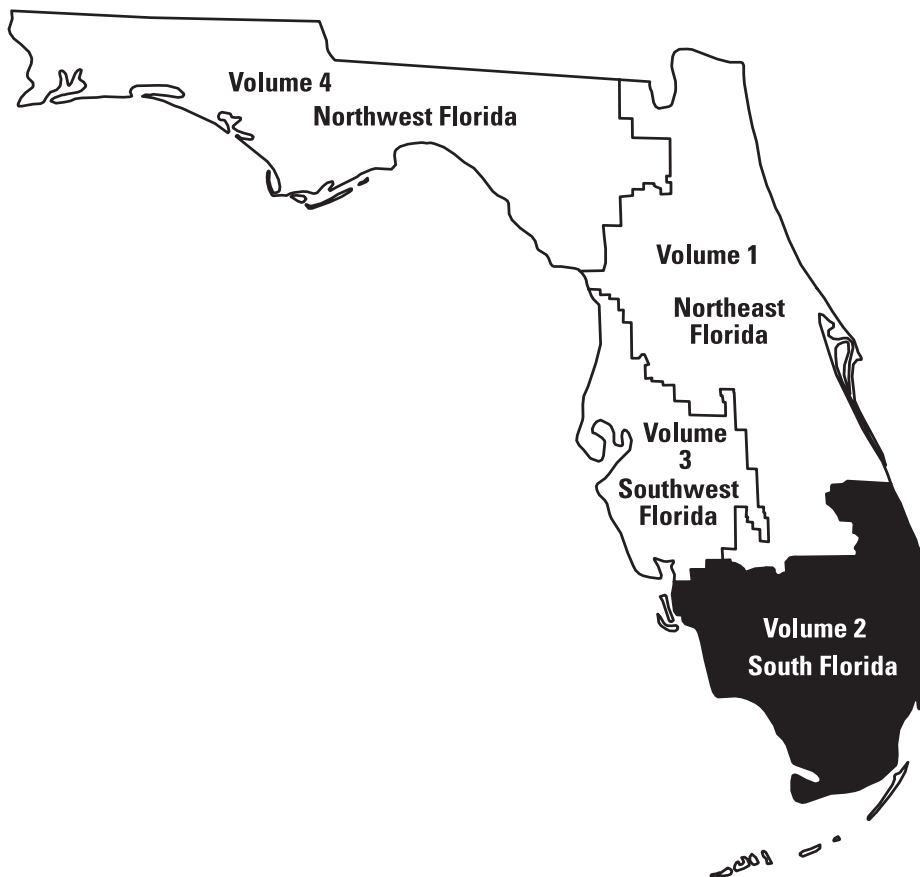


Prepared in cooperation with the State of Florida and other cooperative agencies

Water Resources Data Florida Water Year 2003

Volume 2A. South Florida Surface Water



Water-Data Report FL-03-2A

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



CALENDAR FOR WATER YEAR 2003

2002

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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2003

JANUARY							FEBRUARY							MARCH						
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19	20	21	22	23	24	25	16	17	18	19	20	21	22	16	17	18	19	20	21	22
26	27	28	29	30	31		23	24	25	26	27	28		23	24	25	26	27	28	29
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13	14	15	16	17	18	19	11	12	13	14	15	16	17	15	16	17	18	19	20	21
20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28
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13	14	15	16	17	18	19	10	11	12	13	14	15	16	14	15	16	17	18	19	20
20	21	22	23	24	25	26	17	18	19	20	21	22	23	21	22	23	24	25	26	27
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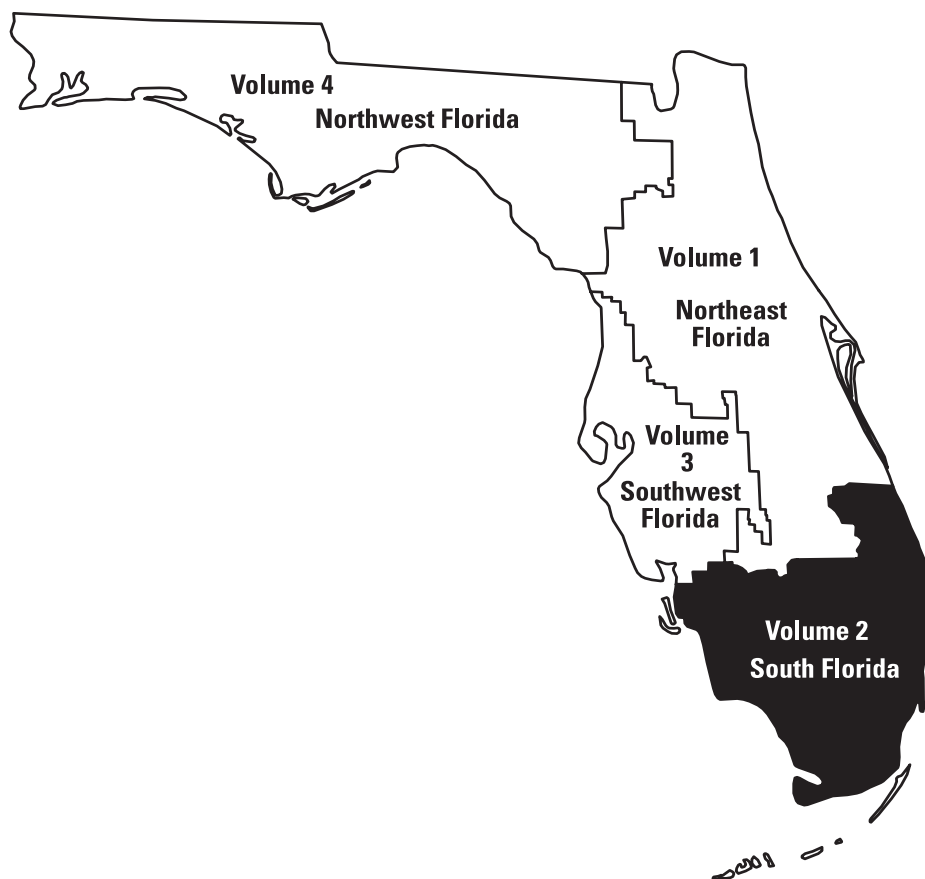
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Water Resources Data Florida Water Year 2003

Volume 2A. South Florida Surface Water

By C. Price, J. Woolverton, K. Overton

Water-Data Report FL-03-2A



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

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2004

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VOLUME 2A: SOUTH FLORIDA

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. Figure 1 shows the area covered by Volume 2A.

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

ACKNOWLEDGEMENT

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data. This report was prepared for publication by the Hydrologic Records Section under the supervision of M. H. Murray, J. Woolverton, E. C. Price, and S. Prinos. Carolyn Price, Eleanor Seymore, Jose Agis, R.B. Irvin, were the primary persons responsible for the compilation of the data report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data

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This report was prepared in cooperation with the State of Florida and with other agencies listed under COOPERATION on page 2.

Hydrologic data for south Florida are contained in two volumes

Volume 2A: Surface Water
Volume 2B: Ground Water

REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
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13. ABSTRACT (Maximum 200 words) Water resources data for 2003 water year in Florida consists of continuous or daily discharge for 385 streams, periodic discharge for 13 streams, continuous or daily stage for 255 streams, periodic stage for 13 stream, peak discharge for 36 streams, and peak stage 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 1227 wells, quality of water data for 133 surface-water sites, and 308 wells. The data for South Florida included continuous or daily discharge for 72 streams, continuous or daily stage for 50 streams, no peak stage discharge for streams, 1 continuous elevation for lake, continuous ground-water levels for 237 wells, periodic ground-water levels for 248 wells, water quality for 25 surface-water sites, and 161 wells. These data represent the National Water Data System records collected by the U.S. Geological Survey and cooperation with 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 348	
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VOLUME 2A: SOUTH FLORIDA

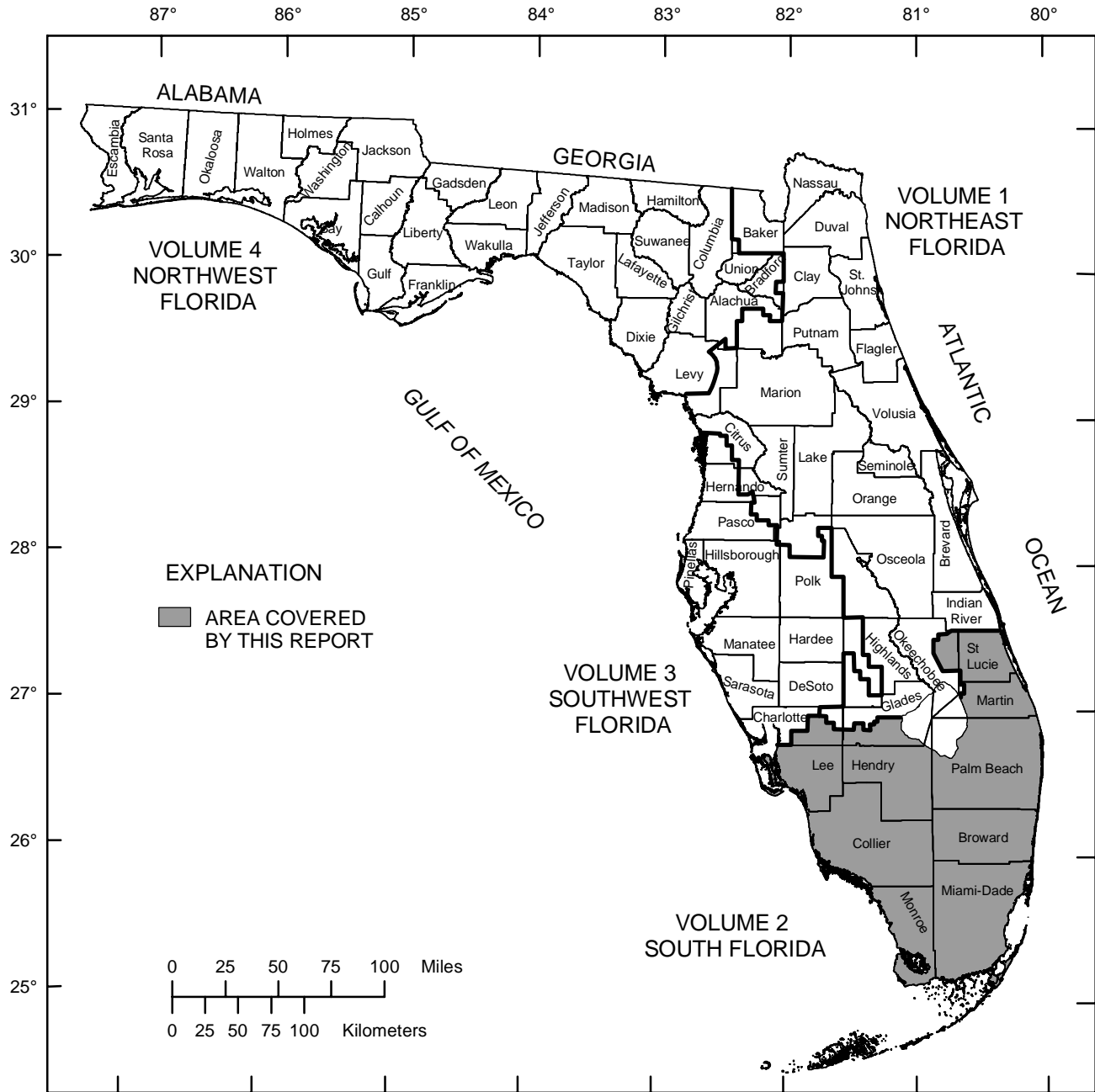


Figure 1. Geographic area covered by this report.

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STREAM AND LAKE GAGING STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

The following list shows the surface water sites where streamflow, stage, lake elevation, or daily water quality data are collected. [Letters after station names designate type of data collected: (d) discharge, (e) elevation, (g) gage heights, (s) salinity, (t) temperature]

STATION	PAGE NUMBER
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Indian River Lagoon at Sewalls Pt., Stuart, FL(g,s,t)	.02253800 57
St Lucie River:	
South Fork St Lucie River	
St Lucie Canal at Lake Okeechobee (S-308), FL (d,g)	.02276870 63
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St. Lucie River at Speedy Point, Stuart, FL (g,s,t)	.02277100 70
St. Lucie Estuary at A1A (Steele Pt), Stuart, FL (g,s,t)	.02277110 76
Kitchings Creek near Hobe Sound, FL (d,g)	.270022080094600 82
Loxahatchee River at Boy Scout near Hobe Sound, FL (g,s,t)	.265912080082900 84
Loxahatchee River near Jupiter, FL (d,g)	.02277600 90
West Palm Beach Canal at S352, at Canal Point, FL (d,g)	.02278000 93
Levee 8 Canal near Canal Point, FL (d,g)	.265501080364900 96
West Palm Beach Canal above S-5A, near Loxahatchee, FL (d)	.02278450 98
Diversions to Conservation Area No 1 at S-5A and S-5A-S, nr Loxahatchee, FL (d,g)	.02278500 100
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Levee 8 Canal at West Palm Beach Canal, near Loxahatchee, FL (d,g)	.02278550 104
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West Palm Beach Canal at West Palm Beach, FL (d,g)	.02279000 108
Industrial Canal at Clewiston, FL (d,g)	.264514080550700 114
Hillsboro Canal below S-351, near South Bay, FL (d,g)	.02280500 116
Hillsboro Canal at S-6 near Shawano, FL (d,g)	.02281200 120
Hillsboro Canal near Margate, FL (d,g)	.02281400 122
Middle River Canal at S-36, near Fort Lauderdale, FL (d,g)	.02282700 124
Plantation Road Canal at S-33, near Fort Lauderdale, FL (d,g)	.02283200 127
North New River Canal at S-2 and S-351, near South Bay, FL (d,g)	.02283498 130
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North Loxahatchee Conservation Area No. 1 near Boynton Beach, FL (g)	.263537080211400 137
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South Loxahatchee Conservation Area No. 1 near Boynton Beach, FL (g)	.262528080202700 143
E-4 Canal at Clint-Moore Road, Boca Raton, FL (g)	.262358080055700 145
E-3 Canal at NW 51st Street, Boca Raton, FL (g)	.262337080074800 146
Hillsboro Canal at S-10-D near Deerfield Beach, FL (g)	.262300080220001 147
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North New River Canal at S-11-B near Andytown, FL (g)	.261200080275001 162
Site 63 in Conservation Area No. 3A near Andytown, FL (g)	.261117080315201 164
North New River Canal at S-11-A near Andytown, FL (g)	.261150080270001 165
Site 62 in Conservation Area 3A near Andytown, FL (g)	.261023080443001 167
Site 99 near L-35A in Conservation Area 2B near Sunrise, FL (g)	.260810080222001 168
South New River Canal at S-13, near Davie, FL (d,g)	.02286100 169
Site 76 in Conservation Area 3B near Andytown, FL (g)	.260037080303401 172

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Site 64 in Conservation Area 3A near Coopertown, FL (g)	255828080401301 173
Site 69 in Conservation Area 3B near Coopertown, FL (g)	255300080370001 174
Site 65 in Conservation Area 3A near Coopertown, FL (g)	254848080432001 176
Site 71 in Conservation Area 3B near Coopertown, FL (g)	255250080335001 177
Snake Creek Canal at NW 67th Avenue, near Hialeah, FL (d,g)	02286200 178
Snapper Creek Canal Extension at NW 74th Street, near Hialeah, FL (g)	255026080231300 180
Miami Canal at S-354 and S-3, at Lake Harbor, FL (d,g)	02286400 181
Miami Canal at S-8 near Lake Harbor, FL (d,g)	02286700 183
Miami Canal East of Levee 30, near Miami, FL (d,g)	02287395 185
N.W. Wellfield Canal near Dade Broward Levee near Pennsuco, FL (d,g)	02287497 187
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Shark River Slough No 1 in Conservation Area 3B near Coopertown, FL (g)	254754080344300 199
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Northeast Shark River Slough East of L-67 Ext. nr Richmond Heights, FL (g)	254100080402200 237
Northeast Shark River Slough No 4, North of Grossman, FL (g)	253828080391100 238
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Black Creek Canal at S-21, near Goulds, FL (d,g)	02290710 240
Levee 31 North Extension at 1 mile near West Miami, FL (d,g)	02290767 243
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Lake Trafford near Immokalee, FL (e)	02291200 264
Imperial River near Bonita Springs, FL (d,g)	02291500 265
Spring Creek Headwater near Bonita Springs, FL (d,g)	02291524 267
North Branch Estero River at Estero, FL (d,g)	02291580 269
South Branch Estero River at Estero, FL (d,g)	02291597 271

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STREAM AND LAKE GAGING STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS
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Caloosahatchee Canal at Ortona Lock near La Belle, FL (d,g)02292480 280
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Meade Canal at Cape Coral, FL (d,g)02293214 286
Whiskey Creek at Ft. Myers, FL (d,g)02293230 288
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Aries Canal at Cape Coral, FL (d,g)02293240 290
<u>CALOOSAHATCHEE RIVER</u>	
San Carlos Canal at Cape Coral, FL (d,g)02293241 292
Courtney Canal at Cape Coral, FL (d,g)02293243 294
<u>CHARLOTTE HARBOR AND COASTAL AREA</u>	
Shadroe Canal at Cape Coral, FL (d,g)02293345 296
Horseshoe Canal at Cape Coral, FL (d,g)02293346 298
Hermosa Canal at Cape Coral, FL (d,g)02293347 300
Gator Slough at U.S. 41 near Ft. Myers, FL (d,g)264437081550100 302
Gator Slough at SR 765 at Cape Coral, FL (d,g)264139082022100 304

VOLUME 2A: SOUTH FLORIDA

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

The following continuous-record surface-water stage and discharge stations in South 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. Discontinued project stations with less than 3 years have not been included. Information regarding these stations may be obtained from the subdistrict office at the address given on the back side of the title page of this report. Drainage area is indeterminate for all of the stations listed below. [Letters after station names designate type of data published: (d) discharge, (e) elevation or gage heights, (g) gage heights, (q) water quality]

Station name	Station number	Period of record water years published
Airplane Prairie near Monroe, FL (e)	260345081053500	1979 - 1980
Angelfish Creek near Florida City, FL (e)	.02290757	1971
Barnes Sound at Key Largo, FL (e)	.02290784	1971
Barnes Sound near Florida City, FL (e)	.02290760	1967 - 1968
Big Cypress Swamp at Everglades Parkway, near Sunniland, FL (d)	.02288830	1970 - 1971
Big Cypress Swamp at Training Airport, near Miami, FL (d)	.02288970	1970 - 1974
Big Cypress Swamp below Training Airport, near Miami, FL (e)	.02288971	1970 - 1974
Big Cypress Swamp Pinelands near Monroe, FL (e)	.255737081043200	1979 - 1980
Big Cypress Watershed at Everglades Pky, nr Big Cypress Indian Reservation, FL (d)	.02289033	1970 - 1971
Billy Creek at Ft Myers, FL (e)	.02293200	1944 - 1955
Biscayne Bay at Coconut Grove, Miami, FL (e) (formerly published under station number 02290755)	.02290540	1963 - 1981
Biscayne Bay at Elliott Key, near Homestead, FL (e)	.02290737	1967 - 1968
Biscayne Bay at Key Biscayne, near Miami Beach, FL (e) (formerly published under station number 02290753)	.02290543	1964, 1967 - 1968
Biscayne Bay at North Miami, FL (e)	.02290750	1963 - 1981
Biscayne Bay near Homestead, FL (e) (formerly published under station number 02290760)	.02290732	1963 - 1981
Biscayne Bay at Ragged Key No. 5 near Florida City, FL (e)	.02290705	1971
Biscayne Canal at Red Road, near Opa-Locka, FL (e)	.02286320	1963 - 1979
Biscayne Canal at North Miami, FL (e)	.02286330	1963
Biscayne Canal at S-28, near Miami, FL (d)	.02286340	1962 - 1985
Black Creek near Richmond Heights, FL (e)	.02290707	1971 - 1979
Black Creek Canal below S-21 near Goulds, FL (e)	.02290711	1971
Broad River near Everglades, FL (d) (period of record published in 1967 volume 2A)	.02290880	1962 - 1965
C-1 Canal near Jupiter, FL (q)	265631080132500	1989 - 1998
C-2 Canal above S-4 near Deerfield Beach, FL (e)	.02281490	1989 - 1993
C-2 Canal below S-4 near Deerfield Beach, FL (e)	.02281491	1989 - 1993
Camelot Canal at Control at Cape Coral, FL (e)	.02293245	1987 - 1990
Camelot Canal below Control at Cape Coral, FL (e)	.02293246	1987 - 1992
Canal 1 at Indiantown Road and 133 Way near Jupiter, FL (q)	265632080144200	1994 - 1998
Canal 60 at S-140 near Ft. Lauderdale, FL (d)	.02286962	1970 - 1981
Canal 111 above S-197 near Florida City, FL (d)	.251713080263300	1984
Canal 111 at Clv.5 between S-18C and S-197 nr Homest., FL (e)	.251823080294200	1984 - 1985
Canal 111 at U.S. Highway 1, near Florida City, FL (e)	.02290780	1967 - 1969
Canal 111 below S-18-C near Florida City, FL (e)	.02290770	1967 - 1969
C-7 Canal near Jupiter, FL (q)	265352080120400	1989 - 1998
C-18 Canal at G-92 near Jupiter, FL (q)	265437080103200	1989 - 1998
Canal C-18 near Jupiter, FL (d)	.265218080144300	1980 - 1982
Canal M near Mangonia Park, FL (d)	.02277900	1970 - 1977
Card Sound at Angelfish Creek near Florida City, FL (e)	.02290756	1971
Card Sound at Model Land Canal, near Florida City, FL (e)	.02290750	1967 - 1981
Card Sound Canal near Florida City, FL (d)	.02290739	1972 - 1974
Cape Florida Channel near Key Biscayne, FL (e)	.02290590	1970

VOLUME 2A: SOUTH FLORIDA

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS--continued

Station name	Station number	Period of record water years published
Ceasar Creek at Adam Key, near Florida City, FL (e)	.02290738	1971
Charlotte Harbor at Bokeelia, FL (e)	.02293340	1990 - 1993
Cocohatchee River Canal near Naples, FL (d)	.02291400	1966
Cocohatchee River Canal near Naples Park, FL (d)	.02291393	1969 - 1984
Comfort Canal at N.W. 29th Avenue, Miami, FL (e) (formerly published as South Fork Miami River at N.W. 29th Avenue)	.02290520	1962 - 1970
Coral Gables Canal at Red Road, Coral Gables, FL (e)	.02290560	1963 - 1970
Coral Gables Canal at Tamiami Canal, near Coral gables, FL (d)	.02290550	1960 - 1963
Coral Gables Canal near South Miami, FL (d)	.02290580	1961 - 1966
Cypress Creek Canal at S-37A, near Pompano Beach, FL (D)	.02282100	1964 - 1985
Cypress Creek near Jupiter, FL (d)	.265816080110000	1980 - 1982
E. Tributary N. Fork Loxahatchee River nr Hobe Sound, FL (d)	.270036080070500	1980 - 1981
El Rio Canal near Boca Raton, FL (d) gage heights only.	.02281625	1970 - 1972 1973 - 1977
El Rio Canal, SW 18th Street, Boca Raton, FL (e)	.261953080054900	1982 - 1985
Equalizing Canal 1 near Greenacres City, FL (e)	.02281419	1970 - 1972
Equalizing Canal 1 near Delray Beach, FL (e)	.02281425	1970 - 1977
Equalizing Canal 3 near Greenacres City, FL (e)	.02281513	1970 - 1977
Equalizing Canal 3 near Delray Beach, FL (e)	.02281532	1970 - 1972
Equalizing Canal 3 near Boca Raton, FL (e)	.02281544	1970 - 1977
Everglades 1-128S near Boynton Beach, FL (e)	.02281282	1974 - 1975
Everglades 1-141S near Loxahatchee, FL (e)	.02281278	1974 - 1976
Everglades 1-142S near Delray Beach, FL (e)	.02281291	1974 - 1976
Everglades 159 south of pump station 6 near Andytown, FL (e)	.262300080263501	1977 - 1980
Everglades 160 south of pump station near Lake Harbor, FL (e)	.261557080464301	1977 - 1980
Everglades 2B in C-111 Basin near Homestead, FL (g)	.251855080283400	1986 - 2001
Everglades 201-NP, near Homestead, FL (e)	.02290861	1975 - 1980
Everglades 202-NP, near Miami, FL (e)	.02290862	1975 - 1980
Everglades 203-NP, near Homestead, FL (e) (formerly published as Everglades P-5S)	.02290832	1974 - 1980
Everglades 204-NP near Homestead, FL (e) (formerly published as Everglades P-145)	.02290829	1974 - 1980
Everglades 205-NP, near Miami, FL (e)	.02290868	1975 - 1980
Everglades 206-NP, near Miami, FL (e)	.02290811	1975 - 1980
Everglades 207 near Homestead, FL (e) (formerly published as "Everglades P-37 near Homestead")	.02290810	1963 - 1980
Everglades 2-111S near Andytown, FL (e)	.02284642	1974 - 1981
Everglades 2-112S near Margate, FL (e)	.02284644	1974 - 1976
Everglades 3-62S near Andytown, FL (e)	.02286960	1974 - 1979
Everglades 3-63S near Andytown, FL (e)	.02286998	1974 - 1979
Everglades 3-64S near Miramar, FL (e)	.02286970	1974 - 1979
Everglades 3-65S near Miami, FL (e)	.02289043	1974 - 1980
Everglades P-33 near Homestead, FL (e)	.02290815	1963 - 1980
Everglades P-34 near Homestead, FL (e)	.02290870	1963 - 1980
Everglades P-35 near Homestead, FL (e)	.02290830	1963 - 1980
Everglades P-36 near Homestead, FL (e)	.02290828	1969 - 1980
Everglades P-38 near Homestead, FL (e)	.02290820	1963 - 1980
Everglades P-103 near Florida City, FL (e)	.02290790	1967 - 1969
Everglades P-104 near Florida City, FL (e)	.02290794	1967 - 1969
Fakahatchee Slough at Janes Road near Copeland, FL (d)	.02291047	1970 - 1972
Faka Union Canal near Copeland, FL (d)	.02291143	1970 - 1984
Faka Union Canal near Deep Lake, FL (d)	.260342081312500	1978 - 1984
Faka Union Canal near Sunniland, FL (e)	.261616081314400	1978 - 1984
Florida Bay at Flamingo, FL (e)	.02290825	1963 - 1980
Florida City Canal near Florida City, FL (e)	.02290735	1963 - 1967

VOLUME 2A: SOUTH FLORIDA

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS--continued

Station name	Station number	Period of record water years published
Garden Cove near Key Largo, Fl (e)	.02290786	1967 - 1968
Gator Hook Strand near Ochopee (e)	254724081111300	1979 - 1980
Golden Gate Canal at Naples, Fl (d)	.02291300	1965 - 1984
Golden Gate Canal near Naples, Fl (d)	261148081401700	1978 - 1984
Golden Gate Canal near Sunniland, Fl (d)	261642081334200	1978 - 1984
Gordon River at Naples, Fl (e)	.02291280	1972 - 1984
Goulds Canal near Goulds, Fl (e) (formerly published under station number 02290715)	.02290711	1963 - 1967
Grand Canal near Florida City, fl (d)	.02290734	1972 - 1974
Gum Slough near Monroe, Fl (e)	254230081022000	1979 - 1980
Harney River near Homestead, Fl (d) (gage heights only 1968 - 1969)	.02290860	1960 - 1967
Henderson Creek Canal near Naples, Fl (d)	.02291270	1968 - 1984
Henry Creek at Henry Creek Lock near Sherman, Fl (This station was transferred to the Altamonte Springs Office)	.02275705	1993 - 1995
Hillsboro Canal at S-39, near Deerfield Beach, Fl (e)	.02281300	1957 - 1967
Hillsboro Canal in Cons. Area No. 1 at S-6 nr Shawano, Fl (e)	.02281201	1963 - 1968
Hillsboro Canal near Deerfield Beach, Fl (d)	.02281500	1940 - 1991
Hillsboro Canal below Deerfield Locks, Deerfield Beach, Fl (e)	.02281501	1963 - 1991
Hillsboro River at Deerfield Beach, Fl (e)	.02281650	1968 - 1978
Hobe Groves Ditch, near Jupiter, Fl (d)	265907080103000	1980 - 1982
Hollywood Canal at Dania, Fl (d)	.02286150	1962 - 1967
Intracoastal Waterway at Barnes Point, near Florida City, Fl (e)	.02290762	1971
Intracoastal Waterway at Blue Heron Blvd. at Riveria, Beach, Fl (e)	.02277960	1971 - 1977
Intracoastal Waterway at Delray Beach, Fl (e)	.02279520	1971 - 1973
Intracoastal Waterway at Donald Ross Road, nr Juno Beach, Fl (e)	.02277730	1971 - 1973
Intracoastal Waterway at Golden Beach, Fl (e)	.02281670	1970 - 1979
Intracoastal Waterway at Hollywood, Fl (e)	.02286160	1968 - 1978
Intracoastal Waterway at Lauderdale-by-the Sea, Fl (e)	.02282300	1968 - 1978
Intracoastal Waterway at Port Everglades, at Hollywood, Fl (e)	.02286143	1968 - 1978
Intracoastal Waterway at Southern Blvd. at Palm Beach, Fl (e)	.02277994	1971 - 1973
Intracoastal Waterway at SR 706 at Jupiter, Fl (e)	.02277738	1980 - 1981, 1989 - 1992
Intracoastal Waterway at SR 707 at Jupiter, Fl (e)	.02277747	1980 - 1981, 1989 - 1992
L-28 Interceptor Canal South at Collier border, Fl (d,g)	260823080524100	1997 - 1999
L-67A at Conservation Area 3A near Coopertown, Fl (g)	255447080350200	1994 - 1996
L-67C at Conservation Area 3B near Coopertown, Fl (g)	255420080340500	1994 - 1996
Lateral 47 Canal at Boca Raton, Fl (e)	.02281468	1989 - 1991
Lateral Canal at Seminole Road near Loxahatchee, Fl (e)	.02278698	1973 - 1977
Lateral Canal in Acme Drainage District, near Loxahatchee, Fl (e)	.02281297	1973 - 1977
Lateral Canal in Loxahatchee Groves near Loxahatchee, Fl (e)	.02278732	1973 - 1977
Lateral Canal on 130th Ave. North, near Jupiter, Fl (e) (formerly published as Lateral Canal on Hynie Lane Road)	.02277470	1973 - 1977
Lateral Canal on Jupiter Farms Road, near Jupiter, Fl (e)	.02277480	1973 - 1977
Levee 3 Canal near Clewiston, Fl (d) Revised 1978-90 in WRD-2A-96	.02289030	1970 - 1990
Levee 28 Tieback Canal, near Andytown, Fl (e)	.02289027	1970 - 1974
Levee 30 near Miami Springs, Fl	.02289100	1960 - 1964
Levee 31W Canal at S-332, near Florida City, FL (d,g)	252523080352500	1983 - 1998
Levee 67 Extended Canal near Richmond Heights, fl (e)	.02290827	1971 - 1980
Levee 67 Extended Canal at South End near Coopertown, Fl (e)	253735080402100	1977 - 1980
Little River Canal at Palm Avenue, Hialeah, Fl (e)	.02286350	1963 - 1979
Little River Canal at S-27, at Miami, Fl (d)	.02286380	1960 - 1969
.....	1973 - 1985
Lostmans River near Everglades, Fl (d) (period of record published in 1967 volume 2A)	.02290920	1962 - 1965
Loxahatchee River at Indiantown Road near Jupiter FL (q)	265613080100700	1989 - 1998

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DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS--continued

Station name	Station number	Period of record water years published
Loxahatchee River at Sunshine State Pkwy., nr Jupiter, FL (d)	265713080095600	1980 - 1982
Loxahatchee River near Hobe Sound, FL (e)	265916080083500	1977 - 1981
M-1 Canal at Canal M near Royal Palm Beach, FL (e)	.02278760	1975 - 1977
M-2 Canal in Royal Palm Beach Colony near Loxahatchee, FL (e)	.02277750	1973 - 1977
Mackinac Canal at Cape Coral, FL (d,g)	.02293216	1987 - 1996
Manatee Bay at Canal 111, near Florida City, FL (e)	.02290782	1967 - 1969
Main Lake Outlet near Ft Myers, FL (e)	.02291736	1988 - 1989
Matlacha Pass at Indian Field Island near Matlacha, FL (e)	.02293342	1991 - 1993
Matlacha Pass at Matlacha, FL (g,q)	.02293343	1989 - 1997
Matlacha Pass at Parrots Perch near St James City, FL (g)	.02293280	1989 - 1997
Miami Canal above S-8, near Lake Harbor, FL (e) (formerly Miami Canal at S-8 (auxiliary) 02286700)	.02286699	1962 - 1968
Miami Canal above S354 and S-3, at Lake Harbor, FL (g) (Prior to October 1988, published as Miami Canal at HGS-3 and S-3 at Lake Harbor)	02286399	1958 - 1998
Miami Canal at broken dam, near Miami, FL (d)	.02287400	1960 - 1968
		1985 - 1989
Miami Canal at N.W. 27th Avenue, Miami, FL (e)	.02290510	1963 - 1979
Miami Canal at Palmetto Bypass near Hialeah, FL (d)	.02288200	1960 - 1981
Miami Canal at Pennsuco near Miami, FL (d)	.02287500	1963 - 1979
Miami River at Brickell Ave., Miami, FL (d)	.02290530	1961 - 1966
Middle River Canal at U.S. Highway 1, near Ft. Lauderdale, FL (d)	.02282800	1964 - 1967
Mid. Tributary N. Fork Loxahatchee R. nr Hobe Sound, FL (d)	270028080074200	1980 - 1981
Military Canal near Homestead, FL (e)	.02290720	1963 - 1969
Model Land Canal near Florida City, FL (e)	.02290740	1963 - 1969
Model Land Canal below ML-2, near Florida City, FL (e) (formerly Model Land Canal at control "auxillary" 02290745)	.02290746	1963 - 1968
Monreve Ranch drainage canal near Stuart FL (d) (formerly published under station number 02276800)	.02276984	1959 - 1973
Mowry Canal near Homestead, FL (d)	.02290725	1970 - 1989
	gage heights only published	1963 - 1970
New River at Ft. Lauderdale, FL (d)	.02286140	1963 - 1967
North Canal near Homestead, FL (e)	.02290730	1963 - 1968
North Line Canal near Miami Springs, FL (d)	.02289900	1960 - 1963
North New River Canal below S-34, near Ft. Lauderdale, FL (d)	.02284700	956 - 1967
North New River Canal near Ft. Lauderdale, FL (d)	.02285000	1939 - 1992
North New River Canal below control near Ft. Lauderdale, FL (e) (formerly published as 02285000 North New River Canal (auxiliary))	.02285001	1962 - 1992
N.W. Wellfield Canal at Conserv. Area No. 3 nr Pennsuco, FL (d,g)	.02289096	1991 - 1996
N.W. Wellfield Canal near Pennsuco, FL (d,g)	.02288010	1991 - 1996
Okaloacoochee Slough near Sunniland, FL (e)	261205081200000	1979 - 1980
Pine Channel near Big Pine, FL	244123081225301	1976
Pinecrest Hammocks near Monroe, FL (e)	254635080541500	1979 - 1980
Pompano Canal at Pompano Beach, FL (d) (Prior to October 1948, published as Cypress Creek Canal at Pompano)	.02282000	1964 - 1969
Pompano Canal at S-38, near Pompano Beach, FL (d)	.02281700	1962 - 1967
Roberts Lake Slough near Monroe, FL (d)	.02290950	1973 - 1980
Rogers River near Everglades, FL (d) (period of record published in 1967 volume 2A)	.02290900	1962 - 1965
Sanibel River at Snibel, FL (e)	.02293250	1972 - 1977
Savannahs Drainage Canal at Port St Lucie, FL (d)	02276568	1976 - 1977
Shark River near Homestead, FL (d) (gage heights only 1967 - 1969)	.02290850	1960 - 1966
Site 15 nr L-39 in Conserv. Area No. 2A near Shawano, FL (g)	262400080250001	1991 - 1997

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DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS--continued

Station name	Station number	Period of record water years published
Site 34 near L-30 in Conservation Area 3B, near Miami, FL (g)	.255215080291000	1993 - 1997
Six Mile Cypress Creek South near Ft. Myers, FL (d)	.02291670	1988 - 1990
San Carlos Bay at St. James, City, FL (e)	.02293288	1990 - 1992
Snake Creek Canal at S-29, at S-29, at North Miami Beach, FL (d)	.02286300	1959 - 1985
Snake Creek Canal at S-30, near Hialeah, FL (d)	.02286180	1963 - 1967
Snapper Creek Canal at Miller Drive, near South Miami, FL (e) (formerly published under station number 02290600)	.02290610	1963 - 1981
Snapper Creek Canal near Coral Gables, FL (d) gage heights only published	.02290600	1960 - 1967 1968 - 1980
Snapper Creek Canal at S-22, near South Miami, FL (d)	.02290700	1959 - 1985
South Fork Miami River at N.W. 29th Avenue, Miami, FL (e)	See Comfort Canal at N.W. 29th Avenue	
South New River Canal in Conservation Area No. 3 at S-9 (e)	.02285399	1963 - 1970
South New River Canal at S-9 near Davie, FL (d)	.02285400	1958 - 1970
South New River Canal at U.S. Highway 27 near Davie, FL (e)	.02285410	1975
Southwest Fork Loxahatchee River at Jupiter, FL (e)	.265635080071900	1980 - 1981
Southwest Fork Loxahatchee River at S-46 (d)	.02277700	1959 - 1965
Stilt City Tidal Station at Indian Field, nr Matlacha, FL (e)	.263935082052501	1990 - 1991
Tamiami Canal at 40-mile bend, near Miami, FL (e) (formerly published as 02288900 Tamiami Canal at 40-mile bend (auxiliary) : (1960 to 1963 water years published under 02289000, Tamiami Canal Outlets, Miami to Monroe)	.02288990	1961 - 1980
Tamiami Canal at bridge 77, near Carnestown, FL (e) (formerly published as 02288800 Tamiami Canal at bridge 77 (auxiliary))	.02288780	1962 - 1980
Tamiami Canal at bridge 83, near Ochopee, FL (e)	.255327081161300	1979 - 1980
Tamiami Canal at bridge 96, at Monroe Fl (e) (twice monthly) (formerly published as 02288900 Tamiami Canal at bridge 96 (auxiliary))	.02288860	1962 - 1980
Tamiami Canal at bridge 115, near Miami, FL (e) (twice monthly) (formerly published as 02288900 Tamiami Canal at bridge 115 (auxiliary))	.02288945	1962 - 1980
Tamiami Canal at Red Road, Miami, FL (e)	.02290500	1963 - 1980
Tamiami Canal east of levee 30, near Miami, FL (e) (formerly published as 02289060 Tamiami east of levee 30 (auxiliary))	.02289250	1963 - 1980
Tamiami Canal Outlets, Miami to Monroe, FL (d)	.02289000	1940 - 1963
Tamiami Canal west of levee 30, near Miami, FL (e) (twice monthly) (formerly published as 02289060 Tamiami Canal west of levee 30 (auxiliary))	.02289090	1963 - 1980
Taylor Creek at HGS-6 near Okeechobee, FL (d) (This station was transferred to the Altamonte Springs Office)	.02277503	1992 - 1995
Taylor Slough at Context Road near Homestead, FL (d)	.252948080352700	1976 - 1980
Taylor Slough at Craighead Lake near Homestead, FL (e)	.251148080410300	1979 - 1980
Taylor Slough at Royal Palm near Homestead, FL (e)	.02290803	1970 - 1980
Taylor Slough near Homestead, FL (d)	.02290800	1960 - 1985
Townsend Canal near Alva, FL (d,g)	.02292780	1975 - 1996
Turnpike Borrow Canal above S-46 near Jupiter, FL (q)	.26555208008500	1989 - 1998
U.S. Highway 441 Canal near Deerfiled Beach, FL (e)	.02281435	1968 - 1969
Warner Creek near Jensen Beach, FL (d)	.02277107	1976 - 1977
West Rolling Oaks Feeder Canal Near Davie, FL (e)	.02285420	1975

VOLUME 2A: SOUTH FLORIDA

INTRODUCTION

The U.S. Geological Survey (USGS), in cooperation with State, County, and other 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 USGS, the data are published annually in this report series entitled "Water Resources Data - Florida, Volume 2A: South Florida Surface Water and Volume 2B: South Florida Ground Water".

