USE AND AVAILABILITY OF CONTINUOUS STREAMFLOW RECORDS IN WYOMING

By Joel R. Schuetz

U.S. GEOLOGICAL SURVEY

Open-File Report 85-685

Cheyenne, Wyoming

1986

UNITED STATES DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For additional information
write to:

District Chief
U.S. Geological Survey
2120 Capitol Avenue
Box 1125
Cheyenne, Wyoming 82003

Copies of this report can
be purchased from:

Open-File Services Section
Western Distribution Branch
U.S. Geological Survey
Box 25425, Federal Center
Denver, Colorado 80225
(Telephone: (303) 236-7476)

CONTENTS

	Page
Abstract	1
Introduction	1
History of streamflow gaging in Wyoming	2
Current Wyoming streamflow-gaging program	3
Uses, funding, and availability of continuous streamflow data	6
Data-use categories	6
Regional hydrology	6
Hydrologic systems	6
Legal obligations	16
Planning and design	16
Project operation	16
Hydrologic forecasts	17
Water-quality monitoring	17
Research	17
Other	17
Funding	18
Frequency of data availability	18
Data-use presentation	18
References cited	33

ILLUSTRATIONS

Figure 1.	Graph showing history of continuous streamflow gaging in Wyoming	4
2.	Map showing location of active continuous streamflow-gaging stations in Wyoming	5

TABLES

Table 1.	Selected hydrologic data for stations in the Wyoming surface-water program	7
2.	Data use, sources of station funding, and data availability	19

CONVERSION FACTORS

For those readers interested in using the International System of Units (SI), the following table may be used to convert inch-pound units of measurement used in this report to SI units:

Multiply	By	To obtain
square mile (mi^2)	2.590	square kilometer
cubic foot per second (ft^3/s)	0.02832	cubic meter per second

USE AND AVAILABILITY OF CONTINUOUS STREAMFLOW RECORDS IN WYOMING

By Joel R. Schuetz

ABSTRACT

This report documents a survey that identifies local, State, and Federal uses of data from 139 continuous-record, surface-water stations presently (1984) operated by the Wyoming District of the U.S. Geological Survey; identifies sources of funding pertaining to collection of streamflow data; and presents frequency of data availability. Uses of data from the 139 stations are categorized into seven classes: Regional Hydrology, Hydrologic Systems, Legal Obligations, Planning and Design, Project Operation, Hydrologic Forecasts, and Water-Quality Monitoring. Sufficient use of surface-water data collected from the stations justifies the continued operation of all stations.

INTRODUCTION

The U.S. Geological Survey is the principal Federal agency collecting surface-water data in the Nation. The collection of these data is a major activity of the Water Resources Division of the Geological Survey. The data are collected in cooperation with State and local governments and other Federal agencies. The Geological Survey is presently (1984) operating approximately 8,000 continuous-record gaging stations throughout the Nation. Some of these records date back to the turn of the century.

Any activity of long standing, such as the collection of surface-water data, should be re-examined at intervals, if not continually, because of changes in objectives, technology, or external constraints. The last systematic nationwide evaluation of the streamflow information program was completed in 1970 and is documented by Benson and Carter (1973). The Wyoming contribution to that evaluation was done by Wahl (1970). In 1983 the Geological Survey undertook another nationwide analysis of the streamflow-gaging program. The analysis is to be completed over a 5-year period; 20 percent of the program is to be analyzed each year. The objective of the nationwide analysis is to define and document the most cost-effective means of furnishing streamflow information.

The purpose of this report is to define and document the current streamflow-gaging program in Wyoming and deals with the first part of the nationwide analysis which is data use and availability. The second and third parts of the analysis will be published in a subsequent report(s). This report is

patterned after a pilot study for the State of Maine (Fontaine and others, 1984). Much of the material describing the general methodology is taken from the report by Fontaine and others (1984) and from a similar report for the State of Nebraska (Engel and others, 1984).

The second part of the analysis will be to identify less costly alternate methods of furnishing the needed information; among these are flow-routing models and statistical methods. The streamflow-gaging activity is no longer considered a network of observation points, but rather an integrated information system in which data are provided both by observation and synthesis.

The final part of the analysis will involve the use of Kalman-filtering and mathematical-programming techniques to define strategies for the operation of the necessary stations that minimize the uncertainty in the streamflow records for specific operating budgets. Kalman-filtering techniques are used to compute uncertainty functions (relating the standard errors of computation or estimation of streamflow records to the frequencies of visits to the streamflow gages) for individual stations. A steepest-descent optimization program uses these uncertainty functions, information on practical routes between streamflow-gaging stations, the various costs associated with streamflow gaging, and the total operating budget to identify the visit frequency for each station so that total uncertainty in the overall network is minimized.

In this report, for every continuous-record gaging station, the analysis identifies methods of furnishing the needed information; among these are flow-routing models and statistical methods. The streamflow-gaging activity is no longer considered a network of observation points, but rather an integrated information system in which data are provided both by observation and synthesis.

History of Streamflow Gaging in Wyoming

The streamflow-gaging program in Wyoming has evolved through the years as Federal, State, and local needs for surface-water data have increased. The following history of streamflow-gaging in Wyoming was obtained from a report by Green (1983, p. 2-4).

On March 3, 1879, President Rutherford B. Hayes signed a bill establishing the U.S. Geological Survey. The Sundry Civil Appropriation Act of 1888 established an Irrigation Survey as a part of the Geological Survey. The Water Resources Divison, of which the Wyoming District is a part, has its roots in the Irrigation Survey of 1888-90.

There was no Wyoming District in 1888 when the Washington, D.C. office of the Geological Survey paid the installation costs for the first gaging station that was installed and operated by the Territorial Engineer on the Laramie River at Woods Landing near the Wyoming-Colorado state line. Between 1895 and 1901 the Geological Survey paid operating expenses for additional stations operated by the State Engineer. For the next 6 years there was no cooperative work with the State, but 11 stations were operated with Geological Survey and Reclamation Service funds. By 1912 the Geological Survey network

consisted of 50 stations, including 21 operated in cooperation with the State Engineer. Between 1912 and 1915 there was no cooperation with the State Engineer. In 1915 the cooperative program with the State Engineer was resumed, and 50 gaging stations were established or re-established. Cooperation with the State Engineer has continued without further interruption.

Early Federal cooperators included the Indian Service (1908) and the Forest Service (1910). In 1938 the U.S. Bureau of Reclamation established 23 streamflow stations in the Green River basin using U.S. Geological Survey plans. The Bureau also did field work at Geological Survey stations in the area, and the Geological Survey computed and published the records for all stations. During the period 1945-50, many streamflow stations were established under the Interior Department's Missouri River Basin program; by 1966 204 stations were in operation. A flood-investigations program, started in 1959 in cooperation with the Wyoming Highway Department, has continued to the present. As a result of the recommendations by Wahl (1970), a number of stations were discontinued in 1971.

In 1974 the streamflow-gaging program increased significantly in response to the development of coal and other energy resources in Wyoming. However, in 1981 and 1982 Federal funds allocated for studying energy-related problems were decreased, and the streamflow-gaging program was again reduced. The number of continuous-record gages operated within the State of Wyoming since the streamflow-gaging program began is given in figure 1.

Current Wyoming Streamflow-Gaging Program

Water-resource appraisal of the State's surface-water supply has necessitated the development of the streamflow-gaging networks; locations of streamflow-gaging stations operated by the Wyoming District are shown in figure 2. Data from certain streamflow-gaging stations located in Wyoming (fig. 2) but operated by other Geological Survey Districts--Montana, South Dakota, Nebraska, Colorado, Utah, and Idaho--are not included in this report.

