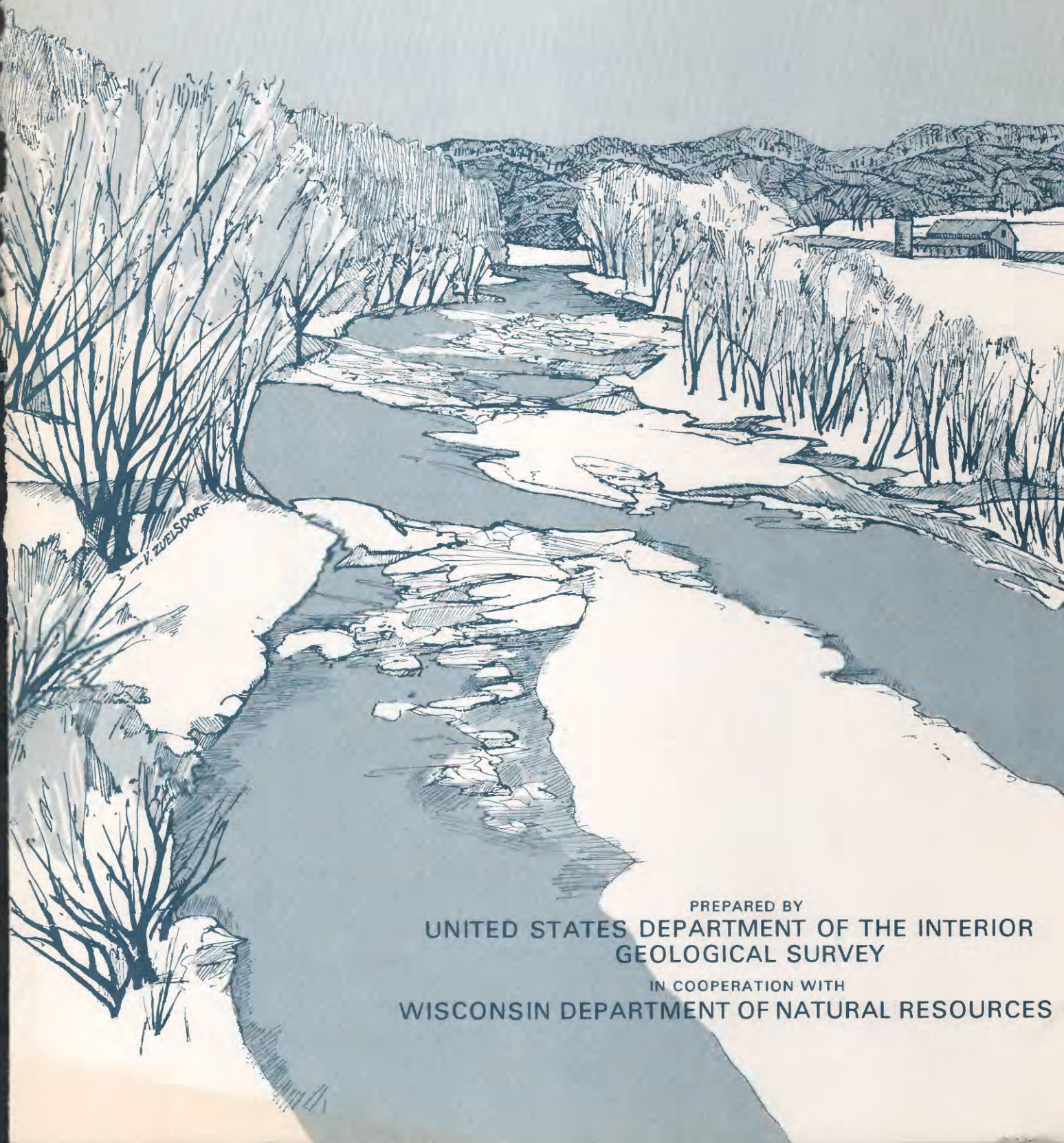


Low-Flow Characteristics of Streams in the Pecatonica-Sugar River Basin, Wisconsin



PREPARED BY
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
IN COOPERATION WITH
WISCONSIN DEPARTMENT OF NATURAL RESOURCES

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ABSTRACT

The purpose of this report is to describe low-flow characteristics of streams in the Pecatonica-Sugar River basin, Wisconsin, where streamflow data have been collected, and to present equations for estimating low-flow characteristics at ungaged sites.

Low-flow characteristics were estimated for 11 gaging stations, 25 low-flow partial-record stations, and 207 miscellaneous sites in the basin. Estimates of flow duration were made at the 11 gaging stations. Also, low-flow discharge measurements are listed for 16 miscellaneous sites where insufficient data were available to estimate low-flow characteristics.

Four equations are provided to estimate low-flow characteristics at ungaged sites and at sites where one base-flow discharge measurement is available. The equations were determined from multiple-regression analyses that related low-flow characteristics at gaging stations and partial-record stations to basin characteristics. Drainage area and base-flow index were the most significant parameters for these analyses.

The standard error of estimate of the 7-day, 10-year low flow ($SE_{7,10}$) was provided. The average $SE_{7,10}$ in the basin ranged from 10 to 64 percent and was dependent on the amount of low-flow data available.

INTRODUCTION

The purpose of this report is to describe low-flow characteristics of streams in the Pecatonica-Sugar River basin, Wisconsin, where streamflow data have been collected, and to present equations for estimating low-flow characteristics at ungaged sites.

This study was in cooperation with the Wisconsin Department of Natural Resources. This report is part of a series of twelve planned reports to describe low-flow characteristics of the major basins in Wisconsin (fig. 1).

The report includes: estimates of the magnitude and frequency of recurrence of low flow for sites where systematic streamflow information has been collected, discharge values from low-flow discharge measurements at numerous sites throughout the basin, and a method to estimate low-flow characteristics at ungaged sites and at sites where one base-flow measurement has been made.



Figure 1. Location of the Pecatonica-Sugar River Basin in Wisconsin.

In recent years, a great demand has been placed on water resources in Wisconsin by increased multiple uses such as: maintenance of fish and wildlife habitat, irrigation of crops, dilution and assimilation of wastes, production of hydropower, construction of impoundments for real-estate developments, and maintenance of adequate flow for canoeing. This increased demand requires an accurate determination of low-flow characteristics of streams to insure proper consideration of all users.

Low-flow-frequency and flow-duration analyses are presented for 11 current and discontinued gaging stations in the Pecatonica-Sugar River basin. These analyses have been completed using data through water year 1975. Low-flow frequency data are included in the report for 25 low-flow partial-record stations and for 207 miscellaneous sites.

Previous reports by Gebert and Holmstrom (1974) and Gebert (1971) contain preliminary information on low-flow characteristics of this basin.

For the convenience of readers who may want to use metric units, the data may be converted by using the following factors:

<u>Multiply</u>	<u>By</u>	<u>To obtain</u>
mile (mi)	1.609	kilometer (km)
foot (ft)	0.3048	meter (m)
square mile (mi ²)	2.59	square kilometer (km ²)
cubic foot per second (ft ³ /s)	0.02832	cubic meter per second (m ³ /s)
foot per mile (ft/mi)	0.1894	meter per kilometer (m/km)
inch (in.)	2.54	centimeter (cm)
cubic foot per second per square mile {(ft ³ /s)/mi ² }	0.01094	cubic meter per second per square kilometer {(m ³ /s)/km ² }

BASIN DESCRIPTION

The Pecatonica-Sugar River basin is in southwestern Wisconsin. It includes the entire drainage areas of the Grant, Platte, Galena, Pecatonica, and Sugar Rivers. The drainage area of the basin is approximately 2,850 mi², or about 5 percent of the State.

The basin is mainly a rural agricultural area with a population of about 112,500 people in 1970 (Hindall and Skinner, 1973). The largest cities are Platteville and Monroe with 1970 populations of 9,599 and 8,654, respectively. The economy is primarily agricultural consisting largely of dairy farming and beef production. Industrial development is generally light in the basin with the major industries being production of dairy and beef products. There also is some small-scale zinc-lead mining.

The mean annual precipitation for the basin is 32.8 in. (U.S. Dept. Commerce, 1931-60), with about 67 percent of this occurring from April

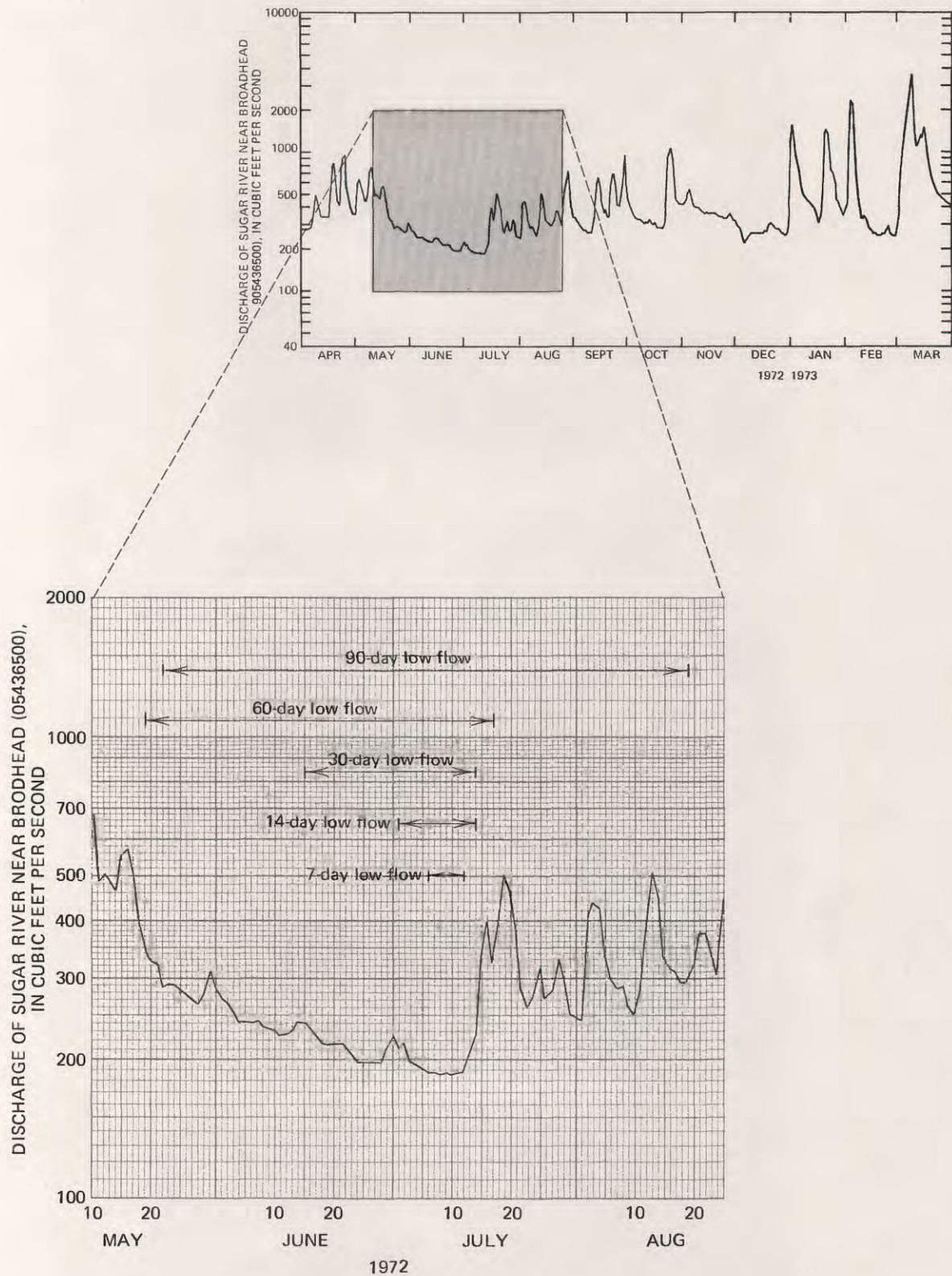


Figure 2. Daily discharge of Sugar River near Brodhead for 1973 climatic year showing annual low-flow periods for various numbers of days.

through July. Snowfall is about 12 percent of the mean annual precipitation. Hindall and Skinner (1973, sheet 1) found that the mean annual runoff from the basin is about 8.9 in. and that the mean annual evapotranspiration is 23.5 in.

The topography differs between the eastern one-fifth and the western four-fifths due to the difference in weathering and erosion. The eastern part of the basin consists of rolling hills and wide valley floors that are formed by unconsolidated glacial and alluvial deposits overlying bedrock. In contrast, the western part has rugged, steep-walled valleys and high local relief caused by streams cutting through the sedimentary bedrock. This area is part of the "Driftless Area" or unglaciated area of Wisconsin. There is no drift except reworked sand and gravel deposits in the Mississippi River valley and thin glacial lake and alluvial deposits in some of the tributary valleys. Types and locations of glacial deposits are described by Hindall and Skinner (1973, sheet 1).

LOW-FLOW CHARACTERISTICS

Low flow generally refers to the low range of stream discharge. A probability of occurrence and a time period can be specified for a more precise definition. Low flow is usually ground-water runoff or base flow, although a 30-, 60-, or 90-day low flow could contain some direct or storm runoff.

A typical low-flow period is illustrated by the discharge hydrograph for the Sugar River near Brodhead gaging station (fig. 2). The annual 90-day low flow occurred from May 22 to August 19. Although this was the lowest flow for 90 consecutive days during the year, about eight rises in discharge during the 90-day period indicate substantial direct runoff. Except for these rises, the remainder of streamflow for the period was predominantly base flow.

Table 1 contains low-flow data for 259 sites in the Pecatonica-Sugar River basin. Each site is identified by station number and station name. The site location, drainage area, type of site, and other pertinent data are included. Data included for each site depend upon the type of site: gaging station, low-flow partial-record station, or miscellaneous site. The locations of the sites are shown on plate 1.

ANALYTICAL TECHNIQUES

The low-flow characteristics in table 1 were determined by three methods of analysis depending on the types of data available: (1) continuous record of daily streamflows (continuous-record gaging stations); (2) 9 to 33 base-flow measurements (low-flow partial-record stations); (3) 1 to 6 base-flow discharge measurements (miscellaneous sites).

GAGING STATIONS

Low-flow characteristics of a stream where systematic streamflow records have been collected can be determined by flow-duration analysis or frequency analysis. The two analyses serve different purposes. The flow-duration curve indicates the percentage of time that a daily mean flow exceeds a given discharge, and the low-flow frequency curve indicates the probability that a 7, 14, 30, 60, or 90 consecutive day mean flow will be exceeded in any given year. The recommended and more generally used analysis for low-flow applications is the low-flow frequency analysis. In the Pecatonica-Sugar River basin the annual minimum 7-day mean flow below which the flow will fall on the average of once in 2 years ($Q_{7,2}$) is equal to about the 88 percent flow duration. The annual minimum 7-day mean flow below which the flow will fall on an average of once in 10 years ($Q_{7,10}$) is equal to the 99.1 percent flow duration.

Low-flow frequency and flow-duration analyses were completed for all continuous-record gaging stations that have 10 or more years of record. Values for the magnitude and frequency of annual low flows for 7, 14, 30,

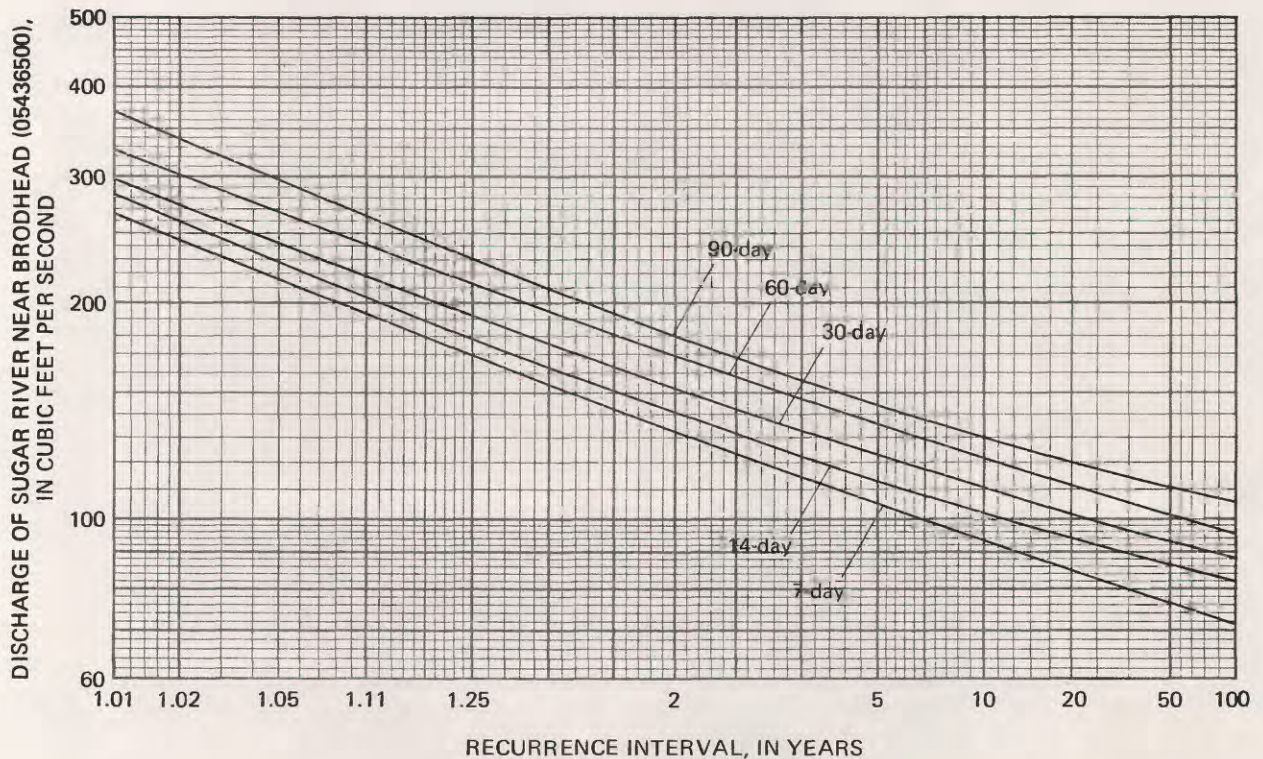


Figure 3. Low-flow frequency curves showing the magnitude and frequency of the annual minimum mean discharge for the indicated number of consecutive days at Sugar River.

60, and 90 consecutive days are listed in table 1. Flow-duration values showing the percentage of time that specified discharges were exceeded also are shown in table 1.

The low-flow frequency characteristics were determined from the daily discharge records using a log-Pearson Type III probability distribution or a plotting position analysis (Riggs, 1972). If results of the two analyses were substantially different, the plotting position analysis was used. Figure 3 is an example of a low-flow frequency curve for the Sugar River near Brodhead gaging station, and figure 4 is a flow-duration curve for the same site.

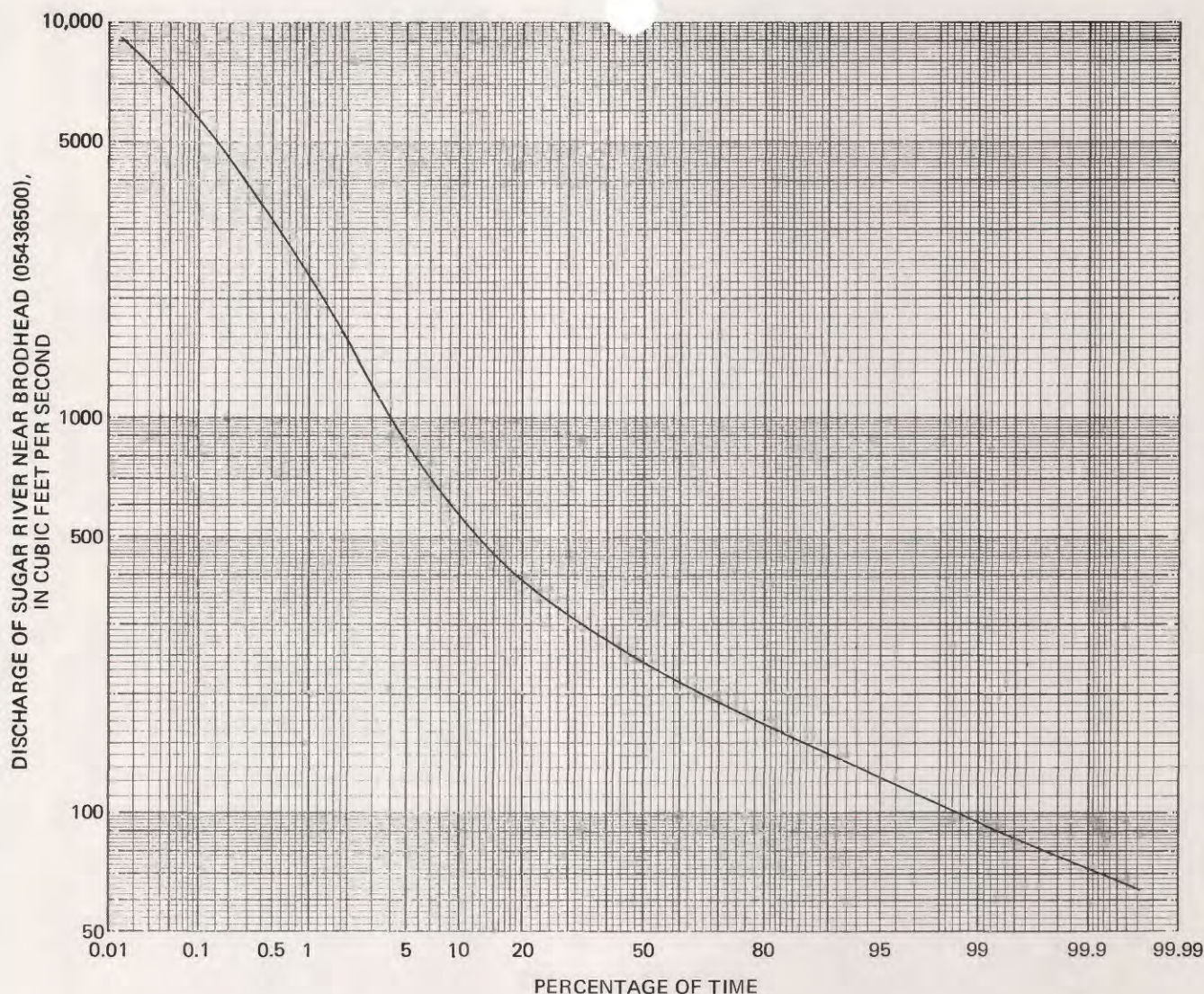


Figure 4. Flow-duration curve showing percentage of time a given discharge was exceeded for Sugar River.

For gaging stations that have insufficient data for low-flow frequency analysis or flow duration, the low-flow characteristics were determined by a procedure similar to that outlined in the following section for low-flow partial-record stations.

LOW-FLOW PARTIAL-RECORD STATIONS

Low-flow characteristics determined for low-flow partial-record stations are the $Q_{7,2}$ and $Q_{7,10}$. Estimates of $Q_{7,2}$ and $Q_{7,10}$ are presented in table 1 for 25 low-flow partial-record stations. Characteristics were determined graphically from the relationship established by plotting 9 to

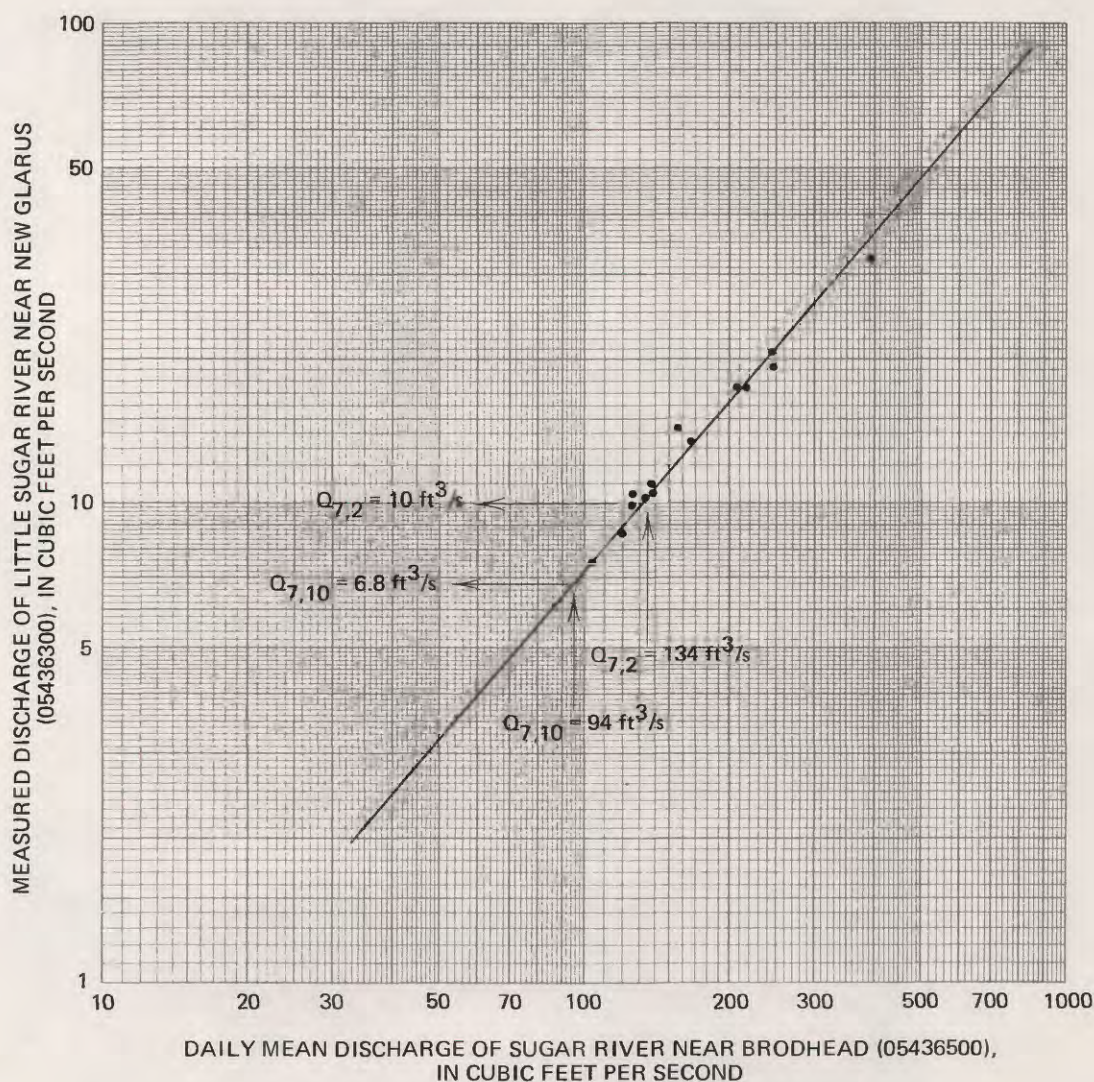


Figure 5. Method of estimating $Q_{7,2}$ and $Q_{7,10}$ at low-flow partial-record stations.