This report series includes records of stage, discharge, and water quality for streams; stage, contents, and water quality for lakes; and ground-water levels, contents, and water quality of ground-water wells. The data for South Florida include continuous or daily discharge for 72 streams, continuous or daily stage for 50 streams (including stage published at discharge and stage only sites), continuous elevations for 1 lake, continuous ground-water levels for 237 wells, periodic ground-water levels for 248 wells, and quality-of-water data for 25 surface-water sites and 161 wells.

Publication of 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. For the 1975 water year, the report format was modified to one volume presenting data on quantities of surface water, quality of surface and ground water, and ground-water levels. For the 1977 water year, the report format was modified to a two volume set: one volume presenting data on quantity as well as quality of surface water and one volume presenting data on water levels along with quality of ground water.

Prior to introduction of this series and for several concurrent water years, water-resources data for Florida were published in USGS 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 aforementioned Water-Supply Papers may be consulted in the federal repository libraries of the principal cities of the United States and may be purchased from the U.S. Geological Survey, Branch of Information Services, Box 25286, Federal Center, Denver, CO 80115 (telephone: 888-ASK-USGS).

Similar reports are published annually by the USGS for all of the United States. These official USGS 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-xx-2A," where xx represents the current water year. For archiving and general distribution, reports for the 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or 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 (305) 717-5800.

VOLUME 2A: SOUTH FLORIDA

COOPERATION

The USGS and various Federal, State, and local organizations have had cooperative agreements for the collection of water-resource records since 1930. Organizations that assisted in collecting the data presented in this report through cooperative agreement with the USGS are:

Broward County
City of Boca Raton
City of Cape Coral
City of Ft. Lauderdale
City of Hallandale Beach
City of Hollywood
Everglades National Park
Florida Keys Aqueduct Authority

Lee County
Miami-Dade County Department of Environmental
Resource Management
Seminole Tribe of Florida
South Florida Water Management District
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service

Organizations that provided data are acknowledged in station manuscripts.

VOLUME 2A: SOUTH FLORIDA

SUMMARY OF HYDROLOGIC CONDITIONS

This section summarizes important hydrologic events that occurred during the 2003 water year (October 1, 2002 to September 30, 2003) as well as significant natural and water-management responses to these events. Figure 2 provides a frame of reference for some of the major land areas of hydrologic significance mentioned in the summary.

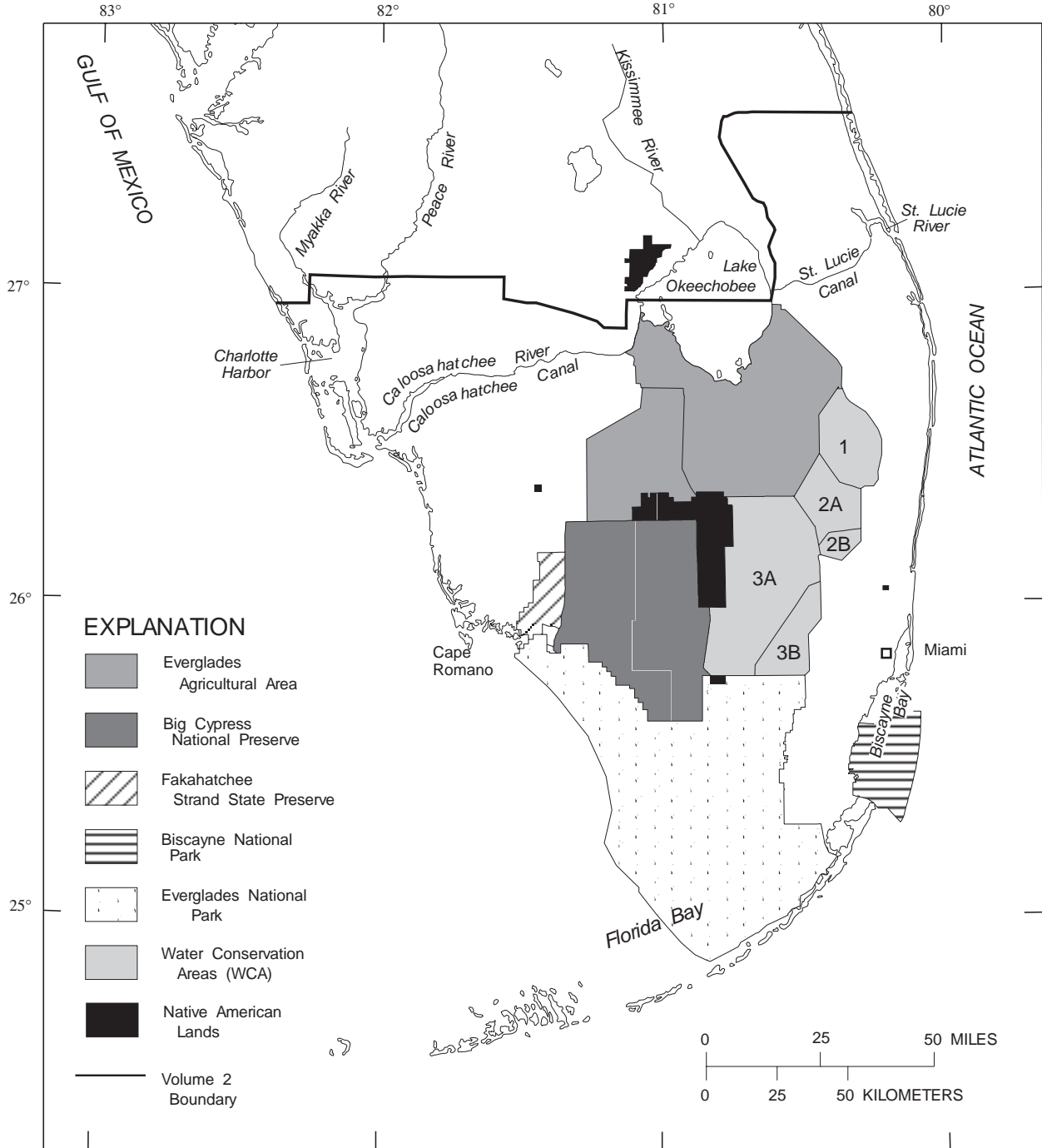


Figure 2. South Florida areas of hydrologic significance.

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SUMMARY OF HYDROLOGIC CONDITIONS (continued)

During the 2003 water year, the U.S. Geological Survey (USGS) Florida Integrated Science Center - Water and Restoration Studies (FISC-WRS) monitored 72 continuous discharge stations, 50 continuous stage stations, and 1 lake, and also collected water-quality data at 25 miscellaneous sites in cooperation with various local, State, and Federal agencies.

October started the 2003 water year with below-average conditions, receiving only 63 percent of the monthly average rainfall. Lake Okeechobee stages declined slowly during the month due to regulatory releases. Pulse releases from the lake were made into the Caloosahatchee River and St. Lucie Canal into tide until the middle of the month when water-supply releases from the lake were started. The lock at Industrial Canal was opened on October 15. Water was released into Water Conservation Area (WCA) 1 from Lake Okeechobee, and releases were made from WCA 2 and 3 as scheduled. Regulatory and water-supply releases were made into the Everglades Agricultural Area (EAA) from the lake and WCA's. Maximum releases were made through the S-12's all month to implement the Interim Operation Plan (IOP) for Protection of the Cape Sable Seaside Sparrow. Releases made from S-333 were passed through S-334 due to high downstream ground-water levels south of L-29. Along the coast, operating levels at the control structures were lowered to maximize regulatory releases. Additionally, releases were made from WCA 3A through the South Dade Conveyance System.

The overall South Florida Water Management District (SFWMD) monthly rainfall average for November was 113 percent of the historical average. Water-supply operations were generally made in the first half of the month and flood-control releases made in the second half. One of the 10 wettest days in the last 10 years was November 10, with 75 percent of the monthly rainfall total occurring on that day. Much of this rain was focused over the southwestern coast, thus water levels in Lake Okeechobee continued to decline. No regulatory releases were made from the lake to tide through either the Caloosahatchee River or St. Lucie Canal; however water-supply releases were made through both waterways during the first half of the month, and flood releases were made to tide following November 16. In the EAA, regulatory releases were made from Lake Okeechobee and the WCA's during the first half of the month. During the second half of the month, flood-control pumping was accomplished from the EAA to the WCA's. Due to the mid-month high stage of Lake Okeechobee, water was released into the WCA's from the lake. Some water was released from WCA's 2A and 2B into tide near the end of the month. Structures S-12A, B, and C were closed by the middle of the month though releases continued for the rest of the year through structure S-12 D. Releases were made from S-333 when ground-water levels south of L-29 were below the IOP critical level. All coastal control structures were operated in accordance with the IOP, with adjustments made for flood-control.

December rainfall throughout the SFWMD was 269 percent of the historical average, concentrating especially in the Kissimmee Basins. Lake Okeechobee water levels declined slowly early in the month, making water-supply releases into the EAA, and then rose about 6 inches during the rest of the month. Both water-supply and pulse releases were made to tide through the Caloosahatchee River and St. Lucie Canal. Water was also released into WCA 1 from Lake Okeechobee as conditions allowed, although no tide releases were made due to this regulation. After the rains, flood-control pumping delivered water from the EAA into the WCA's. Regulatory releases were made from WCA 2 into the North New River Canal to tide throughout most of the month. The IOP was continued with only structure S-12 D being open. S-333 releases were made as average downstream ground-water levels south of L-29 allowed. Water was released to tide through many coastal canals, and operating conditions were lowered to allow for flood-control as needed.

Below average rainfall (17 percent of the historical monthly average) occurred in January, making it the driest January average since 1960. Even so, Lake Okeechobee continued to rise due to the wet conditions from the previous month. Pulse releases continued from Lake Okeechobee into the St. Lucie Canal and Caloosahatchee River all month. Regulatory releases also were made from Lake Okeechobee into all WCA's, which met water-supply demands. Water-supply releases were required for the St. Lucie Canal where as regulatory releases met water demands in the Caloosahatchee River. Some water-supply releases were required in the EAA. The IOP was followed, and the water level in WCA 3 declined all month. S-333 releases increased due to increased Lake Okeechobee releases required for water-supply demands in the South Dade Conveyance System. Along the coast, regulatory releases met water-supply demands, although operating conditions were adjusted to meet the following month's future water-supply needs.

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SUMMARY OF HYDROLOGIC CONDITIONS (continued)

February continued with very dry conditions for the first half of the month until rainfall fronts brought normal rainfall throughout the second half. Total rainfall for the month was 61 percent of the historical average. Lake Okeechobee continued to decline for the first half of the month and was stable for the second half due to low water-supply demand. Pulse releases to the Caloosahatchee River and St. Lucie Canal continued until February 19. After the regulatory releases, no water was released into the St. Lucie Canal from Lake Okeechobee, but excess water in the canal was released to tide. For the Caloosahatchee River, only one brief water-supply release was made, and environmental releases were made at the end of the month from Lake Okeechobee; however, excess water was released to tide. Regulatory releases were made into both the EAA and WCA's from Lake Okeechobee. Regulatory releases also were made from the WCA's into the coastal canals. These releases met water-supply demands to the South Dade Conveyance System.

Above-average rainfall (148 percent of the historical monthly average) occurred in March, causing Lake Okeechobee to first decline than rise at the end of the month. No regulatory releases were made to the Caloosahatchee River or St. Lucie Canal, but environmental and water-supply releases were made into the Caloosahatchee River. Water-supply releases only were made into the St. Lucie Canal. Regulatory and water-supply releases were made from Lake Okeechobee into the EAA, but were discontinued near the middle of the month due to rainfall. After heavy rain near the middle of the month, flood-control pumping from the EAA to the WCA's was initiated. Regulatory releases into the WCA's from Lake Okeechobee were suspended near the end of the month due to rising canal levels. Regulatory releases from the WCA's to tide and down the South Dade Conveyance System were made. Structure S-12 D remained open according to the IOP.

Most of the rainfall in April occurred in the last 6 days of the month, giving the entire month slightly above-average rainfall. Lake Okeechobee dropped 0.5 feet then rose 0.2 feet due to rainfall that occurred during the month. Releases were made into the Caloosahatchee River and St. Lucie Canals to address environmental concerns and water-supply demands. Regulatory and water-supply releases started again to the EAA at the beginning of the month. Due to the heavy rain near the end of the month, all gravity releases to the EAA stopped, causing flood-control transfers by way of pumping from the EAA to the WCA's. WCA 1 water levels were high this month, and regulatory and water-supply releases were made as needed. Releases also were made through S-333 and down the South Dade Conveyance System as required. To maximize the regulatory releases, the operating levels of the coastal control structures were reduced. South Dade Conveyance System canal water levels began to decrease by mid April and were at normal levels due to rainfall by the end of the month.

May continue the above average rainfall trend with a major storm event occurring May 27-28, (reported as a 100 year storm event in Broward County). Due to the above average rainfall, water levels remained relatively steady in Lake Okeechobee. Only regulatory releases were made to the EAA. Flood-control pumping from the EAA to the WCA's occurred all month. Pulse releases occurred in both the Caloosahatchee River and St. Lucie Canal. Regulatory releases were suspended to the WCA's due to high stage conditions caused by rainfall. The South Dade Conveyance System operations transitioned to their wet-season criteria mode.

June was typically wet with much of the very intense precipitation occurring along the southwestern coast. Lake Okeechobee continued to rise despite releases. Pulse releases were initiated on the Caloosahatchee River and St. Lucie Canal, and excess water was released to tide. Flood pumping from the EAA to the WCA's occurred all month and water was released from the WCA's to tide all month. Only structure S-12C was re-opened towards the end of the month; structure S-12D remained open all year. Flood-control pumping was done at structures S-25B and S-26. The South Dade Conveyance System was at normal operating levels.

Rainfall in July was below average for much of the SFWMD although areas north of Lake Okeechobee received above-average precipitation that caused water levels to continue to rise in the lake. Water continued to be released into the WCA's from the EAA for flood-control. Releases were not made into the WCA's because the WCA's were all above regulation stage. Pulse releases continued through the St. Lucie Canal and Caloosahatchee River. Releases from the WCA's were made to tide. By the end of the month, all four S-12 structures were fully opened.

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SUMMARY OF HYDROLOGIC CONDITIONS (continued)

August had generally average to above-average rainfall. The heaviest rain occurred north and west of Lake Okeechobee, causing the lake to continue to rise throughout the month. Releases continued through the Caloosahatchee River and St. Lucie Canal to tide. Flood-control pumping from the EAA to the WCA's continued, causing the WCA's to continually rise the entire month. All S-12 structure gates were clear of the water for the entire month. By the middle of the month, releases from S-333 were discontinued. Moderate to high releases were made through the coastal control structures.

Overall September SFWMD rainfall averages varied with some areas of southern Florida receiving above-average precipitation and other areas receiving below-average levels. The first week of September experienced rains associated with Tropical Storm Henri, and the last week of September provided heavy precipitation associated with a stalled frontal boundary. Lake Okeechobee continued to rise and reached its highest point of the 2003 water year this month. Heavy releases to tide were made from Lake Okeechobee through the Caloosahatchee River and St. Lucie Canal especially toward the end of the month. Flood-control pumping from the EAA to the WCA's occurred all month with higher releases near the end of the month. Moderate to high discharges to tide occurred through all coastal control structures. There were no releases from S-333 this month. All S-12 structure gates remained free of the water for the entire month.

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SUMMARY OF HYDROLOGIC CONDITIONS (continued)

The relation of period of record mean annual discharge to mean discharge for the current year for selected representative stations is given below (ft³/s, cubic feet per second; %, percent). Mean annual discharge for base period computed using only water years where discharge is complete. See station manuscript for further information about which water years were complete.

STATION NUMBER	STATION NAME	MEAN ANNUAL DISCHARGE		MEAN DISCHARGE FOR WATER YEAR 2003	
		BASE PERIOD	(ft ³ /s)	(ft ³ /s)	DEPARTURE FROM MEAN (%)
	Stations that monitor discharge from Lake Okeechobee into St. Lucie Canal and then into the St. Lucie River Estuary				
02276870	St. Lucie Canal at Lake Okeechobee (S-308), FL	1931-2003	898	***	***
02277000	St. Lucie Canal at Lock (S-80), near Stuart, FL	1953-2003	728	***	***

STATION NUMBER	STATION NAME	MEAN ANNUAL DISCHARGE		MEAN DISCHARGE FOR WATER YEAR 2003	
		BASE PERIOD	(ft ³ /s)	(ft ³ /s)	DEPARTURE FROM MEAN (%)
	Stations at the S-5A complex that monitor the discharge to and from Lake Okeechobee, the water conservation areas and the coast				
02278450	West Palm Beach Canal above S-5A, near Loxahatchee, FL	1958-2003	409	719	76
02278500	Diversions to Water Conservation Area No 1 at S-5A and S-5A-S, near Loxahatchee, FL	1958-2003	384	720	88
02278550	Levee 8 Canal at West Palm Beach Canal, near Loxahatchee, FL	1958-2003	143	302	111
02278600	West Palm Beach Canal below S-5A-E near Loxahatchee, FL	1956-2003	168	301	79

STATION NUMBER	STATION NAME	MEAN ANNUAL DISCHARGE		MEAN DISCHARGE FOR WATER YEAR 2003	
		BASE PERIOD	(ft ³ /s)	(ft ³ /s)	DEPARTURE FROM MEAN (%)
	Stations that monitor discharge from the Everglades Agricultural Area into the water conservation areas				
02286700	Miami Canal at S-8 near Lake Harbor, FL	1962-2003	353	484	37

***Complete discharge record unavailable for the water year.

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SUMMARY OF HYDROLOGIC CONDITIONS (continued)

The relation of period of record mean annual discharge to mean discharge for the current year for selected representative stations is given below (ft³/s, cubic feet per second; %, percent). Mean annual discharge for base period computed using only water years where discharge is complete. See station manuscript for further information about which water years were complete.

STATION NUMBER	STATION NAME	MEAN ANNUAL DISCHARGE		MEAN DISCHARGE FOR WATER YEAR 2003	
		BASE PERIOD	(ft ³ /s)	(ft ³ /s)	DEPARTURE FROM MEAN (%)
	Stations that monitor discharge from Lake Okeechobee into the Everglades Agricultural Area				
265501080364900	Levee 8 Canal near Canal Point, FL	1976-2003	-2.02	***	***
02278000	West Palm Beach Canal at S-352 at Canal Point, FL	1940-2003	170	376	121
02283498	North New River Canal at S-2 and S-351, near South Bay, FL	1968-2003	159	302	90

STATION NUMBER	STATION NAME	MEAN ANNUAL DISCHARGE		MEAN DISCHARGE FOR WATER YEAR 2003	
		BASE PERIOD	(ft ³ /s)	(ft ³ /s)	DEPARTURE FROM MEAN (%)
	Stations that monitor discharge into Big Cypress National Preserve and Everglades National Park				
02288800	Tamiami Canal Outlets, Monroe to Carnestown, FL	1960-2003	413	564	37
02288900	Tamiami Canal Outlets, Forty-Mile Bend to Monroe, FL	1964-2003	396	518	31
02289060	Tamiami Canal Outlets, Levee 30 to L-67A, near Miami, FL	1941-2003*	231*	252	9
02290769	Canal 111 above S-18C, near Florida City, FL	1969-2003	170	170	0
02291000	Barron River Canal near Everglades, FL	1952-2003	89.3	68.3	-24

STATION NUMBER	STATION NAME	MEAN ANNUAL DISCHARGE		MEAN DISCHARGE FOR WATER YEAR 2003	
		BASE PERIOD	(ft ³ /s)	(ft ³ /s)	DEPARTURE FROM MEAN (%)
	Stations that monitor discharge from Lake Okeechobee into Caloosahatchee River and then into San Carlos Bay				
02292000	Caloosahatchee Canal at S-77 Moore Haven, FL	1939-2003	874	***	***
02292480	Caloosahatchee Canal at Ortona Lock S-78 near La Belle, FL	1971-2003	921	***	***
02292900	Caloosahatchee River at S-79 near Olga, FL	1966-2003	1627	3370	107

* Discharge records are incomplete in the National Water Information System data base. Mean for period of record determined from discharge records in the files of the U.S. Geological Survey.

***Complete discharge record unavailable for the water year.

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SUMMARY OF HYDROLOGIC CONDITIONS (continued)

The relation of period of record mean annual discharge to mean discharge for the current year for selected representative stations is given below (ft³/s, cubic feet per second; %, percent). Mean annual discharge for base period computed using only water years where discharge is complete. See station manuscript for further information about which water years were complete.

STATION NUMBER	STATION NAME	MEAN ANNUAL DISCHARGE		MEAN DISCHARGE FOR WATER YEAR 2003	
		BASE PERIOD	(ft ³ /s)	(ft ³ /s)	DEPARTURE FROM MEAN (%)
	Stations that monitor discharge on the southwestern coast of Florida				
02291500	Imperial River near Bonita Springs, FL	1940-54 1987-2003	102	162	59
02291524	Spring Creek Headwater near Bonita Springs, FL	1987-2003	9.02	8.89	-1
02291580	North Branch Estero River at Estero, FL	1987-2003	8.07	12.1	50
02291597	South Branch Estero River at Estero, FL	1987-2003	12.7	14.9	17
02293240	Aries Canal at Cape Coral, FL	1990-2003	15.5	23.3	50
02293241	San Carlos Canal at Cape Coral, FL	1987-2003	5.63	13.1	133
02293243	Courtney Canal at Cape Coral, FL	1987-2003	11.2	24.8	121
02293345	Shadroe Canal at Cape Coral, FL	1987-2003	10.4	24.5	136
02293346	Horseshoe Canal at Cape Coral, FL	1987-2003	25.2	40.6	61
02293347	Hermosa Canal at Cape Coral, FL	1987-2003	22.8	36.2	59
264437081550100	Gator Slough at U.S. 41 near Ft. Myers, FL	1987-2003	7.63	15.3	101

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SUMMARY OF HYDROLOGIC CONDITIONS (continued)

Surface-Water Station Functions

The south Florida surface-water data-collection network has various types of stations to meet the needs of water managers and others. These stations are grouped below according to major functions. These groups contain representative stations from the south Florida surface-water data-collection network.

The following USGS stations monitor the release of water from Lake Okeechobee into St. Lucie Canal and then into the St. Lucie River Estuary:

02276870 St. Lucie Canal at Lake Okeechobee (S-308)
02277000 St. Lucie Canal at Lock, near Stuart (S-80)

The following USGS stations at the S-5A complex monitor water releases to and from Lake Okeechobee, the water conservation areas, and the coast:

02278450 West Palm Beach Canal above S-5A, near Loxahatchee (pump - west gate)
02278500 Diversions to Water Conservation Area No. 1 at S-5A and S-5A-S (pump + south gate)
02278550 Levee 8 Canal at West Palm Beach Canal, nr Loxahatchee (east + west + south gate)
02278600 West Palm Beach Canal below S-5A-E near Loxahatchee (east gate only)

The following USGS stations monitor the release of water from Lake Okeechobee into the Caloosahatchee River and then into San Carlos Bay:

02292000 Caloosahatchee Canal at Moore Haven (S-77)
02292480 Caloosahatchee Canal at Ortona Lock near La Belle (S-78)
02292900 Caloosahatchee River at S-79 near Olga

The following USGS stations monitor the release of water from Lake Okeechobee into the Everglades Agricultural Area:

265501080364900 Levee 8 Canal near Canal Point
02278000 West Palm Beach Canal at S-352, at Canal Point
02280500 Hillsboro Canal below S-351, near South Bay
02283498 North New River Canal at S-2 and S-351, near South Bay
02283500 North New River Canal below S-2 and S-351, near South Bay
02286400 Miami Canal at S-354 and S-3, at Lake Harbor

The following USGS stations monitor the release of water from the Everglades Agricultural Area into the water-conservation areas:

02278450 West Palm Beach Canal above S-5A, near Loxahatchee
02281200 Hillsboro Canal at S-6 near Shawano
02284300 North New River Canal at S-7 at Terrytown
02286700 Miami Canal at S-8 near Lake Harbor
261533080571600 L-28 Interceptor Canal below S-190 near Clewiston
261543080495000 L-28 Canal above S-140 near Clewiston

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SUMMARY OF HYDROLOGIC CONDITIONS (continued)

Surface-Water Station Functions (continued)

The following USGS stations monitor the water levels in the water-conservation areas:

02278501 Water Conservation Area No. 1 below S-5 Complex, near Loxahatchee
2631800802050011 Site 7 in Water Conservation Area No. 1 near Shawano
2630500801450011 Site 8T in Water Conservation Area No. 1 near Boynton Beach
2630000801200011 Site 8C near L-40 in Water Conservation Area No. 1 nr Boynton Beach
2627500801750011 Site 9 in Water Conservation Area No. 1 near Boynton Beach
2624000802500011 Site 15 near L-39 in Water Conservation Area No. 2A near Shawano
2617100801900011 Site 19 in Water Conservation Area No. 2A near Coral Springs
2622400802580011 Site 17 near L-38, Water Conservation Area No. 2A nr Coral Springs
2611170803152011 Site 63 in Water Conservation Area No. 3A near Andytown
2610230804430011 Site 62 in Water Conservation Area No. 3A near Andytown
2608100802220011 Site 99 near L-35A in Water Conservation Area No. 2B near Sunrise
2600370803034011 Site 76 in Water Conservation Area No. 3B near Andytown
2558280804013011 Site 64 in Water Conservation Area No. 3A near Coopertown
2553000803700011 Site 69 in Water Conservation Area No. 3B near Coopertown
2548480804320011 Site 65 in Water Conservation Area No. 3A near Coopertown
2552500803350011 Site 71 in Water Conservation Area No. 3B near Coopertown

The USGS monitors the following stations to determine the discharge into Big Cypress National Preserve and Everglades National Park:

02288800 Tamiami Canal Outlets, Monroe to Carnestown
02288900 Tamiami Canal Outlets, 40 Mile Bend to Monroe
02289040 Tamiami Canal Outlets, Levee 67A to 40 Mile Bend (total discharge through S-12A, B, C, D)
254543080491101182 Tamiami Canal below S-12A (total discharge through S-12A)
02289019 Tamiami Canal below S-12B (total discharge through S-12B)
02289041 Tamiami Canal below S-12C (total discharge through S-12C)
254543080405401 Tamiami Canal below S-12D (total discharge through S-12D)
02289050 Tamiami Canal above S-333, near Miami
02289060 Tamiami Canal Outlets, Levee 30 to L-67A
02290767 Levee 31 North Extension at 1 mile near West Miami
02290765 Levee 31 North Extension at 3 mile near West Miami
02290766 Levee 31 North Extension at 4 mile near West Miami
02290767 Levee 31 North Extension at 5 mile near West Miami
02290768 Levee 31 North Extension at 7 mile near West Miami
02290769 Canal 111 above S-18C, near Florida City
02291000 Barron River Canal near Everglades

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SUMMARY OF HYDROLOGIC CONDITIONS (continued)

Surface-Water Station Functions (continued)

The following USGS stations are representative of surface-water elevations in southern Miami-Dade County:

254315080331500 Northeast Shark River Slough No. 2 near Coopertown
254130080380500 Northeast Shark River Slough No. 1 near Coopertown
254100080402400 L-67 Extended Canal West, near Florida City
254100080402200 Northeast Shark River Slough East of L-67 Extension nr Richmond Heights
253828080391100 Northeast Shark River Slough No. 4, North of Grossman
253753080393600 Northeast Shark River Slough No. 5, South of Grossman
251716080342100 Everglades 5A in C-111 Basin near Homestead
251724080341400 Everglades 5B in C-111 Basin near Homestead
251906080283400 Everglades 2A in C-111 Basin near Homestead
251946080254800 Everglades 1 in C-111 Basin near Homestead
252036080324300 Everglades 4 in C-111 Basin near Homestead
252043080302400 Everglades 3 in C-111 Basin near Homestead

The following USGS discharge monitoring sites are located along the coast in Miami-Dade, Broward, Palm Beach, and Martin Counties:

02277000 St. Lucie Canal at Lock, near Stuart (S-80)
02279000 West Palm Beach Canal at West Palm Beach (S-155)
02282700 Middle River Canal at S-36, near Fort Lauderdale
02283200 Plantation Road Canal at S-33, near Fort Lauderdale
02286100 South New River Canal at S-13, near Davie
02288600 Miami Canal at NW 36th Street, Miami (S-26)
02290710 Black Creek Canal at S-21, near Goulds
02292900 Caloosahatchee River at S-79 near Olga

The following USGS discharge monitoring sites are located on the southwestern coast of Florida:

02291500 Imperial River near Bonita Springs
02291524 Spring Creek Headwater near Bonita Springs
02291580 North Branch Estero River at Estero,
02291597 South Branch Estero River at Estero
02291673 Tenmile Canal at Control Near Estero
02293240 Aries Canal at Cape Coral
02293241 San Carlos Canal at Cape Coral
02293243 Courtney Canal at Cape Coral
02293345 Shadroe Canal at Cape Coral
02293346 Horseshoe Canal at Cape Coral
02293347 Hermosa Canal at Cape Coral
264437081550100 Gator Slough at U.S. 41 near Ft. Myers
264139082022100 Gator Slough at SR 765 near Ft. Myers

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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/>.

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EXPLANATION OF THE RECORDS

A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water level data. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and for surface-water stations where only miscellaneous observations are made.

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 indentation 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 eight-digit (or 10-digit) number for each station, such as 02228500, which appears just to the left of the station name, includes the 2-digit part number "02" plus the 6- to 12-digit downstream-order number "228500." The part number designates the major river basin; for example, part "02" is the South Atlantic Slope and eastern Gulf of Mexico basins. 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. 3). 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.

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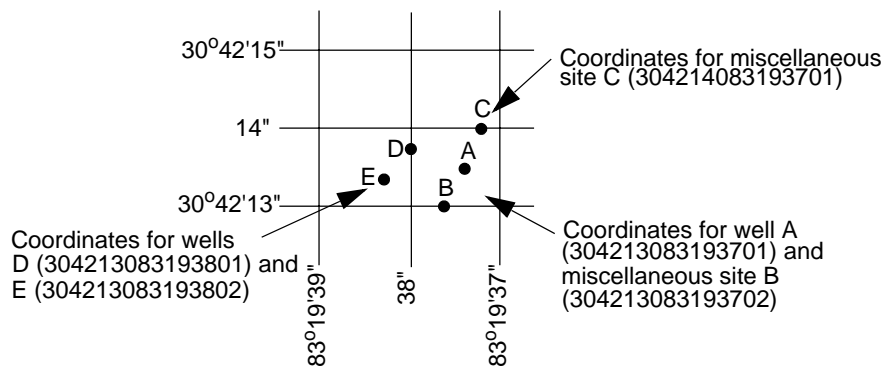


Figure 3. System for numbering wells and miscellaneous sites. (latitude and longitude)

EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake elevation, similarly, are those for which stage may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a stage-recording device or daily or weekly observations, but need not be. Because daily mean discharges and lake elevations commonly are published for such stations, they are referred to as “daily stations.”

By contrast, partial records are obtained through discrete measurements without using a continuous stage- recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as “Crest-stage partial records,” or “Low-flow partial records.” Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report.

Location of all complete-record and partial-record stations for which data are given in this report are shown in figures preceding each sub-basin.

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.

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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; (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; and (5) a hydrograph of discharge.

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.

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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.

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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.

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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 ft³/s; to the nearest tenths between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures above 1,000 ft³/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.

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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 Florida Integrated Science Center - Water and Restoration Studies (FISC-WRS). 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 FISC-WRS. (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 not published, but is available in the files of the U.S. Geological Survey.

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.

VOLUME 2A: SOUTH FLORIDA**Water Analysis**

Most of the methods used for collecting and analyzing water samples are described in the TWRIIs. A list of TWRIIs 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.

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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

[\leq , less than or equal to; \pm , plus or minus value shown; $^{\circ}\text{C}$, 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	$\leq \pm 0.2^{\circ}\text{C}$	$> \pm 0.2$ to 0.5°C	$> \pm 0.5$ to 0.8°C	$> \pm 0.8^{\circ}\text{C}$
Specific conductance	$\leq \pm 3\%$	$> \pm 3$ to 10%	$> \pm 10$ to 15%	$> \pm 15\%$
Dissolved oxygen	$\leq \pm 0.3$ mg/L	$> \pm 0.3$ to 0.5 mg/L	$> \pm 0.5$ to 0.8 mg/L	$> \pm 0.8$ mg/L
pH	$\leq \pm 0.2$ unit	$> \pm 0.2$ to 0.5 unit	$> \pm 0.5$ to 0.8 unit	$> \pm 0.8$ unit
Turbidity	$\leq \pm 5\%$	$> \pm 5$ to 10%	$> \pm 10$ to 15%	$> \pm 15\%$

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 FISC-WRS (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 FISC-WRS office. (see address that is shown on the back of title page in this report).

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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 TWRI, 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.

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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 FISC-WRS. (see address that is shown on the back of the title page of this report).

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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.

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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 TWRI's 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 TWRI's 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. Most of 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. Wells that have very long open intervals (generally 20 ft or greater), were sampled using a down hole sampling device that collects a water sample from the bottom of the well.

Water-level measurements in this report are given in feet with reference to mean sea level. The elevation of the land-surface datum (lsd) above sea level is also given in the well description. Land-surface datum is a datum plane that is approximately at land surface at each well. 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.

Accuracy of Ground-Water Level Data

A number of factors affect the accuracy of the ground-water level data published in this report. These factors can be logically separated into those that are related to ground-water level measurement methods (Method-Related Factors) and those that are independent of the methods.

Method-Independent Factors

Water levels are determined using a specific measuring point (MP) at each well. The elevation of this point for most wells published in this report was determined relative to the National Geodetic Vertical Datum of 1929 (NGVD of 1929). Scientific advances in determining vertical elevations have caused the development of the North American Vertical Datum of 1988 (NAVD of 88). The National Geodetic Survey (NGS) has completed an extensive releveling effort that provides elevations referenced to NAVD of 1988. Comparisons at specific benchmarks in Florida have indicated differences between NAVD of 88 and NGVD of 1929 of 0.50 ft or greater (Zilkoske, 1990). The U.S. Geological Survey is currently considering how best to utilize the newer NAVD of 1988 and yet maintain the continuity of data in South Florida.

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Water levels in wells open to highly transmissive aquifers may be affected by barometric pressure. The extent of this effect in a given well is called the barometric efficiency (BE). The BE is calculated by comparing the changes in water level at a well to the change in the ambient barometric pressure expressed as a column of water (Kruseman and Ridder, 1991). The water-level data in this publication have not been adjusted for barometric pressure effects.

Method-Related Factors

Water-level data are collected using a number of different methods. Each method has inherent factors that affect the accuracy of measured water levels.

STEEL TAPE AND CHALK -- This generally is the most accurate method of measuring the elevation difference between a reference point and the water level in a ground-water well. When the water level is measured using this method, at least two separate measurements are performed. These measurements must agree to within 0.02 ft before the average value is recorded. The precision of this method, is ± 0.02 ft.

PRESSURE GAGE -- Wells under artesian pressure are monitored using a mechanical pressure gage. These pressure gages are graduated to 0.2 ft. Gages are periodically checked using a pressure manifold to compare gage readings over a range of known pressures. Corrections are applied to the gage readings based on these checks. The reported value is estimated to the nearest tenth of a foot. The precision of this method should be considered to be about ± 0.1 ft.

FLOAT AND RECORDER -- The accuracy of data recorded using this method is affected by friction within the recorder system as well as friction between the float and the well casing. In large-diameter wells (6 in. or greater), where large floats are used, these effects are minimal; however in small-diameter wells (2 to 6 in.) these effects can be substantial. Friction might significantly affect the data where water-surface fluctuations are very small. Every effort has been made to reduce frictional effects to a minimum.

The accuracy of this method may also be affected by slippage of the float tape or wire, leaks in the float, or biological factors (for example, amphibians crawling on the float). The accuracy of the recorder reading is periodically verified using steel tape and chalk measurements. When the difference between these tape measurements and the recorded value is 0.05 ft or greater, the recorder is reset and a gage-height correction is applied to the data. Uncertainty in water levels for wells verified by steel tape measurements is generally no greater than ± 0.05 ft.

PRESSURE TRANSDUCER AND RECORDER -- In wells where artesian pressure, frictional effects, or an extensive range in water levels have made float and recorder systems infeasible, pressure transducers have been installed. Transducers are selected that meet or exceed the float and recorder system accuracy. Water levels may be verified using either steel tape or pressure gage measurements. Uncertainty in those verified by steel-tape measurements is generally considered to be no greater than ± 0.05 ft and uncertainty for those verified using pressure gage readings is generally considered to be about ± 0.1 ft.

The type of method used to collect water-level data is identified in the INSTRUMENTATION section of each station manuscript.

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 figures for each county, 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.

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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 . The measuring point is described physically (such as top of casing, top of instrument shelf, and so forth).

LAND-SURFACE DATUM.—This is a new section started for water year 2003, to document 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 or pressure gage. 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.