Although Wyoming as a whole has an abundant surface-water supply of good quality, the distribution of this supply is not uniform; some areas have an abundant supply while other areas have meager supplies. The uneven areal and temporal distribution of surface water is a constraint on agricultural and in-industrial development and results in competition for the available supply (U.S. Geological Survey, 1984, p. 236-238). This uneven distribution and increasing demand for water supply has led to the construction of numerous reservoirs--both large and small--throughout the State. In order to define the altered system, many gaging stations are operated to monitor streamflows affected by these reservoirs. Although many streams in the State are affected to some degree by diversions for irrigation, some are affected so little that they can be considered natural-flow streams.

The operation of the gaging-station network is shared by the Geological Survey and Wyoming State Engineer personnel as part of the cooperative program. Review and quality-control responsibilities belong to the Geological Survey. Data from continuous-record streamflow-gaging stations operated by by the State Engineer's office as part of its own management program are not included in this analysis.

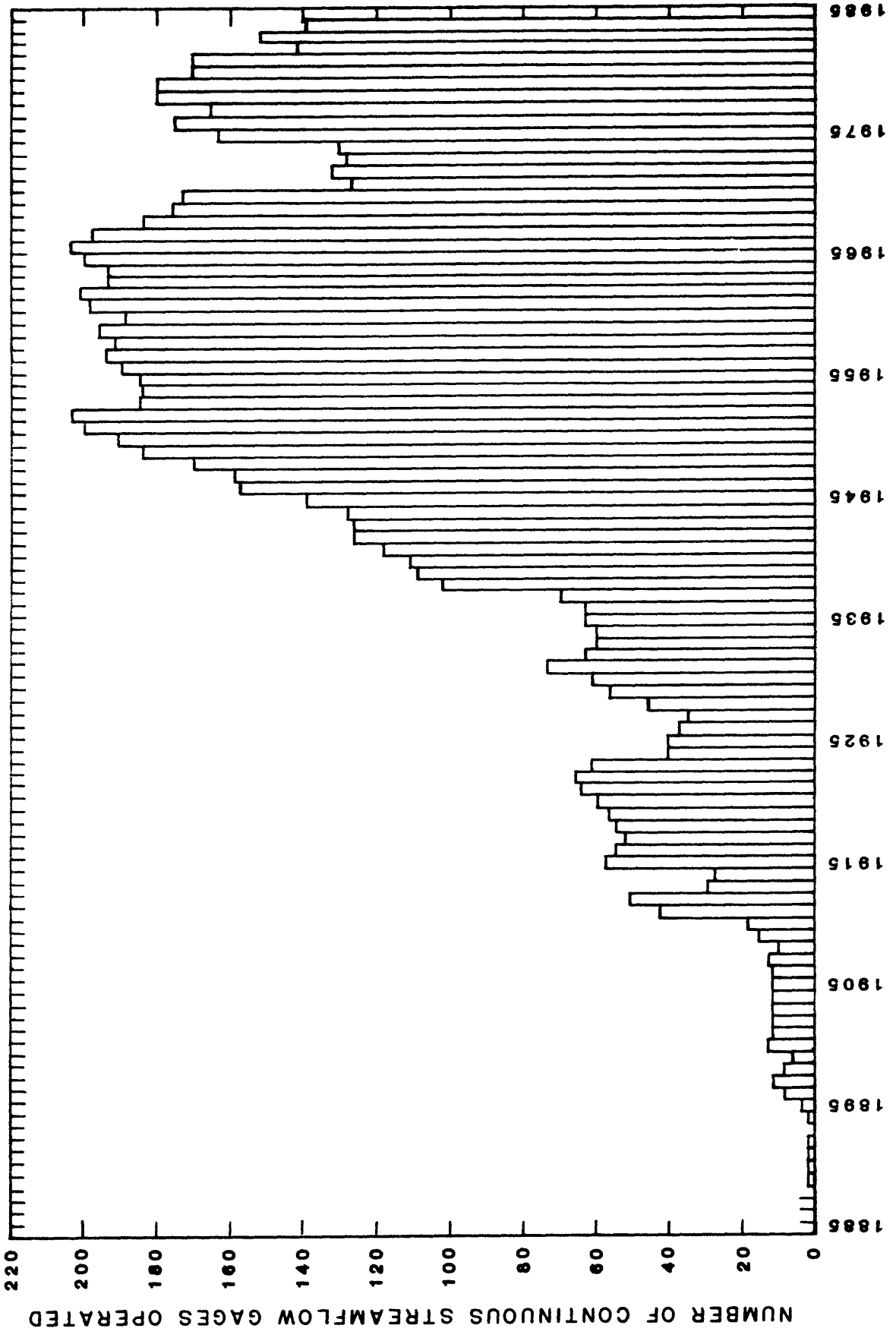

Figure 1.--History of continuous streamflow gaging in Wyoming.

page 6 follows

Selected hydrologic data, including drainage area, period of record, and mean annual flow for the 139 stations, are given in table 1. The number and name designated by the Geological Survey for each station also is listed in table 1.

USES, FUNDING, AND AVAILABILITY OF CONTINUOUS STREAMFLOW DATA

The relevance of a streamflow station is defined by the uses made of the data produced from the station. The uses of the data from each station in the Wyoming program were identified by a survey of known data users. The survey documented the importance of each station and identified those stations that may be considered for discontinuation.

Data uses identified by the Geological Survey were categorized into nine classes, seven of which apply to stations in Wyoming. The classes are defined in the following section. The sources of funding for each station and the frequency of distribution at which data is provided to users are defined in a subsequent section.

Data-Use Categories

The following definitions were used in categorizing each known use of streamflow data for each continuous-record streamflow station.

Regional Hydrology

For data to be useful in defining regional hydrology, a streamflow station must be largely unaffected by manmade storage or diversion. In this category of use, the effects of man on streamflow are not necessarily small, but the effects are limited to those caused primarily by land-use and climate changes. Large amounts of manmade storage may exist in the basin, providing that the outflow is uncontrolled. Stations categorized under regional hydrology are useful in developing regionally transferable information about the relationship between basin characteristics and streamflow.

Eighty-two stations in the Wyoming network are classified in the regional hydrology data-use category. Three of the stations are special cases; one is designated a hydrologic bench-mark station, and two are index stations. Hydrologic bench-mark stations are part of a National network of 57 stations operated on watersheds that are relatively free from manmade alteration; the intent of the network is to define long-term trends. Index stations provide streamflow data used for a National monthly summary of water conditions.

Hydrologic Systems

Stations that can be used for accounting; that is, to define current hydrologic conditions and the sources, sinks, and fluxes of water through hydrologic systems including regulated systems, are designated as hydrologic-systems stations. Stations that are useful for defining the interaction of ground water with surface water, and stations which measure diversions and return flows are included in this category.

Table 1.--Selected hydrologic data for stations in the Wyoming surface-water program

[Period of record: No end date indicates station is currently (1984) active. mi^2, square miles; ft^3/s, cubic feet per second]

Station number	Station name	Drainage area (mi^2)	Period of record	Mean annual flow (ft^3/s)
06218500	Wind River near Dubois	232	Oct. 1945-	178
06220500	East Fork Wind River near Dubois	427	Apr. 1950 to Sept. 1957, Oct. 1975-	264
06222700	Crow Creek near Tipperary	30.2	Oct. 1962-	22.0
06224000	Bull Lake Creek above Bull Lake	187	June 1941 to Dec. 1953, Oct. 1966-	302
06225000	Bull Lake Creek near Lenore	213	May 1918-	280
06225500	Wind River near Crowheart	1,891	Oct. 1945-	1,240
06228000	Wind River at Riverton	2,309	May 1906 to Aug. 1906, Aug. 1907 to Dec. 1907, May 1908 to Oct. 1908, May 1911-	(1)
06228350	South Fork Little Wind River above Washakie Reservoir, near Fort Washakie	90.3	Oct. 1976-	129
06231000	Little Wind River above Arapahoe	660	May 1906 to Dec. 1909, May 1911 to Nov. 1918, Oct. 1979-	(1)
06233000	Little Popo Agie River near Lander	125	Mar. 1946-[2]	80.3
06233900	Popo Agie River near Arapahoe	--	Oct. 1979-	(3)
06235500	Little Wind River near Riverton	1,904	May 1941-	590
06259000	Wind River below Boysen Reservoir	7,701	May 1951-	1,441
06260000	South Fork Owl Creek near Anchor	85.5	Apr. 1932 to May 1932, Aug. 1939 to Sept. 1943, Apr. 1959-[4]	34.9
06260400	South Fork Owl Creek below Anchor Reservoir	131	Apr. 1959-	22.0
06267400	East Fork Nowater Creek near Colter	149	Oct. 1971-	4.66
06268500	Fifteenmile Creek near Worland	518	Mar. 1951 to Dec. 1972, June 1978-	10.6

See footnotes at end of table.