33 base-flow discharge measurements at low-flow partial-record stations against concurrent discharges at continuous-record gaging stations in the area (Gebert, 1971). The $Q_{7,2}$ and $Q_{7,10}$ at the continuous-record gaging station were then used to estimate $Q_{7,2}$ and $Q_{7,10}$ for the partial-record station. Figure 5 is an example of this type of analysis for Little Sugar River near New Glarus.

MISCELLANEOUS SITES

Base-flow measurements have been obtained at 223 miscellaneous sites in the Pecatonica-Sugar River basin as part of other water-resource investigations. Low-flow characteristics were estimated at 63 sites (table 1) which had at least three base-flow measurements and for which a well-defined relationship existed between the measured discharge and the concurrent daily flow at a nearby gaging station. Estimates of $Q_{7,2}$ and $Q_{7,10}$ were made by the same type of analysis that was used for partial-record stations (Gebert and Holmstrom, 1974). Figure 6 illustrates this type of analysis for East Fork Raccoon Creek. The slope of the relation line for miscellaneous-measurement sites was compared to established relation lines of nearby low-flow partial-record stations and other miscellaneous sites for uniformity. Generally the relation line should have approximately the same slope if the factors that influence low flow are uniform for the area. If the relation line at the site being studied was defined by three discharge measurements that had significant scatter, the line was adjusted to agree more closely with a better-defined relation line at a nearby low-flow partial-record station.

The low-flow characteristics at 144 miscellaneous sites with 1 or 2 discharge measurements were determined by use of regression equations and are listed in table 1.

Low-flow characteristics were not estimated at 16 miscellaneous sites for the following reasons: discharge measurements contained substantial effluent from industrial or sewage-treatment-plant discharge; the site had a drainage area greater than 150 mi^2 with less than 3 discharge measurements; or regression equations provided estimates that were obviously poor when compared to existing data at nearby sites. Base-flow discharge measurements are listed in table 1 for these sites.

ACCURACY

The low-flow characteristics given in table 1 are estimates of flow expected in the future. Low-flow characteristics like other streamflow characteristics are only estimates, with their true value being difficult or impossible to determine. The estimates are based on data collected at each site and analyzed by several methods. Each estimate has an error associated with it, dependent on the amount and kind of data, and the analytical method. Two major sources of error are the time-sampling error in streamflow records and the error in the analytical method.

The accuracy of the low-flow estimates are approximated by the standard error of estimate. The standard error associated with the $Q_{7,2}$ estimate ($SE_{7,2}$) and $Q_{7,10}$ estimate ($SE_{7,10}$) are presented in table 1 for each site. The standard error of estimate given in table 1 is a range such that the values estimated by the method are within this range at 67 percent of the sites and are within twice this range at about 95 percent of the sites.

The methods used to obtain the standard errors are not precise and the standard errors presented in table 1 should be used as a relative guide to indicate a general level of confidence. In addition, there may be larger errors associated with low-flow estimates that approach 0 ft^3/s .

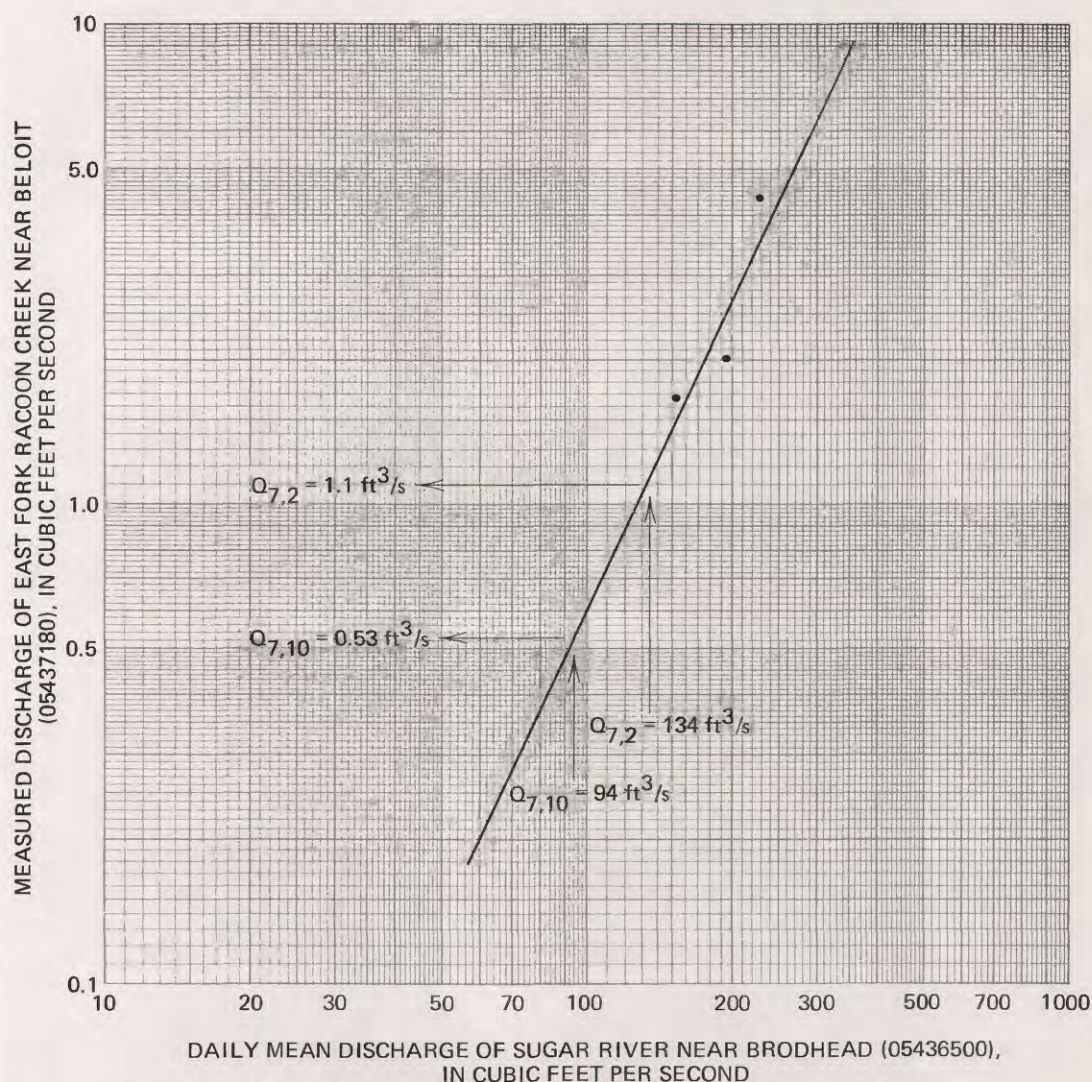


Figure 6. Method of estimating $Q_{7,2}$ and $Q_{7,10}$ at miscellaneous sites.

GAGING STATIONS

Accuracy of low-flow characteristics at gaging stations was determined according to Hardison (1969). An average $SE_{7,2}$ of 7 percent and $SE_{7,10}$ of 10 percent was determined for the 10 gaging stations in the Pecatonica-Sugar River basin that had greater than 10 years of unregulated-streamflow record.

A common length of record was used to compare the accuracy of low-flow characteristics determined from recorded discharge at gaging stations in the Pecatonica-Sugar River basin with that of gaging stations throughout the State. This analysis assumed that 10 years of record was available at each gaging station to determine the $Q_{7,10}$ discharge. An $SE_{7,10}$ of 16 percent was determined for the Pecatonica-Sugar River basin, which was the same as the average $SE_{7,10}$ for gaging stations throughout the State.

LOW-FLOW PARTIAL-RECORD STATIONS

The accuracy of low-flow characteristics at low-flow partial-record stations was determined by a method developed by Hardison and Moss (1972). Using this method, an average $SE_{7,10}$ of 14 percent was found for the 25 low-flow partial-record stations in the Pecatonica-Sugar River basin. This compares to an average $SE_{7,10}$ of 29 percent for 265 low-flow partial-record stations throughout the State.

MISCELLANEOUS SITES

The accuracy of low-flow characteristics at miscellaneous sites was determined as an average value for the entire basin by analyzing data collected at low-flow partial-record stations. Three random base-flow measurements were selected from the 9 to 33 measurements available at the 25 low-flow partial-record stations. Low-flow characteristics were determined from these three measurements using the same procedure used for miscellaneous sites. Then low-flow characteristics determined by this method were plotted against the low-flow characteristics based on 9 to 33 measurements. The SE between the two methods was determined from this plotted relationship. The overall SE includes the SE determined from the plotted relationship and the SE associated with the low-flow estimates based on 9 to 33 measurements. This overall SE can be approximated by taking the square root of the sum of the squares of the two different SE's. For the Pecatonica-Sugar River basin this resulted in an $SE_{7,10}$ of 22 percent, which is listed in table 1 as the average basin accuracy. The 22 percent value should be used cautiously for any particular site, as the actual value for a subbasin could be significantly different from the mean for the basin. If the low-flow characteristics are based on more than three discharge measurements, the accuracy probably will be improved and should approach the accuracy at low-flow partial-record stations as additional measurements are obtained.

ESTIMATING LOW-FLOW CHARACTERISTICS AT UNGAGED SITES

A method is required to transfer the data from the gaged sites to ungaged sites because it is impossible to obtain estimates of low-flow characteristics for all sites where the information is needed. The most practical transfer method relates low-flow characteristics to topographic and climatic characteristics of the drainage basin by multiple-regression analysis. Characteristics used in the multiple-regression analysis and the equations determined are discussed in the following paragraphs. The method is outlined in detail by Thomas and Benson (1970).

STREAMFLOW CHARACTERISTICS

Streamflow characteristics that were studied are the $Q_{7,2}$ and $Q_{7,10}$ discharge which are widely used to describe low flow. The streamflow characteristics are the dependent variable in the multiple-regression analysis.

BASIN CHARACTERISTICS

Differences in streamflow for different locations and times are caused by the differences in precipitation patterns and runoff characteristics. Climatic and topographic characteristics are quantified to explain the differences in low flow. These indices or drainage-basin characteristics are the independent variables in the multiple-regression analysis.

Drainage-basin characteristics were selected for the analyses because of their known influence on the rainfall-runoff process. Values for these drainage-basin characteristics for low-flow partial-record stations and selected gaging stations in the Pecatonica-Sugar River basin are listed in table 2. The following list contains a brief discussion of the effect of the drainage-basin characteristics on low flow and how the indices were developed.

Drainage area (A).--Size of the drainage area is the most significant characteristic in explaining differing streamflow between sites. Because low flow is ground-water runoff, the contributing area is defined by the ground-water divide of a basin which can be determined from potentiometric maps where they are available. Because potentiometric maps are not available for most areas in the Pecatonica-Sugar River basin, the surface-water divide was used to define the contributing drainage area. Due to the relatively steep relief in the basin, the difference between the area of ground-water drainage and surface-water drainage is probably slight.

Drainage areas, in square miles, were computed from U.S. Geological Survey topographic maps or similar topographic maps of comparable size and detail. Drainage-area data for this study were obtained from Holmstrom (1972).

Main-channel slope (S).--Main-channel slope (Benson, 1962 and 1964) is a characteristic that relates to the change in streamflow for different

basins. The index of slope used in this analysis is the average slope in feet per mile between points 10 percent and 85 percent of the distance upstream from the gaged site to the drainage-basin divide.

Main-channel length (L).--Main-channel length is another landform characteristic that indicates basin shape in conjunction with drainage area of the basin. In estimating ground-water runoff to the stream, L can be viewed as describing the length of the vertical cross-sectional area of the porous aquifer material through which the flow occurs. Channel length was obtained from the U.S. Geological Survey topographic maps by measuring the total indicated blue-line length by a digitizer, divider, or other means.

Basin storage (BS).--Basin storage is that part of total drainage area occupied by lakes and marshes. Variations in streamflow can be caused by retention and release of water from basin storage. For some streams, runoff is delayed by storage, but total runoff may not be reduced; whereas on other streams prolonged retention allows increased evapotranspiration that results in decreased runoff. The basin storage index is used in the analysis to reflect the effect of evapotranspiration on low flow.

The basin storage area was obtained from U.S. Geological Survey topographic maps. A value of 1.00 percent was added to all values of basin storage to avoid problems of using zero in the regression analysis.

Forest cover (F).--Forests affect streamflow in several ways. Their major influences on low flow are intercepting precipitation before it reaches the ground and using water through transpiration.

The forest cover index used in this analysis is the percentage of drainage area covered by forests as shown on U.S. Geological Survey topographic maps. A value of 1.00 percent was added to all values of forest cover to avoid problems of using zero in the regression analysis.

Mean annual precipitation (P).--Mean annual precipitation of a basin expresses the amount of water available for potential runoff. The precipitation that recharges the ground-water aquifer is the source of base flow for a stream. The mean annual precipitation, in inches, for each basin was computed from an isohyetal map determined from precipitation recorded at U.S. Weather Bureau stations (Wisconsin Statistical Reporting Service, 1967).

A constant of 20 in. was subtracted from each value for use in the regression analysis. This reduction provides constants and exponents in the regression equation that are more manageable.

Soil-infiltration rate (I).--Soil permeability influences the amount of direct runoff from a storm and the amount of water that infiltrates the soil. The permeability used is an average rate for the basin under average soil and moisture conditions.

Soil types and average permeability, in inches per hour, for each basin were determined from maps by Hindall and Skinner (1973, sheet 1).

Mean annual snowfall (Sn).--Mean annual snowfall, like mean annual precipitation, is an indicator of water available for runoff. For each basin an average mean annual snowfall, in inches, was determined from a map of Wisconsin weather (Wisconsin Statistical Reporting Service, 1970) and average snowfall values from National Weather Service stations in the basin (Wisconsin Crop Reporting Service, 1961). A constant of 20 in. was subtracted from each value to provide more manageable constants and exponents in the equations.

Base-flow index (Bf).--A good indicator of a stream's low-flow potential is a discharge measurement made during base-flow conditions. Base-flow measurements provide considerable information about the characteristics of the aquifers supplying ground-water runoff to the stream.

To use base-flow measurements, it is necessary to convert them to a uniform base because measurements generally are obtained at various points on the base-flow recession curves. Discharge at the 90 percent flow duration was selected to represent the base-flow index value. To develop the necessary relationships for this study, sites were selected that had discharge measurements obtained for a low-flow investigation during the period September 16-18, 1969.

Measured discharges (Q_m) at low-flow partial-record stations and miscellaneous sites were converted to a unit discharge by dividing the values by their respective drainage area (A). These values then were adjusted by a basin ratio to determine the base-flow index for each site. Basin ratios were determined for gaging stations on unregulated streams within the Pecatonica-Sugar River basin by dividing the discharge at 90 percent flow duration (Q_{90}) by the observed average daily discharge during September 16-18, 1969 (Q_r). Thus, base-flow index values were determined by the equation:

$$Bf = \frac{Q_m Q_{90}}{A Q_r}$$

Plate 2 shows the locations of 75 sites with base-flow index values, their respective drainage-area outlines, and their computed base-flow index values.

Drainage density (D).--Drainage density is the ratio of total drainage length to drainage-basin area. The total drainage length was determined by measuring the total indicated blue-line lengths in the drainage basin on topographic maps (7½-minute maps in most instances).

As the total drainage length increases, a better drainage network is established and precipitation has a better chance to run off as overland flow. Prior studies in the eastern United States have shown base-flow

discharge to vary inversely with drainage density squared (Carlston, 1963, p. 65). Drainage density was not a significant parameter in this study.

REGRESSION ANALYSIS

Multiple-regression analysis was used to determine the relationship between the low-flow characteristics (dependent variables) and the basin characteristics (independent variables). The analysis provides an equation, or series of equations, relating the dependent to the independent variables. This analysis defined mathematical equations of the form:

$$Q_T = a A^{b_1} B^{b_2} C^{b_3} \dots N^{b_n},$$

where: Q_T is a 7-day low-flow characteristic having a T-year recurrence interval, in cubic feet per second;

a is a regression constant defined by the regression analysis;

ABC.....N are drainage-basin characteristics; and

$b_1 b_2 b_3 \dots b_n$ are regression coefficients defined by regression analysis.

The analysis also defined the standard error of estimate (SE) of the analytical method and the statistical significance of each variable in the equation.

The standard error of estimate is a measure of the accuracy of the regression relationships. It describes a range in error between the defined relationship and the data included in the analysis. Values estimated by the regression equations are within the range of one standard error of estimate at 67 percent of the sites and within twice this range for 95 percent of the sites.

Step-backward regression analyses were performed by digital computer using procedures outlined by Thomas and Benson (1970). The equations with the lowest standard error of estimate with all variables significant at the 95 percent confidence level were selected as the best equations for prediction.

Two sets of analyses were performed to develop equations for sites with no streamflow data available and for sites with minimum streamflow data available. One analysis included all the drainage-basin characteristics except for base-flow index, and the other analysis contained all the drainage-basin characteristics including the base-flow index.

SITES WITHOUT STREAMFLOW DATA

The two equations and respective standard errors for application at sites without streamflow data are:

$$Q_{7,2} = 0.194A^{0.978} \quad SE_{7,2} = 48 \text{ percent} \quad (1)$$

$$Q_{7,10} = 0.110A^{0.985} \quad SE_{7,10} = 64 \text{ percent} \quad (2)$$

$Q_{7,2}$ is the 7-day, 2-year low flow in cubic feet per second;

$Q_{7,10}$ is the 7-day, 10-year low flow in cubic feet per second; and

A is drainage area in square miles.

Equations 1 and 2 apply to sites without streamflow data and drainage areas less than 150 mi².

SITES WITH MINIMUM STREAMFLOW DATA

The two equations and respective standard errors selected for application at sites with minimum streamflow data are:

$$Q_{7,2} = 0.754A^{0.960}Bf^{0.792} \quad SE_{7,2} = 39 \text{ percent} \quad (3)$$

$$Q_{7,10} = 0.611A^{0.962}Bf^{0.999} \quad SE_{7,10} = 51 \text{ percent} \quad (4)$$

$Q_{7,2}$, $Q_{7,10}$, and A are as defined earlier; and

Bf is the base-flow index in cubic feet per second per square mile.

Equations 3 and 4 were used to compute the low-flow characteristics at miscellaneous sites with one or two discharge measurements and drainage areas less than 150 mi² (table 1).

Equations 3 and 4 should provide estimates of $Q_{7,2}$ and $Q_{7,10}$ at approximately the SE indicated for the equations for sites where base-flow measurements have been made.

In addition, for sites without streamflow data and not on small tributary streams, equations 3 and 4 may provide more reliable estimates than equations 1 and 2 for the following conditions:

1. For ungaged sites that are located in an area where a high degree of uniformity exists among Bf values as shown on plate 2.
2. For ungaged sites that are located within the indicated subbasins on plate 2.

VERIFICATION OF REGRESSION EQUATIONS THAT USE BASE-FLOW INDEX

To test the validity of equations 3 and 4 for other flow conditions, the following comparisons were done using streamflow data collected at 17 low-flow partial-record stations. Periods selected for analysis were: a low base-flow period (flow durations greater than 80 percent), September 6 and 7, 1967; and a high base-flow period (flow durations less than 60 percent), August 14-16, 1968. Values of Bf were obtained as outlined previously. The $Q_{7,2}$ and $Q_{7,10}$ values computed for these periods using equations 3 and 4 were compared to the $Q_{7,2}$ and $Q_{7,10}$ values listed in table 1, and the following SEs were graphically determined.

Regression analysis equation	SE from regression analysis	SE using various flow conditions to determine Bf	
		Low base flow	High base flow
Equation 3	39	20	27
Equation 4	51	22	40

As illustrated, equations 3 and 4 produce satisfactory results for other sets of flow conditions than were used for their development.

APPLICATION OF ESTIMATING PROCEDURES

SITES WITHOUT STREAMFLOW DATA

Computation of low-flow characteristics at an ungaged site may be made as follows:

1. If the conditions listed on page 16 are met, use equations 3 and 4 (page 16) to determine the low-flow characteristics at ungaged sites.
2. Determine base-flow index from plate 2.
3. Compute drainage area as indicated on page 12.
4. Substitute these values into equations 3 and 4 and solve for the low-flow characteristics.
5. Use equations 1 and 2 (page 16) to determine low-flow characteristics for sites where the conditions outlined on page 16 cannot be met.
6. Compute the drainage area as indicated on page 12.
7. Substitute these drainage-area values into equations 1 and 2 and solve for the low-flow characteristics.

For ungaged sites where the degree of uniformity of base-flow index values is high, Bf can be determined from plate 2 and equations 3 and 4 can be used to determine the low-flow characteristics. For example, to determine the low-flow characteristics for Mineral Point Branch at the Iowa-Lafayette County line near Mineral Point the applicable equations are:

$$Q_{7,2} = 0.754A^{0.960}Bf^{0.792} \quad (3)$$

$$Q_{7,10} = 0.611A^{0.962}Bf^{0.999} \quad (4)$$

Drainage area was determined as outlined on page 12, and is 80.9 mi².

The base-flow index is determined from plate 2 and is a weighted average based on drainage area:

$$Bf = \frac{A_1Bf_1 + A_2Bf_2 + A_3Bf_3}{A_1 + A_2 + A_3}$$

where: A_1 = drainage area at station 05432170 = 32.1 mi²,

Bf_1 = base-flow index at station 05432170 = 0.17,

A_2 = drainage area at station 05432230 = 39.8 mi²,

Bf_2 = base-flow index at station 05432230 = 0.14,

A_3 = intervening drainage area between site of interest and stations 05432170 and 05432230,

A_3 = area at site of interest - A_1 - A_2 = 80.9 mi²
 - 32.1 mi² - 39.8 mi² = 9.0 mi²,

Bf_3 = base-flow index for intervening area between site of interest and stations 05432170 and 05432230, and

Bf_3 = 0.16.

$$Bf = \frac{A_1Bf_1 + A_2Bf_2 + A_3Bf_3}{A_1 + A_2 + A_3}$$

$$Bf = \frac{32.1(0.17) + 39.8(0.14) + 9.0(0.16)}{32.1 + 39.8 + 9.0}$$

$$Bf = \frac{5.5 + 5.6 + 1.4}{80.9} = \frac{12.5}{80.9}$$

Bf = 0.15

Substituting these values into their respective equations:

$$\begin{aligned}
 Q_{7,2} &= 0.754A^{0.960}Bf^{0.792} \\
 &= 0.754(80.9)^{0.960}(0.15)^{0.792} \\
 &= 0.754(67.9)(0.22) \\
 &= 11 \text{ ft}^3/\text{s}
 \end{aligned}$$

$$\begin{aligned}
 Q_{7,10} &= 0.611A^{0.962}Bf^{0.999} \\
 &= 0.611(80.9)^{0.962}(0.15)^{0.999} \\
 &= 0.611(68.5)(0.15) \\
 &= 6.3 \text{ ft}^3/\text{s}
 \end{aligned}$$

Low-flow characteristics for ungaged sites in which conditions on page 16 are not met can be determined by regression equations 1 and 2. The low-flow characteristics of Copper Creek near Gratiot at mouth are determined to illustrate the application of equations 1 and 2:

$$Q_{7,2} = 0.194A^{0.978} \quad (1)$$

$$Q_{7,10} = 0.110A^{0.985} \quad (2)$$

Determine the drainage area for this site as outlined on page 12 of this report and substitute this value into the respective equation:

$$\begin{aligned}
 Q_{7,2} &= 0.194A^{0.978} \\
 &= (0.194)(11.9)^{0.978} \\
 &= (0.194)(11.3) \\
 &= 2.2 \text{ ft}^3/\text{s}
 \end{aligned}$$

$$\begin{aligned}
 Q_{7,10} &= 0.110A^{0.985} \\
 &= (0.110)(11.9)^{0.985} \\
 &= (0.110)(11.5) \\
 &= 1.3 \text{ ft}^3/\text{s}
 \end{aligned}$$

SITES WITH MINIMUM STREAMFLOW DATA

Computation of the low-flow characteristics at sites with minimum streamflow data available is made as follows:

1. Use equations 3 and 4 listed on page 16 to determine the low-flow characteristics.
2. Determine from plate 1 and table 1 the type of streamflow data that are available.
3. If streamflow measurements were made during the September 16-18, 1969, period, the base-flow index (Bf) can be selected from plate 2.
4. If the streamflow measurements were made for some other period during base-flow conditions, the Bf should be determined as outlined on page 14.
5. Compute the other basin characteristic, drainage area, used in the equation as outlined on page 12.
6. Substitute values determined in steps 3 or 4 along with step 5 into equations 3 and 4.

