>1672</u>	707	707	573	926	2148	3374	4620	1047	1420
1984-85	232	210	260	500	392	274	291	305	1683	4097	2092	261	885
1985-86	176	274	514	611	310	428	545	1351	2084	3183	1675	628	983
1986-87	169	251	488	786	573	389	360	<u>2778</u>	2972	3696	1185	404	1125
1987-88	201	90	173	322	536	320	269	512	3027	2748	1533	320	836
1988-89	76	103	207	654	368	433	<u>183</u>	554	2702	4313	1988	410	1002
1989-90	395	152											
MEAN	257	234	397	586	607	526	531	721	2123	4330	2956	815	1174
MEDIAN	225	199	317	561	533	450	469	565	2059	4320	2898	714	1178

PSL3M9

ALBENI FALLS

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-1072	
1928-29	-717	-239	16	67	46	42	41	38	-9	-509	-797	-1025	-256
1929-30	-693	-238	9	60	41	38	37	35	-10	-495	-766	-977	-249
1930-31	-669	-237	3	54	36	34	34	31	-12	-480	-734	-930	-242
1931-32	-645	-236	-3	47	31	30	30	28	-14	-466	-702	-882	-233
1932-33	-621	-235	-9	41	26	26	26	25	-16	-451	-670	-835	-227
1933-34	-597	-234	-15	34	21	21	23	21	-18	-436	-639	-787	-219
1934-35	-573	-233	-22	28	16	17	19	18	-19	-422	-607	-740	-212
1935-36	-549	-232	-28	21	12	13	15	15	-21	-407	-575	-692	-204
1936-37	-525	-231	-34	14	7	9	11	12	-23	-393	-544	-645	-197
1937-38	-501	-230	-40	8	2	5	8	8	-25	-378	-512	-597	-189
1938-39	-477	-229	-46	1	-3	1	4	5	-27	-363	-480	-550	-182
1939-40	-452	-229	-53	-5	-8	-3	0	2	-28	-349	-448	-503	-174
1940-41	-428	-228	-59	-12	-13	-7	-4	-2	-30	-334	-417	-455	-167
1941-42	-404	-227	-65	-18	-18	-11	-7	-5	-32	-320	-385	-408	-159
1942-43	-380	-226	-71	-25	-22	-15	-11	-8	-34	-305	-353	-360	-152
1943-44	-356	-225	-77	31	-27	-20	-15	-12	-36	-291	-322	-313	-144
1944-45	-332	-224	-83	-38	-32	-24	-19	-15	-37	-276	-290	-265	-137
1945-46	-308	-223	-90	-44	-37	-28	-22	-18	-39	-261	-258	-218	-130
1946-47	-284	-222	-96	-51	-42	-32	-26	-22	-41	-247	-226	-170	-122
1947-48	-260	-221	-102	-57	-47	-36	-30	-25	-43	-232	-195	-123	-114
1948-49	-236	-220	-108	64	-52	40	33	28	45	218	-163	76	107
1949-50	211	219	-114	70	56	-44	37	32	46	203	131	28	100
1950-51	187	218	-121	-77	61	48	41	35	45	190	-115	-10	96
1951-52	-172	-210	-120	-77	-61	-48	-41	-35	-44	-177	-99	8	-90
1952-53	-156	-201	-119	-78	-62	-48	-41	-35	-43	-163	-82	26	-84
1953-54	-140	-193	-118	-78	-62	-49	-41	-35	-42	-150	-66	44	-78
1954-55	-125	-185	-117	-79	-62	-49	-42	-35	41	-137	-50	62	-72
1955-56	-109	-176	-116	80	-62	-49	-42	-35	40	-124	-33	80	-65
1956-57	93	-168	-115	-80	-62	-49	-42	-36	-39	-111	-17	99	-59
1957-58	-77	-160	-114	-81	-62	-49	-42	-36	-37	-97	-1	117	-53
1958-59	-62	-151	-113	-81	-62	-49	-42	-36	-36	-84	16	135	-47
1959-60	-46	-143	-112	-82	-63	-49	-42	-36	-35	-71	32	153	-41
1960-61	-30	-134	-111	-82	-63	-49	-42	-36	-34	-58	48	171	-35
1961-62	-15	-126	-110	-83	-63	-49	-43	-36	-33	-45	65	189	-29
1962-63	1	-118	-109	-83	-63	-50	-43	-36	-32	-31	81	207	-23
1963-64	17	-109	-108	-84	-63	-50	-43	-36	-31	-18	97	225	17
1964-65	33	101	-107	-84	-63	-50	-43	-36	30	5	114	243	10
1965-66	48	93	-106	85	63	-50	-43	-36	28	8	130	261	4
1966-67	64	-84	-105	-86	-64	-50	-43	-36	-26	15	133	261	-1
1967-68	70	-75	-99	-81	-60	-47	-41	-34	-24	21	136	260	3
1968-69	77	-66	-93	-77	-57	-44	-38	-32	-21	27	139	259	7
1969-70	83	-57	-87	-72	-53	-41	-36	-30	-19	34	143	258	11
1970-71	89	-48	-81	-68	-50	-39	-33	28	-16	40	146	257	15
1971-72	96	-39	-75	-63	-46	-36	31	26	14	46	149	256	19
1972-73	102	30	-69	59	43	33	28	24	12	53	152	255	23
1973-74	108	21	-63	54	39	30	26	21	-9	59	155	254	27
1974-75	115	-11	-56	-50	-36	-27	-23	-19	-7	66	158	253	31
1975-76	121	2	-50	-46	-32	-25	-21	-17	-4	72	161	252	34
1976-77	127	7	-44	-41	-29	-22	-19	-15	-2	78	165	251	39
1977-78	134	16	-38	-37	-25	-19	-16	-13	1	85	168	251	43
1978-79	140	25	-32	-32	-22	-16	-14	-11	3	91	171	250	47
1979-80	146	34	-26	-28	-18	-13	-11	-8	5	97	174	249	50
1980-81	153	43	-20	-23	-15	-10	-9	-6	-1	61	161	261	50
1981-82	133	11	-19	-18	-13	-11	-9	-7	-1	53	141	229	41
1982-83	116	9	-17	-16	-12	-9	-8	-7	-1	45	121	197	35
1983-84	99	8	-14	-14	-10	-8	-7	-6	-1	37	101	165	29
1984-85	83	6	-12	-11	-8	-7	6	-5	-1	29	81	133	24
1985-86	66	4	-10	9	7	-5	5	-4	1	21	61	101	18
1986-87	50	2	-7	-7	5	-4	3	-3	-1	13	41	68	12
1987-88	33	0	-5	-4	-3	-3	-2	-2	-1	5	21	36	6
1988-89	16	-1	-3	-2	-2	-1	-1	-1	0	0	0	0	0
1989-90	0	0											
MEAN	-147	-126	-64	-37	-29	-21	-17	-14	-22	-135	-118	-95	-68

ALF3DD9

USGS # 12395400

ALBENI FALLS

River: PEND O'REILLE

Drainage Area: 24200 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 90.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												42580	
1928-29	14660	9656	10820	9723	7727	5318	6299	10060	17480	58290	61630	17150	19110
1929-30	6723	4859	5855	<u>5054</u>	8103	4231	9803	9141	44250	49160	40510	13900	16780
1930-31	6280	5945	7957	7929	6266	6873	8116	11420	21230	56260	30340	9341	14870
1931-32	4627	5142	5479	6714	6565	6353	8972	19630	42670	92130	77770	24970	25090
1932-33	9476	6407	7567	14230	12680	9852	7113	11150	30470	68380	131500	37070	28820
1933-34	11330	9478	16820	<u>25980</u>	<u>41200</u>	33440	22910	29320	<u>83130</u>	86090	42890	14270	34770
1934-35	6958	5240	8718	18090	11750	12430	13110	13570	26590	73120	69950	24510	23690
1935-36	9035	5709	5837	6152	<u>5782</u>	6465	<u>4372</u>	10220	45530	88180	46900	12230	20560
1936-37	6504	5502	5763	5463	6396	<u>3725</u>	5279	7178	18350	58900	51670	16120	15940
1937-38	7284	5207	6766	11000	11110	11620	8718	14410	41270	76360	74700	25320	24520
1938-39	8229	6281	7344	7495	8305	8333	6539	13040	39640	80200	43580	17520	20620
1939-40	6388	5279	5803	6487	9455	6244	9259	16830	32110	56750	33020	10030	16460
1940-41	4622	5338	7210	6945	7295	7304	7324	11200	20760	38120	26930	10500	<u>12820</u>
1941-42	5331	9428	12410	12480	22880	11480	8937	10380	34270	55360	62760	28600	22900
1942-43	8859	6972	7453	10840	11010	8826	10370	13240	71770	72840	98180	51030	30940
1943-44	13380	7772	8853	8689	7987	6131	5550	<u>6891</u>	16710	41140	35950	13590	14400
1944-45	6121	5600	6685	7157	6279	8448	8065	10430	<u>15480</u>	65100	64490	22550	18910
1945-46	6945	6586	8490	12880	11020	10460	9139	14740	43750	82030	66350	25430	24860
1946-47	8763	8315	12510	15450	20730	13680	15160	21270	43880	108300	75340	26990	30940
1947-48	11830	10280	21790	16650	13240	12940	12040	12710	38120	<u>119100</u>	121800	31240	35140
1948-49	16550	8853	8897	9898	7380	6672	10910	14320	42970	100100	57800	17300	25200
1949-50	8359	7068	8348	13420	13160	10260	13300	21830	35530	76950	121500	<u>60330</u>	32530
1950-51	<u>19060</u>	9360	17380	20430	23110	17740	25920	16770	44220	104800	75330	42240	34740
1951-52	14290	13080	22040	15840	14170	10790	11410	11970	52430	91280	59150	23190	28320
1952-53	9907	5343	5963	6343	6858	14140	14840	11350	24380	64980	100500	35450	24990
1953-54	11620	5828	6587	8464	9907	8692	10520	14990	28970	104700	89940	54600	29690
1954-55	15830	11880	11110	13120	10080	8261	9001	7112	18930	59000	97530	45630	25650
1955-56	11890	7790	15340	16550	19860	15420	11320	17150	59780	116900	96310	31110	34970
1956-57	12490	8477	10230	9416	11610	7129	11330	14800	27570	111300	66620	18550	25880
1957-58	8057	4938	7947	7964	8565	8385	12550	13080	28890	97620	56210	18470	22790
1958-59	7388	6193	10480	16910	17610	18050	15060	15050	40110	80830	120200	40150	32330
1959-60	13230	17370	<u>28150</u>	24750	19560	12310	11500	20900	49750	67450	83470	26800	31240
1960-61	11500	8545	8315	11940	8524	9158	20330	19140	30900	91920	94730	19450	27840
1961-62	7968	5920	10970	9191	8861	7515	12400	12550	50200	79670	73620	23220	25180
1962-63	10640	6522	11420	14620	15690	10550	21620	17240	29140	61830	59670	26320	23750
1963-64	9242	7677	6631	9226	7153	7891	7265	9157	21790	74000	124700	37740	26830
1964-65	12670	12580	11760	12760	17720	15360	16520	17610	51700	90770	105200	36860	33470
1965-66	16590	16310	12560	12020	10530	10230	9467	16040	39230	68650	65120	24370	25130
1966-67	8155	7849	7588	11750	14690	14070	15490	14150	21150	79120	120000	35030	29060
1967-68	9880	5785	9946	13390	9701	10030	18260	23090	21410	60680	73830	25400	23420
1968-69	12630	<u>17560</u>	19600	19680	14540	14650	12010	15710	62680	93180	65040	31270	31600
1969-70	8554	8925	10590	9116	8857	9807	10860	13050	18880	80960	96460	28200	25390
1970-71	11170	7630	9200	9727	10180	13740	<u>28600</u>	15910	39020	115200	99130	38270	33120
1971-72	13210	9038	9453	9981	9227	9368	14580	<u>41090</u>	37750	99620	125800	40960	35000
1972-73	15930	8519	9904	9515	10040	9844	8221	12140	17900	48200	44250	13460	17370
1973-74	5035	5742	6377	17020	16750	<u>33740</u>	17730	18860	50380	84340	<u>144200</u>	49540	<u>37460</u>
1974-75	14190	8669	7283	9031	8370	7621	8559	11320	17130	68590	121100	52950	27940
1975-76	16930	13030	14550	17380	26210	15670	14120	13990	43220	109200	74070	37450	33050
1976-77	18920	11560	8600	8130	7501	7339	7317	8720	18380	<u>37310</u>	<u>26590</u>	<u>8567</u>	14110
1977-78	5880	8215	8518	10160	17090	10390	10690	20670	44210	75520	80270	39600	27650
1978-79	14220	13380	9148	8788	6705	6805	10240	15320	24630	88290	61420	18560	23190
1979-80	7924	6984	6432	6799	9321	8035	9104	12860	36950	83380	64970	23870	23060
1980-81	10110	10970	10280	13530	23290	19240	18020	17310	31930	82320	82510	33010	29410
1981-82	11230	7426	8462	9530	10720	8902	24740	23400	30320	84830	106100	48060	31120
1982-83	13610	9154	10380	9391	10430	13320	14670	23630	27080	62040	63830	37400	24630
1983-84	13820	9078	8914	16260	9758	15530	11590	15340	28890	54510	77310	27740	24030
1984-85	9303	9845	9180	11220	7403	5899	6700	9330	35360	77180	55440	12340	20800
1985-86	8070	15030	16400	19510	11590	9618	16090	36490	40380	58040	55480	16510	25260
1986-87	7254	8587	10980	12280	9369	6890	7885	19040	38430	60060	26670	12700	18400
1987-88	7375	5370	<u>4787</u>	5388	6876	5588	5509	9649	35110	51420	36900	10520	15370
1988-89	<u>3817</u>	<u>3831</u>	7592	10340	7793	7393	5657	13210	47390	73410	62010	19210	21840
1989-90	11060	9705											
MEAN	10300	8394	10130	11740	12010	10760	11950	15440	35620	76980	74870	27700	25490
MEDIAN	9678	7781	8897	10340	10040	9618	10860	14320	35360	76950	69950	25420	25180

ALF3M9

BOX CANYON

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												1080	
1928-29	-723	-239	16	67	46	42	41	38	-8	-512	-803	-1032	-258
1929-30	-699	-238	10	60	41	38	38	35	-10	-498	-771	-985	-251
1930-31	-675	-237	3	54	36	34	34	32	-12	-483	-739	-937	-243
1931-32	-650	-236	-3	47	31	30	30	28	-14	-468	-707	-889	-235
1932-33	-626	-236	-9	41	26	26	26	25	-16	-454	-675	-842	-228
1933-34	-602	-235	-15	34	21	21	23	22	-18	-439	-643	-794	-221
1934-35	-578	-234	-22	27	16	17	19	18	-19	-424	-611	-746	-213
1935-36	-553	-233	-28	21	12	13	15	15	-21	-409	-579	-698	-205
1936-37	-529	-232	-34	14	7	9	11	11	-23	-395	-548	-651	-198
1937-38	-505	-231	-40	8	2	5	8	8	-25	-380	-516	-603	-191
1938-39	-480	-230	-47	1	3	1	4	5	-27	-365	-484	-555	-183
1939-40	-456	-229	-53	5	8	3	0	1	-29	-351	-452	-507	-175
1940-41	-432	-228	-59	12	-13	-7	4	-2	-30	-336	-420	-460	-168
1941-42	-408	-227	-65	-18	-18	-12	-8	-5	-32	-321	-388	-412	-161
1942-43	-383	-226	-71	-25	-23	-16	-11	-9	-34	-307	-356	-364	-153
1943-44	-359	-225	-78	-32	-28	-20	-15	-12	-36	-292	-324	-317	-145
1944-45	-335	-225	-84	-38	-32	-24	-19	-15	-38	-277	-292	-269	-138
1945-46	-311	-224	-90	-45	-37	-28	-23	-19	-40	-263	-260	-221	-131
1946-47	-286	-223	-96	-51	-42	-32	-26	-22	-41	-248	-228	-173	-123
1947-48	-262	-222	-103	-58	-47	-36	-30	-25	-43	-233	-197	-126	-115
1948-49	-238	-221	-109	-64	-52	-41	-34	-29	-45	-219	-165	-78	-108
1949-50	-213	-220	-115	-71	-57	-45	-38	-32	-47	-204	-133	-30	-101
1950-51	-189	-219	-121	-78	-62	-49	-41	-35	-46	-191	-116	-12	-97
1951-52	-173	-211	-120	-78	-62	-49	-41	-35	-45	-178	-100	6	-91
1952-53	-158	-202	-119	-79	-62	-49	-42	-36	-43	-164	-84	24	-85
1953-54	-142	-194	-118	-79	-62	-49	-42	-36	-42	-151	-67	42	-78
1954-55	-126	-185	-117	-79	-62	-49	-42	-36	-41	-138	-51	61	-72
1955-56	-110	-177	-116	-80	-62	-49	-42	-36	-40	-125	-34	79	-66
1956-57	-94	-168	-115	-80	-62	-49	-42	-36	-39	-111	-18	97	-60
1957-58	-79	-160	-114	-81	-62	-49	-42	-36	-38	-98	-2	115	-54
1958-59	-63	-152	-113	-81	-63	-49	-42	-36	-36	-85	15	133	-48
1959-60	-47	-143	-112	-82	-63	-49	-42	-36	-35	-72	31	151	-41
1960-61	-31	-135	-111	-82	-63	-49	-42	-36	-34	-58	47	170	-35
1961-62	-16	-126	-110	-83	-63	-49	-43	-36	-33	-45	64	188	-29
1962-63	0	-118	-109	-83	-63	-50	-43	-36	-32	-32	80	206	-23
1963-64	16	-109	-108	-84	-63	-50	-43	-36	-31	-19	96	224	-17
1964-65	32	-101	-107	-84	-63	-50	-43	-36	-29	-5	113	242	-11
1965-66	48	-92	-106	-85	-63	-50	-43	-36	-28	8	129	260	-4
1966-67	63	-84	-105	-85	-63	-50	-43	-36	-26	14	132	260	1
1967-68	70	-75	-99	-81	-60	-47	-41	-34	-23	21	136	259	3
1968-69	76	-66	-93	-76	-56	-44	-38	-32	-21	27	139	258	7
1969-70	83	-57	-87	-72	-53	-41	-36	-30	-19	34	142	257	11
1970-71	89	-47	-80	-67	-49	-38	-33	-28	-16	40	145	256	15
1971-72	95	-38	-74	-63	-46	-36	-31	-25	-14	46	149	255	19
1972-73	102	-29	-68	-58	-42	-33	-28	-23	-11	53	152	255	23
1973-74	108	-20	-62	-54	-39	-30	-26	-21	9	59	155	254	27
1974-75	115	11	-56	-49	-35	-27	-23	-19	6	66	158	253	31
1975-76	121	2	-50	-45	-32	-24	-21	-17	4	72	161	252	35
1976-77	128	7	-44	-40	-28	-21	-18	-15	-2	78	165	251	39
1977-78	134	16	-38	-36	-25	-18	-16	-12	1	85	168	251	43
1978-79	140	26	-31	-32	-21	-16	-13	-10	3	91	171	250	47
1979-80	147	35	-25	-27	-18	-13	-11	-8	6	98	174	249	51
1980-81	153	44	-19	-23	-14	-10	-8	-6	-2	64	167	270	52
1981-82	139	11	-20	-19	-14	-11	-9	-8	-2	56	147	237	43
1982-83	122	9	-17	-17	-12	-10	-8	-7	-2	47	126	204	37
1983-84	104	7	-15	-14	-10	-8	-7	-6	1	39	105	171	31
1984-85	87	6	-13	-12	-9	-7	-6	-5	1	31	84	138	25
1985-86	70	4	-10	-9	-7	-6	-5	-4	-1	22	64	105	19
1986-87	52	2	-8	-7	-5	-4	-4	-3	-1	14	43	71	13
1987-88	35	0	-5	-5	-4	-3	-3	-2	-1	6	22	38	7
1988-89	18	-1	-3	-2	-2	-2	-1	-1	0	0	0	0	0
1989-90	0	0											
MEAN	-148	-126	-64	-37	-29	-22	-17	-14	-22	-136	-119	-97	-69

BOX3DD9

USGS # 12390485

BOX CANYON

River: PLND O'REILLE

Drainage Area

24900 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile:

34.5

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												42880	
1928-29	14850	9806	11010	9948	7840	5449	6418	10190	17640	58160	62670	18970	19460
1929-30	7407	4997	5936	<u>5120</u>	8125	4262	9836	9199	43870	49530	41220	14720	17000
1930-31	6480	6029	8039	7978	6321	6923	8265	11610	21350	55810	31270	10100	15050
1931-32	4793	5283	5521	6766	6620	6411	9131	19980	43620	92740	79380	26860	25590
1932-33	10050	6566	7788	14410	13410	10650	7818	11350	31330	69080	132000	40120	29550
1933-34	12370	9628	16910	<u>26290</u>	<u>41430</u>	34910	24340	30760	<u>83580</u>	87650	44500	15520	35690
1934-35	7236	5369	8809	18300	12030	12650	13440	13980	27500	73710	71220	26230	24230
1935-36	9731	5899	6178	6548	<u>6089</u>	6758	<u>4475</u>	10470	45410	88390	48420	13450	21010
1936-37	6596	5623	5850	5578	6513	<u>3903</u>	5411	7391	18540	58630	52550	17620	16220
1937-38	7600	5399	6908	11000	11200	12160	9034	15120	42410	77370	76260	27420	25190
1938-39	8631	6424	7395	7582	8340	8385	6534	13010	40090	80180	44490	18100	20840
1939-40	6545	5342	5754	6636	9482	6331	9438	17420	33270	57310	34520	10660	16900
1940-41	4692	5474	7318	7142	7590	7493	7579	11810	21290	38840	27980	10910	<u>13200</u>
1941-42	5416	9495	13020	13250	23810	12460	9837	10690	34780	56520	64520	30470	23730
1942-43	9495	7512	7533	10960	11180	8496	10970	13540	72930	73750	98640	53540	31540
1943-44	14490	8072	9212	8968	8206	6429	6047	7015	16900	41560	36740	14410	14850
1944-45	6340	5719	6812	7213	6131	8528	8645	10870	<u>16000</u>	66760	65600	24320	19450
1945-46	7523	6785	8697	13140	11300	10860	9518	15320	45430	84590	68230	27290	25770
1946-47	9371	8655	12570	15630	21050	14070	15960	22230	44970	108500	77060	28500	31620
1947-48	12280	10660	22010	17670	13660	13490	1150	13290	39280	<u>119600</u>	125600	34930	36240
1948-49	17950	9272	9206	9998	7330	6341	11430	15180	44600	101300	60610	18810	26070
1949-50	9078	7477	8737	13860	13690	10080	13780	23090	37530	78220	121900	<u>64170</u>	33500
1950-51	<u>20320</u>	10060	17620	21420	23850	18280	27400	18470	46270	105800	78010	44760	36060
1951-52	15550	13640	22370	16400	14650	11230	12230	13010	54280	94340	60640	24160	29390
1952-53	10150	5703	5107	7049	7700	14450	15640	11890	25300	67600	102600	37800	25900
1953-54	12210	5588	7719	8940	10160	9031	11170	16230	30210	104900	93790	58970	30870
1954-55	16090	12690	10850	13850	10530	8529	9322	<u>6973</u>	20890	59500	96520	46860	26080
1955-56	12240	7228	15280	16100	20200	15300	10890	16570	61140	117600	98290	32600	35300
1956-57	12620	7991	10030	10460	12860	7932	12600	16380	29650	112400	69680	19430	26930
1957-58	8136	5050	8631	8464	10190	8695	13930	14860	31040	98650	59020	19210	23880
1958-59	7214	6121	9829	17230	18050	18720	16300	15550	41120	81290	120500	42210	32840
1959-60	12270	15490	<u>27820</u>	25440	20850	12620	11990	21370	50670	68010	82980	27980	31430
1960-61	11780	8762	8029	12490	9435	9535	22460	20020	33080	92180	96880	20500	28710
1961-62	8122	6635	11410	9984	9517	8360	13960	14080	51700	79800	76570	23640	26140
1962-63	10980	7193	11630	14320	15970	10550	21330	17240	30490	62070	60060	26110	23970
1963-64	9152	7597	8864	10050	7484	8300	7653	10330	23640	75950	126400	40410	27770
1964-65	13150	12480	10980	12600	17930	14640	16140	18000	53870	94040	107300	37690	34080
1965-66	16150	15420	12780	12170	10900	10470	9017	16100	40950	69960	64920	25390	25400
1966-67	8511	7044	6979	10710	14490	13800	15320	15290	22010	80000	121200	36200	29290
1967-68	9775	5105	10260	13660	9882	9888	18360	24600	22910	61770	73210	26410	23800
1968-69	12020	<u>17720</u>	18310	19480	14690	14340	12280	15740	64980	96380	65010	32390	32000
1969-70	8841	8876	10320	10010	8663	10220	11370	14010	20100	82090	97840	27850	25880
1970-71	9845	7711	10390	10690	10710	15350	<u>29450</u>	18160	40460	114800	100400	39280	33910
1971-72	12930	8402	9479	10600	9882	9536	14840	<u>43300</u>	40030	99920	128300	42830	35830
1972-73	16410	9415	9893	10020	10510	11210	9100	13540	18480	49390	45280	14180	18160
1973-74	5543	6020	6359	17810	18980	<u>37240</u>	20390	21600	53370	84900	<u>142000</u>	54290	<u>39030</u>
1974-75	14870	9052	7919	10320	9306	8817	9974	12490	19090	71620	121100	56520	29300
1975-76	16390	13060	14780	18240	26860	15860	14360	14710	46100	109600	75210	37240	33590
1976-77	18000	10980	8862	8324	7011	7427	7470	8733	19350	<u>37880</u>	<u>26460</u>	<u>8666</u>	14130
1977-78	5966	8318	8299	10090	15930	9956	10400	20080	45150	75860	79070	39410	27430
1978-79	15590	12970	7968	8869	6815	6870	10310	15610	25040	90450	63890	18920	23670
1979-80	7269	6481	5662	6306	9144	7033	8899	12790	37530	85200	66130	24170	23060
1980-81	9482	10400	9773	13010	23540	19120	17960	17670	31960	80620	80770	32910	28970
1981-82	11030	6660	7984	10140	10680	8977	24110	24450	30720	84910	105000	50320	31240
1982-83	14290	9066	11120	10110	11110	13970	15170	24980	28050	62270	64410	37870	25250
1983-84	13880	8744	9701	16860	7971	15830	12320	16650	31010	56370	78420	29620	24750
1984-85	9232	9882	9193	12190	7685	6805	6883	9772	36840	77080	56050	12050	21170
1985-86	7320	14420	16020	19920	9338	9818	16290	37310	41820	59190	56480	15970	25310
1986-87	6041	7410	10350	13690	10410	7527	8937	20830	39350	59730	26780	12380	18660
1987-88	7215	4933	<u>4477</u>	5841	7500	5789	5137	10410	36120	53510	36330	10810	15670
1988-89	<u>4280</u>	<u>3771</u>	7540	11100	8444	8405	6105	13900	48130	73360	62220	20030	22310
1989-90	11330	10280											
MEAN	10500	8385	10160	12110	12310	11110	12420	16180	36810	77860	75920	29000	26060
MEDIAN	9753	7654	9193	10710	10410	9818	11170	15180	36840	77370	71220	27070	25880

BOX3M9

BOUNDARY

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-1085	
1928-29	-727	-239	16	67	46	42	41	38	-8	-514	-806	-1037	-259
1929-30	-702	-238	10	60	41	38	38	35	-10	-499	-774	-989	-252
1930-31	-678	-238	3	54	36	34	34	32	-12	-485	-742	-941	-244
1931-32	-654	-237	-3	47	31	30	30	28	-14	-470	-710	-894	-236
1932-33	-629	-236	-9	41	26	26	26	25	-16	-455	-678	-846	-229
1933-34	605	235	-15	34	21	21	23	22	18	440	646	-798	222
1934-35	-580	-234	-22	27	18	17	19	18	-19	-426	-614	-750	-214
1935-36	-556	-233	-28	21	12	13	15	15	-21	-411	-582	-702	-206
1936-37	-532	-232	-34	14	7	9	11	11	-23	-396	-550	-654	-199
1937-38	-507	-231	-40	8	2	5	7	8	-25	-381	-518	-606	-192
1938-39	-483	-230	-47	1	-3	1	4	5	-27	-367	-486	-558	-184
1939-40	-458	-229	-53	-5	-8	-3	0	1	-29	-352	-454	-510	-176
1940-41	-434	-229	-59	-12	-13	-8	-4	-2	31	-337	-422	-462	-169
1941-42	410	-228	-65	19	18	12	8	-5	32	322	390	415	161
1942-43	385	227	-72	25	23	16	11	-9	34	308	358	367	154
1943-44	361	226	-78	32	28	20	15	12	36	293	326	319	146
1944-45	-337	-225	-84	-38	-33	-24	-19	-15	-38	-278	-294	271	139
1945-46	-312	-224	-91	-45	-38	-28	-23	-19	-40	-264	-262	-223	-131
1946-47	-288	-223	-97	-52	-42	-33	-27	-22	-42	-249	-230	-175	124
1947-48	-263	-222	-103	-58	-47	-37	-30	-26	-43	-234	-198	127	116
1948-49	-239	-221	-109	65	-52	-41	-34	-29	-45	-219	-166	-79	-109
1949-50	-215	-220	-116	-71	-57	-45	-38	-32	-47	-205	-134	-31	-101
1950-51	-190	-220	-122	-78	-62	-49	-42	-36	-46	-191	-117	-13	-97
1951-52	-174	-211	-121	-78	-62	-49	-42	-36	-45	-178	-101	5	-91
1952-53	-159	-203	-120	-79	-62	-49	-42	-36	-44	-165	-84	23	-85
1953-54	-143	-194	-119	-79	-62	-49	-42	-36	-42	-152	-68	41	-79
1954-55	-127	-186	-118	-80	-62	-49	-42	-36	-41	-138	-52	60	-73
1955-56	-111	-177	-116	-80	-62	-49	-42	-36	-40	-125	-35	-78	-66
1956-57	-95	-169	-115	-81	-63	-49	-42	-36	-39	-112	-19	96	-60
1957-58	-79	-160	-114	-81	-63	-49	-42	-36	-38	-98	-2	114	-54
1958-59	-64	-152	-113	-82	-63	-49	-42	-36	-36	-85	14	132	-48
1959-60	-48	-143	-112	-82	-63	-49	-42	-36	-35	-72	30	151	-42
1960-61	-32	-135	-111	-82	-63	-49	-42	-36	-34	-59	47	169	-35
1961-62	-16	-126	-110	-83	-63	-49	-43	-36	-33	-45	63	187	-29
1962-63	0	-118	-109	-83	-63	-49	-43	-36	-32	-32	80	205	-23
1963-64	15	-109	-108	-84	-63	50	43	36	31	-19	96	223	17
1964-65	31	-101	-107	-84	-63	50	43	36	29	6	112	241	11
1965-66	47	-92	-106	-85	-63	50	43	36	28	8	129	260	-4
1966-67	63	-84	-105	-85	-63	50	-43	-36	-26	14	132	259	-1
1967-68	69	-75	-99	-81	-60	-47	-40	-34	-23	21	135	258	2
1968-69	76	-66	-92	-76	-56	-44	-38	-32	-21	27	139	257	7
1969-70	82	-56	-86	-72	-53	-41	-35	-30	-18	33	142	257	11
1970-71	89	-47	-80	-67	-49	-38	-33	-27	16	40	145	256	15
1971-72	95	-38	-74	-63	-46	-35	-30	-25	-14	46	148	255	19
1972-73	102	-29	-68	-58	-42	-32	-28	-23	-11	53	152	254	23
1973-74	108	-20	-62	-54	-39	-30	-25	-21	-9	59	155	254	27
1974-75	115	-11	-56	-49	-35	-27	-23	-19	-6	66	158	253	31
1975-76	121	-1	-49	-45	-32	-24	-20	-17	4	72	161	252	35
1976-77	128	8	-43	-40	-28	-21	-18	-14	-1	78	165	251	39
1977-78	134	17	-37	-36	-25	-18	-15	-12	1	85	168	251	43
1978-79	141	26	-31	-31	-21	-15	-13	-10	4	91	171	250	47
1979-80	147	35	-25	-27	-17	-12	-10	-8	6	98	174	249	51
1980-81	153	44	-19	-22	-14	-10	-8	-6	-2	106	171	245	53
1981-82	143	11	-20	-19	-14	-11	-10	-8	-2	58	150	242	44
1982-83	125	9	-18	-17	-12	-10	-9	-7	-2	49	129	208	38
1983-84	107	7	-15	-15	-11	-9	-7	-6	-2	40	108	174	31
1984-85	89	6	-13	-12	-9	-7	-6	-5	-1	32	86	141	25
1985-86	72	4	-10	-10	-7	-6	-5	-4	-1	23	65	107	19
1986-87	54	2	8	7	5	4	4	3	1	15	44	73	13
1987-88	36	0	-5	-5	-4	3	3	-2	1	6	23	40	7
1988-89	18	-1	-3	-2	-2	-2	-1	-1	0	0	0	0	0
1989-90	0	0											
MEAN	-149	-126	-65	-37	-29	-22	17	-14	-22	136	-120	-98	69

BDY3DD9

USGS # 12398555

BOUNDARY

River: PEND O'REILLE

Drainage Area: 25200 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 17

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												43200	
1928-29	15070	9939	11180	10150	7959	5574	6533	10320	17810	58050	63670	20770	19800
1929-30	8086	5137	6026	<u>5187</u>	8151	4295	9867	9253	43530	49890	41980	15550	17230
1930-31	6695	6119	8119	8028	6379	6982	8414	11790	21490	55360	32180	10900	15240
1931-32	4936	5431	5556	6816	6665	6461	9295	20370	44560	93360	80950	28710	26090
1932-33	10600	6761	7978	14520	14140	11490	8537	11560	32250	69850	132300	43220	30270
1933-34	13390	9794	17010	<u>26600</u>	<u>41650</u>	<u>36390</u>	25770	31900	<u>84040</u>	89210	46130	16760	36590
1934-35	7512	5496	8899	18500	12310	12890	13770	14390	28410	74310	72490	27970	24760
1935-36	10430	6093	6518	6944	6396	7051	<u>4578</u>	10720	45300	88600	49930	14660	21470
1936-37	6690	5744	5936	5692	6631	<u>4081</u>	5541	7604	18740	58370	53430	19110	16510
1937-38	7919	5589	7050	11000	11290	12710	9350	15830	43560	78380	77810	29530	25880
1938-39	9052	6568	7446	7670	8376	8437	6529	13000	40540	80160	45410	18690	21060
1939-40	6690	5404	5906	6786	9509	6419	9617	17990	34440	57860	36020	11310	17340
1940-41	4764	5612	7427	7339	7886	7683	7849	12410	21810	39540	29040	11320	<u>13580</u>
1941-42	5504	9564	13630	14020	24740	13430	10750	11000	35290	57690	66260	32340	24560
1942-43	10130	8045	7614	11070	11350	8168	11560	13840	74080	74660	99100	56050	32130
1943-44	15600	8368	9572	9255	8412	6725	6543	<u>7140</u>	17090	41990	37540	15210	15300
1944-45	6562	5839	6940	7270	<u>5983</u>	8802	9229	11300	<u>16520</u>	68400	66710	26080	20000
1945-46	8098	6983	8906	13390	11590	11270	9888	15890	47100	87130	70110	29140	26680
1946-47	9979	9001	12630	15810	21380	14460	16760	23190	46060	108800	78770	30000	32310
1947-48	12730	11030	22230	18680	14080	14030	12680	13860	40430	120200	129300	38620	37330
1948-49	19350	9688	9529	10110	7283	6007	11960	16040	46240	102500	63420	20320	26930
1949-50	9801	7888	9132	14300	14220	9887	14250	24330	39540	79490	122400	<u>68010</u>	34480
1950-51	<u>21570</u>	10750	17860	22430	24580	18830	28870	20160	48330	106700	80700	47290	37370
1951-52	16800	14190	22720	16960	15140	11650	13050	14050	56130	97410	62130	25130	30470
1952-53	10400	6058	5885	7522	8587	15530	16940	13780	26620	67520	105400	38440	26870
1953-54	13080	5858	8596	9593	11220	10240	12160	17290	31210	106900	96060	59830	31950
1954-55	16500	13060	11550	14460	11000	9051	10120	7589	22460	61310	99600	49140	27180
1955-56	13240	8123	16750	17330	21790	17460	12710	19030	64200	<u>121100</u>	101500	33640	37260
1956-57	13190	9006	10510	10720	13050	8167	12830	16780	30210	112900	70640	20190	27440
1957-58	9017	5837	9179	9337	10760	9579	15460	16880	33020	99800	60130	20870	25050
1958-59	9103	7489	10480	18210	18830	19600	17000	17050	42300	83450	123500	43440	34190
1959-60	13840	16930	<u>28310</u>	26100	22420	14280	13860	22490	52350	70820	85780	29880	33060
1960-61	13950	9421	9074	13300	10310	10470	23030	20490	33690	94750	99630	21710	29940
1961-62	8360	6801	11950	9984	10420	8866	14650	14750	52660	81860	78110	24690	26920
1962-63	12020	7801	13330	16150	16820	11200	21730	18410	31670	63770	61740	27430	25160
1963-64	9594	8025	7272	10600	8255	8820	7975	10580	24220	76210	128300	40080	28280
1964-65	13720	13070	11370	13230	18450	15040	16590	18190	53760	94130	106900	37870	34370
1965-66	16280	15480	13200	12530	11180	10720	9335	16410	40980	69520	64740	25770	25560
1966-67	8452	7167	7534	11430	15140	14280	15920	16050	22570	80460	123500	36470	29900
1967-68	9681	5442	10670	14310	10260	10300	18880	24880	22480	62070	73840	26900	24120
1968-69	12240	<u>17520</u>	19590	20460	15190	14270	12420	16040	65620	97900	65630	33090	32560
1969-70	8983	8953	10700	10220	8850	9857	11640	13810	20170	81300	98940	28390	26010
1970-71	10310	7959	10760	10940	10750	14550	<u>29650</u>	18220	39810	116300	101200	38970	34090
1971-72	13360	8221	9244	10320	9469	9201	14890	<u>42220</u>	39630	100600	129600	42140	35730
1972-73	16040	8944	10090	10420	10720	11220	9144	13780	18180	50070	45550	14370	18260
1973-74	5705	5917	6488	18890	19250	36290	20410	21250	53080	86870	<u>145700</u>	54870	<u>39540</u>
1974-75	14770	9085	7952	10370	9435	9089	10010	12300	19240	71120	124200	55770	29480
1975-76	16990	13360	14610	18580	26840	16540	14930	14350	44190	111700	75230	38450	33870
1976-77	19380	11540	9049	8684	7134	7330	7763	9043	19450	<u>37140</u>	<u>26490</u>	<u>8515</u>	14320
1977-78	6842	8804	8461	10510	17590	10590	10540	20860	46060	76000	80420	40080	28110
1978-79	14320	13520	8952	9966	7067	6739	10980	16210	25370	87950	61770	19240	23570
1979-80	7785	6841	6282	7346	9428	7834	9155	13180	38520	88100	68380	25710	24060
1980-81	10060	10720	10440	13830	24350	19870	18990	18980	32910	84740	87800	35480	30710
1981-82	11640	6736	8857	10640	10950	9058	24790	26430	32350	90120	112300	52140	32980
1982-83	14400	9126	11860	11330	11850	14560	15700	27250	29520	65690	67780	40020	26630
1983-84	14790	9311	10370	18220	9402	16970	13310	17770	32780	58750	82780	31450	26290
1984-85	9814	10550	10290	13290	8219	7139	7540	10410	38300	80350	59190	13070	22380
1985-86	8081	15280	17580	21560	10490	10400	16830	39190	44710	61850	59010	17030	26830
1986-87	7160	8023	11180	14270	10420	6850	8385	21140	40180	61860	26680	12220	19080
1987-88	6977	4873	<u>4957</u>	6134	7625	5902	5448	10380	36840	54370	36790	10670	15910
1988-89	<u>4115</u>	<u>3559</u>	7576	11370	8461	8503	6302	14680	49280	75010	62500	19910	22640
1989-90	11220	10200											
MEAN	11020	8704	10600	12630	12750	11470	12940	16820	37600	79050	77620	30130	26780
MEDIAN	10220	8084	9244	11070	10750	10240	11960	16040	38300	79490	72490	28550	26830

BDY3M9

SEVEN MILE

Accumulated depletion at site and upstream (1990 level of development)

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												1096	
1928-29	734	239	17	68	47	43	42	39	8	518	814	1048	262
1929-30	710	238	10	61	42	39	38	35	-10	503	782	1000	254
1930-31	685	238	4	54	37	34	34	32	-12	488	749	952	-246
1931-32	-661	-237	-2	48	32	30	31	29	-14	-473	-717	-904	-238
1932-33	-636	-236	-9	41	27	26	27	25	-16	-459	-685	-856	-231
1933-34	-612	-235	-15	35	22	22	23	22	-17	-444	-653	-807	-224
1934-35	-587	-234	-21	28	17	18	19	18	-19	-429	-621	-759	-216
1935-36	-563	-233	-27	21	12	14	15	15	-21	-414	-588	-711	-208
1936-37	-538	-232	-34	15	7	9	12	12	-23	-399	-556	-663	-201
1937-38	-513	-231	-40	8	2	5	8	8	-25	-385	-524	-615	-193
1938-39	-489	231	-46	1	-3	1	4	5	-27	370	492	567	-186
1939-40	-464	-230	-53	-5	-8	3	0	2	-29	-355	-460	-519	-178
1940-41	-440	-229	-59	-12	-13	-7	-4	-2	-30	-340	-427	-470	-171
1941-42	-415	-228	-65	-18	-18	-12	-7	-5	-32	-325	-395	-422	-163
1942-43	-391	-227	-71	-25	-23	-16	-11	-9	-34	-310	-363	-374	-156
1943-44	-366	-226	-78	-32	-28	-20	-15	-12	-36	-296	-331	-326	-148
1944-45	-342	-225	-84	38	-33	-24	19	-15	-38	-281	299	-278	-140
1945-46	-317	224	-90	45	37	28	23	19	40	266	266	230	133
1946-47	-293	224	-97	52	42	32	26	-22	42	251	234	182	125
1947-48	-268	223	-103	-58	-47	37	30	-26	43	-236	-202	-133	-118
1948-49	-243	-222	-109	-65	-52	-41	34	-29	-45	-222	-170	-85	-110
1949-50	-219	-221	-116	-71	-57	-45	-38	-32	-47	-207	-138	-37	-103
1950-51	-194	-220	-122	-78	-62	-49	42	-36	-46	193	-121	-19	-99
1951-52	-178	-212	-121	78	-62	49	42	-36	45	-180	105	-1	92
1952-53	-163	-203	-120	-79	-62	49	42	-36	-44	-167	-88	18	-86
1953-54	-147	-194	-119	-79	-62	49	42	-36	-42	-153	-72	36	-80
1954-55	-131	-186	-117	-80	-62	49	-42	-36	-41	-140	-55	54	-74
1955-56	-115	-177	-116	-80	-62	49	-42	-36	-40	-127	-39	73	-68
1956-57	-99	-169	-115	-81	-62	49	-42	-36	-39	-114	-22	91	-61
1957-58	-83	-160	-114	-81	-62	49	-42	-36	-38	-100	-6	109	-55
1958-59	-67	-152	-113	-81	-63	49	-42	-36	-36	-87	11	128	-49
1959-60	-51	-143	-112	-82	-63	49	-42	-36	-35	-74	27	146	43
1960-61	-35	135	-111	82	63	49	42	-36	34	60	44	164	36
1961-62	-19	126	-110	83	63	49	42	-36	33	47	60	183	30
1962-63	3	-118	-109	-83	-63	49	-42	-36	-32	-34	77	201	-24
1963-64	13	-109	-108	-84	-63	49	-43	-36	-30	-20	93	219	-18
1964-65	29	-101	-107	-84	-63	49	-43	-36	-29	-7	110	238	-11
1965-66	44	-92	-105	-84	-63	49	-43	-36	-28	6	126	256	-5
1966-67	60	-84	-104	-85	-63	49	-43	-36	-26	13	130	256	-2
1967-68	67	75	98	80	59	47	40	34	23	20	133	255	2
1968-69	74	65	92	76	56	44	38	32	21	26	137	255	6
1969-70	81	56	86	71	52	41	35	30	18	33	141	255	10
1970-71	88	47	-80	-67	49	-38	-33	-27	-16	39	144	255	15
1971-72	94	-38	-74	-62	-45	-35	-30	-25	-13	46	148	254	19
1972-73	101	-29	-68	-58	-42	-32	-28	-23	-11	53	151	254	23
1973-74	108	-20	-62	-54	-39	-30	-25	-21	-9	59	155	254	27
1974-75	115	11	-56	49	35	27	23	19	-6	66	158	253	31
1975-76	122	-1	-49	-45	-32	-24	-20	-17	-4	72	162	253	35
1976-77	128	8	-43	-40	-28	-21	-18	-14	-1	79	166	253	39
1977-78	135	17	-37	-36	-25	-18	-15	-12	1	86	169	253	44
1978-79	142	26	-31	-31	-21	-15	-13	-10	4	92	173	252	48
1979-80	149	35	-25	-27	-18	-12	-11	-8	6	99	176	252	52
1980-81	155	44	-19	-22	-14	-10	-8	-6	-2	67	173	278	54
1981-82	145	11	-21	-20	-14	-12	10	8	2	59	152	244	44
1982-83	127	9	18	-17	-13	10	9	7	2	50	130	210	38
1983-84	109	7	16	-15	-11	-9	-7	-6	-2	41	109	176	32
1984-85	91	6	-13	-12	-9	-7	-6	-5	-1	32	88	142	26
1985-86	73	4	-11	-10	-7	-6	-5	-4	-1	24	66	108	19
1986-87	55	2	-8	-7	-6	-5	-4	-3	-1	15	45	74	13
1987-88	37	0	-5	-5	-4	-3	-3	-2	-1	6	23	40	7
1988-89	19	-1	-3	-2	-2	-2	-1	-1	0	0	0	0	0
1989-90	0	0											
MEAN	-152	126	64	37	29	21	17	14	22	138	123	102	70

SEV3DD9

USGS # 12399100

SEVEN MILE

River: PEND O'REILLE

Drainage Area: 25700 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 6

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVI
1927-28												45310	
1928-29	15340	10210	11400	10440	8176	5714	6664	10500	18130	60300	66490	21210	20430
1929-30	8166	5237	6122	<u>5296</u>	8281	4362	9976	9424	45300	51570	43920	16040	17790
1930-31	6810	6224	8235	8164	6537	7129	8556	12010	22420	59040	34200	11670	15960
1931-32	5123	5668	5731	7046	6930	6676	9471	20850	48490	99090	84980	29490	27460
1932-33	10870	7006	8234	15100	14850	11980	8828	11980	34930	75470	138400	45270	31920
1933-34	13740	10100	17450	<u>27570</u>	<u>42470</u>	36940	26300	33160	<u>91250</u>	93370	47450	17030	38100
1934-35	7646	5656	9139	19460	13010	13430	14700	15090	30310	79180	76570	30200	26220
1935-36	10940	6388	6748	7235	6666	7291	<u>4698</u>	10900	48080	92430	51000	14990	22310
1936-37	6847	5902	6071	5815	6763	<u>4176</u>	5623	7738	19330	61360	55660	19730	17130
1937-38	8142	5747	7266	11460	11670	13090	9654	16410	45970	83180	80940	30090	27010
1938-39	9222	6683	7676	7955	8616	8706	6666	13440	43290	84040	47460	19470	22010
1939-40	6906	5579	6139	7077	10090	6743	9897	18790	36890	61800	37700	11640	18280
1940-41	4929	5775	7737	7643	8145	7943	8119	13440	24040	42750	30780	12120	<u>14480</u>
1941-42	5801	10630	14830	15010	26230	13920	11120	11360	37220	61250	69760	33660	25940
1942-43	10560	8271	7809	11290	11550	8336	11750	14100	77150	77990	102500	57390	33220
1943-44	15930	8551	9812	9508	8716	6951	6727	<u>7315</u>	18330	44670	39120	15640	15960
1944-45	6756	6049	7155	7632	<u>6228</u>	8798	9445	11630	<u>17470</u>	73510	70250	26760	21020
1945-46	8306	7210	9133	13830	11910	11550	10130	16390	49990	93710	73630	30260	28060
1946-47	10260	9314	12820	16020	21660	14710	16980	23630	48300	112600	80880	30640	33210
1947-48	13010	11280	22810	19450	14730	14470	12970	14180	42110	<u>127900</u>	135200	39850	38990
1948-49	21240	10570	10180	10620	7699	6361	12240	16370	48580	108300	65400	20830	28270
1949-50	10020	8038	9337	14740	14700	10170	14510	24750	40860	83570	127200	<u>69320</u>	35640
1950-51	<u>21950</u>	10930	18650	23230	25450	19480	29700	20680	50430	111700	83400	48230	38690
1951-52	17030	14400	23280	17330	15610	11940	13270	14300	58840	102000	64750	26010	31590
1952-53	10650	6212	5998	7629	8687	15730	17210	14060	27740	71860	109700	39780	27910
1953-54	13470	6141	8866	10050	11540	10530	12450	17740	32400	112700	100600	61870	33320
1954-55	16940	13450	11890	15160	11470	9375	10380	7813	23380	64400	105400	51510	28460
1955-56	13780	8401	17310	17990	22210	17820	13020	19380	66610	126600	104900	34470	38560
1956-57	13490	9216	10790	10930	13250	8317	13000	17080	31530	119400	72800	20630	28460
1957-58	9269	6023	9407	9547	10950	9764	15860	17500	34460	105100	61850	21280	25980
1958-59	9290	7682	10720	18470	19090	19950	17250	17330	44090	87590	128100	44350	35320
1959-60	14090	17710	<u>29310</u>	26790	22880	14550	14150	23100	54430	74650	89980	30810	34340
1960-61	14180	9639	9373	13620	10510	10730	23570	21060	35580	99850	104200	22400	31180
1961-62	8567	6991	12220	10200	10610	9018	14830	14960	54670	85070	80960	25340	27780
1962-63	12290	8004	13640	16520	17310	11540	22200	18890	33030	67620	64480	28230	26130
1963-64	9859	8223	7457	10900	8519	9050	8170	10780	25200	80170	133400	41180	29360
1964-65	14110	13410	11740	13610	18730	15270	16820	18560	55780	97750	109800	38520	35350
1965-66	16540	15720	13390	12850	11420	10930	9518	16810	42750	73730	67700	26610	26550
1966-67	8682	7304	7690	11650	15450	14540	16250	16450	23440	84430	129000	37410	31010
1967-68	9891	5565	10890	14640	10460	10540	19270	25840	23320	65900	78150	27740	25160
1968-69	12660	<u>17970</u>	20160	21170	15710	14570	12680	16390	67870	103200	68750	34290	33840
1969-70	9262	9173	11060	10720	9146	10090	11860	14130	20930	84700	101900	28940	26850
1970-71	10510	8141	10950	11140	10940	14820	<u>30240</u>	18600	41410	121800	105000	40460	35310
1971-72	13690	8512	9492	10600	9675	9395	15100	<u>43400</u>	41220	106600	134300	43910	37160
1972-73	16420	9210	10370	10880	10910	11460	9339	14180	19350	53910	48120	15000	19130
1973-74	5883	6089	6847	19600	19830	<u>37070</u>	20970	21870	55290	91090	<u>152900</u>	56810	<u>41160</u>
1974-75	15210	9293	8088	10610	9666	9272	10170	12540	20040	75140	129100	57160	30560
1975-76	17420	13740	14980	19480	27910	17010	15280	14680	45830	116700	78690	39860	35200
1976-77	20260	12060	9331	8904	7317	7503	7948	9258	20690	<u>39440</u>	28030	<u>8879</u>	15000
1977-78	7053	9101	8750	10890	17920	10870	10800	21550	48050	80060	84640	41290	29300
1978-79	14750	14200	9384	10260	7280	6919	11150	16680	26410	92020	63540	19840	24430
1979-80	8005	7048	6493	8666	9771	8081	9440	13810	41930	92690	69910	26240	25190
1980-81	10400	11080	10720	14290	24960	20620	19670	19780	34290	89030	91420	37320	32000
1981-82	12110	7036	9329	11210	11420	9389	25390	27160	33530	94420	116900	53750	34290
1982-83	14980	9586	12440	11860	12090	14990	16340	28630	31520	70490	71590	41910	28100
1983-84	15450	9791	10750	19740	9943	17490	13710	18490	34510	61760	87890	32830	27660
1984-85	10130	10800	10500	13530	8409	7299	7682	10610	39760	84690	61670	13440	23250
1985-86	8307	15590	18020	22250	10720	10650	17100	39970	46250	65180	60950	17890	27730
1986-87	7449	8296	11590	14780	10800	7096	8619	22370	42360	65560	<u>27930</u>	12710	20020
1987-88	7218	5032	<u>5099</u>	6287	7849	6041	5587	10700	39450	57820	38920	11150	16760
1988-89	<u>4286</u>	<u>3747</u>	7881	11910	8739	8772	6509	15030	51510	79020	65210	20400	23620
1989-90	11540	10410											
MEAN	11350	8984	10930	13080	13130	11770	13240	17310	39480	83330	80910	31110	27890
MEDIAN	10540	8349	9492	11460	10940	10530	12240	16390	39760	83570	76570	29790	27910

SEV3M9

USGS # 12399350

WANETA

River: PEND O'REILLE

Drainage Area: 25800 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 0.5

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												45310	
1928-29	15340	10210	11400	10440	8176	5714	8864	10500	18130	60300	66490	21210	20430
1929-30	8168	5237	6122	<u>5296</u>	8281	4362	9976	9424	45300	51570	43920	16040	17790
1930-31	6810	8224	8235	8164	8537	7128	8558	12010	22420	59040	34200	11670	15960
1931-32	5123	5688	5731	7046	6930	6676	9471	20850	48490	99090	48980	29490	27460
1932-33	10870	7006	8234	15100	14850	11980	8828	11980	34930	75470	138400	45270	31920
1933-34	13740	10100	17450	<u>27570</u>	<u>42470</u>	36940	26300	33160	<u>91250</u>	93370	47450	17030	38100
1934-35	7646	5656	9139	19460	13010	13430	14700	15090	30310	79180	76570	30200	26220
1935-36	10940	8388	6748	7235	8668	7291	<u>4698</u>	10900	48080	92430	51000	14990	22310
1936-37	6847	5902	6071	5815	6763	<u>4176</u>	5623	7738	19330	61360	55660	19730	17130
1937-38	8142	5747	7266	11460	11670	13090	9654	16410	45970	83180	80940	30090	27010
1938-39	9222	6683	7676	7955	8616	8708	8666	13440	43290	84040	47460	19470	22010
1939-40	6906	5579	8139	7077	10090	6743	9897	18790	36890	61800	37700	11640	18280
1940-41	4929	5775	7737	7643	8145	7943	8119	13440	24040	42750	30780	12120	<u>14480</u>
1941-42	5801	10630	14830	15010	26230	13920	11120	11360	37220	61250	69760	33660	25940
1942-43	10560	8271	7809	11290	11550	8336	11750	14100	77150	77990	102500	57390	33220
1943-44	15930	8551	9812	9508	8716	6951	6727	<u>7315</u>	18330	44670	39120	15640	15960
1944-45	6756	6049	7155	7632	<u>6228</u>	8798	9445	11630	<u>17470</u>	73510	70250	26760	21020
1945-46	8306	7210	9133	13830	11910	11550	10130	16390	49990	93710	73630	30260	28060
1946-47	10260	9314	12820	16020	21660	14710	16980	23630	48300	112600	80880	30640	33210
1947-48	13010	11260	22810	19450	14730	14470	12970	14180	42110	<u>127900</u>	135200	39850	38990
1948-49	21240	10570	10180	10620	7699	6361	12240	16370	48580	108300	65400	20830	28270
1949-50	10020	8038	9337	14740	14700	10170	14510	24750	40860	83570	127200	<u>69320</u>	35640
1950-51	<u>21950</u>	10930	18650	23230	25450	19480	29700	20680	50430	111700	83400	48230	38690
1951-52	17030	14400	23280	17330	15610	11940	13270	14300	58840	102000	64750	26010	31590
1952-53	10650	6212	5998	7629	8687	15730	17210	14060	27740	71860	109700	39780	27910
1953-54	13470	6141	8866	10050	11870	10530	12450	17740	32400	112700	100600	61870	33350
1954-55	16940	13450	11890	15160	11470	9375	10380	7813	23380	64400	105400	51510	28460
1955-56	13780	8401	17310	17990	22210	17820	13020	19380	86610	126600	104900	34470	38560
1956-57	13490	9216	10790	10930	13250	8317	13000	17080	31530	119400	72800	20630	28460
1957-58	9269	6023	9407	9547	10950	9764	15860	17500	34460	105100	61850	21280	25980
1958-59	9290	7682	10720	18470	19090	19950	17250	17330	44090	87590	128100	44350	35320
1959-60	14090	17710	<u>29310</u>	26790	22880	14550	14150	23100	54430	74650	89980	30810	34340
1960-61	14180	9639	9373	13620	10510	10730	23570	21060	35580	99850	104200	22400	31180
1961-62	8567	6991	12220	10200	10610	9018	14830	14960	54670	85070	80960	25340	27780
1962-63	12290	8004	13640	16520	17310	11540	22200	18890	33030	67620	64480	28230	26130
1963-64	9859	8223	7457	10900	8519	9050	8170	10780	25200	80170	133400	41180	29360
1964-65	14110	13410	11740	13610	18730	15270	16820	18560	55780	97750	109800	38520	35350
1965-66	16540	15720	13390	12850	11420	10930	9518	16810	42750	73730	67700	26610	26550
1966-67	8682	7304	7690	11650	15450	14540	16250	16450	23440	84430	129000	37410	31010
1967-68	9891	5565	10890	14640	10460	10540	19270	25840	23320	65900	78150	27740	25160
1968-69	12660	<u>17970</u>	20160	21170	15710	14570	12680	16390	67870	103200	68750	34290	33840
1969-70	9262	9173	11060	10720	9146	10090	11860	14130	20930	84700	101900	28940	26850
1970-71	10510	8141	10950	11140	10940	14820	<u>30240</u>	18600	41410	121800	105000	40460	35310
1971-72	13690	8512	9492	10600	9675	9395	15100	<u>43450</u>	41220	106600	134300	43910	37160
1972-73	16420	9210	10370	10680	10910	11460	9339	14180	19350	53910	48120	15000	19130
1973-74	5883	6089	6847	19600	19830	<u>37070</u>	20970	21870	55290	91090	<u>152900</u>	56810	<u>41160</u>
1974-75	15210	9293	8088	10610	9666	9272	10170	12540	20040	75140	129100	57160	30560
1975-76	17420	13740	14980	19480	27910	17010	15280	14680	45830	116700	78690	39860	35200
1976-77	20260	12060	9331	8904	7317	7503	7948	9258	20690	<u>39440</u>	28030	<u>8879</u>	15000
1977-78	7053	9101	8750	10890	17920	10870	10800	21550	48050	80060	84640	41290	29300
1978-79	14750	14200	9384	10260	7280	6919	11150	16680	26410	92020	63540	19840	24430
1979-80	8005	7048	6493	7523	9771	8081	9440	13810	41930	92690	69910	26240	25090
1980-81	10400	11080	10720	14290	24960	20620	19670	19780	34290	89030	91420	37320	32000
1981-82	12110	7036	9329	11210	11420	9389	25390	27160	33530	94420	116900	53750	34290
1982-83	14980	9586	12440	11860	12090	14990	16340	28630	31520	70490	71590	41910	28100
1983-84	15450	9791	10750	19740	9943	17490	13710	18490	34510	61760	87890	32830	27660
1984-85	10130	10800	10500	13530	8409	7299	7682	10610	39760	84690	61670	13440	23250
1985-86	8307	15590	18020	22250	10720	10650	17100	39970	46250	65180	60950	17890	27730
1986-87	7449	8296	11590	14780	10800	7096	8619	22370	42360	65560	<u>27930</u>	12710	20020
1987-88	7218	5032	<u>5099</u>	6287	7849	6041	5587	10700	39450	57820	38920	11150	16760
1988-89	<u>4286</u>	<u>3747</u>	7881	11910	8739	8772	6509	15030	51510	79020	65210	20400	23620
1989-90	11540	10410											
MEAN	11350	8984	10930	13080	13130	11770	13240	17310	39480	83330	80910	31110	27890
MEDIAN	10540	8349	9492	11460	10940	10530	12240	16390	39760	83570	76570	29790	27910

WAT3M9

RATHDRUM PRAIRIE CANAL

Accumulated depletions a site (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												0	
1928-29	0	0	0	0	0	0	0	0	0	0	0	0	0
1929-30	0	0	0	0	0	0	0	0	0	0	0	0	0
1930-31	0	0	0	0	0	0	0	0	0	0	0	0	0
1931-32	0	0	0	0	0	0	0	0	0	0	0	0	0
1932-33	0	0	0	0	0	0	0	0	0	0	0	0	0
1933-34	0	0	0	0	0	0	0	0	0	0	0	0	0
1934-35	0	0	0	0	0	0	0	0	0	0	0	0	0
1935-36	0	0	0	0	0	0	0	0	0	0	0	0	0
1936-37	0	0	0	0	0	0	0	0	0	0	0	0	0
1937-38	0	0	0	0	0	0	0	0	0	0	0	0	0
1938-39	0	0	0	0	0	0	0	0	0	0	0	0	0
1939-40	0	0	0	0	0	0	0	0	0	0	0	0	0
1940-41	0	0	0	0	0	0	0	0	0	0	0	0	0
1941-42	0	0	0	0	0	0	0	0	0	0	0	0	0
1942-43	0	0	0	0	0	0	0	0	0	0	0	0	0
1943-44	0	0	0	0	0	0	0	0	0	0	0	0	0
1944-45	0	0	0	0	0	0	0	0	0	0	0	0	0
1945-46	0	0	0	0	0	0	0	0	1	6	22	39	6
1946-47	40	5	0	0	0	0	0	0	0	32	36	60	15
1947-48	55	7	0	0	0	0	0	0	0	2	6	50	10
1948-49	58	36	0	0	0	0	0	0	0	26	51	56	19
1949-50	57	26	0	0	0	0	0	0	0	16	19	55	15
1950-51	55	34	0	0	0	0	0	0	0	29	48	58	19
1951-52	56	26	0	0	0	0	0	0	0	28	37	57	17
1952-53	60	29	0	0	0	0	0	0	0	27	29	54	17
1953-54	56	43	0	0	0	0	0	0	0	33	21	52	17
1954-55	42	18	0	0	0	0	0	0	0	3	42	36	12
1955-56	54	43	0	0	0	0	0	0	0	30	25	55	18
1956-57	45	35	0	0	0	0	0	0	0	9	16	55	13
1957-58	56	28	0	0	0	0	0	0	5	27	36	53	17
1958-59	54	28	0	0	0	0	0	0	2	28	44	53	18
1959-60	50	25	0	0	0	0	0	0	1	18	46	49	16
1960-61	53	25	0	0	0	0	0	0	4	28	49	54	18
1961-62	55	41	0	0	0	0	0	0	5	30	45	53	19
1962-63	58	29	0	0	0	0	0	0	1	29	54	50	19
1963-64	58	32	0	0	0	0	0	0	1	31	44	50	18
1964-65	40	3	0	0	0	0	0	0	2	38	46	55	15
1965-66	45	16	0	0	0	0	0	0	7	39	48	50	17
1966-67	49	35	0	0	0	0	0	0	0	22	46	53	17
1967-68	54	31	1	0	0	0	0	0	3	47	50	53	20
1968-69	50	17	0	0	0	0	0	0	0	28	46	47	16
1969-70	52	32	0	0	0	0	0	0	0	37	51	54	19
1970-71	53	31	0	0	0	0	0	0	0	36	31	51	17
1971-72	51	21	0	0	0	0	0	0	0	24	40	48	15
1972-73	43	34	0	0	0	0	0	0	0	30	46	50	17
1973-74	50	32	0	0	0	0	0	0	0	9	47	44	15
1974-75	58	24	0	0	0	0	0	0	0	29	47	49	17
1975-76	34	23	3	0	0	0	0	0	0	21	39	55	15
1976-77	35	22	0	0	0	0	0	0	5	24	46	42	14
1977-78	53	22	0	0	0	0	0	0	0	16	41	38	14
1978-79	38	12	0	0	0	0	0	0	0	17	43	43	13
1979-80	36	14	0	0	0	0	0	0	0	13	23	43	11
1980-81	46	12	0	0	0	0	0	0	0	6	12	47	10
1981-82	44	23	0	0	0	0	0	0	0	24	43	34	14
1982-83	38	22	0	0	0	0	0	0	0	22	35	20	11
1983-84	32	13	0	0	0	0	0	0	0	7	33	48	11
1984-85	37	14	0	0	0	0	0	0	0	21	32	46	13
1985-86	39	13	0	0	0	0	0	0	1	19	46	41	13
1986-87	41	19	0	0	0	0	0	0	3	44	45	37	16
1987-88	37	25	0	0	0	0	0	0	0	22	37	41	14
1988-89	41	17	0	0	0	0	0	0	0	18	46	50	14
1989-90	27	26											
MEAN	34	17	0	0	0	0	0	0	1	17	28	34	11

RAT3D9

SPOKANE VALLEY FARMS DIVERSIONS

Accumulated depletions at site (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												254	
1928-29	231	208	0	0	0	0	0	0	22	152	208	209	85
1929-30	221	188	0	0	0	0	0	0	114	195	202	213	96
1930-31	234	189	0	0	0	0	0	0	87	209	239	245	101
1931-32	254	108	0	0	0	0	0	0	0	173	251	254	86
1932-33	241	221	0	0	0	0	0	0	73	214	249	221	102
1933-34	240	199	0	0	0	0	0	0	0	258	267	248	102
1934-35	239	216	0	0	0	0	0	9	69	243	279	270	113
1935-36	259	127	0	0	0	0	0	0	0	239	288	266	97
1936-37	243	111	0	0	0	0	0	0	0	152	266	266	88
1937-38	252	113	0	0	0	0	0	0	16	180	265	273	93
1938-39	264	130	11	2	0	0	0	3	84	260	274	261	108
1939-40	263	120	6	0	0	0	0	0	25	195	274	260	95
1940-41	250	118	6	3	0	0	0	2	79	227	247	258	100
1941-42	251	80	4	0	0	0	0	0	75	157	214	272	90
1942-43	269	114	8	0	0	0	0	0	33	134	243	271	90
1943-44	271	101	9	0	0	0	0	0	66	188	258	265	94
1944-45	236	113	0	0	0	0	0	0	75	194	235	260	95
1945-46	251	120	0	0	0	0	0	20	69	196	238	261	97
1946-47	251	108	0	0	0	0	0	0	4	150	286	275	91
1947-48	259	91	0	0	0	0	0	0	40	29	156	282	72
1948-49	265	93	1	1	1	1	0	0	23	182	243	268	88
1949-50	240	104	0	0	0	0	0	0	6	136	229	275	86
1950-51	270	124	5	0	0	0	0	0	0	116	252	290	88
1951-52	257	102	2	0	0	0	0	0	27	174	241	257	88
1952-53	243	104	2	0	1	1	1	0	21	158	193	272	85
1953-54	262	110	0	0	1	2	1	0	26	199	194	260	86
1954-55	227	78	1	1	0	0	0	0	18	126	262	251	83
1955-56	248	132	0	0	0	0	0	0	20	237	292	260	100
1956-57	248	99	0	0	0	0	0	0	32	157	261	269	88
1957-58	235	123	0	0	0	0	8	7	48	183	269	241	93
1958-59	237	111	0	0	0	0	0	0	56	147	214	262	87
1959-60	245	111	1	0	0	0	0	0	43	155	231	262	87
1960-61	242	113	0	0	0	0	0	0	41	177	259	259	91
1961-62	238	124	2	1	1	1	1	0	46	178	229	268	92
1962-63	242	123	0	0	0	0	0	0	47	181	270	254	94
1963-64	249	121	0	0	0	0	0	0	38	198	231	258	90
1964-65	229	107	0	0	0	0	0	0	30	207	249	230	87
1965-66	208	121	7	0	0	0	0	0	36	102	103	114	50
1966-67	115	69	0	0	0	0	0	0	0	0	0	0	6
1967-68	0	0	0	0	0	0	0	0	0	0	0	0	0
1968-69	0	0	0	0	0	0	0	0	0	0	0	0	0
1969-70	0	0	0	0	0	0	0	0	0	0	0	0	0
1970-71	0	0	0	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0	0	0	0
1975-76	0	0	0	0	0	0	0	0	0	0	0	0	0
1976-77	0	0	0	0	0	0	0	0	0	0	0	0	0
1977-78	0	0	0	0	0	0	0	0	0	0	0	0	0
1978-79	0	0	0	0	0	0	0	0	0	0	0	0	0
1979-80	0	0	0	0	0	0	0	0	0	0	0	0	0
1980-81	0	0	0	0	0	0	0	0	0	0	0	0	0
1981-82	0	0	0	0	0	0	0	0	0	0	0	0	0
1982-83	0	0	0	0	0	0	0	0	0	0	0	0	0
1983-84	0	0	0	0	0	0	0	0	0	0	0	0	0
1984-85	0	0	0	0	0	0	0	0	0	0	0	0	0
1985-86	0	0	0	0	0	0	0	0	0	0	0	0	0
1986-87	0	0	0	0	0	0	0	0	0	0	0	0	0
1987-88	0	0	0	0	0	0	0	0	0	0	0	0	0
1988-89	0	0	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	153	78	1	0	0	0	0	1	24	111	150	160	89

SPO3D9

RATHDRUM PRAIRIE

Accumulated depletions at site (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-50	
1928-29	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1929-30	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1930-31	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1931-32	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1932-33	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1933-34	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1934-35	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1935-36	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1936-37	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1937-38	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1938-39	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1939-40	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1940-41	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1941-42	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1942-43	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1943-44	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1944-45	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1945-46	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1946-47	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1947-48	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1948-49	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1949-50	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1950-51	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1951-52	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1952-53	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1953-54	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1954-55	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1955-56	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1956-57	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1957-58	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1958-59	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1959-60	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1960-61	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1961-62	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1962-63	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1963-64	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1964-65	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1965-66	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1966-67	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1967-68	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1968-69	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1969-70	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1970-71	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1971-72	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1972-73	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1973-74	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1974-75	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1975-76	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1976-77	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1977-78	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1978-79	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1979-80	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1980-81	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1981-82	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1982-83	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1983-84	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1984-85	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1985-86	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1986-87	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1987-88	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1988-89	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18
1989-90	-50	-30											
MEAN	-50	-30	0	0	0	0	0	0	0	-30	-50	-50	-18

RPR3D9

COEUR D'ALENE

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												204	
1928-29	181	176	0	0	0	0	0	0	22	122	158	159	69
1929-30	171	158	0	0	0	0	0	0	114	165	152	163	77
1930-31	184	139	0	0	0	0	0	0	87	179	189	195	81
1931-32	204	78	0	0	0	0	0	0	0	143	201	204	69
1932-33	191	191	0	0	0	0	0	0	73	184	199	171	85
1933-34	190	169	0	0	0	0	0	0	0	228	217	198	84
1934-35	189	186	0	0	0	0	0	9	69	213	229	220	93
1935-36	209	97	0	0	0	0	0	0	0	209	238	216	81
1936-37	193	81	0	0	0	0	0	0	0	122	216	216	69
1937-38	202	83	0	0	0	0	0	0	16	150	215	223	75
1938-39	214	100	11	2	0	0	0	3	84	230	224	211	90
1939-40	213	90	6	0	0	0	0	0	25	165	224	210	78
1940-41	200	88	6	3	0	0	0	2	79	197	197	208	82
1941-42	201	50	4	0	0	0	0	0	75	127	164	222	71
1942-43	219	84	8	0	0	0	0	0	33	104	193	221	72
1943-44	221	71	9	0	0	0	0	0	66	158	208	215	79
1944-45	186	83	0	0	0	0	0	0	75	164	185	210	76
1945-46	201	90	0	0	0	0	0	20	70	172	210	250	85
1946-47	241	81	0	0	0	0	0	0	4	152	272	286	87
1947-48	264	68	0	0	0	0	0	0	40	1	111	282	64
1948-49	273	99	1	1	1	1	0	0	23	178	244	274	92
1949-50	247	100	0	0	0	0	0	0	6	122	198	280	80
1950-51	275	128	5	0	0	0	0	0	0	115	250	299	90
1951-52	262	98	2	0	0	0	0	0	27	172	228	264	88
1952-53	254	103	2	0	1	1	1	0	21	156	172	277	83
1953-54	268	123	0	0	1	2	1	0	26	202	165	262	88
1954-55	218	65	1	1	0	0	0	0	18	99	254	237	75
1955-56	253	145	0	0	0	0	0	0	21	237	268	266	100
1956-57	243	104	0	0	0	0	0	0	32	136	227	273	85
1957-58	241	121	0	0	0	0	8	7	53	179	254	244	93
1958-59	241	109	0	0	0	0	0	0	58	145	208	265	86
1959-60	245	106	1	0	0	0	0	0	44	143	227	261	86
1960-61	244	108	0	0	0	0	0	0	45	176	258	263	92
1961-62	243	135	2	1	1	1	1	0	50	178	223	270	93
1962-63	250	122	0	0	0	0	0	0	48	181	274	262	95
1963-64	258	123	0	0	0	0	0	0	39	199	225	258	92
1964-65	219	80	0	0	0	0	0	0	32	216	245	235	86
1965-66	202	107	7	0	0	0	0	0	43	111	100	114	57
1966-67	114	75	0	0	0	0	0	0	0	8	4	3	15
1967-68	4	1	1	0	0	0	0	0	3	17	0	3	2
1968-69	0	13	0	0	0	0	0	0	0	2	4	3	-2
1969-70	2	2	0	0	0	0	0	0	0	7	1	4	1
1970-71	3	1	0	0	0	0	0	0	0	6	-19	1	-1
1971-72	1	-9	0	0	0	0	0	0	0	-6	-10	-2	-2
1972-73	-7	4	0	0	0	0	0	0	0	0	-4	0	-1
1973-74	0	2	0	0	0	0	0	0	0	-21	-3	-6	-2
1974-75	8	-6	0	0	0	0	0	0	0	-1	-3	-1	0
1975-76	16	7	3	0	0	0	0	0	0	9	-11	5	-3
1976-77	15	9	0	0	0	0	0	0	5	6	-4	-8	-3
1977-78	3	8	0	0	0	0	0	0	0	14	9	12	3
1978-79	12	18	0	0	0	0	0	0	0	13	7	7	-5
1979-80	14	16	0	0	0	0	0	0	0	-17	-27	-7	-7
1980-81	4	18	0	0	0	0	0	0	0	24	-38	3	-7
1981-82	6	-7	0	0	0	0	0	0	0	6	-7	16	-4
1982-83	-12	8	0	0	0	0	0	0	0	8	-15	-30	6
1983-84	-18	17	0	0	0	0	0	0	0	-23	-18	-2	-6
1984-85	-13	-16	0	0	0	0	0	0	0	-9	-18	-4	-5
1985-86	-11	-17	0	0	0	0	0	0	1	-11	-4	-9	-4
1986-87	-9	-11	0	0	0	0	0	0	3	14	-5	-13	-2
1987-88	-13	5	0	0	0	0	0	0	0	-8	-13	-9	4
1988-89	9	13	0	0	0	0	0	0	0	12	5	0	3
1989-90	23	4											
MEAN	137	65	1	0	0	0	0	1	25	98	128	145	50

COE3DD9

USGS # 12418900

COEUR D'ALENE

River: SPOKANE

Drainage Area: 3840 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 102.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												1581	
1928-29	672	703	871	1067	894	<u>749</u>	<u>762</u>	3492	8252	12780	5035	1225	3053
1929-30	628	703	696	586	1492	776	3944	4406	11810	7174	3677	1012	3056
1930-31	603	701	803	1057	<u>785</u>	1368	2306	7460	14150	10900	2264	742	3595
1931-32	532	688	740	1046	1211	2210	3692	13750	26770	28400	8809	1843	7475
1932-33	707	670	859	4926	4459	4347	1960	6991	19660	21120	19370	2680	7314
1933-34	891	979	2675	6097	<u>31290</u>	20780	10280	15900	20350	7383	2309	796	10000
1934-35	470	614	1344	3952	4240	5656	6079	8425	19130	22370	7190	1632	6754
1935-36	728	623	666	709	845	2062	1094	6248	24580	16610	5092	1170	5028
1936-37	607	677	670	<u>501</u>	1118	757	925	4084	15800	19810	6243	1496	4404
1937-38	780	694	779	2842	5465	7024	3903	10940	23580	16130	5832	1383	6617
1938-39	707	733	945	1112	1530	1990	1919	7729	18570	13870	3516	1281	4497
1939-40	694	651	756	708	2059	1830	6769	14220	14600	10000	2464	873	4624
1940-41	528	785	1003	1626	4075	4186	3671	5441	<u>5380</u>	7417	3953	1005	3256
1941-42	544	1075	1460	3193	9523	3270	4316	5129	13940	8896	6220	2551	5003
1942-43	582	423	742	3998	3912	3410	3523	7034	29050	17390	11400	3503	7065
1943-44	810	523	1075	1088	2198	1215	1630	<u>2218</u>	8678	7282	2521	<u>609</u>	2484
1944-45	521	641	752	941	1051	3949	5230	6788	9681	19820	5771	1270	4702
1945-46	467	958	936	2985	5262	6775	3577	9675	21060	20620	6680	1886	6754
1946-47	555	603	1287	5097	12810	5952	8885	9555	14970	14730	5729	1457	6788
1947-48	652	904	2990	4502	4908	7938	5560	5768	19850	<u>32940</u>	14180	3447	8640
1948-49	<u>1803</u>	780	936	1947	1978	1364	4772	10980	24580	25520	5450	1338	6788
1949-50	537	614	863	2785	2905	3858	7578	17170	21620	26280	19970	<u>5482</u>	9128
1950-51	1325	596	2193	4607	9876	6847	16030	6714	17720	16650	6059	1816	7469
1951-52	499	496	2962	3590	5086	2847	5365	5191	24420	17990	6108	2138	6372
1952-53	591	576	762	906	1267	8174	10340	5950	12500	17680	11300	2393	5997
1953-54	787	522	1063	1542	3654	4095	8433	8480	18130	25190	11510	3746	7245
1954-55	1359	1160	1613	3313	2567	2006	3108	2670	11210	22400	13680	4304	5788
1955-56	1021	760	2815	6752	14600	7807	3694	9233	<u>29820</u>	27740	9640	2556	9715
1956-57	991	700	1545	1902	4293	2178	3611	10720	18160	30160	7818	1769	7013
1957-58	658	329	1132	1529	2323	3316	11490	6647	17110	19600	4822	1334	5814
1958-59	310	429	1059	6450	8650	13960	5278	7273	19420	21340	12740	2481	8291
1959-60	831	1467	<u>3341</u>	<u>8573</u>	5261	3246	6300	10330	19930	17140	9282	1744	7266
1960-61	829	683	1138	2740	2152	3402	<u>21090</u>	11390	14080	23110	10010	1548	7580
1961-62	519	418	909	1032	1683	3118	5468	5351	22860	17940	7811	1676	5709
1962-63	708	606	1484	3678	5991	3926	11050	7517	12560	11170	4255	1219	5300
1963-64	443	500	<u>534</u>	1843	1662	2291	2455	3643	14290	24450	18610	3357	6165
1964-65	1337	1236	1307	3187	16840	8126	10250	8822	23870	17660	9320	2273	8666
1965-66	1243	913	714	1664	1798	3392	1860	8566	16010	13900	5412	1445	4753
1966-67	446	405	647	1904	5038	8004	7760	7209	9838	21450	11920	2117	6388
1967-68	495	408	1309	2214	2527	3521	14500	10140	7686	10170	5976	1486	4995
1968-69	820	<u>1550</u>	3038	6322	6351	9093	3991	8481	26890	21480	7111	1797	8085
1969-70	552	847	1120	1105	1672	4915	8104	7684	9874	21740	11830	2301	5962
1970-71	748	758	1152	2223	2715	7562	12590	7290	16090	28400	13680	4419	8098
1971-72	1295	993	1345	1712	1997	5760	9734	<u>26970</u>	15140	29440	15590	3701	9483
1972-73	1141	861	972	1190	2925	5198	2740	5212	6081	7540	3223	925	3175
1973-74	<u>162</u>	727	964	3994	10880	<u>23670</u>	9067	11330	23710	24800	<u>24680</u>	4385	<u>11530</u>
1974-75	1176	697	892	1552	1613	2814	3261	6933	9673	24610	15860	3928	6098
1975-76	1417	918	1632	3025	10960	8291	6150	6182	18570	24250	8485	2657	7719
1976-77	1509	819	1056	1125	1057	1103	1475	2320	6061	<u>6659</u>	2777	842	<u>2235</u>
1977-78	337	803	1084	2448	12700	4925	6265	11930	14150	14590	7422	2414	6596
1978-79	1135	962	992	1055	1001	925	3517	9647	13180	21960	5577	1348	5121
1979-80	476	570	945	902	2381	3117	3856	6220	12370	12430	8988	2401	4546
1980-81	888	1043	979	1831	11670	6257	10830	6079	11250	11550	10130	3188	6273
1981-82	928	657	1153	1820	3663	2716	20890	14830	16180	19870	11510	3351	8032
1982-83	936	829	1416	2190	4302	8096	9698	14010	10630	13360	7185	3725	6350
1983-84	1382	830	1127	4103	3324	7724	6646	11910	13320	15830	12240	2868	6767
1984-85	806	831	1134	2875	2471	1449	1546	4626	18800	18660	9737	1570	5378
1985-86	755	1112	1718	4233	1903	2613	11830	17280	11740	10600	3913	1204	5697
1986-87	388	729	1189	3207	2558	1744	3786	11310	12670	8566	<u>2179</u>	1092	4115
1987-88	460	<u>242</u>	608	805	1629	1301	2309	6389	15300	8319	3624	1226	3508
1988-89	262	330	733	2144	1984	2375	1850	10030	22910	15030	6813	1468	5496
1989-90	1010	686											
MEAN	774	738	1241	2624	4738	4809	6239	8621	16400	17750	8402	2104	6194
MEDIAN	707	700	1059	2144	2715	3410	5230	7517	15800	17880	7185	1756	6273

COE3M9

USGS #	POST FALLS												River	SPOKANE	Drainage Area	3840 Sq Mi
	Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)														River Mile	102.1
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE			
1927-28												1581				
1928-29	672	703	871	1067	894	<u>749</u>	<u>762</u>	3492	8252	12780	5035	1225	3053			
1929-30	628	703	696	596	1492	776	3944	4406	11810	7174	3677	1012	3056			
1930-31	603	701	803	1057	<u>785</u>	1368	2306	7460	14150	10900	2264	742	3595			
1931-32	532	688	740	1046	1211	2210	3692	13750	26770	28400	8809	1843	7475			
1932-33	707	670	859	4926	4459	4347	1960	6991	19660	21120	19370	2680	7314			
1933-34	891	979	2675	6097	<u>31290</u>	20780	10280	15900	20350	7383	2309	796	10000			
1934-35	470	614	1344	3952	4240	5656	6079	8425	19130	22370	7190	1632	6754			
1935-36	728	823	666	709	845	2062	1094	6248	24580	16610	5092	1170	5028			
1936-37	607	677	670	<u>501</u>	1118	757	925	4084	15800	19810	6243	1496	4404			
1937-38	780	694	779	2842	5465	7024	3903	10940	23580	16130	5832	1383	6617			
1938-39	707	733	945	1112	1530	1990	1919	7729	18570	13870	3516	1281	4497			
1939-40	694	651	756	708	2059	1830	6769	14220	14600	10000	2464	873	4624			
1940-41	528	785	1003	1626	4075	4186	3671	5441	<u>5380</u>	7417	3953	1005	3256			
1941-42	544	1075	1460	3193	9523	3270	4316	5129	13940	8896	6220	2551	5003			
1942-43	582	423	742	3998	3912	3410	3523	7034	29050	17390	11400	3503	7065			
1943-44	810	523	1075	1088	2198	1215	1630	<u>2218</u>	8676	7282	2521	<u>609</u>	2484			
1944-45	521	641	752	941	1051	3949	5230	6788	9681	19820	5771	1270	4702			
1945-46	467	958	936	2985	5262	6775	3577	9675	21060	20620	6680	1886	6754			
1946-47	555	603	1287	5097	12810	5952	8885	9555	14970	14730	5729	1457	6788			
1947-48	652	904	2990	4502	4908	7938	5560	5768	19850	<u>32940</u>	14180	3447	8640			
1948-49	<u>1803</u>	780	936	1947	1978	1364	4772	10980	24580	25520	5450	1338	6788			
1949-50	537	614	863	2785	2905	3858	7578	17170	21620	26280	19970	<u>5482</u>	9128			
1950-51	1325	596	2193	4607	9876	6847	16030	6714	17720	16650	6059	1816	7469			
1951-52	499	496	2962	3590	5086	2847	5365	5191	24420	17990	6108	2138	6372			
1952-53	591	576	762	906	1267	8174	10340	5950	12500	17680	11300	2393	5997			
1953-54	787	522	1063	1542	3654	4095	8433	8480	18130	25190	11510	3746	7245			
1954-55	1359	1160	1613	3313	2567	2006	3108	2670	11210	22400	13680	4304	5788			
1955-56	1021	760	2815	6752	14600	7807	3694	9233	<u>29820</u>	27740	9640	2556	9715			
1956-57	991	700	1545	1902	4293	2178	3611	10720	18160	30160	7818	1769	7013			
1957-58	658	329	1182	1529	2323	3316	11490	6647	17110	19600	4822	1334	5814			
1958-59	310	429	1059	6450	8650	13960	5278	7273	19420	21340	12740	2481	8291			
1959-60	831	1467	<u>3341</u>	<u>8573</u>	5261	3246	6300	10330	19930	17140	9282	1744	7266			
1960-61	829	683	1138	2740	2152	3402	<u>21090</u>	11390	14080	23110	10010	1548	7580			
1961-62	519	418	909	1032	1683	3118	5468	5351	22860	17940	7811	1676	5709			
1962-63	708	606	1484	3678	5991	3926	11050	7517	12560	11170	4255	1219	5300			
1963-64	443	500	<u>534</u>	1843	1662	2291	2455	3643	14290	24450	18610	3357	6165			
1964-65	1337	1236	1307	3187	16840	8126	10250	8822	23870	17660	9320	2273	8666			
1965-66	1243	913	714	1664	1798	3392	1860	8566	16010	13900	5412	1445	4753			
1966-67	446	405	647	1904	5038	8004	7760	7209	9838	21450	11920	2117	6388			
1967-68	495	408	1309	2214	2527	3521	14500	10140	7686	10170	5976	1486	4995			
1968-69	820	<u>1550</u>	3038	6322	6351	9093	3991	8481	26890	21480	7111	1797	8085			
1969-70	552	847	1120	1105	1672	4915	8104	7684	9874	21740	11830	2301	5962			
1970-71	748	758	1152	2223	2715	7562	12590	7290	16090	28400	13680	4419	8098			
1971-72	1295	993	1345	1712	1997	5760	9734	<u>26970</u>	15140	29440	15590	3701	9483			
1972-73	1141	861	972	1190	2925	5198	2740	5212	6081	7540	3223	925	3175			
1973-74	<u>162</u>	727	964	3994	10880	<u>23670</u>	9067	11330	23710	24800	<u>24680</u>	4385	<u>11530</u>			
1974-75	1176	697	892	1552	1613	2814	3261	6933	9673	24610	15860	3928	6098			
1975-76	1417	918	1632	3025	10960	8291	6150	6182	18570	24250	8485	2657	7719			
1976-77	1509	819	1056	1125	1057	1103	1475	2320	6061	<u>6659</u>	2777	842	<u>2235</u>			
1977-78	337	803	1084	2448	12700	4925	6265	11930	14150	14590	7422	2414	6596			
1978-79	1135	962	992	1055	1001	925	3517	9647	13180	21960	5577	1348	5121			
1979-80	476	570	945	902	2381	3117	3856	6220	12370	12430	8988	2401	4546			
1980-81	888	1043	979	1831	11670	6257	10830	6079	11250	11550	10130	3188	6273			
1981-82	928	657	1153	1820	3663	2716	20890	14830	16180	19870	11510	3351	8032			
1982-83	936	829	1416	2190	4302	8096	9698	14010	10630	13360	7185	3725	6350			
1983-84	1382	830	1127	4103	3324	7724	6646	11910	13320	15830	12240	2868	6767			
1984-85	806	831	1134	2875	2471	1449	1546	4626	18800	18660	9737	1570	5378			
1985-86	755	1112	1718	4233	1903	2613	11830	17280	11740	10600	3913	1204	5697			
1986-87	388	729	1189	3207	2558	1744	3786	11310	12670	8566	<u>2179</u>	1092	4115			
1987-88	460	<u>242</u>	608	805	1629	1301	2309	6389	15300	8319	3624	1226	3508			
1988-89	262	330	733	2144	1984	2375	1850	10030	22910	15030	6813	1468	5496			
1989-90	1010	686														
MEAN	774	738	1241	2624	4738	4809	6239	8621	16400	17750	8402	2104	6194			
MEDIAN	707	700	1059	2144	2715	3410	5230	7517	15800	17680	7185	1756	6273			

PFL3M9

SPOKANE VALLEY FARMS

Accumulated depletions at site (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28													
1928-29	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1929-30	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1930-31	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1931-32	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1932-33	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1933-34	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1934-35	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1935-36	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1936-37	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1937-38	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1938-39	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1939-40	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1940-41	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1941-42	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1942-43	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1943-44	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1944-45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1945-46	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1946-47	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1947-48	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1948-49	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1949-50	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1950-51	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1951-52	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1952-53	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1953-54	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1954-55	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1955-56	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1956-57	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1957-58	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1958-59	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
1959-60	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40	.43
1960-61	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40	.37
1961-62	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
1962-63	.30	.30	.30	.30	.30	.30	.30	.30	.20	.20	.20	.20	.27
1963-64	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20
1964-65	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.13
1965-66	0	0	0	0	0	0	0	0	0	0	0	0	0
1966-67	0	0	0	0	0	0	0	0	0	0	0	0	0
1967-68	0	0	0	0	0	0	0	0	0	0	0	0	0
1968-69	0	0	0	0	0	0	0	0	0	0	0	0	0
1969-70	0	0	0	0	0	0	0	0	0	0	0	0	0
1970-71	0	0	0	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0	0	0	0
1975-76	0	0	0	0	0	0	0	0	0	0	0	0	0
1976-77	0	0	0	0	0	0	0	0	0	0	0	0	0
1977-78	0	0	0	0	0	0	0	0	0	0	0	0	0
1978-79	0	0	0	0	0	0	0	0	0	0	0	0	0
1979-80	0	0	0	0	0	0	0	0	0	0	0	0	0
1980-81	0	0	0	0	0	0	0	0	0	0	0	0	0
1981-82	0	0	0	0	0	0	0	0	0	0	0	0	0
1982-83	0	0	0	0	0	0	0	0	0	0	0	0	0
1983-84	0	0	0	0	0	0	0	0	0	0	0	0	0
1984-85	0	0	0	0	0	0	0	0	0	0	0	0	0
1985-86	0	0	0	0	0	0	0	0	0	0	0	0	0
1986-87	0	0	0	0	0	0	0	0	0	0	0	0	0
1987-88	0	0	0	0	0	0	0	0	0	0	0	0	0
1988-89	0	0	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	.25	.25	.26	.26	.26	.26	.26	.26	.25	.25	.25	.25	.42
SVF3D9													

UPPER FALLS

Accumulated depletions at site and upstream (1990 level of development)

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												159	
1928-29	136	131	-45	-45	-45	-45	-45	-45	-23	77	113	114	24
1929-30	128	113	-45	-45	-45	-45	-45	-45	89	120	107	118	32
1930-31	139	94	-45	-45	-45	-45	-45	-45	42	134	144	150	36
1931-32	159	33	-45	-45	-45	-45	-45	-45	-45	98	156	159	24
1932-33	146	146	-45	-45	-45	-45	-45	-45	28	139	154	126	40
1933-34	145	124	-45	-45	-45	-45	-45	-45	-45	183	172	153	39
1934-35	144	141	-45	-45	-45	-45	-45	-38	24	168	184	175	48
1935-36	164	52	-45	-45	-45	-45	-45	-45	-45	164	193	171	36
1936-37	148	36	-45	-45	-45	-45	-45	-45	-45	77	171	171	24
1937-38	157	38	-45	-45	-45	-45	-45	-45	29	105	170	178	30
1938-39	169	55	-34	43	45	45	45	42	39	185	179	166	45
1939-40	168	45	-39	-45	-45	-45	-45	-45	20	120	179	165	33
1940-41	155	43	-39	-42	-45	-45	-45	-43	34	152	152	163	37
1941-42	156	5	-41	-45	-45	-45	-45	-45	30	82	119	177	26
1942-43	174	39	-37	-45	-45	-45	-45	-45	-13	59	148	176	27
1943-44	176	26	-36	-45	-45	-45	-45	-45	21	113	163	170	34
1944-45	141	38	-45	-45	-45	-45	-45	-45	30	119	140	165	31
1945-46	156	45	-45	-45	-45	-45	-45	-25	25	127	165	205	40
1946-47	196	36	-45	-45	-45	-45	-45	-45	-41	107	227	241	42
1947-48	219	23	-45	-45	-45	-45	-45	-45	-5	-44	66	237	19
1948-49	228	54	-44	-44	-44	-44	-45	-45	-22	133	199	229	47
1949-50	202	55	-45	-45	-45	-45	-45	-45	-39	77	153	235	35
1950-51	230	83	-40	-45	-45	-45	-45	-45	-45	70	205	254	45
1951-52	217	53	-43	-45	-45	-45	-45	-45	-18	127	183	219	43
1952-53	209	58	-43	-45	-44	44	-44	-45	24	111	127	232	38
1953-54	223	78	45	-45	-44	43	44	45	19	157	120	217	43
1954-55	173	20	44	-45	45	45	45	45	27	54	209	192	30
1955-56	208	100	-45	-45	-45	45	45	45	-24	192	223	221	55
1956-57	198	59	-45	-45	-45	-45	45	-45	13	91	182	228	40
1957-58	196	76	-45	-45	-45	-45	-37	38	8	134	209	199	48
1958-59	196	64	-45	-45	45	-45	45	45	18	105	168	225	43
1959-60	205	66	-39	40	-40	-40	40	40	4	103	187	221	46
1960-61	204	68	-40	40	40	40	40	40	15	146	228	233	55
1961-62	213	105	28	-29	29	-29	29	-30	20	148	193	240	63
1962-63	220	92	-30	-30	-30	-30	-30	-30	28	161	254	242	69
1963-64	238	103	-20	-20	-20	-20	-20	-20	19	179	205	238	72
1964-65	199	60	-20	-20	-20	-20	-20	-20	32	216	245	235	73
1965-66	202	107	7	0	0	0	0	0	43	111	100	114	57
1966-67	114	75	0	0	0	0	0	0	0	8	4	3	15
1967-68	4	1	1	0	0	0	0	0	3	17	0	3	2
1968-69	0	-13	0	0	0	0	0	0	0	2	-4	3	2
1969-70	2	2	0	0	0	0	0	0	0	7	1	4	1
1970-71	3	1	0	0	0	0	0	0	0	6	-19	1	-1
1971-72	1	-9	0	0	0	0	0	0	0	-6	-10	-2	2
1972-73	-7	4	0	0	0	0	0	0	0	0	-4	0	-1
1973-74	0	2	0	0	0	0	0	0	0	-21	-3	-6	-2
1974-75	8	-6	0	0	0	0	0	0	0	-1	-3	-1	0
1975-76	-16	7	3	0	0	0	0	0	0	-9	-11	5	-3
1976-77	15	9	0	0	0	0	0	0	5	6	4	8	3
1977-78	3	8	0	0	0	0	0	0	0	14	9	12	3
1978-79	12	18	0	0	0	0	0	0	0	13	7	7	-5
1979-80	14	16	0	0	0	0	0	0	0	-17	27	-7	-7
1980-81	-4	-18	0	0	0	0	0	0	0	-24	-38	-3	-7
1981-82	-6	-7	0	0	0	0	0	0	0	6	7	-16	-4
1982-83	12	8	0	0	0	0	0	0	0	8	15	30	6
1983-84	18	17	0	0	0	0	0	0	0	23	18	2	6
1984-85	-13	-16	0	0	0	0	0	0	0	9	18	4	5
1985-86	-11	-17	0	0	0	0	0	0	1	-11	-4	-9	-4
1986-87	-9	11	0	0	0	0	0	0	3	14	-5	-13	-2
1987-88	-13	-5	0	0	0	0	0	0	0	-8	-13	-9	-4
1988-89	9	13	0	0	0	0	0	0	0	-12	-5	0	-3
1989-90	-23	4											
MEAN	111	39	-25	-26	-26	-26	-26	-25	0	73	103	119	25

UPF3DD9

USGS # 12422150

UPPER FALLS

River: SPOKANE

Drainage Area:

4290 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile:

76.2

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												2492	
1928-29	1393	1350	1418	1630	1414	1176	<u>1181</u>	3743	8302	13120	5657	1861	3532
1929-30	1013	1138	1167	<u>1030</u>	1875	<u>1018</u>	4064	4514	11780	7579	4497	1470	3411
1930-31	893	1005	1123	1401	<u>1062</u>	1866	2405	7247	14440	11380	2836	1120	3882
1931-32	785	1012	1021	1353	1489	2239	3719	13490	26750	29170	10340	2750	7844
1932-33	1326	1218	1387	5645	4963	4811	2451	7025	19480	21290	19320	3960	7743
1933-34	1603	1545	2946	6710	<u>30490</u>	21240	10800	18080	20080	8139	3224	1503	10390
1934-35	1084	1281	1919	4066	4514	5831	6127	8576	18490	22270	8538	2546	7100
1935-36	1424	1290	1301	1297	1332	2412	1607	6221	23990	17210	6246	1998	5520
1936-37	1223	1321	1188	1043	1615	1132	1380	4166	15250	19240	7035	2267	4751
1937-38	1283	1203	1276	3176	5542	7217	4349	10980	23800	16620	6706	2059	7021
1938-39	1275	1235	1382	1545	1953	2259	2192	7690	18280	14130	4247	1837	4841
1939-40	1107	1118	1196	1147	2448	2127	6741	14070	14690	10400	3252	1432	4967
1940-41	1015	1279	1469	2063	4282	4384	3965	5594	<u>5673</u>	7461	4410	1582	3598
1941-42	1016	1544	1868	3435	9644	3718	4575	5387	13900	9438	6626	3174	5356
1942-43	1126	875	1140	4093	4175	3687	3823	7144	27990	17560	12360	4475	7355
1943-44	1456	1089	1573	1575	2837	1805	2233	<u>2686</u>	8655	7522	3087	<u>1092</u>	2964
1944-45	949	1081	1166	1367	1494	4158	5497	6989	9987	19730	6731	1893	5086
1945-46	1104	1450	1420	3516	5561	7230	4232	10220	21220	20800	7812	2701	7284
1946-47	1236	1166	1746	5457	13040	6426	9542	10180	15560	15110	6547	2152	7330
1947-48	1333	1429	3494	4850	5055	8204	6084	6346	19990	<u>32560</u>	14990	4530	9075
1948-49	<u>2659</u>	1469	1468	2438	2524	2081	5332	11420	24990	26380	6940	2266	7499
1949-50	1280	1388	1463	3169	3419	4320	7752	17500	22500	27580	21510	<u>6832</u>	9886
1950-51	2240	1435	2611	5053	10000	7575	16420	7432	18050	17170	6939	2619	8064
1951-52	1236	1226	3323	3968	5471	3460	5854	5766	24460	18920	7003	2899	6948
1952-53	1368	1095	1272	1398	1738	8325	10860	6416	12720	18250	12060	3181	6519
1953-54	1476	910	1362	1937	3906	4405	8557	8777	17860	24710	11880	4714	7526
1954-55	2120	1801	1882	3612	2982	2489	3413	3028	11280	22890	14540	5122	6270
1955-56	1805	1310	3107	6752	14350	8274	4220	9464	<u>29320</u>	27850	10700	3626	10070
1956-57	1848	1438	2112	2534	4742	2724	4190	10550	18090	30490	9011	2851	7573
1957-58	1537	1064	1634	2026	2748	3849	11520	7266	17420	20340	6121	2225	6436
1958-59	1082	1056	1568	6651	8797	14350	6152	7830	19560	21620	13290	3425	8788
1959-60	1605	<u>1965</u>	<u>3703</u>	<u>8528</u>	5788	3874	6657	10530	20230	17750	10280	2640	7774
1960-61	1648	1340	1748	3310	2637	3861	20870	12200	14740	23400	11150	2493	8186
1961-62	1309	1022	1573	1543	2305	3348	5821	5890	22800	18300	8760	2541	6247
1962-63	1473	1238	2006	4029	6369	4445	11480	7984	13010	11820	5105	1999	5869
1963-64	1138	1090	1048	2193	2161	2759	2975	4124	14410	24640	19220	4438	6676
1964-65	2080	1874	1825	3473	16750	8715	10970	9602	24130	18690	10480	3166	9292
1965-66	2045	1627	1317	2094	2301	3708	2446	8753	16490	14630	6068	2100	5308
1966-67	1026	918	956	2231	5019	7838	7870	7355	9889	20920	12230	2815	6581
1967-68	1052	709	1670	2480	2718	3695	14140	10140	7851	10110	6129	1928	5179
1968-69	1214	1817	3121	6255	6440	9236	4332	8688	26660	21630	7786	2360	8302
1969-70	939	1140	1542	1555	2051	5169	8056	7921	10010	21510	12170	2923	6234
1970-71	1217	1199	1594	2608	3180	7679	12440	7540	15980	28590	14090	5116	8403
1971-72	1821	1316	1740	2051	2365	5694	9293	<u>26910</u>	15300	29470	16130	4422	9722
1972-73	1723	1382	1465	1751	3336	5375	3126	5229	6188	7647	3572	1285	3513
1973-74	<u>363</u>	863	1295	4161	10600	<u>24280</u>	10310	12130	24510	25920	<u>25760</u>	5756	<u>12160</u>
1974-75	1920	1267	1517	2134	2252	3310	3873	7280	9961	25170	16820	4781	6704
1975-76	1956	1385	2053	3361	10710	8399	6500	6531	18790	25030	9309	3266	8115
1976-77	1981	1206	1472	1607	1556	1571	1947	2770	6367	<u>6750</u>	3173	1238	<u>2637</u>
1977-78	561	989	1394	2800	12580	5324	6650	11990	14510	14830	7935	2840	6872
1978-79	1389	1254	1323	1455	1369	1267	3692	9498	13240	22800	6201	1817	5455
1979-80	806	768	1203	1248	2623	3188	4024	6173	12320	12810	9250	2795	4759
1980-81	1181	1266	1247	2180	11600	6669	10970	6349	11190	11870	10230	3642	6500
1981-82	1303	837	1450	2072	3931	3382	<u>20890</u>	14790	15850	19680	11580	3823	8203
1982-83	1383	1127	1747	2513	4575	8315	9964	14700	11070	13700	7860	4234	6752
1983-84	1985	1296	1470	4410	3663	7990	7022	12150	13820	16380	13050	3622	7230
1984-85	1400	1267	1617	3184	2712	1974	2021	4783	18690	19070	10240	2067	5755
1985-86	1147	1379	2071	4361	2313	3063	11450	17610	12000	10570	4361	1660	5960
1986-87	774	890	1312	3478	2606	2100	3969	10550	12220	8701	<u>2599</u>	1433	4215
1987-88	794	<u>396</u>	<u>862</u>	1072	1842	1679	2594	6245	14550	8301	3928	1539	3642
1988-89	523	499	881	2287	2266	2671	2150	9672	22170	14940	7044	1920	5587
1989-90	1243	905											
MEAN	1343	1211	1659	2989	5018	5167	6553	8850	16450	18070	9130	2828	6598
MEDIAN	1282	1231	1469	2480	3180	3861	5497	7830	15560	18300	7860	2582	6676

UPF3M9

USGS #	MONROE STREET												River: SPOKANE	Drainage Area: 4290 Sq. Mi.
Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).													River Mile: 74.2	
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVI	
1927-28												2492		
1928-29	1393	1350	1418	1630	1414	1176	<u>1181</u>	3743	8302	13120	5657	1861	3532	
1929-30	1013	1138	1167	<u>1030</u>	1875	<u>1018</u>	4064	4514	11780	7579	4497	1470	3411	
1930-31	893	1005	1123	1401	<u>1062</u>	1666	2405	7247	14440	11380	2836	1120	3882	
1931-32	785	1012	1021	1353	1489	2239	3719	13490	26750	29170	10340	2750	7844	
1932-33	1326	1218	1387	5645	4963	4811	2451	7025	19480	21290	19320	3960	7743	
1933-34	1603	1545	2946	6710	<u>30490</u>	21240	10800	16080	20060	8139	3224	1503	10390	
1934-35	1084	1281	1919	4066	4514	5831	6127	8576	18490	22270	8538	2546	7100	
1935-36	1424	1290	1301	1297	1332	2412	1607	6221	23990	17210	6246	1998	5520	
1936-37	1223	1321	1188	1043	1615	1132	1380	4166	15250	19240	7035	2267	4751	
1937-38	1283	1203	1276	3176	5542	7217	4349	10980	23800	16620	6706	2059	7021	
1938-39	1275	1235	1382	1545	1953	2259	2192	7690	18280	14130	4247	1837	4841	
1939-40	1107	1118	1196	1147	2448	2127	6741	14070	14690	10400	3252	1432	4967	
1940-41	1015	1279	1469	2063	4282	4384	3965	5594	<u>5673</u>	7461	4410	1582	3598	
1941-42	1016	1544	1868	3435	9644	3718	4575	5387	13900	9438	6626	3174	5356	
1942-43	1126	875	1140	4093	4175	3687	3823	7144	27990	17560	12360	4475	7355	
1943-44	1456	1089	1573	1575	2837	1805	2233	<u>2686</u>	8655	7522	3087	<u>1092</u>	2964	
1944-45	949	1081	1166	1367	1494	4158	5497	6989	9987	19730	6731	1893	5086	
1945-46	1104	1450	1420	3516	5561	7230	4232	10220	21220	20800	7812	2701	7284	
1946-47	1236	1166	1746	5457	13040	6426	9542	10180	15560	15110	6547	2152	7330	
1947-48	1333	1429	3494	4850	5055	8204	6084	6346	19990	<u>32560</u>	14990	4530	9075	
1948-49	<u>2659</u>	1469	1468	2438	2524	2081	5332	11420	24990	26380	6940	2266	7499	
1949-50	1280	1388	1463	3169	3419	4320	7752	17500	22500	27580	21510	<u>6832</u>	9886	
1950-51	2240	1435	2611	5053	10000	7575	16420	7432	18050	17170	6939	2619	8064	
1951-52	1236	1226	3323	3968	5471	3460	5854	5766	24460	18920	7003	2899	6948	
1952-53	1368	1095	1272	1398	1738	8325	10860	6416	12720	18250	12060	3181	6519	
1953-54	1476	910	1362	1937	3906	4405	8557	8777	17860	24710	11880	4714	7526	
1954-55	2120	1801	1882	3612	2982	2489	3413	3028	11280	22890	14540	5122	6270	
1955-56	1805	1310	3107	6752	14350	8274	4220	9464	<u>29320</u>	27850	10700	3626	10070	
1956-57	1848	1438	2112	2534	4742	2724	4190	10550	18090	30490	9011	2851	7573	
1957-58	1537	1064	1634	2026	2748	3849	11520	7266	17420	20340	6121	2225	6436	
1958-59	1082	1056	1568	6651	8797	14350	6152	7830	19560	21620	13290	3425	8788	
1959-60	1605	<u>1965</u>	<u>3703</u>	<u>8528</u>	5788	3874	6657	10530	20230	17750	10280	2640	7774	
1960-61	1648	1340	1748	3310	2637	3861	20870	12200	14740	23400	11150	2493	8186	
1961-62	1309	1022	1573	1543	2305	3348	5821	5890	22800	18300	8760	2541	6247	
1962-63	1473	1238	2006	4029	6369	4445	11480	7984	13010	11820	5105	1999	5869	
1963-64	1138	1090	1048	2193	2161	2759	2975	4124	14410	24640	19220	4438	6676	
1964-65	2080	1874	1825	3473	16750	8715	10970	9602	24130	18690	10480	3166	9292	
1965-66	2045	1627	1317	2094	2301	3708	2446	8753	16490	14630	6068	2100	5308	
1966-67	1026	918	956	2231	5019	7838	7870	7355	9889	20920	12230	2815	6581	
1967-68	1052	709	1670	2480	2718	3695	14140	10140	7851	10110	6129	1928	5179	
1968-69	1214	1817	3121	6255	6440	9236	4332	8688	26660	21630	7786	2360	8302	
1969-70	939	1140	1542	1555	2051	5169	8056	7921	10010	21510	12170	2923	6234	
1970-71	1217	1199	1594	2608	3180	7679	12440	7540	15980	28590	14090	5116	8403	
1971-72	1821	1316	1740	2051	2365	5694	9293	<u>26910</u>	15300	29470	16130	4422	9722	
1972-73	1723	1382	1465	1751	3336	5375	3126	5229	6188	7647	3572	1285	3513	
1973-74	<u>363</u>	863	1295	4161	10600	<u>24230</u>	10310	12130	24510	25920	<u>25760</u>	5756	<u>12160</u>	
1974-75	1920	1267	1517	2134	2252	3310	3873	7280	9961	25170	16820	4781	6704	
1975-76	1956	1385	2053	3361	10710	8399	6500	6531	18790	25030	9309	3266	8115	
1976-77	1981	1206	1472	1607	1556	1571	1947	2770	6367	<u>6750</u>	3173	1238	<u>2637</u>	
1977-78	561	989	1394	2800	12580	5324	6650	11990	14510	14830	7935	2840	6872	
1978-79	1389	1254	1323	1455	1369	1267	3692	9498	13240	22800	6201	1817	5455	
1979-80	806	768	1203	1248	2623	3188	4024	6173	12320	12810	9250	2795	4759	
1980-81	1181	1266	1247	2180	11600	6669	10970	6349	11190	11870	10230	3642	6500	
1981-82	1303	837	1450	2072	3931	3382	<u>20890</u>	14790	15850	19680	11580	3823	8203	
1982-83	1383	1127	1747	2513	4575	8315	9964	14700	11070	13700	7860	4234	6752	
1983-84	1985	1296	1470	4410	3663	7990	7022	12150	13820	16380	13050	3622	7230	
1984-85	1400	1267	1617	3184	2712	1974	2021	4783	18690	19070	10240	2067	5755	
1985-86	1147	1379	2071	4361	2313	3063	11450	17610	12000	10570	4361	1660	5960	
1986-87	774	890	1312	3478	2606	2100	3969	10550	12220	8701	<u>2599</u>	1433	4215	
1987-88	794	<u>396</u>	<u>862</u>	1072	1842	1879	2594	6245	14550	8301	3928	1539	3642	
1988-89	523	499	881	2287	2266	2671	2150	9672	22170	14940	7044	1920	5587	
1989-90	1243	905												
MEAN	1343	1211	1659	2989	5018	5167	6553	8850	16450	18070	9130	2828	6598	
MEDIAN	1282	1231	1469	2480	3180	3861	5497	7830	15560	18300	7860	2582	6676	

MON3M9

USGS # 12425950

NINE MILE

River: SPOKANE

Drainage Area

5204 Sq Mi

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile:

58.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												2950	
1928-29	1802	1753	1796	2026	1843	1585	<u>1607</u>	4543	8881	13590	6141	2202	3992
1929-30	1369	1495	1519	1403	2232	<u>1310</u>	4680	4930	12330	8001	4827	1829	3807
1930-31	1266	1379	1451	1746	<u>1402</u>	2040	2834	7947	15300	11840	3233	1399	4320
1931-32	1077	1323	1319	1657	1868	2806	4882	15560	28070	29690	11040	3163	8537
1932-33	1676	1570	1710	5838	5538	5631	2878	8758	20700	22070	19790	4407	8386
1933-34	1934	1897	3218	7058	<u>31760</u>	22660	11950	17050	21070	8896	3642	1838	11100
1934-35	1438	1594	2309	4487	5086	6878	7102	9709	19640	22910	9099	2948	7762
1935-36	1768	1577	1660	1648	1732	3006	2039	7232	24300	17580	6758	2337	5963
1936-37	1554	1624	1511	<u>1356</u>	1924	1384	1784	5082	16260	20020	7559	2617	5234
1937-38	1605	1519	1586	3505	6094	8245	5170	12850	24540	17230	7292	2433	7676
1938-39	1596	1562	1752	1936	2344	2736	2687	8855	18850	14860	4690	2203	5345
1939-40	1462	1471	1514	1513	2825	2497	8033	15210	15600	11090	3715	1789	5545
1940-41	1346	1618	1837	2492	5100	5410	4806	6319	<u>6222</u>	7984	4901	1914	4161
1941-42	1325	1856	2178	3828	10280	4271	5426	6111	14570	10010	7169	3601	5879
1942-43	1438	1177	1422	4547	4758	4231	4502	8268	30110	18600	12870	4916	8055
1943-44	1754	1466	1932	1943	3162	2162	2775	3274	9111	8019	3540	<u>1393</u>	3374
1944-45	1228	1378	1468	1687	1810	4519	6016	7991	10660	20460	7429	2221	5571
1945-46	1403	1779	1711	3846	6162	8042	5080	11400	22440	21960	8457	3093	7959
1946-47	1556	1596	2060	5759	13590	7125	10250	10940	16240	15940	7038	2534	7869
1947-48	1658	1759	3910	5341	5833	9379	7171	7355	21310	<u>35500</u>	16760	5057	10090
1948-49	<u>3026</u>	1773	1835	2848	2922	2254	6980	13310	25370	26340	7562	2616	8064
1949-50	1546	1647	1753	3492	3986	4853	9770	19160	22490	27400	21420	<u>7417</u>	10400
1950-51	2590	1738	2758	5187	10240	8203	17690	8203	18410	17550	7281	2894	8491
1951-52	1409	1288	3289	3977	5598	3396	6973	7200	25440	19590	7361	3198	7372
1952-53	1532	1194	1593	1768	2158	9232	11730	7080	13220	19050	12700	3593	7031
1953-54	1876	1265	1762	2338	4432	5011	9710	9586	18640	25470	12510	5004	8115
1954-55	2417	2153	2186	3952	3391	2943	4026	3644	11810	23060	14760	5396	6650
1955-56	2057	1625	3291	7098	15520	9406	4628	11130	<u>30800</u>	29090	11590	3912	10860
1956-57	2205	1723	2404	2826	5047	3104	5063	11340	18790	31700	9746	3089	8109
1957-58	1857	1355	2014	2413	3159	4654	12860	7999	18410	20750	6502	2610	6999
1958-59	1408	1381	1914	7000	9411	15900	6898	8944	20220	22190	13930	3872	9430
1959-60	1931	<u>2377</u>	<u>4091</u>	<u>8960</u>	6249	4351	7548	11280	20900	18270	10750	2996	8286
1960-61	1970	1663	2072	3696	3022	4391	<u>22340</u>	13250	15340	23880	11590	2812	8733
1961-62	1660	1377	1921	1880	2711	3748	6492	6731	23100	18860	9175	2766	6679
1962-63	1763	1561	2372	4337	6742	4802	12460	8560	13430	12130	5331	2219	6260
1963-64	1385	1356	1355	2536	2479	3163	3546	4984	14800	24890	19570	4824	7066
1964-65	2375	2195	2138	3822	17350	9598	11940	10260	24820	19000	10820	3513	9795
1965-66	2402	1984	1675	2481	2766	4278	3074	9538	16580	14780	6514	2450	5720
1966-67	1353	1245	1291	2649	5610	8797	8728	8221	10550	21540	12850	3204	7161
1967-68	1346	1045	2035	2882	3204	4329	15090	10900	8355	10590	6628	2264	5682
1968-69	1498	2129	3498	6688	6934	9939	4922	10250	27840	22290	8377	2749	8934
1969-70	1263	1478	1882	1892	2439	6004	9179	8882	10590	21840	12750	3289	6772
1970-71	1517	1521	1941	2974	3597	8502	13110	8462	16630	28580	14620	5526	8880
1971-72	2114	1660	2111	2430	2799	6451	10280	<u>27570</u>	15930	29480	16330	4785	10170
1972-73	2044	1681	1761	2067	3739	5918	3555	5748	6512	7902	3864	1580	3871
1973-74	<u>655</u>	1130	1577	4619	11870	<u>25670</u>	11180	13220	25190	25790	<u>25610</u>	6171	<u>12720</u>
1974-75	2227	1572	1837	2513	2648	3829	4602	8518	10960	25460	17380	5260	7246
1975-76	2312	1721	2448	3772	11530	9242	7305	7381	19720	25290	9846	3678	8693
1976-77	2374	1564	1838	2001	1886	2018	2317	<u>3159</u>	6692	<u>6999</u>	3480	1505	<u>2987</u>
1977-78	876	1289	1688	3121	13000	5855	7459	12650	15130	15450	8452	3246	7353
1978-79	1779	1629	1682	1838	1751	1719	4846	10360	13770	23130	6668	2179	5954
1979-80	1093	1097	1544	1606	3016	3721	4788	6777	12760	13300	9895	3229	5226
1980-81	1498	1604	1568	2527	12000	7215	11880	6989	11900	12500	10820	4083	7013
1981-82	1588	1146	1833	2379	4346	3944	21940	15720	16630	19990	12020	4202	8712
1982-83	1679	1450	2062	2882	5114	9058	10960	15890	11850	14150	8293	4637	7319
1983-84	2332	1629	1819	4943	4183	8909	7887	13330	14770	16980	13700	4042	7867
1984-85	1748	1612	1999	3641	3184	2534	2603	5787	19260	19430	10680	2402	6242
1985-86	1447	1725	2439	4718	2711	3835	12360	18350	12620	11110	4804	1980	6466
1986-87	1089	1217	1659	3868	3005	2627	4679	11290	12730	9153	<u>2950</u>	1751	4662
1987-88	1110	<u>621</u>	<u>1173</u>	1400	2278	2265	3183	6747	14830	8696	4312	1880	4038
1988-89	823	803	1201	2671	2655	3202	2683	10970	22750	15470	7515	2267	6086
1989-90	1555	1254											
MEAN	1661	1531	1986	3349	5509	5816	7393	9815	17160	18610	9622	3193	7127
MEDIAN	1572	1567	1835	2848	3597	4391	6492	8855	16260	19000	8452	2949	7161

NIN3M9

USGS # 12432510

LONG LAKE

River: SPOKANE

Drainage Area:

6020 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile:

33.9

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												3408	
1928-29	2212	2156	2174	2421	2272	1993	<u>2034</u>	5344	9459	14050	6624	2544	4452
1929-30	1724	1851	1871	1776	2588	<u>1602</u>	5297	5346	12870	8422	5157	2188	4203
1930-31	1638	1754	1780	2090	<u>1741</u>	2415	3262	8648	16150	12300	3630	<u>1678</u>	4757
1931-32	1369	1634	1616	1962	2248	3373	6045	17630	29400	30220	11740	3577	9230
1932-33	2026	1922	2033	6030	6113	6450	3306	10490	21920	22840	20270	4854	9030
1933-34	2264	2249	3491	7405	<u>33040</u>	24080	13090	18010	22080	9653	4060	2174	11820
1934-35	1792	1908	2698	4909	5658	7924	8077	10840	20800	23540	9660	3351	8423
1935-36	2112	1864	2020	2000	2133	3600	2472	8243	24610	17950	7271	2676	6407
1936-37	1884	1926	1834	<u>1668</u>	2233	1635	2189	5998	17260	20790	8084	2967	5718
1937-38	1927	1835	1895	3833	6646	9272	5992	14730	25280	17830	7877	2807	8331
1938-39	1917	1889	2122	2327	2735	3213	3183	10020	19420	15590	5134	2588	5850
1939-40	1817	1824	1832	1880	3202	2866	9324	16340	16510	11770	4178	2146	6124
1940-41	1678	1957	2204	2922	5919	6436	5646	7044	<u>6771</u>	8507	5393	2247	4725
1941-42	1634	2168	2487	4222	10910	4825	6276	6836	15240	10590	7713	4029	6401
1942-43	1751	1479	1704	5002	5341	4775	5181	9392	32240	19650	13380	5357	8754
1943-44	2053	1844	2292	2311	3486	2520	3318	3863	9567	8515	3992	1693	3783
1944-45	1507	1675	1770	2008	2126	4879	6535	8993	11330	21190	8127	2549	6056
1945-46	1703	2109	2002	4175	6763	8854	5928	12580	23670	23120	9102	3485	8634
1946-47	1877	2026	2374	6061	14150	7825	10960	11700	16910	16780	7529	2917	8408
1947-48	1983	2090	4325	5831	6611	10550	8257	8122	22640	<u>36880</u>	18130	5611	10920
1948-49	<u>3435</u>	2202	2338	3345	3253	2746	7356	14520	26590	28290	8017	2886	8745
1949-50	1916	1947	2153	3849	4159	5023	10000	21390	24530	28830	22780	<u>7573</u>	11160
1950-51	2892	2108	3373	5936	11210	9257	18830	9270	19770	18700	8277	3334	9339
1951-52	1996	1918	4136	4809	6545	4193	7950	8461	26730	20390	8199	3747	8234
1952-53	1986	1679	1914	2138	2578	10140	12610	7743	13720	19860	13330	4006	7600
1953-54	2275	1620	2162	2739	4958	5617	10860	10400	19430	26220	13150	5294	8704
1954-55	2714	2505	2490	4292	3799	3398	4638	4260	12340	23230	14980	5670	7029
1955-56	2310	1939	3474	7444	16680	10540	5035	12790	<u>32280</u>	30320	12480	4197	11640
1956-57	2563	2007	2695	3117	5353	3483	5935	12130	19500	32910	10480	3328	8645
1957-58	2177	1647	2394	2800	3570	5459	14200	8731	19400	21150	6884	2995	7562
1958-59	1734	1706	2260	7350	10020	17450	7641	10060	20890	22750	14570	4319	10070
1959-60	2258	<u>2790</u>	<u>4479</u>	<u>9391</u>	6709	4828	8439	12040	21560	18790	11230	3352	8797
1960-61	2291	1985	2396	4082	3407	4921	<u>23870</u>	14310	15940	24360	12040	3130	9280
1961-62	2010	1732	2269	2216	3118	4148	<u>7162</u>	7571	23400	19420	9589	2991	7112
1962-63	2052	1885	2738	4645	7116	5160	13440	9137	13850	12430	5556	2438	6651
1963-64	1632	1621	1661	2879	2797	3566	4117	5845	15190	25130	19920	5209	7456
1964-65	2670	2516	2450	4170	17950	10480	12910	10920	25510	19300	11160	3861	10300
1965-66	2760	2342	2033	2868	3231	4849	3703	10320	16670	14930	6960	2801	6131
1966-67	1680	1572	1625	3067	6201	9756	9585	9087	11220	22160	13480	3593	7741
1967-68	1641	1382	2400	3283	3690	4962	16040	11670	8860	11070	7127	2599	6185
1968-69	1782	2442	3874	7121	7427	10640	5512	11810	29030	22950	8968	3139	9566
1969-70	1587	1815	2221	2229	2828	6838	10300	9844	11170	22160	13340	3655	7310
1970-71	1818	1844	2287	3339	4014	9326	13780	9384	17270	28580	15150	5936	9358
1971-72	2406	2005	2483	2809	3232	7208	11280	<u>28230</u>	16560	29500	16520	5148	10620
1972-73	2365	1981	2057	2383	4142	6461	3985	6267	6835	8156	4156	1874	4228
1973-74	<u>947</u>	1397	1859	5076	13150	<u>27060</u>	12060	14310	25870	25670	<u>25470</u>	6586	<u>13280</u>
1974-75	2533	1877	2158	2891	3045	4348	5332	9756	11960	25760	17940	5738	7789
1975-76	2668	2057	2844	4183	12340	10080	8110	8230	20650	25550	10380	4090	9272
1976-77	2768	1922	2204	2394	2217	2465	2887	<u>3549</u>	7018	<u>7248</u>	3787	1773	<u>3336</u>
1977-78	1191	1588	1981	3442	13420	6385	8268	13300	15750	16060	8968	3652	7835
1978-79	2169	2003	2041	2221	2133	2170	5999	11220	14300	23450	7135	2541	8453
1979-80	1380	1426	1886	1963	3409	4254	5552	7381	13200	13790	10540	3662	5692
1980-81	1815	1941	1889	2874	12390	7761	12800	7629	12610	13120	11410	4524	7525
1981-82	1873	1456	2215	2686	4760	4506	22990	16640	17410	20310	12470	4581	9222
1982-83	1975	1773	2377	3251	5654	9802	11950	17080	12630	14600	8725	5039	7886
1983-84	2679	1962	2168	5475	4702	9828	8753	14510	15710	17590	14340	4461	8504
1984-85	2097	1957	2380	4099	3656	3094	3186	6790	19830	19800	11110	2737	6730
1985-86	1747	2072	2806	5075	3109	4607	13270	19090	13240	11660	5248	2300	6973
1986-87	1404	1544	2007	4258	3405	3154	5389	12030	13250	9604	<u>3307</u>	2069	5110
1987-88	1426	<u>986</u>	<u>1484</u>	1728	2713	2851	3772	7249	15100	9091	4696	2221	4434
1988-89	1123	1107	1520	3055	3043	3734	3216	12270	23330	16000	7986	2614	6586
1989-90	1867	1603											
MEAN	1992	1871	2339	3735	6017	6486	8178	10780	17940	19200	10150	3555	7674
MEDIAN	1922	1899	2204	3251	4014	4921	7162	10020	16910	19650	8968	3342	7741

LLK3M9

USGS # 12433475

LITTLE FALLS

River: SPOKANE

Drainage Area: 6283 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 29.3

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												3408	
1928-29	2212	2156	2174	2421	2272	1993	<u>2034</u>	5344	9459	14050	6624	2544	4452
1929-30	1724	1851	1871	1776	2588	<u>1602</u>	5297	5346	12870	8422	5157	2188	4203
1930-31	1638	1754	1780	2090	<u>1741</u>	2415	3262	8648	16150	12300	3630	<u>1678</u>	4757
1931-32	1369	1634	1616	1962	2248	3373	6045	17630	29400	30220	11740	3577	9230
1932-33	2026	1922	2033	6030	6113	6450	3306	10490	21920	22840	20270	4854	9030
1933-34	2264	2249	3491	7405	<u>33040</u>	24080	13090	18010	22080	9653	4060	2174	11820
1934-35	1792	1908	2698	4909	5658	7924	8077	10840	20800	23540	9660	3351	8423
1935-36	2112	1864	2020	2000	2133	3600	2472	8243	24610	17950	7271	2676	6407
1936-37	1884	1926	1834	<u>1668</u>	2233	1635	2189	5998	17260	20790	8084	2967	5718
1937-38	1927	1835	1895	3833	6646	9272	5992	14730	25280	17830	7877	2807	8331
1938-39	1917	1889	2122	2327	2735	3213	3183	10020	19420	15590	5134	2568	5850
1939-40	1817	1824	1832	1880	3202	2866	9324	16340	16510	11770	4178	2146	6124
1940-41	1678	1957	2204	2922	5919	6436	5646	7044	<u>6771</u>	8507	5393	2247	4725
1941-42	1634	2168	2487	4222	10910	4825	6276	6836	15240	10590	7713	4029	6401
1942-43	1751	1479	1704	5002	5341	4775	5181	9392	32240	19650	13380	5357	8754
1943-44	2053	1844	2292	2311	3486	2520	3318	3863	9567	8515	3992	1693	3783
1944-45	1507	1675	1770	2008	2126	4879	6535	8993	11330	21190	8127	2549	6056
1945-46	1703	2109	2002	4175	6763	8854	5928	12580	23670	23120	9102	3485	8634
1946-47	1877	2026	2374	6061	14150	7825	10960	11700	16910	16780	7529	2917	8408
1947-48	1983	2090	4325	5831	6611	10550	8257	8122	22640	<u>36880</u>	18130	5611	10920
1948-49	<u>3435</u>	2202	2338	3345	3253	2746	7356	14520	25590	28290	8017	2886	8745
1949-50	1916	1947	2153	3849	4159	5023	10000	21390	24530	28830	22780	<u>7513</u>	11160
1950-51	2892	2108	3373	5936	11210	9257	18830	9270	19770	18700	8277	3334	9339
1951-52	1996	1918	4136	4809	6545	4193	7950	8461	26730	20390	8199	3747	8234
1952-53	1986	1679	1914	2138	2578	10140	12610	7743	13720	19860	13330	4006	7600
1953-54	2275	1620	2162	2739	4958	5617	10860	10400	19430	26220	13150	5294	8704
1954-55	2714	2505	2490	4292	3799	3398	4638	4260	12340	23230	14980	5670	7029
1955-56	2310	1939	3474	7444	16680	10540	5035	12790	<u>32280</u>	30320	12480	4197	11640
1956-57	2563	2007	2695	3117	5353	3483	5935	12130	19500	32910	10480	3328	8645
1957-58	2177	1647	2394	2800	3570	5459	14200	8731	19400	21150	6884	2995	7562
1958-59	1734	1706	2260	7350	10020	17450	7641	10060	20890	22750	14570	4319	10070
1959-60	2258	<u>2790</u>	<u>4479</u>	<u>9391</u>	6709	4828	8439	12040	21560	18790	11230	3352	8797
1960-61	2291	1985	2396	4082	3407	4921	<u>23810</u>	14310	15940	24360	12040	3130	9280
1961-62	2010	1732	2269	2216	3118	4148	7162	7571	23400	19420	9589	2991	7112
1962-63	2052	1885	2738	4645	7116	5160	13440	9137	13850	12430	5556	2438	6651
1963-64	1632	1621	1661	2879	2797	3566	4117	5845	15190	25130	19920	5209	7456
1964-65	2670	2516	2450	4170	17950	10480	12910	10920	25510	19300	11160	3861	10300
1965-66	2760	2342	2033	2868	3231	4849	3703	10320	16670	14930	6960	2801	6131
1966-67	1680	1572	1625	3067	6201	9756	9585	9087	11220	22160	13480	3593	7741
1967-68	1641	1382	2400	3283	3690	4962	16040	11670	8860	11070	7127	2599	6185
1968-69	1782	2442	3874	7121	7427	10640	5512	11810	29030	22950	8968	3139	9566
1969-70	1587	1815	2221	2229	2828	6838	10300	9844	11170	22160	13340	3655	7310
1970-71	1818	1844	2287	3339	4014	9326	13780	9384	17270	28580	15150	5936	9358
1971-72	2406	2005	2483	2809	3232	7208	11280	<u>28230</u>	16560	29500	16520	5148	10620
1972-73	2365	1981	2057	2383	4142	6461	3985	6267	6835	8156	4156	1874	4228
1973-74	<u>947</u>	1397	1859	5076	13150	<u>27060</u>	12080	14310	25870	25670	<u>25470</u>	6586	<u>13280</u>
1974-75	2533	1877	2158	2891	3045	4348	5332	9756	11960	25760	17940	5738	7789
1975-76	2668	2057	2844	4183	12340	10080	8110	8230	20650	25550	10380	4090	9272
1976-77	2768	1922	2204	2394	2217	2465	2687	<u>3549</u>	7018	<u>7248</u>	3787	1773	<u>3336</u>
1977-78	1191	1588	1981	3442	13420	6385	8268	13300	15750	16060	8968	3652	7835
1978-79	2169	2003	2041	2221	2133	2170	5999	11220	14300	23450	7135	2541	6453
1979-80	1380	1426	1886	1963	3409	4254	5552	7381	13200	13790	10540	3662	5692
1980-81	1815	1941	1889	2874	12390	7761	12800	7629	12610	13120	11410	4524	7525
1981-82	1873	1456	2215	2686	4760	4506	22990	16640	17410	20310	12470	4581	9222
1982-83	1975	1773	2377	3251	5654	9802	11950	17080	12630	14600	8725	5039	7886
1983-84	2679	1962	2168	5475	4702	9828	8753	14510	15710	17590	14340	4461	8504
1984-85	2097	1957	2380	4099	3656	3094	3186	6790	19830	19800	11110	2737	6730
1985-86	1747	2072	2606	5075	3109	4607	13270	13090	13240	11660	5248	2300	6973
1986-87	1404	1544	2007	4258	3405	3154	5389	12030	13250	9604	<u>3301</u>	2069	5110
1987-88	1426	<u>986</u>	<u>1484</u>	1728	2713	2851	3772	7249	15100	9091	4696	2221	4434
1988-89	1123	1107	1520	3055	3043	3734	3216	12270	23330	16000	7986	2614	6586
1989-90	1867	1603											
MEAN	1992	1871	2339	3735	6017	6486	8178	10780	17940	19200	10150	3555	7674
MEDIAN	1922	1899	2204	3251	4014	4921	7162	10020	16910	19650	8968	3342	7741

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SECTION C

MID-COLUMBIA

**KETTLE, OKANAGAN, AND SIMILKAMEEN RIVERS
BRITISH COLUMBIA**

**COLUMBIA RIVER, WASHINGTON
INTERNATIONAL BOUNDARY TO MOUTH OF SNAKE RIVER**

YAKIMA RIVER, WASHINGTON

**GRAND COULEE
TO
MOUTH OF SNAKE RIVER**

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SECTION C

A map of the area described in this section is shown on Figure 8, page 108. The incremental adjustments which must be applied to arrive at the 1990 level of irrigation development are shown schematically on figure 9, page 109.