Table 1.--Selected hydrologic data for stations in the Wyoming surface-water program--Continued

Station number	Station name	Drainage area (mi^2)	Period of record	Mean annual flow (ft^3/s)
06270000	Nowood River near Ten Sleep	803	May 1938 to Sept. 1943, Mar. 1950 to Dec. 1955, Oct. 1972-	115
06274300	Bighorn River at Basin	--	Oct. 1983-	(3)
06275000	Wood River at Sunshine	194	Aug. 1945-	135
06276500	Greybull River at Meeteetse	681	June 1897 to Dec. 1897, Apr. 1903 to Oct. 1903, July 1920-2	347
06278300	Shell Creek above Shell Reservoir	23.1	Oct. 1956-	36.1
06278500	Shell Creek near Shell	145	Oct. 1940-2	119
06279500	Bighorn River at Kane	15,765	Aug. 1928-	2,288
06279850	Middle Creek at East Entrance, Yellowstone National Park	32.6	Oct. 1981-	(3)
06280000	North Fork Shoshone River near Wapiti	775	Jan. 1921 to Sept. 1926, May 1979-	889
06280300	South Fork Shoshone River near Valley	297	Oct. 1956 to Sept. 1958, Oct. 1959-	426
06281000	South Fork Shoshone River above Buffalo Bill Reservoir	585	May 1903 to Nov. 1903, May 1905 to Sept. 1908, Jan. 1921 to Sept. 1926, Oct. 1973-5	428
06281400	Diamond Creek near mouth, near Cody	7.34	Dec. 1980-	(3)
06282000	Shoshone River below Buffalo Bill Reservoir	1,538	Jan. 1921-	1,133
06284500	Bitter Creek near Garland	80.5	Mar. 1950 to Dec. 1953, Oct. 1957 to Sept. 1960, Oct. 1968-	142
06284800	Whistle Creek near Garland	101	May 1958 to May 1960, Oct. 1968-	27.1
06285100	Shoshone River near Lovell	2,350	Oct. 1966-	1,018
06285400	Sage Creek at Sidon Canal, near Deaver	341	June 1958 to May 1960, Oct. 1968-	65.1

See footnotes at end of table.

Table 1.--Selected hydrologic data for stations in the Wyoming surface-water program--Continued

Station number	Station name	Drainage area (mi^2)	Period of record	Mean annual flow (ft^3/s)
06288600	Little Bighorn River below Dayton Gulch, near Burgess Junction	15.9	Oct. 1982-	(3)
06288700	Dry Fork below Lick Creek, near Burgess Junction	54.1	Oct. 1982-	(3)
06288975	Elkhorn Creek above Fuller Ranch Ditch, near Parkman	4.58	Oct. 1982-	(3)
06288990	West Fork Little Bighorn River near Parkman	38.2	Oct. 1969 to Sept. 1972, Oct. 1982-	(3)
06289100	Red Canyon Creek near Parkman	3.20	Oct. 1982-	(3)
06289600	West Pass Creek near Parkman	15.4	Oct. 1982-	(3)
06289820	East Pass Creek near Dayton	21.7	Oct. 1982-	(3)
06289870	Twin Creek near Parkman	27.0	Oct. 1982-	(3)
06291200	Lodge Grass Creek at State line, near Wyola, Mont.	16.7	Oct. 1982-	(3)
06298000	Tongue River near Dayton	204	Oct. 1918 to Sept. 1929, Oct. 1940-	187
06299500	Wolf Creek at Wolf	37.8	Jan. 1945-2	29.3
06300500	East Fork Big Goose Creek near Big Horn	20.1	Oct. 1953-6	32.6
06301500	West Fork Big Goose Creek near Big Horn	24.4	Oct. 1953-2	34.4
06302000	Big Goose Creek near Sheridan	120	Sept. 1929-2	79.6
06303500	Little Goose Creek in canyon, near Big Horn	51.6	Apr. 1941-2	63.4
06305500	Goose Creek below Sheridan	392	Oct. 1941-	181
06309200	Middle Fork Powder River near Barnum	45.2	Sept. 1961-	31.7
06309450	Beaver Creek below Bayer Creek, near Barnum	10.9	Oct. 1974-	7.31
06309460	Beaver Creek above White Panther ditch, near Barnum	24.2	Oct. 1974-	14.9
06309500	Middle Fork Powder River above Kaycee	450	Apr. 1949 to Sept. 1970, Apr. 1984-	69.6
06311000	North Fork Powder River near Hazelton	24.5	Sept. 1946-	14.8
06311060	North Fork Powder River below Bull Creek, near Hazelton	32.3	Oct. 1974-	18.7
06311400	North Fork Powder River below Pass Creek, near Mayoworth	100	Oct. 1973-	34.5

See footnotes at end of table.

Table 1.--Selected hydrologic data for stations in the Wyoming surface-water program--Continued

Station number	Station name	Drainage area (mi^2)	Period of record	Mean annual flow (ft^3/s)
06313000	South Fork Powder River near Kaycee	1,150	July 1911 to Oct. 1911, Apr. 1938 to June 1940, May 1950 to Sept. 1969, Oct. 1978 to Sept. 1980, Apr. 1983-	35.7
06313400	Salt Creek near Sussex	769	Apr. 1976 to Sept. 1981, Oct. 1982-	49.8
06313500	Powder River at Sussex	3,090	Apr. 1938 to June 1940, Feb. 1950 to Sept. 1957, Oct. 1977-	193
06313700	Dead Horse Creek near Buffalo	151	Oct. 1971-	2.87
06313950	North Fork Crazy Woman Creek below Pole Creek, near Buffalo	43.4	Oct. 1973-	24.9
06314000	North Fork Crazy Woman Creek near Buffalo	44.9	Apr. 1942 to Sept. 1949, Oct. 1973-	24.9
06317000	Powder River at Arvada	6,050	May 1919-[7]	281
06318500	Clear Creek near Buffalo	120	Apr. 1894 to Sept. 1894, May 1896 to Sept. 1896, May 1897 to Dec. 1899, June 1917 to Oct. 1927, Apr. 1938-	63.6
06320000	Rock Creek near Buffalo	60.0	Apr. 1941 to Aug. 1941, Apr. 1942 to Dec. 1942, May 1943 to Nov. 1944, Apr. 1945-[2]	36.4
06320500	South Piney Creek at Willow Park	33.6	Sept. 1945 to Sept. 1957, Oct. 1959-[8]	42.4

See footnotes at end of table.