As an example to determine the low-flow characteristics of Madden Branch near Cuba City (station number 05414925), the following procedure would be used:

The applicable equations for sites with minimum streamflow data available are:

$$Q_{7,2} = 0.754A^{0.960}Bf^{0.792}$$
$$Q_{7,10} = 0.611A^{0.962}Bf^{0.999}$$

Drainage area (A) obtained from table 1, page 44, is 21.9 mi².

The base-flow index obtained from plate 2 is 0.15.

Substituting these values into their respective equations:

$$\begin{aligned} Q_{7,2} &= 0.754A^{0.960}Bf^{0.792} \\ &= (0.754)(21.9)^{0.960}(0.15)^{0.792} \\ &= (0.754)(19.4)(0.22) \\ &= 3.2 \text{ ft}^3/\text{s} \end{aligned}$$

$$\begin{aligned}
Q_{7,10} &= 0.611A^{0.962}Bf^{0.999} \\
&= (0.611)(21.9)^{0.962}(0.15)^{0.999} \\
&= (0.611)(19.5)(0.15) \\
&= 1.8 \text{ ft}^3/\text{s}
\end{aligned}$$

To determine low-flow characteristics at sites where streamflow measurements are available but not for the September 16-18, 1969, period, the following procedure at the site, Roundtree Branch tributary near Platteville (station number 054142107), is used as an example.

The equations to use are the same as the above example:

$$\begin{aligned}
Q_{7,2} &= 0.754A^{0.960}Bf^{0.792} \\
Q_{7,10} &= 0.611A^{0.962}Bf^{0.999}
\end{aligned}$$

Drainage area (A) obtained from table 1, page 37, is 0.92 mi^2 .

The base-flow index cannot be obtained from plate 2 because a base-flow measurement was not obtained during the September 16-18, 1970, period. Therefore, a Bf value has to be determined from the base-flow measurements that are available. One measurement was made at this site (table 1). Following the procedure indicated on page 14, a Bf value was determined by the equation:

$$Bf = \frac{Q_m Q_{90}}{A Q_r}$$

where: Q_m is the measured discharge, $0.084 \text{ ft}^3/\text{s}$, of Roundtree Branch tributary near Platteville on June 23, 1972;

A is the drainage area, 0.92 mi^2 , of Roundtree Branch tributary near Platteville;

Q_r is the recorded discharge at a nearby continuous-record gaging station. Referring to plate 1, station 05414000, Platte River near Rockville is the closest gaging station. From "Water Resources Data for Wisconsin" (1972) the average daily discharge for June 23, 1972, was $63 \text{ ft}^3/\text{s}$; and

Q_{90} is the discharge at the 90 percent flow-duration point for the Platte River near Rockville, $34 \text{ ft}^3/\text{s}$, and was obtained from table 1, page 33.

Substituting these values in the equation:

$$\begin{aligned} Bf &= \frac{Q_m Q_{90}}{A Q_r} \\ &= \frac{(0.084)(34)}{(0.92)(63)} \\ &= 0.05 \end{aligned}$$

The low-flow characteristics then can be determined by substituting these values in their respective equations.

$$\begin{aligned} Q_{7,2} &= 0.754A^{0.960} Bf^{0.792} \\ &= (0.754)(0.92)^{0.960} (0.05)^{0.792} \\ &= (0.754)(0.92)(0.09) \\ &= 0.06 \text{ ft}^3/\text{s} \end{aligned}$$

$$\begin{aligned} Q_{7,10} &= 0.611A^{0.962} Bf^{0.999} \\ &= (0.611)(0.92)^{0.962} (0.05)^{0.999} \\ &= (0.611)(0.92)(0.05) \\ &= 0.03 \text{ ft}^3/\text{s} \end{aligned}$$

COMPARISON OF METHODS

If estimates of low-flow characteristics are required at sites other than those presented in this report, the user interested in the data should select a method to determine the low-flow information. Generally the most important criteria in choosing a method are: accuracy requirements of the low-flow characteristics; time available to collect and analyze data; and cost of data collection and analyses.

Table 3 compares the methods available and provides: type of data required; number of sites where required data are available; time required to collect data; analytical method used to determine the low-flow characteristics; and standard error of estimate associated with the method. If a high degree of reliability is required of low-flow characteristics and sufficient time is available for data collection, a gaging station or low-flow partial-record station would be required. If a lesser degree of reliability is acceptable at a site or time and money are limited, three base-flow measurements can be obtained, or one of the regression equations may be sufficient.

SUMMARY

Low-flow characteristics were determined for 11 gaging stations, 25 low-flow partial-record stations, and 207 miscellaneous sites in the Pecatonica-Sugar River basin.

The method used in estimating the low-flow characteristics was dependent on the amount of discharge data available at the site. The low-flow characteristics at gaging stations with 10 or more years of record were determined by log-Pearson Type III frequency analyses or plotting position analyses. At low-flow partial-record stations (9 or more base-flow discharge measurements) or miscellaneous sites (3 or more base-flow discharge measurements) graphical correlations were used to determine the $Q_{7,2}$ and $Q_{7,10}$ values. At miscellaneous sites (1 or 2 base-flow discharge measurements) and ungaged sites (no base-flow discharge measurements) multiple-regression equations were developed to determine the low-flow characteristics.

The standard error of estimate of the 7-day, 10-year low flow ($SE_{7,10}$) was provided. The average $SE_{7,10}$ in the basin ranged from 10 to 64 percent and was dependent on the amount of low-flow data available. The methods used to determine the standard errors are not precise, and the standard errors should be used as a relative guide to indicate a general level of confidence.

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Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin

05411510 Sandy Creek near Bagley, Wis.

Location.--SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 27, T. 5 N., R. 6 W., Grant County, at County Trunk A, 2.1 mi southeast of Bagley.

Drainage area.--18.9 mi².

Tributary to.--Mississippi River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--1.30 ft³/s, Sept. 7, 1967.

Low-flow frequency.--Q_{7,2} = 1.9 ft³/s, Q_{7,10} = 1.1 ft³/s.

Basis of estimate.--Correlated with Grant River at Burton using 13 discharge measurements made during the period 1963-77.

Accuracy.--SE_{7,10} = 22 percent.

05412810 Gregory Branch at Fennimore, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 19, T. 6 N., R. 2 W., Grant County, at sewage-treatment plant in Fennimore.

Drainage area.--0.42 mi².

Tributary to.--Rogers Branch.

Type of site.--Miscellaneous site.

Minimum discharge measured.--0.046 ft³/s, July 27, 1976.

Low-flow frequency.--Q_{7,2} = 0.02 ft³/s, Q_{7,10} = 0.01 ft³/s.

Basis of estimate.--Correlated with Grant River at Burton using 6 discharge measurements made during the period 1972-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05413000 Grant River near Lancaster, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T. 5 N., R. 3 W., Grant County, at County Trunk A, 3.3 mi west of Lancaster.

Drainage area.--50.9 mi².

Tributary to.--Mississippi River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 17, 1969, 18.9 ft³/s.

Low-flow frequency.--Q_{7,2} = 10 ft³/s, Q_{7,10} = 6.0 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05413010 Little Grant River at Mount Hope, Wis.

Location.--NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 28, T. 6 N., R. 4 W., Grant County, at sewage-disposal reservoir, in Mount Hope.

Drainage area.--0.56 mi².

Tributary to.--Grant River.

Type of site.--Miscellaneous site.

Minimum discharge measured.--0.030 ft³/s, Oct. 26, 1976.

Low-flow frequency.--Q_{7,2} = 0.01 ft³/s, Q_{7,10} < 0.01 ft³/s.

Basis of estimate.--Correlated with Grant River at Burton using 6 discharge measurements made during the period 1972-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05413100 Little Grant River near Lancaster, Wis.

Location.--NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36, T. 5 N., R. 4 W., Grant County, at County Trunk A, 4.8 mi west of Lancaster.

Drainage area.--45.5 mi².

Tributary to.--Grant River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--7.61 ft³/s, Sept. 7, 1967.

Low-flow frequency.--Q_{7,2} = 10 ft³/s, Q_{7,10} = 6.6 ft³/s.

Basis of estimate.--Correlated with Grant River at Burton using 9 discharge measurements made during the period 1963-70.

Accuracy.--SE_{7,10} = 14 percent.

05413120 Blake Fork tributary at Patch Grove, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4, T. 5 N., R. 5 W., Grant County, at sewage-disposal site, 0.5 mi south of Patch Grove.

Drainage area.--1.31 mi².

Tributary to.--Blake Fork.

Type of site.--Miscellaneous site.

Minimum discharge measured.--0.033 ft³/s, Oct. 26, 1976.

Low-flow frequency.--Q_{7,2} = 0.01 ft³/s, Q_{7,10} < 0.01 ft³/s.

Basis of estimate.--Correlated with Grant River at Burton using 6 discharge measurements made during the period 1972-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05413140 Blake Fork at Bloomington, Wis.

Location.--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T. 5 N., R. 5 W., Grant County, at sewage-disposal site, in Bloomington.

Drainage area.--17.9 mi².

Tributary to.--Grant River.

Type of site.--Miscellaneous site.

Minimum discharge measured.--3.88 ft³/s, June 21, 1972.

Low-flow frequency.--Q_{7,2} = 2.5 ft³/s, Q_{7,10} = 1.5 ft³/s.

Basis of estimate.--Correlated with Grant River at Burton using 6 discharge measurements made during the period 1972-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05413250 Blake Fork near Beetown, Wis.

Location.--SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10, T. 4 N., R. 4 W., Grant County, at town road, 3.8 mi northeast of Beetown.

Drainage area.--39.7 mi².

Tributary to.--Grant River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 17, 1969, 8.22 ft³/s.

Low-flow frequency.--Q_{7,2} = 5.0 ft³/s, Q_{7,10} = 2.6 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05413395 Pigeon Creek tributary at Lancaster, Wis.

Location--SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 10, T. 4 N., R. 3 W., Grant County, at bridge on town road to sewage-treatment plant, in Lancaster.

Drainage area--0.31 mi².

Tributary to--Pigeon Creek.

Type of site--Miscellaneous site.

Discharge measurement--June 21, 1972, 0 ft³/s.

Low-flow frequency--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--Not applicable.

05413400 Pigeon Creek near Lancaster, Wis.

Location--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15, T. 4 N., R. 3 W., Grant County, at town road, 2.3 mi south of Lancaster.

Drainage area--6.93 mi².

Tributary to--Grant River.

Type of site--Low-flow partial-record station.

Minimum discharge measured--0.80 ft³/s, Aug. 30, 1967.

Low-flow frequency--Q_{7,2} = 1.5 ft³/s, Q_{7,10} = 0.85 ft³/s.

Basis of estimate--Correlated with Grant River at Burton using 14 discharge measurements made during the period 1966-76.

Accuracy--SE_{7,10} = 18 percent.

05413415 Pigeon Creek near Beetown, Wis.

Location--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 26, T. 4 N., R. 4 W., Grant County, at town road, 3.6 mi east of Beetown.

Drainage area--21.0 mi².

Tributary to--Grant River.

Type of site--Miscellaneous site.

Discharge measurement--Sept. 17, 1969, 6.38 ft³/s.

Low-flow frequency--Q_{7,2} = 3.7 ft³/s, Q_{7,10} = 2.1 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05413430 Grant River near Beetown, Wis.

Location--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5, T. 3 N., R. 4 W., Grant County, at County Trunk U, 2.5 mi southeast of Beetown.

Drainage area--195 mi².

Tributary to--Mississippi River.

Type of site--Miscellaneous site.

Discharge measurement--Sept. 16, 1969, 63.9 ft³/s.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05413450 Rattlesnake Creek near Cassville, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 4 N., R. 5 W., Grant County, at State Highway 81, 5.5 mi northeast of Cassville.Drainage area.--44.7 mi².Tributary to.--Grant River.Type of site.--Low-flow partial-record station.Minimum discharge measured.--3.78 ft³/s, Sept. 7, 1967.Low-flow frequency.--Q_{7,2} = 5.4 ft³/s, Q_{7,10} = 2.9 ft³/s.Basis of estimate.--Correlated with Grant River at Burton using 13 discharge measurements made during the period 1963-77.Accuracy.--SE_{7,10} = 18 percent.

05413500 Grant River at Burton, Wis.

Location.--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 23, T. 3 N., R. 4 W., Grant County, at County Trunk N, 0.2 mi northwest of Burton.Drainage area.--269 mi².Tributary to.--Mississippi River.Type of site.--Gaging station.Period of record.--October 1934 to September 1975.Average discharge.--41 years, 167 ft³/s.Extremes.--Maximum discharge, 25,000 ft³/s July 16, 1950; minimum discharge, 21 ft³/s Mar. 4, 1954, result of freezeup.

Period of consecutive days	Magnitude and frequency of annual low flow					
	Discharge, in cubic feet per second, for indicated recurrence interval, in years					
	2	5	10	20	50	100
7	58	43	37	33	28	26
14	62	46	40	35	31	28
30	68	50	43	38	33	30
60	74	54	45	40	34	31
90	80	58	49	42	36	33

Duration table of daily flow							
Discharge, in cubic feet per second, which was exceeded for indicated percent of time							
Percent	2	5	10	20	30	40	50
ft ³ /s	810	380	250	170	140	120	100
Percent	60	70	80	90	95	98	99.9
ft ³ /s	87	76	66	55	47	40	31

Accuracy.--SE_{7,2} = 6 percent, SE_{7,10} = 7 percent.

05413596 Boice Creek near Potosi, Wis.

Location.--NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T. 3 N., R. 3 W., Grant County, at bridge on County Trunk U, 3.8 mi northwest of Potosi.Drainage area.--Tributary to.--Grant River.Type of site.--Miscellaneous site.Discharge measurement.--July 10, 1963, 6.06 ft³/s.

05413600 Boice Creek near Potosi, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T. 3 N., R. 3 W., Grant County, 0.1 mi downstream from County Trunk U, 3.6 mi northwest of Potosi.Drainage area.--26.3 mi².Tributary to.--Grant River.Type of site.--Low-flow partial-record station.Minimum discharge measured.--2.96 ft³/s, Sept. 7, 1967.Low-flow frequency.--Q_{7,2} = 4.3 ft³/s, Q_{7,10} = 2.4 ft³/s.Basis of estimate.--Correlated with Grant River at Burton using 12 discharge measurements made during the period 1966-77.Accuracy.--SE_{7,10} = 20 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05413700 Platte River near Livingston, Wis.

Location.--NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 9, T. 5 N., R. 1 W., Grant County, at bridge on town road, 4.2 mi northwest of Livingston.

Drainage area.--9.67 mi².

Tributary to.--Mississippi River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 19, 1970, 4.03 ft³/s; Sept. 1, 1971, 2.82 ft³/s.

Low-flow frequency.--Q_{7,2} = 2.1 ft³/s, Q_{7,10} = 1.2 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05413720 Platte River tributary near Livingston, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5, T. 5 N., R. 1 W., Grant County, at bridge on town road, 4.9 mi northwest of Livingston.

Drainage area.--6.78 mi².

Tributary to.--Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 19, 1970, 2.91 ft³/s; Sept. 1, 1971, 2.15 ft³/s.

Low-flow frequency.--Q_{7,2} = 1.6 ft³/s, Q_{7,10} = 0.92 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05413750 Platte River near Stitzer, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 5 N., R. 2 W., Grant County, at County Trunk E, 4.1 mi southeast of Stitzer.

Drainage area.--27.0 mi².

Tributary to.--Mississippi River.

Type of site.--Miscellaneous site.

Discharge measurements.--Sept. 18, 1969, 11.5 ft³/s; Aug. 18, 1970, 11.4 ft³/s; Sept. 1, 1971, 8.92 ft³/s.

Low-flow frequency.--Q_{7,2} = 5.5 ft³/s, Q_{7,10} = 3.3 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05413770 Crow Branch near Livingston, Wis.

Location.--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 5 N., R. 1 W., Grant County, at culvert on town road, 3.1 mi west of Livingston.

Drainage area.--2.17 mi².

Tributary to.--Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 19, 1970, 0.362 ft³/s; Sept. 1, 1971, 1.07 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.27 ft³/s, Q_{7,10} = 0.14 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05413780 Crow Branch near Stitzer, Wis.

Location--NW¼NW¼ sec. 19, T. 5 N., R. 1 W., Grant County, at town road, 4.4 mi southeast of Stitzer.

Drainage area--8.89 mi².

Tributary to--Platte River.

Type of site--Miscellaneous site.

Discharge measurements--Sept. 18, 1969, 2.93 ft³/s; Sept. 19, 1970, 1.94 ft³/s; Sept. 1, 1971, 2.37 ft³/s.

Low-flow frequency-- $Q_{7,2} = 1.6$ ft³/s, $Q_{7,10} = 1.1$ ft³/s.

Basis of estimate--Correlated with Platte River near Rockville using 3 discharge measurements made during the period 1969-71.

05413790 Leggett Creek near Stitzer, Wis.

Location--SE¼SE¼ sec. 3, T. 5 N., R. 2 W., Grant County, at bridge on town road, 1.7 mi east of Stitzer.

Drainage area--4.45 mi².

Tributary to--Platte River.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 19, 1970, 1.18 ft³/s; Sept. 1, 1971, 0.944 ft³/s.

Low-flow frequency-- $Q_{7,2} = 0.73$ ft³/s, $Q_{7,10} = 0.40$ ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy-- $SE_{7,2} = 39$ percent, $SE_{7,10} = 51$ percent.

05413795 Leggett Creek tributary near Stitzer, Wis.

Location--SW¼SE¼ sec. 3, T. 5 N., R. 2 W., Grant County, at bridge on town road, 1.6 mi east of Stitzer.

Drainage area--1.91 mi².

Tributary to--Leggett Creek.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 19, 1970, 0.32 ft³/s; Sept. 1, 1971, 0.10 ft³/s.

Low-flow frequency-- $Q_{7,2} = 0.10$ ft³/s, $Q_{7,10} = 0.04$ ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy-- $SE_{7,2} = 51$ percent, $SE_{7,10} = 39$ percent.

05413805 Newell Creek near Stitzer, Wis.

Location--SE¼SE¼ sec. 2, T. 5 N., R. 2 W., Grant County, at bridge on town road, 2.7 mi east of Stitzer.

Drainage area--4.64 mi².

Tributary to--Leggett Creek.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 19, 1970, 1.53 ft³/s; Sept. 1, 1971, 1.19 ft³/s.

Low-flow frequency-- $Q_{7,2} = 0.90$ ft³/s, $Q_{7,10} = 0.52$ ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy-- $SE_{7,2} = 39$ percent, $SE_{7,10} = 51$ percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05413810 Leggett Creek near Stitzer, Wis.

Location--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 5 N., R. 2 W., Grant County, at County Trunk E, 3.5 mi southeast of Stitzer.

Drainage area--18.4 mi².

Tributary to--Platte River.

Type of site--Miscellaneous site.

Discharge measurements--Sept. 18, 1969, 4.36 ft³/s; Aug. 18, 1970, 5.34 ft³/s; Sept. 1, 1971, 4.67 ft³/s.

Low-flow frequency--Q_{7,2} = 2.8 ft³/s, Q_{7,10} = 1.6 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05413850 Platte River tributary near Lancaster, Wis.

Location--NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T. 5 N., R. 2 W., Grant County, 0.1 mi downstream from town road, 5.1 mi east of Lancaster.

Drainage area--13.3 mi².

Tributary to--Platte River.

Type of site--Miscellaneous site.

Discharge measurements--Sept. 18, 1969, 2.61 ft³/s; Aug. 18, 1970, 2.85 ft³/s; Sept. 1, 1971, 3.38 ft³/s.

Low-flow frequency--Q_{7,2} = 1.8 ft³/s, Q_{7,10} = 0.97 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05413865 Bull Branch near Ellenboro, Wis.

Location--NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2, T. 4 N., R. 2 W., Grant County, just upstream from Bacon Branch, 4.8 mi northeast of Ellenboro.

Drainage area--3.40 mi².

Tributary to--Platte River.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 18, 1970, 0.062 ft³/s; Sept. 1, 1971, 0.01 ft³/s.

Low-flow frequency--Q_{7,2} = 0.02 ft³/s, Q_{7,10} < 0.01 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05413880 Bacon Branch near Ellenboro, Wis.

Location--NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2, T. 4 N., R. 2 W., Grant County, at bridge on town road, 4.7 mi northeast of Ellenboro.

Drainage area--7.56 mi².

Tributary to--Bull Branch.

Type of site--Miscellaneous site.

Discharge measurements--Sept. 18, 1969, 1.49 ft³/s; Aug. 17, 1970, 0.75 ft³/s; Sept. 1, 1971, 0.706 ft³/s.

Low-flow frequency--Q_{7,2} = 0.35 ft³/s, Q_{7,10} = 0.16 ft³/s.

Basis of estimate--Correlated with Platte River near Rockville using 3 discharge measurements made during the period 1969-71.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05413900 Platte River near Lancaster, Wis.

Location--NW¼NW¼ sec. 10, T. 4 N., R. 2 W., Grant County, at bridge on County Trunk A, 5.5 mi east of Lancaster.

Drainage area--90.8 mi².

Tributary to--Mississippi River.

Type of site--Miscellaneous site.

Discharge measurements--Sept. 18, 1969, 38.8 ft³/s; Aug. 17, 1970, 32.6 ft³/s; Sept. 1, 1971, 30.0 ft³/s.

Low-flow frequency--Q_{7,2} = 25 ft³/s, Q_{7,10} = 19 ft³/s.

Basis of estimate--Correlated with Platte River near Rockville using 3 discharge measurements made during the period 1969-71.

05413930 Austin Branch near Ellenboro, Wis.

Location--NW¼SE¼ sec. 17, T. 4 N., R. 2 W., Grant County, at mouth, 2.7 mi northwest of Ellenboro.

Drainage area--5.52 mi².

Tributary to--Platte River.

Type of site--Miscellaneous site.

Minimum discharge measured--2.87 ft³/s, July 26, 1976.

Low-flow frequency--Q_{7,2} = 1.6 ft³/s, Q_{7,10} = 1.0 ft³/s.

Basis of estimate--Correlated with Platte River near Rockville using 8 discharge measurements made during the period 1969-76.

Accuracy--SE_{7,10} = 22 percent (basin average).

05413960 Willow Branch near Ellenboro, Wis.

Location--NW¼SW¼ sec. 27, T. 4 N., R. 2 W., Grant County, at bridge on town road, 0.8 mi northeast of Ellenboro.

Drainage area--7.88 mi².

Tributary to--Platte River.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 17, 1970, 1.84 ft³/s; Aug. 31, 1971, 1.29 ft³/s.

Low-flow frequency--Q_{7,2} = 1.1 ft³/s, Q_{7,10} = 0.58 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05413970 McPherson Branch at Ellenboro, Wis.

Location--SE¼SE¼ sec. 29, T. 4 N., R. 2 W., Grant County, at bridge on town road, 0.8 mi west of Ellenboro.

Drainage area--5.12 ft³/s.

Tributary to--Platte River.

Type of site--Miscellaneous site.

Discharge measurements--Sept. 18, 1969, 2.62 ft³/s; Aug. 18, 1970, 2.56 ft³/s; Aug. 31, 1971, 2.56 ft³/s.