RECORDS OF BULK ELECTRICAL CONDUCTIVITY

Bulk conductivity is the combined electrical conductivity of all material (including pore water) within an approximately 8- to 40-inch doughnut-shaped area surrounding an induction probe (McNeill and others, 1990). Bulk conductivity is affected by different physical and chemical properties of the material including the dissolved-solids concentration of the pore water, and the lithology and porosity of the rock. Polyvinyl chloride (PVC) casings do not interfere with these measurements; however, for those wells where a steel or galvanized iron casing extends part way down the well, the probe cannot sense the materials outside of the casing. As the probe is lowered down the well and out of the influence of a metallic casing, a spike is usually created in the data. As the probe passes through different layers of rock, the different physical properties will cause variation in the recorded conductivity values. A clean sand or sandstone will generally produce lower conductivity values than clay or mudstone. Although the properties of the rocks or well construction will remain constant from year to year, those of the pore water may change due to saltwater intrusion. Conductivity values from freshwater-saturated rocks typically are less than 25 mS/m, whereas conductivity values from saltwater-saturated rocks are typically greater than 67 mS/m (Hittle, 1999). Therefore, induction logging can be used to assess increases or decreases in the conductivity of pore waters caused by movement of the saltwater interface.

VOLUME 2A: SOUTH FLORIDA**Data Collection and Computation**

Measurements generally are made during the period of lowest aquifer water levels, in April of each year. However, some wells may have additional logs. During periods of decreased water levels, saltwater intrusion into a freshwater aquifer is likely to be at a maximum. In wells where saltwater is detectable, the graphic representation of data from successive years will show any vertical movement of the saltwater-freshwater interface. Measuring this vertical movement of the interface is the primary use of the bulk conductivity logs published in this report. Upward movement of the interface between freshwater and saltwater in a monitoring well indicates that saltwater intrusion is increasing in that area. Downward movement of the interface indicates recession of the saltwater front near the monitoring well.

In the conductivity plots of some of the wells logged for this report, the interface position can be seen as the point where low values of conductivity increase suddenly to values generally above 67 mS/m (usually near the bottom of the well). However, the interface position is not as apparent in other wells, and in some, there is no interface.

In wells selected for induction logging, a water sample may be collected and analyzed as a check on the level of salinity. Because bulk conductivity is a function of fluid conductivity, lithology, and porosity, the relationship between the induction logs and the chloride samples may not be as obvious as is the general relationship between fluid conductivity and chloride concentrations. If the rock is not very porous, then the change in bulk conductivity caused by changes in the salinity of the pore water may be smaller than might be expected. Nonetheless, the long-term changes in the bulk conductivity logs are sufficient to assess upward or downward movement of the interface. To aid in interpretation of the bulk conductivity logs, the chloride concentration is shown on the plot of bulk conductivity if water samples have been collected.

The instrument used to collect data for this report is calibrated prior to each field session. The calibration procedure establishes a mathematical constant (calibration factor) that is used to convert raw instrument readings in counts per second (cps) into values of bulk conductivity in millisiemens per meter (mS/m). When data were graphed for the 2000 annual water resources data report, offsets and amplitude differentials occurred in the calibrated values of bulk conductivity for each well between successive years. Investigation revealed that some of the observed offsets and amplitude differentials were caused by differing calibration factors between years. Most calibration factors differed because of temperature and humidity differences during calibration. The calibration procedures adapted during the 2000 water year were designed to minimize the influence of variable temperature and humidity. Before calibrating, the induction probe was lowered into a well and allowed to equilibrate in the water column. The probe was then removed from the well and the instrument immediately calibrated.

Factors other than variable temperature and humidity also have caused offsets and amplitude differentials. One such example occurred with data collected for the 2000 water year. Prior to logging for the 2000 water year, the instrument firmware and software was updated. After logging, it was found that the data had been truncated at the decimal point. Errors in calibration have also been identified and corrected (see Accuracy of Bulk Conductivity).

Accuracy of Bulk Electrical Conductivity

There are two components that affect the quality of the induction logs published in this report: (1) vertical or depth accuracy, and (2) accuracy and precision of measured bulk conductivity. Vertical accuracy, which affects the determined interface position, is the most critical factor in this monitoring effort. A quality control program sets the velocity of the probe at 12 ft/min (feet per minute) while logging. Before logging begins, a spot on the probe, 3.32 feet above the sensing head, is aligned with the measuring point of the well. Where possible, the data recorded as the probe was moved up the well were used to produce the plots for this report. Depth values from successive water years were adjusted, if needed, to coincide at one or more specific conductivity peak recorded from an upper part of the well. Depth values were interpolated to the nearest tenth of a foot. The precision of depth determinations using this reporting method should be considered to be about ± 0.1 foot.

The accuracy and precision of measured bulk conductivity are a function of both the inherent accuracy of the induction probe and its calibration. The inherent precision of the probe is considered by the manufacturer to be ± 5 percent of the full scale. For the logs collected, the induction probe was set to a full scale of 1,000 mS/m. This translates into a precision of ± 50 mS/m at full scale. Analysis indicated that the offsets caused by the effects of temperature and humidity on calibration were generally within this range.

In the 1998 water year and for all water years after 2001, the induction probe was calibrated using standards of 0 and 345 mS/m. There are a number of monitoring wells where the measured bulk conductivity exceeds 345 mS/m. For these wells, a calibration standard of 345 mS/m was still used. This is because the probe would have to be set to a full scale of 10,000 mS/m in order to be calibrated using the next available standard (1,301 mS/m). This value would greatly exceed the normal range in bulk conductivity expected. The 345 mS/m calibration constant was also considered to be acceptable because within the range 0 to 1,000 mS/m, the response of the probe is considered to be linear; therefore calibrating the probe to this standard should not significantly reduce accuracy.

In the water years prior to 2002 (excluding 1998), the induction probe generally was calibrated using a 1,301 mS/m standard even though the full scale of the probe was 1,000 mS/m. This caused a calibration error in the data collected. To correct this error, a multiplier of 0.7686 was applied to all of the affected data.

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Accuracy of data collected during the 2000 water year may have been affected by the firmware or software update in December 1999. The data collected using this new software and firmware was considerably offset relative to previous induction logs. In addition, the final values were truncated at the decimal point, whereas those collected prior to the update were recorded to the thousandths decimal place. These final values are the result of a multiplication of the raw data from the instrument and a calibration factor. It is unknown whether or not the raw values were truncated at the decimal point. If so, the resulting error could be on the order of 5 mS/m too low. Because the offset data from the 2000 water year are often 5 mS/m lower than the data from other years, truncation of the raw data probably is the explanation.

Data Presentation

Records of conductivity are published individually on the page immediately following the well manuscript. Data for conductivity are identified by well number. Each record consists of a single graph representing conductivity, a lithologic log, and a brief explanation.

RECORDS OF GROUND-WATER QUALITY

Records of ground-water quality in this report differ from other types of records in that, for the salinity network sites, they consist of a limited set of measurements for the water year. The quality of ground water ordinarily changes slowly; therefore, for most general purposes, a small number of samples except for a few samples taken seasonally during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for saltwater intrusion. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

Data Collection and Computation

The ground-water quality data in this report were obtained mostly as a part of the Florida Integrated Science Center, Center for Water and Restoration Studies salinity network or 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 in the report area. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey National Field Manual for the collection of Water-Quality Data and the "Laboratory Measurements" sections in this data report and are also described in the TWRI. 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 FISC-WRS office. (See address that is shown on the back of the title page of this report.)

The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. These methods are consistent with ASTM standards and generally follow ISO standards. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure 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.

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.

Data Presentation

The records of ground-water quality are published immediately following the ground-water level records of each county. Data for quality of ground water are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. The Remark Codes listed for surface-water-quality records are also applicable to ground-water-quality records.

VOLUME 2A: SOUTH FLORIDA**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.)

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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 poly-chlorinated 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.

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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 stream-bed, 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 (mm^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 (mm^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.

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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 (mm^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:

$$\text{sphere } \frac{4}{3} \pi r^3 \quad \text{cone } \frac{1}{3} \pi r^2 h \quad \text{cylinder } \pi r^2 h.$$

pi (π) is the ratio of the circumference to the diameter of a circle; $\pi = 3.14159\dots$

From cell volume, total algal biomass expressed as biovolume (mm^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.

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Cubic foot per second-day (CFS-DAY, Cfs-day, [(ft³/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, (ft³/s)/mi²] 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 (mm³/mL). The abundance of diatoms in periphyton samples is given in cells per square centimeter (cells/cm²) or biovolume per square centimeter (mm³/cm²). (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 CaCO₃) can be converted to carbonate concentration by multiplying by 0.60.

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

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

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 faecalis*, *Streptococcus faecium*, *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.

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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 (mm^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 (mm^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.

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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 (CaCO₃).

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:

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

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.

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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.

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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, $\mu\text{g/g}$) 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, $\mu\text{g/kg}$) 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, $\mu\text{g/L}$) 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, $\mu\text{S/cm}$) 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.

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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 (m²), 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.

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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 photo-synthetic 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.

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Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [$\text{mg C}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg C}/(\text{m}^3/\text{time})$] 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 [$\text{mg O}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg O}/(\text{m}^3/\text{time})$] 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.

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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.

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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 (ft³/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.

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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 hydro-logic 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 hierarchical 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:	Arthropoda
Class:	Insecta
Order:	Ephemeroptera
Family:	Ephemeridae
Genus:	<i>Hexagenia</i>
Species:	<i>Hexagenia limbata</i>

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”)

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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”)

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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")

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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.

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.

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- 3–A10. *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.

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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.

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.

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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.
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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. Various paginated.
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STAGE, DISCHARGE, AND WATER QUALITY OF STREAMS

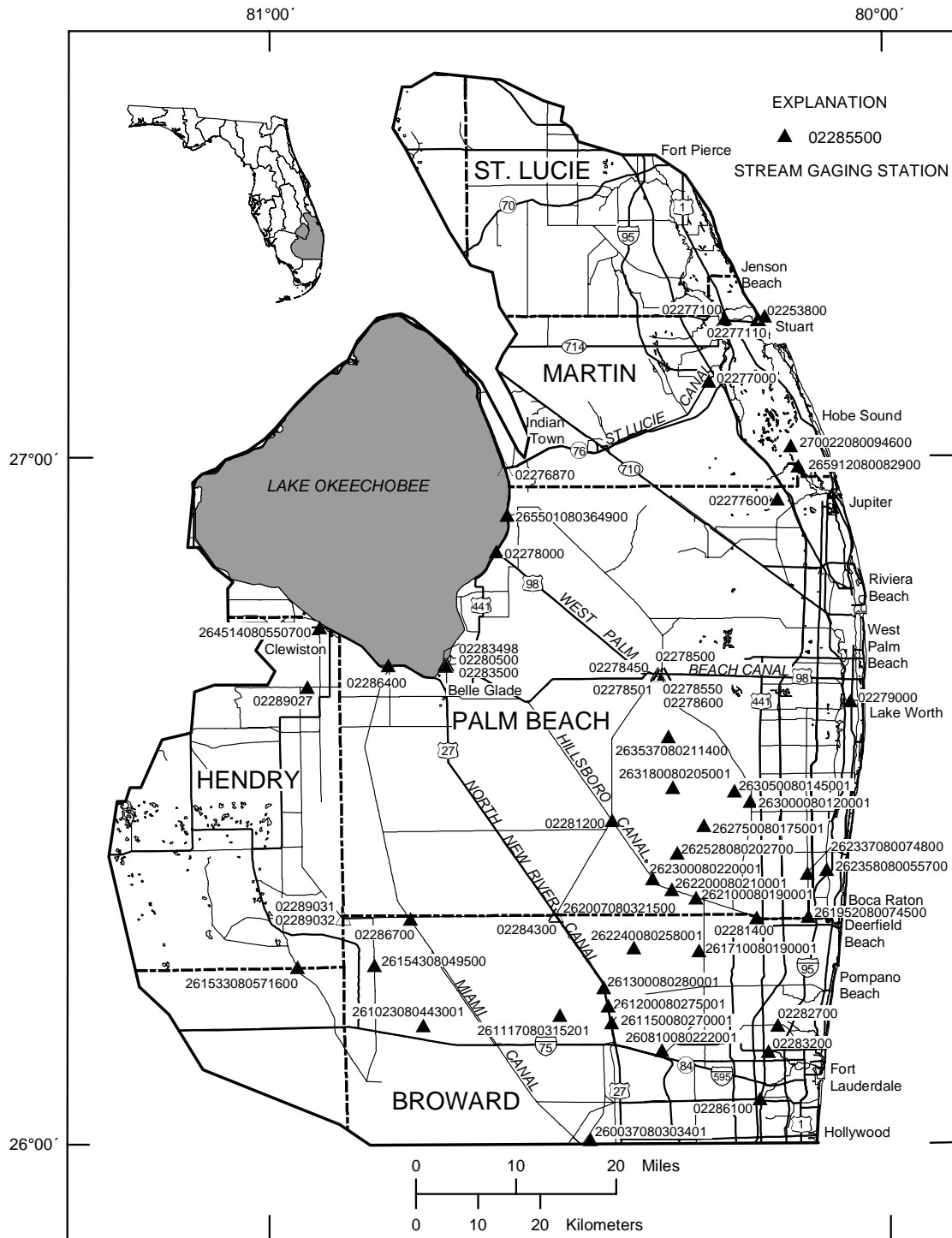


Figure 4. Location of gaging stations in the portion of the Everglades and the southeastern coastal area north of latitude 26 degrees.

02253800 INDIAN RIVER LAGOON AT SEWALLS PT, STUART FL

LOCATION.--Lat 27°12'19", long 80°11'38", in SE ¼ SW ¼ SE ¼, sec.36, T.37 S., R.41 E., Martin County, Hydrologic Unit 03090202 middle of Indian River Bridge cat walk, 1.6 mi west of Atlantic Ocean, 4 mi southeast of Stuart.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--

DISCHARGE: August 1997 to September 2000.

GAGE HEIGHT: August 1997 to October 2000, September 2001 to current year. Discontinued.

SALINITY (TOP, BOTTOM): August 1997 to October 2000, September 2001 to current year. Discontinued.

WATER TEMPERATURE (TOP, BOTTOM): August 1997 to October 2000, September 2001 to current year. Discontinued.

GAGE.--Satellite data collection platform with water-stage shaft encoder and water-quality monitor. Prior to October 1, 2000, an acoustic doppler velocity meter. Datum of gage is National Geodetic Vertical Datum of 1929. Gage height data for the Water Year 2002, are at a datum 0.06 ft lower than current datum.

REMARKS.--Salinity record (TOP), Maximum and minimum daily values rated good except for the following periods: Minimum daily values October 21, 22, 24 and November 30, which are rated fair. Salinity record (bottom): Maximum and minimum daily values rated good except for the following periods: Minimum daily values for November 5, 7, 9, which are rated fair. Temperature record (top and bottom) rated good. Elevation of the top salinity-temperature sensor ranges from -1.2 to -1.8 ft NGVD, bottom salinity-temperature sensor ranges from -9.7 to -10.2 ft NGVD.

EXTREMES FOR PERIOD OF RECORD.--

DISCHARGE: Maximum discharge, 46,121 ft³/s Nov. 5, 1998; minimum, -42,188 ft³/s Dec. 24, 1999.

GAGE HEIGHT: Maximum gage height, 3.84 ft Sept. 15, 1999; minimum, -1.83 ft Jan. 27, 1998, (at datum approximately 0.06 ft lower than current datum).

SALINITY (TOP): Maximum recorded, 38.8 ppt Mar. 28, 2002, but may have been higher during period of missing record; minimum recorded, 8.0 ppt Oct. 19, 1999, but may have been lower during period of missing record.

SALINITY (BOTTOM): Maximum recorded, 43.1 ppt May 7, 2002, but may have been higher during period of missing record; minimum recorded, 13.2 ppt Mar. 26, 1998, but may have been lower during period of missing record.

WATER TEMPERATURE (TOP): Maximum recorded, 33.3°C Aug. 2, 1998, but may have been higher during period of missing record; minimum recorded, 9.7°C Jan. 10, 2002, but may have been lower during periods of missing record.

WATER TEMPERATURE (BOTTOM): Maximum recorded, 32.9°C Aug. 2, 1998, but may have been higher during period of missing record; minimum recorded, 11.0°C Jan. 24, 2003, but may have been lower during periods of missing record.

EXTREMES FOR CURRENT YEAR.--

GAGE HEIGHT: Maximum gage height, 2.62 ft Oct. 16; minimum, -1.14 ft July 25.

SALINITY (TOP): Maximum recorded, 35.3 ppt Nov. 5, but may have been higher during period of missing record; minimum recorded, 13.6 ppt Aug. 16, but may have been lower during period of missing record.

SALINITY (BOTTOM): Maximum recorded, 36.1 ppt Nov. 8, but may have been higher during period of missing record; minimum recorded, 18.6 ppt Aug. 15, but may have been lower during period of missing record.

WATER TEMPERATURE (TOP): Maximum recorded, 31.1°C July 27, but may have been higher during period of missing record; minimum recorded, 10.9°C Jan. 24, but may have been lower during periods of missing record.

WATER TEMPERATURE (BOTTOM): Maximum recorded, 31.2°C July 27, but may have been higher during period of missing record; minimum recorded, 11.0°C Jan. 24, but may have been lower during periods of missing record.

REVISIONS.--Gage height data for Water Year 2002, for the period July 24 to September 30, are adjusted 0.03 ft lower than previously published. Revised data are available in the files of the U.S. Geological Survey.

02276870 ST. LUCIE CANAL AT LAKE OKEECHOBEE, FL

LOCATION.-- Lat 26°59'00", long 80°03'70", in sec.22, T.40 S., R.37 E., Martin County, Hydrologic Unit 03090202, 0.5 mi downstream of control structure 308, directly beneath the U.S. Highway 441 overpass, just north of U.S. Highway 76 and 24 mi upstream of control structure 80.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--April 1931 to September 1952, October 1981 to current year. Prior to October 1946, published as St. Lucie Canal at lock 1, at Lake Okeechobee. Previously published as station number 02276500. All published data stored under current station number. Canal stage previously published under 02276871 has been moved to the current station number 02276870 for publication. Lake and canal stage at Lock Structure S-308 discontinued September 30, 1998.

REVISED RECORDS.--WDR FL-00-2A, 1999

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic velocity meter until October 19, 2001, when it was removed. Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter installed May 17, 2001. The acoustic velocity meter and acoustic doppler velocity meter were run in tandem for the period of May 17, 2001 to October 19, 2001. This acoustic velocity meter station is located 0.5 mi downstream of S-308 and is stored under 02276877 in the files of the U.S. Geological Survey. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to January 17, 1934, staff gage at site 0.4 mi downstream at different datum. January 17, 1934 to March 15, 1951, water-stage recorder at site 0.8 mi downstream at datum 1.56 ft lower. March 16, 1951, to September 1952, water-stage recorder at bridge on U.S. Highway 441 at present datum. January 17, 1934, to September 1952, auxiliary water-stage recorder 10.9 mi downstream. Prior to April 24, 1992, canal stage data obtained with digital water level recorder. August 1, 1986 to June 20, 1989, electromagnetic velocity meter and canal stage recorder 1200 ft downstream of S-308. April 4, 1992 satellite data collection platform installed at S-308 for lake and canal stages. May 1994, satellite data collection platform with water-stage shaft encoder for canal stage and acoustic velocity meter with cross path installed 0.5 mi downstream of S-308. This data was not used until October 1, 1996, to determine the discharge from S-308. The discharge is computed under station number 02276877, then stored under 02276870 for publication. Prior to October 1, 1998, satellite data collection platform with water-stage shaft encoders for lake and canal stages in control house of S-308.

REMARKS.--Records poor. Flow regulated by control structure 308 gates and lock at Lake Okeechobee. Flow frequently reversed during and after periods of heavy rainfall by pumpage into the canal from agricultural lands in the Everglades (negative figures indicate reverse flow towards Lake Okeechobee). Discharge computed from relations between discharge, head, gate openings, and slope prior to October 1, 1996. Flow is determined by relationship between the mean cross-sectional velocity and an average index line velocity (from the cross path index line velocities) measured with the acoustic velocity meter, from October 1, 1996 to August 13, 2001, acoustic doppler velocity meter, August 14, 2001 to present. Extreme lake stages for the current year no longer published due to the discontinuation of the U.S. Geological Survey equipment at S-308.

COOPERATION.--Canal stage record provided by U.S. Army Corps of Engineers.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 36 complete water years of discharge (1932-52, 1982-88, 1990, 1993-1996, 1999-2000, 2002).

EXTREME LAKE STAGES FOR PERIOD OF RECORD (1931-1998).--Maximum gage height, 19.63 ft Mar. 9, 1998; minimum, 9.63 ft June 22, 1990.

EXTREME CANAL STAGES FOR PERIOD OF RECORD.--Maximum gage height, 18.23 ft Mar. 29, 1998 minimum, 8.66 ft May. 22, 2001.

EXTREME CANAL STAGES FOR CURRENT YEAR.--Maximum gage height, 16.54 ft Sept. 16; minimum, 13.74 ft Feb. 23.

REVISIONS.--Revised figures of discharge for the 2002 water year, superseding those published in the 2002 report are given below. Revision is based upon discharge measurements and development of a new velocity rating.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02276870 ST. LUCIE CANAL AT LAKE OKEECHOBEE, FL

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	-604	e182	e33	56	223	e3.1	381	354	209	-777	594	e751
2	-388	223	32	e29	-17	97	296	380	246	-777	1,020	1,120
3	-194	167	212	358	24	-80	386	363	204	-653	1,220	641
4	-247	78	118	436	76	5.0	305	252	341	-551	904	9.2
5	-33	47	314	473	233	175	244	55	386	-427	606	61
6	-151	65	248	-46	210	333	274	391	305	-406	238	97
7	-301	93	54	e212	-31	267	196	459	214	-519	124	51
8	-74	76	-3.6	409	376	334	492	e329	193	-667	147	81
9	-217	-8.3	-18	344	51	242	473	451	73	-961	142	45
10	154	178	81	115	40	236	433	396	132	-1,280	5.3	1,080
11	8.7	62	17	-21	-143	644	240	320	197	-1,080	-16	1,400
12	121	54	e75	255	-107	467	184	109	183	-957	93	1,250
13	18	43	191	53	e26	455	49	397	e131	-997	38	986
14	31	6.8	302	418	-19	281	-1.3	237	340	-818	54	608
15	83	-19	60	49	20	307	-208	150	115	126	112	758
16	-44	63	e62	39	52	211	-244	e-19	3.9	901	26	e629
17	e-7.4	47	e34	-30	48	155	-106	e-231	-682	e1,080	54	519
18	19	21	-48	-16	37	344	-33	14	-604	783	9.7	521
19	83	e23	e75	49	141	402	90	-171	-456	257	94	154
20	83	-23	329	501	139	386	-9.1	-283	-271	28	58	120
21	19	11	129	341	22	397	20	-143	-687	-158	77	68
22	-204	0.61	35	165	-62	164	345	6.6	-490	-452	87	32
23	-440	e73	71	2.1	-27	358	407	-47	-497	-583	-32	17
24	e-415	38	1.7	-34	5.7	100	447	122	-655	-549	-17	94
25	e-553	21	20	-23	78	420	372	52	-584	-389	-23	1,080
26	e-439	54	27	-6.2	e-27	317	314	e15	-554	-535	-6.8	1,390
27	-448	46	101	e246	24	189	218	29	-449	-362	124	1,590
28	-361	64	110	204	260	198	98	297	-362	-363	62	651
29	e-133	53	0.12	430	---	246	349	202	-489	-343	122	462
30	-99	e101	62	409	---	209	335	340	-459	-137	101	400
31	252	---	9.0	388	---	100	---	e295	---	e-117	605	---
TOTAL	-4,480.7	1,840.11	2,733.22	5,804.9	1,652.7	7,962.1	6,346.6	5,121.6	-3,966.1	-11,683	6,622.2	16,665.2
MEAN	-145	61.3	88.2	187	59.0	257	212	165	-132	-377	214	556
MAX	252	223	329	501	376	644	492	459	386	1,080	1,220	1,590
MIN	-604	-23	-48	-46	-143	-80	-244	-283	-687	-1,280	-32	9.2
AC-FT	-8,890	3,650	5,420	11,510	3,280	15,790	12,590	10,160	-7,870	-23,170	13,140	33,060

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2002, BY WATER YEAR (WY)

	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	1,605	1,069	711	599	653	921	1,091	627	487	658	793	1,100																																																												
MAX	6,480	6,831	6,350	5,649	5,453	7,246	4,620	4,474	3,949	4,697	5,152	6,403																																																												
(WY)	(1948)	(1948)	(1948)	(1948)	(1948)	(1983)	(1983)	(1931)	(1931)	(1947)	(1947)	(1949)																																																												
MIN	-1,101	-120	-138	-130	-24.1	-647	-531	-242	-1,107	-618	-614	-1,036																																																												
(WY)	(1988)	(1988)	(1986)	(1986)	(1991)	(1989)	(1991)	(1991)	(1994)	(1989)	(1985)	(1989)																																																												

SUMMARY STATISTICS

ANNUAL TOTAL
 ANNUAL MEAN
 HIGHEST ANNUAL MEAN
 LOWEST ANNUAL MEAN
 HIGHEST DAILY MEAN
 LOWEST DAILY MEAN
 ANNUAL SEVEN-DAY MINIMUM
 ANNUAL RUNOFF (AC-FT)
 10 PERCENT EXCEEDS
 50 PERCENT EXCEEDS
 90 PERCENT EXCEEDS

FOR 2002 WATER YEAR

34,618.83
 94.8
 1,590
 -1,280
 -966
 68,670
 440
 73
 -396

WATER YEARS 1931 - 2002

899
 3,511
 -49.6
 8,150
 -2,980
 650,900
 3,700
 185
 0.00

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of manuscript

REVISED

02276870 ST. LUCIE CANAL AT LAKE OKEECHOBEE, FL

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	14.42	14.36	14.41	14.71	14.66	14.35	---	14.05	14.37	14.54	14.40	15.13
2	---	14.27	14.39	14.64	14.73	14.50	14.56	14.57	14.49	14.52	14.73	15.21
3	14.37	14.31	14.25	14.60	14.53	14.54	14.43	14.66	14.21	14.65	14.80	15.38
4	14.46	14.47	14.24	14.57	14.54	14.25	14.48	14.40	14.20	14.38	14.64	15.39
5	14.58	---	14.35	---	14.59	14.40	14.37	14.39	14.42	14.35	14.64	15.24
6	14.49	14.37	14.46	14.34	14.60	14.18	14.36	14.41	14.42	14.56	14.72	15.19
7	14.71	14.22	14.61	14.51	14.65	14.46	---	14.56	14.62	14.65	14.49	15.22
8	14.60	14.43	14.63	14.36	14.63	14.42	---	14.36	14.61	14.72	14.48	15.32
9	---	14.45	---	14.47	14.24	14.18	---	14.56	14.44	14.72	14.46	15.31
10	---	14.45	14.37	14.34	14.46	14.32	---	14.62	---	14.55	14.58	15.42
11	---	14.22	14.29	14.77	14.60	14.50	14.21	14.46	14.55	14.50	14.55	16.00
12	---	14.45	14.60	14.80	14.45	14.54	14.50	14.38	14.59	14.44	14.68	16.28
13	14.46	14.35	14.61	14.75	14.42	14.55	14.36	14.49	14.55	14.58	14.74	16.28
14	14.44	---	14.57	14.44	14.30	14.65	14.23	14.54	14.49	14.46	14.59	16.35
15	14.49	---	14.51	14.48	14.52	14.43	14.49	14.61	14.70	14.57	14.43	16.43
16	14.07	14.15	14.49	14.45	14.48	14.25	14.09	14.64	14.54	14.63	14.61	16.48
17	14.31	14.37	14.36	14.51	14.50	14.58	14.17	14.52	14.58	14.46	14.49	---
18	14.51	14.63	14.38	14.53	14.38	14.52	14.44	14.56	---	14.47	14.70	---
19	14.62	14.58	14.22	14.36	14.62	14.76	14.47	14.62	14.59	14.37	14.72	15.65
20	14.56	14.55	14.31	14.41	14.66	14.28	14.47	14.61	14.48	14.44	14.39	---
21	14.30	14.60	14.63	14.74	14.49	14.63	14.26	14.55	14.60	14.37	14.50	15.05
22	14.34	---	14.69	14.66	14.55	14.40	14.14	14.41	14.48	14.33	14.59	15.07
23	14.38	---	14.62	14.64	13.92	14.51	14.42	14.49	14.43	14.32	14.67	15.13
24	14.41	---	14.58	14.66	14.27	14.47	14.42	14.62	14.36	14.37	14.51	15.07
25	14.38	14.45	14.48	14.78	14.55	14.51	14.37	14.41	14.57	14.29	14.63	15.12
26	---	---	14.54	14.44	---	14.37	14.56	14.55	14.35	14.47	14.56	14.96
27	14.58	14.37	14.38	14.45	14.24	14.53	14.37	14.51	14.55	14.39	14.62	14.57
28	14.48	---	14.56	14.54	14.29	14.65	14.58	14.55	14.62	14.54	14.65	15.07
29	14.28	---	14.38	14.38	---	---	14.56	14.41	14.75	14.49	14.72	15.31
30	14.34	14.36	14.37	14.42	---	---	14.42	14.42	14.74	14.26	14.89	14.61
31	14.21	---	14.51	14.67	---	---	---	14.23	---	14.53	15.15	---
TOTAL	---	---	---	---	---	---	---	449.16	---	448.92	453.33	---
MEAN	---	---	---	---	---	---	---	14.49	---	14.48	14.62	---
MAX	---	---	---	---	---	---	---	14.66	---	14.72	15.15	---
MIN	---	---	---	---	---	---	---	14.05	---	14.26	14.39	---

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02276870 ST. LUCIE CANAL AT LAKE OKEECHOBEE, FL

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	344	275	148	375	2,090	-29	e158	28	-115	915	63	2,840
2	e135	250	135	1,310	2,140	-49	98	-35	0.85	919	367	2,910
3	116	704	140	1,520	1,960	211	92	487	67	547	339	3,080
4	113	608	228	981	1,650	74	67	997	9.7	e548	369	2,820
5	457	e461	200	e646	1,240	236	93	1,310	702	540	179	2,710
6	1,560	322	31	715	1,060	39	198	1,230	1,430	460	35	2,850
7	1,870	667	54	881	676	341	e88	867	1,320	1,160	-47	2,860
8	1,360	484	46	686	462	24	e276	635	995	1,810	91	2,930
9	e833	583	e137	397	500	-31	e13	541	585	1,730	-73	3,000
10	e676	127	84	309	1,150	370	---	367	e371	e1,160	45	3,280
11	e592	424	169	894	1,510	231	193	207	331	794	38	3,920
12	e599	281	855	1,980	1,570	324	71	179	91	621	78	4,080
13	500	380	1,210	2,130	954	-22	61	1,050	88	410	298	4,010
14	170	553	1,230	1,400	928	22	241	1,880	129	435	467	4,180
15	-26	e171	812	1,030	608	31	305	1,980	633	334	370	4,250
16	37	22	538	853	434	95	62	1,410	1,110	73	260	4,220
17	125	71	645	895	143	-32	256	1,100	1,430	47	85	e4,060
18	105	148	597	705	112	3.8	35	940	e1,110	112	159	e3,240
19	73	130	420	712	52	52	58	657	426	41	197	3,370
20	-40	83	360	763	178	-7.8	59	387	321	43	201	e2,670
21	80	26	168	947	63	-26	8.7	166	-15	26	541	2,410
22	117	e54	789	2,160	34	-15	457	29	33	59	1,210	2,570
23	209	e61	1,640	2,420	233	89	128	54	-8.3	-19	1,150	2,670
24	87	e47	1,910	2,430	64	83	413	25	93	73	860	2,450
25	221	144	1,240	1,040	45	79	71	46	9.3	95	e1,290	2,280
26	e73	e13	675	487	e43	66	28	-22	39	8.3	1,320	1,180
27	65	68	810	725	-36	66	115	18	1,190	49	1,510	1,390
28	42	e37	604	624	75	66	123	16	1,880	-11	1,500	1,250
29	168	e82	512	526	---	80	55	-95	2,260	-10	1,610	102
30	69	37	655	508	---	---	49	40	1,870	-41	2,890	---
31	224	---	463	1,230	---	e236	---	-33	---	67	2,800	---
TOTAL	10,954	7,313	17,505	32,279	19,938	---	---	16,461	18,385.55	12,995.3	20,202	---
MEAN	353	244	565	1,041	712	---	---	531	613	419	652	---
MAX	1,870	704	1,910	2,430	2,140	---	---	1,980	2,260	1,810	2,890	---
MIN	-40	13	31	309	-36	---	---	-95	-115	-41	-73	---
AC-FT	21,730	14,510	34,720	64,030	39,550	---	---	32,650	36,470	25,780	40,070	---

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

MEAN	1,575	1,050	708	610	655	921	1,091	625	491	652	789	1,100
MAX	6,480	6,831	6,350	5,649	5,453	7,246	4,620	4,474	3,949	4,697	5,152	6,403
(WY)	(1948)	(1948)	(1948)	(1948)	(1948)	(1983)	(1983)	(1931)	(1931)	(1947)	(1947)	(1949)
MIN	-1,101	-120	-138	-130	-24.1	-647	-531	-242	-1,107	-618	-614	-1,036
(WY)	(1988)	(1988)	(1986)	(1986)	(1991)	(1989)	(1991)	(1991)	(1994)	(1989)	(1985)	(1989)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

WATER YEARS 1931 - 2003

ANNUAL TOTAL	70,298.2		
ANNUAL MEAN	193		899
HIGHEST ANNUAL MEAN			3,511
LOWEST ANNUAL MEAN			-49.6
HIGHEST DAILY MEAN	1,910	Dec 24	8,150
LOWEST DAILY MEAN	-1,280	Jul 10	-4,280
ANNUAL SEVEN-DAY MINIMUM	-966	Jul 8	-2,980
ANNUAL RUNOFF (AC-FT)	139,400		650,900
10 PERCENT EXCEEDS	644		3,700
50 PERCENT EXCEEDS	140		185
90 PERCENT EXCEEDS	-276		0.00

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of manuscript

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02277000 ST. LUCIE CANAL AT LOCK, NEAR STUART, FL

LOCATION.--Lat 27°06'39", long 80°17'06", in Hanson Grant, T.39 S., R.41 E., Martin County, Hydrologic Unit 03090202, S-80 control structure, at upstream end of the north lock wall, 6.3 mi southwest of Stuart. No section could be determined from existing maps.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1952 to September 2003. Discontinued. Gage height records collected at same site since December 1924 are contained in files of the South Florida Water Management District and U.S. Army Corps of Engineers. Discharge published prior to October 1, 1987, provided by the U.S. Army Corps of Engineers. U.S. Geological Survey started collection of upstream and downstream stages October 1, 1987, and publication of discharge computed by the U.S. Geological Survey.

REVISED RECORDS.--WDR FL-80-2A, 1978-1979. WDR FL-96-2A, 1988-1989, 1991-1996.

GAGE.--U.S. Army Corps of Engineers owned and operated satellite data collection platform with water-stage shaft encoders for upstream and downstream stages. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to November 3, 1948, nonrecording gage at same site and at various datums. September 5, 1952, to January 1, 1955, auxiliary water-stage recorder at Arundel Bridge, 1.9 mi upstream, NGVD. U.S. Geological Survey satellite data collection platform installed January 13, 1995, was discontinued October 30, 1998. Digital water-stage recorders removed February 13, 1995.

REMARKS.--Records are poor. Flow regulated by lock near Stuart. Leakage and lockage estimated as 35 cfs daily. No period of record extremes shown for stage since stage was not collected by U.S. Geological Survey prior to October 1, 1987. Starting in the 2002 water year, publication of daily means was replaced by publication of maximum, minimum daily values.

COOPERATION.--Stage, gate-opening record and lock operation provided by U.S. Army Corps of Engineers.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 45 complete water years of discharge (1953-94, 1998-2002).

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD SINCE OCTOBER 1, 1987.--Maximum gage height 17.88 ft Nov. 5, 1998 (Corrected); minimum, 8.63 ft May 11, 2001. Historical stage records are not available in the files of the U.S. Geological Survey prior to October 1, 1987.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height 15.60 ft Sept. 29; minimum, 13.32 ft Jan. 24.

EXTREME DOWNSTREAM STAGES SINCE OCTOBER 1, 1987.--Maximum gage height 7.29 ft Oct. 17, 1995; minimum, -1.71 ft Mar. 13, 1993.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height 3.06 ft Sept. 29; minimum, -1.19 ft July 25.