Table 1.--Selected hydrologic data for stations in the Wyoming surface-water program--Continued

Station number	Station name	Drainage area (mi^2)	Period of record	Mean annual flow (ft^3/s)
06323000	Piney Creek at Kearny	118	Sept. 1902 to June 1906, June 1910 to Aug. 1910, May 1911 to July 1917, May 1919 to Sept. 1923, Oct. 1940-[9]	87.0
06324970	Little Powder River above Dry Creek, near Weston	1,235	Oct. 1972-	23.0
06376300	Black Thunder Creek near Hampshire	535	Oct. 1972-	7.60
06394000	Beaver Creek near Newcastle	1,320	Feb. 1943 to Sept. 1943, Oct. 1944-	31.3
06427500	Belle Fourche River below Keyhole Reservoir	2,000	Apr. 1951-	([1])
06620000	North Platte River near Northgate, Colo.	1,431	May 1904 to Nov. 1904, May 1915-	434
06622700	North Brush Creek near Saratoga	37.4	May 1960-	51.3
06622900	South Brush Creek near Saratoga	22.8	May 1960 to Sept. 1974, May 1976 to Sept. 1977, May 1979-[10]	31.8
06623800	Encampment River above Hog Park Creek, near Encampment	72.7	Oct. 1964-	116
06625000	Encampment River at mouth, near Encampment	265	Apr. 1940-	244
06628900	Pass Creek near Elk Mountain	91.5	Apr. 1957-	41.7
06630000	North Platte River above Seminoe Reservoir, near Sinclair	4,175	July 1939-	1,128
06632400	Rock Creek above King Canyon Canal, near Arlington	62.9	Oct. 1965-	84.2
06634600	Little Medicine Bow River near Medicine Bow	963	Oct. 1973-	61.5
06635000	Medicine Bow River above Seminoe Reservoir, near Hanna	2,338	July 1939-	185
06637750	Rock Creek above Rock Creek Reservoir	9.2	May 1962-	8.80
06638090	Sweetwater River near Sweetwater Station	849	Oct. 1973-	148
06639000	Sweetwater River near Alcova	2,327	Aug. 1913 to Sept. 1924, Oct. 1938-[11]	126

See footnotes at end of table.

Table 1.--Selected hydrologic data for stations in the Wyoming surface-water program--Continued

Station number	Station name	Drainage area (mi^2)	Period of record	Mean annual flow (ft^3/s)
06642000	North Platte River at Alcova	10,812	Feb. 1904 to Dec. 1905, Oct. 1934-	(1)
06642650	Stinking Creek above Lawn Creek, near Alcova	91.8	Apr. 1983-	(3)
06643500	North Platte River near Goose Egg	11,439	Apr. 1917 to Sept. 1919, May 1924 to Sept. 1924, May 1947 to Sept. 1947, May 1950 to Sept. 1960, Apr. 1983-12	(1)
06646600	Deer Creek below Millar wasteway, at Glenrock	213	Feb. 1961-	72.1
06646800	North Platte River near Glenrock	13,538	Oct. 1959-	(1)
06647500	Box Elder Creek at Boxelder	63.0	Apr. 1946 to Sept. 1951, Oct. 1961 to Sept. 1967, Oct. 1971-	38.4
06647800	Box Elder Creek near Boxelder	136	Apr. 1981-	(3)
06647810	Box Elder Creek at Converse County Park, near Careyhurst	138	May 1981-	(3)
06647890	Little Box Elder Creek near Careyhurst	7.18	Oct. 1974-	1.50
06647900	Little Box Elder Creek at Little Box Elder Cave, near Careyhurst	8.47	Oct. 1974-	0.48
06647910	Little Box Elder Spring near Careyhurst	--	Oct. 1980-	(3)
06647920	Cottonwood Creek near Careyhurst	2.33	Mar. 1981-	(3)
06649000	La Prele Creek near Douglas	135	Aug. 1919-2	40.4
06652000	North Platte River at Orin	14,888	Jan. 1895, Apr. 1895 to Nov. 1895, Apr. 1896 to Oct. 1896, Jan. 1897 to Dec. 1898, Apr. 1899 to Nov. 1899, Apr. 1917 to Sept. 1917, Apr. 1918 to Sept. 1918, May 1924 to Sept. 1924, Apr. 1958-	(1)

See footnotes at end of table.

Table 1.--Selected hydrologic data for stations in the Wyoming surface-water program--Continued

Station number	Station name	Drainage area (mi^2)	Period of record	Mean annual flow (ft^3/s)
06652800	North Platte River below Glendo Reservoir	15,548	Oct. 1957-	(1)
06656000	North Platte River below Guernsey Reservoir	16,237	June 1900-13	(1)
06657000	North Platte River below Whalen Diversion Dam	16,425	May 1909-	(1)
06659500	Laramie River and Pioneer Canal near Woods	434	Apr. 1912 to Sept. 1924, Oct. 1926 to Sept. 1927, Oct. 1931-10	(1)
06659580	Sand Creek at Colorado-Wyoming State line	29.2	Oct. 1968-2	(1)
06661000	Little Laramie River near Filmore	157	July 1902 to Sept. 1903, May 1911 to Nov. 1926, Oct. 1932-2	103
06661585	Laramie River near Bosler	1,790	Oct. 1972-	177
06662000	Laramie River near Lookout	2,174	May 1912 to Dec. 1917, Jan. 1921 to Dec. 1927, Apr. 1932-10	131
06664400	Sybille Creek above Mule Creek, near Wheatland	194	Apr. 1974-14	--
06665790	Sybille Creek above Canal No. 3, near Wheatland	--	Apr. 1980-14	--
06670500	Laramie River near Fort Laramie	4,564	Apr. 1915-15	148
06671000	Rawhide Creek near Lingle	522	May 1928-2	21.5
06672500	Cherry Creek drain near Torrington	356	May 1931 to Sept. 1931, May 1932 to Sept. 1932, May 1935-2	21.6
06673500	Katzer drain near Henry, Nebr.	45.9	May 1928-16	19.6
06674500	North Platte River at Wyoming-Nebraska State line	22,218	Apr. 1929-	(1)
09188500	Green River at Warren Bridge, near Daniel	468	Oct. 1931-	510
09189495	North Horse Creek above Sherman Ranger Station17	42.8	Oct. 1954 to Sept. 1974, Oct. 1982-	69.8
09189550	South Horse Creek near Merna	33.3	Oct. 1982-	(3)
09190000	Horse Creek near Daniel	106	Oct. 1931 to Sept. 1954, Oct. 1982-	65.7
09191300	South Cottonwood Creek near Big Piney	21.4	Oct. 1982-	(3)
09196500	Pine Creek above Fremont Lake	75.8	Oct. 1954-	179

See footnotes at end of table.

Table 1.--Selected hydrologic data for stations in the Wyoming surface-water program--Continued

Station number	Station name	Drainage area (mi^2)	Period of record	Mean annual flow (ft^3/s)
09203000	East Fork River near Big Sandy	79.2	Oct. 1938-	104
09205000	New Fork River near Big Piney	1,230	Sept. 1954-	740
09205490	North Piney Creek above Apperson Creek, near Mason	29.6	Oct. 1982-	(3)
09208400	La Barge Creek above Viola	122	Oct. 1982-	(3)
09209400	Green River near La Barge[18]	3,910	Aug. 1946-	1,659
09210500	Fontenelle Creek near Herschler Ranch, near Fontenelle	152	Aug. 1951-	73.9
09211200	Green River below Fontenelle Reservoir	4,280	Nov. 1963-	(1)
09212500	Big Sandy River at Leckie Ranch, near Big Sandy	94	July 1910 to Nov. 1910, May 1911 to Aug. 1911, July 1939-[2]	86.0
09213500	Big Sandy River near Farson	322	Oct. 1914 to Sept. 1917, Oct. 1920 to Oct. 1924, Oct. 1926 to Sept. 1934, Apr. 1953-[2]	86.5
09215550	Big Sandy River below Farson	1,097	June 1981-	(3)
09216050	Big Sandy River at Gasson Bridge, near Eden	1,720	May 1972-	77.8
09217000	Green River near Green River	14,000	Apr. 1951-	1,746
09217900	Blacks Fork near Robertson	130	Oct. 1937 to July 1939, July 1966-	160
09218500	Blacks Fork near Millburne	152	July 1939-	161
09220000	East Fork of Smiths Fork near Robertson	53.0	July 1939-[2]	47.1
09223000	Hams Fork below Pole Creek, near Frontier	128	Oct. 1952-	103
09224700	Blacks Fork near Little America	3,100	June 1962-	354
09229500	Henrys Fork near Manila, Utah	520	Oct. 1928-	83.8
10016900	Bear River at Evanston	443	May 1984-[14]	--

[1] No mean annual flow published, upstream regulation.
[2] No winter records since water year 1971.
[3] No mean annual flow published, less than 5 years of streamflow record.
[4] No winter records during water years 1932, 1939-40, 1942, 1943.
[5] No winter records during water years 1906, 1908, 1922.