Low-flow frequency--Q_{7,2} = 1.3 ft³/s, Q_{7,10} = 0.85 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05413980 Culver Branch near Ellenboro, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4, T. 3 N., R. 2 W., Grant County, at bridge on town road, 1.8 mi south of Ellenboro.Drainage area.--3.11 mi².Tributary to.--Platte River.Type of site.--Miscellaneous site.Discharge measurements.--Aug. 18, 1970, 1.14 ft³/s; Aug. 31, 1971, 1.09 ft³/s.Low-flow frequency.--Q_{7,2} = 0.70 ft³/s, Q_{7,10} = 0.42 ft³/s.Basis of estimate.--Used regression equations 3 and 4.Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414000 Platte River near Rockville, Wis.

Location.--NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T. 3 N., R. 2 W., Grant County, at County Trunk B, 2.2 mi east of Rockville.Drainage area.--142 mi².Tributary to.--Mississippi River.Type of site.--Gaging station.Period of record.--October 1934 to September 1975.Average discharge.--41 years, 98.6 ft³/s.Extremes.--Maximum discharge, 43,500 ft³/s July 16, 1950; minimum discharge observed, no flow Nov. 24, 1950.

Period of consecutive days	Magnitude and frequency of annual low flow					
	Discharge, in cubic feet per second, for indicated recurrence interval, in years					
	2	5	10	20	50	100
7	34	26	22	19	17	15
14	37	28	24	21	18	16
30	41	30	26	23	20	18
60	45	33	28	25	21	19
90	48	35	30	26	23	21

Duration table of daily flow							
Discharge, in cubic feet per second, which was exceeded for indicated percent of time							
Percent	2	5	10	20	30	40	50
ft ³ /s	440	230	150	110	85	71	62
Percent	60	70	80	90	95	98	99.9
ft ³ /s	54	47	41	34	29	25	19

Accuracy.--SE_{7,2} = 6 percent, SE_{7,10} = 7 percent.

05414010 Blakely Branch near Rockville, Wis.

Location.--NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20, T. 3 N., R. 2 W., Grant County, at bridge on town road, 2.6 mi east of Rockville.Drainage area.--2.68 mi².Tributary to.--Platte River.Type of site.--Miscellaneous site.Discharge measurements.--Aug. 19, 1970, 0 ft³/s; Aug. 31, 1971, 0 ft³/s.Low-flow frequency.--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.Basis of estimate.--Used regression equations 3 and 4.Accuracy.--Not applicable.

05414030 Platte River tributary near Tennyson, Wis.

Location.--NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 31, T. 3 N., R. 2 W., Grant County, below bridge on County Trunk O, 1.5 mi east of Tennyson.Drainage area.--7.19 mi².Tributary to.--Platte River.Type of site.--Miscellaneous site.Discharge measurements.--Aug. 19, 1970, 2.48 ft³/s; Aug. 31, 1971, 2.57 ft³/s.Low-flow frequency.--Q_{7,2} = 1.6 ft³/s, Q_{7,10} = 0.93 ft³/s.Basis of estimate.--Used regression equations 3 and 4.Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05414030 Platte River tributary near Tennyson, Wis.

Location--NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 5, T. 2 N., R. 2 W., Grant County, 0.3 mi upstream from mouth, 2.5 mi east of Tennyson.

Drainage area--1.47 mi².

Tributary to--Platte River.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 19, 1970, 0.20 ft³/s; Sept. 2, 1971, 0.13 ft³/s.

Low-flow frequency--Q_{7,2} = 0.12 ft³/s, Q_{7,10} = 0.06 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414046 Little Platte River at Livingston, Wis.

Location--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24, T. 5 N., R. 1 W., Grant County, at bridge on State Highway 80, 1.0 mi south of Livingston.

Drainage area--1.29 mi².

Tributary to--Platte River.

Type of site--Miscellaneous site.

Minimum discharge measured--0.170 ft³/s, Oct. 26, 1976.

Low-flow frequency--Q_{7,2} = 0.09 ft³/s, Q_{7,10} = 0.03 ft³/s.

Basis of estimate--Correlated with Platte River near Rockville using 6 discharge measurements made during the period 1972-76.

Accuracy--SE_{7,10} = 22 percent (basin average).

05414050 Little Platte River near Arthur, Wis.

Location--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 25, T. 5 N., R. 1 W., Grant County, at culvert on town road, 1.9 mi north of Arthur.

Drainage area--1.96 mi².

Tributary to--Platte River.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 19, 1970, 0.574 ft³/s; Sept. 1, 1971, 0.67 ft³/s.

Low-flow frequency--Q_{7,2} = 0.38 ft³/s, Q_{7,10} = 0.22 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414060 Little Platte River at Arthur, Wis.

Location--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1, T. 4 N., R. 1 W., Grant County, at bridge on County Trunk A, 0.3 mi south of Arthur.

Drainage area--9.00 mi².

Tributary to--Platte River.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 19, 1970, 2.61 ft³/s; Sept. 1, 1971, 3.08 ft³/s.

Low-flow frequency--Q_{7,2} = 1.8 ft³/s, Q_{7,10} = 1.1 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05414070 Little Platte River tributary at Arthur, Wis.

Location.--NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 12, T. 4 N., R. 1 W., Grant County, at mouth, 0.4 mi south of Arthur.

Drainage area.--3.48 mi².

Tributary to.--Little Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 19, 1970, 0.228 ft³/s; Sept. 1, 1971, 0.226 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.20 ft³/s, Q_{7,10} = 0.08 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414080 Little Platte River tributary near Arthur, Wis.

Location.--NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16, T. 4 N., R. 1 W., Grant County, at culvert on town road, 2.5 mi southwest of Arthur.

Drainage area.--4.44 mi².

Tributary to.--Little Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 19, 1970, 0.63 ft³/s; Sept. 1, 1971, 0.43 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.42 ft³/s, Q_{7,10} = 0.20 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414100 Little Platte River tributary near Arthur, Wis.

Location.--NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22, T. 4 N., R. 1 W., Grant County, at culvert on town road, 3.3 mi southwest of Arthur.

Drainage area.--1.91 mi².

Tributary to.--Little Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 19, 1970, 0.25 ft³/s; Sept. 1, 1971, 0.34 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.23 ft³/s, Q_{7,10} = 0.12 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414130 Mounds Branch tributary near Arthur, Wis.

Location.--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35, T. 4 N., R. 1 W., Grant County, at mouth, 4.8 mi south of Arthur.

Drainage area.--1.63 mi².

Tributary to.--Mounds Branch.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 17, 1970, 0.58 ft³/s; Sept. 1, 1971, 0.58 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.38 ft³/s, Q_{7,10} = 0.23 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05414132 Mounds Branch near Arthur, Wis.

Location.--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35, T. 4 N., R. 1 W., Grant County, at bridge on State Highway 80, 4.8 mi south of Arthur.

Drainage area.--16.1 mi².

Tributary to.--Little Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 17, 1970, 3.56 ft³/s; Sept. 1, 1971, 3.25 ft³/s.

Low-flow frequency.--Q_{7,2} = 2.3 ft³/s, Q_{7,10} = 1.2 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414150 Little Platte River near Platteville, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4, T. 3 N., R. 1 W., Grant County, at State Highway 81, 1.9 mi northwest of Platteville.

Drainage area.--54.0 mi².

Tributary to.--Platte River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--5.1 ft³/s, June 23, 1977.

Low-flow frequency.--Q_{7,2} = 6.1 ft³/s, Q_{7,10} = 3.4 ft³/s.

Basis of estimate.--Correlated with Platte River near Rockville using 14 discharge measurements made during the period 1963-77.

Accuracy.--SE_{7,10} = 26 percent.

05414200 Bear Branch near Platteville, Wis.

Location.--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 4, T. 3 N., R. 1 W., Grant County, at State Highway 81, 2.3 mi northwest of Platteville.

Drainage area.--2.72 mi².

Tributary to.--Little Platte River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--0.49 ft³/s, Sept. 7, 1967.

Low-flow frequency.--Q_{7,2} = 0.62 ft³/s, Q_{7,10} = 0.36 ft³/s.

Basis of estimate.--Correlated with Platte River near Rockville using 23 discharge measurements made during the period 1961-71.

Accuracy.--SE_{7,10} = 14 percent.

05414205 Young Branch near Platteville, Wis.

Location.--NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 6, T. 3 N., R. 1 W., Grant County, at bridge on town road, 3.3 mi northwest of Platteville.

Drainage area.--2.34 mi².

Tributary to.--Little Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Sept. 17, 1969, 0.35 ft³/s; Aug. 19, 1970, 0.19 ft³/s; Sept. 2, 1971, 0.203 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.12 ft³/s, Q_{7,10} = 0.07 ft³/s.

Basis of estimate.--Correlated with Platte River near Rockville using 3 discharge measurements made during the period 1969-71.

Accuracy.--SE_{7,10} = 22 percent (basin average).

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05414209 Roundtree Branch at Platteville, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 16, T. 3 N., R. 1 W., Grant County, at culvert on town road, 1.0 mi southwest of Platteville.

Drainage area.--11.9 mi².

Tributary to.--Little Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 5.96 ft³/s; Sept. 2, 1971, 2.80 ft³/s.

Low-flow frequency.--Unable to determine low-flow characteristics, additional discharge measurements required. Values determined by equations 3 and 4 are too much in comparison to low-flow characteristics determined at station 05414210.

05414210 Roundtree Branch at Platteville, Wis.

Location.--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 17, T. 3 N., R. 1 W., Grant County, at sewage-treatment plant in Platteville.

Drainage area.--12.5 mi².

Tributary to.--Little Platte River.

Type of site.--Miscellaneous site.

Minimum discharge measured.--2.60 ft³/s, Oct. 27, 1976.

Low-flow frequency.--Q_{7,2} = 1.7 ft³/s, Q_{7,10} = 0.90 ft³/s.

Basis of estimate.--Correlated with Platte River near Rockville using 6 discharge measurements made during 1972-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

054142107 Roundtree Branch tributary near Platteville, Wis.

Location.--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T. 3 N., R. 1 W., Grant County, 400 ft upstream from mouth, 1.4 mi west of city hall in Platteville.

Drainage area.--0.92 mi².

Tributary to.--Roundtree Branch.

Type of site.--Miscellaneous site.

Discharge measurement.--June 23, 1972, 0.08 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.06 ft³/s, Q_{7,10} = 0.03 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414211 Roundtree Branch near Platteville, Wis.

Location.--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 18, T. 3 N., R. 1 W., Grant County, at private road, at mouth, 2.9 mi west of Platteville.

Drainage area.--14.1 mi².

Tributary to.--Little Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 19, 1970, 5.11 ft³/s; Sept. 2, 1971, 4.97 ft³/s.

Low-flow frequency.--Unable to determine low-flow characteristics, additional discharge measurements are required. Values determined from equations 3 and 4 may be too much in comparison to low-flow characteristics determined at station 05414210.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05414215 Little Platte River near Tennyson, Wis.

Location.--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35, T. 3 N., R. 2 W., Grant County, at County Trunk O, 6.0 mi east of Tennyson.

Drainage area.--91.4 mi².

Tributary to.--Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 28.0 ft³/s; Aug. 31, 1971, 23.7 ft³/s.

Low-flow frequency.--Q_{7,2} = 14 ft³/s, Q_{7,10} = 8.6 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414217 Little Platte River tributary near Dickeyville, Wis.

Location.--NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36, T. 3 N., R. 2 W., Grant County, at bridge on County Trunk O, 4.6 mi northeast of Dickeyville.

Drainage area.--1.51 mi².

Tributary to.--Little Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 0 ft³/s; Aug. 31, 1971, 0.08 ft³/s.

Low-flow frequency.--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--Not applicable.

05414220 Little Platte River near Dickeyville, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 11, T. 2 N., R. 2 W., Grant County, at bridge on town road, 2.5 mi northeast of Dickeyville.

Drainage area.--96.6 mi².

Tributary to.--Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Sept. 18, 1969, 40.1 ft³/s; Aug. 18, 1970, 25.9 ft³/s; Aug. 30, 1971, 20.8 ft³/s.

Low-flow frequency.--Q_{7,2} = 16 ft³/s, Q_{7,10} = 10 ft³/s.

Basis of estimate.--Correlated with Platte River near Rockville using 3 discharge measurements made during the period 1969-71.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05414226 Blockhouse Creek tributary near Platteville, Wis.

Location.--NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T. 3 N., R. 1 W., Grant County, at bridge on private road, 3.3 mi south of Platteville.

Drainage area.--1.15 mi².

Tributary to.--Blockhouse Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 0.90 ft³/s; Sept. 1, 1971, 0 ft³/s.

Low-flow frequency.--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--Not applicable.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05414227 Blockhouse Creek near Platteville, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T. 3 N., R. 1 W., Grant County, at bridge on County Trunk D, 3.3 mi south of Platteville.

Drainage area.--8.19 mi².

Tributary to.--Little Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 2.27 ft³/s; Sept. 1, 1971, 1.37 ft³/s.

Low-flow frequency.--Q_{7,2} = 1.2 ft³/s, Q_{7,10} = 0.66 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414235 Snowden Branch near Georgetown, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 2 N., R. 1 W., Grant County, at culvert on County Trunk D, 3.0 mi north of Georgetown.

Drainage area.--2.91 mi².

Tributary to.--Blockhouse Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 0.23 ft³/s; Sept. 1, 1971, 0.08 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.09 ft³/s, Q_{7,10} = 0.03 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414238 Snowden Branch near Georgetown, Wis.

Location.--NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T. 2 N., R. 1 W., Grant County, just upstream from French Creek, 2.9 mi northwest of Georgetown.

Drainage area.--4.34 mi².

Tributary to.--Blockhouse Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 1.41 ft³/s; Sept. 2, 1971, 1.09 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.84 ft³/s, Q_{7,10} = 0.48 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414242 French Creek near Georgetown, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15, T. 2 N., R. 1 W., Grant County, at bridge on County Trunk D, 1.1 mi north of Georgetown.

Drainage area.--5.76 mi².

Tributary to.--Snowden Branch.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 0.93 ft³/s; Sept. 1, 1971, 0.66 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.60 ft³/s, Q_{7,10} = 0.30 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05414245 French Creek near Georgetown, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T. 2 N., R. 1 W., Grant County, 0.1 mi upstream from mouth, 2.8 mi northwest of Georgetown.

Drainage area.--9.94 mi².

Tributary to.--Snowden Branch.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 1.55 ft³/s; Sept. 2, 1971, 1.07 ft³/s.

Low-flow frequency.--Q_{7,2} = 1.0 ft³/s, Q_{7,10} = 0.49 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414250 Blockhouse Creek near Dickeyville, Wis.

Location.--NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11, T. 2 N., R. 2 W., Grant County, at bridge on U.S. Highway 151, 2.2 mi north of Dickeyville.

Drainage area.--36.3 mi².

Tributary to.--Little Platte River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--4.19 ft³/s, Sept. 7, 1966.

Low-flow frequency.--Q_{7,2} = 6.9 ft³/s, Q_{7,10} = 3.9 ft³/s.

Basis of estimate.--Correlated with Galena River near Buncombe using 14 discharge measurements made during the period 1963-77.

Accuracy.--SE_{7,10} = 17 percent.

05414260 McAdam Branch tributary near Dickeyville, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24, T. 2 N., R. 2 W., Grant County, at mouth, 2.3 mi east of Dickeyville.

Drainage area.--1.64 mi².

Tributary to.--McAdam Branch.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 0.30 ft³/s; Sept. 1, 1971, 0.36 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.24 ft³/s, Q_{7,10} = 0.13 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414261 McAdam Branch near Dickeyville, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24, T. 2 N., R. 2 W., Grant County, 0.04 mi downstream from town road, 2.3 mi east of Dickeyville.

Drainage area.--8.17 mi².

Tributary to.--Little Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 2.30 ft³/s; Sept. 1, 1971, 2.63 ft³/s.

Low-flow frequency.--Q_{7,2} = 1.6 ft³/s, Q_{7,10} = 0.90 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05414265 McAdam Branch near Dickeyville, Wis.

Location.--SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 14, T. 2 N., R. 2 W., Grant County, at bridge on U.S. Highway 151, 1.5 mi northeast of Dickeyville.

Drainage area.--13.2 mi².

Tributary to.--Little Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 4.44 ft³/s; Sept. 1, 1971, 3.81 ft³/s.

Low-flow frequency.--Q_{7,2} = 2.6 ft³/s, Q_{7,10} = 1.5 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414270 Little Platte River near Dickeyville, Wis.

Location.--NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 10, T. 2 N., R. 2 W., Grant County, 1.5 mi downstream from McAdam Branch, 2.1 mi north of Dickeyville.

Drainage area.--148 mi².

Tributary to.--Platte River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 41.1 ft³/s; Sept. 1, 1971, 34.2 ft³/s.

Low-flow frequency.--Q_{7,2} = 22 ft³/s, Q_{7,10} = 12 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414278 Indian Creek near Dickeyville, Wis.

Location.--SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29, T. 2 N., R. 2 W., Grant County, at bridge on town road, 2.1 mi west of Dickeyville.

Drainage area.--3.72 mi².

Tributary to.--Platte River.

Type of site.--Miscellaneous site.

Minimum discharge measured.--<0.01 ft³/s, Aug. 30, 1972.

Low-flow frequency.--Q_{7,2} <0.01 ft³/s, Q_{7,10} <0.01 ft³/s.

Basis of estimate.--Correlated with Platte River near Rockville using 6 discharge measurements made during the period 1972-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05414615 Betal Hollow near Kieler, Wis.

Location.--NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 4, T. 1 N., R. 2 W., Grant County, at culvert on country road, 1.1 mi west of Kieler.

Drainage area.--1.42 mi².

Tributary to.--Mississippi River.

Type of site.--Miscellaneous site.

Discharge measurements.--Oct. 16, 1975, 0.679 ft³/s; Oct. 27, 1976, 0.311 ft³/s; June 21, 1977, 0.278 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.25 ft³/s, Q_{7,10} = 0.15 ft³/s.

Basis of estimate.--Correlated with Platte River near Rockville using 3 discharge measurements made during the period 1975-77.

Accuracy.--SE_{7,10} = 22 percent (basin average).

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

054147549 Louisburg Creek tributary at Louisburg, Wis.

Location.--NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 12, T. 1 N., R. 2 W., Grant County, at mouth, at Louisburg.

Drainage area.--0.70 mi². Tributary to.--Louisburg Creek.

Type of site.--Miscellaneous site.

Discharge measurement.--Oct. 16, 1975, 0.10 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.06 ft³/s, Q_{7,10} = 0.03 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414755 Louisburg Creek at Louisburg, Wis.

Location.--NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 12, T. 1 N., R. 2 W., Grant County, approximately 400 ft downstream from country road bridge, just downstream from tributary at Louisburg.

Drainage area.--2.19 mi². Tributary to.--Menominee River.

Type of site.--Miscellaneous site.

Discharge measurements.--Oct. 16, 1975, 0.625 ft³/s; Oct. 27, 1976, 0.415 ft³/s; June 2, 1977, 0.282 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.29 ft³/s, Q_{7,10} = 0.18 ft³/s.

Basis of estimate.--Correlated with Platte River near Rockville using 3 discharge measurements made during the period 1975-77.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05414759 Menominee River near Kieler, Wis.

Location.--NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 22, T. 1 N., R. 2 W., Grant County, at bridge on country road, 2.6 mi south of Kieler.

Drainage area.--12.0 mi². Tributary to.--Mississippi River.

Type of site.--Miscellaneous site.

Discharge measurements.--Oct. 16, 1975, 3.13 ft³/s; Oct. 27, 1976, 1.77 ft³/s; June 21, 1977, 1.02 ft³/s.

Low-flow frequency.--Q_{7,2} = 1.1 ft³/s, Q_{7,10} = 0.56 ft³/s.

Basis of estimate.--Correlated with Platte River near Rockville using 3 discharge measurements made during the period 1975-77.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05414760 Menominee River near Sinsinawa, Wis.

Location.--NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 34, T. 1 N., R. 2 W., at bridge on town road, 2.7 mi west of Sinsinawa.

Drainage area.--13.9 mi². Tributary to.--Mississippi River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 18, 1969, 2.60 ft³/s.

Low-flow frequency.--Q_{7,2} = 1.3 ft³/s, Q_{7,10} = 0.65 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05414772 Menominee River tributary at Sinsinawa, Wis.

Location.--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 31, T. 1 N., R. 1 W., Grant County, at bridge on County Trunk ZZ, 0.5 mi south of Sinsinawa.

Drainage area.--0.18 mi².

Tributary to.--Menominee River.

Type of site.--Miscellaneous site.

Discharge measurements.--June 22, 1972, 0.084 ft³/s; Aug. 30, 1972, 0.094 ft³/s; Aug. 1, 1973, 0.140 ft³/s; Oct. 16, 1975, 0.074 ft³/s; Oct. 27, 1976, 0.022 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.01 ft³/s, Q_{7,10} < 0.01 ft³/s.

Basis of estimate.--Correlated with Platte River near Rockville using 5 discharge measurements made during the period 1972-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05414800 Sinsinawa River near Hazel Green, Wis.

Location.--NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 27, T. 1 N., R. 1 W., Grant County, at State Highway 11, 2.5 mi west of Hazel Green.

Drainage area.--24.9 mi².

Tributary to.--Mississippi River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--3.68 ft³/s, Sept. 6, 1967.

Low-flow frequency.--Q_{7,2} = 4.6 ft³/s, Q_{7,10} = 2.8 ft³/s.

Basis of estimate.--Correlated with Galena River at Buncombe using 10 discharge measurements made during the period 1963-77.

Accuracy.--SE_{7,10} = 15 percent.

05414890 Galena River above Pats Creek near Cuba City, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 17, T. 2 N., R. 1 E., Lafayette County, at town road, 1.6 mi upstream from Pats Creek, 3.0 mi northeast of Cuba City.

Drainage area.--15.2 mi².

Tributary to.--Mississippi River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 17, 1969, 7.78 ft³/s.

Low-flow frequency.--Q_{7,2} = 2.9 ft³/s, Q_{7,10} = 1.7 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414900 Pats Creek near Elk Grove, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 4, T. 2 N., R. 1 E., Lafayette County, at State Highway 81, 0.7 mi southeast of Elk Grove.

Drainage area.--8.50 mi².

Tributary to.--Galena River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--0.43 ft³/s, July 21, 1965.

Low-flow frequency.--Q_{7,2} = 1.2 ft³/s, Q_{7,10} = 0.56 ft³/s.

Basis of estimate.--Correlated with Galena River near Buncombe using 26 discharge measurements made during the period 1961-69.

Accuracy.--SE_{7,10} = 15 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05414910 Galena River near Cuba City, Wis.

Location--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 2 N., R. 1 E., Grant County, at County Trunk H, 3.6 mi northeast of Cuba City.

Drainage area--33.2 mi².

Tributary to--Mississippi River.

Type of site--Miscellaneous site.

Discharge measurement--Sept. 17, 1969, 15.3 ft³/s.

Low-flow frequency--Q_{7,2} = 5.7 ft³/s, Q_{7,10} = 3.3 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414925 Madden Branch near Cuba City, Wis.

Location--NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22, T. 2 N., R. 1 E., Lafayette County, at town road, 4.2 mi northeast of Cuba City.

Drainage area--21.9 mi².

Tributary to--Galena River.

Type of site--Miscellaneous site.

Discharge measurement--Sept. 17, 1969, 8.36 ft³/s.

Low-flow frequency--Q_{7,2} = 3.3 ft³/s, Q_{7,10} = 1.8 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414935 Galena River near Benton, Wis.

Location--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 10, T. 1 N., R. 1 E., Lafayette County, at bridge on State Highway 11, 1.4 mi east of Benton.

Drainage area--71.0 mi².

Tributary to--Mississippi River.

Type of site--Miscellaneous site.

Discharge measurements--June 22, 1972, 17.0 ft³/s; Aug. 31, 1972, 27.3 ft³/s; Aug. 1, 1973, 51.5 ft³/s; Oct. 15, 1975, 23.5 ft³/s; Oct. 27, 1976, 10.1 ft³/s.

Low-flow frequency--Q_{7,2} = 11 ft³/s, Q_{7,10} = 5.7 ft³/s.

Basis of estimate--Correlated with Galena River at Buncombe using 5 discharge measurements made during the period 1972-76.

Accuracy--SE_{7,10} = 22 percent (basin average).

05414940 Galena River near Benton, Wis.

Location--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 15, T. 1 N., R. 1 E., Grant County, at town road, 2.0 mi southeast of Benton.

Drainage area--72.6 mi².

Tributary to--Mississippi River.

Type of site--Miscellaneous site.

Discharge measurement--Sept. 18, 1969, 28.5 ft³/s.

Low-flow frequency--Q_{7,2} = 11 ft³/s, Q_{7,10} = 6.0 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05414950 Shullsburg Branch at Shullsburg, Wis.

Location.--NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10, T. 1 N., R. 2 E., Lafayette County, at bridge on County Trunk O, at Shullsburg.

Drainage area.--7.72 mi².

Tributary to.--Galena River.

Type of site.--Miscellaneous site.

Discharge measurements.--June 22, 1972, 1.10 ft³/s; Aug. 31, 1972, 2.69 ft³/s; Aug. 1, 1973, 4.91 ft³/s; Oct. 15, 1975, 4.91 ft³/s; Oct. 26, 1976, 0.352 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.33 ft³/s, Q_{7,10} = 0.09 ft³/s.