Total irrigation in Canada increased between 1928 and 1990 by 22,600 acres in the Kettle basin and by 19,100 acres in the Okanagan/Similkameen basin. In the U. S. above Grand Coulee Dam, the increase in total irrigation in the Ferry-Stevens counties' area was 17,000 acres. The total increase of 12,500 acres in the Methow and the U. S. portion of the Okanagan, is effective at Wells Dam. The combined Chelan and Entiat basins, effective at Rocky Reach above the Chelan power plant. Irrigated lands increased in the Wenatchee basin by 2,600 acres.

Although the above figures are given for the total increase in irrigation, the irrigation adjustments computed for the above basins were based solely on that water derived from surface sources. An examination revealed that the lands served by groundwater could not constitute a streamflow depletion at the study sites. The diversion would affect only the groundwater level; and the location and small extent of the lands, coupled with the time lag of return flows, made the return flows too small to consider. Thus, modified streamflows computed for sites in this section would be slightly underestimated and therefore conservative.

Irrigation is extensively practiced in the Yakima basin. In 1990 there were 546,000 acres irrigated, and the total irrigation incremental increase from 1928 to 1990 was 213,000 acres. Because of the use of storage reservoirs and the intensive water use, a special study was required to determine irrigation adjustments for the Yakima basin. The Yakima basin study is described in a separate volume of this series of reports. Currently, water application is 53 percent by sprinkler in the Yakima basin. The output from this special study was a set of regulated 1990 level modified streamflows at the mouth of the Yakima River. These Yakima River flows were subtracted from the historically observed regulated flows and this adjustment was applied at the McNary Dam and downstream.

The remaining land area in this section is referred to as the "Big Bend Area." This is the area that is east and south of the Columbia River, where the river makes its "Big Bend." Lands within the "Big Bend" are: The Columbia Basin Project, lands west of Banks Lake, and lands east of the Columbia Basin Project, herein called Big Bend East.

The irrigated lands in the Big Bend East area are located on the high plateau east of the Columbia Basin Project. Water supply is derived from both groundwater and surface sources. Pumping is mining the groundwater in the area. Surface streams through the area are discontinuous and intermittent. Irrigation in this area is considered to have no return flow or depletion effect upon the Columbia River, and therefore this area was not appropriate for inclusion in the depletion study.

Lands irrigated in the area west of Banks Lake are located along the Columbia River, and the divisions and return flows are treated as if the Columbia was the direct water source.

The Columbia Basin Project supplies water to irrigate 552,500 acres in this area. Water is pumped from Franklin D. Roosevelt Lake behind Grand Coulee into the equalizing reservoir, Banks Lake. From there, water is routed through the project distribution system. Return flows from the northern portion of the Project flow to the Potholes Reservoir, where they are reused to irrigate other Project lands.

Return from the Project re-enters the main river system into Wanapum, Priest Rapids and McNary Pools. Parts of the included return flow to McNary Pool comes from blocks 2 and 3 of the Columbia Basin Project, which are located south of the Snake River. The irrigation adjustment resulting from pumping to Blocks 2 & 3 from McNary Pool and effective at McNary is included in this section.

Water use in the Project is sufficiently complex that a special study was required to determine return flows for a 1990 level of irrigation development. This special Columbia Basin Project Return Flow Study is described in the Technical Appendix volume of this series of reports.

Banks Lake, the equalizing reservoir for the Project, has usable storage sufficient to regulate Project flows. Thus, the historically pumped diversions from Franklin D. Roosevelt Lake into Banks Lake are not indicative of Project water use. This factor was compensated for in two steps. First, the historical diversions from Franklin D. Roosevelt into Banks Lake were added back to the Columbia River flows in the storage adjustment portion of the Adjusted Streamflow and Storage volume of this series of reports. Second, in the Return Flow Special Study, a theoretical 1990 level pumping schedule was developed. Both the 1990 level pumping schedule to Banks Lake and the return flows to the Columbia River reaches mentioned above are included on subsequent pages of this section.

In addition to the Yakima and Columbia Basin Project special studies, irrigation adjustments were computed separately for sprinkler and gravity application for seven different subareas, namely:

- (1) The Kettle River in Canada;
- (2) The Okanagan River in Canada;
- (3) The Ferry-Stevens counties above Grand Coulee Dam;
- (4) The Methow and Okanagan basins;
- (5) The Chelan and Entiat basins;
- (6) The Wenatchee basin; and
- (7) The area "West of Banks Lake."

Data were compiled for each subarea of the total land irrigated by sprinkler and gravity application for target years. This data came from Census of Agriculture data, diversion records, Bureau of Reclamation project data, State of Washington and other information from various sources. See Table 7, page 110, for a summary of irrigated land in each subarea.

Monthly diversion and return flow patterns, developed for sprinkler and gravity application within each subarea, are presented on pages 113 and 114. The monthly irrigation adjustments to the 1990 level of development were then computed for each month of the 61-year period 1928-1989.

The summation in downstream order of irrigation adjustments for the combination of sprinkler and gravity application and for the adjustments due to the Columbia Basin Project and the Yakima Basin were computed for each appropriate project site. The computer equations used to accumulate adjustments and compute modified flows are shown on page 112. Listings of at-site summations of irrigation adjustments and the modified flow for each site are presented subsequently in this section.

MID COLUMBIA

FIGURE 8

IRRIGATION ADJUSTMENT FOR COLUMBIA RIVER BASIN, INTERNATIONAL BOUNDARY TO MOUTH OF THE SNAKE RIVER

FIGURE 9

TABLE 7

IRRIGATED AREA
SUPPLIED BY SURFACE WATER
(Thousands of Acres)

KETTLE IN CANADA

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	4.5	4.5
1928	0	4.6	4.6
1948	0	5.8	5.8
1965	4.9	5.8	10.7
1979	11.8	9.3	21.1
1990	20.6	6.5	27.1

OKANAGAN IN CANADA

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	84.0	84.0
1928	0	80.4	80.4
1948	0	93.6	93.6
1965	51.5	65.6	117.1
1979	72.2	61.5	133.7
1990	77.3	25.8	103.1

FERRY-STEVENSON, WASHINGTON

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	5.7	5.7
1928	0	5.7	5.7
1950	0	10.0	10.0
1966	11.0	10.0	21.0
1980	19.4	2.3	21.7
1990	22.2	0.5	22.7

METHOW-OKANOGAN, (U.S.)

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	32.0	32.0
1928	0	31.3	31.3
1950	0	35.0	35.0
1966	16.0	18.5	34.5
1980	39.4	0	39.4
1990	42.9	0.9	43.8

CHELAN ENTIA

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	6.1	6.1
1928	0	7.2	7.2
1950	0	7.2	7.2
1966	2.5	4.0	6.5
1980	6.5	0	6.5
1990	6.8	0	6.8

WENATCHEE

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	24.6	24.6
1928	0	24.6	24.6
1950	0	25.0	25.0
1966	13.0	13.0	26.0
1980	25.0	1.0	26.0
1990	27.2	0	27.2

TABLE 7

IRRIGATED AREA
SUPPLIED BY SURFACE WATER
(Thousands of Acres)

WEST OF BANKS LAKE

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	5.8	5.8
1928	0	5.4	5.4
1950	0	15.8	15.8
1966	15.0	8.4	23.4
1979	30.0	0	30.0
1990	28.3	0	28.3

YAKIMA

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	335.0	335.0
1928	0	333.1	333.1
1950	0	0	0
1966	0	0	505.0
1980	208.8	379.7	588.5
1990	288.2	257.5	545.7

COLUMBIA BASIN PROJECT*

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	0	0
1928	0	0	0
1947	0	0	0
1948	0	5.8	5.8
1950	0	7.1	7.1
1966	197.3	296.0	493.3
1980	335.3	198.7	534.0
1990	420.5	132.0	552.5

BIG BEND EAST

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	5.8	5.8
1928	0	5.9	5.9
1950	0	70.0	70.0
1966	60.0	58.3	118.3
1980	265.1	11.3	276.4
1990	281.6	11.3	292.9

*excluding blocks 2 & 3 located in area in section E
IRRIGATED AREA

SECTION C

EQUATIONS USED TO COMPUTE MODIFIED FLOWS

Depletions:

$$\begin{aligned}1TM3DD9 &= CTR3DD9 + CTR3DD9 + SEV3DD9 + UPF3DD9 \\GCL3DD9 &= 1TM3DD9 + KET3D9 + FER3D9 + GCL3D9 \\2TM3DD9 &= GCL3DD9 + OKA3DD9 + OKM3DD9 \\WEL3DD9 &= 2TM3DD9 + 0.1 (WSB3D9) \\RRH3DD9 &= 2TM3DD9 + 0.3 (WSB3D9) + CHE3D9 \\RIS3DD9 &= 2TM3DD9 + WSB3D9 + CHE3D9 + WNA3D9 \\WAN3DD9 &= 2TM3DD9 + WSB3D9 + CHE3D9 + WNA3D9 + WRF3D9 \\PRD3DD9 &= WAN3DD9 + PRF3D9 \\YAK3DD9 &= YAK3R9 - YAK3H\end{aligned}$$

Evaporation:

$$\begin{aligned}GCL3EE &= MUC3EE + NOX3EE + GCL3E \\CHJ3EE &= GCL3EE + CHJ3E \\WEL3EE &= CHJ3EE + WEL3E \\RRH3EE &= WEL3EE + RRH3E \\WAN3EE &= RRH3EE + WAN3E\end{aligned}$$

Modified Flows:

$$\begin{aligned}GCL3M9 &= GCL3A + GCL3DD9 - GCL3EE \\CHJ3M9 &= CHJ3A + GCL3DD9 - CHJ3EE \\WEL3M9 &= WEL3A + WEL3DD9 - WEL3EE \\CHL3M9 &= CHL3A \\RRH3M9 &= RRH3A + RRH3DD9 - RRH3EE \\RIS3M9 &= RIS3A + RIS3DD9 - RRH3EE \\WAN3M9 &= RIS3A + WAN3DD9 - WAN3EE \\PRD3M9 &= PRD3A + PRD3DD9 - PRD3EE\end{aligned}$$

1990 LEVEL OF DEVELOPMENT

KEITH RIVER BASIN, BRITISH COLUMBIA													
SPRINKLER SYSTEM ONLY							GRAVITY SYSTEM ONLY						
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION		RETURN FLOW		DEPLETION	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CIS PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CIS PER 1000 A
APR	1	-18	4	29	11	0.183	APR	1	-22	4	49	27	0.450
MAY	14	299	7	50	249	4.055	MAY	14	377	7	86	291	4.736
JUN	31	683	9	84	598	10.054	JUN	31	835	9	111	724	12.172
JUL	37	795	11	79	717	11.856	JUL	37	1002	11	135	887	14.101
AUG	16	338	13	93	245	3.991	AUG	16	428	13	100	287	4.336
SEP	2	54	14	100	48	0.778	SEP	2	68	14	172	104	1.752
OCT	0	0	11	79	79	1.279	OCT	0	0	11	135	135	2.198
NOV	0	0	9	64	64	1.082	NOV	0	0	9	111	111	1.859
DEC	0	0	7	50	50	0.814	DEC	0	0	7	86	86	1.399
JAN	0	0	6	43	43	0.898	JAN	0	0	6	74	74	1.199
FEB	0	0	5	36	36	0.844	FEB	0	0	5	61	61	1.106
MAR	0	0	4	29	29	0.485	MAR	0	0	4	49	49	0.799
	100	2187	100	715	1452			100	2731	100	1229	1502	

FLURY STEVENS, WASHINGTON													
SPRINKLER SYSTEM ONLY							GRAVITY SYSTEM ONLY						
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION		RETURN FLOW		DEPLETION	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A
APR	0	3	4	14	10	0.173	APR	0	6	4	76	70	1.180
MAY	15	307	11	37	270	4.393	MAY	15	553	11	209	344	5.597
JUN	25	521	14	47	474	7.959	JUN	25	938	14	268	672	11.287
JUL	33	693	15	51	642	10.449	JUL	33	1248	15	285	963	15.656
AUG	23	491	14	47	443	7.208	AUG	23	883	14	268	617	10.034
SEP	5	97	12	41	58	0.943	SEP	5	174	12	228	54	0.907
OCT	0	0	9	30	30	0.494	OCT	0	0	9	171	171	2.781
NOV	0	0	5	17	17	0.284	NOV	0	0	5	95	95	1.596
DEC	0	0	5	17	17	0.275	DEC	0	0	5	95	95	1.545
JAN	0	0	4	14	14	0.220	JAN	0	0	4	76	76	1.236
FEB	0	0	4	14	14	0.243	FEB	0	0	4	76	76	1.368
MAR	0	0	3	10	10	0.165	MAR	0	0	3	57	57	0.927
	100	2111	100	338	1774			100	3800	100	1900	1901	

OKANAGAN, SIMILKAMEN, BRITISH COLUMBIA													
SPRINKLER SYSTEM ONLY							GRAVITY SYSTEM ONLY						
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION		RETURN FLOW		DEPLETION	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	C/S PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	C/S PER 1000 A
APR	0	10	4	35	24	0.407	APR	0	13	4	60	46	0.781
MAY	15	391	7	61	330	5.372	MAY	15	493	7	104	388	6.416
JUN	24	624	9	78	546	9.170	JUN	24	786	9	134	652	10.952
JUL	32	835	11	95	740	12.029	JUL	32	1052	11	164	888	14.445
AUG	24	631	13	113	518	8.431	AUG	24	795	13	194	601	9.782
SEP	5	133	14	122	11	0.193	SEP	5	168	14	209	41	0.693
OCT	0	0	11	95	90	1.459	OCT	0	7	11	104	157	2.550
NOV	0	0	9	78	78	1.313	NOV	0	0	9	134	134	2.290
DEC	0	0	7	61	61	0.988	DEC	0	0	7	104	104	1.698
JAN	0	0	6	52	52	0.847	JAN	0	0	6	89	89	1.455
FEB	0	0	5	43	43	0.781	FEB	0	0	5	75	75	1.343
MAR	0	0	4	35	35	0.565	MAR	0	0	4	60	60	0.970
	100	2630	100	888	1782			100	3314	100	1491	1823	

1990 LEVEL OF DEVELOPMENT

OKANOGAN, METHUEN, WASHINGTON											
SPRINKLER SYSTEM ONLY						GRAVITY SYSTEM ONLY					
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION		RETURN FLOW	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A
APR	3	109	4	83	40	0.700	APR	3	124	4	83
MAY	15	615	11	174	441	7.172	MAY	15	701	11	229
JUN	21	870	14	271	648	10.898	JUN	21	991	14	293
JUL	29	1161	15	257	925	15.036	JUL	29	1324	15	312
AUG	23	940	14	221	719	11.691	AUG	23	1072	14	291
SEP	9	357	12	190	187	2.808	SEP	9	407	12	249
OCT	0	0	9	142	142	2.312	OCT	0	0	9	187
NOV	0	0	5	79	79	1.328	NOV	0	0	5	104
DEC	0	0	5	79	79	1.285	DEC	0	0	5	104
JAN	0	0	4	63	63	1.026	JAN	0	0	4	83
FEB	0	0	4	63	63	1.138	FEB	0	0	4	83
MAR	0	0	3	47	47	0.771	MAR	0	0	3	62
	100	4051	100	1580	2472			100	4618	100	2078
											2541

WEST OF BANKS LAKE, WASHINGTON											
SPRINKLER SYSTEM ONLY						GRAVITY SYSTEM ONLY					
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION		RETURN FLOW	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A
APR	2	52	4	18	36	0.598	APR	2	93	4	96
MAY	17	452	11	44	408	8.637	MAY	17	814	11	264
JUN	28	739	14	58	683	11.471	JUN	28	1329	14	336
JUL	31	824	15	60	765	12.434	JUL	31	1484	15	359
AUG	17	460	14	58	404	6.505	AUG	17	827	14	330
SEP	4	112	12	48	64	1.071	SEP	4	201	12	288
OCT	1	25	9	36	11	0.179	OCT	1	45	9	216
NOV	0	0	5	20	20	0.340	NOV	0	0	5	120
DEC	0	0	5	20	20	0.325	DEC	0	0	5	120
JAN	0	0	4	16	16	0.260	JAN	0	0	4	96
FEB	0	0	4	16	16	0.288	FEB	0	0	4	96
MAR	0	0	3	12	12	0.195	MAR	0	0	3	72
	100	2663	100	399	2263			100	4793	100	2497
											2497

CHITAN, ENHAT, WINATCH, WASHINGTON											
SPRINKLER SYSTEM ONLY						GRAVITY SYSTEM ONLY					
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION		RETURN FLOW	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A
APR	3	164	4	82	82	1.384	APR	3	181	4	99
MAY	14	699	11	225	474	7.712	MAY	14	769	11	272
JUN	20	1018	14	287	731	12.288	JUN	20	1120	14	348
JUL	26	1274	15	307	967	15.728	JUL	26	1402	15	371
AUG	22	1074	14	287	787	12.804	AUG	22	1181	14	348
SEP	11	566	12	248	320	5.374	SEP	11	622	12	297
OCT	4	197	9	184	13	0.213	OCT	4	217	9	222
NOV	0	0	5	102	102	1.720	NOV	0	0	5	124
DEC	0	0	5	102	102	1.665	DEC	0	0	5	124
JAN	0	0	4	82	82	1.332	JAN	0	0	4	99
FEB	0	0	4	82	82	1.475	FEB	0	0	4	99
MAR	0	0	3	61	61	0.999	MAR	0	0	3	74
	100	4994	100	2048	2045			100	5493	100	2477
											3020

Accumulated depletions at site (1990 level of development)

GCL3D9

GRAND COULEE

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-9822	
1928-29	-8143	-4291	-2007	120	75	62	57	-501	-5856	-8266	-9426	-9811	-4023
1929-30	-8124	-4308	-2014	112	70	57	52	-505	-5766	-8205	-9394	-9751	-4005
1930-31	-8081	-4327	-2022	104	64	52	48	-509	-5796	-8174	-9319	-9662	-3992
1931-32	-8031	-4387	-2030	96	58	47	43	-513	-5885	-8191	-9269	-9596	-3984
1932-33	-8014	-4273	-2038	89	52	42	39	-517	-5815	-8132	-9232	-9573	-3971
1933-34	-7986	-4295	-2045	81	46	37	34	-521	-5890	-8070	-9178	-9490	-3963
1934-35	-7957	-4277	-2053	73	40	32	30	-516	-5824	-8067	-9125	-9412	-3944
1935-36	-7906	-4365	-2061	65	34	27	25	-529	-5895	-8053	-9078	-9359	-3936
1936-37	-7893	-4381	-2069	57	28	22	20	-533	-5897	-8122	-9061	-9303	-3950
1937-38	-7854	-4378	-2076	50	22	17	16	-537	-5884	-8075	-9024	-9239	-3936
1938-39	-7812	-4360	-2073	44	17	12	11	-539	-5818	-7978	-8977	-9195	-3911
1939-40	-7783	-4370	-2086	34	11	7	7	-545	-5880	-8024	-8939	-9140	-3904
1940-41	-7767	-4371	-2094	29	5	2	2	-547	-5828	-7975	-8927	-9085	-3902
1941-42	-7736	-4409	-2103	19	-1	-3	-3	-553	-5834	-8026	-8922	-9016	-3904
1942-43	-7688	-4374	-2107	11	-7	-8	-7	-557	-5879	-8032	-8854	-8959	-3894
1943-44	-7656	-4387	-2114	3	-13	-13	-12	-561	-5848	-7959	-8801	-8910	-3867
1944-45	-7661	-4374	-2131	-5	-19	-18	-16	-565	-5841	-7935	-8785	-8858	-3872
1945-46	-7617	-4366	-2138	-13	-25	-23	-21	-549	-5849	-7910	-8722	-8762	-3854
1946-47	-7546	-4374	-2146	-20	-31	-28	-26	-573	-5917	-7912	-8622	-8670	-3843
1947-48	-7494	-4387	-2154	-28	-36	-33	-30	-577	-5884	-8044	-8744	-8617	-3846
1948-49	-7455	-4355	-2161	-35	-41	-37	-35	-581	-5903	-7846	-8568	-8563	-3819
1949-50	-7448	-4353	-2170	-44	-48	-43	-40	-584	-5922	-7883	-8571	-8495	-3821
1950-51	-7387	-4324	-2173	-52	-55	-48	-44	-589	-5927	-7869	-8488	-8439	-3804
1951-52	-7372	-4345	-2176	-54	-56	-49	-45	-590	-5899	-7790	-8480	-8437	-3785
1952-53	-7352	-4331	-2177	-56	-56	-49	-45	-590	-5904	-7786	-8504	-8387	-3790
1953-54	-7310	-4302	-2179	-58	-57	-49	-46	-591	-5899	-7719	-8480	-8364	-3775
1954-55	-7332	-4349	-2178	-59	-59	-52	-48	-592	-5906	-7800	-8360	-8352	-3778
1955-56	-7269	-4260	-2180	-61	-60	-53	-49	-592	-5903	-7641	-8315	-8286	-3733
1956-57	-7251	-4292	-2181	-63	-62	-54	-50	-593	-5891	-7720	-8325	-8241	-3747
1957-58	-7225	-4266	-2181	-65	-63	-55	-44	-586	-5870	-7657	-8267	-8233	-3729
1958-59	-7197	-4268	-2182	-67	-64	-56	-52	-594	-5859	-7665	-8277	-8170	-3724
1959-60	-7161	-4256	-2177	-63	-60	-52	-48	-590	-5871	-7645	-8227	-8137	-3701
1960-61	-7133	-4245	-2178	-65	-61	-53	-49	-591	-5860	-7582	-8155	-8088	-3691
1961-62	-7096	-4198	-2167	-56	-51	-42	-39	-581	-5854	-7559	-8158	-8043	-3674
1962-63	-7062	-4202	-2169	-59	-54	-45	-41	-582	-5845	-7525	-8067	-8004	-3658
1963-64	-7016	-4182	-2159	-51	-45	-36	-32	-573	-5854	-7485	-8084	-7971	-3634
1964-65	-7026	-4215	-2160	-53	-46	-37	-33	-574	-5840	-7428	-8014	-7937	-3633
1965-66	-6995	-4159	-2134	-35	-27	-18	-14	-554	-5828	-7506	-8116	-8007	-3636
1966-67	-7048	-4182	-2143	-38	-30	-20	-17	-556	-5870	-7607	-8196	-8092	-3670
1967-68	-7135	-4245	-2138	-37	-28	-19	-16	-555	-5865	-7565	-8167	-8066	-3663
1968-69	-7116	-4249	-2136	-35	-27	-18	-15	-554	-5866	-7566	-8147	-8047	-3668
1969-70	-7092	-4223	-2132	-34	-25	-17	-14	-553	-5863	-7540	-8118	-8014	-3655
1970-71	-7069	-4214	-2129	-32	-24	-16	-13	-552	-5862	-7523	-8114	-7992	-3648
1971-72	-7048	-4214	-2125	-30	-23	-15	-12	-551	-5860	-7517	-8081	-7969	-3630
1972-73	-7033	-4191	-2122	-29	-21	-14	-11	-550	-5858	-7494	-8050	-7941	-3629
1973-74	-7004	-4182	-2118	-27	-20	-13	-10	-549	-5856	-7498	-8025	-7921	-3621
1974-75	-6974	-4180	-2115	-25	-18	-12	-10	-548	-5854	-7459	-8001	-7890	-3610
1975-76	-6976	-4170	-2108	-24	-17	-11	-9	-548	-5852	-7451	-7984	-7859	-3593
1976-77	-6952	-4162	-2108	-22	-15	-10	-8	-547	-5846	-7430	-7953	-7846	-3594
1977-78	-6912	-4151	-2104	-20	-14	-8	-7	-546	-5848	-7421	-7933	-7823	-3585
1978-79	-6904	-4150	-2100	-19	-12	-7	-6	-545	-5846	-7402	-7906	-7791	-3577
1979-80	-6882	-4138	-2097	-17	-11	-7	-5	-544	-5844	-7392	-7909	-7775	-3561
1980-81	-6855	-4128	-2091	-13	-8	-4	-3	-542	-5849	-7432	-7928	-7755	-3570
1981-82	-6874	-4147	-2088	-9	-6	-4	-3	-543	-5850	-7414	-7901	-7780	-3571
1982-83	-6885	-4150	-2087	-8	-5	-4	-2	-543	-5850	-7415	-7912	-7805	-3575
1983-84	-6894	-4158	-2086	-6	-4	-3	-2	-542	-5850	-7430	-7919	-7789	-3566
1984-85	-6894	-4157	-2085	-5	-4	-3	-2	-542	-5850	-7414	-7924	-7804	-3576
1985-86	-6896	-4159	-2084	-4	-3	-2	-1	-542	-5849	-7416	-7913	-7821	-3577
1986-87	-6898	-4154	-2083	-3	-2	-2	-1	-541	-5847	-7390	-7918	-7837	-3575
1987-88	-6906	-4147	-2082	-2	-1	-1	-1	-541	-5850	-7412	-7930	-7844	-3569
1988-89	-6906	-4155	-2081	-1	-1	-1	0	-541	-5850	-7413	-7925	-7850	-3579
1989-90	-6923	-4144											
MEAN	-7321	-4260	-2116	-8	-15	-12	-11	-555	-5862	-7719	-8421	-8447	-3746

GCL3DD9

USGS # 12436100

GRAND COULEE

River COLUMBIA

Drainage Area

74 700 Sq Mi

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile

596.6

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927 28													216900
1928 29	100700	56620	44980	35610	27100	20660	19890	31250	<u>45600</u>	170600	261900	125100	78590
1929 30	85250	48340	30730	<u>22160</u>	24960	<u>14550</u>	29090	28430	117500	164100	222700	159900	79130
1930 31	96420	58310	33720	28590	<u>21980</u>	23080	24930	36680	64160	198100	211300	132600	77770
1931 32	78270	60300	35340	32850	28600	24170	31190	67000	141900	298700	336300	172000	108800
1932 33	101300	52580	40720	51220	47580	37580	26330	40070	98070	240100	428800	263000	119300
1933 34	125000	69290	67540	<u>82530</u>	<u>114100</u>	98940	68210	83390	<u>243400</u>	324600	253500	142900	139800
1934 35	87580	51730	42050	63240	42640	43080	48200	47660	84270	235900	314100	220700	107000
1935 36	99720	59230	37150	28880	24980	25100	<u>17940</u>	33710	136900	297300	254600	131900	95780
1936 37	82080	47460	31570	22820	22620	14840	18440	<u>24450</u>	56220	187800	242400	151300	75450
1937 38	78780	53490	43020	52620	40610	43720	32310	56510	138300	273300	331200	177400	110400
1938 39	70810	60990	41540	31780	27910	29500	22900	41090	121400	273000	207300	162800	91320
1939 40	87530	49790	45550	40730	42760	27060	35890	60210	114400	229000	213400	132800	90060
1940 41	75110	63820	55070	35550	32790	30250	28620	48850	97980	173300	<u>176100</u>	117800	78160
1941 42	72800	72560	74680	58670	82030	40060	36220	35920	103900	212000	268900	202000	105300
1942 43	98760	49530	37980	36920	34080	26040	30570	38220	197600	209000	291800	242400	108000
1943 44	98310	46320	40980	30440	26860	23720	22710	24550	52290	153900	190900	99410	<u>67630</u>
1944 45	74060	55480	43970	37060	24660	29570	30970	36010	49100	233100	275100	148600	86740
1945 46	71170	46560	34760	39950	35580	35640	30800	49810	138100	345500	329700	188700	112600
1946 47	90210	59180	39840	41110	54790	37570	46820	60750	130100	318700	292700	176800	112700
1947 48	83890	59130	90190	64650	45100	43320	37750	38920	112000	378100	475600	168200	133100
1948 49	116100	62770	47170	38690	27770	22950	34740	50570	138800	326400	211200	111900	99470
1949 50	76500	47180	35390	45500	42730	31520	41670	68180	101800	232100	433400	289500	120700
1950 51	109100	60060	59440	63460	70590	56200	<u>80960</u>	53040	136700	353100	292400	246100	132100
1951 52	100800	60110	74430	50080	44740	37140	40560	41930	164300	320100	271600	171600	114900
1952 53	87410	44740	32040	23840	25230	43630	48700	39960	73360	235700	360000	212100	102400
1953 54	100500	55090	48060	45960	39580	34210	43830	48340	83330	333700	374500	<u>331300</u>	128800
1954 55	141800	92110	52870	61080	44830	33590	33700	29930	63120	181800	393600	267100	116600
1955 56	104800	53940	58960	60720	62000	49090	33840	53830	191100	382200	389000	197900	136600
1956 57	93970	55380	49720	37860	38490	27930	36650	46570	87470	<u>412400</u>	277500	128700	108200
1957 58	72550	47440	41050	35470	33780	34860	53220	51440	99700	346600	285700	132100	103100
1958 59	78930	73690	52410	52370	50600	59960	41550	48460	120000	270700	418600	243300	124500
1959 60	101600	105800	<u>95090</u>	80840	59960	39940	43640	63580	148900	214500	322500	212000	124000
1960 61	92570	61970	50760	49310	34010	36580	75400	63680	99260	331200	438700	145200	123200
1961 62	90760	48430	52390	36470	33510	30190	43290	40410	145900	233800	303400	165000	102100
1962 63	101600	53690	53040	57100	54210	38630	64890	53960	97460	215400	280300	175600	103900
1963 64	92620	65890	40370	40510	30800	30710	28370	32360	71450	227800	423000	237000	110100
1964 65	104300	67910	65240	53700	59570	48520	53350	51300	147000	262600	343400	188300	120600
1965 66	117600	58530	53160	49910	36900	35750	31830	49100	112900	250800	295100	192600	107400
1966 67	94530	56810	41610	40590	48430	46790	46230	47640	66590	244700	481400	229700	120600
1967 68	98980	62740	42740	47300	34600	36780	59410	74250	62730	220000	331100	212000	107400
1968 69	102900	84960	64690	62970	49120	48180	39640	54220	201200	348300	336200	172300	130700
1969 70	79150	58250	53260	45080	35310	37690	43140	45370	60960	223700	320400	138700	95230
1970 71	77290	43550	40050	35850	34150	44820	77090	56760	117800	367900	374700	210200	123500
1971 72	118500	57340	45400	41460	35840	37880	51110	<u>121200</u>	108500	337600	484400	247800	140700
1972 73	132300	60320	46430	39330	40650	39720	32870	46280	61680	193600	224700	136400	88210
1973 74	75890	45300	40880	61480	66550	<u>112100</u>	68690	69680	166700	279200	<u>513500</u>	272800	<u>147900</u>
1974 75	123200	69250	36620	39050	35240	34130	38930	50710	71920	244700	371700	233500	112700
1975 76	100100	63590	55610	68830	82110	54190	50620	50210	129000	348000	281900	260100	129000
1976 77	<u>182700</u>	<u>107800</u>	50750	39060	33430	30180	28620	31540	68060	<u>152100</u>	185300	<u>98120</u>	84260
1977 78	84690	52590	33400	36580	53980	38530	39340	65880	133900	241700	304900	206300	107900
1978 79	93650	99480	54410	46570	30040	27990	39100	53150	75350	249600	233100	138900	95360
1979 80	76620	52590	34370	25380	36920	29680	35140	44290	139500	326400	246800	129500	98250
1980 81	71230	56110	47060	48100	74820	64640	65780	57400	96740	291200	288500	229100	116200
1981 82	123900	61750	44900	47600	38300	36700	79730	80310	91830	263500	405900	231400	125600
1982 83	113400	79650	54230	42200	42810	51330	57950	93670	110600	249100	278200	209900	115600
1983 84	105400	60250	42070	72300	38100	54920	45730	67580	110200	172300	331800	202800	108600
1984 85	103400	59800	38940	41160	29120	24030	27000	34120	108600	273400	243300	119700	92180
1985 86	64240	55510	56180	59980	34050	32380	52120	99620	118900	219300	296800	147300	103100
1986 87	84150	45370	40580	46030	33610	25070	29280	70580	117400	255800	194500	114500	88420
1987 88	<u>63110</u>	<u>41110</u>	<u>21550</u>	24320	26980	20760	22840	37590	126800	210200	228900	123500	78970
1988 89	69830	41520	44430	44840	31380	29970	22840	46040	132200	237800	267200	132400	91950
1989 90	89430	52490											
MEAN	94680	59410	47690	45510	41880	38010	41360	51940	111500	262200	310100	183500	107500
MEDIAN	93140	57080	44980	42200	36900	35750	38930	49100	110600	249100	292700	176200	108000

GCL3M9

USGS # 12437990

CHIEF JOSEPH

River COLUMBIA

Drainage Area: 75400 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 545.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												216800	
1928-29	100700	56660	44980	35610	27100	20660	19890	31250	<u>45590</u>	170600	261900	125100	78580
1929-30	85220	48340	30730	<u>22160</u>	24960	<u>14550</u>	29090	28430	117500	164100	222700	159900	79120
1930-31	96390	58310	33720	28590	<u>21980</u>	23060	24930	36680	64150	198100	211300	132600	77770
1931-32	78240	60300	35340	32850	<u>26600</u>	24170	31190	67000	141900	298700	336300	172000	108800
1932-33	101300	52560	40720	51220	47560	37580	26330	40070	98060	240100	428800	263000	119300
1933-34	125000	69290	67540	<u>82530</u>	<u>114100</u>	98940	68210	83390	<u>243400</u>	324600	253500	142900	139800
1934-35	87550	51730	42050	63240	42640	43080	48200	47660	<u>84260</u>	235900	314000	220700	107000
1935-36	99690	59230	37150	28880	24980	25100	<u>17940</u>	33710	136900	297300	254600	131900	95770
1936-37	82050	47460	31570	22820	22620	14840	<u>18440</u>	<u>24450</u>	56210	187800	242400	151300	75440
1937-38	78750	53490	43020	52620	40610	43720	32310	56510	138300	273300	331200	177400	110400
1938-39	70780	60990	41540	31780	27910	29500	22900	41090	121400	272900	207200	162800	91310
1939-40	87500	49790	45550	40730	42760	27060	35890	60210	114400	228900	213400	132800	90050
1940-41	75080	63820	55070	35550	32790	30250	28620	48850	97970	173200	<u>176100</u>	117700	78160
1941-42	72770	72560	74680	58670	82030	40060	36220	35920	103900	212000	268900	201900	105300
1942-43	98730	49530	37980	36920	34080	26040	30570	38220	197600	208900	291800	242400	108000
1943-44	98280	46320	40980	30440	26860	23720	22710	24550	52280	153900	190800	99390	<u>67630</u>
1944-45	74030	55480	43970	37060	24660	29570	30970	36010	49090	233100	275100	148500	<u>86730</u>
1945-46	71140	46560	34760	39950	35580	35640	30800	49810	138100	345500	329600	188600	112600
1946-47	90180	59180	39840	41110	54790	37570	46820	60750	130100	318700	292700	176800	112700
1947-48	83860	59130	90190	64650	45100	43320	37750	38920	112000	378100	475600	168200	133100
1948-49	116100	62770	47170	38690	27770	22950	34740	50570	138800	326400	211200	111800	99460
1949-50	76470	47180	35390	45500	42730	31520	41670	68180	101800	232100	433400	289500	120700
1950-51	109000	60060	59440	63460	70590	56200	<u>80960</u>	53040	136700	353100	292400	246100	132100
1951-52	100800	60110	74430	50080	44740	37140	40560	41930	168500	319100	272400	174500	115500
1952-53	90610	47730	34660	26150	27340	45990	51170	42120	76040	235500	360800	212800	104400
1953-54	102900	57770	49960	47370	41330	36050	45320	50110	85060	326700	372900	<u>331500</u>	129500
1954-55	143400	92930	52680	62110	46160	33770	34230	30160	64110	181900	391900	271000	117500
1955-56	102600	57100	60010	61750	63550	50870	35760	55010	188200	383500	382600	200500	137000
1956-57	93660	57440	50460	37950	39540	27600	37690	48860	87780	<u>409500</u>	278500	128900	108600
1957-58	71920	47820	41200	34660	33110	33280	53070	53150	100100	342800	282200	129700	102200
1958-59	78920	53930	52450	52130	50140	59900	41960	48570	119600	270600	416400	244900	124400
1959-60	101500	<u>105900</u>	<u>94980</u>	80490	60430	39710	43670	63540	149100	215000	322800	212200	124100
1960-61	92870	61840	49920	48890	33780	36200	75360	63960	99280	330800	438400	145600	123000
1961-62	89390	48250	52180	35840	32650	29860	43390	39860	143800	232400	305300	167000	101800
1962-63	102700	54150	52980	56610	54750	39380	65200	53760	96340	215800	283000	175300	104300
1963-64	91900	66110	41590	40630	33060	31450	29510	32780	71690	230300	432100	244100	112100
1964-65	106000	70570	67700	53950	59370	47400	50360	52360	146400	261800	348700	189100	121400
1965-66	118100	59750	52910	51860	38870	37400	32200	50650	114600	251600	301000	197800	109300
1966-67	95810	58370	42280	41600	47810	48150	48710	49230	67030	247900	491500	244700	123800
1967-68	105600	63920	49980	48370	35780	37520	59040	77440	64670	223000	337700	220500	110400
1968-69	109600	88080	66450	64070	49580	49830	43300	55920	197000	344200	333800	173100	131500
1969-70	81110	59970	50460	43210	34240	35410	41670	42750	58530	222100	319600	140600	94290
1970-71	78960	43250	36870	35180	31280	41830	71160	49020	116500	364000	370100	205500	120500
1971-72	119300	57170	43920	38010	32220	33790	47420	<u>117600</u>	104400	334300	487000	247800	138700
1972-73	132800	59070	47960	38270	37290	37580	31450	46480	62540	194100	226100	138200	88020
1973-74	75650	44820	39590	59700	64740	<u>106700</u>	68590	69410	164000	275000	<u>508000</u>	269300	<u>145500</u>
1974-75	121900	66810	37410	38010	32260	30280	35120	47440	70030	242900	371700	232700	110900
1975-76	95260	61750	51910	64170	78120	50990	51880	45770	121600	336700	277100	258600	124800
1976-77	<u>172000</u>	100800	44770	32610	28250	30310	26410	27030	65290	<u>150300</u>	183400	<u>96150</u>	80040
1977-78	82940	49280	33390	36320	53880	38550	39290	65890	133700	241800	304900	206400	107500
1978-79	93550	98520	53520	44550	29310	26660	39630	52580	74480	245200	230400	138600	94160
1979-80	78680	54370	34510	23070	33630	23060	35990	46750	139700	323500	236400	131800	96930
1980-81	73920	54950	46800	48940	75480	60000	62450	58080	98030	291500	290400	230700	116300
1981-82	123200	62990	46790	48410	39630	34100	77820	77380	88750	260900	405800	230700	124800
1982-83	111200	78100	53860	41770	40070	49410	58110	96960	112400	247800	277400	207800	114900
1983-84	104600	55450	40250	71300	36450	55440	47540	63730	109700	170700	327900	198800	106800
1984-85	99320	60010	38220	40970	30050	26780	30120	36670	109900	273300	243200	121700	92800
1985-86	65250	55730	56100	59520	34620	31890	51650	98730	119200	220800	297000	148000	103300
1986-87	84020	45630	41280	47090	34980	26990	30150	72240	118700	258700	196800	115800	89710
1987-88	<u>64610</u>	<u>42060</u>	<u>22240</u>	26170	28670	23210	24500	39010	127700	212200	230300	123600	80370
1988-89	69780	42530	45470	48120	33960	33760	26240	48480	135000	242700	269400	133600	94310
1989-90	91600	52900											
MEAN	94790	59490	47670	45330	41670	37660	41390	51910	111300	261600	310200	184200	107500
MEDIAN	93210	57610	44980	41770	35780	35410	37750	49020	112000	247800	292700	176100	108600

CHJ3M9

WELLS

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												-10114	
1928-29	-8343	-4369	-2021	108	66	54	50	-507	-5880	-8406	-9660	-10091	-4108
1929-30	-8318	-4387	-2031	97	59	48	44	-511	-5791	-8340	-9617	-10019	-4088
1930-31	-8270	-4407	-2041	88	52	42	39	-516	-5820	-8304	-9531	-9918	-4073
1931-32	-8215	-4468	-2050	78	45	36	33	-521	-5910	-8316	-9470	-9840	-4062
1932-33	-8193	-4354	-2060	69	38	30	28	-525	-5839	-8252	-9423	-9805	-4048
1933-34	-8159	-4377	-2070	60	30	24	22	-530	-5915	-8185	-9356	-9709	-4037
1934-35	-8125	-4360	-2080	50	23	18	16	-526	-5849	-8176	-9294	-9619	-4017
1935-36	-8069	-4449	-2090	41	16	12	11	-540	-5920	-8157	-9237	-9554	-4007
1936-37	-8050	-4465	-2099	32	9	6	5	-544	-5922	-8221	-9210	-9487	-4019
1937-38	-8007	-4463	-2109	22	2	0	-1	-549	-5909	-8170	-9162	-9410	-4002
1938-39	-7959	-4446	-2108	15	-5	-7	-6	-551	-5844	-8067	-9104	-9354	-3976
1939-40	-7925	-4456	-2122	4	-13	-13	-12	-558	-5906	-8109	-9055	-9287	-3966
1940-41	-7903	-4458	-2133	-3	-19	-18	-17	-561	-5854	-8054	-9033	-9220	-3962
1941-42	-7867	-4497	-2144	-15	-27	-25	-23	-568	-5860	-8100	-9017	-9138	-3962
1942-43	-7814	-4462	-2150	-25	-34	-31	-29	-572	-5905	-8101	-8938	-9070	-3950
1943-44	-7777	-4476	-2159	-34	-41	-37	-34	-577	-5874	-8023	-8874	-9008	-3921
1944-45	-7777	-4464	-2178	-43	-48	-43	-40	-582	-5868	-7994	-8848	-8945	-3924
1945-46	-7727	-4456	-2187	-53	-55	-49	-46	-566	-5876	-7963	-8774	-8836	-3904
1946-47	-7651	-4466	-2197	-62	-63	-55	-51	-591	-5944	-7960	-8663	-8732	-3891
1947-48	-7593	-4479	-2207	-71	-70	-61	-57	-596	-5911	-8087	-8774	-8668	-3892
1948-49	-7549	-4448	-2216	-80	-76	-66	-63	-601	-5930	-7883	-8586	-8599	-3862
1949-50	-7535	-4445	-2226	-89	-84	-73	-68	-604	-5949	-7913	-8576	-8516	-3861
1950-51	-7466	-4415	-2230	-98	-90	-78	-73	-609	-5954	-7895	-8484	-8451	-3841
1951-52	-7448	-4435	-2232	-100	-91	-79	-74	-610	-5926	-7812	-8466	-8439	-3820
1952-53	-7425	-4420	-2233	-101	-91	-79	-73	-610	-5930	-7803	-8481	-8380	-3823
1953-54	-7379	-4390	-2234	-103	-92	-79	-74	-610	-5925	-7732	-8448	-8348	-3805
1954-55	-7397	-4437	-2233	-104	-93	-81	-76	-611	-5932	-7810	-8319	-8326	-3805
1955-56	-7331	-4347	-2234	-108	-94	-82	-76	-612	-5928	-7646	-8264	-8251	-3758
1956-57	-7309	-4378	-2234	-107	-95	-82	-77	-612	-5916	-7721	-8265	-8197	-3770
1957-58	-7280	-4351	-2233	-108	-96	-83	-70	-605	-5894	-7653	-8197	-8179	-3749
1958-59	-7248	-4352	-2233	-110	-97	-84	-78	-613	-5883	-7657	-8198	-8106	-3742
1959-60	-7208	-4340	-2228	-106	-93	-79	-74	-609	-5895	-7634	-8139	-8064	-3716
1960-61	-7177	-4328	-2228	-108	-93	-80	-75	-609	-5884	-7566	-8057	-8005	-3704
1961-62	-7136	-4280	-2216	-99	-83	-70	-64	-599	-5877	-7538	-8051	-7952	-3683
1962-63	-7098	-4283	-2218	-101	-85	-72	-66	-600	-5868	-7500	-7951	-7903	-3665
1963-64	-7049	-4262	-2207	-93	-76	-62	-57	-591	-5877	-7456	-7959	-7861	-3639
1964-65	-7055	-4295	-2207	-94	-77	-63	-57	-591	-5863	-7395	-7879	-7817	-3635
1965-66	-7021	-4238	-2180	-76	-57	-44	-38	-572	-5851	-7469	-7971	-7876	-3635
1966-67	-7070	-4261	-2190	-80	-60	-46	-40	-573	-5892	-7563	-8037	-7947	-3666
1967-68	-7150	-4323	-2186	-79	-59	-46	-40	-573	-5887	-7514	-7994	-7905	-3656
1968-69	-7124	-4327	-2185	-78	-59	-45	-40	-572	-5888	-7508	-7961	-7870	-3657
1969-70	-7092	-4300	-2182	-78	-58	-45	-39	-571	-5885	-7475	-7917	-7822	-3641
1970-71	-7061	-4290	-2179	-77	-57	-44	-39	-571	-5883	-7451	-7899	-7784	-3630
1971-72	-7033	-4289	-2177	-76	-56	-44	-38	-570	-5881	-7438	-7852	-7745	-3609
1972-73	-7011	-4265	-2174	-75	-55	-43	-38	-570	-5879	-7408	-7807	-7702	-3605
1973-74	-6975	-4255	-2171	-74	-54	-43	-37	-569	-5877	-7405	-7768	-7666	-3594
1974-75	-6937	-4253	-2169	-74	-53	-42	-37	-568	-5874	-7360	-7730	-7620	-3579
1975-76	-6931	-4242	-2163	-73	-52	-42	-37	-568	-5872	-7344	-7699	-7573	-3559
1976-77	-6900	-4232	-2164	-72	-52	-41	-36	-567	-5865	-7317	-7654	-7545	-3556
1977-78	-6852	-4220	-2161	-71	-51	-41	-36	-567	-5867	-7300	-7620	-7507	-3543
1978-79	-6837	-4219	-2158	-70	-50	-40	-35	-566	-5865	-7274	-7579	-7459	-3531
1979-80	-6808	-4206	-2156	-70	-49	-40	-35	-566	-5861	-7278	-7617	-7480	-3523
1980-81	-6790	-4190	-2142	-60	-41	-33	-29	-561	-5864	-7324	-7657	-7477	-3532
1981-82	-6805	-4200	-2137	-52	-37	-31	-27	-561	-5862	-7319	-7664	-7537	-3538
1982-83	-6824	-4195	-2130	-45	-33	-28	-24	-558	-5861	-7334	-7709	-7596	-3547
1983-84	-6842	-4197	-2123	-39	-28	-24	-21	-556	-5859	-7362	-7749	-7615	-3544
1984-85	-6850	-4190	-2116	-32	-23	-20	-17	-553	-5857	-7360	-7788	-7664	-3558
1985-86	-6861	-4185	-2109	-26	-19	-16	-14	-551	-5855	-7375	-7811	-7715	-3564
1986-87	-6871	-4173	-2101	-19	-14	-12	-10	-548	-5851	-7363	-7850	-7766	-3567
1987-88	-6888	-4160	-2094	-13	-9	-8	-7	-545	-5852	-7398	-7895	-7808	-3566
1988-89	-6896	-4162	-2087	-6	-5	-4	-4	-543	-5850	-7413	-7925	-7850	-3581
1989-90	-6923	-4144											
MEAN	7374	-4334	-2159	-45	-42	-36	32	-571	5883	7721	-8369	8415	-3765

WEL3DD9

USGS # 12450652

WELLS

River: COLUMBIA

Drainage Area: 86100 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 515.9

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVL
1927-28												225600	
1928-29	104800	59240	47170	37770	28980	22530	21410	32210	<u>46080</u>	172800	270800	130300	81420
1929-30	87190	50440	33010	24190	26450	16250	30070	29560	119500	168800	228800	163900	81670
1930-31	98430	60460	34870	29690	<u>22990</u>	24010	25760	37080	64900	203100	215900	134900	79640
1931-32	80380	62060	36430	33990	27490	25110	32360	69140	143900	304700	344300	175700	111300
1932-33	102400	54070	41850	53650	50370	39300	28070	41270	98930	243200	442900	274200	122900
1933-34	127500	70920	70430	<u>87350</u>	<u>117800</u>	102300	71880	87210	<u>254000</u>	337200	261700	145000	144800
1934-35	88790	53260	43770	65800	44630	45590	52750	50180	85840	241300	325200	225500	110400
1935-36	102800	61040	38940	30620	26560	<u>26360</u>	<u>18990</u>	34400	137300	302000	261100	132700	97890
1936-37	82630	48990	33080	24240	23980	<u>16150</u>	19450	<u>25450</u>	57190	190400	252000	154100	77590
1937-38	79740	55060	44690	54400	42460	45230	33580	57840	140200	280400	337800	180100	112900
1938-39	72350	62010	43340	33390	29590	30840	23780	41920	122800	275200	210500	164300	92910
1939-40	88450	51240	46950	42980	45070	28730	36530	61420	116700	233500	215900	133800	91910
1940-41	76360	64850	56690	37680	34090	31340	29700	50460	102000	175600	<u>180000</u>	119600	80110
1941-42	73870	74070	76940	60620	84150	42380	38190	37150	107100	218300	275000	203500	107900
1942-43	100700	51210	40350	39160	36320	28410	32730	40400	202200	216600	305200	253400	112500
1943-44	103700	49000	43330	32660	29230	25300	24330	26160	54170	158800	198400	103600	<u>70820</u>
1944-45	76690	57620	46130	39290	26840	32030	32980	37560	51160	238300	286700	152700	90100
1945-46	73600	48770	37030	42510	37270	37720	32630	51630	140400	355200	339200	195400	116300
1946-47	93720	61820	42460	43060	57040	39560	48930	63390	134600	328900	301500	181000	116600
1947-48	86240	61280	91740	67560	47360	45210	40020	40480	113200	384500	499100	178600	138000
1948-49	121700	67360	50720	41810	30410	25300	37160	52900	143200	342100	226000	118400	105100
1949-50	79960	49820	37740	49020	46170	33600	43770	70670	105200	242600	449900	300700	126000
1950-51	115800	63160	61990	67130	74190	60330	<u>86230</u>	57250	143300	366700	304900	252400	138100
1951-52	105200	63140	76510	53260	47280	40100	42950	44490	171700	324200	277600	177400	118800
1952-53	92130	48570	35340	26900	27930	47280	52710	43510	78180	242300	367800	219000	107000
1953-54	105100	59050	51580	49200	43260	37510	46920	51600	87030	333500	382800	<u>340900</u>	132900
1954-55	147500	96070	57540	65210	49060	35710	36220	32440	66530	186500	404900	282700	122000
1955-56	108300	59440	61980	65260	65570	52620	37680	56950	192900	397100	400000	208900	142400
1956-57	98930	59400	52580	40210	42410	29350	39730	50390	90070	<u>420800</u>	287600	132600	112300
1957-58	73720	49060	42490	36070	34570	34600	54350	55170	102900	352200	290200	133100	105100
1958-59	80310	55210	<u>54260</u>	54350	52850	62390	44720	51570	124000	279800	429800	254000	128900
1959-60	105000	108100	<u>99080</u>	84850	65190	41960	46190	65570	154200	221900	333200	218300	128600
1960-61	95730	63390	53630	52660	37180	37890	76910	65500	105900	342400	470700	153300	129600
1961-62	91010	50390	53990	38840	35590	32720	48300	41670	147500	238100	316400	172900	105700
1962-63	104000	54620	57240	60930	60910	41790	69030	56880	99410	227300	295900	183500	109400
1963-64	97070	67190	45420	44750	37800	35630	29620	34050	73730	236500	455900	256700	117900
1964-65	111600	68580	70150	57930	63680	51370	51910	52150	150300	272300	364800	195400	126100
1965-66	122500	60860	54600	53870	39350	38820	34070	51270	118900	262600	308800	205300	113000
1966-67	101400	63730	47470	45830	50970	51470	51350	53200	71770	261300	522400	248900	131000
1967-68	106900	66530	50710	50840	37870	40130	62040	81420	67260	236800	354200	227200	115200
1968-69	111500	89670	68260	65650	51120	51790	45630	57230	203500	364500	347000	178400	136500
1969-70	82510	60930	51040	43830	34420	36450	42110	44090	59170	232600	337800	140700	97280
1970-71	77380	<u>42570</u>	39600	34730	32900	45120	76030	58840	120900	391800	392900	208900	127000
1971-72	120200	53810	44590	40750	36920	38600	49020	<u>120100</u>	112800	358800	524700	263300	147100
1972-73	137500	59300	44920	36670	39770	39260	33280	47820	64330	202000	233500	141800	90390
1973-74	76130	45360	40770	60430	68770	<u>111700</u>	76350	73200	171200	292300	<u>540800</u>	283100	<u>153400</u>
1974-75	129300	67810	36640	38920	35610	32080	40490	52650	73320	253000	393500	240700	116500
1975-76	97210	63480	54010	66520	81550	56170	57260	57370	134900	372500	300700	272500	134900
1976-77	<u>183500</u>	<u>108800</u>	47730	35800	30200	31690	28950	28380	65990	<u>155600</u>	185300	<u>93630</u>	83230
1977-78	81140	51290	33590	37140	54080	38650	39270	67050	136300	252100	322300	211700	110700
1978-79	94170	98900	52760	44530	28370	27940	38570	50340	71910	254600	236300	136700	94840
1979-80	73120	50630	31090	<u>23160</u>	34970	28390	34230	44070	142700	341800	257100	131100	99510
1980-81	68720	55340	48040	49920	77700	63720	66900	62510	103200	305400	301600	237200	120400
1981-82	127100	64510	47720	50360	43910	38410	79190	80530	91100	269500	425600	238700	129800
1982-83	117800	82370	57460	47660	45730	54440	61910	100600	120000	269900	298800	221300	123500
1983-84	115800	60550	39370	71990	38950	57520	49670	69270	113100	176800	349600	205900	112300
1984-85	103300	61110	41160	43790	31390	28580	29920	36660	113300	287200	255200	122300	96470
1985-86	<u>64260</u>	56270	58260	61950	37010	32570	53540	105800	126500	232000	315200	153400	108200
1986-87	83500	45060	40710	46830	35030	26640	31050	74540	122800	275000	203400	117800	92220
1987-88	85230	43330	<u>23860</u>	26600	29300	24070	26070	40460	134500	224100	241400	128200	83950
1988-89	72390	45010	48310	51260	38100	38670	30490	53230	142100	260200	285800	139800	100700
1989-90	97750	59080											
MEAN	97440	61230	49410	47510	44040	39960	43540	54230	114900	271900	323700	189900	111700
MEDIAN	97000	59420	47170	44750	38100	37890	39730	51630	113300	261300	305200	180500	112300

WEL3M9

USGS # 12452400

CHELAN

River: CHELAN

Drainage Area:

924 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile:

4.3

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												2941	
1928-29	1034	647	891	392	429	390	354	<u>401</u>	<u>725</u>	3690	4399	1951	1280
1929-30	1102	663	473	300	383	116	520	791	2852	3044	3500	2362	1344
1930-31	1243	657	449	434	375	449	421	636	1370	5257	4053	1958	1448
1931-32	975	835	489	545	427	435	1324	1714	2531	5082	6101	2865	1941
1932-33	1351	517	597	2016	1179	831	342	547	1841	3548	7463	5692	2166
1933-34	2419	1060	2009	2281	2497	1294	1218	2529	<u>7439</u>	6673	5024	2808	<u>3110</u>
1934-35	1513	713	697	1817	1009	1500	1483	1089	1612	5627	6898	3934	2327
1935-36	1494	1039	449	261	261	351	<u>160</u>	495	2824	6192	5426	1765	1728
1936-37	903	490	339	72	330	<u>90</u>	287	517	1089	3958	8324	3499	1660
1937-38	927	686	707	993	783	616	567	904	2755	6615	7528	3140	2190
1938-39	903	745	473	361	609	842	372	750	2452	4748	3782	2809	1577
1939-40	1044	426	543	711	1015	469	599	1114	2599	5502	4448	1908	1701
1940-41	831	700	1207	512	675	511	414	1259	3393	3507	<u>3003</u>	1450	1459
1941-42	732	719	1190	905	1169	442	362	448	2182	4530	4192	2533	1623
1942-43	845	<u>302</u>	166	309	523	451	499	734	3210	4155	6775	5395	1951
1943-44	1516	582	410	261	414	228	308	458	1513	3609	3915	1496	<u>1227</u>
1944-45	<u>613</u>	677	457	449	435	671	831	574	971	4918	5059	2376	1505
1945-46	764	431	817	775	585	489	441	692	2094	8150	5989	3882	2104
1946-47	1417	617	503	520	595	470	776	1553	2997	6543	4725	2580	1948
1947-48	1003	596	1250	832	685	576	479	531	1555	7095	10640	3233	2372
1948-49	1622	756	878	638	624	271	516	810	2699	7794	5451	3144	2110
1949-50	1381	877	633	2318	1657	691	567	891	1306	4825	10930	6665	2734
1950-51	2461	876	1256	1369	1634	1119	1868	886	3502	8002	7371	4433	2902
1951-52	1518	753	1057	717	466	448	359	479	2428	5660	4606	2823	1780
1952-53	1193	493	279	<u>52</u>	284	881	946	716	1599	5315	5846	4990	1889
1953-54	1866	741	763	1002	817	826	801	696	1474	6178	6913	<u>6921</u>	2429
1954-55	2985	1481	694	1791	997	553	573	442	987	3159	8470	4963	2262
1955-56	1876	837	1371	<u>2446</u>	960	690	478	704	3478	<u>9166</u>	8467	5669	3017
1956-57	1966	1079	1050	918	1463	668	612	880	1933	8676	5648	2201	2270
1957-58	1058	782	706	681	745	573	902	864	1666	8377	5694	2152	2024
1958-59	961	604	999	1234	1628	1032	710	995	2709	5219	8230	5549	2496
1959-60	1712	<u>1700</u>	<u>2491</u>	2287	1832	766	738	1179	2544	4288	7100	4157	2567
1960-61	1324	638	542	629	371	663	1039	1183	2112	5807	9220	3059	2215
1961-62	1376	499	558	394	369	690	1137	566	2487	3057	5250	2869	1602
1962-63	1300	603	683	1313	1021	557	1213	1032	1346	4447	5055	2405	1749
1963-64	1353	832	591	675	658	721	426	609	1383	3572	8705	5215	2061
1964-65	1698	776	840	481	471	591	772	1012	2266	4520	6364	3568	1950
1965-66	1767	554	466	572	444	370	240	567	2132	4654	4552	3106	1626
1966-67	1210	671	559	598	876	740	659	591	927	4653	10460	4316	2191
1967-68	1473	786	1262	1622	1201	1871	1681	2110	1211	4906	7117	4395	2472
1968-69	1550	1032	581	718	761	755	530	790	2493	7715	7912	2207	2259
1969-70	849	945	744	584	571	459	498	556	940	3926	6449	2180	1558
1970-71	889	592	312	361	397	879	<u>2042</u>	952	1491	7750	7535	5472	2391
1971-72	2465	807	593	786	685	712	1021	<u>2766</u>	2297	8143	10300	5976	3051
1972-73	2986	1121	730	542	669	562	414	487	1265	3879	3886	2192	1569
1973-74	1011	622	423	662	703	1485	929	972	2304	4844	<u>11460</u>	6386	2652
1974-75	2869	1081	388	382	574	653	549	596	1209	4916	8055	5742	2260
1975-76	1742	816	895	1522	<u>3045</u>	1161	1137	805	1653	6256	5820	5736	2558
1976-77	<u>3193</u>	1445	572	450	289	488	488	445	1439	<u>2034</u>	3202	<u>1275</u>	1279
1977-78	1339	611	288	767	1417	587	688	1505	2633	4672	7793	4177	2211
1978-79	1482	1384	563	1093	365	182	349	835	1189	4497	3362	1831	1433
1979-80	947	588	376	197	1318	599	622	894	3017	6467	4721	2583	1865
1980-81	995	693	352	793	2347	1612	1270	1041	1598	4725	3926	2906	1861
1981-82	1414	552	707	868	579	682	1137	1077	1248	4948	9607	4356	2265
1982-83	1742	873	612	482	655	1163	930	1832	2344	6526	6214	3316	2232
1983-84	1870	813	364	1405	428	<u>2137</u>	1156	1301	1430	2575	7596	4251	2108
1984-85	1722	484	601	579	<u>252</u>	236	251	556	2059	4820	4736	2039	1517
1985-86	743	561	881	1002	414	645	904	2037	2350	4516	5230	1755	1754
1986-87	1151	564	422	813	511	471	552	1228	2478	6991	4203	1805	1773
1987-88	719	484	<u>146</u>	179	564	230	294	642	3046	4712	4998	2556	1547
1988-89	987	520	1204	1227	830	679	692	827	2993	5011	6042	2383	1952
1989-90	1049	405											
MEAN	1427	749	714	850	824	694	729	936	2126	5319	6324	3456	2018
MEDIAN	1345	690	597	681	655	616	599	810	2112	4916	5989	3000	1952

CHL3M9

ROCKY REACH

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-10151	
1928-29	-8361	-4374	-2025	103	63	51	47	-509	-5883	-8427	-9695	-10126	-4119
1929-30	-8335	-4392	-2035	93	55	45	41	-514	-5793	-8360	-9651	-10052	-4099
1930-31	-8286	-4412	-2045	84	48	39	36	-518	-5823	-8323	-9563	-9949	-4084
1931-32	-8230	-4473	-2055	74	41	33	30	-523	-5913	-8335	-9501	-9870	-4073
1932-33	-8207	-4360	-2065	65	33	26	24	-528	-5842	-8269	-9451	-9833	-4058
1933-34	-8173	-4382	-2075	55	26	20	18	-533	-5918	-8202	-9383	-9735	-4047
1934-35	-8138	-4365	-2085	46	19	14	12	-528	-5852	-8193	-9320	-9644	-4026
1935-36	-8082	-4454	-2096	36	11	8	7	-542	-5923	-8172	-9261	-9577	-4016
1936-37	-8062	-4471	-2106	27	4	2	1	-547	-5925	-8236	-9232	-9508	-4028
1937-38	-8017	-4469	-2116	17	-3	-5	-5	-552	-5912	-8183	-9183	-9430	-4011
1938-39	-7969	-4452	-2115	10	-11	-11	11	-554	-5847	-8080	-9123	-9372	-3984
1939-40	-7934	-4462	-2129	-2	-18	-17	-17	-562	-5909	-8120	-9073	-9303	-3974
1940-41	-7912	-4465	-2140	-9	-25	-23	-22	-565	-5857	-8065	-9049	-9235	-3970
1941-42	-7875	-4503	-2151	-21	-33	-29	-28	-571	-5863	-8110	-9031	-9151	-3970
1942-43	-7821	-4469	-2158	-31	-40	-35	-34	-576	-5908	-8110	-8951	-9081	-3957
1943-44	-7783	-4483	-2167	-40	-47	-42	-40	-581	-5877	-8031	-8886	-9018	-3928
1944-45	-7782	-4471	-2186	-50	-55	-48	-46	-585	-5871	-8002	-8858	-8952	-3931
1945-46	-7732	-4463	-2196	-59	-62	-54	-51	-570	-5879	-7970	-8782	-8842	-3910
1946-47	-7655	-4473	-2206	-69	-69	-60	-57	-595	-5947	-7966	-8670	-8736	-3897
1947-48	-7597	-4486	-2216	-78	-77	-66	-63	-600	-5914	-8093	-8780	-8670	-3897
1948-49	-7551	-4455	-2225	-87	-83	-72	-69	-605	-5933	-7888	-8589	-8600	-3867
1949-50	-7536	-4453	-2235	-97	-91	-78	-74	-609	-5952	-7916	-8578	-8515	-3865
1950-51	-7467	-4423	-2240	-106	-98	-84	-80	-614	-5957	-7898	-8486	-8450	-3846
1951-52	-7449	-4442	-2242	-107	-98	-85	-80	-614	-5929	-7815	-8468	-8438	-3824
1952-53	-7426	-4428	-2242	-108	-98	-84	-80	-614	-5933	-7807	-8483	-8379	-3827
1953-54	-7381	-4397	-2243	-109	-98	-84	-80	-614	-5928	-7736	-8450	-8347	-3809
1954-55	-7399	-4444	-2241	-110	-100	-86	-81	-615	-5934	-7813	-8321	-8326	-3810
1955-56	-7333	-4354	-2242	-112	-100	-87	-82	-615	-5931	-7649	-8267	-8251	-3762
1956-57	-7312	-4385	-2242	-113	-101	-87	-82	-616	-5918	-7725	-8267	-8197	-3774
1957-58	-7282	-4358	-2241	-114	-102	-88	-75	-609	-5897	-7657	-8200	-8180	-3754
1958-59	-7251	-4359	-2241	-116	-102	-88	-83	-616	-5885	-7660	-8201	-8107	-3746
1959-60	-7211	-4347	-2235	-112	-98	-84	-79	-612	-5898	-7637	-8141	-8066	-3720
1960-61	-7180	-4335	-2235	-113	-98	-84	-79	-612	-5886	-7570	-8060	-8007	-3708
1961-62	-7140	-4287	-2223	-103	-88	-73	-68	-602	-5879	-7542	-8054	-7954	-3687
1962-63	-7102	-4290	-2224	-106	-89	-75	-70	-603	-5871	-7504	-7954	-7905	-3669
1963-64	-7053	-4269	-2214	-97	-80	-66	-60	-593	-5879	-7460	-7962	-7863	-3642
1964-65	-7060	-4302	-2213	-98	-80	-66	-61	-593	-5865	-7398	-7882	-7820	-3639
1965-66	-7025	-4244	-2186	-79	-61	-46	-41	-574	-5853	-7472	-7974	-7879	-3639
1966-67	-7075	-4267	-2196	-83	-64	-49	-43	-575	-5894	-7566	-8040	-7949	-3670
1967-68	-7155	-4330	-2191	-82	-62	-48	-43	-575	-5889	-7517	-7997	-7907	-3659
1968-69	-7128	-4332	-2189	-81	-61	-47	-42	-574	-5889	-7511	-7963	-7872	-3660
1969-70	-7096	-4305	-2186	-80	-60	-47	-41	-573	-5887	-7477	-7920	-7824	-3644
1970-71	-7065	-4295	-2183	-79	-59	-46	-41	-572	-5885	-7453	-7901	-7786	-3633
1971-72	-7037	-4293	-2180	-78	-58	-45	-40	-571	-5882	-7440	-7853	-7747	-3612
1972-73	-7014	-4269	-2177	-77	-57	-44	-39	-571	-5880	-7410	-7809	-7704	-3607
1973-74	-6978	-4259	-2174	-76	-56	-44	-39	-570	-5878	-7406	-7769	-7668	-3595
1974-75	-6940	-4256	-2171	-75	-55	-43	-38	-569	-5875	-7361	-7731	-7621	-3580
1975-76	-6934	-4245	-2165	-74	-53	-42	-37	-568	-5873	-7345	-7700	-7574	-3560
1976-77	-6902	-4235	-2165	-73	-52	-42	-37	-568	-5866	-7318	-7654	-7546	-3557
1977-78	-6854	-4223	-2162	-72	-51	-41	-36	-567	-5868	-7301	-7620	-7508	-3544
1978-79	-6839	-4221	-2159	-71	-50	-40	-35	-566	-5866	-7274	-7579	-7460	-3532
1979-80	-6809	-4208	-2156	-70	-49	-40	-35	-565	-5861	-7278	-7617	-7480	-3523
1980-81	-6792	-4191	-2143	-59	-41	-33	-29	-561	-5864	-7324	-7657	-7477	-3533
1981-82	-6807	-4201	-2137	-51	-37	-31	-27	-561	-5863	-7319	-7663	-7537	-3538
1982-83	-6826	-4196	-2130	-45	-32	-27	-24	-558	-5861	-7334	-7709	-7596	-3547
1983-84	-6843	-4198	-2123	-38	-28	-23	-20	-556	-5859	-7362	-7749	-7615	-3544
1984-85	-6851	-4191	-2116	-32	-23	-20	-17	-553	-5857	-7360	-7788	-7664	-3558
1985-86	-6861	-4186	-2109	-26	-18	-16	-14	-551	-5855	-7375	-7811	-7716	-3564
1986-87	-6872	-4173	-2102	-19	-14	-12	-10	-548	-5851	-7363	-7850	-7766	-3567
1987-88	-6888	-4160	-2094	-13	-9	-8	-7	-545	-5852	-7398	-7895	-7808	-3566
1988-89	-6897	-4162	-2087	-6	-5	-4	-4	-543	-5850	-7413	-7925	-7850	-3581
1989-90	-6923	-4144											
MEAN	-7379	-4339	-2164	-49	-46	-39	-36	-573	-5885	-7726	-8377	-8422	-3769

RRH3DD9

USGS # 12453682

ROCKY REACH

River: COLUMBIA

Drainage Area: 87800 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 473.9

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												231600	
1928-29	107300	59950	48250	38060	28850	21820	20460	32600	<u>46770</u>	177700	280900	134200	83330
1929-30	87670	50120	32610	23510	25970	16050	31100	31060	123700	175000	235500	166800	83410
1930-31	98930	60810	34530	29220	<u>21990</u>	23700	26300	<u>37770</u>	66600	210900	219800	136600	80900
1931-32	80650	61820	35500	33940	27310	25840	33980	71600	146900	309900	350800	178500	113100
1932-33	103300	54230	41430	56500	51130	40110	27740	40770	100800	247600	453300	282100	125300
1933-34	129500	71750	71900	<u>89530</u>	<u>119900</u>	103300	72570	91200	<u>264000</u>	345400	267900	146600	148100
1934-35	88970	53010	43610	68510	46110	47230	53270	50880	87640	248100	333800	229100	112800
1935-36	104300	61090	38410	30020	25750	25960	<u>18390</u>	34970	140000	310800	267100	133300	99340
1936-37	81940	48350	32280	<u>23150</u>	23400	<u>15770</u>	19230	<u>25960</u>	58040	195700	285500	156200	79070
1937-38	79240	54650	44380	54530	42990	45680	34080	58760	143300	288600	343500	182000	114600
1938-39	72280	61360	42850	32670	29180	31680	24060	42290	125500	280700	215200	165500	94010
1939-40	88040	50550	46250	42980	45420	28530	36590	62250	119900	241300	219700	134200	93110
1940-41	75920	64180	56850	37510	34330	31390	29870	51860	107700	180600	<u>183500</u>	120600	81430
1941-42	73570	74280	78920	61990	85560	42940	38560	37370	110400	224500	279900	204500	109700
1942-43	101500	51120	40220	39530	37430	29030	33350	40900	207400	224900	316100	260900	115500
1943-44	106600	49390	43260	32280	29310	25100	25490	27510	56930	165300	206100	106600	<u>72940</u>
1944-45	77650	57820	46060	39200	26770	33180	35000	38970	52690	245800	296400	155400	<u>92330</u>
1945-46	74320	48640	37250	43340	37700	38190	32440	52090	142400	367800	347300	199900	118900
1946-47	94490	62030	42690	42990	57670	39580	49560	65010	139400	340300	309000	183900	119200
1947-48	86700	61270	93070	69410	48290	44940	40240	40600	114400	393600	515600	186000	141200
1948-49	124800	69160	52110	42640	30420	24810	37480	54050	147600	358400	237500	122800	108900
1949-50	81480	50330	37800	52020	48750	33550	44210	71820	107800	250200	464800	308300	129500
1950-51	120100	64770	64000	69690	76480	62500	<u>87270</u>	58680	148400	377400	314800	256700	142100
1951-52	107900	64200	78330	54100	47590	38850	43160	45210	175400	332900	285100	180500	121300
1952-53	93170	47800	34520	25580	27100	47650	53310	43440	79960	252100	379000	225400	109300
1953-54	106800	59020	52190	49780	43590	37440	47220	51540	89190	343400	395000	<u>349700</u>	136000
1954-55	151000	98090	58090	67550	50380	35750	36370	32720	68090	193600	422200	293300	125900
1955-56	112800	60290	63470	69550	66440	53100	36810	57040	199000	412600	416500	216500	147200
1956-57	99650	60220	53310	40850	44100	29260	39920	50530	92880	<u>437900</u>	296200	135700	115600
1957-58	75230	48770	42080	35690	34320	34120	54890	55910	105800	368100	298800	136000	107700
1958-59	81560	54860	54840	55800	55350	63750	44390	52840	129500	290800	444500	262000	132800
1959-60	108100	<u>110100</u>	<u>102800</u>	88660	68830	41960	46840	66210	159400	230700	344200	223900	132600
1960-61	98190	63260	52520	51720	35770	36640	76240	64720	107600	349200	479100	154200	130700
1961-62	91280	49830	53260	37620	34270	31760	48100	40600	150200	241900	321200	174000	106300
1962-63	104100	54210	56880	60740	60690	40590	69650	56500	100300	232500	299100	184600	110100
1963-64	97640	67400	44450	43890	36990	34810	27970	32760	73840	240600	464700	258700	118700
1964-65	112400	68350	69640	56990	62630	50390	51280	52110	152300	277200	368400	196500	126800
1965-66	123000	60730	53390	52670	37810	37340	32540	49930	120400	268200	314200	206600	113500
1966-67	102100	63290	46690	44920	50200	50610	50320	52300	71590	267500	532400	249700	132000
1967-68	107100	65870	52410	53210	38510	41400	63280	81950	64240	237500	361400	230400	116500
1968-69	111500	87350	66070	64660	51080	49840	44090	54020	197200	369300	353300	173900	135500
1969-70	79570	59310	53910	46240	35640	37210	42630	45290	62470	234800	345400	142900	98910
1970-71	77480	43960	40100	36700	34680	46250	78010	57220	122100	397600	407700	222900	130600
1971-72	121600	57090	48820	41080	34750	35760	52470	<u>130400</u>	117900	378100	554600	279800	154500
1972-73	144800	63620	50140	41450	41250	40320	30870	46060	64990	206200	234300	139400	92350
1973-74	72400	43970	40560	59990	67310	<u>108600</u>	73210	71370	168600	298400	<u>564400</u>	298400	<u>155700</u>
1974-75	125600	67120	35600	36600	34000	31220	35440	47930	69880	258800	401200	244900	116000
1975-76	100900	62860	53960	70530	89880	57610	50410	50310	131000	371500	303100	278200	135400
1976-77	<u>190200</u>	108600	51530	37020	30310	31220	27070	33260	73190	<u>162600</u>	195100	<u>102100</u>	87150
1977-78	84370	53190	33260	36300	55930	38660	39120	70240	138600	256800	335300	213500	113200
1978-79	93570	96100	52710	46200	30660	24960	39060	54430	73730	260100	241300	140100	96340
1979-80	74970	51970	32850	25850	39780	31360	38660	47870	148000	347800	263800	137500	103500
1980-81	72150	56570	48180	50100	78980	66250	67970	63060	104200	310300	308300	242000	122700
1981-82	128000	63740	48500	53120	43840	37450	81500	82580	99160	277900	443400	248800	134100
1982-83	118400	82790	56240	45620	44150	52140	59260	103700	125300	279700	304800	222000	124900
1983-84	113300	58080	40490	76330	40100	59800	51760	72130	115800	180300	363300	214200	115400
1984-85	106300	63230	42320	43970	32040	29770	31870	39690	116600	296000	262600	123900	99340
1985-86	<u>64690</u>	56550	60650	63310	37760	35350	54780	107000	128000	238200	319400	153600	110000
1986-87	86520	47250	42300	49140	36250	27670	32470	76090	126000	282800	208700	120100	94980
1987-88	66070	43320	<u>23790</u>	26640	29530	24380	26250	40550	134500	227000	244400	128500	84590
1988-89	70550	<u>42760</u>	47050	50470	36010	36040	28580	51210	141800	258700	288000	139200	99420
1989-90	93220	54200											
MEAN	98510	61300	49870	48260	44580	39970	43590	54910	117300	279200	332600	194000	113900
MEDIAN	97910	60080	48180	45620	38510	37210	39120	51860	117900	267500	314800	184300	114600

RRH3M9

ROCK ISLAND

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-10343	
1928-29	-8474	-4412	-2040	98	58	47	43	-512	-5899	-8532	-9867	-10311	-4175
1929-30	-8446	-4431	-2051	87	50	40	36	-517	-5809	-8462	-9817	-10231	-4154
1930-31	-8394	-4451	-2082	77	42	34	30	-522	-5839	-8422	-9724	-10122	-4137
1931-32	-8335	-4513	-2073	67	34	27	23	-527	-5928	-8431	-9656	-10036	-4125
1932-33	-8310	-4399	-2084	57	26	20	17	-533	-5858	-8362	-9601	-9993	-4109
1933-34	-8272	-4423	-2095	46	18	13	11	-538	-5934	-8291	-9527	-9889	-4097
1934-35	-8234	-4406	-2106	36	10	7	4	-534	-5868	-8279	-9458	-9792	-4075
1935-36	-8175	-4495	-2117	26	2	0	2	-548	-5939	-8256	-9393	-9719	-4064
1936-37	-8152	-4512	-2128	16	7	-7	9	-553	-5941	-8316	-9358	-9643	-4074
1937-38	-8105	-4510	-2139	5	-15	-14	-15	-559	-5928	-8260	-9303	-9558	-4057
1938-39	-8054	-4494	-2139	-3	-23	-20	-21	-561	-5863	-8154	-9238	-9494	-4028
1939-40	-8016	-4505	-2154	-15	-31	-27	-28	-569	-5924	-8191	-9182	-9419	-4017
1940-41	-7991	-4508	-2166	-23	-38	-34	-34	-572	-5872	-8133	-9152	-9344	-4012
1941-42	-7951	-4547	-2178	-36	-47	-46	-41	-580	-5879	-8175	-9129	-9254	-4010
1942-43	-7894	-4512	-2186	-46	-55	-47	47	-585	-5924	-8171	-9043	-9178	-3996
1943-44	-7854	-4527	-2196	-56	-63	-54	-53	-590	-5893	-8090	-8972	-9108	-3966
1944-45	-7850	-4515	-2216	-66	-71	-61	-60	-595	-5887	-8057	-8938	-9036	-3988
1945-46	-7796	-4508	-2227	-77	-79	-67	-66	-580	-5894	-8022	-8857	-8920	-3946
1946-47	-7717	-4518	-2237	-87	-87	-74	-73	-606	-5963	-8015	-8739	-8808	-3932
1947-48	-7656	-4532	-2248	-97	-95	-81	-79	-611	-5930	-8139	-8843	-8735	-3931
1948-49	-7607	-4501	-2258	-107	-102	-87	-85	-616	-5949	-7931	-8646	-8658	-3900
1949-50	-7589	-4499	-2270	-117	-110	-94	-91	-620	-5967	-7956	-8629	-8567	-3897
1950-51	-7518	-4470	-2275	-127	-118	-100	-97	-626	-5972	-7937	-8535	-8500	-3877
1951-52	-7497	-4488	-2276	-127	-118	-100	-97	-626	-5943	-7852	-8515	-8486	-3854
1952-53	-7472	-4471	-2275	-128	-117	-99	-96	-625	-5947	-7842	-8527	-8424	-3856
1953-54	-7425	-4440	-2275	-128	-117	-99	-96	-626	-5941	-7769	-8492	-8390	-3837
1954-55	-7441	-4485	-2273	-129	-118	-100	-97	-626	-5948	-7845	-8361	-8366	-3836
1955-56	-7374	-4394	-2272	-130	-118	-100	-97	-626	-5943	-7679	-8304	-8289	-3787
1956-57	-7350	-4423	-2271	-130	-118	-100	-97	-626	-5931	-7753	-8302	-8232	-3798
1957-58	-7319	-4395	-2269	-131	-118	-100	89	-618	-5908	-7683	-8232	-8212	-3776
1958-59	-7286	-4395	-2268	-132	-118	-101	97	-626	-5897	-7685	-8231	-8138	-3768
1959-60	-7244	-4381	-2261	-127	-113	-96	92	-621	-5908	-7660	-8169	-8094	-3740
1960-61	-7211	-4367	-2260	-128	-113	-96	92	-621	-5896	-7591	-8086	-8032	-3727
1961-62	-7169	-4318	-2247	-118	-102	-84	81	-610	-5889	-7562	-8077	-7976	-3706
1962-63	-7129	-4320	-2247	-119	-103	-86	-82	-611	-5880	-7522	-7975	-7926	-3686
1963-64	-7078	-4297	-2236	-110	-92	-76	71	-601	-5887	-7476	-7980	-7881	-3658
1964-65	-7083	-4328	-2234	-111	-92	-76	71	-601	-5873	-7413	-7898	-7835	-3654
1965-66	-7046	-4270	-2206	-91	-72	-56	51	-581	-5861	-7485	-7988	-7892	-3653
1966-67	-7094	-4291	-2214	-95	-75	-58	-53	-582	-5901	-7579	-8052	-7962	-3683
1967-68	-7173	-4352	-2209	-93	-73	-56	-52	-581	-5895	-7528	-8009	-7919	-3671
1968-69	-7145	-4353	-2206	-91	-71	-55	-50	-579	-5896	-7522	-7974	-7883	-3671
1969-70	-7113	-4325	-2201	-89	-69	-53	-49	-578	-5892	-7487	-7929	-7834	-3654
1970-71	-7081	-4313	-2197	-87	-67	-52	-47	-577	-5890	-7462	-7910	-7795	-3642
1971-72	-7052	-4310	-2193	-85	-65	-50	-46	-575	-5887	-7448	-7861	-7756	-3620
1972-73	-7028	-4285	-2188	-83	-63	-49	-44	-574	-5884	-7417	-7816	-7712	-3614
1973-74	-6991	-4273	-2184	-81	-61	-48	-43	-573	-5881	-7412	-7775	-7675	-3602
1974-75	-6952	-4269	-2180	-79	-59	-46	-42	-572	-5879	-7366	-7736	-7628	-3586
1975-76	-6945	-4257	-2172	-77	-57	-45	-40	-570	-5876	-7349	-7704	-7580	-3565
1976-77	-6912	-4246	-2171	-75	-55	-43	-39	-569	-5868	-7321	-7657	-7551	-3561
1977-78	-6864	-4232	-2167	-73	-53	-42	-37	-568	-5870	-7303	-7622	-7512	-3547
1978-79	-6848	-4229	-2162	-71	-50	-41	-36	-566	-5867	-7276	-7580	-7463	-3534
1979-80	-6817	-4214	-2158	-69	-49	-39	-35	-565	-5862	-7279	-7616	-7483	-3524
1980-81	-6799	-4196	-2143	-58	-40	-32	-28	-560	-5866	-7333	-7670	-7496	-3537
1981-82	-6826	-4211	-2138	-48	-34	-29	-24	-559	-5865	-7327	-7675	-7554	-3543
1982-83	-6843	-4205	-2130	-42	-30	-25	-21	-557	-5863	-7341	-7719	-7611	-3551
1983-84	-6858	-4206	-2123	-36	-25	-21	-18	-554	-5861	-7367	-7758	-7628	-3547
1984-85	-6864	-4197	-2116	-30	-21	-18	-15	-552	-5859	-7365	-7795	-7674	-3561
1985-86	-6872	-4191	-2109	-24	-17	-14	-12	-550	-5856	-7379	-7817	-7724	-3566
1986-87	-6880	-4177	-2102	-18	-13	-11	-9	-547	-5852	-7365	-7854	-7772	-3569
1987-88	-6894	-4163	-2095	-12	-8	-7	-6	-545	-5853	-7400	-7897	-7812	-3567
1988-89	-6900	-4164	-2087	-6	-4	-4	-3	-542	-5850	-7413	-7925	-7850	-3581
1989-90	-6923	-4144											
MEAN	-7422	-4367	-2183	-59	-55	-46	-44	-579	-5895	-7761	-8428	-8479	-3793

RIS3DD9

USGS # 12462552

ROCK ISLAND

River: COLUMBIA

Drainage Area 89400 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 453.4

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVL
1927-28												240500	
1928-29	111400	62520	50390	40160	30690	23640	21950	33530	<u>47290</u>	179900	289600	139400	86130
1929-30	89760	52220	34830	25490	27430	17700	32050	32150	125700	179700	241600	170800	85950
1930-31	101100	62970	35670	30300	<u>22990</u>	24630	27100	38170	67380	215900	224400	139100	82790
1931-32	82940	63580	36570	35070	28180	26780	35120	73690	148800	315900	358800	182200	115700
1932-33	104600	55760	42540	58880	53880	41790	29440	41940	101700	250700	467200	293100	128800
1933-34	132100	73410	74750	<u>94250</u>	<u>123400</u>	106800	76160	94930	<u>274300</u>	357600	276100	148700	153000
1934-35	90190	54580	45320	71010	48060	49690	57690	53340	89230	253400	344800	233700	116100
1935-36	107400	62910	40180	31720	27290	27190	<u>19420</u>	35640	140500	315500	273500	134200	101500
1936-37	82630	49900	33770	24540	24740	<u>17050</u>	20220	<u>26930</u>	59020	198400	275100	159100	81220
1937-38	80210	56220	46030	56280	44800	47150	35320	60060	145100	295500	350000	184600	117100
1938-39	73850	62410	44630	34260	30820	33000	24920	43110	126900	283000	218400	167000	95600
1939-40	88950	52010	47640	45180	47660	30160	37240	63430	122200	245800	222200	135300	94950
1940-41	77260	65240	58440	39610	35610	32470	30910	53440	111700	182900	<u>187400</u>	122500	83370
1941-42	74730	75810	81140	63920	87620	45210	40480	38570	113500	230600	285700	206100	112300
1942-43	103500	52830	42550	41740	39640	31340	35450	43040	211900	232300	329200	271600	119900
1943-44	111900	52070	45570	34470	31640	26650	27080	29090	58820	170000	213400	110900	<u>76080</u>
1944-45	80310	59960	48200	41400	28900	35580	36970	40490	54750	251000	307700	159400	95640
1945-46	76800	50850	39490	45860	39360	40230	34230	53870	144600	377300	356700	206400	122600
1946-47	97500	64660	45260	44910	59870	41540	51630	67590	143800	350300	317500	188000	123100
1947-48	89190	63430	94630	72270	50490	46780	42460	42120	115700	400000	538500	196100	146000
1948-49	130300	73690	55600	45710	33000	27120	39850	56320	151900	373800	251800	129300	114500
1949-50	84930	52960	40130	55460	52130	35610	46260	74260	111200	260400	480800	319200	134700
1950-51	126700	67850	66510	73290	79990	66530	<u>92410</u>	62800	154800	390700	326800	262700	148000
1951-52	112200	67220	80380	57220	50080	41740	45500	47710	179500	339200	291400	184200	124900
1952-53	95100	48950	35410	28550	27860	49290	55260	45180	82680	260600	387700	233100	112500
1953-54	109500	60720	54270	52110	46030	39300	49240	53400	91710	351900	407200	<u>361400</u>	140300
1954-55	156200	102000	61000	71470	54020	38190	38890	35570	71160	199300	438500	308000	131500
1955-56	119900	63310	65980	73970	68980	55320	39240	59480	205000	429800	438200	226800	154000
1956-57	103800	62750	56000	43710	47720	31470	42490	52460	95800	<u>452000</u>	307600	140300	120200
1957-58	77550	50430	43740	37500	36190	35800	56520	58460	109400	379900	308700	140100	111500
1958-59	83370	56540	57180	58620	58760	66880	47850	56600	135100	302400	461000	273200	138400
1959-60	112500	<u>113100</u>	<u>108000</u>	94140	74780	44790	50010	68770	166000	239400	357100	231600	138300
1960-61	101700	65300	53500	53000	36330	39680	80010	71630	110900	359000	486200	160800	134800
1961-62	93640	51050	55910	39720	37240	35160	48490	43850	156100	248700	332800	181600	110500
1962-63	108700	57620	57300	62870	61030	44050	71320	59540	102400	238700	309900	189300	113700
1963-64	97120	68730	49710	49990	41270	38620	35380	38250	81310	246200	475200	272300	124500
1964-65	119500	80730	72000	58610	65190	52390	54890	55540	159700	289500	383100	203000	133100
1965-66	125200	61730	54650	54800	39330	38670	33610	51670	127000	280400	324800	212500	117400
1966-67	103800	64080	44410	44220	51760	52450	52770	55010	73740	272400	542800	258200	134800
1967-68	109500	66530	56500	57300	41200	46420	69220	89490	71440	247700	372800	239600	122400
1968-69	112800	90740	68750	68130	51180	49740	40490	53740	202800	385500	366600	181800	139700
1969-70	80100	57740	55330	49650	39300	40230	45280	46810	66160	242100	356300	145100	102100
1970-71	80500	46280	39780	34510	33760	47810	78960	57210	122500	405000	418500	231100	133200
1971-72	124600	56120	49210	45330	36300	37240	54530	<u>131000</u>	123200	393600	573500	290700	159800
1972-73	149200	65480	51600	42660	43210	42220	34980	47810	67990	212000	239700	142000	95280
1973-74	73360	44620	41830	61590	68940	<u>112100</u>	76450	78580	178100	306500	<u>573900</u>	302300	<u>159900</u>
1974-75	129300	66970	39140	36430	36000	31850	35780	46470	71250	263000	411000	251800	118600
1975-76	101300	64300	61360	75780	93840	57080	52820	52960	136100	384200	310400	285500	140000
1976-77	<u>200900</u>	107000	48140	41400	34400	30960	28610	31460	75900	<u>162200</u>	199900	<u>104100</u>	89050
1977-78	85480	54410	35270	40920	61200	42300	42330	71370	141700	263500	343600	216700	116900
1978-79	95420	99160	55410	46810	28550	28960	37090	54440	80000	270100	246200	141400	98920
1979-80	74390	51910	32500	<u>24340</u>	40610	30180	37100	48720	152900	355200	264700	136800	104300
1980-81	70780	57420	47940	53520	85460	70120	73040	68370	108500	318300	316900	239000	126100
1981-82	126600	62920	48530	52250	42930	38320	83770	78740	96760	290100	446400	245500	134500
1982-83	117700	82320	58080	45850	46560	55250	64290	111600	131300	290100	314300	224100	128800
1983-84	113800	62510	40480	75370	38010	60430	49480	71540	113600	181600	366800	216700	115800
1984-85	104100	61370	41540	43740	30970	25940	28620	37530	120400	298800	266600	127100	99200
1985-86	65890	57830	59160	62440	35800	34750	55440	110300	130500	242100	324400	154900	111200
1986-87	86810	47540	42360	50070	36150	27190	32320	77680	128900	289100	211500	120500	96220
1987-88	<u>65710</u>	<u>41940</u>	<u>22560</u>	26060	29390	24500	26780	41920	139000	233400	251300	132200	86240
1988-89	71270	42360	48010	52060	37210	35430	28410	51280	146000	264800	295200	141400	101400
1989-90	94060	54350											
MEAN	100800	62970	51520	50340	46490	41760	45440	56900	120900	286900	342000	199100	117300
MEDIAN	99310	62070	48200	46810	40610	38670	40490	53440	122200	272400	324800	188600	117100

RIS3M9

WANAPUM RETURN FLOW

Accumulated depletions at site (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												93	
1928-29	109	117	105	81	73	64	62	58	80	79	80	93	84
1929-30	109	117	105	81	73	64	62	58	80	79	80	93	84
1930-31	109	117	105	81	73	64	62	58	80	79	80	93	84
1931-32	109	117	105	81	73	64	62	58	80	79	80	93	83
1932-33	109	117	105	81	73	64	62	58	80	79	80	93	84
1933-34	109	117	105	81	73	64	62	58	80	79	80	93	84
1934-35	109	117	105	81	73	64	62	58	80	79	80	93	84
1935-36	109	117	105	81	73	64	62	58	80	79	80	93	83
1936-37	109	117	105	81	73	64	62	58	80	79	80	93	84
1937-38	109	117	105	81	73	64	62	58	80	79	80	93	84
1938-39	109	117	105	81	73	64	62	58	80	79	80	93	84
1939-40	109	117	105	81	73	64	62	58	80	79	80	93	83
1940-41	109	117	105	81	73	64	62	58	80	79	80	93	84
1941-42	109	117	105	81	73	64	62	58	80	79	80	93	84
1942-43	109	117	105	81	73	64	62	58	80	79	80	93	84
1943-44	109	117	105	81	73	64	62	58	80	79	80	93	83
1944-45	109	117	105	81	73	64	62	58	80	79	80	93	84
1945-46	109	117	105	81	73	64	62	58	80	79	80	93	84
1946-47	109	117	105	81	73	64	62	58	80	79	80	93	84
1947-48	109	117	105	81	73	64	62	58	80	79	80	93	83
1948-49	109	117	105	81	73	64	62	58	80	79	80	93	84
1949-50	109	117	105	81	73	64	62	58	80	79	80	93	84
1950-51	109	117	105	81	73	64	62	58	80	79	80	93	84
1951-52	109	117	105	81	73	64	62	58	80	79	80	93	83
1952-53	109	117	105	81	73	64	62	58	80	79	80	93	84
1953-54	109	117	105	81	73	64	62	58	80	79	80	93	84
1954-55	109	117	105	81	73	64	62	58	80	79	80	93	84
1955-56	109	117	105	81	73	64	62	58	80	79	80	93	83
1956-57	109	117	105	81	73	64	62	58	80	79	80	93	84
1957-58	109	117	105	81	73	64	62	58	80	79	80	93	84
1958-59	109	117	105	81	73	64	62	58	80	79	80	93	84
1959-60	109	117	105	81	73	64	62	54	74	73	73	85	81
1960-61	100	108	97	74	67	59	57	50	69	67	66	77	74
1961-62	91	99	88	67	61	53	51	45	63	61	59	69	67
1962-63	82	91	80	61	55	48	46	41	58	54	52	61	61
1963-64	73	82	72	54	49	43	41	37	52	48	45	53	54
1964-65	64	73	64	47	43	37	36	33	47	42	38	46	47
1965-66	56	64	55	40	36	32	30	28	41	36	30	38	41
1966-67	47	55	47	33	30	26	25	24	35	30	23	30	34
1967-68	38	46	39	26	24	21	20	20	30	24	16	22	27
1968-69	29	38	31	20	18	16	15	16	24	17	9	14	20
1969-70	20	29	22	13	12	10	9	11	19	11	2	6	14
1970-71	11	20	14	6	6	5	4	7	13	5	5	2	7
1971-72	2	11	13	6	6	5	4	7	12	5	-5	2	5
1972-73	2	10	12	5	5	4	3	7	11	4	-5	-1	5
1973-74	2	9	11	5	5	4	3	8	11	4	-5	-1	5
1974-75	2	7	10	4	4	4	3	8	10	3	-5	0	4
1975-76	2	6	9	4	4	4	3	8	9	3	-5	0	4
1976-77	2	5	7	4	4	3	2	8	8	2	-4	0	3
1977-78	2	4	6	3	3	3	2	8	7	2	-4	1	3
1978-79	2	3	5	3	3	3	2	9	7	1	-4	1	3
1979-80	2	1	4	2	2	2	1	9	6	1	-4	2	2
1980-81	2	0	3	2	2	2	1	9	5	0	-4	2	2
1981-82	2	-1	3	2	2	2	1	8	4	0	-4	2	2
1982-83	2	-1	2	2	2	2	1	7	4	0	-3	2	1
1983-84	2	-1	2	1	1	1	1	6	3	0	-3	1	1
1984-85	1	-1	2	1	1	1	1	5	3	0	-2	1	1
1985-86	1	-1	1	1	1	1	0	3	2	0	-2	1	1
1986-87	1	0	1	1	1	1	0	2	1	0	-1	1	0
1987-88	1	0	0	0	0	0	0	1	1	0	-1	0	0
1988-89	0	0	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	67	73	67	50	46	40	38	37	51	48	46	56	52

WRF3D9

WANAPUM

Accumulated depletions at site and upstream (1990 level of development)

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												10250	
1928-29	-8365	-4295	-1935	179	131	111	105	-454	-5819	-8453	-9787	-10218	-4092
1929-30	-8337	-4314	-1946	168	123	104	98	-459	-5729	-8383	-9737	-10138	-4071
1930-31	-8285	-4334	-1957	158	115	98	92	-464	-5759	-8343	-9644	-10029	-4054
1931-32	-8226	-4396	-1968	148	107	91	85	-469	-5848	-8352	-9576	-9943	-4042
1932-33	-8201	-4282	-1979	138	99	84	79	-475	-5778	-8283	-9521	-9900	-4026
1933-34	-8163	-4306	-1990	127	91	77	73	-480	-5854	-8212	-9447	-9796	-4014
1934-35	-8125	-4289	-2001	117	83	71	66	-476	-5788	-8200	-9378	-9699	-3992
1935-36	-8066	-4378	-2012	107	75	64	60	-490	-5859	-8177	-9313	-9626	-3980
1936-37	-8043	-4395	-2023	97	66	57	53	-495	-5861	-8237	-9278	-9550	-3991
1937-38	-7996	-4393	-2034	86	58	50	47	-501	-5848	-8181	-9223	-9465	-3973
1938-39	-7945	-4377	-2034	78	50	44	41	-503	-5783	-8075	-9158	-9401	-3945
1939-40	-7907	-4388	-2049	66	42	37	34	-511	-5844	-8112	-9102	-9326	-3933
1940-41	-7882	-4391	-2061	58	35	30	28	-514	-5792	-8054	-9072	-9251	-3928
1941-42	-7842	-4430	-2073	45	26	24	21	-522	-5799	-8096	-9049	-9161	-3927
1942-43	-7785	-4395	-2081	35	18	17	15	-527	-5844	-8092	-8963	-9085	-3913
1943-44	-7745	-4410	-2091	25	10	10	9	-532	-5813	-8011	-8892	-9015	-3882
1944-45	-7741	-4398	-2111	15	2	3	2	-537	-5807	-7978	-8858	-8943	-3884
1945-46	-7687	-4391	-2122	4	6	-3	4	-522	-5814	-7943	-8777	-8827	-3863
1946-47	-7608	-4401	-2132	6	-14	-10	-11	-548	-5883	-7936	-8659	-8715	-3848
1947-48	-7547	-4415	-2143	-16	-22	-17	-17	-553	-5850	-8060	-8763	-8642	-3848
1948-49	-7498	-4384	-2153	-26	-29	-23	-23	-558	-5869	-7852	-8566	-8565	-3817
1949-50	-7480	-4382	-2165	-36	-37	-30	-29	-562	-5887	-7877	-8549	-8474	-3813
1950-51	-7409	-4353	-2170	-46	-45	-36	-35	-568	-5892	-7858	-8455	-8407	-3793
1951-52	-7388	-4371	-2171	-46	-45	-36	-35	-568	-5863	-7773	-8435	-8393	-3771
1952-53	-7363	-4354	-2170	-47	-44	-35	-34	-567	-5867	-7763	-8447	-8331	-3772
1953-54	-7316	-4323	-2170	-47	-44	-35	-34	-568	-5861	-7690	-8412	-8297	-3753
1954-55	-7332	-4368	-2168	-48	-45	-36	-35	-568	-5868	-7766	-8281	-8273	-3753
1955-56	-7265	-4277	-2167	-49	-45	-36	-35	-568	-5863	-7600	-8224	-8196	-3704
1956-57	-7241	-4306	-2166	-49	-45	-36	-35	-568	-5851	-7674	-8222	-8139	-3714
1957-58	-7210	-4278	-2164	-50	-45	-36	-27	-560	-5828	-7604	-8152	-8119	-3693
1958-59	-7177	-4278	-2163	-51	-45	-37	-35	-568	-5817	-7606	-8151	-8045	-3684
1959-60	-7135	-4264	-2156	-46	-40	-32	-30	-567	-5834	-7587	-8096	-8008	-3659
1960-61	-7111	-4259	-2163	-54	-46	-37	-35	-571	-5827	-7524	-8020	-7955	-3653
1961-62	-7077	-4219	-2158	-50	-41	-31	-29	-565	-5826	-7501	-8019	-7907	-3638
1962-63	-7046	-4229	-2167	-59	-48	-38	-35	-570	-5822	-7468	-7923	-7864	-3625
1963-64	-7004	-4216	-2164	-56	-44	-33	-31	-564	-5835	-7428	-7936	-7828	-3604
1964-65	-7018	-4256	-2171	-64	-50	-38	-36	-568	-5827	-7371	-7861	-7790	-3607
1965-66	-6991	-4206	-2151	51	-36	-24	-21	-552	-5820	-7449	-7957	-7855	-3612
1966-67	-7048	-4236	-2167	61	-44	-31	-28	-558	-5866	-7549	-8029	-7932	-3649
1967-68	-7135	-4306	-2170	66	-48	-35	-32	-561	-5866	-7505	-7993	-7897	-3644
1968-69	-7117	-4316	-2175	-71	-52	-39	-36	-564	-5871	-7504	-7965	-7869	-3651
1969-70	-7093	-4296	-2179	-76	-56	-43	-39	-567	-5874	-7476	-7927	-7828	-3641
1970-71	-7070	-4294	-2183	81	-61	-47	-43	-570	-5877	-7457	-7915	-7797	-3635
1971-72	-7050	-4299	-2180	-79	-59	-46	-42	-568	-5875	-7444	-7866	-7757	-3615
1972-73	-7026	-4275	-2177	-78	-57	-45	-41	-567	-5873	-7413	-7820	-7713	-3609
1973-74	-6989	-4265	-2173	-76	-56	-44	-40	-565	-5871	-7409	-7780	-7676	-3598
1974-75	-6950	-4262	-2170	-75	-54	-42	-39	-564	-5869	-7363	-7740	-7628	-3582
1975-76	-6943	-4251	-2164	-73	-53	-41	-38	-562	-5867	-7347	-7708	-7580	-3561
1976-77	-6910	-4241	-2164	-71	-51	-40	-37	-561	-5860	-7319	-7662	-7550	-3557
1977-78	-6862	-4228	-2160	-70	-49	-39	-35	-559	-5862	-7302	-7627	-7511	-3544
1978-79	-6846	-4226	-2157	-68	-48	-38	-34	-558	-5860	-7275	-7584	-7462	-3532
1979-80	-6815	-4213	-2154	-67	-46	-37	-33	-556	-5856	-7278	-7621	-7481	-3522
1980-81	-6797	-4196	-2140	-58	-38	-30	-27	-551	-5861	-7333	-7674	-7494	-3535
1981-82	-6824	-4212	-2135	-46	-32	-27	-23	-551	-5860	-7327	-7678	-7552	-3541
1982-83	-6841	-4206	-2128	-41	-28	-24	-21	-550	-5859	-7341	-7722	-7610	-3549
1983-84	-6857	-4206	-2121	-35	-24	-20	-18	-549	-5858	-7367	-7760	-7627	-3546
1984-85	-6862	-4198	-2115	-29	-20	-17	-15	-547	-5856	-7365	-7797	-7673	-3560
1985-86	-6871	-4191	-2108	-23	-16	-14	-12	-546	-5854	-7379	-7818	-7723	-3565
1986-87	-6879	-4178	-2101	-17	-12	-10	-9	-545	-5850	-7365	-7855	-7772	-3568
1987-88	-6894	-4163	-2094	-11	-8	-7	-6	-544	-5852	-7400	-7898	-7812	-3567
1988-89	-6900	-4164	-2087	-6	-4	-4	-3	-542	-5850	-7413	-7925	-7850	-3581
1989-90	-6923	-4144											
MEAN	-7356	-4295	-2116	-9	-10	-6	-6	-541	-5844	-7713	-8381	-8423	-3741

