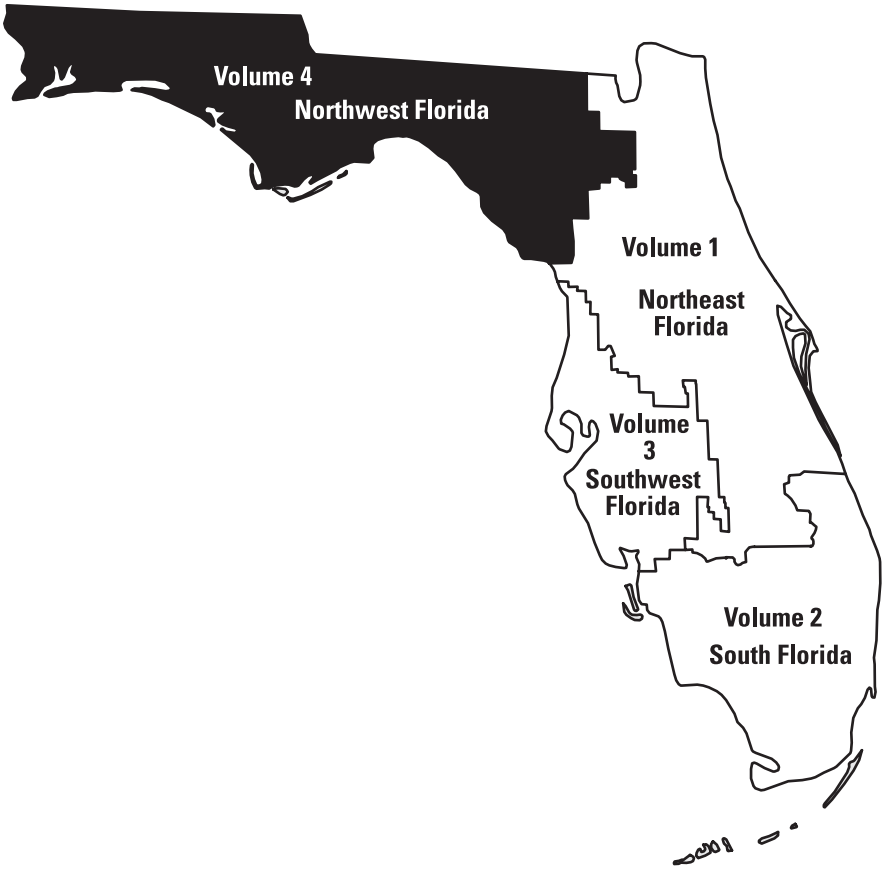
USGS
science for a changing world

Prepared in cooperation with the State of Florida and with other agencies

Water Resources Data
Florida
Water Year 2003

Volume 4. Northwest Florida



Water-Data Report FL-03-4

U.S. Department of the Interior
U.S. Geological Survey

CALENDAR FOR WATER YEAR 2003

2002

OCTOBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

NOVEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

DECEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

2003

JANUARY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

FEBRUARY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

MARCH

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

APRIL

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

MAY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

JUNE

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

JULY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

AUGUST

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

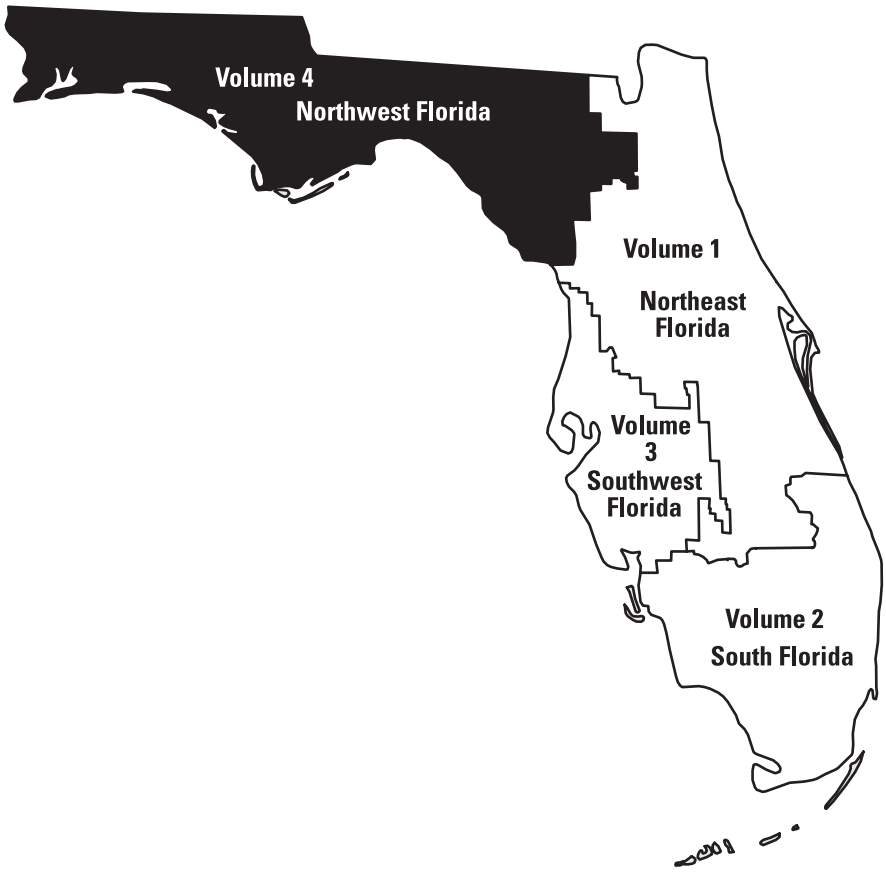
SEPTEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Water Resources Data
Florida
Water Year 2003

Volume 4. Northwest Florida

Water-Data Report FL-03-4



Prepared in cooperation with the
State of Florida and with other agencies

U.S. Department of the Interior
U.S. Geological Survey

U.S. Department of the Interior
Gale A. Norton, Secretary

U.S. Geological Survey
Charles G. Groat, Director

U.S. Geological Survey
2010 Levy Avenue
Tallahassee, FL 32310
850 942-9500

Information about the USGS, Florida Integrated Science Center is available on the Internet at

http://fl.water.usgs.gov/

Information about all USGS reports and products is available by calling 1-888-ASK-USGS or on the Internet via the World Wide Web at http://www.usgs.gov/

Additional earth science information is available by accessing the USGS home page at http://www.usgs.gov/

PREFACE

This volume of the annual hydrologic data report of Florida is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for Florida are contained in four volumes:

Volume 1. Northeast Florida
Volume 2. South Florida
Volume 3. Southwest Florida
Volume 4. Northwest Florida

This report was prepared for publication by Darlene A. Blum and A. Ernie Alvarez under the supervision of Stewart A. Tomlinson and James D. Goin. The following individuals contributed significantly to the collection, processing, and tabulation of the data:

D.B. Dale	D.M. Stephens
A.C. Jackson	J.A. Tomberlin
M.E. Ohlson	R.J. Verdi
E.L. Rau	D. J. Walsh
R.B. Stanley	S.G. Welch

This report was prepared in cooperation with the State of Florida and with other agencies listed on page 1.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	March 2004	Annual-Oct. 1, 2002 thru Sept. 30, 2003

4. TITLE AND SUBTITLE

Water Resources Data, Florida, Water Year 2003
Volume 4, Northwest Florida

5. FUNDING NUMBERS

6. AUTHOR(S)

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

U.S. Geological Survey
2010 Levy Avenue
Tallahassee, FL 32310

8. PERFORMING ORGANIZATION REPORT NUMBER

USGS-WDR-FL-03-4

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)

U.S. Geological Survey
2010 Levy Avenue
Tallahassee, FL 32310

10. SPONSORING / MONITORING AGENCY REPORT NUMBER

USGS-WDR-FL-03-4

11. SUPPLEMENTARY NOTES

Prepared in cooperation with the State of Florida and other agencies.

12a. DISTRIBUTION / AVAILABILITY STATEMENT

No restriction on distribution. This report may be purchased from:
National Technical Information Center
Springfield, VA 22161

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

This report series for the 2003 water year for the state of Florida consists of records for continuous or daily discharge for 385 streams, periodic discharge for 13 streams, continuous or daily stage for 255 streams, periodic stage for 13 streams, peak stage and discharge for 36 streams, continuous or daily elevations for 13 lakes, periodic elevations for 46 lakes, continuous ground-water levels for 441 wells, periodic ground-water levels for 1,227 wells, and quality-of-water for 133 surface-water sites and 308 wells.

This volume (Volume 4, Northwest Florida) contains records of continuous or daily discharge for 72 streams, periodic discharge for 3 streams, continuous or daily stage for 13 streams, periodic stage for 0 streams, peak stage and discharge for 28 streams, continuous or daily elevations for 1 lake, periodic elevations for 0 lakes, continuous ground-water levels for 3 wells, periodic ground-water levels for 0 wells, and quality-of-water for 3 surface-water sites and 0 wells.

These data represent the National Water Data System records collected by the U.S. Geological Survey and cooperating local, State, and Federal agencies in Florida.

14. SUBJECT TERMS

*Florida, *Hydrologic data, *Surface water, *Ground water, *Water-quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water levels, Water analyses, Elevations, Water wells

15. NUMBER OF PAGES

176

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
UNCLASSIFIED			UNCLASSIFIED

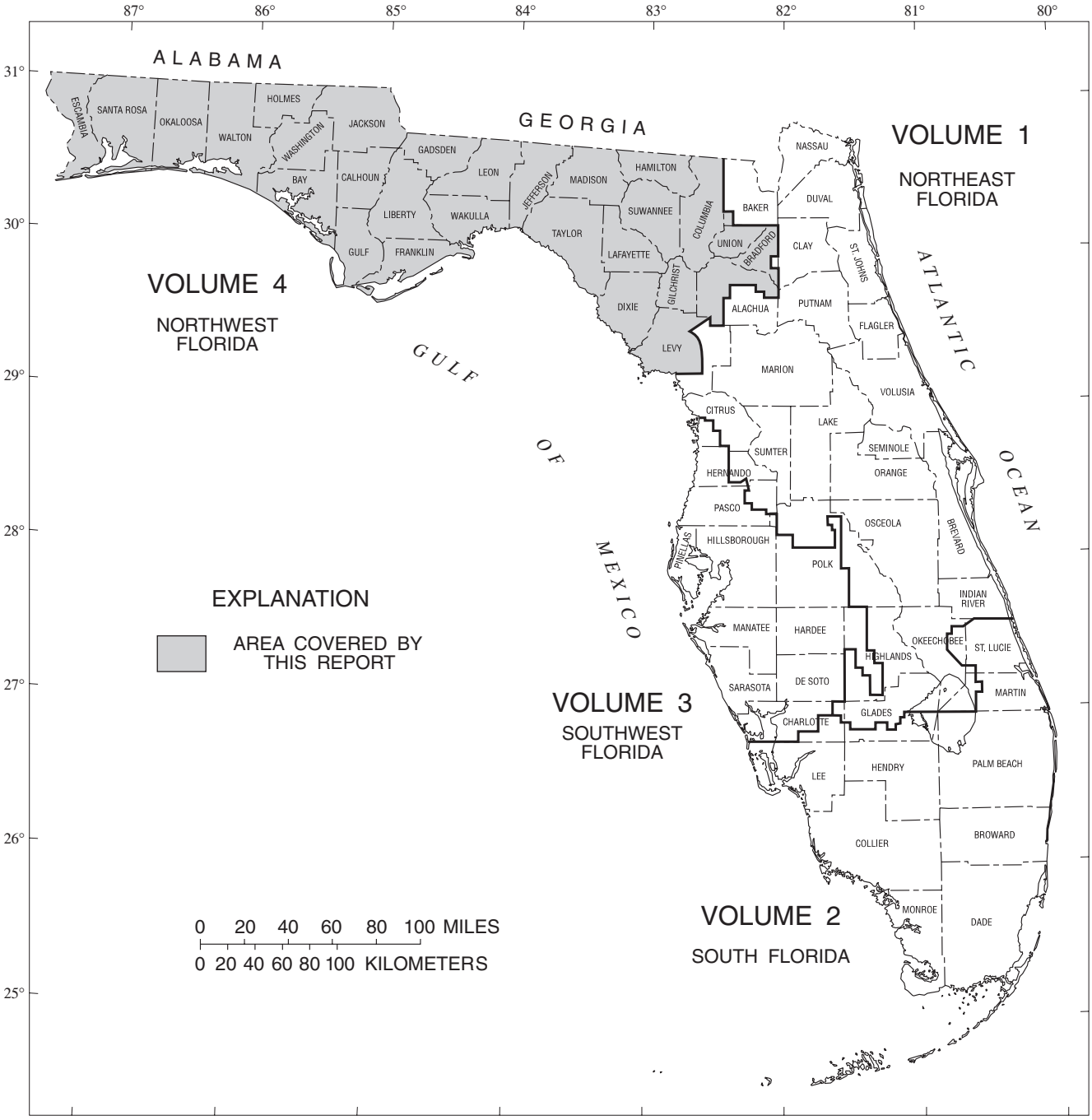


Figure 1. Geographic area covered by this report.

CONTENTS

Preface iii
List of Illustrations viii
List of Surface-Water Stations, in Downstream Order, for Which Records are Published ix
List of Ground-Water Wells, by County, for Which Records are Published x
List of Discontinued Surface-Water Discharge Stations xi
Introduction 1
Cooperation 1
Summary of Hydrologic Conditions 2
- Precipitation 2
- Surface Water 2
- Water Quality 3
- Ground Water 3

Downstream Order and Station Number System 12
Numbering system for wells and miscellaneous sites 12
Special Networks and Programs 13
Explanation of Stage-and Water-Discharge Records 14
- Data Collection and Computation 14
- Data Presentation 15
  - Station Manuscript 16
  - Peak Discharge Greater than Base Discharge 17
  - Data Table of Daily Mean Values 17
  - Statistics of Monthly Mean Data 17
  - Summary Statistics 17
- Identifying Estimated Daily Discharge 19
- Accuracy of Field Data and Computed Results 20
- Other Records Available 20

Explanation of Precipitation Records 20
- Data Collection and Computation 20
- Data Presentation 21

Explanation of Water-Quality Records 21
- Collection and Examination of Data 21
- Water Analysis 21

Surface-Water-Quality Records 22
- Classification of Records 22
- Accuracy of the Records 22
- Arrangement of Records 23
- On-Site Measurements and Sample Collection 23
- Water Temperature 23
- Sediment 24
- Laboratory Measurements 24
- Data Presentation 24
- Remark Codes 26
- Water Quality-Control Data 26
- Blank Samples 26
- Reference Samples 27
- Replicate Samples 27
- Spike Samples 28

Explanation of Ground-Water-Level Records 28

Site Identification Numbers 28
Data Collection and Computation 28
Data Presentation 29
Water-Level Tables 30
Hydrographs 30
Ground-Water-Quality Data 30
Data Collection and Computation 30
Laboratory Measurements 30
Access to USGS Water Data 31
Definition of Terms 32
Publications on Techniques of Water-Resources Investigations 47
Stage, Discharge, and Water Quality of Streams 53
Crest-Gage Data at Partial Record Stations 161
Elevation of Lakes 167
Well Descriptions and Ground-Water Data 169
Index 176

ILLUSTRATIONS

Figure 1. Geographic area covered by this report v

Figure 2. Santa Fe River near Worthington Springs (A) 2003 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1932-2003, and (B) the monthly mean discharge for the period 1994-2003 4

Figure 3. Suwannee River at Branford (A) 2003 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1931-2003, and (B) the monthly mean discharge for the period 1994-2003 5

Figure 4. Steinhatchee River near Cross City (A) 2003 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1950-2003, and (B) the monthly mean discharge for the period 1994-2003 6

Figure 5. Ochlockonee River near Havana (A) 2003 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1926-2003, and (B) the monthly mean discharge for the period 1994-2003 7

Figure 6. Chipola River near Altha (A) 2003 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1913-2003, and (B) the monthly mean discharge for the period 1994-2003 8

Figure 7. Shoal River near Crestview (A) 2003monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1938-2003, and (B) the monthly mean discharge for the period 1994-2003 9

Figure 8. Escambia River near Century (A) 2003 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1934-2003, and (B) the monthly mean discharge for the period 1994-2003 10

Figure 9. USGS Well near Wausau (A) Monthly maximum water level for the 2003 water year compared to maximum, minimum, and mean monthly maximum water levels for the period 1963-2003 and (B) the monthly maximum water level for the period 1998-2003 11

Figure 10. System for numbering wells and miscellaneous sites (latitude and longitude) 12

Figure 11. Location of stream gaging and lake gaging stations in Northwest Florida Water Management District 54

Figure 12. Location of stream gaging stations in Suwannee River Water Management District. 55

Figure 13. Location of wells in Wakulla County 170

Figure 14. Location of wells in Washington County 174

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

[Letters after station names designate type of data: (d) discharge, (q) discharge measurements only, (c) chemical, (b) biological, (m) microbiological, (s) sediment, (t) temperature, (e) elevation, gage heights, or contents]

	Station Number	Page
WACCASASSA RIVER BASIN		
Waccasassa River near Gulf Hammock, FL (d,c,t)	02313700	57
SUWANNEE RIVER BASIN		
Suwannee River at White Springs, FL (d,e)	02315500	60
Withlacoochee River near Pinetta, FL (d)	02319000	62
Madison Blue Spring near Madison, FL (d)	02319302	63
Withlacoochee River near Lee, FL (d)	02319394	65
Suwannee River at Ellaville, FL (d,e)	02319500	66
Suwannee River at Dowling Park, FL (d,e)	02319800	68
Suwannee River at Luraville, FL (d,e)	02320000	70
Troy Spring near Branford, FL (d)	02320250	72
Suwannee River at Branford, FL (d,e)	02320500	73
New River near Lake Butler, FL (d)	02321000	75
Santa Fe River at Worthington Springs, FL (d,e)	02321500	76
Santa Fe River near Fort White, FL (d)	02322500	78
Ichetucknee Head Spring near Hildreth, FL (d)	02322685	79
Cedar Head Spring near Hildreth, FL (d)	02322687	81
Blue Hole Spring near Hildreth, FL (d)	02322688	83
Mission Springs Complex near Hildreth, FL(d)	02322691	85
Devil's Eye Spring near Hildreth, FL (d)	02322694	87
Mill Pond Spring near Hildreth, FL (d)	02322695	89
Ichetucknee River at Dampier's Landing near Hildreth, FL (d)	02322698	91
Coffee Springs near Hildreth, FL (d)	02322699	93
Ichetucknee River at Highway 27 near Hildreth, FL (d)	02322700	94
Santa Fe River near Hildreth, FL (d)	02322800	96
Suwannee River near Bell, FL (d)	02323000	97
Suwannee River near Wilcox, FL (d,e)	02323500	98
Fanning Springs near Wilcox, FL (d)	02323502	100
Little Fanning Springs near Wilcox, FL (d)	02323505	101
Manatee Spring near Chiefland, FL (d)	02323566	102
Suwannee River above Gopher River near Suwannee, FL (d,e,c,t)	02323592	103
STEINHATCHEE RIVER BASIN		
Steinhatchee River near Cross City, FL (d)	02324000	108
FENHOLLOWAY RIVER BASIN		
Fenholloway River near Foley, FL (d)	02324400	109
Fenholloway River near Perry, FL (d)	02325000	110
ECONFINA RIVER BASIN		
Econfina River near Perry, FL (d)	02326000	111
AUCILLA RIVER BASIN		
Aucilla River near mouth near Nutall Rise, FL (d,c,t)	02326550	112
ST. MARKS RIVER BASIN		
Ward Creek below Mitchell Pond near Metcalf, GA (d)	304308083555200	115
St. Marks River near Newport, FL (d)	02326900	116
OCHLOCKONEE RIVER BASIN		
Lost Creek at Arran, FL (d)	02327033	117
Sopchoppy River near Sopchoppy, FL (d)	02327100	118
Ochlockonee River near Concord, FL (d)	02328522	119
Ochlockonee River near Havana, FL (d,e)	02329000	120
Little River near Midway, FL (d)	02329600	122
Lake Talquin near Bloxham, FL (e)	02329900	168
Ochlockonee River near Bloxham, FL (d)	02330000	123

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

[Letters after station names designate type of data: (d) discharge, (q) discharge measurements only, (c) chemical, (b) biological, (m) microbiological, (s) sediment, (t) temperature, (e) elevation, gage heights, or contents]

	Station Number	Page
Telogia Creek near Bristol, FL (d)	02330100	124
Ochlockonee River near Smith Creek, FL (d)	02330150	125
CARRABELLE RIVER BASIN		
New River near Sumatra, FL (d)	02330400	127
APALACHICOLA RIVER BASIN		
Spring Creek near Reynoldsville, GA (d)	02357150	128
Apalachicola River at Chattahoochee, FL (d,s,e)	02358000	129
Muddy Branch near Marianna, FL (d)	02358784	132
Chipola River at Marianna, FL (d)	02358789	133
Chipola River near Altha, FL (d)	02359000	134
Apalachicola River near Sumatra, FL (d,s,e)	02359170	135
ECONFINA CREEK BASIN		
Martin Bayou at US 98 at Springfield, FL (d)	02359315	139
Econfina Creek near Bennett, FL (d)	02359500	140
CHOCTAWHATCHEE RIVER BASIN		
Choctawhatchee River near Pittman, FL (d)	02365200	141
Wrights Creek at SH 177A near Bonifay, FL (d)	02365470	142
Choctawhatchee River at Caryville, FL (d)	02365500	143
Bruce Creek at SH 81 near Redbay, FL (d)	02365769	144
Choctawhatchee River near Bruce, FL (d)	02366500	145
ALAQUA CREEK BASIN		
Alaqua Creek near Pleasant Ridge, FL (d)	02366996	146
YELLOW RIVER BASIN		
Yellow River near Oak Grove, FL (d)	02367900	147
Yellow River at Milligan, FL (d)	02368000	148
Shoal River near Mossy Head (d)	02368500	149
Shoal River near Crestview, FL (d)	02369000	150
Yellow River near Milton, FL (d)	02369600	151
BLACKWATER RIVER BASIN		
Blackwater River near Baker, FL (d)	02370000	152
Big Coldwater Creek near Milton, FL (d)	02370500	153
Pond Creek near Milton, FL (d)	02370700	154
ESCAMBIA RIVER BASIN		
Escambia River near Century, FL (d)	02375500	155
Escambia River near Molino, FL (d)	02376033	156
BAYOU MARCUS CREEK BASIN		
Bayou Marcus Creek near Pensacola, FL (d)	02376100	157
PERDIDO RIVER BASIN		
Brushy Creek near Bratt, FL (d)	02376293	158

GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

WAKULLA COUNTY	
300740084293001	171
301446084184601	172
301448084184601	173
WASHINGTON COUNTY	
303025085350501	175

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

The following continuous-record surface-water discharge stations (gaging stations) in Florida have been discontinued. Daily streamflow or stage records were collected and published for the period of record, expressed in water years, shown for each station. Those stations with an asterisk (*) after the station number are currently operated as crest-stage partial-record stations. Discontinued project stations with less than 3 years of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the back side of the title page of this report.† Includes drainage area for Otter Creek.

Station name	Station number	Drainage area (mi^2)	Period of record
Waccasassa River near Otter Creek, FL	02313500	300†	1944-53
Otter Creek at Otter Creek, FL	02314000		1945-53
Tenmile Creek near Lebanon Station. FL	02314200	26	1963-92
Rocky Creek near Belmont, FL	02314986	50	1976-83
Suwanee River near Benton, FL	02315000	2090	1975-02
Hunter Creek near Belmont, FL	02315005	25.4	1979-88
Deep Creek near Suwannee Valley, FL	02315200	88.6	1976-81
			1990-98
Robinson Creek near Suwannee Valley, FL	02315392	27.4	1976-81
Swift Creek at Facil, FL	02315520	65.3	1976-88
Suwannee River at Suwannee Springs, FL	02315550	2630	1975-96
Alapha River near Jennings, FL	02317620	1680	1976-84
			1986-87
			2000-01
Santa Fe River near Graham, FL	02320700	94.9	1957-98
Swift Creek near Lake Butler, FL	02321700	46.0	1957-60
Olustee Creek near Providence, FL	02321800	163	1957-60
Pareners Branch near Bland, FL	02321900	4.5	1993-96
Santa Fe River at US Hwy 441 near High Springs, FL	02321975	859	1992-02
Santa Fe River near High Springs, FL	02322000	950	1931-71
Blues Creek near Gainesville, FL	02322016	5.12	1984-94
Cannon Creek near Lake City, FL	02322616	2.33	1992-98
Steinhatchee River at Steinhatchee, FL	02324170	582	1988-91
Fenholloway River at Foley, FL	02324500	120	1946-92
			1993-95
Aucilla River at Lamont, FL	02326500	747	1950-79
			2000-01
Aucilla River near Scanlon, FL	02326512	805	1977-97
Northeast Drainage Ditch at Weems Road, FL	02326845	17.1	1979-83
Munson Slough at Capital Circle, FL	02327017	52.9	1979-83
Little River near Quincy, FL	02329500	237	1950-91
Quincy Creek at S267 at Quincy, FL	02329534	16.8	1974-92
Quincy Creek at Quincy, FL	02329542	21.9	1974-78
Rocky Comfort Creek near Quincy, FL	02329700	9.46	1964-81
New River near Wilma, FL	02330300	81.7	1964-81
North Mosquito Creek at Chattahoochee, FL	02358500	57.9	1936-42
Apalachicola River near Wewahitchka, FL	02358754	17800	1950-96
Econfina Creek near Compass Lake, FL	02359350	40.5	1962-65
Econfina Creek near Fountain, FL	02359450	70.2	1965-78
Bear Creek near Youngstown, FL	02359550	67.2	1962-65
Seven Runs Bay near Redbay, FL	02365800	25.8	1969-70

Station name	Station number	Drainage area (mi^2)	Period of record
Holmes Creek at Vernon, FL	02366000	386	1950-81
Magnolia Creek near Freeport, FL	02366900	11.2	1968-83
Alaqua Creek near DeFuniak Springs, FL	02367000	65.6	1951-78
Alaqua Creek near Portland, FL	02367006	83.7	1977-94
Rocky Creek near Portland, FL	02367240	42.4	1980-83
Rocky Creek near Niceville, FL	02367250	67.0	1966-68
Turkey Creek near Niceville, FL	02367305	22.7	1966-68
Turkey Creek at SR123 near Niceville, FL	02367307	30.1	1980-81
Juniper Creek at State Hwy. 85 near Niceville, FL	02367310	27.6	1966-75 1978-93
East Bay River near Wynnehaven Beach, FL	02367320	62.0	1966-68
Turkey Creek at Government RR near Niceville, FL	02367355	60.8	1977-81
Turtle Creek near Ocean City, FL	02367390	22.3	1977-81
Baggett Creek near Milligan, FL	02368300	7.80	1965-82
Pond Creek near Dorcas, FL	02368800	94.8	1966-68
Titi Creek near Crestview, FL	02368990	62.9	1966-68
Yellow River near Holt, FL	02369500	1210	1933-41
Big Juniper Creek near Munson, FL	02370200	36.0	1958-67
West Fork Big Coldwater at Cobbtown, FL	02370300	39.5	1958-62
Pine Barren Creek near Barth, FL	02376000	75.3	1952-94
Eightmile Creek near West Pensacola, FL	02376140	11.2	1988-91
Brushy Creek near Walnut Hill, FL	02376300	49.0	1958-91
Jacks Branch near Muscogee, FL	02376700	23.2	1958-62

† Includes drainage area for Otter Creek

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State, local, and Federal agencies, obtains a large amount of data pertaining to the water resources of Florida each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - Florida."

This report series for the 2003 water year for the state of Florida consists of records for continuous or daily discharge for 385 streams, periodic discharge for 13 streams, continuous or daily stage for 255 streams, periodic stage for 13 streams, peak stage and discharge for 36 streams, continuous or daily elevations for 13 lakes, periodic elevations for 46 lakes, continuous ground-water levels for 441 wells, periodic ground-water levels for 1,227 wells, and quality-of-water for 133 surface-water sites and 308 wells.

This volume (Volume 4, Northwest Florida) contains records of continuous or daily discharge for 72 streams, periodic discharge for 3 streams, continuous or daily stage for 13 streams, periodic stage for 0 streams, peak stage and discharge for 28 streams, continuous or daily elevations for 1 lake, periodic elevations for 0 lakes, continuous ground-water levels for 3 wells, periodic ground-water levels for 0 wells, and quality-of-water for 3 surface-water sites and 0 wells.

This series of annual reports for Florida began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the l975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Florida were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from Distribution Branch, Text products Section, U.S. Geological Survey, Branch of Information Services, Open-File Reports Section, Box 25286, Federal Center, Denver, CO 80225-00286.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report FL-02-4." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the Office Chief at the address given on the back of the title page or by telephone (850) 942-9500.

COOPERATION

The U.S. Geological Survey and agencies of the State of Florida have had cooperative agreements for the collection of water-resource records since 1930. Organizations that assisted in collecting the data in this report through cooperative agreement with the Survey are:

Florida Department of Environmental Protection
Florida Department of Transportation
Northwest Florida Water Management District
Suwannee River Water Management District
City of Century
City of Perry
City of Tallahassee
County of Okaloosa
Corps of Engineers, U.S. Army, Mobile District
U. S. Fish and Wildlife Service
County of Santa Rosa
County of Walton

Precipitation

Precipitation across northwest Florida during the 2003 water year averaged above normal. Based on rainfall data at five National Oceanic and Atmospheric Administration stations, (Perry, Lake City, Tallahassee, De Funiak Springs, and Pensacola), total rainfall for the water year ranged from 68.61 in. at Lake City to 89.69 in. at De Funiak Springs. The cumulative monthly departures for the water year ranged from 6.43 in. above normal at Tallahassee to 24.27 in. above normal at De Funiak Springs.

Precipitation during the fall quarter (October-December), one of the dryer periods, was well above normal for four locations with departures ranging from 2.45 in. above normal at Tallahassee to 4.38 in. above normal at Lake City. However, Perry, recorded near normal rainfall for this quarter (0.57 in. below normal). For the winter quarter (January-March), normally a wet period, central to western northwest Florida received below normal precipitation (3.74 in. below normal at Pensacola), while eastern northwest Florida received precipitation well above normal (11.75 in. above normal at Perry). Rainfall for the spring quarter (April-June) was well above normal for all 5 locations (3.51 in. above normal at Lake City to 11.04 in. above normal for De Funiak Springs). During the summer quarter (July-September), normally the wet thunderstorm season, precipitation varied from below normal (2.75 in. below at Lake City) to well above normal (10.93 in. above at De Funiak Springs).

The following summary lists the quarterly precipitation and departure from the 30-year normal (1961-90) for each of the stations.

Table 1: Quarterly precipitation and departure from the 30-year normal (1961-90)

Station	October - December		January - March		April - June		July - September		Water Year	
	Total Rain	Departure	Total Rain	Departure	Total Rain	Departure	Total Rain	Departure	Total Rain	Departure
Perry	8.52	-0.57	25.78	11.75	19.14	6.47	23.54	1.65	76.98	19.30
Lake City	12.58	4.38	22.90	9.87	17.28	3.51	15.85	-2.75	68.61	15.01
Tallahassee	13.66	2.45	14.01	-2.45	19.52	4.06	22.45	2.37	69.64	6.43
De Funiak Springs	15.88	3.54	15.99	-1.24	26.52	11.04	31.30	10.93	89.69	24.27
Pensacola	16.12	3.56	12.68	-3.74	23.65	8.97	18.81	-1.81	71.26	6.98

Surface Water

Flows averaged normal to above normal in the 2003 water year across northwest Florida. Data from representative sites (table 2) in northwest Florida show 2002 and 2003 water year mean discharge and departure from the annual mean of the period of record.

Table 2: Relation of period of record mean annual discharge to mean discharge for the 2002 and 2003 water years

Station Number	Station Name	Mean Annual Discharge		Mean Discharge For Water Year 2002		Mean Discharge For Water Year 2003	
	Representative Streams in Northwest Florida	Period of Record	(ft^3/s)	(ft^3/s)	Departure From Mean (%)	(ft^3/s)	Departure From Mean (%)
02320500	Suwannee River at Branford, FL	1931-2003	6,897	2,008	-71	8,726	26
02321500	Santa Fe River at Worthington Springs, FL	1932-2003	421	52.4	-87	667	58
02324000	Steinhatchee River near Cross City, FL	1950-2003	312	60.5	-80	498	60
02329000	Ochlockonee River near Havana, FL	1926-2003	1,044	245	-76	1,725	65
02359000	Chipola River near Altha, FL	1913-2003	1,488	703	-52	2,186	47
02369000	Shoal River near Crestview, FL	1938-2003	1,111	577	-48	1,438	29
02375500	Escambia River near Century, FL	1935-2003	6,269	3,103	-50	8,908	42

ft^3/s = cubic feet per second

Discharge hydrographs for 7 representative streams in northwest Florida are shown in figures 2 through 8. The upper graph (A) shows the 2003 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the previous period of record at that site. The lower graph (B) shows the monthly mean discharge for the period 1994-2003.

Water Quality

Water-quality data collected during the water year did not provide enough information for general analysis of conditions in north Florida.

Ground Water

Data are collected from ground-water wells equipped with data recorders that measure hourly water levels. The daily maximum water-level elevations presented in this report are derived from these hourly measurements.

A hydrograph for the USGS well near Wausau (303025085350501) is shown in figure 9. The upper graph (A) shows the water year 2003 monthly maximum water level compared to the maximum, minimum, and mean monthly maximum water level for the period 1963-2003. The lower graph (B) shows the monthly maximum water level for the period 1998-2003.

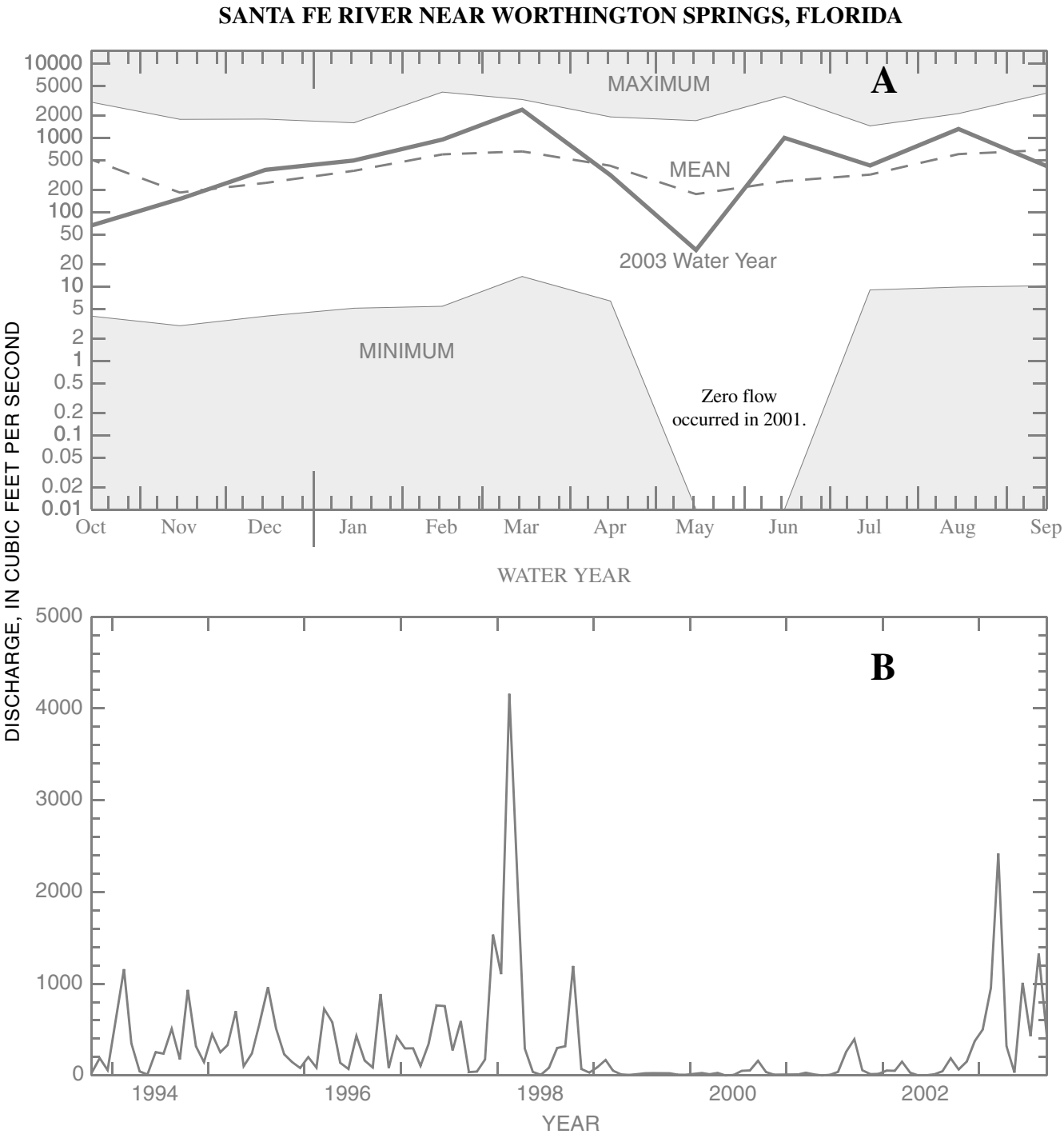


Figure 2. Santa Fe River near Worthington Springs (A) 2003 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1932-2003, and (B) the monthly mean discharge for the period 1994-2003.

SUWANNEE RIVER AT BRANFORD, FLORIDA

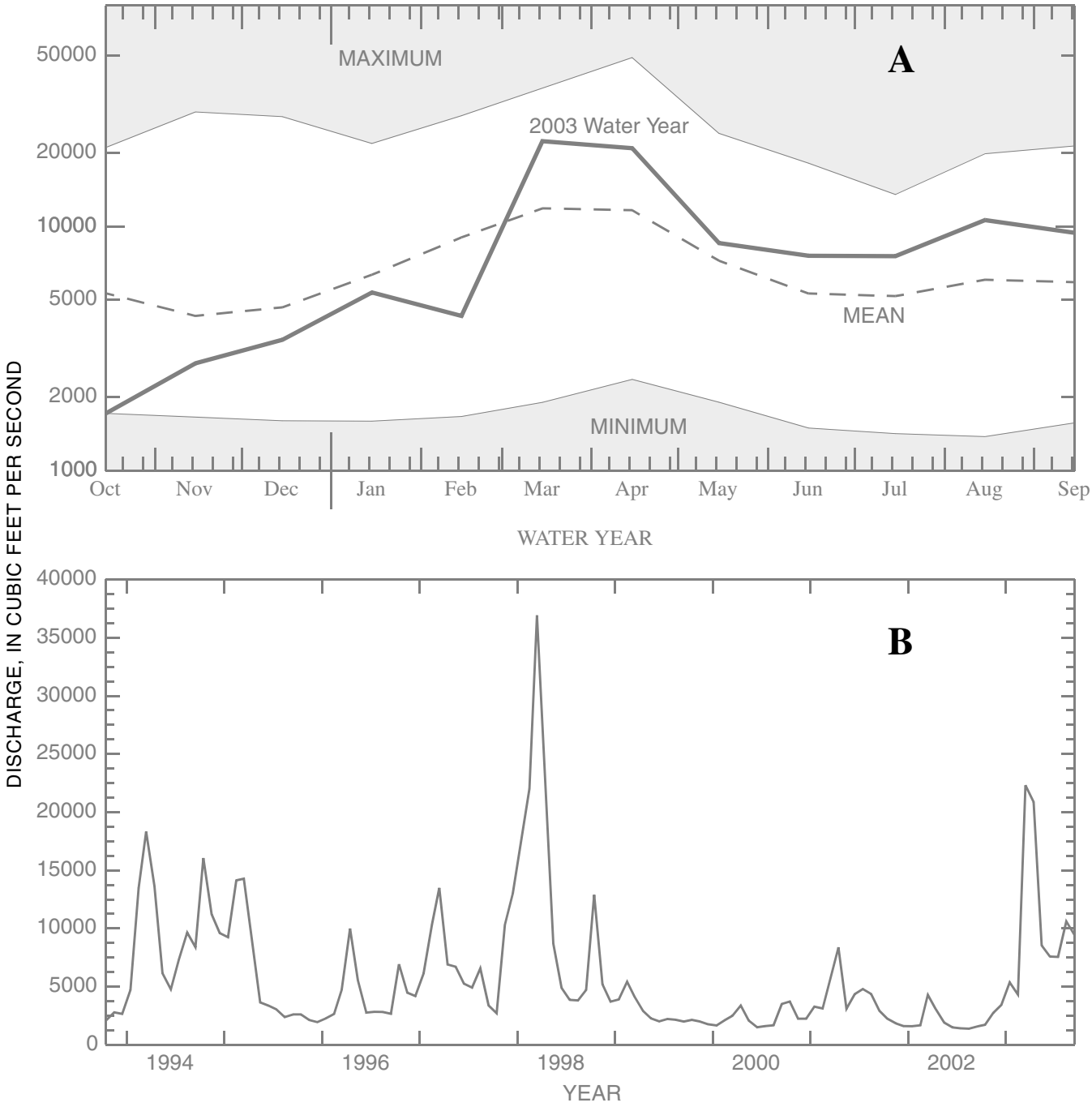


Figure 3. Suwannee River at Branford (A) 2003 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1931-2003, and (B) the monthly mean discharge for the period 1994-2003.

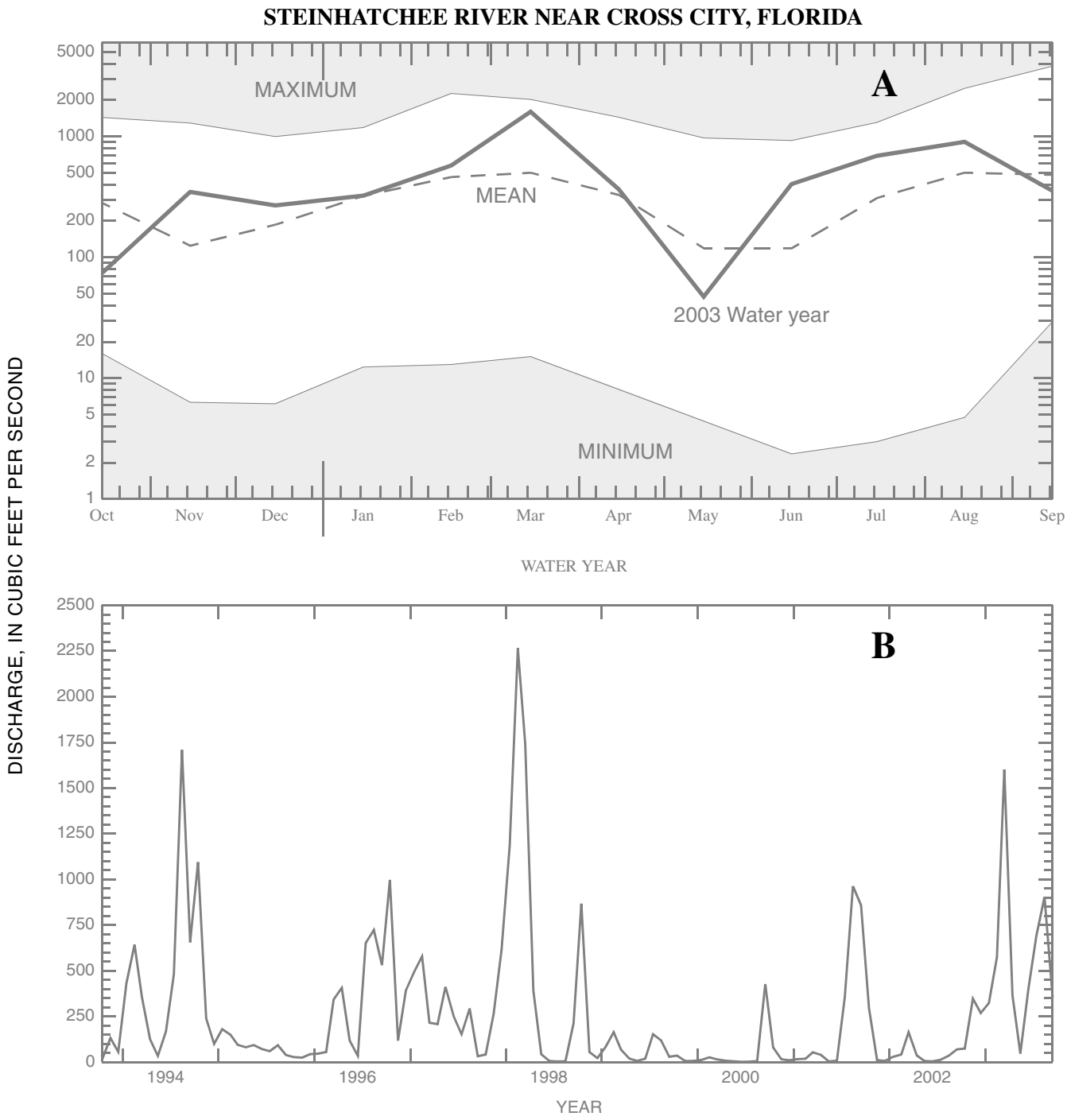


Figure 4. Steinhatchee River near Cross City (A) 2003 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1950-2003, and (B) the monthly mean discharge for the period 1994-2003.

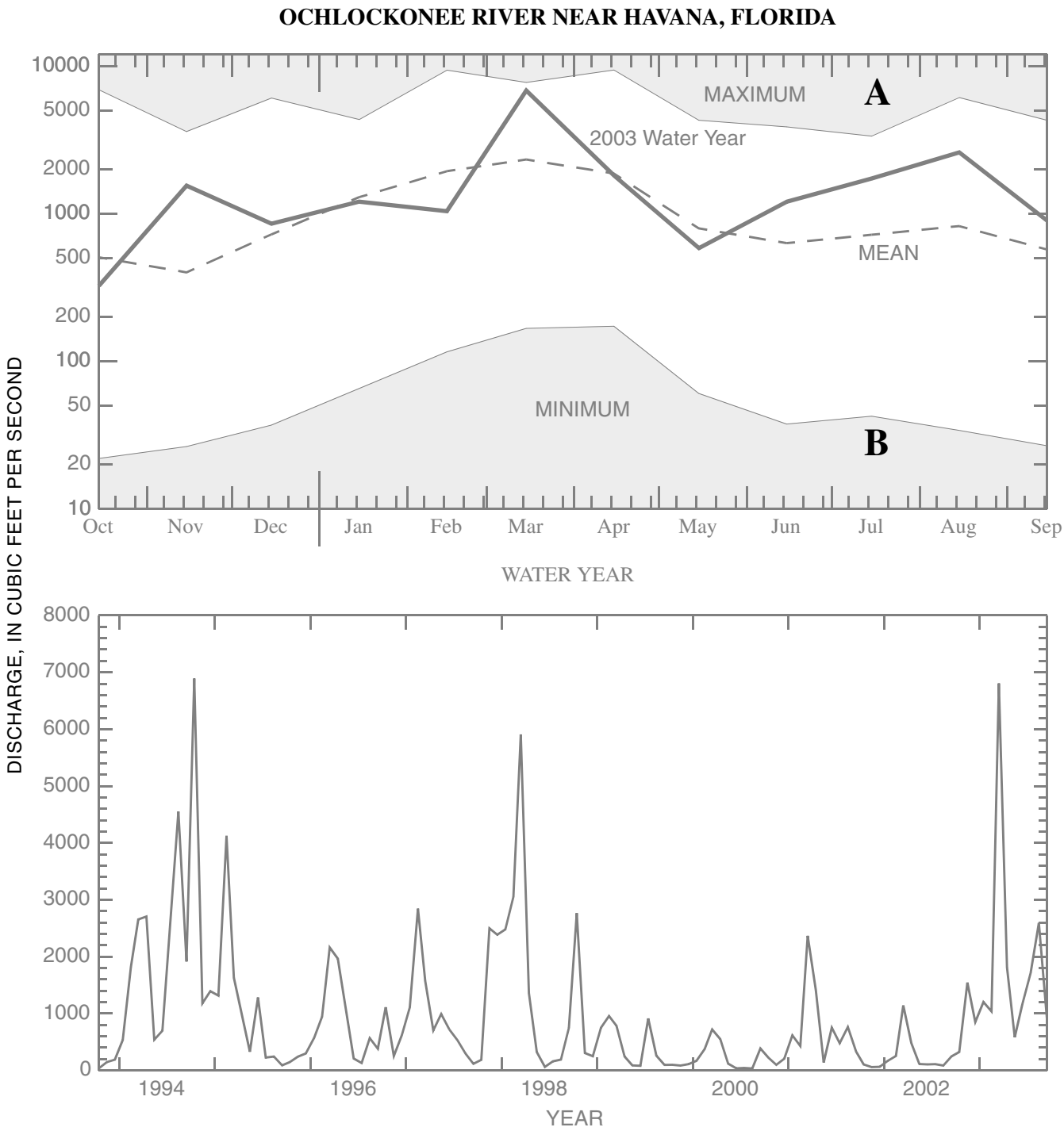


Figure 5. Ochlockonee River near Havana (A) 2003 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1926-2003, and (B) the monthly mean discharge for the period 1994-2003.

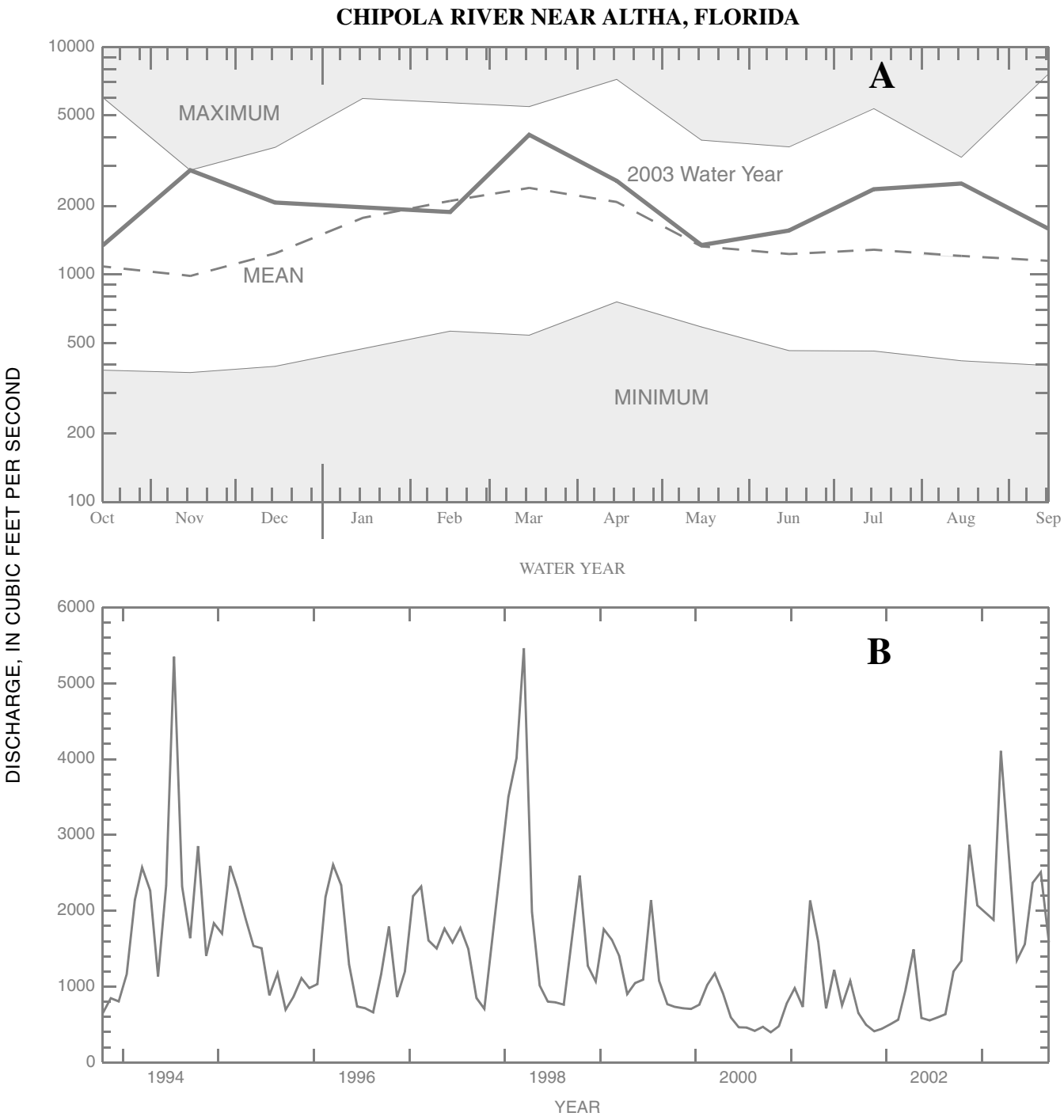


Figure 6. Chipola River near Altha (A) 2003 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1913-2003, and (B) the monthly mean discharge for the period 1994-2003.

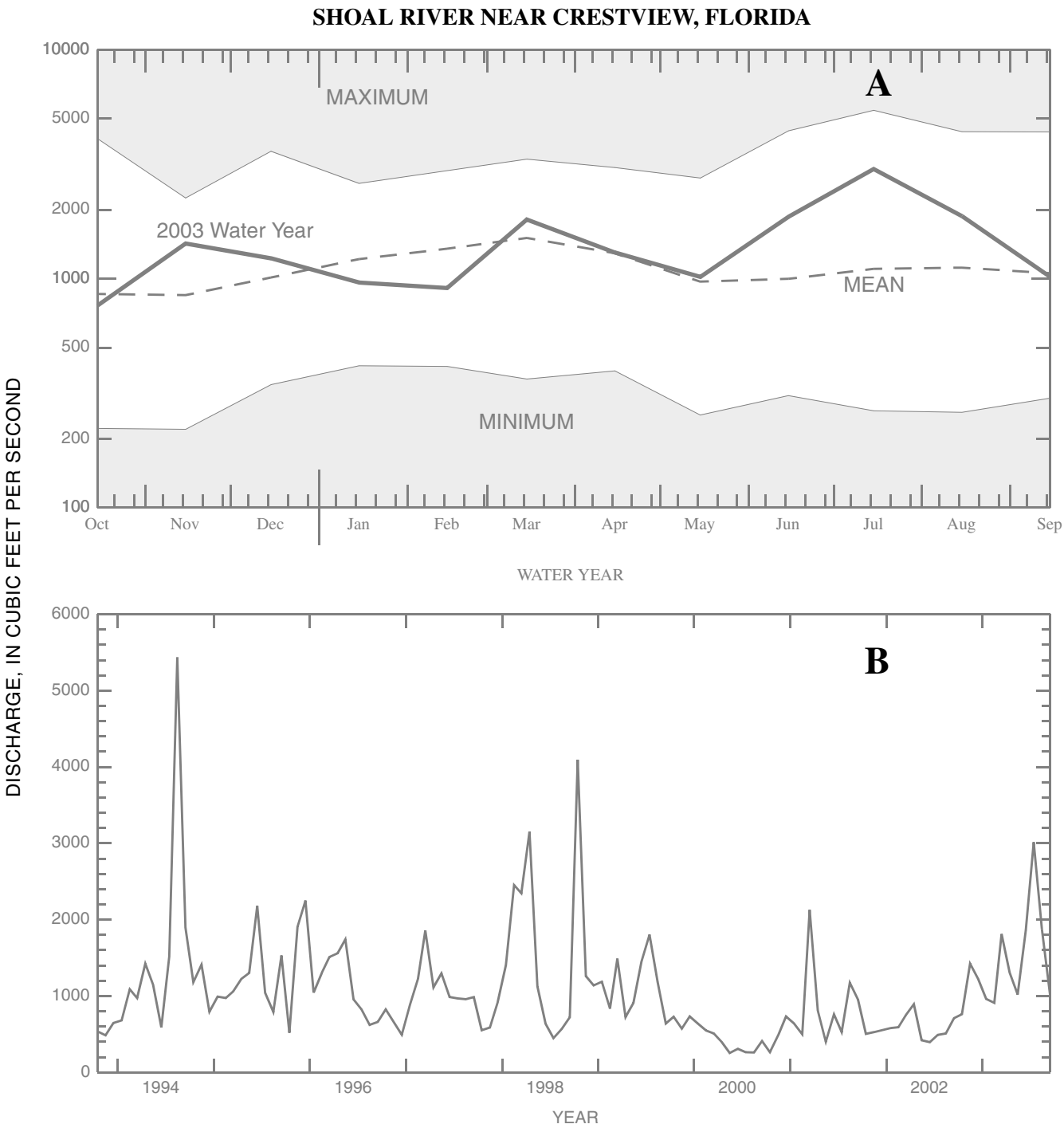


Figure 7. Shoal River near Crestview (A) 2003 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1938-2003, and (B) the monthly mean discharge for the period 1994-2003.

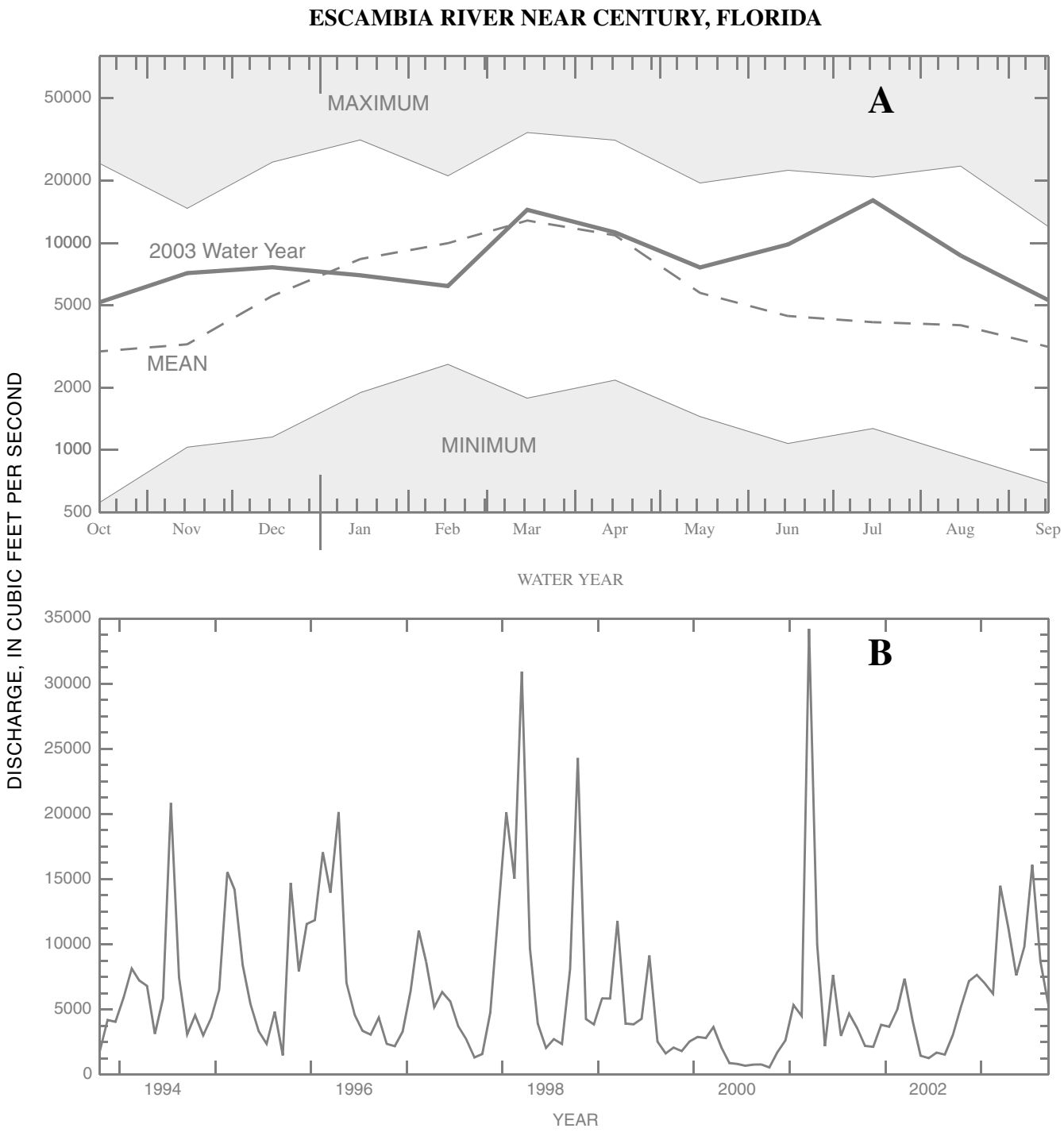


Figure 8. Escambia River near Century (A) 2003 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1935-2003, and (B) the monthly mean discharge for the period 1994-2003.

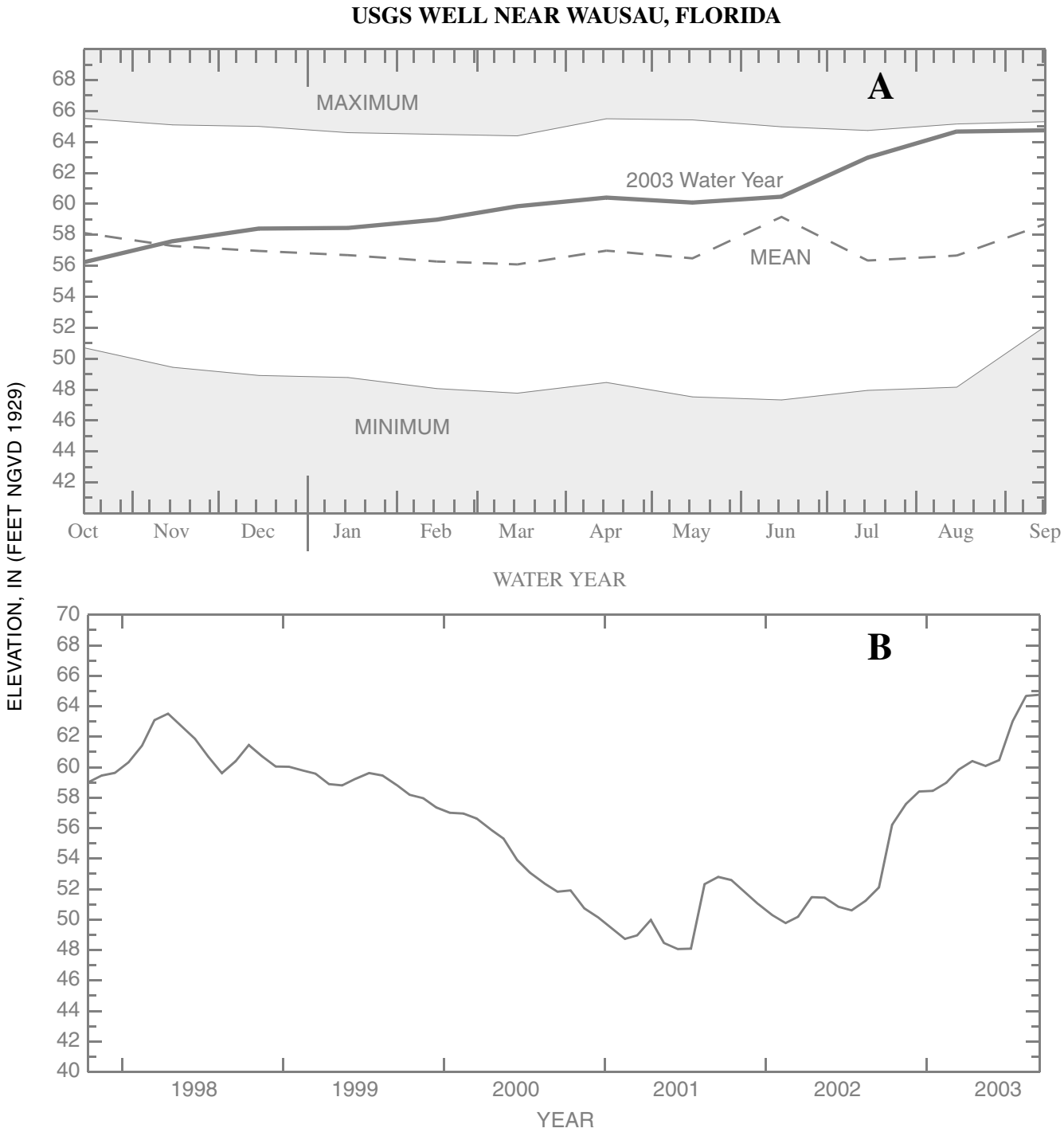


Figure 9. USGS Well near Wausau (A) the monthly maximum water level for the 2003 water year compared to maximum, minimum, and mean monthly maximum water levels for the period 1963-2003 and (B) the monthly maximum water level for the period 1998-2003.

DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, hydrologic-station records in USGS reports have been listed in order of downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary entering between two main-stream stations is listed between those stations. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is located with respect to the stream to which it is immediately tributary is indicated by an indention in that list of stations in the front of this report. Each indentation represents one rank. This downstream order and system of indentation indicates which stations are on tributaries between any two stations and the rank of the tributary on which each station is located.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These station numbers are in the same downstream order used in this report. In assigning a station number, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list composed of both types of stations. Gaps are consecutive. The complete 8-digit (or 10-digit) number for each station such as 09004100, which appears just to the left of the station name, includes a 2-digit part number “09” plus the 6-digit (or 8-digit) downstream order number “004100.” In areas of high station density, an additional two digits may be added to the station identification number to yield a 10-digit number. The stations are numbered in downstream order as described above between stations of consecutive 8-digit numbers.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The USGS well and miscellaneous site-numbering system is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, and the next 7 digits denote degrees, minutes, and seconds of longitude; the last 2 digits are a sequential number for wells within a 1-second grid. In the event that the latitude-longitude coordinates for a well and miscellaneous site are the same, a sequential number such as “01,” “02,” and so forth, would be assigned as one would for wells (see fig. 10). The 8-digit, downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

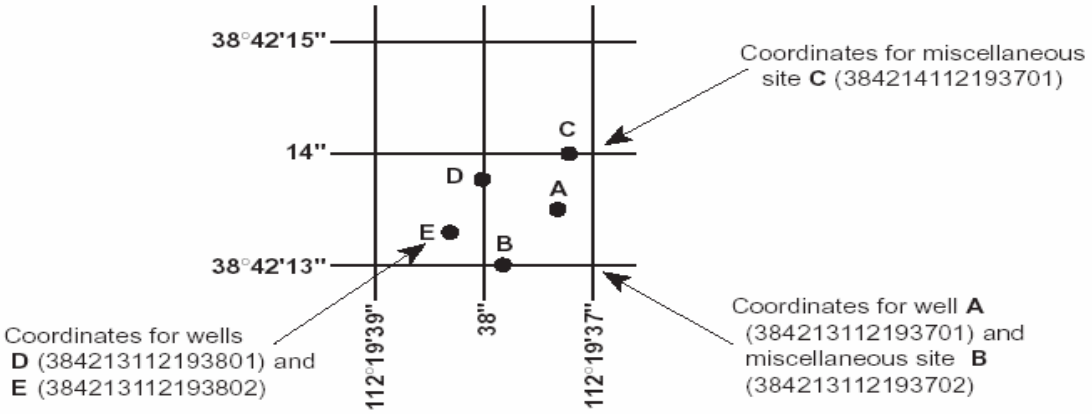


Figure 10. System for numbering wells and miscellaneous sites (latitude and longitude).

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 61 sites in small drainage basins in 39 States that was established in 1963 to provide consistent streamflow data representative of undeveloped watersheds nationwide, and from which data could be analyzed on a continuing basis for use in comparison and contrast with conditions observed in basins more obviously affected by human activities. At selected sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the effects of acid deposition on stream chemistry. Additional information on the Hydrologic Benchmark Program may be accessed from *http://water.usgs.gov/hbn/*.

National Stream-Quality Accounting Network (NASQAN) is a network of sites used to monitor the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations was operated in the Mississippi, Columbia, Colorado, and Rio Grande River basins. For the period 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia Rivers so that a network of 5 stations could be implemented on the Yukon River. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment (NAWQA) Program; (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals. Additional information about the NASQAN Program may be accessed from *http://water.usgs.gov/nasqan/*.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) is a network of monitoring sites that provide continuous measurement and assessment of the chemical constituents in precipitation throughout the United States. As the lead Federal agency, the USGS works together with over 100 organizations to provide a long-term, spatial and temporal record of atmospheric deposition generated from this network of 250 precipitation-chemistry monitoring sites. The USGS supports 74 of these 250 sites. This long-term, nationally consistent monitoring program, coupled with ecosystem research, provides critical information toward a national scorecard to evaluate the effectiveness of ongoing and future regulations intended to reduce atmospheric emissions and subsequent impacts to the Nation's land and water resources. Reports and other information on the NADP/NTN Program, as well as data from the individual sites, may be accessed from *http://bqs.usgs.gov/acidrain/*.

The USGS National Water-Quality Assessment (NAWQA) Program is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; to provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and to provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 42 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents is measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a

wide range of spatial and temporal scales will provide information for water-resources managers to use in making decisions and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and Federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key Federal, State, and local water-resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies. Additional information about the NAWQA Program may be accessed from *http://water.usgs.gov/nawqa/*.

The USGS National Streamflow Information Program (NSIP) is a long-term program with goals to provide framework streamflow data across the Nation. Included in the program are creation of a permanent Federally funded streamflow network, research on the nature of streamflow, regional assessments of streamflow data and databases, and upgrades in the streamflow information delivery systems. Additional information about NSIP may be accessed from *http://water.usgs.gov/nsip/*.

EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS

Data Collection and Computation

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and volume of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that is either downloaded electronically in the field to a laptop computer or similar device or is transmitted using telemetry such as GOES satellite, land-line or cellular-phone modems, or by radio transmission. Measurements of discharge are made with a current meter or acoustic Doppler current profiler, using the general methods adopted by the USGS. These methods are described in standard textbooks, USGS Water-Supply Paper 2175, and the Techniques of Water-Resources Investigations of the United States Geological Survey (TWRIs), Book 3, Chapters A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

For stream-gaging stations, discharge-rating tables for any stage are prepared from stage-discharge curves. If extensions to the rating curves are necessary to express discharge greater than measured, the extensions are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, or computation of flow over dams and weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharges are computed from the daily values. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features of the stream channel, the daily mean discharge is computed by the shifting-control method in which correction factors based on individual discharge measurements and notes by engineers and observers are used when applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the controlling section, the daily mean discharge is computed by the shifting-control method.

The stage-discharge relation at some stream-gaging stations is affected by backwater from reservoirs, tributary streams, or other sources. Such an occurrence necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage at some distance from the base gage.

An index velocity is measured using ultrasonic or acoustic instruments at some stream-gaging stations and this index velocity is used to calculate an average velocity for the flow in the stream. This average velocity along with a stage-area relation is then used to calculate average discharge.

At some stations, stage-discharge relation is affected by changing stage. At these stations, the rate of change in stage is used as a factor in computing discharge.

At some stream-gaging stations in the northern United States, the stage-discharge relation is affected by ice in the winter; therefore, computation of the discharge in the usual manner is impossible. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter-discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge from other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the volume or contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly changes are computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys, the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some stream-gaging stations, periods of time occur when no gage-height record is obtained or the recorded gage height is faulty and cannot be used to compute daily discharge or contents. Such a situation can happen when the recorder stops or otherwise fails to operate properly, the intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records from other stations in the same or nearby basins. Likewise, lake or reservoir volumes may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

Data Presentation

The records published for each continuous-record surface-water discharge station (stream-gaging station) consist of five parts: (1) the station manuscript or description; (2) the data table of daily mean values of discharge for the current water year with summary data; (3) a tabular statistical summary of monthly mean flow data for a designated period, by water year; and (4) a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

Station Manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments follow that clarify information presented under the various headings of the station description.

LOCATION.—Location information is obtained from the most accurate maps available. The location of the gaging station with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.—Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.—This term indicates the time period for which records have been published for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that its flow reasonably can be considered equivalent to flow at the present station.

REVISED RECORDS.—If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

GAGE.—The type of gage in current use, the datum of the current gage referred to a standard datum, and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.—All periods of estimated daily discharge either will be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See section titled Identifying Estimated Daily Discharge.) Information is presented relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. In addition, information may be presented pertaining to average discharge data for the period of record; to extremes data for the period of record and the current year; and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, the outlet works and spillway, and the purpose and use of the reservoir.

COOPERATION.—Records provided by a cooperating organization or obtained for the USGS by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.—Information here documents major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the USGS.

REVISIONS.—Records are revised if errors in published records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based National data system, NWISWeb (*http://water.usgs.gov/nwis/nwis*). Users are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent data updates. Updates to NWISWeb are made on an annual basis.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because no current or, possibly, future station manuscript would be published for these stations to document the revision in a REVISED RECORDS entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office (address given on the back of the title page of this report) to determine if the published records were revised after the station was discontinued. If, however, the data for a discontinued station were obtained by computer retrieval, the data would be current. Any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the REMARKS and in the inclusion of a stage-capacity table when daily volumes are given.

Peak Discharge Greater than Base Discharge

Tables of peak discharge above base discharge are included for some stations where secondary instantaneous peak discharge data are used in flood-frequency studies of highway and bridge design, flood-control structures, and other flood-related projects. The base discharge value is selected so an average of three peaks a year will be reported. This base discharge value has a recurrence interval of approximately 1.1 years or a 91-percent chance of exceedence in any 1 year.

Data Table of Daily Mean Values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed TOTAL gives the sum of the daily figures for each month; the line headed MEAN gives the arithmetic average flow in cubic feet per second for the month; and the lines headed MAX and MIN give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month is expressed in cubic feet per second per square mile (line headed CFSM); or in inches (line headed IN); or in acre-feet (line headed AC-FT). Values for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if extensive regulation or diversion is in effect or if the drainage area includes large noncontributing areas. At some stations, monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir volumes are given. These values are identified by a symbol and a corresponding footnote.

Statistics of Monthly Mean Data

A tabular summary of the mean (line headed MEAN), maximum (MAX), and minimum (MIN) of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those values. The designated period will be expressed as FOR WATER YEARS __-__, BY WATER YEAR (WY), and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. The designated period will consist of all of the station record within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are consecutive, unless a break in the station record is indicated in the manuscript.

Summary Statistics

A table titled SUMMARY STATISTICS follows the statistics of monthly mean data tabulation. This table consists of four columns with the first column containing the line headings of the statistics being

reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, WATER YEARS __-__, will consist of all of the station records within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (see line headings below), except for the ANNUAL 7-DAY MINIMUM statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When the dates of occurrence do not fall within the selected water years listed in the heading, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration-curve statistics and runoff data also are given. Runoff data may be omitted if extensive regulation or diversion of flow is in effect in the drainage basin.

The following summary statistics data are provided with each continuous record of discharge. Comments that follow clarify information presented under the various line headings of the SUMMARY STATISTICS table.

ANNUAL TOTAL.—The sum of the daily mean values of discharge for the year.

ANNUAL MEAN.—The arithmetic mean for the individual daily mean discharges for the year noted or for the designated period.

HIGHEST ANNUAL MEAN.—The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.—The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.—The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.—The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.—The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. This value should not be confused with the 7-day 10-year low-flow statistic.

MAXIMUM PEAK FLOW.—The maximum instantaneous peak discharge occurring for the water year or designated period. Occasionally the maximum flow for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak flow is given in the table and the maximum flow may be reported in a footnote or in the REMARKS paragraph in the manuscript.

MAXIMUM PEAK STAGE.—The maximum instantaneous peak stage occurring for the water year or designated period. Occasionally the maximum stage for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak stage is given in the table and the maximum stage may be reported in the REMARKS paragraph in the manuscript or in a footnote. If the dates of occurrence of the maximum peak stage and maximum peak flow are different, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.—The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.—Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

> Acre-foot (AC-FT) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.
>
> Cubic feet per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.
>
> Inches (INCHES) indicate the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.—The discharge that has been exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.—The discharge that has been exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.—The discharge that has been exceeded 90 percent of the time for the designated period.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first table lists annual maximum stage and discharge at crest-stage stations, and the second table lists discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are often made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for a special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified. This identification is shown either by flagging individual daily values with the letter “e” and noting in a table footnote, “e–Estimated,” or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of Field Data and Computed Results

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

The degree of accuracy of the records is stated in the REMARKS in the station description. “Excellent” indicates that about 95 percent of the daily discharges are within 5 percent of the true value; “good” within 10 percent; and “fair,” within 15 percent. “Poor” indicates that daily discharges have less than “fair” accuracy. Different accuracies may be attributed to different parts of a given record.

Values of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft^3/s; to the nearest tenths between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures above 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharge values listed for partial-record stations.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, values of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Data Records Available

Information of a more detailed nature than that published for most of the stream-gaging stations such as discharge measurements, gage-height records, and rating tables is available from the District office. Also, most stream-gaging station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the District office (see address that is shown on the back of the title page of this report).

EXPLANATION OF PRECIPITATION RECORDS

Data Collection and Computation

Rainfall data generally are collected using electronic data loggers that measure the rainfall in 0.01-inch increments every 15 minutes using either a tipping-bucket rain gage or a collection well gage. Twenty-four hour rainfall totals are tabulated and presented. A 24-hour period extends from just past midnight of the previous day to midnight of the current day. Snowfall-affected data can result during cold weather when snow fills the rain-gage funnel and then melts as temperatures rise. Snowfall-affected data are subject to errors. Missing values are indicated by this symbol “---” in the table.

Data Presentation

Precipitation records collected at surface-water gaging stations are identified with the same station number and name as the stream-gaging station. Where a surface-water daily-record station is not available, the precipitation record is published with its own name and latitude-longitude identification number.

Information pertinent to the history of a precipitation station is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, period of record, and general remarks.

The following information is provided with each precipitation station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.—See Data Presentation in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

PERIOD OF RECORD.—See Data Presentation in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

INSTRUMENTATION.—Information on the type of rainfall collection system is given.

REMARKS.—Remarks provide added information pertinent to the collection, analysis, or computation of records.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Examination of Data

Surface-water samples for analysis usually are collected at or near stream-gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, water temperature, sediment discharge, and so forth); extremes for the current year; and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, sampling date, or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water Analysis

Most of the methods used for collecting and analyzing water samples are described in the TWRIs. A list of TWRIs is provided in this report.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross-section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled at several verticals to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and minimum values (and sometimes mean or median values) for each constituent measured, and are based on 15-minute or 1-hour intervals of recorded data beginning at 0000 hours and ending at 2400 hours for the day of record.

SURFACE-WATER-QUALITY RECORDS

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because discharge data is useful in the interpretation of surface-water quality. Records of surface-water quality in this report involve a variety of types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A *continuous-record station* is a site where data are collected on a regularly scheduled basis. Frequency may be one or more times daily, weekly, monthly, or quarterly. A *partial-record station* is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A *miscellaneous sampling site* is a location other than a continuous- or partial-record station, where samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between *continuous records* as used in this report and *continuous recordings* that refer to a continuous graph or a series of discrete values recorded at short intervals. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently.

Accuracy of the Records

One of four accuracy classifications is applied for measured physical properties at continuous-record stations on a scale ranging from poor to excellent. The accuracy rating is based on data values recorded

before any shifts or corrections are made. Additional consideration also is given to the amount of publishable record and to the amount of data that have been corrected or shifted.

Rating classifications for continuous water-quality records

[≤, less than or equal to; ±, plus or minus value shown; °C, degree Celsius; >, greater than; %, percent; mg/L, milligram per liter; pH unit, standard pH unit]

Measured physical property	Rating			
	Excellent	Good	Fair	Poor
Water temperature	≤ ±0.2 °C	> ±0.2 to 0.5 °C	> ±0.5 to 0.8 °C	> ±0.8 °C
Specific conductance	≤ ±3%	> ±3 to 10%	> ±10 to 15%	> ±15%
Dissolved oxygen	≤ ±0.3 mg/L	> ±0.3 to 0.5 mg/L	> ±0.5 to 0.8 mg/L	> ±0.8 mg/L
pH	≤ ±0.2 unit	> ±0.2 to 0.5 unit	> ±0.5 to 0.8 unit	> ±0.8 unit
Turbidity	≤ ±5%	> ±5 to 10%	> ±10 to 15%	> ±15%

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-Site Measurements and Sample Collection

In obtaining water-quality data, a major concern is assuring that the data obtained represent the naturally occurring quality of the water. To ensure this, certain measurements, such as water temperature, pH, and dissolved oxygen, must be made on site when the samples are taken. To assure that measurements made in the laboratory also represent the naturally occurring water, carefully prescribed procedures must be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1-A9. These TWRIs are listed in this report. Also, detailed information on collecting, treating, and shipping samples can be obtained from the USGS District office (see address that is shown on the back of title page in this report).

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at the time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily

range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District office.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross section.

During periods of rapidly changing flow or rapidly changing concentration, samples may be collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples are collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observation, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Samples for biochemical oxygen demand (BOD) and indicator bacteria are analyzed locally. All other samples are analyzed in the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chapter C1. Methods used by the USGS laboratories are given in the TWRIs, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. These methods are consistent with ASTM standards and generally follow ISO standards.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of “daily values” of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.—See Data Presentation information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

DRAINAGE AREA.—See Data Presentation information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

PERIOD OF RECORD.—This indicates the time periods for which published water-quality records for the station are available. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.—Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.—Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.—Records provided by a cooperating organization or obtained for the USGS by a cooperating organization are identified here.

EXTREMES.—Maximums and minimums are given only for parameters measured daily or more frequently. For parameters measured weekly or less frequently, true maximums or minimums may not have been obtained. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.—Records are revised if errors in published water-quality records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based National data system, NWISWeb (*http://waterdata.usgs.gov/nwis*). Users of USGS water-quality data are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent updates. Updates to the NWISWeb are made on an annual basis.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this section:

Printed Output	Remark
E or e	Estimated value.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
K	Results based on colony count outside the acceptance range (non-ideal colony count).
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted).
D	Biological organism count equal to or greater than 15 percent (dominant).
V	Analyte was detected in both the environmental sample and the associated blanks.
&	Biological organism estimated as dominant.

Water-Quality Control Data

The USGS National Water Quality Laboratory collects quality-control data on a continuing basis to evaluate selected analytical methods to determine long-term method detection levels (LT-MDLs) and laboratory reporting levels (LRLs). These values are re-evaluated each year on the basis of the most recent quality-control data and, consequently, may change from year to year.

This reporting procedure limits the occurrence of false positive error. Falsely reporting a concentration greater than the LT-MDL for a sample in which the analyte is not present is 1 percent or less. Application of the LRL limits the occurrence of false negative error. The chance of falsely reporting a non-detection for a sample in which the analyte is present at a concentration equal to or greater than the LRL is 1 percent or less.

Accordingly, concentrations are reported as less than LRL for samples in which the analyte was either not detected or did not pass identification. Analytes detected at concentrations between the LT-MDL and the LRL and that pass identification criteria are estimated. Estimated concentrations will be noted with a remark code of “E.” These data should be used with the understanding that their uncertainty is greater than that of data reported without the E remark code.

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental sample data cannot be adequately interpreted because the errors associated with the sample data are unknown. The various types of QC samples collected by this District office are described in the following section. Procedures have been established for the storage of water-quality-control data within the USGS. These procedures allow for storage of all derived QC data and are identified so that they can be related to corresponding environmental samples. These data are not presented in this report but are available from the District office.

Blank Samples

Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated in the overall data-collection process. The blank solution used to develop specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank

sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. Many types of blank samples are possible; each is designed to segregate a different part of the overall data-collection process. The types of blank samples collected in this district are:

Field blank—A blank solution that is subjected to all aspects of sample collection, field processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank—A blank solution that is put in the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

Equipment blank—A blank solution that is processed through all equipment used for collecting and processing an environmental sample (similar to a field blank but normally done in the more controlled conditions of the office).

Sampler blank—A blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Filter blank—A blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank—A blank solution that is mixed and separated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank—A blank solution that is treated with the sampler preservatives used for an environmental sample.

Reference Samples

Reference material is a solution or material prepared by a laboratory. The reference material composition is certified for one or more properties so that it can be used to assess a measurement method. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. Many types of replicate samples are possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this district are:

Concurrent samples—A type of replicate sample in which the samples are collected simultaneously with two or more samplers or by using one sampler and alternating the collection of samples into two or more compositing containers.

Sequential samples—A type of replicate sample in which the samples are collected one after the other, typically over a short time.

Split sample—A type of replicate sample in which a sample is split into subsamples, each subsample contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quantities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis.

EXPLANATION OF GROUND-WATER-LEVEL RECORDS

Generally, only ground-water-level data from selected wells with continuous recorders from a basic network of observation wells are published in this report. This basic network contains observation wells located so that the most significant data are obtained from the fewest wells in the most important aquifers.

Site Identification Numbers

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is produced for local needs. See NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES in this report for a detailed explanation.

Data Collection and Computation

Measurements are made in many types of wells, under varying conditions of access and at different temperatures; hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Most methods for collecting and analyzing water samples are described in the TWRIs referred to in the On-site Measurements and Sample Collection and the Laboratory Measurements sections in this report. In addition, TWRI Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1 through A9. The values in this report represent water-quality conditions at the time of sampling, as much as possible, and that are consistent with available sampling techniques and methods of analysis. These methods are consistent with ASTM standards and generally follow ISO standards. Trained personnel collected all samples. The wells sampled were pumped long enough to ensure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

Water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum above sea level is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (EOM).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth of water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

Data Presentation

Water-level data are presented in alphabetical order by county. The primary identification number for a given well is the 15-digit site identification number that appears in the upper left corner of the table. The secondary identification number is the local or county well number. Well locations are shown in figures13, and 14*;* each well is identified on the map by its local well or county well number.

Each well record consists of three parts: the well description, the data table of water levels observed during the water year, and, for most wells, a hydrograph following the data table. Well descriptions are presented in the headings preceding the tabular data.

The following comments clarify information presented in these various headings.

LOCATION.—This paragraph follows the well-identification number and reports the hydrologic-unit number and a geographic point of reference. Latitudes and longitudes used in this report are reported as North American Datum of 1927 unless otherwise specified.

AQUIFER.—This entry designates by name and geologic age the aquifer that the well taps.

WELL CHARACTERISTICS.—This entry describes the well in terms of depth, casing diameter and depth or screened interval, method of construction, use, and changes since construction.

INSTRUMENTATION.—This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on continuous, monthly, or some other frequency of measurement.

DATUM.—This entry describes both the measuring point and the land-surface elevation at the well. The altitude of the land-surface datum is described in feet above the altitude datum; it is reported with a precision depending on the method of determination. The measuring point is described physically (such as top of casing, top of instrument shelf, and so forth), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above National Geodetic Vertical Datum of 1929 (NGVD 29); it is reported with a precision depending on the method of determination.

REMARKS.—This entry describes factors that may influence the water level in a well or the measurement of the water level, when various methods of measurement were begun, and the network (climatic, terrane, local, or areal effects) or the special project to which the well belongs.

PERIOD OF RECORD.—This entry indicates the time period for which records are published for the well, the month and year at the start of publication of water-level records by the USGS, and the words “to current year” if the records are to be continued into the following year. Time periods for which water-level records are available, but are not published by the USGS, may be noted.

EXTREMES FOR PERIOD OF RECORD.—This entry contains the highest and lowest instantaneously recorded or measured water levels of the period of published record, with respect to land-surface datum or sea level, and the dates of occurrence.

Water-Level Tables

A table of water levels follows the well description for each well. Water-level measurements in this report are given in feet with reference to either sea level or land-surface datum (lsd). Missing records are indicated by dashes in place of the water-level value.

For wells not equipped with recorders, water-level measurements were obtained periodically by steel or electric tape. Tables of periodic water-level measurements in these wells show the date of measurement and the measured water-level value.

Hydrographs

Hydrographs are a graphic display of water-level fluctuations over a period of time. In this report, current water year and, when appropriate, period-of-record hydrographs are shown. Hydrographs that display periodic water-level measurements show points that may be connected with a dashed line from one measurement to the next. Hydrographs that display recorder data show a solid line representing the mean water level recorded for each day. Missing data are indicated by a blank space or break in a hydrograph. Missing data may occur as a result of recorder malfunctions, battery failures, or mechanical problems related to the response of the recorder's float mechanism to water-level fluctuations in a well.

GROUND-WATER-QUALITY DATA

Data Collection and Computation

The ground-water-quality data in this report were obtained as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some wells within a county but not for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide.

Most methods for collecting and analyzing water samples are described in the TWRIs. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. Also, detailed information on collecting, treating, and shipping samples may be obtained from the USGS District office (see address shown on back of title page in this report).