UPSTREAM
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	14.30	---	14.37	14.59	14.06	14.32	14.34	14.03	14.38	14.27	14.34	13.85
2	14.32	14.19	14.34	14.21	14.10	14.53	14.47	14.55	14.47	14.31	14.58	13.90
3	14.27	14.24	14.18	14.20	14.06	14.43	14.34	14.51	14.18	14.52	14.61	13.92
4	14.40	---	14.15	14.29	14.26	14.23	14.40	14.09	14.17	14.23	14.47	14.16
5	14.36	---	14.31	14.36	14.32	14.35	14.29	---	---	14.21	14.51	14.05
6	13.96	14.38	14.42	14.15	14.41	14.17	14.26	---	---	14.42	14.63	13.94
7	14.17	14.13	14.54	14.35	14.55	14.45	14.19	14.38	14.29	14.28	14.42	13.94
8	14.22	---	14.54	14.29	14.51	14.36	14.04	14.21	14.41	14.16	14.41	13.99
9	14.38	---	14.54	14.44	14.14	14.19	14.36	14.45	14.32	14.20	14.41	13.88
10	14.43	14.42	14.34	14.32	14.26	14.22	14.24	14.52	14.57	14.21	14.43	13.66
11	14.22	14.14	14.26	14.49	14.22	---	14.26	14.40	14.46	14.30	14.35	13.70
12	14.33	14.42	14.33	14.16	14.05	---	14.48	14.34	14.52	14.27	14.49	14.00
13	14.36	14.29	14.32	14.10	14.13	---	14.33	14.21	14.45	14.44	14.36	14.00
14	14.36	14.37	14.26	13.97	14.06	14.58	14.10	13.98	14.38	14.38	14.16	13.95
15	14.46	14.29	14.29	14.17	14.38	14.38	14.37	14.09	14.49	14.47	14.12	14.02
16	14.06	14.12	14.37	14.20	14.41	14.18	13.98	14.38	14.15	14.54	14.42	14.02
17	14.26	14.40	14.23	14.34	14.48	14.53	14.10	14.30	14.15	14.37	14.39	14.13
18	14.43	14.56	14.26	14.40	14.32	14.49	---	14.37	14.36	14.40	14.51	14.21
19	14.54	14.51	14.13	14.26	14.54	14.66	14.35	14.46	14.48	14.32	14.49	14.01
20	14.51	14.45	14.29	14.32	14.59	14.25	14.37	14.45	14.39	14.40	14.22	14.33
21	14.26	14.57	14.57	14.44	14.42	14.61	14.16	14.43	14.56	14.33	14.13	14.11
22	14.29	14.48	14.40	13.96	14.54	14.36	14.12	14.34	14.46	14.28	13.97	14.07
23	14.31	14.39	14.08	13.86	13.89	14.44	14.37	14.45	14.38	14.28	14.09	14.12
24	14.37	14.54	14.07	13.92	14.16	14.40	14.31	14.57	14.26	14.32	13.99	14.13
25	14.32	14.39	14.26	14.50	14.45	14.40	14.34	14.38	14.46	14.21	13.98	14.26
26	14.54	14.34	14.33	14.30	14.44	14.29	14.50	14.50	14.26	14.39	13.95	14.46
27	14.52	14.31	14.20	14.27	14.25	14.46	14.32	14.48	14.14	14.31	13.98	13.88
28	14.42	14.25	14.44	14.37	14.28	14.60	14.48	14.49	13.92	14.48	14.01	14.39
29	---	14.32	14.28	14.25	---	14.50	14.46	14.40	13.97	14.43	13.96	14.67
30	---	14.34	14.26	14.29	---	14.34	14.34	14.42	14.20	14.20	13.54	14.22
31	---	---	14.44	14.33	---	14.10	---	14.23	---	14.47	13.92	---
TOTAL	---	---	443.80	442.10	400.28	---	---	---	---	444.40	441.84	421.97
MEAN	---	---	14.32	14.26	14.30	---	---	---	---	14.34	14.25	14.07
MAX	---	---	14.57	14.59	14.59	---	---	---	---	14.54	14.63	14.67
MIN	---	---	14.07	13.86	13.89	---	---	---	---	14.16	13.54	13.66

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02277000 ST. LUCIE CANAL AT LOCK, NEAR STUART, FL

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	480	35	35	1,150	2,280	35	35	449	297	1,130	362	3,530
2	447	35	35	1,880	2,210	35	192	354	274	938	914	3,540
3	364	35	35	1,840	2,070	35	122	e955	86	711	1,480	3,740
4	1,130	35	35	1,320	1,310	35	133	e1,490	35	631	1,460	3,620
5	1,390	35	35	944	987	35	142	---	---	487	1,180	3,570
6	1,780	35	35	716	716	35	100	---	---	443	1,120	3,530
7	1,750	35	35	536	638	35	81	790	1,490	1,260	1,410	3,500
8	1,240	35	35	507	455	35	35	662	1,150	1,900	1,200	3,480
9	857	35	142	458	388	35	35	494	832	1,880	1,040	3,430
10	632	35	450	131	1,010	35	35	464	649	1,400	1,770	3,810
11	485	35	165	1,390	1,540	35	35	151	472	1,010	2,070	4,490
12	456	35	1,210	2,290	1,460	35	140	90	431	798	1,980	4,500
13	e389	35	1,430	2,220	1,140	35	35	910	175	592	2,290	4,500
14	113	35	1,480	1,670	836	147	35	1,470	444	535	2,540	4,500
15	184	35	1,100	1,120	688	446	35	1,440	926	464	2,190	4,520
16	202	354	779	890	496	161	35	1,140	1,480	597	1,650	4,510
17	35	35	617	682	444	385	35	775	1,450	631	1,150	4,150
18	35	35	466	600	134	568	35	620	1,120	400	1,800	3,310
19	50	225	404	436	35	880	35	485	798	368	1,890	3,370
20	155	209	424	386	109	288	35	416	663	330	2,280	2,790
21	59	149	430	1,480	410	481	35	114	513	343	1,900	2,470
22	35	280	1,230	2,270	480	243	35	35	463	202	2,530	2,430
23	35	115	1,890	2,230	335	292	35	35	353	202	2,550	2,420
24	35	67	1,880	1,660	35	214	35	519	250	307	2,540	2,420
25	35	110	1,400	1,190	35	249	35	210	164	248	2,530	2,390
26	178	35	1,240	960	212	126	169	189	289	324	2,320	2,360
27	225	35	824	699	93	178	415	196	1,400	225	2,540	2,320
28	233	35	531	604	35	540	378	702	2,230	239	2,530	2,520
29	73	35	470	476	---	346	357	651	2,190	456	2,980	4,700
30	35	35	389	468	---	467	476	499	1,700	266	3,470	2,790
31	35	---	123	1,490	---	217	---	494	---	302	3,460	---
TOTAL	13,152	2,279	19,354	34,693	20,581	6,683	3,335	---	---	19,619	61,126	103,210
MEAN	424	76.0	624	1,119	735	216	111	---	---	633	1,972	3,440
MAX	1,780	354	1,890	2,290	2,280	880	476	---	---	1,900	3,470	4,700
MIN	35	35	35	131	35	35	35	---	---	202	362	2,320
AC-FT	26,090	4,520	38,390	68,810	40,820	13,260	6,610	---	---	38,910	121,200	204,700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2003, BY WATER YEAR (WY)

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003						
MEAN	1,045	921	532	484	518	695	752	383	534	762	1,140	934																																													
MAX	9,325	8,315	8,293	3,445	5,986	7,453	6,887	5,322	5,162	6,598	6,331	7,711																																													
(WY)	(1954)	(1954)	(1954)	(1954)	(1958)	(1983)	(1970)	(1958)	(1954)	(1968)	(1959)	(1953)																																													
MIN	10.0	10.0	10.0	10.0	10.0	10.0	10.0	4.90	4.27	10.0	10.0	10.0																																													
(WY)	(1956)	(1955)	(1953)	(1953)	(1953)	(1953)	(1953)	(1976)	(1976)	(1953)	(1955)	(1955)																																													

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

WATER YEARS 1953 - 2003

ANNUAL TOTAL	95,160	
ANNUAL MEAN	261	728
HIGHEST ANNUAL MEAN		4,152
LOWEST ANNUAL MEAN		10.0
HIGHEST DAILY MEAN	1,890	11,500
LOWEST DAILY MEAN	35	4.0
ANNUAL SEVEN-DAY MINIMUM	35	4.0
ANNUAL RUNOFF (AC-FT)	188,700	527,700
10 PERCENT EXCEEDS	969	2,470
50 PERCENT EXCEEDS	35	25
90 PERCENT EXCEEDS	35	10

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of manuscript

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02277100 ST. LUCIE RIVER AT SPEEDY POINT, STUART, FL

LOCATION.--Lat 27°12'07", long 80°15'32", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$, sec.5, T.38 S., R.41 E., Martin County, Hydrologic Unit 03090202, middle of Roosevelt Bridge, 2.7 mi west of Atlantic Ocean, 0.4 mi northwest of Stuart.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--

GAGE HEIGHT: August 1997 to current year.

SALINITY (TOP, BOTTOM): August 1997 to current year.

WATER TEMPERATURE (TOP, BOTTOM): August 1997 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and water-quality monitor with top and bottom sensors. Prior to October 1, 2000, an acoustic doppler velocity meter. Datum of gage is National Geodetic Vertical Datum of 1929. 2002 gage heights are published at a datum 0.06 ft lower than current datum.

REMARKS.--Salinity (top) record rated good except for October 18-29, minimum daily values for November 20, 21, 28, 30 and December 1, January 25-31, May 1-4 which is rated fair; February 1-11, May 5-13 which is rated poor. Salinity (bottom) record rated good except for October 18-29, May 1-13 which is rated fair. Temperature (top and bottom) record rated good. Elevation of top salinity-temperature sensor 0.20 ft NGVD (October 1 to December 5), ranged from -1.2 to -1.7 ft NGVD for the remainder of the year. Elevation of bottom salinity-temperature sensor -8.6 ft NGVD.

EXTREMES FOR PERIOD OF RECORD.--

GAGE HEIGHT: Maximum gage height, 4.40 ft Oct. 16, 1999; minimum, -1.01 ft Jan. 26, 2001.

SALINITY (TOP): Maximum recorded, 32.3 ppt Feb. 24, 2002, but may have been higher during period of missing record; minimum recorded, 0.0 ppt Mar. 12, 1998, Nov. 3, 1999.

SALINITY (BOTTOM): Maximum recorded, 31.8 ppt Apr. 30, 2001, but may have been higher during period of missing record; minimum recorded, 0.1 ppt Apr. 14, 1998, Oct. 17-23, 1999, Aug. 6, 2001, but may have been lower during period of missing record.

WATER TEMPERATURE (TOP): Maximum recorded, 33.9°C July 16, 2002, but may have been higher during period of missing record; minimum recorded, 11.4°C Jan. 25, 2003 but may have been lower during periods of missing record.

WATER TEMPERATURE (BOTTOM): Maximum recorded, 33.7°C Aug. 2, 1998, but may have been higher during period of missing record; minimum recorded, 12.0°C Jan. 25, 2003 but may have been lower during periods of missing record.

EXTREMES FOR CURRENT YEAR.--

GAGE HEIGHT: Maximum gage height, 2.67 ft Sept. 18, minimum, -0.97 ft July 25.

SALINITY (TOP): Maximum recorded, 27.8 ppt Dec. 9, minimum recorded, 0.2 ppt many days Aug. 11 to Sept. 16.

SALINITY (BOTTOM): Maximum recorded, 28.3 ppt Dec. 3; minimum recorded, 0.2 ppt many days Aug. 12 to Sept. 15.

WATER TEMPERATURE (TOP): Maximum recorded, 32.2°C July 9, minimum recorded, 11.4°C Jan. 25.

WATER TEMPERATURE (BOTTOM): Maximum recorded, 32.2°C July 9; minimum recorded, 12.0°C Jan. 25.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02277110 ST. LUCIE ESTUARY AT A1A (STEELE PT), STUART, FL

LOCATION.--Lat 27°11'58", long 80°12'25", in NW ¼ SE ¼ NE ¼, sec.2, T.38 S., R.41 E., Martin County, Hydrologic Unit 03090202, middle of Evans Cray Sr. Bridge footing, 2.7 mi west of Atlantic Ocean, 3.4 mi southeast of Stuart.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--

DISCHARGE: August 1997 to September 2000.

GAGE HEIGHT: August 1997 to current year.

SALINITY (TOP, BOTTOM): August 1997 to current year.

WATER TEMPERATURE (TOP, BOTTOM): August 1997 to current year. Operated by U.S. Geological Survey Project Section personnel prior to October 1, 2001.

GAGE.--Satellite data collection platform with water-stage shaft encoder and water-quality monitor with top and bottom sensors. Prior to October 1, 2000, an acoustic doppler velocity meter. Datum of gage is National Geodetic Vertical Datum of 1929. Gage height data for water year 2002 are 0.07 ft lower than current datum.

REMARKS.--Gage height record rated poor due to obstructed stilling well intakes. Salinity (top) record rated good except the following periods: Nov. 12-22, Dec. 10-22, Jan. 4-6, 25-28, Feb. 1-4, 18-22, Mar. 28 to Apr. 1, May 4, May 21 to June 10, June 15-18, which is rated fair. Nov. 23-Dec. 5, Dec. 25-Jan. 3, Jan. 7-12, Jan. 29-31, Feb. 5-12, Feb. 23-Mar. 3, Apr. 2-9, Apr. 15-25, May 5-13, June 19-24 which is rated poor. Salinity (bottom) record rated good except the following periods: Oct. 9-14, Feb. 2-12, which is rated fair. Oct. 15-24, which is rated poor. Temperatures (top and bottom) records are rated good. Elevation of the top salinity-temperature sensor ranged from -1.6 ft to -1.9 ft NGVD, bottom salinity-temperature sensor -6.8 ft NGVD.

EXTREMES FOR PERIOD OF RECORD.--

DISCHARGE: Maximum discharge, 48,885 ft³/s Aug. 31, 1997; minimum, -44,589 ft³/s July 24, 2000.

GAGE HEIGHT: Maximum gage height, 3.71 ft Sept. 15, 1999; minimum, -1.21 ft Apr. 28, 1998.

SALINITY (TOP): Maximum recorded, 36 ppt Oct. 15, 1998, Mar. 28, 1999, Mar. 28, 29, Apr. 17, 18, 2001, Mar. 28, 2002, but may have been higher during period of missing record; minimum recorded, 0.01 ppt Apr. 7, 1998.

SALINITY (BOTTOM): Maximum recorded, 38 ppt Mar. 22, 1999, Mar. 11, 31, 2002, but may have been higher during period of missing record; minimum, 0.0 ppt Mar. 20, 21, 26, Apr. 1, 1998.

WATER TEMPERATURE (TOP): Maximum recorded, 33.8°C Aug. 18, 1998, but may have been higher during period of missing record; minimum recorded, 12.2°C Jan. 5, 2001, but may have been lower during periods of missing record.

WATER TEMPERATURE (BOTTOM): Maximum recorded, 33.4°C Sept. 1, 1998, but may have been higher during period of missing record; minimum recorded, 12.7°C Jan. 5, 2001, but may have been lower during periods of missing record.

EXTREMES FOR CURRENT YEAR.--

GAGE HEIGHT: Maximum gage height, 2.51 ft Oct. 15, 16; minimum, unavailable due to lost record. See REMARKS.

SALINITY (TOP): Maximum recorded, 35.8 ppt Nov. 7, but may have been higher during period of missing record; minimum recorded, 0.3 ppt Aug. 15, 16, but may have been lower during period of missing record.

SALINITY (BOTTOM): Maximum recorded, 35.6 ppt Dec. 6, 7, but may have been higher during period of missing record; minimum recorded, 0.3 ppt Aug. 15, but may have been lower during period of missing record.

WATER TEMPERATURE (TOP): Maximum recorded, 33.0°C July 29, but may have been higher during period of missing record; minimum recorded, 12.0°C Jan. 25, but may have been lower during periods of missing record.

WATER TEMPERATURE (BOTTOM): Maximum recorded, 31.5°C June 14, but may have been higher during period of missing record; minimum recorded, 12.4°C Jan. 25, but may have been lower during periods of missing record.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

270022080094600 KITCHINGS CREEK NEAR HOBE SOUND, FL

LOCATION.--Lat 27°00'57", long 80°09'10", in SE ¼ SE ¼ SE ¼ sec.5, T.40 S., R.42 E., Martin County, Hydrologic Unit 03090202, in Jonathan Dickinson State Park, near left bank on foot bridge, 1.75 mi upstream from mouth, 2.1 mi south of State Road 707, and 3.25 mi southwest of Hobe Sound.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--December 1979 to March 1982, October 1984 to current year.

GAGE.--Electronic data logger and collector tube rain gage recorder. Rainfall data is available in the files of the U.S. Geological Survey. Elevation of gage is 6 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Discharge records fair.

ANNUAL MEAN AND ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 18 complete water years of discharge (1981, 1985-88, 1990, 1992-2003).

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height 4.74 ft Aug. 14; minimum 1.64 ft May 21.

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	2.91	2.21	2.34	2.29	1.91	2.07	2.16	2.14	2.79	2.13	1.79	2.81
2	2.89	2.24	2.31	2.28	1.89	2.04	2.13	2.24	2.63	2.09	1.78	2.92
3	2.78	2.22	2.29	2.26	1.88	1.98	---	2.26	2.58	2.25	1.98	2.87
4	2.63	2.20	2.27	2.23	1.87	1.96	---	2.20	2.74	2.40	2.25	3.01
5	2.55	2.18	2.29	2.21	1.87	1.91	---	2.14	2.77	2.30	2.30	3.46
6	2.49	2.17	2.29	2.19	1.87	1.85	---	2.08	2.75	2.26	2.32	3.86
7	2.44	2.15	2.29	2.18	1.86	1.82	---	2.02	2.69	2.22	2.39	3.85
8	2.41	2.13	2.27	2.16	1.85	1.81	---	1.97	2.61	2.18	2.42	3.94
9	2.37	2.11	2.29	2.14	1.84	1.80	---	1.93	2.84	2.14	2.88	3.71
10	2.34	2.09	2.64	2.13	1.82	1.79	---	1.89	3.03	2.09	3.52	3.42
11	2.31	2.07	2.67	2.12	1.81	1.76	---	1.86	2.96	2.06	3.77	3.18
12	2.28	2.05	2.57	2.10	1.81	1.77	---	1.83	2.87	2.03	3.90	2.99
13	2.26	2.02	2.52	2.08	1.80	1.84	---	1.79	2.76	2.00	3.69	2.85
14	2.23	2.00	2.55	2.06	1.79	1.87	---	1.77	2.66	1.97	4.25	2.72
15	2.38	1.99	2.52	2.05	1.78	1.87	---	1.75	2.58	1.95	4.62	2.62
16	2.73	2.09	2.49	2.03	1.85	1.91	---	1.74	2.50	1.98	4.43	2.63
17	2.65	2.36	2.46	2.01	2.12	2.07	1.85	1.72	2.43	1.99	4.15	3.06
18	2.68	2.33	2.43	2.00	2.17	2.15	1.84	1.71	2.36	1.96	3.97	2.98
19	2.64	2.32	2.41	1.99	2.20	2.20	1.83	1.71	2.44	1.96	4.03	2.86
20	2.53	2.33	2.45	1.97	2.19	2.21	1.80	1.69	2.70	1.95	4.27	2.79
21	2.45	2.90	2.57	1.95	2.15	2.18	1.79	1.67	2.78	1.92	4.26	2.72
22	2.39	2.86	2.51	1.95	2.10	2.14	1.76	1.87	2.69	1.90	4.14	2.64
23	2.35	2.72	2.45	1.95	2.14	2.16	1.75	2.07	2.67	1.88	4.02	2.57
24	2.33	2.62	2.43	1.94	2.11	2.19	1.73	2.18	2.62	1.88	3.91	2.50
25	2.32	2.55	2.42	1.94	2.11	2.18	1.72	2.33	2.51	1.86	3.86	2.54
26	2.30	2.52	2.40	1.98	2.08	2.16	2.00	2.48	2.41	1.84	3.71	2.92
27	2.27	2.48	2.37	1.97	2.07	2.21	2.00	2.68	2.33	1.81	3.51	3.19
28	2.25	2.44	2.34	1.95	2.06	2.28	2.00	3.68	2.28	1.81	3.31	3.42
29	2.23	2.40	2.31	1.95	---	2.26	2.09	3.52	2.24	1.79	3.12	3.62
30	2.21	2.36	2.29	1.94	---	2.24	2.12	3.20	2.18	1.78	2.96	3.86
31	2.19	---	2.28	1.93	---	2.20	---	2.95	---	1.80	2.85	---
TOTAL	75.79	69.11	74.72	63.93	55.00	62.88	---	67.07	78.40	62.18	104.36	92.51
MEAN	2.44	2.30	2.41	2.06	1.96	2.03	---	2.16	2.61	2.01	3.37	3.08
MAX	2.91	2.90	2.67	2.29	2.20	2.28	---	3.68	3.03	2.40	4.62	3.94
MIN	2.19	1.99	2.27	1.93	1.78	1.76	---	1.67	2.18	1.78	1.78	2.50

270022080094600 KITCHINGS CREEK NEAR HOBE SOUND, FL

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	2.8	3.0	2.6	0.69	1.5	2.4	2.4	8.7	2.5	0.62	8.6
2	10	3.0	2.8	2.5	0.63	1.4	2.2	3.1	6.8	2.2	0.58	10
3	9.0	2.9	2.6	2.4	0.60	1.2	e1.9	3.2	6.3	3.6	1.6	9.5
4	7.2	2.7	2.5	2.2	0.56	1.1	e1.6	2.8	8.0	4.6	3.0	12
5	6.3	2.6	2.6	2.0	0.58	0.90	e1.7	2.4	8.4	3.7	3.4	19
6	5.6	2.5	2.6	1.9	0.60	0.70	e2.2	2.1	8.3	3.3	3.5	28
7	5.2	2.4	2.6	1.8	0.55	0.59	e1.6	1.7	7.5	3.1	4.1	28
8	4.8	2.2	2.5	1.7	0.52	0.57	e1.3	1.5	6.6	2.8	4.3	30
9	4.5	2.1	2.6	1.6	0.50	0.53	e1.5	1.3	9.4	2.5	10	25
10	4.2	1.9	5.5	1.6	0.44	0.49	e2.4	1.1	12	2.2	20	18
11	4.0	1.8	5.9	1.5	0.44	0.45	e1.9	0.98	11	2.0	26	14
12	3.7	1.6	4.9	1.4	0.44	0.46	e1.4	0.88	9.7	1.8	29	11
13	3.5	1.5	4.4	1.3	0.42	0.72	e1.2	0.77	8.4	1.6	24	9.1
14	3.3	1.4	4.7	1.2	0.39	0.79	e1.0	0.67	7.2	1.5	41	7.5
15	4.9	1.3	4.4	1.2	0.36	0.78	e0.90	0.63	6.2	1.4	51	6.3
16	8.4	2.0	4.2	1.1	0.64	0.93	e1.0	0.58	5.4	1.5	44	6.6
17	7.4	3.6	3.9	0.99	1.7	1.8	0.95	0.54	4.8	1.5	36	12
18	7.6	3.3	3.7	0.94	2.0	2.2	0.90	0.51	4.1	1.4	31	11
19	7.2	3.1	3.5	0.89	2.2	2.5	0.85	0.50	5.0	1.4	33	9.1
20	5.9	3.1	3.8	0.81	2.1	2.5	0.76	0.45	7.7	1.3	39	8.2
21	5.1	8.7	4.9	0.76	1.9	2.4	0.70	0.41	8.7	1.2	39	7.4
22	4.5	8.0	4.3	0.76	1.7	2.1	0.64	1.2	7.6	1.1	35	6.4
23	4.2	6.4	3.8	0.75	1.9	2.3	0.58	2.1	7.3	0.96	32	5.7
24	4.0	5.3	3.6	0.71	1.7	2.5	0.53	2.7	6.8	0.98	29	5.1
25	3.8	4.7	3.5	0.74	1.7	2.4	0.51	3.9	5.6	0.91	28	5.4
26	3.6	4.4	3.3	0.88	1.6	2.3	1.7	5.2	4.7	0.82	25	9.7
27	3.4	4.1	3.1	0.86	1.5	2.6	1.6	7.6	4.0	0.73	20	14
28	3.2	3.8	2.9	0.80	1.5	3.2	1.6	24	3.6	0.71	16	18
29	3.0	3.4	2.7	0.78	---	3.0	2.1	21	3.3	0.63	13	22
30	2.9	3.1	2.6	0.75	---	2.9	2.3	15	2.8	0.58	11	28
31	2.8	---	2.5	0.75	---	2.7	---	11	---	0.64	9.2	---
TOTAL	164.2	99.7	109.9	40.17	29.86	50.51	41.92	122.22	205.9	55.16	662.30	404.6
MEAN	5.30	3.32	3.55	1.30	1.07	1.63	1.40	3.94	6.86	1.78	21.4	13.5
MAX	11	8.7	5.9	2.6	2.2	3.2	2.4	24	12	4.6	51	30
MIN	2.8	1.3	2.5	0.71	0.36	0.45	0.51	0.41	2.8	0.58	0.58	5.1
AC-FT	326	198	218	80	59	100	83	242	408	109	1,310	803

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2003, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	44.4	24.9	13.2	9.25	8.48	10.3	6.00	4.02	7.45	14.6	25.2	28.2
MAX	233	124	69.5	43.7	52.8	50.1	29.0	16.8	41.9	51.8	104	85.1
(WY)	(1996)	(1995)	(1995)	(1993)	(1993)	(1996)	(1997)	(1998)	(1997)	(2002)	(2001)	(2001)
MIN	0.78	0.88	0.29	0.55	0.54	0.31	0.13	0.076	0.15	0.27	0.25	1.08
(WY)	(1989)	(1989)	(1982)	(1982)	(2001)	(1985)	(1981)	(1981)	(1981)	(1990)	(1990)	(2000)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1980 - 2003

ANNUAL TOTAL	3,966.41	1,986.44	
ANNUAL MEAN	10.9	5.44	17.8
HIGHEST ANNUAL MEAN			39.9
LOWEST ANNUAL MEAN			0.99
HIGHEST DAILY MEAN	154	Jul 14	51
LOWEST DAILY MEAN	0.64	Jun 6	0.36
ANNUAL SEVEN-DAY MINIMUM	0.69	Jun 1	0.43
MAXIMUM PEAK FLOW			57
MAXIMUM PEAK STAGE			4.74
INSTANTANEOUS LOW FLOW			0.33
ANNUAL RUNOFF (AC-FT)	7,870	3,940	12,870
10 PERCENT EXCEEDS	23	12	51
50 PERCENT EXCEEDS	4.9	2.6	4.8
90 PERCENT EXCEEDS	1.5	0.64	0.42

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

265912080082900 LOXAHATCHEE RIVER AT BOY SCOUT CAMP NEAR HOBE SOUND, FL

LOCATION.--Lat 26°59'11.7", long 80°08'28.9", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$, sec.15, T.40 S., R.42 E., Martin County, Hydrologic Unit 03090202, in Tanah-Keeta Boy Scout Camp, 4.65 mi northwest of Jupiter, 5.26 mi northwest of the mouth of Loxahatchee River, 2.92 mi east of U.S. Interstate 95.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--

GAGE HEIGHT:October 2002 to current year.
SALINITY (TOP):October 2002 to current year.
SALINITY (BOTTOM):June 2003 to current year.
WATER TEMPERATURE (TOP):October 2002 to current year.
WATER TEMPERATURE (BOTTOM):June 2003 to current year.

GAGE.--Electronic data logger with water-quality monitor with top and bottom sensors. A second salinity and temperature sensor was installed in June 13, 2003. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Salinity record (top) rated good except for; minimum daily values for May 1, 2, 7-11, 24, July 10, Sept. 17, 20 and 26, which are rated fair; May 25-31, June 1-24, 28-30, July 1-9, Aug. 7-25, 29-31, Sept. 1-16, 21, 22 and 27-30, which are poor. Salinity record (bottom) rated good except for; minimum daily values for July 10, Aug. 7-9, and Sept. 16, 17 and 20, which are rated fair; June 13-25, 28-30, July 1-9, Aug. 10-25, 29-31, Sept. 1-15, 21 and 22, which are poor. Maximum daily value for Aug. 20 is fair. Temperatures records (top and bottom) are rated good. Elevation of the top salinity-temperature sensor -1.20 ft NGVD, Oct. 20 to June 12, -1.73 ft NGVD, June 12 to Sept. 30. Elevation of bottom salinity-temperature sensor -4.32 ft NGVD, June 12 to Sept. 30.

EXTREMES FOR CURRENT YEAR.--

GAGE HEIGHT: Maximum gage height, 2.98 ft Sept. 28, 2003; minimum, -1.45 ft July 9, 2003.
SALINITY (TOP): Maximum recorded, 27.0 ppt Feb. 14, 2003; minimum recorded, 0.2 ppt May 28-31, June 1, 3-11, 14-15, July 8, Aug. 11, 16-25, 29, 31, Sept. 1-10, but may have been lower during period of missing record.
SALINITY (BOTTOM): Maximum recorded, 23.7 ppt Sept. 18, 2003, but may have been higher during period of missing record; minimum recorded, 0.2 ppt June 13-17, 19, 29, 30, July 1-7, Aug. 16-25, 29, Sept. 1-9, but may have been lower during period of missing record.
WATER TEMPERATURE (TOP): Maximum recorded, 33.2°C July 9-11, 2003, but may have been higher during period of missing record; minimum recorded, 13.2°C Jan. 25.
WATER TEMPERATURE (BOTTOM): Maximum recorded, 33.0°C July 11, 2003, but may have been higher during period of missing record; minimum recorded, 26.4°C Sept. 30, 2003, but may have been lower during periods of missing record.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02277600 LOXAHATCHEE RIVER NEAR JUPITER, FL

LOCATION.--Lat 26°56'20", long 80°10'31", in NE ¼ SE ¼ NE ¼ sec.6, T.41 S., R.42 E., Palm Beach County, Hydrologic Unit 03090202, near left bank, 0.2 mi downstream from State Road 706, 1.3 mi upstream from Floridás Turnpike and 5.2 mi west of Jupiter.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--April 1971 to current year.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Flow is augmented by diversion from C-18 canal 2.0 mi upstream from the gage. High-water flow can be diverted into C-18 canal by backflow through the structure. Discharge for the 1991 water year could not be published due to the loss of the original records. Days of no flow for the period of record only occurred during the period May 4-7, 1974.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 31 complete water years of discharge (1972-90,1992-2003).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 16.39 ft Oct. 18, 1995; minimum, 7.55 ft May 16, 17, 18, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 12.47 ft May 28; minimum, 10.51 ft Feb. 22.

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	11.25	11.07	10.89	10.91	10.80	10.71	10.93	11.09	12.00	11.99	10.73	11.91
2	11.25	10.97	10.87	10.85	10.77	10.70	10.93	11.12	12.04	11.98	10.74	11.95
3	11.23	10.93	10.83	10.84	10.77	10.70	10.91	11.10	12.08	11.97	10.75	12.07
4	11.22	10.92	10.89	10.87	10.76	10.69	10.91	11.08	12.15	12.01	10.77	12.12
5	11.21	10.92	10.90	10.86	10.75	10.68	10.92	11.06	12.17	12.00	10.80	12.11
6	11.20	10.93	10.89	10.85	10.74	10.67	11.00	11.04	12.30	11.83	10.91	12.16
7	11.18	10.91	10.89	10.81	10.69	10.68	10.95	11.02	12.13	11.33	10.90	12.15
8	11.13	10.91	10.86	10.82	10.79	10.66	10.92	11.00	12.06	10.87	10.87	12.05
9	11.05	10.98	10.91	10.88	10.78	10.61	10.94	10.98	12.16	10.80	10.97	11.91
10	11.04	10.96	11.32	10.89	10.69	10.69	11.02	10.96	12.11	10.78	11.09	11.86
11	11.04	10.96	10.93	10.89	10.71	10.71	10.97	10.93	12.05	10.77	11.16	11.88
12	11.03	10.96	11.00	10.87	10.71	10.72	10.93	10.91	12.07	10.73	11.11	11.86
13	11.01	10.94	11.09	10.86	10.71	10.83	10.91	10.90	12.01	10.73	11.01	11.82
14	10.96	10.87	11.08	10.86	10.71	10.96	10.89	10.88	12.04	10.72	11.02	11.80
15	11.03	10.90	11.05	10.84	10.71	10.88	10.88	10.88	12.12	10.73	11.48	11.77
16	11.39	10.93	11.03	10.82	10.72	10.87	10.89	10.87	12.13	10.74	11.90	11.74
17	11.36	10.92	10.91	10.82	10.76	10.96	11.07	10.86	12.11	10.75	11.92	11.63
18	11.31	10.92	10.86	10.81	10.75	11.04	11.03	10.85	12.05	10.74	11.89	11.42
19	11.29	10.90	10.86	10.90	10.74	11.08	10.99	10.84	12.13	10.70	12.06	11.39
20	11.26	10.89	10.96	10.89	10.74	11.01	10.96	10.83	12.21	10.71	12.04	11.39
21	11.24	10.94	11.30	10.88	10.67	11.02	10.94	10.84	12.19	10.73	11.95	11.40
22	11.22	10.97	11.04	10.87	10.52	10.99	10.92	10.93	12.15	10.77	11.89	11.40
23	11.14	10.92	11.11	10.86	10.77	10.99	10.90	11.53	12.12	10.79	11.86	11.39
24	11.13	10.96	11.07	10.85	10.87	10.98	10.88	12.14	12.11	10.79	11.89	11.37
25	11.12	11.08	11.05	10.83	10.80	10.96	10.88	12.09	12.13	10.80	11.89	11.38
26	11.11	11.09	11.02	10.83	10.78	10.95	10.96	12.03	12.08	10.80	11.91	11.41
27	11.11	10.86	10.90	10.83	10.80	10.97	11.01	11.99	12.04	10.74	11.93	11.51
28	11.10	10.88	10.86	10.83	10.76	11.03	11.03	12.37	12.05	10.75	11.86	11.53
29	11.09	10.86	10.85	10.82	---	11.00	11.04	11.88	12.00	10.73	11.86	11.74
30	11.09	10.91	10.84	10.82	---	10.97	11.07	12.02	12.00	10.75	11.94	11.78
31	11.12	---	10.84	10.80	---	10.95	---	12.08	---	10.76	11.91	---
TOTAL	345.91	328.16	339.90	336.36	300.77	336.66	328.58	349.10	362.99	341.29	355.01	351.90
MEAN	11.16	10.94	10.96	10.85	10.74	10.86	10.95	11.26	12.10	11.01	11.45	11.73
MAX	11.39	11.09	11.32	10.91	10.87	11.08	11.07	12.37	12.30	12.01	12.06	12.16
MIN	10.96	10.86	10.83	10.80	10.52	10.61	10.88	10.83	12.00	10.70	10.73	11.37

02277600 LOXAHATCHEE RIVER NEAR JUPITER, FL

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	64	47	31	33	25	20	38	55	155	160	16	152
2	64	37	30	29	23	20	37	59	162	158	16	156
3	62	33	27	27	24	19	36	57	168	155	17	174
4	61	33	32	30	23	19	35	54	180	162	18	181
5	60	33	33	29	22	18	36	51	182	161	20	180
6	58	33	32	29	22	18	45	49	204	151	27	188
7	56	32	31	26	18	18	39	47	177	86	26	186
8	50	32	29	27	25	17	36	45	167	27	24	170
9	41	38	34	32	24	15	38	42	183	22	33	148
10	40	37	82	33	18	19	47	40	175	20	43	140
11	40	37	36	33	19	20	41	37	166	20	52	143
12	39	37	42	31	20	21	37	36	169	17	45	141
13	38	36	52	30	19	31	35	34	159	17	35	134
14	32	29	52	30	19	41	34	33	163	16	38	131
15	40	31	48	29	19	33	32	32	177	17	110	127
16	92	34	45	27	20	32	34	32	179	17	178	120
17	87	34	33	27	23	40	53	30	177	18	178	119
18	79	34	29	26	22	49	48	30	167	17	173	97
19	74	32	30	33	21	53	43	29	180	15	198	93
20	71	31	40	33	21	45	40	29	193	15	192	92
21	68	36	81	32	18	47	38	29	189	16	176	95
22	64	38	47	30	11	43	36	38	184	18	166	94
23	55	34	55	30	24	43	34	121	179	19	159	91
24	53	37	50	29	31	42	33	214	178	19	163	89
25	52	50	47	28	26	40	32	196	181	19	160	90
26	52	52	44	28	24	39	40	178	174	19	161	97
27	51	28	33	28	26	41	46	163	167	16	164	115
28	49	30	30	27	24	48	47	216	168	17	150	119
29	48	28	28	27	---	44	48	134	160	16	149	154
30	49	32	27	27	---	42	52	156	161	17	159	160
31	53	---	28	26	---	39	---	166	---	17	153	---
TOTAL	1,742	1,055	1,238	906	611	1,016	1,190	2,432	5,224	1,464	3,199	3,976
MEAN	56.2	35.2	39.9	29.2	21.8	32.8	39.7	78.5	174	47.2	103	133
MAX	92	52	82	33	31	53	53	216	204	162	198	188
MIN	32	28	27	26	11	15	32	29	155	15	16	89
AC-FT	3,460	2,090	2,460	1,800	1,210	2,020	2,360	4,820	10,360	2,900	6,350	7,890

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2003, BY WATER YEAR (WY)

MEAN	133	112	74.0	72.9	69.6	61.1	47.7	43.8	75.9	91.1	99.8	120
MAX	349	277	253	305	295	190	178	150	238	286	212	258
(WY)	(1996)	(1993)	(1995)	(1993)	(1993)	(1993)	(1993)	(1972)	(1994)	(2002)	(1995)	(2001)
MIN	17.2	21.9	15.4	5.90	1.75	10.6	5.88	5.80	9.92	16.2	25.1	26.6
(WY)	(1973)	(1973)	(1989)	(1989)	(1989)	(1975)	(1999)	(1974)	(1989)	(1990)	(1975)	(1972)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1971 - 2003

ANNUAL TOTAL	32,339.0	24,053	
ANNUAL MEAN	88.6	65.9	83.7
HIGHEST ANNUAL MEAN			172
LOWEST ANNUAL MEAN			24.2
HIGHEST DAILY MEAN	392	216	2,150
LOWEST DAILY MEAN	3.6	11	0.00
ANNUAL SEVEN-DAY MINIMUM	12	16	0.16
MAXIMUM PEAK FLOW		256	2,660
MAXIMUM PEAK STAGE		12.47	16.39
INSTANTANEOUS LOW FLOW		10	0.00
ANNUAL RUNOFF (AC-FT)	64,140	47,710	60,660
10 PERCENT EXCEEDS	239	167	177
50 PERCENT EXCEEDS	56	38	61
90 PERCENT EXCEEDS	21	19	16

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

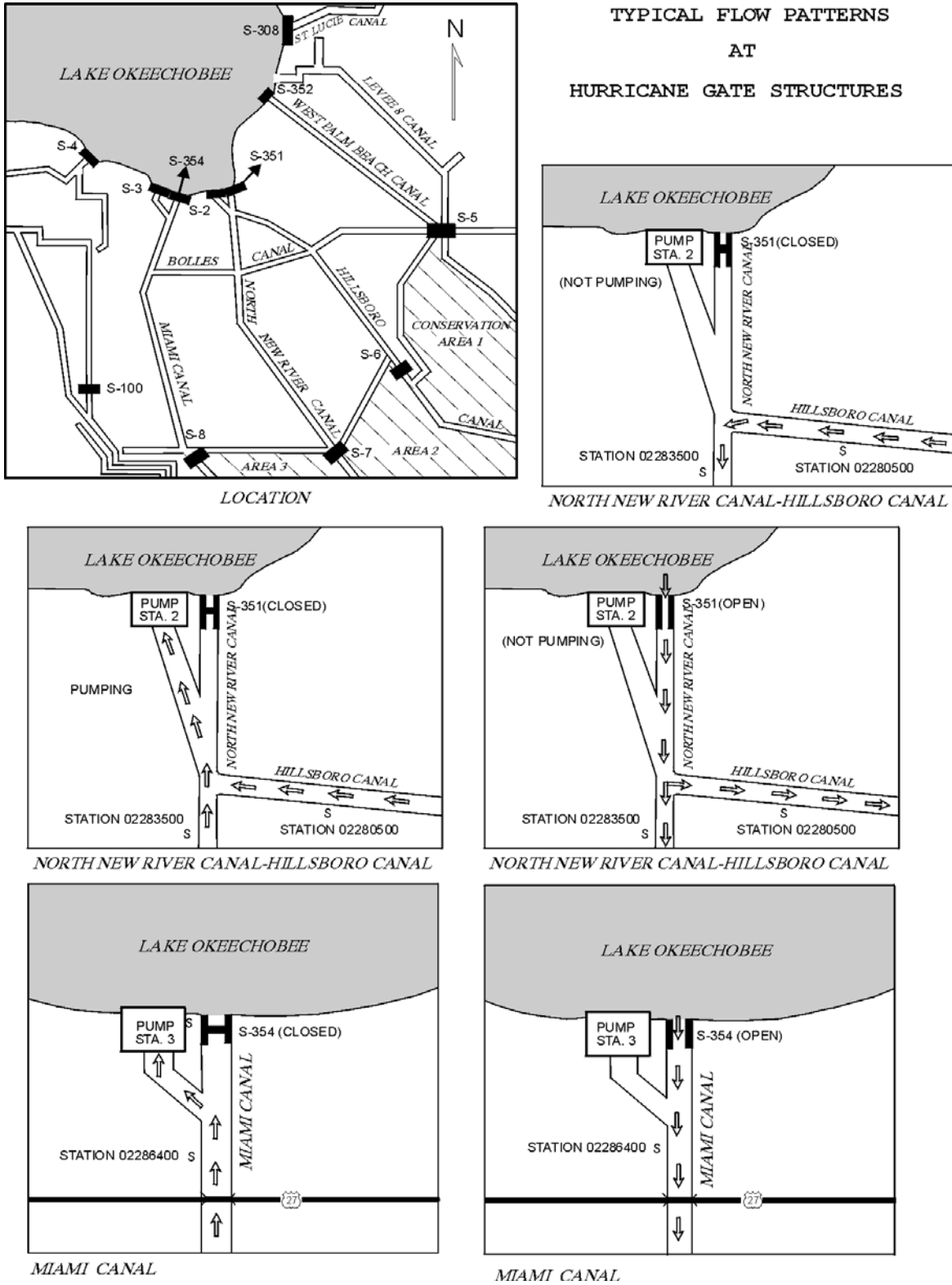


Figure 5. Typical flow patterns at Lake Okeechobee Control Structure.