WAN3DD9

USGS # 12464612

WANAPUM

River: COLUMBIA

Drainage Area: 90700 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 415.8

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												240500	
1928-29	111400	62600	50480	40240	30760	23710	22010	33590	<u>47330</u>	180000	289600	139400	86190
1929-30	89820	52300	34930	25570	27500	17770	32110	32210	125800	179700	241600	170800	86010
1930-31	101200	63050	35760	30380	<u>23060</u>	24700	27180	38220	67420	216000	224400	139100	82850
1931-32	83000	63660	36670	35150	28250	26830	35180	73750	148900	316000	358800	182200	115700
1932-33	104600	55840	42630	58960	53950	41850	29500	41990	101700	250700	467200	293100	128900
1933-34	132200	73490	74840	<u>94330</u>	<u>123500</u>	106700	76230	94980	<u>274300</u>	357600	276100	148800	153100
1934-35	90250	54650	45410	71090	48130	49750	57760	53390	89270	253400	344800	233700	116200
1935-36	107500	62990	40270	31800	27360	27250	<u>19480</u>	35700	140600	315500	273500	134300	101500
1936-37	82690	49980	33870	24630	24820	<u>17120</u>	20280	<u>26980</u>	59060	198500	275100	159100	81280
1937-38	80270	56300	46130	56360	44870	47210	35390	60120	145100	295600	350100	184600	117100
1938-39	73910	62490	44730	34340	30890	33080	24990	43170	126900	283000	218400	167000	95650
1939-40	89010	52090	47740	45260	47730	30230	37300	63490	122200	245800	222200	135300	95010
1940-41	77320	65320	58530	39690	35680	32530	30970	53490	111700	183000	<u>187500</u>	122600	83420
1941-42	74780	75890	81230	64000	87700	45270	40540	38630	113600	230700	285800	206200	112400
1942-43	103600	52910	42640	41820	39710	31400	35520	43090	211900	232400	329300	271700	119900
1943-44	111900	52150	45670	34550	31710	26710	27140	29150	58860	170100	213400	110900	<u>76140</u>
1944-45	80370	60040	48300	41480	28970	35650	37030	40550	54790	251000	307700	159500	95700
1945-46	78860	50930	39590	45940	39430	40290	34290	53920	144600	377400	356700	206500	122600
1946-47	97560	64740	45350	44990	59950	41600	51690	67650	143800	350300	317500	188000	123100
1947-48	89250	63510	94720	72350	50560	46850	42520	42180	115700	400000	538500	196200	146000
1948-49	130300	73770	55700	45790	33070	27180	39910	56380	152000	373800	251800	129300	114500
1949-50	84990	53040	40230	55540	52200	35670	46320	74320	111200	260400	480900	319300	134800
1950-51	126700	67920	66610	73370	80060	66600	<u>92470</u>	62850	154800	390700	326900	262700	148000
1951-52	112300	67300	80480	57310	50150	41810	45560	47770	179500	339300	291500	184200	124900
1952-53	95160	49030	35510	26630	27940	49350	55320	45240	82720	260600	387800	233200	112600
1953-54	109500	60790	54370	52190	46100	39360	49310	53460	91750	352000	407300	<u>361400</u>	140400
1954-55	156300	102100	61100	71550	54100	38260	38950	35630	71200	199400	436500	308000	131600
1955-56	120000	63390	66080	74050	69050	55380	39300	59530	205000	429800	438200	226800	154100
1956-57	103800	62830	56100	43800	47790	31530	42550	52520	95840	<u>452100</u>	307600	140300	120300
1957-58	77610	50500	43830	37580	36260	35860	56580	58510	109500	379900	308800	140100	111500
1958-59	83430	56620	57280	58700	58830	66940	47910	56660	135100	302500	461000	273300	138500
1959-60	112600	<u>113200</u>	<u>108100</u>	94230	74850	44860	50070	68830	166000	239400	357100	231600	138400
1960-61	101800	65370	53580	53080	36400	39740	80060	71680	110900	359000	486200	160800	134900
1961-62	93680	51110	55990	39790	37300	35220	48540	43900	156100	248700	332800	181600	110500
1962-63	108800	57670	57370	62930	61090	44100	71370	59580	102400	238700	309900	189300	113700
1963-64	97190	68810	49790	50050	41320	38660	35420	38290	81360	246300	475200	272400	124600
1964-65	119600	80800	72070	58650	65240	52420	54920	55570	159800	289500	383200	203100	133100
1965-66	125300	61800	54710	54840	39370	38700	33640	51700	127100	280400	324800	212600	117500
1966-67	103800	64130	44460	44260	51790	52480	52800	55040	73780	272400	542800	258200	134800
1967-68	109500	66580	56530	57330	41230	46440	69240	89510	71470	247700	372800	239700	122400
1968-69	112900	90770	68780	68150	51200	49750	40500	53760	202900	385500	366600	181800	139700
1969-70	80120	57770	55350	49660	39310	40240	45290	46820	66170	242100	356300	145100	102200
1970-71	80510	46300	39790	34510	33760	47820	78960	<u>57220</u>	122500	405000	418500	231100	133200
1971-72	124600	56130	49230	45330	36300	37250	54540	<u>131000</u>	123200	393700	573500	290700	159800
1972-73	149200	65490	51610	42670	43210	42230	34980	47820	68000	212000	239700	141900	95290
1973-74	73360	44630	41840	61590	68950	<u>112100</u>	76460	78590	178100	306500	<u>573800</u>	302300	<u>159900</u>
1974-75	129300	66970	39150	36440	36010	31850	35790	46480	71260	263000	410900	251800	118600
1975-76	101400	64310	61370	75790	93840	57080	52830	52970	136100	384200	310400	285500	140000
1976-77	<u>200900</u>	107000	48150	41400	34410	30960	28610	31470	75900	<u>162200</u>	199900	<u>104100</u>	89050
1977-78	85480	54410	35280	40930	61200	42300	42330	71370	141700	263500	343600	216700	116900
1978-79	95420	99160	55420	46810	28560	28960	37090	54450	80010	270100	246200	141400	98930
1979-80	74390	51910	32510	<u>24340</u>	40610	30190	37100	48730	152900	355200	264700	136800	104300
1980-81	70780	57420	47950	53520	85460	70130	73040	68380	108500	318300	316900	239000	126100
1981-82	126600	62920	48530	52250	42940	38320	83770	78750	96770	290100	446400	245500	134500
1982-83	117700	82320	58090	45860	46570	55250	64290	111800	131300	290100	314300	224100	128800
1983-84	113800	62510	40480	75370	38010	60430	49480	71550	113600	181600	366800	216700	115800
1984-85	104100	61370	41540	43740	30970	25940	28620	37530	120400	298800	266600	127100	99200
1985-86	65890	57830	59160	62440	35800	34750	55440	110300	130500	242100	324400	154900	111200
1986-87	86810	47540	42360	50070	36150	27190	32320	77680	128900	289100	211500	120500	96220
1987-88	<u>65720</u>	<u>41940</u>	<u>22560</u>	26060	29390	24500	26780	41920	139000	233400	251300	132200	86240
1988-89	71270	42360	48010	52060	37210	35430	28410	51280	146000	264800	295200	141400	101400
1989-90	94060	54350											
MEAN	100900	63020	51580	50390	46530	41800	45480	56930	120900	286900	342000	199200	117300
MEDIAN	99370	62140	48300	46810	40610	38700	40540	53490	122200	272400	324800	188700	117100

WAN3M9

PRIEST RETURN FLOW

Accumulated depletions at site (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												234	
1928-29	295	278	305	197	168	182	158	156	227	251	215	234	223
1929-30	295	278	305	197	168	182	158	156	227	251	215	234	223
1930-31	295	278	305	197	168	182	158	156	227	251	215	234	223
1931-32	295	278	305	197	168	182	158	156	227	251	215	234	222
1932-33	295	278	305	197	168	182	158	156	227	251	215	234	223
1933-34	295	278	305	197	168	182	158	156	227	251	215	234	223
1934-35	295	278	305	197	168	182	158	156	227	251	215	234	223
1935-36	295	278	305	197	168	182	158	156	227	251	215	234	222
1936-37	295	278	305	197	168	182	158	156	227	251	215	234	223
1937-38	295	278	305	197	168	182	158	156	227	251	215	234	223
1938-39	295	278	305	197	168	182	158	156	227	251	215	234	223
1939-40	295	278	305	197	168	182	158	156	227	251	215	234	222
1940-41	295	278	305	197	168	182	158	156	227	251	215	234	223
1941-42	295	278	305	197	168	182	158	156	227	251	215	234	223
1942-43	295	278	305	197	168	182	158	156	227	251	215	234	223
1943-44	295	278	305	197	168	182	158	156	227	251	215	234	222
1944-45	295	278	305	197	168	182	158	156	227	251	215	234	223
1945-46	295	278	305	197	168	182	158	156	227	251	215	234	223
1946-47	295	278	305	197	168	182	158	156	227	251	215	234	223
1947-48	295	278	305	197	168	182	158	156	227	251	215	234	222
1948-49	295	278	305	197	168	182	158	156	227	251	215	234	223
1949-50	295	278	305	197	168	182	158	156	227	251	215	234	223
1950-51	295	278	305	197	168	182	158	156	227	251	215	234	223
1951-52	295	278	305	197	168	182	158	156	227	251	215	234	222
1952-53	295	278	305	197	168	182	158	156	227	251	215	234	223
1953-54	295	278	291	183	154	168	146	145	216	241	204	226	213
1954-55	285	266	277	168	141	154	134	133	204	231	193	218	201
1955-56	275	253	263	154	127	141	123	122	193	221	182	210	189
1956-57	265	241	249	140	114	127	111	110	181	210	171	202	177
1957-58	255	228	235	126	100	113	99	99	170	200	160	194	165
1958-59	246	216	221	111	86	99	87	87	158	190	149	186	154
1959-60	236	203	207	97	73	86	75	76	147	180	138	178	142
1960-61	226	191	193	83	59	72	63	64	135	170	127	170	130
1961-62	216	178	179	69	46	58	52	53	124	160	116	163	118
1962-63	206	166	165	54	32	44	40	41	112	149	104	155	106
1963-64	196	154	151	40	18	30	28	30	101	139	93	147	94
1964-65	186	141	137	26	5	17	16	18	89	129	82	139	83
1965-66	176	129	123	11	-9	3	4	7	78	119	71	131	71
1966-67	166	116	109	-3	-23	-11	-8	-5	66	109	60	123	59
1967-68	157	104	95	-17	-36	-25	-20	-17	55	99	49	115	47
1968-69	147	91	81	-31	-50	-38	-31	-28	43	88	38	107	35
1969-70	137	79	67	-46	-63	-52	-43	-40	32	78	27	99	23
1970-71	127	66	53	-60	-77	-66	-55	-51	20	68	16	91	12
1971-72	117	54	48	-56	-74	-60	-51	-47	18	59	8	82	8
1972-73	107	43	42	-52	-70	-54	-48	-43	15	49	0	74	6
1973-74	98	32	37	-48	-67	-49	-44	-39	13	40	8	65	3
1974-75	88	22	31	-44	-63	-43	-40	-35	10	31	-16	56	0
1975-76	79	11	26	-41	-60	-37	-37	-31	8	22	-25	48	-3
1976-77	69	0	21	-37	-56	-31	-33	-27	5	12	-33	39	-6
1977-78	59	11	15	-33	-53	-25	-29	-23	3	3	-41	30	-8
1978-79	50	22	10	-29	-49	-20	-25	-19	0	-6	-49	21	-11
1979-80	40	32	4	-25	-46	-14	-22	-15	-3	-16	-57	13	-14
1980-81	31	43	-1	-21	-42	-8	-18	-11	5	-25	-65	4	-17
1981-82	21	-54	-1	-18	-37	-7	-16	-10	-4	-22	-57	4	-17
1982-83	18	-47	-1	-16	-32	-6	-14	-8	-4	-19	-49	3	-14
1983-84	16	-41	-1	-13	-26	-5	-11	-7	-3	-16	-41	3	-12
1984-85	13	-34	-1	-11	-21	-4	-9	-6	-3	-13	-33	2	-10
1985-86	11	-27	0	-8	-16	-3	-7	-4	-2	-9	-24	2	-7
1986-87	8	-20	0	-5	-11	-2	-5	-3	-1	-6	-16	1	-5
1987-88	5	-14	0	-3	-5	-1	-2	-1	-1	-3	-8	1	-3
1988-89	3	-7	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	194	159	180	91	68	84	71	72	129	150	112	151	122

PRF3D9

PRIEST RAPIDS

Accumulated depletions at site and upstream (1990 level of development)

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												10016	
1928-29	8070	4017	1630	376	299	293	263	298	5592	8202	9572	9984	3869
1929-30	8042	4036	1641	365	291	286	256	303	5502	8132	9522	9904	3848
1930-31	7990	4056	1652	355	283	280	250	308	5532	8092	9429	9795	3831
1931-32	7931	4118	1663	345	275	273	243	313	5621	8101	9361	9709	3819
1932-33	7908	4004	1674	335	267	266	237	319	5551	8032	9306	9666	3803
1933-34	7888	4028	1685	324	259	259	231	324	5627	7961	9232	9562	3791
1934-35	7830	4011	1696	314	251	253	224	320	5561	7949	9163	9465	3769
1935-36	7771	4100	1707	304	243	246	218	334	5632	7926	9098	9392	3758
1936-37	7748	4117	1718	294	234	239	211	339	5634	7986	9063	9316	3768
1937-38	7701	4115	1729	283	226	232	205	345	5621	7930	9008	9231	3750
1938-39	7650	4099	1729	275	218	226	199	347	5556	7824	8943	9167	3722
1939-40	7612	4110	1744	263	210	219	192	355	5617	7861	8887	9092	3711
1940-41	7587	4113	1756	255	203	212	186	358	5565	7803	8857	9017	3705
1941-42	7547	4152	1768	242	194	206	179	366	5572	7845	8834	8927	3704
1942-43	7490	4117	1778	232	186	199	173	371	5617	7841	8748	8851	3690
1943-44	7450	4132	1786	222	178	192	167	376	5586	7760	8677	8781	3660
1944-45	7446	4120	1806	212	170	185	160	381	5580	7727	8643	8709	3662
1945-46	7392	4113	1817	201	162	179	154	366	5587	7692	8562	8593	3640
1946-47	7313	4123	1827	191	154	172	147	392	5656	7685	8444	8481	3626
1947-48	7252	4137	1838	181	146	165	141	397	5623	7809	8548	8408	3625
1948-49	7203	4106	1848	171	139	159	135	402	5642	7601	8351	8331	3594
1949-50	7185	4104	1860	161	131	152	129	406	5660	7626	8334	8240	3591
1950-51	7114	4075	1865	151	123	146	123	412	5665	7607	8240	8173	3571
1951-52	7093	4093	1866	151	123	146	123	412	5636	7522	8220	8159	3548
1952-53	7068	4076	1865	150	124	147	124	411	5640	7512	8232	8097	3550
1953-54	7021	4045	1879	135	111	133	112	423	5646	7449	8208	8071	3541
1954-55	7047	4103	1891	121	96	118	99	435	5664	7535	8088	8055	3552
1955-56	6989	4024	1904	105	82	104	87	446	5671	7380	8042	7985	3515
1956-57	6976	4065	1917	90	69	90	76	458	5670	7464	8051	7937	3537
1957-58	6955	4049	1929	76	55	77	72	462	5659	7404	7992	7925	3528
1958-59	6931	4062	1942	61	42	63	52	481	5659	7416	8003	7858	3531
1959-60	6899	4060	1949	51	33	54	45	491	5687	7407	7959	7830	3518
1960-61	6885	4068	1970	29	13	35	28	507	5692	7355	7893	7785	3523
1961-62	6862	4040	1979	18	5	27	22	513	5702	7342	7903	7745	3520
1962-63	6840	4063	2002	-5	-16	7	4	529	5710	7318	7818	7710	3519
1963-64	6808	4062	2013	-16	-26	-3	-3	534	5735	7289	7843	7681	3510
1964-65	6832	4114	2034	-38	-45	-22	-20	550	5738	7242	7778	7651	3524
1965-66	6814	4077	2028	-40	-45	-21	-17	546	5742	7331	7886	7724	3541
1966-67	6881	4120	2058	-64	-67	-42	-36	563	5800	7441	7969	7809	3590
1967-68	6979	4202	2075	-83	84	-60	-51	577	5811	7406	7943	7782	3597
1968-69	6970	4225	2094	-103	-102	-77	-67	592	5828	7416	7926	7762	3616
1969-70	6956	4217	2112	-122	-120	-95	-83	606	5842	7397	7900	7729	3617
1970-71	6943	4227	2130	-141	-138	-113	-98	621	5857	7389	7899	7706	3624
1971-72	6933	4245	2132	-135	-132	-106	-93	615	5857	7385	7858	7675	3606
1972-73	6919	4232	2134	-130	-127	-99	-89	610	5858	7363	7821	7639	3604
1973-74	6891	4232	2136	-124	-122	-92	-84	604	5858	7369	7788	7611	3595
1974-75	6862	4240	2139	-119	-117	-85	-79	599	5859	7332	7757	7572	3582
1975-76	6864	4240	2138	-113	-112	-78	-74	593	5859	7325	7733	7533	3564
1976-77	6841	4241	2143	-108	-107	-71	-69	588	5855	7307	7694	7511	3563
1977-78	6802	4239	2145	-102	102	-64	-64	582	5860	7299	7667	7481	3552
1978-79	6796	4248	2147	-97	97	-58	-60	577	5860	7281	7633	7441	3543
1979-80	6775	4245	2150	-92	92	-51	-55	571	5859	7294	7677	7469	3536
1980-81	6766	4239	2141	-77	80	-38	-45	562	5866	7358	7739	7490	3552
1981-82	6803	4266	2136	-65	69	34	-39	561	5865	7349	7735	7548	3558
1982-83	6823	4253	2129	-56	60	-30	-34	558	5863	7359	7771	7607	3564
1983-84	6841	4247	2122	-48	-50	-25	-29	555	5861	7383	7801	7624	3558
1984-85	6849	4231	2115	-39	-41	-21	-24	553	5859	7377	7829	7671	3570
1985-86	6860	4218	2108	-31	-32	-17	-19	550	5856	7389	7843	7722	3572
1986-87	6871	4198	2101	-23	-23	-12	-13	548	5852	7372	7871	7771	3573
1987-88	6889	4177	2094	-14	-13	-8	-8	545	5853	7403	7906	7811	3569
1988-89	6898	4171	2087	-6	-4	-4	-3	542	5850	7413	7925	7850	3582
1989-90	6923	4144											
MEAN	7162	4136	1937	83	59	77	66	469	5715	7563	8289	8272	3619

PRD3DD9

USGS # 12472710

PRIEST RAPIDS

River COLUMBIA

Drainage Area

95500 Sq Mi

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile

397.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												240700	
1928-29	111600	62860	50790	40440	30930	23880	22160	33750	<u>47530</u>	180300	289900	139600	86410
1929-30	90080	52560	35240	25770	27660	17950	32270	32370	126000	180000	241800	171000	86220
1930-31	101400	63310	36070	30580	<u>23230</u>	24880	27320	38380	67630	216200	224600	139300	83050
1931-32	83270	63920	36970	35350	28420	27010	35340	73910	149100	316200	359000	182400	115900
1932-33	104900	56100	42940	59160	54120	42040	29660	42150	101900	250900	467400	293300	129100
1933-34	132400	73740	75150	<u>94520</u>	<u>123700</u>	106900	76380	95140	<u>274500</u>	357900	276300	149000	153300
1934-35	90510	54910	45720	71290	48300	49930	57910	53550	<u>89470</u>	253700	345000	233900	116400
1935-36	107800	63250	40580	32000	27530	27440	<u>19640</u>	35850	140800	315700	273700	134500	101700
1936-37	82950	50240	34170	<u>24820</u>	24980	<u>17300</u>	20440	<u>27140</u>	59270	198700	275300	159300	81480
1937-38	80540	56560	46430	56560	45040	47400	35540	60270	145400	295800	350200	184800	117300
1938-39	74180	62750	45030	34540	31060	33240	25140	43320	127100	283300	218600	167200	95860
1939-40	89270	52350	48040	45460	47900	30410	37460	63640	122400	246100	222400	135500	95220
1940-41	77590	65580	58840	39880	35850	32710	31130	53650	112000	183200	<u>187700</u>	122800	83630
1941-42	77070	76150	81540	64200	87990	45450	40700	38780	113800	231000	286100	206300	112600
1942-43	103800	53170	42950	42010	39880	31590	35670	43250	212200	232700	329600	271900	120100
1943-44	112200	52410	45970	34740	31880	26900	27300	29310	59060	170300	213700	111200	<u>76370</u>
1944-45	80610	60300	48600	41680	29140	35830	37190	40700	54990	251300	307900	159700	95920
1945-46	77100	51190	39890	46140	33600	40480	34450	54080	144900	377600	369600	206700	122800
1946-47	97880	65000	45660	45190	60120	41780	51850	67800	144000	350600	317800	188200	123300
1947-48	89550	63770	95070	72510	50730	47030	42680	42340	115900	400300	538800	196500	146300
1948-49	130600	74070	56000	45990	33240	27360	40070	56540	152200	374100	252100	129500	114700
1949-50	85350	53300	40530	55740	52370	35850	46480	74470	111500	260700	481100	319500	135000
1950-51	127000	68140	66910	73570	80240	66810	<u>92630</u>	63010	155100	390900	327100	262900	148200
1951-52	112600	67560	80780	57500	50320	41990	45720	47920	179700	339500	291700	184400	125200
1952-53	95480	49280	35810	26830	28100	49540	55480	45400	82920	260800	387900	233400	112800
1953-54	109800	61070	54660	52370	46260	39530	49450	53600	91950	352200	407500	<u>361500</u>	140600
1954-55	156600	102400	61370	71720	54240	38410	39080	35760	71390	199600	438700	308300	131800
1955-56	120300	63620	66340	74200	69180	55520	39420	59650	205300	430000	438500	227000	154300
1956-57	104100	63050	56350	43940	47910	31660	42660	52630	96000	<u>452300</u>	307800	140500	120500
1957-58	77840	50710	44070	37710	36360	35970	56680	58630	109500	380200	309000	140400	111700
1958-59	83620	56820	57500	58810	58920	67040	48000	56800	135400	302600	461100	273400	138600
1959-60	112800	<u>113400</u>	<u>108800</u>	94390	75150	44130	50610	67760	166300	239100	358000	233000	138600
1960-61	101600	64750	52970	51830	36440	39380	80640	71000	108300	352100	483700	160400	133700
1961-62	95200	49190	52980	35810	32730	30160	45720	41120	151500	244900	329600	177900	107400
1962-63	108500	54610	56720	61380	60270	43300	71250	59190	100800	234600	307100	189500	112400
1963-64	95460	67500	44280	42970	37320	33450	31900	33600	76760	246600	476000	269600	121300
1964-65	116800	72960	73280	55400	63400	50820	54740	59190	158800	285600	383800	206000	132000
1965-66	124700	63430	53990	56140	42510	37140	36120	53790	123500	273900	323500	211500	117100
1966-67	103200	59590	42370	44570	52210	51970	50540	54460	71780	272300	547600	261800	134500
1967-68	110200	65390	53620	56730	43380	45700	69280	84680	68760	244600	369700	237900	120900
1968-69	110500	90590	70210	66930	53840	52090	47270	55320	207000	384100	366100	182400	140800
1969-70	80470	59310	56390	45890	39340	38470	44980	47260	65150	239400	353000	148200	101600
1970-71	80160	44330	38870	37710	34580	44460	80380	57360	121700	405400	418000	230900	133000
1971-72	125900	57080	45540	42500	35230	35950	53070	<u>131600</u>	121600	382200	565300	286000	157000
1972-73	144900	61860	51120	41270	41340	41270	34750	49820	66000	211200	240100	142400	94230
1973-74	75100	<u>42690</u>	45540	64130	71150	<u>111000</u>	75450	74170	123900	305800	<u>571000</u>	304100	<u>159500</u>
1974-75	133100	67440	39710	39150	46280	34770	38570	49020	72320	265200	413000	252300	120400
1975-76	103300	65730	59440	74740	95850	60990	54170	54670	135900	375600	407800	280500	139400
1976-77	<u>190100</u>	111000	49960	39800	33060	32670	32240	34870	74240	<u>162400</u>	197100	<u>99430</u>	88340
1977-78	85020	51490	34320	39960	60430	39300	40690	71770	142900	263600	342400	220400	116500
1978-79	38020	101200	57380	49970	31950	32170	40830	56510	79600	270800	248900	143900	101200
1979-80	76260	53020	35080	26430	42930	32890	39120	50340	155200	361000	271900	139600	107100
1980-81	73520	58970	49670	52810	85750	70890	72250	67190	108600	318600	316400	244400	126900
1981-82	130700	85680	51180	54770	45280	41480	86040	87120	101800	291700	455200	253100	138800
1982-83	120300	83810	58970	46570	46380	57720	63830	113300	132800	291400	316500	226300	130200
1983-84	116700	62160	42090	77290	43100	63780	54040	75850	119000	187100	371900	220900	119400
1984-85	106800	64020	44160	46600	33700	30720	34150	40840	122500	303000	270500	129100	102500
1985-86	68200	60140	62100	66020	39980	38310	57670	112900	135300	246900	329200	157300	114600
1986-87	89520	49330	45740	55230	39950	32400	35210	80280	133200	296200	214500	123800	99990
1987-88	<u>68180</u>	45470	<u>27240</u>	27560	32980	27910	29090	44340	142300	237400	255300	135100	89430
1988-89	73980	46430	51130	54790	41830	40990	31680	55190	149200	269900	300000	143700	105100
1989-90	96050	57180											

MEAN

101300

63250

51980

50550

47110

42230

46100

57510

121100

286800

342400

199800

117700

MEDIAN

99710

62010

49670

46570

42510

39300

40830

54460

121700

272300

327100

188800

117300

PRD3M9

USGS # 12510500

YAKIMA

River YAKIMA

Drainage Area

5616 Sq. Mi.

Yakima Regulated Flows 1989 conditions, computed by USBR

River Mile

29.9

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												1288	
1928-29	1365	1681	2119	2120	1858	1763	2066	2198	1455	1367	1704	1310	1748
1929-30	1388	1571	1628	2005	1817	<u>1535</u>	2962	2925	3682	1074	1115	748	1859
1930-31	895	1170	1461	1969	<u>1635</u>	1799	2421	2379	1770	1352	1182	825	<u>1565</u>
1931-32	972	1213	1502	2382	1894	2528	3447	6537	4329	3686	4650	1353	2868
1932-33	1391	1678	2118	5254	5163	4509	2575	2853	3533	4754	11360	3223	4014
1933-34	1472	1815	<u>4255</u>	6721	<u>19580</u>	<u>12260</u>	7394	8804	8892	2863	1167	1197	6379
1934-35	1392	1617	2103	5152	3492	5202	5971	3396	2153	5368	5807	1531	3578
1935-36	1392	1693	1991	2281	1899	2194	<u>1699</u>	3103	5604	7168	5783	1401	3016
1936-37	1330	1624	1827	2197	2040	1745	1753	2719	3027	1993	5479	1792	2290
1937-38	1579	1978	1897	3419	4318	4476	3061	5452	6532	8705	5914	1601	4082
1938-39	1514	1631	2152	2469	2340	2882	2087	2659	2634	1127	1565	1342	2033
1939-40	1358	1627	1963	2164	2467	1984	3171	4389	2855	1381	1543	1388	2187
1940-41	1526	1673	1744	2297	2644	2327	2516	3183	2250	<u>890</u>	996	718	1893
1941-42	820	1243	1636	2494	3583	2130	2685	2456	2602	1398	1638	1364	1999
1942-43	1350	1385	1515	2765	3520	3547	3503	3530	8225	2769	5537	1745	3268
1943-44	1613	1583	2076	2409	2467	1903	1920	1882	922	953	1556	1377	1722
1944-45	1464	1503	1512	2254	2012	2842	3285	1963	1174	1859	1873	1312	1912
1945-46	1572	1551	1498	2338	2151	3071	2323	3526	3858	5617	6856	1658	3000
1946-47	1434	1948	2145	2445	6582	4275	5136	5101	5006	6700	2431	1326	3707
1947-48	1412	1778	2880	4474	3573	3133	3538	3114	3288	9231	<u>15620</u>	1734	4467
1948-49	1641	1738	2249	2577	2143	1728	2673	5246	7336	14150	7219	1355	4178
1949-50	1483	1636	1936	4760	5097	2394	3384	5439	5112	8687	15480	4057	4948
1950-51	1239	1229	2804	7350	9930	5642	<u>10210</u>	4749	8261	12100	6298	1401	5901
1951-52	1399	1844	2614	2845	2675	2082	3515	3168	4359	4853	2486	1440	2768
1952-53	1490	1777	1939	2211	2013	4975	5467	3050	1981	4690	5102	1339	2985
1953-54	1469	1689	2017	2303	5093	3099	3858	3927	4061	10050	8249	4089	4162
1954-55	1521	1741	2329	4824	3371	2344	2688	1881	1301	2598	10330	2052	3068
1955-56	1296	1676	3023	7831	8250	5040	3227	6005	<u>11940</u>	<u>18680</u>	12740	2577	<u>6859</u>
1956-57	1594	2041	2467	3851	8478	2503	2865	3837	5066	10330	2016	1153	3865
1957-58	1365	1778	2641	2437	2416	2680	4772	4223	4435	6248	2293	1043	3016
1958-59	1218	1770	2185	5210	6668	7626	4736	4406	5243	6277	6350	1244	4406
1959-60	1251	1970	3569	<u>9618</u>	7273	3130	3695	3802	4961	4906	4387	895	4112
1960-61	1337	1825	2116	2892	2405	3390	7110	6214	5784	9157	8849	1085	4319
1961-62	1317	1562	2124	2412	2491	4387	4175	2571	5244	3182	3837	1204	2861
1962-63	1244	1629	2617	4048	5494	4046	8315	3607	3509	3060	1400	1349	332
1963-64	1391	1699	1980	2463	2373	2577	2546	2223	1500	1696	8858	2177	2597
1964-65	1460	1599	2456	2960	5554	5424	9152	5046	6398	6596	5009	1396	4387
1965-66	1444	1869	2168	2414	2242	2447	2134	3083	4166	3187	1915	1490	2380
1966-67	1252	1738	2097	2437	3975	3811	4187	2487	1572	4347	8721	1363	3152
1967-68	1257	1457	1942	3262	5213	7031	9164	6368	1379	2235	2008	1041	3515
1968-69	1547	2032	2303	3619	3243	3994	2854	4717	6168	11900	6387	1174	4168
1969-70	1277	1723	2071	2157	2160	3259	4084	4033	2022	3896	5115	981	2720
1970-71	1226	1735	2189	2360	2439	4958	7027	3307	2989	10850	9477	3055	4280
1971-72	1215	2103	2009	3528	3285	4155	6651	<u>15250</u>	6265	17090	15190	3514	6687
1972-73	1527	1815	2427	3602	5799	5055	2856	2282	1293	1189	1124	781	2482
1973-74	1039	1476	1889	3688	4331	10750	5631	4464	6910	7576	15440	<u>5233</u>	5688
1974-75	1493	1802	2006	2943	4297	5855	4466	4426	2860	8085	10640	1751	4213
1975-76	1574	1891	2495	5545	14300	8077	4898	3087	4645	9066	4874	2159	5230
1976-77	<u>1717</u>	1868	2448	2846	2563	2658	1902	<u>1199</u>	<u>620</u>	918	804	732	1690
1977-78	<u>781</u>	1355	1434	2893	10140	4289	4784	6254	5102	2346	3023	1368	3644
1978-79	1104	1604	1753	2081	2030	1757	2541	3080	1148	2574	<u>641</u>	<u>582</u>	1739
1979-80	838	<u>1152</u>	<u>1269</u>	2283	3389	2732	3234	6028	5336	3955	1847	1397	2787
1980-81	1267	1750	1833	2652	7133	5910	7773	4031	964	1511	1254	1009	3088
1981-82	1030	1501	2113	2142	2748	3539	8616	5884	3208	5788	8726	789	3800
1982-83	1259	1834	2223	2305	3329	7324	5759	9220	5181	8321	4869	1734	4446
1983-84	1350	1738	1689	3129	2354	9742	5112	5196	3084	3313	7008	1274	3742
1984-85	1075	1555	2410	2492	2051	1886	2257	2468	3798	4680	3585	1158	2448
1985-86	1522	2098	1750	2999	1933	2346	4475	8709	4032	2676	1562	1508	2958
1986-87	1306	<u>2204</u>	1864	2882	2332	1960	2601	5200	3584	2996	1486	1373	2481
1987-88	1378	1515	1486	<u>1846</u>	2392	2179	2689	2961	3724	1489	1635	1168	2033
1988-89	1230	1658	1489	2626	2527	2459	2325	3081	5417	2227	1823	1270	2339
1989-90	1381	1595											
MEAN	1339	1681	2105	3261	4147	3891	4163	4232	4029	5242	5141	1581	3394
MEDIAN	1372	1685	2076	2626	2748	3130	3447	3607	3798	3955	4650	1359	3068

YAK3R9

YAKIMA

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-202	
1928-29	105	151	459	370	368	403	706	-112	15	-1993	-1316	100	-67
1929-30	288	311	468	825	507	205	92	125	-428	-756	-245	-412	81
1930-31	-215	30	241	489	215	419	401	1009	290	-2608	-328	-195	-26
1931-32	140	307	526	412	414	128	517	-1063	-1021	-2884	-730	-167	-290
1932-33	311	999	1432	2274	1403	189	189	-623	-946	-1188	889	-1891	248
1933-34	-131	-767	1267	2588	2250	-1839	-2223	2302	7	-1640	-140	134	167
1934-35	148	213	-4	644	-279	-1165	-1945	-353	-584	-458	-837	-187	-391
1935-36	48	18	-337	320	353	315	249	-12	-247	-3167	-2193	-33	-393
1936-37	145	208	456	413	402	410	353	13	-403	-1062	4073	-805	-327
1937-38	28	117	211	527	549	-410	-323	-219	-1292	-222	-1127	129	-187
1938-39	45	141	257	326	124	391	248	-231	162	2051	-824	-6	122
1939-40	1	152	369	370	338	282	317	234	-212	3331	-320	56	-149
1940-41	133	80	-71	339	274	325	281	323	174	-383	-396	-510	46
1941-42	-498	-379	-349	323	492	210	319	215	504	-527	-207	-148	-7
1942-43	-85	-183	-170	255	261	136	171	14	-554	-2060	-2583	-1364	-516
1943-44	-42	96	216	251	307	367	284	139	-104	-436	-284	-17	64
1944-45	54	-49	-57	328	293	410	447	249	-306	-1294	-1003	-77	-86
1945-46	-64	-39	-160	110	-168	-27	112	-59	-375	-3158	-425	-687	-419
1946-47	-107	-25	-22	-793	-429	768	770	343	402	-128	-1334	-209	-67
1947-48	-108	-70	86	188	-1859	195	106	-303	-494	81	-849	-816	-323
1948-49	-226	-128	-215	-7	-2127	-815	-292	-1369	-989	5005	-80	-430	-136
1949-50	-381	-714	-2316	358	884	-19	-221	-1123	-1518	846	4047	-1043	-106
1950-51	-672	-889	-794	1495	915	-1389	131	-2159	1111	4002	-424	-438	71
1951-52	-323	-117	-197	106	-72	-43	-141	-141	1215	1113	-789	-472	11
1952-53	-502	-122	-37	368	335	294	-158	336	-173	678	-897	-974	-69
1953-54	-368	-72	-286	141	1376	-1320	-1145	-892	-811	3152	1329	-1309	-9
1954-55	-745	-768	-895	1507	738	119	254	0	-697	-651	1805	-1473	-76
1955-56	-513	-386	58	1698	-849	-1820	-939	-2447	-1247	5589	13	-1152	-164
1956-57	-425	-194	-356	886	2461	-615	323	-19	-596	-859	-1105	-265	-65
1957-58	-225	-108	-79	349	217	288	362	304	-375	263	-314	-182	41
1958-59	218	-44	-260	509	723	878	-1354	-227	824	422	790	-171	164
1959-60	252	569	-559	3325	-1033	-1858	587	111	87	-63	1216	-329	42
1960-61	-163	114	-93	160	106	481	56	690	211	282	1820	-131	75
1961-62	163	62	36	266	114	-18	63	58	990	154	455	171	116
1962-63	245	-73	-294	248	115	267	1897	185	-1041	-1088	-340	-129	55
1963-64	125	13	-18	232	213	236	114	-317	302	-475	2729	-403	153
1964-65	-272	-227	-18	680	1357	115	-453	-1885	1137	1465	683	-272	194
1965-66	384	-119	-187	296	347	393	305	78	242	372	55	-315	88
1966-67	-211	-66	40	241	251	556	-58	156	-298	148	1995	-396	196
1967-68	-216	-100	-461	252	1537	1708	1400	-2071	-361	444	-126	-134	152
1968-69	310	-134	-207	386	-10	627	-80	-587	-1495	2813	145	-201	84
1969-70	-236	-158	91	195	108	260	85	153	-620	325	1449	-335	93
1970-71	-220	-138	-12	234	154	212	402	-344	-3261	1707	2166	499	118
1971-72	-343	-330	-683	670	524	215	361	-1506	-6758	4929	2812	329	27
1972-73	-444	-619	-444	1007	1896	-294	177	48	-167	-408	-135	103	60
1973-74	121	296	363	750	568	205	70	26	-2030	-2338	3262	-153	90
1974-75	-783	-365	-712	629	1661	771	-2469	-639	-797	-111	3723	-1140	-8
1975-76	-577	-43	56	2139	1845	-921	-424	-623	-2164	1934	1457	-801	158
1976-77	-616	-286	-76	849	806	954	739	713	127	16	-98	-135	247
1977-78	-230	-334	-351	341	163	-662	212	-235	-1337	-1565	-1153	-633	-486
1978-79	1001	-945	-287	-45	-160	318	270	-105	-528	839	-459	-241	-196
1979-80	87	368	248	463	-1093	284	24	-476	-1761	-1340	-1052	-334	-431
1980-81	369	-255	-210	-178	520	19	1382	-206	-597	579	-589	-479	-138
1981-82	-361	-393	-350	-209	-162	179	-119	-848	-497	-634	1861	-2095	340
1982-83	520	-472	222	-244	-67	1007	-201	524	1468	1250	-503	-650	-213
1983-84	568	-406	432	375	464	2517	328	-241	747	870	-334	-936	263
1984-85	-453	-485	-115	-96	-106	116	-174	169	356	2041	1252	-53	100
1985-86	0	-46	-685	235	-95	-128	30	625	415	494	-185	31	49
1986-87	16	105	-388	248	103	43	59	327	682	-632	-32	21	44
1987-88	178	381	-7	384	168	226	207	843	567	-726	-157	-4	170
1988-89	-52	96	-226	237	170	13	168	-85	-117	-1381	-32	-50	-109
1989-90	-11	63											
MEAN	-212	-123	-115	513	327	65	34	-251	-514	-54	130	-403	-52

YAK3DD9

McNARY COLUMBIA RIVER DEPLETIONS

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												-9583	
1928-29	-7306	-3161	-570	1086	934	1040	1301	19	-5067	-9694	-10356	-9249	-3431
1929-30	-7095	-3020	-572	1510	1065	835	680	251	-5421	-8387	-9235	-9681	-3318
1930-31	-7546	-3320	-810	1164	765	1043	983	1129	-4733	-10198	-9225	-9355	-3335
1931-32	-7133	-3105	-536	1077	956	745	1092	-948	-6133	-10483	-9558	-9241	-3806
1932-33	-6936	-2300	359	2929	1937	799	758	-513	-5987	8718	-7885	-10922	-3103
1933-34	-7340	-4089	183	3232	2776	-1236	-1661	2406	-5110	-9099	-8840	-8793	-3110
1934-35	-7023	-3093	-1098	1278	239	-569	-1389	-245	-5635	-7905	9468	-9017	3676
1935-36	-7064	-3377	-1443	944	862	905	798	82	5369	10591	10759	8790	3653
1936-37	-6944	-3204	-661	1027	903	994	896	102	-5527	-8546	-12604	9485	3614
1937-38	-7014	-3293	-917	1130	1042	166	214	135	-6404	7651	9603	8725	3444
1938-39	-6946	-3253	-870	922	609	960	778	-150	-4884	9373	9234	-8538	-3357
1939-40	-6952	-3252	-774	953	815	845	841	308	-5320	-10690	-8675	-8401	-3360
1940-41	-6795	-3327	-1225	914	743	882	799	393	-4882	-7684	-8721	-8892	-3223
1941-42	-7386	-3825	-1515	885	953	760	831	278	-4559	-7871	-8508	-8440	-3184
1942-43	-6916	-3595	-1344	807	714	679	676	72	-5662	-9399	-10799	-9579	-3712
1943-44	-6832	-3330	-968	793	753	903	783	192	-5181	-7694	-8428	-8163	-3100
1944-45	-6733	-3464	-1261	860	730	940	939	297	-5376	-8519	3114	-8151	-3266
1945-46	-6797	-3447	-1375	631	261	496	598	3	-5453	-10349	-8454	-8645	-3568
1946-47	-6761	-3443	-1249	-282	-8	1284	1249	380	-4745	-7312	-9246	-8055	-3200
1947-48	-6701	-3501	-1151	689	-1446	704	579	-271	-5608	-7226	-8864	-8589	-3467
1948-49	-6770	-3528	-1462	485	-1720	-311	175	-1343	-6121	-2094	-7899	-8127	-3255
1949-50	-6907	-4112	-3574	839	1281	477	240	-1101	-6669	-6279	-3755	-8648	-3228
1950-51	-7126	-4258	-2057	1966	1305	-900	585	-2142	-4044	-3103	-8132	-7976	-2981
1951-52	-6757	-3504	-1462	577	318	447	314	-125	-3912	-5908	-8476	-7995	-3063
1952-53	-6912	-3493	-1301	838	726	784	298	353	-5304	6332	8597	-8436	-3116
1953-54	-6730	-3411	-1594	576	1737	859	716	908	5974	3823	6377	-8781	-3121
1954-55	-7170	-4203	-2244	1907	1067	548	654	50	5906	7740	5812	8966	-3165
1955-56	-6916	-3779	-1335	2062	-551	-1421	567	-2530	6490	1372	7588	-8611	-3260
1956-57	-6851	-3666	-1792	1215	2728	-247	667	-136	-5865	-7932	8746	-7649	-3188
1957-58	-6606	-3548	-1529	643	453	626	686	166	5607	-6728	7866	-7590	-3095
1958-59	-6611	-3534	-1753	767	928	1185	-1066	-405	4436	6610	6803	7549	-3004
1959-60	-6649	-4094	-2090	3552	-854	-1576	854	100	5229	7113	6364	7714	3132
1960-61	-6583	-3684	-1674	346	248	727	289	939	5559	7307	5724	-7507	3137
1961-62	-6596	-3642	-1657	421	230	204	148	-334	4395	6886	-7129	-7543	-3127
1962-63	-6694	-3712	-1968	359	193	452	2074	-129	-6461	-8131	-7870	-7503	-3304
1963-64	-6577	-3663	-1733	311	264	395	269	-658	5774	-7517	-4856	-7785	-3142
1964-65	-6785	-3993	-1783	716	1372	238	-331	-2264	4365	-5557	-6868	-7660	-3135
1965-66	-6916	-3884	-1977	310	345	501	414	319	5292	6767	7635	-7812	3267
1966-67	-6846	-3911	-1810	211	210	626	16	280	5917	7128	5807	8014	3252
1967-68	-6985	-4064	-2358	182	1460	1744	1442	2544	6019	6826	7933	7761	3329
1968-69	-7106	-4158	-2153	277	-121	629	69	1095	7197	4493	-7676	-7845	3427
1969-70	-7055	-4212	-2085	46	-38	227	64	393	6363	-6991	-6376	-7982	3450
1970-71	-7063	-4239	-2054	46	-28	145	350	926	-9046	-5628	-5687	-7161	-3471
1971-72	-7212	-4486	-2733	482	344	151	310	-2084	-12547	-2404	-5001	-7299	-3548
1972-73	-7300	-4768	-2503	820	1717	355	127	-525	-5960	-7721	-7911	-7490	-3458
1973-74	-6709	-3859	-1705	563	390	147	21	-544	-7827	-9658	-4482	-7717	-3546
1974-75	-7586	-4534	-2789	443	1483	716	-2518	-1205	6599	-7397	-3989	-8665	-3543
1975-76	-7384	-4217	-2026	1954	1669	973	472	1185	7969	5345	6232	8286	3382
1976-77	-7402	-4467	-2170	664	630	905	693	155	5677	7247	7748	7599	3257
1977-78	-6979	-4519	-2453	157	12	708	167	790	7150	8822	8776	-8067	4083
1978-79	-7744	-5146	-2399	228	333	274	226	656	6346	-6402	8049	-7634	-3628
1979-80	-6637	-3836	-1872	280	-1266	-325	19	1022	7580	8595	8686	-7755	-3991
1980-81	-7086	-4458	-2328	-351	355	13	1345	-745	6427	7900	8285	7922	3681
1981-82	-7117	-4829	-2466	-358	306	-208	152	1388	6330	-7951	5836	-9602	3903
1982-83	-7301	-4898	-2334	372	190	982	229	1065	-7304	6081	8242	-8221	-3774
1983-84	-7373	-4630	-2540	-483	568	2496	352	-782	-6585	-8230	-8108	-8530	-3805
1984-85	-7273	-4698	-2218	-183	-190	-134	-194	-711	-8197	-5318	-6556	-7700	-3427
1985-86	-6837	-4250	-2785	168	-158	-142	14	-1167	-5427	-6881	-8012	-7673	-3617
1986-87	-6838	-4082	-2484	202	59	32	48	-215	-5161	-7995	-7892	-7738	-3515
1987-88	-6699	-3789	-2098	358	144	219	199	301	-5281	-8124	-8058	-7809	-3418
1988-89	-6944	-4071	-2314	232	165	9	165	-628	-5967	-8793	7957	-7900	-3689
1989-90	-6934	-4081											
MEAN	-6980	-3837	-1696	746	510	342	294	-472	-5923	7320	7826	-8299	-3388

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SECTION D

UPPER AND CENTRAL SNAKE RIVER

**UPPER SNAKE
WYOMING, IDAHO, UTAH, AND NEVADA**

**CENTRAL SNAKE
IDAHO, NEVADA AND OREGON**

BEAR RIVER, IDAHO

**JACKSON LAKE
TO
BROWNLEE**

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SECTION D

Introduction

Previous reports on streamflow depletion and modified flows for selected sites in the Pacific Northwest (20, 30 and 50-year compilations) required special studies (regulations) for particular basins within the region. The need and reasons for those special (regulation) studies are the same for this depletion report (61-year compilation, 1990 condition).

Special Studies

The vast amount of irrigation in relation to the available water and the storage appropriation in the Upper and Central Snake River basins precludes the established procedure to determine modified flows. Also the hydrology, irrigation growth patterns, and water supply problems are unique and complex. Therefore, regulation studies (river basin simulations) are required to reflect the net effect on streamflow in those drainages from successive increases in irrigation development in terms of corresponding necessary changes in storage regulation and in the amount of water depleted and diverted from and returned to the river systems.

The Snake Basin storage (above Brownlee) are fully dedicated to irrigation and other interest that the river system serves and are thereby void of capability and flexibility to contribute hydraulically to the Columbia River power operation. However, the storage at Brownlee (nearly 1 million acre-feet) provided sufficient reservoir regulation capability to become a significant part of system power operations with other Columbia River System storage. Therefore, the main objective of system regulations (simulations) above Brownlee in this depletion study is to determine the inflow to Brownlee Reservoir.

The end product of basin simulations or regulation studies of the Snake River above Brownlee Reservoir is regulated flows. The shift from modified flows to regulated flows in the depletion study is an anomaly. The regulated flows at selected sites above Brownlee Reservoir may not be compared directly with the modified flows at the other regional sites until the modified flows are regulated with the Columbia River system model. The main goal of the depletion study compilations is to provide "modified flows" for the Columbia River system model. Those flows are utilized to coordinate the regulation of Columbia River system storage under the terms of the Northwest Coordination agreement, Canadian Treaty, and other criteria. The regulated inflow to Brownlee is re-regulated by Brownlee storage - consistent with the Agreement and other criteria.

Subbasins

The area in Section D includes: (1) the upper Snake basin above King Hill (Figure 10, page 139), which is a drainage area of about 36,000 square miles, encompassing parts of Idaho, Wyoming, Utah and Nevada, (2) the central Snake basin - King Hill to Brownlee (Figure 11, page 140), which is an area of about 36,800 square miles, encompassing parts of Idaho, Nevada and Oregon, and (3) the Bear River drainage in Idaho. Since depletion sites were not selected for the Bear River portion of Idaho, only a short narrative is contained in this section commensurate with the need to describe the (Bear River) irrigated segment in Idaho summarized in this report.

Upper Snake

The Upper Snake basin (above King Hill) interfaces with groundwater (Snake Plain aquifer), surface water, and storage to serve 2,500,000 acres of irrigated lands. Major storage in the Upper Snake are located on the main stem, and the entire system is coordinated and operated on a forecast basis. To model diversions, other characteristics, and distinctive features, the Upper Snake is divided into six subareas: South Fork, Henrys Fork, Heise-Neeley, Neeley-Milner, North Streams, and West Streams.

Irrigation practice in the subareas amounts to both gravity and sprinkler applications and is modeled accordingly, together with groundwater pumping. All aspects of existing operation criteria are utilized in study simulations to meet irrigation needs together with the many additional uses performed by the river system.

Central Snake

In the Central Snake basin (King Hill to Brownlee) major storage reservoirs are located on the tributaries, and the Snake River serves mostly as drainageway for the highly developed tributary streams. The Central Snake River drainage is modeled in eight subareas: Bruneau, Boise, Payette, Weiser, Owyhee, Malheur, Burnt, and Powder River basins serving 1,200,000 acres of irrigated lands. Each river basin is operated on a forecast basis, and coordination of the Central Snake system focuses on the diversity of basin runoff.

Between the Boise and Payette Rivers, some basin water exchanges are made. Irrigation practices - gravity, sprinkler, and groundwater pumping - are modeled accordingly. In addition to the irrigation system as modeled for surface and groundwater supplies, about 800,000 acre-feet is pumped seasonally for irrigation from the main stem of the river (Buhl to Weiser). This development started in about 1965 and has grown steadily to its present stature. Since direct river pumping quantities are not measured, diversions are estimated by utilizing actual generation records of the energy used to pump the water by procedures developed by the Idaho Power Company and the Bureau of Reclamation (USBR).

UPPER SNAKE

LEGEND

- EXISTING PROJECT
- GAGING STATION

FIGURE 10

CENTRAL SNAKE

This map illustrates the Central Snake River region, highlighting existing projects and gaging stations. The map includes the following features:

- Legend:**
 - EXISTING PROJECT (represented by a thick black line)
 - GAGING STATION (represented by a black triangle)
- Gaging Stations:** BROWNLEE, WEISER, GALLOWAY, MURPHY, SWAN FALLS, C. J. STRIKE, and KING HILL.
- Rivers:** Boise R., Snake, Owyhee, and River.
- Scale:** 0 to 60 miles.
- North Arrow:** Located in the upper right corner.

FIGURE 11

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SECTION E
LOWER SNAKE

LOWER SNAKE RIVER
IDAHO, OREGON, AND WASHINGTON

SALMON RIVER, IDAHO

GRANDE RONDE RIVER, OREGON

CLEARWATER RIVER, IDAHO

PALOUSE RIVER
IDAHO AND WASHINGTON

BROWNLEE
TO
MOUTH OF THE SNAKE RIVER

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SECTION E

The area contained in this section includes the Salmon, Clearwater, Grande Ronde, and Palouse River basins, and the main stem Snake River from Brownlee Dam to the mouth. The Salmon River drains 14,100 square miles on the east side of the Snake River. The Clearwater River drains 8,300 square miles, the Grande Ronde River drains 3,412 square miles, and the Palouse and Lower Snake collect the runoff from the remaining 10,598 square miles. See Figure 12, page 145, for a map of the area.

Irrigation is concentrated in the Upper Salmon, Grande Ronde, and Palouse - Lower Snake areas. Total irrigation has increased from about 220,000 acres in 1928 to about 270,000 acres in 1990. In the Salmon River basin, about 80 percent of the lands are supplied by gravity, the Grande Ronde basin has about 55 percent sprinkler application and the Clearwater, Palouse - Lower Snake areas have 100 percent sprinkler application.

The irrigation adjustments which were computed were based solely on water derived from surface sources. An examination revealed that the lands served by groundwater would not constitute a streamflow depletion at the sites investigated in this study. The diversion would affect only groundwater level; and the location and extent of the lands, coupled with the time lag of return flows, made the return flows basically ineffectual. At best, the modified streamflows developed in this study would be slightly underestimated and therefore conservative. Adjustments were computed separately for sprinkler and gravity application for five subareas, namely:

- (1) The Upper Salmon River;
- (2) The Lower Salmon River;
- (3) The Grande Ronde River;
- (4) The Clearwater River; and
- (5) The Palouse - Lower Snake Rivers.

Figure 12, page 145, displays schematically how these various irrigation adjustments are to be applied.

Data were compiled for each subarea of the total land irrigated by sprinkler and gravity applications for target years. These data came from Census of Agriculture data, diversion records and other information from various sources. See Table 8, page 147, for a summary of irrigated land in each subarea.

Monthly diversion and return flow patterns, developed for sprinkler and gravity application for the subareas, are presented on pages 148 and 149. The monthly adjustments to the 1990 level of development were then computed for each month of the 61-year period 1928-1989. The main text contains an illustrated example showing the computation of adjustments.

The modified flow for each site was computed by adding the monthly adjustments to the streamflow adjusted for storage. A listing of the computer statements used to develop modified flows in this section are shown below. Listings of the at-site summations of irrigation adjustments and the modified flow for each site are presented subsequently in this section.

SECTION E

EQUATIONS USED TO COMPUTE MODIFIED FLOWS

Depletions:

$$\begin{aligned}\text{BRN3DD9} &= \text{BRN3R9} - \text{BRN3A} \\ \text{ANA3DD9} &= \text{UPS3D9} + \text{LWS3D9} + \text{WEN3D9} + \text{BRN3DD9} \\ \text{LWG3DD9} &= \text{ANA3DD9} + \text{CLR3D9} \\ \text{LMN3DD9} &= \text{LWG3DD9} + \text{PLS3D9}\end{aligned}$$

Evaporation:

$$\begin{aligned}\text{HCD3EE} &= \text{BRN3E} + \text{HCD3E} \\ \text{LWG3EE} &= \text{HCD3EE} + \text{LWG3E} + \text{DWR3E} \\ \text{LGS3EE} &= \text{LWG3EE} + \text{LGS3E} \\ \text{LMN3EE} &= \text{LGS3EE} + \text{LMN3E} \\ \text{IHR3EE} &= \text{LMN3EE} + \text{IHR3E}\end{aligned}$$

Modified Flows:

$$\begin{aligned}\text{GAL3M9} &= \text{GAL3A} \\ \text{BRN3M9} &= \text{BRN3A} + \text{BRN3DD9} - \text{BRN3E} \\ \text{OXB3M9} &= \text{BRN3M9} \\ \text{HCD3M9} &= \text{HCD3A} + \text{BRN3DD9} - \text{HCD3EE} \\ \text{WHB3M9} &= \text{WHB3A} + \text{UPS3D9} + \text{LWS3D9} \\ \text{LIM3M9} &= \text{LIM3A} + \text{UPS3D9} + \text{LWS3D9} + \text{BRN3DD9} - \text{HCD3EE} \\ \text{TRY3M9} &= \text{TRY3A} + \text{WEN3D9} \\ \text{ANA3M9} &= \text{ANA3A} + \text{ANA3DD9} - \text{HCD3EE} \\ \text{ORO3M9} &= \text{ORO3A} \\ \text{DWR3M9} &= \text{DWR3A} - \text{DWR3E} \\ \text{SPD3M9} &= \text{SPD3A} - \text{DWR3E} \\ \text{LWG3M9} &= \text{LWG3A} + \text{LWG3DD9} - \text{LWG3EE} \\ \text{LGS3M9} &= \text{LWG3A} + \text{LWG3DD9} - \text{LGS3EE} \\ \text{LMN3M9} &= \text{LMN3A} + \text{LMN3DD9} - \text{LMN3EE} \\ \text{IHR3M9} &= \text{LMN3A} + \text{LMN3DD9} - \text{IHR3EE}\end{aligned}$$

LOWER SNAKE

LEGEND

- ◐ EXISTING PROJECT
- ▲ GAGING STATION

FIGURE 12

IRRIGATION ADJUSTMENT FOR LOWER SNAKE RIVER BASIN, BROWNLEE TO ICE HARBOR

LEGEND

- EXISTING PROJECTS
- GAGING STATION

FIGURE 13

TABLE 8

IRRIGATED AREA
SUPPLIED BY SURFACE WATER
(Thousands of Acres)

UPPER SALMON

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	83.5	83.5
1928	0	84.3	84.3
1950	0	107.4	107.4
1966	4.0	118.4	122.4
1980	27.6	93.4	121.0
1990	22.7	82.1	104.8

* pasture included in irrigated area

LOWER SALMON

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	15.8	15.8
1928	0	16.6	16.6
1950	0	16.6	16.6
1966	1.0	15.6	16.6
1980	3.0	14.6	17.6
1990	2.4	10.3	12.7

* irrigated pasture included in area

GRANDE RONDE

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	90.7	90.7
1928	0	92.1	92.1
1950	1.1	95.4	96.5
1966	20.0	77.0	97.0
1980	55.0	32.7	87.7
1990	43.8	36.0	79.8

CLEARWATER

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	3.6	3.6
1928	0	3.4	3.4
1950	0	3.5	3.5
1966	2.0	1.0	3.0
1980	2.4	0	2.4
1990	5.0	0	5.0

PALOUSE-LOWER SNAKE

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	27.6	27.6
1928	0	26.6	26.6
1946	0	26.6	26.6
1950	13.3	14.3	27.6
1966	23.0	3.0	26.0
1980	56.1	0.1	56.2
1990	63.8	0	63.8

199011VIL OF OR VICTORY MINI

UPPER SALMON DRAIN									
SHRINKAGE SYSTEM ONLY									
MONTH	DIVERSION		RETURN FLOW		DEPLETION		GRAVITY SYSTEM ONLY		
	%	AT PER 1000 A	%	AT PER 1000 A	AT PER 1000 A	CES PER 1000 A	DIVERSION	RETURN FLOW	DEPLETION
APR	1	15	8	62	4.7	0.798	1	-20	129
MAY	15	403	9	70	333	5.418	15	540	395
JUN	26	688	11	85	603	10.128	26	-922	111
JUL	33	878	12	93	785	12.764	33	1177	178
AUG	25	662	13	101	501	9.124	25	-887	194
SEP	1	32	12	93	62	1.035	1	-42	210
OCT	0	0	9	70	47	1.136	0	0	194
NOV	0	0	8	4.7	4.7	0.783	0	0	145
DEC	0	0	6	4.7	4.7	0.758	0	0	9.7
JAN	0	0	5	39	39	0.631	0	0	9.7
FEB	0	0	5	39	39	0.699	0	0	81
MAR	0	0	4	31	31	0.505	0	0	65
	100	2877	100	778	1901		100	-3588	1814
									1973

LOWER SALMON DRAIN									
SHRINKAGE SYSTEM ONLY									
MONTH	DIVERSION		RETURN FLOW		DEPLETION		GRAVITY SYSTEM ONLY		
	%	AT PER 1000 A	%	AT PER 1000 A	AT PER 1000 A	CES PER 1000 A	DIVERSION	RETURN FLOW	DEPLETION
APR	0	247	8	95	132	2.533	0	326	189
MAY	14	540	9	107	432	7.033	14	712	212
JUN	20	777	11	131	647	10.805	20	1028	250
JUL	26	1034	12	143	891	14.490	26	1365	283
AUG	21	827	13	155	673	10.939	21	1092	306
SEP	11	444	12	143	301	5.054	11	588	283
OCT	1	47	9	107	60	0.982	1	62	212
NOV	0	0	8	71	71	1.200	0	0	141
DEC	0	0	6	71	71	1.101	0	0	141
JAN	0	0	5	60	60	0.988	0	0	118
FEB	0	0	5	60	60	1.072	0	0	118
MAR	0	0	4	48	48	0.774	0	0	94
	99	3687	100	1190	2725		99	-5237	2357
									2812

GRAND RIVER DRAIN									
SHRINKAGE SYSTEM ONLY									
MONTH	DIVERSION		RETURN FLOW		DEPLETION		GRAVITY SYSTEM ONLY		
	%	AT PER 1000 A	%	AT PER 1000 A	AT PER 1000 A	CES PER 1000 A	DIVERSION	RETURN FLOW	DEPLETION
APR	2	33	6	13	20	0.341	2	58	113
MAY	14	301	6	13	288	4.683	14	518	113
JUN	25	556	7	13	543	9.127	25	957	113
JUL	32	699	7	15	663	11.170	32	1201	142
AUG	19	471	10	22	390	6.488	19	724	189
SEP	8	184	11	24	180	2.884	8	317	208
OCT	0	0	11	24	24	0.463	0	0	208
NOV	0	0	11	24	24	0.406	0	0	208
DEC	0	0	10	22	22	0.357	0	0	189
JAN	0	0	8	18	18	0.280	0	0	151
FEB	0	0	8	18	18	0.316	0	0	151
MAR	0	0	6	13	13	0.214	0	0	113
	100	2795	100	220	1975		100	3775	1888
									1887

1990 LEVEL OF DEVELOPMENT

SPRINKLER SYSTEM ONLY				GRAVITY SYSTEM ONLY			
MONTH	DIVISION		RETURN FLOW %	AF PER 1000 A	AF PER 1000 A	DEPLETION AF PER 1000 A	C/S PER 1000 A
	%						
APR	2	49	6	30	15	0.327	
MAY	12	298	6	30	268	4.328	
JUN	27	689	6	30	639	10.735	
JUL	36	904	7	35	868	14.128	
AUG	15	380	10	50	330	5.387	
SEP	6	150	11	55	99	1.607	
OCT	2	41	11	55	13	0.218	
NOV	0	0	11	55	55	0.920	
DEC	0	0	10	50	50	0.809	
JAN	0	0	8	40	40	0.848	
FEB	0	0	8	40	40	0.717	
MAR	0	0	6	30	30	0.486	
	100	2488	100	496	1991		

PALOUSE - LOWER SNAKE, WASHINGTON													
SPRINKLER SYSTEM ONLY						GRAVITY SYSTEM ONLY							
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION		RETURN FLOW		DEPLETION	
	%	AF P/R 1000 A	%	AF P/R 1000 A	C I S P/R 1000 A	AF P/R 1000 A		%	AF P/R 1000 A	%	AF P/R 1000 A	C I S P/R 1000 A	
APR	6	174	7	41	133	2,238	APR	6	284	7	125	2,100	
MAY	18	538	9	52	484	7,870	MAY	18	815	9	139	10,343	
JUN	28	755	11	64	691	11,808	JUN	28	1147	11	219	15,860	
JUL	24	698	11	64	632	10,276	JUL	24	1058	11	219	13,840	
AUG	16	484	11	64	646	6,486	AUG	18	702	11	219	7,850	
SEP	9	259	11	64	398	3,283	SEP	9	384	11	219	2,945	
OCT	1	27	8	47	195	0,315	OCT	1	41	8	159	1,918	
NOV	0	0	7	41	41	0,885	NOV	0	0	7	139	2,342	
DIC	0	0	7	41	41	0,883	DIC	0	0	7	139	2,281	
JAN	0	0	7	41	41	0,883	JAN	0	0	7	139	2,201	
FEB	0	0	6	35	35	0,629	FEB	0	0	6	119	2,151	
MAR	0	0	5	29	29	0,473	MAR	0	0	5	100	1,619	
	100	2911	100	582	2327		100	4425	100	1991	2431		

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USGS # 13266001

GALLOWAY

River: WEISER

Drainage Area: 1460 Sq. Mi.

Regulated Flows - 1989 Conditions - Computed by IDWR

River Mile: 13.5

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												278	
1928-29	242	200	104	146	159	155	180	1351	1618	1480	892	293	570
1929-30	254	109	42	81	242	124	978	950	1081	973	301	270	447
1930-31	236	37	68	101	109	138	254	1849	1245	789	250	263	447
1931-32	80	35	<u>39</u>	<u>77</u>	125	135	224	3345	3632	3648	1452	299	1093
1932-33	268	200	102	158	117	143	<u>148</u>	1249	3106	2474	1993	299	855
1933-34	254	198	70	136	665	1229	745	976	1383	581	250	200	556
1934-35	65	35	46	203	317	493	405	1343	2430	1914	650	252	680
1935-36	174	<u>35</u>	42	103	<u>96</u>	158	269	1872	3795	2690	766	285	857
1936-37	252	173	55	79	99	<u>104</u>	155	1521	1879	1538	563	270	559
1937-38	78	44	85	407	1519	851	1973	4251	3743	3635	2084	415	1586
1938-39	268	217	185	255	257	229	205	2641	1872	1272	393	272	676
1939-40	262	123	91	94	198	533	2573	3729	4011	1927	605	293	1196
1940-41	270	207	267	660	924	955	1844	2225	2007	1978	1360	348	1081
1941-42	309	250	207	257	1418	799	1394	1947	3317	2348	1568	306	1173
1942-43	275	222	132	329	972	2163	1260	3236	4808	2449	2124	558	1543
1943-44	278	250	171	276	200	164	428	1028	1494	1212	956	299	562
1944-45	237	200	99	289	164	444	1948	1781	1437	3215	2096	350	1014
1945-46	270	250	146	378	1047	660	373	4431	3628	2864	901	304	1278
1946-47	270	222	177	981	1595	369	1464	1556	1423	2101	1165	299	965
1947-48	260	208	216	282	296	810	869	1025	2674	3745	2072	350	1066
1948-49	278	207	146	207	211	179	805	3352	2410	2609	778	276	957
1949-50	237	200	148	192	158	272	1030	2934	2596	2345	1810	355	1021
1950-51	275	250	221	284	491	496	1694	1802	2849	2373	923	299	990
1951-52	262	200	379	625	1534	725	1314	2620	<u>8058</u>	<u>4635</u>	1892	444	1885
1952-53	275	250	122	158	215	2627	1649	1208	2161	2625	<u>3739</u>	555	1243
1953-54	272	250	125	202	319	987	1532	1308	2274	2316	1052	299	906
1954-55	270	200	156	181	151	156	158	592	2030	2290	1568	350	676
1955-56	267	250	137	299	<u>2786</u>	2069	1222	2134	2776	2799	1360	312	1371
1956-57	272	200	361	360	494	226	1973	3895	2902	4302	1602	299	1404
1957-58	270	200	159	166	410	392	3709	2148	3173	4277	1902	324	1410
1958-59	286	200	128	203	237	842	1190	846	1607	1597	1007	296	699
1959-60	270	250	324	213	179	181	584	3284	2311	2062	1267	294	936
1960-61	267	203	111	654	320	272	2280	1927	1563	1726	966	281	870
1961-62	255	161	107	229	424	330	1635	1391	2455	1883	1176	280	853
1962-63	259	200	<u>626</u>	716	1347	385	2024	683	2237	2033	1042	299	978
1963-64	257	200	117	321	247	345	396	1319	4553	2654	2563	475	1116
1964-65	312	313	171	202	2576	2360	1653	1335	3625	2986	1800	350	1472
1965-66	333	250	140	225	244	486	283	1343	1519	1212	454	276	565
1966-67	237	91	67	173	649	1358	1023	1169	1111	2799	2149	327	929
1967-68	260	200	197	180	184	276	2594	1260	916	1408	877	285	711
1968-69	275	200	163	395	372	1748	823	2506	4250	2861	1153	312	1256
1969-70	270	203	168	133	329	<u>4376</u>	1808	1496	963	2887	2554	509	1308
1970-71	267	291	211	665	1404	2304	1483	3053	3588	4058	2524	759	1719
1971-72	311	260	237	245	477	1529	1850	4054	1591	2786	2286	350	1331
1972-73	285	250	194	197	686	1047	619	1929	1228	1716	689	285	763
1973-74	257	200	135	<u>1447</u>	1982	3176	1572	3614	3711	3040	2943	678	1897
1974-75	350	250	163	203	184	221	727	2975	2201	3514	2685	686	1182
1975-76	355	250	316	341	720	411	746	2062	3388	2833	1012	299	1061
1976-77	293	234	174	136	127	150	166	<u>137</u>	<u>173</u>	<u>190</u>	<u>180</u>	<u>98</u>	<u>171</u>
1977-78	<u>65</u>	45	120	150	1226	1371	1995	2304	3126	2599	1598	439	1247
1978-79	260	250	128	134	153	153	699	2376	1509	2036	662	299	723
1979-80	267	200	135	143	325	1117	2441	1600	2359	2443	1639	350	1077
1980-81	250	250	148	212	1415	934	2569	1379	1709	1654	1059	299	979
1981-82	257	200	137	588	1522	691	<u>5463</u>	3516	3254	3368	2237	<u>867</u>	1815
1982-83	369	277	276	413	1852	1560	3518	<u>5432</u>	3075	3393	2405	740	<u>1934</u>
1983-84	410	250	333	650	932	572	916	5095	3146	3150	2553	649	1557
1984-85	<u>465</u>	<u>405</u>	333	387	395	351	364	1521	2867	1654	771	329	821
1985-86	348	319	293	339	309	312	4948	4032	2057	1965	1331	428	1365
1986-87	368	387	200	217	203	197	738	1769	993	711	242	161	514
1987-88	137	79	72	134	185	197	607	803	1059	786	492	177	392
1988-89	104	62	42	249	246	257	328	4838	2818	1820	993	304	1010
1989-90	301	183											
MEAN	263	202	168	303	635	792	1325	2219	2504	2348	1373	358	1038
MEDIAN	268	202	146	217	320	444	1030	1872	2359	2348	1176	299	1010

GAL3R9

USGS # 13289710

BROWNLEE

River: SNAKE

Drainage Area:

72590 Sq. Mi.

Brownlee Inflows - 1989 conditions - computed by IDWR.

River Mile:

285

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												11290	
1928-29	11320	13850	14390	16440	17610	17740	13170	16940	18770	16100	13690	9670	14980
1929-30	9916	11380	11960	12880	14080	12710	18810	13720	12430	13280	10100	8968	12480
1930-31	10340	12020	12760	11240	12790	11400	13050	13870	12200	9893	<u>7584</u>	7233	<u>11190</u>
1931-32	7812	9719	<u>10500</u>	<u>11190</u>	11390	<u>10820</u>	<u>11050</u>	19620	20770	24310	21690	10390	14100
1932-33	9862	13170	13560	12810	12060	11630	11520	13770	16600	17580	23860	9398	13810
1933-34	10020	12680	12700	12560	12940	14240	13260	12860	12360	9461	7742	7913	11550
1934-35	8471	<u>9526</u>	11080	11290	10860	10950	11170	11840	16190	13390	12300	8785	11310
1935-36	9077	10400	11140	11290	<u>10770</u>	11880	12730	14540	28740	26320	17300	9709	14470
1936-37	10700	12930	12450	12260	11960	11200	12090	13500	16500	13700	10910	8846	12250
1937-38	9761	11910	13030	13150	15920	13520	16130	22280	34820	40430	26230	14520	19310
1938-39	11410	13660	15980	16630	16140	17570	14730	19340	21030	14870	9702	9717	15060
1939-40	10200	12470	13110	12280	12670	12810	18100	22470	27030	21180	12010	9470	15290
1940-41	9433	13340	14060	13710	14370	13800	16980	18790	17040	16970	18700	10280	14760
1941-42	11000	13380	13880	13930	16490	13370	15460	15930	25290	21740	21570	10450	16020
1942-43	10160	13470	14150	14560	17360	24770	28740	42670	65490	38660	31760	19430	26700
1943-44	11900	15270	16000	17620	21700	17800	16160	14870	17870	13720	13970	9998	15560
1944-45	10320	12270	13430	13620	14260	15640	19920	16030	21110	29210	23040	11120	16630
1945-46	11070	14890	15010	16830	23130	20570	19810	30320	45330	37050	20130	11230	22110
1946-47	11310	14620	16390	17690	23530	18500	22270	17940	30630	23950	19920	10660	18900
1947-48	11040	14120	15730	16280	18290	20000	17310	16320	19160	33000	30670	11510	18610
1948-49	10910	14020	15500	15450	14000	16390	17060	28990	31140	31090	15310	9897	18320
1949-50	10330	13140	14680	15830	14190	18250	18950	24250	44830	26920	23860	15030	19980
1950-51	11290	14810	17430	24170	24640	21660	31330	28810	45350	37390	19600	11770	23940
1951-52	12100	15040	17120	19620	26250	25300	28310	29160	<u>78290</u>	52960	31000	14420	29060
1952-53	11640	14660	16030	15860	17010	24860	23480	17410	22250	29850	37100	14640	20350
1953-54	11460	14520	15190	16380	14980	19080	22900	17610	35020	24000	18520	11620	18370
1954-55	10760	13840	14280	15810	14250	15230	14680	12420	16800	17050	16000	10620	14290
1955-56	9975	12840	14470	13990	22580	28640	27180	36370	42390	41030	31800	12060	24420
1956-57	12070	15610	16590	18030	22080	17940	25380	26870	45130	50640	27850	11170	24070
1957-58	11530	14580	16030	15840	20030	19460	27180	20310	36520	45190	28630	11270	22150
1958-59	11890	14660	14860	13800	15210	17140	17140	15020	20180	19680	16250	9965	15460
1959-60	11000	15500	15650	12860	14960	15470	18180	22510	22920	19040	17970	9642	16290
1960-61	10920	13370	13460	13570	12670	11360	16480	14600	12670	13730	13600	7958	12830
1961-62	8370	10640	12530	12560	12120	10960	17940	14960	29790	23420	16970	10110	14980
1962-63	10690	12970	16960	17310	17870	14950	25470	13370	21140	19540	29780	10900	17480
1963-64	10540	14130	14090	14400	14850	14390	15600	15920	32180	27320	31680	11280	17990
1964-65	11140	14230	15680	16650	<u>29690</u>	33360	37920	32260	50100	44480	34740	16680	27990
1965-66	14610	18510	17560	21180	21910	20250	16300	16190	16910	13360	11220	9434	16450
1966-67	9785	11930	13020	12850	13400	13720	15280	13700	22750	24090	29090	12030	15940
1967-68	10600	14520	15510	16530	19360	18000	20300	15710	12580	15530	14990	9483	15240
1968-69	12480	13900	15390	16880	19360	25810	29110	27550	44270	38430	19580	11220	22770
1969-70	11350	14440	16010	15640	15500	28350	24920	17830	24060	32390	34750	14800	20790
1970-71	12170	17070	16640	18110	25280	<u>41720</u>	35800	37240	53590	59550	47610	22730	32240
1971-72	13880	<u>18720</u>	20800	24790	24540	32450	33410	60330	39570	42180	38490	13230	30180
1972-73	12180	16150	18690	22650	22200	24910	19110	17590	19540	19420	13480	10350	18010
1973-74	11100	14130	15710	21600	24310	29840	26060	34140	56130	41530	46850	18810	28300
1974-75	12910	15240	18350	22680	21890	20170	21180	25900	43270	46120	40510	17540	25460
1975-76	14400	15900	20030	22760	26190	25330	24220	28590	44990	44880	26350	12000	25460
1976-77	13760	16880	15470	19730	20340	17690	15600	<u>11510</u>	<u>9386</u>	<u>8941</u>	7957	<u>7040</u>	13680
1977-78	<u>7489</u>	9762	11010	11360	14560	14550	16050	19150	25930	36870	20610	14280	16810
1978-79	11390	15830	14320	14970	17890	18200	18870	20020	23080	16680	11620	9141	15970
1979-80	10270	12270	12800	12630	13930	16030	20750	16490	24760	32150	33320	12160	18090
1980-81	10920	15380	15120	15740	19270	19530	20580	15380	17760	17850	18920	9747	16310
1981-82	10040	12580	13530	13980	18240	15260	<u>40830</u>	40180	49260	51820	34850	<u>23390</u>	26880
1982-83	13030	17040	<u>20950</u>	24240	27560	33760	32710	51520	48040	54810	49800	21870	32930
1983-84	15740	15290	20160	<u>28020</u>	29260	39130	26770	46860	60320	<u>63880</u>	<u>63360</u>	18850	<u>35620</u>
1984-85	<u>17580</u>	16450	19600	25670	25630	26030	19980	21510	39260	26980	14200	10210	21920
1985-86	11180	15540	17100	16360	16140	24080	39920	<u>61600</u>	48490	40900	40360	13040	28620
1986-87	12320	16670	18980	21320	20900	21500	17940	16970	11790	12300	9994	9481	15840
1987-88	9821	12130	12450	12610	13120	11440	13420	12590	11630	11130	9839	7775	11490
1988-89	7848	9884	11330	12290	11460	11040	12010	25720	30780	19950	13260	9728	14610
1989-90	11030	13300											
MEAN	11120	13920	15120	16310	18000	19250	20800	22830	30230	28360	23190	11900	19220
MEDIAN	11010	14070	15120	15810	17010	17800	18870	17940	25290	24310	19920	10780	17480

BRN3R**

BROWNLEE

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												832	
1928-29	3225	4257	-1450	704	3470	3740	295	-8272	-8411	-4477	-5370	995	-768
1929-30	2267	2050	537	-4204	-2722	-2328	600	-428	-2334	-3660	-3375	1283	-1029
1930-31	2237	2891	1287	-2372	-1812	-1094	1307	-269	-1808	-2430	-696	654	-184
1931-32	951	1792	979	-105	-30	-446	-826	-5136	-7641	-10165	-4861	298	-2099
1932-33	1646	3516	2383	272	-543	-331	-168	-1610	-3287	-3930	-5890	-180	-674
1933-34	1531	2831	1335	232	372	-373	235	-376	-3018	-2406	-1013	474	-14
1934-35	1047	1513	1836	891	288	199	662	288	-1680	-4757	-5143	671	-349
1935-36	1213	1652	1690	579	775	518	121	-798	-6906	-9409	-9361	1269	-1542
1936-37	2103	2914	1831	1156	1100	975	86	-797	-5296	-5712	-2929	566	329
1937-38	1347	2467	2231	1012	460	563	1532	-2965	-8642	5567	11184	-5059	-1990
1938-39	2187	3488	3109	3324	3025	4493	377	-6510	-5359	-4316	-1382	805	272
1939-40	1577	2320	1917	771	948	348	1910	136	-3929	-1711	-2290	1032	255
1940-41	988	1939	1202	-244	1067	453	884	-857	-2195	-3875	-3058	248	-290
1941-42	881	1871	681	-686	-279	-927	-1909	-1140	-11613	-6492	-5847	-965	2184
1942-43	451	1907	1033	-893	167	1077	2433	8088	1763	1269	-15627	-6581	-402
1943-44	700	3092	-993	-256	5856	3185	3256	-640	-2848	-3512	-10159	-57	-191
1944-45	615	1305	1237	41	2052	1492	1542	-913	726	-2738	-9580	-886	-426
1945-46	934	3080	1066	-1051	3447	332	1419	-216	-3201	602	-4906	-70	127
1946-47	1266	2179	859	64	3160	2555	2905	-42	10716	-4855	-10748	41	658
1947-48	881	2069	1065	1403	2409	2955	1271	1752	-4327	824	-7124	-918	206
1948-49	436	1637	1942	1969	-1589	14	-3819	-692	5709	4438	-4217	-432	476
1949-50	-136	1029	78	1697	945	3971	1175	1436	12717	-653	-8123	-5828	676
1950-51	-243	1667	521	6737	6667	1629	2135	-798	7293	-2306	-6791	-1883	1200
1951-52	-256	2273	-1606	1303	5642	4586	3667	-3802	6409	-1901	-1748	-2545	976
1952-53	-305	795	1392	2979	3860	5052	3865	-3086	193	6470	-7050	-625	1127
1953-54	-76	1181	691	2111	274	3493	5524	-1219	10506	-215	-2808	-1112	1483
1954-55	-530	982	-1331	905	396	1455	2440	-1629	-2059	-353	-227	-654	-70
1955-56	-361	727	547	298	2287	7516	5963	5748	4475	1780	-9057	-230	1643
1956-57	-88	1992	-457	2103	6351	3559	4416	-6256	9382	-137	-1294	-415	1557
1957-58	-169	628	-23	1654	5186	4574	2004	-3828	-12	11732	-4316	-134	1458
1958-59	-235	612	635	-15	1762	3151	2694	886	4579	3252	56	-340	1411
1959-60	153	448	-143	-375	1969	3699	3149	2420	1684	121	879	-475	1095
1960-61	-569	824	-53	-295	-1	-814	899	823	-273	557	1974	-354	217
1961-62	225	-47	391	652	427	139	1183	-1692	7831	1849	45	623	916
1962-63	-330	238	415	2177	2426	2208	5546	898	4642	-1124	-4191	398	1076
1963-64	16	1021	640	254	1320	1271	2085	995	7727	1296	-3748	131	1054
1964-65	-18	649	1027	687	4205	5707	-8521	-4454	10088	2911	3214	576	1548
1965-66	391	3953	1877	4341	1957	-525	-3183	-1841	2283	609	86	97	850
1966-67	-146	113	-220	-672	-241	-738	1911	718	10264	5825	3648	-449	1647
1967-68	532	1885	563	947	3210	2313	-507	751	1527	3504	952	375	1348
1968-69	-522	1546	1108	581	2598	1072	2985	-3181	2176	8101	-789	546	1343
1969-70	585	854	1098	2184	1858	3745	4989	-134	5605	-356	2137	-988	1762
1970-71	999	2147	266	277	4725	8548	2314	4160	1590	4849	5895	1569	2864
1971-72	2689	4569	-3132	-222	-157	2294	185	4865	-4076	8891	2708	859	1640
1972-73	474	1101	-1930	1618	792	2293	-1457	-3507	-746	5079	2219	1107	599
1973-74	1336	992	2038	4588	5715	7467	1589	-7094	5448	2279	8243	-649	2648
1974-75	1608	1792	2150	5719	2964	256	-562	-4758	-1012	-4846	5898	3466	1064
1975-76	2872	2510	1976	4262	3936	2312	-137	-1886	-1096	2822	150	1832	1641
1976-77	175	730	-1648	3591	3321	2674	1633	-1071	1423	-92	240	772	968
1977-78	298	1251	648	339	205	-301	-654	-1843	-5368	7126	847	1006	315
1978-79	749	314	648	-674	1989	192	-1933	-6017	371	49	547	662	-249
1979-80	-1378	24	213	1200	3146	1564	4751	762	2712	1563	-130	-356	1155
1980-81	515	-75	1496	1003	2029	3999	2837	377	-1989	-1634	-6837	1069	235
1981-82	1145	-123	-1176	-377	768	199	2900	2122	-1597	2986	575	-269	588
1982-83	574	100	277	36	-1869	2060	-1395	1274	478	-1247	1441	-2398	-51
1983-84	778	-721	2752	1479	-252	3636	-228	4396	-2407	-2694	3247	-2981	124
1984-85	2504	-1648	-5482	-2047	2547	1585	-3059	-2290	2554	3280	-1616	407	-245
1985-86	-469	-1209	1020	838	269	5224	-945	3289	-1575	-1201	2884	507	738
1986-87	358	-657	-3994	483	-1252	2636	3248	1673	386	1133	597	224	382
1987-88	449	687	-321	627	1504	185	1699	1460	392	604	500	907	721
1988-89	366	686	1269	160	342	158	-394	-622	3362	2213	272	752	718
1989-90	175	1165											
MEAN	675	1416	401	914	1729	1991	1163	-678	641	-9	-2200	-178	487

BRN3DD9

USGS #	BROWNLEE										River:	SNAKE	Drainage Area:	72590	Sq. Mi.
Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)												River Mile:	285		
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE		
1927-28												11210			
1928-29	11210	13760	14350	16430	17610	17740	13170	16940	18770	16090	13660	9590	14950		
1929-30	9806	11290	11920	12870	14080	12710	18810	13720	12430	13270	10070	8888	12450		
1930-31	10230	11930	12720	11230	12790	11400	13050	13870	12200	9883	7554	7153	11160		
1931-32	7702	9629	10460	11180	11390	10820	11050	19620	20770	24300	21660	10310	14070		
1932-33	9752	13080	13520	12800	12060	11630	11520	13770	16600	17570	23830	9318	13780		
1933-34	9910	12590	12660	12550	12940	14240	13260	12860	12360	9451	7712	7833	11520		
1934-35	8361	9436	11040	11280	10860	10950	11170	11840	16190	13380	12270	8705	11280		
1935-36	8967	10310	11100	11280	10770	11880	12730	14540	28740	26310	17270	9629	14440		
1936-37	10590	12840	12410	12250	11960	11200	12090	13500	16500	13690	10880	8766	12210		
1937-38	9651	11820	12990	13140	15920	13520	16130	22280	34820	40420	26200	14440	19280		
1938-39	11300	13570	15940	16620	16140	17570	14730	19340	21030	14860	9672	9637	15030		
1939-40	10090	12380	13070	12270	12670	12810	18100	22470	27030	21170	11980	9390	15260		
1940-41	9323	13250	14020	13700	14370	13800	16980	18790	17040	16960	18670	10200	14730		
1941-42	10890	13290	13840	13920	16490	13370	15460	15930	25290	21730	21540	10370	15990		
1942-43	10050	13380	14110	14550	17360	24770	28740	42670	65490	38650	31730	19350	26670		
1943-44	11790	15180	15960	17610	21700	17800	16160	14870	17870	13710	13940	9918	15530		
1944-45	10210	12180	13390	13610	14260	15640	19920	16030	21110	29200	23010	11040	16600		
1945-46	10960	14800	14970	16820	23130	20570	19810	30320	45330	37040	20100	11150	22080		
1946-47	11200	14530	16350	17680	23530	18500	22270	17940	30630	23940	19890	10580	18870		
1947-48	10930	14030	15690	16270	18290	20000	17310	16320	19160	32990	30640	11430	18580		
1948-49	10800	13930	15460	15440	14000	16390	17060	28990	31140	31080	15280	9817	18280		
1949-50	10220	13050	14640	15820	14190	18250	18950	24250	44830	26910	23830	14950	19950		
1950-51	11180	14720	17390	24160	24640	21660	31330	28810	45350	37380	19570	11690	23910		
1951-52	11990	14950	17080	19610	26250	25300	28310	29160	78290	52950	30970	14340	29030		
1952-53	11530	14570	15990	15850	17010	24860	23480	17410	22250	29840	37070	14560	20320		
1953-54	11350	14430	15150	16370	14980	19080	22900	17610	35020	23990	18490	11540	18340		
1954-55	10650	13750	14240	15800	14250	15230	14680	12420	16800	17040	15970	10540	14260		
1955-56	9865	12750	14430	13980	22580	28640	27180	36370	42390	41020	31770	11980	24390		
1956-57	11960	15520	16550	18020	22080	17940	25380	26870	45130	50630	27820	11090	24040		
1957-58	11420	14490	15990	15830	20030	19460	27180	20310	36520	45180	28600	11190	22120		
1958-59	11780	14570	14820	13790	15210	17140	17140	15020	20180	19680	16250	9965	15440		
1959-60	11000	15500	15650	12860	14960	15470	18180	22510	22920	19040	17970	9642	16290		
1960-61	10920	13370	13460	13570	12670	11360	16480	14600	12670	13730	13600	7958	12830		
1961-62	8370	10640	12530	12560	12120	10960	17940	14960	29790	23420	16970	10110	14980		
1962-63	10690	12970	16960	17310	17870	14950	25470	13370	21140	19540	29780	10900	17480		
1963-64	10540	14130	14090	14400	14850	14390	15600	15920	32180	27320	31680	11280	17990		
1964-65	11140	14230	15680	16650	29690	33360	37920	32260	50100	44480	34740	16680	27990		
1965-66	14610	18510	17560	21180	21910	20250	16300	16190	16910	13360	11220	9434	16450		
1966-67	9785	11930	13020	12850	13400	13720	15280	13700	22750	24090	29090	12030	15940		
1967-68	10600	14520	15510	16530	19360	18000	20300	15710	12580	15530	14990	9483	15240		
1968-69	12480	13900	15390	16880	19360	25810	29110	27550	44270	38430	19580	11220	22770		
1969-70	11350	14440	16010	15640	15500	28350	24920	17830	24060	32390	34750	14800	20790		
1970-71	12170	17070	16640	18110	25280	41720	35800	37240	53590	59550	47610	22730	32240		
1971-72	13880	18720	20800	24790	24540	32450	33410	60330	39570	42180	38490	13230	30180		
1972-73	12180	16150	18690	22650	22200	24910	19110	17590	19540	19420	13480	10350	18010		
1973-74	11100	14130	15710	21600	24310	29840	26060	34140	56130	41530	46850	18810	28300		
1974-75	12910	15240	18350	22680	21890	20170	21180	25900	43270	46120	40510	17540	25460		
1975-76	14400	15900	20030	22760	26190	25330	24220	28590	44990	44880	26350	12000	25460		
1976-77	13760	16880	15470	19730	20340	17690	15600	11510	9386	8941	7957	7040	13680		
1977-78	7489	9762	11010	11360	14560	14550	16050	19150	25930	36870	20610	14280	16810		
1978-79	11390	15830	14320	14970	17890	18200	18870	20020	23080	16680	11620	9141	15970		
1979-80	10270	12270	12800	12630	13930	16030	20750	16490	24760	32150	33320	12160	18090		
1980-81	10920	15380	15120	15740	19270	19530	20580	15380	17760	17850	18920	9747	16310		
1981-82	10040	12580	13530	13980	18240	15260	40830	40180	49260	51820	34850	23390	26880		
1982-83	13030	17040	20950	24240	27560	33780	32710	51520	48040	54810	49800	21870	32930		
1983-84	15740	15290	20160	28020	29260	39130	26770	46860	60320	63880	63380	18850	35620		
1984-85	17580	16450	19600	25670	25630	26030	19980	21510	39260	26980	14200	10210	21920		
1985-86	11180	15540	17100	16360	16140	24080	39920	61600	48490	40900	40360	13040	28620		
1986-87	12320	16670	18980	21320	20900	21500	17940	16970	11790	12300	9994	9481	15840		
1987-88	9821	12130	12450	12610	13120	11440	13420	12590	11630	11130	9839	7775	11490		
1988-89	7848	9884	11330	12290	11460	11040	12010	25720	30780	19950	13260	9728	14610		
1989-90	11030	13300													
MEAN	11070	13880	15100	16310	18000	19250	20800	22830	30230	28350	23170	11860	19210		
MEDIAN	10940	13980	15120	15800	17010	17800	18870	17940	25290	24300	19890	10740	17480		

USGS # 13290049

OXBOW

River SNAKE

Drainage Area: 72800 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 273

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												11210	
1928-29	11210	13780	14350	16430	17810	17740	13170	16940	18770	16090	13680	9590	14950
1929-30	9806	11290	11920	12870	14080	12710	18810	13720	12430	13270	10070	8888	12450
1930-31	10230	11930	12720	11230	12790	11400	13050	13870	12200	9883	<u>7554</u>	7153	<u>11160</u>
1931-32	7702	9829	<u>10460</u>	<u>11180</u>	11390	<u>10820</u>	<u>11050</u>	19620	20770	24300	21680	10310	14070
1932-33	9752	13080	13520	12800	12080	11630	11520	13770	16600	17570	23830	9318	13780
1933-34	9910	12590	12860	12550	12940	14240	13260	12380	12360	9451	7712	7833	11520
1934-35	8361	<u>9436</u>	11040	11280	10860	10950	11170	11840	16190	13380	12270	8705	11280
1935-36	8967	10310	11100	11280	<u>10770</u>	11880	12730	14540	28740	26310	17270	9629	14440
1936-37	10590	12840	12410	12250	11960	11200	12090	13500	16500	13690	10880	8766	12210
1937-38	9851	11820	12990	13140	15920	13520	16130	22280	34820	40420	26200	14440	19280
1938-39	11300	13570	15940	16620	16140	17570	14730	19340	21030	14860	9672	9637	15030
1939-40	10090	12380	13070	12270	12670	12810	18100	22470	27030	21170	11980	9390	15260
1940-41	9323	13250	14020	13700	14370	13800	16980	18790	17040	16960	18670	10200	14730
1941-42	10890	13290	13840	13920	16490	13370	15480	15930	25290	21730	21540	10370	15990
1942-43	10050	13380	14110	14550	17380	24770	28740	42670	65490	38650	31730	19350	26670
1943-44	11790	15180	15960	17610	21700	17800	16160	14870	17870	13710	13940	9918	15530
1944-45	10210	12180	13390	13610	14260	15840	19920	16030	21110	29200	23010	11040	16600
1945-46	10960	14800	14970	16820	23130	20570	19810	30320	45330	37040	20100	11150	22080
1946-47	11200	14530	16350	17680	23530	18500	22270	17940	30630	23940	19890	10580	18870
1947-48	10930	14030	15690	16270	18290	20000	17310	16320	19160	32990	30640	11430	18580
1948-49	10800	13930	15460	15440	14000	16390	17060	28990	31140	31080	15280	9817	18280
1949-50	10220	13050	14640	15820	14190	18250	18950	24250	44830	26910	23830	14950	19950
1950-51	11180	14720	17390	24160	24640	21660	31330	28810	45350	37380	19570	11690	23910
1951-52	11990	14950	17080	19610	26250	25300	28310	29160	<u>78290</u>	62950	30970	14340	29030
1952-53	11530	14570	15990	15850	17010	24860	23480	17410	22250	29840	37070	14560	20320
1953-54	11350	14430	15150	16370	14980	19080	22900	17610	35020	23990	18490	11540	18340
1954-55	10650	13750	14240	15800	14250	15230	14680	12420	16800	17040	15970	10540	14260
1955-56	9865	12750	14430	13980	22580	28640	27180	38370	42390	41020	31770	11980	24390
1956-57	11960	15520	16550	18020	22080	17940	25380	26870	45130	50630	27820	11090	24040
1957-58	11420	14490	15990	15830	20030	19460	27180	20310	38520	45180	28600	11190	22120
1958-59	11780	14570	14820	13790	15210	17140	17140	15020	20180	19680	16250	9965	15440
1959-60	11000	15500	15650	12860	14960	15470	18180	22510	22920	19040	17970	9642	16290
1960-61	10920	13370	13460	13570	12670	11360	16480	14600	12670	13730	13600	7958	12830
1961-62	8370	10640	12530	12580	12120	10960	17940	14960	29790	23420	16970	10110	14980
1962-63	10690	12970	16960	17310	17870	14950	25470	13370	21140	19540	29780	10900	17480
1963-64	10540	14130	14090	14400	14850	14390	15600	15920	32180	27320	31680	11280	17990
1964-65	11140	14230	15680	16650	<u>29690</u>	33360	37920	32260	50100	44480	34740	16680	27990
1965-66	14610	18510	17560	21180	21910	20250	16300	16190	16910	13360	11220	9434	16450
1966-67	9785	11930	13020	12850	13400	13720	15280	13700	22750	24090	29090	12030	15940
1967-68	10600	14520	15510	16530	19360	18000	20300	15710	12580	15530	14990	9483	15240
1968-69	12480	13900	15390	16880	19360	25810	29110	27550	44270	38430	19580	11220	22770
1969-70	11350	14440	16010	15640	15500	28350	24920	17830	24060	32390	34750	14800	20790
1970-71	12170	17070	16640	18110	25280	<u>41720</u>	35800	37240	53590	59550	47610	22730	32240
1971-72	13880	<u>18720</u>	20800	24790	24540	32450	33410	60330	39570	42180	38490	13230	30180
1972-73	12180	16150	18690	22650	22200	24910	19110	17590	19540	19420	13480	10350	18010
1973-74	11100	14130	15710	21600	24310	29840	26060	34140	56130	41530	46850	18810	28300
1974-75	12910	15240	18350	22680	21890	20170	21180	25900	43270	46120	40510	17540	25460
1975-76	14400	15900	20030	22760	26190	25330	24220	28590	44990	44880	26350	12000	25460
1976-77	13760	16880	15470	19730	20340	17690	15600	<u>11510</u>	<u>9386</u>	<u>8941</u>	7957	<u>7040</u>	13680
1977-78	<u>7489</u>	9762	11010	11360	14560	14550	16050	19150	25930	36870	20610	14280	16810
1978-79	11390	15830	14320	14970	17890	18200	18870	20020	23080	16680	11620	9141	15970
1979-80	10270	12270	12800	12630	13930	16030	20750	16490	24780	32150	33320	12160	18090
1980-81	10920	15380	15120	15740	19270	19530	20580	15380	17760	17850	18920	9747	16310
1981-82	10040	12580	13530	13980	18240	15280	<u>40830</u>	40180	49260	51820	34850	<u>23390</u>	26880
1982-83	13030	17040	<u>20950</u>	24240	27560	33760	32710	51520	48040	54810	49800	21870	32930
1983-84	15740	15290	20180	<u>28020</u>	29260	39130	26770	46860	60320	<u>63880</u>	<u>63380</u>	18850	<u>35620</u>
1984-85	<u>17560</u>	16450	19600	25670	25630	26030	19980	21510	39260	26980	14200	10210	21920
1985-86	11180	15540	17100	16360	16140	24080	39920	<u>61600</u>	48490	40900	40360	13040	28620
1986-87	12320	16670	18980	21320	20900	21500	17940	16970	11790	12300	9994	9481	15840
1987-88	9821	12130	12450	12610	13120	11440	13420	12590	11630	11130	9839	7775	11490
1988-89	7848	9884	11330	12290	11460	11040	12010	25720	30780	19950	13260	9728	14610
1989-90	11030	13300											
MEAN	11070	13880	15100	16310	18000	19250	20800	22830	30230	28350	23170	11860	19210
MEDIAN	10940	13980	15120	15800	17010	17800	18870	17940	25290	24300	19890	10740	17480

OXB3M9

USGS # 13290440

HELLS CANYON

River: SNAKE

Drainage Area: 73300 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 247.6

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												11370	
1928-29	11240	13800	14370	16480	17700	17910	13370	17370	19290	16800	14430	9701	15210
1929-30	9833	11330	11950	12960	14310	12820	19190	14150	13040	13630	10530	8962	12680
1930-31	10240	11970	12800	11290	12900	11800	13180	14110	12630	10350	<u>7816</u>	7192	<u>11330</u>
1931-32	7712	<u>9662</u>	<u>10500</u>	<u>11260</u>	11490	<u>11010</u>	<u>11240</u>	20050	21560	25530	22420	10460	14410
1932-33	9788	13120	13590	12860	12190	11860	11880	14040	17190	18320	25200	9510	14100
1933-34	9948	12630	12700	12640	13180	14740	13720	13470	12980	9844	7978	7883	11800
1934-35	8375	<u>9467</u>	11090	11380	11010	11160	11400	12070	16770	14070	12890	8807	11530
1935-36	8989	10340	11150	11350	<u>10880</u>	12030	12890	14790	29470	26950	17640	9677	14660
1936-37	10800	12870	12450	12310	12070	11310	12220	13750	16860	14350	11390	8855	12410
1937-38	9879	11860	13040	13240	16260	13840	16460	23020	36020	41860	27480	14690	19790
1938-39	11350	13620	16010	16720	16330	17780	14920	19990	21640	15390	9978	9704	15290
1939-40	10110	12410	13110	12330	12810	13070	18440	23220	27900	21800	12470	9459	15570
1940-41	9340	13290	14120	13940	14640	14140	17300	19490	17750	17710	19590	10390	15110
1941-42	10920	13360	13910	14080	17410	14040	16020	16360	26530	22700	22380	10600	16500
1942-43	10100	13430	14160	14690	17570	25130	29220	43200	66680	39380	32600	19720	27090
1943-44	11860	15230	16040	17720	21860	18010	16370	15080	18380	14200	14520	10030	15760
1944-45	10230	12230	13430	13710	14400	15910	20200	16400	21660	30120	23960	11200	16920
1945-46	10990	14850	15030	16930	23350	20890	20070	30810	46300	38040	20840	11330	22450
1946-47	11240	14590	16430	17900	24090	18850	22820	18550	31260	24710	20440	10670	19250
1947-48	10960	14070	15780	16440	18570	21440	17630	16650	20110	34530	32050	11640	19150
1948-49	10860	13980	15530	15560	14150	16660	17330	29530	31940	32000	15840	9908	18600
1949-50	10240	13090	14710	15930	14350	18470	19240	24670	45380	27630	24760	15210	20270
1950-51	11230	14770	17490	24360	24990	22000	31820	29190	46220	38210	20160	11840	24270
1951-52	12010	14990	17150	19720	26540	25580	28600	29470	<u>79460</u>	54290	32020	14630	29470
1952-53	11580	14620	16040	15930	17180	25250	23840	17840	22960	30690	38200	14900	20700
1953-54	11410	14480	15200	16470	15150	19370	23320	18080	35330	24740	19110	11720	18630
1954-55	10690	13800	14300	15910	14380	15420	14850	12600	17190	17870	16800	10710	14530
1955-56	9899	12810	14500	14130	23260	29280	27550	37210	43740	42340	32850	12190	24950
1956-57	12010	15570	16630	18150	22330	18200	25920	27480	45750	52090	28660	11220	24460
1957-58	11460	14540	16070	15930	20250	19710	28300	21430	38040	48260	31260	11580	23010
1958-59	11880	14700	14960	14100	15770	18190	17950	15990	21800	21480	18240	10290	16260
1959-60	11090	15670	15980	13200	15370	15930	18650	23940	24430	20650	19290	9796	16980
1960-61	10990	13460	13570	13800	13020	11740	17590	15770	13720	15390	15260	8086	13490
1961-62	8422	10730	12650	12740	12470	11560	18750	15880	31720	25050	18690	10470	15710
1962-63	10780	13070	17530	17890	19300	15560	27180	14580	22610	21450	31380	11200	18440
1963-64	10630	14230	14210	14640	15120	14750	15950	16540	33380	29180	33970	11700	18650
1964-65	11230	14340	15780	16830	<u>30510</u>	34480	39600	33500	52390	46720	37090	17310	29050
1965-66	14910	18750	18130	21540	22110	20570	16630	17310	18180	14540	11940	9573	17010
1966-67	9791	12030	13120	13030	14140	14530	16080	14390	23590	25830	31660	12830	16720
1967-68	10900	14930	15530	16810	19900	18800	21880	16550	13400	16680	16290	10050	15950
1968-69	13360	14360	15950	17290	19430	27580	30940	30130	47420	41560	22140	12020	24280
1969-70	12190	14710	16740	16090	16670	30530	27330	19690	25710	34950	37610	15500	22260
1970-71	12050	17400	17270	19270	27480	<u>44860</u>	39850	41600	56900	63250	52260	<u>24320</u>	34650
1971-72	13990	<u>19150</u>	20990	25040	24910	33290	34150	62800	40620	44420	41070	13580	31150
1972-73	12270	16260	18820	22860	22840	25530	19610	18690	20500	21240	14350	10460	18610
1973-74	11160	14210	15840	22660	25660	31930	26960	35880	58310	43960	51030	19970	29750
1974-75	13100	15360	18490	22870	22090	20420	21680	27220	44560	48280	43010	18450	26280
1975-76	14570	16020	20240	23030	26720	25770	24820	29590	47130	47110	27440	12260	26210
1976-77	13940	17020	15590	19880	20470	17820	15740	<u>11660</u>	<u>9527</u>	<u>9145</u>	8103	<u>7085</u>	13820
1977-78	<u>7520</u>	9820	11100	11580	15700	15410	17010	20750	28070	38720	22480	15110	17780
1978-79	11550	16090	14480	15120	18020	18310	19390	21630	24320	18750	12830	9302	16620
1979-80	10340	12340	12940	12830	14200	16560	21720	17260	26250	34210	34820	12630	18800
1980-81	11000	15530	15270	15970	20150	20230	21950	16230	18880	19320	20360	9940	17020
1981-82	10110	12650	13700	14420	19170	15690	<u>42890</u>	41920	51000	54240	37250	24210	27970
1982-83	13180	17200	<u>21240</u>	24560	28200	34470	34060	53990	49880	57550	52320	23050	34120
1983-84	15940	15470	20350	<u>28460</u>	29840	39500	27040	48960	62050	<u>66100</u>	<u>65860</u>	19840	<u>36600</u>
1984-85	<u>17770</u>	16650	19810	26030	25980	26340	20270	22440	41240	28640	15320	10320	22560
1985-86	11280	15710	17300	16660	16420	24380	42190	<u>64060</u>	49950	450	41730	13220	29500
1986-87	12400	16810	19150	21530	21080	21680	18470	18350	12690	13300	10220	9551	16260
1987-88	9872	12170	12500	12710	13310	11610	13810	13270	12490	11950	10380	7868	11820
1988-89	7894	9927	11380	12460	11700	11220	12290	28100	33020	21820	14810	9956	15380
1989-90	11130	13470											
MEAN	11160	13980	15240	16530	18410	19780	21500	23820	31410	29780	24520	12190	19830
MEDIAN	11000	14140	15200	15930	17410	18190	19240	19490	26530	25830	20840	10950	18440

HCD3M9

UPPER SALMON R. BASIN

Accumulated depletions at site (1990 level of development)

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-256	
1928-29	184	18	21	14	14	12	13	9	12	-103	-190	-239	-51
1929-30	-172	15	18	13	12	10	11	8	10	-98	-177	-222	-48
1930-31	-161	13	16	11	11	9	10	7	8	-89	-164	-205	-45
1931-32	-149	10	13	9	9	7	8	6	6	-82	-151	-189	-42
1932-33	-137	7	11	7	7	6	7	5	5	-78	-138	-172	-39
1933-34	-126	5	8	6	6	5	5	4	3	-69	-124	-155	-37
1934-35	-114	2	6	4	4	3	4	3	1	-62	-111	-138	-34
1935-36	-103	-1	3	2	2	2	2	1	-1	-55	-98	-121	-31
1936-37	-91	-3	1	1	1	0	1	0	-3	-49	-85	-105	-28
1937-38	-80	-6	-2	-1	-1	-1	-1	-1	-5	-42	-72	-88	-25
1938-39	-68	-9	-4	-3	-3	-2	-3	-2	-7	-35	-59	-71	-22
1939-40	-56	-11	-7	-5	-4	-4	-4	-3	-9	-28	-46	-54	-19
1940-41	-45	-14	-9	-6	-6	-5	-6	-4	-11	-22	-33	-38	-17
1941-42	-33	-17	-12	-8	-8	-6	-7	-5	-13	-15	-19	-21	-14
1942-43	-22	-19	-14	-10	-9	-8	-9	-6	-15	-8	-6	-4	-11
1943-44	-10	-22	-16	-11	-11	-9	-10	-7	-17	-1	7	13	-8
1944-45	1	-25	-19	-13	-13	-11	-12	-8	-19	5	20	30	-5
1945-46	13	-27	-21	-15	-14	-12	-13	-10	-21	12	33	46	-2
1946-47	24	-30	-24	-16	-16	-13	-15	-11	-23	19	46	63	1
1947-48	36	-33	-26	-18	-18	-15	-16	-12	-24	25	59	80	3
1948-49	48	-35	-29	-20	-19	-16	-18	-13	-26	32	73	97	6
1949-50	59	-38	-31	-22	-21	-17	-19	-14	-28	39	86	113	9
1950-51	71	-41	-34	-23	-23	-19	-21	-15	-30	45	97	128	12
1951-52	81	-43	-36	-25	-24	-20	-22	-16	-31	50	108	142	14
1952-53	90	-45	-38	-26	-25	-21	-23	-17	-32	56	119	156	17
1953-54	100	-47	-40	-27	-26	-22	-24	-18	-33	62	130	170	19
1954-55	110	-49	-41	-29	-28	-23	-26	-18	-35	68	141	184	22
1955-56	120	-51	-43	-30	-29	-24	-27	-19	-36	74	153	199	24
1956-57	130	-53	-45	-31	-30	-25	-28	-20	-37	79	164	213	27
1957-58	140	-55	-47	-33	-31	-26	-29	-21	-38	85	175	227	29
1958-59	150	-57	-49	-34	-33	-27	-30	-22	-40	91	186	241	32
1959-60	159	-59	-51	-35	-34	-28	-31	-23	-41	97	197	255	34
1960-61	169	-61	-53	-36	-35	-29	-33	-24	-42	102	208	269	37
1961-62	179	-63	-55	-38	-37	-30	-34	-24	-44	108	219	284	40
1962-63	189	-65	-57	-39	-38	-32	-35	-25	-45	114	230	298	42
1963-64	199	-67	-59	-40	-39	-33	-36	-26	-46	120	242	312	45
1964-65	209	-69	-61	-42	-40	-34	-37	-27	-47	125	253	326	47
1965-66	218	-71	-62	-43	-42	-35	-38	-28	-49	131	264	340	50
1966-67	228	-73	-64	-44	-43	-36	-40	-29	-45	129	259	333	49
1967-68	224	-70	-62	-43	-41	-34	-38	-28	-42	127	253	326	48
1968-69	220	-67	-60	-41	-40	-33	-37	-27	-39	124	248	319	48
1969-70	215	-64	-57	-40	-38	-32	-35	-26	-35	122	243	312	48
1970-71	211	-62	-55	-38	-37	-31	-34	-25	-32	120	238	305	48
1971-72	207	-59	-53	-36	-35	-29	-33	-23	-29	117	232	298	47
1972-73	203	-56	-51	-35	-34	-28	-31	-22	-26	115	227	291	47
1973-74	198	-53	-48	-33	-32	-27	-30	-21	-22	113	222	284	47
1974-75	194	-50	-46	-32	-31	-26	-28	-20	-19	110	216	277	46
1975-76	190	-48	-44	-30	-29	-24	-27	-19	-16	108	211	270	46
1976-77	185	-45	-41	-28	-28	-23	-25	-18	-12	106	206	263	46
1977-78	181	-42	-39	-27	-26	-22	-24	-17	-9	103	201	256	45
1978-79	177	-39	-37	-25	-24	-20	-23	-16	-6	101	195	249	45
1979-80	173	-36	-34	-24	-23	-19	-21	-15	-3	99	190	242	44
1980-81	168	-34	-32	-22	-21	-18	-20	-14	3	6	-1	10	3
1981-82	10	11	1	1	1	1	1	1	1	12	11	24	6
1982-83	19	8	-1	-1	-1	-1	-1	0	1	9	7	17	5
1983-84	14	7	0	0	0	0	0	0	1	6	3	11	3
1984-85	9	6	0	0	0	0	0	0	1	3	-1	4	2
1985-86	4	6	1	1	1	0	1	0	1	0	-5	-3	1
1986-87	-1	5	1	1	1	1	1	1	1	-3	-9	-9	-1
1987-88	-5	5	2	1	1	1	1	1	1	-6	-13	-16	-2
1988-89	-10	4	3	2	2	1	2	1	1	-9	-17	-22	-4
1989-90	-15	4											
MEAN	64	-30	-26	-18	-18	-15	-16	-12	-18	38	80	99	11

UPS3D9

LOWER SALMON R.