Laboratory Measurements

Analysis for sulfide and measurement of alkalinity, pH, water temperature, specific conductance, and dissolved oxygen are performed on site. All other sample analyses are performed at the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used by the USGS laboratory are given in TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4.

ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the World Wide Web (WWW). These data may be accessed from *http://water.usgs.gov*.

Water-quality data and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on various media. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each Water Discipline District Office (See address that is shown on the back of the title page of this report.)

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Terms such as algae, water level, and precipitation are used in their common everyday meanings, definitions of which are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting English units to International System (SI) Units. Other glossaries that also define water-related terms are accessible from http://water.usgs.gov/glossaries.html.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an "unfiltered" sample (formerly reported as alkalinity).

Acre-foot (AC-FT, acre-ft) is a unit of volume, commonly used to measure quantities of water used or stored, equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters. (See also "Annual runoff")

Adenosine triphosphate (ATP) is an organic, phosphate-rich compound important in the transfer of energy in organisms. Its central role in living cells makes ATP an excellent indicator of the presence of living material in water. A measurement of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter.

Adjusted discharge is discharge data that have been mathematically adjusted (for example, to remove the effects of a daily tide cycle or reservoir storage).

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample. (See also "Biomass" and "Dry weight")

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a "filtered" sample.

Annual runoff is the total quantity of water that is discharged ("runs off") from a drainage basin in a year. Data reports may present annual runoff data as volumes in acre-feet, as discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches.

Annual 7-day minimum is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year and the water year (October 1 through September 30). Most low-flow frequency analyses use a climatic year (April 1-March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day, 10-year low-flow statistic.)

Aroclor is the registered trademark for a group of polychlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type, and the last two digits represent the percentage weight of the hydrogen-substituted chlorine.

Artificial substrate is a device that purposely is placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is collected. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection. (See also "Substrate")

Ash mass is the mass or amount of residue present after the residue from a dry-mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2). (See also "Biomass" and "Dry mass")

Aspect is the direction toward which a slope faces with respect to the compass.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, whereas others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Bankfull stage, as used in this report, is the stage at which a stream first overflows its natural banks formed by floods with 1- to 3-year recurrence intervals.

Base discharge (for peak discharge) is a discharge value, determined for selected stations, above which peak discharge data are published. The base discharge at each

station is selected so that an average of about three peak flows per year will be published. (See also "Peak flow")

Base flow is sustained flow of a stream in the absence of direct runoff. It includes natural and human-induced streamflows. Natural base flow is sustained largely by ground-water discharge.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed. (See also "Bedload" and "Sediment")

Bedload is material in transport that primarily is supported by the streambed. In this report, bedload is considered to consist of particles in transit from the bed to the top of the bedload sampler nozzle (an elevation ranging from 0.25 to 0.5 foot). These particles are retained in the bedload sampler. A sample collected with a pressure-differential bedload sampler also may contain a component of the suspended load.

Bedload discharge (tons per day) is the rate of sediment moving as bedload, reported as dry weight, that passes through a cross section in a given time. NOTE: Bedload discharge values in this report may include a component of the suspended-sediment discharge. A correction may be necessary when computing the total sediment discharge by summing the bedload discharge and the suspended-sediment discharge. (See also "Bedload," "Dry weight," "Sediment," and "Suspended-sediment discharge")

Benthic organisms are the group of organisms inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish. They are useful as indicators of water quality.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as mass per unit area or volume of habitat.

Biomass pigment ratio is an indicator of the total proportion of periphyton that are autotrophic (plants). This also is called the Autotrophic Index.

Blue-green algae (*Cyanophyta*) are a group of phytoplankton and periphyton organisms with a blue pigment in addition to a green pigment called chlorophyll. Blue-green algae can cause nuisance water-quality conditions in lakes and slow-flowing rivers; however, they are found commonly in streams throughout the year. The abundance of blue-green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter (μm^3/mL). The abundance of blue-green algae in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also "Phytoplankton"and "Periphyton")

Bottom material (See "Bed material")

Bulk electrical conductivity is the combined electrical conductivity of all material within a doughnut-shaped volume surrounding an induction probe. Bulk conductivity is affected by different physical and chemical properties of the material including the dissolved-solids content of the pore water, and the lithology and porosity of the rock.

Canadian Geodetic Vertical Datum 1928 is a geodetic datum derived from a general adjustment of Canada's first order level network in 1928.

Cell volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are used frequently in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements or cell dimensions (for example, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

sphere $4/3\ \pi r^3$ cone $1/3\ \pi r^2 h$ cylinder $\pi r^2 h$.

pi (π) is the ratio of the circumference to the diameter of a circle; pi = 3.14159….

From cell volume, total algal biomass expressed as biovolume (μm^3/mL) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes for all species.

Cells/volume refers to the number of cells of any organism that is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample volume, and generally are reported as cells or units per milliliter (mL) or liter (L).

Cfs-day (See "Cubic foot per second-day")

Channel bars, as used in this report, are the lowest prominent geomorphic features higher than the channel bed.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with BOD or with carbonaceous organic pollution from sewage or industrial wastes. [See also "Biochemical oxygen demand (BOD)"]

Clostridium perfringens *(C. perfringens)* is a spore-forming bacterium that is common in the feces of human and other warmblooded animals. Clostridial spores are being used experimentally as an indicator of past fecal contamination and the presence of microorganisms that are resistant to disinfection and environmental stresses. (See also "Bacteria")

Coliphages are viruses that infect and replicate in coliform bacteria. They are indicative of sewage contamination of water and of the survival and transport of viruses in the environment.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases, the water level can rise above the ground surface, yielding a flowing well.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Continuous-record station is a site where data are collected with sufficient frequency to define daily mean values and variations within a day.

Control designates a feature in the channel that physically affects the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure, as used in this report, is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of saltwater.

Cubic foot per second (CFS, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second or approximately 449 gallons per minute, or 0.02832 cubic meters per second. The term "second-foot" sometimes is used synonymously with "cubic foot per second" but is now obsolete.

Cubic foot per second-day (CFS-DAY, Cfs-day, [$(ft^3/s)/d$]) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.98347 acre-feet, 646,317 gallons, or 2,446.6 cubic meters. The daily mean discharges reported in the daily value data tables numerically are equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.

Cubic foot per second per square mile [CFSM, $(ft^3/s)/mi^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area. (See also "Annual runoff")

Daily mean suspended-sediment concentration is the time-weighted mean concentration of suspended sediment passing a stream cross section during a 24-hour day. (See also "Sediment" and "Suspended-sediment concentration")

Daily record station is a site where data are collected with sufficient frequency to develop a record of one or more data values per day. The frequency of data collection can range from continuous recording to data collection on a daily or near-daily basis.

Data collection platform (DCP) is an electronic instrument that collects, processes, and stores data from various sensors, and transmits the data by satellite data relay, line-of-sight radio, and/or landline telemetry.

Data logger is a microprocessor-based data acquisition system designed specifically to acquire, process, and store data. Data usually are downloaded from onsite data loggers for entry into office data systems.

Datum is a surface or point relative to which measurements of height and/or horizontal position are reported. A vertical datum is a horizontal surface used as the zero point for measurements of gage height, stage, or elevation; a horizontal datum is a reference for positions given in terms of latitude-longitude, State Plane coordinates, or Universal Transverse Mercator (UTM) coordinates. (See also "Gage datum," "Land-surface datum," "National Geodetic Vertical Datum of 1929," and "North American Vertical Datum of 1988")

Diatoms *(Bacillariophyta)* are unicellular or colonial algae with a siliceous cell wall. The abundance of diatoms in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter ($\mu m^3/mL$). The abundance of diatoms in periphyton samples is given in cells per square centimeter

(cells/cm^2) or biovolume per square centimeter (µm^3/cm^2). (See also "Phytoplankton" and "Periphyton")

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or **flow**, is the rate that matter passes through a cross section of a stream channel or other water body per unit of time. The term commonly refers to the volume of water (including, unless otherwise stated, any sediment or other constituents suspended or dissolved in the water) that passes a cross section in a stream channel, canal, pipeline, and so forth, within a given period of time (cubic feet per second). Discharge also can apply to the rate at which constituents, such as suspended sediment, bedload, and dissolved or suspended chemicals, pass through a cross section, in which cases the quantity is expressed as the mass of constituent that passes the cross section in a given period of time (tons per day).

Dissolved refers to that material in a representative water sample that passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal and State agencies that collect water-quality data. Determinations of "dissolved" constituent concentrations are made on sample water that has been filtered.

Dissolved oxygen (DO) is the molecular oxygen (oxygen gas) dissolved in water. The concentration in water is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved-solids concentration. Photosynthesis and respiration by plants commonly cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved solids concentration in water is the quantity of dissolved material in a sample of water. It is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L $CaCO_3$) can be converted to carbonate concentration by multiplying by 0.60.

Diversity index (H) (Shannon index) is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = -\sum_{i \approx 1}^{s} \frac{n_i}{n} \log_2 \frac{n_i}{n},$$

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area upstream from the location, measured in a horizontal plane, that has a common outlet at the site for its surface runoff from precipitation that normally drains by gravity into a stream. Drainage areas given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth's surface that contains a drainage system with a common outlet for its surface runoff. (See "Drainage area")

Dry mass refers to the mass of residue present after drying in an oven at 105 °C, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass. (See also "Ash mass," "Biomass," and "Wet mass")

Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65 °C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue. (See also "Wet weight")

Embeddedness is the degree to which gravel-sized and larger particles are surrounded or enclosed by finer-sized particles. (See also "Substrate embeddedness class")

Enterococcus bacteria commonly are found in the feces of humans and other warmblooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41 °C on mE agar (nutrient medium for bacterial growth) and subsequent transfer to EIA medium. Enterococci include *Streptococcus feacalis, Streptococcus feacium, Streptococcus avium,* and their variants. (See also "Bacteria")

EPT Index is the total number of distinct taxa within the insect orders Ephemeroptera, Plecoptera, and Trichoptera. This index summarizes the taxa richness within the aquatic insects that generally are considered pollution sensitive; the index usually decreases with pollution.

Escherichia coli *(E. coli)* are bacteria present in the intestine and feces of warmblooded animals. *E. coli* are a member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5 °C on mTEC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Estimated (E) value of a concentration is reported when an analyte is detected and all criteria for a positive result are met. If the concentration is less than the method detection limit (MDL), an E code will be reported with the value. If the analyte is identified qualitatively as present, but the quantitative determination is substantially more uncertain, the National Water Quality Laboratory will identify the result with an E code even though the measured value is greater than the MDL. A value reported with an E code should be used with caution. When no analyte is detected in a sample, the default reporting value is the MDL preceded by a less than sign (<). For bacteriological data, concentrations are reported as estimated when results are based on non-ideal colony counts.

Euglenoids (*Euglenophyta*) are a group of algae that usually are free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark. (See also "Phytoplankton")

Extractable organic halides (EOX) are organic compounds that contain halogen atoms such as chlorine. These organic compounds are semivolatile and extractable by ethyl acetate from air-dried streambed sediment. The ethyl acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the streambed sediment.

Fecal coliform bacteria are present in the intestines or feces of warmblooded animals. They often are used as indicators of the sanitary quality of the water. In the laboratory, they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5 °C plus or minus 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Fecal streptococcal bacteria are present in the intestines of warmblooded animals and are ubiquitous in the environment. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35 °C plus or minus 1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Fire algae (*Pyrrhophyta*) are free-swimming unicells characterized by a red pigment spot. (See also "Phytoplankton")

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

Gage datum is a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom such that the gage height is usually slightly greater than the maximum depth of water. Because the gage datum is not an actual physical object, the datum is usually defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks. Gage datum is a local datum that is maintained independently of any national geodetic datum. However, if the elevation of the gage datum relative to the national datum (North American Vertical Datum of 1988 or National Geodetic Vertical Datum of 1929) has been determined, then the gage readings can be converted to elevations above the national datum by adding the elevation of the gage datum to the gage reading.

Gage height (G.H.) is the water-surface elevation, in feet above the gage datum. If the water surface is below the gage datum, the gage height is negative. Gage height often is used interchangeably with the more general term "stage," although gage height is more appropriate when used in reference to a reading on a gage.

Gage values are values that are recorded, transmitted, and/or computed from a gaging station. Gage values typically are collected at 5-, 15-, or 30-minute intervals.

Gaging station is a site on a stream, canal, lake, or reservoir where systematic observations of stage, discharge, or other hydrologic data are obtained.

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

Geomorphic channel units, as used in this report, are fluvial geomorphic descriptors of channel shape and stream velocity. Pools, riffles, and runs are types of geomorphic channel units considered for National Water-Quality Assessment (NAWQA) Program habitat sampling.

Green algae *(Chlorophyta)* are unicellular or colonial algae with chlorophyll pigments similar to those in terrestrial green plants. Some forms of green algae produce mats or floating "moss" in lakes. The abundance of green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter (μm^3/mL). The abundance of green algae in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also "Phytoplankton" and "Periphyton")

Habitat, as used in this report, includes all nonliving (physical) aspects of the aquatic ecosystem, although living components like aquatic macrophytes and riparian vegetation also are usually included. Measurements of habitat typically are made over a wider geographic scale than are measurements of species distribution.

Habitat quality index is the qualitative description (level 1) of instream habitat and riparian conditions surrounding the reach sampled. Scores range from 0 to 100 percent with higher scores indicative of desirable habitat conditions for aquatic life. Index only applicable to wadable streams.

Hardness of water is a physical-chemical characteristic that commonly is recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations (primarily calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate ($CaCO_3$).

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. *See NOAA Web site: http://www.co-ops.nos.noaa.gov/tideglos.html*

Hilsenhoff's Biotic Index (HBI) is an indicator of organic pollution that uses tolerance values to weight taxa abundances; usually increases with pollution. It is calculated as follows:

$$HBI = sum\frac{(n)(a)}{N},$$

where n is the number of individuals of each taxon, a is the tolerance value of each taxon, and N is the total number of organisms in the sample.

Horizontal datum (See "Datum")

Hydrologic index stations referred to in this report are continuous-record gaging stations that have been selected as representative of streamflow patterns for their respective regions. Station locations are shown on index maps.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as defined by the former Office of Water Data Coordination and delineated on the State Hydrologic Unit Maps by the USGS. Each hydrologic unit is identified by an 8-digit number.

Inch (IN., in.), in reference to streamflow, as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were distributed uniformly on it. (See also "Annual runoff")

Instantaneous discharge is the discharge at a particular instant of time. (See also "Discharge")

International Boundary Commission Survey Datum refers to a geodetic datum established at numerous monuments along the United States-Canada boundary by the International Boundary Commission.

Island, as used in this report, is a mid-channel bar that has permanent woody vegetation, is flooded once a year, on average, and remains stable except during large flood events.

Laboratory reporting level (LRL) generally is equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a nondetection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or equal to 1 percent. The value of the LRL will be reported with a "less than" (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory (NWQL) collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually on the basis of the most current quality-control data and, therefore, may change. The LRL replaces the term 'non-detection value' (NDV).

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Latent heat flux (often used interchangeably with latent heat-flux density) is the amount of heat energy that converts water from liquid to vapor (evaporation) or from vapor to liquid (condensation) across a specified cross-sectional area per unit time. Usually expressed in watts per square meter.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation:

$$I = I_o e^{-\lambda L},$$

where I_o is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light-attenuation coefficient is defined as

$$\lambda = -\frac{1}{L}\log_e \frac{I}{I_o}.$$

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

Long-term method detection level (LT-MDL) is a detection level derived by determining the standard deviation of a minimum of 24 method detection limit (MDL) spike-sample measurements over an extended period of time. LT-MDL data are collected on a continuous basis to assess year-to-year variations in the LT-MDL. The LT-MDL controls false positive error. The chance of falsely reporting a concentration at or greater than the LT-MDL for a sample that did not contain the analyte is predicted to be less than or equal to 1 percent.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. *See NOAA Web site: http://www.co-ops.nos.noaa.gov/tideglos.html*

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that usually are arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Mean concentration of suspended sediment (Daily mean suspended-sediment concentration) is the time-weighted concentration of suspended sediment passing a stream cross section during a given time period. (See also "Daily mean suspended-sediment concentration" and "Suspended-sediment concentration")

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period. (See also "Discharge")

Mean high or **low tide** is the average of all high or low tides, respectively, over a specific period.

Mean sea level is a local tidal datum. It is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; for example, monthly mean sea level and yearly mean sea level. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. (See also "Datum")

Measuring point (MP) is an arbitrary permanent reference point from which the distance to water surface in a well is measured to obtain water level.

Megahertz is a unit of frequency. One megahertz equals one million cycles per second.

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Method detection limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the analyte concentration is greater than zero. It is determined from the analysis of a sample in a given matrix containing the analyte. At the MDL concentration, the risk of a false positive is predicted to be less than or equal to 1 percent.

Method of Cubatures is a method of computing discharge in tidal estuaries based on the conservation of mass equation.

Methylene blue active substances (MBAS) indicate the presence of detergents (anionic surfactants). The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (UG/G, µg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per kilogram (UG/KG, µg/kg) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

Micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of

water. One thousand micrograms per liter is equivalent to 1 milligram per liter. One microgram per liter is equivalent to 1 part per billion.

Microsiemens per centimeter (US/CM, µS/cm) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in water as the mass (milligrams) of constituent per unit volume (liter) of water. Concentration of suspended sediment also is expressed in milligrams per liter and is based on the mass of dry sediment per liter of water-sediment mixture.

Minimum reporting level (MRL) is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method.

Miscellaneous site, miscellaneous station, or miscellaneous sampling site is a site where streamflow, sediment, and/or water-quality data or water-quality or sediment samples are collected once, or more often on a random or discontinuous basis to provide better areal coverage for defining hydrologic and water-quality conditions over a broad area in a river basin.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

National Geodetic Vertical Datum of 1929 (NGVD 29) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It formerly was called "Sea Level Datum of 1929" or "mean sea level." Although the datum was derived from the mean sea level at 26 tide stations**,** it does not necessarily represent local mean sea level at any particular place. *See NOAA Web site: http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88* (See "North American Vertical Datum of 1988")

Natural substrate refers to any naturally occurring immersed or submersed solid surface, such as a rock or tree, upon which an organism lives. (See also "Substrate")

Nekton are the consumers in the aquatic environment and consist of large, free-swimming organisms that are capable of sustained, directed mobility.

Nephelometric turbidity unit (NTU) is the measurement for reporting turbidity that is based on use of a standard suspension of formazin. Turbidity measured in NTU uses nephelometric methods that depend on passing specific light of a specific wavelength through the sample.

North American Datum of 1927 (NAD 27) is the horizontal control datum for the United States that was defined by a location and azimuth on the Clarke spheroid of 1866.

North American Datum of 1983 (NAD 83) is the horizontal control datum for the United States, Canada, Mexico, and Central America that is based on the adjustment of 250,000 points including 600 satellite Doppler stations that constrain the system to a geocentric origin. NAD 83 has been officially adopted as the legal horizontal datum for the United States by the Federal government.

North American Vertical Datum of 1988 (NAVD 88) is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and mapping activities in the United States. This datum was established in 1991 by minimum-constraint adjustment of the Canadian**,** Mexican, and United States first-order terrestrial leveling networks.

Open or **screened interval** is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediment. May be reported as dissolved organic carbon (DOC), particulate organic carbon (POC), or total organic carbon (TOC).

Organic mass or **volatile mass** of a living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. Organic mass is expressed in the same units as for ash mass and dry mass. (See also "Ash mass," "Biomass," and "Dry mass")

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter code is a 5-digit number used in the USGS computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

Particle size is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method uses the principle of Stokes Law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, sedigraph) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification, as used in this report, agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay	>0.00024 - 0.004	Sedimentation
Silt	>0.004 - 0.062	Sedimentation
Sand	>0.062 - 2.0	Sedimentation/sieve
Gravel	>2.0 - 64.0	Sieve
Cobble	>64 - 256	Manual measurement
Boulder	>256	Manual measurement

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. For the sedimentation method, most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at a discrete series of times, the peak recorded value may be taken as an approximation of the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

Percent composition or **percent of total** is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, weight, mass, or volume.

Percent shading is a measure of the amount of sunlight potentially reaching the stream. A clinometer is used to measure left and right bank canopy angles. These values are added together, divided by 180, and multiplied by 100 to compute percentage of shade.

Periodic-record station is a site where stage, discharge, sediment, chemical, physical, or other hydrologic measurements are made one or more times during a year but at a frequency insufficient to develop a daily record.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. Although primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7.0 standard units are termed “acidic,” and solutions with a pH greater than 7.0 are termed “basic.” Solutions with a pH of 7.0 are neutral. The presence and concentration of many dissolved chemical constituents found in water are affected, in part, by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms also are affected, in part, by the hydrogen-ion activity of water.

Phytoplankton is the plant part of the plankton. They usually are microscopic, and their movement is subject to the water currents. Phytoplankton growth is dependent upon

solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and commonly are known as algae. (See also "Plankton")

Picocurie (PC, pCi) is one-trillionth (1×10^{-12}) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Polychlorinated naphthalenes (PCNs) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCBs) and have been identified in commercial PCB preparations.

Pool, as used in this report, is a small part of a stream reach with little velocity, commonly with water deeper than surrounding areas.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated (carbon method) by the plants.

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [mg C/(m^2/time)] for periphyton and macrophytes or per volume [mg C/(m^3/time)] for phytoplankton. The carbon method defines the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light- and dark-bottle method and is preferred for use with unenriched water samples. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [mg O/(m^2/time)] for periphyton and macrophytes or per volume [mg O/(m^3/time)] for phytoplankton. The oxygen method defines production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light- and dark-bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Radioisotopes are isotopic forms of elements that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

Reach, as used in this report, is a length of stream that is chosen to represent a uniform set of physical, chemical, and biological conditions within a segment. It is the principal sampling unit for collecting physical, chemical, and biological data.

Recoverable from bed (bottom) material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. (See also "Bed material")

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or nonexceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the

previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day, 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the nonexceedances of the $7Q_{10}$ occur less than 10 years after the previous nonexceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous nonexceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

Return period (See "Recurrence interval")

Riffle, as used in this report, is a shallow part of the stream where water flows swiftly over completely or partially submerged obstructions to produce surface agitation.

River mileage is the curvilinear distance, in miles, measured upstream from the mouth along the meandering path of a stream channel in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council and typically is used to denote location along a river.

Run, as used in this report, is a relatively shallow part of a stream with moderate velocity and little or no surface turbulence.

Runoff is the quantity of water that is discharged ("runs off") from a drainage basin during a given time period. Runoff data may be presented as volumes in acre-feet, as mean discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches. (See also "Annual runoff")

Sea level, as used in this report, refers to one of the two commonly used national vertical datums (NGVD 1929 or NAVD 1988). See separate entries for definitions of these datums.

Sediment is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or deposited from water, it is referred to as "fluvial sediment." Sediment includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are affected by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of precipitation.

Sensible heat flux (often used interchangeably with latent sensible heat-flux density) is the amount of heat energy that moves by turbulent transport through the air across a specified cross-sectional area per unit time and goes to heating (cooling) the air. Usually expressed in watts per square meter.

Seven-day, 10-year low flow ($7Q_{10}$) is the discharge below which the annual 7-day minimum flow falls in 1 year out of 10 on the long-term average. The recurrence interval of the $7Q_{10}$ is 10 years; the chance that the annual 7-day minimum flow will be less than the $7Q_{10}$ is 10 percent in any given year. (See also "Annual 7-day minimum" and "Recurrence interval")

Shelves, as used in this report, are streambank features extending nearly horizontally from the flood plain to the lower limit of persistent woody vegetation.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

Soil heat flux (often used interchangeably with soil heat-flux density) is the amount of heat energy that moves by conduction across a specified cross-sectional area of soil per unit time and goes to heating (or cooling) the soil. Usually expressed in watts per square meter.

Soil-water content is the water lost from the soil upon drying to constant mass at 105 °C; expressed either as mass of water per unit mass of dry soil or as the volume of water per unit bulk volume of soil.

Specific electrical conductance (conductivity) is a measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stable isotope ratio (per MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific water, to evaluate mixing of different

water, as an aid in determining reaction rates, and other chemical or hydrologic processes.

Stage (See "Gage height")

Stage-discharge relation is the relation between the water-surface elevation, termed stage (gage height), and the volume of water flowing in a channel per unit time.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Substrate embeddedness class is a visual estimate of riffle streambed substrate larger than gravel that is surrounded or covered by fine sediment (<2 mm, sand or finer). Below are the class categories expressed as the percentage covered by fine sediment:

0	no gravel or larger substrate	3	26-50 percent
1	> 75 percent	4	5-25 percent
2	51-75 percent	5	< 5 percent

Surface area of a lake is that area (acres) encompassed by the boundary of the lake as shown on USGS topographic maps, or other available maps or photographs. Because surface area changes with lake stage, surface areas listed in this report represent those determined for the stage at the time the maps or photographs were obtained.

Surficial bed material is the upper surface (0.1 to 0.2 foot) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Surrogate is an analyte that behaves similarly to a target analyte, but that is highly unlikely to occur in a sample. A surrogate is added to a sample in known amounts before extraction and is measured with the same laboratory procedures used to measure the target analyte. Its purpose is to monitor method performance for an individual sample.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is defined operationally as the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative suspended water-sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment, and, thus, the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of "suspended, recoverable" constituents are made either by directly analyzing the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also "Suspended")

Suspended sediment is the sediment maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid. (See also "Sediment")

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 foot above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also "Sediment" and "Suspended sediment")

Suspended-sediment discharge (tons/d) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027. (See also "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

Suspended-sediment load is a general term that refers to a given characteristic of the material in suspension that passes a point during a specified period of time. The term needs to be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It is not synonymous with either suspended-sediment discharge or concentration. (See also "Sediment")

Suspended solids, total residue at 105 °C concentration is the concentration of inorganic and organic material retained on a filter, expressed as milligrams of dry material per liter of water (mg/L). An aliquot of the sample is used for this analysis.

Suspended, total is the total amount of a given constituent in the part of a water-sediment sample that is retained on a

0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total." Determinations of "suspended, total" constituents are made either by directly analyzing portions of the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total concentrations of the constituent. (See also "Suspended")

Synoptic studies are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Taxa (Species) richness is the number of species (taxa) present in a defined area or sampling unit.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchial scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata,* is the following:

Kingdom:	Animal
Phylum:	Arthropeda
Class:	Insecta
Order:	Ephemeroptera
Family:	Ephemeridae
Genus:	*Hexagenia*
Species:	*Hexagenia limbata*

Thalweg is the line formed by connecting points of minimum streambed elevation (deepest part of the channel).

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table descriptions and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water resulting from the mixing of flow proportionally to the duration of the concentration.

Tons per acre-foot (T/acre-ft) is the dry mass (tons) of a constituent per unit volume (acre-foot) of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY, tons/d) is a common chemical or sediment discharge unit. It is the quantity of a substance in solution, in suspension, or as bedload that passes a stream section during a 24-hour period. It is equivalent to 2,000 pounds per day, or 0.9072 metric ton per day.

Total is the amount of a given constituent in a representative whole-water (unfiltered) sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined at least 95 percent of the constituent in the sample.)

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warmblooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35 °C. In the laboratory, these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35 °C plus or minus 1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milliliters of sample. (See also "Bacteria")

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total in bottom material is the amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total length (fish) is the straight-line distance from the anterior point of a fish specimen's snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

Total organism count is the number of organisms collected and enumerated in any particular sample. (See also "Organism count/volume")

Total recoverable is the amount of a given constituent in a whole-water sample after a sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data for whole-water samples, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures may produce different analytical results.

Total sediment discharge is the mass of suspended-sediment plus bed-load transport, measured as dry weight, that passes a cross section in a given time. It is a rate and is reported as tons per day. (See also "Bedload," "Bedload discharge," "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

Total sediment load or **total load** is the sediment in transport as bedload and suspended-sediment load. The term may be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It differs from total sediment discharge in that load refers to the material, whereas discharge refers to the quantity of material, expressed in units of mass per unit time. (See also "Sediment," "Suspended-sediment load," and "Total load")

Transect, as used in this report, is a line across a stream perpendicular to the flow and along which measurements are taken, so that morphological and flow characteristics along the line are described from bank to bank. Unlike a cross section, no attempt is made to determine known elevation points along the line.

Turbidity is the reduction in the transparency of a solution because of the presence of suspended and some dissolved substances. The measurement technique records the collective optical properties of the solution that cause light to be scattered and attenuated rather than transmitted in straight lines; the higher the intensity of scattered or attenuated light, the higher the value of the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU). Depending on the method used, the turbidity units as NTU can be defined as the intensity of light of a specified wavelength scattered or attenuated by suspended particles or absorbed at a method specified angle, usually 90 degrees, from the path of the incident light. Currently approved methods for the measurement of turbidity in the USGS include those that conform to USEPA Method 180.1, ASTM D1889-00, and ISO 7027. Measurements of turbidity by these different methods and different instruments are unlikely to yield equivalent values.

Ultraviolet (UV) absorbance (absorption) at 254 or 280 nanometers is a measure of the aggregate concentration of the mixture of UV absorbing organic materials dissolved in the analyzed water, such as lignin, tannin, humic substances, and various aromatic compounds. UV absorbance (absorption) at 254 or 280 nanometers is measured in UV absorption units per centimeter of path length of UV light through a sample.

Unconfined aquifer is an aquifer whose upper surface is a water table free to fluctuate under atmospheric pressure. (See "Water-table aquifer")

Vertical datum (See "Datum")

Volatile organic compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and, subsequently, analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They often are components of fuels, solvents, hydraulic fluids, paint thinners, and dry-cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human-health concern because many are toxic and are known or suspected human carcinogens.

Water table is that surface in a ground-water body at which the water pressure is equal to the atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which the water table is found.

Water year in USGS reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 2002, is called the "2002 water year."

Watershed (See "Drainage basin")

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State

annual hydrologic-data reports. (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976.)

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

Wet mass is the mass of living matter plus contained water. (See also "Biomass" and "Dry mass")

Wet weight refers to the weight of animal tissue or other substance including its contained water. (See also "Dry weight")

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

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and often are large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers. (See also "Plankton")

Techniques of Water-Resources Investigations of the U.S. Geological Survey

The USGS publishes a series of manuals, the Techniques of Water-Resources Investigations, describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, section A of book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

Reports in the Techniques of Water-Resources Investigations series, which are listed below, are online at *http://water.usgs.gov/pubs/twri/*. Printed copies are for sale by the USGS, Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office), telephone 1-888-ASK-USGS. Please telephone 1-888-ASK-USGS for current prices, and refer to the title, book number, chapter number, and mention the "U.S. Geological Survey Techniques of Water-Resources Investigations." Products can then be ordered by telephone, or online at http://www.usgs.gov/sales.html, or by FAX to (303)236-469 of an order form available online at *http://mac.usgs.gov/isb/pubs/forms/*. Prepayment by major credit card or by a check or money order payable to the "U.S. Geological Survey" is required.

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

1–D1.*Water temperature—Influential factors, field measurement, and data presentation*, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS–TWRI book 1, chap. D1. 1975. 65 p.
1–D2.*Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS–TWRI book 1, chap. D2. 1976. 24 p.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

2–D1.*Application of surface geophysics to ground-water investigations,* by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS–TWRI book 2, chap. D1. 1974. 116 p.
2–D2.*Application of seismic-refraction techniques to hydrologic studies,* by F.P. Haeni: USGS–TWRI book 2, chap. D2. 1988. 86 p.

Section E. Subsurface Geophysical Methods

2–E1.*Application of borehole geophysics to water-resources investigations,* by W.S. Keys and L.M. MacCary: USGS–TWRI book 2, chap. E1. 1971. 126 p.
2–E2.*Borehole geophysics applied to ground-water investigations,* by W.S. Keys: USGS–TWRI book 2, chap. E2. 1990. 150 p.

Section F. Drilling and Sampling Methods

2–F1.*Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W.E. Teasdale: USGS–TWRI book 2, chap. F1. 1989. 97 p.

Publications on Techniques of Water Resources Investigations—Continued

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

3–A1.*General field and office procedures for indirect discharge measurements,* by M.A. Benson and Tate Dalrymple: USGS–TWRI book 3, chap. A1. 1967. 30 p.
3–A2.*Measurement of peak discharge by the slope-area method,* by Tate Dalrymple and M.A. Benson: USGS–TWRI book 3, chap. A2. 1967. 12 p.
3–A3.*Measurement of peak discharge at culverts by indirect methods,* by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 p.
3–A4.*Measurement of peak discharge at width contractions by indirect methods,* by H.F. Matthai: USGS-TWRI book 3, chap. A4. 1967. 44 p.
3–A5.*Measurement of peak discharge at dams by indirect methods,* by Harry Hulsing: USGS–TWRI book 3, chap. A5. 1967. 29 p.
3–A6.*General procedure for gaging streams,* by R.W. Carter and Jacob Davidian: USGS–TWRI book 3, chap. A6. 1968. 13 p.
3–A7.*Stage measurement at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A7. 1968. 28 p.
3–A8.*Discharge measurements at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A8. 1969. 65 p.
3–A9.*Measurement of time of travel in streams by dye tracing,* by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS–TWRI book 3, chap. A9. 1989. 27 p.
3–Al0.*Discharge ratings at gaging stations,* by E.J. Kennedy: USGS–TWRI book 3, chap. A10. 1984. 59 p.
3–A11.*Measurement of discharge by the moving-boat method,* by G.F. Smoot and C.E. Novak: USGS–TWRI book 3, chap. A11. 1969. 22 p.
3–A12.*Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI book 3, chap. A12. 1986. 34 p.
3–A13.*Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI book 3, chap. A13. 1983. 53 p.
3–A14.*Use of flumes in measuring discharge,* by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 p.
3–A15.*Computation of water-surface profiles in open channels,* by Jacob Davidian: USGS–TWRI book 3, chap. A15. 1984. 48 p.
3–A16.*Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 p.
3–A17.*Acoustic velocity meter systems,* by Antonius Laenen: USGS–TWRI book 3, chap. A17. 1985. 38 p.
3–A18.*Determination of stream reaeration coefficients by use of tracers,* by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI book 3, chap. A18. 1989. 52 p.
3–A19.*Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A19. 1990. 31 p.
3–A20.*Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS–TWRI book 3, chap. A20. 1993. 38 p.
3–A21*Stream-gaging cableways,* by C. Russell Wagner: USGS–TWRI book 3, chap. A21. 1995. 56 p.

Section B. Ground-Water Techniques

3–B1. *Aquifer-test design, observation, and data analysis,* by R.W. Stallman: USGS–TWRI book 3, chap. B1. 1971. 26 p.
3–B2.*Introduction to ground-water hydraulics, a programed text for self-instruction*, by G.D. Bennett: USGS–TWRI book 3, chap. B2. 1976. 172 p.
3–B3.*Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS–TWRI book 3, chap. B3. 1980. 106 p.
3–B4.*Regression modeling of ground-water flow,* by R.L. Cooley and R.L. Naff: USGS–TWRI book 3, chap. B4. 1990. 232 p.

3–B4.*Supplement 1. Regression modeling of ground-water flow—Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems,* by R.L. Cooley: USGS–TWRI book 3, chap. B4. 1993. 8 p.
3–B5.*Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI book 3, chap. B5. 1987. 15 p.
3–B6.*The principle of superposition and its application in ground-water hydraulics,* by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI book 3, chap. B6. 1987. 28 p.
3–B7.*Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow,* by E.J. Wexler: USGS–TWRI book 3, chap. B7. 1992. 190 p.
3–B8.*System and boundary conceptualization in ground-water flow simulation,* by T.E. Reilly: USGS–TWRI book 3, chap. B8. 2001. 29 p.

Section C. Sedimentation and Erosion Techniques

3–C1.*Fluvial sediment concepts,* by H.P. Guy: USGS–TWRI book 3, chap. C1. 1970. 55 p.
3–C2.*Field methods for measurement of fluvial sediment*, by T.K. Edwards and G.D. Glysson: USGS–TWRI book 3, chap. C2. 1999. 89 p.
3–C3.*Computation of fluvial-sediment discharge,* by George Porterfield: USGS–TWRI book 3, chap. C3. 1972. 66 p.

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

4–A1.*Some statistical tools in hydrology*, by H.C. Riggs: USGS–TWRI book 4, chap. A1. 1968. 39 p.
4–A2.*Frequency curves,* by H.C. Riggs: USGS–TWRI book 4, chap. A2. 1968. 15 p.
4–A3.*Statistical methods in water resources*, by D.R. Helsel and R.M. Hirsch: USGS–TWRI book 4, chap. A3. 1991. Available only online at http://water.usgs.gov/pubs/twri/twri4a3/. (Accessed August 30, 2002.)

Section B. Surface Water

4–B1.*Low-flow investigations,* by H.C. Riggs: USGS–TWRI book 4, chap. B1. 1972. 18 p.
4–B2.*Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS–TWRI book 4, chap. B2. 1973. 20 p.
4–B3.*Regional analyses of streamflow characteristics,* by H.C. Riggs: USGS–TWRI book 4, chap. B3. 1973. 15 p.

Section D. Interrelated Phases of the Hydrologic Cycle

4–D1.*Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS–TWRI book 4, chap. D1. 1970. 17 p.

Book 5. Laboratory Analysis

Section A. Water Analysis

5–A1.*Methods for determination of inorganic substances in water and fluvial sediments,* by M.J. Fishman and L.C. Friedman, editors: USGS–TWRI book 5, chap. A1. 1989. 545 p.
5–A2.*Determination of minor elements in water by emission spectroscopy,* by P.R. Barnett and E.C. Mallory, Jr.: USGS–TWRI book 5, chap. A2. 1971. 31 p.
5–A3.*Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS–TWRI book 5, chap. A3. 1987. 80 p.

Publications on Techniques of Water Resources Investigations—Continued

5–A4.*Methods for collection and analysis of aquatic biological and microbiological samples,* by L.J. Britton and P.E. Greeson, editors: USGS–TWRI book 5, chap. A4. 1989. 363 p.
5–A5.*Methods for determination of radioactive substances in water and fluvial sediments,* by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI book 5, chap. A5. 1977. 95 p.
5–A6.*Quality assurance practices for the chemical and biological analyses of water and fluvial sediments,* by L.C. Friedman and D.E. Erdmann: USGS–TWRI book 5, chap. A6. 1982. 181 p.

Section C. Sediment Analysis

5–C1.*Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS–TWRI book 5, chap. C1. 1969. 58 p.

Book 6. Modeling Techniques

Section A. Ground Water

6–A1.*A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS–TWRI book 6, chap. A1. 1988. 586 p.
6–A2.*Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model,* by S.A. Leake and D.E. Prudic: USGS–TWRI book 6, chap. A2. 1991. 68 p.
6–A3.*A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual,* by L.J. Torak: USGS–TWRI book 6, chap. A3. 1993. 136 p.
6–A4.*A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions,* by R.L. Cooley: USGS–TWRI book 6, chap. A4. 1992. 108 p.
6–A5.*A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details,* by L.J. Torak: USGS–TWRI book 6, chap. A5. 1993. 243 p.
6–A6.*A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler: USGS–TWRI book 6, chap. A6. 1996. 125 p.
6–A7.*User's guide to SEAWAT: A computer program for simulation of three-dimensional variable-density ground-water flow*, by Weixing Guo and Christian D. Langevin: USGS–TWRI book 6, chap. A7. 2002.
77 p.

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

7–C1.*Finite difference model for aquifer simulation in two dimensions with results of numerical experiments,* by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS–TWRI book 7, chap. C1. 1976. 116 p.
7–C2.*Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS–TWRI book 7, chap. C2. 1978. 90 p.
7–C3.*A model for simulation of flow in singular and interconnected channels,* by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS–TWRI book 7, chap. C3. 1981. 110 p.

Book 8. Instrumentation

Section A. Instruments for Measurement of Water Level

8–A1.*Methods of measuring water levels in deep wells,* by M.S. Garber and F.C. Koopman: USGS–TWRI book 8, chap. A1. 1968. 23 p.

8–A2.*Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI book 8, chap. A2. 1983. 57 p.

Section B. Instruments for Measurement of Discharge

8–B2.*Calibration and maintenance of vertical-axis type current meters,* by G.F. Smoot and C.E. Novak: USGS–TWRI book 8, chap. B2. 1968. 15 p.

Book 9. Handbooks for Water-Resources Investigations

Section A. National Field Manual for the Collection of Water-Quality Data

9–A1.*National field manual for the collection of water-quality data: Preparations for water sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A1. 1998. 47 p.
9–A2.*National field manual for the collection of water-quality data: Selection of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A2. 1998. 94 p.
9–A3.*National field manual for the collection of water-quality data: Cleaning of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A3. 1998. 75 p.
9–A4.*National field manual for the collection of water-quality data: Collection of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A4. 1999. 156 p.
9–A5.*National field manual for the collection of water-quality data: Processing of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A5. 1999, 149 p.
9–A6.*National field manual for the collection of water-quality data: Field measurements*, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI book 9, chap. A6. 1998. Variously paginated.
9–A7.*National field manual for the collection of water-quality data: Biological indicators*, edited by D.N. Myers and F.D. Wilde: USGS–TWRI book 9, chap. A7. 1997 and 1999. Variously paginated.
9–A8.*National field manual for the collection of water-quality data: Bottom-material samples*, by D.B. Radtke: USGS–TWRI book 9, chap. A8. 1998. 48 p.
9–A9.*National field manual for the collection of water-quality data: Safety in field activities*, by S.L. Lane and R.G. Fay: USGS–TWRI book 9, chap. A9. 1998. 60 p.

STAGE, DISCHARGE, AND WATER QUALITY OF STREAMS

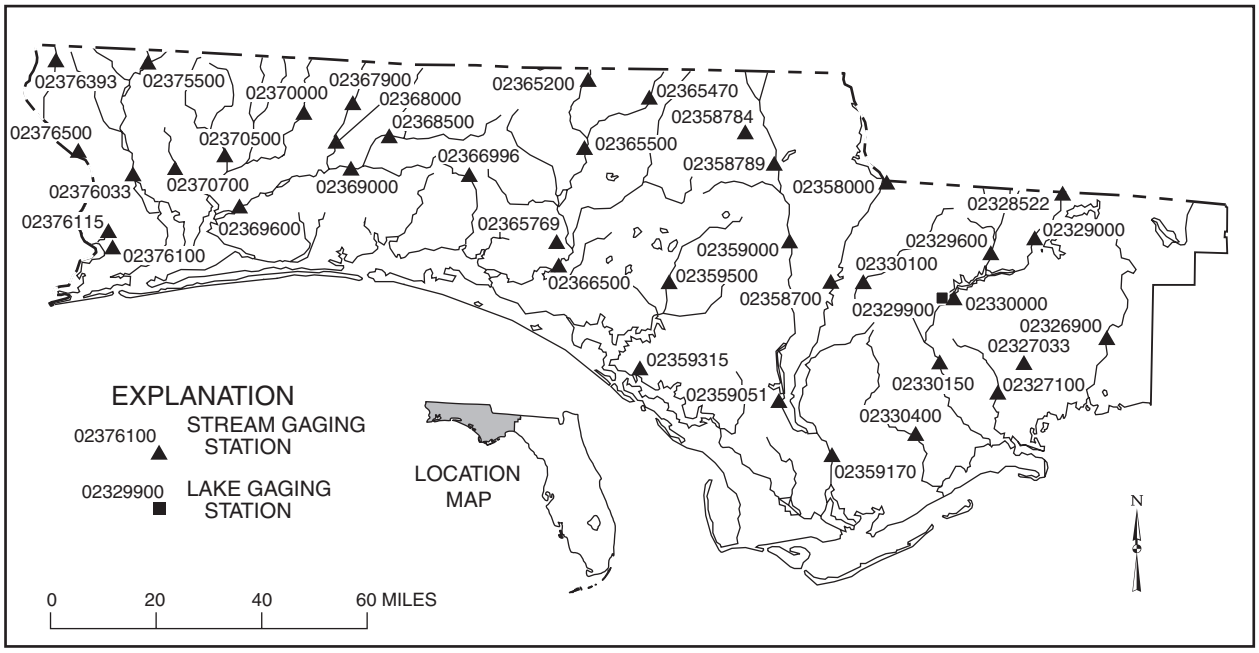


Figure 11. Location of stream gaging and lake gaging stations in the Northwest Florida Water Management District.

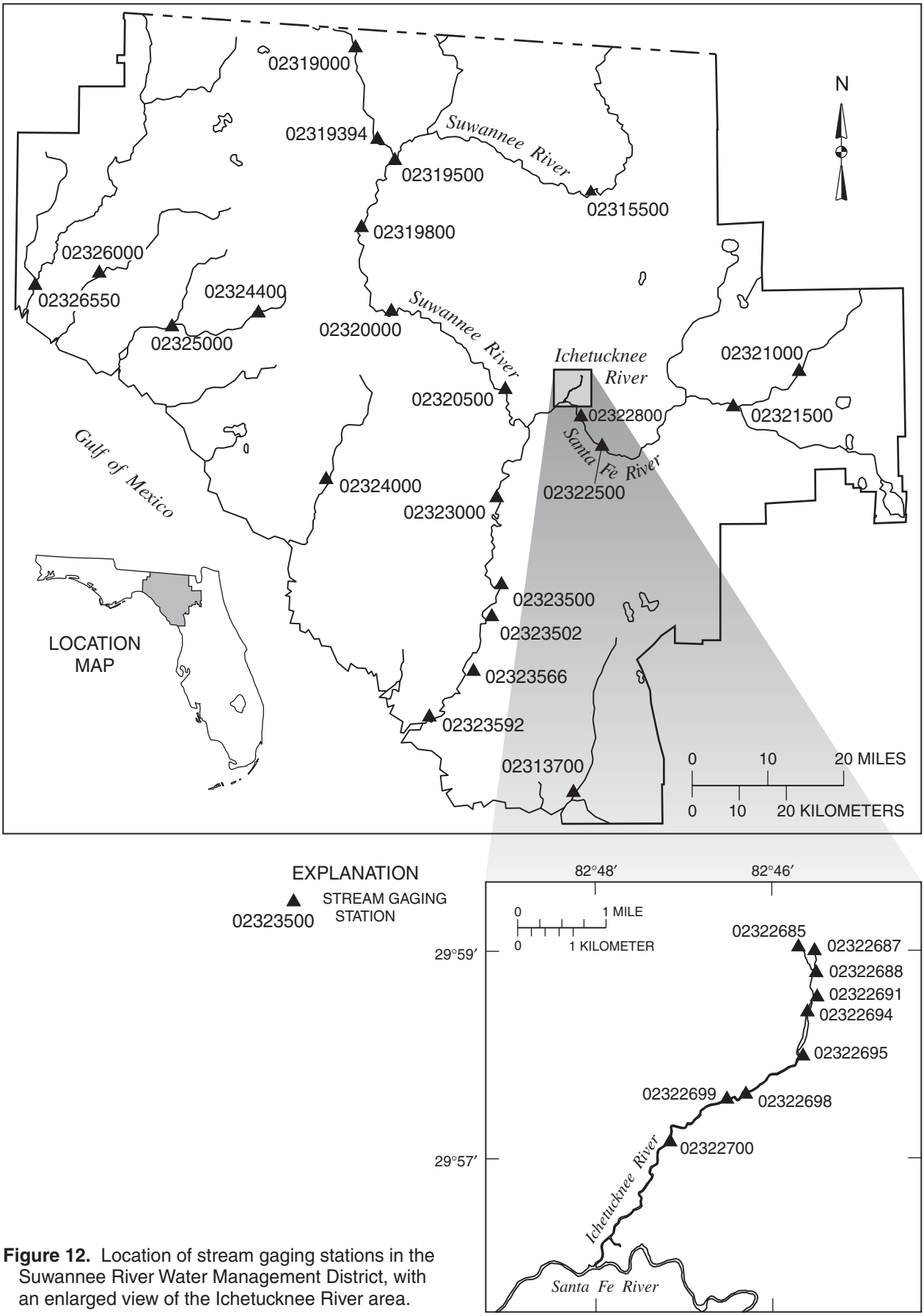


Figure 12. Location of stream gaging stations in the Suwannee River Water Management District, with an enlarged view of the Ichetucknee River area.

02313700 WACCASASSA RIVER NEAR GULF HAMMOCK, FL

LOCATION.--Lat 29°12'14", long 82°46'09" in SW sec. 2, T. 15 S., R.15 E., Levy County, Hydrologic Unit 03110101, near left bank at abandoned railroad grade, 0.5 mi upstream from Otter Creek, 3.6 mi upstream from mouth, and 4 mi southwest of Gulf Hammock.

DRAINAGE AREA.--480 mi^2, approximately, including that of Otter Creek.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--March 1963 to September 1978, November 1980 to September 1984 (fragmentary), October 1984 to September 1992, October 1998 to September 2002, October 2002 to September 2003 (framentary).

REVISED RECORDS.--WSP 2105: 1969. WRD FL-72-1: Drainage area.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is 10.51 ft below National Geodetic Vertical Datum of 1929. Prior to Nov. 24, 1980, water-stage and deflection-meter recorders at same site at datum 10.00 ft higher.

REMARKS.--No estimated daily discharges. Records poor. Flow affected by tide. Discharge computed from continuous velocity record obtained from water-current meter. Records include flow of Otter Creek. Above bankfull stage, discharge measurements are made along abandoned railroad fill and include all flow from about 1.5 mi northwest to 0.8 mi northeast of gaging station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	350	283	759	---	---	---	---	-68	624	545	495
2	35	268	189	1,140	---	---	---	---	-45	714	584	473
3	129	166	189	863	---	---	---	---	-159	784	468	495
4	108	119	133	748	---	---	---	---	409	605	498	582
5	97	40	144	637	---	---	---	---	320	517	497	679
6	139	224	243	563	---	---	---	---	175	412	525	673
7	104	210	209	505	---	---	---	0.25	-116	448	760	588
8	98	131	171	424	---	---	---	-2.1	242	407	1,060	509
9	125	104	231	367	---	---	---	-20	189	447	2,010	447
10	83	154	194	365	---	---	---	-108	166	474	2,970	376
11	43	207	376	361	---	---	---	-77	140	415	2,640	347
12	81	197	324	347	---	---	---	46	59	535	2,050	280
13	187	479	336	279	---	---	---	45	-15	624	1,740	276
14	322	340	708	251	---	---	---	-25	-14	674	1,560	257
15	107	248	558	284	---	---	---	-84	0.71	696	1,200	287
16	400	503	530	147	---	---	---	-104	113	572	1,090	285
17	291	1,150	417	359	---	---	---	-110	141	489	1,070	256
18	250	1,080	429	189	---	---	---	-155	65	431	960	193
19	174	1,000	289	245	---	---	---	-57	278	394	815	263
20	131	755	391	228	---	---	---	8.5	1,010	342	929	173
21	134	645	343	170	---	---	---	-75	1,810	292	1,110	198
22	172	598	314	167	---	---	---	-131	2,380	333	1,070	115
23	211	500	276	233	---	---	---	66	2,390	296	1,370	232
24	160	409	211	177	---	---	---	-4.0	1,940	437	1,490	175
25	264	362	555	172	---	---	---	32	1,450	421	1,220	162
26	401	327	588	168	---	---	---	68	1,130	496	983	199
27	281	310	557	210	---	---	---	24	967	449	767	168
28	181	294	478	64	---	---	---	31	704	430	722	170
29	-5.6	167	362	150	---	---	---	-55	916	389	571	236
30	400	160	272	195	---	---	---	-32	742	468	573	203
31	439	---	326	600	---	---	---	-120	---	498	568	---
MEAN	181	383	343	367	---	---	---	---	577	488	1,110	326
MAX	439	1,150	708	1,140	---	---	---	---	2,390	784	2,970	679
MIN	-5.6	40	133	64	---	---	---	---	-159	292	468	115
IN.	0.43	0.89	0.82	0.88	---	---	---	---	1.34	1.17	2.67	0.76

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2003, BY WATER YEAR (WY)

MEAN	199	134	175	256	361	346	202	111	160	250	502	384
MAX	771	383	485	707	964	909	814	428	709	1,169	1,724	2,355
(WY)	(1966)	(2003)	(1965)	(1965)	(1965)	(1978)	(1970)	(1964)	(1966)	(1964)	(1965)	(1964)
MIN	46.0	-59.7	-103	-35.5	74.0	59.8	-10.4	-88.5	32.7	55.5	-16.8	29.1
(WY)	(1985)	(2002)	(2001)	(2001)	(2001)	(1985)	(2001)	(2001)	(1967)	(1977)	(1989)	(1991)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		WATER YEARS 1963 - 2003	
ANNUAL MEAN	199		268	
HIGHEST ANNUAL MEAN			629	1965
LOWEST ANNUAL MEAN			63.1	2001
HIGHEST DAILY MEAN	1,150	Nov 17	11,400	Sep 12, 1964
LOWEST DAILY MEAN	-390	Sep 26	-2,310	Aug 31, 1985
ANNUAL SEVEN-DAY MINIMUM	-29	Jan 5	-262	Dec 10, 2000
MAXIMUM PEAK FLOW			12,200	Sep 12, 1964
MAXIMUM PEAK STAGE			16.96	Sep 12, 1964
ANNUAL RUNOFF (INCHES)	5.64		7.57	
10 PERCENT EXCEEDS	400		610	
50 PERCENT EXCEEDS	166		159	
90 PERCENT EXCEEDS	49		27	

02313700 WACCASASSA RIVER NEAR GULF HAMMOCK, FL—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 2000 to current year.

REMARKS.--Water temperature and salinity records poor.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.4	21.0	19.2	13.4	20.2	13.4	21.8	24.1	25.8	25.4	24.7	26.5
2	27.5	19.6	19.4	13.2	19.9	13.8	22.1	23.7	26.0	25.8	24.8	26.1
3	26.9	18.4	19.1	13.0	19.0	15.3	21.7	23.9	26.9	25.2	25.0	26.0
4	26.3	18.8	18.9	12.7	17.9	16.2	20.2	24.0	24.6	24.9	25.6	25.4
5	26.0	---	19.2	12.4	16.9	14.7	20.6	24.6	23.8	25.4	25.5	24.7
6	26.0	---	19.5	12.1	16.3	14.6	20.7	25.7	24.9	26.0	25.6	24.7
7	25.6	19.4	19.9	13.0	16.2	14.7	20.4	26.2	25.7	26.3	25.4	24.8
8	26.0	17.8	20.4	11.9	16.0	15.0	20.6	26.1	26.1	26.6	24.9	24.4
9	25.8	17.5	20.6	11.2	15.7	16.2	20.9	26.3	26.0	26.3	24.7	24.3
10	25.6	17.3	20.7	11.3	16.1	17.8	21.2	26.9	26.3	26.4	25.0	24.6
11	26.0	17.0	20.5	11.9	16.5	18.2	21.5	27.3	26.8	26.9	25.7	24.5
12	26.1	16.7	20.6	12.7	16.5	18.6	21.4	27.2	27.6	26.0	25.8	24.5
13	25.8	17.0	20.7	13.3	15.8	18.7	21.3	26.1	27.9	25.0	26.0	24.8
14	25.9	17.5	20.6	13.4	15.4	18.6	---	25.9	27.4	24.4	25.9	25.4
15	25.4	17.8	20.7	13.8	15.8	18.7	---	25.6	26.9	24.5	25.9	25.5
16	22.6	17.9	20.7	14.1	16.3	19.4	20.4	25.3	25.9	24.7	25.7	25.3
17	20.9	18.0	20.5	13.9	16.5	20.3	21.2	25.9	25.6	25.2	26.0	24.9
18	19.3	18.4	20.2	14.2	16.2	21.0	21.6	26.8	25.4	25.9	26.3	24.6
19	19.1	18.8	19.0	14.8	16.0	21.1	21.9	26.6	24.7	26.5	25.8	24.1
20	19.7	19.0	17.9	15.8	16.0	21.3	22.5	25.9	23.9	26.4	24.9	24.3
21	20.6	18.9	17.4	16.8	16.2	21.4	23.0	26.0	23.5	26.3	24.8	25.5
22	21.5	18.9	17.5	17.5	16.9	20.9	22.8	25.5	24.1	26.2	24.8	26.5
23	22.4	19.1	17.1	18.0	16.7	20.1	21.8	23.3	24.4	25.9	24.7	26.5
24	22.9	19.4	17.0	18.5	16.0	19.5	21.4	23.6	24.7	25.5	24.9	26.1
25	23.2	19.6	16.7	18.7	15.5	19.7	21.7	25.0	24.6	25.0	25.4	26.3
26	---	19.8	15.9	18.5	15.4	20.4	21.4	25.6	24.6	25.1	25.5	25.4
27	22.9	19.8	14.7	18.1	15.4	21.0	21.4	25.6	24.8	25.4	25.8	25.2
28	23.4	19.5	13.5	18.2	14.3	20.5	21.8	25.5	25.2	25.6	25.9	25.4
29	24.1	19.2	13.3	18.9	---	20.0	22.7	25.4	24.6	25.8	26.0	24.0
30	25.2	19.0	14.0	19.4	---	20.3	23.6	25.3	24.9	25.5	26.1	22.2
31	22.5	---	14.0	19.9	---	21.3	---	25.9	---	24.7	26.3	---
MEAN	---	---	18.4	15.0	16.5	18.5	---	25.5	25.5	25.6	25.5	25.1
MAX	---	---	20.7	19.9	20.2	21.4	---	27.3	27.9	26.9	26.3	26.5
MIN	---	---	13.3	11.2	14.3	13.4	---	23.3	23.5	24.4	24.7	22.2

02313700 WACCASASSA RIVER NEAR GULF HAMMOCK, FL—Continued

SALINITY, WATER, UNFILTERED, PARTS PER THOUSAND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	4.2	0.6	0.7	0.9	0.6	---	0.5	0.1	0.2	0.1
2	---	---	3.6	0.4	0.8	0.6	0.4	---	0.5	0.1	0.1	0.2
3	---	---	3.0	0.2	0.8	0.2	0.5	---	0.5	0.1	0.2	0.1
4	---	---	2.0	0.6	0.8	0.4	0.5	---	0.3	0.2	0.2	0.2
5	---	---	0.6	0.6	0.6	0.3	0.5	---	0.2	0.2	0.2	0.2
6	---	---	1.1	0.6	0.1	0.5	0.4	---	0.2	0.2	0.2	0.2
7	---	6.3	3.1	0.3	0.4	0.6	0.4	0.5	0.3	0.2	0.2	0.2
8	---	7.7	4.1	6.8	0.4	0.5	0.5	0.5	0.2	0.2	0.2	0.2
9	---	7.6	3.4	7.9	0.2	0.4	0.4	0.4	0.2	0.2	0.1	0.2
10	---	6.4	0.5	6.7	0.1	0.3	0.5	0.4	0.2	0.2	0.1	0.2
11	---	7.1	0.4	---	0.6	0.2	0.5	0.4	0.2	0.2	0.1	0.2
12	---	5.8	0.7	4.2	0.8	0.2	0.5	0.3	0.3	0.2	0.1	0.2
13	---	3.3	0.6	5.7	0.8	0.2	0.5	0.4	0.3	0.2	0.1	0.2
14	---	2.6	0.5	4.1	0.9	0.3	---	0.3	0.4	0.1	0.1	0.2
15	---	1.7	0.5	2.0	0.7	0.8	---	0.4	0.4	0.1	0.1	0.2
16	---	0.5	0.4	0.5	0.5	0.9	---	0.4	0.2	0.1	0.1	0.2
17	---	0.3	0.4	0.4	0.7	0.8	---	0.5	0.2	0.2	0.1	0.2
18	---	0.7	0.5	0.5	0.7	0.7	---	0.5	0.2	0.2	0.1	0.2
19	---	0.7	0.4	0.5	0.7	0.5	---	0.6	0.2	0.2	0.1	0.2
20	---	0.4	0.2	0.5	0.3	0.6	---	0.5	0.2	0.2	0.1	0.2
21	---	0.6	0.3	0.5	0.1	0.5	---	0.5	0.1	0.2	0.1	0.2
22	---	0.4	0.4	0.5	0.1	0.5	---	0.4	0.1	0.2	0.1	0.3
23	---	2.5	0.5	1.9	0.6	0.5	---	0.3	0.1	0.2	0.1	0.4
24	---	6.8	0.4	2.5	0.7	0.3	---	0.3	0.1	0.2	0.1	0.4
25	---	7.8	0.5	1.3	0.7	0.3	---	0.2	0.1	0.2	0.1	0.4
26	---	7.8	0.6	0.4	0.6	0.6	---	0.2	0.1	0.2	0.1	0.4
27	---	7.2	0.6	0.2	0.3	0.5	---	0.2	0.1	0.2	0.1	0.4
28	---	4.9	0.7	0.2	0.9	0.5	---	0.2	0.1	0.2	0.1	0.4
29	---	4.9	0.3	0.3	---	0.4	---	0.2	0.1	0.2	0.1	0.3
30	---	4.9	0.7	0.3	---	0.5	---	0.3	0.1	0.2	0.1	0.2
31	---	---	0.5	0.4	---	0.5	---	0.5	---	0.2	0.1	---
MEAN	---	---	1.2	---	0.6	0.5	---	---	0.2	0.2	0.1	0.2
MAX	---	---	4.2	---	0.9	0.9	---	---	0.5	0.2	0.2	0.4
MIN	---	---	0.2	---	0.1	0.2	---	---	0.1	0.1	0.1	0.1

02315500 SUWANNEE RIVER AT WHITE SPRINGS, FL

LOCATION.--Lat 30°19'32", long 82°44'18", in SW$^1/_4$ sec. 8, T. 2 S., R. 16 E., Columbia County, Hydrologic Unit 03110201, on downstream side of bridge on U.S. Highway 41, 1.0 mi southeast of White Springs, and 171 mi upstream from mouth.

DRAINAGE AREA.--2,430 mi^2, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD.--May 1906 to December 1908, February 1927 to current year.

REVISED RECORDS.--WSP 1504: 1906, 1908. WSP 1905: WDR FL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to July 31, 1932, nonrecording gage at site 1.0 mi downstream at datum 48.54 ft. August 1, 1932 to October 10, 1979, water-stage recorder, at present site, at datum 48.54 ft. Oct. 11, 1979 to Dec. 1, 1983, non-recording gage at site 2.2 miles downstream at NGVD. Dec. 2, 1983 to June 30, 1996, nonrecording gage, at present site and datum.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	104	178	985	514	e3,100	9,250	1,910	1,170	1,640	911	2,110
2	69	101	169	1,100	489	e3,850	8,810	1,840	1,030	1,580	948	2,050
3	65	99	163	1,160	466	e4,900	8,370	1,770	913	1,530	1,000	2,040
4	63	98	158	1,170	453	e5,800	7,870	1,700	878	1,480	1,000	2,070
5	61	96	159	1,160	438	e6,400	7,340	1,610	886	1,440	e1,040	2,060
6	62	98	168	1,150	426	e7,000	6,800	1,530	921	1,350	e1,070	1,970
7	63	95	175	1,140	590	e7,300	6,250	1,440	971	1,270	1,110	1,850
8	61	92	231	1,130	651	e7,800	5,660	1,340	1,170	1,230	1,300	1,790
9	60	91	261	1,110	669	e8,400	5,280	1,240	1,450	1,130	1,560	1,780
10	63	91	293	1,090	715	e9,400	4,920	1,150	1,660	1,090	1,530	1,780
11	69	90	310	1,070	738	e10,000	4,560	1,060	1,770	1,030	1,470	1,730
12	84	95	358	1,030	745	10,800	4,290	968	1,880	969	1,430	1,640
13	88	115	436	995	736	11,000	4,080	854	2,000	912	1,430	1,530
14	94	107	483	964	721	11,100	3,910	749	2,130	884	1,410	1,420
15	106	114	525	937	712	11,200	3,750	656	2,290	890	1,390	1,310
16	100	143	570	904	753	11,300	3,630	547	2,450	900	1,390	1,210
17	96	167	586	875	953	11,400	3,360	471	2,500	930	1,390	1,110
18	98	153	592	841	1,050	11,400	3,220	420	2,530	906	1,430	1,020
19	101	165	593	812	1,070	11,400	3,010	455	2,550	876	1,460	935
20	102	178	601	785	1,040	11,400	2,820	625	2,540	860	1,520	856
21	103	188	589	762	1,020	11,400	2,650	897	2,530	830	1,590	789
22	110	200	581	748	1,040	11,400	2,520	1,050	2,520	792	1,700	732
23	111	206	577	735	1,330	11,300	2,380	1,240	2,510	765	1,920	693
24	110	222	631	710	1,550	11,200	2,260	1,450	2,470	752	1,920	668
25	110	225	777	687	1,600	11,100	2,200	1,590	2,410	793	1,920	620
26	109	217	825	667	1,580	10,900	2,200	1,670	2,340	929	1,950	665
27	108	208	857	646	1,880	10,700	2,140	1,680	2,260	954	1,990	775
28	107	201	870	612	2,640	10,500	2,070	1,640	2,160	953	2,030	684
29	108	193	867	583	---	10,200	2,000	1,550	1,970	954	2,060	636
30	120	184	860	559	---	9,950	1,950	1,430	1,770	941	2,070	571
31	111	---	866	536	---	9,630	---	1,300	---	931	2,120	---
MEAN	89.6	145	494	892	949	9,459	4,318	1,220	1,888	1,048	1,518	1,303
MAX	120	225	870	1,170	2,640	11,400	9,250	1,910	2,550	1,640	2,120	2,110
MIN	60	90	158	536	426	3,100	1,950	420	878	752	911	571
IN.	0.04	0.07	0.23	0.42	0.41	4.49	1.98	0.58	0.87	0.50	0.72	0.60

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1906 - 2003, BY WATER YEAR (WY)

MEAN	1,685	843	1,022	1,776	2,694	3,351	3,026	1,097	841	1,219	1,894	1,834
MAX	13,100	16,450	9,103	8,401	12,950	14,200	23,910	8,288	6,317	5,274	10,870	13,310
(WY)	(1929)	(1948)	(1977)	(1942)	(1998)	(1998)	(1973)	(1964)	(1973)	(1906)	(1945)	(1964)
MIN	8.55	6.63	8.68	11.8	13.2	35.5	22.2	10.5	11.8	19.6	15.8	8.82
(WY)	(1932)	(1932)	(1932)	(1932)	(1932)	(1932)	(1932)	(1932)	(1935)	(1955)	(1990)	(1990)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1906 - 2003	
ANNUAL MEAN	215		1,952		1,774	
HIGHEST ANNUAL MEAN					6,806	1948
LOWEST ANNUAL MEAN					144	2000
HIGHEST DAILY MEAN	2,530	Mar 5	11,400	Mar 17	38,000	Apr 10, 1973
LOWEST DAILY MEAN	14	Jul 12	60	Oct 9	2.8	Sep 26, 1990
ANNUAL SEVEN-DAY MINIMUM	16	Jul 6	62	Oct 4	3.4	Sep 26, 1990
MAXIMUM PEAK FLOW			11,500	Mar 19	38,100	Apr 10, 1973
MAXIMUM PEAK STAGE			78.98	Mar 19	88.56	Apr 10, 1973
INSTANTANEOUS LOW FLOW			60	Oct 4	2.8	Sep 26, 1990
ANNUAL RUNOFF (INCHES)	1.20		10.91		9.92	
10 PERCENT EXCEEDS	613		5,430		4,910	
50 PERCENT EXCEEDS	80		1,030		688	
90 PERCENT EXCEEDS	23		108		56	

e Estimated

02315500 SUWANNEE RIVER AT WHITE SPRINGS, FL—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50.34	50.68	51.25	54.54	52.65	---	74.76	57.71	55.35	56.88	54.22	58.30
2	50.36	50.65	51.20	55.00	52.58	---	73.87	57.50	54.84	56.69	54.38	58.14
3	50.33	50.63	51.15	55.26	52.51	---	72.98	57.30	54.39	56.56	54.61	58.10
4	50.32	50.61	51.12	55.29	52.47	---	71.96	57.06	54.25	56.39	54.61	58.18
5	50.30	50.60	51.13	55.25	52.42	---	70.87	56.81	54.29	56.27	---	58.15
6	50.31	50.62	51.19	55.22	52.38	---	69.72	56.54	54.42	55.95	---	57.89
7	50.32	50.58	51.23	55.18	52.85	---	68.52	56.25	54.62	55.66	55.05	57.55
8	50.31	50.55	51.55	55.13	53.01	---	67.20	55.93	55.34	55.50	55.78	57.35
9	50.30	50.55	51.70	55.07	53.10	---	66.35	55.61	56.29	55.14	56.63	57.32
10	50.32	50.54	51.86	54.98	53.32	---	65.51	55.28	56.96	54.97	56.54	57.31
11	50.36	50.53	51.93	54.87	53.44	---	64.68	54.95	57.30	54.74	56.35	57.15
12	50.48	50.59	52.12	54.73	53.47	77.75	64.02	54.61	57.61	54.47	56.24	56.88
13	50.52	50.78	52.39	54.58	53.42	78.07	63.50	54.16	57.97	54.23	56.23	56.54
14	50.58	50.71	52.55	54.45	53.35	78.39	63.09	53.71	58.36	54.10	56.18	56.18
15	50.70	50.77	52.67	54.34	53.31	78.59	62.71	53.32	58.81	54.13	56.09	55.82
16	50.64	51.01	52.79	54.19	53.50	78.73	62.40	53.03	59.26	54.17	56.09	55.44
17	50.60	51.18	52.84	54.06	54.40	78.85	61.71	52.82	59.41	54.30	56.11	55.07
18	50.62	51.09	52.86	53.91	54.81	78.94	61.33	52.66	59.50	54.20	56.22	54.69
19	50.65	51.16	52.86	53.78	54.88	78.96	60.81	52.77	59.54	54.07	56.32	54.33
20	50.66	51.25	52.88	53.65	54.78	78.94	60.29	53.29	59.53	54.00	56.50	53.98
21	50.67	51.31	52.85	53.55	54.68	78.89	59.84	54.33	59.51	53.86	56.73	53.67
22	50.74	51.38	52.82	53.48	54.76	78.80	59.46	54.91	59.47	53.69	57.09	53.40
23	50.74	51.42	52.81	53.42	55.86	78.67	59.08	55.61	59.44	53.56	57.74	53.21
24	50.73	51.51	53.01	53.30	56.62	78.49	58.75	56.29	59.32	53.50	57.75	53.09
25	50.73	51.53	53.62	53.19	56.77	78.25	58.55	56.75	59.16	53.69	57.74	52.93
26	50.73	51.48	53.84	53.09	56.70	77.94	58.56	56.98	58.96	54.30	57.82	53.13
27	50.72	51.44	53.98	52.99	57.61	77.58	58.40	57.03	58.72	54.41	57.95	53.61
28	50.71	51.39	54.04	52.91	59.87	77.19	58.18	56.90	58.44	54.40	58.08	53.17
29	50.72	51.34	54.03	52.83	---	76.68	57.99	56.61	57.90	54.41	58.15	52.98
30	50.82	51.29	54.00	52.77	---	76.12	57.83	56.23	57.30	54.35	58.19	52.80
31	50.75	---	54.02	52.71	---	75.50	---	55.80	---	54.31	58.33	---
TOTAL	1,567.08	1,529.17	1,628.29	1,677.72	1,519.52	---	1,912.92	1,718.75	1,726.26	1,696.90	---	1,666.36
MEAN	50.55	50.97	52.53	54.12	54.27	---	63.76	55.44	57.54	54.74	---	55.55
MAX	50.82	51.53	54.04	55.29	59.87	---	74.76	57.71	59.54	56.88	---	58.30
MIN	50.30	50.53	51.12	52.71	52.38	---	57.83	52.66	54.25	53.50	---	52.80

CAL YR 2002 TOTAL 18,620.29 MEAN 51.01 MAX 59.48 MIN 49.71

02319000 WITHLACOOCHEE RIVER NEAR PINETTA, FL

LOCATION.--Lat 30°35'43", long 83°15'35", in NW1/4 sec. 7, T. 2 N., R. 11 E., Madison County, Hydrologic Unit 03110203, on right bank 300 ft downstream from County Road 150 bridge, 0.1 mi downstream from small tributary, 0.3 mi west of Bellville, 5.6 mi east of Pinetta, and 22 mi upstream from mouth.

DRAINAGE AREA.--2,120 mi^2, approximately.

PERIOD OF RECORD.--October 1931 to current year. Monthly discharge only for October and November 1931, published in WSP 1304.

REVISED RECORDS.--WSP 972: 1941-42. WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 47.21 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Oct. 11, 1931 to Dec. 3, 1941, nonrecording gage at same site and datum. Dec. 3, 1941 to Aug. 2, 1972, water-stage recorder at same site and datum. Aug. 2, 1972 to Apr. 22, 1986, nonrecording gage at same site and datum.

REMARKS.--Records fair.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1928 reached a stage of 36.75 ft from floodmarks, discharge, 53,600 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	159	695	1,070	e3,560	661	3,860	6,670	1,640	729	1,110	4,130	1,920
2	145	647	966	3,660	644	4,610	4,720	1,710	647	1,060	3,840	2,060
3	149	634	879	3,670	639	5,370	3,640	1,840	571	1,050	3,320	2,160
4	149	677	803	3,650	663	6,450	2,940	1,910	549	1,210	2,940	2,190
5	133	744	780	3,640	680	7,210	2,630	1,820	567	1,550	2,890	2,310
6	114	841	774	3,690	694	7,980	2,360	1,740	598	2,000	3,140	2,430
7	100	1,150	872	3,790	796	8,960	2,200	1,660	862	2,400	3,470	2,290
8	88	1,100	910	3,790	1,030	12,100	2,090	1,560	1,280	2,750	3,820	2,250
9	71	1,040	890	3,600	1,230	14,600	2,980	1,450	1,550	3,090	4,110	2,710
10	61	1,040	879	3,270	1,330	16,600	4,710	1,340	1,630	3,160	4,310	3,280
11	58	1,130	897	2,830	1,400	18,600	6,150	1,210	1,700	2,700	4,350	3,700
12	50	1,220	930	2,350	1,460	20,900	6,980	1,080	1,840	2,010	4,340	3,910
13	45	1,350	986	1,980	1,480	24,000	7,600	934	1,880	1,540	4,350	4,060
14	41	1,470	1,080	1,730	1,490	22,900	7,730	777	1,830	1,280	4,420	3,940
15	47	1,540	1,160	1,570	1,480	21,300	7,980	701	1,670	1,110	4,540	3,150
16	44	1,680	1,230	1,450	1,460	20,200	8,120	641	1,490	967	4,620	2,180
17	37	2,010	1,320	1,360	1,450	18,400	7,950	609	1,520	862	4,590	1,600
18	33	2,500	1,410	1,260	1,470	15,500	7,400	598	1,490	840	4,470	1,280
19	32	2,860	1,470	1,170	1,590	13,000	6,250	598	1,520	789	4,010	1,090
20	31	3,810	1,560	1,100	1,630	10,300	4,430	624	1,660	731	3,500	960
21	31	4,160	1,740	1,040	1,750	8,840	2,910	780	2,300	701	3,500	856
22	111	4,260	1,790	996	1,900	8,530	2,200	856	3,180	669	3,820	772
23	246	3,860	1,760	946	2,050	8,980	1,850	1,040	3,720	684	4,620	702
24	245	3,070	1,770	884	2,140	9,880	1,660	1,210	4,190	760	4,890	638
25	329	2,410	2,210	854	2,190	11,300	1,560	1,270	4,290	984	4,470	582
26	422	2,050	2,680	832	2,210	13,800	1,460	1,310	3,850	1,260	3,270	574
27	403	1,790	2,960	794	2,240	15,600	1,500	1,240	2,860	1,700	2,230	558
28	393	1,560	3,130	759	3,150	14,800	1,550	1,150	1,930	2,270	1,970	519
29	430	1,370	3,240	729	---	13,100	1,560	1,030	1,460	3,050	2,360	500
30	537	1,210	3,360	697	---	11,000	1,590	909	1,230	3,790	2,110	518
31	707	---	3,450	677	---	8,800	---	808	---	4,190	1,910	---
MEAN	176	1,796	1,579	2,011	1,461	12,820	4,112	1,163	1,820	1,686	3,687	1,856
MAX	707	4,260	3,450	3,790	3,150	24,000	8,120	1,910	4,290	4,190	4,890	4,060
MIN	31	634	774	677	639	3,860	1,460	598	549	669	1,910	500
IN.	0.10	0.95	0.86	1.09	0.72	6.97	2.16	0.63	0.96	0.92	2.01	0.98

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2003, BY WATER YEAR (WY)

MEAN	712	594	1,230	2,119	3,456	4,197	3,194	1,306	982	1,010	1,155	801
MAX	8,178	9,450	11,280	8,134	14,720	12,820	17,320	8,154	6,043	6,003	6,759	6,625
(WY)	(1995)	(1948)	(1965)	(1993)	(1986)	(2003)	(1948)	(1964)	(1973)	(1991)	(1991)	(1935)
MIN	85.7	78.1	92.4	116	133	238	253	161	101	80.2	81.7	96.5
(WY)	(1955)	(1955)	(1955)	(1934)	(1934)	(1955)	(1968)	(2002)	(2002)	(2002)	(2002)	(1954)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1932 - 2003	
ANNUAL MEAN	594		2,864		1,720	
HIGHEST ANNUAL MEAN					5,364	1948
LOWEST ANNUAL MEAN					236	1955
HIGHEST DAILY MEAN	4,260	Nov 22	24,000	Mar 13	73,600	Apr 5, 1948
LOWEST DAILY MEAN	19	Aug 14	31	Oct 20	19	Aug 14, 2002
ANNUAL SEVEN-DAY MINIMUM	26	Aug 11	36	Oct 15	26	Aug 11, 2002
MAXIMUM PEAK FLOW			24,900	Mar 13	79,400	Apr 5, 1948
MAXIMUM PEAK STAGE			33.90	Mar 13	38.64	Apr 5, 1948
INSTANTANEOUS LOW FLOW			28	Oct 21	14	Aug 13, 2002
ANNUAL RUNOFF (INCHES)	3.81		18.34		11.02	
10 PERCENT EXCEEDS	1,560		6,330		4,580	
50 PERCENT EXCEEDS	188		1,600		618	
90 PERCENT EXCEEDS	59		569		144	

e Estimated

WITHLACOOCHEE RIVER BASIN

02319302 MADISON BLUE SPRING NEAR MADISON, FL

LOCATION.--Lat 30°28'49", long 83°14'40" in SW ¼ sec. 17, T. 1 N., R.11 E., Madison County, Hydrologic Unit 03110203, on right bank of Withlacoochee River, 10.2 mi east of Madison, Fl.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--1932, 1946, 1956, 1961, 1963, 1974, 1977, 1985, 1990-91, 1993, 1995-96, 1998 (miscellaneous discharge measurements), February 2002 to September 2003 (fragmentary). Prior to February 2002, published as Blue Spring near Madison.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is undetermined. Prior to February 2002, non-recording gage at same site at National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Flow heavily affected by Withlacoochee River. Discharge computed from continuous velocity record obtained from water-current meter.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	75	56	54	51	115
2	---	---	---	---	---	---	---	73	55	54	52	106
3	---	---	---	---	---	---	---	72	55	53	52	82
4	---	---	---	---	---	---	---	70	54	53	53	72
5	---	---	---	---	---	---	---	68	54	51	53	66
6	---	---	---	---	---	---	---	67	55	57	53	62
7	---	---	---	---	---	---	---	65	55	56	50	59
8	---	---	---	---	---	---	---	64	55	53	50	56
9	---	---	---	---	---	---	---	63	56	52	49	53
10	---	---	---	---	---	---	---	62	57	50	48	52
11	---	---	---	---	---	---	---	61	57	51	46	50
12	---	---	---	---	---	---	e94	60	55	51	47	49
13	---	---	---	---	---	---	93	59	55	53	47	48
14	---	---	---	---	---	---	95	58	54	52	47	48
15	---	---	---	---	---	---	95	57	54	52	48	47
16	---	---	---	---	---	---	91	56	52	56	49	46
17	---	---	---	---	---	---	89	56	52	55	47	48
18	---	---	---	---	---	---	87	57	51	52	48	50
19	---	---	---	---	---	---	84	59	52	51	50	48
20	---	---	---	---	---	---	85	59	51	49	49	84
21	---	---	---	---	---	---	86	68	49	48	49	112
22	---	---	---	---	---	---	86	65	50	48	46	84
23	---	---	---	---	---	---	75	61	51	48	49	68
24	---	---	---	---	---	---	72	60	53	49	51	62
25	---	---	---	---	---	---	83	60	52	49	49	61
26	---	---	---	---	---	---	89	60	54	50	48	64
27	---	---	---	---	---	---	83	58	55	49	48	65
28	---	---	---	---	---	---	81	58	56	50	47	65
29	---	---	---	---	---	---	78	57	60	50	49	63
30	---	---	---	---	---	---	77	57	57	49	59	61
31	---	---	---	---	---	---	---	57	---	49	89	---
TOTAL	---	---	---	---	---	---	---	1,922	1,622	1,594	1,573	1,946
MEAN	---	---	---	---	---	---	---	62.0	54.1	51.4	50.7	64.9
MAX	---	---	---	---	---	---	---	75	60	57	89	115
MIN	---	---	---	---	---	---	---	56	49	48	46	46
MED	---	---	---	---	---	---	---	60	54	51	49	61
AC-FT	---	---	---	---	---	---	---	3,810	3,220	3,160	3,120	3,860
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)												
MEAN	---	---	---	---	---	---	---	62.0	54.1	51.4	50.7	64.9
MAX	---	---	---	---	---	---	---	62.0	54.1	51.4	50.7	64.9
(WY)	---	---	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)
MIN	---	---	---	---	---	---	---	62.0	54.1	51.4	50.7	64.9
(WY)	---	---	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)

e Estimated

02319302 MADISON BLUE SPRING NEAR MADISON, FL—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	104	129	-32	84	-48	---	195	175	215	36	82
2	56	99	111	-34	77	-48	---	187	165	212	101	64
3	55	92	102	-35	72	-30	---	182	144	228	104	49
4	55	94	99	-23	72	-17	---	172	134	213	109	46
5	54	99	92	-22	65	---	-34	181	122	137	103	33
6	52	104	82	-24	72	---	-18	178	133	93	98	21
7	50	93	76	-26	79	---	0.58	174	145	63	106	33
8	49	100	74	-21	74	---	20	170	176	71	106	42
9	47	105	86	-26	71	---	-11	165	---	82	90	3.2
10	45	104	77	-44	70	---	-61	184	---	116	85	-7.7
11	44	97	69	-25	63	---	---	196	---	118	89	-16
12	43	96	66	81	48	---	---	213	---	172	82	-28
13	42	86	73	127	48	---	---	232	---	197	86	-23
14	40	79	63	126	61	---	---	230	---	185	85	-22
15	41	75	54	131	74	---	---	204	---	194	83	-12
16	40	69	56	132	89	---	---	184	---	222	113	69
17	38	59	53	129	66	---	---	173	---	208	124	122
18	37	73	54	151	38	---	---	168	---	201	126	101
19	37	81	49	167	40	---	---	163	---	190	124	98
20	36	55	33	168	38	---	---	158	---	179	127	112
21	36	66	6.5	157	29	---	-12	165	---	164	114	153
22	38	69	4.0	146	19	---	221	174	---	157	111	145
23	52	55	19	117	-0.51	---	377	180	---	154	84	136
24	55	70	32	114	-3.4	---	350	188	5.1	156	87	126
25	58	102	-23	109	-1.7	---	284	187	64	166	97	111
26	71	119	-53	109	7.7	---	261	132	139	182	37	98
27	72	112	-54	105	-1.6	---	238	151	137	120	73	80
28	71	113	-51	101	-40	---	222	188	225	43	121	63
29	74	124	-44	101	---	---	212	193	240	-9.6	52	55
30	79	144	-40	98	---	---	202	191	216	-46	76	59
31	95	---	-36	90	---	---	---	181	---	-40	92	---
TOTAL	1,620	2,738	1,258.5	2,147	1,309.49	---	---	5,639	---	4,342.4	2,921	1,792.5
MEAN	52.3	91.3	40.6	69.3	46.8	---	---	182	---	140	94.2	59.8
MAX	95	144	129	168	89	---	---	232	---	228	127	153
MIN	36	55	-54	-44	-40	---	---	132	---	-46	36	-28
MED	50	95	54	101	62	---	---	181	---	164	97	61
AC-FT	3,210	5,430	2,500	4,260	2,600	---	---	11,180	---	8,610	5,790	3,560

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	52.3	91.3	40.6	69.3	46.8	---	---	122	54.1	95.7	72.5	62.3
MAX	52.3	91.3	40.6	69.3	46.8	---	---	182	54.1	140	94.2	64.9
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	---	---	(2003)	(2002)	(2003)	(2003)	(2002)
MIN	52.3	91.3	40.6	69.3	46.8	---	---	62.0	54.1	51.4	50.7	59.8
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	---	---	(2002)	(2002)	(2002)	(2002)	(2003)

SUMMARY STATISTICS	WATER YEARS 2002-2003	
HIGHEST DAILY MEAN	377	Apr 23, 2003
LOWEST DAILY MEAN	-61	Apr 10, 2003
ANNUAL SEVEN-DAY MINIMUM	-44	Dec 26, 2003
MAXIMUM PEAK FLOW	440	Apr 22, 2003
MAXIMUM PEAK STAGE	35.09	Mar 15, 2003

02319394 WITHLACOOCHEE RIVER NEAR LEE, FL

LOCATION.--Lat 30°24'37", long 83°10'49", in SW¼ sec.12, T. 1 S., R. 11 E., Madison County, Hydrologic Unit 03110203, near right bank on downstream side of bridge on County Road 141 and Myrrh Road, 2.3 mi upstream from mouth, and 7.3 mi east of Lee.

DRAINAGE AREA.--2,330 mi^2.

PERIOD OF RECORD.--November 2000 to current year.

REVISED RECORDS.--WRD FL-02-4:2001.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is undetermined.