02278000 WEST PALM BEACH CANAL AT S-352, AT CANAL POINT, FL

LOCATION.--Lat 26°51'05", long 80°37'55", in NE ¼ sec.33, T.41 S., R.37 E., Palm Beach County, Hydrologic Unit 03090202, in the instrumentation house of gate structure 352 at Lake Okeechobee, 200 ft upstream from bridge on U.S. Highway 441 at Canal Point.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--November 1940 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoders. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to January 14, 1954, nonrecording lake gage at site 550 ft downstream at same datum. January 14, 1954 to February 24, 1956, lake water-stage recorder, and February 25, 1956, to September 30, 1967, canal water-stage and deflection vane recorders all at present site and datum. May 1940, auxiliary water-stage recorder at old lock, 700 ft downstream from gate structures replaced on May 1, 1995, by data collection platform at structure. August 1986 to December 1989, electromagnetic velocity meter. Digital water-stage recorder removed and satellite data collection platform installed January 14, 1992.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated at station by operation of gates. Flow was occasionally reversed after periods of considerable rainfall because of downstream natural drainage and pumpage from agricultural lands in the Everglades (negative figures indicate flow reversed), since vertical lift gates replaced HGS-5, reverse flow is not expected. Discharge computed from relations between discharge, head, and gate openings at gate structure S-352. Discharge and lake gage height formerly published as West Palm Beach Canal at HGS-5, at Canal Point. Canal gage height prior to 1997 water year, formerly published as West Palm Beach Canal below S-352, at Canal Point under 02278002.

COOPERATION.--Gate record provided by South Florida Water Management District.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 59 complete water years of discharge (1941-89, 1992-97, 1999-2000, 2002-2003).

EXTREME LAKE STAGES FOR PERIOD OF RECORD.--Maximum gage height, 19.48 ft Mar. 9, 1998; minimum observed, 8.33 ft May 22, 2001.

EXTREME LAKE STAGES FOR CURRENT YEAR.--Maximum gage height, 17.61 ft Sept. 28; minimum, 14.23 ft May 22.

EXTREME CANAL STAGES FOR PERIOD OF RECORD.--Maximum gage height, 18.70 ft Oct. 12, 1947; minimum, 6.90 ft observed, Oct. 28, 1981.

EXTREME CANAL STAGES FOR CURRENT YEAR.--Maximum gage height, 12.46 ft Aug. 9; minimum 8.28 ft Mar. 22.

LAKE
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	15.58	15.28	---	15.96	15.99	15.49	15.51	15.21	15.05	15.21	15.37	16.50
2	15.61	15.27	---	15.98	15.91	15.52	15.47	15.29	15.00	15.23	15.38	16.54
3	15.65	15.19	---	16.17	15.83	15.45	15.45	15.25	14.96	15.32	15.37	16.60
4	15.67	15.16	---	16.09	15.81	15.44	15.42	15.24	14.94	15.33	15.41	16.67
5	15.67	15.13	15.15	16.04	15.80	15.38	15.44	15.14	15.00	15.31	15.43	16.70
6	15.66	15.24	15.20	16.11	15.75	15.38	15.40	15.05	14.97	15.30	15.44	16.84
7	15.62	15.23	15.19	16.18	15.72	15.40	---	15.00	14.94	15.31	15.48	16.96
8	15.52	15.09	15.13	16.16	15.71	15.38	---	14.98	14.98	15.30	15.49	17.00
9	15.49	15.09	15.17	16.16	15.70	15.42	15.48	14.96	15.02	15.26	15.54	16.98
10	15.50	15.08	15.36	16.18	15.69	15.36	15.74	14.92	15.01	15.21	15.60	16.99
11	15.42	15.08	15.38	16.23	15.69	15.24	15.58	14.93	14.97	15.18	15.68	17.01
12	15.39	15.09	15.41	16.28	15.65	15.23	15.40	14.95	14.95	15.16	15.69	16.99
13	15.38	---	15.50	16.26	15.57	15.26	15.36	14.87	14.92	15.12	15.69	16.97
14	15.45	---	15.67	16.31	15.48	15.24	15.31	14.77	14.92	15.14	15.72	16.97
15	15.48	14.97	15.57	16.28	15.47	15.26	15.22	14.73	14.93	15.16	15.82	16.99
16	15.53	15.07	15.57	16.25	15.50	15.21	15.20	14.75	14.93	15.17	15.89	16.97
17	15.53	---	15.53	16.37	15.55	15.36	15.20	14.70	14.92	15.17	15.91	16.92
18	15.42	---	15.53	16.39	15.56	15.39	15.17	14.66	14.91	15.13	15.95	16.88
19	15.37	---	15.54	16.27	15.49	15.36	15.15	14.64	14.98	15.14	16.02	---
20	15.37	---	15.69	16.24	15.48	15.38	15.11	14.63	15.02	15.15	16.01	16.77
21	15.37	---	15.76	16.21	15.47	15.43	15.11	14.58	15.16	15.15	16.08	16.70
22	15.37	---	15.70	16.21	15.48	15.44	15.14	14.47	15.23	15.13	16.14	16.70
23	15.31	---	15.69	16.30	15.66	15.46	15.12	14.56	15.26	15.19	16.20	16.71
24	15.32	---	15.71	16.33	15.46	15.51	14.96	14.62	15.23	15.31	16.25	16.67
25	15.33	---	15.94	16.08	15.48	15.40	14.92	14.64	15.23	15.35	16.28	16.67
26	---	---	15.81	16.03	15.49	15.37	15.08	14.67	15.26	15.36	16.30	16.78
27	15.34	---	15.77	16.04	15.51	15.39	15.19	14.68	15.29	15.38	16.36	16.83
28	15.28	---	15.78	16.00	15.51	15.51	15.15	14.93	15.30	15.39	16.37	16.87
29	15.27	---	15.73	15.96	---	---	15.17	15.04	15.22	15.39	16.46	16.94
30	15.32	---	15.72	15.95	---	---	15.14	15.09	15.19	15.38	16.46	17.08
31	15.30	---	15.70	15.96	---	---	---	15.05	---	15.37	16.46	---
TOTAL	---	---	---	500.98	437.41	---	---	461.00	451.69	472.70	492.25	---
MEAN	---	---	---	16.16	15.62	---	---	14.87	15.06	15.25	15.88	---
MAX	---	---	---	16.39	15.99	---	---	15.29	15.30	15.39	16.46	---
MIN	---	---	---	15.95	15.46	---	---	14.47	14.91	15.12	15.37	---

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02278000 WEST PALM BEACH CANAL AT S-352, AT CANAL POINT, FL

 CANAL
 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	11.61	11.44	10.74	10.45	11.87	10.60	9.99	9.59	9.51	10.40	9.55	9.53
2	11.45	11.59	10.28	11.47	12.02	10.47	10.27	10.43	10.16	10.51	10.46	9.71
3	10.36	11.62	11.04	11.43	12.01	10.44	10.24	9.47	10.21	10.20	9.80	9.49
4	10.57	11.61	10.20	11.22	12.02	10.83	10.80	9.82	10.22	10.41	11.24	9.44
5	10.86	11.60	10.79	11.22	11.34	11.50	11.23	10.30	9.71	10.77	11.26	9.56
6	11.04	11.59	10.64	11.23	11.13	11.40	11.22	11.03	9.60	11.03	10.47	9.33
7	11.29	11.55	11.27	11.17	11.44	11.35	---	11.52	9.72	11.08	9.61	9.64
8	11.52	11.24	11.21	11.24	11.63	11.18	---	11.38	9.98	10.94	9.86	9.85
9	11.50	10.67	10.31	11.18	11.41	11.21	10.68	11.37	10.12	10.88	11.89	9.45
10	11.10	10.73	10.03	11.16	11.40	11.35	10.31	11.34	9.35	10.64	10.63	9.13
11	11.45	10.75	11.16	11.45	11.46	11.68	10.87	11.55	9.77	10.25	11.25	9.24
12	11.53	10.81	11.14	11.34	11.34	11.53	11.17	11.41	9.32	9.82	11.61	9.49
13	11.68	11.05	11.19	11.26	11.33	11.26	11.23	11.28	9.62	10.19	10.80	9.85
14	10.46	---	11.23	11.21	11.22	10.74	11.18	11.17	9.28	10.16	10.82	10.14
15	9.82	10.95	11.26	11.27	11.27	11.10	11.44	11.24	9.44	10.59	10.89	9.70
16	11.62	11.13	10.99	11.13	11.23	11.03	11.38	11.37	9.85	10.42	9.94	9.63
17	11.42	11.48	11.29	11.10	11.23	11.42	11.42	11.33	9.55	10.27	9.89	9.76
18	11.37	9.39	11.12	11.04	11.25	9.58	11.71	11.14	9.88	9.87	10.82	9.89
19	11.53	10.70	11.09	11.08	11.12	9.41	11.69	11.21	10.06	9.56	11.15	---
20	11.52	11.37	11.23	11.07	10.93	10.50	11.40	10.91	9.57	9.34	10.72	10.55
21	11.65	11.03	10.92	11.06	11.22	10.23	11.58	10.36	10.28	9.84	10.10	10.76
22	11.46	---	10.78	10.84	10.67	9.43	11.44	10.31	9.95	10.52	9.53	10.72
23	11.38	---	10.81	11.27	9.82	9.29	11.31	10.44	9.93	10.24	9.42	10.53
24	11.56	11.22	10.27	11.55	10.47	10.35	11.47	10.64	9.17	10.80	9.16	10.52
25	11.64	10.99	10.25	11.62	10.72	10.0	11.60	10.78	9.12	9.58	9.44	10.58
26	---	11.15	10.98	11.25	10.68	10.09	10.70	9.31	9.46	9.98	8.94	10.43
27	9.28	11.18	11.15	10.94	10.80	10.63	9.44	9.95	9.12	10.17	9.07	9.26
28	11.15	11.32	11.11	11.21	10.79	9.43	10.71	11.06	9.85	10.66	9.45	10.37
29	11.23	---	11.10	11.47	---	---	11.17	9.66	10.48	10.37	11.02	10.60
30	11.67	11.20	11.12	11.61	---	---	9.52	10.08	10.50	9.51	9.10	10.79
31	11.59	---	10.94	11.66	---	---	---	10.06	---	9.82	9.07	---
TOTAL	---	---	337.64	348.20	313.82	---	---	331.51	292.78	318.82	316.96	---
MEAN	---	---	10.89	11.23	11.21	---	---	10.69	9.76	10.28	10.22	---
MAX	---	---	11.29	11.66	12.02	---	---	11.55	10.50	11.08	11.89	---
MIN	---	---	10.03	10.45	9.82	---	---	9.31	9.12	9.34	8.94	---

02278000 WEST PALM BEACH CANAL AT S-352, AT CANAL POINT, FL

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	1,100	880	e396	0.00	961	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1,080	883	e145	774	965	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	390	898	e726	1,060	954	9.3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	902	e251	1,070	646	355	465	0.00	0.00	0.00	0.00	0.00
5	0.00	930	313	1,070	509	756	464	128	0.00	0.00	0.00	0.00
6	0.00	944	278	1,080	547	692	380	687	0.00	0.00	0.00	0.00
7	492	990	676	1,100	842	595	e567	832	0.00	0.00	0.00	0.00
8	1,100	565	594	1,080	794	503	e309	771	0.00	0.00	0.00	0.00
9	1,040	280	182	1,090	686	423	154	841	0.00	0.00	0.00	0.00
10	830	344	388	1,090	739	667	138	826	0.00	0.00	0.00	0.00
11	1,140	286	923	1,060	602	693	563	703	0.00	0.00	0.00	0.00
12	1,140	419	943	1,080	655	637	579	698	0.00	90	0.00	0.00
13	1,100	e416	872	1,080	726	601	516	786	0.00	295	0.00	0.00
14	419	e331	830	1,090	723	276	650	822	0.00	212	0.00	0.00
15	508	123	1,000	1,080	639	199	858	919	0.00	0.00	0.00	0.00
16	927	0.00	1,060	1,080	472	232	861	873	0.00	0.00	0.00	0.00
17	900	0.00	996	1,070	218	0.00	862	595	0.00	0.00	0.00	0.00
18	1,010	0.00	1,030	1,040	0.00	0.00	830	398	0.00	0.00	0.00	0.00
19	1,110	e121	1,030	1,020	0.00	0.00	632	165	0.00	0.00	0.00	0.00
20	1,130	0.00	928	1,010	0.00	0.00	750	0.00	0.00	0.00	0.00	0.00
21	1,070	0.00	766	1,010	0.00	0.00	795	44	0.00	0.00	0.00	0.00
22	985	e185	961	1,030	0.00	0.00	824	53	0.00	0.00	0.00	0.00
23	1,140	e801	892	1,010	0.00	0.00	798	0.00	0.00	0.00	0.00	0.00
24	1,150	e777	576	1,010	0.00	0.00	929	0.00	0.00	0.00	0.00	0.00
25	874	e585	349	992	0.00	0.00	901	0.00	0.00	0.00	0.00	0.00
26	e296	e738	741	1,060	0.00	0.00	196	0.00	0.00	0.00	0.00	0.00
27	249	e734	1,050	1,070	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	930	e553	1,060	1,030	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	1,020	e713	1,050	1,030	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	914	e804	1,050	1,020	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	862	---	842	937	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	24906.00	15,202.00	22,898	31,223.00	11,678.00	6,638.30	14,021.00	10,141.00	0.00	597.00	0.00	0.00
MEAN	803	507	739	1,007	417	214	467	327	0.000	19.3	0.000	0.000
MAX	1,150	990	1,060	1,100	965	756	929	919	0.00	295	0.00	0.00
MIN	0.00	0.00	145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	49,400	30,150	45,420	61,930	23,160	13,170	27,810	20,110	0.00	1,180	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	91.9	171	223	216	220	231	320	300	99.7	32.7	87.7	21.4
MAX	803	507	739	1,007	637	610	840	743	703	706	1,156	1,183
(WY)	(2003)	(2003)	(2003)	(2003)	(1949)	(1949)	(1999)	(1965)	(1998)	(1992)	(1959)	(1959)
MIN	-350	-247	-77.0	-13.6	-80.6	-21.2	-99.6	-170	-1,130	-939	-528	-813
(WY)	(1951)	(1964)	(1964)	(1941)	(1941)	(1982)	(1962)	(1976)	(1942)	(1947)	(1953)	(1945)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1940 - 2003

ANNUAL TOTAL	177,381.60	137,304.30	
ANNUAL MEAN	486	376	170
HIGHEST ANNUAL MEAN			376
LOWEST ANNUAL MEAN			-20.8
HIGHEST DAILY MEAN	1,300	1,150	1,610
LOWEST DAILY MEAN	0.00	0.00	-1,760
ANNUAL SEVEN-DAY MINIMUM	0.00	0.00	-1,640
ANNUAL RUNOFF (AC-FT)	351,800	272,300	123,200
10 PERCENT EXCEEDS	1,100	1,030	556
50 PERCENT EXCEEDS	482	123	67
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

265501080364900 LEVEE 8 CANAL NEAR CANAL POINT, FL

LOCATION.--Lat 26°55'01", long 80°36'49", in SE ¼ sec.10, T.41S., R.37 E., Palm Beach County, Hydrologic Unit 03090202, on west side of U.S. Highway 441 bridge, 3.6 mi northeast of Canal Point, and 4.8 mi south of Port Mayaca, at Sand Cut.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--August 1976 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic velocity meter. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity. Flow regulated by gated structure at Lake Okeechobee. Flow reverses during and after periods of heavy rainfall because of pumpage into the canal from agricultural lands in the Everglades (negative figures indicate flow towards Lake Okeechobee).

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 18 complete water years of discharge (1977-89, 1995, 1997-99, 2002).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 19.39 ft Oct. 19, 1995; minimum, 8.57 ft May 21, 2001 (estimated).

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 17.05 ft Sept. 30; minimum, 13.66 ft Mar. 25.

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	15.00	15.36	15.18	---	15.94	---	15.42	15.25	15.05	15.23	15.40	16.53
2	14.95	15.34	15.18	15.90	15.82	---	15.38	15.28	15.01	15.25	15.39	16.58
3	14.83	15.30	15.19	16.08	15.78	---	15.37	15.17	14.97	15.35	15.40	16.59
4	15.10	15.25	15.17	16.01	15.76	15.40	15.34	15.14	14.98	15.36	15.54	16.65
5	15.57	15.23	15.20	15.93	15.72	15.18	15.31	15.09	14.99	15.31	15.69	16.56
6	15.53	15.32	15.17	16.00	15.67	---	15.28	15.02	15.03	15.30	15.66	16.03
7	15.55	15.27	15.16	16.01	15.64	---	---	14.98	15.01	15.32	15.70	15.74
8	15.49	15.17	15.11	16.02	15.57	---	15.28	14.95	15.02	15.31	15.66	15.14
9	15.48	15.15	15.17	16.08	15.57	---	---	14.93	15.07	15.32	15.79	14.59
10	15.45	15.15	15.47	16.20	15.58	---	---	14.93	15.07	15.25	15.93	14.13
11	15.42	15.14	15.51	16.18	15.58	---	15.50	14.90	15.01	15.22	16.17	14.40
12	15.39	15.16	15.53	16.15	15.51	---	15.27	14.91	14.97	15.15	16.06	14.42
13	15.39	15.18	15.63	16.19	15.44	15.20	15.23	14.82	14.95	15.07	16.04	15.23
14	15.46	---	15.78	16.22	15.39	15.23	15.18	14.74	14.91	15.11	16.14	15.43
15	15.58	15.06	15.64	16.18	15.39	15.21	15.09	14.68	14.91	15.19	16.17	15.43
16	15.66	15.16	15.63	16.13	15.41	15.16	15.09	14.71	14.90	15.20	16.10	15.44
17	15.61	15.58	15.59	16.20	15.47	15.39	15.11	14.66	14.88	15.20	16.09	15.25
18	15.51	15.31	15.57	16.16	15.47	15.42	15.09	14.61	14.89	15.14	16.16	15.07
19	15.49	15.18	15.55	16.08	15.43	15.38	15.05	14.57	15.01	15.17	16.36	15.03
20	15.48	15.23	15.68	16.10	15.40	15.38	15.02	14.54	15.07	15.15	16.34	15.03
21	15.43	15.27	15.67	16.11	15.26	15.40	15.00	14.50	15.24	15.17	16.35	15.00
22	15.37	---	15.62	15.64	15.32	15.35	15.01	14.45	15.35	15.16	16.31	15.03
23	15.33	---	15.59	15.62	15.48	---	15.01	14.56	15.40	15.19	16.35	14.96
24	15.33	15.18	15.62	16.06	15.23	14.83	14.91	14.66	15.31	15.31	16.36	14.95
25	15.42	15.17	15.77	16.00	15.25	14.14	14.90	14.68	15.29	15.35	16.42	14.99
26	---	15.20	15.68	15.98	15.30	14.87	15.02	14.71	15.32	15.33	16.41	15.12
27	15.42	15.25	15.73	15.98	15.45	14.32	15.11	14.72	15.36	15.29	16.43	14.24
28	15.39	---	15.83	15.92	---	15.06	15.09	---	15.36	15.35	16.44	14.27
29	15.35	---	15.78	15.93	---	15.51	15.11	---	15.28	15.37	16.53	15.43
30	15.42	15.21	15.75	15.90	---	---	15.09	15.21	15.23	15.38	16.52	16.69
31	15.40	---	15.66	15.90	---	---	---	15.11	---	15.42	16.49	---
TOTAL	---	---	480.81	---	---	---	---	---	452.84	472.92	498.40	459.95
MEAN	---	---	15.51	---	---	---	---	---	15.09	15.26	16.08	15.33
MAX	---	---	15.83	---	---	---	---	---	15.40	15.42	16.53	16.69
MIN	---	---	15.11	---	---	---	---	---	14.88	15.07	15.39	14.13

265501080364900 LEVEE 8 CANAL NEAR CANAL POINT, FL

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	200	121	294	e388	418	e249	303	-30	199	200	93	142
2	216	122	281	424	472	e293	324	241	182	207	68	121
3	225	e88	223	456	432	e277	328	370	130	124	107	236
4	e296	197	212	432	430	333	374	383	60	121	-301	248
5	385	e234	212	476	417	275	408	328	187	171	-543	117
6	406	232	304	467	419	---	396	342	-75	183	-479	-10
7	e364	e201	308	480	455	---	e370	343	-106	155	-468	-11
8	361	158	328	508	463	---	386	349	73	194	-343	-11
9	e344	165	296	453	469	---	e409	351	-46	138	-485	-12
10	e378	e164	-5.9	347	443	---	e471	291	-169	214	-635	-10
11	e374	e174	44	414	427	---	388	344	32	234	-821	-9.5
12	e375	e180	71	475	454	---	403	360	200	308	-693	153
13	342	e168	138	427	428	406	399	363	193	354	-714	301
14	276	e130	105	430	408	283	399	345	267	320	-753	293
15	e120	116	67	441	412	375	415	372	285	221	-674	288
16	-32	98	140	488	413	377	417	343	291	204	-487	279
17	44	118	122	532	388	131	398	298	297	223	-416	301
18	106	86	219	531	334	33	379	302	284	279	-393	307
19	114	345	286	537	322	116	372	307	148	261	-493	303
20	168	222	298	495	383	211	373	302	25	312	-495	303
21	e272	167	326	465	318	281	408	298	16	285	-427	302
22	365	e134	397	308	182	336	440	266	-245	273	-306	303
23	e363	e333	415	492	182	e312	383	144	-325	294	-277	306
24	372	324	412	548	203	100	354	-29	-176	207	-199	304
25	206	330	479	420	368	6.8	341	-22	-68	220	-255	300
26	e139	323	405	438	363	9.0	296	-8.6	9.0	255	-174	140
27	114	241	315	404	336	-4.3	348	-41	-85	338	-53	-7.4
28	e153	e255	124	444	e281	119	308	---	-20	265	11	-9.9
29	e268	e253	244	412	---	257	313	---	60	234	-47	-3.1
30	e201	287	277	439	---	e279	294	-343	129	200	2.5	-14
31	102	---	362	431	---	e225	---	-116	---	-31	137	---
TOTAL	7,617	5,966	7,698.1	14,002	10,620	---	11,197	---	1,752.0	6,963	-10,512.5	4,949.1
MEAN	246	199	248	452	379	---	373	---	58.4	225	-339	165
MAX	406	345	479	548	472	---	471	---	297	354	137	307
MIN	-32	86	-5.9	308	182	---	294	---	-325	-31	-821	-14
AC-FT	15,110	11,830	15,270	27,770	21,060	---	22,210	---	3,480	13,810	-20,850	9,820

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)
	-95.1	365	-564	(1989)	-23.1	199	-313	(1988)	60.2	359	-182	(1989)	73.1	452	-107	(1987)
	200	406	-32	(2001)	121	345	-313	(1988)	294	479	-182	(1978)	414	548	-107	(1987)
	216	361	106	(1989)	122	365	-313	(1988)	281	479	-182	(1989)	424	548	-107	(1987)
	225	361	106	(1989)	e88	345	-313	(1988)	223	479	-182	(1989)	456	548	-107	(1987)
	e296	361	106	(1989)	197	345	-313	(1988)	212	479	-182	(1989)	432	548	-107	(1987)
	385	361	106	(1989)	e234	345	-313	(1988)	212	479	-182	(1989)	476	548	-107	(1987)
	406	361	106	(1989)	232	345	-313	(1988)	304	479	-182	(1989)	467	548	-107	(1987)
	e364	361	106	(1989)	e201	345	-313	(1988)	308	479	-182	(1989)	480	548	-107	(1987)
	361	361	106	(1989)	158	345	-313	(1988)	328	479	-182	(1989)	508	548	-107	(1987)
	e344	361	106	(1989)	165	345	-313	(1988)	296	479	-182	(1989)	469	548	-107	(1987)
	e378	361	106	(1989)	e164	345	-313	(1988)	-5.9	479	-182	(1989)	347	548	-107	(1987)
	e374	361	106	(1989)	e174	345	-313	(1988)	44	479	-182	(1989)	414	548	-107	(1987)
	e375	361	106	(1989)	e180	345	-313	(1988)	71	479	-182	(1989)	475	548	-107	(1987)
	342	361	106	(1989)	e168	345	-313	(1988)	138	479	-182	(1989)	427	548	-107	(1987)
	276	361	106	(1989)	e130	345	-313	(1988)	105	479	-182	(1989)	408	548	-107	(1987)
	e120	361	106	(1989)	116	345	-313	(1988)	67	479	-182	(1989)	441	548	-107	(1987)
	-32	361	106	(1989)	98	345	-313	(1988)	140	479	-182	(1989)	488	548	-107	(1987)
	44	361	106	(1989)	118	345	-313	(1988)	122	479	-182	(1989)	388	548	-107	(1987)
	106	361	106	(1989)	86	345	-313	(1988)	219	479	-182	(1989)	334	548	-107	(1987)
	114	361	106	(1989)	345	345	-313	(1988)	286	479	-182	(1989)	322	548	-107	(1987)
	168	361	106	(1989)	222	345	-313	(1988)	298	479	-182	(1989)	383	548	-107	(1987)
	e272	361	106	(1989)	167	345	-313	(1988)	326	479	-182	(1989)	318	548	-107	(1987)
	365	361	106	(1989)	e134	345	-313	(1988)	397	479	-182	(1989)	182	548	-107	(1987)
	e363	361	106	(1989)	e333	345	-313	(1988)	415	479	-182	(1989)	182	548	-107	(1987)
	372	361	106	(1989)	324	345	-313	(1988)	412	479	-182	(1989)	203	548	-107	(1987)
	206	361	106	(1989)	330	345	-313	(1988)	479	479	-182	(1989)	368	548	-107	(1987)
	e139	361	106	(1989)	323	345	-313	(1988)	405	479	-182	(1989)	363	548	-107	(1987)
	114	361	106	(1989)	241	345	-313	(1988)	315	479	-182	(1989)	336	548	-107	(1987)
	e153	361	106	(1989)	e255	345	-313	(1988)	124	479	-182	(1989)	e281	548	-107	(1987)
	e268	361	106	(1989)	e253	345	-313	(1988)	244	479	-182	(1989)	---	548	-107	(1987)
	e201	361	106	(1989)	287	345	-313	(1988)	277	479	-182	(1989)	---	548	-107	(1987)
	102	361	106	(1989)	---	345	-313	(1988)	362	479	-182	(1989)	---	548	-107	(1987)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

WATER YEARS 1976 - 2003

ANNUAL TOTAL	24,264.8		
ANNUAL MEAN	66.5		-2.02
HIGHEST ANNUAL MEAN			125
LOWEST ANNUAL MEAN			-126
HIGHEST DAILY MEAN	479	Dec 25	766
LOWEST DAILY MEAN	-619	Jul 11	-1,400
ANNUAL SEVEN-DAY MINIMUM	-567	Jul 9	-1,160
ANNUAL RUNOFF (AC-FT)	48,130		-1,460
10 PERCENT EXCEEDS	276		205
50 PERCENT EXCEEDS	111		0.00
90 PERCENT EXCEEDS	-240		-197

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02278450 WEST PALM BEACH CANAL ABOVE S-5A, NEAR LOXAHATCHEE, FL

LOCATION.--Lat 26°41'05", long 80°22'15", in SW ¼ sec.32, T.43 S., R.43 E., Palm Beach County, Hydrologic Unit 03090202, near south bank, 500 ft upstream from pump station S-5A, 0.3 mi upstream from Levee 8 Canal, 1.1 mi downstream from bridge on U.S. Highway 441 and Cross Canal, and 6 mi west of Loxahatchee.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1957 to current year.

REVISED RECORDS.--WDR FL-93-2A:1983.

GAGE.--Electronic data logger for the conservation area, satellite data collection platform with water-stage shaft encoder for West Palm Beach Canal, Moscad RF Data/Telemetry system operated by South Florida Water Management District for Levee 8 Canal. Satellite data collection platform for Levee 8 Canal discontinued on November 19, 2001. Datum of gage is National Geodetic Vertical Datum of 1929 (South Florida Water Management District bench mark). Prior to September 30, 1967, deflection vane recorder at same site and auxiliary water-stage recorder at control structure 5A-W, 0.3 mi downstream. Prior to October 1, 1981, datum of gage is 0.24 ft higher, from October 1, 1981 to June 22, 1994, datum of gage is -.19 ft lower and from June 22, 1994 to October 1, 2001 datum of gage is .11 ft higher than present datum. The change in datum is based upon an adjustment to FCE 790 benchmark elevation surveyed by South Florida Water Management District.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated primarily by pumpage at S-5A and to a lesser extent by operation of control structure 5A-W. Major regulation above the station occurs in Cross Canal, 1.5 mi upstream, and at Lake Okeechobee, 20 mi upstream. Discharge is the difference between pumpage at S-5A and gate discharge at S-5A-W. Negative figures indicate flow to the west. See records on Diversions to Conservation Area No. 1 at S-5A, near Loxahatchee (station 02278500; pump station S-5A, upper), for table of daily gage height and extremes for period of record. Starting in water year 2001, negative discharge from control structure S-5A-W is considered estimated due to updated information provided to the U.S. Geological Survey. Prior negative discharges are not marked estimated in the files or databases of U.S. Geological Survey. Estimated discharge does not necessarily indicate negative discharge through control structure S-5A-W.

COOPERATION.--Gate-opening, pump records and supplemental stage data provided by South Florida Water Management District.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 46 complete water years of discharge (1958-2003).

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	1,420	639	789	0.00	416	0.00	0.00	526	142	0.00	850	442
2	1,480	806	100	1,460	405	0.00	0.00	517	0.00	0.00	1,560	727
3	319	802	670	1,570	426	54	0.00	500	388	734	636	707
4	-356	761	661	1,290	0.00	0.00	147	0.00	1,040	0.00	2,330	570
5	-320	782	0.00	1,400	318	488	0.00	-0.80	726	0.00	2,610	861
6	-286	797	523	1,210	269	267	0.00	351	432	0.00	2,310	344
7	826	802	549	1,200	430	111	399	537	464	0.00	1,670	619
8	1,320	58	544	908	409	0.00	0.00	287	751	0.00	619	648
9	1,220	0.00	1,460	1,330	414	0.00	172	387	1,380	0.00	2,640	549
10	739	0.00	1,900	1,050	405	496	230	538	486	0.00	2,760	283
11	1,310	0.00	1,720	935	0.00	15	0.00	0.00	548	0.00	3,080	0.00
12	1,320	0.00	1,430	1,420	411	0.00	0.00	442	388	0.00	3,260	0.00
13	1,430	50	1,640	1,400	414	403	0.00	131	386	0.00	2,780	0.00
14	1,360	0.00	1,910	1,400	419	0.00	276	360	298	0.00	2,490	0.00
15	803	64	1,700	1,140	0.00	0.00	264	456	0.00	0.00	2,640	478
16	1,180	0.00	1,480	1,050	0.00	0.00	263	164	11	550	1,820	0.00
17	1,550	2,950	1,560	866	0.00	1,930	536	0.00	400	743	670	0.00
18	1,590	999	1,480	862	0.00	2,150	217	0.00	151	535	1,660	0.00
19	1,600	268	1,420	862	0.00	994	0.00	0.00	1,600	475	2,120	0.00
20	1,360	0.00	1,710	866	157	486	545	0.00	535	366	2,240	0.00
21	1,270	1,340	1,950	872	280	822	185	0.00	1,740	0.00	2,130	0.00
22	1,330	762	1,510	666	981	651	273	0.00	1,860	0.00	1,520	0.00
23	1,370	809	1,400	0.00	709	463	263	0.00	2,210	526	1,420	0.00
24	1,110	820	1,060	0.00	0.00	465	296	0.00	1,540	1,470	1,110	0.00
25	865	802	162	1,230	0.00	0.00	260	654	511	578	1,190	0.00
26	1,390	769	1,330	1,650	0.00	0.00	1,610	204	522	604	921	1,500
27	932	811	1,410	1,190	0.00	785	483	621	317	682	780	440
28	1,430	0.00	1,270	805	0.00	2,650	832	2,270	0.00	723	386	1,750
29	1,100	803	1,390	847	---	797	2,810	2,580	0.00	794	1,840	2,350
30	858	782	1,410	846	---	0.00	1,720	1,040	0.00	523	1,100	2,990
31	873	---	1,070	625	---	516	---	799	---	1,360	89	---
TOTAL	32,393	17,476.00	37,208.00	30,950.00	6,863.00	14,543.00	11,781.00	13,363.20	18,826.00	10,663.00	53,231	15,258.00
MEAN	1,045	583	1,200	998	245	469	393	431	628	344	1,717	509
MAX	1,600	2,950	1,950	1,650	981	2,650	2,810	2,580	2,210	1,470	3,260	2,990
MIN	-356	0.00	0.00	0.00	0.00	0.00	0.00	-0.80	0.00	0.00	89	0.00
AC-FT	64,250	34,660	73,800	61,390	13,610	28,850	23,370	26,510	37,340	21,150	105,600	30,260

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003, BY WATER YEAR (WY)

	502	265	233	333	271	295	234	288	513	536	671	762
MEAN	502	265	233	333	271	295	234	288	513	536	671	762
MAX	1,713	1,381	1,200	2,149	1,321	1,588	840	1,174	1,865	1,309	1,894	2,040
(WY)	(2000)	(1988)	(2003)	(1958)	(1983)	(1970)	(1960)	(1976)	(1968)	(1988)	(1959)	(1959)
MIN	-408	-230	-242	-148	-180	-69.3	-165	-381	-101	-98.8	-162	-107
(WY)	(1989)	(1990)	(1985)	(1985)	(1985)	(1975)	(1986)	(1983)	(1987)	(1979)	(1984)	(1970)

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02278450 WEST PALM BEACH CANAL ABOVE S-5A, NEAR LOXAHATCHEE, FL

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1958 - 2003	
ANNUAL TOTAL	272,550.70		262,555.20			
ANNUAL MEAN	747		719		409	
HIGHEST ANNUAL MEAN					719	2003
LOWEST ANNUAL MEAN					150	1990
HIGHEST DAILY MEAN	3,930	Jun 25	3,260	Aug 12	5,230	Mar 27, 1970
LOWEST DAILY MEAN	-356	Oct 4	-356	Oct 4	-967	Jun 3, 1991
ANNUAL SEVEN-DAY MINIMUM	-189	Mar 13	0.00	Feb 24	-624	Jun 6, 1984
ANNUAL RUNOFF (AC-FT)	540,600		520,800		296,500	
10 PERCENT EXCEEDS	1,760		1,660		1,390	
50 PERCENT EXCEEDS	586		537		118	
90 PERCENT EXCEEDS	0.00		0.00		-54	

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02278500 DIVERSIONS TO CONSERVATION AREA NO. 1 AT S-5A AND S-5A-S, NEAR LOXAHATCHEE, FL

LOCATION.--Lat 26°41'00", long 80°22'10", in SW ¼ sec.32, T.43 S., R.40 E., Palm Beach County, Hydrologic Unit 03090202, at pump station S-5A, 1.5 mi downstream from Cross Canal, and 6 mi west of Loxahatchee.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1957 to current year. Records of gage heights prior to October 1961 are available in files of the U.S. Geological Survey.

GAGE.--Electronic data logger for the conservation area, satellite data collection platform with water-stage shaft encoder for West Palm Beach Canal. Moscad RF Data/Telemetry system operated by South Florida Water Management District for Levee 8 Canal. Satellite data collection platform for Levee 8 Canal discontinued on November 19, 2001. Datum of gage is National Geodetic Vertical Datum of 1929 (South Florida Water Management District benchmark). Prior to September 30, 1967, auxiliary deflection vane recorder 500 ft upstream and in Levee 8 Canal, and auxiliary water-stage recorder upstream from S-5A-W and downstream from S-5A-E. Prior to October 1, 1981, datum of gage is 0.24 ft higher, from October 1, 1981 to June 22, 1994, datum of gage is -0.19 ft lower and from June 22, 1994 to October 1, 2001, datum of gage is 0.11 ft higher than present datum. The change in datum is based upon an adjustment to FCE 790 benchmark elevation surveyed by South Florida Water Management District.

REMARKS.--No estimated daily discharges. Records fair. Normal flow is considered as that to the south into Conservation Area No. 1. Flow is controlled by S-5A pumpage, siphoning, gate operation of S-5A-S, and regulation of Cross Canal, 1.5 mi upstream, and gate structure S-352, 20 mi upstream. Negative figures indicate releases from gate S-5A-S when stage in the conservation area is higher than stage in Levee 8 Canal. The discharge is summation of S-5A pumpage, siphoning and S-5A-S gate flow. Stage determined from either of 2 sources, digital recorder at 02278500 or DCP stage from 02278520 station. Digital recorder discontinued on January 14, 1999. Starting October 1, 2001 the datum of all the gages is 0.11 ft higher. No corrections to previous years were deemed necessary. See GAGE.

COOPERATION.--Gate-opening, pump records and supplemental stage record provided by South Florida Water Management District.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 46 complete water years of discharge (1958-2003).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 14.18 ft present datum, Oct. 3, 1957; minimum, 6.78 ft present datum, Oct. 28, 1981. See GAGE.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 12.50 ft Aug. 9; minimum, 8.53 ft Aug. 28. See GAGE.