Accumulated depletions at site (1990 level of development)

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												76	
1928-29	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1929-30	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1930-31	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1931-32	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	15
1932-33	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1933-34	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1934-35	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1935-36	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	15
1936-37	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1937-38	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1938-39	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1939-40	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	15
1940-41	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1941-42	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1942-43	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1943-44	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	15
1944-45	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1945-46	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1946-47	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1947-48	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	15
1948-49	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1949-50	55	20	-13	-12	-12	-10	-11	-8	-8	35	55	76	16
1950-51	55	20	-13	-12	-12	-10	-11	-8	-8	34	55	76	15
1951-52	54	20	-13	-12	-12	-10	-11	-8	-8	34	55	76	15
1952-53	54	20	-13	-12	-12	-10	-11	-8	-8	34	55	76	15
1953-54	54	20	-13	-12	-12	-10	-11	-8	-8	34	55	76	15
1954-55	54	20	-13	-12	-11	-10	-11	-8	-8	34	55	76	15
1955-56	54	20	-13	-12	-11	-10	-11	-8	-8	34	55	75	15
1956-57	54	20	-13	-12	-11	-9	-10	-8	-7	34	55	75	15
1957-58	54	20	-12	-12	-11	-9	-10	-8	-7	34	54	75	15
1958-59	54	20	-12	-12	-11	-9	-10	-7	-7	34	54	75	15
1959-60	54	20	-12	-11	-11	-9	-10	-7	-7	34	54	75	15
1960-61	53	20	-12	-11	-11	-9	-10	-7	-7	34	54	74	15
1961-62	53	20	-12	-11	-11	-9	-10	-7	-7	34	54	74	15
1962-63	53	20	-12	-11	-11	-9	-10	-7	-7	34	54	74	15
1963-64	53	20	-12	-11	-11	-9	-10	-7	-6	34	54	74	15
1964-65	53	20	-12	-11	-11	-9	-10	-7	-6	34	54	74	15
1965-66	53	20	-12	-11	-11	-9	-10	-7	-6	33	53	73	15
1966-67	53	20	-12	-11	-11	-9	-10	-7	-6	34	54	74	15
1967-68	53	20	-12	-11	-11	-9	-10	-7	-6	34	55	75	15
1968-69	54	21	-12	-11	-11	-9	-10	-7	-6	35	55	76	16
1969-70	55	21	-12	-11	-11	-9	-10	-7	-6	35	56	77	16
1970-71	55	21	-12	-11	-11	-9	-10	-7	-5	36	57	77	16
1971-72	56	22	-11	-11	-11	-9	-10	-7	-5	36	57	78	16
1972-73	57	22	-11	-11	-11	-9	-10	-7	-5	36	58	79	17
1973-74	57	22	-11	-11	-11	-9	-10	-7	-5	37	58	80	17
1974-75	58	23	-11	-11	-11	-9	-10	-7	-5	37	59	81	17
1975-76	59	23	-11	-11	-11	-9	-10	-7	-5	38	60	82	17
1976-77	59	24	-11	-11	-11	-9	-10	-7	-4	38	60	82	18
1977-78	60	24	-11	-11	-11	-9	-10	-7	-4	39	61	83	18
1978-79	61	24	-11	-11	-11	-9	-10	-7	-4	39	62	84	18
1979-80	61	25	-11	-11	-11	-9	-10	-7	-4	39	62	85	18
1980-81	62	25	-11	-11	-11	-9	-10	-7	-9	-5	-8	-10	0
1981-82	-7	-3	2	2	2	1	2	1	-7	-1	-2	-3	-1
1982-83	-2	0	1	1	1	1	1	0	-7	-2	3	-4	-1
1983-84	-3	-1	1	1	1	1	1	1	-7	-2	3	-5	-1
1984-85	-3	-1	1	1	1	1	1	1	-7	-3	4	-6	-2
1985-86	-4	-1	1	1	1	1	1	1	-7	-3	5	-7	-2
1986-87	-5	-2	1	1	1	1	1	1	-7	-3	6	-8	-2
1987-88	-5	-2	1	1	1	1	1	1	-7	-4	6	-8	-2
1988-89	-6	-2	1	1	1	1	1	1	-7	-4	7	-9	-3
1989-90	-7	-3											
MEAN	46	17	-11	-10	-10	-8	-9	-6	5	29	47	65	13

LWS3D9

USGS # 13317000

WHITE BIRD

River: SALMON

Drainage Area: 13550 Sq. Mi

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 53.7

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												10870	
1928-29	4685	4159	4475	4144	3526	3404	3441	4284	<u>5422</u>	19330	32010	9826	8230
1929-30	3903	3544	3437	3224	4591	3112	4271	4546	15490	24840	23850	7050	8489
1930-31	4156	3615	4631	3772	3073	3203	3058	4070	7829	20340	11080	<u>3392</u>	<u>6036</u>
1931-32	<u>2205</u>	2551	2952	<u>3007</u>	2820	<u>2735</u>	<u>2872</u>	4585	10060	38860	41260	13090	10580
1932-33	4857	3862	4142	4415	3067	3405	2997	3827	7795	18400	56620	10380	10290
1933-34	4339	3621	3716	4497	4274	4466	4705	7805	21530	21310	9966	4165	7870
1934-35	2517	2547	3413	4005	3337	3150	3278	3612	8319	24290	28760	7990	7941
1935-36	3391	2734	2953	3248	<u>2739</u>	2915	2985	3837	17380	42120	25180	6582	9682
1936-37	3837	3396	3119	3085	3016	2966	3095	3525	5503	23450	18120	6072	6617
1937-38	2892	<u>2500</u>	<u>2947</u>	3267	4724	3348	3705	5220	13380	38570	47010	15580	11950
1938-39	5515	4037	4751	4365	3916	3621	3332	5649	13700	30460	14300	6419	8372
1939-40	3074	3055	3385	3216	3702	3408	3780	6411	14690	34690	20380	5843	8813
1940-41	3053	4100	5890	4984	4314	3637	3758	5226	9074	26690	24080	8565	8633
1941-42	5285	5046	5588	6887	<u>9473</u>	5246	4808	5039	19610	27070	37880	14600	12220
1942-43	5261	4135	4086	5282	4695	4743	4963	6129	<u>27120</u>	36620	52580	30320	15510
1943-44	8405	5177	4870	5122	4010	3474	3866	3851	6931	22100	27110	10700	8803
1944-45	5105	3922	3770	4323	3181	3497	3897	4009	5806	24490	35020	12110	9103
1945-46	4933	4000	4016	4618	4017	4128	3805	5550	15690	36040	27400	10230	10390
1946-47	4924	5377	6273	6263	6956	4267	4923	7078	13520	52050	32570	11830	13050
1947-48	5519	4778	5927	5498	4898	5024	4474	4480	10580	42470	60140	14260	13990
1948-49	6657	4654	5130	5025	4011	3658	4065	6211	14350	47930	28910	8489	11630
1949-50	4348	3659	4265	4600	4203	3755	4500	5316	9755	24950	50630	22000	11830
1950-51	6952	5164	6352	7184	5817	4590	5855	5389	18160	44110	37340	16950	13680
1951-52	7359	4833	5885	5129	4861	4176	4265	4549	16930	43850	39700	13460	12920
1952-53	5833	4103	3877	3770	3674	4725	4258	4718	10400	23170	53610	23020	12100
1953-54	6564	4323	4158	4496	4154	3967	4562	5053	11850	39180	33000	17130	11570
1954-55	8155	4333	4209	4209	3305	3429	3285	<u>3490</u>	5433	20520	43390	16740	9880
1955-56	5597	4097	4562	5508	7691	5699	4263	7401	20280	<u>56140</u>	53110	14870	15780
1956-57	6844	4860	5127	5207	4598	3676	4722	6176	9355	51550	47390	13100	13590
1957-58	5475	4382	4926	4460	4239	3669	4910	4686	8862	48510	36200	10650	11780
1958-59	5496	4133	4330	5370	5189	4565	4563	4762	11250	25520	45550	12440	11090
1959-60	5180	5374	8483	6717	4815	4110	4121	6505	14550	24840	35430	9081	10750
1960-61	5000	3929	3860	4248	3529	3244	4958	4826	7448	27000	35120	7023	9178
1961-62	3729	3942	4134	4024	3671	3804	4234	4025	14620	27540	39260	12490	10450
1962-63	5707	3686	<u>8523</u>	7383	6746	4252	<u>8051</u>	5823	8743	34700	42790	14930	12620
1963-64	6092	5086	4680	5203	4051	3786	3760	3897	8065	28420	55940	18810	12290
1964-65	7018	5423	4600	4695	7480	6763	6831	6405	18690	42130	68810	24800	16970
1965-66	<u>9159</u>	<u>7026</u>	5911	5419	4332	4505	4085	4809	10070	24340	19000	6491	8783
1966-67	3614	3266	3667	4141	3889	4162	4052	4717	5932	32240	57620	18360	12140
1967-68	5864	4276	6237	5930	4759	4357	5775	6912	8224	25080	36740	10520	10380
1968-69	6293	5521	6232	6531	5037	6242	5007	5532	19020	48130	33540	11050	13210
1969-70	5077	4107	4815	4391	4140	4986	4810	5026	5720	31450	54590	19150	12360
1970-71	6233	6273	5593	6294	5783	5907	7611	6145	12720	52840	68440	24860	<u>17410</u>
1971-72	8368	5696	5626	5283	4577	4544	4734	9229	8764	34800	64070	15800	14270
1972-73	6508	5259	5529	5115	4766	4225	3915	4552	6061	20990	18840	7137	7762
1973-74	3785	3773	3816	7261	5385	<u>8350</u>	5923	8150	14490	34680	<u>82880</u>	25420	16970
1974-75	8812	5143	4902	4849	4171	4031	4016	4750	5861	20490	60460	<u>35830</u>	13630
1975-76	8688	5455	6859	6619	7171	5478	5078	5662	13860	52360	45690	16690	14990
1976-77	8719	6635	5790	5085	4065	3756	3844	3708	6547	<u>10650</u>	14210	5616	6558
1977-78	3558	3767	4919	4676	6430	4726	4719	8346	15890	29180	46840	22650	12990
1978-79	7680	6449	4919	4515	3884	3752	4167	5321	7195	28740	23540	7473	8993
1979-80	4228	3123	3680	3734	3652	3631	4027	4746	12530	36730	30860	14140	10440
1980-81	5578	5383	4568	5567	6269	5666	5526	5833	11210	30510	39630	11340	11430
1981-82	4607	3724	4886	5774	5838	4739	7601	8060	11680	40650	65930	31770	16280
1982-83	8772	6108	7732	6160	5486	5451	5359	8586	9957	31200	48990	20160	13690
1983-84	8689	5813	6209	<u>8254</u>	5725	5672	5399	7335	12530	37530	60170	23870	15590
1984-85	8463	6458	6004	5883	4616	4304	4033	4886	14080	30450	21800	6503	9812
1985-86	4485	5697	5465	5209	4108	4293	6691	<u>11680</u>	18500	33870	43330	10440	12810
1986-87	5059	5707	5538	5315	4065	3741	4074	5178	10920	18930	<u>9519</u>	4637	6903
1987-88	3047	2631	3069	3330	3234	3086	3339	4094	11270	22320	19010	5369	6981
1988-89	2939	2589	3067	3741	3157	3232	3239	5791	13630	25730	25860	7679	8397
1989-90	4078	3509											
MEAN	5487	4444	4860	4976	4605	4237	4496	5525	11880	32260	38740	13530	11270
MEDIAN	5273	4147	4751	4984	4239	4110	4258	5178	11250	30460	37340	11970	11430

WHB3M9

USGS # 13317660

LIME POINT

River: SNAKE

Drainage Area: 88000 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 172

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												22800	
1928-29	16120	18110	18980	20760	21340	21410	16910	21990	25370	37380	47650	19910	23840
1929-30	13880	14990	15490	16280	19090	16020	23710	18990	29280	39190	35080	16250	21480
1930-31	14500	15680	17550	15170	16070	14910	16350	18400	21040	31570	19330	<u>10730</u>	<u>17620</u>
1931-32	<u>9996</u>	12300	<u>13550</u>	<u>14360</u>	14420	<u>13840</u>	<u>14230</u>	24950	32670	60550	65030	24020	25490
1932-33	14810	17090	17840	17420	15370	15370	14770	18080	25740	38100	84010	20500	24890
1933-34	14470	16360	16540	17290	17680	19490	18720	21760	35330	31850	<u>18380</u>	12230	20000
1934-35	10990	<u>12100</u>	14600	15530	14470	14430	14830	15860	25850	39610	42680	17130	19840
1935-36	12500	13170	14200	14700	<u>13700</u>	15030	15980	18830	47830	70220	43420	16430	24660
1936-37	14520	16350	15850	15470	15180	14350	15390	17470	22840	38990	30350	15230	19330
1937-38	12690	14450	16100	16650	21290	17380	20390	28810	50980	83030	76610	31080	32470
1938-39	17110	17780	20920	21250	20400	21530	18370	26150	36140	46820	24790	16350	24000
1939-40	13280	15550	16580	15630	16630	16630	22440	30210	43730	57620	33680	15540	24780
1940-41	12490	17500	20260	19270	19180	17980	21270	25260	27740	45750	45210	19550	24280
1941-42	16410	18600	19670	21220	27690	19680	21200	21740	47740	51520	61670	25970	29410
1942-43	15570	17710	18390	20160	22450	30080	34500	49740	95370	77320	86630	51200	43200
1943-44	20580	20570	21060	23010	26000	21600	20370	19090	25980	37160	42600	21100	24920
1944-45	15480	16260	17300	18190	17710	19570	24280	20680	28190	56280	60560	23850	26500
1945-46	16110	18990	19180	21710	27550	25210	24040	36750	63260	75890	49470	22160	33380
1946-47	16370	20150	22890	24500	31540	23340	28090	26100	45600	78170	53950	22850	32800
1947-48	16630	18970	21950	22190	23710	26810	22310	21390	31940	79800	94520	26570	33880
1948-49	17750	18790	20830	20760	18290	20330	21570	36160	47340	81600	45680	18700	30700
1949-50	14730	16860	19110	20670	18690	22360	23940	30310	55860	53880	76930	38030	32580
1950-51	18400	20070	24070	31840	31110	26780	38000	34880	65530	83840	58470	29280	38470
1951-52	19550	19950	23200	25010	31660	29910	33050	34260	<u>97920</u>	100600	73470	29000	43060
1952-53	17660	18870	20040	19810	21000	30210	28320	22890	34310	55400	93690	39050	33390
1953-54	18280	18960	19490	21120	19470	23510	28160	23500	48060	65280	53140	29430	30670
1954-55	17040	18290	18650	20260	17790	18970	18250	16230	23140	39900	61580	27970	24830
1955-56	15660	17040	19230	19860	31540	35350	32060	45250	65780	100900	87760	27730	41500
1956-57	19100	20610	21950	23560	27150	22030	30990	34130	55920	106300	77440	24750	38660
1957-58	17120	19050	21170	20550	24670	23540	33650	26490	47830	99320	69460	22820	35450
1958-59	17600	19000	19440	19680	21190	23120	22770	21060	34040	48480	65340	23230	27880
1959-60	16470	21260	24770	20150	20370	20210	22930	30940	39910	46810	55810	19180	28200
1960-61	16150	17520	17550	18210	16710	15120	22880	20990	21800	43740	51710	15380	23100
1961-62	12280	14790	16920	16900	16290	15570	23240	20190	47530	53930	59320	23510	26650
1962-63	16690	16890	26550	25650	26550	20020	35720	20810	32240	57710	75460	26590	31640
1963-64	16920	19470	19030	20010	19300	18660	19840	20610	42160	59130	91660	31120	31430
1964-65	18470	19920	20520	21660	<u>38300</u>	41630	46920	40320	72510	90700	107700	42960	46700
1965-66	24380	<u>25980</u>	24220	27140	26590	25230	20850	22530	29210	40090	31730	16350	26210
1966-67	13540	15410	16930	17380	18280	18940	20380	19480	30060	60060	91410	32030	29470
1967-68	16970	19340	21930	22900	24810	23330	27960	23930	22200	43040	54300	20960	26770
1968-69	19840	20030	22400	24120	24730	34160	36200	36010	67930	91770	57170	23500	38130
1969-70	17440	18950	21700	20610	20950	35780	32430	25020	31820	68230	93910	35240	35130
1970-71	18470	23860	23030	25790	33520	<u>51090</u>	47880	48120	70690	<u>118900</u>	122700	50200	52800
1971-72	22660	25030	26790	30500	29690	38010	39120	72900	50150	80920	106800	29970	46010
1972-73	19000	21670	24490	28120	27760	29950	23670	23490	27080	43380	33960	17890	26720
1973-74	15080	18110	19780	30550	31440	41130	33260	44790	74060	80500	<u>136500</u>	46690	47590
1974-75	22280	20690	23540	27870	26390	24580	25850	32250	50980	71020	105800	55630	40570
1975-76	23550	21660	27300	29860	34180	31480	30090	35490	61830	101200	74050	29440	41680
1976-77	22910	23820	21520	25080	24640	21670	19690	<u>15480</u>	<u>16420</u>	<u>20240</u>	22740	12820	20580
1977-78	11160	13700	16160	16410	22420	20360	22040	29820	45570	69430	70640	38670	31390
1978-79	19510	22790	19560	19770	22020	22200	23730	27380	32200	49290	37270	17090	26070
1979-80	14730	15570	16760	16700	18020	20380	26000	22310	39840	72550	67180	27500	29760
1980-81	16790	21110	19990	21730	26780	26190	27840	22460	30980	51330	61380	21760	28990
1981-82	14880	16500	18760	20540	25360	20660	<u>51060</u>	50680	63780	97000	105200	<u>57280</u>	45030
1982-83	22330	23540	<u>29230</u>	30960	33910	40240	39810	63550	60850	90680	103000	44230	48530
1983-84	24960	21490	26730	<u>36970</u>	35750	45360	32670	56800	75640	105500	128000	44770	<u>52850</u>
1984-85	<u>26540</u>	23310	26000	32140	30750	30780	24460	27610	56390	60370	38280	17120	32830
1985-86	15930	21590	22940	22050	20690	28880	49430	<u>76730</u>	69430	77780	86400	24010	42860
1986-87	17620	22700	24860	27020	25290	25550	22710	24050	24320	32990	20150	14380	23480
1987-88	13040	14900	15670	16140	16670	14810	17290	17610	24400	34970	30110	13470	19070
1988-89	10950	12610	14550	16320	14980	14580	15650	34400	47820	48650	41690	17980	24180
1989-90	15390	17150											
MEAN	16840	18570	20260	21690	23230	24220	26240	29740	44230	63610	64600	26280	31610
MEDIAN	16550	18830	19780	20670	22020	22030	23710	25020	42160	59130	61380	23500	29760

LIM3M9

WENAH

Accumulated depletions at site (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												489	
1928-29	204	-15	-172	-178	-157	-125	-139	-94	-68	165	398	492	27
1929-30	206	-14	-173	-179	-157	-126	-139	-94	-68	167	401	496	28
1930-31	207	-14	-173	-179	-158	-126	-140	-95	-68	168	403	499	28
1931-32	209	-13	-174	-180	-158	-126	-140	-95	-68	169	406	502	28
1932-33	211	-13	-174	-180	-159	-127	-140	-95	-68	170	409	505	29
1933-34	212	-13	-175	-181	-159	-127	-141	-95	-68	171	411	508	30
1934-35	214	-12	-176	-181	-160	-128	-141	-96	-68	173	414	511	30
1935-36	216	-12	-176	-182	-160	-128	-142	-96	-69	174	416	514	31
1936-37	217	-11	-177	-182	-161	-128	-142	-96	-69	175	419	518	32
1937-38	219	-11	-177	-183	-161	-129	-143	-97	-69	176	421	521	32
1938-39	220	-11	-178	-184	-161	-129	-143	-97	-69	178	424	524	33
1939-40	222	-10	-178	-184	-162	-130	-143	-97	-69	179	427	527	33
1940-41	224	-10	-179	-185	-162	-130	-144	-97	-69	180	429	530	34
1941-42	225	-9	-179	-185	-163	-130	-144	-98	-69	181	432	533	34
1942-43	227	-9	-180	-186	-163	-131	-145	-98	-70	182	434	537	35
1943-44	229	-9	-180	-186	-164	-131	-145	-98	-70	184	437	540	35
1944-45	230	-8	-181	-187	-164	-131	-146	-99	-70	185	440	543	36
1945-46	232	-8	-181	-187	-165	-132	-146	-99	-70	186	442	546	36
1946-47	233	-7	-182	-188	-165	-132	-146	-99	-70	187	445	549	37
1947-48	235	-7	-182	-188	-166	-133	-147	-99	-70	189	447	552	37
1948-49	237	-6	-183	-189	-166	-133	-147	-100	-70	190	450	556	38
1949-50	238	-6	-183	-190	-167	-133	-148	-100	-71	191	452	559	38
1950-51	240	-6	-184	-190	-167	-134	-148	-100	-70	189	447	552	37
1951-52	238	-5	-181	-187	-164	-131	-145	-98	-68	187	441	545	37
1952-53	235	-4	-177	-183	-161	-129	-143	-97	-67	185	436	538	38
1953-54	233	-2	-174	-179	-158	-126	-140	-95	-66	183	430	531	38
1954-55	231	-1	-170	-176	-155	-124	-137	-93	-65	181	425	524	38
1955-56	228	0	-167	-172	-152	-121	-134	-91	-64	179	419	518	38
1956-57	226	1	-163	-169	-149	-119	-132	-89	-63	177	414	511	38
1957-58	224	2	-160	-165	-145	-116	-129	-87	-62	175	408	504	39
1958-59	221	3	-157	-162	-142	-114	-126	-85	-61	173	403	497	39
1959-60	219	4	-153	-158	-139	-111	-123	-84	-60	171	397	490	38
1960-61	217	5	-150	-155	-136	-109	-121	-82	-59	169	392	483	39
1961-62	214	6	-146	-151	-133	-106	-118	-80	-58	167	386	476	39
1962-63	212	7	-143	-148	-130	-104	-115	-78	-57	165	381	469	39
1963-64	210	8	-139	-144	-127	-101	-112	-76	-56	162	375	463	39
1964-65	207	9	-136	-141	-124	-99	-110	-74	-54	160	370	456	40
1965-66	205	10	-133	-137	-121	-96	-107	-72	-53	158	364	449	40
1966-67	202	11	-129	-134	-117	-94	-104	-70	-50	149	342	422	37
1967-68	191	12	-120	-123	-109	-87	-96	-65	-47	140	320	394	35
1968-69	180	13	-110	-113	-100	-80	-88	-60	-44	131	298	367	34
1969-70	169	14	-100	-103	-91	-73	-81	-55	-42	122	276	340	32
1970-71	157	15	-90	-93	-82	-66	-73	-49	-39	113	254	313	31
1971-72	146	16	-81	-83	-73	-59	-65	-44	-36	104	232	285	29
1972-73	135	17	-71	-73	-65	-52	-57	-39	-33	95	210	258	28
1973-74	123	18	-61	-63	-56	-45	-49	-33	-30	85	188	231	26
1974-75	112	19	-52	-53	-47	-38	-42	-28	-27	76	166	204	25
1975-76	101	20	-42	-43	-38	-30	-34	-23	-24	67	144	176	23
1976-77	89	20	-32	-33	-29	-23	-26	-18	-21	58	122	149	22
1977-78	78	21	-22	-23	-20	-16	-18	-12	-18	49	100	122	20
1978-79	67	22	-13	-13	-12	-9	-10	-7	-15	40	78	94	19
1979-80	55	23	-3	-3	-3	-2	-2	-2	-12	31	56	67	17
1980-81	44	24	7	7	6	5	5	4	-19	0	0	0	7
1981-82	0	0	0	0	0	0	0	0	-19	0	0	0	-2
1982-83	0	0	0	0	0	0	0	0	-19	0	0	0	-2
1983-84	0	0	0	0	0	0	0	0	-19	0	0	0	-2
1984-85	0	0	0	0	0	0	0	0	-19	0	0	0	-2
1985-86	0	0	0	0	0	0	0	0	-19	0	0	0	-2
1986-87	0	0	0	0	0	0	0	0	-19	0	0	0	-2
1987-88	0	0	0	0	0	0	0	0	-19	0	0	0	-2
1988-89	0	0	0	0	0	0	0	0	-19	0	0	0	-2
1989-90	0	0											
MEAN	166	1	-121	-125	-110	-88	-97	-66	-51	130	305	379	28

WEN3D9

USGS # 13333000

TROY

River: GRAND RONDE

Drainage Area: 3412 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 45.2

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												2121	
1928-29	991	707	618	682	627	695	736	3209	3789	5914	5643	1983	2138
1929-30	835	573	442	425	618	470	3194	3027	4731	3699	3309	1518	1889
1930-31	808	556	521	538	450	814	1012	2570	4188	5188	2628	1225	1711
1931-32	681	504	350	482	619	710	998	7579	11260	11170	5011	2452	3488
1932-33	919	589	493	974	1082	1111	818	3513	6198	7203	10240	2659	2984
1933-34	973	719	562	842	2166	3135	2169	4042	4760	2879	2282	1399	2161
1934-35	784	529	492	842	1356	1188	1498	1964	5517	5601	3851	1705	2109
1935-36	780	508	374	410	<u>315</u>	995	718	3603	9571	8668	3409	1373	2560
1936-37	720	516	<u>326</u>	<u>325</u>	358	<u>333</u>	<u>515</u>	2420	4550	6535	4463	1631	1896
1937-38	744	503	446	677	1684	1502	1568	3850	6512	6854	5374	2240	2665
1938-39	969	636	553	749	941	804	872	5295	6586	5864	2744	1753	2322
1939-40	817	572	467	458	632	1008	2974	4426	5587	4976	2915	1392	2179
1940-41	730	677	832	1123	1667	1261	1450	2474	2986	4845	5680	2606	2196
1941-42	1018	1167	1109	1886	3464	1508	2091	2966	8255	6873	5302	3168	3233
1942-43	1061	718	517	1022	2391	2461	3351	4834	<u>11830</u>	7150	7234	5018	3957
1943-44	1459	878	646	836	696	593	858	1967	<u>3669</u>	4181	4233	1880	1824
1944-45	872	618	423	526	520	1308	1961	2263	4415	<u>7861</u>	6494	2438	2473
1945-46	935	668	487	960	2061	1985	1503	5423	8704	9415	5865	2961	3423
1946-47	1029	872	817	1200	5877	1852	3665	4299	5478	7007	4671	2114	3239
1947-48	907	726	1046	1888	2205	3099	2861	3048	7811	<u>14000</u>	<u>12040</u>	3561	4429
1948-49	1315	725	788	918	867	724	2242	6403	9954	12180	<u>5447</u>	2059	3639
1949-50	1036	685	636	819	954	996	3395	5763	8308	8800	8731	4265	3691
1950-51	1363	774	899	1403	2187	2112	4447	3620	8273	7167	4399	2219	3224
1951-52	994	759	1072	1166	1420	1008	1698	2953	9136	9802	6112	3220	3276
1952-53	1222	856	489	505	589	3041	4036	3792	6269	7474	8554	4403	3424
1953-54	1439	828	647	879	1493	1465	2697	2607	5658	5751	4950	2940	2607
1954-55	1219	873	623	669	597	671	754	1193	4396	7071	6922	3186	2351
1955-56	928	705	743	1368	4037	3373	1951	5561	10710	11970	7963	3185	4379
1956-57	1187	809	642	804	2150	925	2364	5733	7749	11690	6276	2222	3552
1957-58	1098	754	800	776	1842	1582	5415	2940	7872	10240	7049	2365	3540
1958-59	1080	750	711	2030	4409	4365	3173	3201	6338	6195	6237	2309	3397
1959-60	1090	1194	<u>2406</u>	2174	1454	949	1726	5021	6792	6580	5579	1967	3076
1960-61	1160	773	587	1198	967	990	4414	4459	4906	6324	6083	1567	2767
1961-62	868	768	646	734	1197	1947	1835	2589	7844	6388	5572	2239	2715
1962-63	1069	698	1167	1460	2094	968	3570	2323	3679	5129	3922	1734	2306
1963-64	904	674	492	750	709	802	951	1763	5988	6835	7641	2831	2523
1964-65	1144	857	618	768	5372	4895	6803	3482	7941	7174	6727	3298	4068
1965-66	<u>1482</u>	997	725	770	715	915	740	2410	4127	3897	2523	1352	1725
1966-67	796	643	554	806	1520	2335	2167	2536	3075	6901	6835	2863	2587
1967-68	935	657	766	1019	1426	1486	5090	3020	<u>2210</u>	3615	4450	1649	2179
1968-69	954	813	939	1887	1633	3451	1665	3522	8462	8418	5430	2044	3272
1969-70	859	706	722	647	882	4352	3554	3079	3256	7441	7837	2803	3006
1970-71	909	1003	887	1433	1546	4653	4967	3722	5815	9173	7110	3459	3712
1971-72	1155	942	839	962	1229	2743	4065	<u>11470</u>	6288	9725	8818	3043	4275
1972-73	1149	930	822	952	2073	2178	1240	1966	2227	4247	2784	1089	1810
1973-74	592	630	660	<u>2960</u>	4383	<u>6235</u>	3489	5256	8813	9264	11790	4315	<u>4864</u>
1974-75	1274	813	684	714	858	2079	2061	3841	4806	9492	9012	<u>5154</u>	3405
1975-76	1328	927	1029	1259	4257	3038	2568	3386	10010	10060	5449	2835	3847
1976-77	1464	860	799	802	691	742	743	<u>871</u>	2520	<u>2426</u>	2389	<u>669</u>	<u>1248</u>
1977-78	526	727	870	1534	<u>6275</u>	2937	3295	5088	6409	5925	5132	3437	3515
1978-79	1099	1186	810	736	878	693	2250	5092	6108	9699	4832	1643	2921
1979-80	776	598	689	747	1081	1608	2228	3220	5153	6319	5742	2626	2562
1980-81	770	874	787	1032	3048	1958	4978	3163	4907	5674	6041	1822	2901
1981-82	655	597	887	1132	2368	2593	<u>7386</u>	5363	6449	8781	7882	3918	3973
1982-83	1067	936	1205	1285	1827	2870	4284	7328	4643	6527	5647	3152	3393
1983-84	1064	854	809	1112	1139	2965	2648	7025	7675	8617	9445	4086	3951
1984-85	1385	<u>1291</u>	1058	1800	1371	1051	1150	3341	9422	6961	5127	1080	2918
1985-86	799	810	888	1089	729	1294	6657	8456	4715	5064	4370	1132	2973
1986-87	629	756	840	1205	1035	810	1844	4161	4289	4184	<u>1947</u>	796	1873
1987-88	529	473	528	618	733	962	1727	2812	5309	4350	3355	897	1852
1988-89	<u>472</u>	<u>465</u>	546	814	985	955	946	6284	8896	6663	4417	1247	2729
1989-90	822	765											
MEAN	978	758	735	1026	1717	1845	2591	3977	6292	7149	5736	2425	2933
MEDIAN	962	739	689	879	1356	1465	2169	3513	6108	6873	5572	2240	2921

TRY3M9

ANATONE

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												1142	
1928-29	3300	4280	-1615	528	3315	3616	158	-6365	-8458	-4379	-5107	1325	-776
1929-30	2355	2071	369	-4382	-2879	-2453	461	-522	-2383	-3555	-3095	1632	-1034
1930-31	2338	2910	1117	-2553	-1971	-1221	1166	-364	-1859	-2316	-401	1024	-185
1931-32	1066	1808	805	-287	-191	-575	-969	-5232	-7694	-10044	-4550	688	-2098
1932-33	1774	3530	2206	87	-707	-461	-313	-1708	-3342	-3801	-5564	229	-668
1933-34	1672	2843	1155	44	207	-506	88	-476	-3075	-2269	-671	903	-6
1934-35	1202	1523	1653	702	120	65	513	187	-1739	-4612	-4785	1120	-337
1935-36	1381	1660	1505	388	606	382	-30	-899	-6968	-9256	-8988	1738	1527
1936-37	2284	2919	1643	962	928	837	-66	-901	-5360	-5551	-2540	1056	-310
1937-38	1541	2470	2040	816	286	423	1378	-3070	-8708	-5398	-10779	-4550	-1967
1938-39	2394	3488	2914	3125	2849	4352	221	-6617	-5426	-4139	-962	1334	298
1939-40	1797	2319	1719	570	770	205	1752	28	-3998	-1526	-1853	1581	283
1940-41	1221	1935	1001	-447	886	308	724	-967	-2266	-3682	-2606	817	-258
1941-42	1128	1865	477	-892	-461	-1074	-2072	-1251	-11687	-6291	-5379	-376	-2148
1942-43	711	1898	826	-1100	-17	929	2269	7976	1687	1478	-15143	-5972	-363
1943-44	973	3081	-1203	466	5669	3035	3089	-754	-2926	-3296	-9660	572	-149
1944-45	901	1292	1024	-171	1864	1340	1374	-1028	646	2513	-9065	-237	-380
1945-46	1234	3065	850	-1265	3256	178	1249	-333	-3283	835	-4375	599	177
1946-47	1578	2161	640	-152	2967	2400	2733	-159	10631	4615	10202	730	711
1947-48	1207	2049	843	1185	2214	2798	1097	1633	4413	1072	-6562	-210	262
1948-49	774	1615	1717	1748	-1787	-145	-3995	-813	5620	4695	-3639	296	535
1949-50	216	1005	-150	1474	746	3810	997	1315	12626	-388	-7530	-5080	739
1950-51	122	1641	290	6511	6465	1466	1955	-921	7202	-2037	-6192	-1127	1265
1951-52	117	2246	-1835	1080	5442	4425	3489	-3924	6318	-1629	-1144	-1782	1042
1952-53	75	767	1165	2758	3662	4892	3689	-3207	101	6746	-6440	145	1196
1953-54	311	1152	465	1892	78	3335	5349	-1339	10414	64	-2192	-335	1555
1954-55	-135	952	-1555	689	202	1298	2267	-1748	-2151	-70	394	130	5
1955-56	41	696	324	84	2095	7361	5792	5630	4383	2047	-8430	561	1721
1956-57	321	1960	-679	1891	6161	3406	4246	-6373	9289	153	-662	384	1638
1957-58	248	595	-243	1445	4998	4422	1836	-3944	-106	12026	-3679	671	1541
1958-59	190	578	417	-223	1576	3001	2527	771	4486	3550	699	472	1497
1959-60	279	413	-359	-579	1784	3550	2984	2306	1590	422	1527	345	1184
1960-61	-130	788	-268	-498	-183	-962	736	710	-368	862	2628	473	309
1961-62	222	-83	178	452	247	-7	1021	-1804	7737	2158	705	1457	1011
1962-63	124	200	203	1979	2247	2064	5386	788	4548	-812	-3526	1239	1173
1963-64	477	982	430	58	1143	1128	1927	886	7632	1612	-3077	717	1153
1964-65	450	609	819	493	4030	5566	6678	-4563	9993	3231	3890	1432	1651
1965-66	868	3912	1670	4149	1784	665	3338	1948	2187	932	768	960	955
1966-67	338	71	-425	-861	-412	876	1757	612	10174	6137	4303	380	1748
1967-68	1001	1848	370	770	3050	2183	652	651	1443	3805	1580	1171	1447
1968-69	69	1513	927	415	2447	950	2850	-3274	2098	8391	187	1308	1441
1969-70	1024	825	929	2030	1718	3631	4863	-222	5534	-77	2712	-259	1858
1970-71	1422	2122	109	135	4596	8443	2197	4079	1656	5117	6443	2264	2958
1971-72	3098	4548	-3277	-352	-276	2197	77	4790	-4135	9148	3229	1520	1733
1972-73	868	1084	-2063	1499	683	2204	-1555	-3575	-799	5325	2713	1736	690
1973-74	1715	978	1917	4480	5616	7386	1500	-7156	5401	2514	8711	-54	2738
1974-75	1972	1783	2041	5623	2875	185	-641	-4814	-1053	-4422	6339	4027	1152
1975-76	3221	2505	1879	4178	3858	2248	-207	-1935	-1131	3035	565	2360	1727
1976-77	509	729	-1733	3519	3253	2619	1572	-1114	1395	110	628	1266	1053
1977-78	617	1254	575	278	148	-348	-706	-1879	-5391	7317	1208	1467	399
1978-79	1053	321	587	-723	1942	154	-1976	-6048	355	229	881	1090	-167
1979-80	-1089	35	164	1162	3109	1533	4718	738	2701	1731	178	38	1235
1980-81	789	-60	1460	977	2003	3977	2813	359	-2013	-1632	-6845	1069	245
1981-82	1148	115	-1173	374	771	201	2902	2124	1623	2996	584	248	591
1982-83	592	107	277	36	-1869	2061	1395	1274	453	1240	1445	2385	49
1983-84	790	-715	-2751	1480	-251	3637	-228	4397	-2432	-2690	3247	-2975	125
1984-85	2510	-1643	-5481	-2046	2548	1586	-3058	-2289	2529	3281	-1622	405	-246
1985-86	-468	-1205	1022	839	270	5225	-943	3290	-1600	-1204	2874	498	736
1986-87	353	-653	-3992	486	-1250	2638	3250	1675	361	1126	583	207	377
1987-88	438	690	-317	630	1507	187	1701	1462	367	594	480	883	715
1988-89	349	688	1273	163	345	161	392	620	3337	2199	248	721	711
1989-90	153	1166											
MEAN	951	1404	244	761	1592	1880	1040	762	577	188	1769	364	540

ANA3DD9

USGS # 13334300

ANATONE

River: SNAKE

Drainage Area: 92960 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile: 167.2

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												26500	
1928-29	17120	18190	18040	21490	21380	22040	16070	25110	29390	44900	54260	22240	25880
1929-30	14380	14700	16350	16610	19930	15200	23120	21470	33620	40420	38530	17300	22600
1930-31	15030	15610	16750	14180	15610	14560	16510	19820	27430	36290	23290	<u>11160</u>	<u>18860</u>
1931-32	<u>9388</u>	<u>11370</u>	<u>13930</u>	<u>13710</u>	14380	13520	<u>12870</u>	36030	42590	68240	66360	27840	27530
1932-33	15140	16850	17680	18180	17000	16570	14880	21340	32640	44200	85560	25380	27100
1933-34	15520	16450	15130	17870	17000	23280	20830	22710	37860	36570	<u>21980</u>	13310	21530
1934-35	11390	12080	14980	15920	15950	15080	15950	17530	30220	41570	46970	18670	21350
1935-36	12820	13180	14740	14820	<u>14230</u>	16720	14780	25350	55600	71450	46810	17980	26540
1936-37	15190	16560	15850	15130	15550	<u>13420</u>	15260	20390	28120	45030	35900	16560	21100
1937-38	13010	14130	16280	16640	21630	18910	22470	34120	56100	85420	79420	34440	34400
1938-39	17730	17910	20870	21810	22240	22910	19730	32370	42690	51520	29360	17730	26440
1939-40	13820	15450	17200	15780	17790	18300	26470	38500	53660	62890	39300	16950	27980
1940-41	12790	16800	19910	19080	20760	18950	22260	27480	29940	48820	51200	22480	25870
1941-42	16950	18910	19870	22630	31540	21270	23780	24510	53510	58460	65770	29060	32170
1942-43	15930	17520	18250	20430	24360	32170	37670	55340	108000	81130	89880	57170	46420
1943-44	21750	20760	21240	23580	26510	21690	20820	21590	31180	41220	46270	22830	26610
1944-45	15950	16360	17670	18470	18250	20350	26880	23630	34160	62740	67390	26920	29020
1945-46	16950	18990	19380	22200	29180	27640	25080	42560	72500	82780	58520	24850	36740
1946-47	17150	20730	24090	27300	41050	25750	33950	32390	53880	84860	62050	25860	37410
1947-48	17640	19580	23640	25660	27670	30970	26710	26270	46470	98400	109800	34010	40540
1948-49	19560	19340	21720	22080	20060	22160	27070	49170	62150	94300	53720	20790	36050
1949-50	15450	17280	20620	22430	20620	24450	30430	41860	70830	65970	86830	46470	38550
1950-51	20370	20710	25280	35030	34940	30000	44660	41070	76000	88450	63720	32920	42680
1951-52	20270	19890	25020	27350	35030	32070	36830	38710	<u>113400</u>	117900	83840	35530	48750
1952-53	19450	20030	21090	20800	22170	36490	35590	28310	42540	67580	104900	46640	38730
1953-54	20420	20270	20690	22310	21700	25340	32740	27920	54630	72130	59290	33710	34220
1954-55	18540	19270	19540	21300	18640	19510	18930	17320	30370	51530	69980	30700	27980
1955-56	16140	16890	19000	19680	36810	39570	33650	52000	80110	113500	97830	31210	46360
1956-57	20660	21710	22870	24860	29560	22860	33010	42320	65600	123000	86650	26990	43350
1957-58	18200	19780	22030	21410	26910	25340	39140	30760	57650	112000	79070	26120	39820
1958-59	19340	19420	20680	22410	26590	28580	26730	24980	42800	56260	71920	25940	32100
1959-60	18140	22980	27680	22850	22540	21810	24970	37280	48250	54420	63140	21570	32100
1960-61	17530	18720	18440	20050	17940	16060	28290	27080	28540	50600	58360	16990	26480
1961-62	13280	15710	17810	18540	18770	18300	26030	24710	58890	60840	64770	26170	30250
1962-63	17840	17910	27960	27160	29150	21200	40590	24090	37230	63590	80410	29560	34610
1963-64	18320	20640	20220	21350	20550	20180	21800	23290	51790	69490	101500	35820	35340
1964-65	20260	21360	21660	22510	<u>44560</u>	48690	55180	46310	82190	101400	116300	47630	52220
1965-66	26120	<u>27430</u>	25190	28130	27630	26360	21760	25950	35280	43970	35080	17970	28430
1966-67	14090	15700	17500	18240	19920	21340	23110	22310	33780	67410	97560	35680	32200
1967-68	17720	19740	22490	23700	26230	24860	33590	28540	25250	47340	60050	22730	29300
1968-69	20180	20840	23170	26470	26810	38350	38260	41000	78700	101200	62640	25910	41930
1969-70	18130	19320	22050	21080	21810	41070	37310	28420	35620	76880	102300	39020	38510
1970-71	19290	24420	24630	27740	35600	<u>56680</u>	53880	52030	78360	<u>130300</u>	130600	54850	57310
1971-72	24160	26580	28230	32250	31840	42260	45410	<u>90410</u>	59120	92810	114500	32900	51670
1972-73	19570	21710	25450	29000	29760	33050	25960	26600	29540	49920	40150	19180	29170
1973-74	15110	17910	20770	34730	37650	51260	38630	53050	89210	94370	<u>151500</u>	53810	54760
1974-75	24000	21120	23500	28140	26710	26360	27980	37630	58100	83310	115600	59150	44310
1975-76	25320	22740	28250	31260	40430	35870	33710	40580	77510	112400	79640	33710	46790
1976-77	24110	24270	22210	25820	25450	22300	20600	<u>16600</u>	<u>19890</u>	<u>23560</u>	25090	13510	21940
1977-78	11440	14220	16860	17850	29490	23670	25930	36350	54100	77280	74150	41250	35240
1978-79	20000	23210	20400	20670	22940	22340	26580	34310	40790	61010	42270	19000	29460
1979-80	15860	16020	17410	17900	19890	22620	29030	26400	45710	80410	75750	29650	33010
1980-81	17030	20990	20620	22590	29260	27920	33380	25650	36450	56790	68230	23740	31820
1981-82	15480	16330	19120	20910	27350	23400	<u>59950</u>	58980	72880	107100	114500	<u>63510</u>	49810
1982-83	23360	23680	<u>29810</u>	32130	35820	43510	44760	73590	66940	98900	111500	48610	52720
1983-84	25320	21980	27380	<u>38280</u>	36950	49500	36740	66150	86780	116000	141000	51440	<u>58090</u>
1984-85	<u>27950</u>	24550	27390	34360	32600	32050	26040	31970	68870	67820	44390	18360	36370
1985-86	16720	21980	23970	23620	21790	30760	58220	88050	76370	85290	96200	26000	47250
1986-87	18550	23530	26190	29770	27350	27320	25590	29820	29850	39220	22800	15370	26280
1987-88	13500	15340	16530	17160	17810	16280	19670	21440	30980	40740	34560	14470	21520
1988-89	11120	13050	15180	17070	16480	16250	16620	43590	60170	57780	48000	19800	27950
1989-90	16480	18370											
MEAN	17740	19020	20960	22830	25340	26510	29420	35170	52340	71500	71290	29410	35110
MEDIAN	17580	19300	20680	22080	24360	23400	26710	29820	51790	67580	66360	26140	33010

ANA3M9

USGS # 13340000

OROFINO

River: CLEARWATER

Drainage Area:

5580 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile:

44.6

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												6302	
1928-29	2216	1633	2295	1754	1477	1336	1346	4349	8810	24880	22800	5023	8492
1929-30	1543	1093	1193	1209	2298	1254	4057	4864	21650	19210	13800	3311	6274
1930-31	1387	1444	2333	2087	1588	1961	2037	5164	12740	25760	8303	2016	5590
1931-32	971	1131	1182	1452	1526	1480	2007	8288	18540	40950	24640	5445	8978
1932-33	1694	1287	1613	3632	2539	2743	1874	4745	13710	24020	45860	6470	9166
1933-34	1789	1522	3497	5728	10730	<u>11000</u>	7406	14620	27970	18030	<u>6450</u>	<u>2009</u>	9232
1934-35	999	920	1635	2954	2340	2201	2504	4378	12500	25570	17220	4171	6461
1935-36	1390	998	1154	1202	1124	1643	1409	5384	<u>28010</u>	39400	12470	2889	8095
1936-37	1239	1096	988	<u>925</u>	1176	<u>800</u>	<u>1030</u>	<u>2365</u>	6887	25660	15360	3455	5105
1937-38	1343	930	1106	1629	2820	2796	2625	6492	19380	30860	21640	4489	8022
1938-39	1551	1104	1519	1913	2453	2247	1885	6540	18140	28940	10840	3742	6766
1939-40	1244	1021	1262	1247	2277	2781	3886	7845	17610	23980	10430	2153	6309
1940-41	<u>971</u>	1245	2016	2150	2563	2209	2133	4326	9490	<u>15640</u>	12470	3915	<u>4935</u>
1941-42	1715	3031	4558	6309	7281	3968	3293	4747	18540	19880	17110	5937	8033
1942-43	1774	1329	1253	3330	3851	4069	3966	6833	27060	29050	31140	13470	10590
1943-44	2602	1540	1434	1830	1532	1297	1646	3131	9401	20400	14450	4358	5305
1944-45	1722	1313	1226	1551	1356	3053	3022	4003	8835	29970	20810	5489	6880
1945-46	1584	1662	1802	3790	3264	3777	2838	7594	19740	28880	16080	5679	8076
1946-47	1966	2002	4287	5072	11680	4854	5914	8318	17810	40490	19840	6205	10740
1947-48	2029	1799	3440	4533	5066	6027	4284	5856	16850	46950	35360	7194	11610
1948-49	3048	1691	1783	2452	1964	1830	2724	8006	21330	<u>47210</u>	19930	4847	9775
1949-50	1670	1378	2009	3687	3903	3592	5297	8537	16680	27920	37180	12850	10390
1950-51	3357	1706	3726	6120	6445	4997	7441	5766	19220	32530	20040	7180	9877
1951-52	1977	1324	2882	2625	2684	2125	2649	4406	21510	37470	19540	5163	8701
1952-53	1778	1196	959	989	<u>1115</u>	3408	4223	4612	11590	22750	31040	9081	7720
1953-54	1941	1145	1072	1518	2019	1949	3326	4611	14620	33530	24460	10520	8412
1954-55	2658	1699	1685	1960	1655	1779	1769	2599	8380	26550	35860	13110	8322
1955-56	2749	1635	2173	4421	7413	5594	3081	7806	24230	42470	23270	6119	10930
1956-57	2134	1478	1838	2554	3543	2160	3372	7837	14210	44330	24550	5344	9483
1957-58	1801	1273	1542	1546	1938	1865	3900	4239	13340	36790	16300	4245	7419
1958-59	1748	1590	2381	6969	9998	7266	5536	7069	17690	28840	31880	7095	10670
1959-60	2104	3181	<u>10690</u>	<u>8745</u>	5637	3486	3809	8126	19040	24290	25000	4966	9911
1960-61	1989	1467	1569	2579	1982	2160	5572	6526	12530	28880	23380	3395	7660
1961-62	1212	1767	2751	2421	2530	4909	4401	4554	20540	26830	21750	4778	8198
1962-63	1764	1403	3511	5027	5955	3177	7782	6709	11360	25550	18630	5754	8041
1963-64	1882	1472	1418	2073	1816	1940	1915	3184	10540	30130	44140	11230	9295
1964-65	3246	3063	2539	3352	8822	8870	9786	7189	23030	32270	30480	7290	11640
1965-66	2862	3180	2522	3006	2292	2469	2146	6302	14640	23320	14210	3665	6749
1966-67	1384	1258	1655	2199	2929	4474	4099	5523	8862	30370	35270	6960	8747
1967-68	1643	1086	3175	5198	4191	4029	10440	9563	10600	24060	25150	5865	8722
1968-69	2643	<u>4756</u>	5305	7751	5339	9812	4878	7386	22880	35010	18150	5947	10840
1969-70	1713	1428	2242	2070	2348	6382	6328	6028	8165	30940	35330	8029	9247
1970-71	2084	2486	2641	3715	3511	6293	<u>12300</u>	6843	15000	43320	35730	9406	11920
1971-72	2329	1701	1581	1938	1878	3027	6285	<u>19890</u>	15860	43570	46500	10950	12960
1972-73	2583	1733	1621	1795	3476	3155	2204	3814	<u>6390</u>	18700	13080	3426	5183
1973-74	1250	1362	1479	4173	4975	7869	6181	8983	19270	29290	<u>53100</u>	11180	12400
1974-75	2882	1623	1230	1479	1438	2942	2437	4957	8466	27860	47160	<u>18200</u>	10070
1975-76	<u>4497</u>	2984	4598	5737	<u>14160</u>	8479	5527	6268	19280	44930	31260	11100	<u>13260</u>
1976-77	3691	2508	2086	2094	1706	1663	1984	2673	10760	17110	10220	2818	4951
1977-78	1548	2168	3062	4425	12930	6469	6855	13020	20550	28630	30150	11460	11780
1978-79	3136	2597	1635	1646	1589	1543	3190	8097	13210	35360	19990	4666	8081
1979-80	1665	1273	1418	1332	2368	2391	3404	5258	14810	27590	21380	7221	7508
1980-81	2161	2570	1776	3619	7369	6946	7559	6483	12100	23140	30330	7555	9284
1981-82	2127	1535	1838	2303	3556	3221	9907	10450	14490	34170	39470	14330	11430
1982-83	3154	2181	3472	3041	3147	4937	5909	10150	9725	21800	18710	7786	7844
1983-84	2703	1921	2005	3574	2023	5875	4814	11300	16790	30370	37180	9778	10680
1984-85	2472	2498	2260	3147	2361	2023	1830	3812	16790	29390	18310	3162	7352
1985-86	2160	3579	3614	4875	2295	3643	10450	16860	16800	27560	19060	4290	9576
1986-87	1635	1968	1990	3222	2158	1864	3104	6956	14740	18140	6519	2577	5412
1987-88	1385	<u>860</u>	<u>833</u>	1019	1257	1024	2127	4602	17280	24480	15600	3448	6154
1988-89	1259	982	1421	2205	2133	1899	1930	8895	22570	28010	23680	4971	8339
1989-90	2006	1438											
MEAN	2028	1746	2291	3096	3767	3689	4289	6812	15790	29570	24100	6540	8649
MEDIAN	1842	1528	1838	2554	2453	3027	3404	6483	15860	28840	21640	5716	8412

ORO3M9

USGS # 13340990

DWORSHAK

River: NF CLEARWTR

Drainage Area: 2440 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 1.9

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												3148	
1928-29	1446	1080	1516	1374	1101	953	1011	2863	5748	14250	9412	2629	3626
1929-30	1228	958	1108	825	1774	903	3097	4272	14530	9892	5112	1966	3794
1930-31	1014	1015	1430	1707	1177	1586	1854	4925	9739	13260	4114	1562	3623
1931-32	886	957	1015	1273	1292	1302	1656	6286	15930	26790	12840	3452	6147
1932-33	1467	1065	1250	3093	2257	2351	1448	3482	11470	17070	23950	4520	6116
1933-34	1649	1472	3371	5322	<u>18300</u>	<u>13870</u>	7667	14610	<u>21000</u>	11230	4149	1708	8711
1934-35	987	943	1589	2809	2254	2193	2288	4072	10500	17980	9718	2871	4859
1935-36	1265	909	976	977	1006	1522	1098	3545	19050	22640	7232	2186	5203
1936-37	1062	955	848	799	1099	<u>687</u>	<u>900</u>	2013	7045	15330	8233	2408	3460
1937-38	1199	865	917	1864	2496	2527	2183	5805	15130	17430	9417	2753	5224
1938-39	1324	1012	1243	1469	1892	1831	1377	4656	12740	15560	5568	2198	4235
1939-40	1026	906	1045	1022	2349	2207	4356	7972	11640	12210	4850	1684	4269
1940-41	919	985	1344	1708	2900	2524	2415	3906	5784	8585	5898	2129	3261
1941-42	1195	1801	2228	3610	6092	2956	2553	3132	10380	8615	6619	3116	4360
1942-43	1342	1062	1039	3069	2784	2847	2390	4872	19970	18340	17080	6527	6775
1943-44	1856	1179	1344	1420	1884	1122	1561	1918	7109	9805	5264	2025	3041
1944-45	1121	997	1041	1336	1252	3201	3225	3385	6900	18410	9179	2781	4410
1945-46	1252	1322	1274	2833	3197	3479	2310	6138	13600	18010	9447	3890	5575
1946-47	1588	1356	2372	3595	9965	4002	5733	7332	12300	20250	9254	3081	6746
1947-48	1527	1486	3217	3838	3670	5243	4075	4294	13150	28460	18730	4485	7683
1948-49	2431	1510	1508	2098	1613	1379	2318	6431	16750	27360	10480	3143	6438
1949-50	1420	1209	1524	2227	2184	2211	3312	6901	14310	20830	23680	<u>8090</u>	7325
1950-51	2455	1564	2940	4650	6135	4448	7625	4542	15480	18010	9585	3569	6732
1951-52	1537	1260	3105	2665	3236	1903	2627	3125	15680	20800	9533	3489	5730
1952-53	1475	1107	913	938	1036	4232	4974	4095	8636	15290	15100	4531	5182
1953-54	1656	1084	987	1489	2210	2040	4177	4814	13370	22780	15180	6611	6370
1954-55	2284	1705	1668	2119	1784	1623	1685	<u>1630</u>	6501	17980	18270	6722	5341
1955-56	2068	1514	2273	4124	7608	4841	2832	5330	19140	26990	13910	4660	7950
1956-57	1961	1434	1632	2063	3135	1788	2923	6198	12500	24890	11770	3185	6141
1957-58	1558	1096	1325	1353	1795	1767	5501	4263	12270	21890	8995	2720	5371
1958-59	1361	1343	1982	6160	7351	7965	4474	5364	13900	18160	15980	4194	7355
1959-60	1684	<u>2876</u>	<u>5792</u>	<u>6814</u>	4392	2763	3558	6895	13610	15220	12850	3302	6638
1960-61	1731	1239	1453	2531	1791	2077	9076	7284	11600	19840	13890	2852	6229
1961-62	1259	1312	1626	1460	1782	2800	3429	3537	17250	18070	11660	3331	5618
1962-63	1522	1282	2772	3741	4467	2678	7048	5433	8127	11810	7293	2615	4879
1963-64	1266	1146	1080	1745	1298	1299	1367	2014	8905	19400	22310	5793	5627
1964-65	2283	2054	1984	2975	9934	6405	6661	6178	18310	19300	13320	3922	7771
1965-66	2101	1744	1516	2329	1882	2301	1633	4850	11770	13420	7705	2696	4504
1966-67	1260	900	1192	2087	3304	4771	4416	4697	7171	17070	16260	4056	5597
1967-68	1411	1081	1992	2596	2220	2394	9080	8069	6988	12400	10310	2992	5104
1968-69	1684	2385	3474	4758	3672	6279	3172	5011	16670	19190	8863	2920	6515
1969-70	1379	1168	1518	1295	1841	4158	4959	4742	6045	17150	16440	3749	5364
1970-71	1621	1547	1533	3086	3037	4994	8816	5443	12150	29640	18820	6271	8065
1971-72	2183	1653	1510	1673	1494	3089	4486	<u>16440</u>	12720	<u>31900</u>	25880	7009	9181
1972-73	<u>2652</u>	1548	1388	1441	2758	4016	2189	3587	<u>4961</u>	9093	5269	1536	3380
1973-74	<u>574</u>	625	1119	4668	5345	11140	5458	8192	16800	21550	<u>33070</u>	7740	<u>9680</u>
1974-75	2148	892	965	1185	1035	2265	1962	4232	7021	18570	21970	7730	5842
1975-76	2650	1187	2434	3719	10020	5978	4516	4906	13820	25530	13900	4969	7816
1976-77	2593	1288	1303	1247	1051	1001	1539	2167	6275	<u>8479</u>	4287	<u>1301</u>	<u>2714</u>
1977-78	1154	1482	1764	3048	10150	3945	4748	8453	10990	13520	10850	3775	6163
1978-79	1793	1096	1151	1230	980	1042	2774	6598	10100	21870	9793	2630	5102
1979-80	1348	902	1197	717	2033	1810	3340	4467	10680	13570	8683	3089	4315
1980-81	1517	1077	1027	1538	6311	5125	7367	5094	8912	12230	12280	4284	5545
1981-82	1770	798	1591	2217	3610	2409	<u>10830</u>	9695	10770	21730	19710	5679	7532
1982-83	2060	1130	1837	1800	2714	3775	5958	8913	7586	13700	10450	4636	5377
1983-84	2002	1081	1462	3711	2641	4442	4281	7465	10330	16200	16290	4423	6185
1984-85	1829	942	1731	2943	1862	1070	1624	2909	14460	19190	12330	2301	5269
1985-86	1187	2243	2754	4450	1995	2104	8606	14570	12180	13030	6382	2047	5936
1986-87	1146	786	1291	2274	1352	1107	2361	6148	9504	9825	<u>3471</u>	1827	3427
1987-88	877	<u>292</u>	<u>566</u>	<u>565</u>	<u>671</u>	1446	1770	3950	10170	8919	5314	2008	3041
1988-89	853	524	1130	2082	1432	1363	1407	5707	15670	15030	9956	2487	4807
1989-90	1385	869											
MEAN	1556	1230	1675	2455	3342	3137	3837	5571	11870	17460	11940	3645	5644
MEDIAN	1471	1119	1462	2098	2220	2394	3172	4906	11770	17980	10310	3144	5575

DWR3M9

USGS # 13342500

SPALDING

River: CLEARWATER

Drainage Area: 9570 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 11.6

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												10060	
1928-29	3698	2816	4065	3254	2691	2420	2311	7262	15230	40050	32930	8197	10440
1929-30	2818	2024	2244	2039	4351	2084	7771	10960	34290	30570	18940	5360	10260
1930-31	2453	2387	3817	3906	2861	3793	4348	12070	25220	37440	12980	<u>3692</u>	9607
1931-32	1875	2103	2272	2859	2992	3082	4350	20580	38270	71530	38600	9363	16510
1932-33	3280	2452	2975	7241	5100	5146	3401	11210	27830	42830	73520	11760	16380
1933-34	3527	3066	7228	11600	<u>33250</u>	<u>28480</u>	15940	32100	51680	30880	10790	3895	19400
1934-35	1985	1848	3255	5901	5054	5161	5809	10270	25080	44200	27570	7129	11950
1935-36	2756	1880	2172	2201	2209	3638	2826	11800	50380	64050	20680	5101	14150
1936-37	2332	2061	1888	<u>1783</u>	2337	<u>1577</u>	<u>2068</u>	5895	16470	42000	23990	5891	9059
1937-38	2611	1810	2017	3452	5608	6121	5931	15290	36460	49000	30970	7396	13910
1938-39	2966	2124	2777	3488	4389	3907	3587	14530	31840	45580	16400	6115	11520
1939-40	2265	1922	2271	2289	4648	5254	11420	18350	30400	37020	15380	3963	11250
1940-41	1895	2212	3708	4403	6947	6104	5683	8442	14890	<u>24860</u>	19310	6391	8746
1941-42	2936	5038	6890	10200	14100	6417	6785	8715	29340	30780	25250	9498	13000
1942-43	3242	2473	2269	6568	7482	7457	8030	14370	<u>53380</u>	51350	53810	20920	19260
1943-44	4625	2811	2896	3515	3675	2575	3504	5328	18270	31110	20090	6433	8737
1944-45	2899	2303	2296	2925	2737	6566	7506	8773	17150	52210	32650	8430	12230
1945-46	2758	2976	3035	6877	7749	8773	8444	17330	35500	48660	26510	9733	14730
1946-47	3544	3443	6550	8911	23560	9923	14330	16870	30940	62640	30670	9643	18450
1947-48	3581	3296	6766	9159	10250	13250	11330	12180	34400	<u>85930</u>	64330	12430	22240
1948-49	5830	3279	3419	5061	4248	3687	6807	19890	40990	75990	31420	8345	17470
1949-50	3153	2571	3474	5755	6031	5808	11450	20490	34920	51500	66330	21810	19420
1950-51	6120	3381	6715	11130	13660	10630	18770	11650	36720	53210	31060	10870	17790
1951-52	3518	2598	6114	5416	6285	4142	6788	9534	40520	61660	30670	9158	15540
1952-53	3312	2327	1853	1941	<u>2126</u>	8767	11050	9792	20720	39630	49160	13490	13650
1953-54	3703	2173	2076	3105	4695	4535	9657	10030	29070	57560	40690	17430	15400
1954-55	5101	3521	3377	4056	3431	3288	3545	<u>3868</u>	18800	47430	57230	20160	14500
1955-56	4842	3138	4592	9430	17420	12210	7084	17520	48050	71500	39260	10900	20520
1956-57	4200	3002	3618	4929	7228	4009	7296	17610	28990	72530	37510	8552	16680
1957-58	3347	2383	3014	3115	4384	4263	13440	9382	29110	58590	25660	7337	13660
1958-59	3111	2968	4492	13470	18780	19120	12600	15020	33950	49200	50970	11630	19600
1959-60	3791	6374	<u>17120</u>	<u>16700</u>	10470	6570	10140	18330	35150	41440	40180	8464	17860
1960-61	3762	2622	2943	5193	4007	4583	19330	16350	26370	51330	40580	6534	15230
1961-62	2592	3062	4369	3662	4575	7919	9239	10010	40160	47630	35910	8668	14800
1962-63	3437	2631	6520	9235	11350	5885	17030	13630	21400	39960	28440	8801	13990
1963-64	3263	2697	2397	3784	3194	3287	3527	5727	21780	52820	73660	18050	16150
1964-65	5831	5422	4578	6448	21450	18260	18770	14310	44250	53420	45940	11800	20840
1965-66	5210	4984	4150	5386	4288	5008	4083	12780	27310	38130	22510	6512	11720
1966-67	2742	2301	2997	4364	6415	10280	9030	11070	17190	48580	51640	11300	14830
1967-68	3171	2205	5221	7873	6814	6666	21460	17980	17870	37200	35970	8935	14220
1968-69	4434	<u>7150</u>	8713	12540	9503	18430	8595	15400	42860	55080	27250	9041	18280
1969-70	3218	2630	3835	3470	4325	12200	12900	12040	15210	48060	52050	11760	15130
1970-71	3777	4140	4336	6882	6654	13140	22100	13520	28520	73030	55550	15730	20570
1971-72	4469	3395	3123	3686	3637	7640	15150	<u>42560</u>	30800	74550	71670	18470	23260
1972-73	5031	3243	2942	3236	6695	7800	4448	8017	<u>11640</u>	27820	18420	5091	8729
1973-74	<u>1693</u>	2014	2409	8963	12030	23660	14510	21490	40830	53390	<u>89400</u>	19200	<u>24090</u>
1974-75	4842	2422	2120	2823	2714	5571	5217	12020	17990	50060	72810	<u>26780</u>	17140
1975-76	<u>6814</u>	3921	7041	9594	24980	15580	11160	12930	35770	70910	44740	15660	21630
1976-77	6204	3704	3322	3173	2737	2594	3599	4830	16940	25300	14390	4125	<u>7588</u>
1977-78	3081	3635	4745	7500	24390	11360	13020	22290	31670	42080	40410	15170	18300
1978-79	4884	3719	2832	2744	2631	2459	6905	17380	25280	58750	29130	7264	13700
1979-80	2956	2198	2702	2132	4779	4562	8006	11030	26020	41710	30110	10050	12180
1980-81	3500	3545	2737	5204	13890	12200	16330	11740	21280	34810	42520	11720	14910
1981-82	3860	2343	3422	4343	7312	6293	<u>25000</u>	22580	27110	54350	57280	19680	19380
1982-83	5094	3205	5275	5145	6322	9835	13870	20970	18180	35480	28890	12370	13720
1983-84	4666	2921	3540	7539	5078	11580	10310	21960	28620	47090	54190	14160	17620
1984-85	4293	3471	3885	6134	4367	3283	3924	8469	33350	49180	31100	5742	13120
1985-86	3481	5716	6273	8886	5067	5732	22570	40080	29610	41280	26040	6685	16730
1986-87	2909	3080	3492	6118	4099	3301	6536	14950	24680	28780	<u>10110</u>	4373	9375
1987-88	2099	<u>989</u>	<u>1716</u>	2018	2840	3040	4600	9454	28610	34610	21670	5677	9767
1988-89	2206	1717	2485	4409	3763	3558	3686	18540	40150	43570	34050	7527	13820
1989-90	3163	2084											
MEAN	3625	2999	4023	5724	7716	7614	9621	14580	29600	48560	37410	10430	15160
MEDIAN	3392	2754	3419	5061	5067	5885	8006	12930	29070	48060	32650	9099	14830

SPD3M9

CLEARWATER

Accumulated depletions at site (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-1	
1928-29	-4	-6	-6	-6	-5	-4	-5	-3	-3	-2	-1	-1	-4
1929-30	-4	-6	-6	-6	-5	-4	-5	-3	-3	-2	-1	-1	-4
1930-31	-4	-6	-6	-6	-5	-4	-5	-3	-3	-2	-1	-1	-4
1931-32	-4	-6	-6	-6	-5	-4	-5	-3	-3	-2	-1	-1	-4
1932-33	-4	-6	-6	-6	-5	-4	-5	-3	-3	-2	-1	-1	-4
1933-34	-4	-6	-6	-6	-5	-4	-5	-3	-3	-2	-1	-1	-4
1934-35	-4	-6	-6	-6	-5	-4	-5	-3	-3	-2	-1	-1	-4
1935-36	-4	-6	-6	-6	-5	-4	-5	-3	-3	-2	-1	-1	-4
1936-37	-4	-6	-6	-6	-5	-4	-5	-3	-3	-2	-1	0	-4
1937-38	-4	-6	-6	-6	-5	-4	-5	-3	-3	-2	-1	0	-4
1938-39	-4	-6	-6	-6	-5	-4	-5	-3	-3	-2	-1	0	-4
1939-40	-4	-6	-6	-6	-6	-4	-5	-3	-3	-2	-1	0	-4
1940-41	-4	-6	-6	-6	-6	-4	-5	-3	-3	-2	-1	0	-4
1941-42	-4	-6	-6	-6	-6	-4	-5	-3	-3	-2	0	0	-4
1942-43	-4	-6	-6	-6	-6	-4	-5	-3	-3	-2	0	0	-4
1943-44	-4	-6	-6	-6	-6	-4	-5	-3	-3	-2	0	0	-4
1944-45	-4	-6	-6	-6	-6	-4	-5	-3	-3	-2	0	0	-4
1945-46	-4	-6	-6	-6	-6	-4	-5	-3	-3	-2	0	0	-4
1946-47	-4	-6	-6	-6	-6	-4	-5	-3	-3	-2	0	0	-4
1947-48	-4	-6	-6	-6	-6	-4	-5	-3	-3	-2	0	1	-4
1948-49	-4	-6	-6	-6	-6	-4	-5	-3	-3	-2	0	1	-4
1949-50	-4	-6	-6	-6	-6	-5	-5	-3	-3	-2	0	1	-4
1950-51	-4	-6	-6	-6	-6	-5	-5	-3	-3	-2	-1	-1	-4
1951-52	-4	-6	-6	-6	-5	-4	-5	-3	-3	-3	-2	-2	-4
1952-53	-4	-5	-5	-6	-5	-4	-4	-3	-3	-3	-3	-4	-4
1953-54	-5	-5	-5	-5	-5	-4	-4	-3	-3	-3	-4	-5	-4
1954-55	-5	-5	-5	-5	-4	-3	-4	-3	-3	-4	-5	-6	-4
1955-56	-5	-5	-5	-5	-4	-3	-4	-2	-3	-4	-6	-8	-4
1956-57	-6	-5	-4	-4	-4	-3	-3	-2	-2	-4	-7	-9	-5
1957-58	-6	-5	-4	-4	-3	-3	-3	-2	-2	-5	-8	-11	-5
1958-59	-7	-5	-4	-3	-3	-2	-3	-2	-2	-5	-9	-12	-5
1959-60	-7	-5	-3	-3	-3	-2	-2	-2	-2	-5	-10	-13	-5
1960-61	-7	-5	-3	-3	-2	-2	-2	-1	-2	-6	-12	-15	-5
1961-62	-8	-5	-3	-2	-2	-2	-2	-1	-2	-6	-13	-16	-5
1962-63	-8	-4	-3	-2	-2	-1	-1	-1	-2	-6	-14	-18	-5
1963-64	-8	-4	-2	-2	-1	-1	-1	-1	-2	-7	-15	-19	-5
1964-65	-9	-4	-2	-1	-1	-1	-1	-1	-2	-7	-16	-21	-5
1965-66	-9	-4	-2	-1	-1	-1	-1	0	-1	-7	-17	-22	-5
1966-67	-9	-4	-1	0	0	0	0	0	-1	-8	-18	-23	-6
1967-68	-10	-4	-1	0	0	0	0	0	-1	-8	-18	-24	-6
1968-69	-10	-4	-1	0	0	0	0	0	-1	-8	-19	-25	-6
1969-70	-10	-4	-1	0	0	0	0	0	-1	-8	-20	-26	-6
1970-71	-11	-4	-1	0	0	0	0	0	-1	-9	-21	-27	-6
1971-72	-11	-4	-1	1	1	0	0	0	-1	-9	-22	-28	-6
1972-73	-11	-4	-1	1	1	1	1	0	-1	-9	-22	-29	-6
1973-74	-12	-4	0	1	1	1	1	1	-1	-10	-23	-30	-6
1974-75	-12	-4	0	1	1	1	1	1	-1	-10	-24	-31	-7
1975-76	-12	-4	0	1	1	1	1	1	-1	-10	-25	-33	-7
1976-77	-13	-4	0	2	1	1	1	1	-1	-10	-26	-34	-7
1977-78	-13	-4	0	2	2	1	1	1	-1	-11	-26	-35	-7
1978-79	-13	-4	0	2	2	1	2	1	-1	-11	-27	-36	-7
1979-80	-14	-4	0	2	2	2	2	1	-1	-11	-28	-37	-7
1980-81	-14	-4	1	2	2	2	2	1	-1	-10	-25	-33	-6
1981-82	-12	-4	1	2	2	1	2	1	-1	-9	-22	-29	-6
1982-83	-11	-3	0	2	2	1	1	1	-1	-8	-19	-24	-5
1983-84	-9	-3	0	2	1	1	1	1	0	-6	-16	-20	-4
1984-85	-8	-2	0	1	1	1	1	1	0	-5	-12	-16	-3
1985-86	-6	-2	0	1	1	1	1	1	0	-4	-9	-12	-2
1986-87	-5	-1	0	1	1	1	1	0	0	-3	-6	-8	-2
1987-88	-3	-1	0	1	0	0	0	0	0	-1	-3	-4	-1
1988-89	2	0	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	-7	-5	-3	-3	-2	-2	-2	-1	-2	-5	-10	-12	-5

CLR3D9

LOWER GRANITE

Accumulated depletions at site and upstream (1990 level of development)

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												1141	
1928-29	3296	4275	-1620	522	3310	3612	153	-6368	-8461	-4382	-5108	1324	-780
1929-30	2351	2065	363	-4388	-2885	-2458	457	-525	-2386	-3557	-3097	1631	-1038
1930-31	2334	2905	1111	-2559	-1876	-1225	1161	-367	-1862	-2319	-403	1023	-189
1931-32	1082	1803	799	-294	-196	-580	-973	-5236	-7697	-10046	-4551	687	2102
1932-33	1770	3525	2200	81	-712	-466	-318	-1711	-3345	-3803	-5565	228	-672
1933-34	1667	2837	1149	38	202	-510	84	-479	-3078	-2272	-672	903	-9
1934-35	1197	1517	1647	696	115	61	508	183	-1743	-4615	-4786	1120	-340
1935-36	1377	1654	1499	381	600	377	-34	-902	-6971	-9258	-8989	1738	-1531
1936-37	2280	2914	1637	956	923	833	-71	-904	-5363	-5553	-2541	1055	-314
1937-38	1537	2465	2034	810	281	419	1373	-3073	-8711	-5400	-10780	-4550	-1971
1938-39	2390	3483	2909	3119	2844	4348	216	-6620	-5430	-4141	-962	1334	294
1939-40	1793	2313	1713	564	764	200	1747	24	-4002	-1528	-1854	1581	279
1940-41	1217	1930	995	-453	881	303	719	-970	-2270	-3684	-2606	817	-262
1941-42	1124	1859	471	-898	-467	-1078	-2076	-1254	-11690	6293	-5380	-376	-2152
1942-43	707	1893	820	-1106	-23	925	2264	7973	1684	1476	15144	-5971	-366
1943-44	969	3075	1209	-472	5664	3031	3085	-757	-2929	-3298	-9660	572	-153
1944-45	897	1287	1018	-177	1858	1336	1369	-1031	642	-2515	-9065	-237	-384
1945-46	1230	3060	844	-1272	3251	174	1244	-336	-3286	833	-4375	600	173
1946-47	1574	2156	634	-159	2962	2395	2728	-163	10628	4617	-10202	731	707
1947-48	1203	2044	837	1178	2208	2793	1092	1630	-4417	1070	-6562	-209	258
1948-49	771	1610	1711	1742	-1792	-149	-4000	-816	5617	4693	-3639	297	532
1949-50	212	999	-156	1468	740	3806	992	1311	12623	-390	-7530	-5079	735
1950-51	118	1635	284	6505	6460	1462	1950	-925	7199	-2040	-6193	-1127	1261
1951-52	113	2241	-1841	1074	5437	4421	3484	-3927	6315	-1632	-1146	-1784	1038
1952-53	70	761	1159	2752	3657	4888	3684	-3210	98	6743	-6443	141	1192
1953-54	306	1146	460	1887	73	3331	5345	-1342	10411	61	-2196	-340	1551
1954-55	-140	947	-1560	684	198	1295	2263	-1751	-2154	-74	389	124	1
1955-56	36	691	319	79	2091	7358	5788	5628	4380	2043	-8437	554	1716
1956-57	315	1955	-683	1887	6157	3403	4243	-6375	9287	149	-670	374	1633
1957-58	242	590	-247	1441	4994	4420	1833	-3946	-108	12021	-3687	661	1537
1958-59	183	573	413	-226	1573	2999	2524	769	4483	3545	690	460	1492
1959-60	272	408	-362	-582	1782	3548	2981	2305	1588	417	1517	331	1179
1960-61	-138	784	-271	-501	-186	-963	734	709	-370	856	2617	458	304
1961-62	214	-88	175	450	245	-9	1019	-1805	7735	2152	692	1441	1006
1962-63	116	195	200	1978	2245	2062	5384	787	4546	-818	-3540	1221	1168
1963-64	469	978	428	56	1142	1127	1926	885	7630	1605	-3092	698	1148
1964-65	442	605	817	492	4029	5565	-6679	-4563	9991	3224	3874	1411	1645
1965-66	858	3908	1669	4149	1784	-668	-3338	-1949	2186	925	751	938	950
1966-67	328	67	-426	861	-413	-877	1757	611	10173	6130	4285	357	1743
1967-68	991	1844	368	770	3050	2183	652	651	1442	3797	1581	1147	1441
1968-69	-79	1509	926	415	2447	950	2850	-3274	2097	8383	-206	1283	1435
1969-70	1013	820	928	2030	1719	3631	4863	-221	5532	-86	2692	-286	1852
1970-71	1411	2118	108	135	4596	8443	2198	4079	-1657	5108	6423	2237	2952
1971-72	3087	4544	-3278	-352	-275	2197	78	4790	-4136	9139	3207	1492	1726
1972-73	856	1080	-2063	1499	684	2205	-1554	-3575	-800	5315	2691	1706	684
1973-74	1703	974	1916	4481	5617	7387	1501	-7156	5400	2504	8688	-84	2731
1974-75	1960	1779	2041	5624	2876	185	-641	-4813	-1054	4432	6315	3996	1146
1975-76	3209	2501	1879	4179	3859	2249	-206	-1935	-1132	3025	540	2327	1720
1976-77	496	725	-1733	3520	3255	2620	1574	-1113	1394	100	603	1233	1046
1977-78	604	1250	575	280	149	-347	-704	1878	-5392	7306	1182	1432	392
1978-79	1040	317	588	-721	1944	155	-1975	-6047	354	218	854	1054	-174
1979-80	-1102	31	164	1164	3111	1535	4719	739	2700	1720	150	2	1228
1980-81	775	-64	1460	979	2005	3979	2815	360	-2013	-1642	-6870	1036	238
1981-82	1136	-118	-1173	-372	773	202	2904	2125	-1623	2987	563	-277	586
1982-83	581	103	277	38	-1867	2062	-1393	1275	453	-1247	1426	-2410	-54
1983-84	781	-718	-2751	1482	-250	3638	-227	4398	-2433	-2696	3231	-2996	121
1984-85	2502	-1645	-5481	-2045	2549	1587	-3057	-2288	2529	3276	-1634	389	-249
1985-86	-475	-1207	1022	840	271	5226	-943	3291	-1601	-1208	2865	486	733
1986-87	348	-654	-3991	486	-1249	2638	3250	1675	361	1124	576	199	376
1987-88	435	689	-317	630	1507	188	1701	1462	367	593	477	879	714
1988-89	348	687	1273	163	345	161	-391	-620	3337	2199	248	721	710
1989-90	153	1166											
MEAN	944	1400	241	758	1589	1878	1038	763	575	183	-1778	352	535

LWG3DD9

USGS # 13343598

LOWER GRANITE

River: SNAKE

Drainage Area: 103500 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 107.5

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												36510	
1928-29	21230	21670	22360	25120	24400	25000	18950	32740	45270	85530	88380	31070	36860
1929-30	17890	17490	18940	19020	24510	17850	31400	32820	68570	71320	57650	23290	33320
1930-31	17950	18760	20930	18880	18810	19000	21430	32280	53270	73820	35470	<u>15480</u>	<u>28870</u>
1931-32	<u>11840</u>	<u>14410</u>	<u>16630</u>	<u>17640</u>	17780	17320	<u>17840</u>	57000	81730	141700	106800	37830	44910
1932-33	18870	20020	21010	26090	22440	22330	18850	32980	61190	87610	162100	37790	44230
1933-34	19480	20220	22770	30160	50890	52140	37310	55250	90260	67530	<u>31910</u>	17840	41310
1934-35	13900	14810	18660	22780	21400	20930	22340	28190	55940	86230	75290	26430	33910
1935-36	16080	15880	17330	18050	<u>16870</u>	20990	18190	37560	107100	137500	68450	23710	41480
1936-37	17980	19330	18130	17970	18300	<u>15780</u>	17890	26660	45230	87670	59920	23080	30710
1937-38	16120	16760	18690	20990	27500	25580	28890	49800	93540	136900	113200	42460	49240
1938-39	21100	20700	23950	25900	26930	27340	23830	47300	75310	97980	45330	24470	38430
1939-40	16570	18100	19840	19010	22800	24100	38360	57210	84920	101100	54830	21530	39830
1940-41	15180	19640	23890	24000	28020	25600	28440	36290	45430	74400	71390	29520	35150
1941-42	20270	24460	27020	32970	45730	28080	31010	33600	83790	90530	92840	39190	45770
1942-43	19570	20580	20830	27320	32050	39650	46030	70060	<u>162800</u>	134400	147400	78720	66540
1943-44	26630	24040	24310	27160	30450	24790	24860	27290	50060	72650	67320	29890	35780
1944-45	19250	19280	20290	22000	21350	27450	34790	32770	51930	116300	102100	35980	41940
1945-46	20090	22530	22890	29200	37090	36590	31980	60240	109100	133500	86410	35220	52110
1946-47	21090	24590	30790	35950	64570	36020	48700	49650	85570	149900	94570	36130	56480
1947-48	21590	23350	30570	34850	38100	44420	38510	38850	81740	187200	178600	47080	63700
1948-49	25710	23090	25380	27580	24550	26210	34270	69440	104100	172800	86220	29780	54190
1949-50	19000	20410	24320	28560	26940	30710	42300	62770	106700	118900	156300	68930	58740
1950-51	26770	24490	32120	45810	48750	40760	63720	53090	113800	144200	96550	44440	61080
1951-52	24070	22960	31210	32620	41400	36370	43970	48590	155300	183400	117100	45330	65130
1952-53	23070	22740	23190	23410	24620	45290	47040	38480	64000	108400	158100	60760	53150
1953-54	24400	22830	23010	25850	26660	30280	42880	38350	84490	131300	101300	51770	50230
1954-55	23970	23240	23130	25770	22400	23350	23040	21580	49810	99660	129000	51510	43050
1955-56	21370	20590	23880	29630	54260	51780	41130	69920	129300	188500	140900	42750	67850
1956-57	25130	25070	26640	29970	37010	27370	40740	60270	95440	199500	126900	36180	60920
1957-58	21880	22540	25230	25000	31550	30050	52880	40510	87670	173500	106800	34100	54250
1958-59	22850	22780	25510	36490	46260	48420	40240	40870	77270	106400	124600	38690	52490
1959-60	22200	30010	<u>45400</u>	39880	33290	27930	35190	56020	84150	95940	103700	30710	50300
1960-61	21670	21930	22220	26090	22580	21210	48140	43830	55110	102400	100500	24280	42360
1961-62	16620	19570	22790	22550	23450	26490	35640	35090	99580	108800	101500	35770	45570
1962-63	21820	21060	35060	37080	41340	27630	59100	38400	58690	103100	109800	39330	49210
1963-64	21990	23720	22980	25740	24300	24020	26030	29780	75930	123500	179300	54000	52500
1964-65	26070	26860	25980	28770	<u>66470</u>	67340	74840	60740	128800	158100	167300	60840	74190
1965-66	31810	<u>32740</u>	30230	33690	32380	31550	26270	38960	63300	82240	58150	24780	40550
1966-67	17450	18940	20810	22740	26530	31870	33060	34140	51970	118700	152700	47400	48000
1967-68	21150	22210	27900	31870	32840	31540	54770	46760	42790	83550	96570	32090	43560
1968-69	24730	28030	31950	39250	36410	56140	46260	55270	121800	158200	90050	34860	60250
1969-70	21430	21920	25830	24560	25710	53200	50240	40730	50910	126600	156600	51240	54010
1970-71	23150	28480	28010	33360	41270	68970	75430	64760	107100	<u>206100</u>	188200	70580	77850
1971-72	27990	28950	29870	34610	34060	48270	59020	<u>134000</u>	90470	169500	191100	51910	74960
1972-73	25360	25910	28870	32870	37120	40930	30460	34670	41210	77810	58560	24230	38210
1973-74	16780	19940	23220	43780	49790	<u>75400</u>	53240	74670	130200	147900	<u>241100</u>	73010	<u>78970</u>
1974-75	28840	23560	25660	31010	29460	32040	33290	49740	76180	133600	188600	<u>85970</u>	61530
1975-76	32170	26700	35340	40910	65520	51560	44950	53580	113400	183600	124500	49390	68510
1976-77	30340	28010	25580	29040	28220	24930	24240	<u>21470</u>	<u>36880</u>	<u>48900</u>	39510	17640	29560
1977-78	14540	17880	21640	25390	54010	35100	39030	58740	85910	119500	114600	56450	53600
1978-79	24910	26960	23270	23450	25620	24840	33580	51780	66170	119900	71450	26270	43230
1979-80	18840	18250	20150	20080	24720	27250	37130	37520	71860	122300	105900	39720	45260
1980-81	20550	24580	23400	27850	43250	40200	49800	37450	57820	91680	110800	35480	46790
1981-82	19360	18700	22580	25290	34750	29770	<u>85150</u>	81670	100200	161700	171900	83230	69290
1982-83	28490	26920	35100	37290	42200	53460	58730	94690	85210	134500	140400	61010	66500
1983-84	30020	24940	30960	<u>45880</u>	42090	61210	47130	88250	115500	163200	195300	65640	75790
1984-85	<u>32280</u>	28050	31320	40550	37020	35370	30020	40510	102400	117100	75600	24130	49560
1985-86	20230	27730	30280	32550	26910	36540	80890	128300	106100	126700	122300	32720	64040
1986-87	21490	26650	29720	35940	31500	30650	32190	44860	54600	68110	32990	19780	35720
1987-88	15630	16370	18280	19210	20710	19350	24330	30960	59690	75460	56320	20190	31340
1988-89	13370	14800	17710	21530	20300	19850	20370	62270	100500	101500	82150	27380	41840
1989-90	19690	20490											
MEAN	21640	22390	25170	28830	33250	34360	39350	50030	82540	121200	110000	40280	50730
MEDIAN	21300	22540	23890	27580	30450	30280	37130	44860	83790	118900	103700	36150	49240

LWG3M9

USGS # 13343930

LITTLE GOOSE

River: SNAKE

Drainage Area: 103900 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 70.3

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												36470	
1928-29	21210	21670	22360	25120	24400	25000	18950	32740	45250	85510	88350	31030	36850
1929-30	17870	17490	18940	19020	24510	17850	31400	32820	68550	71300	57820	23250	33300
1930-31	17930	18760	20930	18880	18810	19000	21430	32280	53250	73800	35440	<u>15440</u>	<u>28860</u>
1931-32	<u>11820</u>	<u>14410</u>	<u>16630</u>	<u>17640</u>	17780	17320	<u>17840</u>	57000	81710	141700	108700	37790	44900
1932-33	18850	20020	21010	26090	22440	22330	18850	32960	61170	87590	162100	37750	44220
1933-34	19460	20220	22770	30160	50690	52140	37310	55250	90240	67510	<u>31880</u>	17800	41300
1934-35	13880	14810	18660	22780	21400	20930	22340	28190	55920	86210	75280	26390	33900
1935-36	16060	15880	17330	18050	<u>16870</u>	20990	18190	37560	107000	137500	68420	23670	41470
1936-37	17960	19330	18130	17970	18300	<u>15780</u>	17890	20660	45210	87650	59890	23040	30700
1937-38	16100	16760	18690	20990	27500	25580	28890	49800	93520	136900	113200	42420	49230
1938-39	21080	20700	23950	25900	26930	27340	23830	47300	75290	97960	45300	24430	38420
1939-40	16550	18100	19840	19010	22800	24100	38360	57210	84900	101100	54800	21490	39820
1940-41	15180	19640	23890	24000	28020	25600	28440	36290	45410	74380	71360	29480	35140
1941-42	20250	24460	27020	32970	45730	28080	31010	33600	83770	90510	92810	39150	45760
1942-43	19550	20580	20830	27320	32050	39650	46030	70060	<u>162800</u>	134400	147400	76680	66530
1943-44	26610	24040	24310	27180	30450	24790	24860	27290	50040	72630	67290	29850	35770
1944-45	19230	19280	20290	22000	21350	27450	34790	32770	51910	116200	102100	35940	41930
1945-46	20070	22530	22690	29200	37090	36590	31980	60240	109000	133500	86380	35180	52100
1946-47	21070	24590	30790	35950	64570	38020	48700	49650	85550	149800	94540	36090	56470
1947-48	21570	23350	30570	34850	38100	44420	38510	38850	81720	187200	178500	47040	63690
1948-49	25690	23090	25380	27580	24550	26210	34270	69440	104100	172800	86190	29740	54180
1949-50	18980	20410	24320	28560	26940	30710	42300	62770	106700	118900	156300	68890	58730
1950-51	26750	24490	32120	45810	48750	40760	63720	53090	113700	144100	96520	44400	61070
1951-52	24050	22960	31210	32620	41400	36370	43970	48590	155300	183400	117100	45290	65120
1952-53	23050	22740	23190	23410	24620	45290	47040	38480	63980	108300	158100	60720	53140
1953-54	24380	22830	23010	25850	26660	30280	42880	38350	84470	131300	101200	51730	50220
1954-55	23950	23240	23130	25770	22400	23350	23040	21580	49790	99640	128900	51470	43040
1955-56	21350	20590	23880	29630	54260	51780	41130	69920	129300	188500	140800	42710	67840
1956-57	25110	25070	26640	29970	37010	27370	40740	60270	95420	199500	126800	36140	60910
1957-58	21860	22540	25230	25000	31550	30050	52880	40510	87650	173400	108800	34060	54240
1958-59	22830	22780	25510	36490	46260	48420	40240	40870	77250	106400	124500	38650	52480
1959-60	22180	30010	<u>45400</u>	39860	33290	27930	35190	56020	84130	95920	103700	30670	50290
1960-61	21650	21930	22220	26090	22580	21210	48140	43830	55090	102400	100500	24240	42350
1961-62	16600	19570	22790	22550	23450	26490	35840	35090	99560	108800	101500	35730	45560
1962-63	21800	21060	35060	37080	41340	27630	59100	38400	56670	103100	109800	39290	49200
1963-64	21970	23720	22980	25740	24300	24020	26030	29780	75910	123500	179200	53960	52490
1964-65	26050	26860	25980	28770	<u>66470</u>	67340	74840	60740	128800	158100	167200	60800	74180
1965-66	31790	<u>32740</u>	30230	33690	32380	31550	26270	38960	63280	82220	58120	24740	40540
1966-67	17430	18940	20810	22740	26530	31870	33060	34140	51950	118700	152600	47360	47990
1967-68	21130	22210	27900	31870	32840	31540	54770	46760	42770	83530	96540	32050	43550
1968-69	24710	28030	31950	39250	36410	56140	46260	55270	121800	158200	90020	34820	60240
1969-70	21410	21920	25830	24560	25710	53200	50240	40730	50910	126600	156600	51240	54010
1970-71	23150	28480	28010	33360	41270	68970	75430	64760	107100	<u>206100</u>	188200	70580	77850
1971-72	27990	28950	29870	34610	34060	48270	59020	<u>134000</u>	90470	169500	191100	51910	74960
1972-73	25360	25910	28870	32870	37120	40930	30460	34670	41210	77810	58580	24230	38210
1973-74	16780	19940	23220	43780	49790	<u>75400</u>	53240	74670	130200	147900	<u>241100</u>	73010	<u>78970</u>
1974-75	28840	23560	25660	31010	29460	32040	33290	49740	76180	133600	188600	<u>85970</u>	61530
1975-76	32170	26700	35340	40910	65520	51560	44950	53580	113400	183600	124500	49390	68510
1976-77	30340	28010	25580	29040	28220	24930	24240	<u>21470</u>	<u>36880</u>	<u>48900</u>	39510	17640	29560
1977-78	14540	17880	21640	25390	54010	35100	39030	58740	85910	119500	114600	56450	53600
1978-79	24910	26960	23270	23450	25620	24840	33580	51780	66170	119900	71450	26270	43230
1979-80	18840	18250	20150	20080	24720	27250	37130	37520	71860	122300	105900	39720	45260
1980-81	20550	24580	23400	27850	43250	40200	49800	37450	57820	91680	110800	35480	46790
1981-82	19360	18700	22580	25290	34750	29770	<u>85150</u>	81670	100200	161700	171900	83230	69290
1982-83	28490	26920	35100	37290	42200	53460	58730	94690	85210	134500	140400	61010	66500
1983-84	30020	24940	30960	<u>45880</u>	42090	61210	47130	88250	115500	163200	195300	65640	75790
1984-85	<u>32280</u>	28050	31320	40550	37020	35370	30020	40510	102400	117100	75600	24130	49560
1985-86	20230	27730	30280	32550	26910	36540	80890	128300	106100	126700	122300	32720	64040
1986-87	21490	26650	29720	35940	31500	30650	32190	44860	54600	68110	32990	19780	35720
1987-88	15630	16370	18280	19210	20710	19350	24330	30960	59690	75460	56320	20190	31340
1988-89	13370	14800	17710	21530	20300	19850	20370	62270	100500	101500	82150	27380	41840
1989-90	19690	20490											
MEAN	21630	22390	25170	28830	33250	34360	39350	50030	82530	121100	110000	40260	50730
MEDIAN	21280	22540	23890	27580	30450	30280	37130	44860	83770	118900	103700	36110	49230

LGS3M9

LOWER MONUMENTAL

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												849	
1928-29	3093	4144	-1651	504	3291	3594	136	-6381	-8548	-4608	-5433	1031	-895
1929-30	2147	1934	332	-4407	-2903	-2476	440	-538	-2473	-3784	-3422	1339	-1154
1930-31	2131	2774	1080	-2578	-1994	-1243	1144	-380	-1949	-2545	-728	731	-305
1931-32	858	1672	768	-312	-214	-598	-990	-5249	-7784	-10273	-4876	394	-2217
1932-33	1566	3394	2169	63	-730	-484	-335	-1724	-3432	-4030	-5890	-64	-788
1933-34	1464	2706	1118	20	184	-528	66	-492	-3165	-2498	-997	610	-125
1934-35	994	1387	1617	677	97	43	491	170	-1829	-4841	-5111	827	-456
1935-36	1173	1523	1468	363	582	359	-52	-915	-7058	-9485	-9314	1445	-1646
1936-37	2076	2783	1806	937	905	815	-88	-917	-5450	-5780	-2866	763	-430
1937-38	1334	2334	2003	791	263	401	1356	-3086	-8798	-5627	-11105	-4843	-2087
1938-39	2186	3352	2878	3100	2826	4330	199	-6633	-5516	-4368	-1288	1041	178
1939-40	1589	2182	1682	545	746	182	1730	11	-4088	-1754	-2179	1289	164
1940-41	1013	1799	964	-472	863	285	702	-983	-2357	-3911	-2931	525	-377
1941-42	920	1728	440	-917	-485	-1096	-2094	-1267	-11777	-6520	-5705	-668	-2268
1942-43	503	1762	789	-1125	-41	907	2247	7960	1597	1249	-15489	-6264	-482
1943-44	785	2945	-1239	-491	5646	3013	3067	-770	-3016	-3524	-9986	280	-268
1944-45	694	1156	987	-196	1840	1318	1352	-1044	556	-2742	-9391	-529	-499
1945-46	1026	2929	814	-1290	3233	156	1227	-349	-3373	606	-4701	307	57
1946-47	1371	2025	603	-177	2944	2377	2711	-176	10542	-4849	-10537	430	590
1947-48	997	1915	811	1164	2195	2780	1079	1620	-4501	833	-6906	-517	141
1948-49	562	1482	1690	1733	-1801	-158	-4008	-822	5533	4449	-3992	-19	415
1949-50	1	874	-173	1464	736	3802	988	1308	12540	-639	-7892	-5402	619
1950-51	-96	1511	272	6506	6461	1463	1951	-924	7116	-2291	-6559	-1454	1146
1951-52	-103	2117	-1851	1076	5439	4423	3486	-3926	6232	-1886	-1516	-2114	923
1952-53	-147	638	1150	2756	3661	4892	3688	-3208	15	6486	-6818	-192	1076
1953-54	87	1023	452	1892	78	3336	5349	-1339	10328	-199	-2575	-677	1435
1954-55	-361	823	-1567	690	204	1301	2268	-1747	-2237	-336	7	-217	-116
1955-56	-187	567	313	86	2098	7365	5795	5633	4297	1778	-8823	210	1599
1956-57	92	1830	-687	1895	6165	3411	4251	-6369	9203	118	-1060	27	1516
1957-58	17	466	-250	1450	5004	4429	1842	-3939	-192	11752	4081	310	1419
1958-59	-44	449	411	-215	1583	3009	2534	777	4399	3273	291	106	1373
1959-60	43	284	-364	-570	1794	3560	2993	2313	1503	142	1114	-26	1060
1960-61	-368	659	-271	-487	-173	-950	746	718	-454	579	2210	97	184
1961-62	-18	-212	176	465	259	5	1033	-1795	7650	1872	282	1077	886
1962-63	-117	71	203	1993	2261	2078	5399	798	4461	-1100	-3954	854	1048
1963-64	234	853	431	74	1158	1144	1942	897	7546	1320	-3510	327	1027
1964-65	205	480	822	510	4047	5583	-6662	-4550	9906	2937	3452	1037	1524
1965-66	620	3783	1675	4168	1803	-647	-3320	-1935	2101	635	325	560	828
1966-67	88	-58	-419	-840	-392	-856	1776	626	10093	5856	3883	1	1628
1967-68	764	1726	375	790	3089	2202	-634	664	1367	3540	1183	812	1333
1968-69	-292	1398	932	434	2466	968	2867	-3262	2027	8142	-560	969	1334
1969-70	814	717	934	2048	1735	3648	4879	-209	5467	-309	2363	-578	1758
1970-71	1226	2021	114	152	4812	8459	2213	4091	-1718	4900	6117	1966	2864
1971-72	2915	4454	-3273	-336	-261	2212	92	4801	-4192	8948	2926	1243	1646
1972-73	698	998	-2058	1513	697	2219	-1541	-3565	-851	5141	2434	1479	610
1973-74	1559	899	1921	4494	5630	7400	1513	-7147	5354	2346	8455	-291	2664
1974-75	1829	1711	2045	5636	2888	197	-630	-4805	-1095	-4573	6106	3811	1086
1975-76	3092	2440	1883	4190	3869	2259	-196	-1927	-1168	2900	356	2164	1667
1976-77	393	672	-1729	3530	3264	2629	1582	-1107	1362	-9	443	1091	1000
1977-78	515	1203	579	288	157	-338	-696	-1872	-5418	7214	1046	1312	352
1978-79	964	278	591	-714	1951	162	1968	6042	332	-142	743	955	207
1979-80	1165	1	167	1170	3117	1541	4725	743	2683	1661	62	-76	1203
1980-81	726	-89	1463	984	2010	3984	2820	364	-2029	-1696	6950	966	216
1981-82	1091	-141	-1170	-368	777	207	2908	2128	-1637	2940	493	-338	566
1982-83	542	84	279	42	-1863	2066	-1390	1278	441	-1288	1367	-2462	-71
1983-84	748	-735	-2749	1485	-246	3641	-223	4400	-2442	-2730	3182	-3040	106
1984-85	2475	1659	-5480	-2042	2552	1589	-3055	-2286	2521	3249	-1674	354	-261
1985-86	-497	-1218	1023	843	273	5228	-940	3292	-1606	-1228	2835	459	724
1986-87	332	-663	-3991	488	-1247	2640	3252	1676	357	1110	556	181	370
1987-88	424	683	-317	631	1508	189	1702	1463	365	586	467	870	711
1988-89	342	684	1273	164	346	161	-391	-620	3337	2199	248	721	710
1989-90	153	1166											
MEAN	775	1302	231	759	1589	1878	1038	-763	509	-12	-2063	98	444

LMN3DD9

USGS # 13352595

LOWER MONUMENTAL

River: SNAKE

Drainage Area: 108500 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 41.6

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												36880	
1928-29	20810	20960	22500	25330	24980	25490	21240	34440	46290	85550	88320	31410	37320
1929-30	17170	16700	19290	19220	25240	18290	34240	34440	69450	71850	58450	23580	33900
1930-31	17440	17990	21230	19060	19400	19440	23780	33890	54290	74110	36910	15720	29460
1931-32	<u>11170</u>	<u>13520</u>	<u>17080</u>	<u>17780</u>	18300	17620	20140	59080	82430	140500	106300	38210	45210
1932-33	18430	19270	21350	26320	23070	22920	21170	34600	62130	87580	160100	38170	44540
1933-34	19060	19530	23000	30450	51950	54420	40440	57230	90930	67970	33430	18090	42210
1934-35	13300	13950	19070	22970	22000	21400	24780	29720	56930	86230	75590	26740	34380
1935-36	15540	15060	17780	18180	<u>17340</u>	21450	20450	39260	107500	136400	68820	24010	41810
1936-37	17490	18580	18560	18090	18790	<u>15910</u>	<u>20140</u>	28190	46280	87620	60670	23370	31180
1937-38	15590	15940	19110	21150	28220	26300	31580	51730	94150	135800	112400	42900	49600
1938-39	20720	19980	24200	26090	27590	27940	26350	49250	76090	97700	46510	24770	39000
1939-40	16030	17340	20190	19160	23400	24740	41450	59210	85630	100900	55730	21810	40420
1940-41	14610	18950	24060	24220	28740	26320	31130	37970	46510	74850	71850	29840	35730
1941-42	19900	23960	27060	33290	46890	29020	33940	35230	84440	90390	92660	39590	46330
1942-43	19180	19930	21120	27580	32900	41140	49440	72130	<u>162900</u>	133600	145500	79390	66980
1943-44	26500	23480	24390	27420	31130	25310	27290	28820	51090	72960	67690	30230	36340
1944-45	18840	18600	20610	22190	21900	28230	37740	34400	52980	115700	101600	36360	42400
1945-46	19710	21910	22910	29490	37970	37960	34820	62290	109600	132700	86430	35590	52660
1946-47	20740	24080	30690	36300	66080	37230	52210	51530	86400	148500	94170	36490	57040
1947-48	21260	22800	30500	35180	39030	46070	41650	40530	82470	185100	176100	47500	63970
1948-49	25530	22550	25540	27820	25270	27000	37450	71660	104700	171100	86230	30090	54660
1949-50	18610	19790	24450	28830	27660	31530	45620	64840	107400	118200	154400	69500	59150
1950-51	26650	24000	31980	<u>46230</u>	49840	42300	67960	55060	114400	143000	96250	44840	61730
1951-52	23860	22400	31030	32950	42350	37490	47270	50530	155500	181400	116400	45740	65490
1952-53	22820	22230	23420	23610	25220	46890	50460	40240	64950	108100	156200	61240	53660
1953-54	24200	22310	23220	26080	27400	31130	46040	40030	85340	130500	100900	52190	50740
1954-55	23760	22730	23260	26020	23030	23910	25450	23050	50850	99430	127900	51930	43450
1955-56	21050	20000	24060	29940	55590	53610	44180	72050	129700	186400	139300	43110	68260
1956-57	24950	24590	26670	30270	37850	28040	43860	62440	96180	197200	125800	36490	61250
1957-58	21580	22030	25340	25230	32280	30820	56650	42330	88390	171700	106300	34400	54680
1958-59	22590	22280	25620	36880	47420	50320	43410	42610	78130	106100	123600	39020	53120
1959-60	21900	29790	<u>44730</u>	40300	34150	28630	38100	57990	84920	95780	103400	30990	50810
1960-61	21360	21380	22450	26370	23230	21780	51750	45630	56130	102100	100300	24510	42920
1961-62	16120	18960	23010	22780	24120	27320	38680	36790	99430	110400	102200	36110	46230
1962-63	21780	18560	34520	37420	42770	28630	64500	39360	60080	104400	108900	39920	49890
1963-64	21650	23370	23020	26190	24680	25330	27760	31420	78790	123600	178200	56550	53270
1964-65	26120	27040	26650	29270	<u>67690</u>	70090	78790	65570	126000	153600	168200	64030	75590
1965-66	<u>33410</u>	<u>33440</u>	30070	34290	33540	32800	29030	40720	68280	83100	60910	26860	42240
1966-67	17770	18910	21170	23800	27410	32240	35370	35650	53960	118300	153300	49580	48910
1967-68	21410	21880	27990	32440	33220	32920	56970	49820	44830	83670	97770	32130	44470
1968-69	24760	27920	31830	39880	37190	58150	46810	58260	124200	154800	90020	34680	60720
1969-70	20070	20950	25450	24040	25790	53710	52160	42190	51480	124500	153600	50850	53650
1970-71	22510	27630	27830	33470	41150	70480	77420	66960	107000	<u>200500</u>	184400	71110	77430
1971-72	27060	28300	29560	34760	34530	49980	63050	<u>136800</u>	89560	166200	187100	51520	74820
1972-73	25220	24890	29310	32460	37670	43430	30670	36440	40620	74970	56360	23880	38050
1973-74	17050	19880	23580	44420	54000	<u>80470</u>	57140	75530	131100	148400	<u>237100</u>	73860	<u>80090</u>
1974-75	27690	22920	25830	31540	30170	33740	35220	52290	75050	131700	184800	<u>84170</u>	61290
1975-76	32150	27410	35530	41290	67200	54330	45660	55530	116500	184400	124000	50380	69580
1976-77	29710	27280	25810	29040	29850	24610	24990	<u>21600</u>	<u>36300</u>	<u>48750</u>	39820	<u>15720</u>	<u>29450</u>
1977-78	13360	17740	21990	25610	54160	36680	39990	59640	86820	121300	115000	56470	54100
1978-79	25640	26630	22670	22730	25430	24480	38390	53460	66370	119700	71530	25360	43540
1979-80	18350	17110	20840	20980	24620	28880	37760	38780	70770	122800	107400	39300	45580
1980-81	19780	24540	24270	27750	43860	41510	51690	37690	57760	90650	114100	35130	47260
1981-82	18490	18160	23420	24660	34310	29880	<u>90040</u>	84620	100900	159700	168800	81990	69320
1982-83	27850	26930	33920	36350	42030	53150	60080	97320	86540	133500	138800	61130	66460
1983-84	29120	24130	30300	45420	41100	62810	47390	88570	115400	158700	192100	62250	74710
1984-85	30900	27290	30520	40620	37330	33650	31500	41610	102500	114200	73900	22160	48860
1985-86	18990	28170	30030	32660	26150	37890	83090	124400	104800	123300	119800	29740	63010
1986-87	19340	25460	29230	34720	30680	30030	33110	45610	52030	65210	<u>30440</u>	18380	34520
1987-88	14270	15840	18880	19040	19780	19310	24050	30630	57620	71780	53770	17960	30120
1988-89	12200	14310	17980	22060	19910	20320	20720	64730	97360	99110	80210	25960	41280
1989-90	17650	19930											
MEAN	21170	21840	25260	29010	33880	35370	41870	51710	83070	120200	109300	40350	51060
MEDIAN	20780	21970	24200	27750	30680	30820	38680	45630	84440	118300	103400	36490	49600

LMN3M9

USGS # 13352980

ICE HARBOR

River: SNAKE

Drainage Area: 108500 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 9.7

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												36850	
1928-29	20790	20950	22500	25330	24980	25490	21240	34440	46280	85540	88300	31380	37310
1929-30	17150	16690	19290	19220	25240	18290	34240	34440	69440	71640	58430	23550	33890
1930-31	17420	17980	21230	19060	19400	19440	23780	33890	54280	74100	38890	<u>15690</u>	29450
1931-32	<u>11150</u>	<u>13510</u>	<u>17080</u>	<u>17780</u>	18300	17620	20140	59080	82420	140500	106300	38180	45200
1932-33	18410	19260	21350	26320	23070	22920	21170	34600	62120	87570	160100	38140	44530
1933-34	19040	19520	23000	30450	51950	54420	40440	57230	90920	67960	33410	18060	42200
1934-35	13280	13940	19070	22970	22000	21400	24780	29720	56920	86220	75570	26710	34370
1935-36	15520	15050	17780	18180	<u>17340</u>	21450	20450	39260	107500	136400	68800	23980	41810
1936-37	17470	18570	18560	18090	18790	<u>15910</u>	<u>20140</u>	28190	46270	87610	60650	23340	31170
1937-38	15570	15930	19110	21150	28220	26300	31580	51730	94140	135800	112400	42870	49590
1938-39	20700	19970	24200	26090	27590	27940	28350	49250	76080	97690	46490	24740	38990
1939-40	16010	17330	20190	19160	23400	24740	41450	59210	85620	100900	55710	21780	40410
1940-41	14590	18940	24060	24220	28740	26320	31130	37970	46500	74640	71830	29810	35720
1941-42	19880	23950	27060	33290	46890	29020	33940	35230	84430	90380	92640	39560	46320
1942-43	19160	19920	21120	27580	32900	41140	49440	72130	<u>162900</u>	133600	145500	79360	66970
1943-44	26480	23470	24390	27420	31130	25310	27290	28820	51080	72950	67670	30200	36330
1944-45	18820	18590	20610	22190	21900	28230	37740	34400	52970	115700	101600	36330	42390
1945-46	19690	21900	22910	29490	37970	37960	34820	62290	109600	132700	86410	35560	52650
1946-47	20720	24070	30690	36300	66080	37230	52210	51530	86390	148500	94150	36460	57030
1947-48	21240	22790	30500	35180	39030	46070	41650	40530	82460	185100	178100	47470	63970
1948-49	25510	22540	25540	27820	25270	27000	37450	71660	104700	171100	86210	30060	54650
1949-50	18590	19780	24450	28830	27660	31530	45620	64840	107300	118200	154400	69470	59140
1950-51	26630	23990	31980	<u>46230</u>	49840	42300	67960	55060	114400	143000	96230	44810	61720
1951-52	23840	22390	31030	32950	42350	37490	47270	50530	155500	181400	116400	45710	65490
1952-53	22800	22220	23420	23610	25220	46890	50460	40240	64940	108000	156200	61210	53650
1953-54	24180	22300	23220	26080	27400	31130	46040	40080	85330	130500	100900	52160	50730
1954-55	23740	22720	23260	26020	23030	23910	25450	23050	50840	99420	127900	51900	43440
1955-56	21030	19990	24060	29940	55590	53610	44180	72050	129700	186400	139300	43080	68250
1956-57	24930	24580	26670	30270	37850	28040	43860	62440	96170	197100	125800	36460	61240
1957-58	21560	22020	25340	25230	32280	30820	56650	42330	88380	171700	106300	34370	54670
1958-59	22570	22270	25620	36880	47420	50320	13410	42610	78120	106100	123600	38990	53110
1959-60	21880	29780	<u>44730</u>	40300	34150	28630	38100	57990	84910	95770	103400	30960	50800
1960-61	21340	21370	22450	26370	23230	21780	51750	45630	56120	102100	100200	24480	42910
1961-62	16100	18950	23010	22780	24120	27320	38680	36790	99430	110400	102200	36110	46220
1962-63	21780	18560	34520	37420	42770	28630	64500	39360	60080	104400	108900	39920	49890
1963-64	21650	23370	23020	26190	24680	25330	27760	31420	78790	123600	178200	58550	53270
1964-65	26120	27040	26650	29270	<u>67690</u>	70090	78790	65570	126000	159600	168200	64030	75590
1965-66	<u>33410</u>	<u>33440</u>	30070	34290	33540	32800	29030	40720	68280	83100	60910	26860	42240
1966-67	17770	18910	21170	23800	27410	32240	35370	35650	53960	118300	153300	49580	48910
1967-68	21410	21880	27990	32440	33220	32920	56970	49820	44830	83670	97770	32130	44470
1968-69	24760	27920	31830	39880	37190	58150	46810	58260	124200	154800	90020	34680	60720
1969-70	20070	20950	25450	24040	25790	53710	52160	42190	51480	124500	153600	50850	53650
1970-71	22510	27630	27830	33470	41150	70480	77420	66960	107000	<u>200500</u>	184400	71110	77430
1971-72	27060	28300	29560	34760	34530	49980	63050	<u>136800</u>	89560	166200	187100	51520	74820
1972-73	27220	24890	29310	32460	37670	43430	30670	36440	40620	74970	56360	23880	38050
1973-74	17050	19880	23580	44420	54000	<u>80470</u>	57140	75530	131100	148400	<u>237100</u>	73860	<u>80090</u>
1974-75	27690	22920	25830	31540	30170	33740	35220	52290	75050	131700	184800	<u>84170</u>	61290
1975-76	32150	27410	35530	41290	67200	54330	45660	55530	116500	184400	124000	50380	69580
1976-77	29710	27280	25810	29040	29850	24610	24990	<u>21600</u>	<u>36300</u>	<u>48750</u>	39820	15720	<u>29450</u>
1977-78	13360	17740	21990	25610	54160	36680	39990	59640	86820	121300	115000	56470	54100
1978-79	25640	26630	22670	22730	25430	24480	38390	53460	66370	119700	71530	25360	43540
1979-80	18350	17110	20840	20980	24620	28880	37760	38780	70770	122800	107400	39300	45580
1980-81	19780	24540	24270	27750	43860	41510	51690	37690	57760	90650	114100	35130	47260
1981-82	18490	18160	23420	24660	34310	29880	<u>90040</u>	84620	100900	159700	168800	81990	69320
1982-83	27850	26930	33920	36350	42030	53150	60080	97320	86540	133500	138800	61130	66460
1983-84	29120	24130	30300	45420	41100	62810	47390	88570	115400	158700	192100	62250	74710
1984-85	30900	27290	30520	40620	37330	33650	31590	41610	102500	114200	73900	22160	48860
1985-86	18990	28170	30030	32660	26150	37890	83090	124400	104800	123300	119800	29740	63010
1986-87	19340	25460	29230	34720	30680	30030	33110	45610	52030	65210	<u>30440</u>	18380	34520
1987-88	14270	15840	17880	19040	19780	19310	24050	30630	57620	71780	53770	17960	30120
1988-89	12200	14310	17980	22060	19910	20320	20720	64730	97360	99110	80210	25960	41280
1989-90	17650	19930											
MEAN	21160	21840	25260	29010	33880	35370	41870	51710	83060	120200	109300	40340	51060
MEDIAN	20760	21960	24200	27750	30680	30820	38680	45630	84430	118300	103400	36460	49590

IHR3M9

SECTION F
LOWER COLUMBIA AND
OREGON CLOSED BASIN

COLUMBIA AND TRIBUTARIES
FROM MOUTH OF SNAKE RIVER
THROUGH BONNEVILLE DAM
WASHINGTON AND OREGON

McNARY
THROUGH
BONNEVILLE

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SECTION F

A map of the area described in this section is given in figure 14, page 179. The area includes that portion of the Closed Basin that lies in Oregon, and the portion of the Columbia River drainage that extends from the mouth of the Snake River downstream through Bonneville Dam.

The Oregon portion of the Closed Basin encompasses 17,900 square miles and includes most of Harvey and Lake Counties in the south-central portion of the state. As shown on Table 1, page 12, there are approximately 300,000 acres being irrigated, approximately 30 percent of it by sprinkler. This area is not appropriate for inclusion in this study because there is no hydroelectric potential in the area, and the area is not a tributary of the Columbia River.

Total irrigation in the Columbia River drainage portion of this section increased from 245,000 acres in 1928 to 650,000 acres in 1990. The largest irrigation projects are those north and south of the Columbia River that pump directly from the river and Deschutes Project near Bend. Other irrigated lands are located in the valleys of the Walla Walla, Umatilla, Willow Creek, John Day, White, Hood, Klickitat, and White Salmon Rivers.

Irrigation in the Upper Deschutes basin on the Bureau of Reclamation's Deschutes Project is extensive. The irrigated land has grown from 75,000 acres in 1928, to 235,100 acres in 1966, down to 190,500 acres in 1980 with a further slight decrease to 184,000 acres in 1990. Because of the use of storage reservoirs and intensive water use, a special study was utilized to determine the irrigation adjustments to be applied at Round Butte and Pelton Dams, and downstream. The output from this special study was a set of 1990 level regulated inflows to Round Butte and to Pelton Dams. The historically observed flows at Pelton, adjusted for storage, were subtracted from the Pelton regulated inflows, and this adjustment was applied at-site and downstream.

In addition to the Deschutes Project special study, irrigation adjustments were computed separately for sprinkler and gravity application for 13 different subareas, namely:

- (1) Return flow from the Kennewick Project;
- (2) Walla Walla River basin;
- (3) McNary pool direct pumping to the North Side;
- (4) McNary pool direct pumping to the Umatilla subarea;
- (5) Umatilla River/Willow Creek basins;
- (6) John Day pool direct pumping to the North Side;
- (7) John Day pool direct pumping to Morrow/Gillam Counties subarea;
- (8) John Day River basin;
- (9) White River/Wapinita Project;

- (10) Hood River basin;
- (11) Klickitat River basin;
- (12) Klickitat-White Salmon (lands on the Columbia River effective to the Bonneville pool); and
- (13) White Salmon River basin.

Figure 15, page 180, displays schematically how these various irrigation adjustments are to be applied.

Data were compiled for each subarea of the total land irrigated by sprinkler and gravity applications for target years. These data came from Census of Agriculture data, diversion records and other information from various sources. See Table 9, page 181, for a summary of irrigated land in each subarea. The irrigation adjustments that were computed were based solely on water derived from surface sources. An examination revealed that the lands served by groundwater would not constitute a streamflow depletion at the sites investigated in this study. The diversion would affect only the groundwater level; the location and extent of the lands, coupled with the time lag of return flows, made the return flows basically ineffectual. At best, the modified streamflows developed in this study would be slightly underestimated and therefore conservative.

Monthly diversion and return flow patterns, developed for sprinkler and gravity application for the subareas, are presented on pages 183 to 185. The monthly adjustments to the 1990 level of development were then computed for each month of the 61-year period 1928-1989. The main text contains an illustrated example showing the computation of adjustments.

The modified flow for each site was computed by adding the monthly adjustments to the streamflow adjusted for storage. A listing of the computer statements used to develop modified flows in this section is shown on page 186. Listings of the at-site summations of irrigation adjustments and the modified flow for each site are presented subsequently in this section.