REMARKS.--Records fair. Flow affected by backwater from the Suwannee River.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	434	716	1,580	3,560	1,280	3,690	10,100	3,310	1,600	2,260	4,210	3,230
2	424	707	1,480	3,620	1,250	4,210	8,650	3,310	1,560	2,130	4,240	3,260
3	417	721	1,380	3,720	1,230	4,730	7,640	3,360	1,500	2,050	4,060	3,320
4	422	719	1,300	3,740	1,240	5,380	7,010	3,370	1,470	2,040	3,780	3,340
5	417	732	1,280	3,770	1,230	5,950	5,990	3,280	1,440	2,220	3,670	3,350
6	388	801	1,250	3,830	1,230	6,530	5,340	3,170	1,460	2,550	3,760	3,440
7	368	956	1,240	3,880	1,280	7,170	5,720	3,040	1,540	2,880	3,950	3,400
8	364	1,030	1,270	3,950	1,370	8,420	5,610	2,910	1,850	3,120	4,150	3,290
9	366	1,010	1,280	3,900	1,520	10,100	5,570	2,770	2,060	3,380	4,320	3,450
10	359	996	1,260	3,790	1,660	11,500	6,200	2,620	2,210	3,540	4,480	3,740
11	351	1,050	1,240	3,590	1,750	13,200	7,000	2,500	2,310	3,460	4,570	4,120
12	342	1,140	1,250	3,270	1,830	14,400	7,580	2,320	2,440	3,080	4,670	4,480
13	355	1,230	1,280	2,910	1,860	15,600	7,870	2,160	2,530	2,680	4,790	4,630
14	320	1,330	1,330	2,640	1,870	17,100	8,150	2,020	2,550	2,370	4,870	4,540
15	342	1,380	1,390	2,420	1,830	18,000	8,390	1,910	2,480	2,170	5,080	4,200
16	331	1,490	1,430	2,240	1,800	18,200	8,420	1,830	2,330	2,020	5,150	3,620
17	336	1,710	1,480	2,110	1,820	17,400	8,270	1,740	2,330	1,890	5,160	3,030
18	325	2,070	1,550	1,990	1,900	16,200	7,990	1,710	2,300	1,820	5,080	2,600
19	317	2,510	1,630	1,900	1,960	15,000	7,620	1,670	2,280	1,770	4,900	2,330
20	297	2,990	1,690	1,800	2,030	13,400	6,840	1,650	2,350	1,690	4,620	2,130
21	258	3,430	1,840	1,730	2,150	12,400	5,720	1,690	2,630	1,650	4,470	1,940
22	260	3,650	1,930	1,670	2,310	11,700	4,950	1,760	3,240	1,620	4,640	1,850
23	322	3,580	1,940	1,610	2,470	11,800	4,490	1,800	3,640	1,590	4,970	1,750
24	410	3,290	1,990	1,530	2,590	11,700	4,140	1,980	4,000	1,620	5,200	1,670
25	436	2,860	2,180	1,480	2,650	12,000	3,890	2,000	4,200	1,730	5,120	1,600
26	492	2,550	2,620	1,450	2,680	12,800	3,680	2,060	4,170	1,910	4,610	1,550
27	522	2,320	2,870	1,410	2,780	14,100	3,550	2,020	3,800	2,220	3,920	1,490
28	517	2,080	3,040	1,370	3,180	14,300	3,480	1,960	3,240	2,650	3,530	1,440
29	544	1,860	3,200	1,340	---	13,700	3,390	1,870	2,740	3,170	3,620	1,400
30	590	1,710	3,340	1,310	---	12,900	3,340	1,770	2,430	3,680	3,530	1,340
31	653	---	3,440	1,290	---	11,400	---	1,680	---	4,070	3,330	---
MEAN	396	1,754	1,806	2,543	1,884	11,770	6,220	2,298	2,489	2,420	4,402	2,851
MAX	653	3,650	3,440	3,950	3,180	18,200	10,100	3,370	4,200	4,070	5,200	4,630
MIN	258	707	1,240	1,290	1,230	3,690	3,340	1,650	1,440	1,590	3,330	1,340

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	433	916	995	1,532	1,205	5,831	3,479	1,150	1,607	1,346	1,911	1,300
MAX	470	1,754	1,806	2,543	1,884	11,770	6,220	2,298	2,489	2,420	4,402	2,851
(WY)	(2002)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	396	392	365	385	496	1,936	935	352	346	338	338	449
(WY)	(2003)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL MEAN	796		3,416		1,992	
HIGHEST ANNUAL MEAN					3,416	2003
LOWEST ANNUAL MEAN					568	2002
HIGHEST DAILY MEAN	3,650	Nov 22	18,200	Mar 16	18,200	Mar 16, 2003
LOWEST DAILY MEAN	215	May 23	258	Oct 21	215	May 23, 2002
ANNUAL SEVEN-DAY MINIMUM	244	May 21	302	Oct 17	244	May 21, 2002
MAXIMUM PEAK FLOW			20,000	Mar 16	20,000	Mar 16, 2003
MAXIMUM PEAK STAGE			56.42	Mar 17	56.42	Mar 17, 2003
INSTANTANEOUS LOW FLOW			195	Oct 21	157	May 20, 2002
10 PERCENT EXCEEDS	1,790		7,070		4,310	
50 PERCENT EXCEEDS	436		2,370		1,010	
90 PERCENT EXCEEDS	327		773		337	

SUWANNEE RIVER BASIN

02319500 SUWANNEE RIVER AT ELLAVILLE, FL

LOCATION.--Lat 30°23'04", long 83°10'19", in NE¼ sec. 24, T. 1 S., R. 11 E., Suwannee County, Hydrologic Unit 03110205, on left bank at Ellaville, 100 ft upstream from Seaboard Air Line Railroad bridge, 200 ft downstream from Withlacoochee River, 900ft upstream from bridge on U.S. Highway 90, and 127 mi upstream from mouth.

DRAINAGE AREA.--6,970 mi^2, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD.--January 1927 to current year.

REVISED RECORDS.--WSP 1905: WDR FL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 27.22 ft above National Geodetic Vertical Datum of 1929. Prior to June 20, 1932, nonrecording gage at same site and datum. Nov. 8, 1955 to Sept. 30, 1970, nonrecording gage 1.1 mi downstream from base gage at datum 2.67ft lower, used as supplementary gage when flow was less than 4,800 ft^3/s.

REMARKS.--No estimated daily discharges. Records good above 5,000 cfs, and fair below. Since Nov. 7, 1953, slight regulation at low water caused by diversions above control 0.7 mi downstream from gage by a steam-electric powerplant for cooling of condensers. Total diverted flow is returned to river below control. Records include flow of large spring on left bank about 200 ft downstream; spring flow may reverse during high stages.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,030	1,500	3,520	6,150	3,050	8,640	26,100	10,600	4,390	8,060	7,600	9,510
2	993	1,510	3,370	6,390	3,000	11,100	25,200	10,300	4,120	7,570	7,720	9,350
3	972	1,520	3,220	6,640	2,950	13,000	24,200	10,100	3,910	7,140	7,740	9,240
4	969	1,590	3,070	6,820	2,930	14,300	23,200	9,940	3,820	6,880	7,710	9,110
5	951	1,680	3,010	6,950	2,890	15,400	22,100	9,720	3,730	6,950	7,720	9,080
6	919	1,810	2,900	7,060	2,910	16,400	21,100	9,400	3,780	7,170	7,870	9,140
7	894	2,020	2,840	7,160	3,000	17,400	20,000	9,020	4,000	7,380	8,190	9,120
8	875	2,120	2,810	7,300	3,130	18,800	18,900	8,620	4,650	7,560	8,710	8,940
9	845	2,130	2,790	7,350	3,330	20,700	18,300	8,180	5,490	7,730	9,370	9,210
10	816	2,140	2,790	7,290	3,500	22,400	18,400	7,720	6,000	7,860	9,820	9,740
11	798	2,180	2,790	7,070	3,590	23,800	18,800	7,260	6,250	7,770	10,000	10,300
12	771	2,290	2,780	6,740	3,660	25,000	19,200	6,740	6,410	7,300	10,200	10,800
13	746	2,360	2,840	6,350	3,700	26,300	19,500	6,180	6,570	6,750	10,400	11,100
14	741	2,450	2,870	5,970	3,710	27,500	19,600	5,700	6,640	6,310	10,600	11,000
15	778	2,540	2,930	5,630	3,670	28,500	19,600	5,270	6,630	5,980	10,900	10,600
16	785	2,640	3,000	5,350	3,670	29,700	19,600	4,910	6,560	5,690	11,200	9,780
17	774	2,820	3,060	5,090	3,800	30,800	19,400	4,610	6,650	5,460	11,300	8,790
18	758	3,120	3,130	4,820	4,020	30,800	19,100	4,390	6,770	5,250	11,300	7,890
19	770	3,550	3,200	4,570	4,170	29,800	18,600	4,230	7,030	5,090	11,300	7,140
20	812	4,060	3,280	4,330	4,280	28,700	17,700	4,110	7,270	4,930	11,100	6,500
21	810	4,550	3,370	4,120	4,410	28,200	16,700	4,160	7,650	4,750	10,900	5,960
22	803	4,930	3,500	3,950	4,620	27,600	15,800	4,430	8,420	4,550	11,000	5,500
23	854	5,080	3,590	3,770	4,860	27,200	14,900	4,600	9,190	4,360	11,400	5,090
24	910	4,970	3,720	3,590	5,180	26,800	14,200	4,950	9,770	4,250	11,700	4,750
25	955	4,690	4,040	3,470	5,430	26,700	13,500	5,190	10,100	4,360	11,700	4,480
26	1,070	4,430	4,580	3,370	5,590	26,800	12,900	5,370	10,300	4,600	11,500	4,340
27	1,110	4,220	5,000	3,270	5,890	27,100	12,300	5,410	10,200	5,060	10,900	4,210
28	1,110	4,020	5,320	3,180	6,980	27,300	11,800	5,320	9,750	5,600	10,400	4,130
29	1,120	3,840	5,540	3,100	---	27,400	11,300	5,150	9,190	6,210	10,200	3,950
30	1,210	3,690	5,720	3,150	---	27,200	10,900	4,910	8,620	6,790	10,100	3,780
31	1,350	---	5,930	3,100	---	26,700	---	4,650	---	7,300	9,780	---
MEAN	913	3,015	3,565	5,261	3,997	23,810	18,100	6,488	6,795	6,215	10,010	7,751
MAX	1,350	5,080	5,930	7,350	6,980	30,800	26,100	10,600	10,300	8,060	11,700	11,100
MIN	741	1,500	2,780	3,100	2,890	8,640	10,900	4,110	3,730	4,250	7,600	3,780
IN.	0.15	0.48	0.59	0.87	0.60	3.94	2.90	1.07	1.09	1.03	1.66	1.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 2003, BY WATER YEAR (WY)

MEAN	4,805	3,428	4,126	6,168	9,139	11,880	11,130	6,018	4,193	4,409	5,675	5,177
MAX	32,940	35,590	30,600	21,150	30,720	36,610	53,180	25,380	17,800	14,380	34,990	30,760
(WY)	(1929)	(1948)	(1948)	(1977)	(1991)	(1998)	(1948)	(1928)	(1973)	(1991)	(1928)	(1928)
MIN	913	895	805	882	1,189	1,240	1,702	1,245	792	877	903	1,081
(WY)	(2003)	(2000)	(2002)	(2000)	(1957)	(1955)	(1968)	(1932)	(2000)	(2000)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1927 - 2003	
ANNUAL MEAN	1,934		8,016		6,370	
HIGHEST ANNUAL MEAN					19,710	1948
LOWEST ANNUAL MEAN					1,296	1955
HIGHEST DAILY MEAN	7,060	Mar 8	30,800	Mar 17	94,700	Apr 8, 1948
LOWEST DAILY MEAN	741	Oct 14	741	Oct 14	720	Jun 20, 2000
ANNUAL SEVEN-DAY MINIMUM	765	Oct 13	765	Oct 13	740	Jun 16, 2000
MAXIMUM PEAK FLOW			31,000	Mar 17	95,300	Apr 7, 1948
MAXIMUM PEAK STAGE			28.28	Mar 17	40.88	Apr 7, 1948
INSTANTANEOUS LOW FLOW			739	Oct 13	703	Jun 20, 2000
ANNUAL RUNOFF (INCHES)	3.77		15.62		12.42	
10 PERCENT EXCEEDS	4,130		19,100		14,600	
50 PERCENT EXCEEDS	1,310		5,720		3,840	
90 PERCENT EXCEEDS	853		1,760		1,450	

02319500 SUWANNEE RIVER AT ELLAVILLE, FL—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.61	2.12	3.91	6.34	3.51	8.23	24.77	9.76	4.89	8.12	7.69	9.48
2	1.58	2.29	3.77	6.56	3.46	10.23	23.89	9.52	4.67	7.66	7.80	9.33
3	1.57	2.29	3.63	6.79	3.42	12.01	22.93	9.35	4.48	7.26	7.81	9.22
4	1.56	2.31	3.50	6.96	3.39	13.27	21.94	9.25	4.40	7.01	7.79	9.10
5	1.56	2.36	3.44	7.08	3.37	14.31	20.90	9.07	4.32	7.07	7.79	9.07
6	1.53	2.42	3.35	7.18	3.38	15.24	19.85	8.82	4.37	7.28	7.93	9.14
7	1.51	2.55	3.30	7.28	3.46	16.22	18.78	8.53	4.56	7.48	8.24	9.11
8	1.49	2.64	3.27	7.40	3.58	17.59	17.77	8.21	5.10	7.64	8.73	8.94
9	1.48	2.65	3.25	7.45	3.76	19.45	17.12	7.87	5.78	7.80	9.35	9.19
10	1.45	2.65	3.25	7.39	3.91	21.17	17.23	7.52	6.20	7.93	9.77	9.70
11	1.44	2.69	3.25	7.19	3.99	22.53	17.63	7.16	6.42	7.84	9.96	10.23
12	1.42	2.79	3.24	6.88	4.06	23.75	18.01	6.76	6.58	7.41	10.12	10.70
13	1.41	2.85	3.30	6.52	4.09	25.00	18.26	6.33	6.72	6.89	10.30	10.95
14	1.40	2.94	3.33	6.16	4.10	26.17	18.38	5.95	6.79	6.48	10.54	10.90
15	1.43	3.01	3.38	5.85	4.06	27.20	18.42	5.60	6.78	6.17	10.81	10.50
16	1.44	3.10	3.44	5.59	4.07	27.89	18.40	5.31	6.71	5.91	11.04	9.74
17	1.44	3.26	3.50	5.36	4.18	28.21	18.26	5.07	6.80	5.70	11.19	8.80
18	1.44	3.52	3.56	5.11	4.38	28.22	17.93	4.89	6.91	5.50	11.22	7.95
19	1.57	3.92	3.62	4.88	4.52	27.94	17.39	4.76	7.15	5.36	11.14	7.26
20	1.60	4.40	3.69	4.66	4.62	27.44	16.60	4.66	7.38	5.21	10.95	6.66
21	1.54	4.86	3.78	4.48	4.74	26.86	15.59	4.71	7.73	5.05	10.81	6.16
22	1.47	5.21	3.90	4.31	4.93	26.29	14.67	4.92	8.46	4.86	10.92	5.73
23	1.52	5.35	3.98	4.15	5.15	25.86	13.88	5.05	9.18	4.69	11.25	5.36
24	1.57	5.25	4.10	3.99	5.44	25.54	13.15	5.34	9.73	4.59	11.55	5.04
25	1.61	4.99	4.39	3.88	5.67	25.39	12.47	5.53	10.07	4.69	11.61	4.80
26	1.71	4.75	4.89	3.79	5.82	25.54	11.86	5.68	10.24	4.91	11.35	4.67
27	1.75	4.56	5.27	3.70	6.09	25.82	11.33	5.71	10.14	5.33	10.81	4.56
28	1.75	4.37	5.57	3.62	6.95	26.04	10.87	5.64	9.71	5.83	10.31	4.48
29	1.76	4.20	5.77	3.55	---	26.08	10.41	5.50	9.18	6.39	10.15	4.32
30	1.83	4.06	5.94	3.60	---	25.90	10.04	5.31	8.64	6.93	10.00	4.17
31	1.96	---	6.13	3.55	---	25.43	---	5.10	---	7.40	9.73	---
TOTAL	48.40	104.36	122.70	171.25	122.10	696.82	508.73	202.88	210.09	198.39	308.66	235.26
MEAN	1.56	3.48	3.96	5.52	4.36	22.48	16.96	6.54	7.00	6.40	9.96	7.84
MAX	1.96	5.35	6.13	7.45	6.95	28.22	24.77	9.76	10.24	8.12	11.61	10.95
MIN	1.40	2.12	3.24	3.55	3.37	8.23	10.04	4.66	4.32	4.59	7.69	4.17

WTR YR 2003 TOTAL 2,929.64 MEAN 8.03 MAX 28.22 MIN 1.40

02319800 SUWANNEE RIVER AT DOWLING PARK, FL

LOCATION.--Lat 30°14'41", long 83°14'59", in NW¼ sec. 8, T. 3 S., R. 11 E., Lafayette County, Hydrologic Unit 03110205, at bridge on County Road 250 at Dowling Park, and 112 mi upstream from mouth.

DRAINAGE AREA.--7,190 mi^2, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD.--March 1950 to August 1954 and November 1975 to October 1977 (annual maximum discharge and gage-height), October 1996 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 7, 1948, reached a stage of 61.46 ft, from floodmarks; discharge, 92,600 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,120	1,380	3,130	5,740	2,530	6,670	25,100	9,660	5,210	8,010	7,270	9,200
2	1,110	1,420	2,970	5,910	2,460	8,230	24,400	9,410	5,000	7,660	7,420	9,040
3	1,110	1,440	2,810	6,120	2,400	9,900	23,600	9,220	4,820	7,330	7,490	8,930
4	1,110	1,450	2,660	6,290	2,350	11,200	22,600	9,090	4,670	7,070	7,500	8,810
5	1,120	1,490	2,550	6,420	2,300	12,200	21,500	8,930	4,480	7,020	7,510	8,750
6	1,110	1,540	2,420	6,540	2,280	13,200	20,400	8,710	4,460	7,130	7,600	8,760
7	1,100	1,590	2,360	6,650	2,360	14,100	19,300	8,450	4,670	7,270	e7,830	8,770
8	1,100	1,720	2,330	6,770	2,420	15,300	18,100	8,180	5,100	7,380	8,220	8,630
9	1,080	1,750	2,320	6,850	2,600	17,200	17,200	7,880	5,670	7,500	8,680	8,720
10	1,050	1,750	2,330	6,850	2,770	19,000	17,000	7,580	6,090	7,600	9,090	9,070
11	1,020	1,770	2,330	6,740	2,870	20,700	17,200	7,260	6,320	7,620	9,310	9,490
12	1,000	1,850	2,330	6,540	2,940	22,100	17,600	6,920	6,460	e7,520	9,460	9,890
13	998	1,900	2,360	6,280	2,980	23,300	17,800	6,560	6,610	e7,240	9,620	10,200
14	998	1,970	2,360	6,000	2,980	24,500	17,900	6,210	6,680	e6,880	9,800	10,200
15	1,030	2,050	2,400	5,730	2,960	25,600	17,900	5,890	6,680	e6,540	10,000	10,000
16	1,030	2,150	2,460	5,480	2,960	26,500	17,900	5,600	6,630	e6,290	10,300	9,470
17	1,010	2,260	2,520	5,260	3,000	28,000	17,800	5,360	6,660	e6,030	10,400	8,750
18	1,000	2,490	2,580	5,030	3,160	28,900	17,500	5,170	6,750	e5,820	10,500	8,020
19	986	2,860	2,650	4,780	3,310	29,200	17,100	5,010	6,910	e5,610	10,500	7,410
20	996	3,330	2,730	4,430	3,410	28,700	16,400	4,920	7,080	e5,430	10,400	6,880
21	1,010	3,870	2,790	4,110	3,500	27,700	15,500	4,660	7,310	e5,240	10,200	6,430
22	1,010	4,400	2,920	3,820	3,670	26,500	14,600	e4,890	7,800	e5,060	10,300	6,030
23	1,030	4,670	3,020	3,540	3,940	26,000	13,700	5,380	8,390	4,850	10,500	5,680
24	1,120	4,670	3,160	3,350	4,310	25,700	13,000	5,550	8,890	4,770	10,800	5,360
25	1,130	4,420	3,340	3,220	4,680	25,400	12,400	5,720	9,230	4,840	10,900	5,110
26	1,150	4,110	3,860	3,100	4,900	25,300	11,800	5,840	9,430	5,020	10,800	4,950
27	1,180	3,850	4,470	2,980	5,140	25,500	11,200	5,880	9,450	5,330	10,400	4,750
28	1,190	3,600	4,920	2,880	5,640	25,700	10,800	5,840	9,210	5,680	9,990	4,610
29	1,180	3,430	5,160	2,790	---	25,800	10,300	5,740	8,850	6,100	9,760	4,400
30	1,220	3,280	5,350	2,690	---	25,800	9,960	5,580	8,430	6,560	9,650	4,120
31	1,270	---	5,540	2,610	---	25,500	---	5,390	---	6,960	9,420	---
MEAN	1,083	2,615	3,069	5,016	3,244	21,590	16,920	6,661	6,798	6,431	9,407	7,681
MAX	1,270	4,670	5,540	6,850	5,640	29,200	25,100	9,660	9,450	8,010	10,900	10,200
MIN	986	1,380	2,320	2,610	2,280	6,670	9,960	4,660	4,460	4,770	7,270	4,120
IN.	0.17	0.41	0.49	0.80	0.47	3.46	2.63	1.07	1.06	1.03	1.51	1.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	3,672	3,437	3,683	5,282	6,649	12,460	7,757	3,501	2,996	2,824	3,420	3,023
MAX	10,700	10,650	13,190	18,280	22,750	38,110	17,010	6,661	6,798	6,431	9,407	7,681
(WY)	(1999)	(1998)	(1998)	(1998)	(1998)	(1998)	(1998)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	1,083	1,100	985	1,085	1,200	1,938	2,047	1,319	1,030	944	936	1,098
(WY)	(2003)	(2002)	(2002)	(2002)	(2002)	(2000)	(1999)	(2002)	(2000)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	1,762		7,568		4,885	
HIGHEST ANNUAL MEAN					11,550	1998
LOWEST ANNUAL MEAN					1,487	2002
HIGHEST DAILY MEAN	5,820	Mar 9	29,200	Mar 19	53,100	Mar 20, 1998
LOWEST DAILY MEAN	875	Jul 23	986	Oct 19	875	Jul 23, 2002
ANNUAL SEVEN-DAY MINIMUM	896	Jul 19	1,010	Oct 16	896	Jul 19, 2002
MAXIMUM PEAK FLOW			29,200	Mar 18	53,500	Mar 20, 1998
MAXIMUM PEAK STAGE			47.12	Mar 19	54.07	Mar 20, 1998
INSTANTANEOUS LOW FLOW			986	Oct 14	859	Jul 23, 2002
ANNUAL RUNOFF (INCHES)	3.33		14.29		9.23	
10 PERCENT EXCEEDS	3,770		17,500		10,800	
50 PERCENT EXCEEDS	1,170		5,890		2,710	
90 PERCENT EXCEEDS	942		1,520		1,080	

e Estimated

02319800 SUWANNEE RIVER AT DOWLING PARK, FL—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.58	22.02	24.58	27.18	23.75	28.22	45.00	31.36	26.58	29.66	28.87	30.90
2	21.57	22.09	24.36	27.38	23.66	29.89	44.42	31.11	26.33	29.29	29.03	30.73
3	21.56	22.11	24.15	27.60	23.57	31.60	43.70	30.92	26.13	28.93	29.10	30.62
4	21.56	22.13	23.94	27.80	23.50	32.88	42.91	30.78	26.02	28.65	29.12	30.50
5	21.57	22.19	23.78	27.95	23.42	33.88	42.04	30.62	25.88	28.60	29.13	30.43
6	21.56	22.27	23.60	28.07	23.40	34.76	41.14	30.39	25.86	28.72	29.22	30.45
7	21.54	22.36	23.51	28.19	23.52	35.61	40.18	30.13	26.02	28.87	---	30.45
8	21.53	22.55	23.47	28.33	23.59	36.70	39.17	29.84	26.45	28.99	29.89	30.31
9	21.51	22.60	23.46	28.42	23.85	38.39	38.41	29.53	27.11	29.12	30.36	30.41
10	21.45	22.60	23.48	28.42	24.09	39.91	38.23	29.20	27.58	29.23	30.79	30.77
11	21.40	22.63	23.46	28.29	24.22	41.33	38.43	28.86	27.83	29.24	31.01	31.19
12	21.37	22.76	23.46	28.08	24.32	42.54	38.71	28.49	27.98	---	31.16	31.60
13	21.36	22.84	23.52	27.79	24.38	43.53	38.91	28.10	28.15	---	31.32	31.88
14	21.36	22.93	23.51	27.48	24.38	44.50	39.00	27.71	28.22	---	31.50	31.93
15	21.42	23.07	23.57	27.17	24.35	45.42	39.04	27.35	28.22	---	31.73	31.71
16	21.41	23.21	23.66	26.89	24.35	46.17	39.03	27.03	28.17	---	31.95	31.17
17	21.39	23.37	23.74	26.63	24.41	46.72	38.93	26.75	28.20	---	32.12	30.43
18	21.37	23.70	23.83	26.37	24.63	47.03	38.69	26.52	28.31	---	32.19	29.68
19	21.34	24.22	23.92	26.11	24.82	47.10	38.29	26.35	28.48	---	32.18	29.02
20	21.36	24.85	24.03	25.84	24.95	46.95	37.67	26.24	28.67	---	32.07	28.45
21	21.38	25.43	24.12	25.60	25.07	46.61	36.86	26.14	28.92	---	31.95	27.95
22	21.39	25.87	24.30	25.37	25.25	46.19	36.03	---	29.44	---	32.00	27.51
23	21.42	26.09	24.43	25.12	25.46	45.81	35.30	26.78	30.05	26.16	32.21	27.11
24	21.57	26.09	24.62	24.87	25.75	45.49	34.63	26.96	30.58	26.09	32.47	26.76
25	21.60	25.89	24.86	24.70	26.03	45.27	34.02	27.16	30.93	26.16	32.58	26.46
26	21.62	25.63	25.40	24.54	26.22	45.23	33.44	27.30	31.13	26.35	32.47	26.27
27	21.68	25.41	25.87	24.39	26.50	45.38	32.92	27.35	31.14	26.72	32.11	26.08
28	21.69	25.19	26.24	24.24	27.07	45.56	32.47	27.29	30.91	27.11	31.69	25.98
29	21.68	24.98	26.52	24.11	---	45.65	32.04	27.18	30.54	27.58	31.47	25.81
30	21.75	24.78	26.74	23.98	---	45.63	31.66	27.00	30.11	28.09	31.35	25.60
31	21.83	---	26.96	23.86	---	45.40	---	26.79	---	28.53	31.12	---
MEAN	21.51	23.73	24.36	26.48	24.59	41.79	38.04	---	28.33	---	---	29.27
MAX	21.83	26.09	26.96	28.42	27.07	47.10	45.00	---	31.14	---	---	31.93
MIN	21.34	22.02	23.46	23.86	23.40	28.22	31.66	---	25.86	---	---	25.60

CAL YR 2002 MEAN 22.40 MAX 27.91 MIN 21.12

02320000 SUWANNEE RIVER AT LURAVILLE, FL

LOCATION.--Lat 30°05'59", long 83°10'18", in NE¼ sec. 36, T. 4 S., R. 11 E., Suwannee County, Hydrologic Unit 03110205, at bridge on State Highway 51, 1.6 mi south of Luraville, 3.0 mi north of Mayo, and 97 mi upstream from mouth.

DRAINAGE AREA.--7,330 mi^2, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD.--February 1927 to December 1937, March 1950 to October 1972 and October 1977 to September 1981 (annual maximum discharge and gage-height), October 1996 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Vertical Datum of 1929 (Florida Department of Transportation Benchmark).

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,260	1,450	3,380	5,390	2,970	6,910	27,700	10,900	5,440	8,810	7,550	10,200
2	1,250	1,510	3,250	5,590	2,890	8,310	27,200	10,500	5,050	8,380	7,780	10,000
3	1,240	1,530	3,120	5,850	2,820	10,100	26,500	10,300	4,850	7,990	7,900	9,860
4	1,240	1,540	3,000	6,090	2,800	11,800	25,600	10,000	4,710	7,680	7,960	9,730
5	1,230	1,560	2,860	6,270	2,750	13,100	24,600	9,840	4,600	7,560	7,980	9,630
6	1,230	1,610	2,730	6,400	2,730	14,400	23,400	e9,660	4,560	7,620	8,070	9,610
7	1,220	1,660	2,630	6,520	2,850	15,500	22,400	e9,470	4,670	7,720	8,280	9,620
8	1,210	1,780	2,560	6,670	2,880	16,600	21,300	9,280	4,990	7,830	8,630	9,500
9	1,220	1,830	2,530	6,790	3,030	18,200	20,400	9,000	5,620	7,940	9,110	9,510
10	1,220	1,830	2,500	6,810	3,180	19,900	19,900	8,620	6,140	8,060	9,610	9,810
11	1,190	1,820	2,430	6,730	3,280	21,500	19,900	8,230	6,460	8,090	9,930	10,200
12	1,170	1,900	2,420	6,560	3,350	22,900	20,100	7,850	6,670	7,870	10,200	10,700
13	1,170	1,950	2,480	6,310	3,440	24,100	20,300	7,490	6,840	7,470	10,400	11,100
14	1,170	2,010	2,500	5,970	3,470	25,400	20,400	7,160	6,960	7,080	10,600	11,200
15	1,200	2,130	2,550	5,640	3,460	26,600	20,400	6,840	7,010	6,780	10,900	11,100
16	1,190	2,240	2,620	5,370	3,500	27,700	20,400	6,520	7,000	6,500	11,200	10,600
17	1,180	2,320	2,680	5,130	3,510	28,700	20,300	6,190	7,010	6,280	11,400	9,850
18	1,180	2,540	2,760	4,880	3,660	29,400	20,100	5,890	7,060	6,040	11,500	9,030
19	1,170	2,890	2,810	4,650	3,830	29,900	19,700	5,690	7,190	5,820	11,600	8,330
20	1,170	3,280	2,890	4,420	3,970	30,000	19,100	5,530	7,380	5,630	11,500	7,730
21	1,170	3,680	2,960	4,230	4,090	29,800	18,300	5,390	7,600	5,440	11,400	7,230
22	1,180	4,010	3,060	4,050	4,240	29,300	17,400	5,490	8,020	5,250	11,400	6,780
23	1,180	4,230	3,150	3,870	4,440	28,800	16,600	5,550	8,620	5,040	11,600	6,360
24	1,240	4,310	3,230	3,680	4,690	28,300	15,800	5,750	9,210	4,900	11,900	5,960
25	1,290	4,210	3,360	3,540	4,960	28,000	15,100	5,980	9,660	4,880	12,100	5,600
26	1,310	4,060	3,730	3,420	5,180	27,800	14,100	6,140	9,970	4,950	12,100	5,370
27	1,350	3,910	4,130	3,320	5,460	27,800	13,300	6,230	10,100	5,230	11,600	5,140
28	1,370	3,770	4,480	3,230	5,880	27,900	12,600	6,210	9,980	5,690	11,300	5,000
29	1,390	3,640	4,740	3,160	---	28,000	12,000	6,100	9,640	6,280	10,900	4,830
30	1,360	3,510	4,940	3,090	---	28,100	11,400	5,930	9,230	6,780	10,800	4,620
31	1,370	---	5,190	3,030	---	28,000	---	5,690	---	7,190	10,500	---
MEAN	1,236	2,624	3,151	5,054	3,690	22,990	19,540	7,401	7,075	6,735	10,250	8,473
MAX	1,390	4,310	5,190	6,810	5,880	30,000	27,700	10,900	10,100	8,810	12,100	11,200
MIN	1,170	1,450	2,420	3,030	2,730	6,910	11,400	5,390	4,560	4,880	7,550	4,620
IN.	0.20	0.40	0.50	0.80	0.53	3.64	3.00	1.17	1.08	1.07	1.62	1.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 2003, BY WATER YEAR (WY)

MEAN	6,963	4,230	3,888	5,097	7,396	10,690	9,957	6,050	3,861	3,933	6,227	6,317
MAX	31,460	12,180	13,710	18,570	22,980	34,680	24,050	24,060	8,453	11,430	32,590	28,650
(WY)	(1929)	(1929)	(1998)	(1998)	(1998)	(1998)	(1930)	(1928)	(1928)	(1928)	(1928)	(1928)
MIN	1,236	1,316	1,173	1,176	1,380	1,969	2,248	1,359	1,101	1,112	1,160	1,220
(WY)	(2003)	(2000)	(2000)	(2000)	(2002)	(2000)	(1934)	(2002)	(2000)	(2000)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1927 - 2003	
ANNUAL MEAN	1,886		8,209		6,340	
HIGHEST ANNUAL MEAN					12,570	1929
LOWEST ANNUAL MEAN					1,673	2002
HIGHEST DAILY MEAN	5,830	Mar 11	30,000	Mar 20	66,000	Aug 24, 1928
LOWEST DAILY MEAN	1,050	Jun 28	1,170	Oct 12	1,050	Jun 20, 2000
ANNUAL SEVEN-DAY MINIMUM	1,090	Jun 27	1,180	Oct 17	1,070	Jun 14, 2000
MAXIMUM PEAK FLOW			30,000	Mar 19	90,000	Apr 8, 1948
MAXIMUM PEAK STAGE			40.08	Mar 20	53.50	Apr 8, 1948
INSTANTANEOUS LOW FLOW			1,150	Oct 14	1,040	Jun 28, 2002
ANNUAL RUNOFF (INCHES)	3.52		15.31		11.83	
10 PERCENT EXCEEDS	3,810		20,100		14,900	
50 PERCENT EXCEEDS	1,320		6,190		3,800	
90 PERCENT EXCEEDS	1,140		1,590		1,470	

e Estimated

02320000 SUWANNEE RIVER AT LURAVILLE, FL—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.37	17.70	20.08	21.89	19.55	23.12	38.58	26.38	21.93	24.77	23.70	25.89
2	17.35	17.79	19.91	22.04	19.45	24.35	38.21	26.13	21.62	24.42	23.90	25.73
3	17.34	17.82	19.74	22.24	19.37	25.82	37.74	25.92	21.44	24.09	24.01	25.62
4	17.34	17.84	19.58	22.42	19.35	27.02	37.14	25.75	21.33	23.81	24.06	25.51
5	17.33	17.86	19.42	22.56	19.30	27.95	36.44	25.60	21.23	23.71	24.08	25.43
6	17.32	17.93	19.28	22.67	19.29	28.77	35.62	---	21.20	23.76	24.15	25.42
7	17.30	18.01	19.18	22.77	19.40	29.55	34.85	---	21.29	23.85	24.34	25.43
8	17.29	18.18	19.11	22.90	19.43	30.47	34.08	25.15	21.57	23.95	24.63	25.33
9	17.30	18.25	19.08	23.00	19.63	31.74	33.44	24.93	22.06	24.04	25.02	25.34
10	17.30	18.25	19.05	23.02	19.83	33.04	33.06	24.62	22.46	24.14	25.42	25.58
11	17.26	18.24	18.97	22.95	19.95	34.23	33.06	24.29	22.72	24.17	25.67	25.90
12	17.22	18.34	18.96	22.81	20.04	35.22	33.19	23.96	22.90	23.98	25.86	26.24
13	17.21	18.41	19.03	22.60	20.14	36.09	33.32	23.64	23.05	23.62	26.01	26.52
14	17.22	18.49	19.05	22.33	20.17	36.97	33.40	23.34	23.16	23.27	26.18	26.63
15	17.27	18.62	19.10	22.08	20.16	37.84	33.44	23.05	23.21	22.99	26.39	26.54
16	17.26	18.76	19.17	21.87	20.19	38.59	33.43	22.77	23.19	22.76	26.59	26.18
17	17.24	18.85	19.23	21.68	20.20	39.23	33.37	22.50	23.20	22.57	26.75	25.61
18	17.24	19.09	19.31	21.48	20.36	39.71	33.21	22.27	23.25	22.38	26.86	24.96
19	17.22	19.46	19.36	21.27	20.52	39.99	32.92	22.12	23.37	22.22	26.89	24.37
20	17.22	19.96	19.45	21.07	20.66	40.05	32.46	22.00	23.55	22.08	26.86	23.86
21	17.22	20.45	19.53	20.90	20.77	39.93	31.83	21.89	23.74	21.93	26.77	23.41
22	17.23	20.84	19.66	20.74	20.91	39.62	31.11	21.97	24.11	21.77	26.79	22.99
23	17.24	21.09	19.78	20.56	21.10	39.27	30.44	22.01	24.62	21.60	26.93	22.64
24	17.35	21.17	19.90	20.38	21.31	38.98	29.84	22.17	25.10	21.49	27.13	22.32
25	17.44	21.06	20.05	20.24	21.54	38.75	29.24	22.34	25.46	21.48	27.27	22.05
26	17.47	20.89	20.43	20.12	21.72	38.65	28.59	22.46	25.70	21.53	27.28	21.87
27	17.54	20.73	20.81	20.01	21.94	38.63	28.06	22.52	25.81	21.76	26.90	21.69
28	17.56	20.57	21.12	19.90	22.27	38.70	27.58	22.51	25.71	22.12	26.66	21.57
29	17.60	20.40	21.35	19.80	---	38.78	27.16	22.43	25.44	22.57	26.40	21.43
30	17.55	20.25	21.52	19.71	---	38.85	26.76	22.30	25.12	22.99	26.29	21.25
31	17.57	---	21.73	19.62	---	38.78	---	22.12	---	23.37	26.11	---
TOTAL	537.37	575.30	611.94	667.63	568.55	1,088.69	981.57	---	698.54	713.19	801.90	733.31
MEAN	17.33	19.18	19.74	21.54	20.31	35.12	32.72	---	23.28	23.01	25.87	24.44
MAX	17.60	21.17	21.73	23.02	22.27	40.05	38.58	---	25.81	24.77	27.28	26.63
MIN	17.21	17.70	18.96	19.62	19.29	23.12	26.76	---	21.20	21.48	23.70	21.25

CAL YR 2002 TOTAL 6,626.34 MEAN 18.15 MAX 22.68 MIN 16.99

02320250 TROY SPRING NEAR BRANFORD, FL

LOCATION.--Lat 30°00'21", long 82°59'51", in SE $^1/_4$ sec. 34, T 5 S., R. 13 E., Lafayette County, Hydrologic Unit 03110205, on right bank of Suwannee River in Troy Spring State Park, 5.3 mi northwest of Branford, and 6.8 mi upstream from bridge on U.S. Highway 27.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--1942-1995 (9 miscellaneous discharge measurements), 1998, March 2002 to September 2003 (discharge measurements and gage heights only).

GAGE.--Water Stage and water-current meter recorders. Datum of gage not determined.

EXTREMES FOR PERIOD OF RECORD.--Maximum measured discharge, 206 ft^3/s, June 8, 1998; minimum measured discharge, 57.8 ft^3/s, December 18, 2002.

EXTREMES FOR CURRENT RECORD.-- Maximum measured discharge, 89.3 ft^3/s, June 4, 2002; minimum measured discharge 57.8 ft^3/s, Dec 18, 2002.

DISCHARGE MEASUREMENTS, MARCH 2002 TO SEPTEMBER 2003

DATE	TIME	STREAM STAGE	DISCHARGE IN FT3/S
Mar. 01, 2002	1051	7.46	88
June 04, 2002	1717	7.48	89
Aug. 14, 2002	1120	7.38	76
Oct. 25, 2002	1437	7.48	79
Dec. 18, 2002	1404	9.74	58
Jan. 22, 2003	0957	12.06	78
Feb. 27, 2003	1113	13.11	67

02320500 SUWANNEE RIVER AT BRANFORD, FL

LOCATION.--Lat 29°57'20", long 82°55'40", in NE¼ sec. 20, T. 6 S., R. 14 E., Suwannee County, Hydrologic Unit 03110205, near left bank on upstream side of bridge on U.S. Highway 27 at Branford, 10.2 mi upstream from Santa Fe River, and 75 mi upstream from mouth.

DRAINAGE AREA.--7,880 mi^2, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD.--July 1931 to current year.

REVISED RECORDS.--WSP 1905: WDR FL-75-1: Drainage area. WDR FL-96-4:1995.

GAGE.--Water-stage recorder. Datum of gage is 4.81 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good, except for Oct. 30 to Mar. 11, which are fair.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1928 reached a stage of 32.0 ft, from floodmark; discharge, 65,000 ft^3/s computed on basis of measured crest flow at Ellaville (station 02319500).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,740	1,780	3,590	5,270	3,740	6,420	28,700	12,800	6,250	9,750	7,700	11,300
2	1,740	1,820	3,470	5,400	3,660	7,360	28,400	12,400	6,040	9,450	7,970	11,100
3	1,740	1,860	3,370	5,560	3,600	8,640	28,000	12,000	5,860	9,110	8,160	10,900
4	1,740	1,890	3,260	5,740	3,570	10,200	27,300	11,700	5,850	8,770	8,300	10,700
5	1,740	1,950	3,180	5,890	3,510	11,500	26,500	11,500	5,710	8,520	8,390	10,600
6	1,740	2,030	3,110	6,050	3,440	12,700	25,500	11,200	5,590	8,430	8,470	10,500
7	1,740	2,030	3,000	6,160	3,540	13,800	24,500	10,900	5,580	8,430	8,660	10,500
8	1,730	2,060	2,950	6,300	3,520	14,900	23,300	10,600	5,720	8,470	8,950	10,400
9	1,730	2,130	2,930	6,450	3,590	16,500	22,300	10,200	6,020	8,530	9,310	10,300
10	1,730	2,190	2,950	6,550	3,750	18,200	21,400	9,860	6,490	8,590	9,760	10,400
11	1,720	2,210	2,940	6,550	3,880	19,600	21,000	9,490	6,770	8,620	10,100	10,700
12	1,710	2,250	2,910	6,490	3,970	21,000	20,900	9,130	6,970	8,550	10,400	11,000
13	1,710	2,290	2,960	6,380	4,040	22,400	20,900	8,720	7,160	8,340	10,600	11,300
14	1,700	2,280	2,980	6,230	4,120	23,800	20,800	8,320	7,330	8,050	10,800	11,500
15	1,710	2,320	2,970	6,040	4,160	25,200	20,800	7,940	7,390	7,750	11,100	11,500
16	1,710	2,450	3,010	5,860	4,240	26,400	20,800	7,600	7,410	7,450	11,300	11,300
17	1,700	2,540	3,060	5,690	4,300	27,500	20,700	7,280	7,410	7,210	11,500	10,800
18	1,690	2,580	3,120	5,520	4,330	28,300	20,500	7,010	7,510	6,990	11,700	10,200
19	1,680	2,730	3,180	5,340	4,440	28,900	20,300	6,800	7,620	6,790	11,800	9,540
20	1,680	2,980	3,270	5,180	4,600	29,400	20,000	6,620	7,800	6,620	11,800	8,940
21	1,680	3,320	3,300	5,020	4,740	29,600	19,500	6,450	7,960	6,470	11,800	8,410
22	1,680	3,630	3,360	4,880	4,930	29,500	18,900	6,440	8,210	6,320	11,800	7,960
23	1,670	3,870	3,460	4,720	5,090	29,300	18,200	6,510	8,650	6,150	11,900	7,550
24	1,680	4,030	3,590	4,510	5,190	29,100	17,500	6,530	9,170	5,970	12,100	7,190
25	1,700	4,080	3,740	4,380	5,350	28,800	16,700	6,620	9,670	5,880	12,300	6,860
26	1,710	4,030	3,880	4,270	5,510	28,600	15,900	6,710	10,100	5,910	12,400	6,640
27	1,720	3,950	4,140	4,170	5,740	28,600	15,100	6,770	10,300	6,030	12,400	6,410
28	1,730	3,850	4,390	4,060	5,940	28,700	14,400	6,760	10,400	6,290	12,200	6,190
29	1,730	3,750	4,620	3,970	---	28,800	13,800	6,700	10,400	6,600	11,900	6,000
30	1,770	3,670	4,810	3,890	---	28,900	13,200	6,600	10,100	6,950	11,700	5,800
31	1,770	---	5,010	3,810	---	28,800	---	6,450	---	7,320	11,500	---
MEAN	1,717	2,752	3,436	5,365	4,303	22,300	20,860	8,536	7,581	7,558	10,610	9,416
MAX	1,770	4,080	5,010	6,550	5,940	29,600	28,700	12,800	10,400	9,750	12,400	11,500
MIN	1,670	1,780	2,910	3,810	3,440	6,420	13,200	6,440	5,580	5,880	7,700	5,800
MED	1,720	2,380	3,260	5,520	4,140	26,400	20,800	7,600	7,400	7,450	11,300	10,400
IN.	0.25	0.39	0.50	0.79	0.57	3.26	2.95	1.25	1.07	1.11	1.55	1.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2003, BY WATER YEAR (WY)

MEAN	5,328	4,302	4,664	6,341	9,017	11,850	11,640	7,239	5,313	5,182	6,047	5,911
MAX	21,020	29,380	28,130	21,830	28,370	36,930	49,040	24,020	18,120	13,510	19,810	21,340
(WY)	(1965)	(1948)	(1948)	(1948)	(1991)	(1998)	(1948)	(1973)	(1973)	(1991)	(1945)	(1964)
MIN	1,717	1,666	1,602	1,596	1,668	1,905	2,366	1,908	1,495	1,419	1,380	1,571
(WY)	(2003)	(1991)	(1991)	(2002)	(2002)	(1955)	(1955)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1931 - 2003	
ANNUAL MEAN	2,192		8,723		6,897	
HIGHEST ANNUAL MEAN					19,260	1948
LOWEST ANNUAL MEAN					1,950	1955
HIGHEST DAILY MEAN	5,490	Mar 13	29,600	Mar 21	82,800	Apr 11, 1948
LOWEST DAILY MEAN	1,330	Aug 9	1,670	Oct 23	1,330	Aug 9, 2002
ANNUAL SEVEN-DAY MINIMUM	1,340	Aug 7	1,680	Oct 18	1,340	Aug 7, 2002
MAXIMUM PEAK FLOW			29,700	Mar 21	83,900	Apr 11, 1948
MAXIMUM PEAK STAGE			24.41	Mar 21	34.07	Apr 11, 1948
INSTANTANEOUS LOW FLOW			1,670	Oct 22	1,320	Aug 9, 2002
ANNUAL RUNOFF (INCHES)	3.78		15.03		11.89	
10 PERCENT EXCEEDS	3,880		20,700		14,400	
50 PERCENT EXCEEDS	1,710		6,620		4,840	
90 PERCENT EXCEEDS	1,410		2,000		2,240	

02320500 SUWANNEE RIVER AT BRANFORD, FL—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.87	2.89	5.93	7.97	5.86	9.21	23.96	14.81	9.29	12.50	10.70	13.70
2	2.87	2.98	5.76	8.12	5.75	10.19	23.82	14.51	9.11	12.25	10.96	13.54
3	2.87	3.05	5.59	8.31	5.65	11.41	23.64	14.24	8.93	11.97	11.13	13.40
4	2.86	3.12	5.42	8.50	5.62	12.72	23.35	14.03	8.91	11.67	11.26	13.28
5	2.86	3.24	5.29	8.68	5.53	13.78	22.97	13.84	8.75	11.45	11.34	13.17
6	2.86	3.41	5.17	8.85	5.43	14.65	22.53	13.64	8.62	11.37	11.41	13.10
7	2.86	3.40	4.99	8.97	5.58	15.43	22.04	13.41	8.61	11.37	11.58	13.09
8	2.85	3.45	4.89	9.12	5.54	16.18	21.49	13.15	8.77	11.41	11.83	13.04
9	2.84	3.58	4.86	9.26	5.65	17.19	20.99	12.88	9.09	11.46	12.14	12.97
10	2.83	3.70	4.88	9.37	5.88	18.23	20.54	12.59	9.51	11.51	12.51	13.06
11	2.81	3.73	4.85	9.37	6.06	19.20	20.31	12.29	9.79	11.54	12.81	13.24
12	2.79	3.80	4.80	9.29	6.19	20.09	20.25	11.98	10.0	11.48	13.05	13.49
13	2.77	3.88	4.88	9.17	6.29	20.84	20.24	11.63	10.18	11.29	13.22	13.71
14	2.76	3.85	4.91	9.00	6.39	21.54	20.23	11.27	10.35	11.03	13.36	13.85
15	2.79	3.93	4.89	8.79	6.45	22.24	20.20	10.93	10.41	10.75	13.53	13.88
16	2.78	4.15	4.94	8.58	6.56	22.82	20.20	10.61	10.43	10.47	13.72	13.72
17	2.75	4.32	5.02	8.39	6.64	23.37	20.15	10.30	10.43	10.23	13.89	13.36
18	2.73	4.39	5.11	8.18	6.67	23.77	20.07	10.03	10.52	10.01	14.01	12.86
19	2.71	4.64	5.20	7.97	6.84	24.06	19.92	9.82	10.62	9.81	14.08	12.33
20	2.70	5.06	5.33	7.77	7.04	24.26	19.66	9.64	10.79	9.64	14.09	11.82
21	2.70	5.59	5.38	7.58	7.23	24.35	19.29	9.47	10.95	9.48	14.06	11.35
22	2.70	6.06	5.46	7.41	7.47	24.33	18.82	9.46	11.18	9.35	14.07	10.94
23	2.68	6.40	5.61	7.20	7.66	24.23	18.29	9.52	11.57	9.21	14.17	10.56
24	2.69	6.61	5.80	6.93	7.79	24.12	17.77	9.54	12.02	9.05	14.33	10.21
25	2.74	6.67	6.01	6.74	7.98	24.00	17.31	9.64	12.43	8.95	14.47	9.89
26	2.76	6.60	6.20	6.60	8.17	23.91	16.86	9.73	12.76	8.98	14.55	9.66
27	2.78	6.48	6.55	6.46	8.44	23.91	16.36	9.80	12.96	9.10	14.51	9.43
28	2.80	6.34	6.89	6.31	8.66	23.96	15.89	9.78	13.03	9.32	14.35	9.24
29	2.81	6.20	7.18	6.19	---	23.99	15.48	9.73	12.99	9.62	14.14	9.07
30	2.89	6.07	7.41	6.08	---	24.03	15.11	9.62	12.76	9.97	14.03	8.86
31	2.88	---	7.66	5.97	---	24.02	---	9.47	---	10.34	13.88	---
TOTAL	86.59	137.59	172.86	247.13	185.02	626.03	597.74	351.36	315.76	326.58	407.18	363.82
MEAN	2.79	4.59	5.58	7.97	6.61	20.19	19.92	11.33	10.53	10.53	13.13	12.13
MAX	2.89	6.67	7.66	9.37	8.66	24.35	23.96	14.81	13.03	12.50	14.55	13.88
MIN	2.68	2.89	4.80	5.97	5.43	9.21	15.11	9.46	8.61	8.95	10.70	8.86

WTR YR 2003 TOTAL 3,817.66 MEAN 10.46 MAX 24.35 MIN 2.68

02321000 NEW RIVER NEAR LAKE BUTLER, FL

LOCATION.--Lat 29°59'53", long 82°16'27", in SW¼ sec. 2, T. 6. S., R. 20 E., Union County, Hydrologic Unit 03110206, near right bank on downstream side of bridge on State Highway 100, and 4.4 miles southeast of Lake Butler.

DRAINAGE AREA.--191 mi^2.

PERIOD OF RECORD.--January 1950 to September 1971, June 1973 to May 1977, periodic discharge measurements. October 1990 to September 1991, October 1992 to current year.

REVISED RECORDS.--WRD FLA. 1968 Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 83.8 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good, except for estimated daily discharges which are fair.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	14	46	449	e65	e1,470	156	20	4.5	e348	193	150
2	84	13	42	699	e64	e1,630	139	19	4.3	e329	201	114
3	73	12	38	694	e66	e1,740	122	18	9.5	e310	556	103
4	62	11	35	645	e65	e1,790	107	17	109	e316	1,180	155
5	52	10	34	551	e136	e1,750	94	16	e170	e317	1,320	e850
6	45	10	35	432	e218	e1,650	81	14	e195	e275	1,030	e770
7	39	10	36	326	e253	e1,720	71	12	e222	e238	647	e430
8	36	9.8	35	255	e317	e2,350	74	11	e316	e208	478	e200
9	84	9.4	35	211	e360	e3,400	100	9.9	e592	e190	506	e150
10	52	8.9	63	181	e386	e3,400	107	8.7	e578	e167	480	e97
11	41	8.4	113	161	e412	e2,890	96	7.5	e455	e154	385	79
12	40	9.8	130	145	e390	e2,340	79	6.8	e347	e144	289	65
13	36	22	144	130	e343	e1,980	66	5.8	e305	e138	238	56
14	32	34	196	118	e395	1,450	56	4.9	e416	e156	194	48
15	40	31	247	108	e783	1,090	48	4.6	e509	e177	155	42
16	51	44	250	99	e991	835	43	4.0	e476	e182	134	37
17	54	150	228	91	e1,290	696	40	3.6	e518	e192	126	34
18	46	262	199	84	e1,340	641	36	3.7	e700	e203	117	31
19	38	296	167	77	e1,270	574	32	12	e1,010	e207	131	28
20	32	278	146	71	e1,140	474	30	39	e1,200	e207	134	25
21	28	252	136	66	e1,050	384	28	29	e1,680	e212	119	24
22	25	214	126	63	e946	310	26	16	e1,670	e210	2,720	23
23	23	175	112	65	e863	256	24	13	e1,360	180	5,570	22
24	21	140	122	e96	e780	216	22	12	e1,080	162	5,660	22
25	20	113	405	e91	e731	185	23	14	e870	169	4,800	22
26	20	93	787	e85	e850	156	39	14	e758	232	3,530	23
27	19	78	790	e81	e1,030	151	34	9.5	e721	265	2,340	23
28	17	67	759	e77	e1,320	172	27	8.6	e534	255	1,300	23
29	16	58	607	e75	---	174	24	11	e425	206	852	38
30	16	51	433	e72	---	171	21	7.6	e366	155	501	65
31	15	---	313	e68	---	168	---	5.6	---	151	251	---
MEAN	40.4	82.8	220	205	638	1,168	61.5	12.2	587	215	1,166	125
MAX	96	296	790	699	1,340	3,400	156	39	1,680	348	5,660	850
MIN	15	8.4	34	63	64	151	21	3.6	4.3	138	117	22
IN.	0.24	0.48	1.33	1.24	3.48	7.05	0.36	0.07	3.43	1.30	7.04	0.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2003, BY WATER YEAR (WY)

MEAN	230	44.6	110	128	270	277	128	94.9	90.9	143	270	240
MAX	1,461	459	781	607	1,836	1,491	1,014	801	587	519	1,166	1,845
(WY)	(1993)	(1970)	(1954)	(1970)	(1998)	(1959)	(1991)	(1959)	(2003)	(1950)	(2003)	(1964)
MIN	1.53	0.37	1.54	3.23	2.80	3.17	2.52	0.045	0.52	1.06	1.32	0.73
(WY)	(1991)	(2000)	(2000)	(2000)	(2001)	(2000)	(1956)	(2000)	(1998)	(1999)	(1999)	(1999)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1950 - 2003	
ANNUAL MEAN	56.0		376		169	
HIGHEST ANNUAL MEAN					457	1970
LOWEST ANNUAL MEAN					9.66	1962
HIGHEST DAILY MEAN	790	Dec 27	5,660	Aug 24	10,400	Sep 13, 1964
LOWEST DAILY MEAN	0.07	Jun 17	3.6	May 17	0.00	May 16, 2000
ANNUAL SEVEN-DAY MINIMUM	0.10	Jun 15	4.8	May 12	0.00	May 16, 2000
MAXIMUM PEAK FLOW			5,970	Aug 23	11,400	Sep 12, 1964
MAXIMUM PEAK STAGE			12.17	Aug 23	15.33	Sep 12, 1964
INSTANTANEOUS LOW FLOW			3.4	May 17	0.00	May 16, 2000
ANNUAL RUNOFF (INCHES)	3.98		26.75		12.00	
10 PERCENT EXCEEDS	138		1,030		429	
50 PERCENT EXCEEDS	20		134		30	
90 PERCENT EXCEEDS	0.88		14		2.7	

e Estimated

02321500 SANTA FE RIVER AT WORTHINGTON SPRINGS, FL

LOCATION.--Lat 29°55'18", long 82°25'35", in SE$^1/_4$ sec. 32, T. 6 S., R. 19 E., Alachua County, Hydrologic Unit 03110206, near center of span on downstream side of bridge on State Highway 121, 0.5 mi south of Worthington Springs, 0.8 mi downstream from New River, and 51 mi upstream from mouth.

DRAINAGE AREA.--575 mi^2.

PERIOD OF RECORD.--October 1931 to current year. Published as "near Worthington" prior to October 1965. Monthly discharge only for October 1931, published in WSP 1304.

REVISED RECORDS.--WSP 2105: WDR FL-76-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 42.74 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Jan. 16, 1939, nonrecording gage at site 0.2 mi downstream at present datum; Jan. 16, 1939 to July 23, 1953, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Records do not include diversions during periods of high stages from Santa Fe Lake to Lochloosa Creek in St. Johns River Basin.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147	33	125	1,060	136	1,730	1,200	67	13	783	438	772
2	139	28	112	1,080	130	2,200	1,020	60	13	675	593	634
3	125	26	101	1,130	123	2,430	796	54	18	640	900	565
4	110	24	92	1,270	121	2,690	608	50	106	595	767	628
5	96	20	90	1,250	126	2,860	527	45	197	559	1,260	776
6	81	20	92	1,150	124	2,930	435	41	256	570	1,910	883
7	68	18	90	998	250	2,880	370	37	279	573	2,080	957
8	59	17	88	819	396	2,730	346	34	370	495	2,130	901
9	58	15	86	690	460	2,830	409	31	405	425	2,180	740
10	74	20	129	590	580	3,810	425	28	574	370	2,000	596
11	97	26	173	521	659	5,440	420	25	1,080	337	1,740	520
12	74	29	199	464	697	5,430	384	23	1,050	296	1,540	458
13	62	52	254	420	733	4,650	334	21	839	273	1,380	405
14	57	59	304	386	698	3,800	282	19	634	255	1,250	359
15	56	63	331	352	619	3,240	238	17	550	245	1,100	321
16	58	92	361	322	698	2,820	204	16	766	277	930	287
17	64	202	390	296	1,330	2,490	179	15	936	314	784	257
18	69	275	397	273	1,660	2,310	159	14	877	324	709	214
19	69	328	381	252	2,140	2,110	140	17	950	341	667	156
20	61	382	363	234	2,220	1,950	125	28	1,260	361	626	126
21	51	416	339	218	2,110	1,780	112	34	1,790	368	635	112
22	46	414	308	208	1,900	1,590	102	45	2,100	367	1,140	105
23	43	387	282	206	1,760	1,400	90	45	2,890	377	1,570	100
24	41	350	288	197	1,590	1,230	80	37	2,860	373	1,920	106
25	40	305	458	187	1,460	1,040	75	34	2,350	362	2,210	103
26	41	260	557	179	1,330	827	88	30	1,910	365	2,080	146
27	39	218	731	170	1,250	707	93	27	1,550	407	1,840	207
28	38	185	1,080	160	1,440	1,060	96	23	1,360	480	1,540	286
29	36	160	1,220	152	---	1,280	88	18	1,300	517	1,280	370
30	36	141	1,180	145	---	1,400	76	16	978	515	1,060	475
31	35	---	1,030	141	---	1,360	---	15	---	475	906	---
MEAN	66.8	152	375	501	955	2,419	317	31.2	1,009	429	1,328	419
MAX	147	416	1,220	1,270	2,220	5,440	1,200	67	2,890	783	2,210	957
MIN	35	15	86	141	121	707	75	14	13	245	438	100
IN.	0.13	0.30	0.75	1.00	1.73	4.85	0.61	0.06	1.96	0.86	2.66	0.81

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2003, BY WATER YEAR (WY)

MEAN	513	185	249	363	604	662	424	176	263	322	609	692
MAX	3,043	1,788	1,801	1,607	4,161	3,303	1,927	1,716	3,646	1,459	2,137	4,033
(WY)	(1993)	(1948)	(1954)	(1970)	(1998)	(1959)	(1973)	(1959)	(1934)	(1946)	(1978)	(1964)
MIN	4.00	2.98	4.00	5.12	5.44	13.7	6.41	0.47	2.30	9.05	9.86	10.3
(WY)	(1932)	(1932)	(1932)	(1932)	(1932)	(2000)	(1935)	(2001)	(2002)	(1981)	(1954)	(1990)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1932 - 2003	
ANNUAL MEAN	94.8		667		421	
HIGHEST ANNUAL MEAN					1,163	1948
LOWEST ANNUAL MEAN					33.2	2000
HIGHEST DAILY MEAN	1,220	Dec 29	5,440	Mar 11	19,000	Sep 13, 1964
LOWEST DAILY MEAN	0.00	Jun 20	13	Jun 1	0.00	May 20, 2000
ANNUAL SEVEN-DAY MINIMUM	0.08	Jun 17	17	May 28	0.00	May 30, 2000
MAXIMUM PEAK FLOW			5,670	Mar 11	20,000	Sep 13, 1964
MAXIMUM PEAK STAGE			20.17	Mar 11	28.40	Sep 13, 1964
INSTANTANEOUS LOW FLOW			12	Jun 2	0.00	May 19, 2000
ANNUAL RUNOFF (INCHES)	2.24		15.74		9.95	
10 PERCENT EXCEEDS	279		1,860		1,110	
50 PERCENT EXCEEDS	43		361		134	
90 PERCENT EXCEEDS	2.7		35		16	

02321500 SANTA FE RIVER AT WORTHINGTON SPRINGS, FL—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.91	8.13	9.63	15.17	9.70	16.14	14.92	8.79	7.61	14.26	12.54	14.22
2	9.81	8.03	9.46	15.24	9.62	16.87	14.54	8.69	7.59	13.92	13.37	13.77
3	9.63	7.96	9.32	15.37	9.54	17.17	14.11	8.58	7.73	13.80	14.59	13.41
4	9.44	7.91	9.19	15.69	9.51	17.49	13.65	8.49	9.37	13.60	14.21	13.73
5	9.25	7.82	9.16	15.68	9.58	17.68	13.15	8.41	10.46	13.38	15.40	14.23
6	9.02	7.81	9.19	15.48	9.55	17.74	12.50	8.32	11.04	13.44	16.63	14.54
7	8.81	7.74	9.16	15.14	10.88	17.66	12.01	8.24	11.25	13.46	16.89	14.74
8	8.67	7.72	9.12	14.66	12.18	17.45	11.82	8.16	12.01	12.94	16.97	14.59
9	8.64	7.67	9.10	14.11	12.66	17.55	12.31	8.09	12.28	12.45	17.04	14.13
10	8.90	7.81	9.68	13.56	13.50	18.58	12.43	8.02	13.30	12.03	16.77	13.60
11	9.26	7.96	10.19	13.10	13.92	20.00	12.39	7.96	15.03	11.77	16.36	13.12
12	8.91	8.03	10.48	12.70	14.06	19.98	12.12	7.90	14.98	11.42	16.00	12.70
13	8.71	8.53	11.01	12.37	14.19	19.35	11.72	7.84	14.41	11.22	15.70	12.32
14	8.64	8.66	11.46	12.11	14.04	18.57	11.27	7.78	13.74	11.06	15.42	11.97
15	8.62	8.74	11.69	11.84	13.72	17.98	10.87	7.73	13.31	10.97	15.08	11.67
16	8.64	9.15	11.93	11.58	13.92	17.50	10.53	7.70	14.18	11.26	14.67	11.38
17	8.75	10.51	12.17	11.36	15.65	17.08	10.26	7.66	14.68	11.58	14.26	11.12
18	8.83	11.21	12.22	11.15	16.27	16.83	10.04	7.62	14.52	11.66	14.03	10.72
19	8.82	11.67	12.10	10.95	17.01	16.55	9.82	7.72	14.71	11.80	13.89	10.11
20	8.70	12.11	11.96	10.78	17.11	16.29	9.63	8.03	15.43	11.96	13.75	9.77
21	8.53	12.36	11.76	10.62	16.93	16.03	9.47	8.17	16.43	12.02	13.75	9.59
22	8.43	12.35	11.50	10.52	16.58	15.69	9.32	8.41	16.92	12.01	15.15	9.50
23	8.35	12.15	11.27	10.50	16.34	15.33	9.17	8.40	17.98	12.09	16.05	9.44
24	8.31	11.85	11.32	10.40	16.02	14.97	9.01	8.24	17.94	12.06	16.64	9.52
25	8.30	11.47	12.67	10.30	15.75	14.58	8.93	8.16	17.29	11.97	17.10	9.47
26	8.31	11.07	13.36	10.20	15.46	14.18	9.13	8.06	16.63	12.00	16.90	10.00
27	8.27	10.67	14.11	10.10	15.27	13.92	9.20	7.98	16.02	12.32	16.52	10.65
28	8.26	10.33	15.12	9.99	15.64	14.62	9.25	7.89	15.65	12.85	15.99	11.38
29	8.21	10.05	15.46	9.89	---	15.10	9.12	7.76	15.52	13.10	15.48	12.06
30	8.20	9.83	15.40	9.82	---	15.33	8.94	7.69	14.79	13.08	14.98	12.82
31	8.18	---	15.06	9.76	---	15.25	---	7.67	---	12.81	14.60	---
TOTAL	271.31	287.30	355.25	380.14	384.60	519.46	331.63	250.16	412.80	384.29	476.73	360.27
MEAN	8.75	9.58	11.46	12.26	13.74	16.76	11.05	8.07	13.76	12.40	15.38	12.01
MAX	9.91	12.36	15.46	15.69	17.11	20.00	14.92	8.79	17.98	14.26	17.10	14.74
MIN	8.18	7.67	9.10	9.76	9.51	13.92	8.93	7.62	7.59	10.97	12.54	9.44

WTR YR 2003 TOTAL 4,413.94 MEAN 12.09 MAX 20.00 MIN 7.59

02322500 SANTA FE RIVER NEAR FORT WHITE, FL

LOCATION.--Lat 29°50'55", long 82°42'55", in SE$^1/_4$ sec. 28, T. 7 S., R. 16 E., Gilchrist County, Hydrologic Unit 03110206, on left bank 2.1 mi upstream from bridge on State Highway 47, 5.1 mi south of Fort White, and 18 mi upstream from mouth.

DRAINAGE AREA.--1,017 mi^2.

PERIOD OF RECORD.--October 1927 to January 1930, June 1932 to current year.

REVISED RECORDS.--WDR FL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 20.86 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to June 3, 1932, nonrecording gage at several sites within 200 ft of present site at various datums. Oct. 1, 1947 to Feb. 10, 1949, auxiliary nonrecording gage and since Feb. 11, 1949, auxiliary water-stage recorder at bridge on U.S. Highway 129, 16 mi downstream from base gage at datum 3.5 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated discharges. Records fair.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	902	641	721	1,150	789	1,960	2,370	1,200	852	1,990	1,350	2,020
2	891	628	705	1,150	780	2,010	2,360	1,160	851	1,920	1,370	1,960
3	877	624	691	1,190	774	2,130	2,330	1,130	873	1,850	1,390	1,900
4	866	622	682	1,220	775	2,360	2,320	1,110	908	1,780	1,460	1,870
5	853	616	688	1,270	763	2,570	2,260	1,090	906	1,730	1,470	1,850
6	846	610	670	1,320	759	2,590	2,200	1,060	927	1,680	1,500	1,920
7	829	602	650	1,330	815	2,890	2,130	1,050	962	1,640	1,640	1,970
8	830	600	648	1,320	795	2,990	2,100	1,030	994	1,610	1,830	1,980
9	822	594	652	1,300	824	3,110	2,070	1,020	1,020	1,570	1,930	1,970
10	800	602	672	1,260	880	3,160	2,030	1,000	1,040	1,520	2,000	1,930
11	789	588	654	1,200	928	3,400	1,990	993	1,090	1,480	2,070	1,890
12	775	598	652	1,160	975	3,910	1,940	980	1,200	1,450	2,060	1,830
13	769	599	686	1,110	1,010	4,450	1,890	967	1,290	1,400	2,020	1,770
14	771	581	683	1,070	1,050	4,780	1,830	959	1,320	1,370	1,980	1,710
15	783	576	687	1,050	1,070	4,690	1,780	949	1,320	1,350	1,940	1,660
16	768	652	702	1,030	1,130	4,420	1,740	937	1,320	1,320	1,930	1,620
17	745	643	723	1,010	1,210	4,110	1,700	926	1,340	1,300	1,900	1,560
18	738	629	736	983	1,300	3,820	1,660	927	1,390	1,290	1,820	1,510
19	733	644	755	966	1,480	3,570	1,620	927	1,420	1,280	1,780	1,480
20	726	681	772	950	1,710	3,360	1,580	918	1,460	1,280	1,750	1,420
21	718	720	758	942	1,880	3,220	1,550	912	1,500	1,290	1,720	1,380
22	711	751	752	933	2,000	3,100	1,530	912	1,630	1,290	1,750	1,360
23	703	764	752	913	1,910	2,990	1,490	913	1,850	1,290	1,790	1,360
24	699	777	785	890	1,980	2,900	1,450	909	2,140	1,290	1,890	1,350
25	691	777	783	886	1,940	2,780	1,430	902	2,330	1,290	2,020	1,300
26	684	776	787	882	1,960	2,670	1,420	891	2,340	1,280	2,180	1,270
27	675	772	809	874	1,960	2,610	1,350	883	2,260	1,270	2,260	1,270
28	666	761	859	870	1,980	2,540	1,290	873	2,170	1,270	2,250	1,280
29	658	741	931	866	---	2,470	1,260	870	2,100	1,280	2,200	1,290
30	668	734	1,010	861	---	2,450	1,230	864	2,050	1,300	2,150	1,290
31	649	---	1,080	836	---	2,410	---	856	---	1,320	2,080	---
MEAN	762	663	746	1,058	1,265	3,110	1,797	972	1,428	1,451	1,854	1,632
MAX	902	777	1,080	1,330	2,000	4,780	2,370	1,200	2,340	1,990	2,260	2,020
MIN	649	576	648	836	759	1,960	1,230	856	851	1,270	1,350	1,270
IN.	0.86	0.73	0.85	1.20	1.30	3.53	1.97	1.10	1.57	1.65	2.10	1.79

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2003, BY WATER YEAR (WY)

MEAN	1,764	1,371	1,265	1,385	1,579	1,809	1,702	1,387	1,305	1,376	1,665	1,894
MAX	4,357	3,840	2,778	3,415	4,810	5,345	4,668	3,409	4,063	2,728	3,545	6,344
(WY)	(1993)	(1948)	(1965)	(1942)	(1998)	(1948)	(1948)	(1959)	(1959)	(1972)	(1928)	(1964)
MIN	730	636	543	496	480	537	564	500	495	544	543	628
(WY)	(1956)	(2002)	(2001)	(2001)	(2001)	(2001)	(2001)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1928 - 2003	
ANNUAL MEAN	602		1,396		1,540	
HIGHEST ANNUAL MEAN					3,112	1948
LOWEST ANNUAL MEAN					589	2002
HIGHEST DAILY MEAN	1,080	Dec 31	4,780	Mar 14	16,900	Sep 16, 1964
LOWEST DAILY MEAN	446	Jun 4	576	Nov 15	446	Jun 4, 2002
ANNUAL SEVEN-DAY MINIMUM	456	May 29	591	Nov 9	456	May 29, 2002
MAXIMUM PEAK FLOW			4,800	Mar 14	17,000	Sep 16, 1964
MAXIMUM PEAK STAGE			6.35	Mar 15	15.34	Sep 16, 1964
INSTANTANEOUS LOW FLOW			576	Nov 12	440	Jun 2, 2002
ANNUAL RUNOFF (INCHES)	8.03		18.64		20.58	
10 PERCENT EXCEEDS	768		2,260		2,560	
50 PERCENT EXCEEDS	555		1,270		1,270	
90 PERCENT EXCEEDS	503		687		834	

02322685 ICHETUCKNEE HEAD SPRING NEAR HILDRETH, FL

LOCATION.--Lat 29°59'02", long 82°45'43", in NE¼ sec.12, T.6 S., R.15 E., Suwannee County, Hydrologic Unit 03110206, on the north bank at head of Ichetucknee River in Ichetucknee Springs State Park, 3.3 mi upstream from bridge on U.S. Highway 27, 3.4 mi northeast of Hildreth, and 5.0 mi northwest of Fort White.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--February 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 21.76 ft above National Geodetic Vertical Datum of 1929. Auxiliary water-stage recorder at bridge on U.S. Highway 27, 3.3 mi downstream from base gage at National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	20	22	23	22	21	22	23
2	---	---	---	---	---	20	22	23	22	22	22	22
3	---	---	---	---	---	21	22	23	22	22	22	22
4	---	---	---	---	---	20	22	23	22	22	22	22
5	---	---	---	---	---	21	22	23	22	22	22	23
6	---	---	---	---	---	21	22	23	22	22	22	23
7	---	---	---	---	20	21	22	23	22	21	22	22
8	---	---	---	---	20	21	23	23	22	21	22	22
9	---	---	---	---	20	21	23	23	22	21	22	22
10	---	---	---	---	20	21	23	23	22	21	22	22
11	---	---	---	---	20	21	23	22	22	22	22	22
12	---	---	---	---	20	22	23	22	22	22	22	22
13	---	---	---	---	20	22	23	22	22	22	22	22
14	---	---	---	---	20	22	23	22	22	22	22	23
15	---	---	---	---	20	22	23	22	22	22	22	23
16	---	---	---	---	20	22	23	22	21	22	22	23
17	---	---	---	---	20	22	23	22	21	22	22	23
18	---	---	---	---	20	22	23	22	21	22	22	22
19	---	---	---	---	20	22	23	22	21	22	22	22
20	---	---	---	---	20	22	23	22	21	22	22	22
21	---	---	---	---	20	22	23	22	21	22	22	22
22	---	---	---	---	20	22	23	22	21	22	22	22
23	---	---	---	---	20	22	23	22	21	22	22	22
24	---	---	---	---	20	22	23	22	21	22	22	22
25	---	---	---	---	20	22	23	22	22	22	22	23
26	---	---	---	---	20	22	23	22	22	22	22	23
27	---	---	---	---	20	22	23	22	21	22	22	23
28	---	---	---	---	20	22	23	22	22	22	22	23
29	---	---	---	---	---	22	23	22	22	22	22	23
30	---	---	---	---	---	22	23	22	22	22	22	23
31	---	---	---	---	---	22	---	22	---	22	23	---
TOTAL	---	---	---	---	---	668	683	692	650	677	683	673
MEAN	---	---	---	---	---	21.5	22.8	22.3	21.7	21.8	22.0	22.4
MAX	---	---	---	---	---	22	23	23	22	22	23	23
MIN	---	---	---	---	---	20	22	22	21	21	22	22
MED	---	---	---	---	---	22	23	22	22	22	22	22
AC-FT	---	---	---	---	---	1,320	1,350	1,370	1,290	1,340	1,350	1,330

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	21.5	22.8	22.3	21.7	21.8	22.0	22.4
MAX	---	---	---	---	---	21.5	22.8	22.3	21.7	21.8	22.0	22.4
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)
MIN	---	---	---	---	---	21.5	22.8	22.3	21.7	21.8	22.0	22.4
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

02322685 ICHETUCKNEE HEAD SPRING NEAR HILDRETH, FL—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	23	23	24	26	e32	51	41	40	40	39	42
2	23	23	23	24	26	e32	51	41	40	40	39	42
3	23	23	23	24	26	e33	50	41	40	40	39	43
4	23	23	23	24	27	e33	49	41	40	40	39	43
5	23	23	23	25	26	e33	47	41	40	40	39	43
6	23	23	23	25	27	e32	45	41	40	40	39	43
7	23	23	23	25	27	e31	43	41	40	40	39	43
8	23	23	23	25	27	e29	42	41	40	40	39	43
9	23	23	24	25	27	e28	41	41	40	40	39	43
10	23	23	24	25	27	e28	40	41	40	40	39	43
11	23	23	24	25	27	e28	39	41	40	40	39	43
12	22	23	24	25	27	e31	39	41	40	40	40	43
13	23	23	24	25	27	e32	38	41	40	39	40	43
14	23	23	24	26	27	e34	38	41	40	39	40	43
15	23	23	24	26	27	e37	38	41	40	39	40	43
16	23	23	24	26	27	e38	38	41	40	39	40	43
17	23	23	24	26	27	e42	38	41	40	39	40	43
18	23	23	24	26	27	e45	38	41	40	39	40	43
19	23	23	24	26	27	49	38	41	40	39	40	43
20	23	23	24	26	27	51	38	41	40	39	40	43
21	23	23	24	26	e27	53	38	41	40	39	41	43
22	22	23	24	26	e28	54	38	41	40	39	41	43
23	22	23	24	26	e28	54	38	41	40	39	41	43
24	23	23	24	26	e29	53	39	41	40	39	41	43
25	23	23	24	26	e30	52	39	40	40	39	41	43
26	23	23	24	26	e30	51	39	40	40	39	41	43
27	23	23	24	26	e31	51	39	40	40	39	41	43
28	23	23	24	26	e31	51	40	40	40	39	41	43
29	23	23	24	26	---	51	40	40	40	39	41	43
30	23	23	24	26	---	51	41	40	40	39	42	43
31	23	---	24	26	---	51	---	40	---	39	42	---
TOTAL	710	690	736	789	770	1,270	1,232	1,264	1,200	1,221	1,242	1,288
MEAN	22.9	23.0	23.7	25.5	27.5	41.0	41.1	40.8	40.0	39.4	40.1	42.9
MAX	23	23	24	26	31	54	51	41	40	40	42	43
MIN	22	23	23	24	26	28	38	40	40	39	39	42
MED	23	23	24	26	27	38	39	41	40	39	40	43
AC-FT	1,410	1,370	1,460	1,560	1,530	2,520	2,440	2,510	2,380	2,420	2,460	2,550

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	22.9	23.0	23.7	25.5	27.5	31.3	31.9	31.5	30.8	30.6	31.0	32.7
MAX	22.9	23.0	23.7	25.5	27.5	41.0	41.1	40.8	40.0	39.4	40.1	42.9
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	22.9	23.0	23.7	25.5	27.5	21.5	22.8	22.3	21.7	21.8	22.0	22.4
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL TOTAL	12,412			
ANNUAL MEAN	34.0		34.0	
HIGHEST ANNUAL MEAN			34.0	2003
LOWEST ANNUAL MEAN			34.0	2003
HIGHEST DAILY MEAN	54	Mar 22	54	Mar 22, 2003
LOWEST DAILY MEAN	22	Oct 12	20	Feb 7, 2002
ANNUAL SEVEN-DAY MINIMUM	23	Oct 17	20	Feb 7, 2002
MAXIMUM PEAK FLOW	54	Mar 22	54	Mar 22, 2003
MAXIMUM PEAK STAGE	2.84	Mar 22	2.84	Mar 22, 2003
INSTANTANEOUS LOW FLOW	22	Oct 4	20	Feb 6, 2002
ANNUAL RUNOFF (AC-FT)	24,620		24,640	
10 PERCENT EXCEEDS	43		43	
50 PERCENT EXCEEDS	39		39	
90 PERCENT EXCEEDS	23		23	

e Estimated

02322687 CEDAR HEAD SPRING NEAR HILDRETH, FL

LOCATION.--Lat 29°58'59", long 82°45'32", in NW$^1/_4$ sec.7, T.6 S., R.16 E., Columbia County, Hydrologic Unit 03110206, on right bank of pool in Ichetucknee Springs State Park, about 1,000 ft upstream from Blue Hole Spring, 3.2 mi upstream from bridge on U.S. Highway 27, and 3.4 mi northeast of Hildreth.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--1975 (miscellaneous discharge measurement), February 2002 to September 2003.

GAGE.--Water-stage recorder. Datum of gage is 13.84 ft above National Geodetic Vertical Datum of 1929. Auxiliary water-stage recorder at bridge on U.S. Highway 27, 3.2 mi downstream from base gage, at National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily dishcarges. Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	3.0	3.6	3.4	3.0	2.8	2.8	3.1
2	---	---	---	---	---	3.2	3.6	3.4	3.0	2.8	2.8	3.1
3	---	---	---	---	---	3.3	3.7	3.4	3.0	2.8	2.8	3.1
4	---	---	---	---	---	3.2	3.6	3.4	3.0	2.9	2.8	3.1
5	---	---	---	---	---	3.3	3.6	3.3	3.0	2.9	2.8	3.2
6	---	---	---	---	---	3.3	3.6	3.3	3.1	2.9	2.8	3.2
7	---	---	---	---	---	3.4	3.6	3.3	3.0	2.9	2.8	3.2
8	---	---	---	---	---	3.4	3.5	3.3	3.0	2.8	2.8	3.2
9	---	---	---	---	---	3.5	3.5	3.2	3.0	2.9	2.8	3.3
10	---	---	---	---	---	3.5	3.5	3.2	3.0	2.9	2.8	3.2
11	---	---	---	---	2.9	3.5	3.6	3.2	3.0	2.9	2.8	3.1
12	---	---	---	---	2.9	3.6	3.6	3.2	3.0	2.9	2.8	3.1
13	---	---	---	---	2.9	3.6	3.6	3.2	3.0	2.9	2.8	3.2
14	---	---	---	---	2.9	3.6	3.6	3.2	3.0	2.8	2.8	3.2
15	---	---	---	---	2.9	3.6	3.5	3.2	2.9	2.8	2.8	3.2
16	---	---	---	---	2.9	3.7	3.5	3.1	2.9	2.8	2.8	3.2
17	---	---	---	---	2.9	3.7	3.5	3.1	2.9	2.8	2.8	3.2
18	---	---	---	---	2.9	3.7	3.5	3.1	2.9	2.8	2.8	3.2
19	---	---	---	---	2.9	3.7	3.5	3.1	2.9	2.7	2.8	3.2
20	---	---	---	---	3.0	3.7	3.5	3.1	2.9	2.8	2.9	3.2
21	---	---	---	---	3.0	3.7	3.5	3.1	2.8	2.8	2.9	3.2
22	---	---	---	---	3.0	3.7	3.5	3.1	2.9	2.8	2.9	3.2
23	---	---	---	---	2.9	3.6	3.5	3.1	2.8	2.8	2.9	3.2
24	---	---	---	---	3.0	3.6	3.4	3.0	2.8	2.8	2.9	3.2
25	---	---	---	---	3.0	3.7	3.5	3.0	2.8	2.8	2.8	3.3
26	---	---	---	---	3.0	3.7	3.5	3.0	2.8	2.8	2.8	3.4
27	---	---	---	---	3.0	3.6	3.5	3.0	2.8	2.8	2.9	3.4
28	---	---	---	---	3.0	3.6	3.4	3.0	2.8	2.8	3.0	3.4
29	---	---	---	---	---	3.6	3.4	3.0	2.9	2.8	3.0	3.3
30	---	---	---	---	---	3.6	3.4	3.0	2.8	2.8	3.0	3.3
31	---	---	---	---	---	3.6	---	3.0	---	2.8	3.0	---
TOTAL	---	---	---	---	---	109.5	105.8	98.0	87.7	87.6	88.2	96.4
MEAN	---	---	---	---	---	3.53	3.53	3.16	2.92	2.83	2.85	3.21
MAX	---	---	---	---	---	3.7	3.7	3.4	3.1	2.9	3.0	3.4
MIN	---	---	---	---	---	3.0	3.4	3.0	2.8	2.7	2.8	3.1
MED	---	---	---	---	---	3.6	3.5	3.1	2.9	2.8	2.8	3.2
AC-FT	---	---	---	---	---	217	210	194	174	174	175	191

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	3.53	3.53	3.16	2.92	2.83	2.85	3.21
MAX	---	---	---	---	---	3.53	3.53	3.16	2.92	2.83	2.85	3.21
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)
MIN	---	---	---	---	---	3.53	3.53	3.16	2.92	2.83	2.85	3.21
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

02322687 CEDAR HEAD SPRING NEAR HILDRETH, FL—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	3.1	3.2	3.8	4.2	4.9	16	8.0	7.9	8.3	8.5	9.0
2	3.4	3.1	3.2	3.7	4.1	5.0	16	8.0	7.9	8.3	8.5	9.1
3	3.4	3.1	3.2	3.8	4.2	4.9	15	8.1	7.9	8.4	8.6	9.1
4	3.3	3.1	3.2	3.9	4.2	5.0	14	8.2	8.0	8.4	8.5	9.2
5	3.3	3.2	3.3	3.9	4.2	5.1	13	8.2	7.9	8.3	8.6	9.2
6	3.3	3.2	3.3	3.9	4.2	5.2	12	8.2	7.9	8.4	8.6	9.2
7	3.3	3.1	3.3	3.9	4.3	5.2	11	8.1	7.9	8.4	8.7	9.2
8	3.2	3.1	3.3	3.9	4.2	5.3	10	8.1	7.9	8.4	8.5	9.2
9	3.2	3.1	3.3	4.0	4.2	5.4	9.7	8.1	7.9	8.4	8.5	9.1
10	3.3	3.2	3.4	4.0	4.3	5.5	9.1	8.1	7.9	8.4	8.5	9.2
11	3.3	3.2	3.4	4.0	4.2	5.7	8.8	8.0	7.9	8.4	8.5	9.2
12	3.3	3.2	3.3	4.0	4.2	6.0	8.6	8.0	8.0	8.4	8.5	9.2
13	3.3	3.2	3.4	4.0	4.2	6.5	8.5	8.0	8.0	8.4	8.5	9.2
14	3.3	3.2	3.4	4.0	4.2	7.3	8.4	8.0	8.0	8.4	8.5	9.2
15	3.3	3.2	3.5	4.0	4.3	8.6	8.4	8.0	8.0	8.4	8.6	9.3
16	3.3	3.4	3.4	4.0	4.3	10	8.4	8.0	8.0	8.4	8.6	9.3
17	3.3	3.4	3.4	4.1	4.4	12	8.4	8.0	8.0	8.4	8.6	9.3
18	3.3	3.3	3.5	4.0	4.3	14	8.3	8.0	8.0	8.4	8.6	9.2
19	3.3	3.3	3.5	4.0	4.4	15	8.3	8.0	8.1	8.4	8.6	9.2
20	3.3	3.3	3.5	4.0	4.5	16	8.2	8.0	8.1	8.4	8.6	9.2
21	3.3	3.4	3.5	4.1	4.5	17	8.2	7.9	8.1	8.4	8.7	9.3
22	3.2	3.4	3.5	4.1	4.7	17	8.1	7.9	8.1	8.5	8.8	9.3
23	3.2	3.3	3.5	4.1	4.6	17	8.0	8.0	8.1	8.5	8.8	9.3
24	3.3	3.2	3.6	4.1	4.6	17	8.0	7.9	8.1	8.5	8.8	9.3
25	3.3	3.3	3.6	4.1	4.7	16	8.1	7.9	8.1	8.5	8.8	9.4
26	3.2	3.3	3.5	4.1	4.7	16	8.1	7.9	8.1	8.5	8.7	9.3
27	3.2	3.3	3.5	4.1	4.9	16	8.0	7.9	8.1	8.5	8.8	9.3
28	3.2	3.2	3.5	4.1	4.9	16	7.9	7.9	8.2	8.5	8.8	9.3
29	3.2	3.3	3.5	4.1	---	16	7.9	7.9	8.2	8.5	8.9	9.3
30	3.3	3.3	3.5	4.1	---	16	7.9	7.9	8.3	8.5	8.9	9.3
31	3.2	---	3.6	4.2	---	16	---	7.9	---	8.5	9.0	---
TOTAL	101.6	97.0	105.8	124.1	122.7	332.6	290.3	248.1	240.6	261.1	268.1	276.9
MEAN	3.28	3.23	3.41	4.00	4.38	10.7	9.68	8.00	8.02	8.42	8.65	9.23
MAX	3.4	3.4	3.6	4.2	4.9	17	16	8.2	8.3	8.5	9.0	9.4
MIN	3.2	3.1	3.2	3.7	4.1	4.9	7.9	7.9	7.9	8.3	8.5	9.0
MED	3.3	3.2	3.4	4.0	4.3	10	8.4	8.0	8.0	8.4	8.6	9.2
AC-FT	202	192	210	246	243	660	576	492	477	518	532	549

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	3.28	3.23	3.41	4.00	4.38	7.13	6.60	5.58	5.47	5.62	5.75	6.22
MAX	3.28	3.23	3.41	4.00	4.38	10.7	9.68	8.00	8.02	8.42	8.65	9.23
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	3.28	3.23	3.41	4.00	4.38	3.53	3.53	3.16	2.92	2.83	2.85	3.21
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL TOTAL	2,468.9			
ANNUAL MEAN	6.76		6.76	
HIGHEST ANNUAL MEAN			6.76	2,003
LOWEST ANNUAL MEAN			6.76	2003
HIGHEST DAILY MEAN	17	Mar 21	17	Mar 21, 2003
LOWEST DAILY MEAN	3.1	Nov 1	2.7	Jul 19, 2002
ANNUAL SEVEN-DAY MINIMUM	3.1	Nov 1	2.8	Jul 14, 2002
MAXIMUM PEAK FLOW	18	Mar 22	18	Mar 22, 2003
MAXIMUM PEAK STAGE	10.69	Mar 22	10.69	Mar 22, 2003
INSTANTANEOUS LOW FLOW	3.0	Nov 1	2.7	Jul 18, 2002
ANNUAL RUNOFF (AC-FT)	4,900		4,900	
10 PERCENT EXCEEDS	9.3		9.3	
50 PERCENT EXCEEDS	7.9		7.9	
90 PERCENT EXCEEDS	3.3		3.3	

02322688 BLUE HOLE SPRING NEAR HILDRETH, FL

LOCATION.--Lat 29°58'47", long 82°45'31", in NW1/4 sec.7, T.6 S., R.16 E., Columbia County, Hydrologic Unit 03110206, on north side of spring pool in Ichetucknee Springs State Park, 300 ft upstream from Ichetucknee River, 1,000 ft downstream from Cedar Head Spring, 0.4 mi southeast of Ichetucknee Head Spring, 2.9 mi upstream from bridge on U.S. Highway 27, and 3.3 mi east of Hildreth.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--1975 (miscellaneous discharge measurement), February 2002 to September 2003.