Footnotes--Continued

[6] No winter records since water year 1973.
[7] No winter records during water years 1919-30, 1934.
[8] No winter records prior to water year 1948 and since water year 1971.
[9] No winter records during water years 1919-23.
[10] No winter records since water year 1972.
[11] No winter records during water years 1974, 1975, 1977-81.
[12] Irrigation seasons only during water years 1917-19.
[13] No winter records prior to water year 1903.
[14] No winter records.
[15] No winter records prior to water year 1927.
[16] No winter records prior to water year 1932 and since water year 1971.
[17] Prior to October 1982, published as 09189500 Horse Creek at Sherman Ranger Station.
[18] Prior to October 1963, equivalent record published as 09209500 Green River near Fontenelle.

Hydrologic bench-mark and index stations are included in the hydrologic systems category as well as in the regional hydrology category because they are used for accounting of long-term and current hydrologic conditions. Also included in this category are stations used for the accounting of Bureau of Reclamation project areas and of flood-control projects of the U.S. Army Corps of Engineers. Many stations in this category are used by the State Engineer for administration of water rights throughout the State. Other stations are used by various State and Federal agencies for accounting purposes and are included in this category.

Legal Obligations

Some stations provide records of flows for the verification or enforcement of existing treaties, compacts, and decrees. This category includes those stations that the Geological Survey is required to operate in order to satisfy a legal responsibility. The Colorado River Compact designates the Geological Survey to operate gaging stations needed for the equitable distribution of water among the States included in the Colorado River basin. Five streamflow stations are operated for this purpose.

Planning and Design

Streamflow-gaging stations in this category of data use are used for the planning and design of a specific project (for example, a dam, levee, floodwall, water-supply diversion, hydropower plant, or waste-treatment facility) or group of structures. The planning and design category is limited to those stations that were instituted for such purposes and where this purpose is still valid.

There are 64 stations identified with this category of use. Sixty-three stations are being used by the Wyoming Water Development Commission for planning and feasibility studies. Many of these stations are multiple-use stations and were already in existence when the Water Development Commission started the studies. One station is being operated for Uinta County for a flood-control project.

Project Operation

Streamflow-gaging stations in this category are used, on an ongoing basis, to assist water managers in making operational decisions regarding reservoir releases, hydropower operations, or diversions. The project operation use generally implies that the data are routinely available to the operators on a rapid-reporting basis. For projects on large streams, data may be needed only every few days.

Many stations included in this category are those operated for: the State Engineer for water rights administration as explained under "Hydrologic Systems," the Bureau of Reclamation in project areas, the Corps of Engineers and the Bureau of Reclamation in reservoir operations, agencies with hydropower facilities, et cetera.

Hydrologic Forecasts

Streamflow-gaging stations in this category are operated to provide information for hydrologic forecasting. These might be flood forecasts for a specific river reach, or periodic (daily, weekly, monthly, or seasonal) flow-volume forecasts for a specific site or region. The hydrologic forecast use generally implies that the data are routinely available to the forecasters on a rapid-reporting basis. Data may be needed on large streams every few days.

Stations in the Wyoming program included in this category are stations that have been designated for use by the U.S. Soil Conservation Service and the National Weather Service in preparing streamflow forecasts during the snowmelt. In addition to these agencies, other State and Federal agencies may use the information from the stations during flooding events. Thirty-eight stations are in this category. Eight of these stations have direct access through telemetry equipment.

Water-Quality Monitoring

Streamflow-gaging stations, where regular water-quality or sediment-transport monitoring is being conducted and where the availability of stream-flow data contributes to the utility or is essential to the interpretation of the water-quality or sediment data, are designated as water-quality-monitoring sites. Stations operated as part of the National Stream-Quality Accounting Network (NASQAN) are included in this category. NASQAN stations are operated to define both areal variability and trends in stream quality.

One such station in the program is a designated bench-mark station and three are NASQAN stations. Water-quality samples from bench-mark stations are used to indicate water-quality characteristics of streams that have been and probably will continue to be relatively free from manmade influence. Stations where water-quality sampling is being done in conjunction with the monitoring network of the Wyoming Department of Environmental Quality are also in this category.

Research

Gaging stations in this category are operated for a particular research or water-investigation study. At this time (1984), Wyoming does not have any gaging stations being operated for research.

Other

This category is for stations that do not fit any of the preceding categories. All stations operated by the Wyoming District were classified in previous categories.

Funding

The four funding sources for the streamflow-data program are as follows:

1. Federal program.--Funds are directly allocated to the Geological Survey.
2. Other Federal Agency (OFA) program.--Funds are transferred to the Geological Survey by other Federal agencies.
3. Federal-State cooperative program.--Funds come jointly from Geological Survey cooperative-designated funding and from a State, county, or local governmental cooperating agency. Cooperating agency funds may be in the form of direct services or cash.
4. Other non-Federal.--Funds are provided entirely by a non-Federal agency and are not matched by Geological Survey cooperative funds. There were no stations in this category for Wyoming.

The identified sources of funding in the four categories pertain only to the collection of streamflow data. Sources of funding for other activities, particularly the collection of water-quality samples at the streamflow station, may not be the same as those identified herein.

Frequency of Data Availability

Frequency of data availability refers to the times at which the streamflow data may be furnished to the users. In this category, three distinct possibilities exist. Data can be furnished by direct-access telemetry equipment for immediate use (includes both telephone-accessed equipment and satellite data-collection platforms), by periodic release of provisional data, or in publication format through the Wyoming annual data report published by the Geological Survey (Druse and others, 1984). In the current Wyoming program, data for all 139 stations are made available through the annual report, data for 11 stations are available on a real-time basis, and data for many stations are released on a provisional basis.

Data-Use Presentation

The principal data uses for each data-use category, the source of funding, and the availability of the data are listed for each continuous-record streamflow-gaging station in table 2. Footnotes are used to identify the particular data use and agency using the data, and, the sources of funding for the station.

Table 2.--Data use, sources of station funding, and data availability

[Numbers refer to footnotes. Funding: OFA, other Federal agency; Federal-State cooperative, includes a county and a municipality. Availability: A, annually published data report; P, periodic release of provisional data; T, furnished by direct-access telementry]

Station number	Uses									Sources of funding				Availability
	Regional hydrology	Hydrologic systems	Legal obligations	Planning and design	Project operation	Hydrologic forecasts	Water-quality monitoring	Research	Other	Federal program	OFA program	Federal-State cooperative program	Other non-Federal	
06218500	1	2,3		4		5,6	7					8		A,P
06220500	1	3,9		4						10				A
06222700	1	9								10				A
06224000	1	2,3,11		4	11					10				A
06225000		1,11,12		4	6,11,12						13			A
06225500		1,11,12		4	11,12						13			A
06228000		1,11		4	6,14	5,6,14	7				15			A,P
06228350	1	9,16									17			A
06231000		1,9,16			6						17			A
06233000		1,2,16		4		5,6						8		A,P

1 Providing general hydrologic knowledge and defining trends
2 Defining hydrologic systems - Wyoming State Engineer
3 Managing National forest land - U.S. Forest Service
4 Feasibility studies of water projects - Wyoming Water Development Commission
5 Flood and flow forecasting - National Weather Service
6 Flow forecasting and project operation - Soil Conservation Service
7 Water quality studies - Wyoming Department of Environmental Quality
8 Wyoming State Engineer
9 Managing Indian Reservation resources - Bureau of Indian Affairs
10 Direct allocation to U.S. Geological Survey
11 Managing irrigation projects and defining hydrologic systems - U.S. Bureau of Reclamation
12 Water rights administration and accounting - Wyoming State Engineer
13 U.S. Bureau of Reclamation
14 Managing flood control projects and forecasting river flows - U.S. Army Corps of Engineers
15 U.S. Army Corps of Engineers
16 Studies of Wyoming agriculture - Wyoming Department of Agriculture
17 U.S. Bureau of Indian Affairs