Basis of estimate.--Correlated with Galena River at Buncombe using 5 discharge measurements made during the period 1972-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05414955 Shullsburg Branch tributary near Shullsburg, Wis.

Location.--NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 22, T. 1 N., R. 2 E., Lafayette County, at culvert on County Trunk O, 2.2 mi southwest of Shullsburg.

Drainage area.--0.32 mi².

Tributary to.--Shullsburg Branch.

Type of site.--Miscellaneous site.

Discharge measurements.--Oct. 15, 1975, 4.78 ft³/s; Oct. 27, 1976, 3.59 ft³/s; June 22, 1977, 2.76 ft³/s.

Low-flow frequency.--No estimate possible--discharge primarily effluent.

05414957 Shullsburg Branch tributary near Shullsburg, Wis.

Location.--NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 17, T. 1 N., R. 2 E., Lafayette County, at bridge on State Highway 11, 2.2 mi west of Shullsburg.

Drainage area.--3.94 mi².

Tributary to.--Shullsburg Branch.

Type of site.--Miscellaneous site.

Discharge measurements.--Oct. 15, 1975, 3.57 ft³/s; Oct. 27, 1976, 2.36 ft³/s; June 22, 1977, 2.07 ft³/s.

Low-flow frequency.--No estimate possible--discharge primarily effluent.

05414960 Shullsburg Branch near Lead Mine, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T. 1 N., R. 1 E., Lafayette County, at town road, 1.9 mi east of Lead Mine.

Drainage area.--21.8 mi².

Tributary to.--Galena River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 17, 1969, 7.66 ft³/s.

Low-flow frequency.--Q_{7,2} = 3.0 ft³/s, Q_{7,10} = 1.7 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05414970 Shullsburg Branch at Lead Mine, Wis.

Location.--NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14, T. 1 N., R. 1 E., Lafayette County, at State Highway 11, 1.0 mi southeast of Lead Mine.

Drainage area.--31.1 mi².

Tributary to.--Galena River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 18, 1969, 23.1 ft³/s.

Low-flow frequency.--Unable to determine low-flow characteristics, additional discharge measurements required. Large percentage of discharge may be effluent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05415000 Galena River at Buncombe, Wis.

Location.--NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T. 1 N., R. 1 E., Lafayette County, at town road, at Buncombe.Drainage area.--125 mi².Tributary to.--Mississippi River.Type of site.--Gaging station.Period of record.--September 1939 to September 1975.Average discharge.--36 years, 78.2 ft³/s.Extremes.--Maximum discharge, 29,700 ft³/s June 29, 1969; minimum discharge, 0.8 ft³/s Mar. 3, 1954.

Period of consecutive days	Magnitude and frequency of annual low flow					
	Discharge, in cubic feet per second, for indicated recurrence interval, in years					
	2	5	10	20	50	100
7	23	17	14	12	10	9.3
14	25	18	15	13	11	9.4
30	27	19	16	14	12	11
60	30	22	18	16	13	12
90	33	23	19	17	14	13

Duration table of daily flow							
Discharge, in cubic feet per second, which was exceeded for indicated percent of time							
Percent	2	5	10	20	30	40	50
ft ³ /s	390	200	130	86	66	54	45
Percent	60	70	80	90	95	98	99.9
ft ³ /s	38	32	27	21	18	15	11

Accuracy.--SE_{7,2} = 7 percent, SE_{7,10} = 9 percent.

05415010 Coon Branch near Cuba City, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T. 2 N., R. 1 E., Lafayette County, at bridge on town road, 1.4 mi southeast of Cuba City.Drainage area.--1.01 mi².Tributary to.--Galena River.Type of site.--Miscellaneous site.Discharge measurements.--June 22, 1972, 0.28 ft³/s; Aug. 30, 1972, 0.35 ft³/s; Aug. 2, 1973, 0.56 ft³/s; Oct. 16, 1975, 0.25 ft³/s; Oct. 27, 1976, 0.18 ft³/s.Low-flow frequency.--Q_{7,2} = 0.17 ft³/s, Q_{7,10} = 0.12 ft³/s.Basis of estimate.--Correlated with Galena River near Buncombe using 5 discharge measurements made during the period 1972-76.Accuracy.--SE_{7,10} = 22 percent (basin average).

05415038 Scrabble Branch near Hazel Green, Wis.

Location.--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 32, T. 1 N., R. 1 E., Lafayette County, at bridge on town road, 2.1 mi southeast of Hazel Green.Drainage area.--4.69 mi².Tributary to.--Galena River.Type of site.--Miscellaneous site.Discharge measurements.--June 22, 1972, 1.03 ft³/s; Aug. 30, 1972, 1.07 ft³/s; Aug. 1, 1973, 2.79 ft³/s; Aug. 16, 1975, 1.39 ft³/s; Oct. 27, 1976, 0.67 ft³/s.Low-flow frequency.--Q_{7,2} = 0.66 ft³/s, Q_{7,10} = 0.37 ft³/s.Basis of estimate.--Correlated with Galena River near Buncombe using 5 discharge measurements made during the period 1972-76.Accuracy.--SE_{7,10} = 22 percent (basin average).

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05415450 East Fork Galena River near New Diggings, Wis.

Location.--SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33, T. 1 N., R. 2 E., Lafayette County, at bridge on country road, 4.0 mi southeast of New Diggings.Drainage area.--0.83 mi².Tributary to.--Galena River.Type of site.--Miscellaneous site.Discharge measurements.--Oct. 15, 1975, 3.97 ft³/s; Oct. 27, 1976, <0.01 ft³/s; June 22, 1977, 0 ft³/s.Low-flow frequency.--Q_{7,2} <0.01 ft³/s, Q_{7,10} = 0 ft³/s.Basis of estimate.--Correlated with Galena River at Buncombe using 3 discharge measurements made during the period 1975-77.Accuracy.--Not applicable.

05415500 East Fork Galena River at Council Hill, Ill.

Location.--NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T. 29 N., R. 2 E., Jo Daviess County, at country road, at Council Hill.Drainage area.--20.1 mi².Tributary to.--Mississippi River.Type of site.--Gaging station.Period of record.--September 1939 to September 1969.Average discharge.--30 years, 12.4 ft³/s.Extremes.--Maximum discharge, 16,600 ft³/s Apr. 29, 1947; minimum discharge, 0.3 ft³/s June 22, 1940.

Period of consecutive days	Magnitude and frequency of annual low flow					
	Discharge, in cubic feet per second, for indicated recurrence interval, in years					
	2	5	10	20	50	100
7	3.5	2.0	1.4	1.0	0.67	0.49
14	3.8	2.2	1.5	1.1	.74	.55
30	4.2	2.5	1.9	1.4	.97	.75
60	4.7	3.1	2.4	1.9	1.5	1.2
90	5.3	3.6	3.0	2.5	2.1	1.8

Duration table of daily flow							
Discharge, in cubic feet per second, which was exceeded for indicated percent of time							
Percent	2	5	10	20	30	40	50
ft ³ /s	68	35	22	14	10	8.2	6.7
Percent	60	70	80	90	95	98	99.9
ft ³ /s	5.6	4.7	3.9	3.2	2.7	1.9	0.60

Accuracy.--SE_{7,2} = 10 percent, SE_{7,10} = 23 percent.

05432020 Pecatonica River at Cobb, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T. 6 N., R. 1 E., Iowa County, at bridge on County Trunk G, at Cobb.Drainage area.--1.40 mi².Tributary to.--Rock River.Type of site.--Miscellaneous site.Minimum discharge measured.--0.19 ft³/s, Sept. 15, 1976.Low-flow frequency.--Q_{7,2} = 0.22 ft³/s, Q_{7,10} = 0.11 ft³/s.Basis of estimate.--Correlated with Pecatonica River at Darlington using 6 discharge measurements made during the period 1972-76.Accuracy.--SE_{7,10} = 22 percent (basin average).

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05432050 Pecatonica River tributary near Livingston, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5, T. 5 N., R. 1 E., Iowa County, at town road, 2.6 mi northeast of Livingston.

Drainage area.--4.32 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Minimum discharge measured.--0.80 ft³/s, Sept. 15, 1976.

Low-flow frequency.--Q_{7,2} = 0.86 ft³/s, Q_{7,10} = 0.49 ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 6 discharge measurements made during the period 1972-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05432075 Jones Branch near Leslie, Wis.

Location.--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27, T. 4 N., R. 1 E., Lafayette County, 1.7 mi northeast of Leslie.

Drainage area.--1.55 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 17, 1970, 0.24 ft³/s; Aug. 31, 1971, 0.29 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.24 ft³/s, Q_{7,10} = 0.12 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432078 Jones Branch tributary near Leslie, Wis.

Location.--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27, T. 4 N., R. 1 E., Lafayette County, at mouth, 1.8 mi northeast of Leslie.

Drainage area.--0.47 mi².

Tributary to.--Jones Branch.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 17, 1970, 0.37 ft³/s; Aug. 31, 1971, 0.17 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.13 ft³/s, Q_{7,10} = 0.08 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432080 Jones Branch tributary near Leslie, Wis.

Location.--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T. 4 N., R. 1 E., Lafayette County, 1.8 mi northeast of Leslie.

Drainage area.--0.99 mi².

Tributary to.--Jones Branch.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 17, 1970, 0 ft³/s; Aug. 31, 1971, 0 ft³/s.

Low-flow frequency.--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--Not applicable.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05432083 Jones Branch tributary near Leslie, Wis.

Location.--NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T. 4 N., R. 1 E., Lafayette County, at mouth, 2.0 mi northeast of Leslie.

Drainage area.--0.71 mi².

Tributary to.--Jones Branch.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 17, 1970, 0.30 ft³/s; Aug. 31, 1971, 0.37 ft³/s.

Low-flow frequency.-- $Q_{7,2} = 0.24$ ft³/s, $Q_{7,10} = 0.12$ ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432084 Jones Branch near Leslie, Wis.

Location.--NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T. 4 N., R. 1 E., Lafayette County, 2.1 mi northeast of Leslie.

Drainage area.--3.88 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 17, 1970, 0.92 ft³/s; Aug. 31, 1971, 0.78 ft³/s.

Low-flow frequency.-- $Q_{7,2} = 0.70$ ft³/s, $Q_{7,10} = 0.40$ ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432087 Jones Branch near Leslie, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 4 N., R. 1 E., Lafayette County, at bridge on country road, 2.7 mi northeast of Leslie.

Drainage area.--4.41 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 17, 1970, 0.87 ft³/s; Aug. 31, 1971, 0.93 ft³/s.

Low-flow frequency.-- $Q_{7,2} = 0.74$ ft³/s, $Q_{7,10} = 0.42$ ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432088 Jones Branch tributary near Leslie, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 4 N., R. 1 E., Lafayette County, 0.05 mi upstream from mouth, 2.7 mi northeast of Leslie.

Drainage area.--0.44 mi².

Tributary to.--Jones Branch.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 17, 1970, 0 ft³/s; Aug. 31, 1971, 0 ft³/s.

Low-flow frequency.-- $Q_{7,2} = 0$ ft³/s, $Q_{7,10} = 0$ ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--Not applicable.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05432089 Jones Branch tributary near Leslie, Wis.

Location.--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23, T. 4 N., R. 1 E., Lafayette County, at bridge on town road, 3.1 mi northeast of Leslie.

Drainage area.--0.16 mi².

Tributary to.--Jones Branch.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 17, 1970, 0 ft³/s; Aug. 31, 1971, 0 ft³/s.

Low-flow frequency.--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--Not applicable.

05432090 Jones Branch near Leslie, Wis.

Location.--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23, T. 4 N., R. 1 E., Lafayette County, 0.4 mi upstream from mouth, 3.3 mi northeast of Leslie.

Drainage area.--5.37 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 17, 1970, 1.14 ft³/s; Aug. 31, 1971, 1.37 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.99 ft³/s, Q_{7,10} = 0.58 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432100 Pecatonica River near Mineral Point, Wis.

Location.--NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 4 N., R. 2 E., Lafayette County, at U.S. Highway 151, 5.0 mi southwest of Mineral Point.

Drainage area.--68.8 mi².

Tributary to.--Rock River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--9.43 ft³/s, June 23, 1977.

Low-flow frequency.--Q_{7,2} = 14 ft³/s, Q_{7,10} = 8.3 ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 11 discharge measurements made during the period 1963-77.

Accuracy.--SE_{7,10} = 11 percent.

05432170 Mineral Point Branch near Mineral Point, Wis.

Location.--NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 10, T. 4 N., R. 2 E., Iowa County, at town road, 3.1 mi southwest of Mineral Point.

Drainage area.--32.1 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 16, 1969, 12.7 ft³/s.

Low-flow frequency.--Q_{7,2} = 5.1 ft³/s, Q_{7,10} = 2.9 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05432207 East Pecatonica River tributary at Linden, Wis.

Location.--NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 9, T. 5 N., R. 2 E., Iowa County, at culvert on private road, 0.6 mi east of Linden.

Drainage area.--2.03 mi².

Tributary to.--East Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Oct. 10, 1975, 0.875 ft³/s; July 27, 1976, 0.36 ft³/s; Sept. 15, 1976, 0.33 ft³/s;
June 23, 1977, 0.14 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.33 ft³/s, Q_{7,10} = 0.15 ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 4 discharge measurements made during the period 1975-77.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05432210 East Pecatonica River tributary at Linden, Wis.

Location.--NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T. 5 N., R. 2 E., Iowa County, at bridge on State Highway 39, in Linden.

Drainage area.--2.79 mi².

Tributary to.--East Pecatonica River.

Type of site.--Miscellaneous site.

Minimum discharge measured.--0.51 ft³/s, Sept. 15, 1976.

Low-flow frequency.--Q_{7,2} = 0.54 ft³/s, Q_{7,10} = 0.28 ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 6 discharge measurements made during the period 1972-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05432215 Pedler Creek near Dodgeville, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T. 6 N., R. 2 E., Iowa County, at bridge on town road, 4.6 mi west of Dodgeville.

Drainage area.--1.46 mi².

Tributary to.--East Pecatonica River.

Type of site.--Miscellaneous site.

Minimum discharge measured.--0.40 ft³/s, Sept. 15, 1976.

Low-flow frequency.--Q_{7,2} = 0.48 ft³/s, Q_{7,10} = 0.21 ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 6 discharge measurements made during the period 1972-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05432219 Pedler Creek near Linden, Wis.

Location.--NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15, T. 5 N., R. 2 E., Iowa County, at bridge on State Highway 39, 1.4 mi southeast of Linden.

Drainage area.--13.6 mi².

Tributary to.--East Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Oct. 10, 1975, 5.42 ft³/s; July 27, 1976, 2.81 ft³/s; Sept. 15, 1976, 2.31 ft³/s;
June 23, 1977, 2.20 ft³/s.

Low-flow frequency.--Q_{7,2} = 2.9 ft³/s, Q_{7,10} = 1.7 ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 4 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05432230 East Pecatonica River near Mifflin, Wis.

Location.--NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 5, T. 4 N., R. 2 E., Iowa County, at town road, 3.5 mi southeast of Mifflin.

Drainage area.--39.8 mi².

Tributary to.--Mineral Point Branch.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 16, 1969, 13.6 ft³/s.

Low-flow frequency.--Q_{7,2} = 5.6 ft³/s, Q_{7,10} = 3.1 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432270 Brewery Creek at Mineral Point, Wis.

Location.--SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6, T. 4 N., R. 3 E., Iowa County, at bridge on town road, in Mineral Point.

Drainage area.--6.74 mi².

Tributary to.--Mineral Point Branch.

Type of site.--Miscellaneous site.

Minimum discharge measured.--0.83 ft³/s, June 23, 1977.

Low-flow frequency.--Q_{7,2} = 1.2 ft³/s, Q_{7,10} = 0.68 ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 7 discharge measurements made during the period 1972-77.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05432300 Rock Branch near Mineral Point, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T. 4 N., R. 3 E., Iowa County, at State Highway 23, 2.3 mi southeast of Mineral Point.

Drainage area.--4.83 mi².

Tributary to.--Furnace Creek.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--0.64 ft³/s, July 23, 1965.

Low-flow frequency.--Q_{7,2} = 1.3 ft³/s, Q_{7,10} = 0.81 ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 24 discharge measurements made during the period 1961-69.

Accuracy.--SE_{7,10} = 10 percent.

05432350 Bonner Branch at Belmont, Wis.

Location.--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14, T. 3 N., R. 1 E., Lafayette County, at bridge on County Trunk G, in Belmont.

Drainage area.--5.62 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 10, 1972, 2.77 ft³/s; June 28, 1973, 6.17 ft³/s; Aug. 2, 1973, 3.52 ft³/s; Oct. 9, 1975, 1.98 ft³/s; Sept. 14, 1976, 0.98 ft³/s.

Low-flow frequency.--Q_{7,2} = 1.2 ft³/s, Q_{7,10} = 0.74 ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 5 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05432400 Bonner Branch at Calamine, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8, T. 3 N., R. 3 E., Lafayette County, at County Trunk C, 0.4 mi west of Calamine.Drainage area.--34.5 mi².Tributary to.--Pecatonica River.Type of site.--Miscellaneous site.Discharge measurement.--Sept. 17, 1969, 17.6 ft³/s.Low-flow frequency.--Q_{7,2} = 6.9 ft³/s, Q_{7,10} = 4.1 ft³/s.Basis of estimate.--Used regression equations 3 and 4.Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432410 Pecatonica River at Calamine, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8, T. 3 N., R. 3 E., Lafayette County, at County Trunk G, 0.3 mi west of Calamine.Drainage area.--232 mi².Tributary to.--Rock River.Type of site.--Miscellaneous site.Discharge measurement.--Sept. 17, 1969, 93.1 ft³/s.

05432500 Pecatonica River at Darlington, Wis.

Location.--SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 3, T. 2 N., R. 3 E., Lafayette County, at State Highway 23, at Darlington.Drainage area.--273 mi².Tributary to.--Rock River.Type of site.--Gaging station.Period of record.--September 1939 to September 1975.Average discharge.--36 years, 185 ft³/s.Extremes.--Maximum discharge, 22,000 ft³/s July 16, 1960; minimum discharge, 17 ft³/s Nov. 29, 1966.

Period of consecutive days	Magnitude and frequency of annual low flow Discharge, in cubic feet per second, for indicated recurrence interval, in years					
	2	5	10	20	50	100
7	58	42	35	30	25	23
14	61	43	36	31	27	24
30	67	48	40	35	30	27
60	73	53	44	38	33	29
90	79	56	47	41	35	32

Duration table of daily flow Discharge, in cubic feet per second, which was exceeded for indicated percent of time							
Percent	2	5	10	20	30	40	50
ft ³ /s	990	480	310	210	160	130	110
Percent	60	70	80	90	95	98	99.9
ft ³ /s	92	78	65	52	44	37	29

Accuracy.--SE_{7,2} = 7 percent, SE_{7,10} = 9 percent.

05432502 Otter Creek near Waldwick, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1, T. 4 N., R. 3 E., Iowa County, at bridge on town road, 2.9 mi northwest of Waldwick.Drainage area.--1.95 mi².Tributary to.--Pecatonica River.Type of site.--Miscellaneous site.Discharge measurements.--Aug. 17, 1970, 0.19 ft³/s; Sept. 1, 1971, 0.24 ft³/s.Low-flow frequency.--Q_{7,2} = 0.21 ft³/s, Q_{7,10} = 0.10 ft³/s.Basis of estimate.--Used regression equations 3 and 4.Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05432503 Otter Creek near Waldwick, Wis.

Location--NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 14, T. 4 N., R. 3 E., Iowa County, at bridge on County Trunk S, 3.4 mi west of Waldwick.

Drainage area--3.32 mi².

Tributary to--Pecatonica River.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 17, 1970, 1.29 ft³/s; Sept. 1, 1971, 1.49 ft³/s.

Low-flow frequency--Q_{7,2} = 1.0 ft³/s, Q_{7,10} = 0.64 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432504 Otter Creek tributary near Mineral Point, Wis.

Location--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 10, T. 4 N., R. 3 E., Iowa County, at bridge on town road, 3.8 mi southeast of Mineral Point.

Drainage area--1.51 mi².

Tributary to--Otter Creek.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 17, 1970, 0 ft³/s; Sept. 1, 1970, 0 ft³/s.

Low-flow frequency--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--Not applicable.

05432505 Otter Creek tributary near Waldwick, Wis.

Location--SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 4 N., R. 3 E., Iowa County, at bridge on County Trunk S, 3.9 mi west of Waldwick.

Drainage area--1.79 mi².

Tributary to--Otter Creek.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 17, 1970, 0 ft³/s; Sept. 1, 1971, 0 ft³/s.

Low-flow frequency--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--Not applicable.

05432506 Otter Creek tributary near Waldwick, Wis.

Location--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 15, T. 4 N., R. 3 E., Iowa County, at bridge on country road, 4.0 mi west of Waldwick.

Drainage area--1.98 mi².

Tributary to--Otter Creek.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 17, 1970, 0 ft³/s; Sept. 1, 1971, 0 ft³/s.

Low-flow frequency--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--Not applicable.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin---Continued

05432507 Tributary to Otter Creek tributary near Waldwick, Wis.

Location.--NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 4 N., R. 3 E., Lafayette County, at bridge on town road, 4.1 mi west of Waldwick.

Drainage area.--1.25 mi².

Tributary to.--Otter Creek tributary.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 17, 1970, 0 ft³/s; Sept. 1, 1971, 0 ft³/s.

Low-flow frequency.--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--Not applicable.

05432508 Otter Creek near Waldwick, Wis.

Location.--NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T. 4 N., R. 3 E., Lafayette County, at bridge on town road, 3.9 mi southwest of Waldwick.

Drainage area.--8.36 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 2.19 ft³/s; Sept. 1, 1971, 2.97 ft³/s; Sept. 13, 1976, 1.82 ft³/s.

Low-flow frequency.--Q_{7,2} = 2.3 ft³/s, Q_{7,10} = 1.3 ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 3 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05432509 Otter Creek tributary near Waldwick, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 1, T. 4 N., R. 3 E., Iowa County, at bridge on town road, 2.2 mi northwest of Waldwick.

Drainage area.--0.97 mi².

Tributary to.--Otter Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 17, 1970, 0 ft³/s; Sept. 1, 1971, 0 ft³/s.

Low-flow frequency.--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--Not applicable.

05432510 Otter Creek tributary near Waldwick, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12, T. 4 N., R. 3 E., Iowa County, at culvert on town road, 2.4 mi west of Waldwick.

Drainage area.--2.01 mi².

Tributary to.--Otter Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 17, 1970, 0.33 ft³/s; Sept. 1, 1971, 0.63 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.31 ft³/s, Q_{7,10} = 0.17 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05432511 Otter Creek tributary near Waldwick, Wis.	
<u>Location</u> .--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 4 N., R. 3 E., Lafayette County, at bridge on country road, 3.7 mi southwest of Waldwick.	
<u>Drainage area</u> .--3.65 mi ² .	<u>Tributary to</u> .--Otter Creek.
<u>Type of site</u> .--Miscellaneous site.	
<u>Discharge measurements</u> .--Aug. 18, 1970, 0.96 ft ³ /s; Sept. 1, 1971, 1.05 ft ³ /s; Sept. 13, 1976, 0.82 ft ³ /s.	
<u>Low-flow frequency</u> .--Q _{7,2} = 0.92 ft ³ /s, Q _{7,10} = 0.68 ft ³ /s.	
<u>Basis of estimate</u> .--Correlated with Pecatonica River at Darlington using 3 discharge measurements.	
<u>Accuracy</u> .--SE _{7,10} = 22 percent (basin average).	
05432512 Otter Creek tributary near Waldwick, Wis.	
<u>Location</u> .--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 4 N., R. 3 E., Lafayette County, at bridge on town road, 3.3 mi southwest of Waldwick.	
<u>Drainage area</u> .--2.36 mi ² .	<u>Tributary to</u> .--Otter Creek.
<u>Type of site</u> .--Miscellaneous site.	
<u>Discharge measurements</u> .--Aug. 18, 1970, 0.42 ft ³ /s; Sept. 1, 1970, 0.81 ft ³ /s.	
<u>Low-flow frequency</u> .--Q _{7,2} = 0.39 ft ³ /s, Q _{7,10} = 0.21 ft ³ /s.	
<u>Basis of estimate</u> .--Used regression equations 3 and 4.	
<u>Accuracy</u> .--SE _{7,2} = 39 percent, SE _{7,10} = 51 percent.	
05432514 Otter Creek near Fayette, Wis.	
<u>Location</u> .--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 4 N., R. 3 E., Lafayette County, near bridge on County Trunk G, just upstream from confluence with tributary, 3.2 mi west of Fayette.	
<u>Drainage area</u> .--19.8 mi ² .	<u>Tributary to</u> .--Pecatonica River.
<u>Type of site</u> .--Miscellaneous site.	
<u>Discharge measurements</u> .--Aug. 18, 1970, 4.55 ft ³ /s; Sept. 1, 1971, 6.06 ft ³ /s.	
<u>Low-flow frequency</u> .--Q _{7,2} = 3.8 ft ³ /s, Q _{7,10} = 2.3 ft ³ /s.	
<u>Basis of estimate</u> .--Used regression equations 3 and 4.	
<u>Accuracy</u> .--SE _{7,2} = 39 percent, SE _{7,10} = 51 percent.	
05432515 Otter Creek tributary near Fayette, Wis.	
<u>Location</u> .--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 4 N., R. 3 E., Lafayette County, at mouth, 3.2 mi west of Fayette.	
<u>Drainage area</u> .--1.40 mi ² .	<u>Tributary to</u> .--Otter Creek.
<u>Type of site</u> .--Miscellaneous site.	
<u>Discharge measurements</u> .--Aug. 18, 1970, 0.15 ft ³ /s; Sept. 1, 1971, 0.23 ft ³ /s; Sept. 13, 1976, 0.12 ft ³ /s.	
<u>Low-flow frequency</u> .--Q _{7,2} = 0.16 ft ³ /s, Q _{7,10} = 0.08 ft ³ /s.	
<u>Basis of estimate</u> .--Correlated with Pecatonica River at Darlington using 3 discharge measurements.	
<u>Accuracy</u> .--SE _{7,10} = 22 percent (basin average).	