GAGE.--Water-stage recorder. Datum of gage is 210.31 ft above National Geodetic Vertical Datum of 1929. Auxiliary water-stage recorder at bridge on U.S. Highway 27, 2.9 mi downstream from base gage at National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	78	84	83	76	71	67	67
2	---	---	---	---	---	80	84	83	76	71	67	67
3	---	---	---	---	---	81	84	82	75	72	67	67
4	---	---	---	---	---	79	84	82	75	72	66	67
5	---	---	---	---	80	80	84	82	76	71	66	68
6	---	---	---	---	80	80	83	82	76	71	66	68
7	---	---	---	---	81	81	83	82	76	71	66	67
8	---	---	---	---	80	82	83	81	76	70	65	67
9	---	---	---	---	79	82	83	81	75	70	65	68
10	---	---	---	---	79	82	83	81	75	71	65	68
11	---	---	---	---	78	82	84	80	75	71	65	68
12	---	---	---	---	78	83	84	80	75	70	65	68
13	---	---	---	---	78	84	84	80	74	70	66	68
14	---	---	---	---	78	84	84	80	74	70	66	68
15	---	---	---	---	78	84	84	80	73	70	66	68
16	---	---	---	---	78	84	83	80	73	70	66	68
17	---	---	---	---	78	84	83	80	72	70	65	68
18	---	---	---	---	77	84	83	80	72	69	65	68
19	---	---	---	---	78	84	83	80	72	69	66	68
20	---	---	---	---	78	85	83	79	72	69	66	68
21	---	---	---	---	78	86	83	79	72	69	66	68
22	---	---	---	---	78	86	83	79	72	69	66	67
23	---	---	---	---	78	85	83	78	72	69	66	67
24	---	---	---	---	78	85	83	78	72	69	66	67
25	---	---	---	---	78	85	83	78	72	69	65	68
26	---	---	---	---	78	85	83	78	72	69	65	68
27	---	---	---	---	78	85	83	77	72	68	67	68
28	---	---	---	---	78	85	83	76	72	68	67	68
29	---	---	---	---	---	84	83	76	72	68	67	68
30	---	---	---	---	---	85	83	76	71	68	67	68
31	---	---	---	---	---	85	---	76	---	67	67	---
TOTAL	---	---	---	---	---	2,579	2,500	2,469	2,207	2,161	2,045	2,031
MEAN	---	---	---	---	---	83.2	83.3	79.6	73.6	69.7	66.0	67.7
MAX	---	---	---	---	---	86	84	83	76	72	67	68
MIN	---	---	---	---	---	78	83	76	71	67	65	67
MED	---	---	---	---	---	84	83	80	73	70	66	68
AC-FT	---	---	---	---	---	5,120	4,960	4,900	4,380	4,290	4,060	4,030

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	83.2	83.3	79.6	73.6	69.7	66.0	67.7
MAX	---	---	---	---	---	83.2	83.3	79.6	73.6	69.7	66.0	67.7
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)
MIN	---	---	---	---	---	83.2	83.3	79.6	73.6	69.7	66.0	67.7
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

02322688 BLUE HOLE SPRING NEAR HILDRETH, FL—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	70	72	76	81	90	176	119	120	122	128	130
2	68	69	72	76	82	91	174	120	119	123	128	131
3	68	70	72	76	82	90	171	120	119	123	128	132
4	68	70	72	76	82	91	167	120	120	124	128	132
5	68	70	73	77	82	90	161	120	120	124	128	e132
6	68	70	72	77	82	90	153	120	120	125	128	e133
7	68	70	72	77	83	89	146	120	120	125	129	e133
8	68	70	72	78	81	88	138	120	120	125	129	e134
9	68	71	72	79	82	89	132	120	120	125	129	e134
10	69	71	73	79	82	89	127	120	121	125	128	e134
11	69	71	72	78	82	90	123	121	121	125	128	e134
12	69	71	72	79	82	94	121	121	121	126	127	e135
13	68	70	73	79	82	101	119	121	121	126	127	e135
14	69	70	72	79	82	113	119	121	121	126	127	e135
15	70	70	72	79	83	127	118	121	121	126	127	e135
16	69	72	72	80	84	141	118	121	121	126	127	e135
17	69	71	72	80	84	153	118	121	121	126	127	e136
18	69	70	72	80	83	163	118	122	121	126	127	e136
19	69	70	73	80	84	170	117	121	121	127	127	e136
20	69	71	73	80	85	178	117	121	122	127	127	e136
21	69	71	72	81	86	183	116	121	121	127	128	e136
22	69	71	73	81	87	185	116	121	122	127	128	e136
23	69	70	73	80	86	184	115	121	121	128	128	e136
24	69	71	75	80	86	182	115	120	121	128	128	e137
25	69	71	74	80	87	179	116	120	120	127	127	e137
26	69	71	73	80	88	176	116	120	120	128	127	e137
27	69	71	74	81	90	175	116	120	120	128	127	e137
28	70	71	74	81	89	176	117	120	121	128	127	e137
29	70	71	74	81	---	175	117	120	120	128	128	e138
30	70	72	74	81	---	177	118	120	121	128	129	e138
31	70	---	76	81	---	177	---	120	---	128	129	---
TOTAL	2,134	2,117	2,257	2,452	2,349	4,196	3,895	3,733	3,617	3,907	3,960	4,047
MEAN	68.8	70.6	72.8	79.1	83.9	135	130	120	121	126	128	135
MAX	70	72	76	81	90	185	176	122	122	128	129	138
MIN	68	69	72	76	81	88	115	119	119	122	127	130
MED	69	71	72	80	83	141	118	120	121	126	128	135
AC-FT	4,230	4,200	4,480	4,860	4,660	8,320	7,730	7,400	7,170	7,750	7,850	8,030

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	68.8	70.6	72.8	79.1	83.9	109	107	100	97.1	97.9	96.9	101
MAX	68.8	70.6	72.8	79.1	83.9	135	130	120	121	126	128	135
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	68.8	70.6	72.8	79.1	83.9	83.2	83.3	79.6	73.6	69.7	66.0	67.7
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL TOTAL	38,664			
ANNUAL MEAN	106		106	
HIGHEST ANNUAL MEAN			106	2003
LOWEST ANNUAL MEAN			106	2003
HIGHEST DAILY MEAN	185	Mar 22	185	Mar 22, 2003
LOWEST DAILY MEAN	68	Oct 1	65	Aug 8, 2002
ANNUAL SEVEN-DAY MINIMUM	68	Oct 1	65	Aug 6, 2002
MAXIMUM PEAK FLOW	185	Mar 22	185	Mar 22, 2003
MAXIMUM PEAK STAGE	4.16	Mar 22	4.16	Mar 22, 2003
INSTANTANEOUS LOW FLOW	68	Oct 1	66	Aug 10, 2002
ANNUAL RUNOFF (AC-FT)	76,690		76,740	
10 PERCENT EXCEEDS	136		136	
50 PERCENT EXCEEDS	119		119	
90 PERCENT EXCEEDS	70		70	

e Estimated

02322691 MISSION SPRINGS COMPLEX NEAR HILDRETH, FL

LOCATION.--Lat 29°58'33", long 82°45'30", in SE¼ sec.7, T.6 S., R.16 E., Columbia County, Hydrologic Unit 03110206, on left bank in Ichetucknee Springs State Park about 250 ft east of the Ichetuckee River, 1,500 ft downstream from Blue Hole Spring, 1.7 mi downstream from Ichetucknee Head Spring, 2.6 mi upstream from bridge on U.S. Highway 27, and 3.3 mi northeast of Hildreth.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--1946 (miscellaneous discharge measurement), February 2002 to September 2003.

GAGE.--Water-stage recorder. Datum of gage is .51 ft above National Geodetic Vertical Datum of 1929. Auxiliary water-stage recorder at bridge on U.S. Highway 27, 2.6 mi downstream from base gage, at National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	61	59	51	44	52	63	71
2	---	---	---	---	---	62	59	51	44	53	63	72
3	---	---	---	---	---	62	58	51	43	54	63	72
4	---	---	---	---	---	61	58	51	44	54	63	72
5	---	---	---	---	---	61	57	50	44	54	63	72
6	---	---	---	---	---	61	57	50	45	55	64	72
7	---	---	---	---	---	62	57	50	45	55	64	72
8	---	---	---	---	---	62	57	50	45	55	64	72
9	---	---	---	---	---	62	57	50	45	55	64	72
10	---	---	---	---	---	62	56	50	46	56	64	72
11	---	---	---	---	---	61	56	49	46	56	64	72
12	---	---	---	---	67	62	56	49	46	57	65	72
13	---	---	---	---	67	61	55	49	47	57	65	72
14	---	---	---	---	66	61	55	49	48	57	66	72
15	---	---	---	---	66	61	55	48	48	57	66	72
16	---	---	---	---	66	61	55	48	48	58	66	72
17	---	---	---	---	65	61	55	48	48	58	67	72
18	---	---	---	---	65	61	54	47	48	59	67	72
19	---	---	---	---	65	61	54	46	48	59	68	73
20	---	---	---	---	65	61	54	46	49	59	68	73
21	---	---	---	---	65	61	54	45	49	59	68	72
22	---	---	---	---	64	60	54	45	49	59	69	72
23	---	---	---	---	63	60	53	45	50	59	69	72
24	---	---	---	---	63	60	53	45	50	60	70	72
25	---	---	---	---	63	60	53	45	50	60	70	72
26	---	---	---	---	63	60	52	45	51	60	70	72
27	---	---	---	---	61	60	52	45	51	61	71	72
28	---	---	---	---	61	59	52	44	52	62	71	72
29	---	---	---	---	---	59	52	44	52	62	71	72
30	---	---	---	---	---	59	52	44	52	62	71	72
31	---	---	---	---	---	59	---	44	---	63	71	---
TOTAL	---	---	---	---	---	1,884	1,651	1,474	1,427	1,787	2,068	2,161
MEAN	---	---	---	---	---	60.8	55.0	47.5	47.6	57.6	66.7	72.0
MAX	---	---	---	---	---	62	59	51	52	63	71	73
MIN	---	---	---	---	---	59	52	44	43	52	63	71
MED	---	---	---	---	---	61	55	48	48	58	66	72
AC-FT	---	---	---	---	---	3,740	3,270	2,920	2,830	3,540	4,100	4,290
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)												
MEAN	---	---	---	---	---	60.8	55.0	47.5	47.6	57.6	66.7	72.0
MAX	---	---	---	---	---	60.8	55.0	47.5	47.6	57.6	66.7	72.0
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)
MIN	---	---	---	---	---	60.8	55.0	47.5	47.6	57.6	66.7	72.0
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

02322691 MISSION SPRINGS COMPLEX NEAR HILDRETH, FL—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	71	70	72	74	80	171	101	100	103	106	110
2	72	70	70	72	74	81	169	101	99	103	106	111
3	72	70	70	72	74	81	166	101	99	103	107	112
4	72	71	71	72	75	81	161	102	99	103	107	113
5	72	71	71	72	74	81	154	102	99	103	107	112
6	72	71	70	73	75	80	146	101	99	104	107	112
7	72	70	70	72	75	79	137	101	99	104	108	112
8	72	70	70	73	74	79	129	101	100	104	108	112
9	72	71	70	73	75	79	122	102	100	105	108	112
10	72	71	71	74	75	79	115	102	100	105	108	112
11	72	71	70	73	75	81	110	102	101	105	108	113
12	72	71	70	73	75	85	108	102	100	105	108	113
13	72	70	71	73	75	93	107	102	100	104	109	113
14	72	70	70	73	75	106	106	102	100	104	109	113
15	72	70	70	73	76	121	105	102	100	104	109	113
16	71	71	70	74	77	135	105	101	100	104	109	113
17	71	70	70	73	76	148	105	101	101	105	109	113
18	71	70	70	73	76	158	104	102	101	105	109	113
19	71	70	71	73	76	166	104	101	100	105	108	113
20	71	70	70	73	77	174	103	100	100	105	109	112
21	71	71	70	74	78	179	102	100	100	105	109	112
22	71	70	70	74	78	181	101	100	101	105	109	113
23	71	70	70	74	78	181	100	99	101	105	108	113
24	71	70	71	73	78	179	99	99	101	105	108	112
25	71	70	71	73	78	175	99	100	101	105	108	112
26	71	70	70	74	79	172	99	100	102	105	108	113
27	71	70	70	74	80	171	99	100	102	106	108	112
28	71	70	71	74	80	172	99	100	102	106	108	112
29	71	70	71	74	---	171	100	100	101	106	109	112
30	72	70	71	74	---	172	100	100	102	106	110	112
31	71	---	72	74	---	172	---	100	---	106	110	---
TOTAL	2,217	2,110	2,182	2,268	2,132	3,992	3,525	3,127	3,010	3,243	3,354	3,370
MEAN	71.5	70.3	70.4	73.2	76.1	129	118	101	100	105	108	112
MAX	72	71	72	74	80	181	171	102	102	106	110	113
MIN	71	70	70	72	74	79	99	99	99	103	106	110
MED	72	70	70	73	76	135	105	101	100	105	108	112
AC-FT	4,400	4,190	4,330	4,500	4,230	7,920	6,990	6,200	5,970	6,430	6,650	6,680

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	71.5	70.3	70.4	73.2	76.1	94.8	86.3	74.2	74.0	81.1	87.5	92.2
MAX	71.5	70.3	70.4	73.2	76.1	129	118	101	100	105	108	112
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	71.5	70.3	70.4	73.2	76.1	60.8	55.0	47.5	47.6	57.6	66.7	72.0
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL TOTAL	34,530			
ANNUAL MEAN	94.6		94.6	
HIGHEST ANNUAL MEAN			94.6	2003
LOWEST ANNUAL MEAN			94.6	2003
HIGHEST DAILY MEAN	181	Mar 22	181	Mar 22, 2003
LOWEST DAILY MEAN	70	Nov 22	43	Jun 3, 2002
ANNUAL SEVEN-DAY MINIMUM	70	Nov 22	44	May 28, 2002
MAXIMUM PEAK FLOW	182	Mar 22	182	Mar 22, 2003
MAXIMUM PEAK STAGE	23.91	Mar 22	23.91	Mar 22, 2003
INSTANTANEOUS LOW FLOW	69	Nov 15	42	Jun 4, 2002
ANNUAL RUNOFF (AC-FT)	68,490		68,540	
10 PERCENT EXCEEDS	113		113	
50 PERCENT EXCEEDS	100		100	
90 PERCENT EXCEEDS	70		70	

02322694 DEVIL'S EYE SPRING NEAR HILDRETH, FL

LOCATION.--Lat 29°58'33", long 82°45'30", in SW¼ sec.7, T.6 S., R.16 E., Suwannee County, Hydrologic Unit 03110206, on the right bank in the Ichetucknee Springs State Park, about 150 ft upstream of the west bank of the Ichetucknee River, 0.9 mi downstream from Ichetucknee Head Spring, 2.4 mi upstream from bridge on U.S. Highway 27, and 3.1 mi northeast of Hildreth.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--February 2002 to September 2003.

GAGE.--Water-stage recorder. Datum of gage is 12.50 ft above National Geodetic Vertical Datum of 1929. Auxiliary water-stage recorder at bridge on U.S. Highway 27, 2.4 mi downstream from base gage at National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	37	39	39	39	40	40	41
2	---	---	---	---	---	37	39	39	39	40	40	41
3	---	---	---	---	---	37	39	39	39	40	40	41
4	---	---	---	---	---	37	39	39	39	40	40	41
5	---	---	---	---	---	37	39	38	40	40	40	41
6	---	---	---	---	---	37	39	38	40	40	40	41
7	---	---	---	---	---	37	39	39	40	40	40	41
8	---	---	---	---	---	37	39	39	40	40	40	41
9	---	---	---	---	---	38	39	39	39	40	40	41
10	---	---	---	---	---	38	39	39	39	40	40	41
11	---	---	---	---	---	38	38	39	39	40	40	41
12	---	---	---	---	38	38	38	39	40	40	40	41
13	---	---	---	---	37	38	38	39	40	40	40	41
14	---	---	---	---	37	38	38	39	40	40	40	41
15	---	---	---	---	37	38	38	39	40	40	40	41
16	---	---	---	---	37	38	38	39	40	40	40	41
17	---	---	---	---	37	38	38	39	39	40	40	41
18	---	---	---	---	37	38	38	39	39	40	40	41
19	---	---	---	---	37	39	38	39	39	40	40	41
20	---	---	---	---	37	39	38	39	39	40	40	41
21	---	---	---	---	37	39	38	39	39	40	40	41
22	---	---	---	---	37	39	38	39	39	40	40	41
23	---	---	---	---	37	39	38	39	39	40	40	41
24	---	---	---	---	37	39	38	39	40	40	40	41
25	---	---	---	---	37	39	38	39	39	40	40	42
26	---	---	---	---	37	39	38	39	39	40	40	42
27	---	---	---	---	37	39	38	39	39	40	40	42
28	---	---	---	---	37	39	38	39	40	40	40	42
29	---	---	---	---	---	39	39	39	40	40	40	42
30	---	---	---	---	---	39	39	39	40	40	41	42
31	---	---	---	---	---	39	---	39	---	40	40	---
TOTAL	---	---	---	---	---	1,183	1,152	1,207	1,183	1,240	1,241	1,236
MEAN	---	---	---	---	---	38.2	38.4	38.9	39.4	40.0	40.0	41.2
MAX	---	---	---	---	---	39	39	39	40	40	41	42
MIN	---	---	---	---	---	37	38	38	39	40	40	41
MED	---	---	---	---	---	38	38	39	39	40	40	41
AC-FT	---	---	---	---	---	2,350	2,280	2,390	2,350	2,460	2,460	2,450

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	38.2	38.4	38.9	39.4	40.0	40.0	41.2
MAX	---	---	---	---	---	38.2	38.4	38.9	39.4	40.0	40.0	41.2
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)
MIN	---	---	---	---	---	38.2	38.4	38.9	39.4	40.0	40.0	41.2
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

02322694 DEVIL'S EYE SPRING NEAR HILDRETH, FL—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	41	42	42	e44	e47	e90	e52	52	53	54	54
2	42	41	42	42	e44	e48	e86	e52	52	53	54	54
3	42	41	41	42	e44	e48	e80	e53	52	53	54	55
4	42	42	42	42	e44	e48	e74	e53	52	54	55	55
5	42	42	42	43	e44	e48	e69	e53	52	54	55	55
6	42	42	41	43	e44	e47	e64	e53	52	54	55	55
7	42	41	41	43	e44	e46	e60	e52	52	54	55	55
8	42	41	41	43	e44	e46	e58	e52	52	54	55	55
9	42	41	42	43	e44	e46	e56	e52	53	54	55	55
10	42	42	42	43	e44	e46	e55	53	52	54	55	55
11	42	42	41	43	e44	e47	e55	53	53	54	55	56
12	42	42	41	43	e44	e48	e55	53	53	54	55	56
13	42	42	42	43	e44	e50	e54	53	53	54	55	55
14	42	42	41	43	e44	e54	e54	53	53	54	54	55
15	42	42	41	43	e45	e60	e54	53	53	54	54	55
16	42	42	41	e43	e45	e73	e54	53	53	54	54	55
17	42	42	41	e43	e45	e82	e54	53	53	54	54	56
18	41	42	41	e43	e45	e91	e53	53	53	54	53	56
19	42	42	42	e43	e45	e99	e52	53	52	54	53	55
20	42	42	42	e43	e45	e104	e52	53	53	54	53	55
21	42	42	41	e44	e46	e106	e51	53	52	54	53	55
22	42	42	42	e44	e46	e107	e50	53	53	54	53	55
23	41	42	42	e43	e46	e106	e49	53	53	54	53	55
24	42	42	42	e43	e46	e103	e48	53	53	54	53	55
25	41	42	42	e43	e46	e100	e49	52	53	54	52	55
26	41	42	42	e44	e46	e96	e48	52	52	54	52	55
27	41	42	42	e43	e47	e94	e48	52	52	54	52	55
28	41	42	42	e43	e47	e95	e49	52	52	54	52	55
29	41	42	42	e43	---	e94	e50	52	52	54	53	55
30	42	42	42	e44	---	e95	e51	53	52	54	53	55
31	41	---	43	e44	---	e94	---	53	---	54	53	---
TOTAL	1,294	1,254	1,291	1,334	1,256	2,268	1,722	1,633	1,574	1,671	1,666	1,652
MEAN	41.7	41.8	41.6	43.0	44.9	73.2	57.4	52.7	52.5	53.9	53.7	55.1
MAX	42	42	43	44	47	107	90	53	53	54	55	56
MIN	41	41	41	42	44	46	48	52	52	53	52	54
MED	42	42	42	43	44	73	54	53	52	54	54	55
AC-FT	2,570	2,490	2,560	2,650	2,490	4,500	3,420	3,240	3,120	3,310	3,300	3,280

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	41.7	41.8	41.6	43.0	44.9	55.7	47.9	45.8	46.0	47.0	46.9	48.1
MAX	41.7	41.8	41.6	43.0	44.9	73.2	57.4	52.7	52.5	53.9	53.7	55.1
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	41.7	41.8	41.6	43.0	44.9	38.2	38.4	38.9	39.4	40.0	40.0	41.2
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL TOTAL	18,615			
ANNUAL MEAN	51.0		51.0	
HIGHEST ANNUAL MEAN			51.0	2003
LOWEST ANNUAL MEAN			51.0	2003
HIGHEST DAILY MEAN	e107	Mar 22	e107	Mar 22, 2003
LOWEST DAILY MEAN	41	Oct 12	37	Feb 13, 2002
ANNUAL SEVEN-DAY MINIMUM	41	Oct 17	37	Feb 13, 2002
MAXIMUM PEAK FLOW	e107	Mar 22	e107	Mar 22, 2003
MAXIMUM PEAK STAGE	9.12	Mar 22	9.12	Aug 29, 2003
INSTANTANEOUS LOW FLOW	41	Oct 4	36	Feb 27, 2002
ANNUAL RUNOFF (AC-FT)	36,920		36,950	
10 PERCENT EXCEEDS	55		55	
50 PERCENT EXCEEDS	52		52	
90 PERCENT EXCEEDS	42		42	

e Estimated

02322695 MILL POND SPRING NEAR HILDRETH, FL

LOCATION.--Lat 29°57'33", long 82°45'36", in SE$^1/_4$ sec.13, T.6 S., R.15 E., Columbia County, Hydrologic Unit 03110206, on left bank in the Ichetucknee River Springs State Park, about 600 ft upstream from east bank of the Ichetucknee River, 1.2 mi downstream from Ichetucknee Head Spring, 2.1 mi upstream from bridge on U.S. Highway 27, and 3.0 mi northeast of Hildreth.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--1946, 1975 (miscellaneous discharge measurement), February 2002 to September 2003.

GAGE.--Water-stage recorder. Datum of gage is 18.76 ft above National Geodetic Vertical Datum of 1929. Auxiliary water-stage recorder at bridge on U. S. Highway 27, 2.1 mi downstream from base gage at National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	17	17	16	15	15	16	16
2	---	---	---	---	---	17	17	16	15	15	16	16
3	---	---	---	---	---	17	17	16	15	15	16	16
4	---	---	---	---	---	17	17	16	15	15	16	16
5	---	---	---	---	---	17	17	15	15	15	16	16
6	---	---	---	---	---	17	17	15	15	16	16	16
7	---	---	---	---	---	17	17	15	15	16	16	16
8	---	---	---	---	---	17	17	16	15	16	16	16
9	---	---	---	---	---	17	17	15	15	16	16	16
10	---	---	---	---	---	18	17	15	15	16	16	16
11	---	---	---	---	---	18	17	15	15	16	15	16
12	---	---	---	---	---	18	16	15	15	16	15	16
13	---	---	---	---	---	18	16	15	15	16	16	16
14	---	---	---	---	17	18	16	15	15	16	15	16
15	---	---	---	---	17	18	16	15	15	16	15	16
16	---	---	---	---	17	18	16	15	15	16	16	16
17	---	---	---	---	17	18	16	15	15	16	15	16
18	---	---	---	---	17	18	16	15	15	16	16	16
19	---	---	---	---	17	18	16	15	15	16	16	16
20	---	---	---	---	17	18	16	15	15	16	16	16
21	---	---	---	---	17	18	16	15	15	16	16	16
22	---	---	---	---	17	18	16	14	15	16	16	16
23	---	---	---	---	17	18	16	14	15	16	16	16
24	---	---	---	---	17	18	16	14	15	16	16	16
25	---	---	---	---	17	18	16	14	15	16	16	16
26	---	---	---	---	17	18	16	14	15	16	16	16
27	---	---	---	---	17	18	16	14	15	16	16	16
28	---	---	---	---	17	18	16	14	15	16	16	16
29	---	---	---	---	---	18	16	14	15	16	16	16
30	---	---	---	---	---	17	16	14	15	16	16	16
31	---	---	---	---	---	17	---	14	---	16	16	---
TOTAL	---	---	---	---	---	547	491	460	450	491	491	480
MEAN	---	---	---	---	---	17.6	16.4	14.8	15.0	15.8	15.8	16.0
MAX	---	---	---	---	---	18	17	16	15	16	16	16
MIN	---	---	---	---	---	17	16	14	15	15	15	16
MED	---	---	---	---	---	18	16	15	15	16	16	16
AC-FT	---	---	---	---	---	1,080	974	912	893	974	974	952

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	17.6	16.4	14.8	15.0	15.8	15.8	16.0
MAX	---	---	---	---	---	17.6	16.4	14.8	15.0	15.8	15.8	16.0
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)
MIN	---	---	---	---	---	17.6	16.4	14.8	15.0	15.8	15.8	16.0
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

02322695 MILL POND SPRING NEAR HILDRETH, FL—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	15	15	14	17	19	72	25	29	33	34	34
2	16	15	15	14	17	19	72	25	29	34	34	34
3	16	15	15	14	17	19	71	25	30	34	34	34
4	16	15	15	14	17	19	69	25	30	34	34	34
5	16	15	15	14	17	19	67	25	30	34	34	34
6	16	15	15	15	17	19	64	25	30	34	34	34
7	16	15	15	15	17	19	60	25	30	34	34	34
8	16	15	15	15	18	19	56	25	30	34	34	34
9	16	15	14	15	18	20	53	25	30	34	34	34
10	16	15	14	15	18	23	49	25	31	34	34	34
11	16	15	14	15	17	28	45	25	31	34	34	34
12	16	16	14	15	18	35	43	26	31	34	34	34
13	16	15	15	15	18	44	42	26	31	35	33	34
14	16	15	14	15	18	52	41	26	32	35	33	34
15	16	15	14	15	18	59	41	26	32	34	33	34
16	16	15	14	15	17	63	40	26	32	34	33	34
17	16	15	14	15	17	67	40	27	32	34	33	34
18	16	15	14	16	17	70	39	28	32	34	33	34
19	16	15	14	16	18	72	38	28	32	34	33	35
20	16	15	14	16	18	74	37	27	33	34	33	35
21	16	15	14	16	18	76	36	28	33	34	33	35
22	16	15	14	16	18	76	34	28	33	35	33	35
23	16	15	14	16	18	76	31	28	33	34	33	35
24	16	15	14	16	18	75	29	28	33	34	33	35
25	16	15	14	16	19	74	28	28	33	34	33	35
26	16	15	14	16	19	73	27	28	33	34	33	35
27	16	15	14	16	19	73	27	28	33	34	33	35
28	16	15	14	17	19	73	26	28	33	34	33	35
29	16	15	14	17	---	73	26	29	33	34	33	35
30	16	15	14	17	---	73	25	29	33	34	33	35
31	15	---	14	17	---	73	---	29	---	34	33	---
TOTAL	495	451	443	478	497	1,574	1,328	826	947	1,056	1,035	1,032
MEAN	16.0	15.0	14.3	15.4	17.8	50.8	44.3	26.6	31.6	34.1	33.4	34.4
MAX	16	16	15	17	19	76	72	29	33	35	34	35
MIN	15	15	14	14	17	19	25	25	29	33	33	34
MED	16	15	14	15	18	63	41	26	32	34	33	34
AC-FT	982	895	879	948	986	3,120	2,630	1,640	1,880	2,090	2,050	2,050

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	16.0	15.0	14.3	15.4	17.8	34.2	30.3	20.7	23.3	25.0	24.6	25.2
MAX	16.0	15.0	14.3	15.4	17.8	50.8	44.3	26.6	31.6	34.1	33.4	34.4
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	16.0	15.0	14.3	15.4	17.8	17.6	16.4	14.8	15.0	15.8	15.8	16.0
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL TOTAL	10,162			
ANNUAL MEAN	27.8		27.8	
HIGHEST ANNUAL MEAN			27.8	2003
LOWEST ANNUAL MEAN			27.8	2003
HIGHEST DAILY MEAN	76	Mar 21	76	Mar 21, 2003
LOWEST DAILY MEAN	14	Dec 9	14	May 22, 2002
ANNUAL SEVEN-DAY MINIMUM	14	Dec 14	14	May 22, 2002
MAXIMUM PEAK FLOW	76	Mar 21	76	Mar 21, 2003
MAXIMUM PEAK STAGE	5.58	Mar 22	5.58	Mar 22, 2003
INSTANTANEOUS LOW FLOW	14	Dec 8	14	May 21, 2002
ANNUAL RUNOFF (AC-FT)	20,160		20,170	
10 PERCENT EXCEEDS	39		39	
50 PERCENT EXCEEDS	27		27	
90 PERCENT EXCEEDS	15		15	

02322698 ICHETUCKNEE RIVER AT DAMPIER'S LANDING NEAR HILDRETH, FL

LOCATION.--Lat 29°57'37", long 82°46'20", in SW¼ sec.13, T.6 S., R.15 E., Columbia County, Hydrologic Unit 03110206, on the left bank, 1.2 mi upstream from bridge on U.S. Highway 27, 1.9 mi from mouth, 2.1 mi downstream from Ichetucknee Head Spring, and 2.2 mi east of Hildreth.

DRAINAGE AREA.--208 mi^2.

PERIOD OF RECORD.--1993 (Miscellaneous discharge measurement), February 2002 to September 2003.

GAGE.--Water-stage recorder. Datum of gage is 8.62 ft above National Geodetic Vertical Datum of 1929. Auxiliary water-stage recorder at bridge on U.S. Highway 129, 8.0 mi below base gage, at datum 3.5 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	194	216	201	191	199	199	204
2	---	---	---	---	---	210	215	200	190	199	201	203
3	---	---	---	---	---	209	216	200	190	206	202	203
4	---	---	---	---	---	200	215	200	189	205	202	200
5	---	---	---	---	---	199	214	198	198	202	200	199
6	---	---	---	---	---	202	212	197	204	202	199	199
7	---	---	---	---	---	204	211	196	195	201	199	199
8	---	---	---	---	---	206	211	197	196	201	198	199
9	---	---	---	---	---	208	211	196	195	203	198	199
10	---	---	---	---	---	208	211	196	197	202	198	199
11	---	---	---	---	---	208	211	196	196	201	196	199
12	---	---	---	---	---	211	209	195	196	201	199	200
13	---	---	---	---	---	213	210	195	198	204	199	202
14	---	---	---	---	189	213	211	196	198	203	198	202
15	---	---	---	---	191	214	210	195	197	203	202	202
16	---	---	---	---	193	214	210	196	195	202	199	201
17	---	---	---	---	192	215	208	196	195	203	198	201
18	---	---	---	---	191	215	208	197	198	203	198	200
19	---	---	---	---	192	216	207	197	197	204	201	200
20	---	---	---	---	194	217	207	195	196	206	199	200
21	---	---	---	---	194	218	206	194	196	205	201	200
22	---	---	---	---	194	215	205	193	197	203	200	200
23	---	---	---	---	193	216	204	193	197	203	199	199
24	---	---	---	---	191	217	203	193	197	202	199	201
25	---	---	---	---	192	218	204	192	198	202	198	202
26	---	---	---	---	194	218	204	191	197	202	200	203
27	---	---	---	---	194	217	203	190	197	202	204	202
28	---	---	---	---	192	215	201	190	202	200	206	200
29	---	---	---	---	---	215	201	189	202	200	203	201
30	---	---	---	---	---	217	201	191	200	199	205	202
31	---	---	---	---	---	217	---	190	---	199	206	---
TOTAL	---	---	---	---	---	6,559	6,255	6,045	5,894	6,267	6,206	6,021
MEAN	---	---	---	---	---	212	208	195	196	202	200	201
MAX	---	---	---	---	---	218	216	201	204	206	206	204
MIN	---	---	---	---	---	194	201	189	189	199	196	199
MED	---	---	---	---	---	214	209	196	197	202	199	200
AC-FT	---	---	---	---	---	13,010	12,410	11,990	11,690	12,430	12,310	11,940
CFSM	---	---	---	---	---	1.02	1.00	0.94	0.94	0.97	0.96	0.96
IN.	---	---	---	---	---	1.17	1.12	1.08	1.05	1.12	1.11	1.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	212	208	195	196	202	200	201
MAX	---	---	---	---	---	212	208	195	196	202	200	201
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)
MIN	---	---	---	---	---	212	208	195	196	202	200	201
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

02322698 ICHETUCKNEE RIVER AT DAMPIER'S LANDING NEAR HILDRETH, FL—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	202	204	217	233	250	282	181	274	367	352	363	311
2	202	204	217	230	250	284	181	287	366	369	364	322
3	202	204	217	230	250	281	183	301	367	380	363	329
4	202	205	218	231	253	250	184	312	371	379	363	338
5	202	206	219	232	251	216	184	320	366	378	364	343
6	201	208	219	233	252	195	182	329	365	376	364	348
7	202	206	219	234	261	180	182	339	366	376	370	348
8	202	206	219	236	252	166	182	351	365	375	369	351
9	203	207	221	238	255	154	182	364	364	374	362	354
10	203	209	222	239	255	141	180	378	364	374	345	352
11	203	207	219	238	254	138	173	383	364	374	329	345
12	202	214	219	238	254	146	169	382	365	373	320	336
13	202	212	224	239	255	164	166	379	366	372	314	327
14	203	210	220	240	256	185	163	378	365	372	310	319
15	208	210	220	240	258	199	162	377	365	370	307	316
16	205	221	220	241	265	203	161	376	365	369	301	321
17	202	214	220	242	261	200	161	375	365	369	294	335
18	201	211	219	241	260	199	161	377	368	368	291	356
19	202	211	220	242	261	195	162	376	366	366	288	381
20	202	212	222	244	263	196	163	373	369	365	289	399
21	202	216	220	244	266	200	167	372	368	364	294	397
22	202	214	221	246	270	204	172	373	367	367	293	395
23	202	213	221	246	270	203	177	372	368	365	289	394
24	203	213	228	244	269	201	185	371	369	364	281	392
25	203	214	225	244	272	197	195	370	355	363	276	392
26	203	215	223	245	274	193	204	369	338	363	272	391
27	203	215	223	245	283	189	216	368	329	363	272	389
28	203	215	224	247	278	189	230	368	338	362	277	387
29	204	215	225	248	---	186	245	368	333	362	290	386
30	212	217	226	249	---	186	261	368	339	363	295	385
31	205	---	233	250	---	184	---	367	---	363	301	---
TOTAL	6,293	6,328	6,860	7,449	7,298	6,106	5,514	11,097	10,823	11,430	9,810	10,739
MEAN	203	211	221	240	261	197	184	358	361	369	316	358
MAX	212	221	233	250	283	284	261	383	371	380	370	399
MIN	201	204	217	230	250	138	161	274	329	352	272	311
MED	202	211	220	241	259	195	181	370	365	369	301	352
AC-FT	12,480	12,550	13,610	14,780	14,480	12,110	10,940	22,010	21,470	22,670	19,460	21,300
CFSM	0.98	1.01	1.06	1.16	1.25	0.95	0.88	1.72	1.73	1.77	1.52	1.72
IN.	1.13	1.13	1.23	1.33	1.31	1.09	0.99	1.98	1.94	2.04	1.75	1.92

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	203	211	221	240	261	204	196	276	279	285	258	279
MAX	203	211	221	240	261	212	208	358	361	369	316	358
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	203	211	221	240	261	197	184	195	196	202	200	201
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL TOTAL	99,747			
ANNUAL MEAN	273		273	
HIGHEST ANNUAL MEAN			273	2003
LOWEST ANNUAL MEAN			273	2003
HIGHEST DAILY MEAN	399	Sep 20	399	Sep 20, 2003
LOWEST DAILY MEAN	138	Mar 11	138	Mar 11, 2003
ANNUAL SEVEN-DAY MINIMUM	156	Mar 7	156	Mar 7, 2003
MAXIMUM PEAK FLOW	401	Sep 20	401	Sep 20, 2003
MAXIMUM PEAK STAGE	15.68	Mar 22	15.68	Mar 22, 2003
INSTANTANEOUS LOW FLOW	137	Mar 11	137	Mar 11, 2003
ANNUAL RUNOFF (AC-FT)	197,800		198,000	
ANNUAL RUNOFF (CFSM)	1.31		1.31	
ANNUAL RUNOFF (INCHES)	17.84		17.85	
10 PERCENT EXCEEDS	372		372	
50 PERCENT EXCEEDS	250		250	
90 PERCENT EXCEEDS	189		189	

02322699 COFFEE SPRINGS NEAR HILDRETH, FL

LOCATION.--Lat 29°57'33", long 82°46'31", in NW$^1/_4$ sec.12, T.6 S., R.15 E., Suwannee County, Hydrologic Unit 03110206, on the right bank of Ichetucknee River in Ichetucknee Springs State Park, 0.7 mi upstream from bridge at U.S. Highway 27, 1.7 mi east of Hildreth, and 2.6 mi downstream from Ichetucknee Head Spring.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--May 2002 to August 2003 (discharge measurements and gage-height only).

GAGE.--Nonrecording gage. Elevation of gage is 17.25 ft above National Geodetic Vertical Datum of 1929 (levels by Suwannee River Water Management District).

REMARKS.--Spring becomes fully or partially submerged by Ichetucknee River.

EXTREMES FOR PERIOD OF RECORD.--Maximum measured discharge, 1.92 ft 3/s, July 2, 2003; maximum observed gage height, 18.26 ft, May 9, 2003; minimum measured discharge, .386 ft 3/s, May 31, 2003; minimum observed gage height, 16.81 ft, May 31, 2003.

EXTREMES FOR CURRENT PERIOD OF RECORD.--Maximum measured discharge, 1.92 ft 3/s, July 2, 2003; maximum observed gage height, 18.26 ft, May 9, 2003; minimum measured discharge, .386 ft 3/s, May 31, 2003; minimum observed gage height, 16.81 ft, May 31, 2003.

DISCHARGE MEASUREMENTS, MAY 2002 TO SEPTEMBER 2003

DATE	TIME	STREAM STAGE	DISCHARGE IN FT3/S
May 31, 2002	1355	16.81	.39
Aug. 27, 2002	1815	16.86	.48
Oct. 22, 2002	1620	16.84	1.0
Dec. 2, 2002	1620	16.89	1.2
May 9, 2003	1400	18.26	1.9
July 2, 2003	1540	18.23	1.6
Aug. 8, 2003	1440	*	1.5

* Reference point submerged

02322700 ICHETUCKNEE RIVER AT HIGHWAY 27 NEAR HILDRETH, FL

LOCATION.--Lat 29°57'37", long 82°46'20", in SW$^1/_4$ sec.13, T.6 S., R.15 E., Columbia County, Hydrologic Unit 03110206, on the downstream side of bridge on U.S. Highway 27, 1.0 mi east of Hildreth, 1.5 mi upstream from mouth, and 3.0 mi downstream from Ichetucknee Head Spring.

DRAINAGE AREA.--213 mi^2.

PERIOD OF RECORD.--1917, 1989, 1991 (miscellaneous discharge measurements), October 1929 to September 1983 and October 1995 to September 1998 (discharge measurements), February 2002 to September 2003. Published as Ichetucknee Springs near Hildreth, 1989, October 1995 to September 1996, 1998.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Auxiliary water-stage recorder at bridge on U.S. Highway 129, 7.0 mi below base gage, at datum 3.5 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum measured, 578 ft^3/s, Apr. 29, 1948; maximum gage height, 34.05 ft, Apr, 12, 1948 (backwater from Sante Fe River).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	183	195	184	192	208	203	215
2	---	---	---	---	---	199	194	183	192	206	204	212
3	---	---	---	---	---	199	194	185	194	212	204	208
4	---	---	---	---	---	189	193	184	194	210	204	209
5	---	---	---	---	214	188	194	182	201	206	204	209
6	---	---	---	---	216	191	194	182	206	205	204	207
7	---	---	---	---	202	193	195	182	198	203	204	206
8	---	---	---	---	185	194	196	182	199	203	203	206
9	---	---	---	---	186	196	194	181	199	205	201	207
10	---	---	---	---	186	195	195	184	199	205	200	206
11	---	---	---	---	185	196	195	183	199	206	199	205
12	---	---	---	---	185	197	195	183	198	205	202	203
13	---	---	---	---	184	198	195	185	199	208	202	204
14	---	---	---	---	185	199	196	186	199	208	201	203
15	---	---	---	---	184	200	195	184	199	207	206	203
16	---	---	---	---	183	200	194	185	198	207	204	202
17	---	---	---	---	182	200	194	186	199	205	203	200
18	---	---	---	---	182	200	193	188	202	205	205	199
19	---	---	---	---	182	200	193	188	201	205	208	199
20	---	---	---	---	182	200	192	190	201	207	206	198
21	---	---	---	---	183	201	190	190	202	207	207	198
22	---	---	---	---	183	199	189	189	203	206	207	198
23	---	---	---	---	186	198	189	190	203	205	206	196
24	---	---	---	---	183	199	188	191	203	205	208	198
25	---	---	---	---	184	199	188	191	204	204	211	198
26	---	---	---	---	184	197	187	190	204	204	213	200
27	---	---	---	---	182	197	186	189	203	204	216	197
28	---	---	---	---	182	196	185	188	208	203	219	194
29	---	---	---	---	---	197	185	188	210	203	216	193
30	---	---	---	---	---	195	184	191	210	202	218	193
31	---	---	---	---	---	195	---	192	---	202	218	---
TOTAL	---	---	---	---	---	6,090	5,757	5,776	6,019	6,371	6,406	6,066
MEAN	---	---	---	---	---	196	192	186	201	206	207	202
MAX	---	---	---	---	---	201	196	192	210	212	219	215
MIN	---	---	---	---	---	183	184	181	192	202	199	193
MED	---	---	---	---	---	197	194	186	200	205	204	202
AC-FT	---	---	---	---	---	12,080	11,420	11,460	11,940	12,640	12,710	12,030
CFSM	---	---	---	---	---	0.92	0.90	0.87	0.94	0.96	0.97	0.95
IN.	---	---	---	---	---	1.06	1.01	1.01	1.05	1.11	1.12	1.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	196	192	186	201	206	207	202
MAX	---	---	---	---	---	196	192	186	201	206	207	202
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)
MIN	---	---	---	---	---	196	192	186	201	206	207	202
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

02322700 ICHETUCKNEE RIVER AT HIGHWAY 27 NEAR HILDRETH, FL—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	193	183	190	197	210	253	124	269	341	342	350	294
2	193	182	190	194	210	264	130	287	337	351	357	301
3	193	182	190	195	210	276	138	306	333	361	361	309
4	191	182	191	196	213	254	145	323	342	374	363	316
5	190	183	192	198	212	215	153	338	333	384	359	323
6	191	184	191	201	213	191	161	353	329	389	356	331
7	190	183	190	202	225	180	172	367	331	388	355	337
8	190	183	191	205	215	172	183	378	330	385	337	341
9	190	183	194	207	218	155	190	391	329	383	326	348
10	189	186	196	209	217	146	188	408	330	381	316	342
11	189	184	192	209	217	146	171	423	331	379	305	327
12	188	190	192	208	217	176	159	439	333	381	293	310
13	188	187	197	209	217	231	152	428	337	387	282	293
14	189	184	192	209	219	285	144	417	340	383	277	281
15	192	184	192	209	220	296	136	407	341	375	272	279
16	189	197	192	209	229	275	133	400	339	368	263	289
17	187	188	190	209	223	236	133	393	340	363	255	314
18	186	185	188	208	223	211	131	391	345	358	247	348
19	186	186	189	207	225	185	133	389	346	354	245	371
20	186	186	190	208	227	172	137	380	354	351	244	394
21	184	191	188	209	230	173	147	375	355	348	251	415
22	183	188	188	211	235	179	157	375	360	350	251	403
23	183	187	188	210	234	171	164	372	353	344	242	392
24	185	188	195	209	234	169	170	370	332	341	238	385
25	184	189	190	210	237	160	180	366	320	338	238	379
26	184	189	188	210	239	153	192	362	313	337	242	375
27	184	189	188	210	253	141	204	359	301	337	252	371
28	183	189	187	210	246	140	215	358	315	337	264	368
29	184	189	188	210	---	133	234	356	317	338	278	364
30	191	190	189	210	---	132	252	353	327	340	284	361
31	183	---	197	210	---	130	---	349	---	344	286	---
TOTAL	5,818	5,591	5,915	6,398	6,268	6,000	4,928	11,482	10,034	11,191	8,989	10,261
MEAN	188	186	191	206	224	194	164	370	334	361	290	342
MAX	193	197	197	211	253	296	252	439	360	389	363	415
MIN	183	182	187	194	210	130	124	269	301	337	238	279
MED	188	186	190	209	221	176	158	372	333	358	278	342
AC-FT	11,540	11,090	11,730	12,690	12,430	11,900	9,770	22,770	19,900	22,200	17,830	20,350
CFSM	0.88	0.87	0.90	0.97	1.05	0.91	0.77	1.74	1.57	1.69	1.36	1.61
IN.	1.02	0.98	1.03	1.12	1.09	1.05	0.86	2.01	1.75	1.95	1.57	1.79

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	188	186	191	206	224	195	178	278	268	283	248	272
MAX	188	186	191	206	224	196	192	370	334	361	290	342
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	188	186	191	206	224	194	164	186	201	206	207	202
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL TOTAL	92,875			
ANNUAL MEAN	254		254	
HIGHEST ANNUAL MEAN			254	2003
LOWEST ANNUAL MEAN			254	2003
HIGHEST DAILY MEAN	439	May 12	439	May 12, 2003
LOWEST DAILY MEAN	124	Apr 1	124	Apr 1, 2003
ANNUAL SEVEN-DAY MINIMUM	132	Mar 28	132	Mar 28, 2003
MAXIMUM PEAK FLOW	450	May 12	450	May 12, 2003
MAXIMUM PEAK STAGE	24.34	Mar 22	24.34	Mar 22, 2003
INSTANTANEOUS LOW FLOW	113	Mar 31	113	Mar 31, 2003
ANNUAL RUNOFF (AC-FT)	184,200		184,300	
ANNUAL RUNOFF (CFSM)	1.19		1.19	
ANNUAL RUNOFF (INCHES)	16.22		16.23	
10 PERCENT EXCEEDS	371		371	
50 PERCENT EXCEEDS	217		217	
90 PERCENT EXCEEDS	175		175	

02322800 SANTA FE RIVER NEAR HILDRETH, FL

LOCATION.--Lat 29°54'41", long 82°51'38", in NE sec. 1, T. 7 S., R. 14 E., Gilchrist County, Hydrologic Unit 03110206, near left bank on downstream side of bridge of U.S. Highway 129 and State Highway 49, 1.7 mi upsteam from mouth, and 8.6 mi west of Fort White.

DRAINAGE AREA.--1,376 mi^2, approximately.

PERIOD OF RECORD.--October 1947 to October 2000 (gage heights only), November 2000 to current year. Published as "near Fort White (auxiliary)" prior to September 1965.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is 3.5 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 11, 1949, nonrecording gage at same sites and datum. Since October 1947 used as auxiliary gage for Santa Fe River near Fort White (station 02322500).

REMARKS.--Records fair. Maximum discharge, 1,420 ft^3/s, Oct. 1, gage height, 3.76 ft, occurred on recession following peak of Sept. 25, 2001; maximum independent peak discharge, 1,130 ft^3/s, Sept. 28, 2002, gage height, 3.31 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,070	996	1,040	1,290	1,210	1,780	2,540	2,070	1,410	2,560	e1,930	2,280
2	1,070	992	1,020	1,340	1,190	1,890	2,550	2,090	1,380	2,610	e1,970	2,280
3	1,070	974	1,020	1,340	1,180	1,850	2,560	1,950	1,380	2,530	e2,020	2,260
4	1,080	978	1,040	1,320	1,200	1,870	2,600	1,960	1,470	2,390	e2,210	2,200
5	1,060	967	1,060	1,310	1,200	2,160	2,780	1,910	1,420	2,270	e2,300	2,220
6	1,070	976	1,040	1,370	1,170	2,430	2,830	1,930	1,450	2,210	2,290	2,170
7	1,050	979	1,030	1,350	1,250	2,380	2,800	1,940	1,440	2,250	2,330	2,200
8	1,060	963	1,030	1,400	1,210	2,330	2,860	1,860	1,470	2,220	2,270	2,190
9	1,050	969	1,050	1,350	1,220	2,360	2,940	1,860	1,450	2,180	2,050	2,130
10	1,040	982	1,060	1,350	1,270	2,400	2,890	1,790	1,440	2,170	2,060	2,140
11	1,060	962	1,090	1,310	1,290	2,650	2,760	1,790	1,490	e2,130	2,150	2,160
12	1,050	982	1,070	1,290	1,300	3,180	2,520	1,820	1,550	2,090	2,190	2,130
13	1,050	1,000	1,080	1,280	1,310	3,630	2,260	1,720	1,630	2,020	2,200	2,140
14	1,030	974	1,110	1,280	1,340	4,030	2,180	1,650	1,630	2,040	2,130	2,160
15	1,050	957	1,100	1,260	1,360	4,190	2,090	1,650	1,640	2,000	2,180	2,180
16	1,080	1,020	1,100	1,250	1,410	4,010	2,150	1,620	1,720	1,940	2,200	2,170
17	1,060	1,100	1,100	1,260	1,490	3,720	2,160	1,570	1,770	e1,870	2,170	2,080
18	1,060	1,070	1,110	1,240	1,520	3,420	2,130	1,540	1,800	e1,840	2,220	2,070
19	1,040	1,020	1,110	1,230	1,600	3,320	2,180	1,540	1,890	e1,800	2,290	2,010
20	1,020	990	1,140	1,230	1,720	3,150	2,120	1,490	1,950	e1,850	2,240	1,940
21	1,020	989	1,130	1,230	1,830	2,970	2,140	1,450	1,880	e1,860	2,260	1,900
22	1,020	1,010	1,110	1,260	1,940	3,030	2,440	1,490	1,900	e1,870	2,330	1,870
23	1,010	1,000	1,090	1,210	1,970	3,190	2,350	1,490	2,040	e1,860	2,300	1,860
24	1,030	987	1,110	1,220	1,920	3,070	2,210	1,420	2,190	e1,850	2,310	1,820
25	1,000	982	1,140	1,200	1,880	2,990	2,190	1,440	2,360	e1,810	2,360	1,820
26	1,000	1,010	1,120	1,210	1,850	2,820	2,230	1,400	2,460	e1,800	2,420	1,800
27	1,010	1,020	1,110	1,210	1,900	2,850	2,080	1,410	2,520	e1,800	2,480	1,760
28	1,020	1,020	1,110	1,230	1,820	2,790	2,090	1,390	2,630	e1,820	2,490	1,750
29	1,010	1,010	1,140	1,200	---	2,570	2,010	1,380	2,650	e1,820	2,460	1,700
30	1,030	1,020	1,170	1,230	---	2,530	2,050	1,370	2,570	e1,830	2,450	1,680
31	1,010	---	1,200	1,210	---	2,540	---	1,350	---	e1,880	2,370	---
TOTAL	32,280	29,899	33,830	39,460	41,550	88,100	71,690	51,340	54,580	63,170	69,630	61,070
MEAN	1,041	997	1,091	1,273	1,484	2,842	2,390	1,656	1,819	2,038	2,246	2,036
MAX	1,080	1,100	1,200	1,400	1,970	4,190	2,940	2,090	2,650	2,610	2,490	2,280
MIN	1,000	957	1,020	1,200	1,170	1,780	2,010	1,350	1,380	1,800	1,930	1,680
AC-FT	64,030	59,300	67,100	78,270	82,410	174,700	142,200	101,800	108,300	125,300	138,100	121,100
CFSM	0.76	0.73	0.79	0.93	1.08	2.07	1.74	1.21	1.32	1.48	1.63	1.48
IN.	0.87	0.81	0.92	1.07	1.12	2.39	1.94	1.39	1.48	1.71	1.89	1.65

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	1,121	1,098	1,081	1,092	1,152	1,526	1,373	1,153	1,182	1,301	1,473	1,412
MAX	1,202	1,222	1,119	1,273	1,484	2,842	2,390	1,656	1,819	2,038	2,246	2,036
(WY)	(2002)	(2001)	(2001)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	1,041	997	1,032	980	957	837	828	815	825	909	987	961
(WY)	(2003)	(2003)	(2002)	(2001)	(2001)	(2001)	(2001)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL TOTAL	348,752		636,599			
ANNUAL MEAN	955		1,744		1,357	
HIGHEST ANNUAL MEAN					1,744	2003
LOWEST ANNUAL MEAN					971	2002
HIGHEST DAILY MEAN	1,200	Dec 31	4,190	Mar 15	4,190	Mar 15, 2003
LOWEST DAILY MEAN	743	Sep 14	957	Nov 15	589	Mar 28, 2001
ANNUAL SEVEN-DAY MINIMUM	783	May 22	971	Nov 5	616	Mar 24, 2001
MAXIMUM PEAK FLOW			4,920	Mar 15	4,920	Mar 15, 2003
MAXIMUM PEAK STAGE			20.58	Mar 22	30.69	Apr 12, 1948
INSTANTANEOUS LOW FLOW			874	Nov 5	54	Jul 30, 2001
ANNUAL RUNOFF (AC-FT)	691,700		1,263,000		983,300	
ANNUAL RUNOFF (CFSM)	0.70		1.27		0.99	
ANNUAL RUNOFF (INCHES)	9.44		17.24		13.42	
10 PERCENT EXCEEDS	1,060		2,530		2,240	
50 PERCENT EXCEEDS	976		1,770		1,060	
90 PERCENT EXCEEDS	818		1,020		868	

e Estimated

02323000 SUWANNEE RIVER NEAR BELL, FL

LOCATION.--Lat 29°47'28", long 82°55'28", in NW¼ sec. 16, T. 8 S., R. 14 E., Gilchrist County, Hydrologic Unit 03110205, on downstream side of bridge on State Road 340, 4.5 mi northwest of Bell, 10.4 mi downstream from Santa Fe River, and 55 mi upstream from mouth.

DRAINAGE AREA.--9,390 mi^2, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD.--June 1932 to November 1956, November 1975 to October 1977 (annual maximum elevation), November 1996 to January 1999 (gage-heights only), October 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Suwannee River Water Management District). June 1, 1932 to Nov. 16, 1956, water-stage recorder at site .4 mi downstream at datum 3.60 ft higher, Nov. 18, 1975 to Oct. 10, 1977, nonrecording gage at present site at datum 3.60 ft higher, Nov. 1, 1996 to Jan. 31, 1999 and since Aug. 3, 2000, water-stage recorder at present site and datum.

REMARKS.--Records fair, except for estimated daily discharge which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 28, 1928, reached a stage of 25.9 ft, from floodmarks; discharge, 74,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,690	2,660	5,390	7,300	5,520	8,510	27,500	14,500	8,290	11,900	9,680	e13,100
2	2,740	2,690	5,200	7,380	5,400	9,250	27,300	14,100	8,120	11,600	9,950	e12,900
3	2,830	2,800	5,090	7,520	5,330	10,200	27,100	13,800	7,940	11,400	10,100	e12,800
4	2,840	2,970	4,990	7,610	5,370	11,300	26,800	13,400	8,060	11,100	10,300	e12,700
5	2,840	3,130	4,960	7,760	5,230	12,400	26,400	13,200	7,920	10,800	10,500	e12,700
6	2,830	3,360	4,810	7,960	5,080	13,300	25,800	12,900	7,740	10,600	10,500	e12,600
7	2,830	3,000	4,560	8,040	5,310	14,100	25,100	12,600	7,680	10,600	10,700	e12,500
8	2,860	2,940	4,450	8,160	5,180	14,800	24,400	12,300	7,810	10,500	11,000	e12,500
9	2,860	3,110	4,430	8,330	5,200	15,700	23,600	12,000	7,980	10,500	11,300	12,300
10	2,750	3,380	4,510	8,460	5,460	16,600	22,800	11,700	8,290	10,600	11,600	12,300
11	2,750	3,400	4,550	8,460	5,620	17,900	22,200	11,400	8,560	10,600	11,900	12,400
12	2,710	3,410	4,400	8,380	e5,300	19,400	21,800	11,100	8,800	10,600	e12,300	12,500
13	2,640	3,400	4,550	8,280	e5,400	20,800	21,500	10,700	9,040	10,500	e12,400	12,700
14	2,540	3,200	4,650	8,190	5,880	22,100	21,400	10,400	9,250	10,300	e12,500	12,900
15	2,690	3,360	4,460	8,020	6,040	23,300	21,300	10,000	9,340	10,000	e12,600	13,000
16	2,760	3,790	4,510	7,850	6,220	24,400	21,200	9,720	9,370	9,750	e12,600	12,900
17	2,600	4,010	4,590	7,760	6,370	25,400	21,200	9,420	9,380	9,510	e12,600	12,600
18	2,510	3,780	4,710	7,490	6,320	26,000	21,100	9,130	9,460	9,290	e12,500	12,200
19	2,480	3,890	4,810	7,330	6,430	26,600	20,900	8,930	9,600	9,080	e12,500	11,700
20	2,600	4,240	5,030	7,170	6,680	27,200	20,700	8,730	9,770	8,900	e12,500	11,200
21	2,670	4,750	4,910	7,030	6,930	27,600	20,300	8,500	9,930	8,740	e12,600	10,700
22	e2,870	5,180	4,960	6,900	7,260	27,800	19,800	8,450	10,100	8,640	e12,700	10,300
23	e2,730	5,430	5,070	6,710	7,490	27,900	19,100	8,540	10,400	8,530	e12,800	9,930
24	e2,720	5,660	5,310	6,370	7,450	27,800	18,300	8,490	10,800	8,390	e13,200	9,590
25	e2,740	5,820	5,620	6,190	7,560	27,700	17,600	8,520	11,300	8,270	e13,600	9,270
26	e2,760	5,850	5,510	6,100	7,720	27,500	17,000	8,600	11,700	8,250	e13,600	9,050
27	e2,730	5,750	5,700	5,990	8,010	27,500	16,300	8,650	12,000	8,330	e13,600	8,830
28	e2,800	5,630	6,010	5,830	8,210	27,500	15,800	8,650	12,100	8,480	e13,500	8,640
29	e2,770	5,480	6,290	5,770	---	27,500	15,300	8,600	12,200	8,710	e13,500	8,440
30	e2,760	5,450	6,570	5,720	---	27,500	14,900	8,530	12,100	9,010	e13,300	8,210
31	e2,810	---	6,880	5,640	---	27,500	---	8,420	---	9,320	e13,200	---
TOTAL	84,710	121,520	157,480	225,700	173,970	663,060	644,500	323,980	285,030	302,800	375,630	343,460
MEAN	2,733	4,051	5,080	7,281	6,213	21,390	21,480	10,450	9,501	9,768	12,120	11,450
MAX	2,870	5,850	6,880	8,460	8,210	27,900	27,500	14,500	12,200	11,900	13,600	13,100
MIN	2,480	2,660	4,400	5,640	5,080	8,510	14,900	8,420	7,680	8,250	9,680	8,210
MED	2,750	3,590	4,960	7,490	5,960	24,400	21,300	9,720	9,350	9,750	12,500	12,300
AC-FT	168,000	241,000	312,400	447,700	345,100	1,315,000	1,278,000	642,600	565,400	600,600	745,100	681,300
CFSM	0.29	0.43	0.54	0.78	0.66	2.28	2.29	1.11	1.01	1.04	1.29	1.22
IN.	0.34	0.48	0.62	0.89	0.69	2.63	2.55	1.28	1.13	1.20	1.49	1.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2003, BY WATER YEAR (WY)

MEAN	8,022	7,047	6,591	7,781	8,352	11,060	12,470	8,160	6,130	6,379	8,096	8,523
MAX	18,550	34,280	32,940	26,750	21,170	33,390	59,430	20,050	10,740	10,400	22,260	19,960
(WY)	(1948)	(1948)	(1948)	(1948)	(1948)	(1948)	(1948)	(1948)	(1948)	(1946)	(1945)	(1945)
MIN	2,733	2,805	2,537	2,454	2,506	3,544	3,882	2,818	2,403	2,303	2,175	2,646
(WY)	(2003)	(2002)	(2002)	(2002)	(2002)	(1955)	(1955)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1932 - 2003	
ANNUAL TOTAL	1,195,960		3,701,840			
ANNUAL MEAN	3,277		10,140		8,249	
HIGHEST ANNUAL MEAN					24,140	1948
LOWEST ANNUAL MEAN					3,013	2002
HIGHEST DAILY MEAN	7,070	Mar 13	27,900	Mar 23	82,300	Apr 13, 1948
LOWEST DAILY MEAN	2,050	Aug 9	2,480	Oct 19	2,050	Aug 9, 2002
ANNUAL SEVEN-DAY MINIMUM	2,100	Aug 8	2,600	Oct 14	2,100	Aug 8, 2002
MAXIMUM PEAK FLOW			28,000	Mar 23	82,300	Apr 13, 1948
MAXIMUM PEAK STAGE			20.36	Mar 23	27.43	Apr 13, 1948
INSTANTANEOUS LOW FLOW			2,390	Oct 19	1,920	Aug 9, 2002
ANNUAL RUNOFF (AC-FT)	2,372,000		7,343,000		5,976,000	
ANNUAL RUNOFF (CFSM)	0.35		1.08		0.88	
ANNUAL RUNOFF (INCHES)	4.74		14.67		11.94	
10 PERCENT EXCEEDS	5,550		21,000		15,200	
50 PERCENT EXCEEDS	2,650		8,650		6,460	
90 PERCENT EXCEEDS	2,230		2,990		3,480	

e Estimated

02323500 SUWANNEE RIVER NEAR WILCOX, FL

LOCATION.--Lat 29°35'22", long 82°56'12", in NW1/4 sec.29, T. 10 S., R. 14 E., Levy County, Hydrologic Unit 03110205, on left bank about 400 ft downstream from Fort Fannin Bridge on U.S. Highway 19, 2.0 mi southwest of Wilcox, and 33 mi upstream from mouth.

DRAINAGE AREA.--9,671 mi^2, revised, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD.--October 1930 to September 1931, October 1941 to current year. Monthly discharge only for some periods, published in WSP 1304.

REVISED RECORDS.--WSP 1905: WDR FL-75-1: Drainage area. WDR FL-97-4: 1996.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is 0.53 ft below National Geodetic Vertical Datum of 1929. Prior to July 4, 1931, nonrecording gage at site 400 ft upstream at present datum. July 4 to Sept. 30, 1931, and Mar. 26 to May 14, 1942, water-stage recorder, and May 15, 1942 to Jan. 24, 1951, nonrecording gage at present site and datum. Feb. 1, 1951 to Dec. 9, 1999, auxiliary water-stage recorder about 9.0 mi downstream from base gage. Datum of auxiliary gage is 2.99 ft below National Geodetic Vertical Datum of 1929. Water-current meter since Dec. 9, 1999.

REMARKS.--No estimated daily discharges. Records fair. Flow generally affected by tide when discharge is less than 17,500 ft^3/s. Discharge computed from continuous velocity record obtained from water-current meter.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,200	3,050	5,850	7,110	5,830	7,980	24,400	13,700	8,920	12,900	9,980	13,700
2	2,950	3,090	5,450	7,270	5,430	8,980	24,700	13,300	8,910	12,500	10,300	13,400
3	3,080	2,950	5,230	7,910	5,010	9,760	24,200	12,800	8,530	12,500	10,600	13,300
4	2,940	2,680	5,010	7,910	5,080	10,800	23,400	11,300	8,670	12,300	10,700	13,000
5	3,170	2,760	5,150	7,640	5,540	12,100	23,500	11,200	8,700	12,000	10,900	12,700
6	3,360	3,800	5,510	8,080	5,020	13,000	23,800	10,700	8,500	11,600	11,100	12,700
7	3,090	3,750	4,920	8,210	5,570	13,800	23,200	11,000	8,280	11,400	11,000	12,700
8	3,130	3,060	4,610	8,030	5,510	14,900	22,800	12,500	8,550	11,300	11,200	12,600
9	3,180	2,980	4,690	8,030	5,190	15,800	21,400	12,200	8,710	11,300	11,500	12,500
10	3,210	3,200	4,570	8,280	5,540	16,900	21,200	12,000	8,960	11,200	11,900	12,400
11	3,160	3,380	5,140	8,490	5,790	18,000	20,300	11,600	8,980	11,300	12,300	12,400
12	3,120	3,710	4,770	8,550	5,940	19,000	19,500	11,400	9,300	11,300	12,500	12,500
13	3,030	4,580	4,110	8,410	5,890	18,800	19,300	11,200	9,700	11,300	12,700	12,500
14	3,050	3,470	5,550	8,250	5,610	19,600	19,300	10,700	9,930	11,100	12,900	12,800
15	2,720	3,410	4,940	8,150	5,760	20,600	18,800	10,300	10,100	11,000	13,000	13,100
16	3,500	3,710	4,700	7,620	5,760	22,500	18,500	10,100	10,100	10,600	13,300	13,000
17	2,990	4,980	4,460	8,270	6,400	23,300	18,400	9,680	10,100	10,200	13,300	12,800
18	3,110	4,580	4,650	7,630	6,510	24,200	18,500	9,370	10,100	9,990	13,600	12,400
19	2,500	4,150	4,490	7,430	6,120	25,300	18,400	9,170	10,200	9,830	13,700	11,900
20	2,770	4,550	5,130	7,030	6,520	25,700	18,500	9,260	10,400	9,690	13,600	11,500
21	2,670	5,150	5,220	6,620	6,550	26,400	18,200	9,060	10,800	9,330	13,700	10,800
22	3,000	5,670	4,740	6,710	6,630	26,900	18,000	9,150	10,800	9,240	13,600	10,100
23	3,040	6,100	4,950	7,590	7,800	27,200	17,600	9,290	11,000	9,100	13,700	9,870
24	2,890	5,900	4,850	6,870	7,050	26,300	17,100	9,510	11,400	8,890	13,900	9,370
25	2,890	6,160	6,330	5,770	7,180	23,900	16,400	9,200	12,000	8,940	14,000	9,060
26	3,020	6,180	5,950	6,050	7,290	21,500	16,000	9,260	12,600	8,940	14,200	8,890
27	2,960	6,160	5,940	6,080	7,450	24,400	15,500	9,210	12,900	8,940	14,200	8,600
28	2,620	6,220	6,340	5,710	7,850	24,900	15,000	9,280	12,900	8,960	14,300	8,350
29	2,660	5,870	6,270	5,490	---	24,500	14,400	9,300	13,200	9,080	14,100	8,560
30	2,960	5,530	6,350	5,490	---	25,600	13,700	9,220	13,100	9,310	14,100	8,060
31	3,350	---	6,360	5,700	---	25,200	---	9,010	---	9,550	13,900	---
TOTAL	93,320	130,780	162,230	226,380	171,820	617,820	584,000	324,970	306,340	325,590	393,780	345,560
MEAN	3,010	4,359	5,233	7,303	6,136	19,930	19,470	10,480	10,210	10,500	12,700	11,520
MAX	3,500	6,220	6,360	8,550	7,850	27,200	24,700	13,700	13,200	12,900	14,300	13,700
MIN	2,500	2,680	4,110	5,490	5,010	7,980	13,700	9,010	8,280	8,890	9,980	8,060
IN.	0.36	0.50	0.63	0.87	0.66	2.38	2.25	1.25	1.18	1.26	1.52	1.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2003, BY WATER YEAR (WY)

MEAN	8,493	7,443	7,792	9,777	12,320	15,300	15,470	10,830	8,323	8,106	8,955	8,997
MAX	25,810	33,030	32,630	27,320	27,450	40,960	57,260	28,690	21,690	17,550	22,190	27,910
(WY)	(1965)	(1948)	(1948)	(1948)	(1998)	(1998)	(1948)	(1973)	(1959)	(1973)	(1991)	(1964)
MIN	3,010	3,207	2,581	2,169	2,401	3,638	4,557	3,098	2,462	2,421	2,610	3,272
(WY)	(2003)	(2002)	(2002)	(2002)	(2002)	(2000)	(2002)	(2002)	(2000)	(2000)	(2000)	(2002)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1931 - 2003	
ANNUAL TOTAL	1,292,090		3,682,590			
ANNUAL MEAN	3,540		10,090		10,140	
HIGHEST ANNUAL MEAN					24,560	1948
LOWEST ANNUAL MEAN					3,275	2002
HIGHEST DAILY MEAN	7,470	Mar 10	27,200	Mar 23	84,700	Apr 14, 1948
LOWEST DAILY MEAN	1,070	Feb 6	2,500	Oct 19	1,070	Feb 6, 2002
ANNUAL SEVEN-DAY MINIMUM	1,920	Jan 8	2,820	Oct 19	1,920	Jan 8, 2002
MAXIMUM PEAK FLOW			29,200	Mar 24	84,700	Apr 14, 1948
MAXIMUM PEAK STAGE			12.65	Mar 27	22.32	Apr 14, 1948
INSTANTANEOUS LOW FLOW			271	Nov 6	271	Nov 6, 2002
ANNUAL RUNOFF (INCHES)	4.99		14.21		14.29	
10 PERCENT EXCEEDS	5,860		18,500		18,300	
50 PERCENT EXCEEDS	3,020		9,210		8,050	
90 PERCENT EXCEEDS	2,380		3,290		4,420	

02323500 SUWANNEE RIVER NEAR WILCOX, FL—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.40	2.40	3.00	4.44	3.17	4.47	12.52	8.05	4.99	6.66	5.38	7.24
2	2.81	2.39	2.79	4.11	3.05	4.86	12.51	7.86	4.82	6.61	5.52	7.13
3	3.00	2.72	2.91	4.27	3.20	5.05	12.49	7.65	4.75	6.47	5.63	7.05
4	3.08	3.10	3.03	3.79	3.40	5.47	12.45	7.47	5.02	6.28	5.72	7.01
5	3.04	3.44	3.34	3.99	2.84	6.00	12.37	7.32	4.83	6.08	5.75	6.98
6	2.93	3.53	2.84	4.14	2.72	6.40	12.25	7.22	4.65	5.93	5.77	6.90
7	2.97	2.14	2.30	3.80	3.14	6.77	12.08	7.09	4.68	5.88	5.84	6.78
8	3.10	2.29	2.28	3.98	2.49	7.04	11.87	6.91	4.86	5.82	6.01	6.74
9	2.99	2.77	2.37	4.20	2.55	7.48	11.64	6.72	4.66	5.79	6.21	6.72
10	2.75	3.25	2.71	4.39	3.12	7.92	11.37	6.54	4.64	5.81	6.38	6.67
11	2.81	3.04	2.80	4.19	2.89	8.31	11.07	6.42	4.82	5.87	6.48	6.65
12	2.72	2.88	2.21	3.98	2.99	8.75	10.82	6.31	5.03	5.93	6.62	6.70
13	2.55	2.20	3.18	3.97	2.93	9.18	10.65	6.09	5.21	5.94	6.69	6.82
14	2.33	1.83	2.71	3.99	3.14	9.65	10.53	5.90	5.28	5.93	6.64	6.93
15	2.90	2.74	2.15	4.03	3.64	10.13	10.46	5.83	5.29	5.82	6.65	6.98
16	2.72	3.56	2.41	4.92	3.91	10.59	10.41	5.71	5.33	5.64	6.80	6.97
17	2.50	3.15	2.61	4.24	3.93	11.10	10.40	5.55	5.32	5.50	6.92	6.80
18	2.09	1.99	2.90	3.71	3.53	11.49	10.38	5.41	5.35	5.37	7.00	6.63
19	2.54	2.43	3.04	3.83	3.56	11.79	10.35	5.32	5.51	5.23	7.04	6.49
20	2.86	2.61	3.53	3.82	3.74	12.04	10.29	5.11	5.61	5.10	7.07	6.23
21	3.08	3.15	2.55	3.89	3.91	12.27	10.20	4.88	5.57	4.94	7.09	6.08
22	3.00	3.29	2.92	3.91	4.46	12.43	10.08	4.94	5.55	4.95	7.11	6.00
23	2.77	2.86	2.90	3.62	4.33	12.54	9.89	5.05	5.62	4.99	7.14	5.93
24	2.86	3.11	3.53	2.84	3.78	12.58	9.65	4.87	5.79	4.93	7.20	5.75
25	2.81	3.30	3.71	2.96	3.81	12.58	9.45	4.84	6.00	4.84	7.26	5.60
26	2.70	3.23	2.60	3.11	3.94	12.56	9.32	4.89	6.20	4.80	7.35	5.55
27	2.57	3.02	2.69	2.97	4.32	12.58	9.06	4.89	6.41	4.80	7.44	5.48
28	2.71	2.79	2.76	2.90	4.35	12.62	8.74	4.86	6.60	4.88	7.51	5.41
29	2.77	2.60	3.08	3.13	---	12.58	8.44	4.88	6.81	5.02	7.50	5.11
30	3.31	3.16	3.48	3.33	---	12.57	8.21	4.92	6.73	5.17	7.45	4.77
31	2.54	---	4.01	3.32	---	12.55	---	4.96	---	5.25	7.36	---
TOTAL	86.21	84.97	89.34	117.77	96.84	302.35	319.95	184.46	161.93	172.23	206.53	192.10
MEAN	2.78	2.83	2.88	3.80	3.46	9.75	10.66	5.95	5.40	5.56	6.66	6.40
MAX	3.31	3.56	4.01	4.92	4.46	12.62	12.52	8.05	6.81	6.66	7.51	7.24
MIN	2.09	1.83	2.15	2.84	2.49	4.47	8.21	4.84	4.64	4.80	5.38	4.77

CAL YR 2002 TOTAL 957.76 MEAN 2.62 MAX 4.01 MIN 1.15
WTR YR 2003 TOTAL 2,014.68 MEAN 5.52 MAX 12.62 MIN 1.83

02323502 FANNING SPRING NEAR WILCOX, FL

LOCATION.--Lat 29°35'20", long 82°56'00", in NW 1/4 sec. 29, T. 10 S., R.14 E., Levy County, Hydrologic Unit 03110205, on left bank of spring run, .75 mi downstream of spring vent, and 1.8 mi southwest of Wilcox.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1930 to June 1998 (miscellaneous discharge measurements), June 2001 to current year.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Discharge computed from continuous velocity record obtained from water-current meter. Flow affected by tide. The Suwannee River flow can back up into the spring run during periods of high flow producing negative velocities and discharges. Flows recorded during these periods could contain a mixture of river and spring flow, or be totally river flow.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	98	e70	62	110	77	e-80	e10	91	83	63	59
2	91	95	e60	76	113	69	e-85	e23	92	85	61	55
3	88	90	e78	71	109	67	e-90	e35	93	73	54	51
4	84	82	89	87	99	28	e-94	e43	86	66	51	49
5	89	68	82	78	123	-25	e-97	e51	91	59	53	41
6	92	68	95	78	131	-43	e-102	59	92	68	54	35
7	87	99	93	89	111	-42	e-104	68	93	61	58	42
8	82	97	106	83	129	-44	e-106	79	97	54	52	41
9	88	90	110	74	125	-7.7	e-107	82	e92	59	55	31
10	92	70	95	72	104	-14	e-108	76	90	58	65	35
11	94	80	100	74	120	-38	e-108	85	76	52	59	33
12	100	85	112	84	115	-78	e-107	84	66	75	54	35
13	96	97	87	85	121	-74	e-106	82	62	76	58	30
14	105	93	105	83	108	-56	e-105	87	55	65	59	34
15	80	84	105	84	94	-46	e-103	88	58	62	61	38
16	95	61	103	81	81	-6.3	e-100	95	51	58	63	38
17	93	89	103	83	85	e-76	e-96	99	69	60	60	38
18	99	103	96	96	102	e-73	e-91	99	67	62	61	34
19	85	99	92	90	97	e-68	e-85	101	59	63	61	34
20	87	96	77	92	92	e-66	e-87	106	68	79	56	28
21	79	e80	109	89	88	e-64	e-71	106	74	82	57	34
22	82	e65	97	87	75	e-63	e-63	101	72	80	54	42
23	91	e60	98	100	80	e-62	e-53	98	64	77	51	48
24	94	e75	77	131	97	e-61	e-44	100	69	82	53	56
25	90	e65	75	122	94	e-62	e-35	97	74	84	57	62
26	99	e65	107	109	88	e-63	e-26	94	85	89	65	62
27	100	e60	114	122	80	e-64	e-20	96	90	87	57	64
28	92	e60	116	124	83	e-66	e-13	96	93	81	56	66
29	95	e55	102	113	---	e-68	e-5.0	92	96	74	59	74
30	75	e65	92	105	---	e-72	e3.0	92	88	69	57	86
31	103	---	76	105	---	e-76	---	91	---	64	57	---
MEAN	91.4	79.8	94.2	91.3	102	-39.9	-76.3	81.1	78.4	70.5	57.5	45.8
MAX	106	103	116	131	131	77	3.0	106	97	89	65	86
MIN	75	55	60	62	75	-78	-108	10	51	52	51	28
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)												
MEAN	72.2	63.2	70.5	71.1	78.7	-9.16	-16.5	65.9	51.9	54.0	59.2	56.1
MAX	91.4	79.8	94.2	91.3	102	21.6	43.2	81.1	78.4	70.5	63.2	67.3
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2003)	(2003)	(2003)	(2002)	(2001)
MIN	53.0	46.6	46.8	50.9	55.4	-39.9	-76.3	50.6	28.5	37.6	57.0	45.8
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2003)	(2003)	(2002)	(2001)	(2001)	(2001)	(2003)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL MEAN	59.1		56.2		52.6	
HIGHEST ANNUAL MEAN					56.2	2003
LOWEST ANNUAL MEAN					49.1	2002
HIGHEST DAILY MEAN	116	Dec 28	131	Jan 24	131	Jan 24, 2003
LOWEST DAILY MEAN	-23	Mar 13	e-108	Apr 10	e-108	Apr 10, 2003
ANNUAL SEVEN-DAY MINIMUM	-2.5	Mar 12	-107	Apr 8	-107	Apr 8, 2003
MAXIMUM PEAK FLOW					202	Jul 27, 2001
MAXIMUM PEAK STAGE			12.66	Mar 27	12.66	Mar 27, 2003
10 PERCENT EXCEEDS	95		103		95	
50 PERCENT EXCEEDS	59		75		59	
90 PERCENT EXCEEDS	26		-62		9.9	

e Estimated

02323505 LITTLE FANNING SPRINGS NEAR WILCOX, FL

LOCATION.--Lat 29°35'15", long 82°56'08", in NW 1/4 sec. 29, T 10 S., R. 14 E., Levy County, Hydrologic Unit 03110205, at head of springs in Fanning Springs Sate Park, 500 ft southeast of Fanning Spring, 0.3 mi downstream from U.S. Highway 19 bridge, and1.8 mi southwest of Wilcox.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--1985 (miscellaneous measurement), October 2002 to September 2003 (discharge measurements).

GAGE.--Non recording gage. Datum of gage not determined.

EXTREMES FOR PERIOD OF RECORD.--Maximum measured discharge, 26 ft^3/s, May 8, 2003; minimum measured discharge, 6.4 ft^3/s, Jan. 18, 1985.

EXTREMES FOR CURRENT YEAR.-- Maximum measured discharge, 26 ft^3/s, May 8; minimum measured discharge 18 ft^3/s, June 25.

DISCHARGE MEASUREMENTS, OCTOBER 2002 TO SEPTEMBER 2003

DATE	TIME	STREAM STAGE	DISCHARGE IN FT3/S
May 8	1130	*	26
May 28	1030	*	20
June 25	1140	*	18
Sept. 10	1400	*	24

* Not available

02323566 MANATEE SPRING NEAR CHIEFLAND, FL

LOCATION.--Lat 29°29'24", long 82°58'37", in SE 1/4 sec. 26, T. 11 S., R.13 E., Levy County, Hydrologic Unit 03110205, on left bank of Suwannee River at Manatee Spring State Park, and 7.2 mi west of Chiefland.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--March 1932 to June 1998 (miscellaneous measurements), January 2001 to current year.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Flow affected by tide. Discharge computed from continuous velocity record obtained from water-current meter.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	97	102	104	94	104	101	99	103	107	112	105
2	99	97	93	110	106	106	101	94	103	97	112	105
3	99	101	99	98	115	108	98	100	102	101	112	105
4	99	108	112	93	105	107	101	103	102	100	109	104
5	102	98	111	91	104	106	100	93	101	104	108	104
6	98	101	114	95	101	107	101	105	102	99	109	105
7	103	99	106	97	102	97	98	107	105	100	108	106
8	101	101	101	86	101	95	111	98	101	100	106	104
9	94	101	101	110	105	99	104	102	103	100	108	e113
10	100	104	98	101	102	104	93	111	e104	101	106	e130
11	101	105	108	92	96	107	97	106	e104	103	106	e138
12	102	108	103	93	90	107	98	97	e104	102	106	135
13	102	102	97	103	99	114	101	99	e105	98	104	134
14	96	e101	111	102	97	104	101	99	e103	96	106	132
15	101	99	98	101	108	91	100	105	e102	92	106	132
16	e100	102	108	99	113	109	99	105	e100	e90	106	132
17	110	107	97	105	108	91	100	98	e103	e93	105	135
18	103	103	100	93	102	95	100	101	e105	96	103	135
19	101	103	86	97	99	96	95	104	e97	98	105	135
20	104	104	93	103	92	97	93	101	e89	101	104	138
21	102	104	95	108	95	97	100	101	e91	109	105	137
22	98	e100	100	108	88	96	101	110	e92	121	105	136
23	94	e102	93	118	93	107	87	103	e92	119	104	136
24	95	104	116	97	96	103	99	101	e93	118	105	137
25	93	100	104	102	109	99	99	100	94	119	105	139
26	104	96	107	97	106	99	91	104	95	118	104	139
27	97	97	90	101	102	99	93	102	106	118	103	139
28	96	e98	96	97	107	100	101	105	102	117	105	139
29	99	e99	104	96	---	99	93	102	100	112	104	145
30	100	100	111	99	---	100	103	105	104	111	e107	149
31	100	---	90	103	---	101	---	103	---	111	107	---
MEAN	99.8	101	101	100	101	101	98.6	102	100	105	106	127
MAX	110	108	116	118	115	114	111	111	106	121	112	149
MIN	93	96	86	86	88	91	87	93	89	90	103	104

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	103	103	103	105	104	101	98.2	101	94.2	98.0	99.4	107
MAX	106	104	104	111	111	104	102	102	100	105	108	127
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2003)	(2003)	(2003)	(2001)	(2003)
MIN	99.8	101	101	100	99.4	97.1	94.3	99.2	85.2	84.3	84.3	84.4
(WY)	(2003)	(2003)	(2003)	(2003)	(2001)	(2001)	(2001)	(2001)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL MEAN	97.4		104		101	
HIGHEST ANNUAL MEAN					104	2003
LOWEST ANNUAL MEAN					98.3	2002
HIGHEST DAILY MEAN	169	Jan 4	149	Sep 30	169	Jan 4, 2002
LOWEST DAILY MEAN	78	Jun 11	86	Dec 19	78	Jun 11, 2002
ANNUAL SEVEN-DAY MINIMUM	82	Sep 8	92	Jun 20	82	Sep 8, 2002
MAXIMUM PEAK FLOW			204	Dec 5	234	Jan 4, 2002
MAXIMUM PEAK STAGE			8.37	Mar 27	8.37	Mar 27, 2003
INSTANTANEOUS LOW FLOW			13	Oct 26	13	Oct 26, 2002
10 PERCENT EXCEEDS	111		112		113	
50 PERCENT EXCEEDS	98		102		101	
90 PERCENT EXCEEDS	83		94		85	

e Estimated

02323592 SUWANNEE RIVER ABOVE GOPHER RIVER NEAR SUWANNEE, FL

LOCATION.-- Lat 29°20'19", long 83°05'13", in NE¼ sec. 22, T. 13S., R. 12E., Dixie County, Hydrologic Unit 03110205, on right bank, 0.6 mi downstream of Flag Creek, 1.9 mi upstream of Gopher River, 4.8 mi upstream of the town of Suwannee, and 7.6 mi above the mouth.