Table 2.--Data use, sources of station funding, and data availability--Continued

Station number	Uses									Sources of funding				Availability
	Regional hydrology	Hydrologic systems	Legal obligations	Planning and design	Project operation	Hydrologic forecasts	Water-quality monitoring	Research	Other	Federal program	OFA program	Federal-State cooperative program	Other non-Federal	
06233900		1,9,16		4			7				17			A
06235500		1,9,11,16		4	14		7				15			A
06259000		1,9,11, 12,16		4	11,12,14	5,6,14	7,11,18				13			A,P
06260000	1	11,12			11,12		11				13			A
06260400		1,11,12		4	11,12		11				13			A
06267400	1	2,16										8		A
06268500	1	16,19					7,16,19					20		A
06270000	1	2,19				5,6						8		A,P

1 Providing general hydrologic knowledge and defining trends
2 Defining hydrologic systems - Wyoming State Engineer
4 Feasibility studies of water projects - Wyoming Water Development Commission
5 Flood and flow forecasting - National Weather Service
6 Flow forecasting and project operation - Soil Conservation Service
7 Water quality studies - Wyoming Department of Environmental Quality
8 Wyoming State Engineer
9 Managing Indian Reservation resources - Bureau of Indian Affairs
11 Managing irrigation projects and defining hydrologic systems - U.S. Bureau of Reclamation
12 Water rights administration and accounting - Wyoming State Engineer
13 U.S. Bureau of Reclamation
14 Managing flood control projects and forecasting river flows - U.S. Army Corps of Engineers
15 U.S. Army Corps of Engineers
16 Studies of Wyoming agriculture - Wyoming Department of Agriculture
17 U.S. Bureau of Indian Affairs
18 National stream-quality accounting network
19 Managing lands owned by Federal Government - U.S. Bureau of Land Management
20 Wyoming Department of Environmental Quality

Table 2.--Data use, sources of station funding, and data availability--Continued

Station number	Uses									Sources of funding				Availability
	Regional hydrology	Hydrologic systems	Legal obligations	Planning and design	Project operation	Hydrologic forecasts	Water-quality monitoring	Research	Other	Federal program	OFA program	Federal-State cooperative program	Other non-Federal	
06274300		1					7					20		A
06275000	1	3,12		4	6,12							8		A
06276500		1,12		4	12,14	5,6,14	7					8		A,P
06278300	1	2		4	6							8		A
06278500	1	12		4	12	5,6						8		A,P
06279500		1,2,11,16		4	11,14		7,11			10				A,T,P
06279850	1	3,21									22			A
06280000	1	2,3,11			6,11		7,11			10				A
06280300	1	2,3				5,6				10				A,P
06281000		1,2,11		4	6,11		11					8		A,P
06281400		1,11			11					10				A

1 Providing general hydrologic knowledge and defining trends
2 Defining hydrologic systems - Wyoming State Engineer
3 Managing National forest land - U.S. Forest Service
4 Feasibility studies of water projects - Wyoming Water Development Commission
5 Flood and flow forecasting - National Weather Service
6 Flow forecasting and project operation - Soil Conservation Service
7 Water quality studies - Wyoming Department of Environmental Quality
8 Wyoming State Engineer
10 Direct allocation to U.S. Geological Survey
11 Managing irrigation projects and defining hydrologic systems - U.S. Bureau of Reclamation
12 Water rights administration and accounting - Wyoming State Engineer
14 Managing flood control projects and forecasting river flows - U.S. Army Corps of Engineers
16 Studies of Wyoming agriculture - Wyoming Department of Agriculture
20 Wyoming Department of Environmental Quality
21 Managing National Parks - National Park Service
22 National Park Service

Table 2.--Data use, sources of station funding, and data availability--Continued

Station number	Uses									Sources of funding				Availability
	Regional hydrology	Hydrologic systems	Legal obligations	Planning and design	Project operation	Hydrologic forecasts	Water-quality monitoring	Research	Other	Federal program	OFA program	Federal-State cooperative program	Other non-Federal	
06282000		1,11		4	11,14	5,6,14	7,11				13			A,T,P
06284500		1,11,16			11		7,11			10				A
06284800		1,11,16,19			11		11,19			10				A
06285100	1	1,11,12,16		4	11,12		7,11			10				A
06285400		1,11,16			11		11			10				A
06288600	1			4	6							23		A
06288700	1			4								23		A
06288975	1			4								23		A
06288990	1			4								23		A
06289100	1			4								23		A
06289600	1			4								23		A
06289820	1			4								23		A
06289870	1			4								23		A
06291200	1			4								23		A

1 Providing general hydrologic knowledge and defining trends
4 Feasibility studies of water projects - Wyoming Water Development Commission
5 Flood and flow forecasting - National Weather Service
6 Flow forecasting and project operation - Soil Conservation Service
7 Water quality studies - Wyoming Department of Environmental Quality
10 Direct allocation to U.S. Geological Survey
11 Managing irrigation projects and defining hydrologic systems - U.S. Bureau of Reclamation
12 Water rights administration and accounting - Wyoming State Engineer
13 U.S. Bureau of Reclamation
14 Managing flood control projects and forecasting river flows - U.S. Army Corps of Engineers
16 Studies of Wyoming agriculture - Wyoming Department of Agriculture
19 Managing lands owned by Federal Government - U.S. Bureau of Land Management
23 Wyoming Water Development Commission

Table 2.--Data use, sources of station funding, and data availability--Continued

Station number	Uses									Sources of funding				Availability
	Regional hydrology	Hydrologic systems	Legal obligations	Planning and design	Project operation	Hydrologic forecasts	Water-quality monitoring	Research	Other	Federal program	OFA program	Federal-State cooperative program	Other non-Federal	
06298000	1	1,11,12, 16,24		4	12	5,6	7					8		A,P
06299500	1	12,16			12							8		A
06300500	1	12,16			6,12							8		A
06301500	1	12,16			6,12							8		A
06302000		1,12,16			6,12							8		A
06303500	1	12,16			12							8		A
06305500		1,12,16					7					8		A
06309200	1	2,16,19		4	5,6							8		A,P
06309450	1	2		4								8		A
06309460	1	2		4								8		A
06309500		1		4								23		A
06311000	1	12,16,19		4	12	5,6						8		A,P
06311060	1	2,16			6							8		A

1 Providing general hydrologic knowledge and defining trends
2 Defining hydrologic systems - Wyoming State Engineer
4 Feasibility studies of water projects - Wyoming Water Development Commission
5 Flood and flow forecasting - National Weather Service
6 Flow forecasting and project operation - Soil Conservation Service
7 Water quality studies - Wyoming Department of Environmental Quality
8 Wyoming State Engineer
11 Managing irrigation projects and defining hydrologic systems - U.S. Bureau of Reclamation
12 Water rights administration and accounting - Wyoming State Engineer
16 Studies of Wyoming agriculture - Wyoming Department of Agriculture
19 Managing lands owned by Federal Government - U.S. Bureau of Land Management
23 Wyoming Water Development Commission
24 National index station

Table 2.--Data use, sources of station funding, and data availability--Continued

Station number	Uses									Sources of funding				Availability
	Regional hydrology	Hydrologic systems	Legal obligations	Planning and design	Project operation	Hydrologic forecasts	Water-quality monitoring	Research	Other	Federal program	OFA program	Federal-State cooperative program	Other non-Federal	
06311400	1	12,16		4	12							8		A
06313000	1	16,19		4	6		19				25			A
06313400		16,19					7,19				25			A
06313500		1,16,19		4			7,19				25			A
06313700	1	2										8		A
06313950	1	2			6							26		A
06314000	1	2			6							26		A
06317000		1,2,11,16		4			7,11					8		A,P
06318500	1	2,27				5,6						28		A,P
06320000		1,12			12	5,6						8		A,P
06320500		1,12				6						8		A