LOWER COLUMBIA AND OREGON CLOSED BASIN

FIGURE 14

IRRIGATION ADJUSTMENT FOR COLUMBIA RIVER BASIN, McNARY TO BONNEVILLE

LEGEND

EXISTING PROJECT

FIGURE 15

TABLE 9

IRRIGATED AREA
SUPPLIED BY SURFACE WATER
(Thousands of Acres)

WALLA WALLA RIVER

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	26.2	26.2
1928	0	25.8	25.8
1946	0	25.8	25.8
1950	7.3	28.3	35.6
1966	5.4	42.8	48.2
1980	60.4	15.0	75.4
1990	88.6	3.1	91.7

UMATILLA RIVER & WILLOW CREEK

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	50.2	50.2
1928	0	50.6	50.6
1946	0	52.0	52.0
1950	11.0	41.6	52.6
1966	18.7	27.3	46.0
1980	22.5	15.4	37.9
1990	25.1	19.5	44.6

JOHN DAY RIVER BASIN

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	45.3	45.3
1928	0	47.1	47.1
1946	0	50.3	50.3
1960	10.0	46.4	56.4
1980	15.9	41.9	57.8
1990	18.1	23.8	41.9

KENNEWICK RETURN FLOW

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	0	0
1957	0	0	0
1959	5.0	0	5.0
1962	20.0	0	20.0
1980	20.0	0	20.0
1990	24.5	0	24.5

PUMPING FROM MCNARY TO NORTH SIDE

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	3.2	3.2
1928	0	3.2	3.2
1950	0	3.2	3.2
1966	4.1	0	4.1
1980	34.1	0	34.1
1990	41.5	0	41.5

PUMPING FROM MCNARY POOL TO
UMATILLA SUBAREA

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	0	0
1950	0	0	0
1966	8.1	0	8.1
1980	37.8	0	37.8
1990	44.6	0	44.6

PUMPING FROM JOHN DAY TO NORTH SIDE

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	0	0
1928	0	0	0
1950	0	0	0
1966	0	0	0
1980	15.0	0	15.0
1990	18.1	0	18.1

DESCHUTES PROJECT

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	75.5	75.5
1928	0	75.0	75.0
1966	94.0	141.1	235.1
1980	130.6	59.9	190.5
1990	117.3	66.8	184.1

TABLE 9

IRRIGATED AREA
SUPPLIED BY SURFACE WATER
(Thousands of Acres)

PUMPING FROM JOHN DAY POOL TO
MORROW & GILLIAM COUNTIES IN
OREGON

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	0	0
1966	0	0	0
1980	74.0	0	74.0
1990	89.2	0	89.2

KLICKITAT BASIN

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	7.2	7.2
1928	0	7.2	7.2
1950	0.5	7.3	7.8
1966	0.2	7.5	7.7
1980	5.2	4.0	9.2
1990	10.1	1.6	11.7

HOOD RIVER BASIN

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	25.2	25.2
1928	0	25.2	25.2
1950	0	30.0	30.0
1966	20.0	16.9	36.9
1980	35.0	0	35.0
1990	32.2	0.7	32.9

DESCHUTES RIVER BASIN
WHITE RIVER - WAPINITA PROJECT

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	5.5	5.5
1928	0	5.5	5.5
1966	5.0	8.9	13.9
1980	6.8	10.2	17.0
1990	13.1	0.7	13.8

WHITE SALMON RIVER BASIN

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	4.8	4.8
1928	0	4.8	4.8
1950	0	4.8	4.8
1966	0.3	4.8	5.1
1980	0.5	4.8	5.3
1990	4.8	1.6	6.4

KLICKITAT - WHITE SALMON
(ON COLUMBIA R. ABOVE BONNEVILLE)

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	0	0
1928	0	0	0
1950	0	0	0
1966	0	0	0
1980	3.3	0	3.3
1990	4.3	0	4.3

1990 LEVEL OF DEVELOPMENT

WALLA WALLA RIVER BASIN													
SPRINKLER SYSTEM ONLY							GRAVITY SYSTEM ONLY						
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION		RETURN FLOW		DEPLETION	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A
APR	11	272	7	28	244	4.103	APR	11	435	7	125	310	5.210
MAY	28	885	9	36	849	10.558	MAY	28	1098	9	161	935	15.208
JUN	28	705	11	44	681	11.114	JUN	28	1128	11	196	931	15.854
JUL	15	372	11	44	328	5.338	JUL	15	595	11	196	398	6.481
AUG	10	244	11	44	201	3.284	AUG	10	391	11	198	195	3.164
SEP	6	147	11	44	93	1.589	SEP	6	219	11	196	23	0.383
OCT	2	50	8	32	24	0.388	OCT	2	89	8	143	54	0.877
NOV	0	3	7	28	25	0.418	NOV	0	5	7	125	120	2.022
DEC	0	0	7	28	28	0.452	DEC	0	0	7	125	125	2.033
JAN	0	0	7	28	28	0.452	JAN	0	0	7	125	125	2.033
FEB	0	0	6	24	24	0.429	FEB	0	0	6	107	107	1.930
MAR	0	0	5	20	20	0.323	MAR	0	0	5	89	89	1.452
	100	2481	100	397	2077			100	3989	100	1786	2172	

UMATILLA RIVER AND WILLOW CREEK													
SPRINKLER SYSTEM ONLY							GRAVITY SYSTEM ONLY						
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION		RETURN FLOW		DEPLETION	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A
APR	0	0	3	5	5	0.078	APR	0	0	3	77	77	1.294
MAY	16	409	8	12	397	6.458	MAY	16	819	8	205	813	9.974
JUN	23	602	12	18	583	9.799	JUN	23	1203	12	308	895	15.044
JUL	30	781	13	20	781	12.381	JUL	30	1583	13	334	1229	19.988
AUG	23	579	14	22	558	9.088	AUG	23	1158	14	359	799	12.994
SEP	8	198	13	20	178	2.955	SEP	8	392	13	334	58	0.975
OCT	0	0	12	18	18	0.300	OCT	0	0	12	308	308	5.008
NOV	0	0	10	15	15	0.259	NOV	0	0	10	257	257	4.313
DEC	0	0	8	9	9	0.150	DEC	0	0	8	154	154	2.504
JAN	0	0	4	6	6	0.100	JAN	0	0	4	103	103	1.669
FEB	0	0	3	5	5	0.083	FEB	0	0	3	77	77	1.380
MAR	0	0	2	3	3	0.050	MAR	0	0	2	51	51	0.835
	100	2588	100	154	2413			100	5132	100	2588	2588	

JOHN DAY RIVER, OREGON													
SPRINKLER SYSTEM ONLY							GRAVITY SYSTEM ONLY						
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION		RETURN FLOW		DEPLETION	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A
APR	0	0	3	12	12	0.207	APR	0	0	3	48	48	0.807
MAY	14	312	8	33	279	4.539	MAY	14	487	8	128	359	5.831
JUN	24	538	12	49	487	8.185	JUN	24	837	12	192	645	10.831
JUL	32	738	13	53	683	11.103	JUL	32	1148	13	208	940	15.290
AUG	27	610	14	57	553	8.986	AUG	27	952	14	224	727	11.831
SEP	4	87	13	53	33	0.557	SEP	4	135	13	208	73	1.230
OCT	0	0	12	49	49	0.801	OCT	0	0	12	192	192	3.125
NOV	0	0	10	41	41	0.690	NOV	0	0	10	160	160	2.691
DEC	0	0	6	25	25	0.401	DEC	0	0	6	96	96	1.582
JAN	0	0	4	16	16	0.267	JAN	0	0	4	64	64	1.042
FEB	0	0	3	12	12	0.222	FEB	0	0	3	48	48	0.885
MAR	0	0	2	8	8	0.134	MAR	0	0	2	32	32	0.521
	100	2281	100	411	1870			100	3558	100	1801	1957	

1990 LEVEL OF DEVELOPMENT

RETURN FLOW FROM KINNICK PROJECT				PUMPING FROM COLUMBIA TO NORTH SIDE AND UMATILLA					
MONTH	DIVERSION		RETURN FLOW		MONTH	DIVERSION		RETURN FLOW	
	%	AF PER 1000 A	%	AF PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A
APR			5	120	120	2,017		269	4,578
MAY			7	168	168	2,732		588	9,558
JUN			9	216	216	3,630		781	13,119
JUL			11	264	264	4,293		901	14,659
AUG			11	264	264	4,293		721	11,721
SEP			11	264	264	4,437		412	9,342
OCT			11	264	264	4,283		109	1,700
NOV			4	192	192	3,227		0	0
DEC			7	168	168	2,732		0	0
JAN			7	168	168	2,732		0	0
FEB			7	168	168	3,025		0	0
MAR			6	144	144	2,362		0	0
	0		100	2400	2400		100	3786	3782

RETURN FLOW FROM COLUMBIA RIVER PUMPING					PUMPING FROM JOHN DAY POOL TO UMATILLA SUBAREA							
MONTH	DIVERSION		RETURN FLOW		MONTH	DIVERSION		RETURN FLOW				
	%	AF PER 1000 A	%	AF PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A			
APR		0	3	19	0.313	APR	7	219	3	18	201	3.371
MAY		0	9	58	0.907	MAY	16	478	9	55	423	6.872
JUN		0	12	74	1.250	JUN	21	635	12	74	561	9.429
JUL		0	12	74	1.210	JUL	24	733	12	74	659	10.721
AUG		0	15	93	1.512	AUG	19	588	15	92	494	10.046
SEP		0	13	81	1.355	SEP	11	345	13	80	255	4.292
OCT		0	12	74	1.210	OCT	3	89	12	74	15	0.246
NOV		0	9	58	0.938	NOV	0	0	9	55	55	0.932
DEC		0	6	37	0.605	DEC	0	0	6	37	37	0.601
JAN		0	3	19	0.302	JAN	0	0	3	18	18	0.300
FEB		0	3	19	0.335	FEB	0	0	3	18	18	0.333
MAR		0	3	19	0.302	MAR	0	0	3	18	18	0.300
			100	620	920		100	3079	100	616	2480	

1990 LEVEL OF DEVELOPMENT

KICKITAT, WHITE SALMON, AND KICKITAT WHITE SALMON, WASHINGTON COMBINED SPRINKLER AND GRAVITY APPLICATION							WHITE R., WAPINITA PROJECT (DESCHUTES RIVER, OR.) COMBINED SPRINKLER AND GRAVITY APPLICATION						
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION		RETURN FLOW		DEPLETION	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A
APR	1	28	3	41	15	0.280	APR	0	1	3	30	30	0.497
MAY	15	528	9	123	402	6.540	MAY	12	302	9	91	211	3.433
JUN	28	958	12	185	791	13.294	JUN	28	711	12	121	590	9.913
JUL	31	1083	12	185	898	14.807	JUL	40	1004	12	121	883	14.361
AUG	18	634	15	206	428	6.985	AUG	20	499	15	151	348	5.666
SEP	7	225	13	178	47	0.783	SEP	0	0	13	131	131	2.199
OCT	0	0	12	185	185	2.877	OCT	0	0	12	121	121	1.964
NOV	0	0	9	123	123	2.075	NOV	0	0	9	91	91	1.522
DEC	0	0	6	82	82	1.339	DEC	0	0	6	60	60	0.982
JAN	0	0	3	41	41	0.689	JAN	0	0	3	30	30	0.491
FEB	0	0	3	41	41	0.741	FEB	0	0	3	30	30	0.544
MAR	0	0	3	41	41	0.689	MAR	0	0	3	30	30	0.491
	100	3430	100	1372	2057			100	2518	100	1006	1510	

HOOD RIVER BASIN, OREGON													
SPRINKLER SYSTEM ONLY							GRAVITY SYSTEM ONLY						
MONTH	DIVERSION		RETURN FLOW		DEPLETION		MONTH	DIVERSION		RETURN FLOW		DEPLETION	
	%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A		%	AF PER 1000 A	%	AF PER 1000 A	AF PER 1000 A	CFS PER 1000 A
APR	4	101	3	10	92	1.543	APR	4	189	3	74	115	1.929
MAY	15	390	9	29	381	5.870	MAY	15	727	9	223	504	8.175
JUN	20	541	12	38	503	8.454	JUN	20	1011	12	298	713	11.077
JUL	28	683	12	38	645	10.488	JUL	28	1275	12	298	977	15.895
AUG	21	582	15	48	514	8.383	AUG	21	1049	15	372	877	11.008
SEP	12	320	13	41	278	4.877	SEP	12	597	13	323	274	4.609
OCT	2	61	12	38	23	0.389	OCT	2	114	12	298	184	2.993
NOV	0	0	9	29	29	0.483	NOV	0	0	9	223	223	3.755
DEC	0	0	6	19	19	0.311	DEC	0	0	6	149	149	2.423
JAN	0	0	3	10	10	0.156	JAN	0	0	3	74	74	1.211
FEB	0	0	3	10	10	0.172	FEB	0	0	3	74	74	1.341
MAR	0	0	3	10	10	0.156	MAR	0	0	3	74	74	1.211
	100	2680	100	319	2339			100	4965	100	2483	2480	

MCNARY PUMP

Accumulated depletions at site (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-83	
1928-29	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1929-30	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1930-31	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1931-32	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1932-33	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1933-34	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1934-35	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1935-36	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1936-37	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1937-38	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1938-39	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1939-40	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1940-41	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1941-42	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1942-43	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1943-44	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1944-45	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1945-46	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1946-47	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1947-48	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1948-49	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1949-50	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1950-51	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1951-52	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1952-53	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1953-54	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1954-55	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1955-56	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	-63	-31
1956-57	-61	-53	-28	0	0	0	0	-5	-53	-49	-60	0	-26
1957-58	0	0	0	0	0	0	0	0	0	0	0	0	0
1958-59	0	0	0	0	0	0	0	0	0	0	0	0	0
1959-60	0	0	0	0	0	0	0	0	0	0	0	0	0
1960-61	0	0	0	0	0	0	0	0	0	0	0	0	0
1961-62	0	0	0	0	0	0	0	0	0	0	0	0	0
1962-63	0	0	0	0	0	0	0	0	0	0	0	0	0
1963-64	0	0	0	0	0	0	0	0	0	0	0	0	0
1964-65	0	0	0	0	0	0	0	0	0	0	0	0	0
1965-66	0	0	0	0	0	0	0	0	0	0	0	0	0
1966-67	0	0	0	0	0	0	0	0	0	0	0	0	0
1967-68	0	0	0	0	0	0	0	0	0	0	0	0	0
1968-69	0	0	0	0	0	0	0	0	0	0	0	0	0
1969-70	0	0	0	0	0	0	0	0	0	0	0	0	0
1970-71	0	0	0	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0	0	0	0
1975-76	0	0	0	0	0	0	0	0	0	0	0	0	0
1976-77	0	0	0	0	0	0	0	0	0	0	0	0	0
1977-78	0	0	0	0	0	0	0	0	0	0	0	0	0
1978-79	0	0	0	0	0	0	0	0	0	0	0	0	0
1979-80	0	0	0	0	0	0	0	0	0	0	0	0	0
1980-81	0	0	0	0	0	0	0	0	0	0	0	0	0
1981-82	0	0	0	0	0	0	0	0	0	0	0	0	0
1982-83	0	0	0	0	0	0	0	0	0	0	0	0	0
1983-84	0	0	0	0	0	0	0	0	0	0	0	0	0
1984-85	0	0	0	0	0	0	0	0	0	0	0	0	0
1985-86	0	0	0	0	0	0	0	0	0	0	0	0	0
1986-87	0	0	0	0	0	0	0	0	0	0	0	0	0
1987-88	0	0	0	0	0	0	0	0	0	0	0	0	0
1988-89	0	0	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	-29	-25	-13	0	0	0	0	-3	-25	-23	-28	-29	-31

MPU3D9

McNARY RETURN FLOW

Accumulated depletions at site (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												698	
1928-29	720	758	629	320	267	344	332	434	563	551	592	698	518
1929-30	720	758	629	320	267	344	332	434	563	551	592	698	518
1930-31	720	758	629	320	267	344	332	434	563	551	592	698	518
1931-32	720	758	629	320	267	344	332	434	563	551	592	698	518
1932-33	720	758	629	320	267	344	332	434	563	551	592	698	518
1933-34	720	758	629	320	267	344	332	434	563	551	592	698	518
1934-35	720	758	629	320	267	344	332	434	563	551	592	698	518
1935-36	720	758	629	320	267	344	332	434	563	551	592	698	518
1936-37	720	758	629	320	267	344	332	434	563	551	592	698	518
1937-38	720	758	629	320	267	344	332	434	563	551	592	698	518
1938-39	720	758	629	320	267	344	332	434	563	551	592	698	518
1939-40	720	758	629	320	267	344	332	434	563	551	592	698	518
1940-41	720	758	629	320	267	344	332	434	563	551	592	698	518
1941-42	720	758	629	320	267	344	332	434	563	551	592	698	518
1942-43	720	758	629	320	267	344	332	434	563	551	592	698	518
1943-44	720	758	629	320	267	344	332	434	563	551	592	698	518
1944-45	720	758	629	320	267	344	332	434	563	551	592	698	518
1945-46	720	758	629	320	267	344	332	434	563	551	592	698	518
1946-47	720	758	629	320	267	344	332	434	563	551	592	698	518
1947-48	720	758	629	320	267	344	332	434	563	551	592	698	518
1948-49	720	758	629	320	267	344	332	434	563	551	592	698	518
1949-50	720	758	629	320	267	344	332	434	563	551	592	698	518
1950-51	720	758	629	320	267	344	332	434	563	551	592	698	518
1951-52	720	758	629	320	267	344	332	434	563	551	592	698	518
1952-53	720	758	629	320	267	344	332	434	563	551	592	698	518
1953-54	720	758	599	300	250	327	316	412	536	523	562	662	498
1954-55	684	721	569	279	232	311	300	390	508	496	531	626	472
1955-56	647	684	539	259	215	294	284	368	481	468	501	589	445
1956-57	611	647	509	238	198	278	268	346	454	441	470	553	419
1957-58	574	609	479	218	181	261	253	324	427	413	440	517	392
1958-59	538	572	449	197	163	245	237	302	399	385	410	481	366
1959-60	501	535	419	177	146	228	221	280	372	358	379	444	339
1960-61	465	498	389	156	129	212	205	258	345	330	349	408	313
1961-62	428	46	359	136	112	195	189	237	318	303	319	372	286
1962-63	392	424	328	116	94	178	173	215	290	275	288	336	260
1963-64	356	386	298	95	77	162	157	193	263	247	258	300	233
1964-65	319	349	268	75	60	145	141	171	236	220	227	263	207
1965-66	283	312	238	54	42	129	125	149	208	192	197	227	180
1966-67	246	275	208	34	25	112	110	127	181	164	167	191	154
1967-68	210	238	178	13	8	96	94	105	154	137	136	155	127
1968-69	173	201	148	-7	-9	79	78	83	127	109	106	118	101
1969-70	137	163	118	-28	-27	63	62	61	99	82	75	82	74
1970-71	100	126	88	-48	-44	46	46	39	72	54	45	46	48
1971-72	64	89	82	-53	-48	42	42	37	68	52	45	46	39
1972-73	62	83	75	-58	-52	38	38	36	65	51	45	46	36
1973-74	61	77	69	-62	-56	34	35	34	61	49	44	47	33
1974-75	59	71	62	-67	-60	30	31	33	58	47	44	47	30
1975-76	57	65	56	-72	-65	26	27	31	54	46	44	47	26
1976-77	56	60	49	-77	-69	22	23	29	50	44	44	47	23
1977-78	54	54	43	-82	-73	18	19	28	47	42	44	47	20
1978-79	52	48	38	-86	-77	14	16	26	43	40	43	48	17
1979-80	50	42	30	-91	-81	10	12	25	40	39	43	48	14
1980-81	49	36	23	-96	-85	6	8	23	36	37	43	48	11
1981-82	47	30	20	-84	-74	5	7	20	32	32	38	42	10
1982-83	41	26	17	-72	-64	5	6	17	27	28	32	36	8
1983-84	35	23	14	-60	-53	4	5	14	23	23	27	30	7
1984-85	29	19	12	-48	-43	3	4	12	18	19	22	24	6
1985-86	24	15	9	-36	-32	2	3	9	14	14	16	18	5
1986-87	18	11	6	-24	-21	2	2	6	9	9	11	12	3
1987-88	12	8	3	-12	-11	1	1	3	5	5	5	6	2
1988-89	6	4	0	0	0	0	0	0	0	0	0	0	1
1989-90	0	0											
MEAN	422	446	369	151	124	200	194	251	331	320	342	406	298

MRF3D9

MC NARY

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-10054	
1928-29	-5198	451	-2289	1652	4294	4699	1510	-6305	-14151	-15541	-17312	-9538	-4835
1929-30	-5933	-1616	-308	-2814	-1769	-1575	1193	-230	-8430	-13409	-14179	-9663	-4924
1930-31	-6400	-1078	202	-1331	-1161	-136	2200	806	-7218	-13982	-11475	-9945	-4166
1931-32	-7259	-1965	164	847	810	212	175	-6139	-14453	-21994	-15957	-10167	-6329
1932-33	-6354	562	2461	3074	1275	380	496	-2180	-9956	-13987	-15297	-12306	-4347
1933-34	-6861	-1914	1233	3335	3029	-1699	-1521	1972	-8811	-12836	-11359	-9503	-3753
1934-35	-7014	-2238	450	2037	404	-461	-825	-17	-8001	-13985	-16101	-9509	-4620
1935-36	-6875	-2385	-43	1389	1513	1329	820	-775	-12963	-21314	-21595	-8665	-5799
1936-37	-5852	-952	877	2047	1877	1873	881	-758	-11513	-15564	-16992	10043	-4529
1937-38	-6665	-1490	1018	2004	1374	632	1642	-3164	-15738	-14517	-22230	14888	-6028
1938-39	-5745	-432	1939	4105	3504	5355	1050	-6726	-10936	-14979	-12044	-8817	-3670
1939-40	-6347	-1601	839	1581	1630	1092	2643	376	-9944	-13683	-12376	-8432	-3699
1940-41	-6766	-2060	-329	525	1675	1232	1573	-532	-7774	-12834	-13174	-9688	-4041
1941-42	-7450	-2628	-1144	51	537	-271	-1190	-931	-16871	-15629	-15736	10429	5983
1942-43	-7398	-2365	-623	-235	742	1650	2996	8089	-4601	-9389	-27790	-17163	-4692
1943-44	-7052	-917	-2276	385	6467	3981	3923	-522	-8733	-12457	-19936	-9203	-3867
1944-45	-7024	-2839	-342	746	2639	2322	2363	-690	-5357	-12499	-20027	-10000	-4251
1945-46	-6755	-1050	-630	-576	3563	717	1898	-289	-9362	-10981	-14677	-9657	-4005
1946-47	-6375	-1949	-713	-376	3005	3726	4033	262	5272	-13371	-21275	-8931	-3099
1947-48	-6680	-2114	-408	1934	816	3547	1729	1405	-10624	-7574	-17232	-10399	-3795
1948-49	-7177	-2571	160	2296	-3456	-408	-3764	-2111	-1092	1203	-13323	-9424	-3298
1949-50	-7867	-3761	-3815	2379	2080	4337	1295	260	5378	-8041	-13049	-15316	-3053
1950-51	-8175	-3265	-1853	8547	7826	620	2601	-3015	2585	-6500	-16073	-10682	-2325
1951-52	-7804	-1902	-3381	1726	5816	4924	3864	-4001	1840	-8882	-11354	-11347	-2578
1952-53	-7994	-3366	-219	3665	4443	5729	4047	-2806	-5762	-916	-16757	-9853	-2502
1953-54	-7568	-2895	-1209	2536	1870	2528	4692	-2200	3888	-5073	-10273	-10669	-2090
1954-55	-8447	-3883	-3878	2665	1324	1898	2980	-1750	-8602	-9109	-7106	-10380	-3740
1955-56	-8010	-3710	-1088	2214	1598	5991	5284	3147	-2646	-610	-17692	-9585	-2096
1956-57	-7658	-2330	-2546	3174	8943	3210	4973	-6462	2892	-9048	-11066	-8792	-2120
1957-58	-7479	-3572	-1847	2155	5504	5099	2581	-3731	-6243	4036	-13197	-8448	-2099
1958-59	-7547	-3583	-1420	604	2550	4230	1512	407	-478	-4313	-7750	-8608	2054
1959-60	-7499	4315	-2541	3024	971	2011	3880	2241	-4157	-7914	-6446	-8869	-2497
1960-61	-7820	3527	-2050	-117	90	-212	1053	-206	-6462	-7696	-4748	-8592	-3390
1961-62	-7532	-4395	-1612	891	489	205	1182	-2127	2803	-5977	-8080	-7656	-2687
1962-63	-7741	-4201	-1917	2341	2438	2510	7457	657	-2445	-10177	-13036	-7826	-2726
1963-64	-7265	-3364	-1453	371	1405	1517	2192	226	1333	-7124	-9558	-8620	2551
1964-65	-7492	-4063	-1113	1212	5399	5798	-7013	-6828	5109	-3530	-4588	7772	-2049
1965-66	-7199	-647	-454	4462	2126	-171	-2928	-2269	-3617	-7024	-8461	-8388	-2889
1966-67	-7651	-4512	-2381	-649	-206	-257	1770	329	3776	-2112	-3008	-9079	-2039
1967-68	-7059	-2847	-2124	955	4508	3921	788	-1894	-5028	-4075	-7765	-7946	-2384
1968-69	-8181	-3235	-1352	695	2325	1573	2779	-4371	-5521	2911	-9184	-7802	-2469
1969-70	-6969	-3936	-1273	2080	1680	3855	4926	-614	-1222	-7987	-4894	-9416	-2037
1970-71	-6509	-2625	-2052	185	4568	8585	2548	3154	-11064	-1363	-383	5982	-912
1971-72	-4914	-405	-6107	135	69	2346	388	2708	-17015	5960	-2821	-6774	-2186
1972-73	-7163	-4109	-4653	2325	2402	1849	-1426	-4099	-7062	-3112	-6154	-6659	-3163
1973-74	-5656	-3265	134	5050	6009	7534	1524	-7697	-2699	-7793	3363	8586	1045
1974-75	-6208	-3095	-816	6073	4363	902	-3155	-6016	-7896	-12400	1574	-5362	2686
1975-76	4688	-2014	-206	6140	5532	1278	-674	-3116	-9314	-2824	-6351	-6561	-1896
1976-77	-7349	-3999	-3951	4192	3890	3528	2271	-954	-4467	-7583	-7713	-6877	-2450
1977-78	-6749	-3485	-1917	445	143	-1051	-531	-2663	-12696	-1884	-8070	-7054	-3796
1978-79	-7009	-5004	-1840	-941	1616	434	-1743	-6697	-6116	-6484	-7579	-6908	-4032
1979-80	-7975	-3939	-1727	1454	1852	1216	4707	-277	-4974	-7107	-8828	-7991	-2826
1980-81	6479	4614	878	637	2368	3972	4168	-379	-8587	-9931	-15603	-7174	-3566
1981-82	6168	-4834	-3637	-697	498	24	2783	759	-8082	-5306	5668	10132	-3406
1982-83	6884	4671	2055	-305	2030	3070	-1595	231	6963	-7625	7156	10849	3912
1983-84	6734	5414	-5289	1024	-794	6157	-555	3633	9112	-11176	5164	11710	-3769
1984-85	4889	6398	-7697	-2206	2379	1473	-3231	2984	-3744	-2246	8424	7460	-3775
1985-86	-7407	-5500	-1761	1026	129	5101	-912	2137	-7087	-8247	-5328	-7301	-2932
1986-87	-6562	-4770	-6474	702	-1177	2683	3311	1470	-4842	-6983	-7444	-7618	-3185
1987-88	-6315	-3122	-2414	998	1661	417	1910	1770	-4938	-7598	-7655	-6974	-2703
1988-89	-6623	-3395	-1039	401	517	176	-221	-1243	-2630	-6594	-7708	-7180	-2980
1989-90	-6781	-2915											
MEAN	-6923	-2936	-1536	1545	2130	2249	1366	-1209	-5789	-8177	-10939	-9149	-3300

MCN3DD9

USGS # 14019195

MC NARY

River: COLUMBIA

Drainage Area: 213500 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 292

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												262300	
1928-29	126000	79520	74180	68690	59710	54290	52290	78430	<u>95640</u>	258200	360200	169800	123300
1929-30	105900	68120	53500	<u>45270</u>	56750	40380	82760	70470	182400	242700	284100	187800	118300
1930-31	115500	78320	60920	52290	<u>48700</u>	51240	55520	75910	132000	276700	251800	152600	<u>112900</u>
1931-32	93940	76890	58200	59140	54240	55620	60510	148900	242700	461100	463100	234600	167500
1932-33	131300	84550	69940	94370	83990	77720	59740	86050	168100	344000	634400	336500	181200
1933-34	164900	103500	104900	137700	<u>188300</u>	171500	127100	155200	352400	416400	308900	176000	200900
1934-35	112700	75610	67210	101100	78480	77710	91110	88810	149100	335000	413200	265100	154800
1935-36	136800	85830	61890	54490	51090	58190	48380	85160	242000	450200	345100	166800	149000
1936-37	107400	75130	55520	46770	49500	<u>39290</u>	<u>48220</u>	64530	115600	284300	335100	194500	118300
1937-38	105200	78830	69600	83120	85650	83970	76470	124900	244900	435200	473800	239800	175400
1938-39	105200	88720	76000	68220	63400	65590	55280	96870	203400	372700	267000	200200	138900
1939-40	114500	76320	70250	70450	74150	60790	81030	130900	208400	339000	277900	165000	139200
1940-41	101200	90990	88610	75210	72910	68560	69550	97760	161200	257700	266000	157900	125800
1941-42	99420	107700	116200	107000	138700	82830	88150	83600	205800	321900	382100	253000	165800
1942-43	133500	82830	66780	75720	86580	87910	100700	121900	<u>377100</u>	360900	462600	349500	192300
1943-44	149300	81430	72250	66960	66950	55550	57780	61650	108800	234000	289300	142400	114000
1944-45	99160	79030	70370	66610	53930	68460	78900	78150	112500	356800	400300	202400	139100
1945-46	100800	75460	64420	78840	81800	90590	72850	123600	254400	507000	449700	248600	179500
1946-47	125200	94690	80880	84970	132100	84950	108400	121000	225900	487600	408700	229300	182300
1947-48	118400	89660	126400	116800	95870	99760	90980	90830	198500	576100	756400	255800	217900
1948-49	159100	102700	86370	78240	62890	55640	89980	139600	254500	547000	350400	159900	174300
1949-50	107600	76550	67660	86650	85980	72050	103000	149200	223700	371900	641600	404100	199300
1950-51	160000	96770	101600	129700	140400	121800	170900	127600	272100	529400	427500	307300	215600
1951-52	140900	95740	115300	94640	96350	82990	100600	101600	335100	510900	406800	232400	192800
1952-53	122200	74620	61080	53660	55650	104100	114200	89880	151700	364900	541900	291600	168800
1953-54	139300	86670	81400	83720	83250	78550	103600	106000	184200	480400	512200	<u>414400</u>	196200
1954-55	184000	130700	87710	105800	81150	66950	66520	61130	122200	300100	555600	354800	176700
1955-56	142600	86100	94600	114600	137800	121600	89180	143400	346300	629900	605200	275000	232400
1956-57	132000	91950	88770	82340	95980	61950	89190	125500	200000	<u>654300</u>	442500	179900	187600
1957-58	99470	76440	73560	67720	73730	72710	121200	107000	206100	547800	420300	175000	170200
1958-59	108500	81010	86140	102400	115500	129500	98020	105900	216500	408400	587300	315300	196500
1959-60	137400	<u>143400</u>	<u>158300</u>	<u>145000</u>	118500	76470	94550	128100	257600	337100	458100	261400	192900
1960-61	124000	89150	78250	83330	63690	65630	142400	127100	171600	455800	599200	184400	181800
1961-62	112000	71890	79990	64470	63370	64580	90800	83970	256600	353600	432600	213900	157300
1962-63	134300	80630	94500	103200	110700	77430	145000	104800	165500	338700	414400	231600	166600
1963-64	123000	93410	70060	72200	64970	63810	61630	71480	157200	365700	660300	319100	176800
1964-65	143300	100500	102800	89480	140900	133200	147400	130400	289800	447800	550100	269000	212100
1965-66	156100	97450	88060	92230	78930	74580	67180	98160	192900	354900	380500	237300	160300
1966-67	122300	79720	67190	72300	85610	91280	92500	92340	128600	390800	691700	311300	185600
1967-68	133600	88840	84840	91610	82620	86300	137300	140400	118200	327100	468400	274200	169400
1968-69	135900	122300	106100	112600	94690	116600	99710	119700	339300	550000	462000	219900	206900
1969-70	100600	82190	84960	74440	67950	99280	104500	94340	119900	368400	513100	200400	159200
1970-71	103300	74490	70290	74470	80380	121100	167400	129000	233800	611700	606300	303500	214700
1971-72	154500	88510	78850	81550	75140	93830	121200	<u>286400</u>	224300	563600	756400	343400	239100
1972-73	170400	90150	83340	78220	88080	93170	69380	89910	107500	287800	296800	167700	135600
1973-74	93870	64340	69850	111500	132100	<u>203500</u>	143800	157300	317000	467000	<u>821500</u>	383400	<u>247000</u>
1974-75	162200	91990	67970	73930	72320	76940	81800	104700	152100	407900	610400	340100	187200
1975-76	137500	96180	97250	122500	181100	124600	104500	113100	257900	570900	442700	334200	215600
1976-77	<u>223900</u>	142700	77480	72620	65420	59580	60600	<u>57680</u>	112800	<u>211800</u>	<u>240400</u>	<u>115700</u>	120300
1977-78	100400	75560	60000	71670	129900	84570	91900	142700	241900	392500	461700	279800	178000
1978-79	125900	130000	82270	77500	60900	58150	83180	113900	147500	394800	320300	167700	147100
1979-80	96320	72240	57390	50710	69550	64590	81340	96670	230000	486300	383700	181300	155900
1980-81	96260	86610	75580	83880	134600	121200	133700	109800	166800	406200	425500	281700	177000
1981-82	150200	85220	78270	82070	84990	77560	<u>184400</u>	177300	210000	463200	633600	339700	213700
1982-83	149800	113600	96480	87730	95390	121700	133600	221700	230000	438000	465500	288800	203900
1983-84	148100	90580	74750	127800	89820	141400	108500	174800	243100	355700	575600	288600	201400
1984-85	138000	92510	76570	90280	74330	68230	70800	86080	230700	423300	347900	152200	154400
1985-86	87910	88360	92500	101900	67540	79340	147000	249600	249100	377000	454400	189000	181800
1986-87	111800	75860	78040	93720	73270	65140	71330	131800	187600	367300	246800	143700	137600
1987-88	<u>83750</u>	61850	<u>46700</u>	46700	55400	49970	56140	78420	204000	310500	312300	154100	121600
1988-89	87310	<u>61740</u>	70300	77540	64500	60550	54940	126000	251000	371600	379000	171000	148200
1989-90	115500	78260											
MEAN	125800	88430	80350	84560	87180	84510	95090	116000	208000	407500	454300	242700	173100
MEDIAN	123500	85960	77480	82070	80380	77560	90800	107000	206100	390800	442500	236000	176700

MCN3M9

JOHN DAY

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-10563	
1928-29	-5611	20	-2462	1608	4277	4673	1500	-6296	-14514	-15955	-17831	-10042	-5078
1929-30	-6342	-2048	-481	-2858	-1786	-1601	1183	-221	-8793	-13822	-14695	-10162	-5166
1930-31	-6806	-1510	27	-1376	-1178	-162	2190	815	-7581	-14393	-11988	-10440	4407
1931-32	-7682	-2397	-11	801	792	186	165	-6131	-14817	-22404	-16467	-10659	-6569
1932-33	-6754	130	2284	3027	1257	354	486	-2172	-10320	-14394	-15804	-12793	-4587
1933-34	-7258	-2347	1056	3287	3010	-1726	-1532	1980	-9176	-13242	-11863	-9986	-3992
1934-35	-7408	-2670	272	1989	385	-489	-836	-9	-8366	-14389	-16602	-9988	-4858
1935-36	-7266	-2817	-222	1340	1493	1301	809	-767	-13328	-21716	-22093	-9139	-6036
1936-37	-6240	-1385	696	1997	1856	1845	870	-750	-11878	-15964	-17486	-10513	-4765
1937-38	-7049	-1923	837	1953	1353	604	1631	-3157	16103	-14915	-22722	15354	-6264
1938-39	6126	865	1757	4053	3482	5326	1038	-6719	-11302	-15376	-12532	9279	-3905
1939-40	-6725	-2034	656	1528	1608	1063	2631	383	-10310	-14078	-12861	-8889	-3933
1940-41	-7141	-2493	-513	472	1653	1203	1561	-525	-8141	-13227	-13656	-10141	-4275
1941-42	-7822	-3061	-1329	-3	514	-301	-1203	-925	-17238	-16020	-16215	-10878	-6216
1942-43	-7766	-2798	-809	-290	719	1620	2983	8095	-4968	-9779	-28266	-17608	4925
1943-44	-7417	-1350	-2463	329	6444	3950	3910	-515	-9100	-12845	-20409	-9643	-4097
1944-45	-7386	-3273	-530	690	2615	2292	2350	-684	-5724	-12885	-20496	-10436	-4482
1945-46	-7115	-1484	-818	-634	3538	686	1884	-282	-9729	-11365	-15144	-10089	-4235
1946-47	-6731	-2383	-903	-435	2979	3695	4019	268	4908	-13761	-21750	-9377	-3332
1947-48	-7042	-2542	-586	1887	797	3520	1718	1413	-10985	-7971	-17718	-10859	-4026
1948-49	-7545	-2993	-5	2259	-3469	-431	-3771	-2101	-1450	799	-13818	-9898	-3528
1949-50	-8241	-4176	-3967	2353	2074	4319	1291	272	5023	-8452	-13553	-15804	-3283
1950-51	-8554	-3674	-1992	8532	7826	605	2601	-3001	2232	-6915	-16583	-11179	-2552
1951-52	-3188	-2310	-3517	1714	5817	4911	3865	-3986	1488	-9301	-11871	-11854	-2806
1952-53	-8383	-3774	-350	3656	4447	5717	4049	-2791	-6113	-1340	-17280	-10368	-2732
1953-54	-7962	-3302	-1337	2532	1876	2517	4695	-2183	3537	-5502	-10804	-11193	-2320
1954-55	-8846	-4289	-4002	2663	1332	1889	2984	-1734	-8951	-9543	-7643	-10913	-3971
1955-56	-8414	-4116	-1208	2216	1608	5983	5289	3165	-2994	-1048	18235	-10127	-2327
1956-57	-8066	-2735	-2662	3179	8955	3204	4979	-6444	2545	-9491	-11616	-9343	-2353
1957-58	-7892	-3977	-1959	2164	5518	5094	2589	-3712	-6589	3589	-13754	-9008	-2333
1958-59	-7965	-3987	-1528	616	2566	4226	1521	426	-824	-4765	-8313	-9177	-2289
1959-60	-7923	-4719	-2645	3040	988	2009	3890	2261	-4502	8374	-7020	-9451	-2733
1960-61	-8254	-3934	-2153	-101	108	-214	1062	-187	-6805	8159	-5327	-9182	-3629
1961-62	-7969	4798	-1707	915	511	206	1194	-2106	2461	-6447	-8668	-8259	-2927
1962-63	-8186	-4603	-2009	2367	2462	2512	7470	679	-2786	-10653	-13634	-8441	-2968
1963-64	-7718	3767	-1541	402	1431	1521	2207	248	993	-7606	-10165	-9249	-2794
1964-65	-7953	-4465	-1196	1246	5427	5803	6997	6805	4771	-4019	-5204	-8414	2294
1965-66	-7668	-1049	-533	4499	2156	-164	-2911	-2246	-3955	-7510	-9073	-9021	3133
1966-67	-8112	-4915	-2460	-611	-178	-250	1786	353	3461	-2570	-3585	-9679	-2272
1967-68	-7495	-3223	-2196	992	4537	3928	804	-1872	-5320	-4496	-8293	-8491	-2597
1968-69	-8576	-3585	-1420	728	2351	1579	2793	-4350	-5791	2526	-9663	-8293	-2665
1969-70	-7323	-4260	-1337	2108	1703	3859	4939	-596	-1469	-8335	-5323	-9853	-2215
1970-71	-6821	-2923	-2113	210	4588	5588	2559	3171	-11288	-1674	-763	-6365	-1070
1971-72	-5185	-678	-6165	155	86	2349	398	2723	-17216	5685	-3151	-7102	-2325
1972-73	-7394	-4356	-4707	2340	2416	1850	-1418	-4086	-7240	-3350	-6435	-6933	-3284
1973-74	-5845	-3486	84	5062	6020	7534	1530	-7686	-2855	-7994	3132	-8805	-1148
1974-75	-6356	-3290	-862	6081	4371	901	-3150	-6006	-8028	-12564	1392	-5527	-2770
1975-76	-4795	-2184	-248	6143	5537	1276	-671	-3109	-9425	-2952	-6484	-6671	1961
1976-77	-7415	-4143	-3990	4191	3892	3524	2272	-949	-4555	-7674	-7796	-6933	-2497
1977-78	-6773	-3604	-1952	440	142	-1055	-532	-2660	-12760	-1938	-8104	-7056	-3824
1978-79	-6993	-5096	-1872	-950	1613	428	-1745	-6696	-6157	-6502	-7563	-6856	-4041
1979-80	-7917	-4005	-1756	1440	1845	1209	4703	-277	-4993	-7088	-8764	-7884	-2817
1980-81	-6380	-4655	-902	620	2358	3965	4163	-381	-8609	-9873	-15483	-6997	-3539
1981-82	-6027	-4867	-3679	-731	479	11	2772	754	-8102	-5255	-5562	-9976	-3383
1982-83	-6760	-4699	-2093	-334	-2047	3058	-1605	226	-6980	-7580	-7065	-10714	-3892
1983-84	-6626	-5438	-5322	999	-808	6147	-563	3629	9126	-11138	-5087	11596	3751
1984-85	-4798	-6418	-7725	2228	2367	1464	-3238	-2987	-3756	2215	-8361	-7367	3761
1985-86	7333	-5516	-1784	1008	119	5093	918	2134	-7096	8222	5279	-7229	2921
1986-87	-6505	-4781	-6491	688	-1185	2678	3307	1468	-4848	-6965	-7408	-7566	3177
1987-88	-6275	3130	-2426	988	1655	413	1907	1769	-4942	-7587	-7634	-6944	-2698
1988-89	-6600	-3399	-1047	395	514	174	-222	-1244	-2630	-6594	-7708	-7180	-2980
1989-90	-6781	-2915											
MEAN	-7201	-3249	-1645	1530	2128	2237	1365	-1199	-6051	-8485	-11314	-9512	-3471

JDA3DD9

USGS # 14048006

JOHN DAY

River: COLUMBIA

Drainage Area: 226000 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 215.6

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												265500	
1928-29	127000	80500	74890	69390	58560	52030	51180	80180	<u>97490</u>	259200	366400	172100	124400
1929-30	107300	69580	54590	<u>46380</u>	55660	38970	83840	71240	188400	244600	289900	190700	119900
1930-31	117100	79750	62210	53450	<u>47460</u>	49910	55410	77860	134300	279100	257000	155300	<u>114400</u>
1931-32	95630	78530	59660	60650	53500	54890	60860	157400	249200	466500	471000	237800	170600
1932-33	132700	85760	71140	95470	86440	80370	80050	89230	172100	346700	643400	340200	183900
1933-34	166000	104200	106000	139700	<u>203000</u>	189800	135900	165700	365400	422600	315100	178700	208000
1934-35	114100	76980	68210	102400	79700	80120	95110	91730	152100	337400	420200	268400	157400
1935-36	138100	86900	63020	55460	49510	56160	<u>46390</u>	86700	247400	455200	351000	169100	150600
1936-37	108600	76230	56650	47920	47590	<u>35160</u>	46840	64370	116000	285100	340100	196900	118800
1937-38	106500	79990	70580	84060	86670	85870	76510	128100	247900	438700	481700	242900	177800
1938-39	106400	89570	76670	66810	62640	85230	54580	100600	209300	377300	272300	203100	140900
1939-40	116000	77630	71450	72100	75650	60490	82550	136700	213800	343100	283600	167700	141800
1940-41	102800	92210	89800	76790	74230	69640	70820	101400	166300	259900	271600	160700	128200
1941-42	101000	108700	117500	109000	148000	86720	90460	85430	210900	325200	389000	256600	169300
1942-43	135100	84150	68120	76370	85920	87800	100700	124500	<u>383800</u>	362500	469300	352800	194400
1943-44	150100	82050	72530	67050	65940	53150	56700	61100	111400	235400	274600	144800	114700
1944-45	100800	80440	71670	68190	52680	69290	80300	80400	114300	359500	407400	205400	141100
1945-46	102300	76770	65480	80280	82410	93140	73610	128300	260000	512700	456900	251600	182400
1946-47	126300	95060	81050	85610	138500	87930	112700	126600	232200	494900	416100	232500	186100
1947-48	119700	90600	126700	118200	99790	104100	93660	93100	202800	582800	766400	258500	221300
1948-49	159900	102900	86510	79370	62450	54760	91170	145200	259200	551600	355200	161500	176200
1949-50	108300	77220	68280	87940	88580	72750	106100	156100	227400	373900	649400	407800	202100
1950-51	160300	96760	101600	131500	142300	125300	177000	131900	277800	534000	431900	310300	218600
1951-52	144000	96320	115300	95740	97750	82650	103400	104100	342600	518000	413700	235800	195800
1952-53	122800	75670	61480	54490	56280	107300	117800	92990	155200	368600	552100	296500	171800
1953-54	138500	87970	82790	83650	83470	77950	106200	102600	185600	476700	513700	<u>415100</u>	196700
1954-55	185900	131200	88500	106400	82100	67560	66550	61080	124700	301800	554200	361100	177900
1955-56	145700	88370	96440	116500	143900	130600	92610	147200	349100	633900	612300	276900	236300
1956-57	133200	93770	87830	82060	98710	63050	88640	135500	206800	<u>654900</u>	459000	180700	191000
1957-58	101000	76940	74600	68820	76210	74700	129500	112500	214800	557500	435900	177600	175100
1958-59	108600	80720	86390	102200	117900	132600	101200	109000	219900	416400	593900	327400	200000
1959-60	138700	<u>141900</u>	<u>158800</u>	<u>145700</u>	120200	76660	97360	130400	262800	338600	460000	263100	194400
1960-61	124100	88270	78500	84510	65030	65870	145900	132700	173200	460800	611900	189200	184700
1961-62	112300	71900	79730	65610	64020	65520	93110	87150	260900	365700	451600	218500	161300
1962-63	135000	80730	94940	103600	113400	78760	151400	107700	170500	343500	418800	233200	169200
1963-64	123900	93240	70340	73180	65550	62510	62200	73390	100700	365400	663500	324300	178100
1964-65	144000	99720	103000	89640	151100	139600	159300	135800	294200	452300	561800	272600	216900
1965-66	156300	97980	88590	91540	79270	75760	67560	100600	196200	352600	380400	238100	160800
1966-67	123000	79790	67400	72610	88010	93420	96220	44430	131500	390300	698400	314800	187600
1967-68	134300	88270	85000	91290	83710	86820	138100	136400	117900	320100	453800	264300	166600
1968-69	132300	119500	104600	112700	95590	121200	100300	121800	353600	564500	470800	222500	210200
1969-70	99800	80380	85490	73580	66430	107900	111100	101800	123400	374600	517500	201000	161900
1970-71	104300	75410	71240	75990	81960	131900	170400	133600	239000	628400	620100	303700	219700
1971-72	154400	90020	80440	83900	77150	97700	127100	<u>302600</u>	228500	566600	772700	340100	243500
1972-73	165000	89970	82890	77590	84860	90590	68490	92070	109200	289400	269900	166700	134900
1973-74	94840	66510	72780	115000	139200	<u>211300</u>	147000	163300	325200	465700	<u>825700</u>	380700	<u>250600</u>
1974-75	159000	88610	64720	72080	70500	77940	80630	107200	154900	410000	608500	335200	186100
1975-76	132800	92760	94170	119900	179500	125700	106800	115100	260600	573800	437100	328200	214300
1976-77	<u>216500</u>	136800	74280	69900	61450	55160	56390	<u>53790</u>	110400	<u>209200</u>	<u>236200</u>	<u>110100</u>	116100
1977-78	95030	70320	55700	66820	129000	82940	89380	140300	237000	384300	455900	270800	173400
1978-79	117900	121300	78110	75130	54920	52560	83960	116500	156000	401600	319900	164500	145400
1979-80	93810	70540	54780	48790	71130	68110	85790	102600	235500	490300	382700	179600	157100
1980-81	93680	86370	76940	84810	137900	122000	139800	114400	169000	405700	432300	281700	178900
1981-82	149900	84810	78080	82290	89520	83660	<u>200800</u>	189000	220300	475200	644600	346400	220100
1982-83	152400	114100	97700	87830	98140	125600	141600	239600	238300	449700	472200	287800	209100
1983-84	149100	91010	76210	128500	93870	148000	116500	188000	258800	369600	587500	291000	208000
1984-85	139100	94770	80130	95240	80290	71200	77010	94340	245400	429900	354100	154700	159900
1985-86	88880	90240	95230	103900	68970	83610	158600	264300	255100	383800	459400	188100	186500
1986-87	111300	75620	78090	95260	74360	67270	77040	140300	193200	372500	248600	144000	140200
1987-88	<u>83900</u>	62270	<u>47850</u>	48550	57630	53830	60050	82180	209500	316200	315200	153400	124200
1988-89	86230	<u>59500</u>	70510	79280	67010	63380	60630	139500	265500	385600	385500	171100	153100
1989-90	115000	81460											
MEAN	125900	88510	80720	85220	88740	86470	98010	120500	213000	411700	460000	244200	175400
MEDIAN	123400	86630	78080	82290	81960	78760	92610	112500	213800	385600	451600	237900	177800

JDA3M9

ROUND BUTTE

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVG
1927-28												76	
1928-29	155	-513	-401	-822	-803	-763	-726	-1022	-972	-137	-43	226	-482
1929-30	-18	-40	-287	-723	372	-699	-655	-874	-613	57	-70	167	-278
1930-31	-178	-109	-292	-634	-555	-538	-568	-703	-744	114	28	-298	-372
1931-32	-276	-122	-167	-548	-591	-534	-639	-1402	-1164	-160	-26	220	-449
1932-33	57	128	-224	-764	-715	-721	-691	-831	-1409	-121	-375	84	-462
1933-34	17	22	-375	-873	-824	-791	-750	-702	-671	21	-19	105	-401
1934-35	-33	-60	-156	-566	-606	-644	-698	-766	-1471	-351	-104	98	-460
1935-36	-88	-111	-298	-598	-623	-653	-647	-1093	-1318	-435	-178	10	-501
1936-37	120	99	-270	-632	-665	-659	-661	-954	-1398	-268	-226	4	457
1937-38	24	90	-177	-596	-631	-656	-804	-1237	-1490	673	-389	39	546
1938-39	7	-128	-470	-877	-650	-659	-659	-975	-1213	-252	-239	5	-507
1939-40	21	105	-189	-578	-592	-596	-608	-1025	-1264	-134	-145	212	-398
1940-41	428	94	-135	-539	-549	-544	-543	-912	-940	-46	-109	-84	-321
1941-42	-140	7	57	-488	-522	-523	-530	-932	-1101	107	-10	-234	-357
1942-43	-248	22	24	-524	-550	-565	-649	-996	-1452	-455	-515	-24	-492
1943-44	-96	-440	-641	-1089	-931	-681	-533	-802	-883	-193	-192	113	-529
1944-45	3	-74	-179	-367	-382	-345	-279	-667	-1072	-137	-167	56	-300
1945-46	-86	-35	-476	-791	-166	-340	-394	-771	-1084	-453	-269	-30	-407
1946-47	-131	-341	-673	-627	-496	-451	-292	-695	-1012	-294	-328	-198	-462
1947-48	-77	-193	-402	-255	-295	-179	-171	-348	-974	-197	-332	-281	-308
1948-49	-159	-474	-355	-122	-42	104	-2	-430	-673	-315	-257	-163	-241
1949-50	-141	-57	-41	-167	-168	-169	-170	-561	-887	-315	-349	-168	-266
1950-51	-123	-32	3	-167	-168	-169	-170	-561	-672	-315	-282	-163	-235
1951-52	-113	-45	-38	-167	-168	-169	-170	-562	-672	-315	-332	-194	-245
1952-53	-138	-50	39	-167	-168	-169	-170	-562	-672	-323	-339	-194	-243
1953-54	-143	-62	72	-167	-168	-169	-170	-561	-887	-325	-337	-150	-255
1954-55	-117	-37	-28	-167	-168	-169	-170	-358	-751	-651	-284	178	-257
1955-56	-131	-43	-26	-167	-168	-169	-170	-561	-879	-320	-339	212	-265
1956-57	-133	-54	73	-167	-168	-169	170	-831	-891	-315	-292	170	-274
1957-58	135	-59	-13	-167	-167	-169	-174	-557	-887	-317	-353	-199	-266
1958-59	-122	-50	41	-166	-166	-169	-171	-431	-690	-366	-239	-240	-231
1959-60	226	-146	-82	-166	737	-173	169	-557	-888	-324	-283	-169	-202
1960-61	-150	-62	12	-168	-129	-99	353	-40	-216	-220	-344	250	-112
1961-62	-231	-147	133	-169	-165	170	-167	-175	-209	-241	-217	255	-168
1962-63	-250	-221	-231	-193	-181	-196	-195	-196	-213	-234	-240	-257	-217
1963-64	-248	-223	-216	-193	-169	-199	-218	-205	-233	-181	-222	-216	-210
1964-65	-210	-224	-216	-147	-228	-176	-204	-191	-197	-218	-240	-285	-211
1965-66	-251	-189	-196	-233	-153	-195	-203	-217	-192	-185	-255	-226	-208
1966-67	-212	-181	-223	-177	-190	-191	-234	-181	-220	-212	-205	-222	-204
1967-68	-195	-224	-198	-267	-137	-177	-39	-210	-212	-181	-193	-200	-186
1968-69	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1969-70	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1970-71	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1971-72	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1972-73	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1973-74	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1974-75	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1975-76	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1976-77	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1977-78	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1978-79	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1979-80	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1980-81	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1981-82	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1982-83	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1983-84	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1984-85	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1985-86	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1986-87	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1987-88	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1988-89	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
1989-90	-200	-200											
MEAN	-135	-138	-187	-338	-284	-310	-303	-489	-616	-231	-221	-134	-282

ROU3DD9

USGS # 14092150

ROUND BUTTE

River: DESCHUTES

Drainage Area: 7490 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 110.6

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												3747	
1928-29	3730	3144	3486	3586	3575	3591	3542	3736	3386	3640	3646	3699	3565
1929-30	3340	3302	3227	3199	4906	3509	4380	3716	3128	3569	3357	3519	3593
1930-31	3084	3190	3068	3319	3336	3352	3364	3432	3416	3535	3247	<u>2772</u>	<u>3258</u>
1931-32	<u>2719</u>	<u>2890</u>	<u>2931</u>	3024	<u>3140</u>	<u>3310</u>	<u>3261</u>	4156	4036	4146	3693	3677	3416
1932-33	3313	3353	3071	3393	3513	3560	3371	<u>3414</u>	3432	3912	4145	3805	3524
1933-34	3443	3443	3020	3296	3841	4032	3616	<u>3483</u>	<u>3042</u>	3501	3586	3601	3493
1934-35	3408	3347	3468	3638	3856	3779	3736	3703	3645	3797	3822	3623	3651
1935-36	3388	3356	3088	3437	3472	3865	3854	4024	4487	3903	3708	3532	3674
1936-37	3576	3538	3058	3120	3449	3435	3513	3619	4349	4077	3926	3642	3608
1937-38	3379	3465	3330	3566	4369	4267	4336	5298	6495	4573	3672	3598	4193
1938-39	3554	3466	3412	3587	3826	3653	3704	4330	3065	3369	3226	3366	3548
1939-40	3305	3401	3077	<u>3007</u>	3423	3573	4045	4778	3629	3421	<u>3129</u>	3389	3514
1940-41	3532	3308	3212	3201	3465	3506	3575	4091	3045	3504	3164	3036	3387
1941-42	2965	3221	3259	3223	3964	3660	4160	3936	4294	3994	3543	3001	3599
1942-43	2865	3158	3188	3479	5108	5762	5537	5796	6657	4539	3862	4216	4508
1943-44	3635	3374	3386	3690	3774	3976	4089	4011	3307	<u>3300</u>	3316	3395	3604
1944-45	3207	3206	3192	3293	3436	3802	4410	3487	3739	4301	3499	3346	3571
1945-46	3164	3252	2939	3017	4519	5037	4272	5219	5342	4078	3727	3684	4021
1946-47	3401	3514	3551	3858	4486	3994	4667	4430	3344	3417	3506	3322	3786
1947-48	3340	3233	3522	3735	3847	4580	4417	4115	4429	5194	<u>5407</u>	3648	4120
1948-49	3533	3424	3875	3832	4242	4132	5317	5608	5459	4632	3939	3655	4297
1949-50	3538	3656	3699	3798	4042	4039	4696	5347	5082	4375	5118	4041	4281
1950-51	3973	4060	4331	4935	5846	5672	8017	6594	6401	5207	4080	3957	5238
1951-52	4176	4162	4735	4831	4762	4511	5323	6069	7813	4861	4917	4284	5031
1952-53	4149	4171	3972	4191	4218	5716	6637	5262	5459	5162	4873	4183	4820
1953-54	4115	4128	4280	4911	5661	5627	6561	6059	4972	4355	4441	4164	4930
1954-55	4108	4178	4077	4355	4413	4597	4734	4245	3627	4028	4147	3896	4197
1955-56	3664	3812	3885	4559	6352	6799	5415	6474	6398	<u>6619</u>	5116	4215	5278
1956-57	4134	<u>4311</u>	4739	4748	5092	4785	5831	6808	5859	4859	3888	3713	4892
1957-58	3680	3764	4387	4415	4427	5223	<u>8416</u>	5896	5538	5168	4765	4045	4953
1958-59	3919	4045	4238	4883	5035	5116	5103	4893	4050	3789	3831	3634	4374
1959-60	3611	3784	3933	4148	5043	4196	4387	4770	4386	3904	3984	3721	4155
1960-61	3646	3646	3783	4323	4283	4219	5839	5036	4124	3824	3815	3709	4176
1961-62	3696	3788	4113	4330	4528	4695	5096	5092	5242	4047	3916	3794	4356
1962-63	3850	3761	4078	4609	5349	4379	6431	4706	4406	4596	3788	3743	4462
1963-64	3771	3848	3755	4405	4226	4085	4127	3876	3812	3537	3732	3555	3892
1964-65	3421	3432	3471	3855	<u>7755</u>	<u>7851</u>	7656	4220	5066	4312	4060	3839	4898
1965-66	3933	3871	3656	4454	4325	4949	4738	4839	4174	3715	3777	3704	4158
1966-67	3539	3615	3599	4135	4470	4427	4716	4760	3830	4372	3893	3609	4018
1967-68	3564	3596	3919	3980	4169	4224	4674	3952	3447	3478	3468	3395	3820
1968-69	3434	3393	3340	4134	4069	4310	4039	4019	5023	4006	4413	3627	3981
1969-70	3604	3643	3820	3921	3961	5616	5816	4815	4321	3967	3852	3639	4238
1970-71	3572	3527	3770	4488	4507	6127	5332	4903	5245	4284	4269	4063	4502
1971-72	3811	3815	4140	4622	4858	5716	6021	<u>9574</u>	5409	4321	4635	4275	5100
1972-73	4088	4201	<u>4767</u>	5056	4342	5416	5045	4587	3962	3824	3750	3610	4384
1973-74	3589	3683	3870	5084	5805	6612	5076	5605	6540	4960	4910	<u>4672</u>	5026
1974-75	4104	4088	4392	4758	5019	5651	5800	5830	5425	5222	4638	4435	4947
1975-76	4172	4038	4406	4892	5579	5987	5557	5425	5957	4696	4374	4283	4945
1976-77	<u>4516</u>	4098	4321	4846	4788	4678	4251	4233	3746	3694	3710	4532	4210
1977-78	3659	3610	3767	4432	5705	5197	5305	5361	5161	4424	3713	3652	4495
1978-79	3656	3774	3774	4269	4345	4527	5653	6100	5260	4863	3746	3642	4460
1979-80	3668	3637	3868	4019	4246	5245	4843	4978	4590	3920	3781	3677	4205
1980-81	3551	3646	3740	4230	5028	4624	5002	4654	4446	3859	3918	3593	4186
1981-82	3612	3598	3943	4185	6260	5323	7799	6605	5474	4861	4628	4314	5034
1982-83	3993	4099	4499	4673	5121	5870	7011	8007	7216	6024	4745	4445	5466
1983-84	4151	4045	4584	5067	5719	6230	6500	7852	<u>8805</u>	6171	4864	4235	<u>5681</u>
1984-85	4042	4165	4642	<u>5923</u>	6083	5404	5340	5427	5490	4072	4403	3940	4906
1985-86	3870	3961	4309	4699	4582	4741	7629	8796	5624	4198	4245	3867	5027
1986-87	3845	3993	4097	4449	4477	4311	4794	5387	4615	4083	3720	3924	4305
1987-88	3690	3740	4112	4100	4416	4420	4289	4386	4014	3812	3937	3692	4050
1988-89	3626	3625	3780	4166	4098	4167	4090	6252	5584	4663	3863	3664	4299
1989-90	3745	3729											
MEAN	3652	3666	3786	4121	4566	4716	5062	5068	4776	4271	4014	3763	4284
MEDIAN	3631	3644	3780	4166	4416	4527	4794	4815	4487	4078	3863	3688	4210

ROU3M9

PELTON

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												276	
1928-29	355	-313	-201	-622	-603	-563	-526	-822	-772	63	157	426	-282
1929-30	182	160	-87	-523	572	-499	-455	-674	-413	257	130	367	-78
1930-31	22	91	-92	434	355	338	368	503	-544	314	228	-98	172
1931-32	76	78	33	-346	-391	-334	-439	-1202	-964	40	174	420	-249
1932-33	257	328	-24	-564	-515	-521	-491	-631	-1209	79	-175	284	-262
1933-34	217	222	-175	-673	-624	-591	-550	-502	-471	221	181	305	-201
1934-35	167	140	44	-366	-406	-444	-498	-566	-1271	-151	96	102	-260
1935-36	112	89	-98	-398	-423	-453	-447	-893	-1118	-235	22	210	-301
1936-37	320	299	-70	-432	-465	-459	-461	-754	-1198	-68	-26	204	-257
1937-38	224	290	23	-396	-431	-456	-604	-1037	-1290	-473	-189	161	-346
1938-39	207	72	-270	-677	-450	-459	-459	-775	-1013	-52	-39	205	-307
1939-40	221	305	11	-378	-392	-396	-408	-825	-1064	66	55	412	-198
1940-41	628	294	65	-339	-349	-344	-343	-712	-740	154	91	116	-121
1941-42	60	207	257	-288	-322	-323	-330	-732	-901	307	190	-34	-157
1942-43	-48	222	224	-324	-350	-365	-449	-796	-1252	-255	-315	176	-292
1943-44	104	-240	-441	-889	-731	-481	-333	-602	-683	7	8	313	-329
1944-45	203	126	21	-167	-182	-145	-79	-467	-872	63	33	256	-100
1945-46	114	165	-276	-591	34	-140	-194	-571	-884	-253	-69	170	-207
1946-47	69	-141	-473	-427	-296	-251	-92	-495	-812	-94	-128	2	-262
1947-48	123	7	-202	-55	-95	21	29	-148	-774	3	-132	-81	-108
1948-49	41	-274	-155	78	158	304	198	-230	-473	-115	-57	37	-41
1949-50	59	143	159	33	32	31	30	-361	-687	-115	-149	32	-66
1950-51	77	168	203	33	32	31	30	-361	-472	-115	-82	37	-35
1951-52	87	155	162	33	32	31	30	-362	-472	-115	-132	6	-45
1952-53	62	150	239	33	32	31	30	-362	472	-123	-139	6	-43
1953-54	57	138	272	33	32	31	30	-361	-687	-125	-137	50	-55
1954-55	83	163	172	33	32	31	30	-158	-551	-451	-84	22	-57
1955-56	69	157	174	33	32	31	30	-361	-679	-120	-139	-12	-65
1956-57	67	146	273	33	32	31	30	-631	-691	-115	-92	30	-74
1957-58	65	141	187	33	33	31	26	-357	-687	-117	-153	1	-66
1958-59	78	150	241	34	34	31	29	-231	-490	-166	-39	-40	-31
1959-60	-26	54	118	34	937	27	31	-357	-688	-124	-83	31	-2
1960-61	50	138	212	32	71	101	553	160	-16	-20	-144	-50	88
1961-62	-31	53	333	31	35	30	33	25	-9	-41	-17	-55	32
1962-63	-50	-21	-31	7	19	4	5	4	-13	-34	-40	-57	-17
1963-64	-48	-23	-16	7	31	1	-18	-5	-33	19	-22	-16	-10
1964-65	-10	24	-16	53	-28	24	-4	9	3	-18	-40	-85	-11
1965-66	-51	11	4	-33	47	5	-3	-17	8	15	-55	-26	-8
1966-67	-12	19	-23	23	10	9	-34	19	20	-12	-5	-22	-4
1967-68	5	-24	2	-67	63	23	161	-10	-12	19	7	0	14
1968-69	0	0	0	0	0	0	0	0	0	0	0	0	0
1969-70	0	0	0	0	0	0	0	0	0	0	0	0	0
1970-71	0	0	0	0	0	0	0	0	0	0	0	0	0
1971-72	0	0	0	0	0	0	0	0	0	0	0	0	0
1972-73	0	0	0	0	0	0	0	0	0	0	0	0	0
1973-74	0	0	0	0	0	0	0	0	0	0	0	0	0
1974-75	0	0	0	0	0	0	0	0	0	0	0	0	0
1975-76	0	0	0	0	0	0	0	0	0	0	0	0	0
1976-77	0	0	0	0	0	0	0	0	0	0	0	0	0
1977-78	0	0	0	0	0	0	0	0	0	0	0	0	0
1978-79	0	0	0	0	0	0	0	0	0	0	0	0	0
1979-80	0	0	0	0	0	0	0	0	0	0	0	0	0
1980-81	0	0	0	0	0	0	0	0	0	0	0	0	0
1981-82	0	0	0	0	0	0	0	0	0	0	0	0	0
1982-83	0	0	0	0	0	0	0	0	0	0	0	0	0
1983-84	0	0	0	0	0	0	0	0	0	0	0	0	0
1984-85	0	0	0	0	0	0	0	0	0	0	0	0	0
1985-86	0	0	0	0	0	0	0	0	0	0	0	0	0
1986-87	0	0	0	0	0	0	0	0	0	0	0	0	0
1987-88	0	0	0	0	0	0	0	0	0	0	0	0	0
1988-89	0	0	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	65	62	13	-138	-84	-110	-103	-289	-416	-31	-21	66	-125

PEL3DD9

USGS # 14092455

PELTON

River: DESCHUTES

Drainage Area: 7800 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 102.8

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												3947	
1928-29	3930	3344	3686	3786	3775	3791	3742	3936	3586	3840	3846	3899	3765
1929-30	3540	3502	3427	3399	5106	3709	4580	3916	3328	3769	3557	3719	3793
1930-31	3284	3390	3268	3519	3536	3552	3584	3632	3616	3735	3447	<u>2972</u>	<u>3458</u>
1931-32	<u>2919</u>	<u>3090</u>	<u>3131</u>	3224	<u>3340</u>	<u>3510</u>	<u>3461</u>	4356	4236	4346	3893	3877	3616
1932-33	3513	3553	3271	3593	3713	3780	3571	<u>3614</u>	3632	4112	4345	4005	3724
1933-34	3643	3643	3220	3496	4041	4232	3816	3683	<u>3242</u>	3701	3786	3801	3693
1934-35	3608	3547	3668	3838	4056	3979	3936	3903	3845	3997	4022	3823	3851
1935-36	3588	3556	3288	3637	3672	4065	4054	4224	4687	4103	3908	3732	3874
1936-37	3776	3738	3258	3320	3649	3635	3713	3819	4549	4277	4126	3842	3808
1937-38	3579	3665	3530	3766	4569	4467	4536	5498	6695	4773	3872	3798	4393
1938-39	3754	3666	3612	3787	4026	3853	3904	4530	3265	3569	3426	3566	3748
1939-40	3505	3601	3277	<u>3207</u>	3623	3773	4245	4978	3829	3621	<u>3329</u>	3589	3714
1940-41	3732	3508	3412	3401	3665	3706	3775	4291	3245	3704	3364	3236	3587
1941-42	3165	3421	3459	3423	4164	3860	4380	4136	4494	4194	3743	3201	3799
1942-43	3065	3358	3388	3679	5308	5962	5737	5996	6857	4739	4062	4416	4708
1943-44	3835	3574	3586	3890	3974	4176	4289	4211	3507	<u>3500</u>	3516	3595	3804
1944-45	3407	3406	3392	3493	3636	4002	4610	3687	3939	<u>4501</u>	3699	3546	3771
1945-46	3364	3452	3139	3217	4719	5237	4472	5419	5542	4278	3927	3884	4221
1946-47	3601	3714	3751	4058	4686	4194	4867	4630	3544	3617	3706	3522	3986
1947-48	3540	3433	3722	3935	4047	4780	4617	4315	4629	5394	<u>5607</u>	3848	4320
1948-49	3733	3624	4075	4032	4442	4332	5517	5808	5659	4832	4139	3855	4497
1949-50	3738	3856	3899	3998	4242	4239	4896	5547	5282	4575	5318	4241	4481
1950-51	4173	4260	4531	5135	6046	5872	8217	6794	6601	5407	4280	4157	5438
1951-52	4376	4362	4935	5031	4962	4711	5523	6269	8013	5061	5117	4484	5231
1952-53	4349	4371	4172	4391	4418	5916	6837	5462	5659	5362	5073	4383	5020
1953-54	4315	4328	4480	5111	5861	5827	6761	6259	5172	4555	4641	4364	5130
1954-55	4308	4378	4277	4555	4613	4797	4934	4445	3827	4228	4347	4096	4397
1955-56	3864	4012	4085	4759	6552	6999	5815	6674	6598	<u>6819</u>	5316	4415	5478
1956-57	4334	<u>4511</u>	4939	4948	5292	4985	6031	7008	6059	5059	4088	3913	5092
1957-58	3880	3964	4587	4615	4627	5423	<u>8616</u>	6096	5738	5368	4965	4245	5153
1958-59	4119	4245	4438	5083	5235	5316	5303	5093	4250	3989	4031	3834	4574
1959-60	3811	3984	4133	4348	5243	4396	4587	4970	4586	4104	4184	3921	4355
1960-61	3846	3846	3983	4523	4483	4419	6039	5236	4324	4024	4015	3909	4376
1961-62	3896	3988	4313	4530	4728	4895	5296	5292	5442	4247	4116	3994	4556
1962-63	4050	3961	4278	4809	5549	4579	6631	4908	4606	4796	3988	3943	4662
1963-64	3971	4048	3955	4605	4426	4285	4327	4076	4012	3737	3932	3755	4092
1964-65	3621	3632	3671	4055	<u>7955</u>	<u>8051</u>	7856	4420	5266	4512	4260	4039	5098
1965-66	4133	4071	3856	4654	4525	5149	4938	4839	4374	3915	3977	3904	4358
1966-67	3739	3815	3799	4335	4670	4627	4916	4260	4030	4572	4093	3809	4218
1967-68	3764	3796	4119	4180	4369	4424	4874	4152	3647	3678	3668	3595	4020
1968-69	3634	3593	3540	4334	4269	4510	4239	4219	5223	4206	4613	3827	4181
1969-70	3804	3843	4020	4121	4161	5816	6016	5015	4521	4167	4052	3839	4438
1970-71	3772	3727	3970	4688	4707	6327	5532	5103	5445	4484	4469	4263	4702
1971-72	4011	4015	4340	4822	5058	5916	6221	<u>9774</u>	5609	4521	4835	4475	5300
1972-73	4288	4401	<u>4967</u>	5256	4542	5616	5245	4787	4162	4024	3950	3810	4584
1973-74	3789	3883	4070	5264	6005	6812	5276	5805	6740	5160	5110	<u>4812</u>	5226
1974-75	4364	4288	4592	4958	5219	5851	6000	6030	5625	5422	4838	4635	5147
1975-76	4372	4238	4606	5092	5779	6187	5757	5625	6157	4896	4574	4483	5145
1976-77	<u>4716</u>	4298	4521	5046	4988	4878	4451	4433	3946	3894	3910	3832	4410
1977-78	3859	3810	3967	4632	5905	5397	5505	5561	5361	4624	3913	3852	4695
1978-79	3856	3974	3974	4469	4545	4727	5853	6300	5460	5063	3946	3842	4660
1979-80	3868	3837	4068	4219	4446	5445	5043	5178	4790	4120	3981	3877	4405
1980-81	3751	3846	3940	4430	5228	4824	5202	4854	4646	4059	4118	3793	4386
1981-82	3812	3798	4143	4385	6460	5523	7999	6805	5674	5061	4828	4514	5234
1982-83	4193	4299	4699	4873	5321	6070	7211	8207	7416	6224	4945	4645	5666
1983-84	4351	4245	4784	5267	5919	6430	6700	8052	<u>9005</u>	6371	5064	4435	<u>5881</u>
1984-85	4242	4365	4842	<u>6123</u>	6283	5604	5540	5627	5690	4272	4603	4140	5106
1985-86	4070	4161	4509	4899	4782	4941	7829	8996	5824	4398	4445	4067	5227
1986-87	4045	4193	4297	4649	4677	4511	4994	5587	4815	4283	3920	4124	4505
1987-88	3890	3940	4312	4300	4616	4620	4489	4586	4214	4012	4137	3892	4250
1988-89	3826	3825	3980	4366	4298	4367	4280	6452	5784	4863	4063	3864	4499
1989-90	3945	3929											
MEAN	3852	3866	3986	4321	4766	4916	5262	5268	4976	4471	4214	3963	4484
MEDIAN	3831	3844	3980	4366	4616	4727	4994	5015	4687	4278	4063	3888	4410

PEL3M9

USGS # 14092495

PELTON REREG

River: DESCHUTES

Drainage Area

7820 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile:

100.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												3947	
1928-29	3930	3344	3686	3786	3775	3791	3742	3936	3586	3840	3846	3899	3765
1929-30	3540	3502	3427	3399	5106	3709	4580	3916	3328	3769	3557	3719	3793
1930-31	3284	3390	3268	3519	3536	3552	3564	3632	3616	3735	3447	<u>2972</u>	<u>3458</u>
1931-32	<u>2919</u>	<u>3090</u>	<u>3131</u>	3224	<u>3340</u>	<u>3510</u>	<u>3461</u>	4356	4236	4346	3893	3877	3616
1932-33	3513	3553	3271	3593	3713	3780	3571	<u>3614</u>	3632	4112	4345	4005	3724
1933-34	3643	3643	3220	3496	4041	4232	3816	3683	<u>3242</u>	3701	3786	3801	3693
1934-35	3608	3547	3668	3838	4058	3979	3936	3903	3845	3997	4022	3823	3851
1935-36	3588	3556	3288	3637	3672	4065	4054	4224	4687	4103	3908	3732	3874
1936-37	3776	3738	3258	3320	3649	3635	3713	3819	4549	4277	4126	3842	3808
1937-38	3579	3665	3530	3766	4569	4467	4536	5498	6695	4773	3872	3798	4393
1938-39	3754	3666	3612	3787	4026	3853	3904	4530	3265	3569	3426	3566	3748
1939-40	3505	3601	3277	<u>3207</u>	3623	3773	4245	4978	3829	3621	<u>3329</u>	3589	3714
1940-41	3732	3508	3412	3401	3665	3706	3775	4291	3245	3704	3364	3236	3587
1941-42	3165	3421	3459	3423	4164	3860	4380	4136	4494	4194	3743	3201	3799
1942-43	3065	3358	3388	3679	5308	5962	5737	5996	6857	4739	4062	4416	4708
1943-44	3835	3574	3586	3890	3974	4176	4289	4211	3507	<u>3500</u>	3516	3595	3804
1944-45	3407	3406	3392	3493	3636	4002	4610	3687	3939	4501	3699	3546	3771
1945-46	3364	3452	3139	3217	4719	5237	4472	5419	5542	4278	3927	3884	4221
1946-47	3601	3714	3751	4058	4686	4194	4867	4630	3544	3617	3706	3522	3986
1947-48	3540	3433	3722	3935	4047	4780	4617	4315	4829	5394	<u>5607</u>	3848	4320
1948-49	3733	3624	4075	4032	4442	4332	5517	5808	5659	4832	4139	3855	4497
1949-50	3738	3856	3899	3998	4242	4239	4896	5547	5282	4575	5318	4241	4481
1950-51	4173	4260	4531	5135	6046	5872	8217	6794	6601	5407	4280	4157	5438
1951-52	4376	4362	4935	5031	4962	4711	5523	6269	8013	5061	5117	4484	5231
1952-53	4349	4371	4172	4391	4418	5916	6837	5462	5659	5362	5073	4383	5020
1953-54	4315	4328	4480	5111	5861	5827	6761	6259	5172	4555	4641	4364	5130
1954-55	4308	4378	4277	4555	4613	4797	4934	4445	3827	4228	4347	4096	4397
1955-56	3864	4012	4085	4759	6552	6999	5615	6674	6598	<u>6819</u>	5316	4415	5478
1956-57	4334	<u>4511</u>	4939	4948	5292	4985	6031	7008	6059	5059	4088	3913	5092
1957-58	3880	3964	4587	4615	4627	5423	<u>8616</u>	6096	5738	5368	4965	4245	5153
1958-59	4119	4245	4438	5083	5235	5316	5303	5093	4250	3989	4031	3834	4574
1959-60	3811	3984	4133	4348	5243	4396	4587	4970	4586	4104	4184	3921	4355
1960-61	3846	3846	3983	4523	4483	4419	6039	5236	4324	4024	4015	3909	4376
1961-62	3896	3988	4313	4530	4728	4895	5296	5292	5442	4247	4116	3994	4556
1962-63	4050	3961	4278	4809	5549	4579	6631	4906	4606	4796	3988	3943	4662
1963-64	3971	4048	3955	4605	4426	4285	4327	4076	4012	3737	3932	3755	4092
1964-65	3621	3632	3671	4055	<u>7955</u>	<u>8051</u>	7856	4420	5266	4512	4260	4039	5098
1965-66	4133	4071	3856	4654	4525	5149	4938	4839	4374	3915	3977	3904	4358
1966-67	3739	3815	3799	4335	4670	4627	4916	4260	4030	4572	4093	3809	4218
1967-68	3764	3796	4119	4180	4369	4424	4874	4152	3647	3678	3668	3595	4020
1968-69	3634	3593	3540	4334	4269	4510	4239	4219	5223	4206	4613	3827	4181
1969-70	3804	3843	4020	4121	4161	5816	6016	5015	4521	4167	4052	3839	4438
1970-71	3772	3727	3970	4688	4707	6327	5532	5103	5445	4484	4469	4263	4702
1971-72	4011	4015	4340	4822	5058	5916	6221	<u>9774</u>	5609	4521	4835	4475	5300
1972-73	4288	4401	<u>4967</u>	5256	4542	5616	5245	4787	4162	4024	3950	3810	4584
1973-74	3789	3883	4070	5264	6005	6812	5276	5805	6740	5160	5110	<u>4812</u>	5226
1974-75	4364	4288	4592	4958	5219	5851	6000	6030	5625	5422	4838	4635	5147
1975-76	4372	4238	4606	5092	5779	6187	5757	5625	6157	4896	4574	4483	5145
1976-77	<u>4716</u>	4298	4521	5046	4988	4878	4451	4433	3946	3894	3910	3832	4410
1977-78	3859	3810	3967	4632	5905	5397	5505	5561	5361	4624	3913	3852	4695
1978-79	3856	3974	3974	4469	4545	4727	5853	6300	5460	5063	3946	3842	4660
1979-80	3868	3837	4068	4219	4446	5445	5043	5178	4790	4120	3981	3877	4405
1980-81	3751	3846	3940	4430	5228	4824	5202	4854	4646	4059	4118	3793	4386
1981-82	3812	3798	4143	4385	6460	5523	7999	6805	5674	5061	4828	4514	5234
1982-83	4193	4299	4699	4873	5321	6070	7211	8207	7416	6224	4945	4645	5666
1983-84	4351	4245	4784	5267	5919	6430	6700	8052	<u>9005</u>	6371	5064	4435	<u>5881</u>
1984-85	4242	4365	4842	<u>6123</u>	6283	5604	5540	5627	5690	4272	4603	4140	5106
1985-86	4070	4161	4509	4899	4782	4941	7829	8996	5824	4398	4445	4067	5227
1986-87	4045	4193	4297	4649	4677	4511	4994	5587	4815	4283	3920	4124	4505
1987-88	3890	3940	4312	4300	4616	4620	4489	4586	4214	4012	4137	3892	4250
1988-89	3826	3825	3980	4366	4298	4367	4280	6452	5784	4863	4063	3864	4499
1989-90	3945	3929											
MEAN	3852	3866	3986	4321	4766	4916	5262	5268	4976	4471	4214	3963	4484
MEDIAN	3831	3844	3980	4366	4616	4727	4994	5015	4687	4278	4063	3888	4410

RER3M9

WHITE R.- WAPINITIA PROJECT

Accumulated depletions at site (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-121	
1928-29	-58	-7	22	17	11	6	6	6	2	53	108	-118	23
1929-30	-56	-6	22	17	11	5	6	5	2	51	105	-115	22
1930-31	-55	-6	21	16	11	5	6	5	2	50	102	-112	22
1931-32	-53	-6	20	16	10	5	6	5	2	49	99	-108	21
1932-33	-52	-6	20	15	10	5	5	5	2	-47	-96	-105	-20
1933-34	-50	-6	19	15	10	5	5	5	2	-46	-93	-102	-20
1934-35	-49	-5	19	14	9	5	5	5	2	-44	-90	-99	-19
1935-36	-47	-5	18	14	9	5	5	5	2	-43	-87	-95	-18
1936-37	-45	-5	17	14	9	4	5	4	2	-41	-84	-92	-18
1937-38	-44	-5	17	13	8	4	5	4	2	-40	-81	-89	-17
1938-39	-42	-5	16	13	8	4	5	4	2	-38	-78	-86	-17
1939-40	-41	-5	16	12	8	4	4	4	1	-37	-75	-82	-16
1940-41	-39	-4	15	12	8	4	4	4	1	-35	-72	-79	-15
1941-42	-38	-4	14	11	7	4	4	4	1	-34	-69	-76	-15
1942-43	-36	-4	14	11	7	3	4	3	1	-32	-66	-73	-14
1943-44	-35	-4	13	10	7	3	4	3	1	-31	-63	-69	-13
1944-45	-33	-4	13	10	6	3	4	3	1	-30	-60	-66	-13
1945-46	-32	-4	12	9	6	3	3	3	1	22	45	50	10
1946-47	-24	-3	9	7	5	2	3	2	1	-27	-54	-60	-12
1947-48	-28	-3	11	8	5	3	3	3	1	-25	-51	-56	-11
1948-49	-27	-3	10	8	5	3	3	3	1	-24	48	53	-10
1949-50	-25	-3	10	8	5	2	3	2	1	-22	45	50	-10
1950-51	24	-3	9	7	5	2	3	2	1	21	42	47	9
1951-52	22	-2	9	7	4	2	2	2	1	19	40	43	8
1952-53	-21	-2	8	6	4	2	2	2	1	-18	37	-40	-8
1953-54	-19	-2	7	6	4	2	2	2	1	-17	34	-37	7
1954-55	-18	-2	7	5	3	2	2	2	1	-15	31	34	7
1955-56	-16	-2	6	5	3	2	2	2	1	-14	28	31	-6
1956-57	-15	-2	6	4	3	1	2	1	0	-12	25	27	-5
1957-58	-13	-1	5	4	3	1	1	1	0	-11	22	24	-5
1958-59	-12	-1	4	3	2	1	1	1	0	-9	19	21	-4
1959-60	-10	-1	4	3	2	1	1	1	0	1	1	1	0
1960-61	1	0	0	0	0	0	0	0	0	-7	-13	-15	-3
1961-62	-7	-1	3	2	1	1	1	1	0	-5	-10	-11	-2
1962-63	-5	-1	2	2	1	1	1	1	0	-4	-8	-8	-2
1963-64	-4	0	2	1	1	0	0	0	0	2	5	-5	1
1964-65	-2	0	1	1	0	0	0	0	0	1	2	2	0
1965-66	-1	0	0	0	0	0	0	0	0	1	1	1	0
1966-67	1	0	0	0	0	0	0	0	0	2	4	5	1
1967-68	2	0	-1	-1	0	0	0	0	0	3	7	8	2
1968-69	4	0	-1	-1	-1	0	0	0	0	5	10	11	2
1969-70	5	1	-2	-2	-1	-1	-1	-1	0	6	13	14	3
1970-71	7	1	-3	-2	-1	1	-1	-1	0	8	16	17	3
1971-72	8	1	3	-2	-2	1	-1	-1	0	9	19	21	4
1972-73	10	1	4	3	-2	1	1	1	0	11	22	24	5
1973-74	11	1	4	3	-2	1	1	1	0	12	25	27	5
1974-75	13	1	5	4	2	-1	-1	-1	-1	14	28	30	6
1975-76	15	2	-6	-4	-3	-1	2	-1	-1	15	31	34	7
1976-77	16	2	-6	-5	-3	2	-2	-2	-1	17	34	37	7
1977-78	18	2	-7	-5	-3	-2	-2	-2	-1	18	37	40	8
1978-79	19	2	-7	-6	-4	-2	-2	-2	-1	19	39	43	8
1979-80	21	2	-8	-6	-4	-2	-2	-2	-1	21	42	47	9
1980-81	22	2	-9	-7	-4	-2	-2	-2	-1	19	38	41	8
1981-82	20	2	-8	-6	-4	-2	-2	-2	-1	16	33	36	7
1982-83	17	2	-7	-5	-3	-2	-2	-2	-1	14	28	31	6
1983-84	15	2	-6	-4	-3	-1	-2	-1	0	12	24	26	5
1984-85	12	1	-5	-4	-2	-1	1	-1	0	9	19	21	4
1985-86	10	1	-4	-3	-2	-1	1	-1	0	7	14	16	3
1986-87	7	1	-3	-2	-1	-1	1	-1	0	5	9	10	2
1987-88	5	1	-2	-1	1	0	1	0	0	2	5	5	1
1988-89	2	0	-1	-1	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	-13	-2	5	4	3	1	1	1	0	-12	-24	28	5

WHT3D9

THE DALLES

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-10408	
1928-29	5314	299	2641	1004	3685	4116	981	-7112	-15284	-15945	-17781	-9734	-5383
1929-30	6216	-1894	-547	-3364	-1203	-2095	734	-890	-9204	-13616	-14670	-9910	-5266
1930-31	-6839	-1425	-44	-1794	-1523	-495	1828	317	-8123	-14129	-11861	-10650	-4600
1931-32	-7791	-2325	42	471	411	-143	-269	-7328	-15779	-22412	-16392	-10347	-6839
1932-33	-6546	453	2280	2478	752	-162	0	-2798	-11527	-14362	-16075	-12614	-4869
1933-34	-7091	-2130	900	2629	2395	-2312	-2077	1482	-9645	-13066	-11774	-9783	-4212
1934-35	-7289	-2535	334	1637	-12	-928	-1329	-571	-9635	-14584	-16596	-9985	-5137
1935-36	-7201	-2734	-302	956	1079	853	367	-1656	-14444	-21994	-22157	-9024	-6356
1936-37	-5905	-1091	644	1579	1400	1390	414	-1500	-13075	-16074	-17596	-10401	-5040
1937-38	-6869	-1638	877	1570	931	152	1031	-4189	-17391	-15428	-22991	-15282	-6627
1938-39	-5961	-798	1503	3389	3040	4871	584	-7490	-12314	-15466	-12649	-9159	-4228
1939-40	-6545	-1734	683	1163	1224	671	2227	-438	-11373	-14049	-12881	-8560	-4146
1940-41	-6552	-2203	-433	144	1311	862	1222	-1234	-8879	-13108	-13637	-10104	-4411
1941-42	-7800	-2859	-1057	-280	200	-620	-1529	-1653	-18138	-15747	-16094	-10987	-6388
1942-43	-7850	-2580	-571	-603	376	1259	2538	7303	-6218	-10066	-28647	-17504	-5230
1943-44	-7348	-1594	-2891	-549	5719	3473	3580	-1114	-9782	-12869	-20464	-9400	-4440
1944-45	-7216	-3151	-496	533	2439	2150	2275	-1148	-6595	-12851	-20523	-10246	-4594
1945-46	-7032	-1322	-1082	-1215	3578	549	1694	-850	-10613	-11640	-15258	-9969	-4451
1946-47	-6686	-2527	-1367	-855	2688	3446	3929	-225	4097	-13882	-21933	-9434	-3605
1947-48	-6947	-2538	-777	1840	708	3544	1750	1268	-11758	-7993	-17901	-10996	-4145
1948-49	-7530	-3270	-149	2345	-3306	-125	-3570	-2328	-1922	661	-13923	-9914	-3579
1949-50	-8207	-4036	-3799	2394	2111	4352	1324	-86	4337	-8589	-13747	-15822	-3358
1950-51	-8501	-3509	-1780	8572	7863	638	2633	-3359	1761	-7051	-16707	-11189	-2596
1951-52	-8123	-2157	-3346	1754	5854	4944	3897	-4346	1016	-9436	-12043	-11891	-2859
1952-53	-8341	-3626	-103	3696	4483	5750	4081	-3151	-6585	-1481	-17456	-10402	-2782
1953-54	-7925	-3166	-1057	2570	1911	2550	4727	-2543	2851	-5644	-10974	-11181	-2383
1954-55	-8780	-4128	3823	2702	1367	1922	3016	-1890	-9502	-10009	-7757	-10925	-4034
1955-56	-8361	3961	-1028	2254	1643	6016	5321	2805	-3673	-1182	-18402	-10170	-2398
1956-57	-8014	-2591	-2384	3217	8990	3236	5011	-7074	1854	-9619	-11733	-9341	-2432
1957-58	-7840	3837	-1767	2201	5553	5126	2616	-4068	-7276	3461	-13929	-9031	-2404
1958-59	-7899	3838	-1282	654	2602	4258	1551	196	-1313	-4941	-8371	-9238	-2323
1959-60	-7959	4666	-2523	3077	1927	2037	3922	1905	-5190	-8498	-7101	-9418	-2735
1960-61	-8203	-3796	-1942	-69	179	-113	1615	-27	-6821	-8186	-5484	-9247	-3544
1961-62	-8007	-4746	-1372	948	547	237	1228	-2080	2452	-6493	-8695	-8325	-2896
1962-63	-8241	4625	-2037	2376	2482	2517	7476	683	-2799	-10691	-13681	-8507	-2987
1963-64	-7770	3790	-1555	410	1462	1522	2189	244	960	-7590	-10192	-9270	-2805
1964-65	-7966	-4490	-1211	1299	5400	5827	-7001	-6796	4774	-4038	-5246	-8500	-2306
1965-66	-7720	-1038	-529	4466	2203	-159	-2914	-2263	-3947	-7495	-9127	-9046	-3140
1966-67	-8124	-4896	-2484	-588	-166	-241	1752	372	3441	-2580	-3585	-9696	-2275
1967-68	-7488	-3247	-2195	924	4600	3951	965	-1882	-5332	-4474	-8279	-8483	-2582
1968-69	-8572	-3584	-1422	727	2350	1579	2793	-4350	-5791	2531	-9653	-8282	2663
1969-70	-7317	-4260	-1339	2107	1702	3859	4938	-596	-1469	-8329	-5310	-9838	-2212
1970-71	-6815	-2922	-2115	208	4587	8588	2558	3170	-11288	-1667	-747	-6347	-1067
1971-72	-5177	-677	-6168	153	85	2348	397	2722	-17216	5695	-3132	-7081	-2321
1972-73	-7384	-4355	-4711	2338	2414	1849	-1419	-4087	-7241	-3340	-6413	-6909	-3280
1973-74	-5834	-3485	80	5059	6018	7533	1529	-7887	-2855	-7982	3156	-8778	-1143
1974-75	-6343	-3289	867	6077	4369	900	-3152	-6008	-8029	-12551	1420	-5496	2764
1975-76	-4780	2182	-254	6139	5534	1274	-672	-3110	-9425	2937	-6453	-6638	1955
1976-77	-7399	4141	-3997	4186	3889	3523	2271	-950	-4555	-7657	-7763	-6896	2490
1977-78	-6756	3602	-1959	434	139	-1057	-534	-2661	-12761	-1920	-8068	-7016	-3816
1978-79	6974	5094	-1879	956	1609	427	-1747	-6697	-6158	-6483	-7524	-6812	-4033
1979-80	7897	4003	-1764	1434	1841	1207	4701	-279	-4994	-7067	-8721	-7837	-2808
1980-81	6358	4653	-911	613	2354	3963	4160	-383	-8610	-9854	-15445	-6955	-3531
1981-82	6007	-4864	-3687	737	476	9	2770	752	-8102	-5238	-5529	9940	3376
1982-83	6742	-4698	-2100	340	2050	3056	-1607	224	-6980	-7566	-7036	-10683	3886
1983-84	-6611	-5436	-5328	994	-811	6145	-564	3628	-9126	-11127	-5063	-11570	-3746
1984-85	-4786	-6416	-7730	-2232	2365	1463	-3240	-2989	-3756	-2206	-8342	-7346	-3757
1985-86	-7323	-5515	-1788	1005	118	5092	-919	2133	-7096	-8215	-5265	-7213	-2918
1986-87	6498	4781	-5494	686	-1186	2677	3306	1467	4848	-6961	-7399	-7556	3175
1987-88	6270	-3129	-2428	987	1654	412	1907	1768	4942	-7584	-7629	-6939	2697
1988-89	6598	-3399	-1048	394	513	174	-223	-1245	-2630	-6594	-7708	7180	2980
1989-90	-6781	-2915											
MEAN	-7150	-3189	-1627	1397	2047	2129	1263	-1487	-6467	-8528	-11360	-9474	-3557

TDA3DD9

USGS # 14103950

THE DALLES

River: COLUMBIA

Drainage Area: 237000 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 191.5

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28													269900
1928-29	131300	84260	78970	73740	62880	56330	55630	85380	<u>102100</u>	264700	371200	176500	128900
1929-30	111100	73440	58400	<u>50110</u>	61470	41030	90290	75920	192600	248900	293800	194600	124300
1930-31	120600	83460	65820	57310	<u>51320</u>	53840	59360	82060	139900	283800	260900	158600	<u>118400</u>
1931-32	98900	81990	63220	64310	57300	58950	65310	163700	255100	472700	475900	242100	175100
1932-33	136600	89760	74900	99870	90910	84920	64270	93620	177000	352600	649800	345000	188600
1933-34	170200	108300	109800	143900	<u>209100</u>	196300	140900	170600	369600	428900	319000	182700	212600
1934-35	117900	80750	72230	106900	84910	85140	100000	96490	157100	343100	425100	272600	162000
1935-36	142000	90770	66770	59520	53610	61660	51410	92180	254200	461200	355900	173300	155400
1936-37	112800	80480	60430	51640	51690	<u>39160</u>	<u>51160</u>	89300	122400	291300	345500	201300	123400
1937-38	110500	84110	74600	88610	92890	92320	82960	136700	257300	445500	486600	247200	183600
1938-39	110600	93690	80710	71120	67310	69660	59190	106100	214000	381800	276200	207100	145300
1939-40	119900	81660	75240	75760	79810	64850	88210	143300	219100	347500	287400	171700	146300
1940-41	106900	96150	93650	80660	78430	74090	75420	106400	170200	264300	275400	164300	132400
1941-42	104600	112500	121500	113000	153300	91370	96910	90590	216600	330300	393500	260200	173900
1942-43	138600	87950	71980	81190	94110	96980	110400	132300	<u>394300</u>	369500	475100	358100	201000
1943-44	154600	86150	76780	71710	70660	57920	61740	66050	115800	239800	278700	148700	119200
1944-45	104500	84140	75360	72070	56840	74020	86140	84850	119200	365700	412000	209500	145500
1945-46	106100	80690	69100	84100	88630	100500	79240	135400	267200	519100	462100	256200	187900
1946-47	130400	99270	85370	90480	145500	93190	119200	132600	237000	499500	420500	236500	191100
1947-48	123700	94540	131200	123200	104900	110900	100100	99000	209100	590200	774000	263100	226900
1948-49	164200	107000	91200	84130	68280	59760	99790	153900	267500	559900	361000	166200	182300
1949-50	112700	81710	72820	92640	93620	77890	113900	164000	234800	380900	657200	413200	208100
1950-51	165200	101700	107100	138300	150900	134400	189600	140800	286800	541800	437400	315100	225900
1951-52	149000	101300	121000	101600	103800	88180	110900	111500	352800	525100	420000	241100	202200
1952-53	127800	80670	66180	59360	61240	116500	127700	99800	162300	376000	558800	301700	178200
1953-54	143500	92940	87840	89470	91220	86180	116000	110800	192800	483400	519900	<u>420300</u>	203300
1954-55	190800	136200	93560	111700	87340	73070	72210	66250	129600	307900	560800	366200	183300
1955-56	150300	93070	101300	122600	154200	141700	100200	156300	358300	643900	619500	282100	243800
1956-57	138300	98960	93410	87780	105200	68770	95470	144900	215000	<u>662000</u>	464100	185400	197200
1957-58	105900	81940	79900	74110	82210	81510	141400	120200	222700	564800	442100	182600	181700
1958-59	113300	85480	91430	108300	124200	139400	107800	115200	225600	421700	598800	331800	205500
1959-60	143100	<u>146400</u>	<u>163700</u>	<u>150800</u>	126100	81700	102900	136700	269300	344200	465400	267700	199700
1960-61	128500	92620	83100	90150	70390	71350	156100	140300	179300	466300	617100	193800	190400
1961-62	116600	76370	84610	70830	69980	71720	99690	93770	268500	371600	456700	223100	167000
1962-63	139600	85210	99900	109300	120200	84050	160500	113700	176700	349600	423500	237600	174800
1963-64	128300	97730	74780	78420	70570	67870	67450	78200	165600	370200	668800	328600	182900
1964-65	148000	103700	107000	94080	166100	150800	169800	141600	301200	458400	567000	277200	223700
1965-66	160900	102500	93250	96870	84350	82180	73150	106600	202300	357900	385200	242600	166100
1966-67	127100	83980	71600	77580	93740	99440	102500	99560	136400	396000	703400	319100	192600
1967-68	138400	92410	89600	96020	88790	92030	145300	142200	122400	324500	458100	268300	171400
1968-69	136300	123500	108700	118100	101000	127500	106000	128500	361300	571500	477100	227100	215900
1969-70	104200	84840	90120	78310	71250	116600	119000	108400	129200	380000	522500	205500	167500
1970-71	108500	79750	75550	81310	87430	140600	177800	140200	246200	635200	626400	308900	225700
1971-72	159000	94580	85220	89280	83180	105700	135600	<u>316400</u>	236000	573300	779400	345500	250400
1972-73	170000	95050	88350	83460	91440	97510	74470	97580	114000	294100	301300	170900	140300
1973-74	98910	70720	77190	121300	147700	<u>222700</u>	154400	171200	334400	473300	<u>833400</u>	386700	<u>257600</u>
1974-75	164100	93500	69920	77660	76790	85990	88840	115400	162000	417300	614800	340700	192600
1975-76	137700	97500	99350	125700	187300	134600	114000	122100	268300	580700	442800	333500	220700
1976-77	<u>221900</u>	141700	79310	75440	66840	60480	61170	<u>58590</u>	114800	<u>213600</u>	<u>240500</u>	<u>114200</u>	121000
1977-78	99100	74450	60070	72300	138400	90400	97300	147600	243900	390100	460600	275300	179400
1978-79	122300	126000	82750	80110	60160	57870	91960	124200	163000	408200	324600	168800	151100
1979-80	98080	74790	59330	53590	76460	76250	92740	109900	242000	495800	387500	184100	162600
1980-81	97920	90710	81410	89890	144800	128000	147700	120600	174700	410600	437300	285800	184300
1981-82	154000	88840	82840	87360	99240	92020	<u>212800</u>	197900	227500	481900	650500	351400	226900
1982-83	156900	118800	103100	93590	105000	134500	152400	251500	248300	457700	478000	293100	216400
1983-84	153900	95820	81580	134800	101300	157300	125700	198300	269700	377900	594100	296100	215400
1984-85	143900	99770	85720	103000	87640	77590	83730	101200	252900	435500	359900	159400	166100
1985-86	93400	94870	100100	109200	74160	89880	171800	276500	262500	389300	464400	192600	193000
1986-87	115700	80400	83040	100700	79700	72650	83460	147300	199100	377700	253200	148600	145500
1987-88	<u>88290</u>	66730	<u>52570</u>	53270	62960	59780	65810	87920	215500	321500	320200	157900	129300
1988-89	90580	<u>63810</u>	75090	84490	72250	69050	65900	147900	273400	392000	390800	175700	158700
1989-90	119500	85670											
MEAN	130300	92870	85260	90260	94810	92930	105100	127300	219600	417700	465300	248800	181000
MEDIAN	128000	90740	82750	87780	87430	85140	99780	120200	219100	392000	456700	242400	182900

TDA3M9

BONNEVILLE

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-10477	
1928-29	-5366	-333	-2707	942	3646	4096	959	-7132	-15283	-15974	-17855	-9799	-5423
1929-30	-6266	-1926	-613	-3426	-1244	-2115	712	-910	-9203	-13643	-14741	-9972	-5306
1930-31	-6886	-1456	-111	-1857	-1564	-515	1805	297	-8122	-14155	-11929	-10707	-4639
1931-32	-7836	-2355	-26	407	370	-164	-292	-7348	-15777	-22435	-16456	-10401	-6877
1932-33	-6591	424	2211	2414	710	-183	-23	-2819	-11524	-14384	-16136	-12664	-4906
1933-34	-7131	-2158	831	2563	2353	-2333	-2100	1461	-9642	-13085	-11833	-9829	-4248
1934-35	-7326	-2562	264	1571	-55	-949	-1353	-592	-9631	-14601	-16652	-10027	-5173
1935-36	-7235	-2760	-373	888	1036	831	342	-1678	-14440	-22009	-22210	-9062	-6391
1936-37	-5997	-1116	572	1510	1356	1368	389	-1522	-13070	-16087	-17646	-10435	073
1937-38	-6898	-1662	804	1501	886	130	1007	-4212	-17387	-15439	-23038	-15312	-6659
1938-39	-5988	-821	1430	3318	2995	4849	559	-7512	-12308	-15478	-12693	-9186	-4260
1939-40	-6569	-1756	609	1092	1179	648	2202	-461	-11367	-14056	-12922	-8582	-4178
1940-41	-6574	-2224	-508	73	1265	839	1196	-1257	-8873	-13114	-13675	-10123	-4441
1941-42	-7819	-2878	-1132	-352	153	-644	-1555	-1676	-18131	-15751	-16129	-11002	-6417
1942-43	-7867	-2599	-647	-677	328	1235	2511	7279	-6212	-10068	-28679	-17515	-5259
1943-44	-7362	-1612	-2967	-624	5671	3449	3554	-1138	-9774	-12868	-20493	-9407	-4468
1944-45	-7228	-3167	-574	457	2391	2125	2248	-1172	-6587	-12849	-20549	-10249	-4621
1945-46	-7041	-1338	-1160	-1291	3529	524	1666	-875	-10605	-11635	-15280	-9967	-4477
1946-47	-6691	-2542	-1446	-932	2638	3421	3902	-250	4106	-13875	-21953	-9430	-3630
1947-48	-6951	-2552	-856	1762	657	3518	1723	1243	-11749	-7985	-17918	-10988	-4169
1948-49	-7531	-3282	-230	2266	-3357	-150	-3599	-2354	-1912	671	-13937	-9902	-3603
1949-50	-8205	-4047	-3880	2314	2059	4326	1296	-112	4347	-8577	-13758	-15806	-3381
1950-51	-8496	-3519	-1862	8491	7811	612	2605	-3385	1771	-7038	-16718	-11172	-2619
1951-52	-8117	-2166	-3425	1676	5803	4919	3869	-4371	1027	-9422	-12052	-11875	-2881
1952-53	-8334	-3633	-179	3620	4434	5726	4054	-3175	-6574	-1467	-17464	-10386	-2802
1953-54	-7916	-3171	-1130	2497	1864	2527	4701	-2566	2862	-5629	-10982	-11163	-2402
1954-55	-8770	-4131	-3893	2631	1321	1899	2991	-1913	-9490	9994	-7764	-10908	-4052
1955-56	-8350	-3961	-1095	2185	1599	5994	5296	2783	-3661	-1165	-18408	-10152	-2415
1956-57	-8001	2589	-2448	3151	8947	3215	4987	-7095	1866	-9602	-11738	-9323	-2447
1957-58	-7826	-3834	-1828	2138	5513	5106	2593	-4088	-7263	3478	-13933	-9013	-2418
1958-59	-7883	-3832	-1341	593	2563	4239	1530	176	-1301	-4922	-8375	-9219	-2336
1959-60	-7941	-4658	-2579	3019	1889	2018	3901	1886	-5177	-8479	-7103	-9399	-2746
1960-61	-8184	-3787	-1995	-125	143	-131	1595	-45	-6807	-8166	-5486	-9227	-3554
1961-62	-7986	-4734	-1422	894	512	219	1209	-2097	2466	-6473	-8696	-8306	-2905
1962-63	-8219	-4611	-2084	2325	2449	2500	7458	667	-2784	-10670	-13681	-8487	-2994
1963-64	-7746	-3774	-1599	361	1431	1507	2172	228	975	-7568	-10191	-9250	-2811
1964-65	-7940	-4472	-1253	1253	5370	5812	-7017	-6811	4788	-4016	-5244	-8480	-2311
1965-66	-7693	-1019	-567	4423	2175	-173	-2930	-2277	-3932	-7472	-9124	-9026	-3144
1966-67	-8096	-4874	-2519	-630	-193	-255	1737	359	3455	-2559	-3584	-9679	-2278
1967-68	-7462	-3226	-2227	886	4575	3939	951	-1894	-5318	-4455	-8279	-8468	-2586
1968-69	-8548	-3564	-1451	692	2328	1568	2780	-4362	-5778	2548	-9654	-8270	-2666
1969-70	-7296	-4241	-1365	2076	1682	3849	4927	-606	-1457	-8314	-5313	-9829	-2215
1970-71	-6795	-2904	-2138	180	4569	8579	2548	3161	-11277	-1654	-752	-6341	-1070
1971-72	-5159	-660	-6187	129	69	2340	388	2714	-17206	5705	-3138	-7077	-2324
1972-73	-7368	-4339	-4727	2317	2401	1842	-1427	-4093	-7231	-3331	-6421	-6908	-3282
1973-74	-5821	-3470	67	5041	6007	7527	1523	-7693	-2847	-7976	3147	-6780	-1145
1974-75	-6332	-3275	-877	6063	4359	895	-3157	-6012	-8021	-12546	1409	-5501	-2766
1975-76	-4771	-2169	-260	6128	5527	1271	-676	-3114	-9418	-2935	-6465	-6645	-1957
1976-77	-7392	-4129	-4000	4179	3884	3521	2268	-953	4549	-7657	-7777	6907	2492
1977-78	-6751	-3591	-1959	430	136	-1058	-535	-2663	-12756	-1922	-8083	-7029	-3818
1978-79	-6971	-5084	-1876	-956	1609	426	-1747	-6698	-6154	-6487	-7541	-6828	-4034
1979-80	-7897	-3994	-1757	1437	1843	1208	4702	-278	4990	-7073	-8740	-7856	-2810
1980-81	-6360	-4645	-901	620	2358	3965	4163	-381	-8605	-9854	-15454	-6961	-3529
1981-82	-6001	-4854	-3680	-734	478	10	2771	753	-8098	-5238	-5536	-9945	-3374
1982-83	-6737	-4889	-2094	-337	-2049	3057	-1606	225	-6977	-7566	-7042	-10687	-3884
1983-84	-6607	-5428	-5323	997	-810	6146	-564	3629	-9124	-11126	-5068	-11573	-3745
1984-85	-4782	-6410	-7726	-2230	2366	1463	-3239	-2988	-3754	-2205	-8345	-7349	-3755
1985-86	-7320	-5510	-1784	1006	118	5093	-918	2133	-7094	-8215	-5267	-7215	-2916
1986-87	-6495	-4777	-6492	687	-1185	2677	3306	1467	-4847	-6960	-7400	-7557	-3174
1987-88	-6268	-3126	-2427	987	1655	412	1907	1768	-4941	-7584	-7629	-6938	-2696
1988-89	-6596	-3397	-1047	395	513	174	-223	-1244	-2630	-6594	-7708	-7180	-2980
1989-90	-6781	-2915											
MEAN	-7151	-3192	-1671	1351	2018	2114	1247	-1501	-6459	-8525	-11378	-9480	-3573

BON3DD9

USGS # 14128860

BONNEVILLE

River: COLUMBIA

Drainage Area: 240000 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 146.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												275800	
1928-29	134000	87490	82020	77150	68110	59640	59240	91360	<u>108300</u>	273500	377800	180500	133400
1929-30	114100	75720	80550	<u>52210</u>	65070	43580	99960	81440	199100	254300	296200	197800	128300
1930-31	122800	85680	88040	59620	<u>53590</u>	57150	82670	87660	149200	290900	265300	163300	<u>122400</u>
1931-32	101300	83990	65530	67450	60170	84520	71860	175900	264900	482600	483200	246400	180800
1932-33	139700	92580	77550	105900	98280	91570	89120	101500	186600	363100	662900	351800	195200
1933-34	174300	111800	113900	148400	<u>234100</u>	214200	149800	180000	378300	432500	323900	186200	221000
1934-35	121000	83650	76110	114300	93300	93880	107700	103500	164800	352500	432400	277000	168500
1935-36	145200	93620	69260	62150	56780	71680	55590	100200	263200	471100	382700	177000	160900
1936-37	115400	82990	62670	53710	55230	<u>41710</u>	<u>54900</u>	76870	133100	300700	354100	205700	128400
1937-38	113200	86520	76990	95730	104600	104700	90150	149300	269700	456700	494100	251600	191400
1938-39	113600	96430	83400	74540	71990	74680	65060	112400	220500	387700	280100	209900	149700
1939-40	122000	83720	77290	77760	84860	68890	99280	154300	227400	354300	291000	174300	151300
1940-41	109100	98400	95930	83980	83010	79780	80780	111700	175500	269200	278500	166600	136200
1941-42	106600	115000	124000	116700	162700	95460	105100	95800	223100	336200	398200	263200	178700
1942-43	140800	89850	73880	88620	104300	105100	121200	142200	<u>411900</u>	380000	483800	363400	208800
1943-44	157900	88940	80000	75320	74750	61530	66150	70130	120500	244400	282100	151000	122800
1944-45	106400	86060	77240	74660	59100	78730	92810	90060	124800	373500	416100	211900	149400
1945-46	107900	82470	70680	88110	96260	110000	86100	143500	274200	527800	468500	260400	193500
1946-47	133000	101400	87920	96330	158300	99530	127900	139500	243300	504600	424400	239000	196600
1947-48	125700	96490	136600	129000	109700	120200	108100	105500	215800	599200	781300	266700	232700
1948-49	166700	109200	93720	88820	75200	62550	108100	164100	277500	572100	368000	170300	188400
1949-50	115600	84200	75380	97440	99130	83160	123100	176900	245700	391100	666900	418600	214900
1950-51	168500	104300	111600	147100	164100	146500	203800	148800	297400	551400	443400	318900	233900
1951-52	151700	103800	126200	107000	111900	92320	121200	117500	361700	533200	425400	244600	208000
1952-53	130300	82710	67940	61180	63960	134500	139200	106100	168300	383500	564800	305700	184000
1953-54	146100	95070	90010	93620	100700	93970	126100	119500	202900	491900	527100	<u>425200</u>	209800
1954-55	193800	138600	96170	115800	91780	77590	76980	70380	135900	315000	569000	371000	188000
1955-56	153200	95600	105800	132300	168800	153400	105900	165900	371300	657000	629100	287600	252400
1956-57	141900	102000	96490	91450	111800	72190	100800	154900	224000	<u>669700</u>	468300	188200	202400
1957-58	108100	83840	82090	77040	89620	90320	154500	126600	231200	572500	447100	185700	187400
1958-59	115600	87570	91900	116200	131300	150100	113600	122200	230100	417000	592200	325200	208000
1959-60	145500	148900	<u>169100</u>	<u>154200</u>	131500	84690	114700	146000	279900	349100	471200	270800	205300
1960-61	130200	95050	86780	100200	77100	83070	180100	154200	185800	461300	613200	200700	196900
1961-62	120900	79770	87230	75860	81120	80050	106400	102200	276900	367300	451200	223400	171000
1962-63	140400	86690	101300	116800	127800	88660	169400	118100	183200	349200	424300	237400	178400
1963-64	129100	98980	74820	84350	75640	82590	75490	83820	168500	372500	669900	340500	187900
1964-65	149900	106700	109100	99030	185100	160500	178200	145900	304900	459900	562300	279400	228400
1965-66	164200	108300	96840	100700	88130	90180	78070	116700	211700	361700	387700	241800	170900
1966-67	129300	87150	74130	82300	102500	108600	110200	100700	138700	395300	696600	316800	195300
1967-68	136600	95240	93340	100100	94190	99580	163400	151300	129000	329300	469800	275000	177900
1968-69	138300	126100	112500	126200	107100	134100	112300	135300	362500	432700	470200	222200	206700
1969-70	106100	87330	91520	81400	77880	132800	127300	113100	131500	377100	518900	201400	170500
1970-71	106100	78930	75930	83110	93060	154100	185800	143000	248900	631400	622300	307100	227500
1971-72	155800	93580	84190	94010	90150	120200	148400	<u>321400</u>	234300	563600	751300	343200	250100
1972-73	176000	96940	90920	88770	103700	106900	78860	101600	117300	296200	302400	170600	144600
1973-74	97440	71360	77900	131100	163700	<u>237800</u>	162600	177000	334100	475600	<u>820000</u>	388900	<u>261400</u>
1974-75	169400	98720	75370	84610	85010	100500	98920	124200	168500	418800	614600	349200	199400
1975-76	144100	103100	105200	136700	204300	149400	121300	131900	272300	574000	443400	338400	227500
1976-77	<u>226300</u>	<u>148900</u>	85690	80870	75200	68820	66410	<u>65370</u>	122400	<u>218300</u>	<u>247500</u>	<u>119700</u>	127400
1977-78	105200	80150	67090	84860	163700	102300	109200	157700	254000	399700	468400	288600	190400
1978-79	132000	138700	90010	84570	71470	62980	108300	138000	172600	412300	329100	173700	159700
1979-80	101200	79430	64420	57720	82690	82110	101300	120700	253400	499400	388600	187600	168300
1980-81	100500	91630	82450	94250	157400	131000	157300	125700	185700	417400	430300	284300	188300
1981-82	152100	87890	84270	91410	107500	101900	<u>226100</u>	201600	236200	476700	640900	348000	229200
1982-83	158600	122600	108000	102100	118900	153000	167200	256500	256900	456600	476100	299100	223200
1983-84	155200	99230	84580	146600	108800	167500	133500	207700	270200	378000	587000	298500	219600
1984-85	147100	103700	88320	110200	93000	79080	87400	107200	259600	438700	365700	159900	170200
1985-86	96280	97730	103400	113900	78370	98280	184500	279900	263400	385400	457600	189700	195400
1986-87	114000	81500	82680	104300	82120	74540	90950	157200	200100	377800	251800	148900	147500
1987-88	<u>88090</u>	66970	<u>53170</u>	54160	65820	60570	69250	92700	219900	324000	321100	159500	131200
1988-89	92010	<u>66650</u>	76820	88830	72290	73260	65450	152600	279100	389300	388700	175500	160300
1989-90	119200	83620											
MEAN	132600	95500	88100	95450	102700	101000	113500	134700	226600	419600	467200	251600	185900
MEDIAN	130300	93080	84270	91450	93060	92320	108100	125700	227400	395300	451200	245500	188300

BON3M9

SECTION G
WILLAMETTE

WILLAMETTE RIVER, OREGON
CLACKAMAS RIVER, OREGON

LOOKOUT POINT
THROUGH
RIVER MILL

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SECTION G

The area covered by this section is the Willamette River basins in Oregon. See figure 16, page 207, for a map of the Willamette basin.

The Willamette River basin drains 11,154 square miles. Although agriculture developed rapidly in the basin, irrigation of these lands developed slowly. About 1,000 acres were irrigated by 1910, 3,000 acres by 1920, 5,000 acres by 1930, and 27,000 acres by 1940. The period of significant increase came in the 1930's during the recovery period after the Depression. During World War II, acreage under irrigation remained almost static due largely to shortages of metal for sprinkler pipe systems, which have been used almost exclusively on newly irrigated lands since the 1930's. Since World War II, the growth of irrigation has been spectacular. The total area irrigated in 1980 was 220,000 acres. A slight decrease in irrigation occurred during the 1980's, resulting in a total of 210,000 irrigated acres in 1990.

Most of the irrigated land is located along the Willamette River from Eugene to Oregon City and along the lower reaches of tributary streams. Of the various sites shown on the map (figure 16), irrigation adjustments need to be applied only at Fern Ridge and T. W. Sullivan. Data were compiled for each subarea of the total land irrigated by sprinkler and gravity applications for target years. These data came from 1987 Census of Agriculture data, State of Oregon diversion records and other information from various sources. See Table 10, page 208, for a summary of land irrigated by surface water within the Willamette basin. The total basin adjustment for irrigation is 96 percent effective at T. W. Sullivan Dam near Oregon City. The monthly diversion requirements for sprinkler and gravity applications are shown on page 208.