DRAINAGE AREA.--9,973 mi^2, revised.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.-- June 1999 to current year.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is 2.10 ft below National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow affected by tide.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,740	2,930	6,700	9,140	6,770	8,450	31,400	16,000	9,030	12,100	9,640	14,800
2	1,910	2,790	5,350	7,750	6,030	9,780	30,200	16,300	9,250	13,100	10,600	13,900
3	2,660	2,490	5,700	9,210	5,740	10,700	29,900	15,000	7,470	13,200	10,200	13,700
4	2,540	2,940	5,250	8,090	6,130	11,000	29,500	14,900	e8,790	12,800	11,000	13,500
5	2,500	2,540	6,160	8,040	6,390	12,000	30,300	13,600	e9,010	12,100	10,900	13,800
6	2,400	6,310	6,730	8,560	4,930	13,100	30,300	14,000	e8,680	11,300	11,000	14,400
7	2,160	4,090	5,470	8,630	6,440	14,500	29,400	14,200	e7,410	11,300	11,100	13,300
8	2,640	2,830	4,660	7,910	5,840	14,700	29,200	13,800	e7,900	11,300	11,200	13,100
9	2,720	2,930	5,380	8,050	5,200	15,200	27,900	13,300	e8,280	11,300	11,500	13,200
10	1,910	3,690	3,880	8,590	5,530	16,300	28,400	12,500	9,020	11,100	12,600	13,200
11	2,220	3,680	5,910	9,260	5,790	16,900	27,200	11,900	9,000	10,900	12,600	13,200
12	2,270	3,970	4,710	9,200	6,430	17,800	25,500	12,500	9,260	11,100	13,000	12,400
13	1,600	6,000	3,540	8,200	6,270	18,300	24,700	12,300	9,460	10,700	14,000	12,700
14	2,290	2,030	7,130	8,120	5,040	19,700	24,500	11,500	9,840	10,600	14,300	13,200
15	2,430	1,350	4,440	8,510	6,470	20,600	23,700	10,600	9,600	11,200	12,700	13,600
16	4,490	5,470	4,930	6,990	6,850	21,500	22,800	10,500	9,950	10,500	13,200	14,200
17	2,790	8,060	4,530	9,900	8,320	22,700	22,200	10,200	10,100	10,200	13,500	13,700
18	2,530	4,120	5,470	7,330	7,680	26,300	22,700	9,220	9,550	10,300	14,100	12,400
19	1,720	4,860	4,210	8,010	6,560	25,900	23,300	9,820	10,300	9,800	13,900	12,700
20	2,520	4,160	6,920	7,880	6,930	27,100	22,800	10,600	12,500	9,660	13,700	11,800
21	2,670	5,230	5,600	7,420	6,140	29,200	22,400	9,000	11,500	9,060	13,900	11,500
22	3,080	6,610	5,630	7,290	5,180	30,300	22,500	8,560	11,600	9,230	13,900	10,300
23	2,890	5,870	5,250	8,300	10,700	30,500	22,900	10,100	11,700	8,510	13,800	11,300
24	2,970	5,890	5,170	6,770	7,930	32,300	20,600	9,420	12,000	9,200	14,400	10,600
25	2,880	6,160	7,820	6,120	7,890	31,300	18,300	8,940	12,200	9,300	14,600	9,970
26	6,520	6,310	6,130	5,920	7,730	30,600	19,700	9,340	12,300	9,350	14,500	9,610
27	3,210	6,130	5,870	6,840	8,040	30,100	20,400	9,600	12,700	9,060	13,800	9,230
28	2,390	6,350	6,180	5,550	9,490	31,500	19,000	9,680	12,000	8,620	14,600	9,660
29	1,570	4,800	5,780	5,490	---	31,500	17,500	8,990	13,700	8,520	14,400	9,780
30	4,250	5,370	5,890	6,050	---	32,200	16,600	9,160	13,100	9,090	15,000	8,490
31	3,580	---	6,550	6,690	---	33,600	---	8,590	---	9,430	14,900	---
MEAN	2,711	4,532	5,579	7,736	6,730	22,120	24,530	11,420	10,240	10,450	12,990	12,240
MAX	6,520	8,060	7,820	9,900	10,700	33,600	31,400	16,300	13,700	13,200	15,000	14,800
MIN	1,570	1,350	3,540	5,490	4,930	8,450	16,600	8,560	7,410	8,510	9,640	8,490
MED	2,530	4,480	5,600	8,010	6,440	21,500	23,500	10,600	9,720	10,500	13,700	12,900
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)												
MEAN	4,368	3,953	4,054	4,741	4,490	9,681	11,010	5,710	5,398	5,667	6,406	6,189
MAX	6,044	4,532	5,579	7,736	6,730	22,120	24,530	11,420	10,240	10,450	12,990	12,240
(WY)	(2001)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	2,711	3,468	3,287	3,046	3,156	4,682	4,381	2,891	2,553	2,893	2,831	2,258
(WY)	(2003)	(2002)	(2002)	(2002)	(2002)	(2000)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL MEAN	3,560		10,950		6,059	
HIGHEST ANNUAL MEAN					10,950	2003
LOWEST ANNUAL MEAN					3,403	2002
HIGHEST DAILY MEAN	8,060	Nov 17	33,600	Mar 31	33,600	Mar 31, 2003
LOWEST DAILY MEAN	-335	Feb 6	1,350	Nov 15	-335	Feb 6, 2002
ANNUAL SEVEN-DAY MINIMUM	1,590	Sep 6	2,210	Oct 9	1,590	Sep 6, 2002
MAXIMUM PEAK FLOW			36,600	Apr 6	36,600	Apr 6, 2003
MAXIMUM PEAK STAGE			5.81	Nov 6	5.86	Jul 23, 2001
INSTANTANEOUS LOW FLOW			-17,800	Nov 6	-17,800	Nov 6, 2002
10 PERCENT EXCEEDS	6,070		22,400		11,100	
50 PERCENT EXCEEDS	3,040		9,430		4,460	
90 PERCENT EXCEEDS	2,020		3,410		2,680	

e Estimated

02323592 SUWANNEE RIVER ABOVE GOPHER RIVER NEAR SUWANNEE, FL—Continued

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.94	0.74	0.37	1.73	0.46	1.11	2.13	2.17	1.57	2.12	1.53	1.83
2	1.53	0.60	0.27	1.21	0.38	1.31	2.51	1.84	1.23	2.10	1.51	1.83
3	1.55	1.08	0.45	1.13	0.76	0.95	2.71	1.95	1.58	1.77	1.66	1.90
4	1.56	1.49	0.78	0.35	1.04	1.21	2.89	1.79	---	1.60	1.52	2.20
5	1.46	1.96	1.17	0.80	0.06	1.61	2.89	1.95	---	1.39	1.42	2.22
6	1.26	1.63	0.30	0.87	0.30	1.59	2.78	1.98	---	1.37	1.35	1.75
7	1.38	0.09	-0.15	-0.16	0.68	1.36	2.80	1.81	---	1.45	1.51	1.70
8	1.55	0.57	0.07	0.59	-0.38	0.92	2.72	1.51	---	1.26	1.87	1.70
9	1.41	1.26	0.14	0.92	0.04	1.40	2.79	1.32	---	1.17	2.11	1.70
10	1.26	1.78	0.93	1.21	0.88	1.30	2.47	1.32	0.90	1.35	2.00	1.53
11	1.33	1.53	0.72	0.37	0.20	1.33	2.01	1.52	1.11	1.62	1.91	1.37
12	1.33	1.31	0.11	-0.16	0.20	1.40	1.99	1.46	1.45	1.76	1.94	1.67
13	1.08	-0.17	1.62	0.29	0.11	1.50	2.13	0.93	1.70	1.89	1.65	1.90
14	0.96	0.21	0.32	0.25	0.49	1.63	2.09	1.23	1.53	1.88	0.77	1.95
15	1.67	1.24	0.01	0.26	1.01	1.86	2.13	1.63	1.42	1.68	1.40	1.82
16	1.21	1.98	0.27	0.81	1.47	2.28	2.34	1.59	1.48	1.62	1.60	1.50
17	0.99	0.85	0.56	0.62	1.15	2.92	2.57	1.49	1.37	1.59	1.79	0.92
18	0.50	-0.32	0.75	0.20	0.52	2.90	2.56	1.60	1.57	1.50	1.64	1.39
19	1.14	0.23	1.08	0.42	0.74	3.12	2.37	1.58	1.80	1.45	1.65	1.44
20	1.40	0.50	1.30	0.58	0.90	3.07	2.27	1.05	1.53	1.29	1.68	1.31
21	1.67	0.97	0.10	0.96	1.24	3.00	2.25	1.03	1.35	1.21	1.67	1.68
22	1.45	0.83	0.68	1.12	2.17	2.76	2.18	1.45	1.17	1.33	1.75	2.16
23	1.21	0.10	0.69	0.25	1.00	2.66	1.68	1.35	1.13	1.59	1.88	2.05
24	1.36	0.56	1.76	-0.91	0.47	2.45	1.69	0.97	1.23	1.45	1.83	1.98
25	1.28	0.80	1.20	-0.10	0.48	2.43	2.35	1.02	1.28	1.28	1.89	1.93
26	0.93	0.62	-0.21	0.30	0.65	2.57	2.62	1.06	1.44	1.24	1.98	2.08
27	1.08	0.37	0.07	-0.25	1.22	2.85	2.00	1.02	1.68	1.28	2.26	2.16
28	1.36	0.01	-0.12	0.04	0.78	2.80	1.73	0.84	2.20	1.47	2.27	2.05
29	1.51	0.02	0.37	0.45	---	2.76	1.73	1.05	2.19	1.63	2.37	1.28
30	1.84	0.88	0.83	0.70	---	2.63	1.95	1.20	2.00	1.62	2.15	1.13
31	0.85	---	1.58	0.66	---	1.88	---	1.52	---	1.50	2.07	---
MEAN	1.29	0.79	0.58	0.50	0.68	2.05	2.31	1.43	---	1.53	1.76	1.74
MAX	1.84	1.98	1.76	1.73	2.17	3.12	2.89	2.17	---	2.12	2.37	2.22
MIN	0.50	-0.32	-0.21	-0.91	-0.38	0.92	1.68	0.84	---	1.17	0.77	0.92

02323592 SUWANNEE RIVER ABOVE GOPHER RIVER NEAR SUWANNEE, FL—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1999 to current year.

REMARKS.--Water temperature records fair; salinity records poor. Water-quality measured at two elevations, 1.95 ft (top) and 10.02 ft (bottom) below NGVD of 1929.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.9	24.3	15.0	13.9	15.3	17.6	18.2	22.6	25.3	26.4	26.1	26.8
2	28.0	23.6	14.8	14.0	15.5	17.8	18.1	23.0	25.5	26.3	26.2	26.7
3	27.9	22.9	14.5	13.8	15.6	17.4	18.3	23.1	25.7	25.9	25.9	26.4
4	27.8	22.5	14.3	12.9	15.7	16.4	18.6	23.4	---	25.2	26.4	25.9
5	27.8	22.8	15.1	12.4	15.6	16.7	18.9	23.9	---	25.1	26.4	25.5
6	28.1	23.1	15.2	12.2	15.5	17.1	19.3	24.3	---	25.6	26.2	25.3
7	28.1	22.0	14.8	11.9	16.1	17.7	19.7	24.5	---	26.0	26.1	25.4
8	28.2	21.5	14.9	11.8	15.8	16.9	20.1	24.8	---	26.3	26.0	25.3
9	28.0	21.4	15.3	12.0	14.9	16.4	20.2	25.0	---	26.7	25.6	25.3
10	27.9	21.8	15.5	12.3	15.1	16.8	19.1	25.3	---	27.1	25.7	25.3
11	27.9	22.4	15.9	12.1	15.6	17.9	18.3	25.5	26.8	27.3	26.2	25.2
12	27.9	22.6	15.7	11.7	15.6	18.2	18.5	25.6	27.0	27.1	26.1	25.2
13	27.4	22.1	15.9	11.3	15.7	18.6	19.1	25.2	27.2	26.5	26.3	25.1
14	26.8	21.4	15.6	11.2	15.8	18.9	19.4	25.3	27.3	25.9	26.4	25.2
15	26.0	21.0	15.0	11.3	16.0	19.1	19.4	24.8	26.8	25.8	26.5	25.3
16	25.2	20.6	14.5	11.6	16.4	19.2	19.4	24.6	26.9	25.8	26.5	25.4
17	24.6	19.5	14.5	12.0	16.4	19.5	19.5	24.9	26.9	26.0	26.8	25.1
18	23.8	18.3	14.7	11.6	16.1	20.0	19.8	25.2	26.6	26.4	26.9	24.8
19	23.3	17.7	15.2	11.4	16.1	20.4	20.2	25.5	26.5	26.8	26.8	---
20	23.2	17.6	15.9	11.7	16.6	21.1	20.7	25.7	25.6	26.7	26.4	24.5
21	23.3	17.9	16.0	12.2	17.2	21.4	20.9	25.1	25.2	26.7	26.4	24.7
22	23.6	18.2	15.7	12.7	17.6	21.1	21.3	24.4	25.8	26.4	26.4	24.7
23	23.9	17.8	15.7	13.5	17.5	20.8	21.3	23.7	26.0	26.1	26.1	24.6
24	24.2	17.1	15.9	12.7	17.4	20.6	21.1	24.1	26.7	26.3	26.2	24.5
25	24.4	16.7	15.8	12.2	17.5	20.5	21.0	24.7	26.9	25.9	26.5	24.6
26	24.7	16.2	14.8	12.5	17.8	20.6	21.1	25.1	26.8	26.0	26.6	24.3
27	25.0	15.9	14.2	12.6	18.0	20.5	21.3	25.4	27.0	26.0	26.6	24.3
28	25.2	15.7	14.1	12.7	18.0	20.2	21.6	25.6	27.0	26.0	26.8	24.5
29	25.4	15.2	13.7	13.3	---	20.5	22.0	25.4	26.4	26.4	26.8	23.9
30	25.5	14.9	13.5	14.0	---	20.0	22.5	25.5	26.5	26.3	26.8	23.1
31	25.0	---	13.5	14.7	---	18.7	---	25.7	---	26.2	26.7	---
MEAN	26.0	19.8	15.0	12.5	16.3	19.0	20.0	24.7	---	26.2	26.4	---
MAX	28.2	24.3	16.0	14.7	18.0	21.4	22.5	25.7	---	27.3	26.9	---
MIN	23.2	14.9	13.5	11.2	14.9	16.4	18.1	22.6	---	25.1	25.6	---

02323592 SUWANNEE RIVER ABOVE GOPHER RIVER NEAR SUWANNEE, FL—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.8	24.2	14.9	13.9	15.3	17.6	18.0	22.6	25.2	26.4	26.1	26.8
2	27.9	23.5	14.7	14.0	15.5	17.8	17.9	22.9	25.3	26.3	26.2	26.7
3	27.8	22.8	14.5	13.8	15.6	17.4	18.1	23.0	25.6	25.9	25.9	26.4
4	27.6	22.4	14.3	12.9	15.7	16.4	18.5	23.3	---	25.2	26.4	25.9
5	27.7	22.7	15.1	12.4	15.6	16.7	18.8	23.7	---	25.1	26.4	25.5
6	27.9	23.0	15.2	12.2	15.5	17.1	19.2	24.2	---	25.6	26.2	25.3
7	28.0	21.9	14.8	11.9	16.1	17.7	19.7	24.4	---	26.0	26.1	25.4
8	28.1	21.4	14.9	11.8	15.8	16.9	20.1	24.7	---	26.3	26.0	25.3
9	27.9	21.3	15.3	12.0	14.9	16.4	20.2	25.0	---	26.7	25.6	25.3
10	27.8	21.7	15.5	12.3	15.1	16.8	19.0	25.2	---	27.1	25.7	25.3
11	27.8	22.3	15.9	12.1	15.6	17.8	18.1	25.4	26.6	27.3	26.2	25.2
12	27.8	22.6	15.7	11.7	15.6	18.1	18.5	25.5	26.8	27.1	26.1	25.2
13	27.3	22.0	15.9	11.3	15.7	18.5	19.0	25.1	27.1	26.5	26.3	25.1
14	26.7	21.3	15.6	11.2	15.8	18.9	19.3	25.0	27.1	25.9	26.4	25.2
15	25.8	20.9	15.0	11.3	16.0	19.1	19.4	24.7	26.7	25.8	26.5	25.3
16	25.1	20.5	14.5	11.6	16.4	19.1	19.3	24.5	26.7	25.8	26.5	25.4
17	24.5	19.4	14.5	12.0	16.4	19.5	19.5	24.7	26.8	26.0	26.8	25.1
18	23.7	18.1	14.7	11.6	16.1	19.9	19.7	25.1	26.5	26.4	26.9	24.8
19	23.1	17.6	15.2	11.4	16.1	20.4	20.2	25.3	26.4	26.8	26.8	---
20	23.1	17.5	15.9	11.7	16.6	21.1	20.6	25.5	25.5	26.7	26.4	24.5
21	23.2	17.8	16.0	12.2	17.2	21.4	20.9	24.9	25.1	26.7	26.4	24.7
22	23.5	18.1	15.7	12.7	17.6	21.0	21.2	24.3	25.7	26.4	26.4	24.7
23	23.8	17.7	15.7	13.5	17.5	20.7	21.2	23.6	26.0	26.1	26.1	24.6
24	24.1	17.0	15.9	12.7	17.4	20.4	21.1	24.0	26.6	26.3	26.2	24.5
25	24.4	16.7	15.8	12.2	17.5	20.4	21.0	24.5	26.9	25.9	26.5	24.6
26	24.6	16.2	14.8	12.5	17.8	20.5	21.0	24.9	26.8	26.0	26.6	24.3
27	25.0	15.8	14.2	12.6	18.0	20.4	21.3	25.2	27.0	26.0	26.6	24.3
28	25.1	15.7	14.1	12.7	18.0	20.1	21.5	25.4	27.0	26.0	26.8	24.5
29	25.3	15.2	13.7	13.3	---	20.4	21.9	25.2	26.4	26.4	26.8	23.9
30	25.5	14.8	13.5	14.0	---	19.9	22.4	25.3	26.5	26.3	26.8	23.1
31	24.9	---	13.5	14.7	---	18.5	---	25.5	---	26.2	26.7	---
MEAN	25.9	19.7	15.0	12.5	16.3	18.9	19.9	24.6	---	26.2	26.4	---
MAX	28.1	24.2	16.0	14.7	18.0	21.4	22.4	25.5	---	27.3	26.9	---
MIN	23.1	14.8	13.5	11.2	14.9	16.4	17.9	22.6	---	25.1	25.6	---

SALINITY, WATER, UNFILTERED, PARTS PER THOUSAND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.17	0.17	0.10	0.08	0.13	0.08	0.04	0.11	0.13	0.06	0.11	0.08
2	0.18	0.17	0.10	0.08	0.14	0.08	0.04	0.11	0.13	0.07	0.10	0.08
3	0.17	0.17	0.10	0.08	0.14	0.07	0.04	0.11	0.13	0.08	0.09	0.08
4	0.17	0.17	0.11	0.08	0.14	0.06	0.04	0.12	---	0.08	0.09	0.08
5	0.17	0.20	0.11	0.07	0.14	0.06	0.05	0.12	---	0.09	0.08	0.09
6	0.17	1.7	0.11	0.07	0.14	0.05	0.05	0.12	---	0.10	0.08	0.09
7	0.17	0.17	0.12	0.07	0.14	0.05	0.05	0.12	---	0.10	0.09	0.09
8	0.17	0.17	0.12	0.07	0.14	0.04	0.05	0.12	---	0.11	0.09	0.09
9	0.17	0.16	0.12	0.07	0.14	0.04	0.06	0.12	---	0.11	0.09	0.09
10	0.17	0.16	0.12	0.07	0.14	0.04	0.06	0.12	---	0.10	0.08	0.09
11	0.17	0.16	0.13	0.07	0.14	0.04	0.07	0.12	0.15	0.10	0.08	0.09
12	0.17	0.16	0.13	0.07	0.14	0.04	0.07	0.12	0.14	0.10	0.07	0.09
13	0.17	0.15	0.13	0.07	0.14	0.04	0.07	0.13	0.13	0.09	0.06	0.08
14	0.16	0.15	0.13	0.07	0.13	0.04	0.07	0.13	0.12	0.09	0.06	0.07
15	0.16	0.15	0.14	0.07	0.13	0.04	0.06	0.13	0.11	0.10	0.06	0.07
16	0.16	0.14	0.14	0.08	0.12	0.03	0.06	0.14	0.10	0.10	0.06	0.06
17	0.17	0.13	0.14	0.08	0.12	0.03	0.06	0.14	0.10	0.11	0.06	0.07
18	0.17	0.14	0.14	0.09	0.11	0.03	0.06	0.14	0.10	0.12	0.06	0.07
19	0.17	0.14	0.13	0.09	0.11	0.03	0.05	0.15	0.10	0.12	0.06	---
20	0.17	0.14	0.13	0.10	0.11	0.04	0.06	0.15	0.09	0.12	0.06	0.09
21	0.17	0.14	0.13	0.10	0.11	0.04	0.06	0.15	0.09	0.13	0.06	0.10
22	0.17	0.13	0.13	0.10	0.11	0.04	0.06	0.15	0.09	0.13	0.06	0.11
23	0.17	0.12	0.13	0.11	0.10	0.04	0.07	0.15	0.09	0.13	0.07	0.12
24	0.17	0.11	0.12	0.12	0.09	0.04	0.08	0.15	0.09	0.13	0.07	0.12
25	0.17	0.10	0.12	0.12	0.09	0.04	0.08	0.15	0.07	0.13	0.07	0.13
26	0.17	0.09	0.11	0.12	0.09	0.04	0.09	0.15	0.07	0.13	0.07	0.13
27	0.17	0.09	0.11	0.12	0.09	0.04	0.09	0.15	0.06	0.13	0.06	0.14
28	0.17	0.09	0.11	0.13	0.08	0.04	0.10	0.14	0.06	0.13	0.06	0.14
29	0.17	0.09	0.11	0.13	---	---	0.10	0.14	0.05	0.13	0.06	0.14
30	0.18	0.09	0.10	0.13	---	---	0.11	0.13	0.06	0.13	0.07	0.14
31	0.17	---	0.09	0.13	---	---	---	0.13	---	0.12	0.07	---
MEAN	0.17	0.19	0.12	0.09	0.12	---	0.07	0.13	---	0.11	0.07	---
MAX	0.18	1.7	0.14	0.13	0.14	---	0.11	0.15	---	0.13	0.11	---
MIN	0.16	0.09	0.09	0.07	0.08	---	0.04	0.11	---	0.06	0.06	---

02323592 SUWANNEE RIVER ABOVE GOPHER RIVER NEAR SUWANNEE, FL—Continued

SALINITY, WATER, UNFILTERED, PARTS PER THOUSAND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.17	0.17	0.10	0.09	0.14	0.08	0.04	0.11	0.12	0.06	0.11	0.08
2	0.18	0.17	0.11	0.09	0.14	0.08	0.04	0.11	0.13	0.07	0.10	0.08
3	0.17	0.17	0.11	0.09	0.14	0.08	0.04	0.11	0.13	0.08	0.09	0.08
4	0.17	0.17	0.11	0.08	0.14	0.07	0.04	0.11	---	0.08	0.09	0.08
5	0.18	0.22	0.11	0.08	0.14	0.06	0.05	0.12	---	0.09	0.08	0.09
6	0.17	2.1	0.12	0.08	0.14	0.06	0.05	0.13	---	0.10	0.08	0.09
7	0.17	0.17	0.12	0.08	0.14	0.05	0.05	0.13	---	0.10	0.09	0.09
8	0.18	0.17	0.12	0.08	0.15	0.05	0.05	0.12	---	0.11	0.09	0.09
9	0.17	0.16	0.13	0.08	0.15	0.05	0.06	0.12	---	0.11	0.09	0.09
10	0.17	0.17	0.13	0.08	0.15	0.05	0.06	0.12	---	0.10	0.08	0.09
11	0.17	0.16	0.13	0.07	0.15	0.04	0.07	0.12	0.15	0.10	0.08	0.08
12	0.17	0.15	0.13	0.07	0.14	0.04	0.07	0.12	0.14	0.09	0.07	0.08
13	0.16	0.15	0.13	0.07	0.14	0.04	0.07	0.12	0.13	0.09	0.06	0.08
14	0.16	0.15	0.14	0.08	0.14	0.04	0.07	0.13	0.11	0.09	0.06	0.07
15	0.15	0.15	0.14	0.08	0.13	0.04	0.06	0.13	0.11	0.09	0.06	0.06
16	0.16	0.14	0.14	0.08	0.13	0.04	0.06	0.13	0.10	0.10	0.06	0.06
17	0.16	0.13	0.14	0.08	0.12	0.04	0.06	0.14	0.10	0.11	0.06	0.06
18	0.16	0.14	0.14	0.09	0.12	0.04	0.06	0.14	0.10	0.12	0.06	0.06
19	0.17	0.14	0.14	0.09	0.12	0.04	0.06	0.14	0.09	0.12	0.06	---
20	0.17	0.14	0.14	0.10	0.12	0.04	0.06	0.15	0.09	0.12	0.06	0.09
21	0.17	0.14	0.13	0.10	0.12	0.05	0.06	0.15	0.09	0.13	0.06	0.10
22	0.17	0.13	0.13	0.11	0.12	0.05	0.06	0.15	0.09	0.13	0.06	0.11
23	0.17	0.13	0.13	0.11	0.11	0.05	0.07	0.14	0.09	0.13	0.07	0.12
24	0.17	0.12	0.13	0.11	0.10	0.04	0.08	0.15	0.09	0.13	0.07	0.12
25	0.17	0.11	0.13	0.12	0.10	0.04	0.08	0.15	0.08	0.13	0.07	0.13
26	0.17	0.10	0.12	0.12	0.09	0.04	0.09	0.15	0.06	0.13	0.07	0.13
27	0.17	0.09	0.12	0.13	0.09	0.04	0.09	0.15	0.05	0.13	0.06	0.14
28	0.17	0.09	0.12	0.13	0.09	0.04	0.10	0.14	0.05	0.13	0.06	0.14
29	0.17	0.10	0.12	0.13	---	0.04	0.10	0.13	0.05	0.13	0.06	0.15
30	0.19	0.10	0.11	0.13	---	0.04	0.11	0.13	0.05	0.13	0.07	0.15
31	0.17	---	0.10	0.13	---	0.04	---	0.13	---	0.12	0.07	---
MEAN	0.17	0.21	0.12	0.10	0.13	0.05	0.07	0.13	---	0.11	0.07	---
MAX	0.19	2.1	0.14	0.13	0.15	0.08	0.11	0.15	---	0.13	0.11	---
MIN	0.15	0.09	0.10	0.07	0.09	0.04	0.04	0.11	---	0.06	0.06	---

02324000 STEINHATCHEE RIVER NEAR CROSS CITY, FL

LOCATION.--Lat 29°47'11", long 83°19'18", in NE$\frac{1}{4}$ sec. 16, T. 8 S., R. 10 E., Taylor County, Hydrologic Unit 03110102, on right bank 0.7 mi downstream from Atlantic Coast Line Railroad bridge, 0.7 mi south of Clara, 13 mi upstream from mouth, and 16 mi northwest of Cross City.

DRAINAGE AREA.--350 mi^2, approximately. See REMARKS.

PERIOD OF RECORD.--February 1950 to current year.

REVISED RECORDS.--WSP 1234: 1950. WSP 1724: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.84 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Below about 500 ft^3/s, all flow enters sinkhole 0.5 mi downstream from gage. Above about 4,000 ft^3/s, discharge measurements are made along U.S. Highways 19, 98, and Alternate 27, measurements include all flow from about 3 mi northwest to 5 mi southwest of main channel, drainage area is increased by about 30 mi^2.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	175	197	666	124	1,130	936	107	13	463	775	683
2	78	145	181	717	119	1,290	870	97	13	486	737	746
3	69	124	169	750	113	1,460	803	87	14	748	737	717
4	63	112	157	702	129	1,650	736	80	77	982	685	679
5	58	101	144	633	149	1,850	662	73	114	1,040	710	931
6	52	91	139	564	148	1,940	597	66	118	1,150	696	935
7	48	84	136	497	446	1,940	540	60	141	1,190	735	796
8	44	80	134	447	534	1,900	495	55	176	1,070	1,020	645
9	43	76	138	408	570	1,960	524	51	168	949	1,140	525
10	42	180	199	381	605	2,450	504	47	146	752	1,210	438
11	40	275	209	359	564	2,910	455	43	124	573	1,200	371
12	37	361	211	325	523	3,040	415	45	104	478	1,280	306
13	35	647	293	301	472	2,820	375	48	89	489	1,310	257
14	36	670	317	279	422	2,500	333	40	90	648	1,090	223
15	98	597	319	259	381	2,210	295	33	94	868	929	198
16	159	591	315	241	551	1,920	264	30	85	823	979	175
17	142	731	297	226	987	1,700	238	24	85	701	891	154
18	113	687	273	210	1,040	1,560	215	21	187	562	806	132
19	95	621	252	197	1,030	1,440	196	19	438	461	749	116
20	83	543	240	188	936	1,340	179	24	714	389	722	103
21	75	509	227	181	833	1,250	162	20	1,130	322	689	92
22	67	487	211	180	772	1,150	152	21	1,230	297	790	86
23	62	442	203	186	815	1,050	136	45	1,310	347	923	95
24	61	409	254	170	757	953	121	45	1,200	363	1,140	133
25	63	372	494	161	703	852	122	40	1,020	600	1,030	144
26	67	330	501	155	633	770	166	32	805	752	956	220
27	62	296	503	149	750	750	160	27	607	830	880	258
28	59	264	466	142	1,030	964	145	22	489	876	882	214
29	55	238	422	137	---	997	129	18	669	776	780	162
30	121	218	383	133	---	1,010	116	16	588	711	793	124
31	193	---	371	129	---	1,000	---	14	---	762	760	---
MEAN	74.4	349	270	325	576	1,605	368	43.5	401	692	904	355
MAX	193	731	503	750	1,040	3,040	936	107	1,310	1,190	1,310	935
MIN	35	76	134	129	113	750	116	14	13	297	685	86
IN.	0.25	1.11	0.89	1.07	1.72	5.29	1.17	0.14	1.28	2.28	2.98	1.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2003, BY WATER YEAR (WY)

MEAN	282	125	186	322	462	501	329	119	119	309	502	482
MAX	1,436	1,291	998	1,186	2,266	2,022	1,443	972	925	1,305	2,496	3,820
(WY)	(1958)	(1952)	(1954)	(1998)	(1998)	(1991)	(1982)	(1978)	(1957)	(1964)	(1970)	(1964)
MIN	16.0	6.34	6.15	12.4	13.0	15.1	8.21	4.45	2.37	2.99	4.75	29.5
(WY)	(1956)	(2000)	(2002)	(2000)	(1957)	(2000)	(2000)	(2001)	(2000)	(2000)	(1998)	(1956)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1950 - 2003	
ANNUAL MEAN	91.2		498		312	
HIGHEST ANNUAL MEAN					901	1964
LOWEST ANNUAL MEAN					35.4	1956
HIGHEST DAILY MEAN	731	Nov 17	3,040	Mar 12	16,400	Sep 14, 1964
LOWEST DAILY MEAN	3.9	Jun 22	13	Jun 1	1.5	Jun 13, 2000
ANNUAL SEVEN-DAY MINIMUM	4.1	Jun 11	16	May 28	1.6	Jun 8, 2000
MAXIMUM PEAK FLOW			3,080	Mar 12	17,600	Sep 13, 1964
MAXIMUM PEAK STAGE			14.87	Mar 12	18.90	Sep 13, 1964
INSTANTANEOUS LOW FLOW			12	Jun 1	1.4	Jun 11, 2000
ANNUAL RUNOFF (INCHES)	3.54		19.31		12.11	
10 PERCENT EXCEEDS	264		1,060		855	
50 PERCENT EXCEEDS	44		330		112	
90 PERCENT EXCEEDS	5.4		55		13	

02324400 FENHOLLOWAY RIVER NEAR FOLEY, FL

LOCATION.--Lat 30°05'53", long 83°28'19", in NE$^1/_4$ sec. 36, T. 4 S., R. 8 E., Taylor County, Hydrologic Unit 03110102, near left bank at downstream side of bridge on U.S. Highway 27, 1.8 mi upstream from small tributary, 4 mi northeast of Foley, and 32 mi upstream from mouth.

DRAINAGE AREA.--60 mi^2, approximately.

PERIOD OF RECORD.--February to August 1955 (discharge measurements only); September 1955 to current year.

REVISED RECORDS.--WSP 1905: Drainage area: WDR FL-92-4: 1991.

GAGE.--Water-stage recorder. Datum of gage is 53.59 ft above National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark).

REMARKS.--Records fair.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.5	1.2	33	2.9	164	164	28	2.9	97	112	178
2	2.3	2.0	1.1	34	2.6	497	151	26	2.7	129	117	179
3	2.3	1.6	1.0	32	2.3	529	139	24	2.6	198	132	172
4	2.1	1.3	1.1	31	2.3	488	129	22	7.7	219	153	163
5	1.8	1.2	1.4	29	2.7	451	120	19	14	208	176	156
6	1.7	1.2	1.8	26	2.4	420	112	18	16	182	258	148
7	1.5	1.1	2.3	23	20	399	104	16	25	158	323	139
8	1.5	0.97	2.2	20	28	400	96	14	44	140	476	130
9	1.5	0.88	2.4	18	26	662	93	12	48	124	445	121
10	1.3	0.83	4.9	17	28	907	92	11	48	110	352	112
11	1.2	0.80	7.7	15	28	759	91	9.8	50	98	281	103
12	1.0	1.0	6.9	14	26	646	87	8.7	47	87	230	94
13	0.93	3.4	8.7	12	23	571	82	7.6	42	89	202	86
14	0.89	4.1	11	11	20	543	76	6.8	40	125	176	79
15	0.97	3.3	9.6	10	18	514	70	5.9	47	116	155	79
16	1.9	3.2	8.0	9.3	35	491	65	5.2	42	109	142	77
17	3.3	4.7	6.7	8.6	57	e460	60	4.4	38	105	131	72
18	3.1	4.3	5.7	7.7	63	e435	55	3.8	37	99	124	66
19	2.5	3.4	5.0	7.0	72	e404	50	3.6	40	91	117	59
20	1.8	2.8	4.6	6.4	68	e384	46	3.6	46	85	109	54
21	1.1	2.4	4.2	6.1	61	351	42	3.3	52	77	102	49
22	0.91	2.3	3.5	6.3	57	314	39	5.2	52	81	97	45
23	0.86	2.0	3.1	7.1	60	281	36	10	48	114	96	42
24	0.86	1.7	4.2	5.8	60	251	33	10	43	148	113	39
25	0.93	1.5	19	5.2	58	223	34	8.9	36	202	126	36
26	1.0	1.3	20	4.8	53	202	39	7.5	31	219	127	35
27	1.1	1.1	17	4.4	86	198	39	6.5	26	196	123	34
28	1.00	0.99	15	3.9	109	213	36	5.7	23	172	123	32
29	1.0	1.0	13	3.7	---	202	33	4.6	86	148	129	29
30	2.0	1.1	11	3.4	---	193	30	3.9	96	130	152	26
31	3.1	---	11	3.1	---	180	---	3.3	---	118	168	---
MEAN	1.60	2.00	6.91	13.5	38.3	411	74.8	10.3	37.8	135	180	87.8
MAX	3.3	4.7	20	34	109	907	164	28	96	219	476	179
MIN	0.86	0.80	1.0	3.1	2.3	164	30	3.3	2.6	77	96	26
IN.	0.03	0.04	0.13	0.26	0.66	7.89	1.39	0.20	0.70	2.59	3.45	1.63

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2003, BY WATER YEAR (WY)

MEAN	36.5	12.4	24.6	44.4	70.0	91.7	68.3	24.2	30.0	48.0	79.0	57.9
MAX	389	81.5	185	179	259	411	413	147	478	194	580	560
(WY)	(1958)	(1977)	(1977)	(1987)	(1998)	(2003)	(1973)	(1964)	(1957)	(1964)	(1970)	(1964)
MIN	0.53	0.70	0.58	0.52	0.47	1.17	0.50	0.31	0.32	0.36	0.50	0.64
(WY)	(1994)	(1969)	(2001)	(2001)	(2001)	(2000)	(2000)	(2000)	(2000)	(2000)	(1993)	(1993)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1956 - 2003	
ANNUAL MEAN	4.52		83.9		48.8	
HIGHEST ANNUAL MEAN					154	1964
LOWEST ANNUAL MEAN					3.90	2002
HIGHEST DAILY MEAN	53	Mar 4	907	Mar 10	2,710	Sep 12, 1964
LOWEST DAILY MEAN	0.56	Jun 17	0.80	Nov 11	0.20	Jun 16, 2000
ANNUAL SEVEN-DAY MINIMUM	0.60	Jun 12	0.95	Oct 22	0.21	Jun 10, 2000
MAXIMUM PEAK FLOW			980	Mar 9	3,210	Sep 12, 1964
MAXIMUM PEAK STAGE			12.83	Mar 9	15.21	Sep 12, 1964
INSTANTANEOUS LOW FLOW			0.78	Nov 11	0.20	Jun 11, 2000
ANNUAL RUNOFF (INCHES)	1.02		18.98		11.06	
10 PERCENT EXCEEDS	11		202		135	
50 PERCENT EXCEEDS	1.9		33		14	
90 PERCENT EXCEEDS	0.73		1.5		1.2	

e Estimated

02325000 FENHOLLOWAY RIVER NEAR PERRY, FL

LOCATION.--Lat 30°04'16", long 83°39'45", in SE$^1/_4$ sec. 6, T. 5 S., R. 7 E., Taylor County, Hydrologic Unit 03110102, near right bank on downstream side of old bridge at State Highway 356, 1.0 mi southwest of the community of Hampton Springs, 5.5 mi southwest of Perry and, 14 mi upstream from mouth.

DRAINAGE AREA.--160 mi^2, approximately.

PERIOD OF RECORD.--August 1946 to June 1952 (discharge measurements only); August 1952 to October 1954 (gage heights and discharge measurements only); November 1964 to July 1977 (crest-stage and periodic discharge measurements only); August 1977 to September 1984. May 1986 to current year.

REVISED RECORDS.--WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. August 13, 1946 to October 1954, nonrecording gage at same site at datum 5.00 ft higher. November 1964 to July 1977, nonrecording gage at same site and datum.

REMARKS.--Records fair, except for estimated daily discharges which are poor. Natural flow of stream affected by large ground-water withdrawals by cellulose plant about 10 mi upstream. Flow affected by backwater from Spring Creek at times.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	e98	e88	e160	90	e480	394	184	117	315	336	400
2	127	e98	e89	e136	88	e575	377	181	118	348	344	404
3	121	e97	e84	e126	89	e680	370	175	119	407	355	400
4	122	e97	e88	e125	91	e730	376	170	144	441	376	395
5	122	e96	e81	e126	90	e735	369	166	143	456	416	376
6	121	e98	e91	125	87	e715	361	162	139	452	455	379
7	118	e95	e92	123	118	e680	343	158	170	434	501	380
8	120	e87	e90	123	112	650	334	153	212	408	577	368
9	116	e89	e88	122	108	726	324	149	224	381	639	340
10	114	e92	e107	121	113	844	317	144	229	347	601	328
11	112	e96	e100	121	111	896	323	141	228	341	578	313
12	109	e93	e95	117	109	869	328	139	218	335	546	298
13	110	e116	e104	117	107	822	326	135	210	328	502	284
14	110	e98	e104	115	109	788	326	130	202	327	466	272
15	e114	e97	e103	114	106	760	313	128	196	326	463	268
16	e120	e103	e101	112	155	732	297	127	202	325	444	268
17	e112	e102	e100	108	195	719	283	125	235	317	427	264
18	e104	e101	e99	106	168	701	270	120	238	307	419	254
19	e103	e98	e99	105	186	693	257	120	252	291	407	243
20	e103	e99	e99	104	200	671	246	120	265	281	396	233
21	e102	e98	e97	105	208	639	237	117	266	273	388	229
22	e102	e97	e93	107	222	606	228	142	280	294	368	233
23	e98	e96	e90	111	242	573	218	159	268	314	354	235
24	e99	e94	e90	93	231	537	210	144	260	344	348	225
25	e104	e93	e117	97	227	496	207	138	241	389	352	210
26	e100	e93	e102	99	223	463	222	134	223	436	353	221
27	e98	e92	e101	96	365	446	212	129	206	444	350	213
28	e95	e91	e90	95	421	446	205	130	197	425	347	204
29	e98	e89	e73	87	---	436	199	123	245	389	363	195
30	e116	e87	e60	88	---	427	191	120	310	359	367	185
31	e110	---	e55	88	---	411	---	118	---	340	385	---
MEAN	111	96.0	92.6	112	163	643	289	141	212	360	427	287
MAX	129	116	117	160	421	896	394	184	310	456	639	404
MIN	95	87	55	87	87	411	191	117	117	273	336	185
IN.	0.80	0.67	0.67	0.81	1.06	4.64	2.01	1.02	1.48	2.60	3.07	2.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2003, BY WATER YEAR (WY)

MEAN	165	134	142	177	224	278	245	152	139	189	229	179
MAX	451	266	369	476	495	699	652	316	317	475	492	310
(WY)	(1995)	(1981)	(1987)	(1987)	(1987)	(1991)	(1983)	(1983)	(1983)	(1984)	(1991)	(1988)
MIN	75.3	65.0	66.0	72.6	71.7	80.0	81.8	77.1	76.1	85.9	82.8	94.2
(WY)	(2002)	(2002)	(2002)	(2001)	(2001)	(2000)	(2000)	(2001)	(2001)	(2000)	(1993)	(1993)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1977 - 2003	
ANNUAL MEAN	105		245		188	
HIGHEST ANNUAL MEAN					317	1983
LOWEST ANNUAL MEAN					91.9	2000
HIGHEST DAILY MEAN	183	Sep 16	896	Mar 11	1,130	Jul 31, 1982
LOWEST DAILY MEAN	55	Dec 31	e55	Dec 31	35	Oct 8, 1990
ANNUAL SEVEN-DAY MINIMUM	66	Jan 4	85	Dec 25	48	Oct 4, 1990
MAXIMUM PEAK FLOW			901	Mar 11	1,360	Sep 18, 1964
MAXIMUM PEAK STAGE			23.00	Mar 9	24.39	Sep 13, 1964
INSTANTANEOUS LOW FLOW			55	Dec 31	35	Oct 8, 1990
ANNUAL RUNOFF (INCHES)	8.93		20.83		15.99	
10 PERCENT EXCEEDS	137		455		349	
50 PERCENT EXCEEDS	103		195		143	
90 PERCENT EXCEEDS	76		94		90	

e Estimated

02326000 ECONFINA RIVER NEAR PERRY, FL

LOCATION.--Lat 30°10'14", long 83°49'26", in NE¼ sec. 4, T. 4 S., R. 5 E., Taylor County, Hydrologic Unit 03110102, on downstream side of concrete bridge, 3.0 mi downstream from Natural Well Branch, 14 mi upstream from mouth, and 14.7 mi northwest of Perry.

DRAINAGE AREA.--198 mi^2.

PERIOD OF RECORD.--February 1950 to current year.

REVISED RECORDS.--WSP 1905: Drainage area. WRD FL-02-4:2001.

GAGE.--Water-stage recorder. Datum of gage is 14.35 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	55	41	228	82	479	381	149	56	175	177	186
2	83	55	40	245	79	704	354	140	56	204	201	177
3	85	51	38	265	77	868	329	132	57	249	247	171
4	80	48	37	278	75	954	308	126	69	285	271	162
5	72	46	39	279	73	980	290	123	84	296	282	156
6	65	45	45	272	74	964	276	118	90	285	298	155
7	60	43	59	260	112	969	259	112	137	272	319	151
8	55	42	70	246	119	969	258	105	235	264	381	144
9	51	41	73	233	122	1,250	296	98	271	262	534	136
10	50	40	77	220	132	1,500	323	91	311	250	578	128
11	49	39	84	208	136	1,500	330	85	304	234	560	121
12	46	41	94	196	135	1,450	337	80	273	219	534	114
13	43	50	105	185	133	1,360	334	75	249	205	507	108
14	41	61	111	175	130	1,260	321	71	233	194	475	104
15	41	68	114	165	126	1,160	305	67	216	182	429	100
16	43	69	117	156	140	1,060	290	64	201	170	405	95
17	46	68	119	147	170	1,010	277	62	195	161	374	91
18	46	67	118	139	185	937	253	59	198	154	348	87
19	44	67	117	132	205	870	240	57	205	143	322	85
20	41	66	113	125	217	810	227	55	215	138	301	82
21	38	63	109	119	216	763	214	53	247	129	299	80
22	37	60	104	115	223	719	204	69	244	129	312	81
23	35	58	100	113	245	675	196	103	228	153	308	81
24	35	55	110	109	251	627	185	96	211	166	289	80
25	34	53	135	106	255	587	184	90	194	171	266	77
26	34	50	166	103	255	547	192	83	178	175	248	79
27	34	48	210	99	339	508	186	78	162	173	234	79
28	33	46	226	95	401	485	177	74	147	162	221	75
29	33	44	220	92	---	460	166	68	155	157	212	72
30	40	43	213	88	---	436	157	63	169	162	203	70
31	49	---	212	85	---	410	---	59	---	172	195	---
MEAN	49.1	52.7	110	170	168	880	262	87.3	186	196	333	111
MAX	85	69	226	279	401	1,500	381	149	311	296	578	186
MIN	33	39	37	85	73	410	157	53	56	129	177	70
IN.	0.29	0.30	0.64	0.99	0.88	5.12	1.47	0.51	1.05	1.14	1.94	0.63

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2003, BY WATER YEAR (WY)

MEAN	112	63.2	96.1	137	213	255	214	84.5	87.9	110	170	138
MAX	816	305	771	624	813	880	1,176	379	432	381	756	1,266
(WY)	(1995)	(1998)	(1977)	(1987)	(1986)	(2003)	(1973)	(1964)	(1957)	(1958)	(1991)	(1957)
MIN	6.26	8.18	6.22	9.47	7.50	9.97	13.2	7.73	4.80	4.49	8.31	9.12
(WY)	(1994)	(1969)	(1991)	(1957)	(1957)	(1957)	(1955)	(1955)	(1955)	(1955)	(1993)	(1993)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1951 - 2003	
ANNUAL MEAN	48.0		218		140	
HIGHEST ANNUAL MEAN					317	1991
LOWEST ANNUAL MEAN					18.1	1955
HIGHEST DAILY MEAN	226	Dec 28	1,500	Mar 10	2,480	Sep 18, 1957
LOWEST DAILY MEAN	12	Jun 17	33	Oct 28	2.4	Jul 8, 1955
ANNUAL SEVEN-DAY MINIMUM	13	Jun 14	34	Oct 23	2.6	Jul 3, 1955
MAXIMUM PEAK FLOW			1,520	Mar 10	2,540	Sep 17, 1957
MAXIMUM PEAK STAGE			11.87	Mar 10	12.78	Sep 17, 1957
INSTANTANEOUS LOW FLOW			32	Oct 29	2.3	Jul 8, 1955
ANNUAL RUNOFF (INCHES)	3.29		14.97		9.59	
10 PERCENT EXCEEDS	84		432		364	
50 PERCENT EXCEEDS	39		149		60	
90 PERCENT EXCEEDS	17		47		17	

AUCILLA RIVER BASIN

02326550 AUCILLA RIVER NEAR MOUTH NEAR NUTALL RISE, FL

LOCATION.--Lat 30°06'54", long 83°58'47" in SW sec. 24, T. 4 S., R.4 E., Taylor County, Hydrologic Unit 03110103, on left bank approximately 400 ft below county boat ramp, and 2.6 mi upstream from mouth.

DRAINAGE AREA.-- 938.6 mi^2

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 2001 to September 2002 (fragmentary). October 2002 to February 2003.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is undetermined. From May 4, 2001 to February 18, 2003, at site 600 ft downstream.

REMARKS.--Records poor. Flow affected by tide. Discharge computed from continuous velocity record obtained from water-current meter. For the 2003 water year, data collected to February 17, when the gage was moved, are published. Data analysis showed a difference between velocity and discharge at the new location; additional discharge measurements are needed to develop a rating. Data from February 18, 2003 to September 30, 2003 will be published in the 2004 Annual Data Report.

REVISIONS.--Location May 4, 2001 to September 30, 2002: Lat 30°06'44", long 83°58'48", in SW sec.24, T.4S., R.4E., Taylor County, Hydrologic Unit 03110103, on left bank, approximately 1,000 ft. below county boat ramp, and 2.6 mi upstream from mouth.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e644	1,010	e1,510	4,160	2,010	---	---	---	---	---	---	---
2	e692	980	e2,050	e2,010	1,510	---	---	---	---	---	---	---
3	1,070	996	e1,670	e2,350	1,020	---	---	---	---	---	---	---
4	1,050	e984	e1,770	e2,760	1,150	---	---	---	---	---	---	---
5	949	905	e1,640	e2,440	2,080	---	---	---	---	---	---	---
6	1,070	1,790	e1,900	e2,430	726	---	---	---	---	---	---	---
7	1,150	1,100	e2,060	e2,580	1,850	---	---	---	---	---	---	---
8	1,050	1,070	e1,700	3,350	2,930	---	---	---	---	---	---	---
9	1,080	1,170	e1,470	2,300	1,330	---	---	---	---	---	---	---
10	913	e1,200	e1,670	1,340	584	---	---	---	---	---	---	---
11	1,050	1,100	e1,250	e2,600	1,530	---	---	---	---	---	---	---
12	1,030	960	e1,830	e2,780	1,730	---	---	---	---	---	---	---
13	1,070	1,320	e1,490	1,190	1,560	---	---	---	---	---	---	---
14	964	1,000	e1,160	2,110	1,150	---	---	---	---	---	---	---
15	900	1,030	e2,170	2,730	1,240	---	---	---	---	---	---	---
16	1,030	1,080	e1,410	1,060	2,050	---	---	---	---	---	---	---
17	1,030	1,050	e1,550	3,170	4,050	---	---	---	---	---	---	---
18	934	e1,320	450	3,330	---	---	---	---	---	---	---	---
19	945	e1,530	38	2,830	---	---	---	---	---	---	---	---
20	949	e1,330	3,050	2,590	---	---	---	---	---	---	---	---
21	1,050	e1,630	1,540	2,280	---	---	---	---	---	---	---	---
22	1,090	e2,020	713	2,180	---	---	---	---	---	---	---	---
23	981	e1,820	486	3,390	---	---	---	---	---	---	---	---
24	1,030	e1,820	899	3,020	---	---	---	---	---	---	---	---
25	e967	e1,900	3,970	2,040	---	---	---	---	---	---	---	---
26	e2,000	e1,940	4,250	906	---	---	---	---	---	---	---	---
27	955	1,100	3,670	1,320	---	---	---	---	---	---	---	---
28	983	e1,890	4,190	e2,760	---	---	---	---	---	---	---	---
29	1,070	e1,950	3,760	e1,720	---	---	---	---	---	---	---	---
30	1,000	1,000	3,100	900	---	---	---	---	---	---	---	---
31	1,060	---	e1,440	1,500	---	---	---	---	---	---	---	---
MEAN	1,024	1,333	1,931	2,327	---	---	---	---	---	---	---	---
MAX	2,000	2,020	4,250	4,160	---	---	---	---	---	---	---	---
MIN	644	905	38	900	---	---	---	---	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	967	1,129	1,429	1,639	994	1,087	---	---	1,143	1,031	971	1,007
MAX	1,024	1,333	1,931	2,327	994	1,087	---	---	1,323	1,040	1,025	1,121
(WY)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	---	---	(2001)	(2001)	(2002)	(2002)
MIN	910	925	927	950	994	1,087	---	---	962	1,022	918	893
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	---	---	(2002)	(2002)	(2001)	(2001)

SUMMARY STATISTICS	WATER YEARS 2001- 2003	
HIGHEST DAILY MEAN	4,250	Dec 26, 2002
LOWEST DAILY MEAN	38	Dec 19, 2002
ANNUAL SEVEN-DAY MINIMUM	685	May 31, 2001
MAXIMUM PEAK FLOW	9,600	Jan 1, 2003
MAXIMUM PEAK STAGE	14.41	Oct 14, 2001

e Estimated

02326550 AUCILLA RIVER NEAR MOUTH NEAR NUTALL RISE, FL—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 2001 to February 2003.

REMARKS.--Water temperature and salinity records poor.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.9	23.5	15.0	14.2	---	---	---	---	---	---	---	---
2	27.6	21.7	14.5	14.6	---	---	---	---	---	---	---	---
3	26.9	20.3	14.4	---	---	---	---	---	---	---	---	---
4	26.3	19.8	14.7	---	---	---	---	---	---	---	---	---
5	26.0	20.5	15.5	---	---	---	---	---	---	---	---	---
6	26.1	21.0	15.6	---	---	---	---	---	---	---	---	---
7	26.2	20.4	15.4	---	---	---	---	---	---	---	---	---
8	26.7	20.3	15.0	---	---	---	---	---	---	---	---	---
9	26.4	20.2	14.8	---	---	---	---	---	---	---	---	---
10	26.1	20.4	14.7	---	---	---	---	---	---	---	---	---
11	26.7	21.6	14.8	---	---	---	---	---	---	---	---	---
12	27.3	21.9	15.1	---	---	---	---	---	---	---	---	---
13	28.1	21.4	15.2	12.3	---	---	---	---	---	---	---	---
14	28.8	---	15.3	12.0	---	---	---	---	---	---	---	---
15	27.9	---	15.1	12.1	---	---	---	---	---	---	---	---
16	26.2	18.9	14.5	12.0	---	---	---	---	---	---	---	---
17	24.6	18.0	14.0	12.2	---	---	---	---	---	---	---	---
18	22.8	17.3	14.0	12.0	---	---	---	---	---	---	---	---
19	22.1	16.7	14.7	11.6	---	---	---	---	---	---	---	---
20	21.6	16.6	15.8	11.6	---	---	---	---	---	---	---	---
21	22.0	17.0	16.1	12.3	---	---	---	---	---	---	---	---
22	22.7	---	15.9	13.3	---	---	---	---	---	---	---	---
23	23.3	---	15.8	13.8	---	---	---	---	---	---	---	---
24	23.3	17.2	16.0	12.6	---	---	---	---	---	---	---	---
25	23.2	16.8	16.1	11.5	---	---	---	---	---	---	---	---
26	---	16.9	14.9	10.8	---	---	---	---	---	---	---	---
27	23.4	17.2	13.6	11.0	---	---	---	---	---	---	---	---
28	24.1	---	13.2	---	---	---	---	---	---	---	---	---
29	24.6	---	13.1	---	---	---	---	---	---	---	---	---
30	25.0	15.9	13.1	---	---	---	---	---	---	---	---	---
31	24.9	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---

02326550 AUCILLA RIVER NEAR MOUTH NEAR NUTALL RISE, FL—Continued

SALINITY, WATER, UNFILTERED, PARTS PER THOUSAND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.3	5.14	2.21	2.85	---	---	---	---	---	---	---	---
2	14.7	3.90	3.37	---	---	---	---	---	---	---	---	---
3	10.4	5.33	3.95	---	---	---	---	---	---	---	---	---
4	6.69	5.91	5.53	---	---	---	---	---	---	---	---	---
5	4.22	8.66	5.09	---	---	---	---	---	---	---	---	---
6	2.96	9.00	1.94	---	---	---	---	---	---	---	---	---
7	3.00	0.96	0.80	---	---	---	---	---	---	---	---	---
8	3.78	4.68	1.31	0.18	---	---	---	---	---	---	---	---
9	3.35	9.38	3.25	---	---	---	---	---	---	---	---	---
10	4.69	10.8	7.60	---	2.09	---	---	---	---	---	---	---
11	7.27	5.73	2.41	---	0.46	---	---	---	---	---	---	---
12	10.4	2.23	3.51	---	---	---	---	---	---	---	---	---
13	15.8	0.93	7.89	---	---	---	---	---	---	---	---	---
14	20.4	3.20	0.83	---	---	---	---	---	---	---	---	---
15	14.7	8.51	0.84	---	2.46	---	---	---	---	---	---	---
16	8.58	7.25	1.27	---	1.79	---	---	---	---	---	---	---
17	8.52	1.76	3.10	---	---	---	---	---	---	---	---	---
18	5.12	0.46	4.07	---	---	---	---	---	---	---	---	---
19	8.91	1.08	5.48	---	---	---	---	---	---	---	---	---
20	6.59	3.22	8.11	---	---	---	---	---	---	---	---	---
21	6.15	4.38	---	---	---	---	---	---	---	---	---	---
22	3.85	3.67	1.69	---	---	---	---	---	---	---	---	---
23	4.34	0.84	2.42	---	---	---	---	---	---	---	---	---
24	4.42	3.19	6.01	---	---	---	---	---	---	---	---	---
25	5.45	5.75	---	---	---	---	---	---	---	---	---	---
26	5.75	5.14	---	---	---	---	---	---	---	---	---	---
27	6.17	3.62	0.20	---	---	---	---	---	---	---	---	---
28	9.16	2.59	---	---	---	---	---	---	---	---	---	---
29	8.44	2.91	---	---	---	---	---	---	---	---	---	---
30	8.75	4.72	---	2.14	---	---	---	---	---	---	---	---
31	6.27	---	---	---	---	---	---	---	---	---	---	---
MEAN	7.81	4.50	---	---	---	---	---	---	---	---	---	---
MAX	20.4	10.8	---	---	---	---	---	---	---	---	---	---
MIN	2.96	0.46	---	---	---	---	---	---	---	---	---	---

304308083555200 WARD CREEK BL MITCHELL POND NEAR METCALF, GA

LOCATION.--Lat 30°43'08", long 83°55'52", in Thomas County, Hydrologic Unit 03120001, on downstream side of bridge on New Hope road, and 3.6 mi east of Metcalf.

DRAINAGE AREA.--15.1 mi^2.

PERIOD OF RECORD.--October 1998 to September 2000, October 2000 to September 2001 (gage heights and discharge measurements only), January 2002 to current year (discontinued).

GAGE.--Water-stage recorder.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	3.3	0.00	4.4	6.3	20	13	2.8	0.39	31	14	18
2	0.00	3.2	0.00	4.3	6.1	18	12	2.4	0.13	34	9.1	16
3	0.00	3.4	0.00	4.3	6.2	17	11	2.0	0.06	25	64	14
4	0.00	3.5	0.97	4.1	6.4	18	9.3	1.9	0.00	30	75	12
5	0.00	3.7	3.5	4.1	5.9	17	8.6	1.7	0.00	61	63	12
6	0.01	3.4	3.2	4.1	6.9	17	7.8	1.4	0.00	56	48	11
7	0.00	3.0	2.9	4.2	6.6	21	6.1	1.1	4.0	41	39	11
8	0.00	2.9	2.2	4.2	6.4	20	8.9	0.71	11	31	37	10
9	0.00	2.9	2.6	4.3	6.6	28	20	0.29	14	24	28	10
10	0.00	3.4	3.3	4.2	8.0	28	20	0.08	9.6	20	23	9.9
11	2.9	3.3	3.2	4.3	7.0	21	15	0.00	17	17	22	9.7
12	3.9	3.2	3.5	4.3	6.4	18	12	0.00	15	15	23	9.2
13	4.0	3.4	3.5	4.3	5.9	19	10	0.00	13	e11	26	8.7
14	3.9	3.4	3.3	4.3	5.6	18	9.3	0.00	24	e6.3	25	8.3
15	3.5	3.8	3.3	4.4	5.8	17	8.5	0.00	20	e2.0	24	8.0
16	2.7	3.7	3.3	4.4	8.7	17	7.8	0.00	15	1.9	25	7.6
17	1.0	3.4	3.3	4.4	11	20	6.8	0.74	13	9.5	23	7.0
18	1.8	3.2	3.3	4.4	13	25	5.7	0.71	14	31	22	6.5
19	3.8	3.1	3.9	4.4	15	29	5.0	0.00	15	25	22	5.9
20	3.9	3.1	4.0	4.4	14	28	4.5	0.00	16	22	28	5.4
21	2.8	3.1	3.8	4.4	15	26	4.7	0.00	21	20	31	4.9
22	3.6	2.9	3.8	4.6	15	23	5.8	0.60	19	23	25	5.2
23	3.3	2.9	4.2	4.6	13	20	5.0	1.9	14	55	24	5.0
24	3.7	2.9	5.0	4.5	11	18	4.1	2.1	3.3	62	32	4.5
25	3.5	2.4	4.3	4.7	10	16	4.4	2.2	2.6	61	32	4.1
26	3.2	1.5	4.2	4.9	13	15	5.7	2.1	5.5	63	27	4.0
27	3.2	1.0	4.2	5.0	18	16	5.6	2.0	4.6	57	22	3.3
28	3.3	0.11	4.1	5.4	16	18	4.3	1.6	6.4	40	18	2.9
29	4.1	0.00	4.1	5.5	---	15	3.4	1.3	34	29	17	2.4
30	3.2	0.00	4.1	5.8	---	14	3.1	0.99	41	23	21	1.7
31	3.3	---	4.9	6.3	---	14	---	0.67	---	21	21	---
MEAN	2.21	2.77	3.22	4.56	9.60	19.7	8.25	1.01	11.8	30.6	29.4	7.94
MAX	4.1	3.8	5.0	6.3	18	29	20	2.8	41	63	75	18
MIN	0.00	0.00	0.00	4.1	5.6	14	3.1	0.00	0.00	1.9	9.1	1.7

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

MEAN	3.94	0.80	1.07	2.67	4.41	7.47	2.67	0.50	3.81	10.3	7.67	2.03
MAX	13.5	2.77	3.22	4.56	9.60	19.7	8.25	1.25	11.8	30.6	29.4	7.94
(WY)	(1999)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(1999)	(2003)	(2003)	(2003)	(2003)
MIN	0.000	0.000	0.000	0.000	0.031	1.67	0.000	0.000	0.000	0.000	0.000	0.031
(WY)	(2001)	(2000)	(1999)	(2000)	(2000)	(2000)	(2002)	(2001)	(2002)	(2002)	(2000)	(1999)

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL MEAN	11.0		5.01	
HIGHEST ANNUAL MEAN			11.0	2003
LOWEST ANNUAL MEAN			0.37	2000
HIGHEST DAILY MEAN	75	Aug 4	100	Oct 1, 1998
LOWEST DAILY MEAN	0.00	Oct 1	0.00	Nov 23, 1998
ANNUAL SEVEN-DAY MINIMUM	0.00	Oct 1	0.00	Nov 23, 1998
MAXIMUM PEAK FLOW	79	Aug 3	100	Oct 1, 1998
MAXIMUM PEAK STAGE	7.53	Aug 3	7.53	Aug 3, 2003
INSTANTANEOUS LOW FLOW	0.00	Oct 1	0.00	Nov 23, 1998
10 PERCENT EXCEEDS	25		16	
50 PERCENT EXCEEDS	5.4		0.50	
90 PERCENT EXCEEDS	0.71		0.00	

e Estimated

02326900 ST. MARKS RIVER NEAR NEWPORT, FL

LOCATION.--Lat 30°16'00", long 84°09'00", in SE$^1/_4$ sec. 32, T. 2 S., R. 2 E., Wakulla County, Hydrologic Unit 03120001, on left bank 0.9 mi downstream from Rhodes Springs, 6 mi north of Newport, 11 mi upstream from Wakulla River, and 14 mi upstream from mouth.

DRAINAGE AREA.--535 mi^2 including 240 mi^2 of Lake Miccosukee, which contributes at high stages to the St. Marks River.

PERIOD OF RECORD.--October 1956 to September 1976. October 1976 to September 1977 (gage heights only); October 1977 to September 1990; October 1990 to September 1991 (gage heights and peak discharge only); October 1991 to September 1994; July 1996 to current year.

REVISED RECORDS.--WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3.53 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	608	423	341	598	299	978	796	620	570	901	1,010	772
2	594	414	337	585	297	1,450	777	609	569	900	1,140	760
3	580	410	337	564	294	1,350	759	602	590	906	1,240	749
4	563	411	331	553	299	1,300	740	599	655	904	1,360	739
5	545	411	344	525	297	1,280	723	592	692	902	1,410	743
6	530	421	343	482	297	1,200	708	583	718	896	1,320	732
7	518	407	340	449	322	1,340	693	578	868	904	1,250	720
8	517	404	337	430	324	1,450	703	571	1,070	912	1,230	709
9	508	401	335	415	328	2,220	788	565	1,210	922	1,190	695
10	497	411	337	404	335	2,620	832	561	1,570	913	1,240	682
11	493	414	340	391	337	2,420	877	557	1,750	898	1,250	671
12	485	438	337	379	333	2,180	928	550	1,520	883	1,370	661
13	479	447	351	371	326	1,900	884	548	1,300	874	1,450	654
14	474	438	350	364	320	1,730	815	546	1,200	869	1,360	647
15	482	435	349	357	318	1,570	764	543	1,110	868	1,370	651
16	479	440	346	353	353	1,440	731	543	1,060	867	1,560	645
17	466	435	340	346	384	1,380	705	542	1,060	865	1,600	635
18	454	423	337	342	383	1,350	685	539	1,080	877	1,580	628
19	449	415	337	338	391	1,350	670	545	1,120	877	1,490	624
20	446	406	358	333	393	1,350	656	550	1,130	873	1,330	620
21	441	400	349	330	379	1,320	643	546	1,170	883	1,230	625
22	437	392	346	329	386	1,240	644	587	1,190	893	1,180	620
23	432	382	340	322	385	1,160	648	635	1,160	917	1,130	622
24	433	376	515	315	376	1,110	666	634	1,120	947	1,070	618
25	431	371	736	314	373	1,050	699	638	1,050	964	1,000	616
26	425	365	714	311	372	991	705	628	1,000	997	949	636
27	420	359	818	307	610	944	680	606	960	1,040	912	636
28	416	352	803	305	745	906	661	594	931	1,010	874	628
29	419	346	656	304	---	871	649	585	925	998	846	618
30	447	344	558	303	---	846	635	577	911	1,060	817	609
31	434	---	534	303	---	820	---	572	---	1,040	793	---
MEAN	481	403	426	388	366	1,391	729	579	1,042	921	1,211	666
MAX	608	447	818	598	745	2,620	928	638	1,750	1,060	1,600	772
MIN	416	344	331	303	294	820	635	539	569	865	793	609
IN.	1.04	0.84	0.92	0.84	0.71	3.00	1.52	1.25	2.17	1.99	2.61	1.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2003, BY WATER YEAR (WY)

MEAN	639	539	569	619	723	885	835	665	682	716	775	732
MAX	1,375	976	1,470	1,360	1,680	2,520	2,760	1,474	1,465	1,440	2,220	1,563
(WY)	(1958)	(1960)	(1965)	(1987)	(1986)	(1991)	(1973)	(1965)	(1965)	(1994)	(1994)	(1957)
MIN	282	263	280	345	335	338	378	371	355	360	370	336
(WY)	(2002)	(2002)	(2002)	(1957)	(1957)	(1957)	(1968)	(1968)	(1968)	(1968)	(1968)	(1968)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1957 - 2003	
ANNUAL MEAN	520		720		699	
HIGHEST ANNUAL MEAN					1,148	1994
LOWEST ANNUAL MEAN					403	1968
HIGHEST DAILY MEAN	2,090	Mar 5	2,620	Mar 10	4,700	Apr 6, 1973
LOWEST DAILY MEAN	295	Jan 1	294	Feb 3	251	Oct 23, 2001
ANNUAL SEVEN-DAY MINIMUM	308	Jan 1	298	Jan 31	253	Nov 15, 2001
MAXIMUM PEAK FLOW			2,690	Mar 10	4,750	Apr 7, 1973
MAXIMUM PEAK STAGE			8.90	Mar 10	11.81	Apr 7, 1973
INSTANTANEOUS LOW FLOW			294	Feb 2	249	Oct 22, 2001
ANNUAL RUNOFF (INCHES)	13.20		18.27		17.76	
10 PERCENT EXCEEDS	641		1,250		1,070	
50 PERCENT EXCEEDS	508		624		620	
90 PERCENT EXCEEDS	350		338		400	

02327033 LOST CREEK AT ARRAN, FL

LOCATION.--Lat 30°11'17", long 84°24'30", in SE$\frac{1}{4}$ sec. 26, T. 3 S., R. 2 W., Wakulla County, Hydrologic Unit 03120001, on downstream side of bridge on State Highway 368, and 0.5 mi east of Arran.

DRAINAGE AREA.--70.4 mi^2.

PERIOD OF RECORD.--October 1928 to May 1981, miscellaneous discharge measurements only; October 1998 to current year.

GAGE.--Water-stage recorder.

REMARKS.--Records fair.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	182	192	49	395	30	1,460	61	15	17	98	105	152
2	145	164	48	523	e28	1,830	54	21	9.1	102	180	129
3	119	139	40	532	e25	1,790	49	16	10	149	362	103
4	95	119	33	447	e27	1,520	44	16	17	184	348	83
5	77	104	31	358	e29	1,300	41	16	14	215	318	78
6	64	168	43	284	28	1,070	44	15	14	185	253	74
7	58	221	55	230	56	1,220	43	13	62	169	214	97
8	52	224	56	195	88	1,570	48	12	219	151	223	95
9	116	227	54	169	107	2,000	64	7.2	383	119	258	79
10	191	216	50	148	116	2,590	88	5.9	449	97	364	60
11	117	187	52	132	115	2,040	90	5.9	359	87	349	46
12	88	206	57	119	104	1,520	89	4.8	263	69	477	36
13	72	283	67	108	90	1,080	78	5.4	202	58	499	28
14	61	327	79	95	78	784	64	5.3	197	58	706	23
15	167	302	80	85	66	603	52	5.3	221	53	819	24
16	342	269	78	77	81	483	43	5.0	192	59	800	20
17	388	248	69	69	170	409	36	4.1	233	98	955	17
18	305	202	63	63	209	364	32	4.4	360	84	806	13
19	226	167	56	57	199	323	29	2.9	562	81	721	9.1
20	167	150	55	53	178	284	25	5.4	719	66	628	6.4
21	158	137	56	49	153	266	21	7.7	617	59	459	9.9
22	240	120	61	47	138	226	19	14	507	54	343	15
23	189	104	55	46	142	194	20	21	431	53	265	26
24	171	93	118	45	139	165	17	24	306	66	210	30
25	160	82	554	43	129	138	16	26	243	76	172	29
26	146	82	1,000	41	117	117	19	27	187	152	143	32
27	129	73	770	38	413	100	22	21	146	158	121	60
28	115	66	536	36	1,310	88	20	20	122	121	109	65
29	108	59	394	e34	---	79	17	15	98	95	134	48
30	185	54	297	e32	---	76	16	16	97	86	214	34
31	198	---	257	e31	---	70	---	11	---	97	192	---
MEAN	156	166	168	148	156	831	42.0	12.5	242	103	379	50.7
MAX	388	327	1,000	532	1,310	2,590	90	27	719	215	955	152
MIN	52	54	31	31	25	70	16	2.9	9.1	53	105	6.4
IN.	2.55	2.63	2.75	2.42	2.31	13.61	0.67	0.21	3.83	1.69	6.21	0.80

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

MEAN	120	46.5	45.0	75.2	65.5	337	36.0	4.77	107	105	241	236
MAX	277	166	168	148	156	831	82.9	12.5	242	188	652	596
(WY)	(1999)	(2003)	(2003)	(2003)	(2003)	(2003)	(2001)	(2003)	(2003)	(2001)	(2001)	(2000)
MIN	33.8	2.67	2.56	32.8	31.9	32.1	4.11	1.52	1.27	1.20	10.5	50.7
(WY)	(2002)	(1999)	(1999)	(2000)	(2000)	(2000)	(1999)	(2000)	(2000)	(2000)	(2000)	(2003)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL MEAN	149		206		119	
HIGHEST ANNUAL MEAN					206	2003
LOWEST ANNUAL MEAN					57.0	1999
HIGHEST DAILY MEAN	2,700	Mar 4	2,590	Mar 10	3,960	Sep 23, 2000
LOWEST DAILY MEAN	2.0	Jun 3	2.9	May 19	0.56	Aug 25, 2000
ANNUAL SEVEN-DAY MINIMUM	2.2	Jun 11	4.6	May 13	0.78	Aug 20, 2000
MAXIMUM PEAK FLOW			2,720	Mar 10	4,170	Sep 23, 2000
MAXIMUM PEAK STAGE			15.42	Mar 10	18.19	Sep 23, 2000
INSTANTANEOUS LOW FLOW			2.0	May 17	0.47	Aug 25, 2000
ANNUAL RUNOFF (INCHES)	28.76		39.69		22.94	
10 PERCENT EXCEEDS	293		466		264	
50 PERCENT EXCEEDS	70		97		32	
90 PERCENT EXCEEDS	2.8		17		2.2	

e Estimated

02327100 SOPCHOPPY RIVER NEAR SOPCHOPPY, FL
(Hydrologic bench-mark station)

LOCATION.--Lat 30°07'45", long 84°29'40", in NW$^1/_4$ sec. 24, T. 4 S., R. 3 W., Wakulla County, Hydrologic Unit 03120003, Apalachicola National Forest, near left bank on downstream side of bridge on U.S. Forest Road 343, 4.7 mi north of Sopchoppy, 5.2 mi upstream from Duval Branch, and 24 mi upstream from mouth.

DRAINAGE AREA.--102 mi^2.

PERIOD OF RECORD.--Water years 1961-64 (annual maximum); June 1964 to current year.

REVISED RECORDS.--WSP 1905, WRD FL-76-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Jan. 27, 1961 to June 3, 1964, nonrecording gage and crest-stage gage at same site at datum 9.63 ft higher.

REMARKS.--Records fair.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	273	227	44	629	26	1,790	83	16	14	159	1,110	155
2	221	188	38	713	24	2,660	68	15	12	214	1,050	138
3	177	153	33	697	22	2,720	61	13	11	381	832	117
4	140	127	29	608	23	2,240	54	11	e20	426	690	97
5	112	109	30	506	26	1,800	50	9.9	e40	e440	606	100
6	92	232	50	417	25	1,420	65	8.7	64	e410	523	94
7	80	323	58	348	61	1,500	67	7.7	245	377	429	92
8	113	309	57	293	91	1,800	69	6.9	808	358	404	89
9	139	279	52	248	97	2,330	127	6.1	1,170	302	403	69
10	135	247	53	212	101	3,810	205	5.4	1,170	247	484	54
11	135	217	54	183	100	3,300	210	5.0	890	209	432	42
12	116	277	60	157	91	2,390	195	4.6	654	176	493	32
13	98	405	71	135	82	1,620	169	4.3	508	148	493	25
14	94	456	84	118	72	1,090	151	4.0	458	123	514	21
15	145	421	87	102	64	775	131	3.7	459	99	454	19
16	223	380	82	90	103	602	106	3.6	469	94	454	17
17	220	360	73	81	235	508	84	3.4	628	136	436	14
18	196	317	65	72	255	452	70	3.2	777	150	438	12
19	163	274	59	64	245	388	59	3.1	896	144	434	10
20	134	235	63	57	218	337	49	3.1	1,550	137	399	9.0
21	111	201	68	52	189	304	40	2.9	1,380	118	334	8.1
22	151	171	66	51	188	265	34	10	1,030	117	275	7.7
23	140	143	60	55	222	224	28	50	757	161	243	8.8
24	127	120	157	51	214	183	24	110	570	194	225	8.4
25	123	101	709	46	192	151	21	106	422	257	188	8.6
26	111	87	1,020	42	168	122	24	76	316	413	173	11
27	98	76	962	39	751	100	28	58	239	508	153	12
28	84	66	747	35	1,430	92	27	43	183	508	142	19
29	82	57	586	32	---	94	23	31	145	518	141	20
30	243	50	463	30	---	99	19	22	151	428	162	18
31	252	---	412	28	---	91	---	17	---	730	161	---
MEAN	146	220	206	200	190	1,137	78.0	21.4	535	280	428	44.3
MAX	273	456	1,020	713	1,430	3,810	210	110	1,550	730	1,110	155
MIN	80	50	29	28	22	91	19	2.9	11	94	141	7.7
MED	135	222	65	90	100	602	63	8.7	464	214	432	20
IN.	1.65	2.41	2.33	2.26	1.94	12.86	0.85	0.24	5.85	3.17	4.84	0.48

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

MEAN	117	62.0	143	248	281	335	168	60.5	147	245	310	227
MAX	783	470	843	849	753	1,137	1,065	424	535	763	1,005	1,084
(WY)	(1995)	(1986)	(1965)	(1991)	(1986)	(2003)	(1973)	(1991)	(2003)	(1975)	(1994)	(2000)
MIN	1.86	1.58	2.87	11.1	22.4	27.6	8.81	1.70	1.31	3.06	6.14	4.76
(WY)	(1994)	(1991)	(1992)	(1985)	(1989)	(2000)	(1966)	(1992)	(2000)	(1977)	(1990)	(1990)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1964 - 2003	
ANNUAL MEAN	223		292		194	
HIGHEST ANNUAL MEAN					334	1991
LOWEST ANNUAL MEAN					43.4	1968
HIGHEST DAILY MEAN	4,350	Mar 4	3,810	Mar 10	6,610	Sep 23, 2000
LOWEST DAILY MEAN	2.1	Jun 16	2.9	May 21	0.69	Jul 7, 2000
ANNUAL SEVEN-DAY MINIMUM	2.3	Jun 12	3.3	May 15	0.79	Jul 2, 2000
MAXIMUM PEAK FLOW			3,910	Mar 10	7,100	Sep 23, 2000
MAXIMUM PEAK STAGE			31.13	Mar 10	34.47	Jul 31, 1975
INSTANTANEOUS LOW FLOW			2.8	May 21	0.63	Jul 7, 2000
ANNUAL RUNOFF (INCHES)	29.69		38.88		25.86	
10 PERCENT EXCEEDS	546		702		512	
50 PERCENT EXCEEDS	87		135		62	
90 PERCENT EXCEEDS	3.6		17		3.2	

e Estimated

02328522 OCHLOCKONEE RIVER NEAR CONCORD, FL

LOCATION.--Lat 30°40'08", long 84°18'19", in SW¼ sec. 11, T. 3 N., R. 1 W., Gadsden County, Hydrologic Unit 03120003, near center of stream on downstream side of bridge on State Highway 12, and 3.7 mi east of Concord.

DRAINAGE AREA.--1002 mi^2.

PERIOD OF RECORD.--November 1920 to October 1990 (miscellaneous discharge measurements), October 1998 to current year.

GAGE.--Water-stage recorder.

REMARKS.--No estimated daily discharges. Records good.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	606	684	607	1,760	388	3,790	1,670	979	332	942	2,640	1,620
2	594	725	547	1,760	381	5,160	1,550	906	269	1,030	2,340	1,630
3	559	766	504	1,840	381	6,420	1,450	833	230	1,140	2,240	1,580
4	489	822	469	1,910	408	6,810	1,360	759	214	1,290	2,520	1,500
5	395	868	445	2,000	435	6,830	1,280	676	213	1,440	2,990	1,440
6	335	895	433	2,140	449	7,500	1,190	606	209	1,910	3,420	1,370
7	314	906	454	2,130	526	6,910	1,110	596	331	2,810	3,520	1,230
8	299	930	475	1,960	744	6,640	1,110	609	607	2,870	3,410	1,190
9	306	887	485	1,770	975	8,670	1,340	568	942	2,460	3,210	1,290
10	338	885	492	1,580	1,050	11,200	1,740	488	1,150	2,010	3,100	1,370
11	321	934	486	1,400	1,070	11,400	2,440	415	1,230	1,760	3,190	1,440
12	283	1,050	474	1,210	1,070	10,300	2,860	358	1,240	1,550	3,530	1,440
13	248	1,210	482	1,050	1,040	8,510	2,910	311	1,310	1,340	3,800	1,350
14	208	1,480	529	924	972	6,830	2,850	275	1,420	1,200	3,540	1,220
15	188	1,690	623	823	883	5,730	2,650	244	1,460	1,190	3,120	1,070
16	171	2,250	676	746	841	5,260	2,320	221	1,400	1,180	2,710	887
17	165	4,660	722	681	912	4,780	1,950	209	1,410	1,130	2,450	721
18	163	5,000	769	626	1,100	4,400	1,710	240	1,630	1,080	2,480	593
19	164	4,020	804	583	1,230	4,050	1,490	267	1,760	1,050	2,480	502
20	174	3,090	828	545	1,300	3,920	1,260	250	1,720	1,050	2,420	438
21	187	2,390	848	518	1,370	4,810	1,060	250	1,650	999	2,200	409
22	191	1,940	894	493	1,420	7,540	1,000	254	1,760	935	2,000	404
23	188	1,700	910	472	1,430	9,110	861	298	1,970	946	1,960	391
24	191	1,510	1,010	457	1,480	8,580	737	446	1,990	1,120	2,060	384
25	213	1,340	1,250	446	1,540	6,710	688	518	1,900	1,500	2,290	383
26	269	1,160	1,490	436	1,570	5,010	778	564	1,760	2,120	2,380	367
27	321	1,010	1,660	427	1,780	3,890	905	627	1,560	3,890	2,120	353
28	380	883	1,750	420	2,230	3,070	1,040	670	1,300	5,120	1,830	357
29	448	769	1,840	406	---	2,460	1,080	645	1,040	4,580	1,630	372
30	524	681	1,860	396	---	2,020	1,040	544	893	3,920	1,530	386
31	605	---	1,810	395	---	1,800	---	425	---	3,140	1,550	---
MEAN	317	1,571	859	1,042	1,035	6,133	1,514	486	1,163	1,894	2,602	923
MAX	606	5,000	1,860	2,140	2,230	11,400	2,910	979	1,990	5,120	3,800	1,630
MIN	163	681	433	395	381	1,800	688	209	209	935	1,530	353
IN.	0.37	1.75	0.99	1.20	1.08	7.06	1.69	0.56	1.30	2.18	2.99	1.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

MEAN	610	405	288	553	588	2,306	832	166	420	728	782	435
MAX	2,357	1,571	859	1,042	1,035	6,133	1,514	486	1,163	1,894	2,602	923
(WY)	(1999)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	86.3	52.3	69.0	176	243	677	178	67.8	35.7	40.1	30.0	80.4
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(1999)	(1999)	(1999)	(2000)	(2000)	(2000)	(1999)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL MEAN	456		1,637		678	
HIGHEST ANNUAL MEAN					1,637	2003
LOWEST ANNUAL MEAN					245	2002
HIGHEST DAILY MEAN	5,000	Nov 18	11,400	Mar 11	11,500	Oct 2, 1998
LOWEST DAILY MEAN	28	Jun 25	163	Oct 18	14	Aug 29, 2000
ANNUAL SEVEN-DAY MINIMUM	34	Jun 21	173	Oct 15	15	Aug 26, 2000
MAXIMUM PEAK FLOW			11,700	Mar 10	11,700	Mar 10, 2003
MAXIMUM PEAK STAGE			39.79	Mar 10	39.79	Mar 10, 2003
INSTANTANEOUS LOW FLOW			160	Oct 18	14	Aug 29, 2000
ANNUAL RUNOFF (INCHES)	6.18		22.18		9.20	
10 PERCENT EXCEEDS	1,030		3,530		1,600	
50 PERCENT EXCEEDS	204		1,080		253	
90 PERCENT EXCEEDS	49		327		51	

02329000 OCHLOCKONEE RIVER NEAR HAVANA, FL

LOCATION.--Lat 30°33'14", long 84°23'03", in SE$^1/_4$ sec. 24,T.2N.,R.2W., Leon County, Hydrologic Unit 03120003, near center of downstream side of downstream bridge on divided U.S. Highway 27, 0.8 mi upstream from Seaboard Air Line Railroad bridge, 4.0 mi downstream from Mill Creek, 5.0 mi southeast of Havana, and 94 mi upstream from mouth.

DRAINAGE AREA.--1,140 mi^2, approximately. At site used prior to January 1929, 1,220 mi^2, approximately.

PERIOD OF RECORD.--June 1926 to current year. June 1926 to December 1929 (published as "at Ochlockonee"). Records published for both sites December 1928 to December 1929.

REVISED RECORDS.--WSP 822: 1929 (M). WSP 1504: 1928. WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 59.36 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1930, nonrecording gage at site about 10 mi downstream at datum 9.36 ft lower. Dec. 12, 1928, to Nov. 17, 1963, nonrecording gage at site 100 ft upstream at present datum. Nov. 18, 1963 to Nov. 15, 1976, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	607	569	743	2,150	456	2,460	2,410	1,150	459	955	3,380	1,490
2	568	635	661	2,090	443	3,630	2,170	1,090	383	974	2,840	1,530
3	552	679	594	1,990	432	5,220	1,990	1,020	334	1,030	2,500	1,550
4	531	722	542	2,000	446	6,690	1,840	969	308	1,100	2,360	1,510
5	494	771	515	2,060	468	7,040	1,720	898	303	1,200	2,360	1,440
6	436	876	494	2,140	482	7,210	1,600	811	330	1,320	2,660	1,380
7	384	892	477	2,240	570	7,720	1,480	732	454	1,680	3,000	1,310
8	360	892	485	2,290	627	7,190	1,400	702	593	2,200	3,250	1,210
9	342	900	495	2,220	778	7,610	1,530	692	773	2,450	3,200	1,140
10	341	882	503	2,040	953	10,500	1,710	646	947	2,380	3,030	1,150
11	359	871	508	1,800	1,030	13,100	1,960	562	1,060	2,160	2,890	1,190
12	352	943	501	1,540	1,060	12,700	2,390	495	1,150	1,900	2,920	1,220
13	313	1,030	514	1,310	1,070	10,900	2,810	443	1,500	1,630	3,240	1,210
14	274	1,130	522	1,140	1,050	8,600	2,970	402	1,520	1,370	3,480	1,160
15	243	1,310	552	1,000	999	7,060	2,960	368	1,460	1,220	3,440	1,070
16	213	1,550	621	907	1,000	6,240	2,830	339	1,460	1,160	3,190	949
17	182	1,950	670	821	1,030	5,880	2,570	314	1,440	1,130	2,770	816
18	166	2,980	711	744	1,010	5,600	2,310	301	1,430	1,110	2,490	687
19	161	4,360	755	685	1,100	5,190	2,040	321	1,580	1,110	2,400	586
20	159	4,270	809	637	1,210	4,830	1,770	339	1,740	1,040	2,370	503
21	165	3,540	833	597	1,290	4,740	1,510	327	1,780	1,020	2,350	464
22	175	2,890	854	565	1,390	5,710	1,510	345	1,710	1,030	2,260	449
23	179	2,360	893	533	1,480	8,250	1,300	374	1,730	1,050	2,140	425
24	184	2,010	962	511	1,490	9,810	1,110	395	1,890	1,010	2,060	394
25	194	1,730	1,160	497	1,520	8,820	1,010	477	1,970	1,110	2,070	375
26	220	1,450	1,280	486	1,590	7,200	1,040	528	1,930	1,350	2,160	368
27	264	1,260	1,440	478	1,930	5,950	1,030	577	1,810	1,810	2,220	348
28	307	1,090	1,650	473	2,190	4,930	1,070	629	1,600	2,730	2,160	329
29	358	958	1,800	466	---	4,070	1,150	663	1,340	4,320	2,030	322
30	446	844	1,910	458	---	3,360	1,180	645	1,110	4,760	1,680	328
31	505	---	2,010	465	---	2,820	---	552	---	4,200	1,550	---
MEAN	324	1,545	854	1,204	1,039	6,807	1,812	584	1,203	1,726	2,595	897
MAX	607	4,360	2,010	2,290	2,190	13,100	2,970	1,150	1,970	4,760	3,480	1,550
MIN	159	569	477	458	432	2,460	1,010	301	303	955	1,550	322
MED	313	1,060	670	907	1,030	6,690	1,710	552	1,430	1,220	2,490	1,010
IN.	0.33	1.51	0.86	1.22	0.95	6.89	1.77	0.59	1.18	1.75	2.63	0.88

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 2003, BY WATER YEAR (WY)

MEAN	506	400	724	1,292	1,937	2,323	1,867	794	631	719	823	572
MAX	6,892	3,594	6,057	4,332	9,355	7,718	9,368	4,282	3,867	3,345	6,098	4,279
(WY)	(1995)	(1948)	(1965)	(1993)	(1986)	(1984)	(1948)	(1964)	(1973)	(1991)	(1928)	(1935)
MIN	22.0	26.5	37.0	65.5	116	167	173	60.6	37.6	42.5	34.1	26.8
(WY)	(1955)	(1934)	(1934)	(1934)	(1957)	(1955)	(1927)	(1927)	(2000)	(2000)	(2000)	(1954)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1926 - 2003	
ANNUAL MEAN	452		1,725		1,044	
HIGHEST ANNUAL MEAN					2,854	1948
LOWEST ANNUAL MEAN					209	1968
HIGHEST DAILY MEAN	4,360	Nov 19	13,100	Mar 11	53,100	Apr 4, 1948
LOWEST DAILY MEAN	37	Sep 12	159	Oct 20	17	Oct 23, 1954
ANNUAL SEVEN-DAY MINIMUM	40	Sep 7	170	Oct 17	17	Oct 22, 1954
MAXIMUM PEAK FLOW			13,300	Mar 11	55,900	Apr 4, 1948
MAXIMUM PEAK STAGE			28.65	Mar 11	35.08	Apr 4, 1948
INSTANTANEOUS LOW FLOW			157	Oct 20	17	Oct 23, 1954
ANNUAL RUNOFF (INCHES)	5.39		20.55		12.45	
10 PERCENT EXCEEDS	998		3,400		2,560	
50 PERCENT EXCEEDS	220		1,130		452	
90 PERCENT EXCEEDS	61		360		82	

02329000 OCHLOCKONEE RIVER NEAR HAVANA, FL—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.29	16.00	16.85	21.71	15.28	22.43	22.34	18.69	15.30	17.80	23.79	19.93
2	16.05	16.33	16.46	21.53	15.19	24.01	21.75	18.44	14.74	17.90	23.07	20.03
3	15.94	16.55	16.13	21.27	15.11	25.24	21.25	18.14	14.35	18.19	22.55	20.08
4	15.80	16.75	15.86	21.29	15.21	26.08	20.83	17.87	14.13	18.46	22.23	19.98
5	15.55	16.97	15.70	21.45	15.37	26.26	20.49	17.52	14.09	18.87	22.23	19.76
6	15.14	17.42	15.55	21.68	15.47	26.34	20.21	17.15	14.32	19.34	22.82	19.54
7	14.76	17.49	15.43	21.94	16.01	26.59	19.88	16.80	15.26	20.42	23.30	19.29
8	14.56	17.49	15.49	22.06	16.30	26.34	19.63	16.66	16.12	21.82	23.63	18.91
9	14.45	17.52	15.56	21.88	17.00	26.53	20.03	16.61	16.97	22.44	23.57	18.67
10	14.44	17.44	15.62	21.39	17.79	27.73	20.48	16.39	17.76	22.28	23.34	18.80
11	14.55	17.40	15.65	20.73	18.17	28.58	21.19	15.97	18.31	21.71	23.14	19.04
12	14.51	17.74	15.60	20.04	18.31	28.47	22.29	15.56	18.66	21.02	23.18	19.26
13	14.29	18.19	15.69	19.32	18.36	27.85	23.03	15.19	19.93	20.27	23.62	19.32
14	14.07	18.60	15.74	18.64	18.27	26.97	23.26	14.89	20.00	19.52	23.92	19.13
15	13.89	19.30	15.91	18.05	18.02	26.27	23.24	14.63	19.85	18.94	23.87	18.77
16	13.71	20.07	16.26	17.56	18.03	25.84	23.06	14.39	19.84	18.71	23.55	18.20
17	13.50	21.14	16.50	17.19	18.18	25.64	22.68	14.19	19.76	18.61	22.98	17.51
18	13.39	23.22	16.70	16.85	18.10	25.48	22.11	14.07	19.72	18.52	22.54	16.79
19	13.34	24.66	16.90	16.58	18.48	25.23	21.41	14.24	20.14	18.51	22.34	16.16
20	13.31	24.60	17.14	16.34	18.91	24.99	20.66	14.39	20.55	18.24	22.25	15.65
21	13.38	23.98	17.24	16.14	19.23	24.93	19.96	14.29	20.67	18.13	22.22	15.43
22	13.47	23.14	17.33	15.98	19.60	25.53	19.96	14.44	20.47	18.18	21.97	15.34
23	13.50	22.23	17.49	15.81	19.90	26.82	19.26	14.67	20.54	18.27	21.66	15.21
24	13.55	21.33	17.83	15.67	19.92	27.47	18.53	14.84	20.97	18.06	21.46	15.02
25	13.63	20.53	18.72	15.58	20.01	27.06	18.09	15.43	21.20	18.51	21.49	14.91
26	13.83	19.79	19.21	15.50	20.18	26.33	18.20	15.78	21.10	19.45	21.72	14.86
27	14.16	19.10	19.75	15.44	21.10	25.68	18.18	16.04	20.76	20.75	21.88	14.73
28	14.46	18.44	20.32	15.41	21.79	25.05	18.36	16.30	20.19	22.83	21.72	14.61
29	14.80	17.82	20.72	15.35	---	24.44	18.66	16.47	19.43	24.63	21.39	14.56
30	15.33	17.28	21.05	15.30	---	23.76	18.80	16.38	18.51	24.94	20.40	14.60
31	15.66	---	21.31	15.35	---	23.04	---	15.90	---	24.54	20.08	---
MEAN	14.43	19.28	17.15	18.36	17.97	25.90	20.59	15.88	18.45	20.00	22.51	17.47
MAX	16.29	24.66	21.31	22.06	21.79	28.58	23.26	18.69	21.20	24.94	23.92	20.08
MIN	13.31	16.00	15.43	15.30	15.11	22.43	18.09	14.07	14.09	17.80	20.08	14.56

02329600 LITTLE RIVER NEAR MIDWAY, FL

LOCATION.--Lat 30°30'44", long 84°31'25", in SW¼ sec. 3, T.1N., R. 3W., Gadsden County, Hydrologic Unit 03120003, at bridge on State Highway 268, 0.5 mi upstream from Monroe Creek, 3.2 mi above mouth, and 3.7 mi west of Midway.