1 Providing general hydrologic knowledge and defining trends
2 Defining hydrologic systems - Wyoming State Engineer
4 Feasibility studies of water projects - Wyoming Water Development Commission
5 Flood and flow forecasting - National Weather Service
6 Flow forecasting and project operation - Soil Conservation Service
7 Water quality studies - Wyoming Department of Environmental Quality
8 Wyoming State Engineer
11 Managing irrigation projects and defining hydrologic systems - U.S. Bureau of Reclamation
12 Water rights administration and accounting - Wyoming State Engineer
16 Studies of Wyoming agriculture - Wyoming Department of Agriculture
19 Managing lands owned by Federal Government - U.S. Bureau of Land Management
25 U.S. Bureau of Land Management
26 Wyoming Economic Development and Stabilization Board (Agency name changed, effective 1985)
27 Study water supply - City of Buffalo
28 City of Buffalo

Table 2.--Data use, sources of station funding, and data availability--Continued

Station number	Uses									Sources of funding				Availability
	Regional hydrology	Hydrologic systems	Legal obligations	Planning and design	Project operation	Hydrologic forecasts	Water-quality monitoring	Research	Other	Federal program	OFA program	Federal-State cooperative program	Other non-Federal	
06323000		1,2		4		5,6						8		A,P
06324970		1,2,16,19										8		A
06376300	1	2										8		A
06394000	1				6					10				A
06427500		1,11,12,16			6,11,12	14					13			A,P
06620000	1	12,16,29		4	12,29	5,6				10				A,T,P
06622700	1	12			12							8		A
06622900		1,12			12							8		A
06623800	1	1,12,16, 30,31			6,12,32		30			10				A,P
06625000	1	12,16,31		4	12,32	5,6	7					8		A,P

1 Providing general hydrologic knowledge and defining trends
2 Defining hydrologic systems - Wyoming State Engineer
4 Feasibility studies of water projects - Wyoming Water Development Commission
5 Flood and flow forecasting - National Weather Service
6 Flow forecasting and project operation - Soil Conservation Service
7 Water quality studies - Wyoming Department of Environmental Quality
8 Wyoming State Engineer
10 Direct allocation to U.S. Geological Survey
11 Managing irrigation projects and defining hydrologic systems - U.S. Bureau of Reclamation
12 Water rights administration and accounting - Wyoming State Engineer
13 U.S. Bureau of Reclamation
14 Managing flood control projects and forecasting river flows - U.S. Army Corps of Engineers
16 Studies of Wyoming agriculture - Wyoming Department of Agriculture
19 Managing lands owned by Federal Government - U.S. Bureau of Land Management
29 Water rights administration - State of Nebraska
30 Hydrologic bench-mark station
31 Evaluate wildlife resources - Wyoming Game and Fish Department
32 Water supply accounting - City of Cheyenne

Table 2.--Data use, sources of station funding, and data availability--Continued

Station number	Uses									Sources of funding				Availability
	Regional hydrology	Hydrologic systems	Legal obligations	Planning and design	Project operation	Hydrologic forecasts	Water-quality monitoring	Research	Other	Federal program	OFA program	Federal-State cooperative program	Other non-Federal	
06628900	1	12			6,12							8		A
06630000		1,11,12, 16,24,29			11,12,29,32	5,6,14	7					8		A,T,P
06632400	1	12			12	5,6						8		A,P
06634600		1,2					7					8		A
06635000	1	1,11,12,29			6,11,12,29		7					8		A,P
06637750	1	2										8		A
06638090		1,2,31										8		A
06639000	1	11,12,29		4	6,11,12,29		7					8		A,P
06642000	1	1,11,12, 16,29,31		4	6,11,12,29		7,18					8		A,P

1 Providing general hydrologic knowledge and defining trends
2 Defining hydrologic systems - Wyoming State Engineer
4 Feasibility studies of water projects - Wyoming Water Development Commission
5 Flood and flow forecasting - National Weather Service
6 Flow forecasting and project operation - Soil Conservation Service
7 Water quality studies - Wyoming Department of Environmental Quality
8 Wyoming State Engineer
11 Managing irrigation projects and defining hydrologic systems - U.S. Bureau of Reclamation
12 Water rights administration and accounting - Wyoming State Engineer
14 Managing flood control projects and forecasting river flows - U.S. Army Corps of Engineers
16 Studies of Wyoming agriculture - Wyoming Department of Agriculture
18 National stream-quality accounting network
24 National index station
29 Water rights administration - State of Nebraska
31 Evaluate wildlife resources - Wyoming Game and Fish Department
32 Water supply accounting - City of Cheyenne

Table 2.--Data use, sources of station funding, and data availability--Continued

Station number	Uses									Sources of funding				Availability
	Regional hydrology	Hydrologic systems	Legal obligations	Planning and design	Project operation	Hydrologic forecasts	Water-quality monitoring	Research	Other	Federal program	OFA program	Federal-State cooperative program	Other non-Federal	
06642650	1	16,19					19				25			A
06643500		1,16,19,29			29		7,19				25			A
06646600	1	11,12,16,31		4	11,12	5,6						8		A,P
06646800		1,11,12,16,29,31		4	11,12,29							8		A,T,P
06647500	1	2										8		A
06647800	1	2			6							26		A
06647810	1	2										26		A
06647890	1	2										26		A
06647900	1	2										26		A
06647910	1	2										26		A

1 Providing general hydrologic knowledge and defining trends
2 Defining hydrologic systems - Wyoming State Engineer
4 Feasiblity studies of water projects - Wyoming Water Development Commission
5 Flood and flow forecasting - National Weather Service
6 Flow forecasting and project operation - Soil Conservation Service
7 Water quality studies - Wyoming Department of Environmental Quality
8 Wyoming State Engineer
11 Managing irrigation projects and defining hydrologic systems - U.S. Bureau of Reclamation
12 Water rights administration and accounting - Wyoming State Engineer
16 Studies of Wyoming agriculture - Wyoming Department of Agriculture
19 Managing lands owned by Federal Government - U.S. Bureau of Land Management
25 U.S. Bureau of Land Management
26 Wyoming Economic Development and Stabilization Board (Agency name changed, effective 1985)
29 Water rights administration - State of Nebraska
31 Evaluate wildlife resources - Wyoming Game and Fish Department

Table 2.--Data use, sources of station funding, and data availability--Continued

Station number	Uses									Sources of funding				Availability
	Regional hydrology	Hydrologic systems	Legal obligations	Planning and design	Project operation	Hydrologic forecasts	Water-quality monitoring	Research	Other	Federal program	OFA program	Federal-State cooperative program	Other non-Federal	
06647920	1	2										26		A
06649000		1,12,29			12,29	5,6						8		A,P
06652000		1,11,12, 16,29		4	11,12,14,29	14	7					8		A,P
06652800		1,11,12, 16,29,31			6,11,12,29		7					8		A,P
06656000		1,11,12, 16,29		4	6,11,12,14, 29	14	7					8		A,P
06657000		1,11,12, 16,29,31		4	11,12,29							8		A,P
06659500		1,12,16, 29,31		4	12,29	5,6						8		A,P
06659580	1	12,16		4	12							8		A
06661000	1	12,29		4	12,29	5,6						8		A,P

1 Providing general hydrologic knowledge and defining trends
2 Defining hydrologic systems - Wyoming State Engineer
4 Feasibility studies of water projects - Wyoming Water Development Commission
5 Flood and flow forecasting - National Weather Service
6 Flow forecasting and project operation - Soil Conservation Service
7 Water quality studies - Wyoming Department of Environmental Quality
8 Wyoming State Engineer
11 Managing irrigation projects and defining hydrologic systems - U.S. Bureau of Reclamation
12 Water rights administration and accounting - Wyoming State Engineer
14 Managing flood control projects and forecasting river flows - U.S. Army Corps of Engineers
16 Studies of Wyoming agriculture - Wyoming Department of Agriculture
26 Wyoming Economic Development and Stabilization Board (Agency name changed, effective 1985)
29 Water rights administration - State of Nebraska
31 Evaluate wildlife resources - Wyoming Game and Fish Department