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	9.20	10.60	10.23	10.60	11.11	10.78	10.21	9.66	9.70	10.57	9.53	9.50
2	9.09	10.72	10.39	9.71	11.20	10.71	10.47	10.35	10.36	10.68	9.96	9.64
3	9.62	10.57	10.35	9.02	11.18	10.63	10.42	9.59	10.32	10.08	9.78	9.41
4	10.81	10.54	10.02	9.01	11.84	10.76	10.55	10.01	9.93	10.58	9.97	9.40
5	11.10	10.34	10.76	9.01	11.23	10.90	11.23	10.34	9.70	10.94	9.86	9.41
6	11.29	10.35	10.63	9.07	10.83	11.01	11.19	10.43	9.69	11.15	9.52	9.45
7	10.62	10.33	10.80	9.01	10.80	11.17	10.79	10.59	9.77	11.22	9.06	9.67
8	9.35	10.97	10.85	9.45	11.03	11.13	10.97	10.77	9.98	11.12	9.94	9.82
9	9.46	10.79	9.82	9.06	10.95	11.24	10.74	10.57	9.89	11.05	10.43	9.48
10	10.17	10.83	8.97	9.23	10.90	10.80	10.55	10.46	9.47	10.80	9.18	9.30
11	9.20	10.90	9.21	9.77	11.25	11.26	10.81	11.23	9.78	10.39	9.23	9.45
12	9.15	10.87	9.20	9.18	10.91	11.27	11.15	10.90	9.39	9.92	9.16	9.70
13	9.58	11.14	9.24	9.07	10.80	10.80	11.31	10.68	9.67	10.18	9.05	10.03
14	9.62	11.19	9.27	9.07	10.65	10.75	10.96	10.33	9.37	10.24	9.28	10.32
15	9.02	11.10	9.20	9.42	10.99	11.21	10.74	10.12	9.61	10.71	9.12	9.81
16	10.19	11.32	8.83	9.14	11.16	11.08	10.60	10.45	10.01	10.41	9.15	9.86
17	9.89	10.61	9.17	9.31	11.36	10.85	10.55	11.03	9.60	10.24	9.90	9.96
18	9.39	9.31	8.96	9.46	11.47	8.99	11.11	11.13	10.05	9.88	10.05	10.10
19	9.12	10.77	9.07	9.65	11.30	9.30	11.45	11.34	9.75	9.58	9.21	10.53
20	9.21	11.55	9.14	9.60	11.10	10.46	10.82	11.09	9.69	9.42	9.06	10.73
21	9.78	10.84	9.22	9.64	11.20	10.06	11.11	10.53	9.93	10.03	8.99	10.92
22	9.67	9.71	8.93	9.44	10.32	9.46	10.97	10.44	9.68	10.71	9.02	10.89
23	9.05	10.31	9.07	10.53	9.80	9.38	10.91	10.61	9.25	10.25	9.26	10.74
24	9.43	10.37	9.14	10.84	10.63	10.37	10.68	10.83	9.01	10.11	9.12	10.71
25	10.48	10.46	10.13	10.52	10.90	10.17	10.71	10.73	9.24	9.46	9.26	10.77
26	10.72	10.40	9.68	9.34	10.88	10.25	10.03	9.48	9.53	9.91	8.98	9.84
27	9.02	10.43	9.12	9.12	11.00	10.47	9.55	10.02	9.19	10.07	9.06	9.31
28	9.50	11.26	9.07	9.92	10.99	9.04	10.39	10.43	10.02	10.43	9.50	9.71
29	9.60	10.56	8.99	10.20	---	9.34	9.97	9.09	10.60	10.23	10.23	9.16
30	10.64	10.31	9.02	10.48	---	9.78	9.06	9.99	10.63	9.55	8.86	9.12
31	10.67	---	9.25	10.80	---	9.85	---	9.97	---	9.50	9.19	---
TOTAL	303.64	319.45	295.73	297.67	307.78	323.27	320.00	323.19	292.81	319.41	291.91	296.74
MEAN	9.79	10.65	9.54	9.60	10.99	10.43	10.67	10.43	9.76	10.30	9.42	9.89
MAX	11.29	11.55	10.85	10.84	11.84	11.27	11.45	11.34	10.63	11.22	10.43	10.92
MIN	9.02	9.31	8.83	9.01	9.80	8.99	9.06	9.09	9.01	9.42	8.86	9.12

02278500 DIVERSIONS TO CONSERVATION AREA NO. 1 AT S-5A AND S-5A-S, NEAR LOXAHATCHEE, FL

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	1,000	639	789	0.00	585	0.00	0.00	526	73	0.00	850	476
2	1,100	806	100	1,460	358	0.00	0.00	517	-4.2	0.00	1,560	1,070
3	337	802	670	1,570	410	54	0.00	483	280	734	636	882
4	0.00	761	661	1,290	0.00	0.00	147	-62	964	0.00	2,330	724
5	0.00	782	110	1,410	318	309	-103	-108	726	0.00	2,610	1,120
6	0.00	797	744	1,280	269	170	-175	2.4	432	0.00	2,310	383
7	1,060	802	622	1,200	430	-58	269	178	530	0.00	1,670	656
8	1,690	58	597	908	404	-166	-149	68	751	0.00	619	648
9	1,660	0.00	1,480	1,330	119	-58	82	20	1,380	0.00	2,640	549
10	1,130	0.00	1,900	1,180	264	424	230	138	486	0.00	2,760	219
11	1,660	0.00	1,720	1,110	-47	-100	0.00	-302	548	0.00	3,080	-42
12	1,550	0.00	1,430	1,420	185	-185	-108	390	388	0.00	3,260	-18
13	1,650	50	1,640	1,520	192	363	-201	-209	386	0.00	2,780	0.00
14	1,450	0.00	1,910	1,630	458	0.00	94	-35	298	0.00	2,610	0.00
15	803	64	1,700	1,400	160	-40	33	224	0.00	0.00	2,790	478
16	1,180	0.00	1,480	1,050	146	-107	-39	110	11	550	1,890	0.00
17	1,550	2,950	1,560	866	283	1,740	345	-5.2	400	655	670	0.00
18	1,590	1,260	1,600	862	31	2,030	38	0.00	151	535	1,730	0.00
19	1,600	409	1,530	862	0.00	863	-221	0.00	1,600	475	2,420	0.00
20	1,500	0.00	1,760	1,050	120	437	229	0.00	538	366	2,520	0.00
21	1,620	1,340	1,950	1,170	246	822	14	0.00	1,740	0.00	2,390	0.00
22	1,690	1,000	1,510	938	748	651	9.0	-43	1,860	0.00	1,720	0.20
23	1,620	983	1,400	81	619	463	59	0.00	2,210	526	1,600	0.00
24	1,190	941	1,090	0.00	34	403	81	0.00	1,540	1,470	1,210	0.00
25	865	972	176	1,230	0.00	-478	-26	654	511	493	1,310	0.00
26	1,390	865	1,330	1,650	0.00	-276	1,560	204	522	502	1,030	1,400
27	932	811	1,410	1,400	0.00	647	483	621	317	564	1,110	440
28	1,430	0.00	1,270	826	0.00	2,650	832	2,270	0.00	557	878	1,750
29	1,100	803	1,400	847	---	797	2,810	2,580	0.00	421	1,930	2,350
30	858	782	1,490	846	---	0.00	1,720	1,040	0.00	326	1,200	2,990
31	873	---	1,070	625	---	516	---	799	---	1,360	198	---
TOTAL	36078.00	18,677.00	38,099	33,011.00	6,332.00	11,871.00	8,013.00	10,060.20	18,637.80	9,534.00	56,311	16,075.20
MEAN	1,164	623	1,229	1,065	226	383	267	325	621	308	1,816	536
MAX	1,690	2,950	1,950	1,650	748	2,650	2,810	2,580	2,210	1,470	3,260	2,990
MIN	0.00	0.00	100	0.00	-47	-478	-221	-302	-4.2	0.00	198	-42
AC-FT	71,560	37,050	75,570	65,480	12,560	23,550	15,890	19,950	36,970	18,910	111,700	31,890

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003, BY WATER YEAR (WY)

	609	248	155	262	179	215	136	242	527	517	665	838
MEAN	609	248	155	262	179	215	136	242	527	517	665	838
MAX	2,528	1,719	1,229	2,605	1,478	1,992	820	1,440	2,750	1,592	1,816	2,637
(WY)	(1996)	(1988)	(2003)	(1958)	(1983)	(1970)	(1991)	(1984)	(1968)	(1968)	(2003)	(1960)
MIN	-204	-870	-537	-460	-456	-144	-326	-184	-300	-136	-141	18.2
(WY)	(1981)	(1992)	(1992)	(1984)	(1987)	(1999)	(1995)	(1994)	(1989)	(1989)	(1984)	(1961)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1958 - 2003

ANNUAL TOTAL	256,887.50		262,699.20			
ANNUAL MEAN	704		720			384
HIGHEST ANNUAL MEAN						720
LOWEST ANNUAL MEAN						111
HIGHEST DAILY MEAN	3,930	Jun 25	3,260	Aug 12		7,040
LOWEST DAILY MEAN	-423	Jul 28	-478	Mar 25		-2,200
ANNUAL SEVEN-DAY MINIMUM	-202	Jul 23	-7.4	Apr 8		-1,570
ANNUAL RUNOFF (AC-FT)	509,500		521,100			278,000
10 PERCENT EXCEEDS	1,720		1,710			1,500
50 PERCENT EXCEEDS	497		530			0.00
90 PERCENT EXCEEDS	0.00		0.00			-71

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

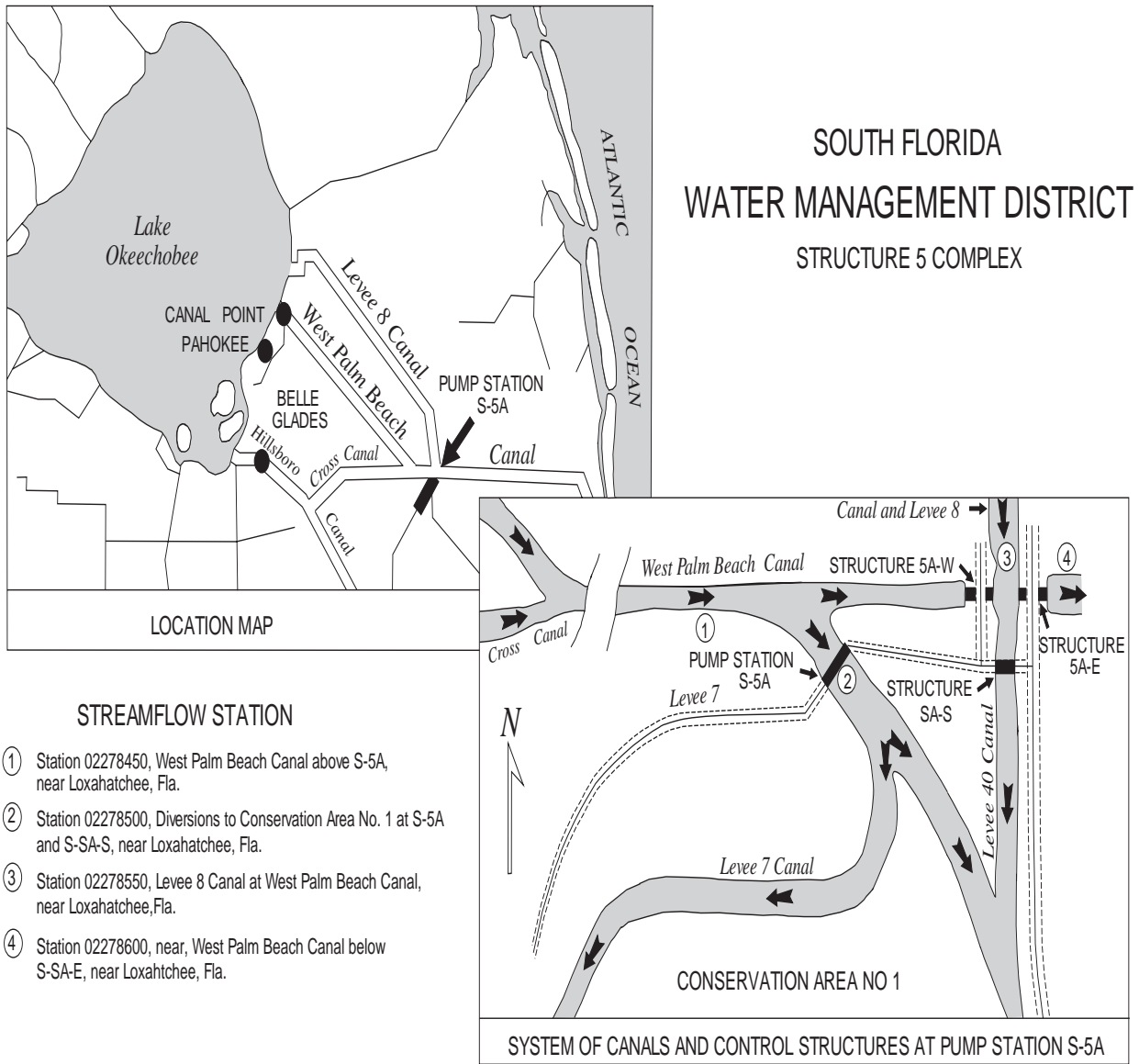


Figure 6. South Florida Water Management District, Structure 5 Complex

02278501 CONSERVATION AREA NO. 1 BELOW S-5 COMPLEX, NEAR LOXAHATCHEE, FL

LOCATION.--Lat 26°41'00", long 80°22'10", in SW ¼ sec.32, T.43 S., R.40 E., Palm Beach County, Hydrologic Unit 03090202, at pump station S-5A, 1.5 mi downstream from Cross Canal, and 6 mi west of Loxahatchee.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--January 1955 to current year (gage heights only).

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929 (South Florida Water Management District bench marks). Prior to October 1, 1981, datum of gage is 0.24 ft higher, from October 1, 1981 to June 22, 1994, datum of gage is -0.19 ft lower and from June 22, 1994 to October 1, 2001, datum of gage is 0.11 ft higher than present datum. The change in datum is based upon an adjustment to FCE 790 benchmark elevation surveyed by South Florida Water Management District.

REMARKS.--Gage records water level in Conservation Area No. 1 at structure 5 complex. Stage is affected by pumping at S-5A and S-6 and the operation of gated-control structures in levees 39 and 40. Discharge for S-5A-S is stored under this station number in the U.S. Geological Survey's database starting 1991 water year. Records of gage height prior to October 1967 are available from the files of the U.S. Geological Survey.

COOPERATION.--Supplemental stage record provided by South Florida Water Management District.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 19.04 ft present datum, Oct. 18 1999; minimum, 8.18 ft present datum, Apr. 20, 24, 1956. See GAGE.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 18.79 ft Apr. 29; minimum, 11.40 ft Nov. 3.

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	14.67	13.52	13.99	12.83	13.87	12.19	12.82	14.75	15.39	12.36	14.72	12.69
2	14.71	13.64	13.31	14.68	14.09	12.19	13.08	13.90	14.60	12.70	15.48	13.61
3	14.04	13.32	13.80	14.72	14.67	12.19	13.31	15.86	15.78	13.92	15.18	13.55
4	13.56	13.64	13.71	14.20	14.53	12.22	14.76	16.79	16.79	12.81	16.97	13.15
5	13.42	13.70	13.15	14.27	14.89	15.77	15.19	15.81	14.23	12.67	16.86	13.81
6	13.34	13.73	13.64	14.15	15.02	17.57	13.70	14.86	13.59	12.60	16.90	12.64
7	14.24	13.68	13.65	13.96	15.17	17.54	15.90	15.90	13.52	12.60	16.86	13.10
8	14.87	12.90	13.74	13.37	15.04	15.94	16.79	16.91	14.06	12.75	14.92	13.06
9	15.10	13.00	14.83	14.24	14.46	13.47	15.96	16.90	15.05	12.59	16.36	12.85
10	14.85	13.09	15.20	13.87	14.52	16.37	17.48	17.26	14.03	12.57	17.65	14.15
11	14.87	13.16	15.04	13.57	13.09	17.30	18.00	16.06	13.80	12.55	17.60	14.57
12	14.66	13.20	14.33	14.39	14.04	15.70	17.40	16.25	13.45	12.52	17.58	13.40
13	14.92	13.11	14.72	14.51	14.32	15.78	15.27	17.07	13.32	12.55	17.55	12.47
14	14.92	12.94	15.16	14.64	13.97	17.81	14.85	14.97	13.11	12.69	16.40	12.27
15	14.68	13.03	14.90	14.26	12.12	17.48	15.73	15.16	12.46	12.67	16.91	13.07
16	14.76	13.01	14.58	13.80	11.94	16.39	14.77	17.44	12.31	13.57	15.48	12.35
17	14.65	16.20	14.64	13.29	12.43	16.56	15.93	17.29	12.98	14.00	13.51	12.35
18	14.65	14.64	14.74	13.15	15.65	17.79	17.48	17.09	12.57	13.73	14.55	12.37
19	14.71	12.96	14.53	13.12	16.11	17.00	16.09	16.88	15.13	13.60	16.02	12.39
20	14.78	12.87	14.97	13.60	16.13	15.67	16.07	16.52	14.44	13.29	16.39	12.39
21	14.96	14.58	15.46	13.78	16.04	15.91	16.71	16.12	16.28	12.63	16.29	12.38
22	15.02	14.05	14.75	13.70	15.77	15.76	16.69	14.18	17.80	12.55	15.13	12.38
23	14.96	13.92	14.44	12.77	15.69	15.94	16.79	12.00	17.40	14.06	14.86	12.38
24	14.27	13.93	14.10	12.86	14.93	15.88	17.11	12.01	17.75	15.03	14.10	12.37
25	13.79	13.93	12.97	14.37	14.97	15.04	17.07	12.94	14.64	15.57	14.15	12.37
26	14.29	13.82	14.40	14.86	14.71	16.02	16.87	13.29	13.90	14.92	13.76	14.29
27	13.92	14.02	14.36	14.56	14.63	15.53	14.69	14.23	13.36	15.23	13.77	14.49
28	14.31	13.20	14.12	14.18	14.25	18.18	14.40	15.95	12.70	16.20	13.47	16.04
29	14.05	13.94	14.34	14.95	---	16.63	17.19	17.62	12.43	16.09	15.06	16.01
30	13.64	14.00	14.55	15.58	---	14.01	17.43	16.41	12.30	15.39	14.20	16.92
31	13.66	---	14.06	15.37	---	13.76	---	15.47	---	16.11	12.33	---
TOTAL	447.27	408.73	444.18	435.60	407.05	485.59	475.53	483.89	429.17	422.52	481.01	399.87
MEAN	14.43	13.62	14.33	14.05	14.54	15.66	15.85	15.61	14.31	13.63	15.52	13.33
MAX	15.10	16.20	15.46	15.58	16.13	18.18	18.00	17.62	17.80	16.20	17.65	16.92
MIN	13.34	12.87	12.97	12.77	11.94	12.19	12.82	12.00	12.30	12.36	12.33	12.27

02278550 LEVEE 8 CANAL AT WEST PALM BEACH CANAL NEAR LOXAHATCHEE, FL

LOCATION.--Lat 26°41'05", long 80°21'35", in SE ¼ sec.32, T.43 S., R.40 E., Palm Beach County, Hydrologic Unit 03090202, 37 mi east of Belle Glade on U.S. Highway 441, 21 mi southeast of Canal Point on U.S. Highway 98 and 6 mi west of Loxahatchee.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1957 to current year.

REVISED RECORDS.--WDR FL-84-2A, 1982, (revised maximum negative discharge).

GAGE.--Satellite data collection platform with water-stage shaft encoder for Levee 8 Canal and West Palm Beach Canal west of Levee 8 Canal, Moscad RF Data/Telemetry system operated by South Florida Water Management District for West Palm Beach Canal east of Levee 8 Canal, electronic data logger for Conservation area. Satellite data collection platform for Levee 8 discontinued on November 19, 2001. Datum of gage is National Geodetic Vertical Datum of 1929 (South Florida Water Management District benchmark). Prior to October 1, 1981, datum of gage is 0.24 ft higher, from October 1, 1981 to June 22, 1994, datum of gage is -.19 ft lower and from June 22, 1994 to October 1, 2001, datum of gage is .11 ft higher than present datum. The change in datum is based upon an adjustment to FCE 790 benchmark elevation surveyed by South Florida Water Management District.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by operation of S-5A-E, S-5A-S, and S-5A-W, just downstream and pumpage at S-5A. Gate operation and pumpage occasionally reverses the flow (negative figures indicate flow reversed). Discharge is summation of flows at S-5A-E, S-5A-S, and S-5A-W. Discharge computed from relation between discharge, head, and gate openings. Records of gage heights prior to October 1961, are available in files of the U.S. Geological Survey, (USGS). Prior to September 30, 1967, deflection vane recorder at upstream side in center of span of bridge on U.S. Highway 441, 50 ft upstream from mouth and West Palm Beach Canal. Satellite data collection platform with acoustic velocity meter installed April 11, 1991, at same location of satellite data collection platform, removed October, 1993. Starting in the water year 2001, negative discharge from control structure S-5A-W and S-5A-E is considered estimated due to updated information, provided to USGS about the site. Prior negative discharges are not marked estimated in the files or data bases of USGS. Estimated discharge does not necessarily indicate negative discharges through these control structures.

COOPERATION.--Gate-opening record and supplemental stage record provided by South Florida Water Management District.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 43 complete water years of discharge (1958-89, 1991-92, 1994-98, 2000-03).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 19.69 ft present datum, Oct. 18, 1995; minimum, 8.21 ft present datum, Mar. 17, 1969. See GAGE.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 17.29 ft Aug. 11; minimum, 11.57 ft Feb. 8.

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	13.34	15.22	14.12	13.53	14.50	15.01	14.68	15.27	14.76	14.75	15.05	15.88
2	13.27	15.19	14.34	13.34	13.11	14.90	14.50	14.39	14.60	14.69	14.77	15.98
3	13.43	15.14	14.64	14.03	13.80	14.75	14.43	13.40	14.72	14.98	14.64	15.87
4	13.22	14.74	14.64	14.09	13.74	14.32	13.84	13.41	14.69	15.06	15.50	15.91
5	13.04	14.49	14.56	13.47	13.94	14.36	13.32	13.16	14.64	14.88	16.35	15.99
6	12.83	14.79	13.84	12.83	13.54	13.62	13.21	13.20	15.12	14.84	16.22	15.86
7	13.16	14.90	13.33	12.93	13.03	13.44	13.51	13.35	14.90	14.80	16.08	15.49
8	13.41	14.86	13.50	12.84	12.25	13.26	13.37	13.27	14.87	14.78	15.92	14.95
9	13.33	14.84	14.02	14.29	12.69	13.25	13.57	13.37	15.11	14.80	16.16	14.38
10	13.08	14.87	15.40	15.26	13.23	13.38	14.01	13.66	15.32	14.52	16.63	13.88
11	13.24	14.87	15.46	14.47	12.75	13.25	14.12	13.37	14.86	14.36	16.86	14.34
12	13.34	14.82	15.42	14.16	12.93	13.07	13.20	13.46	14.48	13.46	16.41	13.65
13	13.25	14.88	15.34	14.63	13.07	13.48	13.31	13.22	14.32	12.70	16.63	13.76
14	13.83	14.94	15.73	14.85	13.40	14.70	13.17	13.21	14.04	13.35	16.85	14.12
15	15.12	14.91	15.68	14.48	13.09	13.38	13.19	13.13	13.89	13.18	16.68	14.41
16	15.69	14.94	15.58	13.98	13.27	13.27	13.07	13.28	13.69	13.08	16.20	14.45
17	15.53	15.43	15.42	13.82	13.27	14.86	13.28	13.45	13.62	13.39	16.28	13.81
18	15.35	14.79	15.06	13.28	14.20	15.31	13.32	13.31	13.67	13.38	16.29	13.66
19	15.26	13.42	14.70	12.56	14.44	15.22	13.11	13.21	14.65	13.15	16.43	13.64
20	15.12	14.76	14.89	13.91	13.79	14.81	13.29	13.24	15.00	13.18	16.51	13.54
21	14.16	15.05	14.31	14.34	14.20	14.35	13.33	13.15	15.29	13.37	16.46	13.60
22	13.25	14.72	13.74	14.32	15.15	14.15	13.39	13.45	15.81	14.14	16.27	13.73
23	13.17	13.62	13.25	14.14	15.57	14.17	13.47	14.35	15.91	13.81	16.35	13.63
24	13.53	13.45	13.56	14.18	14.76	14.46	13.19	14.82	15.53	13.69	16.34	13.65
25	15.00	13.60	12.89	14.48	13.89	14.36	13.36	14.82	15.32	13.22	16.33	13.68
26	15.24	13.96	13.16	14.33	14.17	14.82	13.87	14.85	15.27	13.24	16.31	14.07
27	15.27	14.61	15.14	14.70	14.42	14.23	13.43	14.89	15.46	13.43	16.04	13.66
28	15.04	14.47	15.80	14.37	14.93	14.96	13.33	15.38	15.35	13.85	15.80	13.64
29	14.43	14.60	15.46	14.44	---	15.10	13.49	15.68	15.17	14.65	16.11	14.20
30	15.02	14.29	14.93	14.16	---	15.20	14.14	15.77	14.89	14.89	16.06	16.13
31	15.26	---	13.76	14.44	---	15.34	---	15.19	---	15.14	15.85	---
TOTAL	437.21	439.17	451.67	434.65	385.13	442.78	406.50	431.71	444.95	434.76	500.38	433.56
MEAN	14.10	14.64	14.57	14.02	13.75	14.28	13.55	13.93	14.83	14.02	16.14	14.45
MAX	15.69	15.43	15.80	15.26	15.57	15.34	14.68	15.77	15.91	15.14	16.86	16.13
MIN	12.83	13.42	12.89	12.56	12.25	13.07	13.07	13.13	13.62	12.70	14.64	13.54

02278550 LEEVEE 8 CANAL AT WEST PALM BEACH CANAL NEAR LOXAHATCHEE, FL

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	313	39	229	473	439	130	524	169	380	372	452	484
2	327	39	126	471	444	129	513	474	398	382	486	619
3	301	54	123	490	308	187	508	485	299	369	410	578
4	356	104	140	495	311	221	476	452	358	369	298	574
5	320	104	245	478	295	253	382	420	307	401	0.00	595
6	286	95	333	552	405	465	325	213	242	398	212	400
7	311	81	283	493	490	374	380	196	358	401	297	464
8	437	79	266	491	442	360	317	326	382	404	332	443
9	480	78	123	202	203	302	368	196	281	413	310	397
10	419	63	28	317	363	420	516	152	230	418	116	303
11	358	51	139	453	393	406	524	210	381	422	174	326
12	281	61	135	421	242	367	398	221	386	408	214	447
13	290	32	193	432	271	152	318	217	400	349	434	440
14	120	1.7	140	466	270	153	330	164	402	381	320	447
15	14	0.00	126	495	268	408	317	161	424	388	473	467
16	73	0.00	129	491	231	370	207	154	448	423	473	484
17	92	0.00	159	482	308	148	286	207	437	339	400	491
18	69	262	292	471	165	341	330	207	430	424	443	396
19	45	150	292	462	128	350	283	205	317	386	558	418
20	152	120	329	415	49	475	206	206	326	383	493	349
21	407	60	481	545	5.5	500	348	209	241	316	488	255
22	427	311	473	540	-28	489	262	70	0.00	254	518	335
23	313	321	500	316	48	455	330	0.00	0.00	416	524	314
24	157	266	497	337	34	388	304	0.00	253	486	453	327
25	29	222	495	358	0.00	38	241	0.00	303	425	508	293
26	15	162	367	424	96	246	257	0.00	341	379	466	259
27	17	170	59	417	238	198	501	0.00	266	397	602	276
28	70	234	84	340	130	225	410	0.00	308	289	616	264
29	113	238	149	310	---	389	484	0.00	299	229	454	400
30	80	233	386	304	---	390	258	0.00	357	277	544	342
31	44	---	463	224	---	471	---	279	---	346	566	---
TOTAL	6,716	3,630.70	7,784	13,165	6,548.50	9,800	10,903	5,593.00	9,554.00	11,644	12,634.00	12,187
MEAN	217	121	251	425	234	316	363	180	318	376	408	406
MAX	480	321	500	552	490	500	524	485	448	486	616	619
MIN	14	0.00	28	202	-28	38	206	0.00	0.00	229	0.00	255
AC-FT	13,320	7,200	15,440	26,110	12,990	19,440	21,630	11,090	18,950	23,100	25,060	24,170

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003, BY WATER YEAR (WY)

MEAN	248	131	73.7	128	71.0	109	94.9	87.6	119	166	178	248
MAX	1,169	691	616	820	503	714	648	728	896	1,048	856	937
(WY)	(1996)	(1960)	(1995)	(1958)	(1983)	(1970)	(1970)	(1984)	(1968)	(1992)	(1986)	(1960)
MIN	-218	-838	-565	-139	-486	-193	-175	-208	-330	-286	-151	-509
(WY)	(1977)	(1992)	(1992)	(1976)	(1999)	(1977)	(1974)	(1992)	(1989)	(1982)	(1977)	(1981)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1958 - 2003

ANNUAL TOTAL	48,909.50	110,159.20	
ANNUAL MEAN	134	302	143
HIGHEST ANNUAL MEAN			453
LOWEST ANNUAL MEAN			-76.7
HIGHEST DAILY MEAN	595	Sep 12	619
LOWEST DAILY MEAN	-248	Jan 18	-28
ANNUAL SEVEN-DAY MINIMUM	-91	Jan 12	0.00
ANNUAL RUNOFF (AC-FT)	97,010		218,500
10 PERCENT EXCEEDS	355		487
50 PERCENT EXCEEDS	92		317
90 PERCENT EXCEEDS	0.00		61
			103,500
			84
			-105
			3,130
			1970
			1977
			Oct 23, 1995
			Apr 27, 1982
			Nov 27, 1991

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02278600 WEST PALM BEACH CANAL BELOW S-5A-E, NEAR LOXAHATCHEE, FL

LOCATION.--Lat 26°41'05", long 80°21'50", in SE $\frac{1}{4}$ sec.32, T.43 S., R.40 E., Palm Beach County, Hydrologic Unit 03090202, near left bank, 350 ft downstream from control structure 5A-E, and 6 mi west of Loxahatchee.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--September 1955 to current year. Monthly discharge only for September 1955, published in WSP 1724. Records of gage heights prior to October 1961, are available in files of the U.S. Geological Survey.

GAGE.--South Florida Water Management District Moscad CR 10 RF data/telemetry system for West Palm Beach Canal east of Levee 8 Canal (east of S-5A-E structure and Levee 8 Canal). Satellite data collection platform with water-stage shaft encoder for Levee 8 Canal discontinued on November 19, 2001. Datum of gage is National Geodetic Vertical Datum of 1929 (South Florida Water Management District bench mark). Auxiliary water-stage recorder on West Palm Beach Canal 100 ft east from S-5A-E discontinued on January 14, 1999. Prior to October 1, 1981, datum of gage is 0.24 ft higher; from October 1, 1981 to June 22, 1994, datum of gage is -0.19 ft lower and from June 22, 1994 to October 1, 2001, datum of gage is .11 ft higher than present datum. The change in datum is based upon an adjustment to FCE 790 benchmark elevation surveyed by South Florida Water Management District.

REMARKS.--No estimated daily discharges. Records fair. Normal flow to east regulated at S-5A-E for irrigation and drainage. Flow diverted upstream from station through S-5A-S and by pumpage at S-5A. Flow materially affected by regulation of Cross Canal 1.5 mi upstream and gate structure S-352, 20 mi upstream. Negative figures indicate flow to the west. Discharge computed from relations between discharge, head, and gate openings at S-5A-E. Acoustic velocity meter installed May 1, 1991, along with satellite data collection platform. Acoustic velocity meter removed September 30, 1993. No discharge was computed using the acoustic velocity meter record. Starting in water year 2001, negative discharge is considered estimated, due to updated information provided to the U.S. Geological Survey, (USGS). Prior negative discharges are not marked estimated in the files or databases of USGS.

COOPERATION.--Gate-opening record provided by South Florida Water Management District.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 45 complete water years of discharge (1956-89, 1991-92, 1994-98, 2000-03).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 17.45 ft present datum, Oct. 16, 1999; minimum, 6.16 ft present datum, Sept. 9, 1965. See GAGE.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 11.93 ft Oct. 02; minimum, 7.41 ft May 23.

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	11.83	8.40	9.10	10.19	9.40	8.70	10.32	8.39	10.37	9.96	10.85	10.82
2	11.83	8.39	8.87	10.25	10.34	8.70	10.31	10.03	10.44	9.94	10.73	10.84
3	10.03	8.35	8.82	10.22	9.56	8.76	10.33	10.36	10.37	9.84	10.70	10.80
4	8.17	8.43	8.91	10.22	9.59	8.88	10.23	10.47	10.45	9.87	10.96	10.87
5	8.16	8.45	8.83	10.06	9.59	9.67	10.25	10.45	10.43	9.98	10.64	10.82
6	8.13	8.37	8.77	10.17	10.07	10.42	10.42	10.60	10.36	9.98	10.58	10.82
7	8.25	8.38	9.08	10.21	10.29	10.39	10.45	10.72	10.42	9.94	10.72	10.79
8	8.45	8.40	9.16	10.15	10.13	10.30	10.10	10.60	10.35	9.95	10.72	10.73
9	8.43	8.43	8.93	9.04	10.35	9.65	10.33	10.70	10.34	9.94	10.68	10.71
10	8.43	8.46	8.36	8.61	10.32	9.94	10.39	10.68	9.91	9.95	10.51	10.68
11	8.40	8.47	8.72	9.19	10.09	10.21	10.32	10.43	10.39	9.90	10.39	10.66
12	8.39	8.45	8.61	9.89	10.10	10.26	10.24	9.25	10.44	9.87	10.65	10.84
13	8.41	8.46	8.85	9.45	10.23	9.46	10.29	10.34	10.44	9.68	10.71	10.86
14	8.40	8.40	8.52	9.23	9.32	8.77	10.23	10.63	10.44	9.46	10.88	10.95
15	8.14	8.41	8.51	9.23	8.73	10.16	10.37	10.00	10.39	9.73	10.78	10.95
16	8.13	8.43	8.55	10.12	8.80	10.14	10.47	9.03	10.43	10.04	10.90	10.77
17	8.43	8.31	8.90	10.09	8.61	10.05	10.35	9.06	10.43	10.09	10.89	10.65
18	8.45	8.14	9.03	10.13	8.69	10.21	10.44	9.11	10.44	9.87	10.81	10.23
19	8.50	8.30	9.07	10.17	8.65	10.18	10.29	9.09	10.47	9.53	10.88	10.21
20	8.38	8.64	9.53	9.29	8.49	10.22	10.28	9.10	10.43	9.57	10.84	9.96
21	8.34	8.78	10.21	9.12	8.31	10.37	10.35	8.87	10.34	9.44	10.83	9.41
22	8.36	8.40	10.09	9.16	9.10	10.35	10.33	8.75	9.10	9.20	10.85	9.66
23	8.38	8.45	10.32	8.95	8.67	10.35	10.31	7.72	8.68	9.85	10.74	9.69
24	8.46	8.41	10.31	9.28	8.03	10.14	10.21	8.08	9.39	10.36	10.82	9.64
25	8.46	8.32	10.10	9.60	8.05	10.40	10.29	8.72	9.89	10.60	10.82	9.65
26	8.45	8.34	9.65	9.91	8.31	10.47	9.95	8.57	9.95	10.60	10.82	10.13
27	8.39	8.90	8.69	9.09	8.88	10.34	10.63	9.06	9.96	10.47	10.85	9.71
28	8.32	9.21	8.71	9.51	8.65	9.99	10.69	10.03	9.98	10.34	10.77	9.79
29	8.39	9.15	8.85	9.56	---	10.26	10.66	9.70	9.91	10.29	10.72	10.25
30	8.42	9.07	9.44	9.54	---	10.35	10.10	8.72	9.93	10.55	10.88	10.32
31	8.42	---	10.32	9.28	---	10.20	---	9.28	---	10.53	10.87	---
TOTAL	267.73	255.10	283.81	298.91	259.35	308.29	309.93	296.54	304.87	309.32	333.79	312.21
MEAN	8.64	8.50	9.16	9.64	9.26	9.94	10.33	9.57	10.16	9.98	10.77	10.41
MAX	11.83	9.21	10.32	10.25	10.35	10.47	10.69	10.72	10.47	10.60	10.96	10.95
MIN	8.13	8.14	8.36	8.61	8.03	8.70	9.95	7.72	8.68	9.20	10.39	9.41

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02279000 WEST PALM BEACH CANAL AT WEST PALM BEACH, FL

LOCATION.--Lat 26°38'40", long 80°03'22", in NW $\frac{1}{4}$ sec.15, T.44 S., R.34 E., Palm Beach County, Hydrologic Unit 03090202, at structure S-155, on left bank in concrete control house north of control structure, 200 ft downstream from bridge on U.S. Highway 1, and 4.9 mi south of courthouse in West Palm Beach.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--November 1939 to current year. Records of gage heights prior to October 1961 are available in files of the U.S. Geological Survey.

REVISED RECORDS.--WDR FL-91-2A, 1986-89.

GAGE.--Electronic data logger with shaft encoders for upstream and downstream stages, electronic data logger for 3 gate recorders. Prior to September 23, 1999, digital gate recorders. Prior to November 17, 1999, digital water-stage recorders upstream and downstream. Datum of gage is National Geodetic Vertical Datum of 1929 (State Department of Transportation bench mark). Prior to May 1, 1984, digital upstream stage recorder, and gate-opening indicator at site 200 ft upstream at same datum. Prior to April 26, 1940, nonrecording gage; April 26, 1940 to December 20, 1949, water-stage recorder, at same site at datum 0.25 ft higher, and December 20, 1949 to June 3, 1959, at same site and present datum. June 3, 1959 to September 30, 1985, water-stage and deflection vane recorder at site 800 ft upstream at present datum.

REMARKS.-- Records poor. Flow regulated by operation of control structure. Since January 1954, flow affected by control structures 20 mi upstream. Discharge computed from relations between discharge, head and gate openings. Starting in the 2002 water year, the downstream stage record published is the maximum and minimum stage for each calendar day. Prior to the 2002 water year, daily mean was published.

COOPERATION.--Gate-operation record provided by South Florida Water Management District.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 56 complete water years of discharge (1941-84, 1986-90, 1993-94, 1998-99, 2001-2003).

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 10.89 ft Oct. 13, 1947, present datum; minimum, 2.85 ft Dec. 3, 1953, Oct. 9, 1963, and Sept. 9, 1964.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 8.79 ft July 31; minimum, 6.46 ft May 29.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 3.34 ft Apr. 17; minimum, -1.75 ft May 16.

REVISED EXTREME DOWNSTREAM STAGES FOR 2002 WATER YEAR.--Maximum gage height, 3.86 ft Oct. 18; minimum, -1.70 ft Apr. 27.

REVISIONS.--Revised figures of downstream gage height and discharge for the 2002 water year, superseding those published in the report for 2002 are provided below due to revised data corrections. These corrections applied to the downstream stage resulted in different relationships between discharges, head and gate openings.