DRAINAGE AREA.--305 mi^2.

PERIOD OF RECORD.--Annual maximums, water years 1965 to 1985. October 1985 to current year.

GAGE.--Water-stage recorder and crest-stage. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 22, 1985, nonrecording and crest-stage gages at same site and datum.

REMARKS.--Records fair, except those below 200 ft^3/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109	307	122	688	190	2,720	323	189	72	76	2,190	116
2	91	223	122	878	157	2,620	278	193	65	177	3,410	102
3	90	163	113	891	137	1,710	250	156	74	275	2,790	116
4	92	139	101	544	149	1,500	239	187	88	263	2,560	125
5	96	139	120	314	156	1,440	249	151	132	283	1,590	111
6	93	252	167	264	150	1,080	409	132	92	224	1,010	136
7	92	402	222	240	433	901	259	115	362	223	680	112
8	119	348	209	231	617	954	335	101	560	205	580	112
9	130	225	154	229	701	1,460	1,080	89	405	152	360	138
10	116	185	125	226	490	3,490	1,900	88	271	143	281	114
11	97	166	136	217	292	3,630	2,190	89	192	98	244	89
12	90	471	143	178	249	2,570	1,440	79	126	77	236	76
13	83	1,280	237	161	232	1,450	613	73	174	64	444	73
14	80	1,840	319	159	217	768	335	66	194	93	463	76
15	136	1,710	315	162	195	537	281	72	152	168	495	94
16	201	860	255	160	362	497	253	81	131	198	468	83
17	133	318	211	153	800	644	236	83	243	204	338	67
18	106	296	163	153	843	1,090	222	79	270	212	373	59
19	101	251	149	163	639	954	210	65	235	e220	453	64
20	96	232	260	176	360	985	189	62	213	e214	400	68
21	96	229	323	163	267	1,550	205	65	199	205	252	94
22	120	224	287	157	271	3,320	246	119	160	275	222	136
23	117	196	235	144	435	2,400	283	298	116	596	223	208
24	163	156	539	126	539	1,260	228	230	86	691	234	254
25	260	130	1,660	114	415	575	228	174	77	839	222	217
26	218	145	1,450	120	292	383	514	117	75	1,060	187	134
27	215	143	1,120	131	1,150	345	571	117	74	1,160	203	91
28	179	132	461	131	1,860	396	411	86	64	820	185	81
29	167	129	294	133	---	345	263	81	67	362	154	69
30	360	116	267	137	---	327	214	80	82	368	178	66
31	423	---	280	171	---	362	---	74	---	779	188	---
MEAN	144	380	341	249	450	1,363	482	116	168	346	697	109
MAX	423	1,840	1,660	891	1,860	3,630	2,190	298	560	1,160	3,410	254
MIN	80	116	101	114	137	327	189	62	64	64	154	59
IN.	0.55	1.39	1.29	0.94	1.54	5.15	1.76	0.44	0.62	1.31	2.64	0.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2003, BY WATER YEAR (WY)

MEAN	327	306	327	581	675	808	344	203	295	276	343	254
MAX	2,542	1,497	876	1,694	2,139	1,791	756	1,136	875	1,003	1,617	1,249
(WY)	(1995)	(1998)	(1986)	(1991)	(1986)	(1991)	(1994)	(1991)	(1989)	(1994)	(1994)	(1994)
MIN	24.0	26.8	38.3	96.0	80.0	213	116	15.5	9.25	21.2	47.0	49.3
(WY)	(1991)	(2002)	(2002)	(1989)	(2002)	(2000)	(1999)	(2001)	(2000)	(2000)	(2000)	(1990)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1986 - 2003	
ANNUAL MEAN	186		405		394	
HIGHEST ANNUAL MEAN					709	1991
LOWEST ANNUAL MEAN					106	2000
HIGHEST DAILY MEAN	3,870	Mar 4	3,630	Mar 11	30,300	Oct 3, 1994
LOWEST DAILY MEAN	13	Jun 4	59	Sep 18	4.3	Jun 12, 2000
ANNUAL SEVEN-DAY MINIMUM	14	Jun 2	72	May 15	4.4	Jun 10, 2000
MAXIMUM PEAK FLOW			3,910	Mar 10	49,200	Sep 22, 1969
MAXIMUM PEAK STAGE			75.80	Mar 10	86.25	Sep 22, 1969
INSTANTANEOUS LOW FLOW			56	Sep 18	3.8	Jun 14, 2000
ANNUAL RUNOFF (INCHES)	8.30		18.02		17.55	
10 PERCENT EXCEEDS	316		995		883	
50 PERCENT EXCEEDS	92		213		195	
90 PERCENT EXCEEDS	24		83		49	

e Estimated

02330000 OCHLOCKONEE RIVER NEAR BLOXHAM, FL

LOCATION.--Lat 30°22'59", long 84°39'18", in NE¼ sec. 20, T. 1 S., R. 4 W., Leon County, Hydrologic Unit 03120003, on left bank at Old State Highway 20(Crooked Road), 3,000 ft downstream from C.H. Corn Hydroelectric Dam, 1.5 mi southwest of Bloxham, and 65 mi upstream from mouth.
DRAINAGE AREA.--1,700 mi^2, approximately.
PERIOD OF RECORD.--June 1926 to current year. Low-flow records not equivalent prior to October 1, 1954, due to undetermined amount of seepage inflow.
REVISED RECORDS.--WSP 1002: 1940-42. WSP 1704: 1958-59. WSP 1905, WRD FL-76-4: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 24.69 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 9, 1930, nonrecording gage at site 2,700 ft upstream at datum 5.00 ft higher, Apr. 9, 1930 to Jan. 19, 1939, water-stage recorder at site 2,000 ft upstream at datum 5.00ft higher, Jan. 20, 1939 to Sept. 30, 1954, water-stage recorder at present site at datum 5.00 ft higher, Oct. 1, 1954 to Sept. 30, 1985, water-stage recorder at present site and datum, Oct. 1, 1985 to Aug. 27, 1997, at site 2,000 ft upstream at present datum.
REMARKS.--Records fair, except those below 150 ft^3/s and estimated daily discharges, which are poor. Flow regulated since 1929 by C.H. Corn Hydroelectric Dam (formerly Jackson Bluff Dam) above station and storage in Lake Talquin (02329900). Since October 1981, the publication of adjusted values for storage has been discontinued since the difference between adjusted and the unadjusted values have been minimal. Maximum discharge, 89,400 ft^3/s, Sept. 23, 1969, gage height, 29.2 ft, from floodmark; minimum discharge, since October 1954, 1.0 ft^3/s, Nov. 1, 1957, caused by closure of breaks in earth embankment of C.H. Corn Hydroelectric Dam (indeterminate prior to October 1954).
EXTREMES OUTSIDE THE PERIOD OF RECORD.--Maximum stage since 1834, 32.64 ft, Sept. 30, 1957, from flood marks established by local resident, discharge not determined.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,230	1,180	e1,140	3,970	751	5,930	3,020	1,460	649	1,400	5,380	1,780
2	821	1,120	938	3,620	871	7,070	3,070	1,740	713	1,550	5,850	1,610
3	583	871	889	3,370	810	6,350	2,950	1,770	535	1,740	5,490	1,580
4	555	1,050	960	3,070	882	7,000	2,470	1,480	772	2,210	4,890	1,810
5	661	1,110	1,240	2,550	994	7,250	2,230	1,040	811	2,060	4,040	1,700
6	609	2,510	927	2,620	719	7,870	2,570	1,010	766	1,440	3,180	1,630
7	581	2,270	579	2,620	1,400	8,180	2,400	1,000	1,810	1,410	3,860	1,570
8	568	2,490	692	2,460	1,630	7,950	2,570	986	2,650	1,850	4,630	1,270
9	579	1,620	919	2,510	1,940	8,330	3,230	846	1,840	2,550	3,580	1,160
10	736	1,290	872	2,610	2,050	9,510	3,140	713	1,460	2,540	3,470	1,310
11	728	1,620	620	2,610	1,660	13,500	3,970	694	1,520	2,190	3,280	1,510
12	543	1,870	672	2,240	1,170	15,200	4,140	580	1,510	2,090	3,430	1,460
13	496	3,080	1,270	1,900	1,290	13,600	3,590	617	2,450	1,830	5,180	1,320
14	479	2,940	1,330	1,460	1,510	9,430	3,340	518	3,100	1,260	4,730	1,310
15	1,180	3,170	1,200	1,300	1,550	6,740	3,190	208	2,060	1,400	4,200	1,310
16	966	2,950	1,130	1,290	2,730	6,690	3,320	223	1,770	1,570	5,000	1,300
17	592	1,820	1,000	1,150	2,690	6,770	3,210	334	1,960	1,570	4,090	1,300
18	390	2,750	987	953	e3,490	6,670	2,950	500	2,290	1,570	3,720	883
19	218	3,370	986	732	e3,610	6,440	2,870	771	2,260	1,510	3,370	510
20	278	3,570	1,420	821	e3,300	5,840	2,260	755	2,020	1,390	3,160	495
21	280	3,610	1,600	950	2,160	6,040	1,650	441	2,380	1,380	3,020	778
22	323	3,610	1,310	957	1,920	6,230	1,800	688	2,100	1,530	2,570	1,180
23	508	3,500	1,080	945	1,950	7,550	1,800	1,800	1,790	2,950	2,350	1,160
24	833	2,910	2,900	888	2,390	8,090	1,790	959	1,750	2,720	2,370	574
25	588	2,360	4,060	756	2,540	8,420	2,140	673	1,740	2,000	2,380	751
26	603	1,810	3,250	508	2,200	8,450	2,080	791	1,740	1,980	2,300	1,020
27	e685	1,760	2,850	548	5,710	7,200	1,580	932	1,750	2,770	2,090	600
28	e765	e1,370	2,650	691	5,810	5,810	1,760	1,120	1,810	3,140	2,120	498
29	845	e1,290	2,090	701	---	4,920	1,760	502	1,770	3,010	2,650	413
30	1,780	e1,200	2,290	702	---	4,530	1,680	777	1,740	3,440	2,630	236
31	1,650	---	3,460	717	---	4,090	---	712	---	5,170	1,960	---
MEAN	698	2,202	1,526	1,684	2,133	7,666	2,618	859	1,717	2,104	3,580	1,134
MAX	1,780	3,610	4,060	3,970	5,810	15,200	4,140	1,800	3,100	5,170	5,850	1,810
MIN	218	871	579	508	719	4,090	1,580	208	535	1,260	1,960	236
IN.	0.47	1.45	1.04	1.14	1.31	5.20	1.72	0.58	1.13	1.43	2.43	0.74

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 2003, BY WATER YEAR (WY)

MEAN	1,007	797	1,315	2,016	2,833	3,364	2,765	1,331	1,180	1,284	1,489	1,268
MAX	10,550	4,943	8,913	5,671	12,290	9,313	13,240	4,880	4,942	4,007	6,835	7,890
(WY)	(1995)	(1948)	(1965)	(1993)	(1986)	(1984)	(1948)	(1964)	(1973)	(1991)	(1928)	(1969)
MIN	50.0	52.5	82.6	222	243	296	327	172	73.5	66.3	116	120
(WY)	(1955)	(1955)	(1959)	(1935)	(1957)	(1955)	(1999)	(1927)	(2000)	(2000)	(2000)	(1958)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1926 - 2003	
ANNUAL MEAN	903		2,333		1,692	
HIGHEST ANNUAL MEAN					4,516	1948
LOWEST ANNUAL MEAN					315	1955
HIGHEST DAILY MEAN	11,100	Mar 3	15,200	Mar 12	73,200	Sep 23, 1969
LOWEST DAILY MEAN	140	Sep 12	208	May 15	1.0	Jul 14, 1931
ANNUAL SEVEN-DAY MINIMUM	162	May 6	370	Oct 17	2.6	Sep 26, 1958
MAXIMUM PEAK FLOW			16,300	Mar 12	89,400	Sep 25, 1969
MAXIMUM PEAK STAGE			21.03	Mar 12	29.20	Sep 23, 1969
INSTANTANEOUS LOW FLOW			175	May 16	1.0	Nov 1, 1957
ANNUAL RUNOFF (INCHES)	7.21		18.63		13.52	
10 PERCENT EXCEEDS	2,250		4,950		4,120	
50 PERCENT EXCEEDS	535		1,750		969	
90 PERCENT EXCEEDS	179		607		157	

e Estimated

02330100 TELOGIA CREEK NEAR BRISTOL, FL

LOCATION.--Lat 30°25'35", long 84°55'40", in NW¼ sec. 3, T. 1 S., R. 7 W., Liberty County, Hydrologic Unit 03120003, near left bank at downstream side of bridge on State Highway 20, 600 ft upstream from White Branch, 3.0 mi east of Bristol, and 33 mi upstream from mouth.

DRAINGAGE AREA.--126 mi^2.

PERIOD OF RECORD.--March 1950 to September 1971, October 1974 to September 1979, October 1980 to current year.

REVISED RECORDS.--WSP 1504: 1950-51, 1953 (M), 1955-56.

GAGE.--Water-stage recorder. Datum of gage is 99.50 ft above National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark).

REMARKS.--No estimated daily discharges. Records good.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	234	102	303	106	1,070	219	101	82	176	599	204
2	85	145	101	540	103	786	164	96	117	495	679	148
3	75	104	99	483	101	802	142	93	93	714	589	128
4	71	93	96	242	107	664	132	99	111	621	640	123
5	87	90	106	182	122	640	160	125	125	330	631	122
6	77	138	138	167	122	596	267	99	173	282	514	123
7	73	180	153	158	176	451	289	89	533	251	519	128
8	66	174	132	153	246	446	265	84	834	171	1,100	140
9	68	132	116	150	246	546	638	80	830	202	892	116
10	70	129	111	146	170	797	996	76	438	205	451	100
11	66	162	113	142	156	1,120	694	73	184	132	257	92
12	63	285	116	136	140	635	412	71	151	109	285	86
13	60	735	154	130	123	437	261	68	140	102	825	82
14	60	993	188	126	113	330	188	65	157	108	1,200	81
15	70	445	195	124	108	270	157	64	224	127	702	83
16	94	249	151	121	156	215	140	64	295	133	681	84
17	116	208	128	120	346	208	131	63	247	175	403	78
18	92	204	118	120	563	297	124	62	390	175	301	73
19	72	176	111	117	273	378	119	63	419	167	425	71
20	64	155	133	115	173	476	115	78	410	188	617	69
21	61	145	173	110	156	680	110	113	453	147	385	68
22	58	135	176	109	162	832	107	212	387	189	237	75
23	60	127	145	112	224	473	103	408	216	637	180	132
24	89	120	192	111	281	287	98	664	142	788	278	172
25	151	115	547	108	196	204	121	316	118	622	581	146
26	167	110	1,150	107	162	172	210	137	103	543	381	110
27	139	108	524	107	576	182	256	113	93	491	194	98
28	135	105	250	107	1,450	245	166	112	87	604	152	90
29	135	104	181	105	---	259	124	100	104	345	156	83
30	194	102	164	104	---	215	109	89	137	243	164	77
31	299	---	170	105	---	249	---	81	---	397	219	---
MEAN	97.4	207	201	160	245	483	234	128	260	318	492	106
MAX	299	993	1,150	540	1,450	1,120	996	664	834	788	1,200	204
MIN	58	90	96	104	101	172	98	62	82	102	152	68
IN.	0.89	1.83	1.84	1.46	2.02	4.42	2.07	1.17	2.30	2.91	4.50	0.94

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2003, BY WATER YEAR (WY)

MEAN	174	160	195	253	291	333	231	156	170	207	222	209
MAX	867	642	749	766	812	1,100	615	788	605	510	726	1,268
(WY)	(1995)	(1998)	(1965)	(1991)	(1986)	(1991)	(1958)	(1991)	(1965)	(1956)	(1994)	(1969)
MIN	35.4	46.9	69.3	71.1	59.7	45.1	61.0	28.4	28.6	45.9	47.0	38.4
(WY)	(1955)	(1991)	(1991)	(1989)	(2001)	(1955)	(1999)	(2001)	(2000)	(2000)	(1954)	(1954)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1950 - 2003	
ANNUAL MEAN	142		245		217	
HIGHEST ANNUAL MEAN					478	1965
LOWEST ANNUAL MEAN					78.9	2000
HIGHEST DAILY MEAN	3,030	Mar 4	1,450	Feb 28	16,600	Sep 22, 1969
LOWEST DAILY MEAN	31	Sep 12	58	Oct 22	21	Jun 7, 2001
ANNUAL SEVEN-DAY MINIMUM	33	Sep 6	64	May 13	23	Jun 7, 2000
MAXIMUM PEAK FLOW			1,710	Feb 28	20,600	Sep 22, 1969
MAXIMUM PEAK STAGE			7.57	Feb 28	16.65	Sep 22, 1969
INSTANTANEOUS LOW FLOW			58	Oct 22	21	Jun 12, 2000
ANNUAL RUNOFF (INCHES)	15.27		26.36		23.36	
10 PERCENT EXCEEDS	204		601		433	
50 PERCENT EXCEEDS	97		151		129	
90 PERCENT EXCEEDS	49		81		60	

02330150 OCHLOCKONEE RIVER NEAR SMITH CREEK, FL

LOCATION.--Lat 30°10'35", long 84°40'05", in NE¼ sec. 31, T. 3 S., R. 4 W., Wakulla County, Hydrologic Unit 03120002, at bridge on County Road 368 and Forest Road FH-13, 1.3 mi upstream from Smith Creek, 2.0 mi southwest of community of Smith Creek, and 39 mi upstream from mouth.

DRAINAGE AREA.--2,080 mi^2.

PERIOD OF RECORD.--November 1964 to November 1992 (annual peak stage); October 1996 to current year.

GAGE.--Water-stage recorder. Datum of gage is undetermined. Prior to Nov. 29, 1972, crest-stage gage at NGVD of 1929.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage-height, 29.75 ft above NGVD of 1929, Sept. 25, 1969, discharge not determined.

REMARKS.--No estimated daily discharges. Records poor.

REVISIONS.--Daily and monthly discharges for the water year 2002 were revised.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	793	355	395	362	1,320	620	1,820	422	295	411	734	398
2	582	353	417	380	1,060	818	2,030	415	303	420	648	365
3	461	353	421	417	836	8,350	2,080	408	306	403	911	340
4	404	351	418	447	698	25,000	1,860	403	306	395	1,590	320
5	379	348	415	468	662	19,800	1,820	392	302	412	1,660	303
6	374	339	411	534	640	12,800	1,940	364	296	441	1,280	288
7	446	330	407	627	687	9,460	1,940	341	303	447	806	277
8	713	323	404	665	1,160	7,070	1,770	333	310	445	606	268
9	926	320	403	667	1,630	5,700	1,500	329	316	438	498	262
10	680	318	400	643	1,790	4,820	1,340	324	319	418	421	249
11	579	317	394	611	1,730	4,490	1,000	319	334	402	376	250
12	628	315	392	572	1,570	4,190	898	311	347	384	345	259
13	635	314	392	568	1,370	3,960	1,400	312	346	374	326	345
14	608	311	392	670	1,040	3,910	1,670	312	334	374	315	1,840
15	580	303	392	1,500	744	3,940	1,790	309	308	368	308	3,500
16	577	296	391	2,070	663	3,740	2,170	306	290	361	302	3,450
17	559	293	391	1,910	636	3,230	2,390	305	281	349	303	2,200
18	536	291	399	1,640	618	2,820	2,270	308	281	331	325	1,600
19	526	290	402	1,380	604	2,350	1,930	323	286	324	320	1,690
20	510	289	398	1,170	602	2,210	1,840	330	285	320	308	1,700
21	478	289	386	1,180	678	2,090	1,500	330	280	363	315	1,670
22	448	286	380	1,390	1,050	2,040	1,130	323	277	441	328	1,360
23	430	314	380	1,380	1,310	2,160	848	326	399	556	318	1,120
24	423	393	393	1,260	1,330	2,170	693	325	408	1,270	303	922
25	427	411	394	1,110	1,170	2,190	664	316	379	1,310	293	1,110
26	412	411	392	1,080	973	2,010	636	308	380	1,020	283	2,130
27	400	395	387	1,200	751	2,000	596	298	397	787	305	3,060
28	392	391	385	1,490	653	2,150	525	301	394	659	388	3,220
29	386	395	381	1,800	---	2,290	478	314	385	682	505	3,060
30	375	392	375	1,860	---	2,130	440	304	389	1,110	521	2,700
31	360	---	370	1,600	---	1,820	---	297	---	968	452	---
MEAN	517	336	395	1,053	999	4,914	1,432	333	328	548	529	1,342
MAX	926	411	421	2,070	1,790	25,000	2,390	422	408	1,310	1,660	3,500
MIN	360	286	370	362	602	620	440	297	277	320	283	249
IN.	0.29	0.18	0.22	0.58	0.50	2.72	0.77	0.18	0.18	0.30	0.29	0.72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2002, BY WATER YEAR (WY)

MEAN	1,708	1,192	1,381	1,722	2,036	4,054	1,317	660	879	1,104	1,455	1,224
MAX	5,932	4,505	3,954	3,655	4,510	10,090	1,879	1,956	2,609	2,027	5,076	2,619
(WY)	(1999)	(1998)	(1998)	(1998)	(1998)	(1998)	(1998)	(1997)	(2001)	(2001)	(2001)	(1998)
MIN	480	336	395	573	774	1,277	614	291	156	181	243	353
(WY)	(2000)	(2002)	(2002)	(2000)	(2001)	(2000)	(1999)	(2001)	(2000)	(2000)	(2000)	(1997)

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1996 - 2002	
ANNUAL MEAN	1,777		1,063		1,565	
HIGHEST ANNUAL MEAN					2,798	1998
LOWEST ANNUAL MEAN					591	2000
HIGHEST DAILY MEAN	17,800	Aug 7	25,000	Mar 4	31,800	Oct 2, 1998
LOWEST DAILY MEAN	256	Jun 6	249	Sep 10	128	Jul 22, 2000
ANNUAL SEVEN-DAY MINIMUM	261	Jun 4	265	Sep 6	135	Jun 11, 2000
MAXIMUM PEAK FLOW			27,000	Mar 4	33,000	Oct 2, 1998
MAXIMUM PEAK STAGE			17.54	Mar 4	18.30	Oct 2, 1998
INSTANTANEOUS LOW FLOW			242	Sep 10	125	Jul 22, 2000
ANNUAL RUNOFF (INCHES)	11.60		6.94		10.22	
10 PERCENT EXCEEDS	4,500		2,080		3,540	
50 PERCENT EXCEEDS	755		422		859	
90 PERCENT EXCEEDS	303		304		281	

02330150 OCHLOCKONEE RIVER NEAR SMITH CREEK, FL—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,450	2,620	1,790	4,660	973	11,200	5,930	2,580	770	2,810	6,620	4,200
2	2,310	2,350	1,450	5,850	1,000	12,500	5,200	2,690	685	3,080	8,240	3,560
3	1,860	2,020	1,340	5,870	1,110	14,000	4,520	2,470	775	3,720	8,770	3,050
4	1,310	1,740	1,290	5,480	1,150	12,400	4,320	2,440	761	4,660	8,950	2,780
5	908	1,660	1,400	4,900	1,180	11,500	4,180	2,250	1,410	4,900	8,180	2,840
6	768	1,970	1,620	4,480	1,300	11,400	4,030	1,660	1,480	4,740	7,390	2,960
7	737	3,270	1,770	4,090	1,430	12,100	3,830	1,300	2,740	4,070	6,680	2,810
8	726	3,940	1,450	3,910	1,940	12,700	3,960	1,200	4,520	3,170	6,910	2,600
9	697	3,790	1,280	3,660	2,600	15,600	4,380	1,140	5,150	3,070	7,280	2,220
10	690	3,230	1,390	3,490	2,990	17,000	5,140	989	5,020	3,800	6,870	1,820
11	742	2,550	1,470	3,470	3,310	15,500	5,600	755	4,100	4,170	6,210	1,750
12	813	2,800	1,220	3,470	3,210	17,900	5,690	670	3,600	4,000	6,210	1,980
13	675	3,330	1,130	3,330	2,640	20,600	6,160	622	3,400	3,720	6,570	2,060
14	620	3,910	1,630	2,950	2,300	19,100	6,090	597	3,860	3,370	8,120	1,950
15	624	4,290	2,070	2,540	2,320	14,600	5,510	563	4,740	2,790	8,760	1,830
16	948	4,400	2,110	2,170	2,660	10,500	4,920	430	4,510	2,640	7,830	1,710
17	1,280	4,710	2,000	1,990	3,700	9,430	4,740	383	3,730	2,830	8,260	1,670
18	1,050	4,260	1,830	1,840	4,780	9,260	4,680	405	3,560	2,960	8,360	1,640
19	706	3,840	1,730	1,670	4,850	9,210	4,430	497	3,890	3,050	7,380	1,350
20	536	4,150	1,720	1,380	4,350	9,060	4,190	612	4,250	2,970	6,630	810
21	486	4,430	1,920	1,250	3,560	8,380	3,790	653	4,260	2,650	6,150	629
22	465	4,540	2,280	1,330	3,820	8,050	2,890	656	4,350	2,500	5,730	689
23	463	4,540	2,310	1,410	3,860	8,190	2,480	1,120	4,380	2,810	5,310	1,130
24	546	4,480	2,560	1,400	3,620	9,450	2,400	2,420	3,920	4,050	4,850	1,320
25	693	4,170	4,230	1,350	3,760	10,400	2,460	2,670	3,450	5,070	4,510	1,060
26	787	3,600	5,750	1,230	4,040	11,000	2,740	1,890	3,140	5,070	4,310	920
27	802	2,910	5,880	945	5,420	11,300	3,100	1,590	2,920	4,920	4,260	1,140
28	819	2,490	5,020	748	8,240	10,400	2,710	1,570	2,750	5,170	4,070	1,030
29	941	2,250	4,560	831	---	8,630	2,570	1,600	2,800	5,460	4,050	722
30	1,390	1,960	4,220	909	---	7,270	2,560	1,080	2,840	5,450	4,320	615
31	2,240	---	3,950	948	---	6,530	---	780	---	5,490	4,570	---
MEAN	970	3,340	2,399	2,695	3,075	11,780	4,173	1,299	3,259	3,844	6,527	1,828
MAX	2,450	4,710	5,880	5,870	8,240	20,600	6,160	2,690	5,150	5,490	8,950	4,200
MIN	463	1,660	1,130	748	973	6,530	2,400	383	685	2,500	4,050	615
IN.	0.54	1.79	1.33	1.49	1.54	6.53	2.24	0.72	1.75	2.13	3.62	0.98

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

MEAN	1,602	1,499	1,526	1,861	2,184	5,158	1,725	751	1,219	1,495	2,180	1,300
MAX	5,932	4,505	3,954	3,655	4,510	11,780	4,173	1,956	3,259	3,844	6,527	2,619
(WY)	(1999)	(1998)	(1998)	(1998)	(1998)	(2003)	(2003)	(1997)	(2003)	(2003)	(2003)	(1998)
MIN	480	336	395	573	774	1,277	614	291	156	181	243	353
(WY)	(2000)	(2002)	(2002)	(2000)	(2001)	(2000)	(1999)	(2001)	(2000)	(2000)	(2000)	(1997)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1996 - 2003	
ANNUAL MEAN	1,519		3,778		1,881	
HIGHEST ANNUAL MEAN					3,778	2003
LOWEST ANNUAL MEAN					591	2000
HIGHEST DAILY MEAN	25,000	Mar 4	20,600	Mar 13	31,800	Oct 2, 1998
LOWEST DAILY MEAN	249	Sep 10	383	May 17	128	Jul 22, 2000
ANNUAL SEVEN-DAY MINIMUM	265	Sep 6	498	May 14	135	Jun 11, 2000
MAXIMUM PEAK FLOW			20,800	Mar 13	33,000	Oct 2, 1998
MAXIMUM PEAK STAGE			16.34	Mar 13	18.30	Oct 2, 1998
INSTANTANEOUS LOW FLOW			381	May 17	125	Jul 22, 2000
ANNUAL RUNOFF (INCHES)	9.91		24.66		12.29	
10 PERCENT EXCEEDS	3,540		8,140		4,340	
50 PERCENT EXCEEDS	819		2,960		1,040	
90 PERCENT EXCEEDS	308		773		292	

02330400 NEW RIVER NEAR SUMATRA, FL

LOCATION.--Lat 30°02'19", long 84°50'38", in SE$^1/_4$ sec. 16, T. 5 S., R. 6 W., Liberty County, Hydrologic Unit 03130013, on left bank 1,000 ft downstream from closed Owens bridge and dead ends of Forest Road 125 at river, 1.8 mi downstream from Cat Branch, 4.6 mi west of Tate Fire Tower, and 8.2 mi east of Sumatra.

DRAINAGE AREA.--157 mi^2.

PERIOD OF RECORD.-November 1964 to October 1986 (annual maximum discharge and gage-height), December 1996 to June 1998 (fragmentary), July 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is NGVD of 1929; from USGS Benchmark "TT 24 S"; elevation, 25.587 ft above NGVD of 1929.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,670 ft^3/s, Sept. 23, 1969, gage height 27.38 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	613	253	123	740	44	1,540	109	37	8.4	254	828	680
2	546	270	106	747	41	2,260	94	28	7.3	322	790	654
3	478	279	93	779	38	2,590	80	21	6.5	592	804	607
4	416	272	81	792	42	2,590	67	16	7.9	1,050	813	561
5	349	255	101	764	43	2,430	76	11	8.4	1,320	816	547
6	280	320	133	714	37	2,200	145	8.5	51	1,370	814	572
7	218	367	111	650	104	2,040	146	6.7	247	1,350	817	625
8	186	367	97	581	127	1,890	198	5.5	551	1,220	826	619
9	167	381	92	512	143	2,020	286	4.7	648	1,050	821	581
10	166	448	90	456	160	2,510	343	4.0	692	878	907	518
11	166	498	95	402	157	2,820	368	3.5	669	775	987	439
12	149	548	94	344	150	2,740	388	3.1	618	691	1,010	344
13	127	599	117	291	140	2,460	395	2.8	564	605	983	249
14	116	627	131	244	126	2,090	381	2.5	536	504	939	185
15	139	656	130	207	112	1,730	349	2.4	504	405	899	166
16	206	676	135	179	136	1,410	304	2.3	467	320	859	155
17	244	678	134	158	177	1,160	251	2.2	420	416	844	136
18	275	651	127	140	196	945	203	2.2	363	628	836	129
19	279	619	118	125	238	804	164	2.4	324	870	839	109
20	252	584	117	112	275	712	131	2.4	375	1,080	861	76
21	211	538	112	101	288	634	103	2.3	465	1,090	848	51
22	170	487	110	93	297	566	79	4.6	545	1,010	851	41
23	138	436	110	88	308	503	57	10	638	1,030	888	121
24	121	383	167	82	287	439	40	7.5	668	1,070	908	129
25	110	329	438	81	263	374	39	12	642	1,220	893	124
26	98	274	752	78	243	309	60	19	584	1,450	854	136
27	97	226	930	71	431	252	44	18	512	1,600	787	117
28	96	189	947	63	870	209	52	18	431	1,440	715	110
29	97	161	884	56	---	176	57	15	361	1,230	669	107
30	189	140	802	50	---	153	48	13	307	1,050	668	83
31	235	---	737	47	---	129	---	10	---	900	682	---
MEAN	224	417	265	314	195	1,377	169	9.60	407	929	841	299
MAX	613	678	947	792	870	2,820	395	37	692	1,600	1,010	680
MIN	96	140	81	47	37	129	39	2.2	6.5	254	668	41
IN.	1.64	2.96	1.95	2.31	1.30	10.11	1.20	0.07	2.90	6.82	6.17	2.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	289	137	80.7	188	128	621	87.3	84.7	167	374	554	425
MAX	865	417	265	314	197	1,377	194	359	407	929	1,521	845
(WY)	(1999)	(2003)	(2003)	(2003)	(2002)	(2003)	(2001)	(1997)	(2003)	(2003)	(2001)	(1998)
MIN	28.1	9.72	14.3	75.7	58.8	56.3	9.19	0.001	0.080	0.49	103	73.2
(WY)	(2002)	(1999)	(1999)	(2000)	(2000)	(2000)	(1999)	(2000)	(2000)	(2000)	(2000)	(1999)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	261		457		262	
HIGHEST ANNUAL MEAN					457	2003
LOWEST ANNUAL MEAN					113	2000
HIGHEST DAILY MEAN	3,130	Mar 6	2,820	Mar 11	5,370	Aug 8, 2001
LOWEST DAILY MEAN	0.43	May 27	2.2	May 17	0.00	Jun 5, 1998
ANNUAL SEVEN-DAY MINIMUM	0.67	May 23	2.3	May 15	0.00	Jun 12, 1998
MAXIMUM PEAK FLOW			2,850	Mar 11	5,430	Aug 8, 2001
MAXIMUM PEAK STAGE			23.95	Mar 11	26.31	Aug 8, 2001
INSTANTANEOUS LOW FLOW			2.2	May 16	0.00	Sep 11, 1997
ANNUAL RUNOFF (INCHES)	22.54		39.56		22.65	
10 PERCENT EXCEEDS	621		985		683	
50 PERCENT EXCEEDS	135		279		95	
90 PERCENT EXCEEDS	2.1		37		1.4	

02357150 SPRING CREEK NEAR REYNOLDSVILLE, GA

LOCATION.--Lat 30°54'14", long 84°44'57", Decatur County, Hydrologic Unit 03130010, on right bank, 1 mi upstream of Smith Landing, and 3 mi north-northeast of Reynoldsville.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--October 1998 to current year.

GAGE.--Water-stage and velocity recorder.

REMARKS.--Records fair, except for estimated daily discharges which are poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	845	754	937	1,280	637	1,630	1,350	e1,490	e726	538	677	807
2	809	762	909	1,310	623	1,850	1,260	e1,350	e671	592	714	837
3	736	724	879	1,370	634	2,510	1,220	e1,140	e597	682	871	838
4	680	702	850	1,410	637	3,530	1,190	e1,140	e629	776	1,100	794
5	650	680	837	1,410	611	3,450	1,120	e1,100	e610	851	1,140	717
6	618	697	799	1,370	635	3,090	1,060	e1,050	e577	850	1,070	681
7	596	694	802	1,250	642	2,900	1,050	e981	e607	813	1,100	681
8	618	735	785	1,200	643	2,750	1,150	e900	e670	1,080	1,200	627
9	647	735	770	1,110	657	2,850	1,590	e912	e776	1,180	1,170	649
10	678	723	758	1,030	639	3,130	2,750	e851	e891	1,140	1,090	816
11	664	719	761	960	619	3,670	e4,650	e795	e1,020	1,030	981	873
12	630	922	739	945	639	3,880	e5,110	e734	e1,050	925	972	771
13	605	1,470	755	917	632	3,910	e4,580	e691	e973	839	943	659
14	582	1,900	802	892	644	3,350	e3,470	e735	e990	784	885	603
15	582	2,280	867	845	658	2,870	e2,660	e678	e964	723	876	558
16	579	2,440	966	835	646	2,490	e2,050	e719	e954	700	858	535
17	590	2,330	981	804	676	2,210	e1,710	e680	e819	665	840	508
18	638	2,150	1,010	787	734	2,160	e1,610	e694	e809	645	902	488
19	685	1,900	945	774	794	2,330	e1,380	e658	793	621	1,010	479
20	710	1,770	901	759	912	2,700	e1,300	584	808	610	919	464
21	706	1,760	875	764	1,010	3,200	e1,230	e632	820	600	1,260	454
22	641	1,700	896	735	993	3,420	e1,280	e590	792	608	1,680	446
23	603	1,550	910	694	969	3,300	e1,270	e637	762	589	1,530	447
24	571	1,390	935	669	943	3,130	e1,150	e761	734	591	1,340	480
25	560	1,290	1,070	704	923	2,750	e1,070	e800	679	721	1,160	485
26	550	1,210	1,260	681	1,000	2,340	e1,400	e953	614	821	1,040	500
27	582	1,140	1,390	666	1,260	2,100	e1,640	e959	569	774	920	511
28	594	1,050	1,440	654	1,450	1,880	e1,820	e831	552	722	812	499
29	631	1,030	1,400	649	---	1,680	e1,800	e756	558	651	765	476
30	680	995	1,370	636	---	1,550	e1,650	e710	546	602	777	460
31	719	---	1,290	640	---	1,440	---	e718	---	645	786	---
MEAN	644	1,273	964	927	781	2,711	1,886	846	752	754	1,013	605
MAX	845	2,440	1,440	1,410	1,450	3,910	5,110	1,490	1,050	1,180	1,680	873
MIN	550	680	739	636	611	1,440	1,050	584	546	538	677	446
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)												
MEAN	504	473	407	490	503	1,072	864	380	321	375	373	399
MAX	1,417	1,273	964	927	868	2,711	1,886	846	752	754	1,013	895
(WY)	(1999)	(2003)	(2003)	(2003)	(1999)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)
MIN	136	146	175	169	176	273	350	180	121	121	97.1	114
(WY)	(2001)	(2001)	(2001)	(2002)	(2002)	(2002)	(2002)	(2002)	(2000)	(2000)	(2000)	(2000)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL MEAN	456		1,099		513	
HIGHEST ANNUAL MEAN					1,099	2003
LOWEST ANNUAL MEAN					216	2000
HIGHEST DAILY MEAN	3,630	Sep 18	e5,110	Apr 12	5,110	Apr 12, 2003
LOWEST DAILY MEAN	116	Jul 19	446	Sep 22	45	Sep 13, 2000
ANNUAL SEVEN-DAY MINIMUM	127	Jul 16	465	Sep 19	73	Aug 18, 2000
MAXIMUM PEAK FLOW			5,610	Apr 12	5,610	Apr 12, 2003
MAXIMUM PEAK STAGE			82.52	Apr 12	82.52	Apr 12, 2003
10 PERCENT EXCEEDS	953		1,960		1,040	
50 PERCENT EXCEEDS	242		835		302	
90 PERCENT EXCEEDS	144		595		141	

e Estimated

02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE, FL

LOCATION.--Lat 30°42'03", long 84°51'33", in NW¼ sec. 32, T.4 N., R.6 W., Jackson County, Hydrologic Unit 03130011, on downstream side of abandoned bridge downstream of U.S. Highway 90, 0.6 mi downstream from Jim Woodruff Dam, 0.6 mi upstream from Mosquito Creek, 1.0 mi west of Chattahoochee, and 106 mi upstream from mouth.

DRAINAGE AREA.--17,200 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1304. Prior to October 1939, published as "near River Junction." Gage-height records collected at site 0.9 mi downstream October 1919 to September 1925, and at site approximately 100 ft downstream October 1925 to December 1958 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1906: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (National Weather Service bench mark). Prior to Dec. 16, 1939, water-stage recorder at site 0.9 mi downstream at datum 44.85 ft higher. Dec. 16, 1939 to June 25, 1952, water-stage recorder, June 26, 1952 to June 2, 1954, nonrecording gage, and June 3, 1954 to Oct. 14, 1958, water-stage recorder, at site approximately 100 ft downstream at datum 45.58 ft. Oct. 15, 1958 to Sept. 30, 1987, water-stage recorder at datum 40.58 ft.

REMARKS.--Records good. Flow regulated by Lake Seminole Reservoir (02357500) 0.6 mi upstream since Feb. 4, 1957, Walter F. George Lake (02343240) since 1962, Bartlett's Ferry Reservoir (02341000) since 1926, West Point Lake (02339400) since October 1974, and Lake Sidney Lanier Reservoir (02334400) since 1956.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7,580	11,700	11,800	29,200	12,800	48,800	24,100	28,600	24,800	32,100	30,400	18,700
2	7,370	10,800	11,900	28,000	13,200	49,800	22,900	28,300	22,900	45,800	27,700	18,300
3	7,330	9,980	13,100	30,500	13,200	51,000	22,300	28,100	22,100	62,700	26,400	17,400
4	7,040	9,450	13,300	29,200	14,800	49,400	21,100	28,300	21,300	77,100	25,500	16,000
5	6,900	9,890	13,300	24,900	16,000	43,600	20,400	26,700	20,300	70,700	25,200	15,900
6	6,880	10,500	13,500	21,000	16,000	37,300	20,500	24,600	19,700	58,200	27,700	18,000
7	6,790	10,800	13,400	18,500	18,000	36,300	20,500	25,300	25,000	44,400	34,000	18,500
8	6,820	10,800	13,400	17,800	18,200	42,700	30,100	32,500	33,100	40,500	40,300	17,100
9	6,420	10,800	12,100	17,900	16,300	58,200	53,600	53,500	42,400	41,300	42,500	16,300
10	e6,000	10,800	11,000	17,200	15,600	67,200	66,400	67,600	47,700	35,700	41,700	16,300
11	5,770	10,400	11,000	15,800	18,400	65,400	67,100	79,300	45,200	31,400	38,000	16,200
12	6,280	15,800	11,800	15,600	18,700	64,700	61,100	86,900	36,100	30,700	33,700	16,300
13	6,600	26,800	13,700	15,100	18,600	57,600	58,300	80,200	28,400	30,500	30,600	15,700
14	6,620	30,200	14,100	14,200	19,600	52,600	43,500	73,000	25,300	29,600	26,200	13,900
15	6,620	28,000	14,100	12,600	22,300	50,200	35,800	53,800	29,400	29,000	22,800	12,700
16	6,650	23,600	14,600	10,900	22,400	39,900	33,000	40,800	39,700	30,400	20,800	11,600
17	6,580	24,700	15,200	11,100	e22,000	40,300	29,300	32,900	39,600	30,600	19,400	11,300
18	7,060	26,200	15,000	12,700	21,900	43,200	25,700	29,100	38,900	31,700	19,800	10,900
19	8,390	26,000	15,400	12,500	26,700	45,900	22,600	29,700	43,900	30,600	19,700	10,100
20	9,120	26,100	16,700	12,500	35,100	45,000	21,000	35,900	53,400	28,200	19,600	10,100
21	9,230	24,900	18,000	12,500	32,500	53,300	20,000	41,200	63,700	25,100	21,300	9,870
22	10,400	22,400	15,600	12,500	30,400	64,100	19,200	45,100	69,800	23,100	23,900	9,860
23	10,700	20,300	22,500	12,200	31,800	66,100	18,800	47,700	64,900	24,100	23,300	10,500
24	10,800	18,700	26,000	11,600	33,400	64,600	18,800	47,400	53,800	27,000	22,300	11,100
25	10,300	17,600	30,200	10,800	35,100	55,100	19,000	50,700	42,700	26,500	19,900	11,000
26	9,170	15,200	33,200	10,700	37,100	44,900	28,700	49,900	35,300	25,800	19,600	12,200
27	8,620	14,500	40,200	10,700	40,300	40,900	46,600	42,500	32,200	25,500	19,600	13,300
28	8,350	14,400	45,300	10,900	44,900	39,400	48,700	35,300	30,800	22,800	19,100	12,900
29	10,000	14,400	46,700	11,000	---	35,400	37,700	32,000	30,500	21,800	18,500	12,800
30	15,300	13,400	45,600	10,100	---	32,000	31,600	30,000	30,600	27,600	18,500	14,300
31	12,700	---	32,300	11,400	---	24,900	---	27,300	---	35,600	18,600	---
MEAN	8,206	17,300	20,130	15,860	23,760	48,700	32,950	43,040	37,120	35,360	25,700	13,970
MAX	15,300	30,200	46,700	30,500	44,900	67,200	67,100	86,900	69,800	77,100	42,500	18,700
MIN	5,770	9,450	11,000	10,100	12,800	24,900	18,800	24,600	19,700	21,800	18,500	9,860
MED	7,330	14,900	14,600	12,600	20,800	48,800	27,200	35,900	34,200	30,600	23,300	13,600
IN.	0.55	1.12	1.35	1.06	1.44	3.27	2.14	2.89	2.41	2.37	1.72	0.91

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2003, BY WATER YEAR (WY)

MEAN	12,400	13,270	20,090	27,450	33,430	40,950	33,940	21,840	16,610	16,860	14,950	12,080
MAX	38,500	31,790	70,390	62,470	67,310	171,600	80,700	53,260	39,460	87,780	31,950	25,440
(WY)	(1965)	(1993)	(1949)	(1936)	(1998)	(1929)	(1944)	(1964)	(1973)	(1994)	(1994)	(1994)
MIN	5,319	5,524	7,337	7,262	10,420	12,780	10,880	8,326	4,826	5,117	4,750	5,889
(WY)	(1955)	(1932)	(2002)	(1956)	(1989)	(1955)	(1999)	(2002)	(2000)	(2000)	(1988)	(2000)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1929 - 2003	
ANNUAL MEAN	10,880		26,880		21,930	
HIGHEST ANNUAL MEAN					35,680	1929
LOWEST ANNUAL MEAN					8,681	2002
HIGHEST DAILY MEAN	46,700	Dec 29	86,900	May 12	291,000	Mar 20, 1929
LOWEST DAILY MEAN	5,250	Aug 14	5,770	Oct 11	3,900	Nov 15, 1987
ANNUAL SEVEN-DAY MINIMUM	5,360	Aug 14	6,330	Oct 9	4,530	Aug 10, 1988
MAXIMUM PEAK FLOW			90,000	May 12	293,000	Mar 20, 1929
MAXIMUM PEAK STAGE			63.46	May 12	79.55	Mar 20, 1929
INSTANTANEOUS LOW FLOW			5,650	Oct 12	2,570	Aug 6, 1986
ANNUAL RUNOFF (INCHES)	8.59		21.22		17.33	
10 PERCENT EXCEEDS	18,100		49,800		43,600	
50 PERCENT EXCEEDS	8,390		22,900		16,000	
90 PERCENT EXCEEDS	5,780		10,500		8,480	

e Estimated

02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE, FL—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40.65	42.51	42.85	50.04	43.71	56.43	48.16	49.82	48.41	51.05	50.47	45.98
2	40.53	42.08	42.93	49.62	43.88	56.73	47.67	49.70	47.69	55.36	49.49	45.83
3	40.50	41.64	43.49	50.51	43.88	57.06	47.44	49.65	47.38	59.18	49.01	45.44
4	40.33	41.36	43.62	50.04	44.55	56.57	46.99	49.70	47.04	61.55	48.69	44.82
5	40.25	41.59	43.60	48.45	45.06	54.84	46.70	49.12	46.64	60.55	48.56	44.78
6	40.24	41.89	43.68	46.98	45.07	52.81	46.74	48.34	46.42	58.37	49.48	45.70
7	40.19	42.04	43.66	46.05	45.83	52.47	46.72	48.62	48.43	55.10	51.72	45.89
8	40.21	42.04	43.63	45.78	45.92	54.54	50.27	51.19	51.39	53.87	53.80	45.29
9	39.96	42.04	43.02	45.79	45.17	58.35	57.37	57.29	54.44	54.11	54.51	44.96
10	---	42.06	42.50	45.53	44.88	59.97	59.83	60.05	56.11	52.30	54.25	44.94
11	39.56	41.84	42.47	44.96	45.99	59.68	59.96	61.88	55.31	50.81	53.05	44.90
12	39.88	44.41	42.87	44.88	46.10	59.55	58.93	63.03	52.41	50.57	51.61	44.94
13	40.08	49.14	43.78	44.68	46.09	58.29	58.42	62.04	49.74	50.50	50.52	44.70
14	40.09	50.40	43.96	44.32	46.47	57.36	54.79	60.91	48.60	50.18	48.94	43.90
15	40.08	49.60	43.96	43.59	47.46	56.70	52.32	57.49	50.09	49.98	47.64	43.31
16	40.11	47.97	44.22	42.83	47.49	53.68	51.38	53.95	53.61	50.45	46.86	42.80
17	40.06	48.36	44.49	42.90	---	53.81	50.08	51.35	53.57	50.53	46.27	42.65
18	40.35	48.96	44.36	43.66	47.28	54.71	48.74	49.99	53.34	50.91	46.45	42.44
19	41.10	48.85	44.54	43.54	49.13	55.56	47.57	50.19	54.93	50.54	46.41	42.01
20	41.50	48.89	45.15	43.55	52.09	55.26	46.95	52.36	57.45	49.68	46.36	42.00
21	41.56	48.45	45.71	43.58	51.21	57.43	46.55	54.08	59.37	48.54	47.04	41.90
22	42.18	47.49	44.67	43.58	50.48	59.45	46.18	55.29	60.40	47.76	48.08	41.89
23	42.32	46.65	47.50	43.45	50.95	59.79	46.05	56.09	59.58	48.13	47.84	42.24
24	42.36	45.97	48.88	43.15	51.53	59.53	46.02	56.03	57.53	49.25	47.46	42.51
25	42.11	45.51	50.41	42.78	52.10	57.79	46.10	56.95	54.53	49.06	46.47	42.45
26	41.53	44.49	51.44	42.72	52.75	55.23	49.69	56.67	52.16	48.81	46.37	43.05
27	41.23	44.15	53.75	42.75	53.79	54.00	55.76	54.48	51.11	48.67	46.37	43.59
28	41.08	44.11	55.38	42.81	55.25	53.51	56.41	52.15	50.61	47.64	46.16	43.41
29	41.88	44.11	55.80	42.86	---	52.20	52.95	51.04	50.52	47.26	45.92	43.34
30	44.29	43.64	55.45	42.41	---	51.04	50.90	50.32	50.52	49.41	45.89	44.06
31	42.98	---	51.12	43.06	---	48.47	---	49.36	---	52.26	45.94	---
MEAN	---	45.07	46.22	44.87	---	55.90	50.79	53.84	52.31	51.69	48.63	43.86
MAX	---	50.40	55.80	50.51	---	59.97	59.96	63.03	60.40	61.55	54.51	45.98
MIN	---	41.36	42.47	42.41	---	48.47	46.02	48.34	46.42	47.26	45.89	41.89

02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE, FL—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1962 to June 1972, January 1974 to current year.

SUSPENDED SEDIMENT DISCHARGE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Location in X-sect. looking dwnstrm ft from l bank (00009)
NOV						
05...	1100	41.60	9,970	100	2	897
05...	1105	41.60	10,000	100	2	897
05...	1115	41.62	10,000	100	3	1,050
05...	1119	41.62	10,000	100	3	1,050
05...	1122	41.62	10,000	100	2	1,150
05...	1124	41.63	10,000	100	6	1,150
05...	1127	41.63	10,000	100	5	1,200
05...	1133	41.63	10,000	100	5	1,200
05...	1137	41.64	10,100	100	6	1,280
05...	1139	41.65	10,100	100	5	1,280
JAN						
29...	0920	42.83	10,900	34	8	887
29...	0923	42.83	10,900	85	4	887
29...	0925	42.83	10,900	100	4	1,040
29...	0927	42.83	10,900	100	5	1,040
29...	0930	42.83	10,900	74	6	1,140
29...	0932	42.83	10,900	80	6	1,140
29...	0935	42.83	10,900	76	6	1,200
29...	0936	42.83	10,900	100	4	1,200
29...	0938	42.83	10,900	100	3	1,280
29...	0940	42.83	10,900	100	3	1,280
APR						
10...	1450	60.01	67,400	100	12	740
10...	1453	60.01	67,400	100	12	740
10...	1457	60.00	67,400	100	12	897
10...	1458	60.00	67,400	100	15	897
10...	1500	60.00	67,400	100	16	1,040
10...	1501	60.00	67,400	100	15	1,040
10...	1506	60.00	67,400	84	16	1,170
10...	1507	60.01	67,400	100	14	1,170
10...	1512	60.01	67,400	100	18	1,300
JUN						
10...	1028	56.20	48,000	100	7	773
10...	1030	56.20	48,000	100	6	932
10...	1036	56.20	48,000	100	7	1,070
10...	1039	56.20	48,000	100	7	1,180
10...	1041	56.20	48,000	100	6	1,300
10...	1043	56.20	48,000	100	7	1,300
AUG						
21...	1257	47.42	22,200	100	4	850
21...	1258	47.42	22,200	79	6	850
21...	1301	47.42	22,200	100	3	1,000
21...	1303	47.43	22,200	100	6	1,000
21...	1305	47.43	22,200	100	5	1,130
21...	1306	47.43	22,200	100	5	1,130
21...	1311	47.44	22,300	100	6	1,200
21...	1313	47.45	22,300	85	8	1,300
21...	1314	47.45	22,300	86	9	1,300

02358784 MUDDY BRANCH NEAR MARIANNA, FL

LOCATION.--Lat 30°49'58", long 85°12'31", in SW$^1/_4$ sec. 14, T. 5N., R. 10W., Jackson County, Hydrologic Unit 03130012, at downstream side of culvert at County Road 167, 1.4 mi west of Marianna Municipal Airport, 1.4 mi north of State Highway 166, 2.4 mi upstream from Chipola River, and 4.2 mi north of Marianna.

DRAINAGE AREA.--10.4 mi^2.

PERIOD OF RECORD.--October 1998 to September 1999, October 1999 to September 2000 (gage heights only), October 2000 to current year.

GAGE.--Water-stage recorder.

REMARKS.--Records fair, except for estimated daily discharges which are poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.6	4.4	17	2.4	4.4	14	5.1	e1.7	2.2	3.9	3.1
2	1.0	1.3	4.0	5.7	1.4	5.0	12	4.8	e1.7	6.6	4.7	2.8
3	0.94	1.1	3.8	5.4	1.1	4.4	12	4.6	e1.6	3.3	3.2	3.8
4	5.0	1.0	3.6	5.4	1.0	6.4	11	4.3	e1.6	3.2	3.1	3.8
5	6.8	1.2	3.7	5.8	1.5	7.0	9.9	4.1	e1.6	3.3	2.9	3.5
6	2.2	4.7	3.3	5.8	2.1	8.4	8.8	4.0	e1.6	16	3.1	2.7
7	1.7	2.1	3.1	5.4	3.0	16	8.5	3.8	e1.6	14	3.3	2.5
8	1.6	1.3	2.8	6.2	1.4	9.2	57	3.7	e1.6	7.7	2.7	2.2
9	1.4	1.2	2.7	6.3	0.94	94	25	3.6	e1.7	4.7	2.3	2.0
10	1.2	1.5	2.6	6.0	1.0	27	12	3.4	1.7	4.5	2.2	2.3
11	1.1	5.3	2.5	5.6	0.94	19	11	3.3	1.9	4.1	2.3	2.6
12	1.1	140	2.3	5.3	0.82	18	11	3.2	1.9	3.7	3.0	2.4
13	2.3	13	11	5.2	0.71	18	11	2.9	2.0	3.3	4.1	2.0
14	3.3	7.3	3.2	4.8	0.74	17	11	2.8	2.4	3.0	4.9	1.9
15	3.1	7.3	2.2	4.3	1.0	17	11	2.9	3.3	2.8	3.2	1.8
16	2.1	77	2.2	4.0	4.0	17	12	2.6	2.1	2.2	3.3	1.6
17	1.4	27	2.0	3.8	2.9	20	11	2.6	1.8	3.8	4.9	1.1
18	1.1	18	1.8	3.6	1.6	19	11	e2.6	1.9	8.2	3.4	0.87
19	0.98	17	1.8	3.5	1.2	18	10	e2.5	2.0	3.6	2.7	1.0
20	1.1	16	3.8	3.4	1.3	49	9.3	e2.4	2.9	3.4	2.9	1.1
21	1.2	15	2.7	3.3	2.0	24	9.2	e2.4	3.0	2.8	3.0	1.1
22	1.1	13	2.0	3.4	11	20	7.9	e2.3	2.4	2.6	3.0	1.7
23	1.0	12	1.9	3.3	4.0	19	6.9	e2.2	2.3	3.0	3.1	2.3
24	1.3	10	94	3.1	2.9	20	14	e2.2	1.8	2.8	3.1	1.1
25	1.2	8.9	26	2.7	2.8	20	13	e2.1	1.8	2.5	3.3	1.3
26	1.3	8.1	5.8	1.6	2.3	19	7.0	e2.0	1.7	2.6	3.0	1.5
27	1.8	7.8	4.5	2.1	54	19	5.5	e2.0	1.5	2.6	2.5	1.4
28	1.6	7.4	4.2	2.4	5.9	18	5.3	e1.9	1.4	2.3	2.7	1.6
29	35	5.8	3.9	2.9	---	17	5.4	e1.8	2.1	3.5	3.2	1.4
30	19	4.6	3.7	3.6	---	17	5.4	e1.8	2.0	4.2	3.4	0.74
31	2.5	---	17	3.3	---	16	---	e1.8	---	3.1	3.0	---
MEAN	3.47	14.6	7.50	4.65	4.14	19.4	11.9	2.96	1.95	4.37	3.21	1.97
MAX	35	140	94	17	54	94	57	5.1	3.3	16	4.9	3.8
MIN	0.94	1.0	1.8	1.6	0.71	4.4	5.3	1.8	1.4	2.2	2.2	0.74

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

MEAN	2.00	4.00	2.04	1.60	1.30	6.04	4.18	1.34	0.90	1.93	1.02	1.97
MAX	4.50	14.6	7.50	4.65	4.14	19.4	11.9	2.96	1.95	4.37	3.21	5.70
(WY)	(1999)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)
MIN	0.000	0.000	0.000	0.000	0.000	0.46	0.38	0.41	0.000	0.32	0.11	0.099
(WY)	(2001)	(2001)	(2001)	(2001)	(2001)	(1999)	(1999)	(2002)	(2002)	(2001)	(2001)	(2001)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL MEAN	3.12		6.69		2.36	
HIGHEST ANNUAL MEAN					6.69	2003
LOWEST ANNUAL MEAN					0.57	2001
HIGHEST DAILY MEAN	140	Nov 12	140	Nov 12	140	Nov 12, 2002
LOWEST DAILY MEAN	0.00	Jan 1	0.71	Feb 13	0.00	Apr 21, 1999
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.88	Feb 9	0.00	Sep 3, 1999
MAXIMUM PEAK FLOW			269	Nov 12	285	Sep 15, 2002
MAXIMUM PEAK STAGE			6.95	Nov 12	7.01	Sep 15, 2002
INSTANTANEOUS LOW FLOW			0.49	Sep 30	0.00	Apr 21, 1999
10 PERCENT EXCEEDS	4.8		16		4.7	
50 PERCENT EXCEEDS	0.56		3.1		0.51	
90 PERCENT EXCEEDS	0.00		1.3		0.00	

e Estimated

02358789 CHIPOLA RIVER AT MARIANNA, FL

LOCATION.--Lat 30°46'22", long 85°12'59", in SE 1/4 sec. 3, T.4N., R.10W. Jackson County, Hydrologic Unit 03130012, at bridge on downstream side of U.S. Highway 90, 0.6 mi east of courthouse in Marianna, and 78.5 mi upstream from mouth.

DRAINAGE AREA.--464 mi^2.

PERIOD OF RECORD.--April 1913 to October 1986 (miscellaneous discharge measurements), October 1999 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 56 ft above National Geodetic Vertical Datum of 1929, from Topographic map. Prior to Oct. 1, 1999, nonrecording gage at same site at different datum.

REMARKS.--No estimated daily discharges. Records good.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	800	958	913	1,510	683	1,990	1,060	1,050	385	673	929	1,010
2	712	921	883	1,550	675	2,400	1,030	861	364	1,010	1,150	1,090
3	634	862	851	1,660	663	2,930	1,000	786	361	1,390	1,230	1,070
4	615	742	826	1,880	657	3,190	943	744	366	1,760	1,530	983
5	693	685	815	2,010	650	3,200	887	723	378	2,230	1,810	944
6	723	781	808	1,940	656	3,140	862	734	391	2,540	1,910	903
7	682	793	807	1,710	709	3,040	848	735	515	2,370	1,750	844
8	657	795	799	1,450	725	2,760	1,080	666	657	1,940	1,570	1,510
9	601	800	806	1,280	719	2,840	1,400	609	865	1,590	1,480	2,220
10	568	800	798	1,180	739	2,830	1,820	568	1,050	1,400	1,510	2,400
11	556	804	764	1,110	725	2,860	2,920	540	966	1,150	1,690	2,050
12	537	1,480	738	1,060	684	3,130	3,960	514	790	955	1,710	1,410
13	513	1,930	850	1,020	663	3,320	3,870	490	671	897	1,480	952
14	497	2,290	897	981	649	3,150	3,350	462	767	870	1,300	778
15	543	3,060	922	939	627	2,710	2,690	443	798	950	1,260	701
16	599	3,740	930	906	669	2,240	2,020	438	826	953	1,240	648
17	617	3,680	983	881	782	1,970	1,500	440	981	939	1,290	608
18	607	3,220	951	857	918	1,840	1,250	436	1,040	1,200	1,280	568
19	594	2,650	841	836	1,110	1,730	1,120	506	1,030	1,140	1,150	534
20	545	2,260	829	820	1,270	1,860	1,050	550	1,030	1,040	1,150	507
21	495	2,030	883	806	1,190	1,880	985	558	1,010	917	1,200	492
22	461	1,800	903	796	1,070	1,900	935	546	1,000	874	1,380	511
23	436	1,540	1,030	789	1,080	2,190	892	671	955	908	1,970	575
24	434	1,340	1,540	773	1,140	2,490	907	802	1,120	1,000	2,110	631
25	437	1,230	1,660	755	1,330	2,400	972	673	976	955	1,850	694
26	442	1,150	1,550	738	1,530	2,070	987	628	717	1,020	1,420	764
27	481	1,080	1,620	722	1,910	1,730	1,040	557	608	973	1,100	681
28	515	1,030	1,880	707	1,890	1,450	1,200	518	554	815	1,050	593
29	664	979	1,950	694	---	1,260	1,420	491	554	789	1,130	535
30	857	947	1,760	690	---	1,160	1,360	463	618	893	1,060	490
31	969	---	1,530	687	---	1,110	---	418	---	827	989	---
MEAN	596	1,546	1,075	1,088	933	2,347	1,512	601	745	1,193	1,409	923
MAX	969	3,740	1,950	2,010	1,910	3,320	3,960	1,050	1,120	2,540	2,110	2,400
MIN	434	685	738	687	627	1,110	848	418	361	673	929	490
CFSM	1.29	3.33	2.32	2.35	2.01	5.06	3.26	1.29	1.61	2.57	3.04	1.99
IN.	1.48	3.72	2.67	2.70	2.09	5.83	3.64	1.49	1.79	2.96	3.50	2.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	298	550	527	598	546	1,358	1,021	346	475	508	624	502
MAX	596	1,546	1,075	1,088	933	2,347	1,512	601	751	1,193	1,409	923
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2001)	(2003)	(2003)	(2003)
MIN	141	159	194	239	293	590	400	194	151	149	142	159
(WY)	(2001)	(2002)	(2002)	(2002)	(2002)	(2002)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL MEAN	583		1,166		613	
HIGHEST ANNUAL MEAN					1,166	2003
LOWEST ANNUAL MEAN					294	2000
HIGHEST DAILY MEAN	3,740	Nov 16	3,960	Apr 12	3,960	Apr 12, 2003
LOWEST DAILY MEAN	150	Sep 12	361	Jun 3	124	Aug 24, 2000
ANNUAL SEVEN-DAY MINIMUM	160	Sep 8	380	May 31	125	Oct 31, 2000
MAXIMUM PEAK FLOW			4,070	Apr 12	4,070	Apr 12, 2003
MAXIMUM PEAK STAGE			16.08	Apr 12	16.08	Apr 12, 2003
INSTANTANEOUS LOW FLOW			352	Jun 3	120	Aug 25, 2000
ANNUAL RUNOFF (CFSM)	1.26		2.51		1.32	
ANNUAL RUNOFF (INCHES)	17.07		34.11		17.95	
10 PERCENT EXCEEDS	1,130		2,090		1,350	
50 PERCENT EXCEEDS	383		944		394	
90 PERCENT EXCEEDS	199		539		155	

02359000 CHIPOLA RIVER NEAR ALTHA, FL

LOCATION.--Lat 30°32'02", long 85°09'55", in NW¼ sec. 32, T.2 N., R.9 W., Calhoun County, Hydrologic Unit 03130012, on right downstream bank at State Highway 274, 0.9 mi downstream from Holliman Branch, 3.5 mi southwest of Altha, and 54 mi upstream from mouth.

DRAINAGE AREA.--781 mi^2.

PERIOD OF RECORD.--November 1912 to December 1913, September 1921 to September 1927, August 1929 to September 1931, March 1943 to current year. Monthly discharge only for some periods published in WSP 1304.

REVISED RECORDS.--WSP 1384: Drainage area. WSP 1504: 1924, 1925 (M), 1926.

GAGE.--Water-stage recorder. Datum of gage is 19.95 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Jan. 13, 1950, and Mar. 13, 1978 to Mar. 20, 1979, nonrecording gage at same site and datum.

REMARKS.-Records good.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,350	2,770	1,820	3,110	1,310	4,260	2,380	2,080	1,000	1,430	2,300	1,870
2	1,230	2,340	1,770	3,130	1,290	4,380	e2,300	1,910	978	2,040	3,330	1,860
3	1,130	2,050	1,720	3,020	1,250	4,430	2,250	1,730	980	2,690	3,120	1,890
4	1,110	1,820	1,670	2,960	1,270	4,440	2,170	1,640	982	2,800	3,060	1,910
5	1,270	1,650	1,670	2,980	1,250	4,440	2,030	1,560	978	2,880	3,040	1,810
6	1,250	2,100	1,680	2,970	1,240	4,390	1,940	1,510	1,000	3,040	3,120	1,770
7	1,190	2,310	1,620	2,840	1,690	4,890	1,910	1,500	1,550	3,200	3,030	1,690
8	1,370	2,130	1,610	2,610	1,710	5,510	2,460	1,440	1,690	3,090	2,810	1,770
9	1,330	1,960	1,570	2,390	1,620	5,460	3,380	1,350	1,970	2,760	2,610	2,230
10	1,220	1,870	1,610	2,220	1,540	5,680	3,620	1,280	2,010	2,450	2,450	2,610
11	1,170	1,870	1,560	2,100	1,520	5,380	3,700	1,230	1,940	2,200	2,500	2,670
12	1,130	4,160	1,520	1,990	1,420	4,770	4,000	1,180	1,720	1,960	2,670	2,330
13	1,090	4,470	1,730	1,910	1,320	4,490	4,220	1,140	1,490	1,970	2,880	1,870
14	1,110	4,270	1,930	1,850	1,290	4,390	4,160	1,110	1,520	1,910	2,690	1,580
15	1,250	4,020	1,910	1,780	1,260	4,170	3,880	1,080	1,590	1,860	2,380	1,420
16	1,410	4,250	1,860	1,720	1,630	3,820	3,400	1,070	1,580	1,860	2,220	1,320
17	1,480	4,840	1,830	1,680	1,960	3,540	2,840	1,060	1,700	1,860	2,290	1,280
18	1,470	4,740	1,820	1,630	1,930	3,580	2,460	1,060	1,820	2,340	2,500	1,180
19	1,350	4,210	1,720	1,580	1,930	3,450	2,220	1,190	1,920	2,370	2,350	1,140
20	1,240	3,720	1,770	1,540	2,010	4,270	2,120	1,270	2,010	2,390	2,190	1,100
21	1,140	3,380	1,750	1,520	2,030	4,740	2,020	1,270	2,120	2,140	2,180	1,060
22	1,080	3,150	1,720	1,510	2,240	4,190	1,930	1,390	2,010	2,220	2,120	1,100
23	1,030	2,840	1,720	1,470	2,580	3,700	1,840	1,470	1,880	2,600	2,340	1,340
24	1,020	2,570	2,410	1,430	2,430	3,620	1,780	1,570	1,880	2,580	2,670	1,280
25	1,030	2,390	3,740	1,400	2,360	3,620	1,880	1,490	1,850	2,890	2,680	1,320
26	1,020	2,240	3,580	1,360	2,440	3,520	2,050	1,360	1,570	2,760	2,440	1,380
27	1,070	2,130	3,200	1,330	3,650	3,330	2,020	1,320	1,330	2,510	2,100	1,370
28	1,080	2,060	3,020	1,330	4,520	3,080	2,040	1,200	1,220	2,180	1,900	1,220
29	1,570	1,940	3,010	1,300	---	2,740	2,160	1,130	1,220	2,060	1,920	1,120
30	3,210	1,880	2,910	1,300	---	2,620	2,230	1,090	1,290	2,200	1,970	1,070
31	3,140	---	2,790	1,320	---	2,510	---	1,040	---	2,220	1,950	---
MEAN	1,340	2,871	2,072	1,977	1,882	4,110	2,580	1,346	1,560	2,370	2,510	1,585
MAX	3,210	4,840	3,740	3,130	4,520	5,680	4,220	2,080	2,120	3,200	3,330	2,670
MIN	1,020	1,650	1,520	1,300	1,240	2,510	1,780	1,040	978	1,430	1,900	1,060
IN.	1.98	4.10	3.06	2.92	2.51	6.07	3.69	1.99	2.23	3.50	3.71	2.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 2003, BY WATER YEAR (WY)

MEAN	1,084	985	1,237	1,772	2,104	2,400	2,081	1,328	1,229	1,283	1,205	1,147
MAX	6,000	2,871	3,617	5,936	5,687	5,465	7,200	3,890	3,636	5,353	3,273	7,642
(WY)	(1927)	(2003)	(1948)	(1926)	(1926)	(1998)	(1948)	(1964)	(1989)	(1994)	(1946)	(1926)
MIN	379	370	394	473	563	540	757	587	462	460	417	397
(WY)	(1969)	(1991)	(1956)	(1956)	(2002)	(1955)	(1968)	(2002)	(2000)	(2000)	(2000)	(1990)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1913 - 2003	
ANNUAL MEAN	1,115		2,186		1,488	
HIGHEST ANNUAL MEAN					2,977	1948
LOWEST ANNUAL MEAN					613	1955
HIGHEST DAILY MEAN	4,840	Nov 17	5,680	Mar 10	21,000	Sep 19, 1926
LOWEST DAILY MEAN	413	Jan 1	978	Jun 2	312	Jun 18, 1972
ANNUAL SEVEN-DAY MINIMUM	462	Jan 1	994	May 31	336	Oct 27, 1968
MAXIMUM PEAK FLOW			5,710	Mar 10	25,000	Sep 20, 1926
MAXIMUM PEAK STAGE			21.45	Mar 10	33.55	Sep 20, 1926
INSTANTANEOUS LOW FLOW			969	Jun 2	309	Nov 18, 1990
ANNUAL RUNOFF (INCHES)	19.38		38.01		25.89	
10 PERCENT EXCEEDS	2,310		3,670		2,770	
50 PERCENT EXCEEDS	755		1,930		1,110	
90 PERCENT EXCEEDS	491		1,180		607	

e Estimated

02359170 APALACHICOLA RIVER NEAR SUMATRA, FL

LOCATION.--Lat 29°56'57", Long 85°00'56", in SW$^1/_4$ sec.14, T.6 S., R.8 W., Franklin County, Hydrologic Unit 03130011, on left bank at Brickyard Landing, 0.5 mi north of Fort Gadsden, 5.3 mi southwest of Sumatra, and 20.6 mi upstream from mouth.

DRAINAGE AREA.--19,200 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1977 to current year.

REVISED RECORDS.--WRD FL-98-4: 1994-97.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Records good. Discharges below 15,000 ft^3/s are tide affected.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10,800	16,100	20,100	45,600	13,400	44,600	42,500	37,700	38,400	40,000	34,500	27,100
2	10,800	16,900	18,000	46,600	13,900	48,900	39,400	38,800	35,900	41,200	35,500	26,900
3	11,100	16,700	16,000	45,100	16,100	50,600	36,400	37,800	33,800	43,600	e37,000	27,100
4	10,600	15,800	14,400	42,300	17,600	52,900	34,000	36,100	32,000	44,700	e38,200	27,500
5	10,300	13,700	15,600	39,900	17,700	54,700	32,400	34,700	30,200	47,200	38,900	27,100
6	9,570	13,900	15,600	38,300	18,300	55,600	30,900	33,700	28,800	53,000	38,600	26,200
7	9,520	13,100	15,200	36,700	19,500	56,900	29,600	32,800	29,700	61,900	e37,400	25,600
8	9,700	13,000	15,100	34,700	19,800	55,000	29,000	31,800	30,300	67,000	38,100	25,300
9	9,670	13,200	15,300	32,400	20,600	54,200	29,300	31,000	30,000	65,100	e39,300	25,100
10	9,450	13,500	15,700	30,300	21,600	53,500	30,100	31,200	31,100	58,300	e40,400	24,500
11	9,020	13,400	13,500	28,500	21,300	53,100	32,600	32,900	33,300	51,700	e41,800	23,800
12	8,740	13,400	13,000	26,500	21,200	56,000	37,900	37,000	36,500	47,000	43,300	23,400
13	8,660	15,400	13,100	24,800	21,600	61,100	44,600	42,800	39,800	43,400	44,500	23,300
14	8,740	21,000	13,300	23,400	22,200	65,300	51,300	50,700	41,700	40,400	45,100	23,400
15	9,250	26,600	13,400	22,100	22,900	66,400	56,200	62,000	40,900	38,200	44,500	23,000
16	10,100	30,900	15,100	20,700	24,500	64,600	56,800	69,600	38,300	37,000	42,400	21,500
17	10,100	33,300	16,000	19,900	26,200	61,600	52,900	69,500	36,300	36,500	39,900	19,700
18	9,870	34,100	17,300	18,700	27,000	57,500	47,400	62,700	36,500	35,900	37,400	17,800
19	9,970	34,500	18,200	18,200	27,700	52,700	42,600	53,600	38,000	35,600	35,000	16,200
20	10,400	34,800	19,600	18,100	28,400	49,100	38,700	45,700	40,600	35,800	32,800	14,500
21	11,000	35,000	19,400	18,100	29,600	47,300	35,400	40,200	43,400	35,900	31,500	13,700
22	11,100	34,900	20,600	18,200	31,600	47,300	32,700	38,100	45,400	37,400	30,700	13,900
23	11,200	34,400	21,400	18,000	33,400	48,900	30,300	38,300	48,800	38,700	30,800	14,700
24	11,800	33,400	23,900	17,500	34,300	51,500	28,300	39,400	53,100	37,900	31,000	14,100
25	12,100	32,100	27,800	17,100	35,000	55,000	27,100	41,100	58,300	37,600	30,500	14,400
26	12,200	30,400	29,300	16,600	35,600	58,800	26,600	42,800	60,600	37,200	30,200	14,900
27	11,900	28,300	31,200	15,500	39,500	60,800	26,300	44,000	58,000	36,900	29,500	15,300
28	11,600	25,800	33,400	14,100	41,500	59,600	27,400	45,100	52,000	36,800	29,000	15,800
29	11,500	23,300	35,800	14,000	---	55,100	30,000	45,400	47,000	36,200	28,900	15,800
30	11,900	21,600	38,500	14,300	---	50,300	34,000	44,000	42,800	35,300	28,300	15,800
31	12,600	---	41,800	13,900	---	46,100	---	41,300	---	34,400	27,800	---
MEAN	10,490	23,420	20,540	25,490	25,070	54,680	36,420	42,960	40,380	42,830	35,900	20,580
MAX	12,600	35,000	41,800	46,600	41,500	66,400	56,800	69,600	60,600	67,000	45,100	27,500
MIN	8,660	13,000	13,000	13,900	13,400	44,600	26,300	31,000	28,800	34,400	27,800	13,700
IN.	0.63	1.36	1.23	1.53	1.36	3.28	2.12	2.58	2.35	2.57	2.16	1.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2003, BY WATER YEAR (WY)

MEAN	14,560	15,930	23,090	29,300	39,540	46,440	35,610	24,340	19,770	21,490	19,200	15,830
MAX	40,720	32,420	52,700	62,310	71,920	95,690	78,430	46,350	40,380	81,670	42,360	33,700
(WY)	(1995)	(1978)	(1993)	(1998)	(1998)	(1998)	(1980)	(1991)	(2003)	(1994)	(1994)	(1994)
MIN	6,515	6,479	7,968	10,070	10,130	16,740	15,610	9,902	6,085	5,631	5,878	7,302
(WY)	(2001)	(2002)	(2002)	(2002)	(1989)	(2000)	(1999)	(2002)	(2000)	(2000)	(2000)	(2000)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1978 - 2003	
ANNUAL MEAN	13,520		31,630		25,360	
HIGHEST ANNUAL MEAN					38,760	1998
LOWEST ANNUAL MEAN					10,750	2002
HIGHEST DAILY MEAN	41,800	Dec 31	69,600	May 16	178,000	Mar 24, 1990
LOWEST DAILY MEAN	6,770	Sep 10	8,660	Oct 13	4,820	Nov 17, 2001
ANNUAL SEVEN-DAY MINIMUM	7,110	Aug 22	9,080	Oct 9	5,240	Nov 14, 2001
MAXIMUM PEAK FLOW			71,000	May 16	179,000	Mar 24, 1990
MAXIMUM PEAK STAGE			8.99	May 16	15.36	Mar 15, 1998
INSTANTANEOUS LOW FLOW			8,660	Oct 13	4,820	Nov 17, 2001
ANNUAL RUNOFF (INCHES)	9.56		22.37		17.95	
10 PERCENT EXCEEDS	24,400		52,900		48,100	
50 PERCENT EXCEEDS	10,900		31,500		19,500	
90 PERCENT EXCEEDS	7,460		13,300		8,920	

e Estimated

02359170 APALACHICOLA RIVER NEAR SUMATRA, FL—Continued

MAIN CHANNEL ONLY

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003, DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10,800	14,000	16,800	22,500	13,400	22,300	22,400	21,600	20,900	21,300	19,900	18,200
2	10,800	14,700	15,900	22,700	13,700	23,200	21,800	21,800	20,300	21,500	20,200	18,200
3	11,100	14,600	14,500	22,400	14,100	23,500	21,300	21,600	19,800	22,100	e20,500	18,200
4	10,600	14,100	14,000	21,800	14,800	23,900	20,900	21,300	19,300	22,300	e21,000	18,300
5	10,300	13,600	14,500	21,200	15,000	24,200	20,600	21,000	18,800	22,800	21,000	18,200
6	9,570	13,700	14,400	20,900	15,500	24,300	20,200	20,800	18,500	23,900	20,900	17,900
7	9,520	13,100	14,300	20,600	16,300	24,400	19,800	20,600	18,700	24,900	e20,900	17,700
8	9,700	13,000	14,300	20,200	16,500	24,200	19,600	20,500	18,900	25,400	20,800	17,700
9	9,670	13,200	14,400	19,800	17,000	24,100	19,700	20,300	18,800	25,200	e21,000	17,600
10	9,450	13,500	14,500	19,300	17,300	24,000	20,000	20,300	19,100	24,600	e21,200	17,400
11	9,020	13,400	13,500	18,900	17,200	24,000	20,600	20,700	19,600	23,700	e21,700	17,100
12	8,740	13,400	13,000	18,500	17,200	24,300	21,600	21,400	20,400	22,800	22,000	17,000
13	8,660	13,800	13,100	18,100	17,300	24,800	22,700	22,400	21,200	22,000	22,200	17,000
14	8,740	17,000	13,300	17,700	17,400	25,200	23,800	23,600	21,600	21,400	22,400	17,000
15	9,250	18,500	13,400	17,400	17,600	25,400	24,300	24,900	21,500	20,900	22,300	16,800
16	10,100	19,500	14,100	17,000	18,000	25,200	24,400	25,600	20,900	20,600	21,800	16,300
17	10,100	19,900	14,700	16,600	18,400	24,900	24,000	25,600	20,400	20,400	21,200	15,700
18	9,870	20,100	15,500	15,700	18,600	24,500	23,200	25,000	20,400	20,300	20,700	15,100
19	9,970	20,200	16,000	15,400	18,800	23,900	22,400	24,000	20,800	20,200	20,200	14,100
20	10,400	20,200	16,600	15,300	18,900	23,200	21,700	22,500	21,400	20,300	19,700	13,400
21	11,000	20,300	16,500	15,400	19,200	22,800	21,100	21,300	22,000	20,300	19,400	13,300
22	11,100	20,300	17,000	15,400	19,600	22,800	20,600	20,800	22,400	20,600	19,200	13,200
23	11,200	20,200	17,200	15,300	20,000	23,200	20,000	20,900	23,100	21,000	19,300	13,700
24	11,800	20,000	17,900	14,900	20,100	23,700	19,400	21,100	23,900	20,800	19,300	13,600
25	12,100	19,700	18,800	14,800	20,300	24,200	19,000	21,500	24,600	20,700	19,200	13,700
26	12,200	19,300	19,100	14,500	20,400	24,600	18,800	21,900	24,800	20,600	19,100	13,900
27	11,900	18,900	19,500	14,100	21,200	24,800	18,700	22,200	24,500	20,500	19,000	14,100
28	11,600	18,300	20,000	13,700	21,600	24,700	19,100	22,400	23,700	20,500	18,800	14,300
29	11,500	17,700	20,400	13,700	---	24,200	19,900	22,400	22,800	20,400	18,800	14,200
30	11,900	17,300	20,900	13,800	---	23,600	20,900	22,100	21,900	20,200	18,600	14,200
31	12,600	---	21,700	13,700	---	23,000	---	21,500	---	19,900	18,400	---
MEAN	10,490	16,850	16,120	17,460	17,690	24,040	21,080	22,050	21,170	21,680	20,350	15,900
MAX	12,600	20,300	21,700	22,700	21,600	25,400	24,400	25,600	24,800	25,400	22,400	18,300
MIN	8,660	13,000	13,000	13,700	13,400	22,300	18,700	20,300	18,500	19,900	18,400	13,200

CAL YR 2002 MEAN 11,730 MAX 21,700 MIN 6,770
WTR YR 2003 MEAN 18,750 MAX 25,600 MIN 8,660

e Estimated

02359170 APALACHICOLA RIVER NEAR SUMATRA, FL—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.46	4.82	5.27	7.45	4.05	7.38	7.24	6.88	6.93	7.05	6.62	6.06
2	3.57	4.91	5.04	7.52	4.12	7.68	7.00	6.96	6.73	7.14	6.70	6.03
3	3.62	4.89	4.81	7.42	4.32	7.79	6.78	6.89	6.57	7.31	---	6.05
4	3.43	4.79	4.68	7.22	4.50	7.94	6.58	6.75	6.42	7.39	---	6.09
5	3.19	4.62	4.76	7.04	4.52	8.05	6.44	6.64	6.26	7.56	6.97	6.06
6	2.99	4.70	4.76	6.92	4.69	8.10	6.32	6.55	6.14	7.94	6.94	5.96
7	2.97	4.41	4.72	6.80	5.03	8.19	6.21	6.48	6.22	8.48	---	5.90
8	3.04	4.34	4.71	6.63	5.12	8.07	6.16	6.40	6.27	8.77	6.91	5.87
9	3.07	4.43	4.73	6.45	5.31	8.02	6.18	6.33	6.24	8.67	---	5.84
10	3.00	4.58	4.77	6.27	5.43	7.97	6.25	6.34	6.34	8.27	---	5.77
11	2.90	4.54	4.65	6.10	5.40	7.95	6.46	6.49	6.52	7.86	---	5.70
12	2.80	4.57	4.38	5.92	5.39	8.13	6.89	6.82	6.78	7.55	7.29	5.65
13	2.67	4.74	4.46	5.76	5.43	8.44	7.38	7.26	7.04	7.30	7.37	5.64
14	2.79	5.36	4.46	5.62	5.49	8.68	7.83	7.79	7.17	7.08	7.42	5.65
15	3.15	5.93	4.54	5.48	5.57	8.74	8.15	8.49	7.12	6.92	7.38	5.60
16	3.20	6.32	4.70	5.34	5.73	8.64	8.18	8.91	6.93	6.82	7.23	5.43
17	3.10	6.52	4.81	5.15	5.89	8.46	7.94	8.91	6.76	6.78	7.04	5.21
18	3.01	6.59	4.96	4.80	5.96	8.22	7.58	8.53	6.78	6.73	6.87	4.95
19	3.11	6.62	5.07	4.65	6.04	7.93	7.24	7.98	6.90	6.71	6.70	4.74
20	3.28	6.64	5.21	4.63	6.10	7.69	6.95	7.45	7.10	6.72	6.55	4.49
21	3.52	6.66	5.18	4.64	6.20	7.57	6.70	7.06	7.30	6.74	6.45	4.38
22	3.56	6.66	5.32	4.67	6.38	7.57	6.47	6.91	7.44	6.85	6.39	4.40
23	3.60	6.61	5.40	4.62	6.53	7.67	6.26	6.92	7.67	6.95	6.40	4.52
24	3.83	6.53	5.66	4.48	6.61	7.85	6.08	7.00	7.95	6.89	6.41	4.43
25	3.95	6.42	6.04	4.44	6.66	8.07	5.98	7.13	8.27	6.87	6.37	4.47
26	4.00	6.27	6.17	4.38	6.71	8.30	5.93	7.25	8.41	6.84	6.35	4.55
27	3.93	6.09	6.35	4.25	7.01	8.42	5.90	7.34	8.25	6.81	6.30	4.60
28	3.82	5.85	6.53	4.15	7.16	8.35	6.01	7.42	7.88	6.80	6.25	4.68
29	3.73	5.60	6.73	4.16	---	8.08	6.24	7.44	7.55	6.76	6.23	4.67
30	4.00	5.43	6.94	4.19	---	7.77	6.58	7.34	7.25	6.69	6.18	4.67
31	4.44	---	7.18	4.15	---	7.49	---	7.14	---	6.62	6.12	---
TOTAL	104.73	166.44	162.99	171.30	157.35	249.21	201.91	223.80	211.19	223.87	---	158.06
MEAN	3.38	5.55	5.26	5.53	5.62	8.04	6.73	7.22	7.04	7.22	---	5.27
MAX	4.44	6.66	7.18	7.52	7.16	8.74	8.18	8.91	8.41	8.77	---	6.09
MIN	2.67	4.34	4.38	4.15	4.05	7.38	5.90	6.33	6.14	6.62	---	4.38

02359170 APALACHICOLA RIVER NEAR SUMATRA, FL—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1987 to current year.

REMARKS.--Discharge for sediment samples represent main channel only.

MAIN CHANNEL ONLY

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Location in X-sect. looking dwnstrm ft from l bank (00009)
NOV						
14...	1100	5.34	17,100	90	79	93.0
14...	1103	5.34	17,100	91	79	93.0
14...	1106	5.34	17,100	87	84	172
14...	1108	5.35	17,100	90	80	172
14...	1111	5.35	17,100	83	89	256
14...	1112	5.35	17,100	83	86	256
14...	1115	5.35	17,100	84	87	350
14...	1117	5.35	17,100	86	86	350
14...	1119	5.35	17,100	89	78	460
14...	1120	5.35	17,100	87	77	460
JAN						
29...	1322	4.07	14,500	87	8	90.0
29...	1324	4.07	14,500	83	9	90.0
29...	1326	4.07	14,500	64	10	195
29...	1327	4.07	14,500	72	10	195
29...	1330	4.07	14,500	64	12	297
29...	1331	4.07	14,500	60	14	297
29...	1333	4.07	14,500	83	7	392
29...	1334	4.07	14,500	90	8	392
29...	1336	4.07	14,500	91	6	496
29...	1337	4.07	14,500	96	7	496
APR						
11...	1023	6.44	21,000	82	35	98.0
11...	1024	6.44	21,000	73	38	98.0
11...	1027	6.44	21,000	63	49	172
11...	1030	6.44	21,000	58	58	257
11...	1031	6.44	21,000	51	56	257
11...	1034	6.44	21,000	64	46	350
11...	1035	6.44	21,000	65	46	350
11...	1037	6.44	21,000	77	38	462
11...	1038	6.44	21,000	77	38	462
JUN						
10...	1350	6.35	19,900	92	18	92.0
10...	1353	6.35	19,900	70	33	172
10...	1357	6.35	19,900	69	29	257
10...	1358	6.35	19,900	73	32	257
10...	1400	6.35	19,900	77	32	350
10...	1403	6.35	19,900	90	24	460
AUG						
27...	1103	6.30	19,000	80	17	92.0
27...	1104	6.30	19,000	89	14	92.0
27...	1106	6.30	19,000	59	21	172
27...	1107	6.30	19,000	62	19	172
27...	1109	6.30	19,000	70	17	257
27...	1111	6.30	19,000	68	21	257
27...	1117	6.30	19,000	64	22	350
27...	1119	6.30	19,000	86	16	460
27...	1120	6.30	19,000	89	13	460

02359315 MARTIN BAYOU AT US 98 AT SPRINGFIELD, FL

LOCATION.--Lat 30°08'06", long 85°36'56", in SE$^1/_4$ sec. 14, T. 4 S., R. 14 W., Bay County, Hydrologic Unit 03140101, at upstream side of concrete weir control structure above U.S. Highway 98, at boundary of Parker and Springfield communities, 0.9 mi west of State Road 22-A, and 1.2 mi south of State Highway 22.