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05432516 Otter Creek tributary near Fayette, Wis.

Location.--NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 13, T. 3 N., R. 3 E., Lafayette County, at mouth, 3.1 mi west of Fayette.

Drainage area.--1.98 mi².

Tributary to.--Otter Creek.

Type of site.--Miscellaneous site.

Discharge measurement.--Aug. 19, 1970, 0.08 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.10 ft³/s, Q_{7,10} = 0.04 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432517 Otter Creek near Fayette, Wis.

Location.--NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 13, T. 3 N., R. 3 E., Lafayette County, at bridge on country road, just downstream from confluence with tributary, 3.1 mi west of Fayette.

Drainage area.--28.3 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 19, 1970, 5.71 ft³/s; Aug. 31, 1971, 8.07 ft³/s.

Low-flow frequency.--Q_{7,2} = 5.0 ft³/s, Q_{7,10} = 2.8 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432518 Otter Creek near Fayette, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24, T. 3 N., R. 3 E., Lafayette County, at bridge on County Trunk F, 3.2 mi southwest of Fayette.

Drainage area.--30.6 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 6.53 ft³/s; Aug. 31, 1971, 8.30 ft³/s.

Low-flow frequency.--Q_{7,2} = 5.4 ft³/s, Q_{7,10} = 3.2 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432519 Otter Creek tributary near Fayette, Wis.

Location.--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 17, T. 3 N., R. 4 E., Lafayette County, at bridge on County Trunk F, 1.6 mi southwest of Fayette.

Drainage area.--1.31 mi².

Tributary to.--Otter Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 0 ft³/s; Aug. 31, 1971, 0 ft³/s.

Low-flow frequency.--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--Not applicable.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05432520 Otter Creek tributary near Fayette, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24, T. 3 N., R. 3 E., Lafayette County, at bridge on town road, 3.3 mi southwest of Fayette.

Drainage area.--5.25 mi².

Tributary to.--Otter Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 0.18 ft³/s; Aug. 31, 1971, 0.31 ft³/s; Sept. 13, 1976, 0.06 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.14 ft³/s, Q_{7,10} = 0.02 ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 3 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05432521 Otter Creek tributary near Fayette, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 20, T. 3 N., R. 4 E., Lafayette County, at bridge on town road, 3.0 mi south of Fayette.

Drainage area.--1.62 mi².

Tributary to.--Otter Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 0.04 ft³/s; Aug. 31, 1971, 0.11 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.06 ft³/s, Q_{7,10} = 0.02 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432522 Otter Creek tributary near Darlington, Wis.

Location.--NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T. 3 N., R. 4 E., Lafayette County, at bridge on private road, 2.9 mi east of Darlington.

Drainage area.--8.21 mi².

Tributary to.--Otter Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 1.17 ft³/s; Aug. 31, 1971, 1.34 ft³/s; Sept. 13, 1976, 0.68 ft³/s.

Low-flow frequency.--Q_{7,2} = 1.0 ft³/s, Q_{7,10} = 0.38 ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 3 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05432523 Tributary to Otter Creek tributary near Darlington, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T. 3 N., R. 4 E., Lafayette County, at bridge on farm road, 3.1 mi east of Darlington.

Drainage area.--1.21 mi².

Tributary to.--Otter Creek tributary.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 18, 1970, 0 ft³/s; Aug. 31, 1971, 0 ft³/s.

Low-flow frequency.--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--Not applicable.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05432525 Otter Creek near Darlington, Wis.

Location.--NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 6, T. 2 N., R. 4 E., Lafayette County, at bridge on State Highway 81, 2.7 mi east of Darlington.

Drainage area.--49.3 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Sept. 17, 1969, 19.8 ft³/s; Aug. 19, 1970, 9.45 ft³/s; Aug. 31, 1971, 11.1 ft³/s; Sept. 13, 1976, 6.35 ft³/s.

Low-flow frequency.-- $Q_{7,2} = 8.0$ ft³/s, $Q_{7,10} = 4.4$ ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 4 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05432550 Ames Branch near Darlington, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12, T. 2 N., R. 3 E., Lafayette County, at County Trunk K, 2.2 mi southeast of Darlington.

Drainage area.--44.3 mi².

Tributary to.--Pecatonica River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--3.68 ft³/s, June 23, 1977.

Low-flow frequency.-- $Q_{7,2} = 6.0$ ft³/s, $Q_{7,10} = 2.7$ ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 11 discharge measurements made during the period 1963-77.

Accuracy.--SE_{7,10} = 20 percent.

05432600 Wolf Creek at Gratiot, Wis.

Location.--NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T. 1 N., R. 4 E., Lafayette County, at State Highway 11, at Gratiot.

Drainage area.--27.6 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Minimum discharge measured.--6.2 ft³/s, Sept. 14, 1976.

Low-flow frequency.-- $Q_{7,2} = 6.4$ ft³/s, $Q_{7,10} = 3.5$ ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 6 discharge measurements made during the period 1969-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05432645 Spafford Creek near South Wayne, Wis.

Location.--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 15, T. 1 N., R. 5 E., Lafayette County, at town road, 1.1 mi southwest of South Wayne.

Drainage area.--43.4 mi².

Tributary to.--Pecatonica River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--4.18 ft³/s, June 23, 1977.

Low-flow frequency.-- $Q_{7,2} = 6.6$ ft³/s, $Q_{7,10} = 3.2$ ft³/s.

Basis of estimate.--Correlated with Pecatonica River at Darlington using 9 discharge measurements made during the period 1968-77.

Accuracy.--SE_{7,10} = 21 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05432650 Spafford Creek at South Wayne, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 10, T. 1 N., R. 5 E., Lafayette County, at State Highway 11, 0.6 mi west of South Wayne.

Drainage area.--47.8 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--July 11, 1963, 5.74 ft³/s; Sept. 7, 1966, 9.69 ft³/s.

Low-flow frequency.--Q_{7,2} = 7.2 ft³/s, Q_{7,10} = 4.0 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432668 East Branch Pecatonica River tributary near Barneveld, Wis.

Location.--NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 6 N., R. 5 E., Iowa County, at bridge on County Trunk K, 1.1 mi southeast of Barneveld.

Drainage area.--0.80 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurement.--Oct. 9, 1975, 0 ft³/s.

Low-flow frequency.--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--Not applicable.

05432671 East Branch Pecatonica River near Barneveld, Wis.

Location.--NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T. 6 N., R. 5 E., Iowa County, at culvert on private road, 2.1 mi southeast of Barneveld.

Drainage area.--3.99 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--July 27, 1976, 1.11 ft³/s; Sept. 15, 1976, 1.20 ft³/s; June 21, 1977, 0.808 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.90 ft³/s, Q_{7,10} = 0.62 ft³/s.

Basis of estimate.--Correlated with East Branch Pecatonica River near Blanchardville using 3 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05432689 Ridgeway Branch at Ridgeway, Wis.

Location.--NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T. 6 N., R. 4 E., Iowa County, 200 ft upstream from bridge on private road just upstream from tributary, 0.9 mi southeast of Ridgeway.

Drainage area.--0.74 mi².

Tributary to.--East Branch Pecatonic River.

Type of site.--Miscellaneous site.

Discharge measurements.--Oct. 9, 1975, 0 ft³/s; July 27, 1976, 0 ft³/s; Sept. 15, 1976, 0 ft³/s.

Low-flow frequency.--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate.--Correlated with East Branch Pecatonica River using 3 discharge measurements.

Accuracy.--Not applicable.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05432740 East Branch Pecatonica River near Hollandale, Wis.

Location.--NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 5 N., R. 5 E., Iowa County, at town road, 1.7 mi east of Hollandale.

Drainage area.--52.8 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 16, 1969, 21.9 ft³/s.

Low-flow frequency.--Q_{7,2} = 11 ft³/s, Q_{7,10} = 6.7 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432750 Dodge Branch at Dodgeville, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T. 6 N., R. 3 E., Iowa County, at sewage-treatment plant, at Dodgeville.

Drainage area.--1.05 mi².

Tributary to.--East Branch Pecatonica River.

Type of site.--Miscellaneous site.

Minimum discharge measured.--0 ft³/s, Aug. 10, 1972.

Low-flow frequency.--Q_{7,2} = 0.02 ft³/s, Q_{7,10} < 0.01 ft³/s.

Basis of estimate.--Correlated with East Branch Pecatonica River at Blanchardville using 8 discharge measurements made during the period 1972-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05432752 Dodge Branch near Dodgeville, Wis.

Location.--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35, T. 6 N., R. 3 E., Iowa County, 0.6 mi below sewage-disposal plant, 1.2 mi southwest of courthouse in Dodgeville.

Drainage area.--

Tributary to.--East Branch Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurement.--Nov. 19, 1974, 1.15 ft³/s.

05432754 Dodge Branch near Dodgeville, Wis.

Location.--NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 6 N., R. 3 E., Iowa County, 1.1 mi downstream from sewage-disposal plant, 1.6 mi southeast of courthouse in Dodgeville.

Drainage area.--

Tributary to.--East Branch Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurement.--Nov. 19, 1974, 1.67 ft³/s.

05432756 Dodge Branch near Dodgeville, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 6 N., R. 3 E., Iowa County, at bridge on country road, 2.0 mi southeast of courthouse in Dodgeville.

Drainage area.--

Tributary to.--East Branch Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Sept. 26, 1974, 3.43 ft³/s; Nov. 19, 1974, 3.40 ft³/s.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05432800 Dodge Branch at Hollandale, Wis.

Location.--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 30, T. 5 N., R. 5 E., Iowa County, at State Highway 191, at Hollandale.Drainage area.--66.0 mi².Tributary to.--East Branch Pecatonica River.Type of site.--Low-flow partial record station.Minimum discharge measured.--14.7 ft³/s, Sept. 6, 1967.Low-flow frequency.--Q_{7,2} = 16 ft³/s, Q_{7,10} = 11 ft³/s.Basis of estimate.--Correlated with East Branch Pecatonica River at Blanchardville using 14 discharge measurements made during the period 1963-76.Accuracy.--SE_{7,10} = 8 percent.

05432900 Blue Mounds Branch near Hollandale, Wis.

Location.--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T. 5 N., R. 5 E., Iowa County, at County Trunk FF, 3.8 mi east of Hollandale.Drainage area.--31.0 mi².Tributary to.--East Branch Pecatonica River.Type of site.--Miscellaneous site.Discharge measurement.--Sept. 16, 1969, 15.7 ft³/s.Low-flow frequency.--Q_{7,2} = 7.7 ft³/s, Q_{7,10} = 4.9 ft³/s.Basis of estimate.--Used regression equations 3 and 4.Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05432940 Pleasant Valley Branch near Hollandale, Wis.

Location.--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T. 5 N., R. 5 E., Iowa County, at town road, 4.1 mi southeast of Hollandale.Drainage area.--33.0 mi².Tributary to.--Blue Mounds Branch.Type of site.--Miscellaneous site.Discharge measurement.--Sept. 16, 1969, 14.8 ft³/s.Low-flow frequency.--Q_{7,2} = 7.5 ft³/s, Q_{7,10} = 4.6 ft³/s.Basis of estimate.--Used regression equations 3 and 4.Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05433000 East Branch Pecatonica River near Blanchardville, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T. 4 N., R. 5 E., Lafayette County, at State Highway 78, 1.5 mi south of Blanchardville.Drainage area.--221 mi².Tributary to.--Pecatonica River.Type of site.--Gaging station.Period of record.--September 1939 to September 1975.Average discharge.--36 years, 141 ft³/s.Extremes.--Maximum discharge, 11,700 ft³/s Feb. 28, 1948; minimum discharge, 18 ft³/s Nov. 29, 1956.

Period of consecutive days	Magnitude and frequency of annual low flow					
	Discharge, in cubic feet per second, for indicated recurrence interval, in years					
	2	5	10	20	50	100
7	62	51	46	43	40	38
14	64	53	48	45	42	40
30	68	56	51	48	44	42
60	74	61	55	51	47	45
90	78	64	57	53	48	45

Duration table of daily flow							
Discharge, in cubic feet per second, which was exceeded for indicated percent of time							
Percent	2	5	10	20	30	40	50
ft ³ /s	570	320	220	160	130	110	99
Percent	60	70	80	90	95	98	99.9
ft ³ /s	88	79	70	61	55	50	42

Accuracy.--SE_{7,2} = 4 percent, SE_{7,10} = 5 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05433200 Sawmill Creek near Blanchardville, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 2, T. 3 N., R. 5 E., Lafayette County, at State Highway 78, 3.3 mi south of Blanchardville.

Drainage area.--21.9 mi².

Tributary to.--East Branch Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 18, 1969, 11.2 ft³/s.

Low-flow frequency.--Q_{7,2} = 5.7 ft³/s, Q_{7,10} = 3.6 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05433400 Yellowstone River near Waldwick, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 4 N., R. 4 E., Lafayette County, at town road, 3.6 mi southeast of Waldwick.

Drainage area.--18.7 mi².

Tributary to.--East Branch Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 18, 1969, 3.48 ft³/s.

Low-flow frequency.--Q_{7,2} = 2.2 ft³/s, Q_{7,10} = 1.1 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05433500 Yellowstone River near Blanchardville, Wis.

Location.--NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 34, T. 4 N., R. 4 E., Lafayette County, 0.6 mi upstream from County Trunk F, 7.2 mi west of Blanchardville.

Drainage area.--28.5 mi².

Tributary to.--East Branch Pecatonica River.

Type of site.--Gaging station.

Period of record.--July 1954 to September 1965.

Average discharge.--11 years, 15.9 ft³/s.

Extremes.--Maximum discharge, 2,240 ft³/s Mar. 29, 1960; minimum discharge, 1.6 ft³/s Nov. 30, 1957.

Period of consecutive days	Magnitude and frequency of annual low flow		
	Discharge, in cubic feet per second, for indicated recurrence interval, in years		
	2	5	10
7	5.3	3.8	3.2
14	5.5	4.1	3.4
30	5.9	4.3	3.6
60	6.6	4.7	3.9
90	7.1	4.9	4.1

Duration table of daily flow							
Discharge, in cubic feet per second, which was exceeded for indicated percent of time							
Percent	2	5	10	20	30	40	50
ft ³ /s	84	36	24	16	13	11	9.0
Percent	60	70	80	90	95	98	99.9
ft ³ /s	7.8	6.7	5.7	4.6	4.0	3.4	2.6

Accuracy.--SE_{7,2} = 12 percent, SE_{7,10} = 17 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05433620 Dougherty Creek at Argyle, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 25, T. 3 N., R. 5 E., Lafayette County, at State Highway 81, 0.6 mi southeast of Argyle.

Drainage area.--27.1 mi².

Tributary to.--East Branch Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 18, 1969, 12.5 ft³/s.

Low-flow frequency.--Q_{7,2} = 6.5 ft³/s, Q_{7,10} = 4.0 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05433700 Whiteside Creek near Argyle, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 2 N., R. 5 E., Lafayette County, at State Highway 78, 2.4 mi southwest of Argyle.

Drainage area.--19.9 mi².

Tributary to.--East Branch Pecatonica River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--3.50 ft³/s, June 23, 1977.

Low-flow frequency.--Q_{7,2} = 3.9 ft³/s, Q_{7,10} = 2.2 ft³/s.

Basis of estimate.--Correlated with East Branch Pecatonica River near Blanchardville using 13 discharge measurements made during the period 1963-77.

Accuracy.--SE_{7,10} = 15 percent.

05434000 Pecatonica River at Dill, Wis.

Location.--SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6, T. 1 N., R. 6 E., Green County, at dismantled railroad bridge in Dill.

Drainage area.--944 mi².

Tributary to.--Rock River.

Type of site.--Gaging station.

Period of record.--January 1914 to September 1919.

Average discharge.--5 years, 667 ft³/s.

Extremes.--Maximum discharge, 13,100 ft³/s Mar. 27, 1916; minimum discharge, 166 ft³/s Nov. 25, 1918.

Low-flow frequency.--Q_{7,2} = 230 ft³/s, Q_{7,10} = 160 ft³/s.

Accuracy.--SE_{7,2} = 11 percent, SE_{7,10} = 12 percent.

05434260 Skinner Creek near Browntown, Wis.

Location.--NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3, T. 1 N., R. 6 E., Green County, at town road, 1.4 mi northeast of Browntown.

Drainage area.--47.3 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 17, 1969, 21.5 ft³/s.

Low-flow frequency.--Q_{7,2} = 11 ft³/s, Q_{7,10} = 6.7 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued¹

05434300 Jordan Creek near Browntown, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 28, T. 2 N., R. 6 E., Green County, at County Trunk M, 2.3 mi north of Browntown.Drainage area.--14.3 mi².Tributary to.--Skinner Creek.Type of site.--Low-flow partial-record station.Minimum discharge measured.--2.73 ft³/s, June 23, 1977.Low-flow frequency.--Q_{7,2} = 3.1 ft³/s, Q_{7,10} = 2.1 ft³/s.Basis of estimate.--Correlated with East Branch Pecatonica River near Blanchardville using 13 discharge measurements made during the period 1963-77.Accuracy.--SE_{7,10} = 11 percent.

05434317 Skinner Creek at Browntown, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5, T. 1 N., R. 6 E., Green County, at bridge on County Trunk MM, 0.4 mi west of Browntown.Drainage area.--71.0 mi².Tributary to.--Pecatonica River.Type of site.--Miscellaneous site.Discharge measurements.--Oct. 8, 1975, 23.5 ft³/s; July 27, 1976, 19.0 ft³/s; Sept. 13, 1976, 15.0 ft³/s; June 23, 1977, 15.1 ft³/s.Low-flow frequency.--Q_{7,2} = 15 ft³/s, Q_{7,10} = 11 ft³/s.Basis of estimate.--Correlated with East Branch Pecatonica River near Blanchardville using 4 discharge measurements.Accuracy.--SE_{7,10} = 22 percent (basin average).

05434500 Pecatonica River at Martintown, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 32, T. 1 N., R. 6 E., Green County, 400 ft downstream from bridge on County Trunk M, at Martintown.Drainage area.--1,034 mi².Tributary to.--Rock River.Type of site.--Gaging station.Period of record.--October 1939 to September 1975.Average discharge.--36 years, 713 ft³/s.Extremes.--Maximum discharge, 15,100 ft³/s July 1, 1969; minimum discharge, no flow for part of Dec. 14, 1939.

Period of consecutive days	Magnitude and frequency of annual low flow					
	Discharge, in cubic feet per second, for indicated recurrence interval, in years					
	2	5	10	20	50	100
7	250	190	170	150	140	130
14	260	200	180	160	150	140
30	280	220	190	170	160	150
60	310	240	210	190	170	160
90	330	250	220	200	180	170

Duration table of daily flow							
Discharge, in cubic feet per second, which was exceeded for indicated percent of time							
Percent	2	5	10	20	30	40	50
ft ³ /s	3,600	2,000	1,300	830	640	520	440
Percent	60	70	80	90	95	98	99.9
ft ³ /s	380	330	280	240	210	180	140

Accuracy.--SE_{7,2} = 6 percent, SE_{7,10} = 7 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05435030 Honey Creek near Monroe, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T. 2 N., R. 7 E., Green County, just upstream from sewage-disposal-plant outlet, 1.7 mi west of Monroe.

Drainage area.--4.74 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Minimum discharge measured.--1.92 ft³/s, Sept. 13, 1976.

Low-flow frequency.--Q_{7,2} = 1.9 ft³/s, Q_{7,10} = 1.5 ft³/s.

Basis of estimate.--Correlated with East Branch Pecatonica at Blanchardville using 8 discharge measurements made during the period 1968-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05435031 Honey Creek near Monroe, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T. 2 N., R. 7 E., Green County, just downstream from sewage-disposal-plant outlet, on south side of State Highway 11, 1.7 mi west of Monroe.

Drainage area.--4.74 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--July 10, 1968, 5.26 ft³/s; Oct. 21, 1968, 5.84 ft³/s; Sept. 19, 1974, 5.80 ft³/s; Nov. 1, 1974, 6.58 ft³/s; May 15, 1975, 7.06 ft³/s.

Low-flow frequency.--Low-flow characteristics were not determined, large percentage of discharge is effluent.

05435033 Honey Creek near Monroe, Wis.

Location.--NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 4, T. 1 N., R. 7 E., Green County, at bridge on country road, 0.8 mi below sewage-treatment plant, 2.2 mi southwest of post office in Monroe.

Drainage area.--

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurement.--May 15, 1975, 7.31 ft³/s.

05435036 Honey Creek near Monroe, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 4, T. 1 N., R. 7 E., Green County, at bridge on country road, 2.7 mi southwest of post office in Monroe.

Drainage area.--

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 9, 1974, 6.94 ft³/s.

05435040 Honey Creek near Monroe, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T. 1 N., R. 7 E., Green County, at bridge on town road, 3 mi southwest of Monroe.

Drainage area.--8.54 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--July 10, 1968, 6.24 ft³/s; Oct. 21, 1968, 6.71 ft³/s; Sept. 11, 1974, 10.3 ft³/s; Nov. 1, 1974, 8.07 ft³/s.

Low-flow frequency.--Low-flow characteristics were not determined, large percentage of discharge is effluent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05435050 Honey Creek tributary near Monroe, Wis.

Location.--NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T. 1 N., R. 7 E., Green County, at bridge on town road, 3 mi southwest of Monroe.

Drainage area.--3.44 mi².

Tributary to.--Honey Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--July 10, 1968, 0.38 ft³/s; Oct. 21, 1968, 0.64 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.30 ft³/s, Q_{7,10} = 0.14 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05435065 Spring Creek near Monroe, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25, T. 1 N., R. 6 E., Green County, at bridge on County Trunk HK, 6 mi southwest of Monroe.

Drainage area.--4.58 mi².

Tributary to.--Honey Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--July 11, 1968, 1.03 ft³/s; Oct. 21, 1968, 1.09 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.71 ft³/s, Q_{7,10} = 0.39 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05435070 Honey Creek near Monroe, Wis.

Location.--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 25, T. 1 N., R. 6 E., Green County, 0.1 mi east of bridge on country road, downstream from mouth of Spring Green, upstream from mouth of small unnamed tributary, 6.2 mi southwest of Monroe.

Drainage area.--22.4 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--July 10, 1968, 9.03 ft³/s; Oct. 21, 1968, 11.4 ft³/s; Nov. 1, 1968, 7.82 ft³/s.

Low-flow frequency.--Q_{7,2} = 5.2 ft³/s, Q_{7,10} = 3.2 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05435080 Whitehead Creek near Monroe, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 1 N., R. 6 E., Green County, at bridge on town road, just upstream from unnamed tributary, 6 mi southwest of Monroe.

Drainage area.--3.21 mi².

Tributary to.--Honey Creek.

Type of site.--Miscellaneous site.

Discharge measurement.--July 11, 1968, 0.09 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.10 ft³/s, Q_{7,10} = 0.03 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05435081 Whitehead Creek tributary near Monroe, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 1 N., R. 6 E., Green County, near bridge on country road, just upstream from mouth, 6 mi southwest of Monroe.

Drainage area.--0.44 mi².

Tributary to.--Whitehead Creek.

Type of site.--Miscellaneous site.

Discharge measurement.--July 11, 1968, 0.16 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.11 ft³/s, Q_{7,10} = 0.06 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05435082 Whitehead Creek near Monroe, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 1 N., R. 6 E., Green County, near bridge on country road, just downstream from unnamed tributary, 6 mi southwest of Monroe.

Drainage area.--3.65 mi².

Tributary to.--Honey Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--July 11, 1968, 0.24 ft³/s; Oct. 21, 1968, 0.55 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.21 ft³/s, Q_{7,10} = 0.09 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05435090 Honey Creek near Monroe, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 1 N., R. 6 E., Green County, at bridge on town road, 7 mi southwest of Monroe.

Drainage area.--29.7 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--July 11, 1968, 10.6 ft³/s; Nov. 1, 1968, 12.7 ft³/s.