02279000 WEST PALM BEACH CANAL AT WEST PALM BEACH, FL

DOWNSTREAM
GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX		MIN		MAX		MIN		MAX		MIN	
	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1	3.28	0.45	3.16	-0.06	2.32	-1.15	2.48	-1.24	1.72	-1.61	2.74	-0.98
2	3.09	0.23	3.10	-0.13	2.52	-1.09	2.50	-1.26	1.53	-1.48	2.63	-1.13
3	3.06	0.07	3.09	-0.21	2.61	-0.96	2.42	-0.97	1.68	-1.22	2.27	-1.29
4	2.85	-0.05	2.97	-0.34	2.49	-1.02	2.01	-1.19	1.82	-1.04	2.06	-1.29
5	2.78	-0.20	3.31	0.06	2.51	-0.76	2.34	-0.67	1.96	-0.98	1.88	-0.91
6	2.69	-0.38	3.22	0.25	2.42	-0.64	2.10	-1.11	1.91	-0.95	2.04	-0.87
7	2.51	-0.40	2.92	-0.02	2.15	-0.64	1.72	-1.34	1.97	-0.91	1.91	-0.94
8	2.69	-0.32	2.82	-0.21	2.22	-0.67	1.59	-1.33	2.03	-0.96	1.88	-0.82
9	2.79	0.22	2.67	-0.28	2.05	-0.93	1.79	-1.34	2.23	-0.86	1.79	-0.88
10	2.70	-0.07	2.68	-0.41	2.25	-1.05	1.78	-1.45	2.48	-0.72	1.61	-1.08
11	2.78	-0.17	2.82	-0.39	2.30	-1.08	1.83	-1.41	2.01	-0.92	1.90	-1.04
12	2.72	-0.42	2.96	-0.54	2.36	-1.10	1.88	-1.43	2.14	-0.98	1.98	-0.92
13	2.84	-0.48	3.21	-0.56	2.56	-1.12	1.66	-1.44	2.12	-0.94	1.80	-1.04
14	2.58	-0.76	3.41	-0.56	2.58	-1.01	1.73	-1.43	1.91	-1.03	1.62	-1.17
15	2.83	-0.84	3.64	-0.43	2.51	-1.08	1.39	-1.48	2.15	-0.69	1.51	-1.20
16	3.08	-0.75	3.82	-0.18	2.43	-1.05	1.37	-1.34	2.00	-0.62	1.46	-1.31
17	3.66	-0.62	3.79	-0.02	2.33	-0.82	1.39	-1.31	2.03	-0.44	1.44	-1.34
18	3.86	-0.28	3.17	-0.12	2.11	-0.85	1.20	-1.25	1.97	-0.55	1.41	-1.49
19	3.49	-0.20	2.64	-0.43	2.11	-0.59	1.12	-1.17	1.80	-0.57	1.20	-1.23
20	3.22	-0.34	2.51	-0.38	1.99	-0.62	1.13	-1.07	1.81	-0.65	1.39	-1.18
21	2.96	-0.28	2.40	-0.17	2.07	-0.27	1.13	-1.22	1.71	-0.79	1.29	-1.04
22	2.70	-0.10	2.23	-0.18	1.98	-0.26	1.12	-1.14	1.90	-0.59	1.56	-0.58
23	2.51	0.06	2.07	-0.22	1.84	-0.40	1.23	-1.32	2.31	-0.68	1.99	-0.78
24	2.43	0.06	1.88	-0.42	1.80	-0.43	1.19	-1.33	2.36	-0.68	1.98	-0.91
25	2.34	-0.02	1.75	-0.54	2.08	-0.41	1.29	-1.43	2.66	-0.78	2.12	-0.91
26	2.31	0.08	1.88	-0.59	2.37	-0.69	1.53	-1.56	2.91	-0.87	2.23	-1.11
27	2.62	0.10	2.07	-0.65	2.30	-0.77	1.69	-1.64	2.85	-0.98	2.48	-1.15
28	2.68	0.33	2.12	-0.79	2.56	-0.76	1.93	-1.65	2.70	-1.15	2.72	-1.03
29	2.78	0.20	2.24	-0.88	2.58	-0.89	2.09	-1.56	---	---	2.58	-1.30
30	2.99	0.15	2.29	-1.05	2.47	-1.13	2.09	-1.54	---	---	2.49	-1.22
31	3.03	0.04	---	---	2.66	-1.18	2.12	-1.47	---	---	2.25	-1.41
MONTH	3.86	-0.84	3.82	-1.05	2.66	-1.18	2.50	-1.65	2.91	-1.61	2.74	-1.49
	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER						
1	2.19	-1.38	2.09	-1.02	2.41	-0.21	1.62	-0.72	2.24	-0.22	2.33	-0.18
2	2.01	-1.21	2.01	-1.01	2.28	-0.24	1.73	-0.55	2.52	-0.10	2.76	-0.10
3	1.87	-0.94	1.66	-1.09	2.08	-0.27	1.67	-0.69	2.17	-0.34	3.11	-0.01
4	1.81	-0.87	1.43	-1.00	1.87	-0.44	1.80	-0.63	2.19	-0.62	3.10	-0.18
5	1.85	-0.30	1.28	-0.98	1.99	-0.40	2.01	-0.68	2.34	-0.71	3.31	-0.41
6	2.29	-0.12	1.28	-1.02	2.17	-0.45	2.12	-0.65	2.71	-0.66	3.45	-0.40
7	2.39	-0.03	1.49	-0.89	2.27	-0.54	2.07	-0.89	3.07	-0.60	3.25	-0.42
8	2.16	-0.32	1.62	-0.93	2.28	-0.63	2.38	-0.80	3.41	-0.44	3.14	-0.56
9	2.06	-0.54	1.61	-1.09	2.57	-0.76	2.58	-0.79	3.35	-0.47	3.33	-0.51
10	1.86	-0.75	1.61	-1.21	2.91	-0.50	2.46	-0.97	3.37	-0.47	3.26	-0.45
11	1.99	-0.77	1.81	-1.23	2.89	-0.55	2.49	-1.15	3.33	-0.39	2.84	-0.67
12	1.98	-0.80	1.88	-1.23	2.89	-0.35	2.48	-1.13	3.19	-0.47	2.64	-0.63
13	2.06	-0.99	1.88	-1.35	2.80	-0.75	2.50	-0.87	2.84	-0.66	2.43	-0.63
14	2.25	-0.59	2.02	-1.16	2.60	-0.80	2.41	-0.88	2.48	-0.82	2.33	-0.51
15	2.22	-0.88	2.02	-1.14	2.46	-0.82	2.27	-0.87	2.29	-0.70	2.01	-0.79
16	2.20	-0.89	2.01	-1.16	2.17	-0.73	2.04	-1.00	2.31	-0.83	2.25	-0.64
17	2.07	-1.01	1.87	-1.22	2.18	-0.69	2.03	-0.98	2.26	-0.77	2.42	-0.55
18	1.86	-1.08	1.68	-1.15	2.18	-0.78	1.97	-1.12	2.35	-0.76	2.56	-0.40
19	1.71	-0.92	1.68	-0.93	2.18	-0.87	1.96	-1.19	2.39	-0.79	2.54	-0.44
20	1.72	-0.82	1.87	-0.86	2.41	-0.88	1.97	-1.32	2.32	-0.84	2.57	-0.33
21	1.96	-0.89	2.33	-0.55	2.60	-0.72	1.92	-1.38	2.30	-0.84	2.69	-0.16
22	1.92	-0.83	2.86	-0.43	2.60	-0.88	1.96	-1.34	2.26	-0.90	2.64	-0.17
23	2.12	-0.88	3.10	-0.43	2.81	-0.94	2.07	-1.35	2.32	-0.74	2.69	-0.08
24	2.33	-0.96	3.06	-0.68	2.99	-0.79	2.24	-1.10	2.30	-0.63	2.75	-0.15
25	2.40	-1.22	3.06	-0.88	2.75	-0.71	2.20	-0.98	2.23	-0.62	2.53	-0.10
26	2.19	-1.51	3.10	-0.92	2.38	-0.94	2.19	-0.90	2.06	-0.61	2.43	-0.20
27	2.04	-1.70	2.97	-0.88	2.33	-1.04	2.19	-0.82	1.91	-0.64	2.27	-0.26
28	2.25	-1.60	3.04	-0.64	2.08	-0.99	1.95	-0.75	1.99	-0.58	2.41	-0.20
29	2.25	-1.30	3.07	-0.48	1.72	-0.93	1.92	-0.52	1.96	-0.53	2.24	-0.33
30	2.32	-1.22	2.90	-0.34	1.71	-0.79	1.92	-0.54	2.11	-0.39	2.34	-0.08
31	---	---	2.82	-0.21	---	---	1.98	-0.45	2.25	-0.17	---	---
MONTH	2.40	-1.70	3.10	-1.35	2.99	-1.04	2.58	-1.38	3.41	-0.90	3.45	-0.79
YEAR	3.86	-1.70										

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02279000 WEST PALM BEACH CANAL AT WEST PALM BEACH, FL

UPSTREAM
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	7.98	8.39	8.57	8.19	8.50	8.57	8.07	7.39	8.09	8.15	8.18	8.03
2	8.05	8.39	8.54	8.13	8.51	8.62	8.16	8.09	8.06	8.12	8.10	8.02
3	8.03	8.30	8.50	8.23	8.40	8.52	8.21	8.00	8.15	8.26	8.12	7.95
4	8.10	8.30	8.51	8.20	8.51	8.58	8.22	8.06	7.97	8.13	8.16	7.96
5	8.11	8.33	8.44	8.10	8.45	8.23	8.23	8.14	8.11	8.10	8.06	8.00
6	8.08	8.33	8.47	8.06	8.55	8.10	8.28	8.21	8.15	8.06	8.03	8.00
7	8.11	8.36	8.60	8.09	8.57	8.20	8.05	8.10	8.00	8.04	8.09	7.99
8	8.32	8.32	8.69	8.07	8.51	8.21	7.97	8.09	8.07	8.10	8.09	8.03
9	8.39	8.36	8.27	8.07	8.52	8.21	8.17	8.17	7.75	8.25	8.00	7.98
10	8.41	8.42	7.66	7.96	8.51	8.06	8.18	8.24	7.68	8.24	8.02	8.10
11	8.37	8.43	8.12	8.46	8.55	8.15	8.16	8.24	7.94	8.15	8.04	8.00
12	8.30	8.42	7.89	8.58	8.53	8.14	8.07	8.10	8.07	8.09	7.69	8.07
13	8.31	8.48	7.92	8.54	8.49	8.15	8.05	8.09	7.93	8.00	7.25	8.00
14	8.30	8.41	7.96	8.49	8.54	8.04	8.02	8.08	8.09	7.89	7.22	8.05
15	8.10	8.39	8.07	8.53	8.56	8.01	7.99	8.23	8.01	8.00	7.43	8.05
16	8.04	8.23	8.12	8.54	8.66	8.04	8.13	8.48	8.10	8.10	7.96	7.99
17	8.35	8.05	8.49	8.55	8.59	8.03	8.04	8.53	8.04	8.23	8.02	7.97
18	8.39	8.13	8.61	8.43	8.49	8.12	8.03	8.57	7.98	8.01	7.94	8.23
19	8.44	8.29	8.52	8.38	8.46	8.06	8.07	8.54	7.94	7.88	7.96	8.24
20	8.36	8.20	8.30	8.38	8.24	8.21	8.04	8.40	7.99	7.93	7.99	8.17
21	8.28	7.96	8.14	8.48	8.17	8.03	8.04	8.13	8.06	8.01	7.98	8.20
22	8.28	8.08	8.26	8.49	8.11	8.17	8.05	8.05	7.64	7.99	7.99	8.26
23	8.29	7.94	8.10	8.55	8.05	8.07	8.05	7.19	7.18	8.05	7.97	7.99
24	8.37	7.94	8.08	8.58	7.96	8.13	8.03	7.66	7.26	8.13	7.97	8.02
25	8.43	8.10	8.07	8.56	8.03	8.16	8.04	8.07	8.03	7.99	7.94	8.08
26	8.43	8.18	8.23	8.52	8.08	8.18	8.11	8.09	8.18	8.05	8.02	8.03
27	8.35	8.51	8.54	8.53	8.43	8.14	8.05	8.04	8.05	8.02	7.96	8.01
28	8.24	8.68	8.50	8.48	8.54	7.99	8.16	7.53	8.02	8.25	8.02	8.03
29	8.25	8.63	8.50	8.47	---	8.10	8.00	7.21	8.09	8.28	8.04	8.06
30	8.36	8.54	8.38	8.49	---	8.17	7.65	7.75	8.03	8.16	8.06	8.12
31	8.41	---	8.16	8.46	---	8.02	---	8.01	---	8.14	8.10	---
TOTAL	256.23	249.09	257.21	259.59	235.51	253.41	242.32	249.48	238.66	250.80	246.40	241.63
MEAN	8.27	8.30	8.30	8.37	8.41	8.17	8.08	8.05	7.96	8.09	7.95	8.05
MAX	8.44	8.68	8.69	8.58	8.66	8.62	8.28	8.57	8.18	8.28	8.18	8.26
MIN	7.98	7.94	7.66	7.96	7.96	7.99	7.65	7.19	7.18	7.88	7.22	7.95

EVERGLADES AND SOUTHEASTERN COASTAL AREA

264514080550700 INDUSTRIAL CANAL AT CLEWISTON, FL

LOCATION.--Lat 26°45'14", long 80°55'07", in NW ¼ sec.14, T.43 S., R.34 E., Hendry County, Hydrologic Unit 03090202, on concrete wall inside lock chamber of structure S-310 (HGS-2) in Okeechobee Waterway, and 0.8 mi north of U.S. Highway 27 near Clewiston.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--August 1976 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to October 1979, at datum 0.24 ft lower. Prior to April 19, 2001, acoustic velocity meter at same site and datum. Prior to October 19, 1992, water-stage recorder and electromagnetic velocity meter at site. Prior to October 1982, water-stage recorder 0.4 mi downstream of S-310 (HGS-2) on south side of U.S. Highway 27 bridge. August 1976 to September 1979, deflection velocity meter recorder on south side of U.S. Highway 27 bridge.

REMARKS.--Records poor. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity. Flow regulated by hurricane gate at Lake Okeechobee. Prior to October 19, 1992, electromagnetic velocity meter at site.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 11 complete water years of discharge (1977-79, 1983-87, 1990, 1994, 2002).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 19.17 ft Mar. 7, 1983; minimum, 8.73 ft May 23, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 17.59 ft Sept. 10; minimum, 14.14 ft May 15.

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	15.86	15.48	15.20	15.92	16.00	15.47	15.71	15.17	14.91	15.26	15.42	16.61
2	15.86	---	15.27	16.04	16.00	15.41	15.58	15.23	14.93	15.19	15.45	16.62
3	15.87	15.37	15.28	16.06	15.88	15.59	15.53	15.24	14.93	15.31	15.44	16.64
4	---	15.26	15.22	16.15	15.78	15.39	15.49	15.24	14.95	15.39	15.42	16.70
5	15.80	15.19	15.17	16.15	15.90	15.42	15.49	15.18	14.98	15.42	15.41	16.69
6	---	15.15	15.30	16.18	15.81	15.36	15.47	15.13	14.98	15.40	15.44	16.72
7	15.74	15.46	15.33	16.37	15.76	15.34	---	15.08	14.93	15.39	15.44	16.89
8	15.70	---	15.24	16.18	15.94	15.40	15.43	15.07	14.95	15.37	15.44	17.01
9	15.69	15.16	15.28	16.17	15.76	15.34	15.28	15.04	15.00	15.34	15.45	17.08
10	---	15.12	15.32	16.19	15.69	15.44	15.29	14.99	15.01	15.31	15.60	17.10
11	---	15.13	15.44	16.29	15.75	15.46	15.34	14.97	15.00	15.24	15.68	17.12
12	15.52	15.10	15.53	16.45	15.72	15.37	15.35	14.96	14.96	15.22	15.76	17.05
13	15.53	15.31	15.41	16.37	15.75	15.29	15.35	14.97	15.02	15.22	15.96	17.05
14	15.57	---	15.56	16.40	15.63	15.31	15.36	14.89	15.00	15.20	15.97	17.07
15	15.47	---	15.65	16.43	15.53	15.28	15.44	14.76	14.97	15.24	15.95	17.10
16	---	---	15.66	16.34	15.49	15.27	15.36	14.77	15.00	15.24	15.93	17.12
17	---	15.23	15.64	---	15.49	15.24	15.31	14.75	14.97	15.24	15.92	17.07
18	15.68	15.58	15.65	16.45	15.60	15.32	15.27	14.71	14.91	15.23	15.96	16.95
19	15.58	15.40	15.63	16.29	15.56	15.36	15.27	14.69	14.91	15.20	16.04	16.87
20	15.50	15.30	15.68	16.29	15.52	15.33	15.26	14.82	15.01	15.20	16.09	16.87
21	15.44	15.24	15.93	16.26	15.49	15.25	15.20	14.76	15.04	15.18	16.11	16.87
22	15.46	---	15.81	16.23	15.32	15.40	15.09	14.54	15.13	15.19	16.17	16.79
23	15.45	---	15.79	16.28	15.61	15.49	15.14	14.57	15.24	15.23	16.21	16.75
24	15.42	15.31	---	16.67	15.65	---	15.11	14.61	15.30	15.34	16.27	16.72
25	15.43	15.26	15.74	16.27	15.62	---	14.88	14.63	15.35	15.40	16.33	16.74
26	---	15.30	15.93	16.12	15.55	---	15.16	14.63	15.31	15.46	16.39	16.77
27	15.43	15.31	15.89	16.24	15.44	15.48	15.19	14.62	15.30	15.46	16.45	16.80
28	15.40	---	15.92	16.14	15.50	15.51	15.22	14.90	15.29	15.41	16.49	16.88
29	15.33	---	15.84	16.05	---	---	15.25	14.89	15.33	15.38	16.53	16.95
30	15.31	15.21	15.83	16.03	---	---	15.16	14.92	15.28	15.37	16.58	17.13
31	15.46	---	---	16.02	---	---	---	14.93	---	15.40	16.63	---
TOTAL	---	---	---	---	438.74	---	---	461.66	451.89	474.43	493.93	506.73
MEAN	---	---	---	---	15.67	---	---	14.89	15.06	15.30	15.93	16.89
MAX	---	---	---	---	16.00	---	---	15.24	15.35	15.46	16.63	17.13
MIN	---	---	---	---	15.32	---	---	14.54	14.91	15.18	15.41	16.61

264514080550700 INDUSTRIAL CANAL AT CLEWISTON, FL

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	49	41	111	-102	28	59	7.4	20	-189	49	4.7	5.3
2	16	e39	67	-88	44	57	57	10	-119	-21	-0.14	1.5
3	4.1	119	0.41	-8.0	-0.31	5.7	66	-12	-83	-22	-0.59	0.85
4	e20	153	3.4	-1.4	24	58	5.4	-15	-179	15	-14	-5.4
5	22	127	21	8.5	59	2.0	98	2.1	-133	15	-6.1	8.4
6	e16	44	18	2.5	99	90	79	24	-0.80	-17	5.9	8.8
7	-1.1	18	1.5	-7.8	53	39	e86	59	7.2	29	36	-5.0
8	---	e57	6.2	1.8	64	103	32	106	17	54	40	-5.5
9	---	84	-126	13	20	72	6.2	114	-22	45	48	-0.36
10	---	101	-339	8.7	60	23	56	102	8.0	96	21	3.4
11	---	-2.0	-313	1.6	59	-0.73	123	102	91	164	21	-3.7
12	38	61	-282	-5.5	11	23	97	113	101	130	-38	7.9
13	7.1	20	-359	-6.3	48	28	120	73	60	71	-44	-2.5
14	12	e71	-316	4.0	12	12	160	42	3.2	135	4.6	-2.6
15	24	e11	-188	11	69	5.9	174	127	21	147	1.5	10
16	e90	e3.8	-124	16	52	15	36	34	64	20	-3.7	65
17	e44	-119	-130	e49	16	-144	125	2.3	34	-7.9	3.5	93
18	44	-215	-109	4.9	3.8	-100	168	3.0	-72	-92	1.6	107
19	35	-192	-42	-6.5	-34	-0.05	155	9.6	-58	-120	0.79	105
20	27	-177	-22	2.8	-19	0.67	61	44	-50	-81	14	79
21	44	-61	-58	12	-38	-56	23	58	-131	1.1	6.6	7.1
22	22	e6.2	-24	62	-48	-17	104	31	-255	10	-1.2	16
23	27	e-12	-69	169	8.2	16	172	-33	-248	-1.1	2.3	3.7
24	20	-4.4	e-48	-16	-41	---	127	-63	-189	15	-6.8	5.2
25	90	-5.0	7.7	-3.8	-17	---	87	-18	-158	-154	0.76	12
26	e85	-1.1	22	-1.7	-44	---	-19	-218	-50	-108	-6.6	7.0
27	75	8.7	22	-0.14	27	---	-54	-314	-51	-150	0.58	8.2
28	61	e103	27	25	23	-108	-99	-442	-45	-196	3.7	13
29	124	e119	19	30	---	---	-118	-416	-12	-82	4.4	13
30	60	9.4	-7.7	28	---	---	-87	-417	-7.1	-5.7	5.5	7.9
31	102	---	e-74	23	---	---	---	-218	---	0.51	-9.4	---
TOTAL	---	407.6	-2,304.49	225.66	538.69	---	1,848.0	-1,090.0	-1,645.50	-61.09	95.90	563.19
MEAN	---	13.6	-74.3	7.28	19.2	---	61.6	-35.2	-54.9	-1.97	3.09	18.8
MAX	---	153	111	169	99	---	174	127	101	164	48	107
MIN	---	-215	-359	-102	-48	---	-118	-442	-255	-196	-44	-5.5
AC-FT	---	808	-4,570	448	1,070	---	3,670	-2,160	-3,260	-121	190	1,120

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 2003, BY WATER YEAR (WY)

	MEAN	41.8	55.0	56.2	51.8	68.7	89.2	120	113	40.9	10.7	2.06	17.1
MAX	194	315	438	467	474	472	448	366	399	245	219	232	18.8
(WY)	(1988)	(1986)	(1988)	(1988)	(1988)	(1988)	(1986)	(2002)	(1998)	(1984)	(1987)	(1987)	(1987)
MIN	-93.6	-27.6	-122	-120	-63.7	-42.3	-50.3	-92.3	-168	-114	-153	-119	-119
(WY)	(1994)	(1979)	(1998)	(1992)	(1992)	(1992)	(1991)	(1978)	(2002)	(2002)	(1978)	(2001)	(2001)

SUMMARY STATISTICS

ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

WATER YEARS 1976 - 2003

62.9
232 1987
-30.2 1978
740 Feb 24, 1989
-1,400 Jul 4, 1984
-465 Jun 12, 2002
45,570
294
21
-62

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02280500 HILLSBORO CANAL BELOW S-351, NEAR SOUTH BAY, FL

LOCATION.--Lat 26°42'00", long 80°42'45", in SW $\frac{1}{4}$ sec.35, T.43 S., R.36 E., Palm Beach County, Hydrologic Unit 03090202, acoustic velocity meter located approximately 1,800 ft downstream from S-351 and pump station 2 at Lake Okeechobee, and 2.5 mi north of South Bay, along the south bank of Hillsboro Canal.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--March 1957 to current year.

REVISED RECORDS.--WDR FL-92-2A, 1991.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter. Prior to January 1, 2002, acoustic velocity meter. Prior to April 1993 water year electromagnetic velocity meter and digital water-stage recorder. Satellite data collection platform with water-stage shaft encoder and acoustic velocity meter installed December 1990. Prior to October 1, 1986, water-stage recorder at pump station 2 used for gage heights at this station. Prior to August 1982, deflection meter. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Records poor. Flow regulated by vertical lift gates and pump station at Lake Okeechobee. Flow frequently reversed during and after periods of heavy rainfall by pumpage into the canal from agricultural lands in the Everglades, by the operation of pump station 2, or by gravity flow through gates during periods of negative head (negative figures indicate flow reversed). Discharge computed from continuous velocity record obtained from acoustic doppler velocity meter starting January 1, 2002.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 40 complete water years of discharge (1958-88, 1991-95, 1997-98, 2000-01).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 14.09 ft Sept. 28, 1962; minimum, 6.98 ft Oct. 28, 1981.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 12.71 ft May 28; minimum, 8.76 ft Sept. 10.

REVISIONS.--Revised figures of discharge for the 2002 water year superseding those published in the 2002 report are given below.

02280500 HILLSBORO CANAL BELOW S-351, NEAR SOUTH BAY, FL

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	e-281	267	420	-193	200	-26	201	628	547	119	231	e286
2	e164	290	321	e292	191	-148	196	655	598	186	409	239
3	282	148	227	203	211	-156	112	706	639	412	380	257
4	270	80	244	1.4	157	-84	262	672	680	489	193	325
5	217	21	318	109	173	-4.7	20	e601	685	441	e321	376
6	-12	-76	257	83	192	75	14	655	e678	322	e425	313
7	-44	-142	102	67	114	99	-5.5	908	654	245	440	---
8	-91	110	-65	e-12	125	270	78	e902	489	127	455	361
9	-0.20	118	52	156	47	190	179	e902	285	18	445	e341
10	13	234	348	118	-192	146	292	890	311	-3.7	296	e257
11	93	159	267	144	-474	84	446	864	276	205	270	251
12	200	145	278	131	-448	150	518	829	123	170	345	351
13	233	77	181	142	-201	184	441	805	259	57	237	334
14	192	11	259	145	4.7	327	237	798	347	238	419	337
15	166	-34	266	111	291	228	65	717	527	415	619	343
16	13	-80	259	16	23	138	125	---	515	163	465	e329
17	264	-16	246	-15	239	208	154	---	474	---	258	299
18	351	21	e233	139	93	209	61	245	304	245	e262	244
19	331	94	232	138	22	292	299	47	135	299	---	270
20	254	74	197	88	48	296	415	-93	83	308	220	260
21	288	127	225	62	121	265	199	-137	242	238	163	361
22	100	208	233	56	-34	262	405	-79	66	347	84	347
23	39	327	231	43	101	185	542	-53	74	519	-125	340
24	193	283	210	52	-117	143	564	238	79	429	-71	363
25	-48	276	175	139	78	254	534	367	-97	394	---	336
26	235	278	-7.3	182	-110	405	554	272	-64	327	230	360
27	237	230	-177	154	45	194	608	187	2.9	291	157	356
28	126	243	55	143	235	102	557	560	141	235	e155	314
29	170	254	71	259	---	111	608	819	295	180	380	334
30	384	356	11	e230	---	228	654	813	-0.93	e240	68	288
31	293	---	151	138	---	305	---	690	---	189	101	---
TOTAL	4,631.80	4,083	5,819.7	3,321.4	1,134.7	4,931.3	9,334.5	---	9,346.97	---	---	---
MEAN	149	136	188	107	40.5	159	311	---	312	---	---	---
MAX	384	356	420	292	291	405	654	---	685	---	---	---
MIN	-281	-142	-177	-193	-474	-156	-5.5	---	-97	---	---	---
AC-FT	9,190	8,100	11,540	6,590	2,250	9,780	18,510	---	18,540	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2002, BY WATER YEAR (WY)

MEAN	-6.05	25.9	52.0	30.5	51.1	83.4	220	158	-13.2	-106	-101	-123
MAX	296	366	520	483	574	359	676	720	610	482	268	351
(WY)	(1995)	(1974)	(1996)	(2000)	(1993)	(1999)	(1993)	(1966)	(2000)	(1992)	(1974)	(1992)
MIN	-370	-276	-314	-265	-232	-534	-241	-328	-633	-553	-609	-537
(WY)	(1965)	(1960)	(1960)	(1964)	(1963)	(1970)	(1957)	(1968)	(1968)	(1975)	(1981)	(1960)

SUMMARY STATISTICS

FOR 2001 CALENDAR YEAR

WATER YEARS 1957 - 2002

ANNUAL TOTAL	25,597.50	
ANNUAL MEAN	70.1	15.0
HIGHEST ANNUAL MEAN		288
LOWEST ANNUAL MEAN		-207
HIGHEST DAILY MEAN	420	Dec 1
LOWEST DAILY MEAN	-940	Aug 3
ANNUAL SEVEN-DAY MINIMUM	-722	Aug 2
ANNUAL RUNOFF (AC-FT)	50,770	10,860
10 PERCENT EXCEEDS	303	365
50 PERCENT EXCEEDS	118	24
90 PERCENT EXCEEDS	-290	-337

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

REVISED

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02280500 HILLSBORO CANAL BELOW S-351, NEAR SOUTH BAY, FL

 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	10.63	10.70	10.54	10.47	11.54	10.49	10.30	10.10	10.12	10.43	10.16	10.26
2	10.59	10.79	10.36	10.80	11.62	10.48	10.37	10.72	10.54	10.44	11.34	10.22
3	11.11	10.87	10.89	10.95	11.57	10.55	10.31	10.43	10.90	10.84	10.66	10.05
4	11.36	10.77	10.91	10.89	11.69	10.61	10.54	10.22	11.09	10.84	10.61	9.82
5	11.31	10.70	10.66	10.86	11.28	10.79	10.95	10.37	11.28	10.86	10.92	10.01
6	11.40	10.91	10.86	10.98	11.46	10.66	10.88	10.79	11.01	11.10	10.74	10.31
7	11.32	10.76	10.88	11.16	11.42	10.64	10.69	10.78	11.07	11.07	9.80	10.54
8	11.33	10.87	10.95	11.50	11.44	10.63	10.70	11.14	11.19	11.02	10.46	10.46
9	11.37	10.84	11.08	11.50	11.45	10.61	10.55	11.12	11.29	10.88	10.76	9.98
10	11.34	10.83	11.65	11.53	11.30	10.61	10.48	10.96	10.93	10.56	10.51	9.44
11	11.28	10.86	11.02	11.50	11.34	10.69	10.94	11.39	10.41	10.14	11.37	9.19
12	11.31	10.95	10.24	11.55	11.42	10.90	11.24	11.48	9.90	9.92	11.18	9.64
13	11.32	11.21	10.56	11.57	11.47	10.85	11.22	11.22	10.53	10.15	10.26	10.10
14	11.22	11.14	11.15	11.74	11.02	10.59	11.22	11.29	10.08	10.23	10.31	10.46
15	10.38	11.10	10.91	11.60	10.65	10.71	11.34	11.24	10.15	10.63	9.67	10.46
16	10.45	11.18	10.58	11.54	10.75	10.88	11.40	11.01	10.32	11.06	9.68	10.07
17	11.30	11.92	10.61	11.40	10.92	11.45	11.54	11.24	10.62	10.95	10.36	10.03
18	11.36	10.43	10.46	11.47	11.06	10.63	11.56	11.07	10.69	10.38	10.67	10.23
19	11.37	10.95	10.58	11.52	10.98	10.17	11.64	11.11	10.76	10.14	9.98	10.51
20	11.29	11.21	11.32	11.48	10.87	10.64	11.57	10.83	10.02	10.20	10.02	10.65
21	11.33	11.17	11.76	11.54	11.05	10.49	11.59	10.57	11.67	10.29	10.75	10.90
22	11.53	10.83	10.88	11.40	11.08	9.80	11.54	10.60	11.81	10.70	10.84	10.84
23	11.43	10.44	10.87	11.26	10.60	10.08	11.50	10.62	11.80	10.98	10.95	10.66
24	11.38	10.86	10.35	11.31	10.56	10.66	11.35	10.71	11.22	11.48	11.08	10.66
25	11.44	10.93	10.19	11.73	10.49	9.63	11.48	11.03	10.27	10.05	11.56	10.71
26	11.70	10.72	10.46	11.56	10.63	10.21	11.33	10.86	10.76	10.78	10.65	11.19
27	11.13	10.71	10.54	11.32	10.69	10.93	10.02	11.03	10.34	10.69	10.24	10.26
28	10.97	10.87	10.24	11.47	10.55	11.86	11.01	12.24	10.43	10.63	9.99	11.33
29	11.33	10.82	10.42	11.57	---	10.80	11.45	12.09	10.65	10.35	11.01	11.12
30	11.17	10.57	10.61	11.59	---	9.97	10.35	11.51	10.62	9.88	10.05	11.79
31	10.67	---	10.54	11.59	---	10.48	---	10.92	---	10.04	9.97	---
TOTAL	347.12	326.91	333.07	352.35	310.90	328.49	331.06	340.69	322.47	327.71	326.55	311.89
MEAN	11.20	10.90	10.74	11.37	11.10	10.60	11.04	10.99	10.75	10.57	10.53	10.40
MAX	11.70	11.92	11.76	11.74	11.69	11.86	11.64	12.24	11.81	11.48	11.56	11.79
MIN	10.38	10.43	10.19	10.47	10.49	9.63	10.02	10.10	9.90	9.88	9.67	9.19

02280500 HILLSBORO CANAL BELOW S-351, NEAR SOUTH BAY, FL

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	274	271	129	107	588	-151	e144	48	407	e83	145	361
2	e315	221	81	228	561	3.1	15	199	314	6.0	384	270
3	566	299	280	453	529	53	-9.1	227	291	282	389	174
4	e482	284	214	496	282	218	202	229	441	260	258	176
5	371	331	138	507	438	169	74	189	493	18	e287	199
6	e306	418	22	567	557	21	-68	353	500	141	277	355
7	406	309	169	673	582	-44	e-9.4	324	307	-31	230	267
8	590	323	75	710	555	76	-33	456	115	75	355	135
9	585	250	23	675	557	-27	e32	552	232	-8.7	-13	110
10	546	263	25	692	555	150	128	512	415	-23	65	-8.4
11	573	265	226	666	553	345	401	497	e383	-81	-35	65
12	547	334	81	674	591	426	362	608	e357	167	-192	125
13	471	321	86	698	632	496	261	664	381	192	-13	199
14	334	e279	82	669	451	326	459	666	e338	198	-49	168
15	424	---	211	685	90	261	721	676	e358	-40	65	335
16	196	-15	255	780	-16	317	733	622	319	e18	95	257
17	438	-206	255	741	-106	-8.5	677	471	391	104	-36	193
18	468	39	222	714	-150	161	601	280	381	198	75	251
19	e538	34	317	656	-161	240	e572	234	292	247	311	133
20	529	-103	351	680	-192	128	607	8.4	336	220	253	68
21	504	-286	173	678	-145	77	689	210	172	185	256	68
22	621	e-199	253	685	107	123	687	252	208	57	463	125
23	668	---	256	657	127	234	645	186	405	84	207	128
24	544	e158	111	608	-135	180	650	81	370	e245	511	94
25	e516	138	114	516	-186	129	679	55	361	310	574	81
26	---	84	105	546	-172	43	146	547	513	324	415	141
27	544	85	265	583	-166	-3.1	45	175	450	166	349	110
28	405	e40	271	643	-182	3.3	-123	361	391	106	201	114
29	485	---	344	639	---	169	-427	295	154	e43	15	-56
30	356	59	368	599	---	---	-87	404	133	e81	334	23
31	207	---	293	570	---	e140	---	459	---	199	416	---
TOTAL	---	---	5,795	18,795	6,144	---	8,773.5	10,840.4	10,208	3,825.3	6,592	4,660.6
MEAN	---	---	187	606	219	---	292	350	340	123	213	155
MAX	---	---	368	780	632	---	733	676	513	324	574	361
MIN	---	---	22	107	-192	---	-427	8.4	115	-81	-192	-56
AC-FT	---	---	11,490	37,280	12,190	---	17,400	21,500	20,250	7,590	13,080	9,240

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2003, BY WATER YEAR (WY)

MEAN	-6.05	25.9	55.0	43.0	54.7	83.4	222	162	-5.66	-101	-94.0	-117
MAX	296	366	520	606	574	359	676	720	610	482	268	351
(WY)	(1995)	(1974)	(1996)	(2003)	(1993)	(1999)	(1993)	(1966)	(2000)	(1992)	(1974)	(1992)
MIN	-370	-276	-314	-265	-232	-534	-241	-328	-633	-553	-609	-537
(WY)	(1965)	(1960)	(1960)	(1964)	(1963)	(1970)	(1957)	(1968)	(1968)	(1975)	(1981)	(1960)

SUMMARY STATISTICS

ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

WATER YEARS 1957 - 2003

15.0
288
-207
1,210
-1,720
-1,190
10,860
365
24
-337

2000
1960
Apr 27, 1999
Aug 19, 1981
Aug 17, 1981

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02281200 HILLSBORO CANAL AT S-6, NEAR SHAWANO, FL

LOCATION.--Lat 26°28'18", long 80°26'46", in NE ¼ sec.4, T.46 S., R.39 E., Palm Beach County, Hydrologic Unit 03090202, at pump station 6, and 7 mi southeast of Shawano.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1957 to September 1968 (gage heights and discharge). October 1968 to September 1981 (discharge), October 1990 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic velocity meter until January 30, 2002, when it was removed. Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter installed August 10, 2001. The acoustic velocity meter and acoustic doppler velocity meter were run in tandem for the period of August 10, 2001 to January 30, 2002. Dual water-stage recorder from 1968 to 1981 at S-6. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to October 1, 1959, at datum 0.44 ft lower.

REMARKS.--Records poor. Flow regulated by pumpage at S-6, by Structure 351 and pump station 2 at Lake Okeechobee and by drainage and irrigation pumps upstream. Records include flow from Levee 6 Canal from March 15, 1966 to October 1, 1999. Discharge is the summation of pumpage and siphoning at S-6. Negative flow indicates flow to the north due to siphoning at S-6. Acoustic velocity meter system began operation October 1990, on both S-6 and L-6 canals. After October 1, 1999, total discharge represents S-6 canal flow. Everglades Construction Project for Storm Treatment Area 2 (STA2) had a permanent effect on L-6 canal. Flow from L-6 canal into Hillsboro canal main channel was plugged in August 1999, approximately 0.25 mi upstream of L-6 cross-section for the diversion of flow into STA2. L-6 acoustic velocity meter was discontinued on September 30, 1999. From October 1990 to September 1999, total discharge is computed by the sum of S-6 and L-6 discharges from relations between stage vs area and line velocity vs mean velocity index ratings.

COOPERATION.--Records furnished by South Florida Water Management District October 1968 to September 1981. Prior to October 1968, pump records furnished by South Florida Water Management District, and records computed by U.S. Geological Survey. After reestablishment in the 1991 water year, records computed by U.S. Geological Survey.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 26 complete water years of discharge (1958-81, 1998, 2001).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 14.74 ft Dec. 25, 1958; minimum, 7.35 ft May 14, 1959.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 12.82 ft Nov. 17; minimum, 8.60 ft July. 25.

REVISIONS.--Daily Discharges previously published in 1995, were not published as estimated values August 5, 1995 to August 22, 1995. Records have been corrected in the files of the U.S. Geological Survey.