DRAINAGE AREA.--3.96 mi^2.

PERIOD OF RECORD.--October 1998 to current year.

GAGE.--Water-stage recorder and crest-stage gage.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	46	12	43	11	71	45	18	9.8	35	39	86
2	10	37	12	36	10	79	38	17	9.4	109	35	87
3	9.4	31	12	30	10	70	33	16	11	124	31	83
4	8.9	28	11	23	13	70	31	16	11	100	32	78
5	10	28	14	20	12	60	29	15	10	72	33	65
6	13	52	14	17	12	51	28	15	20	65	34	56
7	12	41	13	15	17	44	27	15	66	69	90	52
8	11	32	12	13	15	38	64	15	61	52	112	45
9	10	26	12	12	15	80	94	15	45	39	83	41
10	9.5	23	11	12	14	92	76	14	32	31	62	37
11	9.3	23	11	12	13	72	61	14	25	26	50	33
12	9.5	41	11	10	12	56	50	18	21	22	184	29
13	9.4	44	24	10	11	47	41	16	18	20	332	28
14	8.9	38	22	11	11	39	36	14	20	19	265	28
15	56	33	20	11	10	34	32	13	17	18	167	28
16	70	51	18	11	48	32	29	14	17	18	112	27
17	65	49	17	12	51	38	27	13	27	19	85	26
18	57	40	15	11	40	41	25	13	32	39	68	24
19	48	33	15	10	31	34	25	18	35	35	65	24
20	41	28	20	10	25	100	24	19	38	31	74	24
21	36	24	20	11	22	108	23	17	46	27	e94	24
22	32	21	18	14	28	76	22	22	40	26	e90	32
23	30	18	17	14	28	61	20	25	45	32	e100	50
24	36	16	39	11	23	49	20	22	40	31	e125	49
25	33	16	48	11	20	39	24	19	32	34	86	64
26	29	15	36	11	22	33	26	17	26	61	82	53
27	26	14	28	10	86	92	23	15	21	60	90	45
28	22	13	23	9.9	76	91	22	13	18	46	84	39
29	31	12	19	10	---	69	20	11	24	38	85	33
30	59	12	17	11	---	68	19	11	22	37	90	29
31	56	---	28	11	---	55	---	9.9	---	41	99	---
MEAN	28.0	29.5	19.0	14.6	24.5	60.9	34.5	15.8	28.0	44.4	96.1	44.0
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)												
MEAN	21.8	20.1	16.8	16.5	13.4	26.2	19.6	11.7	15.2	19.7	31.4	23.3

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL MEAN	17.0		36.7		19.7	
HIGHEST DAILY MEAN	70	Oct 16	332	Aug 13	e480	Oct 1, 1998
LOWEST DAILY MEAN	1.9	May 24	8.9	Oct 4	1.4	Jul 22, 2000
ANNUAL SEVEN-DAY MINIMUM	2.4	May 23	9.7	Oct 8	2.1	Jul 17, 2000
MAXIMUM PEAK FLOW			396	Aug 12	e480	Oct 1, 1998
MAXIMUM PEAK STAGE			11.69	Aug 12	11.69	Aug 12, 2003
INSTANTANEOUS LOW FLOW			7.9	Oct 4	0.90	Jul 21, 2000
10 PERCENT EXCEEDS	35		77		40	
50 PERCENT EXCEEDS	14		28		12	
90 PERCENT EXCEEDS	6.2		11		4.7	

e Estimated

02359500 ECONFINA CREEK NEAR BENNETT, FL.

LOCATION.--Lat 30°23'04", long 85°33'24", in SE$^1/_4$ sec. 20, T. 1 S., R. 13 W., Bay County, Hydrologic Unit 03140101, near center of span on downstream side of bridge on State Highway 388, 0.5 mi downstream from Old Mill Branch, 1.6 mi southwest of Bennett, and 11 mi upstream from mouth.

DRAINAGE AREA.--122 mi^2.

PERIOD OF RECORD.--October 1935 to September 1994. Monthly discharge only for October and November 1936, published in WSP1304. October 1998 to current year.

REVISED RECORDS.--WSP 872: 1937. WSP 1906: Drainage area. WRD FL-80-4: 1979. WRD FL-93-4: 1948 (M), 1989 (M).

GAGE.--Water-stage recorder. Datum of gage is 1.03 ft above National Geodetic Vertical Datum of 1929. Nov. 11, 1935 to Jan. 29, 1962, nonrecording gage and Jan. 30, 1962 to June 16, 1966, water-stage recorder at site 150 ft downstream at present datum. June 17, 1966 to Sept. 28, 1966, nonrecording gage and Oct. 1, 1966 to Sept. 30, 1994, water-stage recorder at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow includes large ground-water inflow.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since September 1926, 15.0 ft present datum, from floodmark, discharge not determined.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	477	821	504	773	436	1,030	649	544	487	654	808	700
2	467	630	500	812	427	937	638	540	489	785	842	655
3	455	576	495	671	424	939	632	536	487	916	952	640
4	449	558	493	587	437	854	630	538	490	932	831	646
5	462	553	505	558	446	813	624	539	490	819	789	647
6	489	655	526	544	441	759	635	529	513	721	881	620
7	484	748	518	530	589	816	638	522	648	694	844	608
8	553	676	501	517	652	1,050	747	515	722	719	787	596
9	674	582	493	508	534	1,140	1,050	510	707	741	716	587
10	562	565	490	501	481	1,200	1,170	506	636	689	667	580
11	502	565	489	492	464	1,090	851	503	549	632	646	573
12	488	725	488	484	448	849	701	498	528	610	657	567
13	485	897	599	479	436	784	652	490	533	705	724	561
14	490	859	674	475	429	757	624	487	587	677	817	563
15	745	657	600	471	424	731	607	485	620	632	710	567
16	1,040	659	530	467	508	714	606	486	588	659	712	556
17	909	762	507	466	630	735	594	484	714	699	727	549
18	634	757	498	462	563	800	585	481	768	668	814	544
19	557	640	495	459	494	775	579	555	704	616	758	538
20	527	591	522	456	474	878	573	608	748	662	718	537
21	512	569	535	453	464	987	570	558	1,010	676	716	537
22	508	554	507	453	570	904	567	613	868	651	707	605
23	506	542	486	447	745	759	557	659	795	799	678	789
24	578	536	680	441	683	709	547	642	653	913	667	760
25	580	531	938	439	542	686	607	561	598	897	645	706
26	540	524	927	439	515	672	696	522	571	808	649	900
27	550	519	665	436	872	682	668	508	553	726	673	812
28	570	514	584	433	1,140	725	596	503	549	685	636	665
29	686	508	570	431	---	721	564	495	574	741	661	610
30	1,160	507	556	431	---	680	551	490	621	772	726	590
31	1,410	---	598	441	---	664	---	486	---	846	701	---
MEAN	614	626	564	502	545	834	657	529	627	734	737	627
MAX	1,410	897	938	812	1,140	1,200	1,170	659	1,010	932	952	900
MIN	449	507	486	431	424	664	547	481	487	610	636	537
IN.	5.81	5.73	5.33	4.74	4.66	7.88	6.01	5.00	5.73	6.94	6.97	5.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2003, BY WATER YEAR (WY)

MEAN	506	501	510	534	544	582	562	505	515	556	575	558
MAX	769	890	818	780	838	1,045	1,176	789	958	1,005	962	824
(WY)	(1965)	(1948)	(1948)	(1993)	(1986)	(1991)	(1948)	(1946)	(1989)	(1994)	(1939)	(1937)
MIN	301	323	317	326	306	358	332	272	334	337	339	344
(WY)	(2001)	(1956)	(1956)	(2001)	(2001)	(1956)	(1956)	(2001)	(2000)	(2000)	(2000)	(1955)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1936 - 2003	
ANNUAL MEAN	466		634		537	
HIGHEST ANNUAL MEAN					758	1948
LOWEST ANNUAL MEAN					363	2001
HIGHEST DAILY MEAN	1,580	Sep 16	1,410	Oct 31	4,670	Mar 3, 1991
LOWEST DAILY MEAN	320	Jan 12	424	Feb 3	252	May 28, 2001
ANNUAL SEVEN-DAY MINIMUM	323	Jan 20	432	Jan 28	257	May 24, 2001
MAXIMUM PEAK FLOW			1,600	Oct 31	5,850	Mar 3, 1991
MAXIMUM PEAK STAGE			9.41	Oct 31	14.37	Mar 3, 1991
INSTANTANEOUS LOW FLOW			422	Feb 3	250	May 28, 2001
ANNUAL RUNOFF (INCHES)	51.91		70.52		59.83	
10 PERCENT EXCEEDS	654		843		704	
50 PERCENT EXCEEDS	409		598		506	
90 PERCENT EXCEEDS	335		478		392	

02365200 CHOCTAWHATCHEE RIVER NEAR PITTMAN, FL

LOCATION.--Lat 30°56'59", long 85°50'35", in NW¼ sec. 9, T. 6 N., R. 16 W., Holmes County, Hydrologic Unit 03140203, on downstream side of bridge on State Highway 2, 1.5 mi west of Pittman, 3.8 mi downstream from Florida-Alabama State line, and 84 mi upstream from mouth.

DRAINAGE AREA.--3,209 mi^2.

PERIOD OF RECORD.--May 1957, April 1960 and October 1975 to June 1976 (gage height and discharge measurements only), July 1976 to September 1981, October 1996 to September 1998 (gage height and discharge measurements only), October 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is 51.83 ft above National Geodetic Vertical Datum of 1929 (levels by Northwest Florida Water Management District). Apr. 8, 1957 to Sept. 15, 1976, nonrecording gage at same site and datum, July 1, 1976 to Sept. 30, 1981, water stage recorder, Oct. 1, 1996 to Sept. 30, 1998, nonrecording gage.

REMARKS.--Records fair.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,300	e2,770	1,700	6,910	2,460	11,400	4,780	10,600	1,960	5,640	7,600	5,110
2	1,090	e2,370	1,670	9,340	2,450	12,100	4,410	8,470	1,750	11,000	7,560	4,730
3	977	e2,000	1,640	10,200	2,330	10,700	4,100	5,950	1,780	16,500	8,450	4,090
4	920	e1,720	1,610	8,670	2,300	9,440	3,810	5,050	2,110	19,000	8,770	4,070
5	917	e1,680	1,660	6,630	2,280	7,790	3,620	5,120	2,410	18,000	8,530	3,780
6	950	e2,020	1,940	5,320	2,230	6,770	5,000	4,410	2,280	16,700	8,320	4,340
7	967	e2,780	2,350	4,600	2,260	6,510	6,550	3,810	4,740	15,600	8,750	5,560
8	937	e3,010	2,220	4,050	2,540	7,990	8,090	3,390	12,000	13,600	11,200	7,390
9	943	e2,500	2,050	3,670	2,660	11,800	14,700	3,040	13,500	10,800	12,400	6,930
10	926	e2,160	1,930	3,480	2,630	15,000	20,200	2,740	13,600	7,940	12,500	5,150
11	828	e2,710	2,080	3,320	2,580	15,800	21,700	2,480	11,100	6,110	11,700	4,240
12	778	e5,550	3,050	3,130	2,470	14,400	20,000	2,290	8,390	7,100	10,500	3,660
13	767	e8,330	3,450	2,930	2,290	11,300	16,000	2,110	7,990	8,320	8,890	3,220
14	747	e8,440	3,870	2,800	2,170	8,840	11,800	2,010	9,070	8,630	8,130	2,990
15	1,050	e7,610	3,830	2,690	2,070	8,410	8,840	1,950	10,000	8,040	7,970	3,660
16	1,370	e6,620	3,220	2,610	2,480	10,400	6,630	2,220	11,500	8,150	8,110	3,470
17	1,560	e5,700	2,770	2,550	5,550	12,200	5,410	2,630	11,500	8,550	7,750	3,140
18	1,330	e4,800	2,480	2,550	7,720	13,900	4,770	2,610	10,500	8,370	10,500	2,770
19	1,060	e3,950	2,280	2,530	6,830	14,300	4,380	2,620	10,800	6,990	12,900	2,480
20	939	e3,400	4,270	2,470	5,490	16,100	4,060	3,690	11,000	6,990	12,100	2,290
21	906	e3,020	6,040	2,430	4,620	17,200	3,830	3,990	10,000	7,460	9,890	2,160
22	1,100	2,770	5,950	2,440	5,250	17,200	3,740	3,820	8,760	6,590	8,730	2,300
23	1,420	2,520	4,860	2,390	7,520	15,100	4,510	5,420	7,780	7,740	7,740	3,380
24	1,180	2,310	6,020	2,340	8,650	11,600	4,590	6,900	5,950	8,440	6,830	4,950
25	1,160	2,150	10,300	2,240	7,640	8,690	4,420	6,510	4,580	8,090	5,940	5,770
26	1,200	2,040	12,200	2,180	6,190	6,710	7,690	5,190	3,870	7,110	5,220	5,240
27	1,820	1,950	12,800	2,160	7,890	5,660	11,900	4,760	3,230	6,470	4,850	4,780
28	4,170	1,870	11,100	2,140	9,960	5,320	15,600	4,500	2,820	5,740	4,650	4,200
29	5,240	1,810	8,300	2,090	---	4,830	15,300	3,610	2,590	5,490	4,240	3,480
30	e5,000	1,740	5,970	2,100	---	4,660	12,800	2,760	2,810	6,480	4,470	2,940
31	e3,550	---	5,160	2,160	---	4,820	---	2,230	---	7,570	4,890	---
MEAN	1,519	3,410	4,476	3,714	4,340	10,550	8,774	4,093	7,012	9,329	8,390	4,076
MAX	5,240	8,440	12,800	10,200	9,960	17,200	21,700	10,600	13,600	19,000	12,900	7,390
MIN	747	1,680	1,610	2,090	2,070	4,660	3,620	1,950	1,750	5,490	4,240	2,160
IN.	0.55	1.19	1.61	1.33	1.41	3.79	3.05	1.47	2.44	3.35	3.01	1.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 2003, BY WATER YEAR (WY)

MEAN	2,655	2,820	3,816	5,470	5,870	9,781	6,606	3,945	3,275	3,096	2,760	2,048
MAX	9,492	5,727	10,700	15,520	12,730	18,540	15,910	12,040	7,012	9,329	8,390	4,076
(WY)	(1999)	(1978)	(1977)	(1978)	(1979)	(1980)	(1980)	(1978)	(2003)	(2003)	(2003)	(2003)
MIN	547	1,290	1,685	1,971	2,625	3,024	1,727	622	534	432	568	747
(WY)	(2001)	(2002)	(2002)	(1981)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1976 - 2003	
ANNUAL MEAN	2,239		5,819		4,335	
HIGHEST ANNUAL MEAN					7,220	1978
LOWEST ANNUAL MEAN					1,480	2000
HIGHEST DAILY MEAN	12,800	Dec 27	21,700	Apr 11	64,000	Jan 28, 1978
LOWEST DAILY MEAN	456	Sep 13	747	Oct 14	327	Jul 21, 2000
ANNUAL SEVEN-DAY MINIMUM	488	Sep 8	847	Oct 8	355	Jul 17, 2000
MAXIMUM PEAK FLOW			22,000	Apr 11	64,700	Jan 28, 1978
MAXIMUM PEAK STAGE			22.70	Apr 11	28.56	Jan 28, 1978
INSTANTANEOUS LOW FLOW			678	Oct 14	308	Jul 21, 2000
ANNUAL RUNOFF (INCHES)	9.47		24.62		18.35	
10 PERCENT EXCEEDS	4,990		11,800		9,900	
50 PERCENT EXCEEDS	1,610		4,730		2,580	
90 PERCENT EXCEEDS	635		1,800		936	

e Estimated

02365470 WRIGHTS CREEK AT SH 177A NEAR BONIFAY, FL

LOCATION.--Lat 30°51'25", long 85°45'44", in NW¼ sec. 8, T. 5 N., R. 17 S., Holmes County, Hydrologic Unit 03140203, on downstream side of bridge on U.S. Highway 177A, 0.4 mi above Caney Branch, 7.3 mi upstream of mouth, and 7.6 mi northwest of Bonifay.

DRAINAGE AREA.--148 mi^2.

PERIOD OF RECORD.--March 1983 to September 1987, discharge measurements and annual maximum discharge, October 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is 42.94 ft above National Geodetic Vertical Datum of 1929. Mar. 23, 1983 to Sept. 30, 1987, nonrecording gage and crest-stage gage at same site and datum.

REMARKS.--Records good.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	305	165	763	114	1,210	244	198	60	192	354	121
2	85	232	158	874	111	1,070	220	170	56	618	379	104
3	77	186	153	766	109	749	200	150	56	1,020	503	94
4	72	164	152	548	112	687	185	145	57	883	650	139
5	68	154	159	403	122	644	174	152	57	848	572	116
6	68	219	199	332	119	546	167	140	74	652	462	347
7	74	272	199	287	135	506	179	121	164	665	510	718
8	70	223	177	260	154	579	1,160	105	387	958	476	568
9	65	175	162	242	147	747	3,450	94	622	663	455	343
10	66	155	154	235	132	1,070	2,860	86	645	454	337	231
11	62	190	153	224	126	1,000	1,570	79	551	342	249	178
12	60	1,850	154	207	119	748	994	74	318	335	239	149
13	61	3,190	204	195	111	527	678	70	278	494	261	125
14	58	1,900	291	184	106	438	537	66	319	466	275	111
15	141	1,080	286	175	104	412	440	63	353	328	226	107
16	317	723	235	170	155	472	378	75	444	240	183	106
17	274	675	198	165	270	467	341	92	380	203	177	91
18	182	602	178	160	280	551	303	82	313	235	227	83
19	127	505	168	152	236	494	272	97	331	196	217	77
20	102	396	292	147	190	1,230	254	118	373	258	192	72
21	93	326	417	144	168	1,940	230	106	582	262	181	71
22	84	286	365	145	218	1,550	202	94	617	262	202	86
23	78	258	283	143	372	940	184	95	499	621	170	208
24	78	238	562	139	376	580	161	100	328	739	150	248
25	77	219	1,400	130	290	429	177	90	245	657	133	e208
26	82	207	1,270	126	236	350	325	87	189	456	132	e152
27	129	197	945	126	936	312	454	116	144	425	130	e138
28	171	189	565	124	1,360	304	493	145	127	366	132	e127
29	230	180	400	120	---	269	346	112	108	280	137	e116
30	485	171	330	117	---	262	242	80	109	305	114	e109
31	425	---	344	116	---	262	---	67	---	366	117	---
MEAN	131	516	346	255	247	689	581	105	293	477	276	178
MAX	485	3,190	1,400	874	1,360	1,940	3,450	198	645	1,020	650	718
MIN	58	154	152	116	104	262	161	63	56	192	114	71
IN.	1.02	3.89	2.69	1.99	1.74	5.37	4.38	0.82	2.21	3.72	2.15	1.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

MEAN	98.2	166	170	187	155	416	281	58.2	171	197	147	86.1
MAX	249	516	346	351	247	724	581	105	293	477	323	178
(WY)	(1999)	(2003)	(2003)	(1999)	(2003)	(2001)	(2003)	(2003)	(2003)	(2003)	(2001)	(2003)
MIN	29.6	38.0	44.1	60.5	79.5	202	67.9	28.5	31.6	29.8	21.5	38.4
(WY)	(2001)	(2000)	(2000)	(2000)	(2002)	(2000)	(1999)	(2000)	(2000)	(2000)	(2000)	(2000)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL MEAN	176		341		178	
HIGHEST ANNUAL MEAN					341	2003
LOWEST ANNUAL MEAN					57.9	2000
HIGHEST DAILY MEAN	3,190	Nov 13	3,450	Apr 9	3,450	Apr 9, 2003
LOWEST DAILY MEAN	29	Sep 10	56	Jun 2	16	Aug 18, 2000
ANNUAL SEVEN-DAY MINIMUM	31	Sep 7	61	May 31	17	Aug 15, 2000
MAXIMUM PEAK FLOW			3,810	Apr 9	7,200	Mar 6, 1984
MAXIMUM PEAK STAGE			11.86	Apr 9	13.73	Mar 6, 1984
INSTANTANEOUS LOW FLOW			53	Jun 2	15	Aug 21, 2000
ANNUAL RUNOFF (INCHES)	16.14		31.31		16.33	
10 PERCENT EXCEEDS	391		682		403	
50 PERCENT EXCEEDS	71		208		82	
90 PERCENT EXCEEDS	40		85		34	

e Estimated

02365500 CHOCTAWHATCHEE RIVER AT CARYVILLE, FL

LOCATION.--Lat 30°46'32", long 85°49'40", in NW¼ sec.10, T.4 N., R.16 W., Holmes County, Hydrologic Unit 03140203, near right bank on downstream side of bridge on U.S. Highway 90, 300 ft downstream from Louisville and Nashville Railroad bridge, 0.8 mi west of Caryville, 1.8 mi downstream from Wrights Creek, and 64 mi upstream from mouth.

DRAINAGE AREA.--3,499 mi^2.

PERIOD OF RECORD.--August 1929 to September 1994, October 1994 to September 1996(gage height only), October 1996 to September 1997, October 1997 to September 1998(gage height only), October 2000 to current year. Gage-height records collected at same site from 1928 to August 1929 are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 39.02 ft above National Geodetic Vertical Datum of 1929. Aug. 17 to Oct. 11, 1929, nonrecording gage at same site and datum; Oct. 12, 1929 to Sept. 11, 1951, water-stage recorder at same site and datum; Sept. 12, 1951 to Aug.11, 1976, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1850 (from information furnished by U.S. Army Corps of Engineers, Mobile District) 27.1 ft Mar. 17, 1929, from National Weather Service records and floodmarks; discharge, 206,000 ft^3/s from rating curve extended above 160,000 ft^3/s on basis of slope-area determination of peak flow.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,040	3,830	2,250	6,060	2,560	10,600	4,980	16,300	2,580	3,850	7,110	4,940
2	1,670	3,030	2,210	7,110	2,660	12,500	4,880	12,700	2,290	6,290	7,390	5,000
3	1,470	2,610	2,180	8,650	2,630	13,400	4,600	9,180	2,110	11,800	7,630	4,740
4	1,340	2,330	2,150	9,800	2,600	12,400	4,360	6,510	2,250	20,500	8,410	4,430
5	1,270	2,130	2,140	8,780	2,570	10,400	4,160	5,430	2,550	25,100	9,220	4,300
6	1,230	2,160	2,220	7,020	2,560	8,380	4,080	5,110	2,690	24,700	9,090	4,300
7	1,300	2,470	2,480	5,670	2,550	7,180	5,070	4,580	3,340	23,100	8,740	4,920
8	1,270	3,130	2,600	4,910	2,630	6,890	6,890	4,090	5,520	21,500	9,090	5,780
9	1,240	2,940	2,500	4,350	2,770	7,910	12,100	3,680	10,300	18,600	11,400	6,640
10	1,240	2,590	2,390	4,000	2,800	11,600	21,400	3,360	15,300	14,300	13,800	6,410
11	1,200	2,460	2,360	3,800	2,780	16,800	28,300	3,070	16,700	9,500	14,600	5,350
12	1,090	4,350	2,600	3,610	2,720	19,100	30,300	2,850	14,100	7,180	14,000	4,540
13	1,070	8,800	3,220	3,420	2,630	17,700	27,500	2,630	9,970	7,290	12,400	3,950
14	1,010	11,100	3,640	3,220	2,530	13,800	22,100	2,480	8,390	8,040	10,600	3,540
15	1,190	10,100	3,990	3,070	2,470	9,940	16,300	2,380	8,850	8,350	8,710	3,520
16	1,570	8,420	3,810	2,970	2,510	8,500	10,900	2,420	9,950	7,860	7,890	3,850
17	1,980	7,320	3,310	2,870	3,380	9,790	7,450	2,680	12,200	7,700	7,810	3,600
18	2,060	6,460	2,910	2,830	5,200	12,200	5,910	2,940	13,400	7,920	7,890	3,340
19	1,750	5,520	2,690	2,810	6,230	14,800	5,190	2,990	12,500	7,840	10,100	3,020
20	1,480	4,650	3,050	2,760	6,080	17,700	4,770	3,190	12,300	7,060	13,800	2,770
21	1,340	3,980	4,570	2,730	5,310	21,500	4,460	3,900	12,700	6,760	14,000	2,590
22	1,290	3,520	5,490	2,720	4,780	23,300	4,240	4,020	11,700	6,890	11,300	2,610
23	1,590	3,160	5,510	2,710	5,350	22,300	4,250	4,220	9,830	6,890	9,140	3,090
24	1,730	2,880	5,220	2,680	6,500	19,000	4,650	5,110	8,020	7,600	7,810	3,990
25	1,560	2,710	6,890	2,630	7,320	14,200	4,700	5,810	6,280	8,250	6,760	4,880
26	1,550	2,590	10,100	2,560	7,040	9,660	5,140	5,860	5,040	8,060	5,910	5,270
27	1,750	2,510	12,800	2,530	6,920	7,100	6,860	5,320	4,220	7,250	5,320	5,080
28	2,680	2,430	14,000	2,510	8,330	5,960	11,000	4,880	3,630	6,520	4,970	4,760
29	4,190	2,360	12,500	2,490	---	5,500	17,000	4,490	3,260	5,900	4,730	4,240
30	4,890	2,300	9,120	2,470	---	5,120	18,800	3,750	3,140	5,770	4,520	3,640
31	4,730	---	6,730	2,460	---	4,970	---	3,020	---	6,290	4,700	---
MEAN	1,799	4,161	4,762	4,071	4,086	12,260	10,410	4,805	7,837	10,470	8,995	4,303
MAX	4,890	11,100	14,000	9,800	8,330	23,300	30,300	16,300	16,700	25,100	14,600	6,640
MIN	1,010	2,130	2,140	2,460	2,470	4,970	4,080	2,380	2,110	3,850	4,520	2,590
IN.	0.59	1.33	1.57	1.34	1.22	4.04	3.32	1.58	2.50	3.45	2.96	1.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2003, BY WATER YEAR (WY)

MEAN	3,041	3,395	5,268	7,316	8,314	10,100	8,549	4,772	3,797	4,266	3,939	3,104
MAX	17,160	11,790	24,150	23,510	16,190	29,190	22,900	15,700	12,450	42,530	17,120	16,650
(WY)	(1999)	(1990)	(1954)	(1936)	(1982)	(1998)	(1975)	(1946)	(1989)	(1994)	(1939)	(1937)
MIN	607	992	1,395	1,925	2,846	1,777	2,343	1,410	1,107	1,187	856	905
(WY)	(2001)	(1932)	(1956)	(1956)	(2001)	(1955)	(1967)	(2002)	(1988)	(1986)	(2000)	(1954)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1930 - 2003	
ANNUAL MEAN	2,612		6,515		5,447	
HIGHEST ANNUAL MEAN					9,163	1946
LOWEST ANNUAL MEAN					2,090	2002
HIGHEST DAILY MEAN	14,800	Apr 13	30,300	Apr 12	162,000	Jul 9, 1994
LOWEST DAILY MEAN	680	Sep 13	1,010	Oct 14	503	Oct 30, 2000
ANNUAL SEVEN-DAY MINIMUM	714	Sep 8	1,150	Oct 9	505	Oct 26, 2000
MAXIMUM PEAK FLOW			31,000	Apr 12	164,000	Jul 9, 1994
MAXIMUM PEAK STAGE			13.29	Apr 12	23.85	Jul 9, 1994
INSTANTANEOUS LOW FLOW			954	Oct 14	500	Oct 30, 2000
ANNUAL RUNOFF (INCHES)	10.14		25.28		21.15	
10 PERCENT EXCEEDS	5,060		13,600		11,400	
50 PERCENT EXCEEDS	1,950		4,880		3,600	
90 PERCENT EXCEEDS	896		2,250		1,420	

02365769 BRUCE CREEK AT SH 81 NEAR REDBAY, FL

LOCATION.--Lat 30°37'28", long 85°56'33", in NE¼ sec. 33, T. 3 N., R. 17 W., Walton County, Hydrologic Unit 03140203, on downstream side of bridge on State Highway 81, 0.6 mi north of Bruce Creek School, 1.4 mi south of Knox Hill, and 2.4 mi north of Redbay.

DRAINAGE AREA.--82.4 mi^2.

PERIOD OF RECORD.--October 1998 to current year.

REVISED RECORDS.--WRD FL-01-4:2000.

GAGE.--Water-stage recorder.

REMARKS.--No estimated daily discharges. Records good.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	361	99	848	65	517	119	163	54	556	278	166
2	96	236	95	739	63	329	109	159	44	4,230	721	160
3	81	186	91	309	61	300	104	139	40	1,480	914	166
4	71	162	88	216	66	288	100	125	48	914	501	170
5	141	155	92	186	70	331	94	106	55	851	325	134
6	165	276	120	172	65	261	89	89	68	687	292	147
7	103	340	111	158	81	276	84	79	252	974	383	262
8	84	209	93	144	96	328	330	71	1,080	533	436	175
9	66	154	88	135	76	541	4,010	63	927	331	281	130
10	58	147	85	127	72	1,260	1,280	53	602	278	224	123
11	54	171	88	118	75	608	486	48	349	255	215	119
12	64	7,090	91	108	68	302	334	42	224	222	216	106
13	124	3,080	134	102	61	267	299	36	231	317	292	91
14	113	916	210	99	58	290	263	31	422	267	1,050	80
15	154	419	144	95	56	253	219	29	563	219	856	75
16	328	556	110	90	97	197	185	29	313	196	310	72
17	252	853	99	89	213	197	160	32	473	222	296	64
18	123	530	94	85	146	290	138	31	664	273	447	59
19	87	292	88	82	100	248	122	54	2,290	250	305	53
20	73	231	168	80	97	677	110	113	1,140	302	229	48
21	89	198	185	79	100	1,810	101	77	2,610	327	219	46
22	123	175	133	79	122	572	109	71	1,200	229	217	119
23	86	158	116	78	187	315	104	105	520	398	201	571
24	130	146	248	73	135	261	87	88	504	563	206	508
25	151	137	1,440	70	111	222	90	69	318	323	178	196
26	108	127	746	70	115	186	141	70	196	275	227	291
27	126	119	283	69	686	165	135	154	158	284	231	367
28	179	113	214	67	1,590	150	105	340	137	237	160	199
29	527	106	194	66	---	135	116	156	129	202	139	137
30	1,780	102	180	66	---	132	142	88	184	280	139	108
31	977	---	212	67	---	136	---	69	---	267	147	---
MEAN	214	592	198	154	169	382	326	89.6	526	540	343	165
MAX	1,780	7,090	1,440	848	1,590	1,810	4,010	340	2,610	4,230	1,050	571
MIN	54	102	85	66	56	132	84	29	40	196	139	46
IN.	2.99	8.01	2.77	2.15	2.14	5.35	4.41	1.25	7.13	7.56	4.80	2.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

MEAN	162	175	120	127	101	254	191	40.1	181	204	198	110
MAX	504	592	198	231	169	382	402	89.6	526	540	455	182
(WY)	(1999)	(2003)	(2003)	(1999)	(2003)	(2003)	(2002)	(2003)	(2003)	(2003)	(2001)	(2002)
MIN	19.2	30.7	38.0	51.3	69.6	74.8	34.4	10.1	9.58	12.7	16.2	33.2
(WY)	(2001)	(2000)	(2002)	(2002)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(1999)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL MEAN	171		308		156	
HIGHEST ANNUAL MEAN					308	2003
LOWEST ANNUAL MEAN					39.0	2000
HIGHEST DAILY MEAN	7,090	Nov 12	7,090	Nov 12	7,090	Nov 12, 2002
LOWEST DAILY MEAN	9.2	Sep 12	29	May 15	3.9	Jul 23, 2000
ANNUAL SEVEN-DAY MINIMUM	10	Sep 7	33	May 12	4.3	Jul 19, 2000
MAXIMUM PEAK FLOW			11,900	Nov 12	11,900	Nov 12, 2002
MAXIMUM PEAK STAGE			21.05	Nov 12	21.05	Nov 12, 2002
INSTANTANEOUS LOW FLOW			28	May 15	3.7	Jul 23, 2000
ANNUAL RUNOFF (INCHES)	28.11		50.80		25.65	
10 PERCENT EXCEEDS	260		584		318	
50 PERCENT EXCEEDS	77		156		70	
90 PERCENT EXCEEDS	19		67		17	

02366500 CHOCTAWHATCHEE RIVER NEAR BRUCE, FL

LOCATION.--Lat 30°27'03", long 85°53'54", in NE$^1/_4$ sec. 36, T. 1 N., R. 17 W., Walton County, Hydrologic Unit 03140203, near center of main channel on upstream side of bridge on State Highway 20, 4.0 mi southeast of Bruce, 5.8 mi downstream from Holmes Creek, and 21 mi upstream from mouth.

DRAINAGE AREA.--4,384 mi^2.

PERIOD OF RECORD.--October 1930 to March 1983; Apr. 1983 to May 1984 (discharge measurements only); June 1984 to current year.

REVISED RECORDS.--WSP 872: 1937. WSP 1384: Drainage area. WSP 1504: 1931-34.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Apr. 1, 1983 to May 14, 1999, nonrecording gage at same site and datum. Apr. 6, 1934 to Mar. 31, 1983, water-stage recorder at same site at datum 3.94 ft lower. Oct. 1, 1930 to Apr. 5, 1934, nonrecording gage at site 1.0 mi downstream at datum 4.19 ft lower.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of March 1929 reached a stage of 25.0 ft at former site and datum, from floodmarks, discharge, 220,000 ft^3/s, from rating curve extended above 145,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,490	6,900	4,160	15,200	3,830	13,400	8,570	12,000	5,260	5,490	9,450	6,500
2	4,160	7,950	4,020	13,700	3,830	14,900	7,910	15,400	4,580	5,890	9,810	6,330
3	3,680	8,240	3,890	12,400	3,890	16,400	7,510	15,900	3,960	7,390	10,500	6,360
4	3,260	7,530	3,770	12,000	3,990	17,700	7,220	14,600	3,540	9,830	11,400	6,400
5	2,970	6,380	3,710	12,200	4,000	18,200	6,940	12,500	3,340	13,300	11,800	6,390
6	2,790	5,610	3,690	12,700	4,030	18,000	6,600	10,500	3,550	19,600	12,000	6,230
7	2,680	5,040	3,710	12,800	4,160	17,200	6,200	8,770	4,180	23,700	12,400	6,050
8	2,790	4,780	3,820	12,000	4,160	15,700	6,620	7,450	4,590	24,500	12,900	5,990
9	2,720	4,800	3,980	10,700	4,150	15,100	7,580	6,490	5,060	23,700	12,600	6,090
10	2,570	4,930	4,050	9,360	4,180	15,200	10,400	5,730	5,930	22,300	12,400	6,510
11	2,510	5,020	4,040	8,240	4,310	15,500	15,800	5,150	7,910	20,300	12,900	7,170
12	2,450	5,490	3,970	7,310	4,350	17,200	22,800	4,720	11,400	17,600	14,300	7,690
13	2,370	7,630	4,100	6,650	4,320	19,900	27,100	4,310	14,600	15,000	15,400	7,540
14	2,330	13,200	4,410	6,080	4,220	21,600	28,100	4,010	15,300	12,600	15,400	6,840
15	2,410	18,900	4,750	5,640	4,090	21,100	26,500	3,750	13,900	11,000	15,000	5,970
16	2,820	21,800	5,050	5,300	4,350	18,800	23,400	3,560	12,400	10,400	14,600	5,270
17	3,350	20,700	5,300	5,050	4,660	16,100	19,600	3,420	11,700	10,400	13,300	4,870
18	3,700	18,200	5,440	4,890	4,780	14,100	15,700	3,420	12,300	10,600	12,200	4,730
19	3,870	15,700	5,310	4,720	5,130	13,400	12,600	3,670	13,600	10,600	11,700	4,600
20	3,820	13,400	5,190	4,600	5,860	14,500	10,200	3,890	16,300	10,600	11,700	4,430
21	3,630	11,700	5,090	4,500	6,790	17,000	8,630	4,020	17,900	10,900	12,100	4,190
22	3,390	10,200	5,140	4,410	7,850	20,400	7,440	4,260	17,800	10,700	13,400	4,260
23	3,130	8,880	5,510	4,340	8,500	23,000	6,610	4,570	17,400	10,600	14,400	4,780
24	3,140	7,750	6,550	4,280	8,260	24,100	5,990	4,790	16,100	10,700	13,900	5,060
25	3,210	6,790	7,920	4,250	7,990	23,600	5,790	4,920	14,500	10,600	12,700	5,240
26	3,150	5,930	9,130	4,180	8,210	21,600	5,900	5,130	12,700	10,600	11,600	5,450
27	3,050	5,290	10,300	4,100	9,940	18,400	5,970	5,520	10,700	10,900	10,500	5,970
28	3,110	4,880	12,000	4,020	11,800	15,100	6,190	6,060	8,950	11,300	9,410	6,640
29	3,750	4,590	14,000	3,950	---	12,500	6,790	6,470	7,460	11,200	8,440	7,050
30	4,760	4,360	15,500	3,890	---	10,700	8,480	6,370	6,270	10,700	7,560	6,990
31	5,710	---	15,800	3,870	---	9,480	---	5,880	---	9,740	6,930	---
MEAN	3,283	9,086	6,235	7,333	5,558	17,090	11,500	6,685	10,110	12,990	12,020	5,920
MAX	5,710	21,800	15,800	15,200	11,800	24,100	28,100	15,900	17,900	24,500	15,400	7,690
MIN	2,330	4,360	3,690	3,870	3,830	9,480	5,790	3,420	3,340	5,490	6,930	4,190
IN.	0.86	2.31	1.64	1.93	1.32	4.50	2.93	1.76	2.57	3.42	3.16	1.51

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2003, BY WATER YEAR (WY)

MEAN	4,431	4,378	6,287	8,981	10,330	12,340	10,750	6,267	5,154	5,670	5,864	4,521
MAX	24,890	13,870	25,970	29,400	20,460	31,510	27,220	20,870	18,080	48,020	26,770	24,000
(WY)	(1999)	(1931)	(1954)	(1936)	(1978)	(1998)	(1975)	(1946)	(1973)	(1994)	(1939)	(1937)
MIN	1,399	1,742	1,945	2,344	3,684	2,534	3,476	1,774	1,430	1,368	1,420	1,626
(WY)	(1969)	(1955)	(1956)	(1956)	(2002)	(1955)	(2000)	(2000)	(2000)	(2000)	(2000)	(1968)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1931 - 2003	
ANNUAL MEAN	4,094		9,011		7,065	
HIGHEST ANNUAL MEAN					11,620	1948
LOWEST ANNUAL MEAN					2,711	2000
HIGHEST DAILY MEAN	21,800	Nov 16	28,100	Apr 14	164,000	Jul 11, 1994
LOWEST DAILY MEAN	1,470	Sep 12	2,330	Oct 14	1,100	Jul 23, 2000
ANNUAL SEVEN-DAY MINIMUM	1,550	Sep 7	2,480	Oct 9	1,120	Jul 20, 2000
MAXIMUM PEAK FLOW			28,400	Apr 14	165,000	Jul 11, 1994
MAXIMUM PEAK STAGE			15.22	Apr 14	26.76	Jul 11, 1994
INSTANTANEOUS LOW FLOW			2,310	Oct 14	1,070	Jul 23, 2000
ANNUAL RUNOFF (INCHES)	12.68		27.91		21.90	
10 PERCENT EXCEEDS	6,710		16,600		14,000	
50 PERCENT EXCEEDS	3,130		6,940		4,950	
90 PERCENT EXCEEDS	1,810		3,760		2,280	

02366996 ALAQUA CREEK NEAR PLEASANT RIDGE, FL

LOCATION.--Lat 30°40'08", long 86°11'12", in SW$\frac{1}{4}$ sec. 18, T. 2 N., R. 19 W., Walton County, Hydrologic unit 03140102, on left bank 80 ft downstream from bridge on Nelson Road, 0.3 mi downstream from Cosson Mill Creek, 0.6 mi upstream from Oakie Creek, 1.5 mi southwest of Sconiers Mill, and 1.9 mi south of Pleasant Ridge.

DRAINAGE AREA.--39.1 mi^2.

PERIOD OF RECORD.--October 1998 to current year.

GAGE.--Water-stage recorder. Elevation of gage is National Geodetic Vertical Datum of 1929, from topographic map. Prior to Jan. 22, 2003, at site 80 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	60	73	315	63	265	93	84	63	859	186	117
2	61	56	72	124	62	233	89	77	62	563	246	100
3	57	56	71	101	62	133	86	78	77	470	170	97
4	80	57	71	93	68	193	84	75	69	538	144	93
5	121	63	81	90	62	133	84	71	62	436	135	99
6	70	120	80	87	63	115	85	71	96	310	169	135
7	63	66	72	83	73	177	83	69	336	362	294	99
8	57	59	70	82	64	154	407	67	425	233	165	91
9	55	58	69	81	62	324	400	64	286	211	128	87
10	54	61	71	80	70	225	174	63	143	219	116	85
11	60	92	74	76	64	129	138	62	104	185	141	83
12	62	772	70	75	61	110	118	60	113	171	210	81
13	68	300	146	75	59	142	104	58	134	159	206	80
14	57	147	86	74	58	120	94	57	156	152	244	86
15	174	124	76	73	58	98	89	58	113	157	134	88
16	96	263	73	73	119	91	86	60	155	141	119	79
17	68	176	70	73	81	207	84	58	122	168	179	77
18	60	113	68	71	67	209	83	60	308	215	171	75
19	57	99	75	71	64	131	81	102	229	190	193	75
20	57	95	285	70	62	525	79	71	224	256	139	74
21	69	91	99	70	64	240	84	65	335	159	150	75
22	57	87	86	70	87	152	107	75	146	152	122	223
23	55	83	82	68	72	130	79	89	138	451	114	242
24	60	83	330	67	63	117	76	65	176	207	108	98
25	57	80	307	68	61	105	188	61	105	167	102	89
26	58	78	120	68	70	98	168	157	89	182	114	87
27	69	77	101	67	555	165	88	346	83	207	96	84
28	69	76	94	66	208	128	80	91	81	145	93	80
29	98	74	90	66	---	101	76	75	119	143	124	75
30	99	75	87	66	---	147	82	69	218	168	170	74
31	67	---	185	65	---	106	---	66	---	142	137	---
MEAN	71.0	121	108	84.1	90.1	168	119	81.4	159	262	155	97.6
MAX	174	772	330	315	555	525	407	346	425	859	294	242
MIN	54	56	68	65	58	91	76	57	62	141	93	74
IN.	2.09	3.46	3.17	2.48	2.40	4.95	3.40	2.40	4.54	7.72	4.58	2.79

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

MEAN	146	87.5	93.7	86.7	75.5	120	88.2	56.2	82.2	108	89.4	74.3
MAX	491	151	137	139	96.3	168	119	81.4	159	262	155	97.6
(WY)	(1999)	(1999)	(1999)	(1999)	(1999)	(2003)	(2002)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	30.6	45.8	43.5	45.7	46.2	66.3	47.1	33.0	35.7	32.1	31.1	48.7
(WY)	(2001)	(2002)	(2002)	(2002)	(2002)	(2002)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL MEAN	69.8		127		92.5	
HIGHEST ANNUAL MEAN					147	1999
LOWEST ANNUAL MEAN					55.4	2000
HIGHEST DAILY MEAN	772	Nov 12	859	Jul 1	e4,400	Oct 1, 1998
LOWEST DAILY MEAN	28	Sep 12	54	Oct 10	22	Aug 13, 2000
ANNUAL SEVEN-DAY MINIMUM	30	Sep 6	59	May 12	23	Aug 13, 2000
MAXIMUM PEAK FLOW			1,480	Jul 1	e4,400	Oct 1, 1998
MAXIMUM PEAK STAGE			55.03	Jul 1	55.03	Jul 1, 2003
INSTANTANEOUS LOW FLOW			52	Oct 11	21	Aug 18, 2000
ANNUAL RUNOFF (INCHES)	24.22		43.99		32.15	
10 PERCENT EXCEEDS	99		227		166	
50 PERCENT EXCEEDS	52		88		66	
90 PERCENT EXCEEDS	36		62		36	

e Estimated

02367900 YELLOW RIVER NEAR OAK GROVE, FL

LOCATION.--Lat 30°55'34", long 86°33'34", in SE$^1/_4$ sec. 17, T. 5 N., R. 23 W., Okaloosa County, Hydrologic Unit 03140103, at bridge on downstream side at State Highway 2, 0.7 mi east of Oak Grove, and 58 mi above mouth.

DRAINAGE AREA.--525 mi^2, approximately.

PERIOD OF RECORD.--September 1966 to October 1968, (annual maximum and gage height only), October 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1968, nonrecording gage at same site and datum.

REMARKS.--Records good, except for estimated daily discharges which are fair.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 30, 1998 reached a stage of 108.42 ft, present datum, from floodmarks, discharge not determined.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	539	965	489	2,180	e607	3,900	986	856	460	1,760	1,850	1,170
2	429	722	482	3,280	e590	3,600	861	760	425	3,620	2,180	864
3	369	602	478	3,860	e550	2,270	777	754	422	5,850	1,900	744
4	357	540	463	3,260	e540	1,650	730	903	420	7,920	1,510	666
5	386	547	509	1,800	e533	1,500	724	964	476	7,550	1,790	683
6	356	906	709	1,180	e545	1,380	782	858	847	5,710	1,890	1,180
7	345	1,380	803	1,010	e557	1,490	1,290	724	2,450	3,670	3,030	1,290
8	371	1,260	692	923	e594	2,150	2,240	645	3,260	2,600	4,510	1,610
9	498	893	594	864	e590	2,880	6,680	588	3,830	2,160	5,170	1,800
10	456	729	590	825	e555	4,400	10,600	550	3,480	1,790	4,240	1,700
11	392	767	910	793	e518	5,900	8,910	516	1,900	1,290	2,370	1,060
12	349	1,420	1,100	756	e511	4,630	5,630	489	1,110	1,780	1,740	795
13	323	1,850	1,010	726	e497	2,450	2,910	462	1,230	2,970	2,080	697
14	319	1,850	1,100	714	e494	2,030	1,630	450	1,910	3,180	1,940	729
15	518	1,410	974	684	e485	2,470	1,260	437	2,540	2,280	1,790	754
16	699	1,060	779	e669	950	2,620	1,100	431	3,020	1,320	1,430	692
17	721	1,120	664	e677	1,670	2,960	994	676	3,280	1,050	1,340	686
18	552	1,150	602	e674	2,030	3,260	922	734	3,240	1,240	2,230	605
19	446	967	576	e653	1,710	3,460	871	941	3,060	1,350	3,010	551
20	419	819	753	e620	1,060	3,050	820	1,470	2,800	2,770	2,670	518
21	400	763	1,230	e610	838	2,280	787	1,610	2,180	3,470	2,840	580
22	732	737	1,310	e628	1,250	1,740	892	1,160	1,410	4,040	4,060	976
23	754	693	1,060	e612	2,030	1,370	905	1,240	1,010	4,790	3,350	1,290
24	575	646	1,350	e582	2,380	1,160	778	1,310	833	4,000	2,040	1,260
25	477	603	2,340	e560	2,070	1,030	1,240	1,010	726	3,080	1,480	1,100
26	444	573	2,660	e547	1,290	950	1,980	790	659	2,050	1,160	837
27	743	555	2,330	e577	2,310	897	2,500	965	606	1,680	941	686
28	1,470	534	1,620	e562	3,430	859	2,620	811	566	1,490	821	612
29	1,920	516	1,050	e557	---	825	1,990	729	568	1,580	754	565
30	2,060	507	891	e552	---	891	1,080	597	716	1,790	831	520
31	1,600	---	1,020	e570	---	1,040	---	511	---	1,840	1,250	---
MEAN	646	903	1,004	1,049	1,114	2,293	2,183	805	1,648	2,957	2,200	907
MAX	2,060	1,850	2,660	3,860	3,430	5,900	10,600	1,610	3,830	7,920	5,170	1,800
MIN	319	507	463	547	485	825	724	431	420	1,050	754	518
IN.	1.46	1.98	2.27	2.37	2.27	5.19	4.78	1.82	3.61	6.69	4.97	1.99

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

MEAN	1,480	554	620	786	676	1,657	922	414	744	1,007	760	447
MAX	6,104	1,093	1,004	1,385	1,114	3,455	2,183	805	1,648	2,957	2,200	907
(WY)	(1999)	(1999)	(2003)	(1999)	(2003)	(2001)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	102	242	310	357	520	558	405	176	157	117	136	140
(WY)	(2001)	(2002)	(2002)	(2002)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL MEAN	488		1,479		842	
HIGHEST ANNUAL MEAN					1,479	2003
LOWEST ANNUAL MEAN					305	2000
HIGHEST DAILY MEAN	2,660	Dec 26	10,600	Apr 10	66,100	Oct 1, 1998
LOWEST DAILY MEAN	115	Aug 13	319	Oct 14	86	Oct 31, 2000
ANNUAL SEVEN-DAY MINIMUM	125	Aug 10	373	Oct 2	86	Oct 30, 2000
MAXIMUM PEAK FLOW			10,800	Apr 10	11,300	Mar 6, 2001
MAXIMUM PEAK STAGE			92.32	Apr 10	92.53	Mar 6, 2001
INSTANTANEOUS LOW FLOW			307	Oct 14	84	Oct 31, 2000
ANNUAL RUNOFF (INCHES)	13.00		39.39		22.44	
10 PERCENT EXCEEDS	1,090		3,120		1,730	
50 PERCENT EXCEEDS	349		965		456	
90 PERCENT EXCEEDS	154		508		159	

e Estimated

02368000 YELLOW RIVER AT MILLIGAN, FL

LOCATION.--Lat 30°45'10", long 86°37'45", in SE$^1/_4$ sec. 15, T.3 N., R.24 W., Okaloosa County, Hydrologic Unit 03140103, near center on downstream side of bridge on U.S. Highway 90, 0.5 mi east of Milligan, 0.5 mi upstream from Trammel Creek, 6.7 mi upstream from Shoal River, and 40 mi upstream from mouth.

DRAINAGE AREA.--624 mi^2

PERIOD OF RECORD.--July 1938 to September 1993, October 1996 to current year.

REVISED RECORDS.--WSP 892: 1938-39. WSP 1384: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 45.00 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 6, 1939, nonrecording gage at same site and datum.

REMARKS.--Records good.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1929 reached a stage of 26.2 ft, from information by local residents, discharge 137,000 ft^3/s, from rating extended above 46,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,010	1,750	631	1,670	645	2,810	1,160	1,280	577	1,820	1,950	1,490
2	738	1,200	613	2,060	663	3,250	1,070	978	529	2,770	2,040	1,450
3	608	887	602	2,420	632	3,110	940	949	522	3,450	2,160	1,220
4	554	767	593	2,860	616	2,360	861	949	520	4,400	2,020	1,080
5	644	721	627	2,740	600	1,930	814	1,040	523	6,140	1,790	1,020
6	592	868	759	2,070	602	1,710	e880	1,030	765	6,520	1,840	1,540
7	556	1,190	944	1,450	605	1,710	e1,100	903	1,680	4,940	2,030	1,750
8	541	1,430	925	1,200	623	1,890	e1,850	783	2,170	3,210	2,570	1,640
9	588	1,370	796	1,080	658	2,230	e3,650	707	2,380	2,340	3,340	1,730
10	643	1,050	734	1,010	677	2,590	e5,700	652	e2,510	2,070	3,810	1,860
11	575	1,090	956	958	640	3,290	e8,200	614	e2,490	1,870	3,310	1,810
12	524	1,700	1,200	907	599	4,490	e7,300	588	e2,050	1,560	2,330	1,350
13	492	1,780	1,350	861	577	4,130	4,660	552	1,440	1,690	1,940	1,040
14	447	1,890	1,330	820	551	2,580	2,660	527	1,520	2,150	2,010	1,060
15	794	1,910	1,320	785	535	2,070	1,810	520	1,830	2,350	1,940	1,220
16	1,020	1,800	1,170	763	1,260	2,120	1,390	524	2,050	2,120	1,870	1,060
17	1,000	1,530	958	752	1,650	2,240	1,190	562	2,240	1,560	1,830	976
18	862	1,440	835	750	1,710	2,400	1,070	865	2,600	1,280	1,660	909
19	672	1,390	792	733	1,870	2,520	987	1,220	2,740	1,550	1,900	831
20	560	1,200	996	709	1,770	2,680	930	1,260	2,450	2,020	2,230	783
21	509	1,060	1,150	695	1,250	2,520	933	1,510	2,310	2,410	2,250	779
22	617	999	1,390	688	1,170	2,180	1,000	1,660	2,070	2,790	2,220	1,410
23	892	934	1,460	679	1,480	1,860	1,020	1,440	1,610	3,680	2,690	1,820
24	843	867	1,620	663	1,820	1,550	935	1,370	1,160	4,210	2,650	1,720
25	680	800	1,960	646	2,020	1,320	1,100	1,350	920	3,390	2,190	1,650
26	614	751	2,190	625	2,010	1,170	1,850	1,060	795	2,610	1,830	1,490
27	788	718	2,270	611	2,140	1,070	1,990	1,040	712	2,110	1,500	1,100
28	1,170	689	2,190	605	2,380	1,010	2,060	1,050	657	1,890	1,260	912
29	1,510	664	1,880	600	---	961	2,120	893	662	1,890	1,190	816
30	1,790	646	1,370	601	---	999	1,930	773	888	1,850	1,190	754
31	1,920	---	1,280	617	---	1,080	---	652	---	1,930	1,280	---
MEAN	798	1,170	1,190	1,085	1,134	2,188	2,105	945	1,512	2,728	2,091	1,276
MAX	1,920	1,910	2,270	2,860	2,380	4,490	8,200	1,660	2,740	6,520	3,810	1,860
MIN	447	646	593	600	535	961	814	520	520	1,280	1,190	754
IN.	1.48	2.09	2.20	2.00	1.89	4.04	3.77	1.75	2.70	5.04	3.86	2.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2003, BY WATER YEAR (WY)

MEAN	707	730	1,142	1,415	1,609	2,033	1,661	1,027	892	864	941	843
MAX	6,587	2,737	6,232	3,375	3,066	6,380	5,322	4,173	3,733	3,191	5,434	4,305
(WY)	(1999)	(1990)	(1954)	(1990)	(1979)	(1998)	(1975)	(1978)	(1970)	(1940)	(1975)	(1975)
MIN	151	201	286	371	567	405	456	220	206	172	218	179
(WY)	(2001)	(1955)	(1955)	(1955)	(1950)	(1955)	(1967)	(2002)	(2002)	(2000)	(2000)	(1972)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1938 - 2003	
ANNUAL MEAN	632		1,522		1,154	
HIGHEST ANNUAL MEAN					2,206	1975
LOWEST ANNUAL MEAN					374	2000
HIGHEST DAILY MEAN	2,270	Dec 27	e8,200	Apr 11	71,700	Oct 1, 1998
LOWEST DAILY MEAN	146	Aug 14	447	Oct 14	123	Jun 14, 2000
ANNUAL SEVEN-DAY MINIMUM	165	Jun 9	544	Oct 8	127	Oct 29, 2000
MAXIMUM PEAK FLOW			e8,600	Apr 11	82,800	Sep 30, 1998
MAXIMUM PEAK STAGE					23.92	Sep 30, 1998
INSTANTANEOUS LOW FLOW			428	Oct 14	120	Jun 13, 2000
ANNUAL RUNOFF (INCHES)	13.75		33.11		25.12	
10 PERCENT EXCEEDS	1,370		2,570		2,240	
50 PERCENT EXCEEDS	512		1,250		746	
90 PERCENT EXCEEDS	196		612		308	

e Estimated

02368500 SHOAL RIVER NEAR MOSSY HEAD, FL

LOCATION.--Lat 30°47'45", long 86°18'25", in SW sec. 36, T.4 N., R.21 W., Walton County, Hydrologic Unit 03140103, near center span on dowstream side of bridge on County Road 1087, about 200 ft downstream from Machine Branch, 3.9 mi north of Mossy Head, and 34 mi upstream from mouth.

DRAINAGE AREA.--123 mi^2.

PERIOD OF RECORD.--March 1951 to September 1978, May 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is 105.59 ft National Geodetic Vertical Datum of 1929. Prior to July 24, 1956, at site 300 ft north at same datum.

REMARKS.--No estimated daily discharges. Records good.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	98	134	713	118	387	211	165	93	1,240	607	235
2	98	91	130	475	114	442	199	171	90	2,540	642	222
3	92	88	126	323	113	340	192	189	101	1,460	805	220
4	94	89	125	270	121	352	186	167	108	1,440	514	214
5	110	95	139	247	116	315	183	151	95	981	743	214
6	98	140	147	231	112	262	187	144	137	714	637	298
7	90	110	130	219	126	403	180	137	615	613	549	264
8	85	96	123	217	122	537	427	131	1,270	475	448	228
9	83	90	120	211	113	792	867	125	924	407	368	210
10	82	140	121	201	115	868	541	120	447	418	329	199
11	82	310	131	187	113	470	354	116	328	409	303	190
12	84	1,910	127	177	107	350	290	112	276	497	318	184
13	90	1,290	217	171	102	365	246	107	250	440	322	176
14	90	566	192	165	100	366	217	103	308	340	346	187
15	294	421	143	167	100	306	202	104	269	292	293	252
16	235	582	128	163	152	266	195	125	421	259	268	193
17	135	534	121	161	181	314	184	117	258	269	808	175
18	106	373	117	152	132	466	177	123	445	314	859	168
19	96	301	122	148	117	447	169	175	727	612	484	162
20	92	258	405	146	110	898	164	149	416	482	346	158
21	95	228	341	145	113	862	161	125	409	332	306	162
22	92	201	199	143	169	456	179	162	281	304	308	208
23	88	178	165	137	171	354	161	227	225	897	291	285
24	89	170	917	127	130	308	147	148	249	593	287	194
25	91	163	1,500	125	116	277	310	121	196	377	268	161
26	93	156	678	125	136	254	505	114	169	324	320	169
27	125	153	434	122	894	253	308	216	158	370	266	153
28	130	146	345	119	694	239	209	143	149	361	241	145
29	162	140	288	118	---	223	177	114	168	400	241	136
30	156	137	257	120	---	258	163	103	285	805	249	129
31	119	---	377	121	---	240	---	97	---	916	253	---
MEAN	112	308	274	198	172	409	256	139	329	641	420	196
MAX	294	1,910	1,500	713	894	898	867	227	1,270	2,540	859	298
MIN	82	88	117	118	100	223	147	97	90	259	241	129
IN.	1.05	2.80	2.57	1.86	1.45	3.83	2.33	1.30	2.98	6.01	3.94	1.78

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2003, BY WATER YEAR (WY)

MEAN	182	168	242	271	300	310	304	200	199	199	218	213
MAX	963	556	890	652	649	739	837	630	582	641	831	708
(WY)	(1976)	(1976)	(1954)	(1974)	(1974)	(1978)	(1964)	(1978)	(1959)	(2003)	(1975)	(1975)
MIN	48.6	67.3	67.1	93.2	102	78.3	90.3	48.1	46.2	46.7	49.6	52.4
(WY)	(2001)	(1956)	(1956)	(2002)	(2002)	(1955)	(1967)	(2000)	(2000)	(2000)	(2000)	(1972)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1951 - 2003	
ANNUAL MEAN	148		289		237	
HIGHEST ANNUAL MEAN					399	1978
LOWEST ANNUAL MEAN					113	2002
HIGHEST DAILY MEAN	1,910	Nov 12	2,540	Jul 2	8,250	Jul 31, 1975
LOWEST DAILY MEAN	43	Sep 9	82	Oct 10	29	Jun 26, 2000
ANNUAL SEVEN-DAY MINIMUM	44	Sep 6	85	Oct 7	34	Jun 20, 2000
MAXIMUM PEAK FLOW			2,900	Jul 2	10,500	Apr 27, 1964
MAXIMUM PEAK STAGE			15.89	Jul 2	23.64	Apr 27, 1964
INSTANTANEOUS LOW FLOW			79	Oct 11	27	Jun 26, 2000
ANNUAL RUNOFF (INCHES)	16.39		31.91		26.21	
10 PERCENT EXCEEDS	258		586		436	
50 PERCENT EXCEEDS	95		193		162	
90 PERCENT EXCEEDS	60		103		76	

02369000 SHOAL RIVER NEAR CRESTVIEW, FL

LOCATION.--Lat 30°41'50", long 86°34'15", in SW¼ sec. 5, T. 2 N., R. 23 W., Okaloosa County, Hydrologic Unit 03140103, near center of bridge on downstream side of southbound lane on State Highway 85, 3.5 mi downstream from Titi Creek, 4.2 mi south of Crestview, and 7 mi upstream from mouth.

DRAINAGE AREA.--474 mi^2.

PERIOD OF RECORD.--July 1938 to current year.

REVISED RECORDS.--WSP 1274: 1939-40, 1944, 1947, 1950. WSP 1384: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 47.21 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 12, 1939, June 12, 1972 to Aug. 22, 1973, and July 8, 1994 to Oct. 6, 1995, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	754	682	771	1,900	688	3,340	1,010	944	721	3,770	3,030	1,190
2	685	598	753	2,620	667	2,350	940	884	684	6,560	2,710	1,070
3	632	557	741	2,170	654	2,070	901	905	718	9,050	2,920	997
4	682	552	739	1,360	668	1,740	880	958	789	8,180	2,790	964
5	1,000	569	776	1,090	676	1,520	870	887	763	5,920	2,550	941
6	897	688	872	1,020	657	1,310	880	815	931	4,540	2,490	953
7	738	694	833	973	685	1,200	1,040	769	2,580	3,550	2,660	1,200
8	642	604	764	939	692	1,790	1,370	732	4,080	3,210	2,730	1,090
9	589	561	733	922	663	2,740	2,710	699	4,690	2,530	2,290	984
10	565	696	732	910	669	3,230	3,560	672	4,090	2,090	1,820	898
11	566	1,150	839	884	703	3,080	2,960	648	2,330	1,890	1,510	854
12	620	3,900	860	851	669	2,190	1,690	636	1,570	1,900	1,390	823
13	754	5,090	943	829	631	1,630	1,210	617	1,880	2,100	1,540	800
14	647	5,030	1,090	815	609	1,780	1,040	591	2,610	2,150	1,580	824
15	1,100	3,060	976	805	601	1,740	970	582	2,680	1,810	1,590	969
16	1,690	2,150	831	802	769	1,540	925	656	1,940	1,530	1,410	959
17	1,280	2,420	768	808	1,390	1,480	895	685	1,840	1,360	1,760	841
18	824	2,120	736	789	1,470	1,900	869	740	2,070	1,340	2,310	781
19	672	1,510	742	773	927	2,220	839	1,500	2,710	1,560	2,540	749
20	620	1,190	1,150	764	764	2,240	810	1,930	2,840	2,590	2,090	731
21	620	1,070	1,690	757	724	2,310	830	1,410	2,330	2,530	1,750	742
22	604	1,020	1,400	754	897	2,390	1,070	1,070	1,890	1,860	1,600	1,410
23	570	964	985	745	1,050	1,780	987	1,910	1,470	2,110	1,500	2,230
24	560	913	1,340	718	985	1,320	850	2,160	1,410	3,020	1,310	1,970
25	558	881	3,320	706	812	1,140	912	1,230	1,270	2,830	1,180	1,240
26	567	856	4,230	703	775	1,050	1,970	902	1,030	2,000	1,220	970
27	722	836	3,360	698	1,810	1,010	2,550	1,330	936	1,760	1,280	949
28	894	818	1,720	687	3,210	1,030	1,630	1,830	891	1,750	1,080	887
29	844	794	1,220	685	---	989	1,010	1,240	905	2,340	1,170	825
30	915	779	1,070	686	---	1,010	897	883	1,250	2,680	1,210	773
31	837	---	1,090	697	---	1,080	---	778	---	2,940	1,230	---
MEAN	763	1,425	1,228	963	911	1,813	1,302	1,019	1,863	3,015	1,879	1,020
MAX	1,690	5,090	4,230	2,620	3,210	3,340	3,560	2,160	4,690	9,050	3,030	2,230
MIN	558	552	732	685	601	989	810	582	684	1,340	1,080	731
MED	682	869	872	805	698	1,740	979	884	1,710	2,340	1,600	951
IN.	1.86	3.36	2.99	2.34	2.00	4.41	3.07	2.48	4.39	7.33	4.57	2.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2003, BY WATER YEAR (WY)

MEAN	858	848	1,012	1,218	1,352	1,507	1,292	971	999	1,104	1,118	1,057
MAX	4,097	2,252	3,601	2,606	2,974	3,327	3,056	2,752	4,421	5,436	4,385	4,370
(WY)	(1999)	(1996)	(1954)	(1978)	(1982)	(1948)	(1960)	(1978)	(1989)	(1994)	(1975)	(1998)
MIN	265	331	345	417	500	365	396	254	309	265	261	301
(WY)	(2001)	(1955)	(1956)	(1939)	(2001)	(1955)	(2000)	(2000)	(2000)	(2000)	(2000)	(1972)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1938 - 2003	
ANNUAL MEAN	730		1,438		1,111	
HIGHEST ANNUAL MEAN					1,781	1978
LOWEST ANNUAL MEAN					470	2000
HIGHEST DAILY MEAN	5,090	Nov 13	9,050	Jul 3	55,500	Sep 30, 1998
LOWEST DAILY MEAN	289	Sep 12	552	Nov 4	186	Jun 11, 2000
ANNUAL SEVEN-DAY MINIMUM	314	Sep 7	586	Oct 20	190	Jun 8, 2000
MAXIMUM PEAK FLOW			9,980	Jul 3	59,100	Sep 30, 1998
MAXIMUM PEAK STAGE			10.43	Jul 3	21.40	Sep 30, 1998
INSTANTANEOUS LOW FLOW			548	Nov 3	183	Jun 12, 2000
ANNUAL RUNOFF (INCHES)	20.90		41.20		31.84	
10 PERCENT EXCEEDS	1,130		2,690		2,020	
50 PERCENT EXCEEDS	571		1,010		830	
90 PERCENT EXCEEDS	358		671		421	

02369600 YELLOW RIVER NEAR MILTON, FL

LOCATION.--Lat 30°34'16", long 86°55'28", in NE¼ sec. 26, T. 1 N., R. 27 W., Santa Rosa County, Hydrologic Unit 03140103, at main channel on downstream side of bridge on State Highway 87, 5.9 mi upstream from mouth, and 8.0 mi southeast of Milton.

DRAINAGE AREA.--1,350 mi^2, approximately.

PERIOD OF RECORD.--October 1964 to October 1972 (annual maximum elevation), October 2001 to current year.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is 35.5 ft below National Geodetic Vertical Datum of 1929 (from design datum of bridge deck furnished by Florida Department of Transportation). Prior to October 1972, nonrecording gage at present site at National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Flow is tide affected.

MAIN CHANNEL ONLY

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,100	2,660	1,310	2,670	1,490	3,750	2,040	3,700	2,880	3,180	4,740	3,180
2	3,530	2,910	1,190	2,720	1,590	4,020	2,000	3,480	2,460	3,490	4,720	3,090
3	2,810	3,130	1,160	2,920	1,530	4,360	2,050	2,970	2,210	4,320	4,580	3,140
4	2,590	2,990	1,170	3,230	1,740	4,170	2,030	2,740	2,060	6,100	4,610	3,150
5	2,310	2,390	1,290	3,610	1,600	4,070	1,930	2,200	2,210	6,570	4,830	3,120
6	2,150	2,170	1,300	3,740	1,610	3,870	1,850	2,070	2,130	5,900	4,820	3,090
7	1,970	1,830	1,240	3,910	1,530	3,700	1,800	2,050	2,190	5,890	4,620	3,010
8	2,030	1,750	1,310	3,790	1,540	3,440	2,000	2,110	2,410	5,700	4,420	2,960
9	2,010	1,860	1,410	3,430	1,520	3,380	2,120	2,160	2,820	5,250	4,460	2,960
10	1,910	1,990	1,510	3,130	1,580	3,570	2,620	2,070	3,770	5,020	4,640	3,030
11	1,880	2,380	1,600	2,910	1,740	4,090	3,230	2,030	4,670	4,730	4,840	3,020
12	1,960	3,090	1,550	2,690	1,720	4,650	3,880	2,060	4,700	4,480	4,830	3,020
13	1,990	3,190	1,510	2,350	1,730	4,550	4,420	2,040	4,180	4,200	4,620	3,020
14	1,990	3,780	2,150	2,100	1,750	4,200	4,310	2,030	3,740	4,080	4,610	3,050
15	1,940	4,340	2,210	1,940	1,750	4,160	4,020	2,090	3,500	3,960	4,300	2,930
16	2,210	4,450	2,460	1,700	1,940	4,150	3,730	2,060	3,500	4,120	3,980	2,780
17	2,410	4,380	2,540	1,930	2,130	3,440	3,150	2,130	3,550	4,460	3,920	2,700
18	2,750	4,080	2,450	1,630	2,350	3,410	2,840	2,080	3,520	4,120	3,930	2,760
19	3,060	3,740	2,170	1,610	2,720	3,170	2,600	2,330	3,350	4,000	3,920	2,730
20	3,000	3,510	2,150	1,550	3,540	3,360	2,300	2,560	3,630	3,970	3,830	2,630
21	2,440	3,230	1,990	1,410	3,830	3,510	2,160	2,660	4,300	3,900	3,960	2,680
22	1,950	3,110	2,070	1,450	3,460	3,760	e2,050	2,990	4,300	4,100	3,860	2,930
23	1,780	3,010	2,230	1,720	3,480	3,540	e1,990	3,330	4,260	4,710	3,690	2,740
24	1,750	2,570	2,450	1,630	3,140	3,430	e2,050	3,350	3,780	4,990	3,620	2,880
25	1,780	2,160	3,210	1,370	3,030	3,190	e2,170	3,220	3,560	4,980	3,670	3,300
26	1,770	1,860	3,200	1,400	3,130	2,870	2,020	3,170	3,330	5,290	3,740	3,580
27	1,690	1,810	3,310	1,440	3,460	2,400	2,130	3,370	2,980	5,140	3,620	3,500
28	1,650	1,630	3,790	1,410	3,750	2,250	2,420	3,420	2,920	4,870	3,520	3,490
29	1,820	1,330	4,070	1,400	---	2,300	3,270	3,060	2,750	4,550	3,330	3,490
30	2,010	1,270	3,900	1,410	---	2,430	3,940	2,980	2,800	4,390	3,310	3,260
31	2,340	---	3,160	1,380	---	2,250	---	2,980	---	4,650	3,220	---
MEAN	2,245	2,753	2,163	2,245	2,299	3,530	2,637	2,629	3,282	4,681	4,154	3,041
MAX	4,100	4,450	4,070	3,910	3,830	4,650	4,420	3,700	4,700	6,570	4,840	3,580
MIN	1,650	1,270	1,160	1,370	1,490	2,250	1,800	2,030	2,060	3,180	3,220	2,630
IN.	1.93	2.29	1.86	1.93	1.79	3.04	2.20	2.26	2.73	4.03	3.57	2.53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	1,573	1,923	1,676	1,771	1,946	2,648	1,990	1,800	2,149	2,965	2,729	2,227
MAX	2,245	2,753	2,163	2,245	2,299	3,530	2,637	2,629	3,282	4,681	4,154	3,041
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	901	1,092	1,189	1,297	1,592	1,766	1,342	972	1,016	1,249	1,305	1,414
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL MEAN	1,592		2,978		2,118	
HIGHEST ANNUAL MEAN					2,978	2003
LOWEST ANNUAL MEAN					1,259	2002
HIGHEST DAILY MEAN	4,450	Nov 16	6,570	Jul 5	6,570	Jul 5, 2003
LOWEST DAILY MEAN	702	Jun 13	1,160	Dec 3	614	Oct 15, 2001
ANNUAL SEVEN-DAY MINIMUM	888	May 12	1,240	Dec 1	687	Oct 10, 2001
MAXIMUM PEAK FLOW			6,570	Jul 5	6,570	Jul 5, 2003
MAXIMUM PEAK STAGE			42.47	Jul 6	42.47	Jul 6, 2003
INSTANTANEOUS LOW FLOW			1,160	Dec 3	614	Oct 15, 2001
ANNUAL RUNOFF (INCHES)	16.14		30.17		21.48	
10 PERCENT EXCEEDS	2,490		4,430		3,930	
50 PERCENT EXCEEDS	1,390		2,980		1,700	
90 PERCENT EXCEEDS	956		1,630		976	

e Estimated

02370000 BLACKWATER RIVER NEAR BAKER, FL

LOCATION.--Lat 30°50'00", long 86°44'05", in SW¼ sec. 22, T. 4 N., R. 25 W., Okaloosa County, Blackwater River State Forest, Hydrologic Unit 03140104, near left bank on downstream side of bridge on State Highway 4, 0.3 mi downstream from Red Wash Branch, 3.8 mi northwest of Baker, and 35 mi upstream from mouth.

DRAINAGE AREA.--205 mi^2

PERIOD OF RECORD.--March 1950 to September 1992, October 1996 to current year.

REVISED RECORDS.--WSP 1704: 1950 (M), 1951-52.

GAGE.--Water-stage recorder. Datum of gage is 60.5 ft above National Geodetic Vertical Datum of 1929 (from design datum of bridge curb furnished by Florida Department of Transportation).

REMARKS.--No estimated daily discharges. Records good.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	376	360	172	1,650	174	1,440	249	216	108	2,020	562	428
2	309	292	167	1,310	168	1,160	232	203	104	3,090	609	391
3	261	252	162	816	164	800	216	219	120	2,400	551	366
4	247	229	158	586	167	708	205	225	143	1,270	541	351
5	314	226	173	470	167	621	199	202	139	969	817	441
6	300	432	238	400	162	533	200	184	372	1,400	634	553
7	286	492	224	353	167	676	192	170	1,280	1,130	1,530	525
8	273	377	195	324	175	972	707	159	965	762	2,150	438
9	233	292	177	301	167	1,130	1,360	150	772	614	2,220	343
10	205	257	185	287	167	1,440	1,040	142	685	535	1,030	293
11	202	301	377	269	165	1,520	675	136	469	439	879	262
12	184	1,270	347	257	157	863	491	130	499	925	1,210	242
13	171	1,190	347	244	151	742	385	124	489	685	1,280	243
14	167	771	358	233	147	911	314	119	581	540	883	475
15	431	532	292	227	144	1,060	276	120	495	423	753	577
16	614	507	248	221	330	901	252	124	370	361	578	392
17	420	502	222	220	553	773	235	124	432	329	940	299
18	301	396	204	216	379	835	219	135	602	392	1,010	254
19	240	329	199	209	287	688	205	360	697	650	777	229
20	205	292	336	202	242	580	192	316	549	1,540	590	222
21	202	281	389	197	232	489	191	245	485	1,410	499	239
22	207	277	321	195	703	418	205	244	385	872	463	580
23	188	250	268	192	1,010	368	189	253	329	1,450	480	754
24	176	231	914	186	690	332	171	195	439	1,260	448	532
25	170	219	1,510	181	463	301	970	160	302	896	392	393
26	188	207	1,090	178	392	279	1,070	142	257	653	353	337
27	428	197	670	177	1,870	262	572	161	232	639	320	290
28	649	189	496	173	2,100	249	387	160	215	625	299	279
29	764	180	409	170	---	240	294	138	209	592	313	249
30	754	175	355	170	---	275	243	124	293	676	464	228
31	490	---	547	176	---	288	---	115	---	575	447	---
MEAN	321	384	379	348	418	705	405	177	434	972	775	374
MAX	764	1,270	1,510	1,650	2,100	1,520	1,360	360	1,280	3,090	2,220	754
MIN	167	175	158	170	144	240	171	115	104	329	299	222
IN.	1.81	2.09	2.13	1.96	2.12	3.97	2.20	1.00	2.36	5.47	4.36	2.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2003, BY WATER YEAR (WY)

MEAN	210	231	353	436	505	560	432	298	303	259	287	308
MAX	941	1,142	2,029	1,200	1,158	1,661	1,223	1,438	1,845	972	1,772	1,954
(WY)	(1976)	(1990)	(1954)	(1978)	(1962)	(1990)	(1975)	(1978)	(1970)	(2003)	(1975)	(1998)
MIN	63.9	67.8	74.2	96.8	154	86.1	100	77.6	74.4	71.7	75.6	65.9
(WY)	(2001)	(1956)	(1956)	(1955)	(1951)	(1955)	(1968)	(2002)	(2002)	(2000)	(1954)	(1954)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1950 - 2003	
ANNUAL MEAN	209		475		348	
HIGHEST ANNUAL MEAN					738	1975
LOWEST ANNUAL MEAN					131	2000
HIGHEST DAILY MEAN	2,650	Sep 27	3,090	Jul 2	23,900	Sep 29, 1998
LOWEST DAILY MEAN	64	Jun 3	104	Jun 2	58	Oct 29, 2000
ANNUAL SEVEN-DAY MINIMUM	67	Jun 12	122	May 29	58	Oct 28, 2000
MAXIMUM PEAK FLOW			3,250	Jul 2	26,500	Sep 29, 1998
MAXIMUM PEAK STAGE			11.73	Jul 2	25.68	Sep 29, 1998
INSTANTANEOUS LOW FLOW			100	Jun 3	57	Oct 29, 2000
ANNUAL RUNOFF (INCHES)	13.82		31.49		23.07	
10 PERCENT EXCEEDS	377		987		664	
50 PERCENT EXCEEDS	138		324		200	
90 PERCENT EXCEEDS	70		167		93	

02370500 BIG COLDWATER CREEK NEAR MILTON, FL

LOCATION.--Lat 30°42'30", long 86°58'20", in SW¼ sec.5, T.2 N., R.27 W., Santa Rosa County, Hydrologic Unit 03140104, near center channel on downstream side of bridge on State Highway 191, 3 mi upstream from mouth, and 6.5 mi northeast of Milton.

DRAINAGE AREA.--237 mi^2

PERIOD OF RECORD.--October 1938 to June 1979, October 1979 to September 1980 (gage heights and discharge measurements only), October 1980 to September 1991, October 1997 to August 1999, May 2000 to current year. Monthly discharge only for some periods, published in WSP 1304. Records published as "Coldwater Creek near Milton" prior to October 1956, and "Big Coldwater River near Milton" October 1956 to September 1957.

REVISED RECORDS.--WSP 892: 1939. WSP 1384: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 9.10 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 2, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good, except for estimated daily discharges, which are fair.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	632	559	352	1,680	373	1,650	399	397	398	3,960	941	853
2	559	488	347	1,910	356	1,060	387	386	380	7,780	944	767
3	469	447	340	920	348	829	381	466	663	3,010	789	779
4	517	430	337	695	354	761	380	701	865	1,580	742	635
5	850	458	364	598	347	733	383	596	592	1,330	1,080	608
6	698	842	441	545	341	662	433	471	763	1,440	1,030	599
7	555	842	405	505	358	734	577	417	2,220	1,160	1,240	652
8	483	584	372	476	367	1,050	1,290	387	2,170	986	2,020	690
9	431	487	356	463	351	1,240	2,680	366	1,060	899	1,030	550
10	415	452	381	450	356	1,370	1,810	353	723	760	733	483
11	415	566	563	430	351	997	867	342	607	693	e630	448
12	397	1,320	533	412	338	724	688	347	653	1,030	e1,050	424
13	408	1,900	522	399	330	774	586	345	767	1,190	e1,650	413
14	553	1,110	544	389	325	960	521	328	826	811	e1,150	688
15	1,720	717	466	382	327	867	479	328	717	689	e900	760
16	2,250	675	419	375	520	744	453	352	587	645	e720	533
17	1,060	647	394	374	722	772	433	362	667	607	e1,300	452
18	679	556	381	367	561	1,050	421	687	1,250	582	e2,500	417
19	540	493	381	361	450	826	403	1,580	1,350	613	e1,700	396
20	474	465	496	360	407	658	389	908	848	905	e1,200	384
21	448	457	546	361	401	569	386	1,350	859	858	e930	379
22	433	450	461	365	799	514	453	1,120	817	876	726	438
23	404	419	416	360	1,000	481	425	836	691	968	671	679
24	388	397	997	350	700	461	382	633	743	1,360	639	586
25	381	385	1,880	346	540	442	636	501	580	1,060	579	468
26	439	375	1,490	347	529	428	1,440	460	514	761	540	431
27	929	366	771	345	1,850	419	790	998	459	674	571	409
28	1,260	359	618	342	3,080	411	540	1,130	434	722	577	394
29	1,170	352	544	341	---	402	460	649	460	778	595	377
30	931	352	502	346	---	413	422	495	961	792	931	360
31	697	---	668	386	---	418	---	436	---	770	1,030	---
MEAN	696	598	558	515	599	755	663	604	821	1,300	1,004	535
MAX	2,250	1,900	1,880	1,910	3,080	1,650	2,680	1,580	2,220	7,780	2,500	853
MIN	381	352	337	341	325	402	380	328	380	582	540	360
IN.	3.39	2.82	2.71	2.51	2.63	3.68	3.12	2.94	3.87	6.32	4.89	2.52

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2003, BY WATER YEAR (WY)

MEAN	414	449	517	599	635	747	615	482	568	537	545	557
MAX	1,325	1,278	1,383	1,422	1,159	2,240	1,330	1,209	2,526	1,404	2,476	2,435
(WY)	(1976)	(1976)	(1954)	(1978)	(1962)	(1990)	(1961)	(1991)	(1989)	(1940)	(1975)	(1988)
MIN	178	206	207	273	308	253	261	198	189	227	208	195
(WY)	(1969)	(1956)	(1956)	(1956)	(1957)	(1955)	(1968)	(2002)	(2002)	(2000)	(1956)	(1968)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1939 - 2003	
ANNUAL MEAN	383		723		553	
HIGHEST ANNUAL MEAN					861	1976
LOWEST ANNUAL MEAN					291	2002
HIGHEST DAILY MEAN	6,900	Sep 27	7,780	Jul 2	29,700	Mar 17, 1990
LOWEST DAILY MEAN	171	Sep 11	325	Feb 14	158	Jun 10, 1956
ANNUAL SEVEN-DAY MINIMUM	175	Sep 7	340	Feb 9	171	Oct 28, 1968
MAXIMUM PEAK FLOW			9,140	Jul 2	36,900	Mar 17, 1990
MAXIMUM PEAK STAGE			12.92	Jul 2	22.98	Mar 17, 1990
INSTANTANEOUS LOW FLOW			316	May 14	156	Jun 10, 1956
ANNUAL RUNOFF (INCHES)	21.97		41.39		31.72	
10 PERCENT EXCEEDS	581		1,240		887	
50 PERCENT EXCEEDS	276		559		409	
90 PERCENT EXCEEDS	186		360		258	

e Estimated

02370700 POND CREEK NEAR MILTON, FL

LOCATION.--Lat 30°40'50", long 87°07'55", in SE$^1/_4$ sec. 15, T.2 N., R.29 W., Santa Rosa County, Hydrologic Unit 03140104, near center of span on upstream side of bridge on State Highway 191, 0.6 mi downstream from Reader Creek, 6.4 mi northwest of Milton, and 10 mi upstream from mouth.

DRAINAGE AREA.--58.7 mi^2.

PERIOD OF RECORD.--January 1958 to July 1978; August 1978 to October 1983, 1992, 1993, 1997, 1998 (discharge measurements only); November 1999 to December 2002, January to March 2003 (fragmentary), April to September 2003.

GAGE.--Water-stage recorder. Datum of gage is 47.45 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	54	50	240	---	---	46	41	43	1,250	111	88
2	54	50	49	165	---	---	45	43	42	482	120	77
3	49	49	48	77	---	---	45	62	61	314	87	78
4	84	51	48	63	---	---	45	69	56	203	83	74
5	90	65	58	58	---	---	47	48	47	162	92	75
6	61	93	59	55	---	---	55	44	129	170	82	74
7	52	61	51	53	---	---	49	42	298	117	82	122
8	48	52	50	52	---	---	94	41	182	93	102	82
9	44	50	49	52	---	---	105	39	103	83	77	70
10	43	50	67	51	---	---	63	39	71	80	68	67
11	48	90	104	---	---	84	54	38	62	76	69	64
12	50	216	63	---	---	66	49	41	74	91	83	63
13	49	190	71	---	---	101	46	38	114	81	115	62
14	63	85	61	---	---	89	44	37	106	95	90	103
15	261	73	54	---	---	70	43	38	82	107	69	87
16	171	85	52	---	---	62	43	40	74	84	88	70
17	71	71	51	---	---	118	43	38	69	76	245	64
18	55	60	50	---	---	155	42	97	155	75	179	62
19	50	57	51	---	---	83	42	219	204	91	100	60
20	48	56	70	---	---	65	41	84	193	147	87	60
21	48	58	58	---	---	57	43	64	126	99	106	61
22	46	55	53	---	---	54	54	63	129	109	94	80
23	44	52	51	---	---	52	44	56	145	152	85	109
24	45	52	179	---	---	50	41	50	85	122	84	72
25	45	51	272	---	---	49	97	47	77	86	76	65
26	67	51	106	---	---	49	101	48	66	95	84	63
27	94	50	68	---	---	49	53	58	61	88	85	62
28	90	50	62	---	---	48	45	49	59	74	81	60
29	111	49	59	---	---	47	43	45	100	110	104	57
30	101	50	57	---	---	52	41	44	288	151	144	56
31	62	---	118	---	---	48	---	43	---	109	121	---
MEAN	71.2	69.2	72.2	---	---	---	53.4	55.0	110	164	99.8	72.9
MAX	261	216	272	---	---	---	105	219	298	1,250	245	122
MIN	43	49	48	---	---	---	41	37	42	74	68	56
IN.	1.40	1.32	1.42	---	---	---	1.02	1.08	2.09	3.21	1.96	1.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003, BY WATER YEAR (WY)

MEAN	67.8	64.9	70.8	78.2	78.9	82.7	79.4	66.4	83.3	72.6	78.7	78.9
MAX	151	158	130	189	143	145	166	149	275	164	224	212
(WY)	(1976)	(1976)	(1962)	(1978)	(1961)	(1977)	(1960)	(1978)	(1970)	(2003)	(1975)	(1960)
MIN	27.6	30.8	35.1	36.5	34.7	35.8	34.3	28.9	24.9	27.4	29.9	28.6
(WY)	(1969)	(1969)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(1968)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		WATER YEARS 1958 - 2003	
ANNUAL MEAN	47.8		76.4	
HIGHEST ANNUAL MEAN			125	1978
LOWEST ANNUAL MEAN			38.7	2002
HIGHEST DAILY MEAN	1,300	Sep 26,	2,460	Sep 16, 1960
LOWEST DAILY MEAN	22	Jun 24	22	Jun 24, 2002
ANNUAL SEVEN-DAY MINIMUM	23	Jul 14	23	Jul 14, 2002
MAXIMUM PEAK FLOW			4,580	Jun 3, 1970
MAXIMUM PEAK STAGE			12.97	Jun 3, 1970
INSTANTANEOUS LOW FLOW			21	Jun 24, 2002
ANNUAL RUNOFF (INCHES)	11.06		17.68	
10 PERCENT EXCEEDS	66		116	
50 PERCENT EXCEEDS	33		65	
90 PERCENT EXCEEDS	25		36	

02375500 ESCAMBIA RIVER NEAR CENTURY, FL

LOCATION.--Lat 30°57'53", long 87°14'10", in NW$^1/_4$ sec. 10, T. 5 N., R. 30 W., Santa Rosa County, Hydrologic Unit 03140305, on downstream side near center of main channel at bridge on State Highway 4, 1.2 mi downstream from Escambia Creek, 1.7 mi east of Century, and 52 mi upstream from mouth.

DRAINAGE AREA.--3,817 mi^2.