Low-flow frequency.--Q_{7,2} = 6.1 ft³/s, Q_{7,10} = 3.7 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05435093 Honey Creek tributary near Monroe, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 1 N., R. 6 E., Green County, at bridge on town road, 0.1 mi upstream from mouth, 7 mi southwest of Monroe.

Drainage area.--0.87 mi².

Tributary to.--Honey Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--July 11, 1968, 0.07 ft³/s; Nov. 1, 1968, 0.08 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.06 ft³/s, Q_{7,10} = 0.03 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05435100 Honey Creek near Martintown, Wis.

Location.--SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 34, T. 1 N., R. 6 E., Green County, at County Trunk P, 1.7 mi east of Martintown.
Drainage area.--32.8 mi². Tributary to.--Pecatonica River.
Type of site.--Miscellaneous site.
Discharge measurements.--July 11, 1963, 4.96 ft³/s; Sept. 7, 1966, 9.20 ft³/s; Sept. 17, 1969, 10.8 ft³/s.
Low-flow frequency.--Q_{7,2} = 6.2 ft³/s, Q_{7,10} = 4.2 ft³/s.
Basis of estimate.--Correlated with East Branch Pecatonica River near Blanchardville using 3 discharge measurements.
Accuracy.--SE_{7,10} = 22 percent (basin average).

05435105 Honey Creek near Martintown, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34, T. 1 N., R. 6 E., Green County, at bridge on State Line Road, 1.9 mi east of Martintown.
Drainage area.--34.2 mi². Tributary to.--Pecatonica River.
Type of site.--Miscellaneous site.
Discharge measurements.--July 11, 1968, 11.8 ft³/s; Oct. 21, 1968, 12.4 ft³/s; Nov. 1, 1968, 12.8 ft³/s.
Low-flow frequency.--Q_{7,2} = 6.9 ft³/s, Q_{7,10} = 4.2 ft³/s.
Basis of estimate.--Used regression equations 3 and 4.
Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05435270 Richland Creek near Monroe, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T. 2 N., R. 8 E., Green County, 0.1 mi upstream from bridge on State Highway 11 and 81, just upstream from mouth of unnamed tributary, 1.5 mi east of Monroe.
Drainage area.--2.04 mi². Tributary to.--Pecatonica River.
Type of site.--Miscellaneous site.
Discharge measurements.--July 30, 1968, 0.53 ft³/s; Aug. 28, 1968, 0.49 ft³/s; Nov. 1, 1968, 0.54 ft³/s.
Low-flow frequency.--Q_{7,2} = 0.31 ft³/s, Q_{7,10} = 0.22 ft³/s.
Basis of estimate.--Correlated with Sugar River near Brodhead using 3 discharge measurements.
Accuracy.--SE_{7,10} = 22 percent (basin average).

05435275 Richland Creek tributary near Monroe, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T. 2 N., R. 8 E., Green County, 0.1 mi upstream from bridge on State Highway 11 and 81, just upstream from mouth, 1.5 mi east of Monroe.
Drainage area.--1.32 mi². Tributary to.--Richland County.
Type of site.--Miscellaneous site.
Discharge measurements.--July 30, 1968, 0.20 ft³/s; Aug. 28, 1968, 0.25 ft³/s; Nov. 1, 1968, 0.23 ft³/s.
Low-flow frequency.--Q_{7,2} = 0.17 ft³/s, Q_{7,10} = 0.09 ft³/s.
Basis of estimate.--Used regression equations 3 and 4.
Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05435290 Richland Creek near Monroe, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8, T. 1 N., R. 8 E., Green County, at bridge on town road, 3.5 mi southeast of Monroe.

Drainage area.--10.9 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--July 30, 1968, 3.13 ft³/s; Aug. 28, 1968, 3.50 ft³/s; Nov. 1, 1968, 4.30 ft³/s.

Low-flow frequency.--Q_{7,2} = 1.8 ft³/s, Q_{7,10} = 1.1 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 3 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05435295 Richland Creek tributary near Monroe, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T. 1 N., R. 8 E., Green County, at bridge on County Trunk K, 4.2 mi southeast of Monroe.

Drainage area.--2.98 mi².

Tributary to.--Richland Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--July 30, 1968, 0.29 ft³/s; Aug. 28, 1968, 0.42 ft³/s; Nov. 1, 1968, 0.85 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.29 ft³/s, Q_{7,10} = 0.14 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05435300 Twin Grove Branch near Monroe, Wis.

Location.--NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 29, T. 1 N., R. 8 E., Green County, at bridge on County Trunk P, 5.1 mi southeast of Monroe.

Drainage area.--6.43 mi².

Tributary to.--Richland Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--July 30, 1968, 1.66 ft³/s; Aug. 28, 1968, 1.79 ft³/s; Nov. 1, 1968, 2.57 ft³/s.

Low-flow frequency.--Q_{7,2} = 1.2 ft³/s, Q_{7,10} = 0.82 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 3 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05435310 Richland Creek near Monroe, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 26, T. 1 N., R. 7 E., Green County, just upstream from mouth of Little Richland Creek, 5.4 mi south of Monroe.

Drainage area.--28.2 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 8.36 ft³/s; Nov. 1, 1968, 11.0 ft³/s.

Low-flow frequency.--Q_{7,2} = 5.6 ft³/s, Q_{7,10} = 3.4 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05435315 Little Richland Creek near Monroe, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 14, T. 1 N., R. 7 E., Green County, at bridge on town road, 3.5 mi south of Monroe.

Drainage area.--5.56 mi².

Tributary to.--Richland Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 1.51 ft³/s; Nov. 1, 1968, 1.42 ft³/s.

Low-flow frequency.--Q_{7,2} = 1.0 ft³/s, Q_{7,10} = 0.56 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05435320 Little Richland Creek near Monroe, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 26, T. 1 N., R. 7 E., Green County, at mouth, 5.4 mi south of Monroe.

Drainage area.--9.66 mi².

Tributary to.--Richland Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 2.95 ft³/s; Nov. 1, 1968, 3.61 ft³/s.

Low-flow frequency.--Q_{7,2} = 2.0 ft³/s, Q_{7,10} = 1.2 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05435325 Richland Creek at Clarno, Wis.

Location.--NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 34, T. 1 N., R. 7 E., Green County, at County Trunk P, at Clarno.

Drainage area.--39.3 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 17, 1969, 12.7 ft³/s.

Low-flow frequency.--Q_{7,2} = 7.4 ft³/s, Q_{7,10} = 4.4 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05435330 Richland Creek near Monroe, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34, T. 1 N., R. 7 E., Green County, 0.1 mi upstream from bridge on country road at Wisconsin-Illinois State line, 5.7 mi south of Monroe.

Drainage area.--41.9 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 13.3 ft³/s; Nov. 1, 1968, 15.8 ft³/s.

Low-flow frequency.--Q_{7,2} = 8.4 ft³/s, Q_{7,10} = 5.0 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05435340 East Branch Richland Creek near Monroe, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 1 N., R. 7 E., Green County, at bridge on town road, 5.6 mi south of Monroe.

Drainage area.--4.02 mi².

Tributary to.--Richland Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--July 30, 1968, 1.04 ft³/s; Aug. 28, 1968, 1.02 ft³/s; Nov. 1, 1968, 1.43 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.67 ft³/s, Q_{7,10} = 0.47 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 3 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05435900 Sugar River tributary near Pine Bluff, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T. 7 N., R. 7 E., Dane County, at County Trunk J, 1.1 mi southeast of Pine Bluff.

Drainage area.--7.42 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurement.--Oct. 22, 1962, 0.19 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.18 ft³/s, Q_{7,10} = 0.06 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05435936 Badger Mill Creek near Verona, Wis.

Location.--NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T. 6 N., R. 8 E., Dane County, at bridge on County Trunk PB, 1 mi east of Verona.

Drainage area.--14.9 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurements.--June 1, 1972, 0.13 ft³/s; July 3, 1972, 0.075 ft³/s; Nov. 9, 1973, 0.33 ft³/s;
Oct. 6, 1975, 0.402 ft³/s; July, 26, 1976, 0.02 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.01 ft³/s, Q_{7,10} < 0.01 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 5 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05435943 Badger Mill Creek near Verona, Wis.

Location.--NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 22, T. 6 N., R. 8 E., Dane County, at town road, 1.0 mi south of Verona.

Drainage area.--20.3 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Minimum discharge measured.--1.10 ft³/s, Aug. 3, 1977.

Low-flow frequency.--Q_{7,2} = 0.49 ft³/s, Q_{7,10} = 0.17 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 7 discharge measurements made during the period 1972-77.

Accuracy.--SE_{7,10} = 22 percent (basin average).

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05435950 Sugar River near Verona, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T. 6 N., R. 8 E., Dane County, at State Highway 69, 2.9 mi south of Verona.

Drainage area.--82.7 mi².

Tributary to.--Pecatonica River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--8.59 ft³/s, July 29, 1965.

Low-flow frequency.--Q_{7,2} = 12 ft³/s, Q_{7,10} = 8.1 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 14 discharge measurements made during the period 1962-69.

Accuracy.--SE_{7,10} = 8 percent.

05435959 Sugar River at Paoli, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3, T. 5 N., R. 8 E., Dane County, at bridge on country road, 0.3 mi north of Paoli.

Drainage area.--88.7 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Oct. 6, 1975, 25.8 ft³/s; July 26, 1976, 19.1 ft³/s; Aug. 3, 1977, 20.6 ft³/s; Sept. 7, 1977, 19.7 ft³/s.

Low-flow frequency.--Q_{7,2} = 14 ft³/s, Q_{7,10} = 8.8 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 4 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05435967 West Branch Sugar River at Mt. Horeb, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 11, T. 6 N., R. 6 E., Dane County, on town road, at Mt. Horeb.

Drainage area.--

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurement.--Nov. 5, 1974, 0.82 ft³/s.

05435968 West Branch Sugar River near Mt. Horeb, Wis.

Location.--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T. 6 N., R. 6 E., Dane County, at bridge on town road, 1.1 mi south of Mt. Horeb.

Drainage area.--1.09 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Minimum discharge measured.--0.30 ft³/s, Oct. 9, 1975.

Remarks.--Discharge predominantly effluent from sewage-treatment plant.

05435969 West Branch Sugar River near Mt. Horeb, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T. 6 N., R. 6 E., Dane County, 1.3 mi downstream from sewage-disposal plant in Mt. Horeb, 1.4 mi south of post office in Mt. Horeb.

Drainage area.--

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurement.--Nov. 5, 1974, 0.954 ft³/s.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05435970 West Branch Sugar River near Mt. Horeb, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 24, T. 6 N., R. 6 E., Dane County, at bridge on country road, 2.4 mi south of post office in Mt. Horeb.

Drainage area.--

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 18, 1974, 2.20 ft³/s.

05435980 West Branch Sugar River near Mt. Vernon, Wis.

Location.--NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14, T. 5 N., R. 7 E., Dane County, at State Highway 92, 2.9 mi southeast of Mt. Vernon.

Drainage area.--32.7 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurements.--Feb. 22, 1959, 6.48 ft³/s; Sept. 16, 1969, 11.6 ft³/s.

Low-flow frequency.-- $Q_{7,2} = 6.4$ ft³/s, $Q_{7,10} = 3.8$ ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE $_{7,2} = 39$ percent, SE $_{7,10} = 51$ percent.

05436000 Mt. Vernon Creek near Mt. Vernon, Wis.

Location.--NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12, T. 5 N., R. 7 E., Dane County, 400 ft downstream from State Highway 92, 2.5 mi southeast of Mt. Vernon.

Drainage area.--16.4 mi².

Tributary to.--West Branch Sugar River.

Type of site.--Gaging station.

Period of record.--January 1954 to September 1965.

Average discharge.--11 years, 16.5 ft³/s.

Extremes.--Maximum discharge, 940 ft³/s Apr. 2, 1959; minimum discharge, 7.1 ft³/s Jan. 31, 1959.

Period of consecutive days	Magnitude and frequency of annual low flow		
	Discharge, in cubic feet per second, for indicated recurrence interval, in years		
	2	5	10
7	11	9.6	9.0
14	11	9.8	9.1
30	12	10	9.4
60	12	11	9.8
90	13	11	10

Duration table of daily flow							
Discharge, in cubic feet per second, which was exceeded for indicated percent of time							
Percent	2	5	10	20	30	40	50
ft ³ /s	49	28	22	18	16	15	14
Percent	60	70	80	90	95	98	99.9
ft ³ /s	13	12	11	10	9.9	9.4	8.5

Accuracy.--SE $_{7,2} = 5$ percent, SE $_{7,10} = 6$ percent.

05436076 Sugar River at Belleville, Wis.

Location.--NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34, T. 5 N., R. 8 E., Dane County, at bridge on State Highway 69, at Belleville.

Drainage area.--172 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--June 1, 1972, 82.7 ft³/s; July 31, 1972, 67.3 ft³/s; Nov. 18, 1973, 102 ft³/s; Oct. 6, 1975, 76.8 ft³/s; July 26, 1976, 61.0 ft³/s.

Low-flow frequency.-- $Q_{7,2} = 45$ ft³/s, $Q_{7,10} = 33$ ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 5 discharge measurements.

Accuracy.--SE $_{7,10} = 22$ percent (basin average).

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05436190 Sugar River near Dayton, Wis.	
<u>Location</u> .--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 19, T. 4 N., R. 9 E., Green County, at bridge on County Trunk X, 2.3 mi southeast of Dayton.	
<u>Drainage area</u> .--233 mi ² .	<u>Tributary to</u> .--Pecatonica River.
<u>Type of site</u> .--Miscellaneous site.	
<u>Discharge measurement</u> .--Sept. 17, 1969, 92.3 ft ³ /s.	
05436200 Gill Creek near Brooklyn, Wis.	
<u>Location</u> .--NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T. 4 N., R. 9 E., Green County, at bridge on State Highway 92, 4.3 mi southwest of Brooklyn.	
<u>Drainage area</u> .--3.33 mi ² .	<u>Tributary to</u> .--Sugar River.
<u>Type of site</u> .--Low-flow partial-record station.	
<u>Minimum discharge measured</u> .--0.35 ft ³ /s, July 29, 1965.	
<u>Low-flow frequency</u> .--Q _{7,2} = 0.49 ft ³ /s, Q _{7,10} = 0.34 ft ³ /s.	
<u>Basis of estimate</u> .--Correlated with Sugar River near Brodhead using 26 discharge measurements made during the period 1961-67.	
<u>Accuracy</u> .--SE _{7,10} = 8 percent.	
05436203 Gill Creek near Dayton, Wis.	
<u>Location</u> .--NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 20, T. 4 N., R. 9 E., Green County, at bridge on town road, 2.5 mi southeast of Dayton.	
<u>Drainage area</u> .--4.69 mi ² .	<u>Tributary to</u> .--Sugar River.
<u>Type of site</u> .--Miscellaneous site.	
<u>Discharge measurement</u> .--Sept. 17, 1969, 1.18 ft ³ /s.	
<u>Low-flow frequency</u> .--Q _{7,2} = 0.78 ft ³ /s, Q _{7,10} = 0.44 ft ³ /s.	
<u>Basis of estimate</u> .--Used regression equations 3 and 4.	
<u>Accuracy</u> .--SE _{7,2} = 39 percent, SE _{7,10} = 51 percent.	
05436215 Allen Creek at Brooklyn, Wis.	
<u>Location</u> .--NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 12, T. 4 N., R. 9 E., Green County, at bridge on County Trunk T, 0.8 mi south of Brooklyn.	
<u>Drainage area</u> .--10.8 mi ² .	<u>Tributary to</u> .--Sugar River.
<u>Type of site</u> .--Miscellaneous site.	
<u>Discharge measurements</u> .--June 1, 1972, 0.81 ft ³ /s; Aug. 1, 1972, 2.01 ft ³ /s; Nov. 8, 1973, 3.23 ft ³ /s; Oct. 7, 1975, 1.81 ft ³ /s.	
<u>Low-flow frequency</u> .--Q _{7,2} = 0.52 ft ³ /s, Q _{7,10} = 0.26 ft ³ /s.	
<u>Basis of estimate</u> .--Correlated with Sugar River near Brodhead using 4 discharge measurements made during the period 1972-75.	
<u>Accuracy</u> .--SE _{7,10} = 22 percent (basin average).	

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05436225 Allen Creek at Evansville, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T. 4 N., R. 10 E., Rock County, at sewage-treatment plant, at Evansville.

Drainage area.--27.5 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurements.--June 1, 1972, 6.49 ft³/s; Aug. 1, 1972, 6.56 ft³/s; Nov. 8, 1973, 12.8 ft³/s; Oct. 7, 1975, 6.75 ft³/s; July 26, 1976, 2.95 ft³/s.

Low-flow frequency.--Q_{7,2} = 2.2 ft³/s, Q_{7,10} = 1.1 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 5 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05436250 Allen Creek near Albany, Wis.

Location.--SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16, T. 3 N., R. 9 E., Green County, at County Trunk E, 1.9 mi north of Albany.

Drainage area.--70.5 mi².

Tributary to.--Sugar River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--5.60 ft³/s, July 29, 1965.

Low-flow frequency.--Q_{7,2} = 11 ft³/s, Q_{7,10} = 5.4 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 13 discharge measurements made during the period 1962-67.

Accuracy.--SE_{7,10} = 12 percent.

05436270 Little Sugar River near New Glarus, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 4 N., R. 7 E., Green County, at County Trunk U, 2.3 mi northwest of New Glarus.

Drainage area.--10.5 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 16, 1969, 6.26 ft³/s.

Low-flow frequency.--Q_{7,2} = 3.3 ft³/s, Q_{7,10} = 2.2 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436281 Little Sugar River at New Glarus, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T. 4 N., R. 7 E., Green County, at bridge on town road 300 ft east of junction of State Highway 39 and State Highway 69, at New Glarus.

Drainage area.--22.4 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurements.--June 1, 1972, 12.8 ft³/s; Aug. 1, 1972, 13.3 ft³/s; Nov. 8, 1973, 14.2 ft³/s; Oct. 7, 1975, 9.44 ft³/s; July 27, 1976, 7.29 ft³/s.

Low-flow frequency.--Q_{7,2} = 5.4 ft³/s, Q_{7,10} = 3.6 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 5 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05436285 Legler School Branch at New Glarus, Wis.

Location--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 4 N., R. 7 E., Green County, at State Highway 69, 0.8 mi south of New Glarus.

Drainage area--4.01 mi².

Tributary to--Little Sugar River.

Type of site--Miscellaneous site.

Discharge measurement--Sept. 16, 1969, 1.87 ft³/s.

Low-flow frequency--Q_{7,2} = 1.1 ft³/s, Q_{7,10} = 0.69 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436300 Little Sugar River near New Glarus, Wis.

Location--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30, T. 4 N., R. 8 E., Green County, at town road, 2.9 mi southeast of New Glarus.

Drainage area--39.6 mi².

Tributary to--Sugar River.

Type of site--Low-flow partial-record station.

Minimum discharge measured--7.49 ft³/s, July 29, 1965.

Low-flow frequency--Q_{7,2} = 10 ft³/s, Q_{7,10} = 6.8 ft³/s.

Basis of estimate--Correlated with Sugar River near Brodhead using 14 discharge measurements made during the period 1962-69.

Accuracy--SE_{7,10} = 6 percent.

05436330 Hefty Creek near Monticello, Wis.

Location--SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4, T. 3 N., R. 7 E., Green County, at town road, 4.2 mi northwest of Monticello.

Drainage area--11.1 mi².

Tributary to--West Branch Little Sugar River.

Type of site--Miscellaneous site.

Discharge measurement--Sept. 16, 1969, 5.30 ft³/s.

Low-flow frequency--Q_{7,2} = 2.9 ft³/s, Q_{7,10} = 1.9 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436360 West Branch Little Sugar River at Monticello, Wis.

Location--NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 7, T. 3 N., R. 8 E., Green County, at State Highways 39 and 69, at Monticello.

Drainage area--29.0 mi².

Tributary to--Little Sugar River.

Type of site--Miscellaneous site.

Discharge measurement--Sept. 16, 1969, 15.4 ft³/s.

Low-flow frequency--Q_{7,2} = 8.1 ft³/s, Q_{7,10} = 5.2 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05436362 West Branch Little Sugar River at Monticello, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8, T. 3 N., R. 8 E., Green County, at bridge on town road about 400 ft northwest of sewage-treatment plant, at Monticello.

Drainage area.--33.6 mi².

Tributary to.--Little Sugar River.

Type of site.--Miscellaneous site.

Minimum discharge measured.--12.4 ft³/s, July 27, 1976.

Low-flow frequency.--Q_{7,2} = 9.2 ft³/s, Q_{7,10} = 6.4 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 6 discharge measurements made during the period 1969-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05436380 Burgy Creek near Monticello, Wis.

Location.--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 19, T. 3 N., R. 8 E., Green County, at State Highway 69, 2.2 mi south of Monticello.

Drainage area.--14.0 mi².

Tributary to.--Little Sugar River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 16, 1969, 4.33 ft³/s.

Low-flow frequency.--Q_{7,2} = 2.6 ft³/s, Q_{7,10} = 1.5 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436390 Burgy Creek near mouth near Monticello, Wis.

Location.--NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20, T. 3 N., R. 8 E., Green County, at State Highway 39, 0.9 mi upstream from mouth, 1.8 mi southeast of Monticello.

Drainage area.--24.5 mi².

Tributary to.--Little Sugar River.

Type of site.--Miscellaneous site.

Discharge measurement.--Sept. 17, 1969, 7.05 ft³/s.

Low-flow frequency.--Q_{7,2} = 4.3 ft³/s, Q_{7,10} = 2.5 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436400 Little Sugar River near Monticello, Wis.

Location.--NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T. 3 N., R. 8 E., Green County, at town road, 3.6 mi southeast of Monticello.

Drainage area.--118 mi².

Tributary to.--Sugar River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--21.0 ft³/s, July 29, 1965.

Low-flow frequency.--Q_{7,2} = 29 ft³/s, Q_{7,10} = 19 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 14 discharge measurements made during the period 1962-69.

Accuracy.--SE_{7,10} = 5 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05436403 Little Sugar River near Monticello, Wis.

Location--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T. 3 N., R. 8 E., Green County, at country road, 4.3 mi southeast of Monticello.

Drainage area--121 mi².

Tributary to--Sugar River.

Type of site--Miscellaneous site.

Discharge measurements--Sept. 12, 1966, 31.3 ft³/s; Sept. 17, 1969, 48.9 ft³/s.

Low-flow frequency--Unable to determine low-flow characteristics, additional discharge measurements are required. Values determined from equations 3 and 4 are too low in comparison to low-flow characteristics at station 05436400.

05436430 Searles Creek near Juda, Wis.

Location--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 11, T. 2 N., R. 8 E., Green County, at bridge on County Trunk S, 4.8 mi north of Juda.

Drainage area--6.35 mi².

Tributary to--Sugar River.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 27, 1968, 0.65 ft³/s; Oct. 18, 1968, 0.71 ft³/s.

Low-flow frequency--Q_{7,2} = 0.54 ft³/s, Q_{7,10} = 0.26 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436440 Searles Creek near Brodhead, Wis.

Location--NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 17, T. 2 N., R. 9 E., Green County, at bridge on County Trunk F, 4.0 mi northwest of Brodhead.

Drainage area--19.3 mi².

Tributary to--Sugar River.

Type of site--Miscellaneous site.

Discharge measurements--Oct. 18, 1968, 1.79 ft³/s, Sept. 17, 1969, 1.51 ft³/s.

Low-flow frequency--Q_{7,2} = 1.2 ft³/s, Q_{7,10} = 0.56 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436450 Norwegian Creek near Brodhead, Wis.

Location--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 29, T. 3 N., R. 10 E., Rock County, at bridge on County Trunk B, 5.2 mi northeast of Brodhead.

Drainage area--4.35 mi².

Tributary to--Sugar River.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 26, 1968, 0.05 ft³/s; Oct. 18, 1968, 0.33 ft³/s.

Low-flow frequency--Q_{7,2} = 0.07 ft³/s, Q_{7,10} = 0.02 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05436460 Norwegian Creek near Albany, Wis.

Location--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 12, T. 2 N., R. 9 E., Green County, at bridge on County Trunk E, 3.8 mi southeast of Albany.

Drainage area--15.2 mi².

Tributary to--Sugar River.

Type of site--Miscellaneous site.

Discharge measurement--Oct. 18, 1968, 3.99 ft³/s.

Low-flow frequency--Q_{7,2} = 2.4 ft³/s, Q_{7,10} = 1.4 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436500 Sugar River near Brodhead, Wis.

Location--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 26, T. 2 N., R. 9 E., Green County, at town road, 1.3 mi southwest of Brodhead.

Drainage area--523 mi².

Tributary to--Pecatonica River.

Type of site--Gaging station.

Period of record--January 1914 to September 1975.

Average discharge--61 years, 343 ft³/s.

Extremes--Maximum discharge, 14,800 ft³/s Sept. 13, 1915; minimum discharge, 35 ft³/s Sept. 19, 1959.