Table 2.--Data use, sources of station funding, and data availability--Continued

Station number	Uses									Sources of funding				Availability
	Regional hydrology	Hydrologic systems	Legal obligations	Planning and design	Project operation	Hydrologic forecasts	Water-quality monitoring	Research	Other	Federal program	OFA program	Federal-State cooperative program	Other non-Federal	
06661585		1,12,16,29		4	12,29							8		A
06662000		1,12,16,29		4	12,29							8		A
06664400	1	12,16			12							8		A
06665790		1,12			12							8		A
06670500		1,11,12, 16,29,31		4	11,12,29							8		A,T,P
06671000		1,12,16			12							8		A
06672500		1,12,16,29			12,29							8		A,P
06673500		1,12,16,29			12,29							8		A
06674500		1,11,12, 16,29		4	6,11,12,14, 29	14	7					8		A,T,P
09188500	1	2,16,19				5,6	7					8		A,T,P

1 Providing general hydrologic knowledge and defining trends
2 Defining hydrologic systems - Wyoming State Engineer
4 Feasibility studies of water projects - Wyoming Water Development Commission
5 Flood and flow forecasting - National Weather Service
6 Flow forecasting and project operation - Soil Conservation Service
7 Water quality studies - Wyoming Department of Environmental Quality
8 Wyoming State Engineer
11 Managing irrigation projects and defining hydrologic systems - U.S. Bureau of Reclamation
12 Water rights administration and accounting - Wyoming State Engineer
14 Managing flood control projects and forecasting river flows - U.S. Army Corps of Engineers
16 Studies of Wyoming agriculture - Wyoming Department of Agriculture
19 Managing lands owned by Federal Government - U.S. Bureau of Land Management
29 Water rights administration - State of Nebraska
31 Evaluate wildlife resources - Wyoming Game and Fish Department
33 Administrating Colorado River Compact

Table 2.--Data use, sources of station funding, and data availability--Continued

Station number	Uses									Sources of funding				Availability
	Regional hydrology	Hydrologic systems	Legal obligations	Planning and design	Project operation	Hydrologic forecasts	Water-quality monitoring	Research	Other	Federal program	OFA program	Federal-State cooperative program	Other non-Federal	
09189495	1	12		4	12							23		A
09189550	1	12		4								23		A
09190000	1	12		4	6,12							23		A
09191300	1	12		4	12							23		A
09196500	1	2,19	33		6					10				A
09203000		1,12,16,19			12							8		A
09205000		1,2,16,19				5	19					8		A,T,P
09205490	1	12,16		4	12							23		A
09208400	1	12		4	12							23		A
09209400	1	2,16,19				5,6	19					8		A,P
09210500	1	12,16	33		12					10				A
09211200		1,12,16,19			6,11,12	11	11,19				13			A,P
09212500	1	2,16					7					8		A

1 Providing general hydrologic knowledge and defining trends
2 Defining hydrologic systems - Wyoming State Engineer
4 Feasibility studies of water projects - Wyoming Water Development Commission
5 Flood and flow forecasting - National Weather Service
6 Flow forecasting and project operation - Soil Conservation Service
7 Water quality studies - Wyoming Department of Environmental Quality
8 Wyoming State Engineer
10 Direct allocation to U.S. Geological Survey
11 Managing irrigation projects and defining hydrologic systems - U.S. Bureau of Reclamation
12 Water rights administration and accounting - Wyoming State Engineer
13 U.S. Bureau of Reclamation
16 Studies of Wyoming agriculture - Wyoming Department of Agriculture
19 Managing lands owned by Federal Government - U.S. Bureau of Land Management
23 Wyoming Water Development Commission
33 Administrating Colorado River Compact

Table 2.--Data use, sources of station funding, and data availability--Continued

Station number	Uses									Sources of funding				Availability
	Regional hydrology	Hydrologic systems	Legal obligations	Planning and design	Project operation	Hydrologic forecasts	Water-quality monitoring	Research	Other	Federal program	OFA program	Federal-State cooperative program	Other non-Federal	
09213500		1,12,16,19			12	5,11						8		A
09215550		12,15,16, 19,31			11,12	5,11	7,11,19				13			A,P
09216050	1	1,2,16,19, 31			11		7,11,19				13			A,P
09217000		1,2,19,34	33		11	5,6	7,11,18,19			10				A,T,P
09217900	1	34										35		A
09218500		1,2,34				5,6						8		A,P
09220000	1	12,34		4	11,12							8		A
09223000	1	31	33	4		5,6				10				A,P
09224700	1		33			5				10				A,T,P

1 Providing general hydrologic knowledge and defining trends
2 Defining hydrologic systems - Wyoming State Engineer
4 Feasibility studies of water projects - Wyoming Water Development Commission
5 Flood and flow forecasting - National Weather Service
6 Flow forecasting and project operation - Soil Conservation Service
7 Water quality studies - Wyoming Department of Environmental Quality
8 Wyoming State Engineer
10 Direct allocation to U.S. Geological Survey
11 Managing irrigation projects and defining hydrologic systems - U.S. Bureau of Reclamation
12 Water rights administration and accounting - Wyoming State Engineer
13 U.S. Bureau of Reclamation
16 Studies of Wyoming agriculture - Wyoming Department of Agriculture
18 National stream-quality accounting network
19 Managing lands owned by Federal Government - U.S. Bureau of Land Management
31 Evaluate wildlife resources - Wyoming Game and Fish Department
33 Administrating Colorado River Compact
34 Water rights administration - Utah State Engineer
35 Utah State Engineer

Table 2.--Data use, sources of station funding, and data availability--Continued

Station number	Uses									Sources of funding				Availability
	Regional hydrology	Hydrologic systems	Legal obligations	Planning and design	Project operation	Hydrologic forecasts	Water-quality monitoring	Research	Other	Federal program	OFA program	Federal-State cooperative program	Other non-Federal	
09229500		1				5,6				10				A,P
10016900	1			36								37		A,P

1 Providing general hydrologic knowledge and defining trends
5 Flood and flow forecasting - National Weather Service
6 Flow forecasting and project operation - Soil Conservation Service
10 Direct allocation to U.S. Geological Survey
36 Flood control project - Uinta County
37 Uinta County

REFERENCES CITED

Benson, M. A., and Carter, R. W., 1973, A national study of the streamflow data-collection program: U.S. Geological Survey Water-Supply Paper 2028, 44 p.

Druse, S. A., Schuetz, J. R., and Rucker, S. J., IV, 1984, Water Resources Data for Wyoming, water year 1983: U.S. Geological Survey Water-Data Paper WY-83-1, 508 p.

Engel, G. B., Wahl, K. L., and Boohar, J. A., 1984, Cost-effectiveness of the stream-gaging program in Nebraska: U.S. Geological Survey Water-Resources Investigations Report 84-4098, 77 p.

Fontaine, R. A., Moss, M. E., Smath, J. A., and Thomas, W. O., Jr., 1984, Cost-effectiveness of the stream-gaging program in Maine: U.S. Geological Survey Water-Supply Paper 2244, 39 p.

Green, S. L., 1983, Water-resources investigations of the U.S. Geological Survey in Wyoming, fiscal year 1983: U.S. Geological Survey Open-File Report 83-770, 120 p.

U.S. Geological Survey, 1984, National water summary 1983 - Hydrologic events and issues: U.S. Geological Survey Water-Supply Paper 2250, 243 p.

Wahl, K. L., 1970, A proposed streamflow data program for Wyoming: U.S. Geological Survey Open-File Report, 44 p.