PERIOD OF RECORD.--October 1934 to current year.

REVISED RECORDS.-- WSP 1384: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 28.34 ft above National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark). Prior to Jan. 13, 1940, nonrecording gage at site 400 ft upstream at same datum. Jan. 13, 1940 to Oct. 21, 1993, water-stage recorder at site 400 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Some gage-height fluctuation during periods of low flow are attributed to regulation by power plants at Point-A Dam, 85.4 mi and Gnatt Dam, 90.1 mi upstream from the gaging station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1850, 37.8 ft, March 1929, present datum, discharge not determined, from information by U.S. Army Corps of Engineers, Mobile District.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,730	11,900	3,360	17,900	3,790	23,000	4,990	11,800	4,190	14,600	9,670	6,730
2	2,990	9,680	3,340	21,100	3,590	21,500	4,860	11,100	3,650	30,300	9,240	6,080
3	2,670	6,890	3,100	20,700	3,530	17,900	4,690	11,200	3,440	33,800	9,240	5,880
4	2,580	5,140	3,190	17,200	3,340	13,700	4,440	12,300	3,710	31,900	9,770	4,920
5	2,870	5,330	3,310	13,100	3,450	11,200	4,560	11,900	4,300	29,300	10,800	4,390
6	2,560	7,320	4,350	10,600	3,300	9,890	4,750	10,200	4,250	28,000	11,600	4,250
7	2,410	8,240	4,840	9,340	3,430	9,900	5,070	8,160	9,680	26,500	11,600	5,090
8	2,560	7,380	4,380	8,100	3,610	13,000	8,990	6,590	14,600	26,200	12,100	5,570
9	2,380	6,280	4,050	7,030	3,620	18,900	15,300	5,560	15,500	24,800	12,900	6,990
10	2,220	5,330	3,980	6,370	3,620	23,800	19,800	4,710	14,100	20,400	12,800	7,630
11	2,070	5,030	4,530	5,880	3,660	24,500	21,900	4,320	13,100	13,900	12,200	6,970
12	1,970	7,160	5,140	5,430	3,760	21,800	23,000	3,970	11,900	11,300	11,600	6,810
13	2,060	10,400	5,240	5,040	3,430	20,600	24,200	3,850	10,600	10,800	11,400	6,370
14	2,120	12,200	5,990	4,760	3,360	20,900	24,100	3,680	10,100	9,860	11,800	6,510
15	3,160	11,900	6,080	4,670	3,180	21,800	20,700	3,250	10,400	8,770	10,100	6,280
16	5,290	10,600	5,650	4,310	3,450	19,900	14,900	3,790	11,700	8,100	7,630	5,020
17	5,080	10,100	5,130	4,420	4,960	18,100	10,100	4,440	13,200	8,750	6,750	3,950
18	4,020	10,100	4,680	4,070	5,770	17,700	7,180	4,530	14,500	9,760	7,930	3,810
19	3,500	8,970	4,320	4,040	5,660	16,200	5,550	7,600	14,600	11,100	7,410	3,500
20	3,050	7,420	5,220	3,860	5,190	14,900	5,000	9,100	14,100	11,000	6,640	3,190
21	3,900	6,360	7,160	3,950	5,200	14,000	4,770	12,300	13,000	10,200	8,130	2,950
22	6,470	6,230	7,820	3,950	7,520	12,800	4,800	12,400	12,600	9,540	8,540	3,400
23	6,230	5,680	7,180	3,710	10,700	11,400	4,910	10,500	11,600	10,800	7,170	5,670
24	4,600	5,140	8,150	3,660	12,500	9,710	4,440	9,770	10,500	17,600	6,030	6,510
25	3,760	4,810	14,000	3,440	12,300	8,130	5,760	8,960	10,400	18,500	5,490	6,400
26	3,580	4,410	19,100	3,620	11,000	6,910	11,600	7,660	10,100	14,900	4,900	6,080
27	7,690	4,110	20,900	3,390	15,800	6,360	17,600	7,760	8,400	11,800	4,720	5,310
28	14,500	3,940	19,800	3,350	21,200	5,730	19,500	7,350	6,240	9,640	4,640	4,850
29	17,900	3,640	17,200	3,350	---	5,260	16,700	6,700	5,440	8,780	4,780	4,210
30	17,900	3,510	13,600	3,260	---	5,070	13,700	6,180	5,720	9,370	5,470	3,690
31	14,700	---	12,400	3,480	---	5,000	---	4,880	---	8,880	6,900	---
MEAN	5,178	7,173	7,651	7,003	6,211	14,500	11,260	7,629	9,854	16,100	8,708	5,300
MAX	17,900	12,200	20,900	21,100	21,200	24,500	24,200	12,400	15,500	33,800	12,900	7,630
MIN	1,970	3,510	3,100	3,260	3,180	5,000	4,440	3,250	3,440	8,100	4,640	2,950
IN.	1.56	2.10	2.31	2.12	1.70	4.38	3.29	2.30	2.88	4.86	2.63	1.55

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2003, BY WATER YEAR (WY)

MEAN	2,997	3,243	5,561	8,371	9,997	12,860	10,910	5,755	4,445	4,152	4,014	3,157
MAX	24,310	14,740	24,600	31,530	21,160	34,210	31,430	19,520	22,500	20,850	23,560	12,010
(WY)	(1999)	(1949)	(1954)	(1936)	(1965)	(2001)	(1980)	(1978)	(1970)	(1994)	(1975)	(1975)
MIN	558	1,033	1,157	1,895	2,596	1,783	2,068	890	828	687	775	693
(WY)	(2001)	(1955)	(1955)	(1956)	(1989)	(1955)	(2000)	(2000)	(2000)	(2000)	(2000)	(1968)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1935 - 2003	
ANNUAL MEAN	4,095		8,908		6,269	
HIGHEST ANNUAL MEAN					11,690	1975
LOWEST ANNUAL MEAN					1,820	2000
HIGHEST DAILY MEAN	24,000	Sep 27	33,800	Jul 3	106,000	Sep 30, 1998
LOWEST DAILY MEAN	895	Sep 13	1,970	Oct 12	455	Nov 1, 2000
ANNUAL SEVEN-DAY MINIMUM	947	Sep 8	2,200	Oct 8	457	Oct 29, 2000
MAXIMUM PEAK FLOW			34,200	Jul 3	117,000	Sep 30, 1998
MAXIMUM PEAK STAGE			18.17	Jul 3	24.35	Mar 18, 1990
INSTANTANEOUS LOW FLOW			1,920	Oct 12	452	Oct 31, 2000
ANNUAL RUNOFF (INCHES)	14.57		31.69		22.32	
10 PERCENT EXCEEDS	8,130		17,900		14,300	
50 PERCENT EXCEEDS	3,090		6,890		3,690	
90 PERCENT EXCEEDS	1,160		3,450		1,340	

02376033 ESCAMBIA RIVER NEAR MOLINO, FL

LOCATION.--Lat 30°40'12", long 87°16'00", in SE¼ sec. 20, T. 2 N., R. 20 W., Escambia County, Hydrologic Unit 03140305, near right bank on downstream side of bridge on State Highway 184, 4.1 mi northeast of Cottage Hill, and 5.5 mi southeast of Molino.

DRAINAGE AREA.--4,147 mi^2.

PERIOD OF RECORD.--April 1960 to September 1981 (gage heights and discharge measurements only). October 1983 to September 1987 (Daily discharges not computed for days with instantaneous gage heights below 1.5 ft), October 1987 to September 1994, October 1996 to current year.

GAGE.--Water-stage and water-current meter recorders. Elevation of gage is National Geodetic Vertical Datum of 1929. Since May 17, 2000, water-current meter.

REMARKS.--Records fair. Flow generally affected by tide when discharge is less than 5,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16,100	19,000	4,910	19,500	4,170	e19,100	6,390	19,100	e5,500	15,600	13,400	7,840
2	11,700	18,300	4,720	18,500	4,410	e20,800	6,380	18,100	e4,900	18,400	13,400	8,790
3	8,730	16,700	4,550	18,900	4,510	e21,100	6,420	17,000	e4,360	22,500	13,500	9,230
4	7,240	14,600	4,350	20,100	4,460	e20,800	6,500	16,300	4,140	30,600	13,500	9,000
5	6,010	12,100	4,350	20,300	4,380	e20,300	6,490	15,600	4,200	34,200	13,600	8,550
6	4,250	9,880	4,610	19,200	4,250	e18,600	6,280	15,700	5,240	32,900	13,900	7,830
7	3,870	8,500	4,970	17,300	4,320	e16,900	6,390	15,500	7,850	30,600	14,600	7,020
8	3,470	8,840	5,500	15,100	4,240	e16,500	6,710	14,300	9,260	29,200	15,600	6,800
9	3,350	9,880	5,640	13,300	4,260	e17,400	7,650	12,100	12,300	28,000	16,000	7,210
10	3,240	13,300	6,160	11,700	4,450	e19,900	10,400	9,850	16,400	27,200	16,300	7,720
11	3,120	11,700	6,020	10,100	4,530	e21,900	15,000	8,080	18,800	26,100	17,000	8,680
12	2,980	10,900	5,680	8,710	4,540	e23,000	18,600	6,750	19,000	23,700	18,000	9,640
13	2,760	9,550	6,420	7,870	4,570	22,600	20,500	5,760	18,800	20,300	18,300	9,890
14	2,680	e10,500	6,380	7,200	4,480	22,100	21,400	4,700	18,400	17,300	17,700	10,100
15	3,260	16,100	6,670	6,580	4,270	21,500	22,100	4,400	16,700	15,600	17,100	9,820
16	3,820	21,000	7,220	6,230	4,340	21,400	22,100	4,190	15,200	14,200	16,700	9,410
17	4,610	23,600	7,580	5,660	4,480	21,900	20,800	4,040	14,800	12,800	16,300	8,930
18	5,310	14,700	7,620	5,290	4,850	21,500	18,400	e4,330	15,800	11,600	14,400	7,800
19	5,280	14,000	7,430	5,150	5,600	20,400	15,000	e4,400	17,700	11,700	12,000	6,630
20	4,840	13,500	7,060	4,940	6,720	19,400	11,500	e4,690	19,600	13,100	11,000	5,810
21	4,340	12,800	6,290	4,790	7,300	18,500	8,970	e6,000	20,800	14,200	10,900	5,830
22	4,180	e11,600	6,680	4,780	e8,000	17,600	7,590	e9,200	20,300	14,900	10,700	6,260
23	4,770	e9,490	8,020	4,850	e9,200	16,800	6,830	e11,000	19,300	15,100	11,400	5,910
24	6,810	8,490	10,800	4,650	e10,500	16,000	6,630	e12,300	18,300	14,700	11,900	6,320
25	7,560	7,810	12,000	4,530	e11,600	14,900	7,050	e12,100	17,200	16,000	11,100	7,570
26	e7,220	7,170	12,500	4,340	e12,800	13,400	7,110	e11,000	15,700	18,500	9,640	8,550
27	6,700	6,410	14,900	4,380	e13,300	11,600	7,890	e9,900	14,800	21,300	8,450	8,900
28	7,010	5,670	18,000	4,280	e15,700	10,100	11,400	e8,800	14,100	20,000	7,610	8,550
29	9,120	5,360	19,700	4,080	---	8,600	16,200	e8,000	13,000	17,800	7,260	7,720
30	13,800	5,120	19,900	4,010	---	e7,580	19,000	e7,000	12,300	15,500	7,340	6,980
31	17,700	---	20,000	4,120	---	e7,490	---	e6,200	---	13,900	7,340	---
MEAN	6,317	11,890	8,601	9,369	6,437	17,730	11,790	9,884	13,820	19,920	13,090	7,976
MAX	17,700	23,600	20,000	20,300	15,700	23,000	22,100	19,100	20,800	34,200	18,300	10,100
MIN	2,680	5,120	4,350	4,010	4,170	7,490	6,280	4,040	4,140	11,600	7,260	5,810
IN.	1.76	3.20	2.39	2.61	1.62	4.93	3.17	2.75	3.72	5.54	3.64	2.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2003, BY WATER YEAR (WY)

MEAN	4,781	4,640	6,014	9,480	9,851	15,730	8,263	5,206	6,004	7,135	4,173	3,932
MAX	32,570	11,890	18,920	24,210	19,080	37,410	13,870	14,530	19,160	22,110	13,090	9,067
(WY)	(1999)	(2003)	(1993)	(1998)	(1992)	(1990)	(1989)	(1991)	(1989)	(1994)	(2003)	(1988)
MIN	803	1,867	2,212	3,126	2,650	4,462	2,785	1,444	1,357	1,168	1,266	1,335
(WY)	(2001)	(2002)	(1991)	(1989)	(1989)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1988 - 2003	
ANNUAL MEAN	5,042		11,440		7,087	
HIGHEST ANNUAL MEAN					11,440	2003
LOWEST ANNUAL MEAN					2,433	2000
HIGHEST DAILY MEAN	23,600	Nov 17	34,200	Jul 5	111,000	Mar 22, 1990
LOWEST DAILY MEAN	830	Sep 12	2,680	Oct 14	581	Nov 6, 2000
ANNUAL SEVEN-DAY MINIMUM	965	Sep 8	3,060	Oct 9	653	Oct 24, 2000
MAXIMUM PEAK FLOW			34,500	Jul 5	113,000	Mar 23, 1990
MAXIMUM PEAK STAGE			9.30	Jul 5	15.72	Mar 23, 1990
INSTANTANEOUS LOW FLOW			2,680	Oct 14	581	Nov 6, 2000
ANNUAL RUNOFF (INCHES)	16.51		37.47		23.22	
10 PERCENT EXCEEDS	11,700		20,000		16,600	
50 PERCENT EXCEEDS	3,840		9,880		4,180	
90 PERCENT EXCEEDS	1,300		4,400		1,790	

e Estimated

02376100 BAYOU MARCUS CREEK NEAR PENSACOLA, FL

LOCATION.--Lat 30°26'53", long 87°17'26", in SE¼ sec.13, T.2 S., R.30 W., Escambia County, Hydrologic Unit 03140107, near mid channel on downstream side of eastbound bridge on U.S. Highway 90, 0.3 mi upstream from Turner's Creek, 4.5 mi upstream, and 5.3 mi northwest of City Hall in Pensacola.

DRAINAGE AREA.--10.8 mi^2.

PERIOD OF RECORD.--February 1958 to March 1960, October 1987 to September 1991, October 1998 to current year.

REVISED RECORDS.--WDR FL-88-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 11.21 ft above National Geodetic Vertical Datum of 1929. Feb. 12, 1958 to Mar. 17, 1960, water-stage recorder 100 ft upstream at present datum.

REMARKS.--Records good, except for estimated daily discharges which are fair.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	18	13	32	12	23	16	14	9.1	240	82	e25
2	16	16	13	20	12	22	17	14	9.4	140	70	e22
3	17	16	13	17	12	22	16	17	11	64	45	e23
4	28	16	13	15	13	26	17	18	11	55	44	e22
5	22	26	19	14	12	22	17	15	9.8	85	46	e26
6	18	25	17	14	12	20	17	15	68	57	45	e29
7	18	17	14	14	13	36	19	15	57	33	73	e26
8	17	15	13	13	12	26	53	15	28	28	40	e23
9	15	15	13	13	12	48	35	14	23	25	31	e23
10	15	15	19	13	14	27	23	14	17	23	28	e22
11	34	41	18	13	12	22	20	13	15	21	27	e21
12	30	52	16	12	14	26	19	13	14	58	52	e21
13	19	23	21	12	12	44	18	12	16	63	61	e24
14	19	18	15	12	11	33	17	12	27	34	37	e37
15	36	21	14	12	12	24	16	14	29	30	29	e34
16	27	22	13	13	55	24	16	17	23	24	28	e26
17	18	18	13	13	24	48	16	14	18	44	29	e23
18	15	16	13	12	16	34	16	20	21	40	27	e22
19	14	16	15	12	14	25	15	27	19	47	e28	e20
20	15	15	19	12	13	21	15	20	21	49	e37	e20
21	15	17	15	13	21	20	18	52	50	55	e28	e20
22	14	15	14	13	31	19	21	78	48	45	e28	e29
23	13	14	13	13	18	18	17	24	28	55	e30	e34
24	13	14	56	12	15	18	16	16	25	37	e30	e24
25	13	14	30	12	14	17	19	14	20	35	e26	e31
26	20	13	18	12	27	17	18	13	16	29	e26	e25
27	33	14	15	12	61	17	16	12	15	29	e24	e22
28	32	13	15	12	28	17	15	11	15	31	e23	e21
29	55	13	14	13	---	18	14	10	20	39	e24	e19
30	39	13	14	14	---	20	14	10	147	42	e24	e18
31	22	---	39	13	---	17	---	9.4	---	33	e27	---
MEAN	21.9	18.7	17.6	13.8	18.6	24.9	18.9	18.1	27.7	51.3	37.1	24.4
MAX	55	52	56	32	61	48	53	78	147	240	82	37
MIN	13	13	13	12	11	17	14	9.4	9.1	21	23	18
IN.	2.34	1.93	1.88	1.47	1.80	2.66	1.95	1.94	2.86	5.48	3.96	2.52

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003, BY WATER YEAR (WY)

MEAN	28.5	26.6	24.9	26.6	25.9	30.4	24.9	23.8	26.0	30.8	28.3	29.9
MAX	49.9	48.6	39.5	40.8	51.5	46.3	49.2	43.6	46.9	55.4	50.1	61.8
(WY)	(1959)	(1959)	(1959)	(1959)	(1988)	(1958)	(1959)	(1991)	(1989)	(1958)	(1988)	(1988)
MIN	9.08	9.84	11.9	12.4	11.1	12.2	10.1	6.09	4.67	7.95	9.78	12.8
(WY)	(2001)	(2002)	(2002)	(2002)	(2002)	(2002)	(2001)	(2002)	(2002)	(2000)	(2000)	(2001)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1958 - 2003	
ANNUAL MEAN	13.7		24.5		25.6	
HIGHEST ANNUAL MEAN					41.8	1959
LOWEST ANNUAL MEAN					11.6	2002
HIGHEST DAILY MEAN	286	Sep 26	240	Jul 1	310	Sep 8, 2000
LOWEST DAILY MEAN	3.0	Jun 13	9.1	Jun 1	3.0	Jun 13, 2002
ANNUAL SEVEN-DAY MINIMUM	3.6	Jun 11	10	May 30	3.6	Jun 11, 2002
MAXIMUM PEAK FLOW			322	Jul 1	701	Mar 16, 1990
MAXIMUM PEAK STAGE			4.63	Jul 1	5.51	Mar 16, 1990
INSTANTANEOUS LOW FLOW			8.7	May 31	2.3	Jun 13, 2002
ANNUAL RUNOFF (INCHES)	17.25		30.79		32.27	
10 PERCENT EXCEEDS	22		44		43	
50 PERCENT EXCEEDS	10		18		22	
90 PERCENT EXCEEDS	4.6		13		8.8	

e Estimated

02376293 BRUSHY CREEK NEAR BRATT, FL

LOCATION.--Lat 30°58'42", long 87°31'41", in SE$^1/_4$ sec. 3, T. 5 N., R. 5 E., Escambia County, Hydrologic Unit 03140106, at bridge on Nokomis Road, 0.8 mi downstream from Rocky Creek, 1.4 mi below Alabama-Florida State Line, 2.1 mi upstream from Reedy Creek, and 6.0 mi west of Bratt.

DRAINAGE AREA.--26.5 mi^2.

PERIOD OF RECORD.--October 1998 to January 2003, February to August 2003 (fragmentary), September 2003.

GAGE.--Water-stage recorder. Elevation of gage is National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good, except for estimated daily discharges, which are fair.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge measured, 3,070 ft^3/s, Sept. 29, 1998, gage height, 184.11 ft.

REVISIONS.--Daily and monthly discharges for the water year 2002 were revised.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	18	e19	16	21	22	27	18	19	23	20	16
2	17	e18	e19	23	20	62	25	18	17	44	18	16
3	17	e18	e19	22	17	37	24	17	17	24	18	17
4	17	e17	e18	19	17	27	23	18	17	19	17	16
5	17	e17	e18	19	17	25	21	17	17	18	28	16
6	18	e17	e17	51	52	24	21	17	17	17	25	16
7	17	e16	e17	27	55	23	20	18	18	17	19	18
8	16	e15	e17	22	34	22	21	18	17	17	18	16
9	17	e15	e17	21	27	22	25	17	17	17	17	16
10	17	e16	e18	20	24	23	23	17	16	17	16	16
11	17	e16	e19	19	23	22	22	17	16	17	16	16
12	25	e16	20	21	23	33	22	16	17	24	16	16
13	31	e15	21	25	23	38	24	17	16	20	16	16
14	78	e16	52	26	22	28	22	20	46	20	17	19
15	30	e17	29	27	22	25	21	18	23	23	17	17
16	22	e17	21	21	22	24	21	18	18	19	18	16
17	20	e16	22	19	21	23	21	18	18	18	17	17
18	19	e16	29	19	21	22	20	22	18	17	16	17
19	19	e16	21	24	21	22	20	19	17	17	17	17
20	19	e17	19	35	38	22	19	18	17	20	18	17
21	17	e17	18	24	31	118	19	19	17	18	17	19
22	17	e23	17	21	25	44	19	18	17	19	17	26
23	18	e63	42	20	23	29	19	18	17	18	17	32
24	18	e32	32	21	22	25	19	17	17	20	16	21
25	18	e23	22	36	21	23	19	17	17	35	16	170
26	17	e20	19	26	22	27	19	17	17	24	18	e618
27	17	e19	18	21	21	28	18	16	19	20	17	e236
28	17	e19	18	20	21	24	18	17	21	19	16	62
29	18	e19	17	20	---	23	18	30	19	20	16	33
30	18	e20	17	20	---	22	18	40	21	26	17	28
31	17	---	16	19	---	23	---	23	---	23	16	---
MEAN	20.7	19.5	21.5	23.4	25.2	30.1	20.9	19.0	18.7	21.0	17.6	52.5
MAX	78	63	52	51	55	118	27	40	46	44	28	618
MIN	16	15	16	16	17	22	18	16	16	17	16	16
IN.	0.90	0.82	0.94	1.02	0.99	1.31	0.88	0.83	0.79	0.91	0.77	2.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2002, BY WATER YEAR (WY)

MEAN	33.9	31.7	28.9	33.0	26.6	59.2	26.2	19.3	38.1	32.3	24.6	29.3
MAX	74.6	59.7	43.3	60.1	35.8	94.9	30.6	28.6	82.6	64.1	39.4	52.5
(WY)	(1999)	(1999)	(1999)	(1999)	(1999)	(2001)	(2001)	(1999)	(1999)	(1999)	(2001)	(2002)
MIN	12.0	19.5	21.5	23.4	19.6	20.3	20.9	13.8	15.5	15.2	13.1	14.2
(WY)	(2001)	(2002)	(2002)	(2002)	(2001)	(2000)	(2002)	(2001)	(2000)	(2000)	(2000)	(2000)

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1999 - 2002	
ANNUAL MEAN	31.1		24.1		32.0	
HIGHEST ANNUAL MEAN					52.3	1999
LOWEST ANNUAL MEAN					20.8	2000
HIGHEST DAILY MEAN	507	Mar 15	618	Sep 26	871	Mar 14, 1999
LOWEST DAILY MEAN	10	Jun 4	15	Nov 8	10	Jun 4, 2001
ANNUAL SEVEN-DAY MINIMUM	12	May 20	16	Nov 7	12	May 20, 2001
MAXIMUM PEAK FLOW			1,130	Sep 26	2,060	Jun 26, 1999
MAXIMUM PEAK STAGE			182.40	Sep 26	183.39	Jun 26, 1999
INSTANTANEOUS LOW FLOW			15	Sep 1	10	May 27, 2001
ANNUAL RUNOFF (INCHES)	15.96		12.36		16.39	
10 PERCENT EXCEEDS	49		28		48	
50 PERCENT EXCEEDS	19		19		22	
90 PERCENT EXCEEDS	16		16		14	

e Estimated

02376293 BRUSHY CREEK NEAR BRATT, FL—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	33	24	332	26	---	34	27	---	---	---	36
2	28	29	23	79	25	---	34	27	---	---	47	45
3	30	27	24	47	26	---	34	96	---	---	141	46
4	151	27	24	37	26	---	40	39	e37	---	184	50
5	143	39	36	33	25	---	42	30	36	---	79	47
6	38	81	30	32	26	---	36	29	323	---	67	38
7	30	39	26	30	27	---	102	27	735	---	53	37
8	27	30	24	30	26	---	685	27	315	---	46	35
9	26	27	24	29	25	---	337	26	106	---	42	34
10	26	26	42	29	27	---	98	25	61	---	39	34
11	28	111	43	29	26	---	55	25	49	---	39	34
12	26	254	31	28	25	e132	43	36	57	---	40	33
13	25	81	62	27	25	332	36	27	62	---	79	45
14	24	39	40	28	25	248	34	26	91	---	130	151
15	45	32	29	28	25	114	33	33	56	---	49	42
16	45	35	26	27	39	63	32	32	62	---	41	34
17	31	32	26	27	29	188	31	27	e71	---	40	32
18	25	28	25	27	26	152	30	---	---	---	238	31
19	23	27	31	26	26	60	29	---	---	---	61	31
20	22	27	91	26	25	47	29	---	---	---	71	31
21	39	30	38	27	54	42	29	---	---	---	69	32
22	29	27	29	27	115	39	30	---	---	---	56	74
23	25	26	27	27	46	38	28	---	---	---	46	59
24	24	25	408	26	32	37	28	---	---	---	41	36
25	23	25	244	26	29	36	91	---	---	---	38	33
26	51	25	57	26	75	36	43	---	---	---	38	32
27	363	25	40	26	---	36	31	---	---	---	52	32
28	382	24	33	26	---	35	29	---	---	---	41	31
29	210	23	31	26	---	35	28	---	---	---	39	29
30	71	24	29	28	---	36	27	---	---	---	38	29
31	42	---	293	27	---	34	---	---	---	---	36	---
MEAN	67.4	42.6	61.6	40.1	---	---	71.9	---	---	---	---	41.8
MAX	382	254	408	332	---	---	685	---	---	---	---	151
MIN	22	23	23	26	---	---	27	---	---	---	---	29
IN.	2.93	1.79	2.68	1.74	---	---	3.03	---	---	---	---	1.76

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

MEAN	40.6	33.9	35.4	34.5	26.6	59.2	35.4	19.3	38.1	32.3	24.6	31.8
MAX	74.6	59.7	61.6	60.1	35.8	94.9	71.9	28.6	82.6	64.1	39.4	52.5
(WY)	(1999)	(1999)	(2003)	(1999)	(1999)	(2001)	(2003)	(1999)	(1999)	(1999)	(2001)	(2002)
MIN	12.0	19.5	21.5	23.4	19.6	20.3	20.9	13.8	15.5	15.2	13.1	14.2
(WY)	(2001)	(2002)	(2002)	(2002)	(2001)	(2000)	(2002)	(2001)	(2000)	(2000)	(2000)	(2000)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		WATER YEARS 1999 - 2003	
ANNUAL MEAN	33.4		32.0	
HIGHEST ANNUAL MEAN			52.3	1999
LOWEST ANNUAL MEAN			20.8	2000
HIGHEST DAILY MEAN	618	Sept 26	871	Mar 14, 1999
LOWEST DAILY MEAN	16	Jan 1	10	Jun 4, 2001
ANNUAL SEVEN-DAY MINIMUM	16	Aug 31	12	May 20, 2001
MAXIMUM PEAK FLOW			2,060	Jun 26, 1999
MAXIMUM PEAK STAGE			183.39	Jun 26, 1999
INSTANTANEOUS LOW FLOW			10	May 27, 2001
ANNUAL RUNOFF (INCHES)	17.11		16.39	
10 PERCENT EXCEEDS	40		48	
50 PERCENT EXCEEDS	22		22	
90 PERCENT EXCEEDS	17		14	

e Estimated

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage and flood-hydrograph partial-record stations are presented in a table of annual maximum stage and discharge. Discharge measurements made at miscellaneous sites for both low flows and high flows are given in a second table.

Crest-stage and flood-hydrograph partial-record stations

The following table contains annual maximum discharges for crest-stage and flood hydrograph stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A flood hydrograph station is a continual-record station that records the river stage of storm events above a base stage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage stations

Station No.	Station Name	Location	Drainage area (mi^2)	Period of Record	Annual Maximum		
					Water year	Gage height (feet)	Dis-charge (ft^3/s)
		OCKLAWAHA RIVER BASIN					
02240934	Unnamed Sink Drain near Flemington, FL	Lat 29°24′15″, long 82°20′30″, in SE¼ sec. 30, T. 12 S., R. 20 E., Marion County, Hydrologic Unit 03080102, at upstream side of culvert at County Road 318, 2.7 mi west of Flemington, and 6.2 mi southeast of Williston.	0.14	1996-03	2003	1.38	a
022409424	Moores Pond Tributary near Micanopy, FL	Lat 29°28′01″, long 82°18′52″, in NE¼ sec. 9, T. 12 S., R. 20 E., Marion County, Hydrologic Unit 03080102, at upstream side of culvert at County Road 329, 3.1 mi southwest of Micanopy, and 4.2 mi north of Flemington.	0.41	1996-03	2003	5.05	a
		ST. JOHNS RIVER BASIN BELOW OCKLAWAHA RIVER					
02245449	South Fork Black Creek Tributary near Penny Farms, FL	Lat 29°58′41″, long 81°52′52″, in NE¼ sec. 15, T. 6 S., R. 24 E., Clay County, Hydrologic Unit 03080103, at upstream side of culvert on State Road 16, 1.0 mi east of junction with State Road 21, and 4.4 mi west of Penny Farms.	0.32	1996-03	2003	1.25	29
022455734	Bull Creek Tributary near Middleburg, FL	Lat 30°00′44″, long 81°55′52″, in SW¼ sec. 32, T. 5 S., R. 24 E., Clay County, Hydrologic Unit 03080103, at upstream side of culvert on County Road 215, 2.9 mi south of junction with State Road 21, 3.5 mi north of junction of County Road 215 with State Road 16, and 5.4 mi southwest of Middleburg.	0.16	1996-03	2003	1.21	16
02245606	Calf Branch Tributary near Middleburg, FL	Lat 30°01′21″, long 81°53′53″, in NE¼ sec. 33, T. 5 S., R. 24 E., Clay County, Hydrologic Unit 03080103, at upstream side of culvert on State Road 21, 0.7 mi south of junction with County Road 215, 3.1 mi southwest of Middleburg, and 3.6 mi north of junction of State Road 21 with State Road 16.	0.21	1996-03	2003	1.77	37

Station No.	Station Name	Location	Drainage area (mi^2)	Period of Record	Annual Maximum		
					Water year	Gage height (feet)	Dis-charge (ft^3/s)
		WITHLACOOCHEE RIVER BASIN					
02312522	Trailer Park Drain near Brooksville, FL	Lat 28°30′18″, long 82°22′14″, in NW¼ sec. 12, T. 23 S., R. 19 E., Hernando County, HydroIogic Unit 03100208, at upstream side of culvert on County Road 581, and 3.9 mi southeast of Court House at Brooksville.	0.21	1996-03	2003	2.72	a
		SUWANNEE RIVER BASIN ABOVE WITHLACOOCHEE RIVER					
02315534	Rocky Creek Tributary near Wellborn, FL	Lat 30°18′51″, long 82°49′50″, in SE¼ sec. 17, T. 2 S., R. 15 E., Suwannee County, Hydrologic Unit 03110201, at bridge on County Road 136, 5.3 mi northwest of Houston, 5.5 mi west of White Springs, and 6.0 mi northwest of Wellborn.	1.2	1969-75 1996-97 1999-03	2003	6.23	148
023156044	Sugar Creek Tributary near Suwannee Springs, FL	Lat 30°24′29″, long 82°55′13″, in SE¼ sec. 9, T. 1 S., R. 14 E., Hamilton County, Hydrologic Unit 03110201, at upstream side of culvert on State Road 132, and 1.3 mi northeast of Suwannee Springs.	0.06	1996-03	2003	2.50	17
		SANTA FE RIVER BASIN					
02320978	New River Tributary near Raiford, FL	Lat 30°02′49″, long 82°15′58″, in SE¼ sec. 23, T. 5 S., R. 20 E., Union County, HydroIogic Unit 03110206, at upstream side of culvert at County Road 237, 0.2 mi south of State Road 121,1.3 mi southwest of Raiford, and 3.9 mi northeast of the junction of State Roads 121 and 100 at Lake Butler.	0.31	1996-03	2003	2.92	a
02321527	Tributary To Santa Fe River Tributary near Worthington Springs, FL	Lat 29°56′43″, long 82°28′08″, in NW¼ sec. 25, T. 6 S., R. 18 E., Union County, HydroIogic Unit 03110206, at upstream side of culvert at State Road 18, 2.6 mi west of State Road 121, and 2.9 mi northwest of Worthington Springs.	0.27	1996-03	2003	2.35	32
02321793	Providence Branch at Providence, FL	Lat 30°00′29″, long 82°33′36″, in SW¼ sec. 31, T. 5 S., R. 18 E., Union County, Hydrologic Unit 03110206, at upstream side of culvert on County Road 245, 0.3 mi north of the junction with State Road 238, 0.5 mi south of the Olustee River, and 0.8 mi west of Providence.	0.94	1996-03	2003	3.60	186

Station No.	Station Name	Location	Drainage area (mi^2)	Period of Record	Annual Maximum		
					Water year	Gage height (feet)	Dis-charge (ft^3/s)
		SANTA FE RIVER BASIN--Continued					
02322049	Bad Dog Run near Alachua, FL	Lat 29°49′32″, long 82°28′06″, in NE¼ sec. 1, T. 8 S., R. 18 E., Alachua County, HydroIogic Unit 03110206, at upstream side of culvert at County Road 239, and 2.6 mi northeast of Alachua.	0.49	1996-03	2003	14.95	51
02322050	Shiloh Run near Alachua, FL	Lat 29°49′06″, long 82°28′21″, in SW¼ sec. 1, T. 8 S., R. 18 E., Alachua County, HydroIogic Unit 03110206, 6 ft upstream from culvert on County Road 239, 0.7 mi above mouth, and 2.8 mi southeast of Alachua.	0.32	1996-03	2003	<1.00	<20
		AUCILLA RIVER BASIN					
02326372	Palmer Mill Branch at Monticello, FL	Lat 30°23′37″, long 83°50′42″, in SE¼ sec. 29, T. 2 N., R.5 E., Jefferson County, HydroIogic Unit 03110103, on right bank 10 ft upstream from culvert on U.S. Highway 90, 1.5 mi above mouth, and 1.5 mi east of Jefferson County Courthouse in Monticello.	0.48	1983-87 1996-01 2003	2003	7.53	215
		ST. MARKS AND WAKULLA RIVERS AND COASTAL AREA					
02326574	Ward Creek Tributary near Monticello, FL	Lat 30°38′21″, long 83°50'37″, in SE¼ sec. 20, T. 3 N., R. 5 E., Jefferson County, Hydrologic Unit 03120001, at upstream side of culvert on County Road 58, 1.8 mi east of U.S. Highway 19, and 6.2 mi north of Monticello.	0.08	1996-03	2003	0.99	8.2
02326595	Halls Run near Miccosukee, FL	Lat 30°37′01″, long 84°02′28″, in NW¼ sec. 33, T. 3 N., R. 3 E., Leon County, Hydrologic Unit 03120001, at upstream side of culvert on State Road 59, and 1.5 mi north of Miccosukee.	0.11	1996-03	2003	4.64	67
		OCHLOCKONEE RIVER BASIN					
02329354	Attapulgus Creek Tributary near Jamieson, FL	Lat 30°39′42″, long 84°28′39″, in NW¼ sec. 18, T. 3 N., R. 2 W., Gadsden County, Hydrologic Unit 03120003, at upstream side of culvert on State Road 161, 0.3 mi south of State Road 159, 1.6 mi west of Jamieson, and 4.5 mi north of Havana.	1.03	1996-03	2003	2.16	101

Station No.	Station Name	Location	Drainage area (mi^2)	Period of Record	Annual Maximum		
					Water year	Gage height (feet)	Dis-charge (ft^3/s)
02329558	Church Branch near Quincy, FL	Lat 30°35′34″, long 84°31′18″, in NE¼ sec. 10, T. 2 N., R. 3 W., Gadsden County, Hydrologic Unit 03120003, at upstream side of culvert on State Road 12, and 3.6 mi east of the city hall in Quincy.	0.49	1996-03	2003	2.74	67
		OCHLOCKONEE RIVER BASIN--continued					
02329559	Littman Branch near Quincy, Fl	Lat 30°35′32″, long 84°31′08″, in NE¼ sec. 10, T. 2 N., R. 3 W., Gadsden County, Hydrologic Unit 03120003, at upstream side of culvert on State Road 12, and 3.8 mi east of the city hall in Quincy.	0.20	1996-03	2003	1.12	12
		APALACHICOLA RIVER BASIN					
02356510	South Mosquito Creek Tributary near Hard-away, FL	Lat 30°39′11″, long 84°43′58″, in SW ¼ sec. 15, T. 3 N., R. 5 W., Gadsden County, Hydrologic Unit 03130011, at upstream side of culvert on County Road 379B, 0.9 mi south of railroad crossing at County Road 379B, and 1.4 mi north of Hardaway.	0.20	1996-03	2003	6.49	67
		CHIPOLA RIVER BASIN					
02358946	Mockingbird Run near Cypress, FL	Lat 30°39′41″, long 85°06′48″, in NW¼ sec. 14, T. 3 N., R. 9 W., Jackson County, Hydrologic Unit 03130012, at upstream side of culvert on County Road 264A, 4.3 mi south of Cypress, and 5.5 mi southeast of Oakdale.	0.58	1996-03	2003	2.60	82
		PEA RIVER BASIN					
02364806	Poplar Branch near Leonia, FL	Lat 30°57′07″, long 85°58′15″, in NE¼ sec. 7, T. 6 N., R. 17 W., Holmes County, Hydrologic Unit 03140202, at upstream side of culvert on County Road 185, 2.3 mi southeast of Royals Crossroads, and 4.0 mi northwest of Leonia.	0.54	1996-03	2003	1.53	47
		CHOCTAWHATCHEE RIVER BELOW PEA RIVER					
02365408	Poplar Springs Branch near Noma, FL	Lat 30°57′52″, long 85°34′16″, in SE¼ sec. 31, T. 7 N., R. 13 W., Holmes County, Hydrologic Unit 03140203, at upstream side of culvert on State Road 2, 3.0 mi east of Noma, and 3.2 mi west of Graceville.	0.08	1996-03	2003	2.41	23
		CHOCTAWHATCHEE RIVER BASIN					

Station No.	Station Name	Location	Drainage area (mi^2)	Period of Record	Annual Maximum		
					Water year	Gage height (feet)	Dis-charge (ft^3/s)
02365715	Camp Branch Tributary near Redbay, FL	Lat 30°38′45″, long 85°56′13″, in SE¼ sec. 21, T. 3 N., R. 17 W., Walton County, Hydrologic Unit 03140203, at upstream side of culvert on State Road 81, 3.8 mi north of Redbay, and 4.6 mi south of U.S. Highway I-10 interchange at State Road 81.	0.90	1995-03	2003	4.88	293
		SHOAL RIVER BASIN					
02368326	Caney Creek Tributary No. 2 near Paxton, FL	Lat 30°56′02″, long 86°13′32″, in NE¼ sec. 15, T. 5 N., R. 20 W., Walton County, Hydrologic Unit 03140103, on upstream side of culvert on County Road 0605, 2.6 mi north of the community of Caney Creek, and 5.2 mi southeast of Paxton.	0.19	1996-03	2003	6.92	87
02368329	Caney Creek Tributary No. 1 near Paxton, FL	Lat 30°55′39″, long 86°13′l7″, in SW¼ sec. 14, T. 5 N., R. 20 W., Walton County, Hydrologic Unit 03140103, on upstream side of culvert on County Road 0605, 2.1 mi north of the community of Caney Creek, and 5.7 mi southeast of Paxton.	0.11	1996-03	2003	4.42	91
		BLACKWATER RIVER BASIN					
02370370	Manning Creek Tributary at Berrydale, FL	Lat 30°53′58″, long 87°01′20″, in NW¼ sec. 35, T. 5 N., R. 28 W., Santa Rosa County, Hydrologic Unit 03140104, at upstream side of culvert on State Road 4, 0.5 mi west of Berrydale, and 0.9 mi southeast of State Road 87.	1.24	1996-03	2003	2.88	245
		PERDIDO RIVER BASIN					
02376315	Buckeye Branch Tributary near Walnut Hill, FL	Lat 30°51′15″, long 87°30′54″, in NW¼ sec. 23, T. 4 N., R. 33 W., Escambia County, Hydrologic Unit 03140106, at upstream side of culvert on County Road 97A, and 2.1 mi south of Walnut Hill.	0.34	1995-03	2003	3.49	82

a Discharge not determined

ELEVATION OF LAKES

02329900 LAKE TALQUIN NEAR BLOXHAM, FL

LOCATION.--Lat 30°23'15", long 84°38'45", in SW¼ sec. 16, T.1 S., R.4 W., Leon County, Hydrologic Unit 03120003, at left upstream end of C.H. Corn Hydroelectric Dam on Ochlockonee River, 1.0 mi northwest of Bloxham, and 3.5 mi downstream from Oklawaha Creek.

SURFACE AREA.--6,850 acres (10.7 mi^2), at elevation 60.0 ft National Geodetic Vertical Datum of 1929, from data provided by Florida Power Corporation.

DRAINAGE AREA.--1,700 mi^2.

PERIOD OF RECORD.--January 1930 to September 1950 (month-end contents only, published only in WSP 1304); October 1951 to September 1960 (month-end elevations and contents); October 1960 to September 1982, March 1985 to September 1992 (month-end elevations, contents and daily elevations); October 1992 to current year, daily elevations.

REVISED RECORDS.--WSP 1905, WRD FL-76-4: Drainage area.

GAGE.--Nonrecording gage and water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

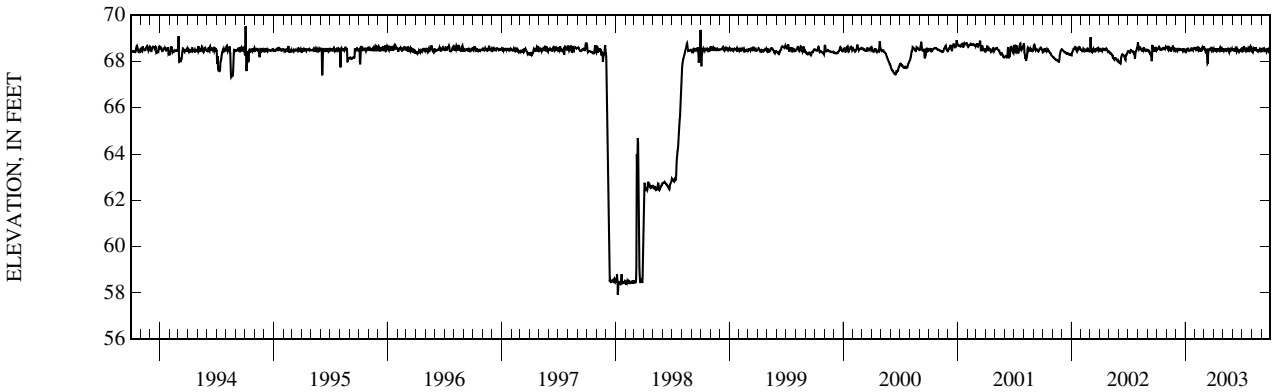
REMARKS.--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway is equipped with seven taintor gates, each 16ft high by 25 ft wide. Storage began in June 1929; water in lake first reached minimum operating level January 1930. Usable capacity, 69,800 acre-ft between elevations, 60.0 ft, minimum operating level, and 68.5 ft, top of closed taintor gates. Dead storage is unknown. Contents are available by request.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 99,400 acre-ft, Sept. 22, 1969, elevation, 71.16 ft; maximum instantaneous elevation, 71.60 ft, Sept. 22, 1969; minimum daily elevation after January 1930, 48.70 ft, Oct. 22,23, 1957 (earth embankment breached).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 72,200 acre-ft, Feb. 27, elevation, 68.74 ft; minimum daily contents, 63,300 acre-ft, Mar. 14, elevation, 67.83 ft.

ELEVATION ABOVE NGVD 1929, FEET WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68.47	68.60	68.54	68.39	68.58	68.58	68.50	68.49	68.50	68.40	68.51	68.44
2	68.49	68.59	68.53	68.49	68.55	68.59	68.53	68.55	68.49	68.52	68.55	68.47
3	68.51	68.59	68.52	68.44	68.52	68.53	68.47	68.49	68.50	68.62	68.43	68.50
4	68.53	68.58	68.48	68.48	68.51	68.51	68.47	68.45	68.51	68.53	68.42	68.51
5	68.55	68.55	68.47	68.48	68.48	68.50	68.52	68.49	68.47	68.44	68.40	68.48
6	68.54	68.64	68.44	68.50	68.49	68.45	68.51	68.51	68.47	68.45	68.48	68.49
7	68.54	68.67	68.49	68.49	68.59	68.40	68.47	68.51	68.57	68.59	68.55	68.47
8	68.63	68.53	68.53	68.51	68.60	68.38	68.46	68.49	68.51	68.66	68.52	68.50
9	68.63	68.49	68.51	68.55	68.59	68.45	68.44	68.48	68.49	68.57	68.52	68.55
10	68.59	68.51	68.48	68.55	68.50	68.54	68.51	68.50	68.53	68.50	68.53	68.57
11	68.53	68.47	68.48	68.51	68.47	68.47	68.56	68.48	68.51	68.49	68.51	68.53
12	68.51	68.57	68.54	68.47	68.53	68.12	68.48	68.52	68.51	68.46	68.56	68.47
13	68.52	68.55	68.55	68.45	68.58	67.91	68.45	68.51	68.64	68.44	68.61	68.48
14	68.51	68.51	68.53	68.47	68.57	67.94	68.47	68.48	68.48	68.51	68.47	68.50
15	68.58	68.51	68.52	68.50	68.52	68.37	68.55	68.50	68.42	68.59	68.50	68.51
16	68.51	68.42	68.50	68.50	68.48	68.50	68.53	68.54	68.45	68.55	68.52	68.51
17	68.51	68.52	68.50	68.48	68.47	68.49	68.49	68.56	68.50	68.50	68.44	68.47
18	68.51	68.59	68.51	68.48	68.45	68.51	68.50	68.53	68.49	68.47	68.49	68.42
19	68.53	68.51	68.50	68.52	68.45	68.49	68.47	68.48	68.43	68.45	68.47	68.46
20	68.54	68.57	68.49	68.56	68.57	68.49	68.46	68.44	68.47	68.47	68.47	68.50
21	68.55	68.64	68.48	68.56	68.48	68.51	68.54	68.40	68.45	68.47	68.43	68.58
22	68.58	68.65	68.47	68.55	68.44	68.58	68.58	68.50	68.41	68.55	68.42	68.51
23	68.59	68.57	68.53	68.52	68.56	68.53	68.61	68.49	68.44	68.53	68.44	68.47
24	68.54	68.51	68.53	68.49	68.59	68.53	68.59	68.48	68.46	68.41	68.49	68.50
25	68.55	68.48	68.46	68.47	68.50	68.63	68.50	68.52	68.48	68.44	68.49	68.53
26	68.56	68.53	68.48	68.51	68.55	68.56	68.43	68.51	68.50	68.56	68.47	68.47
27	68.56	68.54	68.50	68.55	68.64	68.45	68.55	68.56	68.51	68.59	68.49	68.43
28	68.54	68.53	68.47	68.56	68.54	68.46	68.57	68.51	68.48	68.52	68.55	68.43
29	68.58	68.53	68.50	68.55	---	68.49	68.52	68.50	68.48	68.51	68.54	68.44
30	68.63	68.49	68.54	68.56	---	68.47	68.48	68.53	68.46	68.62	68.43	68.47
31	68.61	---	68.47	68.57	---	68.45	---	68.46	---	68.59	68.42	---
MEAN	68.55	68.55	68.50	68.51	68.53	68.45	68.51	68.50	68.49	68.52	68.49	68.49
MAX	68.63	68.67	68.55	68.57	68.64	68.63	68.61	68.56	68.64	68.66	68.61	68.58
MIN	68.47	68.42	68.44	68.39	68.44	67.91	68.43	68.40	68.41	68.40	68.40	68.42



WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS

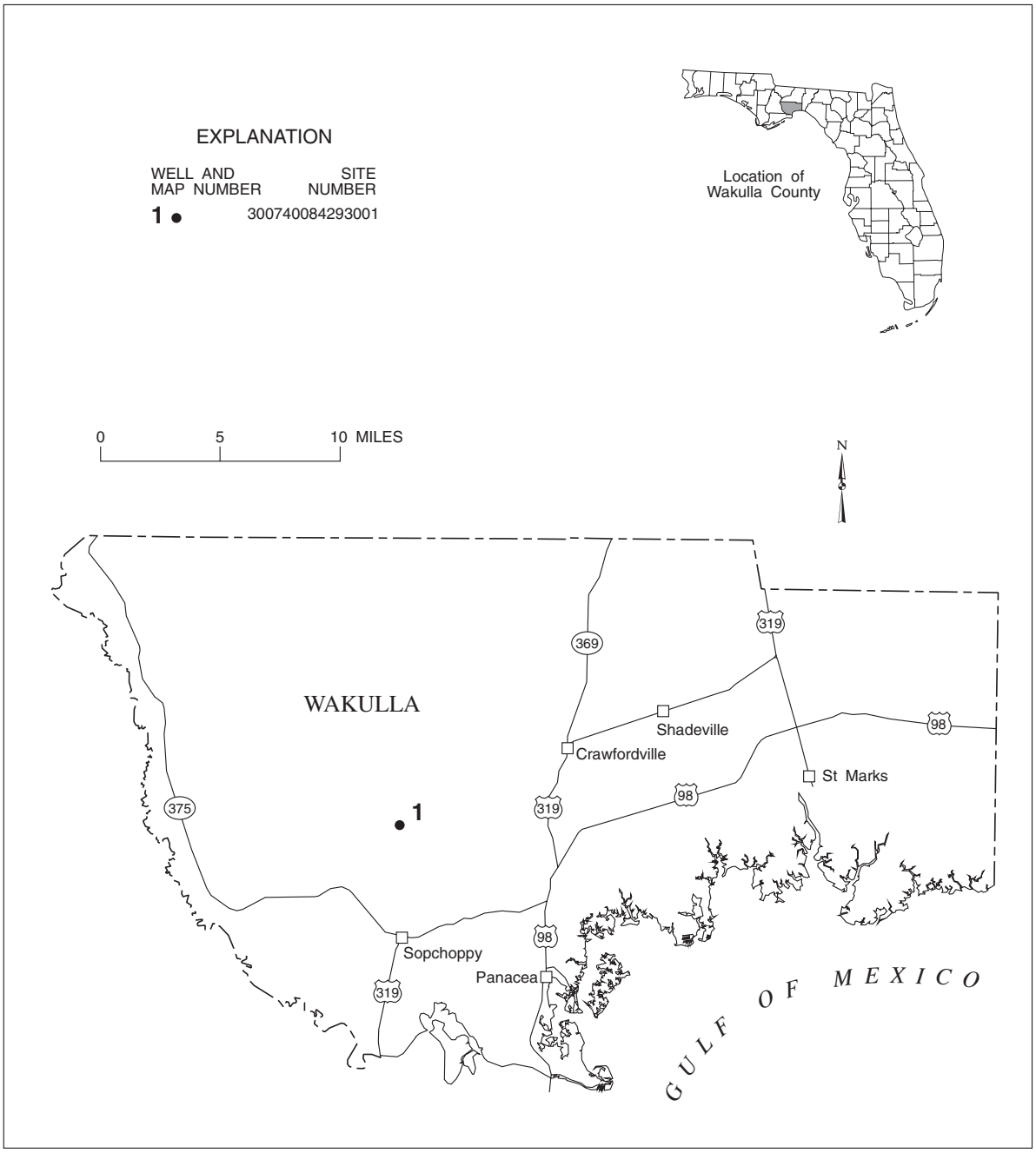


Figure 14. Location of wells in Wakulla County.

WAKULLA COUNTY

WELL NUMBER.--300740084293001. USGS Observation Well near Crawfordville, FL.

LOCATION.--Lat 30°07'40", long 84°29'30", in NW ¼ NE ¼ NW ¼ sec.24, T.4 S., R.3 W., Hydrologic Unit 03120003, 400 ft east of Sopchoppy River, 6.6 mi southwest of intersection of Forest Road 365 and State Highway 368, and 7.8 mi west of Crawfordville.

AQUIFER.--Hawthorne Limestone aquifer of the Miocene System, Geologic Unit 122 HTRNN.

WELL CHARACTERISTICS.--Drilled, bench mark, artesian well, diameter 6 in., depth 127 ft, cased to 121 ft.

INSTRUMENTATION.--Satellite data collection platform with water-elevation recorder.

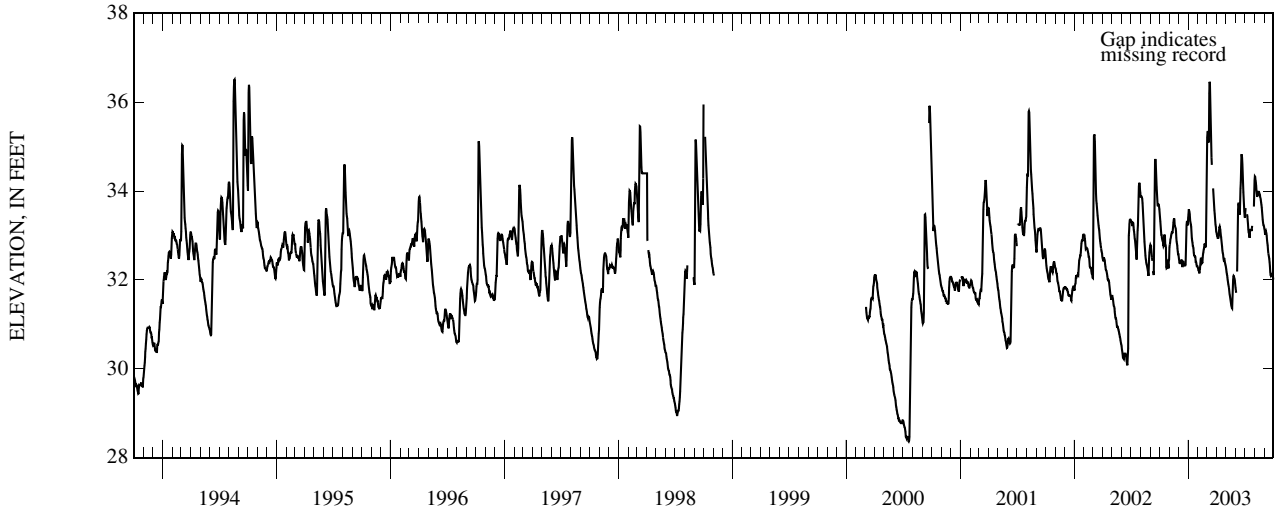
DATUM.--Land-surface datum is 46.91 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder shelf, 2.90 ft above land-surface datum.

PERIOD OF RECORD.--January 1967 to September 1998, March to September 2000. Records of water levels prior to January 1974 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 36.91 ft NGVD, July 31, 1975; lowest, 24.42 ft NGVD, Sept. 14, 1966.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.49	32.73	32.52	33.48	32.26	34.69	33.07	32.29	31.83	33.40	34.24	33.16
2	33.40	32.79	32.46	33.59	32.23	35.21	33.03	32.24	31.77	33.52	34.33	33.13
3	33.32	32.83	32.42	33.57	32.21	35.32	33.00	32.18	31.71	33.62	34.32	33.06
4	33.22	32.91	32.37	33.53	32.23	35.35	32.98	32.13	---	---	34.24	33.02
5	33.11	32.93	32.40	33.48	32.15	35.29	32.93	32.11	---	---	34.20	33.10
6	33.02	32.98	32.36	33.42	32.26	35.09	32.95	32.06	32.19	---	34.12	33.11
7	33.01	33.01	32.38	33.32	32.26	35.24	32.95	32.00	32.75	---	34.01	33.08
8	32.95	33.04	32.39	33.28	32.35	35.32	32.99	31.95	33.22	33.48	33.95	33.05
9	32.91	33.07	32.41	33.25	32.45	36.20	33.11	31.90	33.59	33.43	33.87	32.99
10	32.88	33.07	32.46	33.19	32.50	36.46	33.18	31.86	33.72	33.35	33.90	32.90
11	32.87	33.05	32.39	33.05	32.44	36.43	33.20	31.82	33.72	33.26	33.91	32.83
12	32.81	33.13	32.29	32.94	32.42	36.13	33.17	31.75	33.65	33.14	33.95	32.78
13	32.76	33.20	32.43	32.88	32.38	35.77	33.12	31.68	33.53	33.07	33.98	32.68
14	32.78	33.29	32.41	32.84	32.39	35.38	33.05	31.64	33.50	33.07	34.00	32.60
15	32.96	33.35	32.41	32.77	32.38	35.02	32.98	31.59	33.47	33.02	33.98	32.56
16	33.02	33.39	32.41	32.75	32.51	34.75	32.96	31.54	33.81	32.95	33.97	32.52
17	32.99	33.35	32.38	32.72	32.58	34.59	32.89	31.49	34.05	33.09	33.95	32.47
18	32.96	33.23	32.34	32.61	32.62	---	32.82	31.44	34.20	33.13	33.93	32.40
19	32.79	33.21	32.35	32.56	32.68	---	32.75	31.41	34.50	33.13	33.87	32.31
20	32.78	33.19	32.36	32.55	32.71	---	32.66	31.37	34.81	33.13	33.85	32.18
21	32.73	33.17	32.33	32.53	32.76	34.06	32.61	31.36	34.83	33.13	33.80	32.12
22	32.30	33.10	32.33	32.53	32.82	33.92	32.59	31.61	34.75	33.10	33.74	32.10
23	32.26	32.95	32.34	32.52	32.80	33.81	32.51	31.84	34.61	33.15	33.69	32.12
24	32.27	32.86	32.72	32.41	32.73	33.70	32.46	32.00	34.39	33.22	33.63	32.09
25	32.37	32.82	33.00	32.41	32.75	33.57	32.47	32.08	34.17	---	33.54	32.07
26	32.40	32.77	33.24	32.40	32.77	33.49	32.49	32.09	33.98	---	33.45	32.14
27	32.38	32.71	33.31	32.35	33.47	33.43	32.43	32.08	33.85	---	33.36	32.14
28	32.36	32.64	33.31	32.31	33.91	33.33	32.39	32.05	33.71	---	33.29	32.13
29	32.26	32.58	33.27	32.31	---	33.24	32.36	32.03	33.54	---	33.24	32.07
30	32.43	32.58	33.23	32.31	---	33.20	32.33	31.98	33.43	33.65	33.23	32.01
31	32.46	---	33.40	32.29	---	33.10	---	31.90	---	33.97	33.20	---
MEAN	32.78	33.00	32.59	32.84	32.57	---	32.81	31.85	---	---	33.83	32.56
MAX	33.49	33.39	33.40	33.59	33.91	---	33.20	32.29	---	---	34.33	33.16
MIN	32.26	32.58	32.29	32.29	32.15	---	32.33	31.36	---	---	33.20	32.01



WAKULLA COUNTY

WELL NUMBER.--301446084184601. Wakulla Springs Deep Well (Hwy 61 Deep Well-3).

LOCATION.--Lat 30°14'47", long 84°18'47", in sec. 03, T. 03 S., R. 01 W., Hydrologic Unit 03120001, 0.1 mi north of intersection of Highway 61 and Bloxham Cutoff, and 15.1 mi south of Tallahassee.

AQUIFER.--Floridan Aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, diameter 4 in., depth 270 ft, cased to 250 ft, open hole 250-270 ft.

INSTRUMENTATION.--Satellite data collection platform.

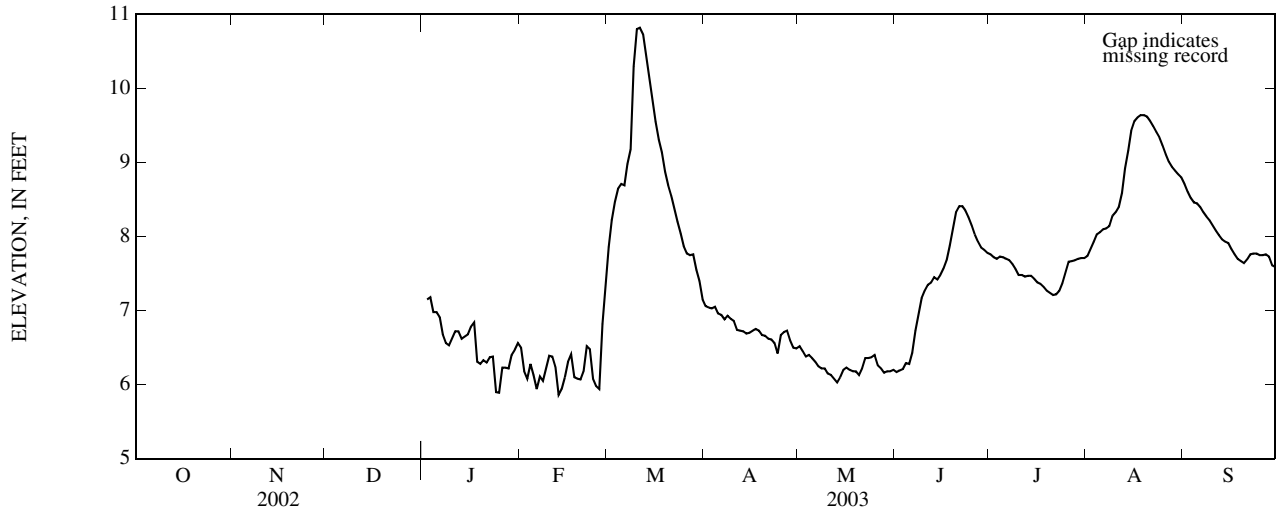
DATUM.--Land-surface datum is 13.12 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.98 ft above land-surface datum.

PERIOD OF RECORD.--January 2003 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.82 ft NGVD, March 11, 2003; lowest, 5.86 ft NGVD, February 13, 2003.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	6.50	7.86	7.06	6.52	6.17	7.76	7.74	8.71
2	---	---	---	7.15	6.18	8.22	7.04	6.45	6.19	7.72	7.83	8.61
3	---	---	---	7.18	6.08	8.47	7.03	6.38	6.21	7.70	7.93	8.52
4	---	---	---	6.98	6.28	8.65	7.05	6.40	6.29	7.73	8.03	8.46
5	---	---	---	6.98	6.13	8.71	6.96	6.36	6.28	7.72	8.06	8.45
6	---	---	---	6.91	5.94	8.69	6.94	6.31	6.43	7.70	8.10	8.40
7	---	---	---	6.68	6.11	8.98	6.88	6.25	6.73	7.68	8.11	8.33
8	---	---	---	6.56	6.05	9.18	6.93	6.22	6.95	7.63	8.14	8.27
9	---	---	---	6.53	6.22	10.30	6.89	6.22	7.17	7.56	8.28	8.22
10	---	---	---	6.63	6.39	10.80	6.86	6.15	7.27	7.48	8.33	8.15
11	---	---	---	6.72	6.38	10.82	6.74	6.13	7.35	7.48	8.40	8.08
12	---	---	---	6.72	6.24	10.73	6.73	6.08	7.38	7.46	8.59	8.02
13	---	---	---	6.62	5.86	10.43	6.72	6.03	7.45	7.47	8.92	7.96
14	---	---	---	6.65	5.94	10.11	6.69	6.10	7.42	7.47	9.16	7.93
15	---	---	---	6.68	6.10	9.81	6.70	6.20	7.48	7.43	9.43	7.91
16	---	---	---	6.78	6.31	9.55	6.73	6.23	7.57	7.38	9.56	7.83
17	---	---	---	6.84	6.41	9.31	6.75	6.20	7.68	7.36	9.61	7.76
18	---	---	---	6.31	6.10	9.14	6.73	6.18	7.88	7.32	9.64	7.70
19	---	---	---	6.28	6.08	8.88	6.67	6.18	8.10	7.27	9.64	7.67
20	---	---	---	6.33	6.07	8.69	6.66	6.13	8.33	7.24	9.62	7.64
21	---	---	---	6.30	6.18	8.55	6.62	6.22	8.41	7.21	9.56	7.69
22	---	---	---	6.37	6.52	8.37	6.61	6.36	8.41	7.22	9.49	7.76
23	---	---	---	6.38	6.48	8.20	6.56	6.36	8.35	7.27	9.41	7.77
24	---	---	---	5.90	6.08	8.04	6.42	6.37	8.26	7.37	9.34	7.77
25	---	---	---	5.89	5.98	7.87	6.67	6.40	8.15	7.52	9.23	7.75
26	---	---	---	6.23	5.94	7.77	6.71	6.26	8.03	7.66	9.11	7.75
27	---	---	---	6.23	6.82	7.75	6.73	6.22	7.93	7.67	9.01	7.76
28	---	---	---	6.22	7.31	7.76	6.60	6.16	7.85	7.68	8.94	7.73
29	---	---	---	6.40	---	7.55	6.50	6.18	7.82	7.70	8.89	7.61
30	---	---	---	6.47	---	7.40	6.49	6.18	7.78	7.71	8.84	7.59
31	---	---	---	6.56	---	7.15	---	6.20	---	7.71	8.80	---
MEAN	---	---	---	---	6.24	8.83	6.76	6.25	7.44	7.53	8.83	7.99
MAX	---	---	---	---	7.31	10.82	7.06	6.52	8.41	7.76	9.64	8.71
MIN	---	---	---	---	5.86	7.15	6.42	6.03	6.17	7.21	7.74	7.59
MED	---	---	---	---	6.16	8.69	6.73	6.22	7.53	7.52	8.92	7.87



WAKULLA COUNTY

WELL NUMBER.--301448084184601. Wakulla Springs Shallow Well (Hwy 61 Shal Well-4).

LOCATION.--Lat 30°14'48", long 84°18'46", in sec. 03, T. 03 S., R. 01 W., Hydrologic Unit 03120001, 0.1 mi north of intersection of Highway 61 and Bloxham Cutoff, and 15.1 mi south of Tallahassee.

AQUIFER.--Floridan Aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, diameter 4 in., depth 70 ft, cased to 50 ft, open hole 50-70 ft.

INSTRUMENTATION.--Electronic data logger.

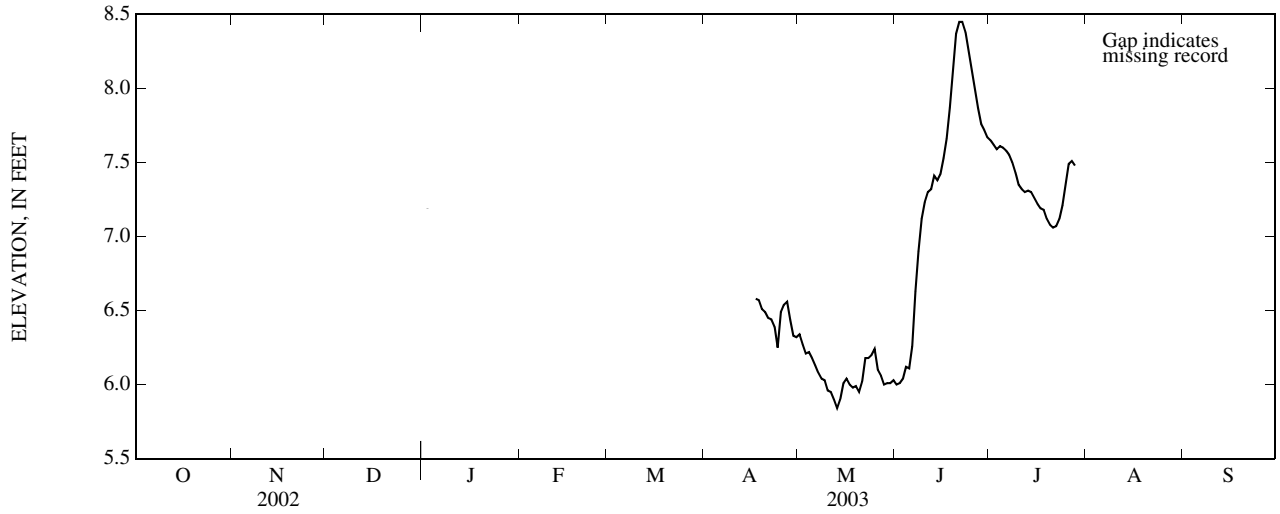
DATUM.--Land-surface datum is 13.46 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.98 ft above land-surface datum.

PERIOD OF RECORD.--April 17, 2003 to July 28, 2003.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.45 ft NGVD, June 21-22, 2003; lowest, 5.84 ft NGVD, May 13, 2003.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	6.34	6.00	7.65	---	---
2	---	---	---	7.19	---	---	---	6.27	6.01	7.62	---	---
3	---	---	---	---	---	---	---	6.21	6.04	7.59	---	---
4	---	---	---	---	---	---	---	6.22	6.12	7.61	---	---
5	---	---	---	---	---	---	---	6.18	6.11	7.60	---	---
6	---	---	---	---	---	---	---	6.13	6.26	7.58	---	---
7	---	---	---	---	---	---	---	6.08	6.63	7.55	---	---
8	---	---	---	---	---	---	---	6.04	6.90	7.50	---	---
9	---	---	---	---	---	---	---	6.03	7.12	7.43	---	---
10	---	---	---	---	---	---	---	5.96	7.23	7.35	---	---
11	---	---	---	---	---	---	---	5.95	7.30	7.32	---	---
12	---	---	---	---	---	---	---	5.90	7.32	7.30	---	---
13	---	---	---	---	---	---	---	5.84	7.41	7.31	---	---
14	---	---	---	---	---	---	---	5.90	7.38	7.30	---	---
15	---	---	---	---	---	---	---	6.01	7.42	7.26	---	---
16	---	---	---	---	---	---	---	6.04	7.53	7.22	---	---
17	---	---	---	---	---	---	6.58	6.00	7.66	7.19	---	---
18	---	---	---	---	---	---	6.57	5.98	7.87	7.18	---	---
19	---	---	---	---	---	---	6.51	5.99	8.12	7.12	---	---
20	---	---	---	---	---	---	6.49	5.95	8.37	7.08	---	---
21	---	---	---	---	---	---	6.45	6.02	8.45	7.06	---	---
22	---	---	---	---	---	---	6.44	6.18	8.45	7.07	---	---
23	---	---	---	---	---	---	6.39	6.18	8.38	7.12	---	---
24	---	---	---	---	---	---	6.25	6.20	8.26	7.21	---	---
25	---	---	---	---	---	---	6.49	6.24	8.13	7.35	---	---
26	---	---	---	---	---	---	6.54	6.10	8.00	7.49	---	---
27	---	---	---	---	---	---	6.56	6.06	7.87	7.51	---	---
28	---	---	---	---	---	---	6.44	6.00	7.76	7.48	---	---
29	---	---	---	---	---	---	6.33	6.01	7.72	---	---	---
30	---	---	---	---	---	---	6.32	6.01	7.67	---	---	---
31	---	---	---	---	---	---	---	6.03	---	---	---	---
MEAN	---	---	---	---	---	---	---	6.07	7.38	---	---	---
MAX	---	---	---	---	---	---	---	6.34	8.45	---	---	---
MIN	---	---	---	---	---	---	---	5.84	6.00	---	---	---
MED	---	---	---	---	---	---	---	6.03	7.47	---	---	---



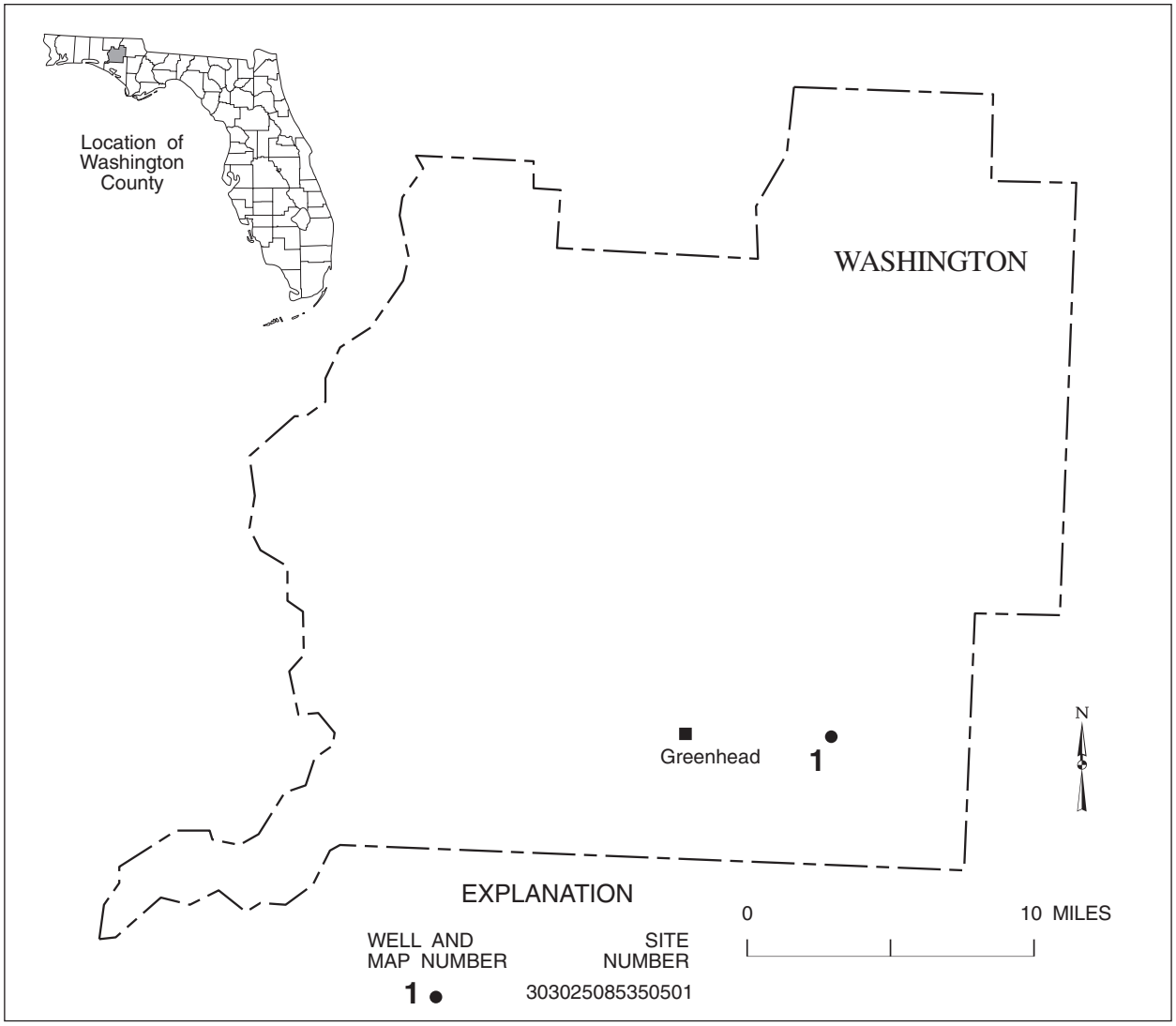


Figure 14. Location of wells in Washington County.

WASHINGTON COUNTY

WELL NUMBER.--303025085350501. Local Number 422A. USGS Observation Well near Wausau, Fl.

LOCATION.--Lat 30°30'25", long 85°35'05", in SE¼NW¼NW¼ sec. 7, T. 1 N., R. 13 W., Hydrologic Unit 03140101, 0.6 mi east of road to Deadening Cemetery, 4.2 mi east of State Highway 77, and 8.6 mi south of Wausau.

AQUIFER.--Floridan aquifer of the Tertiary system, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 150 ft, cased to 110 ft.

INSTRUMENTATION.--Satellite data collection platform with water-elevation recorder.

DATUM.--Land-surface datum is 66.11 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.90 ft above land-surface datum.

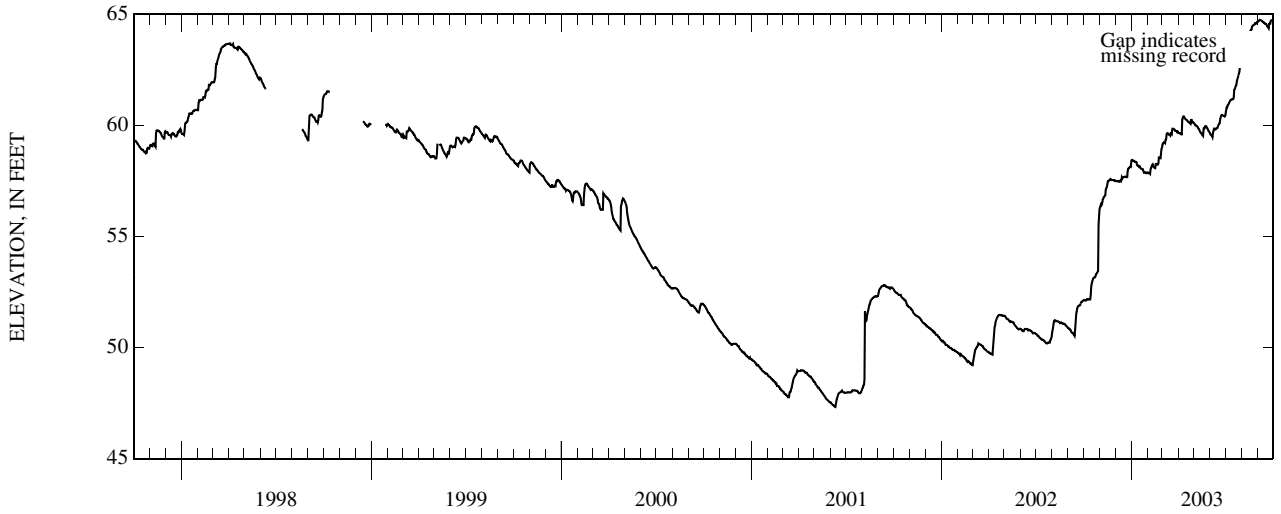
PERIOD OF RECORD.--October 1962 to September 1989, October 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 65.75 ft NGVD, Oct. 1,2, 1979; lowest, 47.33 ft NGVD, June 10, 2001.

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52.14	56.34	57.50	58.45	57.89	59.14	59.67	60.09	59.62	60.63	63.14	64.68
2	52.14	56.40	57.50	58.45	57.85	59.20	59.65	60.07	59.58	60.80	63.23	64.70
3	52.14	56.46	57.48	58.42	57.85	59.21	59.65	60.02	59.55	60.80	63.30	64.72
4	52.13	56.42	57.49	58.40	57.86	59.25	59.65	60.01	59.53	60.89	63.40	64.76
5	52.12	56.50	57.50	58.41	57.82	59.25	59.64	60.00	59.48	60.92	63.53	64.75
6	52.15	56.66	57.48	58.40	58.02	59.22	59.60	59.97	59.65	60.97	63.62	64.74
7	52.18	56.69	57.47	58.36	58.08	59.36	59.60	59.95	59.75	61.00	63.70	64.72
8	52.18	56.75	57.47	58.36	58.14	59.38	60.26	59.92	59.86	61.06	63.75	64.70
9	52.17	56.81	57.48	58.36	58.21	59.63	60.34	59.86	59.86	61.11	63.80	64.69
10	52.18	56.83	57.51	58.35	58.24	59.65	60.40	59.84	59.83	61.16	63.84	64.66
11	52.18	56.85	57.48	58.23	58.16	59.65	60.41	59.79	59.82	61.16	63.86	64.64
12	52.17	57.11	57.54	58.20	58.14	59.63	60.38	59.73	59.84	61.17	63.94	64.64
13	52.17	57.18	57.67	58.20	58.10	59.59	60.33	59.69	59.88	61.18	64.06	64.60
14	52.37	57.23	57.62	58.17	58.10	59.58	60.28	59.67	59.88	61.18	64.12	64.58
15	52.74	57.35	57.66	58.14	58.09	59.57	60.27	59.63	59.89	61.19	64.16	64.58
16	52.91	57.48	57.68	58.16	58.26	59.54	60.26	59.60	59.99	61.27	64.20	64.57
17	52.99	57.50	57.68	58.11	58.27	59.66	60.24	59.56	60.03	61.60	64.26	64.54
18	53.04	57.51	57.68	58.07	58.25	59.67	60.21	59.53	60.08	61.64	64.30	64.48
19	53.11	57.55	57.70	58.05	58.24	59.64	60.17	59.86	60.10	61.72	64.32	64.46
20	53.15	57.57	57.69	58.04	58.23	59.85	60.15	59.86	60.31	61.78	64.43	64.41
21	53.17	57.59	57.68	58.04	58.29	59.85	60.14	59.88	60.37	61.82	64.47	64.38
22	53.16	57.57	57.68	58.04	58.56	59.85	60.14	59.96	60.45	62.01	64.50	64.58
23	53.19	57.54	57.68	57.99	58.56	59.83	60.09	59.97	60.47	62.08	64.52	64.60
24	53.30	57.55	57.94	57.89	58.54	59.82	60.07	59.96	60.47	62.16	64.53	64.59
25	53.32	57.55	58.05	57.90	58.53	59.77	60.25	59.92	60.45	62.25	64.54	64.70
26	53.35	57.54	58.07	57.90	58.70	59.76	60.25	59.88	60.43	62.36	64.60	64.73
27	53.40	57.54	58.10	57.87	58.93	59.76	60.18	59.84	60.42	62.45	64.61	64.74
28	53.44	57.52	58.12	57.85	58.99	59.75	60.14	59.77	60.40	62.69	64.59	64.74
29	55.54	57.53	58.14	57.85	---	59.71	60.14	59.75	60.44	62.80	64.61	64.73
30	55.91	57.53	58.13	57.88	---	59.72	60.12	59.72	60.46	62.87	64.66	64.73
31	56.23	---	58.41	57.89	---	59.67	---	59.66	---	62.99	64.68	---
TOTAL	1,642.37	1,714.65	1,789.28	1,802.43	1,630.90	1,847.16	1,802.68	1,854.96	1,800.89	1,909.71	1,987.27	1,939.14
MEAN	52.98	57.16	57.72	58.14	58.25	59.59	60.09	59.84	60.03	61.60	64.11	64.64
MAX	56.23	57.59	58.41	58.45	58.99	59.85	60.41	60.09	60.47	62.99	64.68	64.76
MIN	52.12	56.34	57.47	57.85	57.82	59.14	59.60	59.53	59.48	60.63	63.14	64.38

CAL YR 2002 TOTAL 18,946.92 MEAN 51.91 MAX 58.41 MIN 49.21
WTR YR 2003 TOTAL 21,721.44 MEAN 59.51 MAX 64.76 MIN 52.12



A

Alaqua Creek near Pleasant Ridge, FL 146
Apalachicola River at Chattahoochee, FL 129
Apalachicola River near Sumatra, FL 135
Aucilla River nr mouth near Nutall Rise, FL 112

B

Bayou Marcus Creek near Pensacola, FL 157
Big Coldwater Creek near Milton, FL 153
Blackwater River near Baker, FL 152
Blue Hole Spring near Hildreth, FL 83
Bruce Creek at SH 81 near Redbay, FL 144
Brushy Creek near Bratt, FL 158

C

Cedar Head Spring near Hildreth, FL 81
Chipola River at Marianna, FL 133
Chipola River near Altha, FL 134
Choctawhatchee River at Caryville, FL 143
Choctawhatchee River near Bruce, FL 145
Choctawhatchee River near Pittman, FL 141
Coffee Springs near Hildreth, FL 93
Crest-stage Partial record stations 161

D

Devil's Eye Spring near Hildreth, FL 87

E

Econfina Creek near Bennett, FL 140
Econfina River near Perry, FL 111
Escambia River near Century, FL 155
Escambia River near Molino, FL 156
Elevation of Lakes 168

F

Fanning Spring near Wilcox, FL 100
Fenholloway River near Foley, FL 109
Fenholloway River near Perry, FL 110

I

Ichetucknee Head Spring near Hildreth, FL 79
Ichetucknee River at Dampiers Landing near Hildreth, FL 91
Ichetucknee River at Highway 27 near Hildreth, FL 94

L

Lake Talquin near Bloxham, FL 168
Little Fanning Spring near Wilcox, FL 101
Little River near Midway, FL 122
Lost Creek at Arran, FL 117

M

Madison Blue Spring near Madison, FL 63
Manatee Spring near Cheifland, FL 102
Martin Bayou at US 98 at Springfield, FL 139
Mill Pond Spring near Hildreth, FL 89
Mission Springs Complex near Hildreth, FL 85
Muddy Branch near Marianna, FL 132

N

New River near Lake Butler, FL 75
New River near Sumatra, FL 127

O

Ochlockonee River near Bloxham, FL 123
Ochlockonee River near Concord, FL 119
Ochlockonee River near Havana, FL 120
Ochlockonee River near Smith Creek, FL 125

P

Pond Creek near Milton, FL 154

S

Santa Fe River at Worthington Springs, FL 76
Santa Fe River near Fort White, FL 78
Santa Fe River near Hildreth, FL 96
Shoal River near Crestview, FL 150
Shoal River near Mossy Head, FL 149
Sopchoppy River near Sopchoppy, FL 118
Spring Creek near Reynoldsville, GA 128
St. Marks River near Newport, FL 116
Steinhatchee River near Cross City, FL 108
Suwannee River above Gopher River near Suwannee, FL 103
Suwannee River at Branford, FL 73
Suwannee River at Dowling Park, FL 68
Suwannee River at Ellaville, FL 66
Suwannee River at Luraville, FL 70
Suwannee River at White Springs, FL 60
Suwannee River near Bell, FL 97
Suwannee River near Wilcox, FL 98

T

Telogia Creek near Bristol, FL 124
Troy Spring near Branford, FL 72

W

Waccassassa River near Gulf Hammock, FL 57
Ward Creek bl Mitchell Pond near Metcalf, GA 115
Well Descriptions and Ground-Water Data
  Wakulla County 171
  Washington County 175
Withlacoochee River near Lee, FL 65
Withlacoochee River near Pinetta, FL 62
Wrights Creek at SH 177A near Bonifay, FL 142

Y

Yellow River at Milligan, FL 148
Yellow River near Milton, FL 151
Yellow River near Oak Grove, FL 147

Conversion Factors

Multiply	By	To obtain
	Length	
inch (in.)	2.54×10^{1}	millimeter (mm)
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter (m)
mile (mi)	1.609×10^{0}	kilometer (km)
	Area	
acre	4.047×10^{3}	square meter (m^2)
	4.047×10^{-1}	square hectometer (hm^2)
	4.047×10^{-3}	square kilometer (km^2)
square mile (mi^2)	2.590×10^{0}	square kilometer (km^2)
	Volume	
gallon (gal)	3.785×10^{0}	liter (L)
	3.785×10^{-3}	cubic meter (m^3)
	3.785×10^{0}	cubic decimeter (dm^3)
million gallons (Mgal)	3.785×10^{3}	cubic meter (m^3)
	3.785×10^{-3}	cubic hectometer (hm^3)
cubic foot (ft^3)	2.832×10^{-2}	cubic meter (m^3)
	2.832×10^{1}	cubic decimeter (dm^3)
cubic-foot-per-second-per-day [(ft^3/s/d]	2.447×10^{3}	cubic meter (m^3)
	2.447×10^{-3}	cubic hectometer (hm^3)
acre-foot (acre-ft)	1.223×10^{3}	cubic meter (m^3)
	1.223×10^{-3}	cubic hectometer (hm^3)
	1.223×10^{-6}	cubic kilometer (km^3)
	Flow rate	
cubic foot per second (ft^3/s)	2.832×10^{1}	liter (L/s)
	2.832×10^{-2}	cubic meter per second (m^3/s)
	2.832×10^{1}	cubic decimeter per second (dm^3/s)
gallon per minute (gal/min)	6.309×10^{-2}	liter per second (L/s)
	6.309×10^{-5}	cubic meter per second (m^3/s)
	6.309×10^{-2}	cubic decimeter per second (dm^3/s)
million gallons per day (Mgal/d)	4.381×10^{-2}	cubic meter per second
	4.381×10^{1}	cubic decimeter per second (dm^3/s)
	Mass	
ton, short (2,000 lb)	9.072×10^{-1}	megagram (Mg) or metric ton

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$°F = (1.8 \times °C) + 32$$

U. S. Geological Survey—**Water Resources Data, Florida, Water Year 2003, Volume 4. Northwest Florida**—FL-03-4

125 years of science for America

1879–2004

Printed on recycled paper