An examination revealed that the lands served by groundwater would not constitute a streamflow depletion in this basin, and therefore was not included in the computation. Diversions from groundwater would affect only the groundwater level; the location and extent of the lands, coupled with the time lag of return flows, made the return flows basically ineffectual. At best, the modified streamflows developed at the two sites in this section would be slightly underestimated and therefore conservative.

Adjustments to the 1990 level of development were then computed for the Fern Ridge and T. W. Sullivan sites from the monthly depletion rate and from the irrigated area data for each year in the period 1928-1989. See the main text for an illustrative example showing adjustments computed separately for sprinkler and gravity application. A listing of equations used to compute the irrigation adjustments and the modified streamflows is shown on page 206. Listings of these irrigation adjustments and modified flows are given on subsequent pages of this section.

SECTION G

EQUATIONS USED TO COMPUTE MODIFIED FLOWS

Depletions:

$$\text{SLM3DD9} = 0.468 (\text{WMT3D9})$$

$$\text{SVN3DD9} = 0.96 (\text{WMT3D9})$$

Evaporation:

$$\text{SVN3EE} = \text{LOP3E} + \text{FRN3E}$$

Modified Flows:

$$\text{HCR3M9} = \text{HCR3A}$$

$$\text{LOP3M9} = \text{LOP3A} - \text{LOP3E}$$

$$\text{DEX3M9} = \text{DEX3A} - \text{LOP3E}$$

$$\text{FAL3M9} = \text{FAL3A}$$

$$\text{DOR3M9} = \text{DOR3A}$$

$$\text{COT3M9} = \text{COT3A}$$

$$\text{CAR3M9} = \text{C} - \text{S3A}$$

$$\text{SMH3M9} = \text{SMH3A}$$

$$\text{TRB3M9} = \text{TRB3A}$$

$$\text{CGR3M9} = \text{CGR3A}$$

$$\text{BLU3M9} = \text{BLU3A}$$

$$\text{LEA3M9} = \text{LEA3A}$$

$$\text{WAV3M9} = \text{WAV3A}$$

$$\text{FRN3M9} = \text{FRN3A} + \text{FRN3D9} - \text{FRN3E}$$

$$\text{DET3M9} = \text{DET3A}$$

$$\text{BCL3M9} = \text{BCL3A}$$

$$\text{GPR3M9} = \text{GPR3A}$$

$$\text{FOS3M9} = \text{FOS3A}$$

$$\text{SVN3M9} = \text{SVN3A} + \text{SVN3DD9} - \text{SVN3EE}$$

$$\text{TMY3M9} = \text{TMY3A}$$

$$\text{OAK3M9} = \text{OAK3A}$$

$$\text{NFK3M9} = \text{NFK3A}$$

$$\text{FAR3M9} = \text{NFK3A}$$

$$\text{RML3M9} = \text{NFK3A}$$

WILLAMETTE

LEGEND

EXISTING PROJECT

FIGURE 16

TABLE 10

IRRIGATED AREA
SUPPLIED BY SURFACE WATER
(Thousands of Acres)

TOTAL WILLAMETTE BASIN

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	3.9	3.9
1928	0	4.0	4.0
1950	48.8	5.8	54.6
1966	137.1	5.4	142.5
1980	214.4	5.1	219.5
1989	208.5	1.1	209.6

FERN RIDGE

YEAR	SPRINKLER	GRAVITY	TOTAL
1925	0	0	0
1928	0	0	0
1950	1.0	0	1.0
1966	1.5	0	1.5
1980	1.5	0	1.5
1989	1.4	0	1.4

WILLAMETTE RIVER BASIN (ALL SITES)											
SPRINKLER SYSTEM ONLY							GRAVITY SYSTEM ONLY				
MONTH	DIVERSION		RETURN FLOW		DEFLECTION		MONTH	DIVERSION		RETURN FLOW	
	%	AI PER 1000 A	%	AI PER 1000 A	AI PER 1000 A	CIS PER 1000 A		%	AI PER 1000 A	%	AI PER 1000 A
APR	1	10	4	11	1	0.024	APR	1	15	4	38
MAY	6	83	5	14	89	1.128	MAY	6	128	5	47
JUN	31	427	12	33	393	8.610	JUN	31	648	12	114
JUL	48	640	17	47	592	9.635	JUL	48	972	17	161
AUG	13	178	18	50	128	2.078	AUG	13	270	18	170
SEP	3	40	13	36	4	0.063	SEP	3	60	13	123
OCT	1	7	9	25	18	0.291	OCT	1	11	9	85
NOV	0	0	6	17	17	0.279	NOV	0	0	6	57
DEC	0	0	4	11	11	0.180	DEC	0	0	4	38
JAN	0	0	4	11	11	0.180	JAN	0	0	4	38
FEB	0	0	4	11	11	0.189	FEB	0	0	4	38
MAR	0	0	4	11	11	0.180	MAR	0	0	4	38
	100	1383	100	277	1106			100	2103	100	946

USGS # 14145200

HILLS CREEK

River: MF WILLAMETTE

Drainage Area: 392 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile: 232.5

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												368	
1928-29	286	243	273	335	460	690	645	1425	1375	1625	1170	410	745
1929-30	278	217	237	<u>202</u>	1375	730	2350	678	705	770	655	285	696
1930-31	220	220	255	454	512	591	518	1550	1580	650	367	<u>263</u>	598
1931-32	200	<u>200</u>	318	535	691	1240	1010	3250	2050	2130	1425	538	1134
1932-33	320	265	292	1034	1030	1375	1045	1460	1850	2210	<u>2950</u>	840	1221
1933-34	385	376	335	360	1400	1950	740	1075	1000	<u>510</u>	448	285	741
1934-35	237	230	420	1445	1960	1330	1852	980	1776	1424	942	414	1078
1935-36	268	234	279	377	563	2887	1333	1222	1747	1568	935	396	984
1936-37	281	261	<u>221</u>	212	324	<u>260</u>	625	1564	<u>2751</u>	2235	2000	617	945
1937-38	343	288	364	1609	1966	2105	1779	2276	2193	1977	1140	473	1373
1938-39	318	284	282	638	1002	821	1223	2112	1430	1012	651	367	843
1939-40	268	249	279	238	785	822	2036	2011	1201	738	<u>344</u>	272	766
1940-41	233	282	292	887	868	1175	788	<u>554</u>	<u>614</u>	957	683	357	824
1941-42	262	322	323	1450	2237	1344	1254	788	788	1349	1035	464	966
1942-43	293	246	243	2832	4575	2763	1963	1279	1915	1776	1620	767	1645
1943-44	423	353	587	974	519	748	948	921	1090	916	574	332	697
1944-45	267	256	246	374	398	1056	2109	1148	1733	2126	877	376	905
1945-46	288	268	261	1511	3051	2566	1419	1703	1377	1635	1191	596	1324
1946-47	380	355	450	1871	1840	1075	1450	1370	1570	891	893	492	1049
1947-48	388	312	877	1437	1066	2617	1873	1182	1534	1816	1803	645	1293
1948-49	400	369	407	918	1984	665	1737	1650	1919	<u>2435</u>	1058	491	1166
1949-50	354	304	341	586	737	1703	2224	2366	1803	1942	1992	803	1256
1950-51	397	328	<u>1852</u>	2541	2748	2713	2881	1530	1689	1486	787	445	1609
1951-52	365	338	806	1351	2265	1158	2205	1669	2237	1909	1300	790	1362
1952-53	441	388	337	342	756	3904	3013	1373	1314	1817	1829	<u>884</u>	1357
1953-54	424	348	408	2383	3009	2319	2579	1252	1838	1250	1146	557	1451
1954-55	411	383	365	412	856	925	807	1090	1573	1763	1723	657	896
1955-56	368	358	493	1694	4779	3496	1197	1675	2154	2270	1505	717	1732
1956-57	410	351	733	946	2133	701	2118	2700	1548	1297	667	403	1163
1957-58	334	314	403	614	2146	2159	3313	1041	1496	1536	1367	510	1256
1958-59	354	331	329	1183	1035	2037	1267	1125	1239	981	675	350	907
1959-60	279	308	409	359	386	630	1625	2389	2074	2154	1200	445	1019
1960-61	335	265	301	1549	1331	752	2802	2079	1339	1398	1010	403	1117
1961-62	292	277	443	1679	1979	1050	1078	1416	1935	1559	1029	445	1097
1962-63	374	325	856	1476	1676	494	2486	953	1633	2128	682	437	1117
1963-64	328	338	377	1702	1060	2099	1262	1278	1351	1539	1889	649	1154
1964-65	394	328	304	978	<u>6733</u>	3639	1608	870	1401	1074	717	398	1544
1965-66	329	281	358	541	507	2050	748	1780	1766	1163	584	399	877
1966-67	279	367	352	1559	1858	2041	1267	1082	855	1665	1049	419	1066
1967-68	267	237	462	432	783	1138	2304	893	663	743	454	267	715
1968-69	282	283	425	1936	1687	1740	1117	1409	1681	1886	1012	529	1165
1969-70	315	295	428	507	1572	4096	1440	1317	823	1379	733	369	1109
1970-71	258	261	374	1805	1680	<u>4176</u>	1789	2169	1669	2250	1703	836	1582
1971-72	421	429	442	1517	2133	3125	2802	<u>4033</u>	1577	1845	1192	514	1668
1972-73	382	361	391	511	1556	1497	791	934	1257	912	473	324	784
1973-74	302	345	453	<u>3142</u>	3588	3591	1765	2525	1876	1766	2055	768	<u>1849</u>
1974-75	436	382	389	589	1562	2197	1994	1810	1208	2066	1587	709	1241
1975-76	395	314	568	1160	2544	2742	1334	1136	1538	1662	961	532	1243
1976-77	<u>495</u>	291	387	329	<u>272</u>	312	<u>331</u>	643	855	1167	577	265	<u>495</u>
1977-78	<u>197</u>	266	365	2093	3334	2030	1019	918	977	1012	566	402	1100
1978-79	318	<u>529</u>	251	391	1132	1279	1896	1789	1765	1824	626	387	1010
1979-80	287	345	529	884	1231	2644	1047	1129	1494	949	785	393	977
1980-81	318	305	329	875	2470	679	1609	960	1182	1024	916	396	918
1981-82	293	294	483	1410	4720	1812	3244	1927	1786	1571	1147	628	1601
1982-83	412	447	799	1027	2860	1850	2859	2145	1552	1774	1111	738	1458
1983-84	427	375	369	1542	3054	1672	2373	2127	1923	2098	1857	671	1537
1984-85	423	424	629	2860	1349	943	1257	991	1903	1301	1076	435	1127
1985-86	356	395	637	722	1308	2012	<u>3838</u>	1944	1023	1271	646	391	1196
1986-87	308	503	525	1729	871	1509	1779	1191	1064	807	427	454	924
1987-88	296	259	252	357	1396	1817	1054	1150	1534	1460	1217	387	932
1988-89	286	289	276	1371	839	1665	1110	2963	2127	1480	928	456	1149
1989-90	418	396											
MEAN	334	319	434	1124	1743	1757	1671	1540	1523	1499	1081	494	1124
MEDIAN	324	313	374	978	1400	1672	1608	1373	1552	1536	1012	445	1117

HCR3M9

USGS # 14149050

LOOKOUT POINT

River: MF WILL.

Drainage Area: 991 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 206.9

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												950	
1928-29	710	615	700	840	1210	1840	1700	3920	3750	4210	3050	1060	1968
1929-30	730	554	580	575	3600	1700	6550	2040	1860	2090	1710	720	1862
1930-31	560	563	675	1110	1370	1560	1420	4300	4430	1670	955	665	1606
1931-32	502	<u>505</u>	835	1400	2060	3400	2660	9410	5600	5640	3880	1400	3113
1932-33	820	665	750	2725	2700	3640	2800	4100	4810	5170	<u>7300</u>	<u>2140</u>	3130
1933-34	970	928	840	950	3540	5350	1880	2825	2650	<u>1325</u>	1130	890	1929
1934-35	585	545	1080	3930	5640	3620	4110	2600	4830	3710	2560	1070	2845
1935-36	660	580	681	984	1341	6868	3599	3657	4700	4513	2340	1040	2579
1936-37	740	690	597	<u>570</u>	970	866	1943	4656	<u>7218</u>	5632	4606	1508	2496
1937-38	825	731	1028	4092	4995	5404	4517	5832	5670	4754	2358	1059	3432
1938-39	753	674	687	1727	2678	2324	3702	5746	4134	2676	1752	1010	2313
1939-40	674	611	776	653	1858	1875	5125	4794	2916	1710	<u>859</u>	<u>623</u>	1862
1940-41	<u>465</u>	615	695	1973	2400	2985	1849	<u>1359</u>	<u>1519</u>	2231	1686	942	1559
1941-42	682	883	918	3910	5857	3315	3295	2029	2021	3528	2593	1229	2517
1942-43	720	592	606	6771	10340	7925	6041	3633	5650	3405	4423	1825	4313
1943-44	993	780	1364	2578	1494	1985	2800	2762	3399	2630	1556	827	1924
1944-45	617	592	553	962	1021	3264	6191	3369	5179	5580	2250	923	2515
1945-46	687	636	652	3812	6835	6448	3747	5139	3812	4243	2995	1447	3374
1946-47	871	794	1229	4985	6193	3243	4250	3926	4900	2400	2414	1311	3031
1947-48	955	809	2463	4972	3036	7141	5649	3737	4407	5022	4603	1591	3688
1948-49	1000	917	1112	2859	6144	1692	4853	4726	5350	<u>6762</u>	2654	1185	3262
1949-50	842	775	1014	1446	2151	4558	5719	6464	5207	5166	5497	1975	3384
1950-51	1013	851	<u>4524</u>	7333	6966	7237	8224	4297	4547	4031	1889	1074	4308
1951-52	853	779	2282	3384	6372	3271	6545	5050	6183	4984	3330	1879	3731
1952-53	1025	885	808	874	1824	9475	7724	3649	3380	5027	4469	1974	3402
1953-54	1125	882	1061	5690	8477	5882	6349	3416	4729	3109	3096	1526	3759
1954-55	1039	944	1033	1216	1913	3084	2784	3409	4813	5242	4754	1863	2671
1955-56	933	900	1527	5288	12660	9119	3498	4587	5798	6053	3926	1711	<u>4681</u>
1956-57	1015	869	1992	2557	6468	1735	5561	7802	4366	3296	1681	941	3180
1957-58	744	667	986	1448	6173	5953	8499	2818	4285	3670	3335	1363	3296
1958-59	845	764	790	4006	3283	5190	3616	3146	3326	2811	1753	924	2530
1959-60	744	921	1397	1313	1281	1937	4596	6198	5562	5624	2868	1047	2782
1960-61	786	681	717	4551	3526	2005	8517	5618	3394	3624	2172	905	3000
1961-62	638	667	1072	4323	5852	3283	2674	3963	5457	4112	2460	1056	2963
1962-63	829	655	2289	3870	4781	1367	6364	2698	4440	5650	1711	1138	2958
1963-64	729	755	<u>471</u>	4696	2962	6045	3563	3674	3837	4269	5072	1574	3130
1964-65	967	790	714	2485	<u>16730</u>	10040	4845	2352	3493	2871	1828	1048	4027
1965-66	805	676	913	1637	1387	5609	2068	4547	4353	2789	1340	895	2256
1966-67	606	731	934	3736	4386	5562	3738	2837	2316	3958	2560	944	2688
1967-68	665	527	1132	1188	2210	3055	5460	2388	1857	1905	1238	737	1851
1968-69	774	773	1222	5542	5025	5223	2963	3749	4741	4966	3098	1596	3306
1969-70	836	734	1194	1298	4176	10060	4060	3399	2502	3748	1859	923	2904
1970-71	639	674	854	4574	4325	<u>10630</u>	4563	5521	4499	5471	4084	1862	3983
1971-72	998	1062	1124	4326	6147	8481	7154	<u>10880</u>	4565	5052	3268	1452	4542
1972-73	905	897	877	1302	3927	3689	1900	2367	3181	2227	1123	718	1930
1973-74	631	780	843	<u>7560</u>	8846	8311	4903	6691	5260	4349	5332	1872	4611
1974-75	987	776	687	1318	4847	6978	5304	4986	3162	5055	3848	1744	3303
1975-76	946	730	1614	3507	7670	7996	3718	3213	4235	4260	2451	1416	3487
1976-77	<u>1258</u>	818	763	814	<u>803</u>	<u>861</u>	<u>830</u>	1714	2751	3480	1624	654	<u>1367</u>
1977-78	612	769	896	5688	8941	4403	3443	2240	2454	2654	1496	1010	2882
1978-79	770	<u>1134</u>	634	1048	4025	3233	5224	4718	4915	4605	1574	877	2715
1979-80	575	660	1065	2060	3111	6809	2591	3036	3915	2486	2097	988	2451
1980-81	655	511	502	1837	6316	1956	4146	2506	3432	2818	2185	1462	2350
1981-82	598	646	1038	3155	12130	5478	8769	4420	4597	3796	2790	1533	4055
1982-83	913	1063	2006	2640	7819	5013	7193	4966	4196	4245	2563	1857	3690
1983-84	983	824	825	3580	7596	4810	6268	5490	5099	5368	4997	1734	3956
1984-85	1052	906	1702	7245	3723	2383	3318	2707	4911	3335	2699	1070	2907
1985-86	822	967	1756	2138	3211	4857	<u>9687</u>	4671	2842	3414	1655	1016	3045
1986-87	740	1118	1202	4818	2324	3776	4510	2899	2549	1908	1050	1120	2316
1987-88	724	622	579	864	3641	4718	2985	3169	4382	4297	3316	966	2522
1988-89	608	659	677	3639	2325	4630	3001	7312	5572	3606	2293	1029	2944
1989-90	939	864											
MEAN	801	758	1091	2990	4682	4675	4519	4166	4162	3905	2755	1237	2970
MEDIAN	780	760	913	2640	3927	4558	4146	3749	4382	3958	2460	1070	2958

LOP3M9

USGS # 14149150

DEXTER

River: MF WILL.

Drainage Area:

1001 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile:

203.8

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												950	
1928-29	710	615	700	840	1210	1840	1700	3920	3750	4210	3050	1060	1968
1929-30	730	554	580	575	3600	1700	6550	2040	1860	2090	1710	720	1862
1930-31	560	563	675	1110	1370	1560	1420	4300	4430	1670	955	665	1606
1931-32	502	<u>505</u>	835	1400	2060	3400	2660	9410	5600	5640	3880	1400	3113
1932-33	820	665	750	2725	2700	3640	2800	4100	4810	5170	<u>7300</u>	<u>2140</u>	3130
1933-34	970	928	840	950	3540	5350	1880	2825	2650	<u>1325</u>	1130	690	1929
1934-35	585	545	1080	3930	5640	3620	4110	2600	4830	3710	2560	1070	2845
1935-36	660	580	681	984	1341	6868	3599	3657	4700	4513	2340	1040	2579
1936-37	740	690	597	<u>570</u>	970	866	1943	4656	<u>7218</u>	5632	4606	1508	2496
1937-38	825	731	1028	4092	4995	5404	4517	5832	5670	4754	2358	1059	3432
1938-39	753	674	687	1727	2678	2324	3702	5746	4134	2676	1752	1010	2313
1939-40	674	611	776	653	1858	1875	5125	4794	2916	1710	<u>859</u>	<u>623</u>	1862
1940-41	<u>465</u>	615	695	1973	2400	2985	1849	<u>1359</u>	<u>1519</u>	2231	1686	942	1559
1941-42	682	883	918	3910	5857	3315	3295	2029	2021	3528	2593	1229	2517
1942-43	720	592	606	6771	10340	7925	6041	3633	5650	3405	4423	1825	4313
1943-44	993	780	1364	2578	1494	1985	2800	2762	3399	2630	1556	827	1924
1944-45	617	592	553	962	1021	3264	6191	3369	5179	5580	2250	923	2515
1945-46	687	636	652	3812	6835	6448	3747	5139	3812	4243	2995	1447	3374
1946-47	871	794	1229	4985	6193	3243	4250	3926	4900	2400	2414	1311	3031
1947-48	955	809	2463	4972	3036	7141	5649	3737	4407	5022	4603	1591	3688
1948-49	1000	917	1112	2859	6144	1692	4853	4726	5350	<u>6762</u>	2654	1185	3262
1949-50	842	775	1014	1446	2151	4558	5719	6464	5207	5166	5497	1975	3384
1950-51	1013	851	<u>4524</u>	7333	6966	7237	8224	4297	4547	4031	1889	1074	4308
1951-52	853	779	2282	3384	6372	3271	6545	5050	6183	4984	3330	1879	3731
1952-53	1025	885	808	874	1824	9475	7724	3649	3380	5027	4469	1974	3402
1953-54	1125	882	1061	5690	8477	5882	6349	3416	4729	3109	3096	1526	3759
1954-55	1039	944	1033	1216	1913	3084	2784	3409	4813	5242	4754	1863	2671
1955-56	933	900	1527	5288	12660	9119	3498	4587	5798	6053	3926	1711	<u>4681</u>
1956-57	1015	869	1992	2557	6468	1735	5561	7802	4366	3296	1681	941	3180
1957-58	744	667	986	1448	6173	5953	8499	2818	4285	3670	3335	1363	3296
1958-59	845	764	790	4006	3283	5190	3616	3146	3326	2811	1753	924	2530
1959-60	744	921	1397	1313	1281	1937	4596	6198	5562	5624	2868	1047	2782
1960-61	786	681	717	4551	3526	2005	8517	5618	3394	3624	2172	905	3000
1961-62	638	667	1072	4323	5852	3283	2674	3963	5457	4112	2460	1056	2963
1962-63	829	655	2289	3870	4781	1367	6364	2698	4440	5650	1711	1138	2958
1963-64	729	755	<u>471</u>	4696	2962	6045	3563	3674	3837	4269	5072	1574	3130
1964-65	967	790	714	2485	<u>16730</u>	10040	4845	2352	3493	2871	1828	1048	4027
1965-66	805	676	913	1637	1387	5809	2068	4547	4353	2789	1340	895	2256
1966-67	606	731	934	3736	4386	5562	3738	2837	2316	3958	2560	944	2688
1967-68	665	527	1132	1188	2210	3055	5460	2388	1857	1905	1238	737	1851
1968-69	774	773	1222	5542	5025	5223	2983	3749	4741	4966	3098	1596	3306
1969-70	836	734	1194	1298	4176	10060	4060	3399	2502	3748	1859	923	2904
1970-71	639	674	854	4574	4325	<u>10630</u>	4663	5521	4499	5471	4084	1862	3983
1971-72	938	1062	1124	4326	6147	8481	7154	<u>10880</u>	4565	5052	3268	1452	4542
1972-73	905	897	877	1302	3927	3689	1900	2367	3181	2227	1123	718	1930
1973-74	631	780	843	<u>7560</u>	8846	8311	4903	6691	5260	4349	5332	1872	4611
1974-75	987	776	687	1318	4847	6978	5304	4986	3162	5055	3848	1744	3303
1975-76	946	730	1614	3507	7670	7996	3718	3213	4235	4260	2451	1416	3487
1976-77	<u>1258</u>	818	763	814	<u>803</u>	<u>861</u>	<u>830</u>	1714	2751	3480	1624	654	<u>1367</u>
1977-78	612	769	896	5688	8941	4403	3443	2240	2454	2654	1496	1010	2882
1978-79	770	<u>1134</u>	634	1048	4025	3233	5224	4718	4915	4605	1574	877	2715
1979-80	575	680	1065	2060	3111	6809	2591	3036	3915	2486	2097	988	2451
1980-81	655	511	502	1837	6316	1956	4146	2506	3432	2818	2185	1462	2350
1981-82	598	646	1038	3155	12130	5478	8769	4420	4597	3796	2790	1533	4055
1982-83	913	1063	2006	2640	7819	5013	7193	4966	4196	4245	2563	1857	3690
1983-84	983	824	825	3580	7596	4810	6268	5490	5099	5368	4997	1734	3956
1984-85	1052	906	1702	7245	3723	2383	3318	2707	4911	3335	2699	1070	2907
1985-86	822	967	1756	2138	3211	4857	<u>9687</u>	4671	2842	3414	1655	1016	3045
1986-87	740	1118	1202	4818	2324	3776	4510	2899	2549	1908	1050	1120	2316
1987-88	724	622	579	864	3641	4718	2985	3169	4382	4297	3316	966	2522
1988-89	608	659	677	3639	2325	4630	3001	7312	5572	3606	2293	1029	2944
1989-90	939	864											
MEAN	801	758	1091	2990	4682	4675	4519	4166	4162	3905	2755	1237	2970
MEDIAN	780	760	913	2640	3927	4558	4146	3749	4382	3958	2460	1070	2958

DEX3M9

USGS # 14150950

FALL CREEK

River: FALL CR.

Drainage Area:

186 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile:

7.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												60	
1928-29	40	37	75	122	252	457	405	950	660	550	370	70	332
1929-30	42	23	13	<u>14</u>	970	488	1520	467	335	235	182	39	354
1930-31	26	27	48	225	298	376	308	930	750	150	103	84	277
1931-32	21	21	75	335	548	870	704	1730	920	560	480	95	530
1932-33	48	18	56	500	735	960	717	945	880	782	<u>975</u>	116	559
1933-34	27	64	40	138	915	1390	475	604	504	152	117	<u>19</u>	371
1934-35	20	10	231	1060	1360	935	1020	615	870	475	492	75	593
1935-36	34	30	58	176	288	1874	1025	748	681	557	318	99	490
1936-37	42	44	27	26	305	169	1005	1475	<u>1729</u>	584	667	152	513
1937-38	61	56	211	1081	960	1059	1201	1597	994	440	118	50	649
1938-39	32	37	60	635	633	613	1385	1418	360	151	234	73	463
1939-40	34	32	90	46	355	328	1287	837	399	197	68	38	306
1940-41	23	41	92	654	642	750	254	<u>149</u>	<u>214</u>	392	316	96	302
1941-42	59	113	146	838	1326	617	805	511	280	773	494	161	509
1942-43	58	37	52	1588	2687	1731	1438	600	869	370	640	143	847
1943-44	72	44	254	480	263	324	691	639	837	265	155	65	339
1944-45	42	48	34	147	139	847	1421	992	1229	790	203	70	490
1945-46	44	46	41	1187	1496	1563	979	1275	439	222	154	72	625
1946-47	45	42	222	1113	1594	760	822	806	958	167	372	159	586
1947-48	79	65	697	1471	725	1437	1478	1018	833	659	273	109	734
1948-49	66	92	145	766	1905	328	1467	1094	549	666	131	62	601
1949-50	38	51	138	244	672	1193	1617	1648	939	623	385	108	633
1950-51	57	56	<u>1001</u>	1428	1228	2019	1277	1027	417	447	103	50	758
1951-52	38	34	689	787	1603	771	1341	1122	592	329	255	166	643
1952-53	48	43	28	39	406	1885	1895	983	583	957	521	107	618
1953-54	71	51	120	1220	2041	1413	1109	473	670	169	382	130	651
1954-55	68	90	138	161	620	782	681	1208	1447	725	288	131	527
1955-56	51	59	311	1442	2805	1945	942	1427	920	593	464	123	<u>926</u>
1956-57	57	37	461	491	1656	392	1281	1806	791	406	237	86	639
1957-58	51	38	121	235	1658	1192	1679	508	858	224	320	99	575
1958-59	39	44	63	1153	649	1253	958	805	461	581	203	73	521
1959-60	39	121	281	325	282	620	1089	1528	1052	<u>1149</u>	225	78	564
1960-61	62	45	93	1233	652	334	<u>2330</u>	1531	476	534	161	68	614
1961-62	37	56	211	1109	1495	634	426	1348	947	729	232	72	610
1962-63	55	48	280	670	892	214	1331	624	1199	1084	234	169	561
1963-64	64	88	100	1070	603	1914	785	1110	783	457	556	118	637
1964-65	66	55	55	727	<u>3180</u>	2265	740	292	435	354	119	62	700
1965-66	48	31	48	278	316	1619	592	1151	428	<u>132</u>	<u>66</u>	64	399
1966-67	15	41	121	923	931	1480	883	667	526	476	153	85	519
1967-68	46	41	283	243	665	781	1072	387	336	325	152	42	362
1968-69	119	173	390	1409	1392	1166	865	1105	722	416	547	186	706
1969-70	27	16	185	222	1051	2215	768	578	675	700	126	36	551
1970-71	6	60	184	826	912	2453	899	1493	809	515	318	81	714
1971-72	23	105	136	1293	1753	<u>2585</u>	1505	<u>1952</u>	954	559	160	39	922
1972-73	<u>2</u>	26	37	172	827	716	330	696	683	197	126	46	321
1973-74	23	78	129	<u>2089</u>	1843	1499	1428	1594	1167	481	376	82	894
1974-75	42	21	31	342	1402	1876	1323	1213	689	652	176	93	653
1975-76	68	19	346	864	1602	2064	859	872	1058	375	181	61	698
1976-77	73	11	18	80	<u>87</u>	<u>132</u>	<u>107</u>	788	541	916	191	48	<u>251</u>
1977-78	41	72	133	1397	1931	775	776	295	489	453	177	100	552
1978-79	110	210	19	313	1207	596	1522	939	1343	600	118	43	578
1979-80	35	<u>8</u>	143	508	645	1469	460	824	652	325	374	91	462
1980-81	27	16	39	362	1263	301	910	519	841	511	525	112	449
1981-82	39	46	211	594	2523	1404	1591	668	930	228	131	108	702
1982-83	47	68	329	532	1540	1047	1398	1018	814	576	224	<u>232</u>	649
1983-84	80	19	32	769	1520	828	1439	1187	1137	872	959	129	744
1984-85	55	20	360	1788	965	427	830	595	824	316	336	30	541
1985-86	41	67	372	624	788	876	2282	730	547	586	125	63	581
1986-87	24	<u>218</u>	151	1337	420	800	920	607	346	162	85	128	428
1987-88	39	37	17	131	765	1146	601	775	897	789	558	85	487
1988-89	30	34	<u>2</u>	1126	503	1461	754	1640	733	422	180	68	579
1989-90	<u>123</u>	43											
MEAN	47	54	172	708	1077	1089	1049	969	754	492	294	90	564
MEDIAN	42	44	121	635	915	935	979	939	750	475	232	83	575

FAL3M9

USGS # 14153100

COTTAGE GROVE

River COAST FK WILL

Drainage Area:

104 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile

29.7

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												30	
1928-29	15	15	26	52	199	297	310	383	463	144	152	36	173
1929-30	21	15	18	18	450	238	750	167	151	168	116	32	175
1930-31	17	18	31	143	103	190	147	410	375	53	60	29	131
1931-32	13	15	72	245	498	563	478	896	389	235	121	36	297
1932-33	21	15	37	215	395	745	607	525	322	342	203	49	288
1933-34	24	31	34	38	334	513	144	158	178	78	49	21	134
1934-35	16	14	85	420	677	607	357	417	415	141	49	29	269
1935-36	15	13	51	113	194	1070	464	313	242	208	104	46	236
1936-37	22	22	15	15	86	100	585	612	<u>826</u>	223	<u>316</u>	<u>83</u>	239
1937-38	<u>39</u>	29	74	583	457	482	875	<u>952</u>	443	172	60	30	346
1938-39	16	20	29	215	259	313	706	590	<u>90</u>	<u>49</u>	48	20	193
1939-40	9	11	22	<u>13</u>	229	223	825	484	226	102	32	13	180
1940-41	10	27	46	217	414	389	192	<u>113</u>	181	181	124	48	162
1941-42	27	51	47	467	791	349	441	221	140	346	190	68	261
1942-43	30	21	24	555	1434	973	644	284	385	146	277	58	402
1943-44	32	37	101	225	117	213	360	219	385	114	64	21	156
1944-45	11	16	11	68	66	247	596	669	495	290	86	24	212
1945-46	11	16	18	582	869	825	493	668	189	92	55	23	320
1946-47	10	20	65	515	513	305	469	468	441	75	129	50	253
1947-48	32	29	389	520	324	856	781	545	407	292	136	49	362
1948-49	30	54	55	258	914	192	904	408	184	302	53	22	278
1949-50	14	25	42	118	335	978	842	743	328	197	92	27	309
1950-51	15	19	<u>661</u>	746	592	1124	712	574	159	147	40	19	400
1951-52	12	14	<u>187</u>	439	922	628	747	474	248	103	103	56	327
1952-53	6	7	<u>5</u>	24	348	1144	777	521	252	437	222	47	314
1953-54	25	15	58	627	869	1031	589	268	343	71	77	29	332
1954-55	24	17	37	82	305	445	259	633	689	220	71	39	235
1955-56	4	31	99	563	<u>1809</u>	<u>1186</u>	596	700	319	231	142	44	<u>479</u>
1956-57	20	8	210	194	470	228	674	892	278	178	67	24	269
1957-58	14	14	51	90	893	635	953	305	340	108	171	47	298
1958-59	18	15	22	344	239	754	631	367	203	181	73	19	236
1959-60	11	22	47	42	92	230	626	773	482	469	106	22	242
1960-61	9	35	34	526	263	145	<u>1261</u>	941	223	233	62	20	306
1961-62	25	11	80	646	717	234	285	693	285	249	87	22	278
1962-63	22	13	127	316	439	93	509	338	716	<u>577</u>	102	51	273
1963-64	17	20	39	441	247	1174	336	529	214	133	106	33	275
1964-65	17	16	20	325	1693	979	301	147	272	115	46	16	331
1965-66	18	13	26	105	250	957	259	547	163	54	<u>21</u>	20	204
1966-67	<u>4</u>	18	34	338	495	552	327	301	249	175	63	14	214
1967-68	9	12	85	88	358	398	509	225	132	114	66	16	167
1968-69	29	45	112	521	767	635	649	434	217	162	133	58	312
1969-70	14	18	81	106	678	1062	348	307	202	214	60	15	260
1970-71	7	16	66	344	609	1019	328	835	424	174	134	45	335
1971-72	23	52	66	482	761	1089	631	861	456	177	84	21	392
1972-73	14	12	38	83	347	399	183	335	251	78	36	<u>10</u>	149
1973-74	5	31	36	<u>1130</u>	880	867	690	808	474	132	63	23	426
1974-75	6	<u>3</u>	17	100	391	560	663	612	355	257	64	33	253
1975-76	28	22	114	334	635	927	362	417	368	118	63	24	285
1976-77	38	22	27	40	<u>35</u>	<u>43</u>	<u>61</u>	284	131	198	52	12	<u>79</u>
1977-78	10	36	59	466	870	471	479	139	245	178	64	35	253
1978-79	25	<u>110</u>	22	80	276	252	692	370	529	238	50	17	218
1979-80	15	26	72	467	596	665	226	435	330	143	101	35	260
1980-81	8	9	22	125	612	153	325	271	305	169	140	31	180
1981-82	15	26	77	379	1227	838	653	388	476	105	43	24	353
1982-83	11	22	146	209	821	389	850	682	437	239	89	81	329
1983-84	33	20	22	470	618	274	698	480	505	285	229	39	304
1984-85	15	3	76	902	510	186	412	296	260	87	103	14	237
1985-86	8	10	66	166	325	416	1023	391	184	296	49	28	242
1986-87	10	51	38	449	159	465	489	251	121	54	22	39	177
1987-88	13	10	8	45	432	653	196	237	313	287	185	33	202
1988-89	11	15	18	448	259	605	299	670	263	128	61	25	233
1989-90	22	8											
MEAN	17	22	70	310	532	567	534	475	322	188	98	33	263
MEDIAN	15	18	46	258	450	513	509	434	305	174	77	29	260

COT3M9

USGS # 14155100

DORENA

River: ROW

Drainage Area:

270 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile:

7.6

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												56	
1928-29	21	21	46	133	522	750	750	950	1500	467	493	71	474
1929-30	33	22	29	30	1160	605	1810	417	424	550	370	61	451
1930-31	25	27	60	415	272	480	357	1030	1188	157	180	52	352
1931-32	19	21	164	740	1275	1390	1160	2110	1230	770	385	73	778
1932-33	34	22	75	647	1025	1800	1460	1305	990	1125	662	112	788
1933-34	40	58	67	92	865	1275	347	402	518	243	132	35	341
1934-35	24	20	197	1270	1685	1495	863	1025	1315	453	133	53	710
1935-36	21	19	85	288	450	3060	1210	867	965	755	337	96	680
1936-37	41	41	24	<u>23</u>	236	138	1010	2030	<u>2750</u>	1034	855	156	690
1937-38	58	45	184	1480	1455	1395	1975	2450	1555	750	156	47	956
1938-39	23	29	39	536	688	683	1640	2004	482	157	187	63	538
1939-40	28	36	83	40	547	507	1886	1254	531	264	80	37	436
1940-41	20	71	102	718	855	936	370	<u>222</u>	<u>353</u>	682	524	121	415
1941-42	55	148	141	1215	1896	873	1014	618	378	1101	581	174	681
1942-43	59	35	45	1953	3481	2261	1720	721	1221	447	833	138	1072
1943-44	65	40	254	541	262	492	1004	847	1139	339	170	60	431
1944-45	35	42	36	200	171	900	1678	1347	1717	1071	295	71	622
1945-46	35	54	53	1704	2098	1972	1241	1621	604	387	197	70	835
1946-47	35	34	182	1587	1504	841	1089	1176	1251	169	396	155	697
1947-48	85	65	842	1770	922	2058	1775	1340	1246	973	435	112	965
1948-49	62	78	114	802	2098	438	1942	1357	813	889	135	49	724
1949-50	28	38	118	318	758	2038	2184	1932	1042	810	441	82	809
1950-51	27	27	<u>1629</u>	1863	1545	2612	1886	1390	615	494	80	24	1013
1951-52	11	<u>12</u>	652	1252	2263	1186	1909	1646	1006	491	413	199	917
1952-53	44	62	45	42	699	2800	2248	1203	726	1351	717	110	831
1953-54	74	63	145	1692	2658	2182	1685	596	918	213	388	101	888
1954-55	68	67	116	171	681	1082	770	1448	1794	1060	389	119	647
1955-56	54	50	256	1635	4332	2816	1087	1770	1232	961	500	100	<u>1238</u>
1956-57	56	39	641	595	1626	439	1881	2267	876	415	166	39	748
1957-58	28	25	147	301	2105	1576	2325	678	976	295	490	81	743
1958-59	38	15	70	1069	696	1731	1250	1053	596	537	195	51	605
1959-60	44	78	217	191	281	844	1510	2090	1402	1368	238	39	690
1960-61	39	32	85	1409	801	358	2853	1976	637	660	166	40	739
1961-62	5	38	222	1541	1869	699	669	1614	993	952	260	54	744
1962-63	52	36	387	1007	1098	207	1596	811	1729	<u>1655</u>	272	150	743
1963-64	56	74	97	1294	694	2639	1008	1375	945	664	596	104	795
1964-65	60	48	41	909	<u>4937</u>	2795	879	367	632	408	115	30	941
1965-66	20	18	48	250	467	2281	701	1608	669	225	<u>76</u>	61	537
1966-67	10	36	95	1192	1337	1774	1047	840	676	648	211	29	656
1967-68	7	33	220	203	746	1002	1325	553	422	397	154	24	421
1968-69	102	128	325	1704	1727	1506	1210	1429	951	594	541	187	865
1969-70	26	38	171	243	1624	2980	877	889	652	840	124	23	711
1970-71	10	42	198	1166	1386	<u>3260</u>	1006	2076	1244	727	435	92	973
1971-72	16	90	145	1524	2045	2945	1983	<u>2581</u>	1227	634	204	36	1118
1972-73	15	43	93	271	982	968	415	850	868	230	87	<u>14</u>	404
1973-74	3	61	130	<u>3151</u>	2591	2453	1643	2220	1395	586	384	73	1220
1974-75	17	16	35	346	1411	1996	1785	1570	1063	1011	249	103	796
1975-76	53	28	375	1021	2167	2640	924	976	1315	470	212	66	856
1976-77	<u>117</u>	47	66	99	<u>69</u>	<u>118</u>	<u>119</u>	805	644	1133	201	41	<u>290</u>
1977-78	40	108	165	1535	2356	1090	1245	396	658	523	160	87	693
1978-79	94	<u>298</u>	53	343	1235	818	2041	1192	1798	748	119	39	722
1979-80	29	26	279	721	900	1937	562	1011	978	470	460	94	623
1980-81	20	18	49	444	1819	329	951	673	985	671	529	84	545
1981-82	16	45	178	869	3555	1800	2216	881	1535	343	134	78	964
1982-83	25	122	447	715	2279	1164	2137	1573	1132	738	275	<u>285</u>	901
1983-84	79	62	54	1294	2269	901	1894	1571	1555	1083	<u>1082</u>	109	991
1984-85	33	31	337	2605	1261	535	1132	681	974	316	414	35	689
1985-86	19	45	307	509	1086	1263	<u>2852</u>	983	594	780	137	55	706
1986-87	<u>3</u>	161	158	1567	509	1179	1225	781	372	<u>148</u>	77	178	524
1987-88	36	23	28	137	1201	1637	586	779	1166	961	693	82	612
1988-89	18	14	<u>14</u>	1432	556	1824	840	2103	892	495	185	51	702
1989-90	64	22											
MEAN	38	51	191	899	1411	1455	1357	1251	1017	654	330	82	725
MEDIAN	34	39	118	740	1235	1275	1241	1192	978	634	260	71	711

DOR3M9

USGS # 14158690

CARMEN DIVERSION INFLOW

River: MC KENZIE

Drainage Area: 146 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile: 87.6

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												523	
1928-29	462	427	391	389	418	439	334	496	567	806	780	546	506
1929-30	445	426	365	333	530	428	797	486	388	298	429	409	442
1930-31	354	421	328	311	377	397	339	641	908	367	415	403	438
1931-32	346	421	357	384	388	585	405	1040	947	1157	934	571	629
1932-33	488	427	384	573	535	502	354	500	635	991	<u>1716</u>	793	657
1933-34	532	431	422	421	913	960	543	601	546	331	437	431	548
1934-35	392	424	393	680	775	512	515	474	591	877	724	527	574
1935-36	443	426	369	354	390	868	441	554	675	857	639	522	546
1936-37	437	426	360	323	360	<u>330</u>	<u>295</u>	490	793	1111	1039	595	548
1937-38	454	426	379	626	729	741	528	636	801	1039	732	523	635
1938-39	445	426	367	408	557	480	424	576	691	627	536	464	499
1939-40	397	423	347	307	425	439	630	708	513	296	<u>367</u>	<u>381</u>	435
1940-41	349	421	326	387	459	488	383	<u>372</u>	<u>272</u>	<u>253</u>	388	383	<u>373</u>
1941-42	<u>340</u>	421	335	447	752	494	503	429	389	376	511	454	454
1942-43	377	421	<u>319</u>	738	1041	826	672	584	944	801	843	598	680
1943-44	498	428	429	518	473	430	423	433	456	395	442	418	445
1944-45	367	422	326	326	<u>343</u>	492	776	518	605	997	597	476	519
1945-46	387	422	329	448	723	812	516	592	506	971	845	592	596
1946-47	476	428	414	660	1051	589	667	654	712	425	563	493	594
1947-48	419	424	557	764	568	864	590	630	558	945	936	625	657
1948-49	529	431	476	516	733	475	450	636	782	<u>1619</u>	941	634	687
1949-50	526	431	449	465	627	496	638	882	746	1033	1371	<u>829</u>	708
1950-51	592	434	<u>587</u>	<u>1063</u>	1074	866	1114	693	922	1178	758	602	822
1951-52	508	430	540	650	693	514	625	499	787	1202	957	664	672
1952-53	542	431	427	389	378	1076	1148	622	587	1057	932	651	684
1953-54	543	432	443	619	1040	661	839	727	843	861	809	623	702
1954-55	524	431	463	491	469	510	466	426	421	726	1172	719	568
1955-56	552	432	519	793	1272	1064	716	590	822	1515	1245	746	857
1956-57	605	435	493	598	910	559	506	954	871	839	627	543	663
1957-58	465	428	395	423	723	770	1098	727	865	837	647	562	659
1958-59	463	414	374	608	747	817	644	556	761	762	600	490	603
1959-60	414	<u>407</u>	496	483	475	384	543	580	943	938	755	561	581
1960-61	487	433	410	690	681	617	<u>1217</u>	808	813	853	657	549	681
1961-62	476	<u>444</u>	439	572	731	724	601	523	<u>1015</u>	904	673	553	638
1962-63	482	443	506	614	825	530	867	636	681	732	562	505	614
1963-64	434	426	370	635	580	561	543	438	445	785	968	605	565
1964-65	493	428	385	387	<u>1416</u>	1057	993	684	823	791	644	550	720
1965-66	471	428	392	440	455	504	361	471	872	1037	627	515	549
1966-67	437	426	371	545	657	611	636	540	454	720	685	521	550
1967-68	437	426	404	566	443	579	864	796	584	393	523	453	537
1968-69	403	425	430	750	726	676	447	472	844	1294	895	634	667
1969-70	510	429	439	449	592	1099	986	729	599	588	557	488	620
1970-71	430	426	367	579	622	848	759	609	702	1366	1062	718	707
1971-72	599	435	487	653	859	728	900	<u>1374</u>	1012	1482	1075	725	<u>861</u>
1972-73	611	436	487	502	674	747	535	583	525	457	481	457	542
1973-74	397	424	361	763	889	<u>1169</u>	769	714	900	1310	1380	770	820
1974-75	<u>620</u>	436	473	468	867	919	810	778	531	1066	880	644	708
1975-76	536	431	469	653	943	905	650	573	650	1335	799	620	715
1976-77	542	431	430	418	369	359	314	397	480	465	480	400	424
1977-78	365	422	340	659	1291	771	712	625	495	470	506	455	592
1978-79	407	426	356	330	573	449	601	750	674	752	539	471	527
1979-80	412	424	351	399	574	832	608	615	566	365	493	446	507
1980-81	392	423	329	398	891	667	707	597	506	381	608	471	530
1981-82	388	424	376	462	1117	637	1141	819	681	1032	782	611	703
1982-83	524	430	474	658	949	878	909	1017	865	745	649	608	725
1983-84	513	430	423	589	786	811	815	854	779	919	858	604	698
1984-85	519	431	465	927	573	451	409	477	776	845	726	550	596
1985-86	461	428	413	534	467	625	940	1008	619	542	529	473	584
1986-87	421	426	391	570	627	479	675	665	597	407	467	449	513
1987-88	405	424	338	<u>305</u>	585	526	533	633	747	597	614	489	516
1988-89	419	425	352	535	620	524	439	674	985	789	622	516	575
1989-90	440	426											
MEAN	463	427	410	534	694	658	650	642	690	818	738	552	606
MEDIAN	457	426	393	518	657	611	625	615	681	837	657	545	596

CAR3M9

USGS # 14158795

SMITH R. RESERVOIR INFLOW

River: SMITH

Drainage Area: 18 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile: 2.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												9	
1928-29	6	6	8	18	60	68	44	101	159	216	123	10	68
1929-30	6	5	5	<u>5</u>	113	52	183	53	62	103	46	6	52
1930-31	5	5	6	29	55	60	32	105	180	53	26	7	47
1931-32	5	5	14	55	90	97	61	211	195	243	123	15	93
1932-33	7	6	7	120	113	132	81	108	191	277	<u>359</u>	32	119
1933-34	8	8	14	25	177	183	53	73	95	<u>46</u>	28	7	60
1934-35	6	5	31	173	170	111	127	68	183	173	80	12	94
1935-36	7	6	9	27	61	253	106	95	166	183	86	12	84
1936-37	7	7	6	6	55	33	69	134	<u>323</u>	386	250	24	108
1937-38	8	7	17	208	166	164	108	127	278	225	54	9	114
1938-39	6	6	7	71	121	92	110	145	167	96	64	10	74
1939-40	6	6	9	7	97	84	241	123	93	76	<u>15</u>	<u>6</u>	63
1940-41	6	6	11	96	93	137	54	<u>38</u>	<u>52</u>	124	57	10	57
1941-42	7	17	23	123	193	112	137	60	73	168	84	14	84
1942-43	7	6	7	<u>334</u>	313	156	202	97	233	131	150	19	137
1943-44	9	7	47	70	69	70	86	67	132	93	40	8	58
1944-45	7	7	7	35	45	131	255	94	220	308	64	9	97
1945-46	6	6	6	154	232	195	120	123	162	198	85	14	108
1946-47	7	7	44	231	226	115	127	98	162	50	103	15	98
1947-48	8	8	<u>150</u>	177	95	210	184	84	193	310	121	14	129
1948-49	7	9	23	118	172	47	202	130	227	<u>389</u>	71	10	117
1949-50	7	6	16	73	81	113	244	179	241	370	259	24	133
1950-51	9	7	144	210	185	194	241	76	183	193	38	8	123
1951-52	7	7	130	131	145	78	198	93	229	217	84	16	111
1952-53	7	6	6	7	52	<u>344</u>	262	90	155	271	150	18	113
1953-54	10	7	11	188	244	160	234	85	177	92	112	14	110
1954-55	10	15	26	49	90	92	111	81	188	362	247	28	108
1955-56	9	8	70	257	316	216	62	110	269	346	125	14	150
1956-57	8	7	38	76	167	51	216	182	153	123	46	9	89
1957-58	7	6	17	48	231	202	285	72	193	126	51	23	104
1958-59	14	13	15	187	156	209	70	102	159	127	56	20	94
1959-60	14	<u>30</u>	79	77	49	35	149	193	194	220	91	20	96
1960-61	<u>14</u>	12	15	233	126	139	<u>349</u>	154	180	211	66	14	124
1961-62	8	9	38	128	192	132	128	87	294	160	65	11	104
1962-63	8	7	75	164	159	31	240	70	149	187	35	21	94
1963-64	8	8	14	197	103	97	87	60	137	246	225	32	101
1964-65	10	7	6	82	<u>456</u>	242	130	82	192	119	39	9	115
1965-66	6	5	7	54	55	132	32	153	265	240	74	18	87
1966-67	6	5	21	164	175	179	98	82	57	237	96	11	94
1967-68	5	5	61	80	90	126	307	123	80	93	36	10	84
1968-69	13	17	86	222	172	147	39	79	216	337	131	34	125
1969-70	8	6	30	42	159	331	145	109	81	138	37	9	91
1970-71	5	7	22	208	100	238	153	100	147	360	211	<u>58</u>	134
1971-72	11	20	30	172	143	175	252	<u>362</u>	169	334	132	18	151
1972-73	7	8	6	45	190	136	54	83	106	76	26	11	63
1973-74	5	16	33	240	298	239	88	149	170	265	294	49	<u>154</u>
1974-75	13	6	5	27	204	233	150	131	70	268	159	33	108
1975-76	10	6	56	154	253	197	96	65	150	274	108	29	117
1976-77	13	6	6	15	<u>11</u>	<u>15</u>	<u>14</u>	61	170	144	56	8	<u>44</u>
1977-78	7	12	26	240	296	145	124	92	99	106	39	14	100
1978-79	9	27	8	27	139	71	174	188	160	157	25	9	82
1979-80	5	5	23	64	140	246	133	82	175	65	39	12	82
1980-81	5	5	5	88	325	44	185	54	112	60	110	16	83
1981-82	6	8	38	149	362	83	342	107	131	206	108	26	129
1982-83	8	10	78	112	241	201	231	211	131	156	66	51	124
1983-84	13	7	6	157	199	213	171	223	146	206	152	24	126
1984-85	9	7	30	246	65	43	57	80	245	185	100	11	89
1985-86	5	9	47	96	97	204	323	182	80	89	17	8	95
1986-87	<u>4</u>	18	20	212	76	87	161	133	122	56	22	11	76
1987-88	5	<u>4</u>	4	9	170	127	114	143	180	126	69	10	80
1988-89	5	5	<u>4</u>	202	102	106	66	224	294	145	51	12	101
1989-90	8	5											
MEAN	8	9	30	118	156	140	149	116	167	189	96	17	99
MEDIAN	7	7	17	112	145	132	130	100	167	183	74	14	98

SMH3M9

USGS # **CARMEN DIV. MAX 630CFS** River: MCKENZIE Drainage Area: 146 Sq. Mi.
 Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development River Mile: 87.6

	AUG	SEP	OCT	NOV	DIC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
1927-28													
1928-29	462	427	391	389	418	439	334	496	567	630	630	523	
1929-30	445	426	365	333	530	428	630	486	388	298	429	546	478
1930-31	354	421	328	311	377	397	339	630	630	367	415	403	429
1931-32	346	421	357	384	388	585	405	630	630	630	630	571	415
1932-33	468	427	384	573	535	502	354	500	630	630	630	630	498
1933-34	532	431	422	421	630	630	543	601	546	331	437	630	523
1934-35	392	424	393	630	630	512	474	515	591	630	630	431	496
1935-36	443	426	369	354	390	630	441	554	630	630	630	527	529
1936-37	437	426	360	323	360	<u>330</u>	<u>295</u>	490	630	630	630	502	502
1937-38	454	426	379	626	630	630	528	630	630	630	630	595	480
1938-39	445	426	367	408	557	460	424	576	630	630	630	523	560
1939-40	397	423	347	307	425	439	424	630	630	627	536	464	494
1940-41	349	421	326	387	459	488	630	630	513	296	<u>367</u>	<u>381</u>	429
1941-42	<u>340</u>	421	335	447	630	494	503	429	<u>389</u>	<u>253</u>	388	383	429
1942-43	377	421	<u>319</u>	630	630	630	630	584	630	630	511	454	444
1943-44	498	428	429	518	473	430	423	433	456	395	442	598	558
1944-45	367	422	326	326	<u>342</u>	492	630	518	605	630	597	418	445
1945-46	387	422	329	448	630	630	516	592	506	630	630	476	476
1946-47	476	428	414	630	630	589	630	630	630	425	563	592	526
1947-48	419	424	557	630	568	630	590	630	558	630	630	493	544
1948-49	529	431	476	516	630	475	450	630	630	630	630	625	574
1949-50	526	431	449	465	627	496	630	630	630	630	630	630	556
1950-51	592	434	<u>587</u>	630	630	630	630	630	630	630	630	602	564
1951-52	508	430	540	630	630	514	625	499	630	630	630	602	<u>605</u>
1952-53	542	431	427	389	378	630	630	622	587	630	630	630	574
1953-54	543	432	443	619	630	630	630	630	630	630	630	630	544
1954-55	524	431	463	491	469	510	466	426	421	630	630	623	589
1955-56	552	432	519	630	630	630	630	590	630	630	630	630	508
1956-57	605	435	493	598	630	559	506	630	630	630	627	543	594
1957-58	465	428	395	423	630	630	630	630	630	630	630	543	574
1958-59	463	414	374	608	630	630	630	630	630	630	630	562	557
1959-60	414	<u>407</u>	496	483	475	384	543	556	630	630	600	490	554
1960-61	487	433	410	630	630	617	630	580	630	630	630	561	519
1961-62	476	<u>444</u>	439	572	630	630	601	523	630	630	630	549	575
1962-63	482	443	506	614	630	530	630	630	630	630	582	553	563
1963-64	434	426	370	630	580	561	543	438	445	630	582	505	566
1964-65	493	428	385	387	630	630	561	630	630	630	630	605	524
1965-66	471	428	392	440	455	504	361	471	630	630	627	550	554
1966-67	437	426	371	545	630	611	630	540	454	630	630	515	494
1967-68	437	426	404	566	443	579	630	630	584	393	523	521	535
1968-69	403	425	430	630	630	630	447	472	630	630	630	453	505
1969-70	510	429	439	449	592	630	630	630	599	588	630	630	549
1970-71	430	426	367	579	622	630	630	609	630	630	557	488	545
1971-72	599	435	487	630	630	630	630	630	630	630	630	630	567
1972-73	611	436	487	502	630	630	535	583	525	457	481	630	599
1973-74	397	424	361	630	630	630	630	525	630	630	481	457	528
1974-75	<u>620</u>	436	473	468	630	630	630	630	630	630	630	630	528
1975-76	536	431	469	630	630	630	630	630	531	630	630	<u>630</u>	578
1976-77	542	431	430	418	369	359	314	573	630	630	630	620	586
1977-78	365	422	340	630	630	630	630	397	480	465	480	400	424
1978-79	407	426	356	330	573	449	601	625	495	470	506	455	516
1979-80	412	424	351	399	574	630	608	615	630	630	539	471	503
1980-81	392	423	329	398	630	630	630	597	566	365	493	446	490
1981-82	388	424	376	462	630	630	630	630	506	381	608	471	499
1982-83	524	430	474	630	630	630	630	630	630	630	630	611	555
1983-84	513	430	423	589	<u>630</u>	630	630	630	630	630	630	608	589
1984-85	519	431	465	<u>630</u>	<u>573</u>	<u>451</u>	409	630	630	630	630	604	581
1985-86	461	428	413	534	467	825	630	630	630	630	<u>630</u>	550	533
1986-87	421	426	391	570	627	479	<u>630</u>	630	597	407	467	473	528
1987-88	405	424	338	<u>305</u>	585	526	533	630	630	597	614	489	507
1988-89	419	425	352	535	620	524	439	<u>630</u>	630	<u>630</u>	622	516	506
1989-90	440	426											529
MEAN	463	427	410	506	564	557	549	573	582	565	583	536	526
MEDIAN	457	426	393	518	630	611	625	615	630	630	630	545	529
HYD3M9						217							

USGS #	CARMEN-SMITH PP INFLOW						River: MCKENZIE			Drainage Area:		164 Sq. Mi.		
Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development											River Mile:		82	
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.	
1927-28												532		
1928-29	468	433	399	407	478	507	378	597	726	846	753	556	547	
1929-30	451	431	370	338	643	480	813	539	450	401	475	415	482	
1930-31	359	426	334	340	432	457	371	735	810	420	441	410	461	
1931-32	351	426	371	439	478	682	466	841	825	873	753	586	591	
1932-33	475	433	391	693	648	634	435	608	821	907	989	662	642	
1933-34	540	439	436	446	807	813	596	674	641	377	463	438	556	
1934-35	398	429	424	803	800	623	642	542	774	803	710	539	623	
1935-36	450	432	378	381	451	883	547	649	796	813	716	534	586	
1936-37	444	433	366	329	415	363	364	624	953	1016	880	619	568	
1937-38	462	433	396	832	796	794	636	757	908	855	684	532	674	
1938-39	451	432	374	479	678	552	534	721	797	723	600	474	568	
1939-40	403	429	356	314	522	523	871	753	606	372	382	387	492	
1940-41	355	427	337	483	552	625	437	410	324	377	445	393	431	
1941-42	347	438	358	570	823	606	640	489	462	544	595	468	528	
1942-43	384	427	326	964	943	786	832	681	863	761	780	617	695	
1943-44	507	435	476	588	542	500	509	500	588	488	482	426	503	
1944-45	374	429	333	361	388	623	885	612	825	938	661	485	574	
1945-46	393	428	335	602	862	825	636	715	668	828	715	606	635	
1946-47	483	435	458	861	856	704	757	728	792	475	666	508	642	
1947-48	427	432	707	807	663	840	774	714	751	940	751	639	704	
1948-49	536	440	499	634	802	522	652	760	857	1019	701	640	672	
1949-50	533	437	465	538	708	609	874	809	871	1000	889	654	698	
1950-51	601	441	731	840	815	824	871	706	813	823	668	610	728	
1951-52	515	437	670	761	775	592	823	592	859	847	714	646	685	
1952-53	549	437	433	396	430	974	892	712	742	901	780	648	657	
1953-54	553	439	454	807	874	790	864	715	807	722	742	637	699	
1954-55	534	446	489	540	559	602	577	507	609	992	877	658	616	
1955-56	561	440	589	887	946	846	692	700	899	976	755	644	745	
1956-57	613	442	531	674	797	610	722	812	783	753	673	552	663	
1957-58	472	434	412	471	861	832	915	702	823	756	681	585	661	
1958-59	477	427	389	795	786	839	700	658	789	757	656	510	648	
1959-60	428	437	575	560	524	419	692	773	824	850	721	581	615	
1960-61	501	445	425	863	756	755	979	784	810	841	696	563	699	
1961-62	484	453	477	699	822	762	728	609	924	790	695	563	667	
1962-63	490	450	581	777	789	561	870	700	779	817	597	525	660	
1963-64	442	435	385	827	682	658	630	498	582	876	855	637	625	
1964-65	503	435	391	469	1086	872	760	712	822	749	669	559	669	
1965-66	478	432	399	494	510	636	393	624	895	870	701	532	581	
1966-67	443	431	392	709	805	790	728	622	510	867	726	532	629	
1967-68	442	431	464	646	533	705	937	753	664	486	559	463	589	
1968-69	417	442	516	852	802	777	486	551	846	967	761	664	674	
1969-70	518	436	469	491	751	961	775	739	680	726	595	497	636	
1970-71	435	432	389	786	723	868	783	709	777	990	841	688	701	
1971-72	609	455	517	802	773	805	882	992	799	964	762	648	750	
1972-73	618	444	493	547	820	766	588	666	631	533	506	468	591	
1973-74	402	440	394	870	928	869	718	779	800	895	924	679	725	
1974-75	633	442	478	495	834	863	780	761	601	898	789	663	687	
1975-76	546	438	525	784	883	827	726	638	780	904	738	649	703	
1976-77	555	438	437	433	380	374	329	458	650	609	536	408	468	
1977-78	372	435	366	870	926	775	754	716	594	576	544	469	615	
1978-79	416	452	365	357	712	520	776	818	790	787	563	479	585	
1979-80	417	430	374	463	715	876	741	697	741	430	532	458	572	
1980-81	398	428	334	486	955	674	815	651	618	441	718	487	582	
1981-82	394	431	413	610	992	713	972	737	761	836	738	636	684	
1982-83	533	441	552	742	871	831	861	841	761	786	696	659	714	
1983-84	526	437	429	746	829	843	801	853	776	836	782	629	707	
1984-85	528	438	495	876	638	494	466	557	875	815	730	561	623	
1985-86	466	436	460	630	564	829	953	812	698	632	547	481	623	
1986-87	426	444	411	783	703	566	791	763	719	463	489	460	583	
1987-88	411	428	342	314	755	653	647	773	810	722	683	499	586	
1988-89	424	430	356	737	722	629	505	854	924	775	673	529	630	
1989-90	449	431												
MEAN	470	436	439	625	720	697	698	689	749	755	679	553	625	
MEDIAN	464	435	413	630	756	705	728	709	783	813	696	554	630	

C-S3M9

USGS # 14158840

TRAIL BRIDGE

River: MC KENZIE

Drainage Area: 184 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 81.9

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												835	
1928-29	745	694	681	705	715	765	655	863	1074	1335	1253	878	865
1929-30	712	650	632	615	908	744	1404	847	806	831	732	613	787
1930-31	547	512	561	579	643	691	667	1091	1583	902	711	599	757
1931-32	533	<u>505</u>	616	694	660	1020	773	1725	1637	1686	1477	928	1022
1932-33	752	680	670	1002	914	877	690	869	1175	1520	<u>2642</u>	1357	1096
1933-34	871	798	741	757	1565	1674	995	1028	1041	866	742	656	979
1934-35	617	586	685	1171	1328	894	949	827	1108	1407	1168	841	965
1935-36	709	639	640	648	666	1513	829	955	1234	1387	1043	832	925
1936-37	698	639	623	599	614	<u>577</u>	596	852	1410	1638	1636	974	905
1937-38	729	643	628	641	858	1293	970	1084	1421	1567	1181	832	988
1938-39	714	664	635	736	953	804	803	990	1258	1160	889	718	861
1939-40	625	574	598	<u>573</u>	726	767	1134	1199	993	831	<u>638</u>	<u>558</u>	767
1940-41	539	508	559	702	783	852	737	<u>665</u>	<u>634</u>	<u>789</u>	671	561	<u>667</u>
1941-42	<u>527</u>	513	576	798	1287	863	930	755	808	911	853	700	792
1942-43	589	512	544	1264	1785	1440	1201	1001	1635	1331	1345	979	1134
1943-44	811	717	755	911	809	751	802	761	908	930	750	629	794
1944-45	571	525	558	603	<u>584</u>	859	1368	897	1129	1525	980	742	858
1945-46	607	549	564	799	1238	1416	951	1015	982	1500	1349	968	996
1946-47	770	700	726	1140	1802	1028	1193	1114	1288	960	929	775	1034
1947-48	666	594	984	1247	980	1534	1171	1034	1194	1551	1466	1042	1122
1948-49	844	756	763	940	1306	765	1006	1111	1389	<u>2203</u>	1452	995	1128
1949-50	813	730	733	857	937	961	1278	1524	1457	1632	2099	<u>1358</u>	1197
1950-51	966	871	<u>1136</u>	<u>1670</u>	1740	1538	1832	1145	1562	1637	1175	963	1349
1951-52	832	787	1017	1007	1206	826	1160	852	1403	1597	1407	1073	1096
1952-53	879	800	733	700	736	<u>1967</u>	1841	1068	1159	1519	1475	1104	1161
1953-54	909	828	762	1119	1776	1260	1540	1185	1511	1363	1369	1089	1224
1954-55	920	870	813	840	854	888	904	851	1139	1470	1885	1210	1053
1955-56	893	790	886	1378	2248	1796	1175	1173	1641	2110	1903	1277	<u>1441</u>
1956-57	1018	<u>920</u>	877	979	1462	842	1101	1680	1485	1299	1021	854	1129
1957-58	768	732	724	766	1440	1366	1799	1074	1380	1252	1061	891	1100
1958-59	759	704	677	1114	1179	1329	1100	1006	1281	1213	979	804	1011
1959-60	704	729	845	829	778	864	1027	1132	1557	1575	1243	837	992
1960-61	730	655	638	1211	1123	1072	<u>2016</u>	1358	1315	1363	1065	892	1113
1961-62	766	736	770	983	1313	1220	1069	967	<u>1695</u>	1437	1064	829	1070
1962-63	742	693	858	1000	1317	854	1456	1017	1236	1299	869	763	1006
1963-64	678	602	609	1106	961	952	946	813	987	1371	1610	1037	971
1964-65	834	753	698	772	<u>2462</u>	1776	1550	1166	1341	1276	1013	873	1209
1965-66	776	705	646	744	710	977	745	988	1463	1443	1038	825	922
1966-67	689	643	627	953	1154	1148	1104	929	886	1233	1039	827	935
1967-68	687	644	732	910	843	1024	1558	1356	1053	973	874	712	945
1968-69	619	563	697	1183	1232	1120	773	770	1165	1625	1244	1006	1001
1969-70	823	695	693	708	1030	1841	1540	1221	1033	1106	830	729	1019
1970-71	711	684	673	1089	1077	1562	1353	1157	1288	1838	1566	1206	1185
1971-72	995	915	857	1145	1339	1357	1603	<u>2347</u>	1598	1903	1574	1179	1401
1972-73	<u>1031</u>	903	800	837	1198	1289	960	998	998	963	783	687	955
1973-74	608	602	606	1316	1585	1931	1297	1239	1461	1676	1888	1246	1288
1974-75	1023	894	752	744	1328	1548	1371	1300	944	1565	1350	962	1148
1975-76	832	751	773	1108	1595	1511	1119	962	1150	1703	1229	933	1140
1976-77	832	740	722	703	634	601	<u>580</u>	715	979	995	783	586	740
1977-78	551	546	566	1204	2113	1286	1168	994	941	981	787	668	984
1978-79	607	620	569	597	987	765	1093	1201	1131	1188	811	700	855
1979-80	639	607	621	703	967	1390	985	925	1012	857	728	621	838
1980-81	560	534	<u>510</u>	678	1446	972	1075	898	932	832	932	686	837
1981-82	584	559	610	789	1787	1084	1810	1299	1171	1403	1100	931	1090
1982-83	828	786	845	982	1519	1428	1439	1550	1357	1240	1026	933	1160
1983-84	784	714	685	989	1285	1312	1297	1356	1251	1339	1276	965	1104
1984-85	842	767	772	1428	984	808	790	854	1354	1305	1105	817	985
1985-86	705	649	658	843	808	1087	1617	1567	1083	1026	803	707	959
1986-87	667	706	742	1108	1090	942	1212	1153	1097	938	786	720	928
1987-88	680	639	608	603	1051	957	964	1076	1257	1133	965	726	888
1988-89	649	610	576	999	1013	945	819	1228	1532	1286	950	768	948
1989-90	686	638											
MEAN	739	682	703	915	1171	1136	1146	1095	1229	1325	1158	871	1013
MEDIAN	722	682	685	857	1090	1028	1101	1034	1234	1335	1061	836	996

TRB3M9

USGS # 14159450

COUGAR

River: SF MC KENZIE

Drainage Area:

208 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile:

4.5

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												261	
1928-29	212	212	225	285	388	510	411	920	1040	1180	825	288	542
1929-30	198	182	187	<u>173</u>	800	413	1600	541	423	450	320	182	448
1930-31	152	155	175	280	319	440	360	1060	1430	387	255	185	433
1931-32	149	148	237	425	538	861	570	2270	1560	1490	925	333	794
1932-33	225	210	224	825	784	880	603	982	1275	1545	<u>2540</u>	535	884
1933-34	285	280	282	314	1510	1680	579	789	675	<u>355</u>	264	199	604
1934-35	175	174	313	1120	1340	830	932	646	1160	1080	605	299	719
1935-36	215	200	226	285	369	1940	752	855	1200	1100	1180	290	717
1936-37	217	210	198	178	304	<u>226</u>	453	1080	<u>1950</u>	1740	1350	384	690
1937-38	240	215	281	1140	1220	1370	907	1330	1680	1315	556	285	878
1938-39	227	217	217	493	817	629	810	1220	1070	670	423	245	585
1939-40	182	180	214	183	511	520	1290	1150	682	385	<u>220</u>	<u>167</u>	471
1940-41	146	158	188	554	592	811	461	<u>341</u>	<u>332</u>	483	340	189	<u>383</u>
1941-42	151	200	242	800	1430	766	883	520	480	688	505	262	576
1942-43	178	164	179	<u>1880</u>	2620	1750	1390	885	1760	930	1060	403	1096
1943-44	280	241	380	646	470	453	587	556	785	536	334	197	454
1944-45	158	160	167	252	260	819	1650	794	1290	1580	480	235	647
1945-46	183	180	181	896	1670	1710	867	1130	895	1175	770	347	835
1946-47	236	239	360	1280	1830	893	1100	963	1250	520	540	301	790
1947-48	227	215	864	1289	795	1731	1311	850	1173	1571	1087	395	957
1948-49	292	291	361	870	1501	465	1274	1252	1747	<u>2175</u>	777	323	942
1949-50	263	237	305	481	619	926	1563	1777	1602	1685	1796	<u>543</u>	978
1950-51	314	282	<u>1081</u>	1804	1697	1901	1935	915	1336	1196	457	291	1094
1951-52	267	239	833	962	1279	638	1439	1023	1686	1501	840	417	924
1952-53	294	269	242	265	520	<u>2809</u>	2190	881	979	1406	1195	449	951
1953-54	308	277	311	1351	2134	1314	1598	815	1190	861	934	402	953
1954-55	302	<u>314</u>	365	418	587	683	768	793	1172	1547	1593	506	753
1955-56	292	280	503	1718	3484	2173	759	1149	1705	1860	1154	440	<u>1297</u>
1956-57	323	284	471	692	1782	489	1359	1921	1216	1002	486	303	859
1957-58	257	220	292	406	1608	1525	2095	756	1307	1065	677	343	872
1958-59	261	248	266	1269	1058	1275	895	956	1057	924	512	278	748
1959-60	228	207	551	549	444	494	1149	1607	1644	1704	844	301	817
1960-61	262	234	285	1439	919	724	2279	1410	1074	1186	573	272	877
1961-62	248	247	350	985	1589	1017	779	1005	1827	1323	782	332	873
1962-63	285	261	539	918	1162	439	1696	722	1080	1324	503	397	771
1963-64	268	252	320	1267	873	1256	925	921	1083	1390	1585	409	877
1964-65	260	235	224	764	<u>4463</u>	2583	1144	689	1113	920	514	277	1103
1965-66	258	198	138	448	439	1242	529	1216	1456	973	401	238	629
1966-67	168	172	197	938	1134	1438	949	772	602	1249	697	247	713
1967-68	210	124	392	461	789	912	1751	736	581	555	347	227	586
1968-69	269	224	431	1494	1223	1191	590	990	1568	1775	841	400	918
1969-70	229	217	310	307	975	2659	1030	931	783	1073	460	256	771
1970-71	184	206	278	1293	931	2656	1315	1259	1151	1692	1153	478	1049
1971-72	276	297	310	1163	1432	2066	2037	<u>2944</u>	1282	1732	996	400	1244
1972-73	219	190	206	381	1157	1005	575	687	880	691	366	236	550
1973-74	162	179	226	1574	2167	1900	1195	1562	1382	1436	1645	451	1156
1974-75	262	187	132	349	1460	1872	1339	1188	769	1447	1084	452	878
1975-76	255	190	479	936	1926	1879	1065	915	1231	1490	774	401	963
1976-77	<u>345</u>	209	192	209	<u>251</u>	286	<u>297</u>	614	921	1147	508	233	435
1977-78	175	202	289	1676	2500	948	1027	633	766	798	447	316	814
1978-79	256	311	153	287	1134	735	1371	1327	1335	1205	377	237	724
1979-80	176	130	285	530	978	1681	850	874	1214	681	587	313	691
1980-81	99	<u>109</u>	<u>103</u>	460	1743	472	1278	654	1010	715	798	315	642
1981-82	140	150	273	666	2747	1008	2546	994	1140	1135	776	411	990
1982-83	219	251	566	688	1717	1385	1562	1376	1047	1102	595	461	912
1983-84	258	211	196	838	1803	1443	1572	1328	1188	1514	1297	394	1002
1984-85	230	216	463	1807	793	638	756	729	1574	1099	797	285	779
1985-86	223	247	479	536	762	1215	<u>2609</u>	1075	815	860	361	227	772
1986-87	<u>80</u>	288	317	1494	671	978	1232	852	805	554	313	331	654
1987-88	240	194	184	274	970	1224	993	1049	1354	1144	775	298	724
1988-89	185	150	137	1099	670	1169	798	1779	1663	1038	579	270	794
1989-90	226	163											
MEAN	227	216	318	809	1224	1179	1158	1049	1171	1137	767	325	796
MEDIAN	229	214	281	692	1056	1008	1065	956	1173	1144	677	302	794

CGR3M9

USGS # 14162150

BLUE RIVER

River: BLUE

Drainage Area: 88 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile: 1.7

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28													56
1928-29	28	26	53	109	261	311	231	645	621	545	322	68	269
1929-30	22	14	17	<u>12</u>	616	209	880	293	235	273	135	33	224
1930-31	15	16	20	164	229	264	176	675	705	152	87	39	212
1931-32	14	13	88	287	464	511	312	1455	768	610	322	89	412
1932-33	35	19	43	586	610	740	408	699	751	692	<u>891</u>	<u>176</u>	470
1933-34	52	49	89	141	1040	1080	274	446	364	<u>137</u>	88	40	319
1934-35	21	14	173	833	985	599	621	405	716	440	218	82	424
1935-36	35	24	57	151	269	1542	526	602	647	465	232	81	386
1936-37	36	37	23	21	231	<u>80</u>	348	895	<u>1277</u>	956	626	130	388
1937-38	50	37	104	989	961	947	534	834	1097	565	156	56	527
1938-39	29	26	34	358	663	469	537	963	653	256	178	69	352
1939-40	30	23	59	34	507	419	1154	813	354	206	58	30	305
1940-41	21	32	72	474	479	766	279	<u>194</u>	<u>192</u>	325	162	68	256
1941-42	36	104	127	604	1143	609	664	344	279	429	225	85	386
1942-43	37	28	43	<u>1591</u>	1938	897	974	621	916	341	387	112	654
1943-44	53	35	244	354	318	331	426	398	516	249	121	52	257
1944-45	35	37	44	192	163	735	1219	595	866	767	179	58	402
1945-46	30	30	28	744	1396	1157	585	812	632	502	228	84	520
1946-47	39	36	228	1103	1360	628	616	628	630	144	272	94	480
1947-48	46	44	<u>730</u>	857	490	1253	890	521	760	771	314	89	563
1948-49	43	58	126	574	998	183	974	861	893	<u>961</u>	197	68	491
1949-50	37	32	95	372	401	612	1166	1215	945	914	649	136	543
1950-51	53	40	698	1011	1091	1148	1150	463	718	489	117	53	583
1951-52	33	33	631	642	825	379	951	590	901	547	226	99	486
1952-53	37	30	21	41	211	<u>2136</u>	1254	571	604	677	386	109	503
1953-54	63	41	76	906	1481	927	1120	529	696	245	294	88	535
1954-55	62	89	148	255	463	469	544	502	733	896	621	161	411
1955-56	55	53	350	1226	1957	1294	316	708	1060	856	326	87	693
1956-57	46	33	204	380	971	201	1037	1246	596	320	135	57	432
1957-58	40	29	82	265	1476	1211	1364	381	734	243	189	36	502
1958-59	35	35	49	923	656	1060	574	651	554	411	162	56	429
1959-60	32	142	359	331	202	292	957	1097	1010	805	233	59	458
1960-61	43	33	75	1049	568	537	1708	1008	567	551	155	44	519
1961-62	22	38	155	563	1105	564	462	712	970	468	163	52	439
1962-63	40	38	259	660	667	196	1084	389	720	685	150	110	411
1963-64	58	68	98	899	477	767	563	581	685	653	501	103	453
1964-65	58	34	30	496	<u>2816</u>	1837	633	300	582	280	116	55	606
1965-66	38	27	34	233	236	946	343	1210	1071	408	105	61	393
1966-67	30	26	111	615	851	1111	547	460	304	472	154	47	394
1967-68	27	27	288	299	583	683	1351	380	271	280	138	55	362
1968-69	<u>94</u>	116	397	1060	1114	777	319	749	946	715	335	129	564
1969-70	-20	<u>-18</u>	135	118	721	1930	672	461	415	459	96	<u>-36</u>	412
1970-71	<u>-107</u>	38	118	826	606	1761	934	944	793	860	364	96	601
1971-72	26	122	116	1038	970	1593	1597	<u>1772</u>	738	743	227	49	<u>747</u>
1972-73	14	44	41	157	912	732	300	435	398	190	117	19	281
1973-74	13	76	124	1358	1734	1276	871	1155	878	666	550	75	730
1974-75	6	12	16	185	1053	1361	979	825	481	717	238	46	491
1975-76	6	21	271	674	1293	1317	680	544	720	523	174	20	521
1976-77	3	39	21	72	<u>64</u>	113	<u>126</u>	526	577	500	173	-33	<u>182</u>
1977-78	5	81	117	1245	1802	706	636	353	437	403	136	18	485
1978-79	33	135	45	196	740	374	1157	844	745	515	69	7	400
1979-80	19	36	142	380	640	1238	555	521	655	227	181	40	386
1980-81	-1	34	37	416	1563	244	925	347	592	287	456	56	409
1981-82	-6	55	173	499	1944	675	1713	599	732	435	171	45	580
1982-83	-2	34	318	440	1306	1010	1189	946	511	377	148	147	533
1983-84	-1	24	19	703	1149	833	980	1040	642	692	552	92	559
1984-85	-19	13	232	1262	495	344	495	518	904	365	255	3	403
1985-86	-8	53	210	433	501	816	<u>1822</u>	556	375	379	84	-20	424
1986-87	-43	<u>144</u>	99	1065	329	675	760	560	290	143	<u>58</u>	53	341
1987-88	41	9	<u>2</u>	70	660	902	549	661	664	471	340	55	369
1988-89	-6	32	28	1058	464	855	542	1212	879	337	140	31	463
1989-90	13	35											
MEAN	25	43	145	567	856	814	780	691	672	492	247	65	448
MEDIAN	31	34	98	496	667	740	664	602	685	468	181	58	432

BLU3M9

USGS # 14163100

LEABURG

River: MC KENZIE

Drainage Area:

1000 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile:

38.8

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												2128	
1928-29	1825	1727	1744	2022	2655	3345	2774	5287	5461	5659	4375	2291	3266
1929-30	1734	1525	1473	<u>1384</u>	4798	2799	8170	3438	3034	3037	2459	1633	2924
1930-31	1425	1365	1399	2012	2382	2965	2477	5874	6653	2753	2096	1655	2754
1931-32	1397	<u>1337</u>	1764	2778	3545	5017	3495	10830	7076	6605	4749	2560	4269
1932-33	1905	1640	1684	4631	4694	5190	3808	5583	6276	6742	<u>9535</u>	3619	4805
1933-34	2274	2110	1992	2236	8087	8484	3578	4585	4069	<u>2614</u>	2155	1749	3673
1934-35	1578	1484	2251	5974	7354	4929	5337	3996	5918	5212	3602	2368	4156
1935-36	1849	1649	1700	2086	2535	9510	4554	4945	5705	5395	3515	2319	3816
1936-37	1862	1716	1534	1418	2196	<u>1764</u>	3473	6034	<u>8466</u>	7333	6237	2865	3736
1937-38	2012	1744	2019	6269	6779	7173	6525	7465	7345	5969	3391	2279	4827
1938-39	1912	1753	1654	3205	4767	3948	5115	6665	5215	3804	2949	2058	3578
1939-40	1641	1532	1651	1457	3308	3308	7261	6211	3999	2791	<u>1796</u>	<u>1540</u>	3027
1940-41	<u>1387</u>	1409	1495	3408	3731	4751	3012	<u>2367</u>	<u>2429</u>	3192	2506	1721	<u>2616</u>
1941-42	1436	1699	1842	4612	7792	4546	5211	3367	3141	3998	3301	2177	3585
1942-43	1626	1436	1447	9347	12990	8632	7441	4940	7451	4683	5235	2944	5664
1943-44	2249	1890	2565	3785	3047	3034	3750	3513	4451	3370	2465	1754	2984
1944-45	1477	1410	<u>1359</u>	1886	1921	4715	8534	4963	6308	6915	3158	1989	3686
1945-46	1649	1546	1449	5293	8764	8448	5163	6361	4872	5465	4133	2625	4651
1946-47	1980	1769	2466	6698	9346	5055	6052	5346	5967	3272	3450	2414	4472
1947-48	1944	1755	4848	6738	4580	8756	6986	5098	5752	6580	4989	2885	5068
1948-49	2234	2102	2451	4587	7858	2982	7208	6414	6436	<u>8754</u>	4155	2560	4797
1949-50	2103	1857	2068	3094	4041	5415	8499	9175	7294	6845	7305	<u>3653</u>	5087
1950-51	2463	2138	<u>5608</u>	<u>9572</u>	8407	9221	9309	5351	6089	5740	3211	2471	5775
1951-52	2149	1944	4794	5318	7482	4303	7515	5432	6899	6144	4320	2995	4931
1952-53	2221	1965	1766	1716	2953	<u>12860</u>	10920	5606	5236	6673	5607	3230	5030
1953-54	2509	2155	2175	6592	10950	7379	8408	4955	6387	4470	4691	2808	5268
1954-55	2312	2284	2468	2817	4023	4615	4526	4937	6397	6665	6552	3430	4247
1955-56	2328	2114	3376	8325	15130	10660	5473	7299	7682	7917	5762	3395	<u>6635</u>
1956-57	<u>2621</u>	2283	3058	3982	8092	3343	6708	9577	5896	4630	3145	2255	4624
1957-58	2028	1809	1973	2607	9119	8035	10100	4403	6262	4542	3700	2476	4723
1958-59	1978	1907	1831	6212	5372	7390	5387	5026	5060	4547	2976	2011	4132
1959-60	1697	2054	3175	3079	2732	2931	6268	7656	7744	7317	4109	2377	4251
1960-61	2009	1803	1909	6970	4924	4285	11660	8134	5384	5519	3370	2295	4804
1961-62	1875	1823	2273	4925	8253	5159	4282	5840	7815	5852	3688	2354	4513
1962-63	2017	1794	2958	4741	6021	2826	8003	4349	6131	6371	3004	2472	4196
1963-64	1910	1781	1886	6137	4355	7128	5104	5154	5122	5505	6047	2910	4412
1964-65	2161	1884	1737	3825	<u>17430</u>	11630	6455	3863	4981	4351	3021	2301	5315
1965-66	2047	1801	1709	2728	2834	7049	3367	6301	6191	4504	2663	2045	3608
1966-67	1640	1513	1770	4632	6050	7393	5216	4252	3567	4999	3367	2082	3669
1967-68	1645	1563	2720	3108	4470	5144	8445	4378	3385	3203	2456	1773	3507
1968-69	1862	1958	3034	7174	7155	6542	3717	5229	6769	7181	4943	3034	4889
1969-70	2058	1841	2168	2184	5115	11910	6084	4618	3921	4637	2626	1855	4084
1970-71	1648	1667	2064	5811	5442	11580	6660	6790	5942	6976	5237	3280	5253
1971-72	2429	<u>2507</u>	2432	6258	7637	10440	9538	<u>12550</u>	6760	7274	4876	3023	6306
1972-73	2459	2262	2051	2633	6004	5720	3435	3869	4098	3229	2386	1856	3338
1973-74	1607	1823	1925	8500	10660	9675	7117	7983	7052	6392	6857	3353	6071
1974-75	2463	2131	1882	2643	7085	9485	7293	7017	4385	6353	4690	2946	4860
1975-76	2279	1977	3057	5320	9321	9700	5485	5131	5946	6228	3957	2613	5091
1976-77	2464	2070	1907	2041	<u>1813</u>	1895	<u>1864</u>	3813	4313	4982	2851	1734	2650
1977-78	1563	1692	1907	7671	12290	5919	5402	3395	3971	4028	2609	2034	4369
1978-79	1843	2242	1644	2213	5650	3677	7299	6384	6237	5377	2469	1833	3884
1979-80	1626	1535	2032	3177	4736	8319	4557	4719	5422	3366	3054	1988	3711
1980-81	1578	1486	1431	3124	8976	3414	6255	3613	4762	3382	4288	2123	3685
1981-82	1586	1582	2135	3817	12560	6160	11300	5611	5637	4891	3714	2667	5104
1982-83	2044	1996	3234	4104	9026	7554	8359	7436	5693	4982	3393	3078	5082
1983-84	2233	1975	1876	5046	8367	6904	7770	7516	6207	6710	6226	3024	5313
1984-85	2296	2110	2939	9014	5050	3599	4147	4051	6819	4819	4027	2213	4244
1985-86	1867	1861	2734	3986	4302	6553	<u>12160</u>	6360	4177	4408	2529	2024	4364
1986-87	1776	2361	2195	7016	4080	5179	6332	4834	3871	2975	2200	2079	3719
1987-88	1722	1524	1440	1735	4929	6150	4665	5195	6151	5172	4007	2096	3731
1988-89	1677	1549	1421	6260	4224	6491	4325	8287	7245	4689	3119	2080	4277
1989-90	1880	1618											
MEAN	1937	1820	2222	4458	6397	6278	6202	5727	5654	5213	3923	2426	4346
MEDIAN	1908	1802	1973	3986	5442	5919	6052	5287	5918	5172	3515	2310	4277

LEA3M9

USGS # 14163505

WALTERVILLE

River: MC KENZIE

Drainage Area:

1050 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile:

28.5

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												2234	
1928-29	1916	1813	1831	2123	2788	3512	2913	5551	5734	5942	4594	2406	3430
1929-30	1821	1601	1547	<u>1453</u>	5038	2939	8579	3810	3186	3189	2582	1715	3070
1930-31	1496	1433	1469	2113	2501	3113	2601	6168	6986	2891	2201	1738	2892
1931-32	1467	<u>1398</u>	1852	2917	3722	5268	3670	11370	7430	6935	4986	2688	4483
1932-33	2000	1722	1768	4863	4929	5450	3996	5862	6590	7079	<u>10010</u>	3800	4836
1933-34	2388	2216	2092	2348	8491	8908	3755	4814	4272	<u>2745</u>	2263	1836	3856
1934-35	1657	1558	2364	6273	7722	5175	5604	4196	6214	5473	3782	2486	4364
1935-36	1941	1731	1785	2190	2662	9986	4782	5192	5990	5665	3691	2435	4007
1936-37	1955	1802	1611	1489	2306	<u>1852</u>	3647	6336	<u>8889</u>	7700	6549	3008	3923
1937-38	2113	1831	2120	6582	7118	7532	5801	7838	7712	6267	3561	2393	5068
1938-39	2008	1841	1737	3365	5005	4145	5371	6998	5476	3994	3096	2161	3757
1939-40	1723	1609	1734	1530	3473	3473	7624	6522	4199	2931	<u>1886</u>	<u>1617</u>	3179
1940-41	<u>1456</u>	1479	1570	3578	3918	4989	3163	<u>2485</u>	<u>2550</u>	3352	2631	1807	<u>2747</u>
1941-42	1508	1784	1934	4843	8182	4773	5472	3535	3298	4198	3466	2286	3764
1942-43	1707	1508	1519	9814	13640	9064	7813	5187	7824	4917	5497	3091	5948
1943-44	2361	1985	2693	3974	3199	3186	3938	3689	4674	3539	2588	1842	3133
1944-45	1551	1481	<u>1427</u>	1980	2017	4951	8961	5211	6623	7261	3316	2088	3870
1945-46	1731	1623	1521	5558	9202	8870	5421	6679	5116	5738	4340	2756	4883
1946-47	2079	1857	2589	7033	9813	5308	6355	5613	6265	3436	3623	2535	4695
1947-48	2041	1843	5090	7075	4809	9194	7335	5353	6040	6909	5238	3029	5322
1948-49	2346	2207	2574	4816	8251	3131	7568	6735	6758	<u>9192</u>	4363	2688	5037
1949-50	2208	1950	2171	3249	4243	5686	8924	9634	7659	7187	7670	<u>3836</u>	5341
1950-51	2586	2245	<u>5888</u>	<u>10050</u>	8827	9682	9774	5619	6393	6027	3372	2595	6064
1951-52	2256	2041	5034	5584	7856	4518	7891	5704	7244	6451	4536	3145	5177
1952-53	2332	2063	1854	1802	3101	<u>13500</u>	11470	5886	5498	7007	5887	3392	5282
1953-54	2634	2263	2284	6922	11500	7748	8828	5203	6706	4694	4926	2948	5531
1954-55	2428	2398	2591	2958	4224	4846	4752	5184	6717	6998	6880	3602	4459
1955-56	2444	2220	3545	8741	15890	11190	5747	7664	8066	8313	6050	3565	<u>6967</u>
1956-57	<u>2752</u>	2397	3211	4181	8497	3510	7043	10060	6191	4862	3302	2368	4855
1957-58	2129	1899	2072	2737	9575	8437	10610	4623	6575	4769	3885	2600	4959
1958-59	2077	2002	1923	6523	5641	7760	5656	5277	5313	4774	3125	2112	4339
1959-60	1782	2157	3334	3233	2869	3078	6581	8039	8131	7683	4314	2496	4463
1960-61	2109	1893	2004	7319	5170	4499	12240	8541	5653	5795	3539	2410	5045
1961-62	1969	1914	2387	5171	8666	5417	4496	6132	8206	6145	3872	2472	4739
1962-63	2118	1884	3106	4978	6322	2967	8403	4564	6430	6688	3156	2597	4405
1963-64	2004	1869	1974	6406	4573	7470	5342	5383	5370	5750	6320	3058	4619
1964-65	2280	1998	1867	4042	<u>18230</u>	12250	6822	4037	5182	4535	3169	2421	5581
1965-66	2157	1935	1886	2856	2964	7398	3519	6575	6454	4710	2793	2153	3788
1966-67	1737	1608	1897	4904	6360	7736	5464	4441	3742	5205	3519	2194	4063
1967-68	1738	1675	2880	3309	4695	5400	8804	4582	3537	3347	2574	1866	3683
1968-69	1962	2083	3200	7541	7556	6887	3886	5420	7019	7519	5189	3187	5127
1969-70	2202	1991	2318	2335	5369	12390	6449	4796	4077	4844	2759	1987	4292
1970-71	1774	1776	2204	6121	5733	12100	6981	7085	6202	7293	5499	3452	5513
1971-72	2607	<u>2674</u>	2594	6567	8066	10910	9958	<u>13160</u>	7053	7616	5120	3179	6621
1972-73	2629	2432	2196	2798	6305	6000	3574	4018	4247	3356	2499	1979	3508
1973-74	1726	1958	2060	8925	11200	10150	7430	8328	7363	6692	7195	3532	6372
1974-75	2626	2273	2036	2814	7433	9947	7583	7332	4582	6632	4926	3108	5103
1975-76	2438	2115	3249	5626	9790	10180	5697	5342	6189	6523	4156	2763	5346
1976-77	2623	2212	2045	2187	<u>1909</u>	1986	<u>1945</u>	3954	4459	5177	2989	1861	2784
1977-78	1690	1814	2026	8031	12960	6213	5825	3535	4123	4187	2733	2157	4588
1978-79	1964	2384	1775	2360	5944	3859	7582	6661	6494	5631	2600	1967	4080
1979-80	1751	1648	2162	3359	4970	8723	4738	4907	5638	3513	3206	2106	3893
1980-81	1717	1602	1542	3306	9396	3607	6486	3761	4950	3532	4502	2250	3870
1981-82	1720	1702	2276	4034	13170	6481	11790	5862	5868	5119	3906	2810	5359
1982-83	2198	2138	3420	4342	9493	7924	8705	7745	5945	5218	3562	3238	5314
1983-84	2395	2112	2015	5333	8786	7242	8092	7847	6475	7027	6537	3181	5578
1984-85	2462	2263	3132	9488	5313	3775	4315	4209	7083	5038	4227	2356	4459
1985-86	2015	1992	2892	4220	4522	6874	<u>12650</u>	6670	4343	4610	2655	2153	4582
1986-87	1927	2517	2342	7353	4316	5422	6592	5030	4028	3107	2326	2211	3908
1987-88	1830	1627	1552	1835	5193	6434	4856	5392	6414	5420	4207	2220	3914
1988-89	1821	1669	1533	6574	4454	6806	4517	8620	7556	4905	3275	2212	4492
1989-90	2025	1743											
MEAN	2050	1927	2349	4689	6719	6587	6495	5996	5918	5463	4118	2554	4563
MEDIAN	2011	1896	2072	4220	5733	6213	6355	5551	6191	5420	3691	2428	4492

WAV3M9

FERN RIDGE

Accumulated depletions at site (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-13	
1928-29	-3	0	0	0	0	0	0	0	0	-2	-9	-13	-2
1929-30	-3	0	0	0	0	0	0	0	0	-1	-9	-13	-2
1930-31	-3	0	0	0	0	0	0	0	0	-1	-8	-12	-2
1931-32	-3	0	0	0	0	0	0	0	0	-1	-8	-12	-2
1932-33	-3	0	0	0	0	0	0	0	0	-1	-8	-11	-2
1933-34	-2	0	0	0	0	0	0	0	0	-1	-7	-11	-2
1934-35	-2	0	0	0	0	0	0	0	0	-1	-7	-10	-2
1935-36	-2	0	0	0	0	0	0	0	0	-1	-7	-10	-2
1936-37	-2	0	0	0	0	0	0	0	0	-1	-7	-10	-2
1937-38	-2	0	0	0	0	0	0	0	0	-1	-6	-9	-1
1938-39	-2	0	0	0	0	0	0	0	0	-1	-6	-9	-1
1939-40	-2	0	0	0	0	0	0	0	0	-1	-6	-8	-1
1940-41	-2	0	0	0	0	0	0	0	0	-1	-5	-8	-1
1941-42	-2	0	0	0	0	0	0	0	0	-1	-5	-7	-1
1942-43	-2	0	0	0	0	0	0	0	0	-1	-5	-7	-1
1943-44	-1	0	0	0	0	0	0	0	0	-1	-4	-6	-1
1944-45	-1	0	0	0	0	0	0	0	0	-1	-4	-6	-1
1945-46	-1	0	0	0	0	0	0	0	0	-1	-4	-6	-1
1946-47	-1	0	0	0	0	0	0	0	0	-1	-4	-5	-1
1947-48	-1	0	0	0	0	0	0	0	0	-1	-3	-5	-1
1948-49	-1	0	0	0	0	0	0	0	0	-1	-3	-4	-1
1949-50	-1	0	0	0	0	0	0	0	0	0	-3	-4	-1
1950-51	-1	0	0	0	0	0	0	0	0	0	-2	-4	-1
1951-52	-1	0	0	0	0	0	0	0	0	0	-2	-3	-1
1952-53	-1	0	0	0	0	0	0	0	0	0	-2	-3	0
1953-54	-1	0	0	0	0	0	0	0	0	0	-2	-3	0
1954-55	-1	0	0	0	0	0	0	0	0	0	-2	-2	0
1955-56	-1	0	0	0	0	0	0	0	0	0	-2	-2	0
1956-57	0	0	0	0	0	0	0	0	0	0	-1	-2	0
1957-58	0	0	0	0	0	0	0	0	0	0	-1	-2	0
1958-59	0	0	0	0	0	0	0	0	0	0	-1	-1	0
1959-60	0	0	0	0	0	0	0	0	0	0	-1	-1	0
1960-61	0	0	0	0	0	0	0	0	0	0	-1	-1	0
1961-62	0	0	0	0	0	0	0	0	0	0	0	-1	0
1962-63	0	0	0	0	0	0	0	0	0	0	0	0	0
1963-64	0	0	0	0	0	0	0	0	0	0	0	0	0
1964-65	0	0	0	0	0	0	0	0	0	0	0	0	0
1965-66	0	0	0	0	0	0	0	0	0	0	0	0	0
1966-67	0	0	0	0	0	0	0	0	0	0	0	1	0
1967-68	0	0	0	0	0	0	0	0	0	0	0	1	0
1968-69	0	0	0	0	0	0	0	0	0	0	0	1	0
1969-70	0	0	0	0	0	0	0	0	0	0	0	1	0
1970-71	0	0	0	0	0	0	0	0	0	0	0	1	0
1971-72	0	0	0	0	0	0	0	0	0	0	0	1	0
1972-73	0	0	0	0	0	0	0	0	0	0	0	1	0
1973-74	0	0	0	0	0	0	0	0	0	0	1	1	0
1974-75	0	0	0	0	0	0	0	0	0	0	1	1	0
1975-76	0	0	0	0	0	0	0	0	0	0	1	1	0
1976-77	0	0	0	0	0	0	0	0	0	0	1	1	0
1977-78	0	0	0	0	0	0	0	0	0	0	1	1	0
1978-79	0	0	0	0	0	0	0	0	0	0	1	1	0
1979-80	0	0	0	0	0	0	0	0	0	0	1	1	0
1980-81	0	0	0	0	0	0	0	0	0	0	1	1	0
1981-82	0	0	0	0	0	0	0	0	0	0	1	1	0
1982-83	0	0	0	0	0	0	0	0	0	0	0	1	0
1983-84	0	0	0	0	0	0	0	0	0	0	0	1	0
1984-85	0	0	0	0	0	0	0	0	0	0	0	0	0
1985-86	0	0	0	0	0	0	0	0	0	0	0	0	0
1986-87	0	0	0	0	0	0	0	0	0	0	0	0	0
1987-88	0	0	0	0	0	0	0	0	0	0	0	0	0
1988-89	0	0	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	-1	0	0	0	0	0	0	0	0	0	-2	-3	-1

FRN3D9

USGS # 14168100

FERN RIDGE

River: LONG TOM

Drainage Area: 252 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 25.7

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												27	
1928-29	12	7	17	89	585	985	675	322	810	158	98	22	313
1929-30	11	7	20	24	53	465	1625	437	233	173	80	15	253
1930-31	11	14	27	96	146	604	447	722	825	95	60	6	253
1931-32	7	7	33	547	1330	1650	945	1095	593	261	120	19	551
1932-33	10	6	18	118	1050	1960	1517	1075	365	366	172	41	555
1933-34	20	22	29	45	1450	1255	378	315	350	95	48	3	336
1934-35	4	2	45	910	1490	1710	680	1180	430	141	67	15	557
1935-36	8	7	26	82	321	2825	1060	627	332	189	103	25	468
1936-37	9	7	14	17	58	334	2615	807	1560	259	<u>311</u>	<u>76</u>	489
1937-38	<u>25</u>	17	44	1280	1780	1540	2200	<u>2175</u>	527	143	67	16	810
1938-39	7	6	20	142	467	693	1540	745	160	73	52	8	319
1939-40	-2	1	15	20	253	656	2217	1194	475	221	75	11	421
1940-41	4	14	37	235	858	1170	526	309	283	192	79	14	310
1941-42	4	18	25	445	2123	984	1225	328	182	207	85	-29	463
1942-43	-78	-49	33	1313	2858	2456	1380	619	860	172	80	-39	798
1943-44	-12	-27	169	230	490	587	710	340	441	134	37	-28	254
1944-45	29	-9	7	108	202	658	1498	1404	661	275	37	52	389
1945-46	-48	28	<u>50</u>	951	1792	1615	1219	1167	315	78	13	43	580
1946-47	-51	41	38	912	1003	567	1128	964	655	70	81	0	439
1947-48	-27	-20	660	718	620	2221	1659	1019	715	446	89	-9	672
1948-49	-22	7	18	471	1693	541	2993	732	235	302	-15	-45	560
1949-50	-46	-39	8	194	608	2679	2101	1458	437	119	35	-63	617
1950-51	-53	<u>-71</u>	<u>670</u>	1800	1208	2326	1394	1242	209	149	-5	-50	732
1951-52	-55	-20	190	726	2084	1829	1606	684	268	80	93	-31	620
1952-53	-45	-20	-6	29	503	2792	1642	1025	417	498	192	-25	579
1953-54	-5	-3	69	728	1925	<u>3103</u>	1779	873	745	109	74	-28	777
1954-55	0	1	45	232	664	969	565	1032	1191	226	34	-8	412
1955-56	-66	-40	109	996	<u>4515</u>	2876	1564	1376	371	154	31	-45	991
1956-57	-44	-3	133	114	543	414	1422	1868	484	202	23	-48	420
1957-58	-46	-18	23	70	1851	1738	2711	742	585	137	78	-51	640
1958-59	<u>-86</u>	-13	33	488	521	2573	1761	658	384	133	20	-58	528
1959-60	63	-8	35	34	97	373	1483	1566	796	574	88	-56	406
1960-61	46	-24	13	946	606	738	<u>3097</u>	2071	353	307	19	45	651
1961-62	49	-23	21	543	1264	379	874	1638	435	254	20	52	441
1962-63	-40	-16	145	477	647	223	1420	1038	<u>1684</u>	<u>859</u>	71	-10	534
1963-64	-36	-14	-2	523	429	2512	498	985	219	88	27	39	435
1964-65	-35	-63	-7	366	3757	2563	661	274	314	100	14	-38	664
1965-66	33	-42	25	217	1006	2599	621	1546	229	<u>47</u>	<u>-24</u>	48	516
1966-67	67	-18	20	313	1229	1626	758	664	455	165	10	-74	423
1967-68	-74	33	53	77	686	1032	1621	621	218	116	2	58	351
1968-69	13	12	122	664	2349	2093	2110	608	226	125	56	54	687
1969-70	64	8	25	46	1259	2865	1049	572	259	130	4	76	505
1970-71	-64	-41	15	309	1399	2560	829	1768	946	186	88	-41	665
1971-72	-53	13	-9	556	1684	2500	1175	1681	942	272	53	-61	731
1972-73	-54	-6	-42	55	837	996	410	644	308	57	-17	<u>-76</u>	260
1973-74	-59	-3	39	<u>1964</u>	2535	2887	1730	2138	856	122	0	-28	<u>1013</u>
1974-75	-59	-56	-10	108	781	1295	1516	1492	493	303	14	-27	483
1975-76	-24	-36	81	331	1208	1797	1178	1007	449	99	7	-48	504
1976-77	-21	-28	-13	<u>6</u>	<u>29</u>	<u>45</u>	<u>141</u>	499	<u>82</u>	109	3	-38	<u>68</u>
1977-78	-20	7	18	497	2213	1651	888	<u>271</u>	554	223	25	-26	525
1978-79	-23	<u>46</u>	-11	65	243	329	1442	652	595	359	-8	-56	295
1979-80	-28	-5	81	361	951	1569	675	936	632	129	65	-35	445
1980-81	-63	-34	-18	152	2117	474	914	504	493	163	126	-30	398
1981-82	-55	1	97	766	3163	1969	1675	901	1349	137	48	-27	832
1982-83	-44	-4	-8	237	2021	1114	2555	1899	848	240	55	35	736
1983-84	2	-32	8	782	1204	668	1651	935	693	364	147	30	527
1984-85	-53	-19	52	1880	1037	403	848	677	313	81	89	53	433
1985-86	-51	-11	82	222	462	1025	2989	830	210	269	-6	-41	482
1986-87	-59	30	10	684	527	1412	1494	559	195	66	-15	-13	401
1987-88	-43	30	4	70	1228	1901	403	443	516	381	118	-39	415
1988-89	-62	31	50	661	607	1226	619	1491	407	130	7	34	423
1989-90	32	39											
MEAN	31	12	55	460	1191	1469	1346	975	527	202	56	-25	514
MEDIAN	38	10	25	313	1006	1412	1394	901	441	158	52	-32	489

FRN3M9

USGS # 14180550

DETROIT

River: N. SANTIAM

Drainage Area: 438 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile: 60.9

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												830	
1928-29	575	525	670	1410	1730	1690	1120	2540	3160	3640	2320	985	1700
1929-30	580	465	<u>460</u>	<u>415</u>	2630	1110	4640	1960	1630	1690	1260	655	1437
1930-31	475	455	560	1020	1110	1640	1260	3480	3620	1450	1110	695	1406
1931-32	<u>445</u>	<u>425</u>	720	1640	2030	2610	1690	5700	3820	3920	2635	1118	2233
1932-33	688	572	668	3193	2231	2424	1438	2553	3337	3821	<u>5176</u>	1719	2317
1933-34	851	884	972	1197	5674	4413	1585	2551	2121	<u>1300</u>	844	631	1929
1934-35	537	495	1051	3172	3538	1960	2478	2056	2737	2954	1847	927	1974
1935-36	600	527	609	924	1224	<u>4782</u>	1883	2443	3169	3203	1730	874	1833
1936-37	607	563	478	455	1105	<u>661</u>	1338	2764	4438	4322	3538	1214	1789
1937-38	701	610	859	3575	3581	3858	2130	3092	3859	3214	1672	858	2335
1938-39	629	577	604	1483	2481	1898	2008	3103	3134	2146	1362	802	1683
1939-40	561	520	596	511	2107	1717	4281	3253	2084	1394	<u>721</u>	<u>547</u>	1515
1940-41	461	502	642	1926	1985	2428	1455	<u>1225</u>	<u>1180</u>	2010	1150	689	1304
1941-42	547	794	874	2130	4385	1913	2563	1720	1754	1888	1704	929	1762
1942-43	620	513	511	<u>5225</u>	5721	3564	3731	2794	<u>4755</u>	2702	2676	1517	2849
1943-44	911	717	1323	1842	1755	1536	1695	1644	2100	1815	1236	720	1439
1944-45	551	549	509	1025	955	2462	4287	2319	3042	3948	1381	735	1797
1945-46	553	548	491	2540	4545	4174	2156	2822	2846	3333	2316	1245	2301
1946-47	728	646	1294	3920	5650	2593	2934	2650	2605	1550	1805	946	2255
1947-48	676	632	<u>2920</u>	3288	1939	4550	3269	2130	3013	3914	2884	1183	2530
1948-49	828	812	1208	2417	3227	1057	3096	3149	4295	<u>5694</u>	2425	1179	2443
1949-50	800	718	1055	2041	2096	2583	4140	4202	3590	3958	4208	1715	2579
1950-51	922	787	2675	5016	4351	3829	4390	2055	3224	2819	1514	933	2697
1951-52	721	652	2228	2414	3231	1541	3565	2295	4117	3632	2190	1360	2322
1952-53	805	691	577	582	1398	<u>8129</u>	5022	2305	2483	3250	2610	1380	2424
1953-54	856	695	907	3200	5699	3385	4322	2502	3577	2594	2638	1375	2633
1954-55	862	911	1263	1631	1983	1795	1957	1740	2863	4087	4399	<u>1801</u>	2105
1955-56	858	746	2150	4913	7011	5156	1641	2483	4299	4490	2835	1343	3168
1956-57	833	807	1212	1833	4025	1211	3258	4532	3157	2519	1451	861	2136
1957-58	641	601	784	1341	4427	4112	5067	1810	3527	2560	1718	956	2278
1958-59	706	685	822	4212	3365	4478	2352	2553	2861	2537	1672	876	2258
1959-60	662	<u>1186</u>	1951	1868	1607	1271	3437	3744	3857	3702	2173	955	2193
1960-61	739	650	862	4423	2498	2731	6958	4015	2751	2977	1678	879	2563
1961-62	688	754	1168	2289	4129	2785	2226	2405	4524	3000	1772	949	2223
1962-63	728	681	1769	3670	3085	1254	4305	1895	3069	3043	1205	923	2117
1963-64	644	659	803	3365	2005	3190	2170	2004	2686	3287	3213	1290	2105
1964-65	806	689	653	2049	<u>9879</u>	5844	2925	1806	2752	2090	1383	829	2650
1965-66	699	613	714	1617	1400	3088	1398	3432	4039	2991	1483	889	1867
1966-67	602	556	800	2636	3336	4037	2292	1899	1484	2677	1787	804	1909
1967-68	559	512	1917	1725	2548	2858	5957	2306	1632	1767	1261	746	1968
1968-69	943	953	2015	4306	3862	3492	1422	2386	3871	4684	2700	1230	2662
1969-70	845	834	1063	1227	2875	6964	3625	2514	1923	2411	1378	783	2201
1970-71	600	646	843	3127	2546	5498	3413	2943	3293	4736	3024	1522	2678
1971-72	845	1040	1046	3369	3378	4834	5152	<u>6989</u>	3239	4281	2630	1416	3181
1972-73	<u>1013</u>	996	830	1513	4048	3148	1519	1818	1815	1517	1018	697	1666
1973-74	535	753	918	4940	6438	6174	3082	3637	3666	3887	4369	1696	<u>3342</u>
1974-75	1008	802	714	1272	4113	5413	3413	3071	1939	3362	2296	1268	2390
1975-76	788	737	1440	2790	5591	4612	2484	2093	3079	3700	1986	1253	2551
1976-77	900	745	696	835	<u>700</u>	725	<u>746</u>	1755	2455	2354	1453	640	<u>1168</u>
1977-78	601	781	978	4739	7633	3250	2548	1489	1778	2013	1208	809	2319
1978-79	730	983	627	1027	2795	1361	3938	3462	2952	2822	1094	722	1863
1979-80	598	678	908	1428	2545	4407	2431	2116	2836	1541	1262	783	1794
1980-81	561	543	504	1749	5877	1422	3743	1559	2392	1686	2487	853	1935
1981-82	576	660	1165	1939	6244	2574	<u>6997</u>	2688	2715	2847	2110	1109	2608
1982-83	731	752	1541	2131	4722	4491	4645	4028	2573	2355	1620	1554	2587
1983-84	936	775	663	3087	3435	3826	3268	3649	2575	3380	2827	1247	2470
1984-85	810	734	1308	4917	2175	1326	1635	2025	4019	2858	2395	917	2087
1985-86	695	816	1438	2298	1847	3734	6655	3440	1846	2116	1196	753	2207
1986-87	588	851	809	3883	1908	2298	3354	2618	2011	1563	927	734	1781
1987-88	587	558	495	690	3070	2912	2634	2900	3436	2710	2020	870	1905
1988-89	631	628	617	3587	2208	2854	1744	3987	3901	2285	1506	856	2066
1989-90	708	645											
MEAN	701	691	1032	2442	3372	3142	3063	2739	2975	2902	2037	1025	2172
MEDIAN	691	679	859	2130	3070	2858	2925	2540	3013	2847	1730	925	2201

DET3M9

USGS # 14180700

BIG CLIFF

River: N. SANTIAM

Drainage Area:

453 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile:

58.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												830	
1928-29	575	525	670	1410	1730	1690	1120	2540	3160	3640	2320	985	1700
1929-30	580	465	<u>460</u>	<u>415</u>	2630	1110	4640	1960	1830	1690	1260	655	1437
1930-31	475	455	560	1020	1110	1640	1260	3480	3620	1450	1110	695	1406
1931-32	<u>445</u>	<u>425</u>	720	1640	2030	2610	1690	5700	3820	3920	2635	1118	2233
1932-33	688	572	668	3193	2231	2424	1438	2553	3337	3821	<u>5176</u>	1719	2317
1933-34	851	884	972	1197	5674	4413	1585	2551	2121	<u>1300</u>	844	631	1929
1934-35	537	495	1051	3172	3538	1980	2478	2056	2737	2954	1847	927	1974
1935-36	600	527	609	924	1224	4782	1883	2443	3169	3203	1730	874	1833
1936-37	607	563	478	455	1105	<u>661</u>	1338	2764	4438	4322	3536	1214	1789
1937-38	701	610	859	3575	3581	3858	2130	3092	3859	3214	1672	858	2335
1938-39	629	577	604	1483	2481	1898	2008	3103	3134	2146	1362	802	1683
1939-40	561	520	596	511	2107	1717	4281	3253	2084	1394	<u>721</u>	<u>547</u>	1515
1940-41	461	502	642	1926	1985	2428	1455	<u>1225</u>	<u>1180</u>	2010	1150	689	1304
1941-42	547	794	874	2130	4385	1913	2563	1720	1754	1888	1704	929	1762
1942-43	620	513	511	<u>5225</u>	5721	3564	3731	2794	<u>4755</u>	2702	2676	1517	2849
1943-44	911	717	1323	1842	1755	1536	1695	1644	2100	1815	1236	720	1439
1944-45	551	549	509	1025	955	2462	4287	2319	3042	3948	1381	735	1797
1945-46	553	548	491	2540	4545	4174	2156	2822	2846	3333	2316	1245	2301
1946-47	728	646	1294	3920	5650	2593	2934	2650	2605	1550	1605	946	2255
1947-48	676	632	<u>2920</u>	3288	1939	4550	3269	2130	3013	3914	2884	1183	2530
1948-49	828	812	1208	2417	3227	1057	3096	3149	4295	<u>5694</u>	2425	1179	2443
1949-50	800	718	1055	2041	2096	2583	4140	4202	3590	3958	4208	1715	2579
1950-51	922	787	2675	5016	4351	3829	4390	2055	3224	2819	1514	933	2697
1951-52	721	652	2228	2414	3231	1541	3565	2295	4117	3632	2190	1360	2322
1952-53	805	691	577	582	1398	<u>8129</u>	5022	2305	2483	3250	2610	1380	2424
1953-54	856	695	907	3200	5699	3385	4322	2502	3577	2594	2638	1375	2633
1954-55	862	911	1263	1631	1983	1795	1957	1740	2863	4087	4399	<u>1801</u>	2105
1955-56	858	746	2150	4913	7011	5156	1641	2483	4299	4490	2835	1343	3168
1956-57	833	807	1212	1833	4025	1211	3258	4532	3157	2519	1451	861	2136
1957-58	641	601	784	1341	4427	4112	5067	1810	3527	2560	1718	956	2278
1958-59	706	685	822	4212	3365	4478	2352	2553	2861	2537	1672	876	2258
1959-60	662	<u>1186</u>	1951	1868	1607	1271	3437	3744	3857	3702	2173	955	2193
1960-61	739	650	862	4423	2498	2731	6958	4015	2751	2977	1678	879	2583
1961-62	688	754	1168	2289	4129	2785	2226	2405	4524	3000	1772	949	2223
1962-63	728	681	1769	3670	3085	1254	4305	1895	3069	3043	1205	923	2117
1963-64	644	659	803	3365	2005	3190	2170	2004	2686	3287	3213	1290	2105
1964-65	806	689	653	2049	<u>9879</u>	5844	2925	1806	2752	2090	1383	829	2650
1965-66	699	613	714	1617	1400	3088	1398	3432	4039	2991	1483	889	1867
1966-67	602	556	800	2636	3336	4037	2292	1899	1484	2677	1787	804	1909
1967-68	559	512	1917	1725	2548	2858	5957	2306	1632	1767	1261	746	1968
1968-69	943	953	2015	4306	3862	3492	1422	2386	3871	4684	2700	1230	2662
1969-70	845	834	1063	1227	2875	6964	3625	2514	1923	2411	1378	783	2201
1970-71	600	646	843	3127	2546	5498	3413	2943	3293	4736	3024	1522	2678
1971-72	845	1040	1046	3369	3378	4834	5152	<u>6989</u>	3239	4281	2630	1416	3181
1972-73	<u>1013</u>	996	830	1513	4048	3148	1519	1818	1815	1517	1018	697	1666
1973-74	535	753	918	4940	6438	6174	3082	3637	3666	3887	4369	1696	<u>3342</u>
1974-75	1008	802	714	1272	4113	5413	3413	3071	1939	3362	2296	1268	2390
1975-76	788	737	1440	2790	5591	4612	2484	2093	3079	3700	1986	1253	2551
1976-77	500	745	696	835	<u>700</u>	725	<u>746</u>	1755	2455	2354	1453	640	<u>1168</u>
1977-78	601	781	978	4739	7633	3250	2548	1489	1778	2013	1208	809	2319
1978-79	730	983	627	1027	2795	1361	3938	3462	2952	2822	1094	722	1883
1979-80	598	678	908	1428	2545	4407	2431	2116	2836	1541	1262	783	1794
1980-81	561	543	504	1749	5877	1422	3743	1559	2392	1686	2487	853	1935
1981-82	576	660	1165	1939	6244	2574	<u>6997</u>	2688	2715	2847	2110	1109	2608
1982-83	731	752	1541	2131	4722	4491	4645	4028	2573	2355	1620	1554	2587
1983-84	936	775	663	3087	3435	3826	3268	3649	2575	3380	2827	1247	2470
1984-85	810	734	1308	4917	2175	1326	1635	2025	4019	2858	2395	917	2087
1985-86	695	816	1438	2298	1847	3734	6655	3440	1846	2116	1196	753	2207
1986-87	588	851	809	3883	1908	2298	3354	2618	2011	1563	927	734	1781
1987-88	587	558	495	690	3070	2912	2634	2900	3436	2710	2020	870	1905
1988-89	631	628	617	3587	2208	2854	1744	3987	3901	2285	1506	856	2066
1989-90	708	645											
MEAN	701	691	1032	2442	3372	3142	3063	2739	2975	2902	2037	1025	2172
MEDIAN	691	679	859	2130	3070	2858	2925	2540	3013	2847	1730	925	2201