Period of consecutive days	Magnitude and frequency of annual low flow					
	Discharge, in cubic feet per second, for indicated recurrence interval, in years					
	2	5	10	20	50	100
7	130	110	94	86	77	72
14	140	110	100	95	87	83
30	150	120	110	100	94	89
60	170	140	120	110	100	96
90	180	150	130	120	110	110

Duration table of daily flow							
Discharge, in cubic feet per second, which was exceeded for indicated percent of time							
Percent	2	5	10	20	30	40	50
ft ³ /s	1,500	870	560	390	310	270	230
Percent	60	70	80	90	95	98	99.9
ft ³ /s	210	190	170	140	130	110	67

Accuracy--SE_{7,2} = 4 percent, SE_{7,10} = 5 percent.

05436510 Sylvester Creek near Monroe, Wis.

Location--SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20, T. 2 N., R. 8 E., Green County, at bridge on town road near intersection with State Highway 59, 4.0 mi northeast of Monroe.

Drainage area--6.06 mi².

Tributary to--Sugar River.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 15, 1968, 2.62 ft³/s; Aug. 26, 1968, 2.15 ft³/s; Oct. 18, 1968, 3.46 ft³/s.

Low-flow frequency--Q_{7,2} = 1.6 ft³/s, Q_{7,10} = 1.1 ft³/s.

Basis of estimate--Correlated with Sugar River near Brodhead using 3 discharge measurements made in 1968.

Accuracy--SE_{7,10} = 22 percent (basin average).

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05436520 Sylvester Creek near Juda, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 2 N., R. 8 E., Green County, at bridge on County Trunk S, 2.6 mi north of Juda.

Drainage area.--15.3 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 26, 1968, 5.27 ft³/s; Oct. 18, 1968, 7.01 ft³/s.

Low-flow frequency.--Q_{7,2} = 3.6 ft³/s, Q_{7,10} = 2.2 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436540 Juda Branch at Juda, Wis.

Location.--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T. 1 N., R. 8 E., Green County, at bridge on County Trunk S, 0.2 mi south of Juda.

Drainage area.--4.67 mi².

Tributary to.--Sylvester Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 1.74 ft³/s; Oct. 18, 1968, 2.03 ft³/s.

Low-flow frequency.--Unable to determine low-flow characteristics, additional discharge measurements are required. Values determined by equations 3 and 4 are too much in comparison to low-flow characteristics at 05436542.

05436542 Juda Branch at Juda, Wis.

Location.--NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 1, T. 1 N., R. 8 E., Green County, at bridge on State Highways 11 and 81, at Juda.

Drainage area.--8.13 mi².

Tributary to.--Sylvester Creek.

Type of site.--Miscellaneous site.

Minimum discharge measured.--1.74 ft³/s, Aug. 27, 1968.

Low-flow frequency.--Q_{7,2} = 0.80 ft³/s, Q_{7,10} = 0.39 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 7 discharge measurements made during the period 1968-76.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05436550 Riley School Branch at Juda, Wis.

Location.--SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 6, T. 1 N., R. 9 E., Green County, at bridge on State Highways 11 and 81, 1.0 mi east of Juda.

Drainage area.--4.93 mi².

Tributary to.--Juda Branch.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 0.50 ft³/s; Oct. 18, 1968, 0.68 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.46 ft³/s, Q_{7,10} = 0.22 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05436560 Juda Branch near Juda, Wis.

Location.--NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32, T. 2 N., R. 9 E., Green County, at bridge on County Trunk OK, 2.4 mi northeast of Juda.

Drainage area.--16.9 mi².

Tributary to.--Sylvester Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 26, 1968, 4.52 ft³/s; Oct. 18, 1968, 5.67 ft³/s.

Low-flow frequency.--Q_{7,2} = 3.2 ft³/s, Q_{7,10} = 1.8 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436600 Sylvester Creek near Brodhead, Wis.

Location.--NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34, T. 2 N., R. 9 E., Green County, at town road, 2.4 mi southwest of Brodhead.

Drainage area.--44.7 mi².

Tributary to.--Sugar River.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--8.19 ft³/s, July 29, 1965.

Low-flow frequency.--Q_{7,2} = 11 ft³/s, Q_{7,10} = 7.4 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 15 discharge measurements made during the period 1962-69.

Accuracy.--SE_{7,10} = 6 percent.

05436620 OK Creek near Brodhead, Wis.

Location.--NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11, T. 1 N., R. 9 E., Green County, at bridge on town road, 3.8 mi south of Brodhead.

Drainage area.--8.37 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 15, 1968, 0.86 ft³/s; Aug. 27, 1968, 1.23 ft³/s; Oct. 18, 1968, 2.33 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.56 ft³/s, Q_{7,10} = 0.31 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 3 discharge measurements made in 1968.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05436640 Spring Creek near Brodhead, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 1 N., R. 9 E., Green County, at bridge on County Trunk OK, 7.5 mi southwest of Brodhead.

Drainage area.--8.31 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurement.--Aug. 27, 1968, 2.22 ft³/s.

Low-flow frequency.--Q_{7,2} = 1.5 ft³/s, Q_{7,10} = 0.89 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05436641 Oakley Branch near Brodhead, Wis.

Location.--NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 30, T. 1 N., R. 9 E., Green County, at bridge on County Trunk OK, 7.5 mi southwest of Brodhead.

Drainage area.--2.94 mi².

Tributary to.--Spring Creek.

Type of site.--Miscellaneous site.

Discharge measurement.--Aug. 27, 1968, 0.42 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.35 ft³/s, Q_{7,10} = 0.18 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436642 Spring Creek near Brodhead, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 1 N., R. 9 E., Green County, 200 ft downstream from bridge on County Trunk OK, 70 ft downstream from mouth of Oakley Branch, 7.5 mi southwest of Brodhead.

Drainage area.--11.5 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 2.64 ft³/s; Oct. 18, 1968, 5.25 ft³/s.

Low-flow frequency.--Q_{7,2} = 2.4 ft³/s, Q_{7,10} = 1.4 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436650 Spring Creek near Brodhead, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11, T. 1 N., R. 9 E., Green County, at bridge on town road, 4.2 mi south of Brodhead.

Drainage area.--18.2 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 5.45 ft³/s; Oct. 18, 1968, 8.93 ft³/s.

Low-flow frequency.--Q_{7,2} = 4.2 ft³/s, Q_{7,10} = 2.6 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436670 Taylor Creek near Brodhead, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 4, T. 2 N., R. 10 E., Rock County, at culvert on town road, 4.1 mi northeast of Brodhead.

Drainage area.--3.01 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 26, 1968, 0.21 ft³/s; Oct. 18, 1968, 0.45 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.20 ft³/s, Q_{7,10} = 0.09 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05436675 Swan Creek at Orfordville, Wis.

Location--SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 2 N., R. 10 E., Rock County, at sewage-treatment plant, at Orfordville.

Drainage area--1.00 mi².

Tributary to--Taylor Creek.

Type of site--Miscellaneous site.

Discharge measurements--June 1, 1972, 0 ft³/s; Aug. 1, 1972, 0 ft³/s; Nov. 8, 1973, 0.005 ft³/s; Oct. 7, 1975, 0 ft³/s; July 26, 1976, 0 ft³/s.

Low-flow frequency--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate--Correlated with Sugar River near Brodhead using 5 discharge measurements.

Accuracy--Not applicable.

05436680 Swan Creek near Brodhead, Wis.

Location--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 17, T. 2 N., R. 10 E., Rock County, at bridge on State Highway 11, 2.4 mi east of Brodhead.

Drainage area--8.58 mi².

Tributary to--Taylor Creek.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 26, 1968, 0.73 ft³/s; Oct. 18, 1968, 1.41 ft³/s.

Low-flow frequency--Q_{7,2} = 0.64 ft³/s, Q_{7,10} = 0.39 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436700 Taylor Creek near Brodhead, Wis.

Location--NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 31, T. 2 N., R. 10 E., Rock County, at town road, 1.7 mi southeast of Brodhead.

Drainage area--26.1 mi².

Tributary to--Sugar River.

Type of site--Low-flow partial-record station.

Minimum discharge measured--2.97 ft³/s, July 29, 1965.

Low-flow frequency--Q_{7,2} = 4.6 ft³/s, Q_{7,10} = 3.0 ft³/s.

Basis of estimate--Correlated with Sugar River near Brodhead using 16 discharge measurements made during the period 1962-69.

Accuracy--SE_{7,10} = 10 percent.

05436710 Willow Creek near Orfordville, Wis.

Location--SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11, T. 1 N., R. 10 E., Rock County, just upstream from mouth of unnamed tributary, 4.5 mi south of Orfordville.

Drainage area--8.89 mi².

Tributary to--Taylor Creek.

Type of site--Miscellaneous site.

Discharge measurements--Aug. 26, 1968, 1.42 ft³/s; Oct. 18, 1968, 1.76 ft³/s.

Low-flow frequency--Q_{7,2} = 1.2 ft³/s, Q_{7,10} = 0.59 ft³/s.

Basis of estimate--Used regression equations 3 and 4.

Accuracy--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05436720 Willow Creek tributary near Orfordville, Wis.

Location.--SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11, T. 1 N., R. 10 E., Rock County, at bridge on Skinner Road, 4.5 mi south of Orfordville.

Drainage area.--6.97 mi².

Tributary to.--Willow Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 26, 1968, 1.10 ft³/s; Oct. 18, 1968, 1.06 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.80 ft³/s, Q_{7,10} = 0.40 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436730 Willow Creek near Brodhead, Wis.

Location.--NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 7, T. 1 N., R. 10 E., Rock County, at bridge on State Highway 81, 3.6 mi south of Brodhead.

Drainage area.--22.8 mi².

Tributary to.--Taylor Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 4.15 ft³/s; Oct. 18, 1968, 4.97 ft³/s.

Low-flow frequency.--Q_{7,2} = 3.0 ft³/s, Q_{7,10} = 1.6 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436735 Taylor Creek near Brodhead, Wis.

Location.--SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 7, T. 1 N., R. 10 E., Rock County, at bridge on Smith Road, 1.0 mi upstream from mouth, 4.3 mi south of Brodhead.

Drainage area.--53.5 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 14.7 ft³/s; Oct. 18, 1968, 16.8 ft³/s.

Low-flow frequency.--Q_{7,2} = 9.4 ft³/s, Q_{7,10} = 5.4 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05436740 Sugar River tributary near Brodhead, Wis.

Location.--SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19, T. 1 N., R. 10 E., Rock County, at bridge on town road, 5.8 mi south of Brodhead.

Drainage area.--4.07 mi².

Tributary to.--Sugar River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 0 ft³/s; Oct. 18, 1968, 0.17 ft³/s.

Low-flow frequency.--Q_{7,2} = 0 ft³/s, Q_{7,10} = 0 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--Not applicable.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05436750 Sugar River near Brodhead, Wis.	
<u>Location</u> .--NW¼SW¼ sec. 28, T. 1 N., R. 10 E., Rock County, at bridge on Nelson Road, 7.7 mi southeast of Brodhead.	
<u>Drainage area</u> .--667 mi ² .	<u>Tributary to</u> .--Pecatonica River.
<u>Type of site</u> .--Miscellaneous site.	
<u>Discharge measurements</u> .--Aug. 26, 1968, 240 ft ³ /s; Oct. 18, 1968, 288 ft ³ /s.	
05436760 Sugar River tributary near Brodhead, Wis.	
<u>Location</u> .--NW¼SW¼ sec. 34, T. 1 N., R. 10 E., Rock County, at bridge on Nelson Road, 8.7 mi southeast of Brodhead.	
<u>Drainage area</u> .--14.0 mi ² .	<u>Tributary to</u> .--Sugar River.
<u>Type of site</u> .--Miscellaneous site.	
<u>Discharge measurements</u> .--Aug. 26, 1968, 3.64 ft ³ /s; Oct. 18, 1968, 4.32 ft ³ /s.	
<u>Low-flow frequency</u> .--Q _{7,2} = 2.5 ft ³ /s, Q _{7,10} = 1.4 ft ³ /s.	
<u>Basis of estimate</u> .--Used regression equations 3 and 4.	
<u>Accuracy</u> .--SE _{7,2} = 39 percent, SE _{7,10} = 51 percent.	
05436800 Sugar River near Brodhead, Wis.	
<u>Location</u> .--SW¼NE¼ sec. 32, T. 29 N., R. 11 E., Winnebago County, Ill., at bridge on Yale Bridge Road in Illinois, 11.9 mi southeast of Brodhead.	
<u>Drainage area</u> .--705 mi ² .	<u>Tributary to</u> .--Pecatonica River.
<u>Type of site</u> .--Miscellaneous site.	
<u>Discharge measurements</u> .--Aug. 26, 1968, 249 ft ³ /s; Oct. 18, 1968, 320 ft ³ /s.	
05437110 Raccoon Creek near Orfordville, Wis.	
<u>Location</u> .--NW¼SW¼ sec. 4, T. 1 N., R. 11 E., Rock County, at bridge on Luther Valley Road, 4.4 mi southeast of Orfordville.	
<u>Drainage area</u> .--6.05 mi ² .	<u>Tributary to</u> .--Pecatonica River.
<u>Type of site</u> .--Miscellaneous site.	
<u>Discharge measurements</u> .--Aug. 27, 1968, 0.75 ft ³ /s; Oct. 18, 1968, 0.34 ft ³ /s.	
<u>Low-flow frequency</u> .--Q _{7,2} = 0.30 ft ³ /s, Q _{7,10} = 0.12 ft ³ /s.	
<u>Basis of estimate</u> .--Used regression equations 3 and 4.	
<u>Accuracy</u> .--SE _{7,2} = 39 percent, SE _{7,10} = 51 percent.	
05437115 Raccoon Creek near Orfordville, Wis.	
<u>Location</u> .--SW¼SE¼ sec. 8, T. 1 N., R. 11 E., Rock County, at bridge on Cleopas Road, 5.3 mi south of Orfordville.	
<u>Drainage area</u> .--8.02 mi ² .	<u>Tributary to</u> .--Pecatonica River.
<u>Type of site</u> .--Miscellaneous site.	
<u>Discharge measurements</u> .--Aug. 27, 1968, 1.89 ft ³ /s; Oct. 18, 1968, 2.23 ft ³ /s.	
<u>Low-flow frequency</u> .--Q _{7,2} = 1.4 ft ³ /s, Q _{7,10} = 0.77 ft ³ /s.	
<u>Basis of estimate</u> .--Used regression equations 3 and 4.	
<u>Accuracy</u> .--SE _{7,2} = 39 percent, SE _{7,10} = 51 percent.	

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05437120 Raccoon Creek near Orfordville, Wis.

Location.--NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 1 N., R. 11 E., Rock County, at bridge on State Highway 81, 7.5 mi southeast of Orfordville.

Drainage area.--12.1 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 3.60 ft³/s; Oct. 18, 1968, 4.01 ft³/s; July 27, 1976, 3.73 ft³/s.

Low-flow frequency.--Q_{7,2} = 2.6 ft³/s, Q_{7,10} = 1.6 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05437130 Raccoon Creek tributary near Beloit, Wis.

Location.--NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27, T. 1 N., R. 11 E., Rock County, at bridge on State Highway 81, 6.3 mi west of intersection of State Highways 81 and 213 in Beloit.

Drainage area.--3.30 mi².

Tributary to.--Raccoon Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 0.28 ft³/s; Oct. 18, 1968, 0.36 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.27 ft³/s, Q_{7,10} = 0.12 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05437140 Raccoon Creek near Beloit, Wis.

Location.--SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35, T. 1 N., R. 11 E., Rock County, at bridge on St. Lawrence Street, 5.4 mi west of intersection of State Highways 81 and 213 in Beloit.

Drainage area.--24.9 mi².

Tributary to.--Pecatonica River.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 5.86 ft³/s; Oct. 18, 1968, 7.11 ft³/s.

Low-flow frequency.--Q_{7,2} = 4.1 ft³/s, Q_{7,10} = 2.4 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05437160 East Fork Raccoon Creek near Beloit, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T. 1 N., R. 11 E., Rock County, at bridge on town road, 5.0 mi northwest of intersection of State Highways 81 and 213 in Beloit.

Drainage area.--3.24 mi².

Tributary to.--Raccoon Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 0.45 ft³/s; Oct. 18, 1968, 0.69 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.42 ft³/s, Q_{7,10} = 0.22 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05437170 East Fork Raccoon Creek tributary near Beloit, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 1 N., R. 12 E., Rock County, at bridge on town road, 3.0 mi northwest of intersection of State Highways 81 and 213 in Beloit.

Drainage area.--2.29 mi².

Tributary to.--East Fork Raccoon Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 0.02 ft³/s; Oct. 18, 1968, 0.23 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.03 ft³/s, Q_{7,10} < 0.01 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05437180 East Fork Raccoon Creek near Beloit, Wis.

Location.--SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T. 1 N., R. 12 E., Rock County, at bridge on State Highway 81, 3.3 mi west of intersection of State Highways 81 and 213 in Beloit.

Drainage area.--10.6 mi².

Tributary to.--Raccoon Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 2.01 ft³/s; Oct. 18, 1968, 4.35 ft³/s; July 27, 1976, 1.66 ft³/s.

Low-flow frequency.--Q_{7,2} = 1.1 ft³/s, Q_{7,10} = 0.53 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 3 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

05437190 East Fork Raccoon Creek tributary near Beloit, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20, T. 1 N., R. 12 E., Rock County, at bridge on town road, 2.3 mi northwest of intersection of State Highways 81 and 213 in Beloit.

Drainage area.--2.91 mi².

Tributary to.--East Fork Raccoon Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 0.65 ft³/s; Oct. 18, 1968, 0.85 ft³/s.

Low-flow frequency.--Q_{7,2} = 0.52 ft³/s, Q_{7,10} = 0.29 ft³/s.

Basis of estimate.--Used regression equations 3 and 4.

Accuracy.--SE_{7,2} = 39 percent, SE_{7,10} = 51 percent.

05437200 East Fork Raccoon Creek tributary near Beloit, Wis.

Location.--SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30, T. 1 N., R. 12 E., Rock County, at State Highway 81, 2.9 mi west of intersection of State Highways 81 and 213 in Beloit.

Drainage area.--4.64 mi².

Tributary to.--East Fork Raccoon Creek.

Type of site.--Low-flow partial-record station.

Minimum discharge measured.--0.47 ft³/s, Oct. 10, 1963.

Low-flow frequency.--Q_{7,2} = 0.82 ft³/s, Q_{7,10} = 0.39 ft³/s.

Basis of estimate.--Correlated with Sugar River near Brodhead using 33 discharge measurements made during the period 1961-76.

Accuracy.--SE_{7,10} = 16 percent.

Table 1.--Low-flow characteristics for sites in the Pecatonica-Sugar River basin--Continued

05437210 East Fork Raccoon Creek near Beloit, Wis.

Location.--SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 31, T. 1 N., R. 12 E., Rock County, at bridge on town road, 4.3 mi west of Rock River in Beloit.

Drainage area.--16.2 mi².

Tributary to.--Raccoon Creek.

Type of site.--Miscellaneous site.

Discharge measurements.--Aug. 27, 1968, 4.08 ft³/s; Oct. 18, 1968, 6.78 ft³/s; Sept. 17, 1969, 4.09 ft³/s.

Low-flow frequency.--Q_{7,2} = 1.7 ft³/s, Q_{7,10} = 0.82 ft³/s.

Basis of estimate.--Correlated with Sugar River at Brodhead using 3 discharge measurements.

Accuracy.--SE_{7,10} = 22 percent (basin average).

Table 2.--Basin characteristics for low-flow partial-record and selected gaging stations in the Pecatonica-Sugar River basin

Station number	Station name	Drainage area (mi ²) A	Main-channel slope (ft/mi) S	Main-channel length (mi) L	Basin storage (percent) BS
05411510	Sandy Creek near Bagley	18.9	42.0	9.97	0.00
05413100	Little Grant River near Lancaster	45.5	20.5	13.5	.00
05413400	Pigeon Creek near Lancaster	6.93	49.8	4.5	.00
05413450	Rattlesnake Creek near Burton	44.7	17.5	16.2	.03
05413600	Boice Creek near Potosi	26.3	31.8	9.17	.00
05414000	Platte River near Rockville	142	11.5	26	.00
05414150	Little Platte River near Platteville	54.0	14.9	15.7	.00
05414200	Bear Branch near Platteville	2.72	60.2	3.3	.00
05414250	Blockhouse Creek near Dickeyville	36.3	31.1	144	.00
05414800	Sinsinawa River near Hazel Green	24.9	24.5	7.58	.00
05414900	Pats Creek near Elk Grove	8.50	25.6	6.26	.00
05415000	Galena River at Buncombe	125	12.6	28.2	.00
05415500	East Fork Galena River at Council Hill	20.1	41.5	8.75	.00
05432100	Pecatonica River near Mineral Point	68.8	10.7	27.7	.00
05432300	Rock Branch near Mineral Point	4.83	80.1	4.7	.00
05432550	Ames Branch near Darlington	44.3	13.0	15.8	.00
05432650	Spafford Creek at South Wayne	43.4	11.2	14.4	.02
05432800	Dodge Branch at Hollandale	66.0	10.8	19.9	.06
05433500	Yellowstone River near Blanchardville	28.5	26.4	11.8	.00
05433700	Whiteside Creek near Argyle	11.1	26.9	9.02	.00
05434300	Jordan Creek near Browntown	14.3	26.3	10.6	.10
05435950	Sugar River near Verona	82.7	7.0	17.9	.58
05436200	Sugar River tributary No. 2 near Brooklyn	3.33	59.4	2.35	.00
05436250	Allen Creek near Albany	70.5	6.27	26.2	.35
05436300	Little Sugar River near New Glarus	31.6	13.4	12.9	.00
05436400	Little Sugar River near Monticello	118	6.01	22.2	.02
05436600	Sylvester Creek near Brodhead	44.7	10.3	13.4	.00
05436700	Taylor Creek near Brodhead	26.1	18.4	10.3	.00
05437200	East Fork Racoon Creek tributary near Beloit	4.64	24.3	5.0	.00

Table 2.--Basin characteristics for low-flow partial-record and selected gaging stations in the Pecatonica-Sugar River basin

Forest cover (percent)	Mean annual precipitation (in.)	Soil infil- tration rate (in/h)	Mean annual snowfall (in.)	Base-flow index (ft ³ /s)/mi ²	Drainage density (mi/mi ²)
F	P	I	Sn	Bf	D
34.0	33.7	1.63	35	0.109	2.36
14.3	33.7	.26	41	.233	1.99
1.62	33.8	.26	41	.289	1.91
5.05	33.9	.99	39	.136	2.08
7.72	34.0	1.38	39	.229	2.29
22.3	33.6	.21	39	.239	2.22
6.01	33.8	.26	39	.143	2.44
1.07	33.8	.12	39	.289	2.44
12.6	34.0	1.11	35	.175	2.21
.56	34.1	.50	34	.153	2.28
4.00	33.7	.50	35	.143	2.06
4.14	33.7	.37	36	.168	2.27
3.68	33.7	.47	35	.159	2.25
9.8	33.3	.26	37	.171	2.22
6.42	33.0	.12	38	.171	3.60
2.82	33.2	.37	35	.180	2.53
2.76	33.2	.18	34	.166	2.01
13.9	32.0	.12	39	.268	2.64
7.02	32.7	.12	38	.161	2.42
10.0	32.8	.12	35	.319	1.91
9.7	33.0	.12	35	.265	2.74
8.43	30.5	.84	39	.148	1.51
5.69	30.9	1.65	37	.158	1.88
4.65	31.2	1.77	33	.196	1.62
14.9	31.0	.12	35	.287	2.60
9.9	31.5	.53	35	.266	2.49
4.79	32.7	.52	35	.220	2.05
7.49	32.4	1.53	35	.124	1.97
3.85	32.8	1.65	36	.087	1.70

Table 3.--Comparison of methods available to estimate low-flow characteristics in the Pecatonica-Sugar River basin

Type of site	Type of data	Number of sites with data	Time required to collect data	Analytical method to determine $Q_{7,10}$	Standard error of 10-year low flow ($SE_{7,10}$)
Gaging station	10 years or more recorded stream-flow	10	10-61 years	Frequency analysis	10 percent
Gaging station	10 years recorded streamflow	¹ 1	10 years	Frequency analysis	16 percent
Low-flow partial-record stations	9-33 base-flow discharge measurements	25	3-10 years	Correlation analysis	14 percent
Miscellaneous measurement sites	3 base-flow discharge measurements	63	1- 2 years	Correlation analysis	22 percent
Miscellaneous measurement sites	1 base-flow discharge measurement and drainage-basin characteristics	45	2 hours	Regression analysis	51 percent
Ungaged sites with drainage areas less than 150 mi ²	Drainage-basin characteristics	Unlimited	1 hour	Regression analysis	64 percent

¹Example was presented to illustrate the accuracy that could be obtained from 10 years of recorded streamflow in the basin. Data from existing gaging stations were adjusted to represent 10 years of recorded streamflow for the analysis.