BCL3M9

USGS # 14186200

GREEN PETER

River: M. SANTIAM

Drainage Area: 277 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile: 5.7

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												175	
1928-29	90	95	245	875	1370	1570	1000	2740	2740	1980	1120	250	1174
1929-30	125	85	90	70	2430	830	3910	1350	860	1120	690	185	961
1930-31	100	95	215	900	740	1420	710	2690	2840	<u>470</u>	445	190	901
1931-32	96	95	425	1600	2030	2566	1477	<u>5998</u>	2708	2056	1037	274	1702
1932-33	125	87	302	2688	2396	2298	1528	2617	2629	<u>3059</u>	<u>3530</u>	614	1821
1933-34	170	387	516	812	5642	4104	780	1936	1231	617	278	141	1397
1934-35	90	83	975	3405	3280	2073	2270	1814	2163	1424	532	227	1522
1935-36	101	88	244	689	1059	5351	1814	1959	2086	1733	717	269	1345
1936-37	122	122	<u>74</u>	<u>65</u>	1014	491	1830	2918	<u>4042</u>	2925	2200	451	1348
1937-38	187	136	567	3350	3134	3289	1996	3065	3187	1719	495	171	1773
1938-39	98	95	153	1424	2258	1683	2303	2962	1823	800	667	262	1204
1939-40	118	104	339	206	2082	1425	4041	2511	1229	745	<u>220</u>	<u>126</u>	1087
1940-41	80	118	315	1896	1649	2293	881	<u>648</u>	<u>547</u>	1154	638	261	874
1941-42	155	581	578	1813	3444	1789	2002	1307	918	1241	964	387	1261
1942-43	158	91	151	<u>5397</u>	5741	3207	3596	1986	3011	1205	1313	396	2173
1943-44	189	117	920	1246	1138	1075	1507	1363	1774	948	582	200	918
1944-45	109	137	132	745	582	2494	3723	2107	2656	2646	564	187	1324
1945-46	110	153	108	3024	4498	3371	2082	2674	1839	1383	781	337	1696
1946-47	131	128	944	3445	4722	2025	2667	2255	2401	487	1223	402	1727
1947-48	199	179	<u>2950</u>	3450	1800	4060	3200	1880	2380	2240	865	295	1954
1948-49	170	245	730	1980	4060	815	4080	2440	2330	2900	620	205	1698
1949-50	115	130	590	1370	1930	2840	4190	3950	2640	2300	1720	485	1840
1950-51	175	135	2590	4380	3260	4507	3498	1842	1998	1529	377	179	2031
1951-52	110	101	2317	2149	3202	1432	3466	2219	2609	1654	914	486	1715
1952-53	167	125	85	126	1385	<u>7270</u>	4745	2075	1882	2446	1388	370	1825
1953-54	235	151	449	3335	5515	3593	3605	1604	2560	850	1288	419	1955
1954-55	225	367	710	1151	2242	1919	2045	2068	2937	2899	2162	714	1616
1955-56	215	226	1752	4660	6628	4697	1290	2744	3254	2395	1210	338	2458
1956-57	164	112	833	1465	3946	910	3350	4015	2083	1117	560	226	1556
1957-58	157	101	372	1122	5222	3748	4095	1296	2937	893	740	287	1734
1958-59	138	155	252	3986	2850	3970	2069	2260	2105	1953	806	291	1733
1959-60	142	<u>749</u>	1784	1507	1119	1169	3184	3467	3084	3017	893	242	1690
1960-61	183	149	437	4514	1930	2049	<u>6405</u>	3727	1784	1769	494	185	1935
1961-62	111	210	757	2378	4336	1934	1623	2586	3427	1922	697	228	1685
1962-63	198	209	1294	2928	2465	758	3440	1518	2625	24	510	420	1550
1963-64	181	230	393	3466	1642	3607	1971	2203	2223	207	1685	413	1670
1964-65	216	169	179	2076	<u>9077</u>	5893	2091	1039	1520	991	365	177	1992
1965-66	139	96	186	1134	1066	3575	1392	3095	2544	1224	418	226	1259
1966-67	106	102	398	2415	2873	3764	1765	1409	1122	1463	590	143	1346
1967-68	62	<u>83</u>	1491	1349	2439	2339	4138	1417	1018	987	592	212	1335
1968-69	<u>504</u>	632	1606	3405	3722	3297	1205	2185	2901	2530	1395	564	2001
1969-70	194	214	683	860	2521	5908	2566	1673	1368	1713	390	140	1519
1970-71	111	228	571	3010	2527	5311	2852	3037	2592	2603	1412	429	2053
1971-72	188	607	649	3408	3541	5282	5129	5748	2451	2351	757	223	2522
1972-73	102	190	149	979	3554	2670	968	1496	1338	701	489	236	1077
1973-74	<u>60</u>	404	610	5242	6361	4799	3226	3704	2861	2172	1871	392	<u>2638</u>
1974-75	149	124	142	1000	4270	5234	3042	2650	1482	2255	749	306	1784
1975-76	236	221	1380	2612	4900	4794	2298	1779	2687	1870	820	266	1991
1976-77	233	138	154	452	<u>363</u>	<u>463</u>	<u>539</u>	1935	1855	2001	819	214	<u>765</u>
1977-78	225	468	771	4589	6881	2755	1984	843	1344	1437	587	264	1846
1978-79	309	658	281	933	2964	1219	3748	2570	2217	1575	327	164	1399
1979-80	115	168	507	1245	2108	3689	1754	1623	2034	770	743	282	1253
1980-81	150	152	138	1607	5121	985	2930	1158	2084	1234	1712	366	1459
1981-82	152	221	844	1618	6309	2989	5866	2067	2106	1309	643	265	2011
1982-83	141	256	1276	1959	4388	3798	3857	3069	1698	1267	666	<u>796</u>	1924
1983-84	285	201	198	2852	3408	2868	3006	3083	1985	2493	2188	441	1913
1984-85	179	194	1015	4769	2202	1187	1533	1598	2748	1340	1123	212	1500
1985-86	129	260	1189	2361	1817	2692	6051	2066	1095	1406	351	208	1606
1986-87	106	540	418	3696	1409	2073	2487	1948	1037	579	301	258	1226
1987-88	133	88	84	314	2505	2886	1898	2026	2186	1718	1231	249	1277
1988-89	117	156	145	3731	1617	3199	1776	3745	2507	1096	491	205	1562
1989-90	233	166											
MEAN	158	211	666	2217	3126	2890	2696	2357	2189	1659	917	299	1608
MEDIAN	146	152	449	1959	2527	2755	2303	2107	2186	1575	740	262	1670

GPR3M9

USGS # 14186650

FOSTER

River: S. SANTIAM

Drainage Area: 493 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile: 37.7

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28													290
1928-29	150	155	385	1400	2200	2490	1590	4470	4500	3280	1960	410	1918
1929-30	210	140	140	100	3840	1320	6370	2200	1440	1910	1100	295	1559
1930-31	160	155	335	1420	1170	2260	1180	4400	4580	<u>760</u>	700	305	1451
1931-32	140	140	565	2580	3380	4260	2480	9470	4530	3500	1750	445	2777
1932-33	210	145	500	4400	4020	4020	2720	4320	4240	<u>5120</u>	<u>5500</u>	1030	3015
1933-34	275	635	675	1200	8100	6080	1250	3120	2120	1090	475	230	2122
1934-35	145	<u>135</u>	1520	5290	5260	3430	3680	3060	3580	2380	890	370	2469
1935-36	160	140	380	1080	1640	8400	3020	3220	3400	2890	1240	430	2170
1936-37	200	200	<u>120</u>	<u>100</u>	1500	720	3400	4900	<u>6740</u>	4660	3700	720	2232
1937-38	300	220	920	5530	5300	5340	3440	5130	5200	2940	870	280	2952
1938-39	165	150	240	2290	3600	2780	3860	4970	2930	1370	1180	430	1986
1939-40	195	175	500	320	3150	2300	6460	4180	2050	1230	<u>350</u>	<u>195</u>	1744
1940-41	120	190	460	2970	2740	3640	1410	<u>1060</u>	<u>960</u>	1900	1110	435	1417
1941-42	255	905	980	3130	5910	2980	3350	2160	1500	2170	1610	630	2125
1942-43	260	155	230	<u>8550</u>	9280	5400	5620	3100	4830	1960	2310	660	3508
1943-44	310	195	1390	2000	1750	1700	2430	2300	2920	1590	925	325	1481
1944-45	180	230	215	1100	920	3870	6120	3500	4490	4420	950	310	2165
1945-46	180	245	180	4800	6960	5580	3480	4460	2940	2280	1320	540	2746
1946-47	210	210	1480	5590	7530	3240	4000	3300	3810	830	1850	675	2715
1947-48	335	295	<u>4420</u>	5500	2850	6480	5170	3140	3950	3800	1660	500	3168
1948-49	280	400	1130	3250	6500	1300	6470	4170	3830	4700	1030	330	2759
1949-50	185	205	830	2180	3110	4680	6830	6290	4290	3830	3020	840	2999
1950-51	300	225	3980	7100	5270	7300	5590	3090	3090	2480	605	280	3261
1951-52	180	175	3480	3400	5300	2360	5520	3570	4080	2760	1580	880	2764
1952-53	265	195	130	185	2020	<u>10980</u>	7620	3430	3070	4045	2360	615	2887
1953-54	343	224	655	5120	8820	5900	5670	2520	3990	1345	2030	630	3086
1954-55	335	600	1110	1760	3350	3080	3140	3480	4740	4450	3420	1160	2546
1955-56	335	330	2540	7110	11130	7410	2285	4465	5095	3870	2100	580	3950
1956-57	265	185	1390	2290	6280	1425	5390	6340	3385	1910	910	365	2497
1957-58	240	160	550	1610	8366	5995	6660	2060	4510	1425	1255	475	2753
1958-59	215	230	365	6045	4370	6540	3470	3535	3235	3145	1270	425	2732
1959-60	205	1070	2730	2390	1605	1855	4990	5690	4895	4900	1415	380	2667
1960-61	270	225	610	6870	3070	3015	<u>10380</u>	5895	2830	2935	830	300	3047
1961-62	165	320	1205	3710	6685	3015	2560	4240	5320	3180	1135	355	2659
1962-63	305	305	1910	4155	3865	1170	5610	2540	4365	4115	915	745	2475
1963-64	300	350	564	5340	2505	5795	3025	3445	3515	3250	2810	685	2626
1964-65	325	255	263	3137	<u>14230</u>	9603	3210	1637	2371	1632	607	270	3144
1965-66	225	142	277	1729	1752	5919	2181	4987	3887	1938	711	386	2014
1966-67	175	172	598	3954	4663	6307	2965	2330	1852	2402	1002	237	2221
1967-68	104	139	2151	2113	3842	3821	6654	2284	1730	1724	995	357	2145
1968-69	<u>782</u>	994	2503	5599	6303	5369	2221	3646	4476	3955	2387	966	3274
1969-70	326	343	1039	1350	4216	9368	4028	2833	2247	2759	623	224	2431
1970-71	173	356	841	4452	3908	9010	4534	5016	4124	4044	2238	723	3280
1971-72	291	904	1118	5857	6213	8636	7936	<u>9519</u>	4106	3904	1258	361	<u>4167</u>
1972-73	170	294	251	1430	5378	4125	1488	2421	2219	1133	761	364	1676
1973-74	<u>102</u>	545	829	8371	9590	7661	5081	6036	4605	3430	2986	648	4150
1974-75	230	190	234	1537	6876	8334	4845	4355	2391	3679	1249	506	2869
1975-76	361	337	2030	4150	7723	7832	3602	2927	4283	2940	1279	437	3163
1976-77	386	235	257	647	<u>521</u>	<u>647</u>	<u>758</u>	3079	3044	3512	1320	343	<u>1232</u>
1977-78	318	663	1142	7165	10650	4495	3281	1422	2232	2412	960	444	2931
1978-79	489	<u>1077</u>	459	1495	4973	2029	6225	4132	3901	2514	525	261	2315
1979-80	180	257	791	2009	3372	6110	2665	2721	3309	1341	1352	483	2049
1980-81	232	246	229	2466	8040	1590	4737	1894	3421	2123	3003	619	2365
1981-82	255	349	1295	2720	10370	4799	9235	3274	3566	2104	1045	459	3256
1982-83	238	417	2105	3164	7236	6215	6401	5052	2933	2271	1173	<u>1369</u>	3202
1983-84	481	337	319	4510	5663	4710	5077	5141	3383	4207	3723	726	3181
1984-85	299	319	1617	7592	3604	1909	2539	2518	4336	2167	1797	341	2407
1985-86	212	426	1882	3825	3014	4281	9802	3360	1950	2356	579	343	2621
1986-87	175	862	682	6091	2291	3358	4031	3161	1709	927	485	421	1996
1987-88	212	144	134	492	4065	4732	3082	3435	3767	2921	2107	421	2126
1988-89	192	253	227	5983	2626	5290	2913	6217	4081	1844	816	334	2559
1989-90	391	266											
MEAN	253	331	1018	3503	4991	4660	4356	3843	3523	2732	1526	493	2594
MEDIAN	231	240	675	3137	4216	4495	3860	3445	3580	2514	1249	428	2626

FOS3M9

SALEM

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-922	
1928-29	-201	-8	27	26	17	17	19	17	2	-107	-626	-912	-145
1929-30	-198	-8	26	26	17	17	18	17	2	-106	-618	-901	-144
1930-31	-196	-8	26	25	16	16	18	16	2	-105	-611	-891	-142
1931-32	-194	-7	26	25	16	16	18	16	2	-103	-604	-880	-140
1932-33	-192	-7	25	25	16	16	18	16	2	-102	-597	-870	-139
1933-34	-190	-7	25	24	16	16	17	16	2	-101	-590	-859	-137
1934-35	-187	-7	25	24	15	15	17	15	2	-100	-582	-849	-135
1935-36	-185	-7	24	24	15	15	17	15	1	-99	-575	-838	-133
1936-37	-183	-7	24	23	15	15	17	15	1	-97	-568	-828	-132
1937-38	-181	-7	24	23	15	15	16	15	1	-96	-561	-817	-131
1938-39	-178	-7	23	23	15	15	16	15	1	-95	-554	-807	-129
1939-40	-176	-7	23	22	14	14	16	14	1	-94	-546	-796	-127
1940-41	-174	-7	23	22	14	14	16	14	1	-92	-539	-786	-126
1941-42	-172	-7	22	22	14	14	15	14	1	-91	-532	-775	-124
1942-43	-170	-7	22	21	14	14	15	14	1	-90	-525	-765	-122
1943-44	-167	-7	22	21	14	14	15	14	1	-89	-518	-754	-120
1944-45	-165	-7	21	21	13	13	15	13	1	-88	-510	-744	-119
1945-46	-163	-7	21	20	13	13	15	13	1	-86	-503	-733	-117
1946-47	-161	-7	20	20	13	13	14	13	1	-85	-496	-723	-116
1947-48	-158	-7	20	20	13	13	14	13	1	-84	-489	-712	-114
1948-49	-156	-7	20	19	13	13	14	13	1	-83	-481	-702	-112
1949-50	-154	-7	19	19	12	12	14	12	1	-81	-474	-691	-111
1950-51	-152	-7	19	19	12	12	13	12	1	-79	-457	-666	-107
1951-52	-146	-7	18	18	12	12	13	12	1	-76	-440	-642	-103
1952-53	-141	-7	18	17	11	11	12	11	1	-73	-423	-617	-99
1953-54	-136	-6	17	17	11	11	12	11	1	-70	-406	-592	-95
1954-55	-130	-6	16	16	10	10	11	10	1	-67	-389	-567	-91
1955-56	-125	-6	15	15	10	10	11	10	1	-64	-372	-543	-87
1956-57	-120	-6	15	14	9	9	10	9	1	-61	-355	-518	-83
1957-58	-114	-6	14	14	9	9	10	9	0	-58	-339	-493	-79
1958-59	-109	-6	13	13	8	8	9	8	0	-55	-322	-468	-76
1959-60	-104	-5	12	12	8	8	9	8	0	-52	-305	-444	-71
1960-61	-98	-5	12	12	8	8	8	8	0	-50	-288	-419	-68
1961-62	-93	-5	11	11	7	7	8	7	0	-47	-271	-394	-64
1962-63	-88	-5	10	10	7	7	7	7	0	-44	-254	-370	-60
1963-64	-82	-5	9	10	6	6	7	6	0	-41	-237	-345	-56
1964-65	-77	-5	9	9	6	6	6	6	0	-38	-220	-320	-52
1965-66	-72	-4	8	8	5	5	6	5	0	-35	-203	-295	-48
1966-67	-66	-4	7	7	5	5	5	5	0	-32	-186	-271	-44
1967-68	-61	-4	7	7	4	4	5	4	0	-29	-169	-246	-40
1968-69	-55	-4	6	6	4	4	4	4	0	-26	-152	-221	-36
1969-70	-50	-4	5	5	3	3	4	3	0	-23	-135	-196	-32
1970-71	-45	-4	4	5	3	3	3	3	0	-21	-118	-171	-28
1971-72	-39	-3	4	4	2	2	3	2	0	-18	-101	-147	-24
1972-73	-34	-3	3	3	2	2	2	2	0	-15	-84	-122	-21
1973-74	-29	-3	2	2	2	2	2	2	0	-12	-67	-97	-17
1974-75	-23	-3	1	2	1	1	1	1	-1	-9	-50	-72	-13
1975-76	-18	-3	1	1	1	1	1	1	-1	-6	-33	-48	-9
1976-77	-13	-3	0	0	0	0	0	0	-1	-3	-16	-23	-5
1977-78	-7	-2	-1	0	0	0	0	0	-1	0	1	2	-1
1978-79	-2	-2	-2	-1	-1	-1	-1	-1	-1	3	18	27	3
1979-80	3	-2	-2	-2	-1	-1	-1	-1	-1	6	35	51	7
1980-81	9	-2	-3	-3	-2	-2	-2	-2	0	2	14	21	3
1981-82	5	0	0	0	0	0	0	0	0	2	12	18	3
1982-83	4	0	0	0	0	0	0	0	0	2	10	15	2
1983-84	3	0	0	0	0	0	0	0	0	1	8	12	2
1984-85	3	0	0	0	0	0	0	0	0	1	6	9	2
1985-86	2	0	0	0	0	0	0	0	0	1	4	6	1
1986-87	2	0	0	0	0	0	0	0	0	0	2	3	1
1987-88	1	0	0	0	0	0	0	0	0	0	0	0	0
1988-89	0	0	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	-98	-5	12	12	8	8	9	8	1	-52	-301	-447	-71

SLM3DD9

T.W. SULLIVAN

Accumulated depletions at site and upstream (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												-1892	
1928-29	-411	-16	55	53	34	34	38	34	4	-220	-1283	-1870	-298
1929-30	-407	-15	54	52	34	34	37	34	4	-217	-1269	-1849	-295
1930-31	-402	-15	53	52	33	33	37	33	3	-215	-1254	-1827	-291
1931-32	-398	-15	53	51	33	33	37	33	3	-212	-1239	-1806	-287
1932-33	-393	-15	52	50	33	33	36	33	3	-210	-1224	-1784	-285
1933-34	-389	-15	51	50	32	32	36	32	3	-207	-1209	-1762	-281
1934-35	-384	-15	51	49	32	32	35	32	3	-205	-1195	-1741	-278
1935-36	-380	-15	50	48	31	31	35	31	3	-202	-1180	-1719	-274
1936-37	-375	-15	49	48	31	31	34	31	3	-200	-1165	-1698	-271
1937-38	-371	-15	48	47	30	30	34	30	3	-197	-1150	-1676	-268
1938-39	-366	-15	48	46	30	30	33	30	3	-195	-1135	-1655	-264
1939-40	-361	-15	47	46	30	30	33	30	3	-192	-1121	-1633	-260
1940-41	-357	-15	46	45	29	29	32	29	3	-190	-1106	-1612	-258
1941-42	-352	-15	46	44	29	29	32	29	3	-187	-1091	-1590	-254
1942-43	-348	-15	45	44	28	28	31	28	2	-185	-1076	-1568	-251
1943-44	-343	-15	44	43	28	28	31	28	2	-182	-1062	-1547	-247
1944-45	-339	-15	43	42	27	27	30	27	2	-180	-1047	-1525	-244
1945-46	-334	-15	43	42	27	27	30	27	2	-177	-1032	-1504	-241
1946-47	-330	-15	42	41	27	27	29	27	2	-175	-1017	-1482	-237
1947-48	-325	-15	41	40	26	26	29	26	2	-172	-1002	-1461	-233
1948-49	-320	-14	41	40	26	26	28	26	2	-170	-988	-1439	-231
1949-50	-316	-14	40	39	25	25	28	25	2	-167	-973	-1418	-227
1950-51	-311	-14	39	38	25	25	27	25	2	-161	-938	-1367	-219
1951-52	-300	-14	38	37	24	24	26	24	2	-155	-903	-1316	-211
1952-53	-289	-14	36	36	23	23	25	23	2	-149	-868	-1265	-203
1953-54	-278	-13	35	34	22	22	24	22	1	-143	-834	-1215	-195
1954-55	-267	-13	33	33	21	21	23	21	1	-137	-799	-1164	-187
1955-56	-256	-13	32	31	20	20	22	20	1	-131	-764	-1113	-179
1956-57	-245	-12	30	30	19	19	21	19	1	-125	-729	-1062	-171
1957-58	-235	-12	29	28	18	18	20	18	1	-120	-694	-1012	-163
1958-59	-224	-12	27	27	17	17	19	17	1	-114	-660	-961	-155
1959-60	-213	-11	26	25	16	16	18	16	1	-108	-625	-910	-146
1960-61	-202	-11	24	24	15	15	17	15	1	-102	-590	-859	-139
1961-62	-191	-10	22	22	14	14	16	14	0	-96	-555	-809	-131
1962-63	-180	-10	21	21	14	14	15	14	0	-90	-520	-758	-123
1963-64	-169	-10	19	20	13	13	14	13	0	-84	-486	-707	-114
1964-65	-158	-9	18	18	12	12	13	12	0	-78	-451	-657	-107
1965-66	-147	-9	16	17	11	11	12	11	0	-72	-416	-606	-99
1966-67	-136	-9	15	15	10	10	11	10	0	-66	-381	-555	-90
1967-68	-125	-8	13	14	9	9	10	9	0	-60	-346	-504	-82
1968-69	-114	-8	12	12	8	8	9	8	0	-54	-311	-453	-74
1969-70	-103	-8	10	11	7	7	8	7	0	-48	-276	-403	-66
1970-71	-92	-7	9	9	6	6	7	6	-1	-42	-242	-352	-58
1971-72	-81	-7	7	8	5	5	6	5	-1	-36	-207	-301	-50
1972-73	-70	-7	6	6	4	4	5	4	-1	-30	-172	-250	-42
1973-74	-59	-6	4	5	3	3	4	3	-1	-24	-137	-199	-34
1974-75	-48	-6	3	3	2	2	2	2	-1	-18	-102	-149	-26
1975-76	-37	-5	1	2	1	1	1	1	-1	-12	-67	-98	-18
1976-77	-26	-5	0	1	0	0	0	0	-1	-7	-32	-47	-10
1977-78	15	-5	-2	-1	-1	-1	1	-1	-1	-1	2	4	-2
1978-79	4	-4	-3	-2	-2	-2	2	-2	2	5	37	55	6
1979-80	7	4	-5	-4	-2	2	-3	2	-2	11	72	105	14
1980-81	18	-4	-6	-5	-3	-3	-4	-3	0	5	29	43	6
1981-82	10	1	-1	-1	-1	-1	-1	-1	0	4	25	37	6
1982-83	8	1	-1	-1	-1	-1	-1	-1	0	4	21	31	5
1983-84	7	1	-1	-1	0	0	0	0	0	3	17	25	4
1984-85	6	1	0	0	0	0	0	0	0	2	13	19	3
1985-86	5	1	0	0	0	0	0	0	0	2	9	12	2
1986-87	3	1	0	0	0	0	0	0	0	1	4	6	1
1987-88	2	1	0	0	0	0	0	0	0	0	0	0	0
1988-89	1	0	0	0	0	0	0	0	0	0	0	0	0
1989-90	0	0											
MEAN	-202	-10	25	25	16	16	18	16	1	-106	-618	-916	-145

SVN3DD9

USGS # 14207750

T.W. SULLIVAN

River: WILLAMETTE

Drainage Area:

10100 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile:

26.6

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												3174	
1928-29	3455	3828	5198	13860	27820	40350	29190	34960	45880	28110	19560	4973	21380
1929-30	3741	3688	3743	<u>3107</u>	43770	21010	83950	27040	18780	20460	11460	3169	19920
1930-31	2988	3360	4586	11390	14290	29350	20990	43700	63560	12330	8451	3485	18150
1931-32	2891	3016	6682	31660	47220	68700	38640	89500	48970	30980	18760	6264	32820
1932-33	4278	3591	5689	33910	51410	73340	52070	59410	38040	41350	<u>41850</u>	11200	34590
1933-34	5171	6968	7961	14040	96350	76360	21860	30050	27890	13510	5876	2647	25890
1934-35	3122	3220	11060	53630	72440	62440	43980	46470	38790	24580	12000	5166	31350
1935-36	3645	3705	5133	10100	17770	109800	43010	39670	33530	29750	15540	5534	26460
1936-37	3888	4077	3611	3484	14140	15830	63630	54170	<u>62440</u>	37910	31560	9597	26690
1937-38	4926	4669	8302	63380	79760	75770	67320	79500	48000	27600	10480	3961	39330
1938-39	3545	3726	4418	20380	32310	36990	61620	51350	24830	13540	10080	4193	22010
1939-40	3179	3562	5197	4667	31000	31400	83690	58320	30410	16950	<u>4928</u>	<u>2027</u>	22740
1940-41	2544	3508	5435	24640	38900	47850	21780	<u>14780</u>	<u>13610</u>	18840	10730	3967	17220
1941-42	3436	7356	8459	34690	84000	40900	51660	24010	16390	24680	18180	6972	26610
1942-43	3859	3218	3757	67390	109600	93850	77150	30600	59330	22700	22870	8555	41660
1943-44	5614	4784	13270	22350	24720	28590	35070	26660	32950	17560	9796	3789	18690
1944-45	3114	3396	3490	10630	11770	41280	71910	57270	49020	43130	13280	4028	25720
1945-46	3432	4463	3885	46940	76570	87830	55360	64120	29740	21730	14010	6727	34510
1946-47	4116	4051	10840	53170	86270	41530	56810	40600	41940	12990	15430	6963	31040
1947-48	5147	4738	<u>41220</u>	65560	38390	86110	62490	50510	44380	39200	19580	7137	38630
1948-49	5432	5757	9857	33180	84510	24920	101900	49970	34090	43180	13590	5498	33910
1949-50	4225	4321	8273	18400	39400	85300	92000	81580	46830	34020	27800	9484	37340
1950-51	5133	4303	31010	94060	76490	103000	77800	55120	31400	25720	9369	4326	42950
1951-52	3608	3815	25990	38000	84720	51030	79450	47350	39750	26970	16090	11270	35550
1952-53	4591	4276	3844	4551	22260	<u>129800</u>	93630	48900	32250	40450	27910	8700	34810
1953-54	5579	4941	8570	48470	105600	89680	86640	37640	42950	17090	19500	8289	39310
1954-55	5304	6435	9910	20070	33930	47150	34180	43800	62360	36870	25460	10190	27910
1955-56	4615	4941	19740	69800	151800	123200	49390	68510	47660	34050	21520	8178	50450
1956-57	5027	4372	11860	23690	53720	24880	55320	88800	39990	23220	12060	4696	28850
1957-58	4219	3658	6836	13010	79270	75930	103700	35900	46280	20200	14960	5969	33750
1958-59	3858	4259	5468	49850	42610	92250	63480	39520	34710	28140	13070	4882	31650
1959-60	3339	7875	17010	17220	19610	27480	68330	65810	57780	48500	18450	4989	29540
1960-61	4126	4127	5974	63540	42010	39870	<u>130200</u>	92730	33050	31520	11980	4605	38010
1961-62	3311	4564	9201	31990	72960	35190	34510	57370	48040	35320	15260	5371	29430
1962-63	4709	4525	15670	44860	48120	17450	67010	35290	66530	<u>51270</u>	11240	7278	30860
1963-64	4090	4729	6809	49380	31740	102900	41820	44470	29490	24870	23870	7638	30970
1964-65	4932	4095	4602	23920	<u>166400</u>	119800	53430	21560	24720	18110	9209	4442	38050
1965-66	3901	2908	4619	16940	30220	96580	30730	66610	34800	18190	7954	4382	26570
1966-67	2640	3737	6604	33490	65030	76570	48210	36220	25310	23780	12240	3409	28040
1967-68	<u>2031</u>	2822	14430	15540	42370	48730	87120	33400	20730	16910	11900	4111	24800
1968-69	<u>7126</u>	8170	21980	63640	93600	83120	55950	41150	38060	31440	20070	10430	39500
1969-70	4022	4824	9046	14750	59390	126000	66680	34540	24240	26150	9035	3692	31940
1970-71	2621	4145	7842	38620	65090	122000	54090	73650	52160	33760	21890	9532	40460
1971-72	4431	7791	9489	46220	87620	108000	74450	<u>105000</u>	48970	34260	17030	6691	45850
1972-73	4259	4990	5402	13410	55900	54830	21840	31090	25080	13400	7939	3804	20230
1973-74	2697	5706	6536	<u>97840</u>	117800	109800	71930	80170	56680	29120	25920	9628	<u>51040</u>
1974-75	4714	3713	4186	16000	62680	86250	66650	60890	29460	33670	16390	8222	32640
1975-76	5471	4602	14570	38130	83600	90860	49680	44520	46310	28450	14360	7187	35680
1976-77	6176	4671	4769	7140	<u>6344</u>	<u>8537</u>	<u>8473</u>	34060	24200	27010	12450	3824	<u>12340</u>
1977-78	3262	5827	8299	54810	116700	63790	46020	19620	26920	26070	11210	6127	32360
1978-79	5423	<u>9555</u>	5284	11370	43590	25820	78050	48920	40940	29890	8351	4323	25620
1979-80	3513	4010	9322	22810	48730	82960	36920	40850	38610	15950	13420	5824	26930
1980-81	3096	3210	3375	19520	89880	28180	51910	26240	36450	19840	24530	7487	25990
1981-82	3533	4081	11020	33100	123400	75200	98340	47830	48450	21900	13240	7459	40330
1982-83	4595	5276	13990	26580	91940	72050	91970	71550	43990	25030	14960	<u>14700</u>	39470
1983-84	6624	5787	5333	52520	68840	54310	65700	56140	44910	39990	34990	10400	37000
1984-85	5123	4610	12310	82990	51380	26260	36960	31200	40670	20270	19210	5670	27880
1985-86	4291	5367	12530	28760	32400	53670	104400	48530	22310	24310	9458	5543	28820
1986-87	3408	6687	6669	48160	32980	51630	62670	44870	20570	<u>12130</u>	6982	5670	24960
1987-88	3359	<u>2822</u>	<u>2739</u>	5758	48280	65480	34230	35960	41040	30890	21500	6050	24870
1988-89	3268	3153	3074	45410	32150	62320	36480	73220	42320	18840	11380	5286	28030
1989-90	4654	3137											
MEAN	4136	4604	9281	33880	60720	65120	59940	49560	39010	26860	15940	6271	31150
MEDIAN	4056	4289	6669	31660	51410	63790	56810	46470	38790	26070	14010	5670	30970

SVN3M9

USGS # 14208695

TIMOTHY MEADOWS

River: OAK GROVE FK

Drainage Area: 53 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 15.8

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												107	
1928-29	95	87	82	87	86	92	82	117	156	292	185	105	122
1929-30	87	77	68	62	103	88	183	136	157	112	89	64	101
1930-31	54	51	51	57	58	76	78	138	258	136	80	62	91
1931-32	54	49	47	57	58	95	76	199	230	274	157	88	115
1932-33	69	59	59	125	109	125	88	94	170	254	304	134	132
1933-34	93	79	75	80	304	279	163	172	155	<u>93</u>	82	71	137
1934-35	65	60	66	102	154	116	126	116	162	260	154	96	123
1935-36	78	69	66	66	68	185	102	136	216	275	135	92	124
1936-37	79	73	61	60	75	70	<u>70</u>	99	227	302	204	112	119
1937-38	80	69	69	118	184	209	136	151	236	272	146	106	148
1938-39	90	83	76	86	121	110	115	146	230	205	113	86	122
1939-40	75	71	69	66	91	91	169	221	200	114	81	70	110
1940-41	65	65	64	84	92	94	92	87	<u>96</u>	94	72	44	79
1941-42	42	47	51	74	172	95	123	95	139	129	100	66	94
1942-43	47	48	55	139	202	155	160	142	<u>323</u>	308	261	157	166
1943-44	113	99	97	98	109	99	109	100	149	145	102	77	108
1944-45	74	73	64	68	68	105	156	112	175	275	110	71	112
1945-46	55	52	50	85	149	177	111	127	163	285	189	124	131
1946-47	97	98	114	138	321	141	164	174	199	152	118	97	151
1947-48	73	70	106	135	90	205	160	153	175	249	215	125	146
1948-49	98	87	84	103	150	97	123	149	250	<u>457</u>	237	146	165
1949-50	111	98	92	95	116	115	151	218	210	303	<u>359</u>	<u>193</u>	172
1950-51	121	98	125	<u>197</u>	251	218	273	174	257	353	188	146	200
1951-52	124	107	<u>138</u>	121	160	108	149	138	238	299	174	132	157
1952-53	103	90	79	73	75	281	268	153	169	250	200	140	156
1953-54	118	92	83	107	237	166	187	176	214	271	230	161	170
1954-55	125	108	106	97	101	118	121	93	134	229	298	167	141
1955-56	102	88	105	178	305	265	156	146	244	385	209	113	192
1956-57	85	70	87	76	191	101	138	214	225	195	93	57	128
1957-58	48	37	44	50	143	148	239	129	210	144	86	67	111
1958-59	48	37	<u>15</u>	133	141	182	116	97	154	151	92	62	102
1959-60	45	53	87	90	100	<u>50</u>	141	129	242	202	109	60	109
1960-61	50	25	70	168	115	141	335	206	174	178	115	77	136
1961-62	66	60	64	77	144	157	124	128	247	207	104	59	120
1962-63	50	55	77	114	142	78	182	136	156	149	89	66	107
1963-64	54	51	49	85	<u>57</u>	108	74	<u>87</u>	169	201	181	73	99
1964-65	56	56	46	81	256	208	211	158	194	205	129	94	141
1965-66	76	70	66	92	85	128	93	115	213	206	104	68	110
1966-67	46	44	52	91	113	161	142	121	111	138	88	46	96
1967-68	<u>37</u>	37	63	77	94	115	246	180	124	101	<u>41</u>	64	98
1968-69	41	<u>25</u>	70	151	147	170	125	122	222	364	208	109	146
1969-70	80	75	80	75	108	237	192	169	172	168	120	75	129
1970-71	53	80	91	121	121	217	202	134	191	388	279	146	168
1971-72	98	105	112	98	296	109	250	<u>485</u>	289	357	257	168	<u>219</u>
1972-73	<u>134</u>	<u>121</u>	109	123	191	174	127	134	120	96	72	50	121
1973-74	48	59	52	145	221	<u>332</u>	183	159	285	380	342	180	199
1974-75	126	111	96	90	195	261	227	211	180	269	198	115	173
1975-76	98	111	110	127	309	234	184	158	201	341	177	123	181
1976-77	110	114	19	<u>14</u>	98	95	88	103	112	99	57	<u>41</u>	<u>79</u>
1977-78	40	49	56	131	<u>411</u>	150	149	133	141	105	72	51	124
1978-79	47	55	55	63	127	293	159	174	202	198	87	59	127
1979-80	51	45	60	75	137	197	154	168	217	167	96	60	119
1980-81	49	55	71	91	220	127	201	141	137	99	98	56	112
1981-82	44	62	67	82	223	180	<u>342</u>	216	195	211	143	95	154
1982-83	78	79	94	106	179	246	222	312	227	170	123	105	162
1983-84	85	78	85	132	130	171	167	206	203	196	155	96	142
1984-85	81	68	100	186	125	92	117	128	262	194	120	78	129
1985-86	75	79	88	119	104	128	272	330	226	159	107	82	147
1986-87	81	87	76	140	124	111	139	154	143	94	63	54	105
1987-88	44	42	70	73	139	112	128	187	266	195	127	71	121
1988-89	57	57	62	133	139	167	117	170	259	167	95	69	124
1989-90	62	56											
MEAN	75	70	75	101	153	153	159	158	197	217	148	94	133
MEDIAN	74	69	70	92	137	141	149	146	200	202	120	84	127

TMY3M9

USGS # 14209095

OAK GROVE

River: OAK GROVE FK

Drainage Area:

126 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile:

5.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												387	
1928-29	359	344	340	367	351	348	317	436	524	903	628	383	442
1929-30	343	323	305	280	401	333	632	484	527	438	361	302	392
1930-31	276	267	262	<u>263</u>	<u>268</u>	291	304	490	829	501	339	298	366
1931-32	276	264	252	266	269	357	298	650	746	857	549	350	428
1932-33	308	285	281	498	420	458	335	374	567	805	954	440	477
1933-34	355	328	323	342	995	980	589	579	522	389	342	316	504
1934-35	299	287	298	418	553	427	453	432	542	822	543	366	453
1935-36	325	307	299	296	299	662	379	484	704	860	488	358	456
1936-37	327	314	287	274	319	<u>271</u>	<u>281</u>	388	735	930	679	397	434
1937-38	328	307	306	472	641	744	484	524	762	853	519	386	528
1938-39	349	335	324	364	455	408	420	510	745	680	428	345	447
1939-40	320	309	308	295	366	344	587	705	655	443	341	314	415
1940-41	298	298	294	355	368	353	347	357	<u>348</u>	392	316	263	<u>332</u>
1941-42	252	259	263	322	607	358	444	376	475	482	393	306	378
1942-43	262	261	272	546	696	560	560	500	<u>1020</u>	944	836	486	578
1943-44	394	370	377	406	419	369	399	389	504	523	399	327	406
1944-45	317	315	296	304	299	389	546	421	583	860	421	316	421
1945-46	278	270	259	362	537	633	406	461	547	886	638	421	476
1946-47	364	367	418	543	1047	513	572	584	652	543	442	366	534
1947-48	315	308	400	533	363	730	559	529	583	794	711	422	520
1948-49	365	345	343	422	542	362	446	517	804	<u>1331</u>	770	464	560
1949-50	390	367	363	395	439	425	531	698	685	933	1109	<u>552</u>	574
1950-51	411	369	448	<u>744</u>	840	772	909	583	826	1061	635	464	670
1951-52	416	387	<u>478</u>	483	570	401	525	491	770	923	596	436	539
1952-53	375	350	333	318	319	986	896	528	563	796	668	452	547
1953-54	405	355	342	435	798	599	644	590	699	850	750	493	580
1954-55	418	390	400	402	396	434	438	371	461	741	939	506	491
1955-56	373	348	397	677	999	932	548	512	786	1145	693	399	652
1956-57	339	309	330	352	609	393	437	727	730	620	364	293	459
1957-58	270	251	297	308	598	603	807	509	705	565	380	320	466
1958-59	283	274	284	539	560	659	516	483	600	577	402	305	456
1959-60	274	327	374	420	410	344	546	572	821	736	512	331	471
1960-61	297	316	313	622	455	511	<u>1058</u>	693	635	638	423	327	520
1961-62	303	278	314	379	558	634	472	449	829	703	437	319	473
1962-63	289	291	341	493	563	385	648	474	586	561	375	319	442
1963-64	288	281	270	412	367	497	455	431	578	702	610	327	434
1964-65	282	281	259	323	1078	778	725	500	651	614	421	335	520
1965-66	308	296	304	329	311	435	342	480	794	737	428	334	425
1966-67	290	269	277	402	455	588	521	426	401	545	397	279	403
1967-68	259	253	316	338	411	474	856	574	437	421	317	312	412
1968-69	299	286	358	652	555	611	347	417	732	1103	612	402	532
1969-70	349	339	329	325	431	871	641	573	570	594	414	292	477
1970-71	265	277	302	461	447	826	700	517	646	1128	810	470	570
1971-72	364	367	381	471	759	687	870	<u>1410</u>	807	1062	722	458	<u>697</u>
1972-73	401	389	370	413	629	552	420	447	445	392	325	283	422
1973-74	269	278	283	545	803	<u>1025</u>	660	620	908	1125	<u>1167</u>	549	686
1974-75	<u>436</u>	<u>395</u>	339	355	640	871	657	624	526	823	622	401	558
1975-76	361	307	361	451	965	856	593	502	650	1007	562	412	587
1976-77	371	341	334	322	327	305	295	<u>343</u>	455	428	305	<u>257</u>	340
1977-78	249	267	265	508	<u>1153</u>	487	509	428	414	<u>362</u>	<u>299</u>	256	433
1978-79	265	273	286	319	522	526	584	580	609	630	328	290	434
1979-80	<u>240</u>	241	292	303	472	709	515	543	686	550	390	307	437
1980-81	260	261	296	355	766	446	660	470	497	413	476	319	434
1981-82	256	285	261	291	781	571	1054	608	549	658	465	332	506
1982-83	300	304	341	400	659	810	721	885	669	547	417	363	534
1983-84	330	332	305	463	517	719	644	726	663	683	571	368	526
1984-85	323	331	359	700	488	389	397	466	836	692	513	345	486
1985-86	326	330	356	486	371	499	949	926	633	527	380	315	505
1986-87	310	321	289	531	428	377	543	542	542	409	302	275	405
1987-88	249	251	271	266	434	385	475	602	824	609	420	295	423
1988-89	246	<u>231</u>	<u>241</u>	430	436	543	402	596	829	556	352	301	430
1989-90	276	276											
MEAN	318	309	321	416	550	554	555	543	646	711	525	361	484
MEDIAN	309	307	308	402	488	511	531	510	650	683	442	334	471

OAK3M9

USGS # 14209805

NORTH FORK

River: CLACKAMAS

Drainage Area: 665 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 31.1

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												1120	
1928-29	875	821	952	1730	2046	2106	1363	3032	3488	4604	3030	1215	2109
1929-30	872	776	747	706	3443	1510	5518	2372	2088	2443	1466	868	1878
1930-31	706	679	764	1176	1352	2196	1765	4469	5153	1740	1179	889	1837
1931-32	755	730	958	1943	2257	3252	2219	6132	4150	4126	2620	1151	2528
1932-33	851	741	1029	4282	2909	3406	2052	3142	3760	4476	<u>5833</u>	1856	2859
1933-34	1043	1152	1357	1828	8997	6068	2185	3183	2472	<u>1611</u>	1103	888	2672
1934-35	741	688	1441	3867	4188	2935	3068	2754	3325	3832	2216	1225	2519
1935-36	857	766	897	1245	1631	6667	2494	3191	4023	4023	1961	1125	2411
1936-37	877	853	746	<u>702</u>	1805	<u>999</u>	1866	3526	5733	5587	4347	1520	2379
1937-38	1007	919	1215	4904	5458	5186	2905	4246	4851	4063	1947	1122	3154
1938-39	915	854	906	1940	3055	2504	2987	3852	3661	2610	1752	1054	2169
1939-40	818	768	877	799	2788	1933	5591	4555	3405	2025	<u>1003</u>	<u>785</u>	2100
1940-41	694	733	939	2587	2542	2865	1814	<u>1656</u>	<u>1539</u>	2477	1419	833	1675
1941-42	714	972	1165	2418	5438	2142	3386	2266	2366	2705	1993	1098	2216
1942-43	795	669	731	5972	6564	4397	4995	3383	<u>6028</u>	3835	3275	1629	3505
1943-44	1143	974	1665	2089	2084	2047	2178	2183	2641	2321	1503	887	1808
1944-45	712	732	701	1206	1083	2761	4406	2800	3960	5384	1818	962	2195
1945-46	785	854	784	3632	5552	5214	3121	3565	3230	3878	2733	1350	2893
1946-47	951	833	1631	4500	7379	3342	3733	3217	3086	1720	1724	1152	2767
1947-48	941	870	<u>3776</u>	5056	3145	6255	4389	2775	3214	4328	3019	1383	3259
1948-49	1070	1037	1435	3388	4555	1481	4387	3791	5008	<u>7486</u>	3120	1460	3175
1949-50	1047	1020	1401	2526	3080	3509	5225	5393	4502	5044	5399	2055	3334
1950-51	1159	1032	3318	6225	5818	6026	5945	3264	4321	4160	1909	1192	3682
1951-52	1009	927	2665	2976	4131	1972	4079	2909	4382	4190	2610	1569	2779
1952-53	979	884	807	812	1553	<u>9656</u>	5994	3275	3092	4020	3122	1463	2958
1953-54	1062	933	1069	3521	7325	4634	5981	3361	4331	3649	3540	1726	3411
1954-55	1128	1078	1592	2034	2557	2572	2546	2307	3647	4584	5306	<u>2150</u>	2622
1955-56	1133	1058	2565	<u>6542</u>	8454	6644	2575	3461	4910	5439	3410	1454	3978
1956-57	1071	928	1507	2112	3953	1550	3803	6179	4915	3661	1546	972	2677
1957-58	805	721	971	1598	5793	5045	6359	2315	4591	2737	1629	1024	2777
1958-59	822	795	817	4835	3976	6104	2980	3332	3691	3363	2075	1083	2821
1959-60	822	<u>1363</u>	2518	2276	2192	1712	4472	4673	4982	4456	2426	1103	2740
1960-61	910	847	1052	5731	3061	3410	8892	5412	3577	3859	1861	1045	3262
1961-62	876	951	1225	2496	4885	3344	2530	3177	5408	4015	1989	1046	2662
1962-63	867	842	1950	4329	4034	1696	5005	2530	3960	3795	1645	1190	2634
1963-64	858	824	992	3985	2456	4950	2870	2657	3121	3807	3719	1384	2631
1964-65	934	832	809	2111	<u>11190</u>	6984	4707	2725	3229	2638	1597	1015	3233
1965-66	847	808	872	1618	1669	3777	1854	3996	4859	3861	1894	1108	2267
1966-67	789	755	1036	3261	4210	5799	3394	2469	1912	3161	1989	1002	2479
1967-68	774	718	2273	1878	3472	3742	7245	2978	2343	2422	1569	915	2511
1968-69	1111	1140	2659	5591	5181	4938	2182	3198	5108	6588	3216	1492	3542
1969-70	1039	973	1342	1570	3811	8598	4742	3359	2822	3242	1676	1000	2844
1970-71	801	905	1177	3954	3621	7546	4802	4165	4305	6161	4008	1802	3598
1971-72	1027	1219	1438	4018	5139	6865	6181	<u>8954</u>	4137	5303	2934	1431	4053
1972-73	1102	1175	975	2054	5058	4031	1835	2297	2335	1825	1248	886	2074
1973-74	769	969	1144	6265	8600	8810	4216	4497	4755	5120	5184	2050	<u>4367</u>
1974-75	<u>1215</u>	1003	937	1845	5269	6965	4009	3944	2439	4175	2743	1374	2996
1975-76	1023	908	1790	3410	7319	6220	3174	2797	3695	4727	2408	1314	3239
1976-77	1041	904	914	1048	<u>1032</u>	1086	<u>1022</u>	2285	2932	2770	1625	828	<u>1459</u>
1977-78	725	1031	1322	4969	9173	3799	3278	2173	2272	2682	1409	903	2812
1978-79	902	1221	633	1364	3831	1820	5318	4057	3868	3558	1413	868	2385
1979-80	720	688	1314	1618	3609	6104	3304	3126	3881	2354	1837	940	2458
1980-81	713	765	710	1978	7091	2074	4440	2161	3064	2201	3021	1108	2430
1981-82	768	781	1260	2134	7671	4461	<u>9033</u>	3642	3393	3407	2270	1147	3297
1982-83	887	1011	1775	2668	5946	6347	5788	5412	3616	3025	1986	2015	3365
1983-84	1086	957	900	4387	4097	4933	4100	4747	3737	4395	3535	1456	3190
1984-85	998	1001	1695	6113	3390	1931	2400	2653	4847	3567	2903	1000	2700
1985-86	798	905	1563	3201	2213	4318	8125	4758	2861	2798	1373	1006	2791
1986-87	825	1044	997	4529	2311	2687	4108	3528	2745	1856	1147	801	2198
1987-88	<u>660</u>	<u>601</u>	<u>584</u>	784	4031	3597	3425	3928	4806	3278	2274	1012	2413
1988-89	740	706	644	3795	2669	3957	2359	4765	4598	2701	1543	896	2446
1989-90	784	681											
MEAN	899	892	1310	3019	4314	4155	3946	3557	3757	3670	2427	1216	2758
MEDIAN	874	877	1069	2526	3953	3777	3733	3275	3695	3795	1989	1114	2700

NFK3M9

USGS # 14209850

FARADAY

River. CLACKAMAS

Drainage Area: 667 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 26.2

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												1120	
1928-29	875	821	952	1730	2046	2106	1363	3032	3488	4604	3030	1215	2109
1929-30	872	776	747	708	3443	1510	5518	2372	2088	2443	1466	868	1878
1930-31	708	679	764	1176	1352	2196	1765	4469	5153	1740	1179	889	1837
1931-32	755	730	958	1943	2257	3252	2219	6132	4150	4126	2620	1151	2528
1932-33	851	741	1029	4282	2909	3406	2052	3142	3760	4476	<u>5833</u>	1856	2859
1933-34	1043	1152	1357	1828	8997	6068	2185	3183	2472	<u>1611</u>	1103	888	2672
1934-35	741	688	1441	3867	4188	2935	3088	2754	3325	3832	2216	1225	2519
1935-36	857	766	897	1245	1631	6667	2494	3191	4023	4023	1961	1125	2411
1936-37	877	853	746	<u>702</u>	1805	<u>999</u>	1866	3526	5733	5587	4347	1520	2379
1937-38	1007	919	1215	4904	5458	5186	2905	4246	4851	4063	1947	1122	3154
1938-39	915	854	906	1940	3055	2504	2987	3852	3661	2610	1752	1054	2169
1939-40	818	768	877	799	2788	1933	5591	4555	3405	2025	<u>1003</u>	<u>785</u>	2100
1940-41	694	733	939	2587	2542	2865	1814	<u>1656</u>	<u>1539</u>	2477	1419	833	1675
1941-42	714	972	1165	2418	5438	2142	3386	2266	2366	2705	1993	1098	2216
1942-43	795	669	731	5972	6564	4397	4995	3383	<u>6028</u>	3835	3275	1629	3505
1943-44	1143	974	1665	2089	2084	2047	2178	2183	2641	2321	1503	887	1808
1944-45	712	732	701	1206	1083	2761	4406	2800	3960	5384	1818	962	2195
1945-46	785	854	784	3632	5552	5214	3121	3565	3230	3878	2733	1350	2893
1946-47	951	833	1631	4500	7379	3342	3733	3217	3086	1720	1724	1152	2767
1947-48	941	870	<u>3776</u>	5056	3145	6255	4389	2775	3214	4328	3019	1383	3259
1948-49	1070	1037	1435	3388	4555	1481	4387	3791	5008	<u>7486</u>	3120	1460	3175
1949-50	1047	1020	1401	2526	3080	3509	5225	5393	4502	5044	5399	2055	3334
1950-51	1159	1032	3318	6225	5818	6026	5945	3264	4321	4160	1909	1192	3682
1951-52	1009	927	2665	2976	4131	1972	4079	2909	4382	4190	2610	1569	2779
1952-53	979	884	807	812	1553	<u>9656</u>	5994	3275	3092	4020	3122	1463	2958
1953-54	1062	933	1069	3521	7325	4634	5981	3361	4331	3649	3540	1726	3411
1954-55	1128	1078	1592	2034	2557	2572	2546	2307	3647	4584	5306	<u>2150</u>	2622
1955-56	1133	1058	2565	<u>6542</u>	8454	6644	2575	3461	4910	5439	3410	<u>1454</u>	3978
1956-57	1071	928	1507	2112	3953	1550	3803	6179	4915	3661	1546	972	2677
1957-58	805	721	971	1598	5793	5045	6359	2315	4591	2737	1629	1024	2777
1958-59	622	795	817	4835	3976	6104	2980	3332	3691	3363	2075	1083	2821
1959-60	822	<u>1363</u>	2518	2276	2192	1712	4472	4673	4982	4456	2426	1103	2740
1960-61	910	847	1052	5731	3061	3410	8892	5412	3577	3859	1861	1045	3262
1961-62	876	951	1225	2496	4885	3344	2530	3177	5408	4015	1989	1046	2662
1962-63	867	842	1950	4329	4034	1696	5005	2530	3960	3795	1645	1190	2634
1963-64	858	824	992	3985	2456	4950	2670	2657	3121	3807	3719	1384	2631
1964-65	934	832	809	2111	<u>11190</u>	6984	4707	2725	3229	2638	1597	1015	3233
1965-66	847	808	872	1618	1669	3777	1854	3996	4859	3861	1894	1108	2267
1966-67	789	755	1036	3261	4210	5799	3394	2469	1912	3161	1989	1002	2479
1967-68	774	718	2273	1878	3472	3742	7245	2978	2343	2422	1569	915	2511
1968-69	1111	1140	2659	5591	5181	4938	2182	3198	5108	6588	3216	1492	3542
1969-70	1039	973	1342	1570	3811	8598	4742	3359	2822	3242	1676	1000	2844
1970-71	801	905	1177	3954	3621	7546	4802	4165	4305	6161	4008	1802	3598
1971-72	1027	1219	1438	4018	5139	8665	6181	<u>8954</u>	4137	5303	2934	1431	4053
1972-73	1102	1175	975	2054	5058	4031	1835	2297	2335	1825	1248	886	2074
1973-74	769	969	1144	6265	8600	8810	4216	4497	4755	5120	5184	2050	<u>4367</u>
1974-75	<u>1215</u>	1003	937	1845	5269	6965	4009	3944	2439	4175	2743	1374	2996
1975-76	1023	908	1790	3410	7319	6220	3174	2797	3695	4727	2408	1314	3239
1976-77	1041	904	914	1048	<u>1032</u>	1086	<u>1022</u>	2285	2932	2770	1625	828	<u>1459</u>
1977-78	725	1031	1322	4969	9173	3799	3278	2173	2272	2682	1409	903	2812
1978-79	902	1221	633	1364	3831	1820	5318	4057	3868	3558	1413	868	2385
1979-80	720	688	1314	1618	3609	6104	3304	3126	3881	2354	1837	940	2458
1980-81	713	765	710	1978	7091	2074	4440	2161	3064	2201	3021	1108	2430
1981-82	768	781	1260	2134	7671	4461	<u>9033</u>	3642	3393	3407	2270	1147	3297
1982-83	887	1011	1775	2668	5946	6347	5788	5412	3616	3025	1986	2015	3365
1983-84	1086	957	900	4387	4097	4933	4100	4747	3737	4395	3535	1456	3190
1984-85	998	1001	1695	6113	3390	1931	2400	2653	4847	3567	2903	1000	2700
1985-86	798	905	1563	3201	2213	4318	8125	4758	2861	2798	1373	1006	2791
1986-87	825	1044	997	4529	2311	2687	4108	3528	2745	1856	1147	801	2198
1987-88	<u>660</u>	<u>601</u>	<u>584</u>	784	4031	3597	3425	3928	4806	3278	2274	1012	2413
1988-89	740	706	644	3795	2669	3957	2359	4765	4598	2701	1543	896	2446
1989-90	784	681											
MEAN	899	892	1310	3019	4314	4155	3946	3557	3757	3670	2427	1216	2758
MEDIAN	874	877	1069	2526	3953	3777	3733	3275	3695	3795	1989	1114	2700

FAR3M9

USGS # 14209995

RIVER MILL

River: CLACKAMAS

Drainage Area: 671 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 23.3

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												1120	
1928-29	875	821	952	1730	2046	2106	1363	3032	3488	4604	3030	1215	2109
1929-30	872	776	747	706	3443	1510	5518	2372	2088	2443	1466	868	1878
1930-31	706	679	764	1176	1352	2196	1765	4469	5153	1740	1179	889	1837
1931-32	755	730	958	1943	2257	3252	2219	6132	4150	4126	2620	1151	2528
1932-33	851	741	1029	4282	2909	3406	2052	3142	3760	4476	<u>5833</u>	1856	2859
1933-34	1043	1152	1357	1828	8997	6068	2185	3183	2472	<u>1611</u>	1103	888	2672
1934-35	741	688	1441	3867	4188	2935	3068	2754	3325	3832	2216	1225	2519
1935-36	857	766	897	1245	1631	6667	2494	3191	4023	4023	1961	1125	2411
1936-37	877	853	746	<u>702</u>	1805	<u>999</u>	1866	3526	5733	5587	4347	1520	2379
1937-38	1007	919	1215	4904	5458	5186	2905	4246	4851	4063	1947	1122	3154
1938-39	915	854	906	1940	3055	2504	2987	3852	3661	2610	1752	1054	2169
1939-40	818	768	877	799	2788	1933	5591	4555	3405	2025	<u>1003</u>	<u>785</u>	2100
1940-41	694	733	939	2587	2542	2865	1814	<u>1656</u>	<u>1539</u>	2477	1419	833	1675
1941-42	714	972	1165	2418	5438	2142	3386	2266	2366	2705	1993	1098	2216
1942-43	795	669	731	5972	6564	4397	4995	3383	<u>6028</u>	3835	3275	1629	3505
1943-44	1143	974	1665	2089	2084	2047	2178	2183	2641	2321	1503	887	1808
1944-45	712	732	<u>701</u>	1206	1083	2761	4406	2800	3960	5384	1818	962	2195
1945-46	785	854	784	3632	5552	5214	3121	3565	3230	3878	2733	1350	2893
1946-47	951	833	1631	4500	7379	3342	3733	3217	3086	1720	1724	1152	2767
1947-48	941	870	<u>3776</u>	5056	3145	6255	4389	2775	3214	4328	3019	1383	3259
1948-49	1070	1037	1435	3388	4555	1481	4387	3791	5008	<u>7486</u>	3120	1460	3175
1949-50	1047	1020	1401	2526	3080	3509	5225	5393	4502	5044	5399	2055	3334
1950-51	1159	1032	3318	6225	5818	6026	5945	3264	4321	4160	1909	1192	3682
1951-52	1009	927	2665	2976	4131	1972	4079	2909	4382	4190	2610	1569	2779
1952-53	979	884	807	812	1553	<u>9656</u>	5994	3275	3092	4020	3122	1463	2958
1953-54	1062	933	1069	3521	7325	4634	5981	3361	4331	3649	3540	1726	3411
1954-55	1128	1078	1592	2034	2557	2572	2546	2307	3647	4584	5306	<u>2150</u>	2622
1955-56	1133	1058	2565	<u>6542</u>	8454	6644	2575	3461	4910	5322	3210	1348	3943
1956-57	999	874	1494	2260	3913	1686	3901	5995	4725	3499	1485	945	2641
1957-58	790	717	1049	1742	5783	5003	6169	2357	4422	2708	1638	1017	2762
1958-59	824	839	1008	4648	3939	5978	3033	3345	3612	3349	2098	1070	2810
1959-60	810	<u>1602</u>	2560	2348	2305	1783	4405	4554	4815	4297	2456	1050	2739
1960-61	914	1093	1179	5679	3195	3317	8613	5307	3561	3910	1820	1044	3262
1961-62	871	1008	1379	2598	4881	3316	2610	3125	5177	3979	1958	1043	2662
1962-63	876	831	1979	4291	4063	1878	4831	2505	3941	3796	1639	1203	2634
1963-64	854	825	1020	3985	2609	4943	3000	2767	3026	3632	3569	1388	2631
1964-65	944	818	823	2129	<u>11170</u>	6965	4723	2737	3225	2713	1503	1053	3236
1965-66	830	847	844	1681	1912	3733	1835	3924	4711	3825	1873	1074	2261
1966-67	792	790	1172	3373	4201	5694	3398	2484	1867	3086	1923	992	2479
1967-68	780	715	2292	1924	3610	3787	7065	2951	2368	2365	1573	892	2512
1968-69	1116	1166	2712	5552	5201	5007	2390	3241	4930	6396	3214	1492	3542
1969-70	1064	982	1373	1715	3900	8488	4629	3324	2822	3220	1676	975	2844
1970-71	808	993	1262	3997	3684	7431	4693	4249	4220	6137	4006	1797	3601
1971-72	1032	1242	1541	4124	4964	6912	6147	<u>8921</u>	4123	5285	2932	1431	4053
1972-73	1102	1177	1010	2155	5050	4066	1860	2210	2264	1796	1222	875	2071
1973-74	769	981	1265	6263	8504	8821	4296	4636	4672	5013	5143	2018	<u>4367</u>
1974-75	<u>1208</u>	1020	1115	1981	5197	6795	3992	3985	2488	4073	2703	1362	2995
1975-76	1018	1034	1921	3412	7118	6220	3176	2869	3695	4596	2408	1314	3239
1976-77	1041	960	1068	1268	<u>1030</u>	1036	<u>977</u>	2269	2859	2706	1601	820	<u>1471</u>
1977-78	718	1079	1484	5006	8854	3861	3330	2224	2169	2612	1375	888	2800
1978-79	977	1204	767	1633	3911	1841	5242	3923	3708	3395	1360	843	2382
1979-80	705	714	1483	1880	3592	6021	3356	3078	3704	2221	1776	914	2454
1980-81	701	811	878	2023	7040	2039	4420	2216	2972	2138	2958	1088	2427
1981-82	761	950	1235	2237	7516	4460	<u>8938</u>	3722	3444	3300	2246	1147	3296
1982-83	889	1015	1890	2744	5876	6279	5742	5404	3616	3043	1962	2012	3365
1983-84	1085	1107	900	4403	4112	4861	4130	4725	3690	4347	3522	1454	3190
1984-85	1017	1127	1737	6011	3454	2095	2423	2725	4630	3435	2879	969	2700
1985-86	829	933	1628	3319	2306	4282	7984	4680	2859	2732	1365	993	2791
1986-87	915	1084	987	4578	2467	2630	4010	3416	2702	1830	1143	801	2197
1987-88	<u>660</u>	<u>664</u>	739	806	4078	3715	3341	3783	4601	3296	2281	1005	2413
1988-89	741	738	725	3829	2794	3957	2347	4685	4428	2701	1534	902	2447
1989-90	788	747											
MEAN	901	920	1355	3052	4318	4150	3931	3547	3712	3634	2410	1209	2756
MEDIAN	876	902	1172	2587	3913	3787	3733	3275	3690	3649	1962	1109	2700

RML3M9

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SECTION H
WESTERN WASHINGTON

LEWIS RIVER, WASHINGTON
COWLITZ RIVER, WASHINGTON
PUGET SOUND DRAINAGE, WASHINGTON

SWIFT NO. 1
THROUGH
LOWER BAKER

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SECTION H

This section includes the lands in western Washington which are located west of the Cascade Range. Figure 17, page 242, is a map of this section showing those sites where streamflows were developed.

Total irrigated land in 1990 amounted to 23,000 acres in the Lewis and Cowlitz River basins, and 81,000 acres located in basins draining into Puget Sound. Table 1, page 12, gives irrigated areas for other target years, and Table 2, page 17, breaks out the 1990 irrigation values into both source of supply and method of application. All of the irrigated land in the various basins was located downstream from the hydropower sites. Thus no irrigation depletion adjustments were computed for this section.

SECTION H

EQUATIONS USED TO COMPUTE MODIFIED FLOWS

SWF3M9 = SWF3A
SW23M9 = SWF3M9
YAL3M9 = YAL3A
MER3M9 = MER3A
PAK3M9 = PAK3A
MOS3M9 = MOS3A - MOS3E
MAY3M9 = MAY3A - MOS3E
CS13M9 = CS13A
CS23M9 = CS23A
ALD3M9 = LAG3M9
LAG3M9 = LAG3A
ROS3M9 = ROS3A - ROS3E
DIA3M9 = DIA3A - ROS3E
GOR3M9 = GOR3A - ROS3E

WESTERN WASHINGTON

LEGEND

● EXISTING PROJECT

FIGURE 17

USGS # 14217610

SWIFT 1

River: LEWIS

Drainage Area:

480 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile:

47.9

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												1360	
1928-29	905	714	1180	2180	2440	1670	<u>998</u>	2320	3489	4810	3420	1310	2124
1929-30	846	673	581	<u>523</u>	2120	1460	5750	2690	3450	2480	1550	873	1889
1930-31	705	608	650	856	1100	2700	2940	4330	5020	3000	1480	1050	2030
1931-32	715	657	1140	2490	2690	3270	2730	6180	5500	5640	4630	2240	3157
1932-33	1130	857	1010	5830	3620	3750	1630	3390	3930	5580	<u>7580</u>	3570	3493
1933-34	1510	1460	2761	3243	<u>13390</u>	8541	3431	4632	3217	<u>1885</u>	<u>1161</u>	931	3868
1934-35	781	693	2257	6793	4840	3813	3889	2866	3173	5128	3852	1631	3284
1935-36	949	809	739	944	1826	5256	1933	3092	3814	5521	3770	1585	2525
1936-37	984	827	671	596	2803	1259	1275	3180	5536	5019	5245	1970	2433
1937-38	1023	820	859	5636	5655	4643	2153	3007	5037	4868	2962	1319	3169
1938-39	876	709	860	1630	3104	3704	2389	2779	3720	3570	2135	1179	2222
1939-40	853	766	765	809	5073	3058	5389	5291	3495	2955	1253	872	2543
1940-41	731	679	842	1795	3276	3169	2315	2042	<u>1993</u>	2378	1367	911	1791
1941-42	764	1236	1713	2520	6099	1898	2688	2026	2817	2545	2550	1272	2342
1942-43	861	706	706	5042	4357	2629	2808	3456	<u>6612</u>	4150	3731	1899	3072
1943-44	1050	826	1205	1731	2388	2284	2563	1970	2791	2919	1743	869	1859
1944-45	681	654	637	1824	1955	4086	4441	3004	2940	5581	2589	1180	2453
1945-46	791	898	784	2985	4882	3935	2853	3488	3938	5729	4828	2993	3163
1946-47	1200	886	1336	4343	8258	2936	4688	3466	3789	2636	1774	1133	3027
1947-48	875	989	<u>4290</u>	4346	3427	4487	3119	2766	3590	5512	4396	1685	3291
1948-49	1093	991	1364	2940	2979	1183	2825	3764	4722	7093	4004	1990	2910
1949-50	1079	954	1156	4257	3442	3317	4637	5889	4970	5569	6287	3166	3715
1950-51	1427	1053	3122	6077	7710	4056	6515	2323	4560	5115	2898	1459	3840
1951-52	996	923	3658	3420	4059	1611	4079	2216	4742	5141	3097	1579	2953
1952-53	960	779	648	648	1323	<u>10460</u>	5392	2535	3179	4934	3805	2300	3072
1953-54	1172	882	1154	3404	6477	3774	5029	3623	4718	5166	4742	2958	3581
1954-55	1364	1048	1310	3451	2951	2500	2971	<u>1593</u>	3062	4335	6106	2945	2795
1955-56	1315	1092	3753	<u>7078</u>	7115	5106	2236	3847	5457	<u>7205</u>	5887	3202	<u>4448</u>
1956-57	1576	1038	1843	2836	4935	1805	2715	4715	4213	4687	2077	1122	2800
1957-58	905	733	885	1740	3948	4478	6820	2610	4934	4104	2287	1222	2862
1958-59	906	777	944	5943	5009	6584	2446	2775	4252	3882	3260	1377	3181
1959-60	855	<u>1498</u>	3269	3736	3414	2010	4804	3377	4912	4701	3358	1315	3092
1960-61	958	798	1076	6067	3191	5298	8945	5103	3824	4606	3068	1253	3642
1961-62	885	777	1185	2172	5108	3781	2872	2125	4679	3701	2521	1175	2580
1962-63	890	814	2115	5952	4167	2619	4748	2285	4277	3562	1558	980	2811
1963-64	746	672	1018	4790	3349	4760	2994	2402	2970	4106	4719	2254	2894
1964-65	1367	986	1105	2839	7862	4582	4122	2885	4680	3946	2555	1156	3170
1965-66	889	671	723	1689	2257	3074	1910	3909	4986	5359	3172	1834	2544
1966-67	926	741	939	2428	6617	5570	3592	2907	2356	4413	4010	1448	2998
1967-68	843	699	2321	2832	3190	4244	8857	4446	2791	2921	3304	1175	3112
1968-69	1264	1431	2866	5363	4130	3983	1621	2203	4857	6871	3531	1343	3297
1969-70	873	1078	1727	2416	3717	7782	4604	3608	2912	3235	2245	960	2924
1970-71	708	699	1053	3427	4121	5829	4593	3047	4051	6917	5402	<u>3649</u>	3619
1971-72	1507	1208	1426	2930	3155	5469	6978	<u>9748</u>	4186	6664	4582	2234	4174
1972-73	1187	1413	1013	2382	6795	4282	1878	2597	2332	2547	1591	1002	2428
1973-74	710	823	1250	5589	7013	8815	3942	4118	4906	5319	7230	3627	4447
1974-75	<u>1593</u>	987	827	2393	5415	6271	3588	3500	2244	4826	3751	1840	3107
1975-76	1067	877	1781	4808	9252	5433	3193	2362	3465	5657	3146	1987	3593
1976-77	1229	900	811	905	<u>1001</u>	1128	1338	2491	3216	2837	2357	831	<u>1586</u>
1977-78	740	1134	1244	6172	10410	3987	3507	2933	3274	3681	2102	1123	3360
1978-79	881	1105	794	1248	2269	<u>1113</u>	4202	4624	3022	4148	1583	987	2153
1979-80	714	780	1199	1395	6127	3632	4298	3140	5149	2836	1539	981	2645
1980-81	711	678	613	3175	8197	2303	5962	1984	3346	2257	2787	1269	2750
1981-82	798	721	1837	3400	5539	3805	<u>9248</u>	4319	3872	4745	3273	1413	3526
1982-83	898	844	1469	2916	5674	6364	5628	6371	3700	3679	2507	2199	3515
1983-84	1196	1089	825	7071	3034	5104	3547	4479	3242	4296	3218	1495	3210
1984-85	890	1251	1012	4486	1997	1237	1369	2220	4987	4389	3714	1092	2382
1985-86	815	801	1614	2971	1618	4326	5760	4661	2531	2673	1445	838	2484
1986-87	<u>621</u>	681	728	4188	2394	2675	4560	5730	3380	2797	1404	<u>821</u>	2482
1987-88	648	<u>547</u>	<u>456</u>	653	4135	2465	2957	3880	5199	3494	2192	1077	2307
1988-89	686	622	597	4585	2780	3282	1835	4531	5218	3550	2138	1054	2573
1989-90	805	636											
MEAN	966	882	1372	3327	4442	3909	3815	3506	3954	4326	3221	1606	2939
MEDIAN	890	822	1105	2985	3948	3774	3507	3140	3824	4335	3097	1317	2953

SWF3M9

USGS # 14217814

SWIFT 2

River: LEWIS

Drainage Area:

480 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile:

47.9

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												1360	
1928-29	905	714	1180	2160	2440	1670	<u>998</u>	2320	3489	4810	3420	1310	2124
1929-30	846	673	581	<u>523</u>	2120	1460	5750	2690	3450	2480	1550	873	1889
1930-31	705	608	650	856	1100	2700	2940	4330	5020	3000	1480	1050	2030
1931-32	715	657	1140	2490	2690	3270	2730	6180	5500	5640	4630	2240	3157
1932-33	1130	857	1010	5830	3620	3750	1630	3390	3930	5580	<u>7580</u>	3570	3493
1933-34	1510	1460	2761	3243	<u>13390</u>	8541	3431	4632	3217	<u>1885</u>	<u>1161</u>	931	3868
1934-35	761	693	2257	6793	4840	3813	3689	2866	3173	5128	3852	1631	3284
1935-36	949	809	739	944	1826	5256	1933	3092	3814	5521	3770	1585	2525
1936-37	984	827	671	596	2603	1259	1275	3180	5536	5019	5245	1970	2433
1937-38	1023	820	859	5636	5655	4643	2153	3007	5037	4868	2962	1319	3169
1938-39	876	709	860	1630	3104	3704	2389	2779	3720	3570	2135	1179	2222
1939-40	853	766	765	809	5073	3058	5389	5291	3495	2955	1253	872	2543
1940-41	731	679	842	1795	3276	3169	2315	2042	<u>1993</u>	2378	1367	911	1791
1941-42	764	1236	1713	2520	6099	1898	2688	2026	<u>2817</u>	2545	2550	1272	2342
1942-43	861	706	706	5042	4357	2629	2808	3456	<u>6612</u>	4150	3731	1899	3072
1943-44	1050	826	1205	1731	2388	2284	2563	1970	2791	2919	1743	869	1859
1944-45	681	654	637	1824	1955	4086	4441	3004	2940	5581	2589	1180	2453
1945-46	791	898	784	2985	4882	3935	2653	3488	3938	5729	4828	2993	3163
1946-47	1200	886	1336	4343	8258	2936	4688	3466	3789	2636	1774	1133	3027
1947-48	875	989	<u>4290</u>	4346	3427	4487	3119	2766	3590	5512	4396	1685	3291
1948-49	1093	991	1364	2940	2979	1183	2825	3764	4722	7093	4004	1990	2910
1949-50	1079	954	1156	4257	3442	3317	4637	5889	4970	5569	6287	3166	3715
1950-51	1427	1053	3122	6077	7710	4056	6515	2323	4560	5115	2898	1459	3840
1951-52	996	923	3658	3420	4059	1611	4079	2216	4742	5141	3097	1579	2953
1952-53	960	779	648	648	1323	<u>10460</u>	5392	2535	3179	4934	3805	2300	3072
1953-54	1172	882	1154	3404	6477	<u>3774</u>	5029	3623	4718	5166	4742	2958	3581
1954-55	1364	1048	1310	3451	2951	2500	2971	<u>1593</u>	3062	4335	6106	2945	2795
1955-56	1315	1092	3753	<u>7078</u>	7115	5106	2236	3847	5457	<u>7205</u>	5887	3202	<u>4448</u>
1956-57	1576	1038	1843	2836	4935	1805	2715	4715	4213	4687	2077	1122	2800
1957-58	905	733	885	1740	3948	4478	6820	2610	4934	4104	2287	1222	2862
1958-59	906	777	944	5943	5009	6584	2446	2775	4252	3882	3260	1377	3181
1959-60	855	<u>1498</u>	3269	3736	3414	2010	4804	3377	4912	4701	3358	1315	3092
1960-61	958	798	1076	6067	3191	5298	8945	5103	3824	4606	3068	1253	3642
1961-62	885	777	1185	2172	5108	3781	2872	2125	4679	3701	2521	1175	2580
1962-63	890	814	2115	5952	4167	2619	4748	2285	4277	3562	1558	980	2811
1963-64	746	672	1018	4790	3349	4760	2994	2402	2970	4106	4719	2254	2894
1964-65	1367	986	1105	2839	7862	4582	4122	2885	4680	3946	2555	1156	3170
1965-66	889	671	723	1689	2257	3074	1910	3909	4986	5359	3172	1834	2544
1966-67	926	741	939	2428	6617	5570	3592	2907	2356	4413	4010	1448	2998
1967-68	843	699	2321	2832	3190	4244	8857	4446	2791	2921	3304	1175	3112
1968-69	1264	1431	2866	5363	4130	3983	1621	2203	4857	6871	3531	1343	3297
1969-70	873	1078	1727	2416	3717	7782	4604	3608	2912	3235	2245	960	2924
1970-71	708	699	1053	3427	4121	5829	4593	3047	4051	6917	5402	<u>3649</u>	3619
1971-72	1507	1208	1426	2990	3155	5469	6978	<u>9748</u>	4186	6664	4582	2234	4174
1972-73	1187	1413	1013	2382	6795	4282	1878	2597	2332	2547	1591	1002	2428
1973-74	710	823	1250	5589	7013	8815	3942	4118	4906	5319	7230	3627	4447
1974-75	<u>1593</u>	987	827	2393	5415	6271	3588	3500	2244	4826	3751	1840	3107
1975-76	1067	877	1781	4808	9252	5433	3193	2362	3465	5657	3146	1987	3593
1976-77	1229	900	811	905	<u>1001</u>	1128	1338	2491	3216	2837	2357	831	<u>1586</u>
1977-78	740	1134	1244	6172	10410	3987	3507	2933	3274	3681	2102	1123	3360
1978-79	881	1105	794	1248	2269	<u>1113</u>	4202	4624	3022	4148	1583	987	2153
1979-80	714	780	1199	1395	6127	3632	4298	3140	5149	2836	1539	981	2645
1980-81	711	678	613	3175	8197	2303	5962	1984	3346	2257	2787	1269	2750
1981-82	798	721	1837	3400	5539	3605	<u>9248</u>	4319	3872	4745	3273	1413	3526
1982-83	898	844	1469	2916	5674	6364	5628	6371	3700	3679	2507	2199	3515
1983-84	1196	1089	825	7071	3034	5104	3547	4479	3242	4296	3218	1495	3210
1984-85	890	1251	1012	4486	1997	1237	1369	2220	4987	4389	3714	1092	2382
1985-86	815	801	1614	2971	1618	4326	5760	4661	2531	2673	1445	838	2484
1986-87	<u>621</u>	681	728	4188	2394	2675	4580	5730	3380	2797	1404	<u>821</u>	2482
1987-88	648	<u>547</u>	<u>456</u>	653	4135	2465	2957	3880	5199	3494	2192	1077	2307
1988-89	686	622	597	4585	2780	3282	1835	4531	5218	3550	2138	1054	2573
1989-90	805	636											
MEAN	966	882	1372	3327	4442	3909	3815	3506	3954	4326	3221	1606	2939
MEDIAN	890	822	1105	2985	3948	3774	3507	3140	3824	4335	3097	1317	2953

SW23M9

USGS # 14218510

YALE

River: LEWIS

Drainage Area: 596 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 34.2

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												1635	
1928-29	1026	837	1788	3226	3599	2637	<u>1555</u>	3732	4903	5802	3978	1569	2895
1929-30	970	750	741	784	3496	2249	8458	3908	4263	3415	2110	1091	2646
1930-31	820	717	848	1491	1935	4310	4582	6538	6886	3390	1910	1323	2884
1931-32	832	794	1723	4045	3965	4961	4338	9469	7393	6837	5174	2369	4325
1932-33	1285	992	1362	8518	5483	5991	2511	5344	5259	7428	<u>9543</u>	<u>4154</u>	4828
1933-34	1714	1988	4111	4481	<u>20400</u>	12790	4335	6160	3978	<u>2431</u>	<u>1372</u>	1094	5440
1934-35	900	842	3365	9503	6712	5397	5032	3948	4078	5971	4128	1894	4305
1935-36	1087	992	1004	1585	2728	8257	2970	4390	4690	6677	4576	1999	3420
1936-37	1170	921	841	809	4288	1606	2214	5195	7921	6396	6903	2320	3383
1937-38	1177	974	1149	8943	8216	6653	3143	4689	6755	5859	3367	1551	4376
1938-39	1059	905	1147	2826	4539	5547	3970	4102	4704	4231	2625	1519	3094
1939-40	1031	907	1012	1152	6916	3849	8023	7002	4431	3754	1477	<u>1000</u>	3369
1940-41	895	858	1277	3245	4729	4708	3136	2707	<u>2408</u>	2951	1714	1022	2470
1941-42	869	1967	2527	3685	8393	2629	3982	2798	3471	3390	3390	1574	3218
1942-43	1076	806	942	7605	6453	3738	4676	4792	<u>8416</u>	4982	4369	2136	4149
1943-44	1161	933	1672	2408	3424	3273	3573	2738	3767	3535	2211	1052	2475
1944-45	797	818	874	2878	2823	6284	6536	4578	4147	7794	3033	1348	3476
1945-46	914	1200	1021	5028	6573	6431	4356	5197	5111	6601	5443	3475	4279
1946-47	1361	1029	2016	6486	11600	4488	6508	4580	5000	3091	2220	1375	4132
1947-48	1000	1195	<u>6021</u>	6450	4607	6378	4722	3808	4819	7149	5091	1902	4427
1948-49	1189	1172	1829	4612	4690	1607	4754	5433	6065	<u>8903</u>	4564	2223	3911
1949-50	1166	1062	1680	6217	5264	5336	7080	8765	6954	7148	7514	3682	5137
1950-51	1660	1264	4314	8445	9984	6222	8738	3307	5640	6167	3401	1688	5043
1951-52	1128	1105	5487	4873	5882	2423	5982	3373	6120	6357	3633	1864	4009
1952-53	1103	942	722	<u>783</u>	2427	<u>14400</u>	7242	3462	3844	5715	4195	2483	3933
1953-54	1196	998	1422	4820	9060	5350	7301	4391	5780	5470	5269	3190	4501
1954-55	1525	1167	1708	4819	4464	3673	4397	<u>2357</u>	4583	5472	7116	3398	3710
1955-56	1491	1315	5590	<u>10270</u>	10050	7244	2907	5850	6952	8263	6236	3447	5813
1956-57	1709	1204	2820	3940	7430	2425	4177	7010	6159	5245	2447	1299	3823
1957-58	1015	807	1090	2897	6676	6955	9016	3589	6394	4575	2510	1281	3867
1958-59	906	816	1269	9155	7357	9212	3669	4268	5622	4779	3914	1612	4382
1959-60	1016	<u>2240</u>	4802	5340	4889	2934	6933	4772	6777	6209	3904	1543	4262
1960-61	1168	1069	1734	9076	4505	7247	<u>12600</u>	7347	5063	5648	3402	1418	4965
1961-62	1038	934	1891	3355	7057	5211	4044	3281	6265	4608	2877	1370	3491
1962-63	1089	1019	2860	8768	5602	3410	6401	3278	5926	4515	1837	1213	3799
1963-64	892	788	1447	6896	4484	7281	4084	3674	4134	5118	5525	2513	3897
1964-65	1640	1258	1532	4373	10790	6980	5642	3584	5578	4497	2785	1272	4156
1965-66	978	759	878	2408	3078	5014	2902	5740	6298	6111	3486	2183	3324
1966-67	1052	854	1396	3548	8783	8254	4919	3942	3196	5232	4397	1575	3931
1967-68	919	769	3285	3638	4967	5834	11550	5645	3561	3384	4006	1347	4047
1968-69	1692	1964	3986	7153	5943	5553	2350	3371	6350	7924	4032	1633	4340
1969-70	1009	1494	2597	3258	5167	10840	6221	4447	3847	3908	2436	1076	3851
1970-71	803	872	1666	4919	5917	8991	6168	4549	5334	7957	6212	3954	4772
1971-72	1633	1476	2031	4500	4790	8182	9845	<u>12130</u>	5538	7531	4847	2432	5402
1972-73	1320	1800	1272	3365	9202	5571	2453	3619	2988	3091	2074	1270	3181
1973-74	836	1079	1826	8209	9879	11900	5773	6038	6616	6436	7921	3986	<u>5875</u>
1974-75	<u>1770</u>	1123	951	3422	7606	9134	4911	4707	3029	5834	4124	2062	4061
1975-76	1299	1116	2717	6597	12480	7838	4523	3460	4635	6500	3583	2177	4754
1976-77	1417	1059	995	1237	<u>1460</u>	1528	1961	4020	4012	3684	3060	1020	<u>2120</u>
1977-78	950	1713	1754	8570	13390	5307	4637	3624	4428	4667	2474	1364	4406
1978-79	1076	1480	960	2029	3505	<u>1527</u>	6550	6319	4116	4882	1819	1161	2929
1979-80	855	1020	1634	1884	8512	5198	5740	4250	6359	3248	1869	1176	3474
1980-81	835	828	723	4574	10710	3018	7542	2707	4847	2877	3632	1434	3614
1981-82	911	881	2494	4593	7598	5561	12130	5533	4957	5267	3479	1542	4528
1982-83	1015	1009	2010	4148	7760	8967	7755	7844	4654	4189	2988	2983	4600
1983-84	1410	1371	1039	9693	4411	7129	5053	6141	4441	5566	3936	1829	4325
1984-85	1060	1052	1544	6607	3154	1793	2118	3229	6492	5121	4494	1284	3154
1985-86	937	1159	2469	4373	2417	6204	7875	5785	3342	3561	1709	1025	3376
1986-87	<u>771</u>	928	1070	6241	3504	4169	6398	7645	4111	3217	1719	1006	3375
1987-88	791	<u>679</u>	<u>588</u>	948	5663	3643	4237	5217	6524	4360	2733	1280	3052
1988-89	827	747	790	6750	3865	5185	2766	6476	6488	4058	2415	1206	3463
1989-90	932	735											
MEAN	1116	1090	1940	4860	6316	5679	5409	4916	5187	5229	3757	1853	3938
MEDIAN	1045	1004	1634	4500	5602	5397	4754	4549	5000	5232	3486	1560	3931

YAL3M9

USGS # 14220010

AERIAL (MERWIN)

River: LEWIS

Drainage Area:

730 Sq. Mi

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile:

19.5

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												1790	
1928-29	1075	933	2340	3960	4660	3440	<u>1940</u>	4970	6180	6730	4420	1720	3540
1929-30	1040	807	815	838	4500	2760	11300	4600	4720	3850	2330	1170	3173
1930-31	879	770	933	1790	2310	5270	4770	7190	8740	3580	2150	1480	3309
1931-32	898	864	2240	5390	5240	6490	5880	12300	8970	7290	5570	2550	5305
1932-33	1360	1040	1640	10600	7510	8160	3310	7110	6270	8520	<u>10600</u>	<u>4420</u>	5886
1933-34	1810	2320	5261	5300	<u>28300</u>	16670	4831	7247	4437	<u>2713</u>	<u>1445</u>	1170	6846
1934-35	981	919	4313	11430	8563	6684	6043	4790	4716	6156	4290	2009	5064
1935-36	1156	1089	1217	2128	3680	11130	3915	5452	5215	7105	4931	2080	4101
1936-37	1280	968	909	831	5487	<u>1654</u>	2894	6523	<u>10180</u>	7447	7919	2490	4048
1937-38	1284	1045	1378	11840	10920	8333	3988	6351	8170	6207	3438	1657	5388
1938-39	1172	1026	1371	3899	6042	7192	5544	5372	5371	4420	2854	1742	3826
1939-40	1142	971	1203	1408	8691	4253	10420	8434	5065	4147	1548	<u>1704</u>	4017
1940-41	1002	990	1600	4156	5378	5621	3382	<u>2835</u>	<u>2615</u>	3358	1886	1131	2830
1941-42	919	2558	3225	4551	10730	3184	5121	3508	3850	3880	3906	1753	3925
1942-43	1218	834	1128	9692	8693	4637	6587	6001	9739	5268	4576	2207	5023
1943-44	1199	955	2052	2870	4477	4084	4367	3454	4538	3760	2459	1140	2941
1944-45	860	945	1023	3343	3206	7732	7626	5476	5213	8260	3163	1391	4000
1945-46	978	1395	1197	6875	8986	8891	6045	6668	5986	7036	5695	3689	5284
1946-47	1435	1091	2565	8193	15020	5909	7957	5360	5937	3201	2445	1509	5035
1947-48	1062	1305	<u>7390</u>	8107	5861	7930	6184	4617	5806	8044	5282	1971	5294
1948-49	1210	1260	2189	6010	6606	1908	6669	6813	7050	<u>9771</u>	4672	2282	4687
1949-50	1177	1083	2131	7885	7268	7294	9368	11180	8720	<u>7943</u>	8008	3915	6289
1950-51	1786	1374	5235	10090	11960	8224	10370	4103	6319	6543	3566	1784	5916
1951-52	1190	1199	7032	5916	7787	3139	7663	4411	7146	6886	3808	2010	4837
1952-53	1183	970	700	<u>825</u>	3397	<u>18750</u>	9377	4820	4870	6886	5295	2723	4969
1953-54	1480	1386	1898	6495	12360	7631	9682	5689	7354	6372	6317	3713	5839
1954-55	1737	1370	2176	5914	5757	4617	5668	3150	5990	6287	7821	3991	4523
1955-56	1756	1644	7005	<u>12470</u>	12250	9700	3915	8059	8257	9039	6850	3789	7076
1956-57	1937	1420	3597	5042	9529	3100	5654	8964	7290	5717	2785	1441	4705
1957-58	1115	867	1392	4020	9168	9067	10770	4528	8149	5295	2855	1445	4851
1958-59	1004	988	1638	11390	8784	11680	4736	5438	6736	5728	4769	1859	5395
1959-60	1152	<u>2859</u>	6211	6937	6309	3866	8833	6074	8441	7750	4529	1742	5370
1960-61	1332	1386	2270	11940	5551	8888	<u>15790</u>	9535	6260	6704	3739	1584	6174
1961-62	1222	1136	2371	4501	9846	6390	5007	4437	7467	5465	3257	1502	4381
1962-63	1209	1152	3347	10900	6863	4433	7746	4220	7438	5495	2156	1481	4671
1963-64	1028	934	1813	8932	5978	10350	5631	5422	5206	5956	6331	2939	5037
1964-65	1966	1623	2082	6354	14080	9716	7080	4084	6193	4977	3010	1399	5208
1965-66	1079	847	1082	3230	4234	7288	4258	7681	7337	6722	3877	2498	4181
1966-67	1239	1010	1911	4927	11420	11070	6479	5378	4220	5845	4684	1706	4993
1967-68	988	870	4233	4699	6987	7450	14380	6753	4448	3921	4904	1584	5066
1968-69	<u>2128</u>	2471	5172	9093	8250	7631	3388	4514	7546	9179	4865	2089	5540
1969-70	1146	1849	3470	4389	6884	14030	7881	5598	4762	4564	2680	1208	4863
1970-71	886	1041	2101	6137	7950	12280	7861	6258	6450	8899	6899	4293	5914
1971-72	1785	1879	2564	6151	7289	11260	12720	<u>15090</u>	6702	8507	5272	2546	6801
1972-73	1390	2012	1327	4318	11480	7089	3074	4400	3517	3564	2454	1483	3857
1973-74	923	1307	2374	10900	13000	15090	8023	8083	8123	7579	9076	4398	<u>7402</u>
1974-75	1915	1252	1125	4510	9972	12280	6563	5959	3673	6512	4468	2236	5043
1975-76	1445	1288	3486	8534	16090	10370	6062	4582	5520	6992	3895	2272	5889
1976-77	1496	1063	1108	1530	<u>1805</u>	2006	2446	5390	4725	4315	3644	1113	<u>2552</u>
1977-78	1118	2184	2333	10710	17430	6754	5787	4143	5287	4985	3006	1506	5436
1978-79	1181	1732	1080	2743	4623	1998	8262	7495	4861	5539	1985	1315	3537
1979-80	<u>236</u>	1974	2110	2228	11070	6904	7064	5228	7541	3746	2186	1316	4294
1980-81	934	983	834	5676	13260	3580	9462	3172	6030	3392	4645	1699	4433
1981-82	1020	930	2838	5677	9868	7781	14780	6882	5955	5722	3803	1782	5528
1982-83	1235	1269	2597	5236	9909	11640	9545	9594	5436	4725	3471	3663	5682
1983-84	1681	1632	1353	12220	5709	8827	6428	7677	5456	6644	4573	2029	5340
1984-85	1143	1305	2071	8715	4665	2363	2793	4057	7665	5723	5195	1353	3910
1985-86	997	1443	2999	5936	3308	7696	9834	6785	3959	4288	1976	1178	4163
1986-87	801	1195	1371	8118	4487	5648	8090	9463	4848	3635	1990	1127	4201
1987-88	877	<u>734</u>	<u>586</u>	1238	7043	4652	5264	6515	7860	5183	3164	1398	3706
1988-89	875	915	1038	8506	4703	7031	3665	7953	7412	4428	2614	1307	4201
1989-90	1060	865											
MEAN	1223	1283	2427	6197	8249	7402	6888	6194	6228	5875	4197	2046	4841
MEDIAN	1164	1114	2082	5914	7289	7288	6428	5598	6030	5728	3877	1742	4969

MER3M9

USGS # 14225420

PACKWOOD LAKE

River: LAKE CR.

Drainage Area:

19 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile:

5.3

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28													116
1928-29	53	56	53	54	44	36	31	<u>34</u>	46	143	184	117	71
1929-30	56	37	35	23	57	34	104	58	93	119	134	73	68
1930-31	50	40	39	35	36	49	61	61	91	175	140	70	71
1931-32	45	42	41	46	41	57	53	107	101	176	236	174	93
1932-33	84	55	59	<u>230</u>	118	85	50	52	60	128	301	229	121
1933-34	114	75	147	134	<u>365</u>	<u>201</u>	86	128	154	134	98	66	143
1934-35	48	39	68	138	106	89	88	54	53	133	213	135	97
1935-36	65	45	31	26	28	60	36	55	109	257	237	108	88
1936-37	51	44	31	22	49	33	31	40	72	161	309	172	85
1937-38	65	51	43	115	114	92	49	50	115	196	208	121	102
1938-39	50	36	44	52	82	75	49	53	103	173	162	136	85
1939-40	60	44	39	46	98	79	85	83	91	156	121	70	81
1940-41	44	34	35	39	71	52	41	36	48	100	<u>95</u>	<u>62</u>	<u>55</u>
1941-42	<u>39</u>	60	94	90	144	54	48	43	70	116	164	140	89
1942-43	46	<u>31</u>	29	110	95	68	55	64	<u>164</u>	153	255	203	106
1943-44	79	51	51	38	50	41	44	43	59	97	129	145	69
1944-45	<u>151</u>	71	38	36	45	68	67	48	58	179	169	106	87
1945-46	54	67	38	59	104	96	50	58	89	206	281	192	108
1946-47	93	50	73	109	231	73	104	65	81	178	154	116	111
1947-48	62	58	175	118	86	83	53	52	66	172	298	151	115
1948-49	74	55	76	60	56	38	50	68	108	216	256	187	104
1949-50	96	56	62	131	91	72	74	99	92	154	324	<u>278</u>	128
1950-51	122	62	122	152	184	97	151	66	104	190	181	126	130
1951-52	61	49	113	81	81	38	58	43	92	175	169	145	92
1952-53	65	37	29	23	<u>27</u>	145	139	54	67	147	170	200	92
1953-54	89	46	56	77	157	81	86	72	85	181	243	255	119
1954-55	135	72	70	73	64	55	51	37	58	<u>93</u>	284	200	99
1955-56	93	61	151	165	196	91	43	54	123	218	298	244	<u>145</u>
1956-57	104	65	71	60	112	45	59	84	88	213	182	93	98
1957-58	54	40	41	42	76	79	102	53	78	173	164	96	83
1958-59	56	40	49	135	120	117	58	48	70	137	187	117	95
1959-60	80	<u>128</u>	<u>188</u>	198	100	48	64	56	94	154	219	121	121
1960-61	65	50	59	138	74	110	159	87	98	162	284	143	118
1961-62	70	53	58	62	93	138	70	46	125	113	182	142	96
1962-63	90	47	56	155	126	59	112	107	70	124	154	94	99
1963-64	68	43	35	62	74	85	54	44	51	112	304	238	98
1964-65	123	88	85	64	200	172	114	61	120	128	187	129	123
1965-66	77	40	40	90	55	43	<u>27</u>	37	89	180	163	131	81
1966-67	61	48	49	70	119	101	87	50	68	141	279	121	99
1967-68	68	55	128	121	129	123	<u>174</u>	86	71	114	176	108	112
1968-69	82	98	134	154	87	119	42	38	85	263	247	99	121
1969-70	49	67	56	55	61	129	85	66	64	130	228	116	92
1970-71	50	56	42	85	74	101	121	55	53	206	227	245	110
1971-72	113	64	37	66	65	76	111	<u>211</u>	100	<u>287</u>	343	235	142
1972-73	123	79	46	61	145	96	46	38	<u>38</u>	121	155	95	87
1973-74	54	60	55	116	107	168	64	60	91	162	<u>387</u>	264	133
1974-75	127	72	34	45	97	155	71	69	39	146	264	236	113
1975-76	103	57	57	105	229	142	77	44	60	195	186	211	123
1976-77	135	76	44	51	39	41	43	43	82	102	168	75	75
1977-78	79	68	46	33	287	66	57	47	79	122	189	136	101
1978-79	82	73	40	50	60	<u>30</u>	50	79	62	176	154	102	80
1979-80	54	52	43	30	111	62	77	62	102	153	158	107	84
1980-81	51	50	24	90	214	74	38	38	84	129	188	104	91
1981-82	57	45	27	52	91	70	172	77	61	159	245	147	100
1982-83	70	57	61	63	72	114	68	137	61	153	166	158	99
1983-84	104	55	76	125	64	188	79	83	66	136	218	171	114
1984-85	75	96	76	86	49	37	36	50	92	176	202	108	90
1985-86	50	57	79	112	44	67	121	105	69	126	148	71	87
1986-87	43	37	36	76	55	36	33	81	105	164	120	69	71
1987-88	41	32	<u>13</u>	<u>18</u>	64	40	50	75	141	186	161	115	78
1988-89	53	37	45	104	78	67	46	60	139	158	184	182	96
1989-90	66	35											
MEAN	75	56	62	83	101	83	72	65	84	159	207	144	99
MEDIAN	66	54	49	70	86	74	59	56	84	156	187	130	98

PAK3M9

USGS # 14234802

MOSSYROCK

River: COWLITZ

Drainage Area: 1170 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile: 65.5

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												3311	
1928-29	1743	1194	2202	2487	2861	2458	<u>1620</u>	4029	4497	11120	9668	3591	3978
1929-30	1844	1148	909	710	2929	2345	9482	4761	6998	5620	4503	2394	3553
1930-31	1385	983	1144	1541	1821	4956	4470	4940	8043	6747	3673	1970	3455
1931-32	1278	1009	1545	3315	3525	4759	4953	9894	8277	10140	9702	4679	5304
1932-33	1860	1060	1580	10100	6340	6710	2640	4395	5762	8271	14150	7670	5998
1933-34	3204	2322	5844	6390	<u>24520</u>	<u>15800</u>	6255	8147	7106	4860	2818	1789	7301
1934-35	1320	1060	3712	9647	7772	8861	6397	4263	4716	8100	7807	3942	5492
1935-36	1753	1232	777	1205	2255	6575	2888	5934	8092	12700	9459	3397	4692
1936-37	1715	1239	736	<u>665</u>	4128	1925	2482	5890	7867	10470	12010	4803	4521
1937-38	1956	1531	1391	9439	7705	7925	3650	4375	8477	9290	6635	2832	5406
1938-39	1597	1169	1177	3250	5442	5708	4376	5381	6859	7865	5773	3364	4329
1939-40	1576	1172	1040	1809	5993	3715	6917	7080	5328	<u>6458</u>	2974	<u>1516</u>	3762
1940-41	1226	1052	1123	2553	4252	3692	2762	<u>2506</u>	3161	<u>3943</u>	<u>1783</u>	1630	<u>2477</u>
1941-42	1246	1874	3442	4623	8577	3185	3793	3103	4963	5204	6617	3650	4236
1942-43	1796	1129	786	7946	7611	4724	6303	4930	<u>9544</u>	7198	7920	5040	5405
1943-44	1978	1252	1164	2120	3941	3076	3632	3290	4260	5580	4252	1883	2975
1944-45	1291	1346	1076	2233	3330	6186	6317	3809	5155	11460	5887	2641	4234
1945-46	1491	1504	1404	4802	6552	7139	4725	5799	6506	11950	9617	6379	5727
1946-47	2231	1429	2412	6032	12470	5854	7169	5449	6391	7019	4961	2740	5275
1947-48	1480	1371	6561	8508	5811	6390	5160	4304	5236	11140	11890	4153	6060
1948-49	2223	1558	2716	4655	5392	2260	4403	6504	8232	<u>14860</u>	9167	4686	5558
1949-50	2193	1510	2305	6706	5641	5689	7430	9443	7621	9702	13080	7851	6638
1950-51	2832	1682	4365	9799	12300	7168	11040	4548	7429	8687	6036	3029	6439
1951-52	1597	1170	4544	4855	5941	2308	5729	3173	7486	9246	6097	3524	4641
1952-53	1725	1108	891	711	<u>1270</u>	12830	8554	3380	4977	8203	7796	5745	4790
1953-54	2235	1358	1625	3868	11650	6229	8533	5419	6628	10280	10280	7824	6400
1954-55	3207	1952	2265	4844	4128	4255	5053	2627	4947	8065	13790	7488	5167
1955-56	2740	1757	5925	<u>12170</u>	12620	7021	3494	5109	9308	14010	11670	6813	<u>7725</u>
1956-57	2656	1612	2625	4197	9834	3159	4593	7633	6891	9827	5562	2623	5019
1957-58	1567	1168	1207	2190	5554	6352	7889	3990	6885	9978	5880	2598	4584
1958-59	1566	1223	1994	11530	9992	10760	4284	4036	6711	7826	7996	3917	6009
1959-60	1786	<u>2877</u>	<u>6813</u>	10020	6902	3198	6653	5086	6999	8775	8133	3300	5857
1960-61	1734	1393	1867	8231	5151	7523	13080	7182	6515	9002	9013	3585	6140
1961-62	1827	1317	1777	3208	7024	7860	4622	2954	8507	6216	6766	3723	4662
1962-63	2002	1371	2668	8554	7725	3711	8996	3928	6073	6374	4375	2370	4768
1963-64	1527	1207	1400	4768	4961	6972	4789	3588	5049	7792	12380	6983	5241
1964-65	3056	1913	2497	3549	11920	10130	8953	4766	7286	7216	6587	3179	5799
1965-66	1768	1152	1208	2436	3022	3843	2737	5052	7975	9605	6577	3912	4111
1966-67	1729	1232	1529	3525	9285	8691	6570	4252	3243	8813	10590	4165	5304
1967-68	1788	1249	3974	4794	6410	7850	12580	6083	4128	6233	6939	2678	5394
1968-69	2135	2831	4511	8839	6639	7708	2814	3629	6322	11810	7693	2687	5591
1969-70	1446	1609	2438	2974	4462	10280	7071	4571	4231	6850	7056	2688	4620
1970-71	1355	1412	1494	4563	5855	9665	8593	4426	5352	12190	10460	8238	6267
1971-72	3083	1837	1812	4176	5210	8032	10050	<u>16140</u>	7086	13520	12460	7165	7544
1972-73	3041	2557	1608	3049	9290	6650	2628	3125	3295	5463	4088	2199	3793
1973-74	1384	1339	1753	6832	9138	13940	5879	6092	7491	9646	<u>16980</u>	<u>8571</u>	7596
1974-75	<u>3400</u>	1662	1033	2413	6869	11290	5140	5165	<u>2895</u>	8441	9931	6191	5290
1975-76	2290	1487	2273	6818	15880	10080	4718	3489	5318	10340	7096	5717	6371
1976-77	2976	1725	1270	1663	1718	2334	2028	3065	5582	5338	5215	1684	2759
1977-78	1515	1968	1536	9088	18510	5034	4261	3967	4599	6603	5650	3016	5507
1978-79	1711	2148	1330	2136	3976	<u>1918</u>	5292	6621	4711	8474	4513	2309	3710
1979-80	1198	1248	1544	1449	8712	4819	6804	5013	7459	6320	4667	2287	4295
1980-81	1302	1286	787	5030	13100	4218	8735	3360	5626	5205	6349	2708	4784
1981-82	1357	1146	2550	3676	7182	6338	<u>13880</u>	6225	5274	8999	9390	3768	5787
1982-83	1688	1334	2233	3600	7480	9281	5951	6970	4691	7241	5859	4597	5121
1983-84	2138	1762	1127	8591	4370	10520	5556	5833	4960	7725	8409	4309	5415
1984-85	1893	1290	1814	5238	3314	2659	2455	2922	7415	8514	8646	2673	4017
1985-86	1328	1265	2908	5547	2551	5530	8782	7075	4052	6297	4370	1762	4240
1986-87	1124	1013	1193	6816	3735	3670	6181	7264	5773	6334	3288	1704	3985
1987-88	<u>1087</u>	932	<u>549</u>	807	4866	3267	4619	5564	9041	8049	5311	2594	3895
1988-89	1206	1004	1428	3072	4715	5236	3283	5529	8543	7104	6171	2736	4408
1989-90	1104	<u>800</u>											
MEAN	1863	1444	2154	4973	6920	6234	5913	5198	6227	8464	7613	3919	5072
MEDIAN	1732	1325	1608	4623	5941	6186	5292	4930	6391	8203	6939	3381	5167

MOS3M9

USGS # 14237810

MAYFIELD

River: COWLITZ

Drainage Area: 1400 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile. 52

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												3575	
1928-29	1879	1336	2585	2768	3435	3178	<u>2041</u>	5372	6291	11650	10180	3840	4570
1929-30	1990	1231	1252	888	3780	2988	11920	5608	7552	6503	4844	2657	4169
1930-31	1488	1065	1526	1966	1994	6527	5482	6426	10660	7387	4139	2174	4213
1931-32	1365	1132	2303	4836	5056	6387	6396	12670	10300	10760	10100	4937	6406
1932-33	2013	1159	2034	13140	9219	9130	3484	6564	6895	9300	15120	7944	7304
1933-34	3514	2840	6679	7175	<u>33830</u>	<u>20700</u>	7353	9327	7412	5563	<u>3179</u>	1981	9013
1934-35	1456	1196	4852	12190	10080	9276	7651	5327	5540	8675	8071	4027	6554
1935-36	1891	1481	1205	1556	2644	8927	3980	7485	9160	13320	10110	3570	5448
1936-37	1859	1413	1122	<u>826</u>	5242	<u>2441</u>	3550	7233	10340	11210	12730	4984	5271
1937-38	2134	1778	1838	11610	10780	10870	4646	5874	9989	10030	6995	3179	6615
1938-39	1736	1310	1615	3994	7021	7617	6128	6705	7784	8536	6182	3578	5177
1939-40	1699	1337	1462	2020	7860	4873	9268	8785	6685	7375	3245	1810	4659
1940-41	1309	1180	1562	3152	5472	4879	3292	<u>3115</u>	<u>3546</u>	<u>4781</u>	3237	1925	<u>3125</u>
1941-42	1328	2307	4199	5391	11500	4148	4821	3866	5527	6004	7150	3829	5060
1942-43	1957	1261	1173	10050	10100	6230	8152	6085	<u>11550</u>	7914	8327	5473	6512
1943-44	2158	1428	1676	2498	4960	4051	4519	4116	5126	6336	4599	2196	3571
1944-45	1384	1544	1497	2722	3908	8174	8052	5241	6432	12240	6293	2923	5037
1945-46	1610	1791	1818	6292	8804	9609	6469	7405	7657	12580	10150	6419	6792
1946-47	2436	1585	3096	7651	18700	7454	9172	6152	7764	7445	5402	3030	6577
1947-48	1599	1625	7642	10550	7584	8294	6792	5456	6528	12300	12420	4453	7165
1948-49	2393	1867	3297	6511	7996	2898	6300	8504	9475	<u>15500</u>	9440	5163	6620
1949-50	2483	1804	3020	7665	7863	7783	10120	11970	9461	10780	13860	8206	7950
1950-51	3124	1828	5279	11810	15220	9558	13990	5850	8552	9486	6340	3155	7683
1951-52	1663	1315	5817	6080	7633	3371	7733	4465	8612	9684	6447	3778	5548
1952-53	1791	1219	1048	888	<u>1879</u>	17320	11060	4571	6328	9228	8481	6053	5852
1953-54	2446	1620	2233	4973	15680	8469	11050	6566	8353	11200	10760	7968	7682
1954-55	3481	2345	2746	6055	5457	5729	7124	3828	7096	9133	14640	7709	6219
1955-56	3022	2011	7326	<u>15080</u>	16480	9428	4434	7250	11040	14230	11740	7145	9105
1956-57	2896	1779	3644	5582	12420	3812	6027	9875	8348	10240	6022	2783	6028
1957-58	1732	1286	1505	3081	7906	8496	10020	4857	8457	10420	6208	2703	5520
1958-59	1635	1316	2368	14060	12120	13360	5716	5786	8376	8882	8838	4344	7275
1959-60	2095	<u>3819</u>	<u>8051</u>	12750	8752	4219	8562	6392	8742	10460	8678	3661	7159
1960-61	2092	1728	2522	11650	6638	9250	16450	9812	8057	10280	9364	3785	7551
1961-62	1965	1568	2314	4042	9405	9249	5093	4058	9931	7317	7261	3829	5525
1962-63	2218	1589	3072	11390	9811	4803	10000	4642	7929	7083	4573	2713	5746
1963-64	1837	1555	1936	6805	6089	10680	6499	5293	6889	9212	14020	7397	6631
1964-65	3272	2236	2846	4955	16360	13010	11440	5446	7831	7805	6768	3210	6965
1965-66	1912	1342	1547	2941	3738	6054	4022	7139	9439	10250	6907	4353	4973
1966-67	1876	1407	2080	4502	11830	12840	8453	5365	4056	9584	11030	4139	6428
1967-68	1897	1376	5106	5452	7825	9287	14480	6952	5129	6580	7429	2734	6215
1968-69	2592	3439	5717	10920	9162	10320	4014	5046	8011	13140	8678	3219	6964
1969-70	1728	2056	3121	3801	5781	13790	9366	5700	5584	7704	7418	2910	5710
1970-71	1513	1600	2040	5969	8246	13870	11160	6570	7037	13660	11380	8623	7772
1971-72	3261	2225	2554	5984	7679	11800	13980	<u>20680</u>	8789	14850	13120	7627	9374
1972-73	3255	2933	1875	3962	12510	8443	3476	4252	4216	6183	4707	2530	4736
1973-74	1518	1486	2246	8901	12370	18030	8470	8489	9727	11390	<u>19140</u>	<u>9103</u>	<u>9425</u>
1974-75	<u>3706</u>	1953	1369	3513	9379	15650	7054	6966	3935	9609	10550	6523	6611
1975-76	2662	1819	3515	8994	22870	14240	6484	4914	6999	11560	7717	6161	8256
1976-77	3445	1995	1374	2065	2215	2810	2524	4542	6837	6467	6128	2044	3405
1977-78	1882	2665	2205	12450	24760	6938	5349	4592	5769	7413	5924	3203	6958
1978-79	2043	2689	1340	3073	6064	2589	7829	8273	6049	9230	4677	2666	4653
1979-80	1589	1597	1941	1842	12090	6646	8930	6554	8963	6895	5066	2623	5384
1980-81	1555	1542	1047	6789	16870	5565	11980	4244	7651	6339	8199	3202	6220
1981-82	1746	1569	3327	4840	10250	9823	<u>18710</u>	8544	6666	9840	10060	4029	7392
1982-83	1934	1627	2822	5154	10120	13160	7867	8867	5713	7735	6332	5422	6455
1983-84	2548	2201	1414	12210	6420	13740	7151	7808	6440	9650	9816	4709	6961
1984-85	2072	1548	2197	7616	5380	3681	3423	3887	8975	9462	9712	3203	5047
1985-86	1564	1648	4000	7675	3518	7350	11440	8528	4730	7355	4515	2024	5304
1986-87	1368	1216	1437	9675	5519	5290	8014	9628	6760	7001	3707	<u>1766</u>	5083
1987-88	<u>1303</u>	<u>1031</u>	<u>750</u>	1202	6639	4545	6443	7675	11420	9606	6226	3143	5026
1988-89	1718	1405	2081	9003	6213	7856	4766	7851	10510	7714	6462	3052	5705
1989-90	1599	1264											
MEAN	2084	1718	2742	6446	9297	8385	7708	6738	7633	9345	8210	4212	6203
MEDIAN	1894	1577	2205	5969	7906	8174	7151	6392	7657	9300	7429	3620	6220

MAY3M9

USGS # 12057100

CUSHMAN 1

River: N. FK. SKOKOMISH

Drainage Area:

94 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile:

19.6

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												233	
1928-29	93	113	420	929	763	381	<u>202</u>	579	645	794	834	355	510
1929-30	171	129	137	111	756	309	1270	587	970	483	331	164	446
1930-31	90	123	273	442	504	1660	882	990	926	634	669	255	619
1931-32	141	242	551	951	1240	810	941	1010	1060	943	911	477	772
1932-33	189	155	262	1470	948	929	411	894	706	1100	1150	864	758
1933-34	350	553	730	668	2719	1789	855	986	567	596	<u>216</u>	270	862
1934-35	148	128	832	2279	1089	2212	1161	761	547	787	756	390	922
1935-36	165	348	254	434	1041	1214	551	631	563	1032	892	375	626
1936-37	146	133	99	<u>84</u>	942	282	456	901	1152	1272	1313	512	608
1937-38	152	111	631	2008	1776	963	637	933	891	916	707	288	835
1938-39	129	99	523	707	1002	1514	591	578	615	655	440	261	594
1939-40	137	119	258	583	2596	1565	1441	1168	727	824	283	<u>142</u>	821
1940-41	88	125	1138	846	1338	1162	1069	715	524	725	324	148	683
1941-42	83	400	571	1085	1865	653	696	403	503	561	628	298	645
1942-43	190	58	151	941	921	546	680	701	<u>1268</u>	558	491	270	562
1943-44	109	88	502	446	794	1094	593	449	511	509	377	151	469
1944-45	97	128	255	1380	656	1066	1463	726	489	1243	555	256	687
1945-46	61	172	237	1115	1439	1085	860	766	986	1156	990	654	793
1946-47	224	149	292	803	1508	754	1804	578	529	<u>460</u>	395	210	635
1947-48	95	77	1399	603	1214	856	687	473	722	1429	1112	380	756
1948-49	187	403	494	959	674	241	897	1093	866	1245	692	386	676
1949-50	167	166	217	1800	1491	848	1247	1133	807	891	1220	696	886
1950-51	325	150	1155	1451	2261	1067	1738	492	813	801	595	256	921
1951-52	107	206	938	1026	663	674	996	568	870	1152	782	494	704
1952-53	261	123	98	314	1077	<u>3036</u>	1034	537	642	992	691	595	785
1953-54	241	279	589	1569	1405	1074	1851	804	776	786	707	710	892
1954-55	317	199	718	2455	1242	562	696	<u>392</u>	727	687	961	595	794
1955-56	254	189	838	1754	1162	1118	354	751	1038	<u>1537</u>	<u>1559</u>	969	962
1956-57	341	255	959	639	1237	371	1371	1111	894	868	431	278	726
1957-58	189	127	452	579	1202	1768	2189	722	819	880	554	204	799
1958-59	95	112	439	1159	1619	1802	605	661	1040	844	756	367	793
1959-60	136	512	469	1137	1193	1178	1366	804	1031	870	755	350	813
1960-61	164	126	516	1039	1130	2213	2170	1371	772	1069	879	363	978
1961-62	163	132	379	908	1130	965	862	510	725	702	629	324	617
1962-63	223	266	977	1587	1521	715	1627	627	845	791	406	330	820
1963-64	162	111	1002	1793	1251	1390	629	581	507	617	1089	615	813
1964-65	313	176	270	801	847	851	1117	556	877	676	581	257	606
1965-66	140	77	373	1159	1193	1222	750	1020	890	934	724	460	746
1966-67	199	58	385	1244	<u>2872</u>	1525	791	1029	470	876	1090	496	923
1967-68	198	142	1706	875	1228	2168	1905	1289	<u>360</u>	809	778	388	987
1968-69	244	313	714	1108	1437	640	664	789	1031	1452	1168	378	829
1969-70	168	628	420	770	1286	1380	923	820	788	537	556	220	707
1970-71	<u>49</u>	161	599	1083	1208	1328	1116	1079	794	1499	1105	966	915
1971-72	<u>467</u>	231	419	1293	667	1017	1500	<u>2024</u>	1044	1020	815	606	923
1972-73	195	392	69	1046	1735	1241	684	676	448	797	633	257	682
1973-74	203	166	462	1480	2018	2198	858	1533	907	942	1350	<u>999</u>	<u>1096</u>
1974-75	378	205	<u>33</u>	1125	1484	958	769	753	477	1004	922	550	722
1975-76	408	186	<u>1736</u>	1927	1954	1269	758	638	674	893	733	620	985
1976-77	257	157	200	254	454	464	645	676	708	606	534	157	<u>424</u>
1977-78	181	392	790	1401	1597	1335	1065	934	770	783	605	271	842
1978-79	355	<u>868</u>	219	383	<u>382</u>	<u>196</u>	1099	1038	488	792	397	274	536
1979-80	98	400	955	605	2720	974	1997	751	985	524	382	297	888
1980-81	102	97	100	1556	2061	896	1700	557	641	483	441	163	726
1981-82	61	280	1036	1699	1832	910	1757	836	825	816	1148	500	968
1982-83	207	109	966	877	1740	1752	<u>2285</u>	1711	697	830	744	603	1038
1983-84	267	188	160	<u>2994</u>	776	1089	1122	1079	671	888	772	498	871
1984-85	204	92	667	1544	713	384	349	406	839	685	643	269	565
1985-86	116	213	1033	707	478	1855	1390	1068	477	740	501	171	726
1986-87	66	75	381	1222	1134	1290	1339	1740	686	926	528	227	799
1987-88	87	90	58	472	1449	802	530	705	950	891	783	351	598
1988-89	163	167	304	1300	736	682	661	990	1014	710	612	462	649
1989-90	157	<u>40</u>											
MEAN	185	205	554	1098	1301	1120	1060	847	764	861	732	402	760
MEDIAN	166	156	462	1046	1214	1067	923	761	772	824	707	353	772

CS13M9

USGS # 12058610

CUSHMAN 2

River: N. FK. SKOKOMISH

Drainage Area:

99 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile:

17.3

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												234	
1928-29	93	114	423	939	778	399	<u>217</u>	590	651	798	837	356	517
1929-30	171	130	140	121	771	327	<u>1285</u>	598	976	487	334	165	453
1930-31	90	124	276	452	519	1078	897	1001	932	638	672	256	627
1931-32	141	243	554	961	1255	828	956	1021	1086	947	914	478	779
1932-33	189	156	265	1480	963	947	426	905	712	1104	1153	865	765
1933-34	350	554	733	678	2734	1807	870	997	573	600	<u>219</u>	271	869
1934-35	148	129	835	2289	1104	2230	1176	772	553	791	759	391	929
1935-36	165	349	257	<u>444</u>	1056	1232	566	642	569	1036	895	376	633
1936-37	146	134	102	<u>94</u>	957	300	471	912	1158	1276	1316	513	615
1937-38	152	112	634	2018	1791	981	652	944	897	920	710	289	842
1938-39	129	100	526	717	1017	1532	606	589	621	659	443	262	601
1939-40	137	120	261	593	2611	1583	1456	1179	733	828	286	<u>143</u>	828
1940-41	88	126	1141	856	1353	1180	1084	726	530	729	327	149	690
1941-42	83	401	574	1095	1880	671	711	414	509	565	631	299	652
1942-43	190	59	154	951	936	564	695	712	<u>1274</u>	562	494	271	569
1943-44	109	89	505	456	809	1112	608	460	517	513	380	152	476
1944-45	97	129	258	1390	671	1084	1478	737	495	1247	558	257	694
1945-46	61	173	240	1125	1454	1103	875	777	992	1160	993	655	800
1946-47	224	150	295	813	1523	772	1819	589	535	<u>464</u>	398	211	642
1947-48	95	78	1402	613	1229	874	702	484	728	1433	1115	381	763
1948-49	187	404	497	969	689	259	912	1104	872	1249	695	387	683
1949-50	167	167	220	1810	1506	866	1262	1144	813	895	1223	697	893
1950-51	325	151	1158	1461	2276	1085	1753	503	819	805	598	257	928
1951-52	107	207	941	1036	678	692	1011	579	876	1156	785	495	712
1952-53	261	124	101	324	1092	<u>3054</u>	1049	548	648	996	694	596	792
1953-54	241	280	592	1579	1420	1092	1866	815	782	790	710	711	899
1954-55	317	200	721	2465	1257	580	711	<u>403</u>	733	691	964	596	801
1955-56	254	190	841	1784	1177	1136	369	<u>762</u>	1044	<u>1541</u>	<u>1562</u>	970	969
1956-57	341	256	962	649	1252	389	1386	1122	900	872	434	279	733
1957-58	189	128	455	589	1217	1786	2204	733	825	884	557	205	806
1958-59	95	113	442	1169	1634	1820	620	672	1046	848	759	368	801
1959-60	136	513	472	1147	1208	1196	1381	815	1037	874	758	351	821
1960-61	164	127	519	1049	1145	2231	2185	1382	778	1073	882	364	985
1961-62	163	133	382	918	1145	983	877	521	731	706	632	325	624
1962-63	223	267	980	1597	1536	733	1642	638	851	795	409	331	827
1963-64	162	112	1005	1803	1266	1408	644	592	513	621	1092	616	820
1964-65	313	177	273	811	862	869	1132	567	883	680	584	258	613
1965-66	140	78	376	1169	1208	1240	765	1031	896	938	727	461	753
1966-67	199	59	388	1254	<u>2887</u>	1543	806	1040	476	880	1093	497	930
1967-68	198	143	1709	885	1243	2186	1920	1300	<u>366</u>	813	781	389	994
1968-69	244	314	717	1118	1452	658	679	800	1037	1456	1171	379	836
1969-70	168	629	423	780	1301	1398	938	831	794	541	559	221	714
1970-71	<u>49</u>	162	602	1093	1223	1346	1131	1090	800	1503	1108	967	922
1971-72	<u>467</u>	232	422	1303	682	1035	1515	<u>2035</u>	1050	1024	818	607	930
1972-73	195	393	72	1056	1750	1259	699	687	454	801	636	258	689
1973-74	203	167	465	1490	2033	2216	873	1544	913	946	1353	<u>1000</u>	<u>1104</u>
1974-75	378	206	<u>36</u>	1135	1499	976	784	764	483	1008	925	551	729
1975-76	408	187	<u>1739</u>	1937	1969	1287	773	649	680	897	736	621	993
1976-77	257	158	203	264	469	482	660	687	714	610	537	158	<u>432</u>
1977-78	181	393	793	1411	1612	1353	1080	945	776	787	608	272	850
1978-79	355	<u>869</u>	222	393	<u>397</u>	<u>214</u>	1114	1049	494	796	400	275	544
1979-80	98	401	958	615	2735	992	2012	762	991	528	385	298	895
1980-81	102	98	103	1566	2076	914	1715	568	647	487	444	164	733
1981-82	61	281	1039	1709	1847	928	1772	847	831	820	1151	501	976
1982-83	207	110	969	887	1755	1770	<u>2300</u>	1722	703	834	747	604	1045
1983-84	267	189	163	<u>3004</u>	791	1107	1137	1090	677	892	775	499	878
1984-85	204	93	670	1554	728	402	364	417	845	689	646	270	573
1985-86	116	214	1036	717	493	1873	1405	1079	483	744	504	172	734
1986-87	66	76	384	1232	1149	1308	1354	1751	692	930	531	228	806
1987-88	87	91	61	482	1464	820	545	716	956	895	786	352	605
1988-89	163	168	307	1310	751	700	676	1001	1020	714	615	463	656
1989-90	157	<u>41</u>											
MEAN	185	206	557	1108	1316	1138	1075	858	770	865	735	403	767
MEDIAN	166	157	465	1056	1229	1085	938	772	778	828	710	354	779

CS23M9

USGS # 12085010

ALDER

River: NISQUALLY

Drainage Area:

286 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile:

44.2

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												861	
1928-29	553	450	742	747	963	738	<u>440</u>	1292	1419	2083	1723	874	1012
1929-30	633	404	<u>290</u>	207	1271	656	2398	1237	1275	1083	785	677	892
1930-31	544	404	427	469	<u>547</u>	1890	1390	1750	2050	1200	1160	865	1064
1931-32	646	502	861	1409	1734	1741	1931	2872	2283	1838	1670	1089	1547
1932-33	648	457	579	3618	2211	2258	746	1918	1399	1896	2699	1461	1680
1933-34	870	808	1677	1704	<u>7668</u>	4026	1179	1858	1308	1059	<u>661</u>	621	1942
1934-35	560	407	1565	3171	2087	2758	1762	1150	1137	1437	1260	842	1508
1935-36	547	480	318	458	857	2637	1190	1652	1711	2433	2004	896	1270
1936-37	590	465	363	<u>197</u>	1506	<u>366</u>	942	1869	2471	2064	2496	1067	1198
1937-38	568	526	528	3167	2685	2320	940	1431	2001	1570	1075	747	1458
1938-39	488	400	397	884	1665	2175	1458	1461	1472	1419	1110	845	1154
1939-40	569	425	440	540	2626	1249	2450	2073	1227	1366	709	<u>559</u>	1176
1940-41	471	405	490	850	1252	1387	786	<u>671</u>	<u>742</u>	<u>1019</u>	694	597	<u>778</u>
1941-42	<u>436</u>	632	1059	1318	2761	923	1213	846	924	1028	1556	975	1153
1942-43	598	401	319	2371	2213	1271	2061	1569	<u>2512</u>	1293	1350	970	1396
1943-44	520	450	465	620	1405	1338	1082	761	1032	1124	896	632	855
1944-45	453	491	370	737	855	1741	2158	1383	1023	2204	1112	735	1100
1945-46	480	508	571	1945	2301	2283	1608	1697	1735	2144	1837	1203	1538
1946-47	624	397	826	1971	3568	1710	2157	1230	1460	1116	938	679	1371
1947-48	450	448	1887	2345	1768	2249	1995	1353	1518	2477	1888	1040	1638
1948-49	703	562	714	1682	1644	581	1967	1989	2030	<u>2855</u>	1489	1022	1422
1949-50	589	464	767	2021	1862	2192	2643	2825	1941	2031	2393	1431	1779
1950-51	852	558	1270	2824	3202	2289	3592	1229	1778	1640	1102	739	1715
1951-52	513	448	1456	1518	1599	1081	1986	1061	1823	1684	1062	896	1263
1952-53	583	471	391	272	707	4505	2187	1019	1229	1614	1387	1171	1302
1953-54	693	552	730	1461	3520	2172	3354	1420	2005	1942	1860	1390	1761
1954-55	838	636	716	1893	1436	1247	1700	900	1837	2072	2643	<u>1628</u>	1464
1955-56	923	698	<u>2081</u>	<u>3957</u>	3980	2470	776	1926	2493	2768	2021	1347	<u>2111</u>
1956-57	755	463	989	1374	2773	786	1977	2473	1840	1734	1188	760	1407
1957-58	554	556	563	917	2092	2485	2719	1034	1970	1492	1225	871	1380
1958-59	739	518	716	3331	2823	3655	1202	1510	2037	1772	1600	1073	1746
1959-60	682	<u>1193</u>	1916	2970	1867	1017	1966	1548	1969	2204	1440	977	1644
1960-61	718	653	812	3198	1629	2493	3771	2298	1709	1831	1454	855	1761
1961-62	628	371	636	996	2197	1867	1058	1041	1961	1550	1244	835	1199
1962-63	609	530	836	2364	2042	1062	2206	1030	1803	1307	792	735	1268
1963-64	614	528	632	2167	1461	2838	1377	1268	1536	1915	2375	1335	1523
1964-65	651	564	670	1432	3520	3390	2283	1064	1489	1260	1051	841	1517
1965-66	664	443	450	879	1180	1902	920	1976	2114	1776	1173	975	1204
1966-67	625	489	622	1230	3058	3219	1662	1441	907	1878	1742	911	1484
1967-68	617	469	1246	1213	1931	2317	3475	1560	1050	1090	1712	783	1466
1968-69	826	985	1276	2118	2301	2185	1074	1301	1873	2270	1510	815	1524
1969-70	603	661	782	909	1651	3571	2118	1261	1272	1280	1214	835	1341
1970-71	589	493	553	1344	2326	3343	2420	1809	1706	2678	1843	1548	1747
1971-72	919	586	689	1529	1621	2897	3533	<u>4469</u>	1795	2473	1837	1365	1970
1972-73	871	775	471	977	3277	1975	836	1052	873	1192	1011	805	1163
1973-74	651	565	668	2329	3293	<u>4524</u>	1959	2136	2202	2272	<u>2785</u>	1599	2108
1974-75	935	590	368	1161	2338	3323	1816	1542	891	1983	1456	1311	1467
1975-76	800	653	1318	2387	5006	3332	1549	1381	1737	2320	1347	1257	1946
1976-77	<u>962</u>	760	576	672	612	639	593	1260	1594	1311	1424	690	921
1977-78	920	964	821	3132	4856	1910	1453	1173	1220	1324	1041	881	1625
1978-79	701	816	489	822	1326	689	2260	2029	1432	1701	1019	924	1178
1979-80	715	724	804	600	3310	1713	2418	1422	1973	1097	1066	910	1387
1980-81	636	567	396	2126	4205	1027	2830	906	1892	1311	1820	853	1536
1981-82	632	545	1110	1380	2744	2164	<u>4879</u>	1945	1603	1719	1581	985	1752
1982-83	609	476	741	1326	2746	3140	2098	2148	1232	1263	1208	1312	1542
1983-84	804	649	423	3734	2113	2379	1616	1867	1526	1986	1622	1110	1640
1984-85	686	476	578	2443	1142	759	855	927	1926	1671	1749	802	1150
1985-86	507	411	1248	1651	914	2285	2535	1802	965	1493	920	601	1277
1986-87	589	423	527	2608	1294	1427	1950	2450	1386	1223	928	584	1269
1987-88	508	434	299	369	2013	1279	1333	1772	2467	1823	1220	799	1198
1988-89	568	464	620	2556	1397	1788	1101	1977	2139	1285	1034	684	1292
1989-90	472	<u>341</u>											
MEAN	653	548	772	1682	2245	2060	1868	1595	1638	1704	1446	959	1429
MEDIAN	625	497	668	1461	2042	2164	1931	1461	1709	1684	1350	878	1422

ALD3M9

USGS # 12085510

LAGRANDE

River: NISQUALLY

Drainage Area:

289 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile:

42.5

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												861	
1928-29	553	450	742	747	963	738	<u>440</u>	1292	1419	2083	1723	874	1012
1929-30	633	404	<u>290</u>	207	1271	856	2398	1237	1275	1083	785	677	892
1930-31	544	404	427	469	<u>547</u>	1890	1390	1750	2050	1200	1160	865	1064
1931-32	646	502	861	1409	1734	1741	1931	2872	2283	1838	1670	1089	1547
1932-33	648	457	579	3618	2211	2258	746	1918	1399	1896	2699	1461	1680
1933-34	870	808	1677	1704	<u>7668</u>	4026	1179	1858	1308	1059	<u>661</u>	621	1942
1934-35	560	407	1565	3171	2087	2758	1762	1150	1137	1437	1260	842	1508
1935-36	547	480	318	458	857	2637	1190	1652	1711	2433	2004	896	1270
1936-37	590	465	363	<u>197</u>	1506	<u>366</u>	942	1869	2471	2064	2496	1067	1198
1937-38	568	526	528	3167	2685	2320	940	1431	2001	1570	1075	747	1458
1938-39	488	400	397	884	1665	2175	1458	1461	1472	1419	1110	845	1154
1939-40	569	425	440	540	2626	1249	2450	2073	1227	1366	709	<u>559</u>	1176
1940-41	471	405	490	850	1252	1387	786	<u>671</u>	<u>742</u>	<u>1019</u>	694	597	<u>778</u>
1941-42	<u>436</u>	632	1059	1318	2761	923	1213	846	924	1028	1556	975	1153
1942-43	598	401	319	2371	2213	1271	2061	1569	<u>2512</u>	1293	1350	970	1396
1943-44	520	450	465	620	1405	1338	1082	761	1032	1124	896	632	855
1944-45	453	491	370	737	855	1741	2158	1383	1023	2204	1112	735	1100
1945-46	460	508	571	1945	2301	2283	1608	1697	1735	2144	1837	1203	1538
1946-47	624	397	826	1971	3568	1710	2157	1230	1460	1116	938	679	1371
1947-48	450	448	1887	2345	1768	2249	1995	1353	1518	2477	1888	1040	1638
1948-49	703	562	714	1682	1644	581	1967	1989	2030	<u>2655</u>	1489	1022	1422
1949-50	589	464	767	2021	1862	2192	2643	2825	1941	2031	2393	1431	1779
1950-51	852	558	1270	2824	3202	2289	3592	1229	1778	1640	1102	739	1715
1951-52	513	448	1456	1518	1599	1081	1986	1061	1823	1684	1062	896	1263
1952-53	583	471	391	272	707	4505	2187	1019	1229	1614	1387	1171	1302
1953-54	693	552	730	1461	3520	2172	3354	1420	2005	1942	1860	1390	1761
1954-55	838	636	716	1893	1436	1247	1700	900	1837	2072	2643	<u>1628</u>	1464
1955-56	923	698	<u>2081</u>	<u>3957</u>	3980	2470	776	1926	2493	2768	2021	1347	<u>2111</u>
1956-57	755	463	989	1374	2773	786	1977	2473	1840	1734	1188	760	1407
1957-58	554	556	563	917	2092	2485	2719	1034	1970	1492	1225	871	1380
1958-59	739	518	716	3331	2823	3655	1202	1510	2037	1772	1600	1073	1746
1959-60	682	<u>1193</u>	1916	2970	1867	1017	1966	1548	1969	2204	1440	977	1644
1960-61	718	653	812	3198	1629	2493	3771	2298	1709	1831	1454	855	1761
1961-62	628	371	636	996	2197	1867	1058	1041	1961	1550	1244	835	1199
1962-63	609	530	836	2364	2042	1062	2206	1030	1803	1307	792	735	1268
1963-64	614	528	632	2167	1461	2838	1377	1268	1536	1915	2375	1335	1523
1964-65	851	564	670	1432	3520	3390	2283	1064	1489	1260	1051	841	1517
1965-66	664	443	450	879	1180	1902	920	1976	2114	1776	1173	975	1204
1966-67	625	489	622	1230	3058	3219	1662	1441	907	1878	1742	911	1484
1967-68	617	469	1246	1213	1931	2317	3475	1560	1050	1090	1712	783	1466
1968-69	826	985	1226	2118	2301	2185	1074	1301	1873	2270	1510	815	1524
1969-70	603	661	782	909	1651	3571	2118	1261	1272	1260	1214	835	1341
1970-71	589	493	553	1344	2326	3343	2420	1809	1706	2678	1843	1548	1747
1971-72	919	586	689	1529	1621	2897	3533	<u>4469</u>	1795	2473	1837	1365	1970
1972-73	871	775	471	977	3277	1975	836	1052	873	1192	1011	805	1163
1973-74	651	565	668	2329	3293	<u>4524</u>	1959	2136	2202	2272	<u>2785</u>	1599	2108
1974-75	935	590	368	1161	2338	3323	1816	1542	891	1983	1456	1311	1467
1975-76	800	653	1318	2387	5006	3332	1549	1381	1737	2320	1347	1257	1946
1976-77	<u>982</u>	760	576	672	612	639	593	1260	1594	1311	1424	690	921
1977-78	920	964	821	3132	4856	1910	1453	1173	1220	1324	1041	881	1625
1978-79	701	816	489	822	1326	689	2260	2029	1432	1701	1019	924	1178
1979-80	715	724	804	600	3310	1713	2418	1422	1973	1097	1066	910	1387
1980-81	636	567	396	2126	4205	1027	2830	906	1892	1311	1820	853	1536
1981-82	632	545	1110	1380	2744	2164	<u>4879</u>	1945	1603	1719	1581	985	1752
1982-83	609	476	741	1326	2746	3140	2098	2148	1232	1263	1208	1312	1542
1983-84	804	649	423	3734	2113	2379	1616	1867	1526	1986	1622	1110	1640
1984-85	686	476	578	2443	1142	759	855	927	1926	1671	1749	802	1150
1985-86	507	411	1248	1651	914	2285	2535	1802	965	1493	920	601	1277
1986-87	589	423	527	2608	1294	1427	1950	2450	1386	1223	928	584	1269
1987-88	508	434	299	369	2013	1279	1333	1772	2467	1823	1220	799	1198
1988-89	568	464	620	2556	1797	1788	1101	1977	2139	1285	1034	684	1292
1989-90	472	<u>341</u>											
MEAN	653	548	772	1682	2245	2060	1868	1595	1638	1704	1446	959	1429
MEDIAN	625	497	668	1461	2042	2164	1931	1461	1709	1684	1350	878	1422

LAG3M9

USGS # 12099080	WHITE RIVER					River: WHITE				Drainage Area:		40.7 Sq. Mi		
Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development											River Mile:		24.3	
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.	
1927-28												1410		
1928-29	877	606	770	565	582	515	409	1134	1202	2543	2150	1338	1062	
1929-30	870	550	394	292	775	541	1774	1260	1529	1514	1485	989	992	
1930-31	751	535	492	566	489	1317	935	1229	1820	2021	1589	1041	1066	
1931-32	746	568	750	1168	1201	1313	1511	2639	2271	2550	2697	1616	1585	
1932-33	902	643	815	3492	1901	1974	721	1288	1530	2475	4019	2646	1871	
1933-34	1349	921	1802	2138	6676	4317	2048	2329	2247	1964	1212	957	2340	
1934-35	802	615	1840	3723	2518	3012	1905	1871	1454	2176	2419	1858	2017	
1935-36	975	699	503	525	641	2516	776	1799	2701	3514	3341	1295	1609	
1936-37	871	580	452	315	1182	307	695	1239	1871	2338	3356	1619	1236	
1937-38	860	685	613	3457	2738	2334	881	1148	2369	2824	2665	1331	1828	
1938-39	795	623	553	926	1461	1810	1203	1675	1952	2413	1763	1346	1379	
1939-40	836	569	479	655	1557	1111	1814	1714	1461	2317	1273	869	1221	
1940-41	727	637	659	1062	1263	933	660	677	1004	1287	1212	901	920	
1941-42	673	668	1109	1208	2469	906	929	776	1181	1809	3510	1807	1422	
1942-43	849	570	486	1924	2285	1229	1593	1103	2726	1799	2636	1597	1562	
1943-44	595	454	415	394	1170	713	894	831	1022	1709	1284	792	857	
1944-45	603	596	416	554	819	2621	1860	1004	1425	2764	1914	1049	1300	
1945-46	669	802	685	1545	1817	2192	1574	1901	2583	4250	3040	1911	1916	
1946-47	941	597	947	1940	4197	2316	1705	1450	2015	2642	2039	1122	1829	
1947-48	734	668	2195	2853	1832	1748	1764	1080	1658	3388	4893	1578	2029	
1948-49	991	713	842	1602	1708	725	1663	1613	2172	4483	2733	1362	1717	
1949-50	820	605	865	1745	2170	1589	1804	2840	2079	2973	4390	3135	2085	
1950-51	1121	720	1349	2383	2973	1980	3168	1313	2182	2498	2027	1141	1895	
1951-52	751	635	1027	1069	1086	667	1379	946	1878	2204	1675	1308	1217	
1952-53	794	523	415	272	377	2345	2393	833	1279	1484	2223	1678	1210	
1953-54	756	597	628	1175	3032	1461	1895	1011	1441	2381	2613	2460	1620	
1954-55	1002	779	735	1109	1044	1181	1468	725	1345	1696	4053	2156	1437	
1955-56	1173	690	1336	3008	3066	1728	817	1376	2791	4023	4235	2779	2255	
1956-57	998	650	930	1326	3871	787	1046	1635	1793	2631	1844	906	1540	
1957-58	733	592	515	681	1412	1633	1697	953	1607	2545	1985	1209	1294	
1958-59	811	667	840	2923	2803	2628	1117	1194	1791	2030	2444	1602	1740	
1959-60	837	1284	2170	3201	2079	839	1390	1145	1569	2181	2130	1222	1668	
1960-61	882	637	653	2218	1256	1694	2956	1657	1655	2278	2685	1396	1652	
1961-62	938	586	639	888	1639	2026	976	816	1829	1591	1851	1331	1261	
1962-63	906	654	686	1836	2213	1161	1837	1130	1541	1615	1527	1084	1345	
1963-64	823	651	585	1176	1246	1909	1253	1137	1634	2274	3564	2087	1527	
1964-65	1112	766	916	1091	2134	3202	2296	1179	1731	1902	2104	1266	1639	
1965-66	911	592	669	745	705	1027	654	1197	1841	2078	1829	1487	1148	
1966-67	848	669	733	1188	1936	2431	1649	971	874	2268	2890	1616	1506	
1967-68	921	668	1073	1085	1968	2279	2356	1366	1194	1686	2313	1171	1504	
1968-69	958	1168	1058	1893	1639	1977	720	1179	1931	3460	2845	1256	1678	
1969-70	738	638	652	743	1010	2220	1566	1051	1186	1899	2532	1293	1292	
1970-71	766	604	603	1064	1241	2835	2273	1112	1381	3035	2712	2408	1667	
1971-72	1209	710	542	1129	1459	1717	2629	3593	1756	3441	3603	2421	2016	
1972-73	1161	877	513	797	2101	1643	702	692	789	1353	1505	1069	1105	
1973-74	746	564	564	1265	1936	3079	1399	1421	1880	2542	4144	2479	1837	
1974-75	1286	677	431	729	1453	2668	1336	1303	931	2546	3046	2127	1548	
1975-76	1081	663	890	1755	4448	3130	1249	910	1498	2365	1800	1849	1810	
1976-77	1219	917	550	661	687	759	588	854	1773	1299	1730	878	393	
1977-78	973	791	580	2244	4309	1134	915	981	1219	1626	1891	1579	1525	
1978-79	837	902	567	1132	1444	728	1457	1775	1334	2205	1472	1012	1237	
1979-80	738	614	511	417	1957	1052	1550	1398	1777	1863	1600	1287	1230	
1980-81	730	711	450	1363	2878	1243	2151	940	1535	1781	2280	1175	1430	
1981-82	824	542	751	594	1411	2130	3507	1448	1061	1936	2757	1519	1527	
1982-83	895	667	720	938	1467	1971	1153	1319	1170	2095	1775	1316	1293	
1983-84	1023	737	469	1973	1057	3166	1443	1633	1341	2076	2499	1731	1596	
1984-85	931	549	542	979	865	719	775	834	2072	2096	2419	1181	1163	
1985-86	696	541	1003	1380	626	1143	2082	1637	1074	1886	1741	881	1218	
1986-87	775	576	464	2185	982	784	1315	1672	1531	2065	1378	892	1215	
1987-88	677	486	291	327	960	739	1147	1282	2180	2084	1635	1174	1081	
1988-89	783	629	785	1798	1339	1549	818	1289	2513	1757	1793	939	1333	
1989-90	647	453												
MEAN	875	666	769	1400	1829	1695	1479	1336	1675	2304	2406	1483	1493	
MEDIAN	842	638	653	1168	1467	1643	1443	1229	1634	2181	2223	1331	1506	

USGS # 12175010

ROSS

River: SKAGIT

Drainage Area: 999 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 105.2

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE
1927-28												3488	
1928-29	1493	1047	2087	1159	976	619	497	928	1711	7122	7427	3149	2361
1929-30	1610	909	826	<u>500</u>	<u>591</u>	<u>500</u>	2284	1825	6229	5686	6670	3773	2609
1930-31	1683	1154	1028	1058	734	1495	1951	2182	2896	8262	5785	2664	2578
1931-32	1347	1523	1001	1876	1352	1364	3451	3514	4427	8391	9603	3964	3475
1932-33	2038	1134	1492	4906	3119	1649	956	1290	3534	6592	12850	9349	4084
1933-34	3676	2042	<u>4348</u>	4402	4310	4023	3004	4750	<u>10320</u>	9597	6672	3628	<u>5073</u>
1934-35	2007	1270	1336	4561	2530	4134	<u>4825</u>	1884	<u>2072</u>	6718	8497	5163	3737
1935-36	2118	1740	1011	723	850	860	<u>576</u>	1093	5427	9892	7018	2574	2826
1936-37	1455	1014	758	508	1033	614	<u>461</u>	1264	2326	7064	12030	4843	2787
1937-38	1736	1192	1635	2702	2592	2045	1033	1907	4075	9432	9891	4149	3543
1938-39	1495	1132	992	961	1584	2387	967	1670	4612	8322	<u>6483</u>	4492	2937
1939-40	1861	1008	1149	1598	3923	1829	1645	2451	3743	6593	4453	2099	2702
1940-41	<u>1232</u>	1047	2513	1351	1804	1425	1427	1598	3546	4038	<u>3551</u>	<u>2031</u>	2133
1941-42	1240	1549	3094	2772	3743	1152	944	891	3022	5363	5955	3218	2757
1942-43	1507	<u>831</u>	712	1244	1804	1573	1323	1769	6189	6357	9836	7901	3426
1943-44	2580	1313	1041	868	1278	967	869	1005	2219	5291	5619	2373	<u>2121</u>
1944-45	1357	1496	1237	1228	1520	1940	2149	1331	1727	7868	7541	3632	2754
1945-46	1532	1256	2189	2425	1505	1417	1138	1817	3851	12250	9119	5482	3680
1946-47	2249	1293	1123	938	2029	1347	2302	2825	4741	9887	7088	3692	3298
1947-48	1623	1081	2587	1924	2143	1782	1193	1110	2892	9550	14330	4139	3695
1948-49	2631	1833	2167	1565	1291	883	1013	1857	4960	<u>12380</u>	8439	4488	3641
1949-50	2163	1713	1690	<u>5470</u>	3775	1499	1426	2195	2832	7520	<u>16490</u>	8657	4623
1950-51	3101	1482	2661	4373	5699	2502	4196	1657	4860	9780	9389	5310	4583
1951-52	2077	1464	1480	1475	1184	646	1317	1028	4133	8635	6588	3849	2825
1952-53	1706	1028	706	557	604	3000	2735	1421	2928	8422	8195	6386	3144
1953-54	2583	1556	2406	3104	2866	1913	2648	1886	2944	9961	11320	<u>11320</u>	4556
1954-55	4712	2649	1967	4986	2756	1522	1218	941	2272	5265	12910	7649	4077
1955-56	2803	1551	3697	5352	2017	1260	890	1090	5143	12280	11780	7177	4592
1956-57	2693	1914	3518	2705	3471	1362	1413	1843	3215	12120	7318	3028	3735
1957-58	1671	1190	1010	1082	1254	1721	1974	1672	2450	10530	6368	2755	2813
1958-59	1576	1432	2507	3173	4763	3105	1571	1739	4404	8303	12220	6994	4328
1959-60	2428	<u>3003</u>	4068	4453	2950	1396	1893	2005	4463	6429	9736	5180	3996
1960-61	2244	1629	1134	1926	1561	3324	3391	2263	3107	8648	13380	4343	3905
1961-62	2091	1272	1896	1476	1443	2991	2810	1152	3474	4814	7637	4005	2900
1962-63	2178	1379	1555	3374	4089	2239	4368	2090	2202	6198	6852	3733	3345
1963-64	2292	1729	2443	3551	3143	2990	1558	1486	2575	5976	13820	8711	4190
1964-65	3105	1980	2452	1721	1779	1682	2691	2266	3668	7145	8995	4691	3515
1965-66	2463	1162	1536	2278	1999	1322	890	1571	4245	7547	7465	4993	3134
1966-67	2151	1366	1847	1866	3994	2184	1983	1466	<u>1621</u>	7530	16090	5999	4012
1967-68	2331	1425	3334	3783	2879	4431	3975	3849	2194	7119	10760	6127	4351
1968-69	2251	1927	1460	2422	1827	1493	885	1311	4132	10940	9180	3012	3413
1969-70	1483	1777	1536	1721	1355	1256	1630	1521	2028	6079	9376	2986	2727
1970-71	1515	1175	871	1132	1136	1816	3898	1695	2822	11710	10610	8335	3893
1971-72	3222	1465	1408	1705	1140	1319	1876	<u>5061</u>	3361	12210	16230	10010	4925
1972-73	3990	2031	1428	1003	2060	1599	948	1221	1884	6477	5831	3250	2657
1973-74	1617	1004	1306	2000	2457	4312	1746	2154	3421	6882	16270	9624	4407
1974-75	4148	1685	926	1473	1761	1673	1075	1259	1688	6871	11100	7263	3423
1975-76	2264	1287	2092	4742	6259	3053	2368	1476	2992	9858	9742	9431	4642
1976-77	<u>4797</u>	2526	1174	1170	1242	1308	1532	1358	3289	3995	5342	2145	2491
1977-78	1908	1033	781	2510	3838	1307	1294	2608	3287	5610	<u>8814</u>	4628	3141
1978-79	2110	2333	1276	2568	1102	715	955	2573	2476	7260	5433	2767	2638
1979-80	1630	1329	981	731	4429	1451	1767	2289	4343	8764	6478	3575	3154
1980-81	1750	1384	1014	2916	<u>6713</u>	3324	3087	1761	2372	5940	6009	4432	3397
1981-82	2166	1296	1637	1790	1802	1325	2578	1743	2023	7170	13630	6213	3612
1982-83	2573	1635	1582	1259	2034	2633	2159	2625	2881	7876	7247	<u>4948</u>	3297
1983-84	2573	1353	860	3159	998	<u>4649</u>	1973	1996	1940	<u>3803</u>	9108	<u>4983</u>	3114
1984-85	2114	1186	1268	1667	946	685	705	<u>833</u>	4142	7893	7867	3292	2722
1985-86	1422	1073	2208	2741	788	2406	3033	4265	3422	6903	8098	3182	3291
1986-87	1772	997	1065	2455	1341	1877	1554	2963	4296	9576	5763	2793	3046
1987-88	1339	942	<u>701</u>	605	840	769	1054	1877	5376	7820	7171	3716	2684
1988-89	1644	1179	1961	3062	2019	1742	1252	1275	4520	7464	6317	3088	3130
1989-90	1695	910											
MEAN	2175	1441	1698	2276	2279	1899	1874	1909	3507	7901	9079	4917	3420
MEDIAN	2084	1341	1480	1876	1804	1599	1571	1743	3289	7530	8439	4246	3345

ROS3M9

USGS # 12178510

DIABLO

River: SKAGIT

Drainage Area: 1125 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 101

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												4639	
1928-29	2309	1613	2836	1400	1137	699	555	1069	1964	8023	8632	4162	2880
1929-30	2528	1378	1046	<u>562</u>	<u>714</u>	<u>595</u>	2815	2154	6869	6262	7490	4859	3098
1930-31	2645	1930	1385	1203	845	1946	2243	2515	3354	9184	7104	3901	3193
1931-32	2143	2286	1194	2252	1519	1537	4146	3962	5157	9255	11030	5256	4133
1932-33	3105	1639	1950	5781	3448	1869	1008	1449	3926	7188	14110	11050	4723
1933-34	5063	2945	<u>5387</u>	5247	5172	4591	3453	5419	<u>11550</u>	10840	7912	4967	<u>6058</u>
1934-35	3142	1840	1756	5314	2922	4985	<u>5385</u>	2148	2344	7444	9843	6471	4455
1935-36	3100	2647	1344	846	975	1012	637	1292	6230	11280	8566	3796	3481
1936-37	2510	1670	1128	622	1258	680	<u>511</u>	1469	2628	7762	13550	6205	3342
1937-38	2543	1803	2175	3194	3026	2349	1135	2179	4513	10230	11290	5482	4174
1938-39	2250	1887	1365	1147	1851	2769	1108	1923	5097	9179	7383	5727	3489
1939-40	2819	1532	1630	1966	4455	2054	1851	2738	4143	7498	5475	3099	3279
1940-41	<u>2049</u>	1786	3429	1555	2167	1638	1609	1830	3966	4625	<u>4424</u>	3205	2696
1941-42	2155	2134	3678	3137	4233	1344	1066	1011	3372	6073	6928	4521	3316
1942-43	2500	1368	975	1445	2135	1773	1494	2005	6836	7074	11050	9451	4017
1943-44	3465	1933	1379	1011	1535	1106	992	1150	2500	5935	6578	3321	<u>2579</u>
1944-45	2069	2223	1699	1485	1837	2299	2471	1499	1920	8760	8563	4724	3300
1945-46	2327	1781	2627	2768	1706	1603	1292	2034	4264	13510	10320	6796	4271
1946-47	3122	1743	1433	1088	2330	1551	2612	3169	5331	11120	8241	4760	3883
1947-48	2350	1619	3355	2221	2455	1988	1338	1244	3194	10630	16430	5278	4342
1948-49	3662	2443	2602	1752	1467	1006	1142	2110	5505	<u>13750</u>	9701	5715	4256
1949-50	3104	2458	2121	<u>6408</u>	4243	1739	1591	2477	3106	8333	<u>18390</u>	10500	5380
1950-51	4366	2200	3235	4968	6532	2795	4867	1858	5393	10830	10670	6692	5366
1951-52	3012	2118	1970	1726	1365	756	1476	1153	4574	9551	7653	5119	3376
1952-53	2801	1633	1105	680	761	3478	3170	1602	3240	9290	9137	7808	3730
1953-54	3620	2270	2943	3503	3317	2171	2969	2117	3235	10930	12520	<u>12930</u>	5227
1954-55	5890	3409	2339	5780	3108	1715	1369	1051	2485	5839	14410	9122	4717
1955-56	3846	2201	4491	6099	2312	1427	996	1198	5607	13460	13260	8905	5324
1956-57	3771	2725	4133	3052	4003	1532	1590	2049	3564	13470	8705	4036	4408
1957-58	2418	1883	1373	1326	1465	1984	2252	1885	2709	11890	7903	4195	3450
1958-59	2683	2131	3145	3661	5595	3505	1766	1932	4933	9148	13720	8587	5082
1959-60	3365	<u>3900</u>	4912	5280	3369	1584	2110	2229	4906	7143	11160	6881	4717
1960-61	3180	2183	1607	2249	1853	3851	3940	2580	3440	9577	15420	5863	4638
1961-62	3350	1811	2149	1718	1687	3519	3194	1295	3876	5347	8870	5123	3491
1962-63	3195	1905	1887	4010	4640	2596	4911	2344	2434	6925	7921	4669	3944
1963-64	3154	2547	3264	4028	3587	3362	1727	1640	2825	6596	15340	10290	4866
1964-65	4031	2522	2935	1968	2102	1930	3035	2525	4066	7887	10180	5987	4100
1965-66	3662	1598	1966	2608	2253	1496	1014	1773	4656	8316	8466	6120	3675
1966-67	3094	2056	2405	2145	4683	2498	2247	1657	<u>1796</u>	8259	18070	7451	4702
1967-68	3478	2338	4207	4300	3278	5095	4499	4285	2416	7876	12290	7626	5142
1968-69	3171	2692	1782	2808	2117	1829	1007	1466	4562	12210	10990	4057	4069
1969-70	2196	2571	1866	1968	1539	1431	1847	1702	2229	6744	10880	4128	3257
1970-71	2346	1722	1107	1330	1329	2180	4475	1898	3087	12840	11820	10070	4518
1971-72	4544	1974	1759	1950	1307	1493	2201	<u>5850</u>	3734	13470	18020	11830	5688
1972-73	5339	2640	1732	1178	2397	1876	1104	1400	2087	7236	6842	4349	3199
1973-74	2490	1577	1638	2290	2816	4839	1956	2420	3728	7559	18130	11310	5073
1974-75	5439	2342	1164	1720	2042	1952	1239	1430	1862	7600	12450	9220	4055
1975-76	3141	1843	2570	5348	7186	3484	2627	1652	3234	10810	10750	11040	5321
1976-77	<u>6120</u>	3256	1469	1396	1456	1617	1755	1530	3648	4432	6464	<u>3057</u>	3020
1977-78	3218	1539	986	2932	4476	1494	1475	2938	3625	6190	10140	6068	3767
1978-79	3177	3155	1634	3046	1261	809	1057	2950	2736	8091	6359	3896	3191
1979-80	2610	2055	1344	864	5431	1639	2029	2569	4814	9706	7463	4642	3773
1980-81	2531	2003	1339	3439	<u>7931</u>	3722	3474	1977	2707	6592	6855	5554	4018
1981-82	3322	1964	2054	2069	2045	1525	2985	1989	2238	7841	15540	7745	4274
1982-83	3697	2338	1971	1498	2395	3032	2465	2984	3186	8872	8510	6323	3952
1983-84	3649	1883	1121	3622	1156	<u>5651</u>	2233	2267	2165	<u>4291</u>	10440	6346	3735
1984-85	3241	1701	1690	1899	1124	833	832	<u>958</u>	4609	8839	9273	4676	3315
1985-86	2188	1448	2680	3210	939	2737	3520	4741	3765	7804	9483	4141	3884
1986-87	2852	1446	1375	2846	1566	2117	1776	3363	4789	10830	6969	3854	3660
1987-88	2153	1663	<u>742</u>	737	997	895	1209	2158	6032	8723	8294	4837	3204
1988-89	2469	1776	2728	3549	2364	1988	1455	1452	5127	8253	9712	4142	3756
1989-90	2532	<u>1335</u>											
MEAN	3166	2081	2153	2643	2643	2190	2136	2159	3900	8774	10390	6232	4050
MEDIAN	3104	1949	1866	2221	2135	1876	1776	1977	3648	8316	9712	5518	3952

DIA3M9

USGS # 12177710	GORGE												River: SKAGIT	Drainage Area: 1159 Sq. Mi.
Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).	River Mile: 96.6													
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE	
1927-28												5280		
1928-29	2544	1759	3118	1531	1246	748	584	1168	2101	8412	9025	4374	3065	
1929-30	2646	1434	1129	<u>596</u>	<u>797</u>	<u>653</u>	3085	2383	7217	6511	7758	5086	3265	
1930-31	2769	2022	1519	1282	919	2219	2391	2748	3603	9582	7535	4159	3402	
1931-32	2246	2377	1267	2457	1631	1641	4500	4275	5553	9627	11490	5526	4370	
1932-33	3243	1699	2122	6257	3669	2002	1035	1560	4139	7446	14520	11410	4938	
1933-34	5242	3053	<u>5823</u>	5551	5608	4908	3700	5807	<u>12030</u>	11310	8239	5207	<u>6386</u>	
1934-35	3284	1934	1927	5747	3167	5464	<u>5623</u>	2293	<u>2530</u>	7798	10300	6786	4726	
1935-36	3253	2758	1464	925	1123	1166	<u>666</u>	1478	6662	11790	9015	4023	3697	
1936-37	2613	1744	1179	649	1457	709	<u>544</u>	1657	2853	8112	14070	6464	3514	
1937-38	2648	1861	2393	3544	3294	2503	1184	2365	4794	10620	11760	5742	4406	
1938-39	2344	1955	1490	1287	2074	3044	1174	2105	5409	9594	7760	6052	3707	
1939-40	2956	1609	1844	2203	4843	2183	1990	2966	4370	7915	5761	3249	3499	
1940-41	<u>2130</u>	1846	3738	1668	2389	1797	1732	2002	4177	4883	<u>4653</u>	3317	2868	
1941-42	2217	2351	3994	3366	4507	1408	1135	1092	3580	6369	7264	4744	3515	
1942-43	2565	<u>1398</u>	1016	1561	2370	1934	1610	2165	7190	7399	11530	9964	4234	
1943-44	3646	2005	1491	1101	1713	1237	1050	1267	2666	6223	6850	3444	<u>2729</u>	
1944-45	2143	2391	1833	1653	2016	2530	2696	1602	2074	9245	8924	4981	3511	
1945-46	2420	1908	2877	2927	1844	1759	1417	2188	4529	14110	10800	7177	4516	
1946-47	3320	1844	1563	1186	2543	1710	2848	3381	5623	11600	8644	5048	4118	
1947-48	2476	1723	3686	2359	2688	2090	1364	1329	3402	11130	17110	5559	4577	
1948-49	3875	2617	2777	1874	1542	1067	1223	2273	5831	<u>14390</u>	10180	6109	4499	
1949-50	3294	2629	2322	<u>6888</u>	4406	1871	1737	2678	3284	<u>8757</u>	<u>19070</u>	11000	5669	
1950-51	4639	2324	3520	5353	7037	2956	5298	1944	5675	11290	11140	7010	5681	
1951-52	3157	2250	2225	1864	1467	811	1577	1234	4858	9985	8090	5456	3585	
1952-53	2946	1707	1159	733	863	4012	3407	1705	3466	9707	9517	8218	3959	
1953-54	3825	2490	3209	3760	3579	2295	3191	2237	3430	11420	13060	<u>13560</u>	5521	
1954-55	6249	3652	2561	6256	3278	1795	1458	1098	2638	6192	15010	9637	4993	
1955-56	4082	2324	4900	6422	2497	1508	1002	1269	5911	14060	13820	9419	5609	
1956-57	3991	2954	4486	3235	4337	1603	1722	2193	3831	14030	9131	4302	4674	
1957-58	2572	1997	1498	1454	1634	2209	2484	2000	2887	12420	8344	4405	3667	
1958-59	2789	2287	3400	3954	6063	3753	1847	2073	5336	9550	14310	9082	5387	
1959-60	3577	<u>4277</u>	5281	5632	3568	1698	2201	2389	5175	7517	11720	7055	5004	
1960-61	3344	2300	1852	2477	2065	4226	4305	2755	3665	10040	16110	6224	4939	
1961-62	3511	1919	2395	1882	1905	3815	3442	1357	4153	5666	9379	5479	3738	
1962-63	3430	2071	2077	4338	4982	2771	5300	2474	2582	7255	8285	4932	4198	
1963-64	3307	2673	3490	4308	3868	3570	1790	1742	3010	6974	15890	10830	5125	
1964-65	4356	2738	3168	2140	2287	2075	3265	2672	4331	8249	10610	6314	4353	
1965-66	3862	1687	2181	2850	2461	1638	1091	1951	4906	8712	8901	6499	3910	
1966-67	3277	2166	2666	2302	5159	2699	2402	1780	<u>1902</u>	8682	18800	7870	4982	
1967-68	3684	2463	4684	4503	3529	5471	4686	4540	2569	8249	12830	8020	5438	
1968-69	3349	2902	1964	3087	2269	1978	1050	1572	4817	12770	11500	4297	4309	
1969-70	2316	2794	2015	2117	1677	1568	2009	1827	2383	7060	11340	4383	3456	
1970-71	2459	1863	1201	1513	1459	2478	4787	2010	3295	13450	12340	10670	4795	
1971-72	4842	2117	1917	2146	1393	1624	2330	<u>6315</u>	3943	14050	18640	12410	5980	
1972-73	5647	2856	1839	1286	2690	2016	1188	1503	2226	7615	7243	4636	3413	
1973-74	2648	1690	1847	2491	3081	5257	2077	2652	3928	7967	18870	11880	5378	
1974-75	5787	2510	1235	1950	2295	2101	1311	1548	1977	8046	12970	9761	4310	
1975-76	3358	1960	2850	5731	7712	3732	2681	1745	3419	11280	11190	11570	5619	
1976-77	<u>6486</u>	3472	1578	1536	1651	1800	1921	1638	3878	4644	6820	<u>3248</u>	3226	
1977-78	3411	1650	1083	3266	4918	1583	1611	3222	3801	6483	10640	6425	4018	
1978-79	3370	3431	1763	3278	1323	842	1149	3270	2897	8512	6741	4157	3405	
1979-80	2725	2165	1482	921	6140	1714	2209	2713	5187	10190	7850	4927	4029	
1980-81	2658	2167	1402	3849	<u>8712</u>	3858	3774	2057	2968	6917	7280	5841	4297	
1981-82	3454	2065	2279	2224	2206	1628	3298	2094	2379	8255	16210	8215	4523	
1982-83	3912	2472	2162	1583	2750	3314	2720	3225	3386	9316	8938	6854	4233	
1983-84	3835	2001	1224	4047	1283	<u>6203</u>	2350	2469	2312	<u>4628</u>	10960	6766	4007	
1984-85	3447	1860	1875	2097	1267	940	894	<u>1040</u>	4975	9313	9831	4990	3553	
1985-86	2305	1574	3032	3508	1057	3041	3933	<u>5043</u>	3986	8267	9931	4418	4170	
1986-87	3007	1556	1503	3157	1763	2289	1962	3631	5104	11350	7351	4081	3908	
1987-88	2269	1742	<u>785</u>	818	1178	993	1299	2383	6465	9178	8725	5195	3420	
1988-89	2628	1916	2989	3841	2596	2146	1569	1607	5574	8694	10260	4436	4026	
1989-90	2706	1415												
MEAN	3340	2216	2350	2861	2883	2371	2293	2324	4145	9194	10870	6583	4296	
MEDIAN	3281	2068	2015	2359	2370	2016	1962	2094	3878	8712	10260	5792	4233	

USGS # 12191610

UPPER BAKER

River: BAKER

Drainage Area:

215 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile:

9.3

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												2320	
1928-29	1190	1030	2210	1310	1010	550	<u>350</u>	960	1180	3140	3710	2270	1583
1929-30	1370	780	780	<u>360</u>	1160	580	2480	1150	2380	2070	2480	1950	1453
1930-31	1240	1100	1340	1010	910	2380	1210	1770	2090	3090	3650	2110	1829
1931-32	1070	1840	1290	1910	1480	1190	2290	2090	2340	3000	4660	3420	2209
1932-33	1850	960	1650	3660	1840	1420	600	1120	1570	2580	4480	4770	2217
1933-34	2780	2280	3050	2050	3750	3120	1770	2220	<u>2810</u>	3070	2320	2380	<u>2643</u>
1934-35	1620	1240	1750	3240	2030	3070	2080	1120	1120	2530	3600	2950	2196
1935-36	1430	1690	1130	840	1250	1460	560	1190	2690	4170	4470	2260	1930
1936-37	1230	960	750	450	1750	<u>460</u>	490	1210	1800	3010	5390	2810	1697
1937-38	1460	960	1960	2940	2420	1580	760	1190	2070	3020	3530	2430	2033
1938-39	1070	940	1230	1280	2240	2330	790	1050	2030	3490	3450	3510	1961
1939-40	1560	1030	1750	1940	3460	1600	1630	2040	1840	2940	2200	1490	1961
1940-41	1150	960	2540	1260	1860	1460	1160	1170	1360	2270	<u>2100</u>	1660	1584
1941-42	1130	2090	2870	2020	2440	790	780	720	1380	2120	3170	2290	1821
1942-43	1240	<u>730</u>	690	1940	1980	1240	1180	1170	2800	2350	3530	3650	1877
1943-44	1530	930	1000	760	1340	1330	800	890	1210	2260	2490	<u>1470</u>	<u>1337</u>
1944-45	<u>1030</u>	1580	1230	1780	1300	1970	1720	1090	1250	3650	3090	2550	1854
1945-46	1300	1260	2180	1870	1470	1390	1220	1270	1960	4000	4000	3560	2129
1946-47	1790	960	1350	1100	2310	1360	1950	1400	1980	3160	3230	2420	1918
1947-48	1210	1080	2940	1650	2230	1220	900	730	1410	3490	5350	2770	2085
1948-49	2240	1830	1480	1500	890	540	760	1470	2270	<u>4360</u>	3700	3260	2032
1949-50	1800	1530	1480	3120	2130	910	1480	1910	1760	2960	5270	4800	2415
1950-51	2780	1470	2570	2470	3770	1740	3280	880	1860	2910	3110	2240	2418
1951-52	1240	1090	2100	1090	1140	660	1350	730	2020	3180	3390	3030	1752
1952-53	1620	920	700	700	1300	<u>3630</u>	1890	860	1500	2800	3000	3750	1893
1953-54	1960	1460	2320	2490	2550	1480	2060	1100	1500	3050	3950	4680	2386
1954-55	2940	1900	1830	3830	1610	963	893	<u>523</u>	1290	2264	4228	3905	2185
1955-56	2381	1395	2861	2951	1580	1104	553	731	2080	3435	4425	3903	2288
1956-57	1906	1662	2827	1545	2235	697	1217	1301	1953	3475	2892	2254	2003
1957-58	1456	1166	1069	1036	1484	2126	2093	995	1213	3032	2804	1700	1679
1958-59	1096	1204	1995	2268	3272	2375	911	1118	2444	2892	3951	3276	2242
1959-60	1621	<u>2635</u>	2242	2392	1394	1179	1664	1091	1913	2656	3192	2606	2046
1960-61	1488	1149	2285	1981	1709	2821	<u>3747</u>	1450	1634	2915	4349	2809	2334
1961-62	1604	1000	1891	1478	1689	2235	1705	714	1679	1830	3222	2772	1819
1962-63	2227	1577	1573	2849	2717	1425	2815	1101	1280	2116	2600	2279	2040
1963-64	1530	1370	2612	3086	2312	1949	1004	987	1333	2460	4549	4576	2316
1964-65	2673	1885	1785	1776	1500	1359	1766	1136	1828	2588	3154	2729	2015
1965-66	1900	802	1992	2450	1765	1318	759	1450	1856	2879	3465	3290	2002
1966-67	1804	1156	1979	1702	3933	1897	1487	1079	1010	2717	5136	3340	2277
1967-68	2025	1445	<u>4131</u>	2205	2105	3020	2860	1976	1298	2477	4140	3197	2575
1968-69	1805	2181	1866	2476	1589	1491	544	976	1962	4129	4627	2455	2182
1969-70	1385	2539	1464	1534	1396	1546	1498	1018	1389	1962	3343	2263	1776
1970-71	1210	1399	1130	1652	1181	1964	2289	1133	1389	3969	3808	4807	2161
1971-72	2656	1319	1269	1781	796	1093	1658	<u>3367</u>	1964	4151	4528	4698	2445
1972-73	2367	1708	827	1278	2707	1492	926	873	977	2820	2866	2297	1769
1973-74	1319	1066	1916	1948	2357	3157	1289	2131	1819	2952	<u>5532</u>	<u>4907</u>	2542
1974-75	3047	1619	732	2291	2031	1519	892	1172	<u>867</u>	2792	3936	3990	2083
1975-76	2063	1189	2971	3374	4268	1976	1264	884	1454	3189	3184	4036	2496
1976-77	<u>3105</u>	1890	1055	1227	1539	1356	1180	1009	1877	<u>1812</u>	2909	1720	1725
1977-78	2022	1215	1158	2617	2838	1542	1148	1649	1236	1890	2962	2468	1900
1978-79	1837	2594	1021	1688	722	510	977	2123	1421	2690	2675	2315	1716
1979-80	1322	1577	1493	684	3905	1118	2589	1327	2555	2580	2480	2401	2001
1980-81	1347	1556	886	3721	<u>4353</u>	1611	2276	966	2155	2315	3415	2366	2242
1981-82	1520	1279	2637	2161	1744	1112	2616	1191	1280	2628	4847	3679	2219
1982-83	2186	1447	1778	1343	2041	2036	2120	1841	1367	2637	3334	4604	2233
1983-84	1890	1291	1044	<u>3872</u>	879	3361	1765	1718	1231	2640	3619	3214	2210
1984-85	2024	1430	1883	2190	1006	865	598	614	2286	2869	3882	2771	1872
1985-86	1318	973	2956	2182	<u>687</u>	2471	2612	2175	1450	2871	3145	2273	2090
1986-87	1553	946	1327	2360	1419	1686	1369	2024	1952	3631	2902	1868	1923
1987-88	1039	946	<u>510</u>	956	1394	986	1025	1462	2597	3251	3339	2984	1708
1988-89	1375	1226	2178	2597	1581	1420	830	1236	2330	2469	3344	2106	1894
1989-90	1572	766											
MEAN	1718	1374	1762	1971	1963	1610	1483	1296	1747	2896	3608	2956	2036
MEDIAN	1566	1270	1750	1940	1744	1460	1289	1150	1800	2879	3450	2750	2032

UBK3M9

USGS # 12193010

LOWER BAKER

River: BAKER

Drainage Area:

297 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile:

1.2

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												2540	
1928-29	1290	1220	2910	1800	1390	780	<u>500</u>	1410	1590	3920	4330	2460	1976
1929-30	1500	930	1030	<u>500</u>	1590	810	3570	1700	3200	2600	2900	2130	1858
1930-31	1360	1320	1760	1390	1250	3350	1740	2600	2790	3870	4260	2310	2337
1931-32	1170	2200	1700	2620	2040	1670	3300	3070	3150	3760	5450	3740	2814
1932-33	2020	1150	2170	5030	2530	2000	860	1650	2110	3230	5240	5210	2776
1933-34	3040	2730	4010	2820	5150	4390	2550	3270	<u>3780</u>	3850	2710	2600	<u>3420</u>
1934-35	1770	1480	2300	4460	2790	4320	2990	1650	1510	3170	4200	3220	2819
1935-36	1560	2020	1480	1160	1720	2050	800	1750	3620	5230	5220	2470	2426
1936-37	1340	1150	990	620	2390	<u>650</u>	710	1780	2420	3770	6300	3070	2105
1937-38	1600	1150	2570	4040	3330	2220	1090	1750	2780	3780	4120	2650	2598
1938-39	1170	1120	1620	1760	3080	3280	1140	1550	2730	4380	4040	3820	2486
1939-40	1700	1230	2300	2660	4750	2250	2350	3000	2480	3680	2570	1630	2555
1940-41	1260	1150	3340	1730	2550	2050	1670	1720	1830	2850	<u>2450</u>	1810	2040
1941-42	1230	2500	3770	2770	3350	1110	1120	1060	1850	2660	3700	2500	2307
1942-43	1360	<u>870</u>	910	2670	2720	1750	1700	1720	3760	2950	4120	3990	2377
1943-44	1670	1115	1310	1049	1835	1870	1145	1311	1623	2838	2906	<u>1606</u>	<u>1693</u>
1944-45	<u>1126</u>	1891	1621	2449	1786	2763	2328	1607	1679	4567	3613	2783	2351
1945-46	1418	1503	2553	2576	2017	1961	1756	1869	2632	5017	4679	3887	2661
1946-47	1955	1153	1771	1518	3173	1916	2804	2062	2659	3967	3778	2651	2450
1947-48	1324	1298	3869	2267	3067	1717	1290	1072	1899	4385	6253	3028	2626
1948-49	2457	2186	1945	2059	1230	753	1090	2166	3049	<u>5469</u>	4327	3560	2532
1949-50	1971	1833	1947	4279	2927	1285	2128	2814	2373	3719	6159	5034	3040
1950-51	3043	1786	3381	3400	5183	2440	<u>4712</u>	1302	2504	3645	3633	2446	3111
1951-52	1355	1301	2766	1499	1573	929	1937	1075	2707	3988	3964	3313	2200
1952-53	1774	1106	922	966	1786	<u>5103</u>	2721	1261	2018	3513	3516	4076	2400
1953-54	2147	1753	3045	3428	3500	2082	2962	1621	2020	3824	4618	5120	3011
1954-55	3219	2272	2407	<u>5270</u>	2220	1316	1349	<u>831</u>	1933	3017	5546	4770	2848
1955-56	2610	1451	3617	4117	2389	1823	824	1233	2948	4767	5724	4794	3031
1956-57	2165	2139	3814	2163	3292	995	1756	1948	2482	4765	3711	2518	2653
1957-58	1597	1340	1370	1371	2132	3018	2888	1389	1931	4435	3922	2157	2293
1958-59	1381	1580	2914	3522	4591	3394	1365	1797	3496	3718	4911	4155	3079
1959-60	1890	<u>3037</u>	2955	3845	2511	1973	2457	1756	2798	3545	4317	3502	2878
1960-61	1893	1514	2905	3035	2563	4139	4282	2088	2092	3505	4860	2836	2966
1961-62	1766	1264	2358	1993	2483	3036	2103	956	2339	<u>2381</u>	3736	2890	2276
1962-63	2407	1832	2031	3682	3467	1883	3576	1399	1785	2698	2928	2514	2508
1963-64	1698	1574	3163	4114	2918	2646	1485	1466	1879	3175	5418	<u>6442</u>	3004
1964-65	2931	2225	2192	2333	2036	2061	2769	1576	2417	3212	3734	2950	2533
1965-66	2065	993	2100	2998	2313	1888	1155	2018	2556	3620	4033	3633	2456
1966-67	1908	1244	2320	2216	4977	2711	2105	1577	<u>1224</u>	3365	7273	5726	3062
1967-68	2067	1613	<u>5190</u>	2793	3062	4023	3822	2655	1650	3092	4920	3474	3198
1968-69	2028	2562	2445	3241	2283	2075	805	1469	2747	4975	5069	2678	2706
1969-70	1529	2896	1807	1940	1942	2157	2081	1395	2077	2518	3947	2537	2230
1970-71	1404	1725	1548	2403	1797	2873	3267	2502	2694	4755	4583	5325	2904
1971-72	2825	1658	1722	2709	1376	1655	2426	<u>4569</u>	2639	5047	5401	6116	3184
1972-73	2828	2149	1058	1815	3756	2103	1258	1270	1353	3419	3408	2543	2256
1973-74	1464	1250	2442	2643	3329	4310	1922	2970	2422	3761	<u>7964</u>	5593	3348
1974-75	3346	1786	927	2985	2820	2162	1288	1646	1226	3480	4738	4691	2601
1975-76	2298	1393	3805	4535	<u>5834</u>	2827	1710	1280	1969	4003	3994	4693	3206
1976-77	<u>3483</u>	2248	1331	1651	2225	1906	1642	1544	2398	2393	3453	1900	2183
1977-78	2193	1457	1417	3525	3934	2079	1551	2186	1595	2476	3435	2671	2382
1978-79	2003	2993	1261	2093	1122	695	1409	2839	1861	3499	3262	2535	2132
1979-80	1490	1771	1832	927	5550	1435	3396	1808	3145	3953	5283	4475	2921
1980-81	1515	1842	1060	5044	5603	1985	3127	1265	2910	2966	4045	2545	2816
1981-82	1723	1537	3197	2701	2560	1833	3622	1592	1736	3318	5713	4158	2800
1982-83	2394	1694	2155	1903	2651	2905	2759	2409	1771	3211	3804	4977	2724
1983-84	2031	1543	1265	4967	1209	4520	2303	2211	1648	3437	4269	3529	2743
1984-85	2133	1685	2193	2944	1570	1167	911	971	3055	3637	4607	3038	2329
1985-86	1499	1229	3777	2851	<u>928</u>	3249	3427	2728	2008	3591	3451	2429	2593
1986-87	1712	1160	1583	3567	1976	2234	1867	2703	2669	4385	3271	2050	2434
1987-88	1250	1168	<u>690</u>	1333	2013	1495	1595	2146	3554	4155	3967	3408	2232
1988-89	1609	1566	2704	3471	2226	2141	1191	1912	3196	3198	4182	2552	2500
1989-90	1840	1006											
MEAN	1900	1637	2255	2692	2727	2266	2073	1868	2376	3674	4360	3394	2606
MEDIAN	1768	1540	2170	2660	2511	2061	1867	1720	2417	3637	4120	3033	2593

SHA3M9

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SECTION I

WESTERN OREGON

**ROGUE RIVER
OREGON**

**KLAMATH RIVER
OREGON AND CALIFORNIA**

**LOST CREEK
THROUGH
IRON GATE**

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SECTION I

This section includes lands along the Oregon Coast west of the Coast Range, and the Klamath River drainage extending downstream to Iron Gate, California. Figure 18, page 265, is a map of the area showing those sites where streamflows were developed.

The Oregon Coast area can be discussed in three subareas; the Coastal strip and the Rogue and Umpqua basins. The Coastal strip supports agriculture in a narrow band usually no more than a few miles wide. The irrigated land within this strip is a total of 32,100 acres, almost entirely from surface sources. The water is applied by sprinkler.

The Rogue basin is one of the major pear-growing regions of the nation. Apple, peach, and livestock production are also important. A total of 66,000 acres were irrigated in 1990, mostly from surface water sources. About 75 percent of the land has the water applied by gravity and the balance is applied through sprinklers.

In the Umpqua basin, just north of the Rogue basin, there are 16,000 acres of irrigated land. Water is applied by sprinkler almost exclusively and is almost entirely from surface sources. All of the irrigation west of the Coast Range occurs downstream from the Lost Creek Project shown on figure 18, and thus no irrigation adjustments were computed for the Lost Creek Project.

The Klamath River basin above Iron Gate, California, is located in south central Oregon and northeastern California. The Oregon portion of the basin covers about 3.6 million acres, and there are about 1.5 million acres in California. Almost all of the 418,000 acres presently irrigated are supplied from surface sources with the water applied mostly by gravity.

There is private development above Upper Klamath Lake, and primarily the Bureau of Reclamation's Klamath Project downstream from Upper Klamath Lake. Irrigation development in the basin began early, and the development above Upper Klamath Lake was essentially stable from 1928 to 1990, thus no irrigation adjustment was computed for this upper portion of the basin.

The Klamath Project receives water from both Upper Klamath Lake via the "A" canal, and from the Lost River. The Lost River is a closed basin and does not empty into the Klamath River. At certain times of the year, excess water is evacuated from the Lost River reservoirs for flood control purposes, and dumped into the Klamath River via the Lost River Diversion Canal. During the growing season, supplemental water is supplied from the Klamath River to the Klamath Project via both the Lost River diversion canal and the Midland Canal. The southern end of the project is a sump and the pumps at Ady remove

excess water and pump it back into the Klamath River. All of these diversions are measured and are shown schematically in figure 19, page 266.

Irrigation in the Klamath Project increased until about 1950, at which time it essentially stabilized. PacifiCorp computed and furnished incremental irrigation adjustments for the period 1928-1950. Observed streamflows since 1950 are all considered to represent a current (1990) level of irrigation development. These adjustments apply at two sites: Link River Dam, and Keno gaging station.

Listings of the modified flows and irrigation adjustments for all sites in this section are given on subsequent pages in this section. A listing of the computer equations used to develop flows is shown below.

SECTION I EQUATIONS USED TO COMPUTE MODIFIED FLOWS

$$\text{KLA3M9} = \text{KLA3A} + \text{ACL3D9} + \text{PPL3D9}$$

$$\text{LNK3M9} = \text{LNK3A} + \text{ACL3D9} + \text{PPL3D9}$$

$$\text{JCB3M9} = \text{JCB3A} + \text{ACL3D9} + \text{PPL3D9}$$

$$\text{CPC3M9} = \text{CPC3A} + \text{ACL3D9} + \text{PPL3D9}$$

$$\text{IRG3M9} = \text{IRG3A} + \text{ACL3D9} + \text{PPL3D9}$$

WESTERN OREGON

FIGURE 18

IRRIGATION ADJUSTMENT FOR THE KLAMATH RIVER BASIN

FIGURE 19

USGS # 14335050

LOST CREEK

River: ROGUE

Drainage Area: 674 Sq. Mi.

Monthly mean streamflow, in cubic feet per second, modified to a current (1990) level of development

River Mile: 157.2

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												1156	
1928-29	1020	971	1031	1076	1081	1091	1011	1725	1792	2475	1721	1023	1337
1929-30	840	768	768	731	1948	1143	2759	1498	1394	1285	1019	805	1237
1930-31	721	719	749	757	821	844	<u>888</u>	1493	1879	1207	<u>845</u>	<u>696</u>	<u>968</u>
1931-32	<u>593</u>	<u>614</u>	<u>687</u>	<u>731</u>	<u>809</u>	997	925	3172	2616	3716	2813	1394	1591
1932-33	982	846	901	1280	1104	1121	1016	1598	2798	3144	<u>4837</u>	1862	1790
1933-34	1187	1063	1000	966	1191	2202	1483	1803	1590	<u>1137</u>	961	814	1283
1934-35	754	737	887	1572	2260	1559	1848	1435	2574	3114	2201	1247	1680
1935-36	987	896	911	939	1030	2286	1793	2001	2962	3004	1940	1209	1662
1936-37	999	945	874	856	912	<u>837</u>	900	1356	2983	3727	2902	1384	1558
1937-38	1015	930	1001	1922	2203	2516	2180	2874	3571	4233	2707	1427	2214
1938-39	1149	1073	1043	1358	1852	1297	1366	2427	3020	2328	1517	1118	1630
1939-40	957	891	916	849	1219	1471	2426	2785	2332	1603	1114	916	1458
1940-41	818	853	864	1177	1464	1643	1674	1481	1466	1894	1329	1002	1303
1941-42	846	854	787	1040	2248	1968	1982	1450	1752	2296	1963	1162	1527
1942-43	929	850	832	2631	4329	3694	2776	2675	3378	2802	2911	1655	2453
1943-44	1316	1194	1278	1505	1280	1324	1591	1687	1994	2255	1655	1124	1516
1944-45	967	907	877	1002	1008	1607	3007	1700	2277	3606	1933	1207	1666
1945-46	998	921	911	1331	2655	2710	1786	2346	2668	3440	2476	1485	1980
1946-47	1153	1051	1065	1806	2147	1485	1974	2110	2356	1918	1651	1165	1637
1947-48	1000	933	1114	1408	1329	2933	1918	1787	2367	2907	3142	1588	1868
1948-49	1165	1065	1060	1231	1702	1115	1594	2083	3229	4171	2356	1343	1843
1949-50	1095	1006	1046	1105	1105	1794	1990	2882	2946	3472	3006	1643	1923
1950-51	1272	1167	<u>1916</u>	2774	4159	3001	3868	2371	3331	3028	2022	1464	2522
1951-52	1289	1214	1585	1935	2677	1854	2861	2275	<u>3888</u>	<u>4333</u>	3492	2181	2461
1952-53	<u>1539</u>	1396	1262	1178	1321	3801	4016	2250	2531	3301	3785	<u>2301</u>	2379
1953-54	1529	1338	1320	2622	3185	2523	3323	2559	2984	2985	2333	1548	2347
1954-55	1300	1231	1160	1178	1225	1279	1297	1498	1899	2899	2741	1339	1587
1955-56	1035	985	1057	1641	4760	4380	2392	2259	3259	4178	3164	1894	2588
1956-57	1461	1323	1538	1752	3299	1760	2861	4107	3173	2979	1985	1360	2298
1957-58	1187	1122	1240	1634	2439	2962	<u>4979</u>	2579	2752	3686	2866	1684	2410
1958-59	1360	1256	1190	1761	1678	2391	1956	1958	2407	2081	1533	1120	1722
1959-60	995	986	1044	996	978	1069	1782	2484	2697	2750	2265	1237	1603
1960-61	1052	995	1004	1445	1623	1301	2931	2558	2628	2783	2469	1271	1829
1961-62	1102	1071	1153	1801	2055	1715	1805	1702	2797	2425	2005	1251	1738
1962-63	1062	950	1498	1726	2560	1356	3255	1782	2620	3037	1686	1243	1888
1963-64	1053	998	1014	2013	1627	1935	1847	1828	2436	2789	3060	1567	1844
1964-65	1161	1022	849	1236	<u>7619</u>	<u>4604</u>	3178	2161	2507	2317	1814	1384	2491
1965-66	1192	1085	1104	1226	1136	1812	1317	2392	3737	2640	1544	1186	1699
1966-67	977	929	938	1687	2149	1973	1988	1884	1508	3244	2259	1243	1731
1967-68	979	895	1028	956	998	1268	2532	1759	1484	1504	1113	863	1277
1968-69	840	795	835	1656	1593	1995	1563	1661	2667	3645	2390	1452	1758
1969-70	1071	1016	1097	1047	1594	4142	2351	2213	1650	2284	1678	1106	1771
1970-71	950	906	949	2308	2083	4173	2566	2757	2921	4132	3421	2093	2438
1971-72	1460	1359	1325	1794	2315	3901	3838	<u>6980</u>	3262	3497	3010	1805	<u>2879</u>
1972-73	1470	<u>1401</u>	1249	1305	1828	1982	1555	1689	1964	2002	1253	1055	1564
1973-74	936	948	1058	<u>3343</u>	3565	4396	2459	3424	3474	3512	3832	1923	2740
1974-75	1371	1240	1209	1193	1662	1992	2368	2813	2287	3894	3834	2047	2158
1975-76	1443	1276	1332	1705	2980	2862	2128	1991	2310	3244	2302	1558	2096
1976-77	1496	1220	1145	1079	983	954	955	<u>1105</u>	<u>1382</u>	1671	1282	859	1179
1977-78	771	855	889	2201	4032	2383	2437	1986	1910	1878	1515	1172	1833
1978-79	989	1036	856	921	1239	1649	1724	2238	2190	2869	1429	1058	1516
1979-80	946	890	1054	1464	1702	3099	1870	2011	2304	1903	1392	1047	1640
1980-81	896	878	924	1124	1874	1223	1959	1504	1599	1625	1495	1034	1340
1981-82	848	794	887	1769	4627	2224	4328	2596	2743	3230	2557	1620	2340
1982-83	1213	1197	1264	1367	2914	2350	3611	3395	3035	3605	2843	1962	2389
1983-84	1511	1289	1235	2032	4061	2740	2963	3277	3100	3635	3524	1972	2611
1984-85	1460	1378	1481	2785	1916	1613	1792	1795	3193	2592	2161	1294	1952
1985-86	1129	1127	1271	1255	1559	2192	4433	3407	2203	2316	1800	1216	1977
1986-87	1035	1206	1178	1461	1401	1680	2295	1968	2195	1834	1184	1097	1539
1987-88	939	854	800	897	1460	1733	1577	1719	1740	1824	1747	1044	1360
1988-89	918	863	801	1432	1236	1614	1527	3489	3856	3102	2373	1414	1886
1989-90	1145	1001											
MEAN	1095	1025	1071	1488	2095	2123	2252	2275	2534	2804	2232	1361	1861
MEDIAN	1044	996	1044	1367	1702	1854	1982	2083	2574	2899	2161	1261	1771

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A CANAL DIVERSION

Accumulated depletions at site (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-589	
1928-29	-461	-175	0	0	0	0	0	0	-5	-597	-522	-632	-201
1929-30	-533	-257	0	0	0	0	0	0	-48	-485	-775	-688	-232
1930-31	-508	-177	0	0	0	0	0	0	-312	-853	-734	-823	-286
1931-32	-675	-207	0	0	0	0	0	0	-7	-510	-600	-772	-232
1932-33	-602	-374	0	0	0	0	0	0	-105	-260	-795	-742	-241
1933-34	-647	-338	14	0	0	0	0	0	-391	-559	-605	-766	-278
1934-35	-654	-351	0	0	0	0	0	0	0	-414	-798	-691	-244
1935-36	-655	-390	-5	0	0	0	0	0	-8	-501	-567	-850	-250
1936-37	-655	-326	0	0	0	0	0	0	-34	-541	-423	-869	-240
1937-38	-716	-383	-4	0	0	0	0	0	8	-442	-752	-829	-263
1938-39	-646	-425	-20	0	0	0	0	0	427	-588	-777	-824	-310
1939-40	-742	-341	-17	0	0	0	0	0	-4	-592	-844	-839	-283
1940-41	-648	-240	0	0	0	0	0	0	-343	-499	-592	-783	-261
1941-42	-525	-273	0	0	0	0	0	0	-245	-339	-728	-865	-249
1942-43	-724	-382	-2	0	0	0	0	0	-4	-409	-606	-899	-254
1943-44	-805	-401	-80	0	0	0	0	0	-156	-528	-460	-960	-284
1944-45	-876	-448	-61	0	0	0	0	0	-62	-382	-466	-934	-272
1945-46	-855	-443	-71	0	0	0	0	0	-106	-586	-769	-970	-319
1946-47	-813	-429	-79	0	0	0	0	0	-258	-797	-368	-967	-312
1947-48	-686	-423	-90	0	0	0	0	0	-27	-265	-537	-900	-245
1948-49	-650	-368	0	0	0	0	0	0	-102	-555	-827	-892	-285
1949-50	-695	-491	0	0	0	0	0	0	-88	-643	-800	-976	-310
1950-51	-758	-406	0	0	0	0	0	0	-404	-514	-982	-983	-339
1951-52	-712	-574	-18	0	0	0	0	0	-67	-666	-706	-885	-304
1952-53	-810	-559	-121	0	0	0	0	0	-160	-357	-654	-1004	-308
1953-54	-807	-483	-96	0	0	0	0	0	-119	-897	-753	-1053	-354
1954-55	-795	-517	-75	0	0	0	0	0	-166	-730	-1001	-921	-353
1955-56	-914	-575	-99	0	0	0	0	0	-101	-589	-825	-954	-339
1956-57	-802	-576	-108	0	0	0	0	0	-37	-554	-974	-966	-337
1957-58	-771	-578	-1	0	0	0	0	0	83	-732	-598	-844	-303
1958-59	-802	-485	-83	0	0	0	0	0	608	-696	-1047	-1042	-399
1959-60	-797	-480	-107	0	0	0	0	0	-195	-574	-1094	-1086	-362
1960-61	-816	-600	-152	0	0	0	0	0	292	-785	-858	-1045	-381
1961-62	-825	-579	-161	0	0	0	0	0	-242	-677	-995	-1020	-377
1962-63	-807	-625	-64	0	0	0	0	0	-75	-555	-884	-859	-324
1963-64	-736	-470	-226	0	0	0	0	0	-156	-754	-521	-893	-315
1964-65	-847	-613	-170	0	0	0	0	0	-214	-789	-755	-973	-366
1965-66	-716	-610	-158	0	0	0	0	0	-513	-896	-845	-941	-392
1966-67	-896	-593	-269	0	0	0	0	0	-63	-403	-882	-942	-340
1967-68	-863	-625	-205	0	0	0	0	0	-583	-776	-958	-1009	-419
1968-69	-674	-631	-224	0	0	0	0	0	-209	-744	-827	-981	-360
1969-70	-901	-660	-137	0	0	0	0	0	255	-689	-938	-984	-383
1970-71	-873	-598	-273	0	0	0	0	0	-91	-482	-747	-966	-338
1971-72	-921	-686	-174	0	0	0	0	0	-144	-772	-940	-996	-388
1972-73	-863	-655	-167	0	0	0	0	0	-380	-903	-983	-1010	-416
1973-74	-904	-595	-110	0	0	0	0	0	-147	-855	-996	-984	-385
1974-75	-919	-763	-315	0	0	0	0	0	-79	-753	-981	-932	-398
1975-76	-905	-710	-221	0	0	0	0	0	-270	-957	-938	-989	-418
1976-77	-489	-646	-247	0	0	0	0	0	-610	-516	-868	-965	-363
1977-78	-835	-574	-58	0	0	0	0	0	-101	-490	-938	-952	-331
1978-79	-851	-549	-198	0	0	0	0	6	-339	-732	-977	-975	-388
1979-80	-764	-510	-281	0	0	0	0	0	-269	-755	-770	-942	-359
1980-81	-857	-652	-250	0	0	0	0	0	-261	-656	-879	-971	-379
1981-82	-803	-601	-99	0	0	0	0	0	-56	-726	-887	-843	-342
1982-83	-881	-583	-141	0	0	0	0	0	-103	-502	-880	-940	-338
1983-84	-781	-630	-179	0	0	0	0	0	-187	-685	-866	-989	-361
1984-85	-1172	-524	-200	0	0	0	0	0	-388	-871	-917	-995	-425
1985-86	-842	-470	-200	0	0	0	0	0	-362	-696	-942	-980	-377
1986-87	-907	-561	-104	0	0	0	0	0	-463	-859	-869	-815	-384
1987-88	-870	-665	-222	0	0	0	0	0	-412	-652	-770	-1011	-385
1988-89	-883	-734	-232	0	0	0	0	0	-239	-659	-898	-996	-389
1989-90	-880	-626											
MEAN	-776	-503	-108	0	0	0	0	0	-200	-627	-795	-914	-329

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A" CANAL INCR. DEPL.

Accumulated depletions at site (1990 level of development).

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-355	
1928-29	354	355	0	0	0	0	0	0	419	-412	-410	-418	-198
1929-30	414	413	0	0	0	0	0	0	-355	-360	662	-356	-105
1930-31	354	354	0	0	0	0	0	0	-236	-252	-233	-234	-139
1931-32	-234	-235	0	0	0	0	0	0	-328	-327	-327	-326	-148
1932-33	-327	-327	0	0	0	0	0	0	-328	-328	-326	-327	-164
1933-34	327	327	0	0	0	0	0	0	-278	-278	-278	-278	-148
1934-35	-278	-274	0	0	0	0	0	0	-306	-304	-304	-305	-148
1935-36	-305	-306	0	0	0	0	0	0	-290	-290	-290	-290	-147
1936-37	-290	-289	0	0	0	0	0	0	-300	-300	-299	-300	-149
1937-38	-299	-300	0	0	0	0	0	0	-208	-209	-208	-188	-118
1938-39	202	208	0	0	0	0	0	0	-181	-181	-181	-180	-95
1939-40	181	181	0	0	0	0	0	0	-236	-234	-234	-235	-108
1940-41	235	235	0	0	0	0	0	0	-284	-284	-284	-284	-134
1941-42	284	284	0	0	0	0	0	0	224	-224	-224	224	-122
1942-43	224	224	0	0	0	0	0	0	149	148	-148	-148	-87
1943-44	147	148	0	0	0	0	0	0	197	-197	-197	-197	-90
1944-45	196	198	0	0	0	0	0	0	-235	-235	-235	-235	-111
1945-46	235	235	0	0	0	0	0	0	-115	-115	-115	-114	-78
1946-47	-115	-115	0	0	0	0	0	0	-181	-181	-182	-181	-80
1947-48	-181	-181	0	0	0	0	0	0	-317	-316	-317	-317	-136
1948-49	-317	-317	0	0	0	0	0	0	-182	-181	-181	-181	-114
1949-50	-181	-181	0	0	0	0	0	0	-153	-153	-153	-152	-81
1950-51	-153	-153	0	0	0	0	0	0	0	0	0	0	-26
1951-52	0	0											
1952-53													0
1953-54													0
1954-55													0
1955-56													0
1956-57													0
1957-58													0
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1981-82													0
1982-83													0
1983-84													0
1984-85													0
1985-86													0
1986-87													0
1987-88													0
1988-89			0	0	0	0	0	0	0	0	0	0	0
1989-90													0
MEAN	-243	243	0	0	0	0	0	0	-239	-240	-194	-243	-118

PPL3D9

USGS # 11507400

KLAMATH LAKE

River: LINK RIVER

Drainage Area: 3810 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 254.3

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-372	
1928-29	-180	393	1233	1833	1494	1504	1492	1785	1217	-90	-101	-730	800
1929-30	-282	89	1210	<u>1106</u>	1955	1577	2143	1625	780	-153	308	-691	797
1930-31	-338	427	925	1339	1240	1346	1238	<u>1261</u>	443	<u>-565</u>	-569	-822	<u>488</u>
1931-32	-656	248	939	1204	1251	<u>1289</u>	1140	2221	1101	902	-81	-908	720
1932-33	-615	-144	810	1223	1322	1453	1272	1428	1192	737	-65	-753	651
1933-34	-682	65	927	1238	<u>1171</u>	1988	<u>1136</u>	1330	<u>281</u>	-62	-491	-791	507
1934-35	-584	-23	966	1642	1333	1439	1235	1491	2556	681	-450	-551	806
1935-36	-533	-80	1193	1116	1343	2179	1783	2097	1762	1451	230	-716	983
1936-37	-586	201	997	1253	1275	1392	1429	1774	1694	510	369	-688	796
1937-38	-649	-51	1251	1688	1984	1517	2416	3215	4781	3319	469	-401	1621
1938-39	-285	131	1213	1449	1623	1502	1668	2042	951	338	-574	-493	793
1939-40	-332	429	1107	1143	1812	1829	2222	2904	2802	417	-290	-527	1122
1940-41	-341	684	1131	1399	1669	1587	1622	1820	1123	739	157	-568	914
1941-42	-162	624	1010	1354	2438	1743	2242	1633	1925	1785	208	-623	1174
1942-43	-492	260	1058	2134	2591	2634	2316	4075	5843	2915	1524	-100	2057
1943-44	-136	425	1020	1358	1385	1420	1569	1579	1103	98	453	-832	782
1944-45	-617	100	728	1950	1610	1630	2638	1694	936	1669	374	-605	997
1945-46	-501	348	987	1678	2418	2159	1852	3103	2834	1543	333	-277	1370
1946-47	-275	554	1334	1753	1707	1608	1757	1438	950	-123	573	-543	887
1947-48	-198	431	1141	1555	1366	1858	1782	1545	1402	1428	1032	-610	1057
1948-49	-336	120	1292	1595	2065	1423	1903	2727	1532	1481	-193	-764	1067
1949-50	-366	135	1289	1545	1490	2117	2198	2787	2015	984	284	-774	1135
1950-51	-304	285	1462	2177	3602	2512	3523	2979	3209	2730	59	-405	1810
1951-52	-31	339	1724	1820	2768	2200	2985	3123	<u>7022</u>	4817	1986	581	2438
1952-53	205	816	1444	1803	2351	4096	4642	3132	2975	4041	<u>2829</u>	368	2376
1953-54	355	851	1705	3081	3089	2967	3107	4054	5019	2407	1434	39	2333
1954-55	175	955	1502	2177	2171	1991	1945	2218	2231	1050	-230	-316	1318
1955-56	-429	403	1182	2231	4708	<u>5683</u>	3382	4178	6851	<u>5230</u>	2287	338	<u>3002</u>
1956-57	153	675	2103	2443	2958	2263	3016	5674	3148	2627	378	-213	2099
1957-58	-88	836	2270	2338	3027	2816	<u>6733</u>	4612	5105	3389	2740	<u>695</u>	2842
1958-59	305	907	1465	2453	2536	2654	2734	2299	1327	739	-131	-547	1387
1959-60	6	764	1473	1579	1619	1630	2577	2753	2170	1415	-123	-699	1258
1960-61	-202	500	1198	1649	2207	1612	2700	2575	1341	1018	280	-698	1172
1961-62	-94	417	1378	1828	2220	1763	2432	2269	2747	1262	-343	-825	1246
1962-63	-142	221	<u>2495</u>	2021	2923	1762	3576	1928	3460	2302	-129	-172	1675
1963-64	-271	491	974	2197	1808	2186	1788	2165	2971	872	1007	-476	1303
1964-65	-445	199	<u>694</u>	1611	<u>7009</u>	5481	4888	2830	2610	1471	526	-327	2201
1965-66	166	54	1334	2437	2113	2034	1890	2936	2460	399	72	-617	1268
1966-67	-575	364	987	1702	2488	2297	2504	2533	2969	3068	1178	-676	1562
1967-68	-706	56	1256	1169	1898	1747	3126	2435	757	135	-556	-769	872
1968-69	58	206	772	1648	1856	2376	2051	2355	5257	2144	768	-734	1555
1969-70	-685	47	1332	1260	2558	4907	3627	3118	1449	974	116	-746	1487
1970-71	<u>-763</u>	125	1088	2554	2647	3575	3163	3934	4446	3948	1724	-222	2177
1971-72	-530	393	1267	2144	2687	3263	3232	<u>7143</u>	3462	1836	510	-634	2063
1972-73	-278	419	1338	2026	2657	2685	2419	2622	1470	470	-577	-941	1186
1973-74	-486	400	1289	2974	3614	4254	2855	4611	5041	2269	777	-112	2286
1974-75	-176	265	975	1731	2510	2516	2799	3919	3367	2879	1197	-97	1818
1975-76	-123	311	1554	2350	2758	2548	2490	2787	2074	758	80	-308	1437
1976-77	<u>830</u>	306	981	1745	1522	1531	1583	1758	522	739	-89	-883	876
1977-78	-430	377	1084	2097	3227	3440	2999	3200	3039	1550	154	-439	1684
1978-79	-274	641	878	1416	1485	1973	2010	2354	1509	913	<u>-677</u>	-808	945
1979-80	-442	290	999	1821	1740	3098	2861	2479	1782	965	85	-709	1241
1980-81	-723	174	782	1504	2012	1740	2225	1745	1412	646	-488	-855	839
1981-82	-657	80	1134	2133	4218	2451	5461	5485	3231	2508	1099	-1	2242
1982-83	-263	441	1391	2081	2745	2525	3855	5351	4365	3287	2024	360	2336
1983-84	291	598	1248	2874	4170	2667	2744	4975	3933	3253	1726	-35	2369
1984-85	-83	801	1724	<u>3375</u>	2437	2103	2223	2793	3796	1087	269	-534	1657
1985-86	-94	<u>1063</u>	1451	1976	1881	2724	5552	5420	2582	1447	279	-509	1957
1986-87	-398	825	1394	1850	1892	2159	2435	2767	1379	400	-79	-12	1210
1987-88	-557	145	899	1329	2327	2184	2274	2052	1239	385	262	<u>-969</u>	960
1988-89	-597	<u>-205</u>	709	2078	1596	1657	1757	4763	4077	1900	-56	-863	1398
1989-90	-320	383											
MEAN	-286	364	1225	1837	2304	2316	2577	2884	2574	1530	424	-466	1433
MEDIAN	-312	356	1198	1745	2113	2117	2416	2622	2231	1262	262	-559	1268

KLA3M9

USGS # 11507500

LINK R.

River: KIAMATH

Drainage Area:

3810 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile:

254.3

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVG.
1927-28												372	
1928-29	160	393	1233	1633	1494	1504	1492	1785	1217	-90	-101	-730	800
1929-30	-282	89	1210	<u>1106</u>	1955	1577	2143	1625	780	-153	306	-691	797
1930-31	-338	427	925	1339	1240	1346	1238	<u>1261</u>	443	<u>-565</u>	-569	-822	<u>488</u>
1931-32	-656	248	939	1204	1251	<u>1289</u>	1140	2221	1101	902	-81	-908	720
1932-33	-615	-144	810	1223	1322	1453	1272	1428	1192	737	-65	-753	651
1933-34	-682	65	927	1238	<u>1171</u>	1988	<u>1136</u>	1330	<u>281</u>	-62	-491	-791	507
1934-35	-584	-23	966	1642	1333	1439	1235	1491	2556	681	-450	-551	806
1935-36	-533	-80	1193	1116	1343	2179	1783	2097	1762	1451	230	-716	983
1936-37	-586	201	997	1253	1275	1392	1429	1774	1694	510	369	-688	796
1937-38	-649	-51	1251	1688	1984	1517	2416	3215	4781	3319	469	-401	1621
1938-39	-285	131	1213	1449	1623	1502	1668	2042	951	338	-574	-493	793
1939-40	-332	429	1107	1143	1812	1829	2222	2904	2802	417	-290	-527	1122
1940-41	-341	684	1131	1399	1669	1587	1622	1820	1123	739	157	-568	914
1941-42	-162	624	1010	1354	2438	1743	2242	1633	1925	1785	208	-623	1174
1942-43	-492	260	1058	2134	2591	2634	2316	4075	5843	2915	1524	-100	2057
1943-44	-136	425	1020	1358	1385	1420	1569	1579	1103	98	453	-832	782
1944-45	-617	100	728	1950	1610	1630	2638	1694	936	1669	374	-605	997
1945-46	-501	348	987	1678	2418	2159	1852	3103	2834	1543	333	-277	1370
1946-47	-275	554	1334	1753	1707	1608	1757	1438	950	-123	573	-543	887
1947-48	198	431	1141	1555	1366	1858	1782	1545	1402	1428	1032	-610	1057
1948-49	-336	120	1292	1595	2065	1423	1903	2727	1532	1481	-193	-764	1067
1949-50	-366	135	1289	1545	1490	2117	2198	2787	2015	984	284	-774	1135
1950-51	-304	285	1462	2177	3602	2512	3523	2979	3209	2730	59	-405	1810
1951-52	-31	339	1724	1820	2768	2200	2985	3123	<u>7022</u>	4817	1986	581	2438
1952-53	205	816	1444	1803	2351	4096	4642	3132	2975	4041	<u>2829</u>	368	2376
1953-54	355	851	1705	3081	3089	2967	3107	4054	5019	2407	1434	39	2333
1954-55	175	955	1502	2177	2171	1991	1945	2218	2231	1050	-230	-316	1318
1955-56	-429	403	1182	2231	4708	<u>5683</u>	3382	4178	6851	<u>5230</u>	2287	338	<u>3002</u>
1956-57	153	675	2103	2443	2958	2263	3016	5674	3148	2627	378	-213	2099
1957-58	-88	836	2270	2338	3027	2816	<u>6733</u>	4612	5105	3389	2740	<u>695</u>	2842
1958-59	305	907	1465	2453	2536	2654	2734	2299	1327	739	-131	-547	1387
1959-60	6	764	1473	1579	1619	1630	2577	2753	2170	1415	-123	-699	1258
1960-61	-202	500	1198	1649	2207	1612	2700	2575	1341	1018	280	-698	1172
1961-62	-94	417	1378	1828	2220	1763	2432	2269	2747	1262	-343	-825	1246
1962-63	-142	221	<u>2495</u>	2021	2923	1762	3576	1928	3460	2302	-129	-172	1675
1963-64	-271	491	<u>974</u>	2197	1808	2186	1788	2165	2971	872	1007	-476	1303
1964-65	-445	199	<u>694</u>	1611	<u>7009</u>	5481	4888	2830	2610	1471	526	-327	2201
1965-66	166	54	1334	2437	2113	2034	1890	2936	2460	399	72	-617	1268
1966-67	-575	364	987	1702	2488	2297	2504	2533	2969	3088	1178	-676	1562
1967-68	-706	56	1256	1169	1898	1747	3126	2435	757	135	556	-769	872
1968-69	58	206	772	1648	1856	2376	2051	2355	5257	2144	768	-734	1555
1969-70	685	47	1332	1260	2558	4907	3627	3118	1449	974	116	746	1487
1970-71	<u>763</u>	125	1088	2554	2647	3575	3163	3934	4446	3948	1724	-222	2177
1971-72	530	393	1267	2144	2687	3263	3232	<u>7143</u>	3462	1836	510	-634	2063
1972-73	-278	419	1338	2026	2657	2685	2419	2622	1470	470	-577	-941	1186
1973-74	-486	400	1289	2974	3614	4254	2855	4611	5041	2269	777	-112	2286
1974-75	-176	265	975	1731	2510	2516	2799	3919	3367	2879	1197	-97	1818
1975-76	-123	311	1554	2350	2758	2548	2490	2787	2074	758	80	-308	1437
1976-77	<u>830</u>	306	981	1745	1522	1531	1583	1758	522	739	-89	-883	876
1977-78	-430	377	1084	2097	3227	3440	2999	3200	3039	1550	154	-439	1684
1978-79	-274	641	878	1416	1485	1973	2010	2354	1509	913	<u>-677</u>	-808	945
1979-80	-442	290	999	1821	1740	3098	2861	2479	1782	965	85	-709	1241
1980-81	-723	174	782	1504	2012	1740	2225	1745	1412	646	-488	-855	839
1981-82	-657	80	1134	2133	4218	2451	5461	5485	3231	2508	1099	-1	2242
1982-83	-263	441	1391	2081	2745	2525	3855	5351	4365	3287	2024	360	2336
1983-84	291	598	1248	2874	4170	2667	2744	4975	3933	3253	1726	-35	2369
1984-85	-83	801	1724	<u>3375</u>	2437	2103	2223	2793	3796	1087	269	-534	1657
1985-86	-94	<u>1063</u>	1451	1976	1881	2724	5552	5420	2582	1447	279	-509	1957
1986-87	-398	825	1394	1850	1892	2159	2435	2767	1379	400	-79	-12	1210
1987-88	-557	145	899	1329	2327	2184	2274	2052	1239	385	262	<u>-969</u>	960
1988-89	-597	<u>-205</u>	709	2078	1596	1657	1757	4763	4077	1900	-56	-863	1398
1989-90	-320	383											
MEAN	-286	364	1225	1837	2304	2316	2577	2884	2574	1530	424	-466	1433
MEDIAN	-312	356	1198	1745	2113	2117	2416	2622	2231	1262	262	-559	1288

LNK3M9

USGS # 11510600

JOHN C BOYLE

River: KLAMATH

Drainage Area: 4080 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level)

River Mile: 274.7

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVG
1927-28												-357	
1928-29	-22	420	1384	1758	1664	1649	1611	2196	2055	499	359	-642	1072
1929-30	-156	70	1133	<u>1031</u>	2179	1697	2787	1861	1288	204	-707	-638	885
1930-31	-245	574	864	<u>1416</u>	<u>1303</u>	<u>1412</u>	1328	<u>1310</u>	594	<u>-395</u>	-435	-957	<u>558</u>
1931-32	-772	267	993	1268	1393	1580	1284	3043	1889	1726	265	-1119	984
1932-33	-596	14	<u>860</u>	1397	1482	1600	<u>1246</u>	2143	1602	1541	117	-841	878
1933-34	-671	175	928	1399	1313	2270	1337	1430	<u>301</u>	-98	-433	-991	576
1934-35	-638	60	1058	1840	1602	1724	1754	1929	3550	1567	-528	-666	1098
1935-36	-578	25	1299	1235	1512	2878	2648	2797	2937	1670	507	-722	1345
1936-37	-594	381	1112	1307	1464	1476	1688	2477	2867	958	727	-923	1071
1937-38	-700	181	1346	1944	2665	2044	3232	5166	7197	4782	542	-622	2306
1938-39	-289	292	1348	1681	1942	1703	2029	2694	1067	478	-632	-787	956
1939-40	-489	533	1237	1294	2116	2380	3178	4191	3897	572	-373	-650	1483
1940-41	-343	948	1363	1630	1934	1930	2519	2284	1584	1207	428	-666	1225
1941-42	-20	954	1165	1495	3149	2381	3214	1973	2376	2647	518	-697	1586
1942-43	-421	575	1076	2519	3245	3546	3423	5248	6844	3765	1878	-187	2616
1943-44	-150	713	1600	1970	1957	1540	2012	2184	1716	838	1159	-622	1237
1944-45	-375	604	911	2203	1709	1524	3578	2163	1482	2866	973	-676	1397
1945-46	-410	609	1238	2107	2989	3288	2348	3939	3317	2085	718	-275	1827
1946-47	-148	872	1511	1927	1720	1610	2001	1913	1120	248	1213	-685	1099
1947-48	-113	649	1285	1803	1486	1776	1840	2043	2458	2837	1867	-389	1457
1948-49	119	722	1657	1929	2180	1529	2583	3929	2662	2590	60	-839	1588
1949-50	-278	261	1557	1746	1383	2217	3043	3957	2815	1890	585	-843	1517
1950-51	-218	602	2074	2763	4383	2951	4987	4095	3429	3389	-195	-739	2278
1951-52	26	479	2351	2403	3343	2466	4583	5067	<u>9499</u>	6021	2432	517	3254
1952-53	269	993	1974	2256	2588	5379	6120	4297	3761	5432	<u>3731</u>	23	3048
1953-54	496	1186	2261	3866	3705	3538	4713	5286	5803	2864	1921	-200	2936
1954-55	449	1307	1972	2535	2471	2304	2266	2773	2587	1655	-216	-548	1625
1955-56	-420	740	1624	2783	6530	7769	4936	6183	9245	<u>6917</u>	3046	614	<u>4162</u>
1956-57	543	1170	3110	3852	3930	2669	3879	8154	4576	3587	493	-365	2964
1957-58	50	1112	3033	3268	3930	3596	<u>9818</u>	6243	6641	4315	3487	<u>1053</u>	3833
1958-59	857	1514	2133	3132	3004	2973	3669	2430	1714	1332	166	-802	1831
1959-60	99	1106	1833	1953	1945	1729	3222	3541	2819	1844	-610	-1249	1512
1960-61	-407	506	1602	2292	2922	1787	3723	3557	1646	1450	334	-1247	1499
1961-62	-209	452	1788	2542	3015	1910	3646	3553	3527	1810	-375	-1377	1676
1962-63	-297	157	<u>3776</u>	2908	3867	1907	4871	2732	4555	2990	-374	-598	2190
1963-64	-480	555	1574	2996	2325	2658	2384	3404	3861	1495	1510	-898	1774
1964-65	-468	270	1342	2654	<u>10750</u>	<u>8568</u>	7828	4767	3967	2514	1086	-383	3557
1965-66	488	493	1797	3201	3184	2504	2533	4100	3101	879	290	-814	1808
1966-67	-675	442	1371	2245	3540	3276	3587	3872	3915	4551	1440	-1221	2186
1967-68	-968	184	1856	1650	2407	2297	4188	2986	817	527	-631	-1138	1172
1968-69	198	361	1254	2431	2595	3468	3407	4068	6523	3062	1118	-940	2283
1969-70	-809	215	2043	1772	3690	7607	5474	4755	2071	1750	222	-1122	2293
1970-71	-916	245	1649	3569	3873	5054	4354	6159	6780	5712	2299	-371	3191
1971-72	-483	1007	2102	2899	3429	4702	4828	<u>10950</u>	4684	2678	709	-870	3051
1972-73	-181	767	1822	2731	3436	3553	3262	3328	1814	766	-710	<u>-1423</u>	1588
1973-74	-587	609	1752	<u>3931</u>	4737	6585	4169	6510	7153	3438	742	-400	3213
1974-75	-183	391	1535	1839	2823	3071	4093	5807	4865	4351	1507	-220	2480
1975-76	-120	551	2204	2847	3410	3193	3186	3732	2542	1148	101	-771	1831
1976-77	<u>1362</u>	649	1663	2265	1888	1873	2062	2308	557	1301	54	-1421	1210
1977-78	-717	191	1463	2588	4611	4795	3943	4521	4191	2144	93	-876	2237
1978-79	-499	785	1096	1590	1849	2430	2367	2934	1763	995	<u>-1102</u>	-1046	1090
1979-80	-360	449	1319	2338	2395	3949	3630	3229	2097	1109	21	-864	1603
1980-81	-743	486	1049	1608	2245	2035	2836	2221	1475	753	-929	-1281	968
1981-82	<u>-988</u>	<u>-62</u>	1573	2823	5073	2896	7053	6387	4258	2632	1081	182	2715
1982-83	-201	890	1813	2447	3025	3149	5510	7010	5281	3830	2006	380	2910
1983-84	575	1006	1743	3332	5590	3787	4038	6046	4671	3521	1774	-175	2990
1984-85	123	<u>1662</u>	2528	3904	2990	2441	2621	3498	4244	1224	147	-906	2030
1985-86	134	1626	1874	2205	2399	3226	6879	6738	2936	1781	58	-695	2402
1986-87	-391	1265	1720	2157	2076	2515	3002	3323	1286	465	-145	126	1441
1987-88	-413	408	1062	1523	2720	2515	2995	2613	1535	630	167	-1415	1188
1988-89	-565	-49	877	2470	2014	2040	2395	6335	4879	2390	-293	-1134	1775
1989-90	-209	865											
MEAN	-238	605	1615	2286	2903	2933	3504	3941	3388	2192	578	-652	1911
MEDIAN	293	553	1573	2245	2595	2466	3222	3553	2936	1781	334	-710	1676

JCB3M9

USGS # 11511450

COPCO NO.1

River: KLAMATH

Drainage Area: 4300 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 198.6

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-211	
1928-29	150	665	1340	1730	1605	1572	1519	2031	1796	285	277	-547	1030
1929-30	29	287	1091	<u>989</u>	2095	1620	2529	1767	1212	150	-568	-566	877
1930-31	84	709	824	1373	<u>1259</u>	1363	1267	<u>1243</u>	549	<u>-434</u>	-469	-778	<u>563</u>
1931-32	-597	452	951	1213	1331	1470	<u>1151</u>	2558	1531	1194	150	-839	879
1932-33	-408	218	<u>817</u>	1343	1423	1530	1341	1963	1327	1089	-64	-659	824
1933-34	-456	414	883	1356	1266	2198	1257	1368	<u>254</u>	-139	-489	-893	583
1934-35	-439	224	1017	1764	1476	1611	1514	1773	3134	1256	-578	-472	1018
1935-36	-361	213	1257	1194	1461	2676	2439	2555	2464	1478	453	-560	1268
1936-37	-395	644	1075	1268	1426	1433	1597	2328	2395	605	612	-707	1016
1937-38	-521	364	1305	1862	2527	1888	2943	4640	6429	4209	463	-392	2135
1938-39	-69	491	1307	1629	1878	1643	1885	2369	813	387	-673	-650	913
1939-40	-294	691	1199	1257	2047	2272	2873	3621	3717	528	-406	-503	1410
1940-41	-182	1053	1320	1568	1860	1845	2323	2175	1496	1092	340	-428	1197
1941-42	171	1054	1122	1432	3007	2244	2975	1837	2204	2172	402	-513	1499
1942-43	-258	761	1035	2313	3016	3308	3029	5037	6569	3588	1779	79	2513
1943-44	85	903	1546	1915	1907	1482	1873	2052	1525	644	1099	-457	1209
1944-45	-166	774	864	2150	1658	1468	3241	1989	1233	2261	854	-509	1303
1945-46	-352	735	1193	2002	2845	3130	2171	3580	3026	1859	656	-69	1729
1946-47	14	1059	1464	1848	1649	1525	1825	1762	929	197	1149	-491	1070
1947-48	-11	766	1240	1734	1412	1755	1664	1838	2042	2189	1662	-251	1333
1948-49	236	836	1610	1856	2051	<u>1361</u>	2381	3620	2081	2258	-15	-649	1464
1949-50	-92	431	1506	1699	1337	2164	2836	3649	2418	1561	480	-660	1435
1950-51	-115	761	1970	2641	4074	2789	4510	3795	3143	3267	-245	-607	2152
1951-52	245	672	2296	2288	3148	2308	4196	4533	<u>8698</u>	5575	2321	823	3081
1952-53	550	1322	1924	2204	2517	5141	5693	4081	3517	4955	<u>3482</u>	264	2952
1953-54	785	1518	2204	3625	3488	3324	4282	5011	5447	2725	1844	42	2843
1954-55	637	1539	1915	2483	2415	2232	2170	2656	2421	1401	-299	-346	1598
1955-56	-231	882	1570	2685	6223	7486	4687	5928	8680	<u>6368</u>	2897	784	<u>3995</u>
1956-57	686	1425	3004	3723	3720	2566	3564	7303	4170	3459	428	-129	2825
1957-58	293	1344	2966	3168	3779	3382	<u>9191</u>	5924	6404	4148	3363	<u>1335</u>	3732
1958-59	1058	<u>1813</u>	2075	3056	2932	2873	3514	2278	1600	1236	-341	-621	1778
1959-60	330	1257	1768	1903	1884	1625	3014	3218	2517	1617	-664	-1002	1449
1960-61	-159	740	1540	2235	2849	1728	3484	3194	1606	1352	240	-1042	1467
1961-62	89	681	1690	2424	2840	1813	3383	3322	3205	1679	-511	-1162	1608
1962-63	-61	375	<u>3551</u>	2762	3518	1809	4404	2588	4089	2717	-525	-529	2043
1963-64	-255	781	1458	2888	2203	2419	2269	3186	3517	1325	1445	-557	1716
1964-65	-137	549	1244	2516	<u>9594</u>	<u>7711</u>	6960	4277	3725	2294	1028	-94	3290
1965-66	781	766	1674	3002	2988	2295	2440	3745	2690	800	186	-628	1723
1966-67	408	771	1287	2150	3272	2958	3263	3568	3683	4103	1286	-981	2071
1967-68	-770	414	1781	1548	2219	2201	3807	2654	673	388	-724	-906	1099
1968-69	455	612	1169	2360	2474	3198	3218	3806	5825	2742	1014	-680	2171
1969-70	570	421	1985	1652	3301	6595	4698	4191	1901	1550	117	-882	2070
1970-71	-675	536	1575	3230	3399	4377	3880	5545	5975	4838	1985	-35	2877
1971-72	207	1267	1960	2683	3025	4086	4335	<u>9441</u>	4109	2372	561	580	2752
1972-73	80	1031	1687	2602	3222	3279	3105	3131	1612	584	-846	-1148	1520
1973-74	-343	844	1624	3223	4230	5678	3567	5829	6270	2919	551	-66	2856
1974-75	162	711	1459	1743	2695	2960	3734	5190	4169	3555	1130	76	2291
1975-76	146	824	2112	2724	3143	2988	2967	3547	2284	883	-42	-530	1751
1976-77	<u>1499</u>	918	1549	2245	1818	1827	2000	2190	469	1205	-53	-1201	1202
1977-78	-492	424	1416	2475	4136	4374	3640	4229	3896	2010	-33	-629	2113
1978-79	-267	1077	1104	1685	1985	2606	2448	3116	1858	1073	<u>-1034</u>	-1107	1205
1979-80	-326	405	1314	2449	2440	4150	3893	3497	2185	1171	80	-903	1689
1980-81	-707	512	1062	1660	2319	2110	2914	2383	1582	811	-854	-1336	1026
1981-82	<u>-973</u>	-91	1550	2792	5324	3150	7212	6749	4905	2698	1090	183	2855
1982-83	-238	832	1798	2458	3249	3262	5822	7412	5543	3902	2114	329	3021
1983-84	569	1000	1715	3517	6102	4148	4250	6398	5032	3675	1823	-230	3164
1984-85	100	1621	2672	<u>4324</u>	3307	2503	2733	3604	4476	1285	173	-940	2145
1985-86	116	1606	1895	2194	2329	3274	7002	7007	3053	1895	67	-736	2446
1986-87	-349	1207	1748	2195	2220	2537	3085	3414	1291	593	-158	87	1480
1987-88	-395	353	1035	1498	2746	2615	3047	2698	1646	675	196	<u>-1418</u>	1218
1988-89	-571	<u>-97</u>	850	2479	2112	2095	2466	6629	5056	2415	-225	-1127	1836
1989-90	-168	786											
MEAN	-62	777	1560	2213	2783	2787	3303	3722	3149	1979	492	483	1842
MEDIAN	148	761	1506	2195	2517	2419	3029	3497	2517	1561	240	-559	1689

CPC3M9

USGS # 11516515

IRON GATE

River: KLAMATH

Drainage Area: 4630 Sq. Mi.

Monthly mean modified streamflow, in cfs, adj. for storage change, evap., and irrigation (1990 level).

River Mile: 190.7

	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AVE.
1927-28												-174	
1928-29	186	702	1384	1758	1664	1649	1611	2196	2055	499	359	-507	1125
1929-30	64	323	1133	<u>1031</u>	2179	1697	2787	1861	1288	204	-707	-533	934
1930-31	-53	744	864	1416	<u>1303</u>	<u>1412</u>	1328	<u>1310</u>	594	<u>-395</u>	-435	-746	<u>606</u>
1931-32	-555	487	993	1288	1393	1580	1284	3043	1889	1726	265	-799	1047
1932-33	-374	253	<u>860</u>	1397	1482	1600	<u>1246</u>	2143	1602	1541	117	-609	937
1933-34	-417	451	928	1399	1313	2270	1337	1430	<u>301</u>	-98	-433	-860	632
1934-35	-408	255	1058	1840	1602	1724	1754	1929	3550	1567	-528	-425	1154
1935-36	-328	248	1299	1235	1512	2878	2648	2797	2937	1670	507	-526	1402
1936-37	-364	678	1112	1307	1464	1476	1688	2477	2867	958	727	-669	1136
1937-38	-491	396	1346	1944	2665	2044	3232	5166	7197	4782	542	-353	2364
1938-39	-33	527	1348	1681	1942	1703	2029	2694	1067	478	-632	-616	1011
1939-40	-262	726	1237	1294	2116	2380	3178	4191	3897	572	-373	-471	1533
1940-41	-153	1090	1363	1630	1934	1930	2519	2284	1584	1207	428	-385	1277
1941-42	473	1091	1165	1495	3149	2381	3214	1973	2376	2647	518	-470	1658
1942-43	-222	799	1076	2519	3245	3546	3423	5248	6844	3765	1878	128	2678
1943-44	122	947	1600	1970	1957	1540	2012	2184	1716	838	1159	-418	1297
1944-45	-128	814	911	2203	1709	1524	3578	2163	1482	2866	973	-468	1453
1945-46	-312	777	1238	2107	2989	3288	2348	3939	3317	2085	718	-26	1870
1946-47	52	1099	1511	1927	1720	1610	2001	1913	1120	248	1213	-450	1155
1947-48	25	804	1285	1803	1486	1776	1840	2043	2458	2837	1867	-190	1498
1948-49	287	876	1657	1929	2180	1529	2583	3929	2662	2590	60	-608	1635
1949-50	-52	473	1557	1746	1383	2217	3043	3957	2815	1890	585	-613	1573
1950-51	-73	804	2074	2763	4383	2951	4987	4095	3429	3389	-195	-566	2322
1951-52	283	712	2351	2403	3343	2466	4583	5067	<u>9499</u>	6021	2432	881	3325
1952-53	604	1367	1974	2256	2588	5379	6120	4297	3761	5432	<u>3731</u>	334	3133
1953-54	844	1563	2261	3866	3705	3538	4713	5286	5803	2864	1921	94	3022
1954-55	688	1589	1972	2535	2471	2304	2266	2773	2587	1655	-216	-296	1690
1955-56	-186	930	1624	2783	6530	7769	4936	6183	9245	<u>6917</u>	3046	856	<u>4218</u>
1956-57	748	1478	3110	3852	3930	2669	3879	8154	4578	3587	493	-74	3031
1957-58	347	1400	3033	3268	3930	3596	<u>9818</u>	6243	6641	4315	3487	<u>1407</u>	3912
1958-59	1113	<u>1864</u>	2133	3132	3004	2973	3669	2430	1714	1332	166	-574	1901
1959-60	380	1311	1833	1953	1945	1729	3222	3541	2819	1844	-610	-996	1574
1960-61	-122	758	1602	2292	2922	1787	3723	3557	1646	1450	334	-997	1565
1961-62	138	730	1788	2542	3015	1910	3646	3553	3527	1810	-375	-1079	1753
1962-63	28	406	<u>3776</u>	2908	3867	1907	4871	2732	4555	2990	-374	-443	2252
1963-64	-184	679	1574	2996	2325	2658	2384	3404	3861	1495	1510	-513	1842
1964-65	-79	606	1342	2654	<u>10750</u>	<u>8568</u>	7828	4767	3967	2514	1086	-34	3647
1965-66	874	845	1797	3201	3184	2504	2533	4100	3101	879	290	-514	1895
1966-67	-340	797	1371	2245	3540	3276	3587	3872	3915	4551	1440	-912	2270
1967-68	-708	456	1856	1650	2407	2297	4188	2986	817	527	-631	-839	1242
1968-69	508	664	1254	2431	2595	3468	3407	4068	6523	3062	1118	-606	2362
1969-70	-528	505	2043	1772	3690	7607	5474	4755	2071	1750	222	-809	2367
1970-71	-622	561	1649	3569	3873	5054	4354	6159	6780	5712	2299	50	3278
1971-72	-171	1356	2102	2899	3429	4702	4828	<u>10950</u>	4684	2678	709	-498	3138
1972-73	145	1096	1822	2731	3436	3553	3262	3328	1814	766	-710	-1098	1671
1973-74	-293	955	1752	3931	4737	6585	4169	6510	7153	3438	742	29	3303
1974-75	232	745	1535	1839	2823	3071	4093	5807	4865	4351	1507	207	2581
1975-76	273	920	2204	2847	3410	3193	3186	3732	2542	1148	101	-415	1925
1976-77	<u>1613</u>	986	1663	2265	1888	1873	2062	2308	557	1301	54	-1126	1284
1977-78	-426	515	1463	2588	4611	4795	3943	4521	4191	2144	93	-559	2315
1978-79	-165	1163	1229	1763	2048	2729	2642	3268	2054	1324	<u>-1001</u>	-990	1332
1979-80	-259	557	1456	2590	2693	4867	4293	3785	2510	1394	170	-772	1933
1980-81	-646	641	1199	1780	2473	2230	3140	2432	1675	888	-843	-1233	1132
1981-82	<u>-917</u>	26	1671	3179	6229	3413	8539	7277	5473	2970	1264	248	3246
1982-83	-128	984	1954	2595	3633	3544	6425	8146	6127	4483	2290	475	3357
1983-84	657	1115	1860	3654	6591	4286	4756	6995	5575	3974	1940	-71	3441
1984-85	236	1737	2712	<u>4635</u>	3378	2602	2988	3957	4911	1448	249	-859	2321
1985-86	176	1734	1998	2333	2363	3513	7981	7423	3213	1983	161	-643	2652
1986-87	-365	1349	1841	2246	2180	2651	3213	3560	1498	537	-110	184	1555
1987-88	-366	475	1126	1609	2881	2728	3147	2775	1643	736	269	<u>-1387</u>	1296
1988-89	-544	<u>-32</u>	945	2630	2099	2242	2476	7211	5378	2660	-189	-1070	1980
1989-90	-181	939											
MEAN	-6	836	1637	2329	2972	2996	3607	4047	3481	2243	601	-419	2017
MEDIAN	-101	787	1574	2256	2665	2602	3222	3732	2937	1810	334	-510	1842

IRG3M9

MODIFIED STREAMFLOW REPORT

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