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	10.54	10.78	10.69	10.63	10.12	10.78	---	9.66	9.39	10.58	---	---
2	---	10.93	10.58	10.47	10.18	10.75	10.60	10.39	10.42	10.61	---	9.68
3	10.41	10.88	10.90	9.95	10.61	10.74	10.53	10.49	10.73	10.07	8.85	9.58
4	10.72	10.79	10.93	9.84	11.11	10.68	10.57	10.29	10.01	10.78	---	9.65
5	11.21	10.56	10.82	9.87	10.21	10.89	11.11	10.39	9.54	11.04	---	9.39
6	---	10.10	11.09	9.80	10.03	10.88	11.03	10.62	9.13	11.21	8.95	9.40
7	---	10.67	11.06	9.55	9.98	10.90	---	10.69	9.09	11.26	8.85	10.17
8	10.62	10.82	11.13	9.72	10.08	10.82	---	10.90	9.26	11.19	8.90	10.19
9	10.53	---	10.21	9.94	10.0	10.88	---	10.57	9.23	11.08	8.97	9.88
10	10.72	10.87	9.55	9.78	9.95	10.38	10.70	10.57	8.96	---	9.02	9.55
11	10.49	10.92	9.04	9.95	10.02	10.01	10.67	11.15	---	10.35	9.24	9.31
12	10.52	---	9.47	9.99	10.01	10.04	11.19	10.62	9.18	9.97	8.91	9.82
13	10.91	---	10.17	9.83	10.05	9.86	11.33	9.97	9.78	---	8.89	10.18
14	10.33	---	10.59	10.55	10.25	9.84	10.54	10.0	9.57	---	9.01	10.53
15	9.31	---	10.89	10.16	10.77	9.99	9.85	10.13	9.86	10.82	8.98	10.02
16	10.45	11.41	10.56	9.66	10.93	10.31	9.81	10.09	10.15	10.98	9.43	10.13
17	10.96	---	10.49	9.83	11.22	---	10.81	10.80	10.29	10.68	10.54	10.15
18	10.90	---	10.49	10.31	11.42	9.13	10.84	11.05	---	10.07	9.98	10.27
19	10.65	11.18	10.33	10.36	11.28	9.77	10.79	10.99	9.75	9.74	8.91	10.68
20	10.60	11.55	10.27	9.85	10.75	10.57	10.43	11.06	9.49	9.66	9.00	10.86
21	10.76	11.55	11.06	9.88	10.25	10.33	10.26	10.63	9.82	10.30	8.88	11.07
22	10.46	---	10.48	9.88	10.09	9.79	10.31	---	---	10.82	8.93	11.00
23	10.33	---	10.80	10.32	10.30	9.96	10.33	10.71	9.01	11.07	9.00	10.86
24	---	---	10.00	10.58	10.81	9.75	10.19	10.91	9.01	9.77	8.94	10.83
25	10.70	11.12	10.28	11.15	10.89	9.46	10.09	10.99	9.37	9.37	9.07	10.90
26	---	10.96	10.68	10.62	10.99	10.42	9.77	9.58	9.45	10.65	8.93	9.89
27	9.63	10.92	10.50	10.16	11.02	10.70	9.43	---	9.14	10.15	9.12	9.70
28	10.62	---	10.17	---	10.92	9.11	10.65	9.15	9.81	10.24	9.56	9.81
29	10.81	---	10.18	10.14	---	9.15	10.28	9.09	10.72	10.17	9.81	9.08
30	10.97	10.75	10.28	10.50	---	---	8.99	8.98	10.71	9.75	8.97	---
31	10.84	---	10.27	10.33	---	---	---	8.94	---	9.64	9.22	---
TOTAL	---	---	323.96	---	294.24	---	---	---	---	---	---	---
MEAN	---	---	10.45	---	10.51	---	---	---	---	---	---	---
MAX	---	---	11.13	---	11.42	---	---	---	---	---	---	---
MIN	---	---	9.04	---	9.95	---	---	---	---	---	---	---

02281200 HILLSBORO CANAL AT S-6, NEAR SHAWANO, FL

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	0.00	0.00	0.00	737	0.00	0.00	638	422	0.00	---	e301
2	0.00	0.00	0.00	180	689	0.00	0.00	341	0.00	0.00	e1,420	680
3	0.00	0.00	0.00	407	244	0.00	0.00	0.00	0.00	506	1,570	559
4	322	0.00	0.00	360	537	0.00	0.00	0.00	496	0.00	e1,550	349
5	0.00	0.00	0.00	269	744	0.00	0.00	0.00	888	0.00	e1,560	692
6	0.00	378	0.00	299	640	0.00	0.00	0.00	1,070	0.00	1,480	708
7	e353	0.00	0.00	355	610	0.00	0.00	0.00	1,650	0.00	978	531
8	0.00	0.00	0.00	374	688	0.00	0.00	0.00	1,820	0.00	1,220	581
9	0.00	0.00	1,010	324	640	0.00	0.00	121	1,850	0.00	1,680	552
10	0.00	0.00	2,000	394	617	445	0.00	0.00	1,480	0.00	1,690	394
11	0.00	0.00	1,690	433	686	551	148	0.00	e1,050	0.00	2,150	327
12	0.00	0.00	848	452	654	550	0.00	436	464	0.00	2,160	0.00
13	0.00	0.00	425	421	585	516	0.00	470	391	0.00	1,490	0.00
14	783	0.00	535	248	224	503	424	254	323	0.00	1,470	0.00
15	486	0.00	0.00	439	0.00	560	520	37	0.00	0.00	1,090	444
16	32	0.00	0.00	399	0.00	342	564	0.00	0.00	355	470	0.00
17	0.00	e1,470	0.00	162	0.00	e2,080	0.00	0.00	0.00	564	0.00	0.00
18	0.00	e912	0.00	0.00	0.00	1,750	305	0.00	0.00	417	941	0.00
19	0.00	0.00	0.00	246	0.00	587	443	337	919	384	911	0.00
20	0.00	0.00	609	395	422	241	500	0.00	473	350	1,020	0.00
21	0.00	491	798	372	718	289	480	0.00	1,530	0.00	1,600	0.00
22	273	e722	495	164	641	403	409	0.00	e2,200	0.00	1,480	0.00
23	0.00	---	0.00	0.00	235	415	480	0.00	2,200	0.00	1,850	0.00
24	0.00	0.00	363	0.00	0.00	1,380	336	0.00	1,640	1,100	1,710	0.00
25	283	0.00	131	267	0.00	619	340	279	625	385	1,850	0.00
26	e558	0.00	0.00	444	0.00	0.00	1,200	590	720	0.00	1,520	1,380
27	684	0.00	0.00	456	0.00	447	684	e877	481	462	1,010	683
28	0.00	0.00	0.00	e400	0.00	2,470	540	2,120	331	471	465	1,580
29	0.00	0.00	0.00	436	---	1,700	1,960	2,360	0.00	477	1,380	2,000
30	0.00	0.00	0.00	351	---	---	1,480	1,930	0.00	298	1,040	e2,640
31	0.00	---	0.00	643	---	e401	---	1,330	---	657	385	---
TOTAL	3,774.00	---	8,904.00	9,690.00	10,311.00	---	10,813.00	12,120.00	23,023.00	6,426.00	---	14,401.00
MEAN	122	---	287	313	368	---	360	391	767	207	---	480
MAX	783	---	2,000	643	744	---	1,960	2,360	2,200	1,100	---	2,640
MIN	0.00	---	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	---	0.00
AC-FT	7,490	---	17,660	19,220	20,450	---	21,450	24,040	45,670	12,750	---	28,560

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003, BY WATER YEAR (WY)

MEAN	389	163	141	203	156	133	136	226	355	360	395	540
MAX	1,431	1,417	1,120	1,326	591	1,020	710	991	1,343	980	1,355	1,695
(WY)	(1995)	(1995)	(1995)	(1958)	(1998)	(1970)	(1998)	(1998)	(1968)	(1995)	(1994)	(1960)
MIN	-57.4	-29.3	0.000	0.000	-84.0	-65.9	0.000	-11.5	-152	0.000	43.2	4.63
(WY)	(1981)	(1992)	(1971)	(1975)	(1991)	(1991)	(1974)	(1993)	(1980)	(1981)	(1958)	(1961)

SUMMARY STATISTICS

ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

WATER YEARS 1958 - 2003

227
597 1998
68.1 1962
4,480 May 1, 1998
-673 Apr 16, 1991
-407 Jun 12, 1980
164,300
848
0.00
0.00

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02281400 HILLSBORO CANAL NEAR MARGATE, FL

LOCATION.--Lat 26°19'48", long 80°12'45", in NW ¼ sec.36, T.47 S., R.41 E., Broward County, Hydrologic Unit 03090202, on north side of Loxahatchee Road, 0.7 mi west of U.S. Highway 441, and 5.1 mi north of Margate. (Corrected).

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--December 1975 to current year.

REVISED RECORDS.--WDR FL-99-2A, 1998

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter. Prior to November 20, 2001, electronic data logger with water-stage shaft encoder and acoustic doppler velocity meter with cellular phone/radio telemetry provided by South Florida Water Management District. Use of telemetry data started in September, 1999. Digital water-stage recorder removed September 27, 1999. Electromagnetic velocity meter prior to October 1, 1999. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except estimated daily discharges, which are poor. Flow affected by regulation downstream at structure G-56 and upstream storage releases at control structures S-39 and S-39A. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 18 complete water years of discharge (1977-89, 1996, 1998-2001).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 12.88 ft Apr. 25, 1979; minimum, 4.15 ft May 20, 1978.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 9.36 ft May 28; minimum, 6.42 ft June 23.

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	7.62	8.18	8.28	7.54	8.02	7.66	---	6.91	7.49	7.60	7.44	7.51
2	---	8.19	8.24	7.46	7.84	7.65	7.67	7.17	7.53	7.70	7.83	7.60
3	7.56	8.24	8.22	7.61	7.92	7.59	7.57	7.17	7.57	7.65	7.74	7.57
4	7.41	8.19	8.18	7.47	7.97	7.59	7.57	7.16	7.60	7.61	7.56	7.50
5	7.66	8.24	8.22	7.46	7.83	7.49	7.59	7.19	7.58	7.60	---	7.42
6	8.07	8.22	8.21	7.45	7.90	7.43	7.63	7.12	7.53	7.61	7.95	7.48
7	7.86	8.19	8.26	7.52	7.95	---	---	7.34	7.45	7.48	7.61	7.47
8	7.72	8.19	8.15	7.52	7.84	7.41	---	7.24	---	7.59	7.46	7.49
9	---	8.16	8.04	7.55	7.90	7.71	---	7.57	7.65	7.53	7.42	7.50
10	8.00	8.27	7.42	7.58	7.92	---	7.56	7.74	7.88	7.50	7.32	7.35
11	7.95	8.18	7.44	7.50	7.89	7.63	7.53	7.85	7.67	7.62	7.40	7.58
12	7.99	8.17	7.41	7.52	8.04	7.61	7.61	7.68	7.50	7.83	7.51	7.58
13	8.06	8.19	7.50	7.54	8.09	7.53	7.95	---	7.56	7.87	7.51	7.47
14	7.88	---	7.39	7.68	---	7.94	7.70	7.71	7.63	8.06	7.53	7.45
15	7.50	---	---	7.51	8.34	---	7.82	7.74	7.47	8.02	7.42	7.40
16	---	7.76	7.13	7.38	---	7.80	7.86	7.73	7.54	7.88	7.51	7.35
17	7.96	7.82	7.12	7.63	8.28	7.92	7.83	7.80	7.60	7.57	7.49	---
18	7.98	8.25	7.91	7.90	8.30	7.93	7.78	7.72	---	7.78	7.49	7.76
19	7.92	8.43	7.79	7.76	8.31	7.76	7.87	7.79	7.57	7.96	7.54	---
20	8.14	8.35	8.00	7.89	8.13	7.58	7.81	7.79	7.53	7.70	7.55	7.70
21	7.92	7.99	7.71	7.93	7.88	7.48	7.75	7.80	7.51	8.09	7.62	7.70
22	8.06	---	7.50	7.92	7.92	7.51	7.71	7.81	7.27	7.90	7.56	8.03
23	---	---	7.45	7.92	8.13	7.57	7.58	7.17	7.19	7.74	7.50	7.91
24	8.54	---	7.53	8.06	7.66	7.61	7.55	7.51	7.26	7.75	7.39	7.62
25	8.34	7.96	7.52	7.95	7.49	---	7.68	8.03	7.47	7.63	7.43	7.79
26	---	8.21	7.48	7.89	7.25	7.45	7.73	7.82	7.58	7.51	7.40	7.79
27	8.04	8.26	7.46	8.03	7.45	7.49	7.90	8.38	7.60	7.42	7.49	7.76
28	8.09	---	7.46	7.99	7.64	7.51	7.53	9.17	7.48	7.58	7.35	6.98
29	---	---	7.50	8.02	---	7.47	7.27	8.48	7.56	8.08	7.43	7.29
30	8.17	8.26	7.51	8.06	---	---	7.31	7.39	7.55	7.93	7.37	7.47
31	---	---	7.54	8.08	---	---	---	7.54	---	7.66	7.46	---
TOTAL	---	---	---	239.32	---	---	---	---	---	239.45	---	---
MEAN	---	---	---	7.72	---	---	---	---	---	7.72	---	---
MAX	---	---	---	8.08	---	---	---	---	---	8.09	---	---
MIN	---	---	---	7.38	---	---	---	---	---	7.42	---	---

02281400 HILLSBORO CANAL NEAR MARGATE, FL

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	250	52	e16	577	419	37	e577	275	459	623	122	585
2	e65	e16	e50	545	422	44	619	454	471	576	e31	542
3	75	e3.1	e50	581	388	43	629	484	491	572	114	563
4	63	59	e52	524	387	26	624	431	532	595	91	527
5	e14	56	e53	521	414	42	621	440	553	591	e100	550
6	26	52	e21	527	390	45	630	441	508	599	e134	552
7	e31	49	e12	510	385	e37	e651	425	496	514	354	553
8	e36	e54	e25	512	398	77	e619	507	e520	570	501	507
9	e36	e20	139	529	409	43	e603	311	500	556	455	526
10	e30	35	403	540	380	e67	581	80	543	515	369	524
11	100	29	552	545	384	e71	573	53	497	406	355	520
12	88	66	544	552	370	74	343	88	555	272	447	538
13	42	e63	554	565	273	74	65	e79	549	161	512	529
14	e41	---	520	593	e100	207	103	140	596	68	497	509
15	e26	---	e476	535	e49	e129	72	167	556	e89	500	519
16	e48	e52	426	511	e57	125	58	137	570	119	529	472
17	74	242	204	447	e83	295	e84	80	625	136	531	e490
18	e104	49	172	381	e77	318	95	64	e573	e25	536	225
19	e3.8	37	217	401	e82	531	e35	123	585	93	572	e121
20	e32	53	262	384	e115	615	47	93	564	34	485	99
21	e42	384	480	383	e26	561	118	e69	532	e34	467	97
22	83	---	537	402	e56	566	146	155	425	117	474	e28
23	e42	---	546	376	e66	600	205	310	333	129	466	110
24	74	e57	585	342	89	605	216	e123	460	104	467	126
25	e52	e36	560	373	59	e556	181	169	523	116	524	152
26	---	e35	522	412	57	e551	141	303	571	111	546	214
27	55	e41	554	386	50	583	110	316	584	116	530	143
28	e56	---	545	396	51	573	366	744	535	58	544	195
29	e155	---	550	435	---	530	525	704	580	46	503	495
30	e149	e-11	572	409	---	---	418	460	528	131	488	485
31	e61	---	605	397	---	---	---	492	---	110	572	---
TOTAL	---	---	10,804	14,591	6,036	---	10,055	8,717	15,814	8,186	12,816	11,496
MEAN	---	---	349	471	216	---	335	281	527	264	413	383
MAX	---	---	605	593	422	---	651	744	625	623	572	585
MIN	---	---	12	342	26	---	35	53	333	25	31	28
AC-FT	---	---	21,430	28,940	11,970	---	19,940	17,290	31,370	16,240	25,420	22,800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 2003, BY WATER YEAR (WY)

	195	212	216	253	222	197	188	141	197	215	240	237
MEAN	195	212	216	253	222	197	188	141	197	215	240	237
MAX	719	671	738	541	634	708	458	452	527	624	630	518
(WY)	(2000)	(2000)	(2000)	(1998)	(1998)	(1998)	(1983)	(2000)	(2003)	(1986)	(1995)	(1995)
MIN	71.8	38.6	2.47	47.4	40.8	27.1	38.0	14.7	45.4	63.1	35.2	40.3
(WY)	(1999)	(1997)	(1997)	(1992)	(1997)	(1997)	(1997)	(1997)	(1985)	(1994)	(1996)	(1992)

SUMMARY STATISTICS

ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

WATER YEARS 1976 - 2003

221
351 2000
103 1977
1,300 Oct 18, 1999
-247 Apr 25, 1979
-45 Nov 17, 1976
160,300
543
155
51

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02282700 MIDDLE RIVER CANAL AT S-36, NEAR FORT LAUDERDALE, FL

LOCATION.--Lat 26°10'22", long 80°10'47", in NW ¼ sec.20, T.49 S., R.42 E., Broward County, Hydrologic Unit 03090202, 20 ft from south bank, 120 ft upstream from salinity-control structure S-36, 1.5 mi east of bridge on U.S. Highway 441, and 5 mi west of Fort Lauderdale.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1955 to September 1961 (gage heights only), October 1961 to current year.

GAGE.--Electronic data logger with water-stage shaft encoder for upstream and downstream. Electronic data logger for gate opening. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to October 1, 1993, both upstream and downstream gage heights at datum, 0.21 ft lower. Discharge not affected by the change in datum. Electromagnetic velocity meter and deflection vane recorder at same site prior to October 1, 1985.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow is at times affected by tide and occasionally reversed. Flow is regulated by operation of salinity-control structure 36. Discharge computed from the relationship of gate opening versus head difference. Records of gage heights prior to October 1961 are available in files of the U.S. Geological Survey. Starting in the 2002 water year, the downstream record published is maximum and minimum stage for each calendar day. Prior to the 2002 water year, daily mean was published.

COOPERATION.--Gage height and S-36 gate-operation records provided by South Florida Water Management District upon request.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 35 complete water years of discharge (1962-90, 1998-2003).

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 7.59 ft (present datum) Dec. 27, 1958; minimum, -0.32 ft (present datum) June 28, 1958.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 5.13 ft Sept. 25; minimum, 3.15 ft May 28.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 4.47 ft May 27; minimum, -0.83 ft Feb. 14,- 16.

UPSTREAM
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	4.11	4.68	4.63	4.77	4.47	4.58	4.58	3.55	5.04	4.49	4.80	4.46
2	4.43	4.68	4.63	4.75	4.44	4.57	4.54	4.12	5.02	4.54	4.79	4.61
3	4.60	4.66	4.61	4.83	4.42	4.52	4.50	4.40	4.65	4.58	4.84	4.46
4	4.70	4.65	4.61	4.82	4.41	4.52	4.45	4.63	4.48	4.59	4.87	4.38
5	4.76	4.63	4.65	4.80	4.39	4.48	4.43	4.76	4.33	4.60	4.89	4.48
6	4.79	4.65	4.67	4.78	4.37	4.46	4.40	4.84	4.40	4.63	4.92	4.52
7	4.79	4.63	4.65	4.76	4.37	4.44	4.38	4.88	4.66	4.64	4.78	4.36
8	4.79	4.59	4.64	4.74	4.35	4.42	4.35	4.85	4.76	4.64	4.46	4.42
9	4.78	4.58	4.69	4.72	4.32	4.43	4.34	4.76	4.86	4.63	4.70	4.59
10	4.78	4.58	4.91	4.71	4.33	4.40	4.33	4.66	4.95	4.61	3.44	4.96
11	4.78	4.58	4.96	4.69	4.30	4.40	4.28	4.59	5.05	4.61	3.45	4.94
12	4.76	4.58	4.98	4.67	4.27	4.39	4.25	4.52	4.84	4.59	3.48	4.55
13	4.74	4.59	5.03	4.65	4.25	4.38	4.22	4.45	4.49	4.60	3.68	4.36
14	4.74	4.57	5.04	4.71	4.23	4.47	4.19	4.46	4.75	4.61	3.48	4.52
15	4.74	4.55	5.00	4.70	4.23	4.48	4.30	4.53	4.81	4.61	3.80	4.80
16	4.78	4.61	4.97	4.66	4.24	4.49	4.43	4.50	4.83	4.61	4.52	4.90
17	4.78	4.61	4.93	4.64	4.30	4.83	4.52	4.46	4.84	4.59	4.73	4.98
18	4.74	4.31	4.91	4.63	4.29	4.98	4.59	4.42	4.85	4.61	4.83	5.05
19	4.72	4.11	4.88	4.62	4.27	4.96	4.63	4.37	3.99	4.63	4.86	5.05
20	4.72	4.35	4.89	4.60	4.64	4.92	4.66	4.33	3.34	4.65	4.23	5.07
21	4.72	4.57	4.88	4.60	4.50	4.89	4.70	4.28	3.66	4.69	3.44	5.07
22	4.71	4.64	4.88	4.60	4.32	4.84	4.73	4.08	3.64	4.82	3.50	5.07
23	4.69	4.66	4.86	4.60	4.57	4.80	4.73	3.40	3.62	4.84	3.66	5.06
24	4.67	4.66	4.85	4.58	4.58	4.82	4.72	3.84	3.57	4.81	3.58	5.06
25	4.70	4.66	4.91	4.56	4.59	4.74	4.71	4.57	3.71	4.77	3.52	5.06
26	4.73	4.67	4.89	4.56	4.62	4.70	4.63	4.72	4.13	4.77	4.00	4.58
27	4.74	4.67	4.86	4.55	4.63	4.69	4.38	4.68	4.28	4.76	4.48	4.25
28	4.73	4.66	4.83	4.52	4.61	4.74	4.27	3.39	4.38	4.77	4.74	3.59
29	4.71	4.65	4.80	4.50	---	4.71	4.49	3.34	4.43	4.78	4.94	3.65
30	4.70	4.64	4.77	4.49	---	4.71	4.00	4.01	4.46	4.79	5.04	3.58
31	4.68	---	4.74	4.48	---	4.65	---	4.87	---	4.81	4.76	---
TOTAL	145.81	137.67	149.55	144.29	123.31	143.41	133.73	135.26	132.82	144.67	133.21	138.43
MEAN	4.70	4.59	4.82	4.65	4.40	4.63	4.46	4.36	4.43	4.67	4.30	4.61
MAX	4.79	4.68	5.04	4.83	4.64	4.98	4.73	4.88	5.05	4.84	5.04	5.07
MIN	4.11	4.11	4.61	4.48	4.23	4.38	4.00	3.34	3.34	4.49	3.44	3.58

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02282700 MIDDLE RIVER CANAL AT S-36, NEAR FORT LAUDERDALE, FL

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	136	0.00	0.00	0.00	0.00	0.00	0.20	154	0.00	0.00	4.5	169
2	6.4	0.00	0.00	0.50	0.00	0.00	0.00	0.00	57	0.00	4.3	173
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	194	0.00	4.3	209
4	0.00	2.1	0.00	0.00	0.00	0.00	0.00	0.00	187	0.00	4.4	189
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	186	0.00	4.5	174
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	72	0.00	4.5	242
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80	237
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	113	166
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	168	72
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	621	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	455	79
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	131	0.00	289	153
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24	e179	0.00	204	147
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.00	0.00	279	39
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	127	0.10
16	0.00	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	163	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.2	0.00	0.00
18	0.00	163	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.6	0.00	0.00
19	0.00	157	0.00	0.00	0.00	0.00	0.00	0.00	324	4.6	100	0.00
20	0.00	10	0.00	0.00	107	0.00	0.00	0.00	276	4.7	411	0.00
21	0.00	0.00	0.00	0.00	184	0.00	0.00	0.00	154	4.6	456	0.00
22	0.00	0.00	0.00	0.00	133	0.00	0.00	272	154	4.6	306	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	418	154	4.6	248	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150	149	4.7	242	0.00
25	0.00	1.2	0.00	0.00	0.00	0.00	0.00	0.00	67	4.7	204	28
26	0.00	0.00	0.00	0.00	0.00	0.00	101	0.00	0.00	4.7	94	168
27	0.00	0.00	0.00	0.00	0.00	0.00	165	276	0.00	4.7	0.00	210
28	0.00	0.00	0.00	0.00	0.00	0.00	161	828	0.00	4.7	0.00	287
29	0.00	0.00	0.00	0.00	---	0.00	13	587	0.00	4.6	0.00	262
30	0.00	0.00	0.00	0.00	---	0.00	194	188	1.3	4.6	0.00	280
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	4.5	140	---
TOTAL	142.40	510.30	0.00	0.50	424.00	0.00	634.20	2,918.00	2,285.30	67.30	4,563.50	3,284.10
MEAN	4.59	17.0	0.000	0.016	15.1	0.000	21.1	94.1	76.2	2.17	147	109
MAX	136	163	0.00	0.50	184	0.00	194	828	324	4.7	621	287
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	282	1,010	0.00	1.0	841	0.00	1,260	5,790	4,530	133	9,050	6,510

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2003, BY WATER YEAR (WY)

	MEAN	92.8	70.2	34.6	31.0	29.3	32.3	30.8	41.4	104	89.4	98.6	101
MAX	277	332	161	123	242	246	220	249	306	226	308	336	
(WY)	(1984)	(1995)	(1999)	(1979)	(1983)	(1983)	(1979)	(1979)	(1999)	(1980)	(1982)	(1983)	
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
(WY)	(1962)	(1962)	(1962)	(1962)	(1962)	(1962)	(1962)	(1963)	(1962)	(1963)	(1963)	(1967)	

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1962 - 2003

ANNUAL TOTAL	18,501.30	14,829.60	
ANNUAL MEAN	50.7	40.6	61.2
HIGHEST ANNUAL MEAN			197
LOWEST ANNUAL MEAN			1.44
HIGHEST DAILY MEAN	647	828	1,490
LOWEST DAILY MEAN	0.00	0.00	-402
ANNUAL SEVEN-DAY MINIMUM	0.00	0.00	-53
ANNUAL RUNOFF (AC-FT)	36,700	29,410	44,310
10 PERCENT EXCEEDS	148	168	205
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02283200 PLANTATION ROAD CANAL AT S-33, NEAR FORT LAUDERDALE, FL

LOCATION.--Lat 26°08'05", long 80°11'42", in SW ¼ sec.31, T.49 S., R.42 E., Broward County, Hydrologic Unit 03090202, 15 ft streamward from left bank, 130 ft upstream from salinity-control structure 33, 0.5 mi east of bridge on U.S. Highway 441, 3 mi above mouth, and 4 mi west of Fort Lauderdale.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1955 to February 1962 (gage heights only), March 1962 to current year.

GAGE.--Water-stage recorders upstream and downstream. Gate-opening recorder discontinued on February 24, 2002. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow is at times affected by tide and is occasionally reversed. Flow is regulated by operation of salinity-control structure 33. Downstream stage is basically tidal, but at times is affected by gate operation. Starting in the 2002 water year, the downstream stage record published is the maximum and minimum stage. Prior to the 2002, water year daily mean for downstream stage was published. Records of gage heights prior to October 1961 are available in files of the U.S. Geological Survey.

COOPERATION.--Gate-opening records provided by South Florida Water Management District.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 33 complete water years of discharge (1963-86,1988-89, 1993, 1998-2003).

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 6.27 ft Oct. 15, 1999; minimum, -0.82 ft Mar. 4, 1958.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 5.05 ft May 27; minimum, 1.70 ft June 1.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 4.97 ft May 27; minimum, -.84 ft Feb. 16.

UPSTREAM
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	3.45	3.37	3.35	3.26	3.12	---	3.21	3.25	2.68	3.33	3.27	3.76
2	3.46	3.36	3.35	3.26	3.07	---	3.18	3.21	3.11	3.35	3.26	3.90
3	3.43	3.32	3.27	3.34	3.02	---	3.17	3.21	3.70	3.39	3.28	3.76
4	3.40	3.29	3.24	3.35	3.00	---	3.18	3.21	3.90	3.38	3.29	3.77
5	3.38	3.24	3.23	3.37	2.97	---	3.13	3.23	3.77	3.38	3.32	3.74
6	3.37	3.21	3.21	3.34	2.93	---	3.06	3.21	3.91	3.38	3.37	2.88
7	3.35	3.15	3.15	3.33	2.89	---	3.00	3.15	3.94	3.34	3.40	2.56
8	3.34	3.10	3.10	3.29	2.84	---	2.94	3.08	3.87	3.33	3.40	2.81
9	3.32	3.05	3.17	3.27	2.81	---	2.92	3.03	3.91	3.31	3.42	3.49
10	3.29	3.00	3.48	3.26	2.80	---	2.90	2.98	3.96	3.29	3.85	3.74
11	3.25	2.95	3.51	3.24	2.80	---	2.84	2.88	3.88	3.29	3.89	3.84
12	3.19	2.95	3.52	3.22	2.82	---	2.80	2.86	3.90	3.27	3.96	3.82
13	3.15	3.00	3.55	3.19	2.80	---	2.77	2.86	3.67	3.27	3.84	3.79
14	3.12	2.97	3.52	3.19	2.83	---	2.73	2.97	3.75	3.27	3.84	3.76
15	3.10	2.96	3.48	3.17	2.85	---	2.70	2.91	3.77	3.22	3.89	3.72
16	3.09	3.05	3.46	3.18	2.90	---	2.69	2.82	3.75	3.14	3.93	3.69
17	3.06	3.65	3.43	3.22	3.00	---	2.67	2.79	3.73	3.08	3.89	3.70
18	3.05	3.67	3.39	3.24	3.03	---	2.64	2.78	3.69	3.10	3.83	3.71
19	3.03	3.64	3.36	3.27	3.05	---	2.64	2.79	3.02	3.11	3.82	3.66
20	3.00	3.62	3.36	3.31	3.24	---	2.64	2.76	2.57	3.12	3.76	3.62
21	2.99	3.63	3.33	3.33	3.31	3.32	2.62	2.73	2.65	3.18	3.85	3.57
22	2.97	3.61	3.28	3.35	3.25	3.24	2.62	3.15	2.71	3.31	3.88	3.52
23	2.96	3.53	3.23	3.37	3.21	3.20	2.61	3.67	2.69	3.25	3.82	3.54
24	2.96	3.47	3.22	3.27	3.10	3.21	2.57	3.86	2.62	3.19	3.82	3.61
25	2.99	3.42	3.22	3.25	3.05	3.17	2.55	3.83	2.83	3.14	3.84	3.74
26	3.02	3.37	3.18	3.31	---	3.14	2.73	3.85	3.19	3.10	3.88	3.59
27	3.05	3.33	3.14	3.34	---	3.17	2.88	4.06	3.30	3.09	3.90	3.42
28	3.05	3.29	3.13	3.32	---	3.27	2.98	2.99	3.35	3.07	3.77	2.61
29	3.02	3.28	3.13	3.27	---	3.26	3.17	2.47	3.34	3.10	3.91	2.63
30	2.98	3.30	3.12	3.22	---	3.28	3.24	2.62	3.33	3.20	3.95	2.59
31	2.93	---	3.17	3.16	---	3.26	---	2.66	---	3.29	3.88	---
MEAN	3.15	3.29	3.30	3.27	---	---	2.86	3.09	3.42	3.23	3.71	3.48
MAX	3.46	3.67	3.55	3.37	---	---	3.24	4.06	3.96	3.39	3.96	3.90
MIN	2.93	2.95	3.10	3.16	---	---	2.55	2.47	2.57	3.07	3.26	2.56

02283200 PLANTATION ROAD CANAL AT S-33, NEAR FORT LAUDERDALE, FL

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e67	0.00	0.00	12
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.6	0.00	0.00	14
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24	0.00	0.00	14
6	0.00	0.00	0.00	1.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.4	55
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12	0.00	0.00	22
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44	2.8
10	0.00	0.00	0.00	0.00	0.00	4.9	0.00	0.00	0.00	0.00	17	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.9	0.00	12	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.3
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16	0.00	0.40	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.7	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.7	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.0	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51	0.00	1.7	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50	0.00	53	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23	0.00	15	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e30	0.00	15	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.0	23	0.00	22	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.00	16	0.00
25	0.50	0.00	0.00	0.00	0.00	0.00	0.00	5.4	13	0.00	7.0	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e98	0.00	0.00	5.7	e4.4
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e266	0.00	0.00	10	e8.6
29	0.00	0.00	0.00	0.00	---	0.00	0.00	106	0.00	0.00	0.00	17
30	0.00	0.00	0.00	0.00	---	0.00	0.00	77	0.00	0.00	0.00	8.0
31	0.00	---	0.00	0.00	---	0.00	---	67	---	0.00	1.8	---
TOTAL	0.50	0.00	0.00	1.40	0.00	4.90	0.00	625.40	367.50	1.00	232.40	229.10
MEAN	0.016	0.000	0.000	0.045	0.000	0.16	0.000	20.2	12.2	0.032	7.50	7.64
MAX	0.50	0.00	0.00	1.4	0.00	4.9	0.00	266	67	1.0	53	55
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	1.0	0.00	0.00	2.8	0.00	9.7	0.00	1,240	729	2.0	461	454

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2003, BY WATER YEAR (WY)

	21.0	15.6	9.25	8.92	9.41	7.89	9.43	11.1	26.2	22.6	21.5	25.9
MEAN	21.0	15.6	9.25	8.92	9.41	7.89	9.43	11.1	26.2	22.6	21.5	25.9
MAX	57.9	59.6	41.9	48.1	43.4	55.5	60.3	70.5	79.6	80.0	75.9	54.3
(WY)	(1968)	(1970)	(1968)	(1968)	(1972)	(1970)	(1977)	(1979)	(1977)	(1988)	(1976)	(1973)
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	(1971)	(1963)	(1963)	(1963)	(1971)	(1963)	(1963)	(1962)	(1971)	(1971)	(1987)	(1989)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1962 - 2003

ANNUAL TOTAL	1,941.30	1,462.20	
ANNUAL MEAN	5.32	4.01	16.8
HIGHEST ANNUAL MEAN			40.1
LOWEST ANNUAL MEAN			0.99
HIGHEST DAILY MEAN	132	266	748
LOWEST DAILY MEAN	0.00	0.00	-77
ANNUAL SEVEN-DAY MINIMUM	0.00	0.00	-28
ANNUAL RUNOFF (AC-FT)	3,850	2,900	12,200
10 PERCENT EXCEEDS	14	8.7	47
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02283498 NORTH NEW RIVER CANAL AT S-2 AND S-351, NEAR SOUTH BAY, FL

LOCATION.--Lat 26°42'00", long 80°42'55", in SW ¼ sec.35, T.43 S., R.36 E., Palm Beach County, Hydrologic Unit 03090202, at pump station 2 and gate structure S-351, 500 ft upstream from Hillsboro Canal, and 2.7 mi north of South Bay.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--February 1957 to September 1967 (gage heights only), October 1967 to September 2003. Discontinued.

REVISED RECORDS.--WDR FL-77-2A, 1974; WDR FL-93-2A, 1989, 1992.

GAGE.--Satellite data collection platform with water-stage shaft encoders for lake and canal stages in pump station 2; gate openings for three vertical lift gates and pump rpm data provided by South Florida Water Management District. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to January 18, 1965, water-stage recorder at site 1,600 ft downstream at same datum. Electromagnetic velocity meter and digital recorder in lock chamber installed in 1981 water year were removed October 1986. Prior to September 8, 1988, digital lake water-stage recorder in control house of lock. Prior to February 21, 1992, digital lake and canal water-stage recorders, and A-35 graphic recorder. Prior to October 1, 2001, potentiometer-gage recorders on hydraulic ram of each gate.

REMARKS.--No estimated daily discharge. Records fair. Flow regulated by gates and pump station at Lake Okeechobee. Discharge is summation of S-351 flow, S-2 pumpage and siphoning. Flow frequently reversed during and after periods of heavy rainfall by pumpage into the canal from agricultural lands in the Everglades, by the operation of pump station No. 2 (negative figures indicate flow reversed) and by gravity flow through gates during periods of negative head. Discharge computed from relations between head, gate openings, pump tachometer, submergence, and discharge coefficient. Lake stage published under 02283498. Formerly published as North New River Canal at S-2 and HGS-4, near South Bay. Records of gage heights prior to October 1967 are available in files of the U.S. Geological Survey. Extreme stages for period of record for lake gage height are not listed because of the unavailability of historical files. Gate discharge computed for periods of weir flow and submerged orifice flow where submergence was less than 2.00, are considered poor prior to October 1, 2001, when gate ratings were used.

COOPERATION.--Lake and canal stages, S-2 pump record and S-351 gate-operation record provided by South Florida Water Management District.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 36 water years of discharge (1968-2003).

EXTREME CANAL STAGES FOR PERIOD OF RECORD.--Maximum gage height, 14.09 ft Sept. 28, 1962; minimum, 6.98 ft Oct. 28, 1981.

EXTREME LAKE STAGES FOR CURRENT YEAR.-- Maximum gage height, 17.39 ft Sept. 17; minimum, 14.07 ft May 27.

EXTREME CANAL STAGES FOR CURRENT YEAR.--Maximum gage height, 12.69 ft May 28; minimum 8.93 ft Mar. 22, Sept. 10.

LAKE
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	15.75	15.46	15.21	15.93	16.08	15.46	---	15.18	14.97	15.23	15.39	16.54
2	15.77	15.50	15.28	16.03	16.03	15.47	15.58	15.26	14.94	15.17	15.40	16.56
3	15.78	15.34	15.27	16.24	15.88	15.56	15.51	15.26	14.92	15.32	15.39	16.63
4	15.78	15.23	15.17	16.24	15.79	15.39	15.46	15.23	14.90	15.34	15.41	16.70
5	15.77	15.16	15.16	16.16	15.90	15.39	15.47	15.11	14.97	15.34	15.42	16.68
6	15.75	15.23	15.32	16.22	15.80	15.36	15.40	15.05	14.95	15.30	15.43	16.76
7	15.72	15.56	15.36	16.48	15.77	15.36	---	15.01	14.90	15.32	15.46	16.94
8	15.66	15.24	15.21	16.25	15.93	15.40	---	15.02	14.95	15.34	15.44	17.03
9	15.64	15.14	15.22	16.19	15.75	15.40	---	15.00	15.01	15.31	15.46	17.07
10	15.57	15.10	15.32	16.21	15.71	15.44	15.61	14.95	14.99	15.27	15.60	17.08
11	15.49	15.11	15.43	16.31	15.78	15.37	15.51	14.96	14.96	15.21	15.67	17.10
12	15.49	15.11	15.51	16.49	15.75	15.31	15.39	14.98	14.94	15.18	15.72	17.04
13	15.49	15.37	15.43	16.39	15.74	15.29	15.39	14.95	14.95	15.17	15.87	17.01
14	15.55	15.28	15.70	16.47	15.57	15.27	15.35	14.83	14.95	15.16	15.84	17.03
15	15.47	15.02	15.71	16.47	15.49	15.28	15.38	14.72	14.94	15.21	15.91	17.09
16	15.57	15.06	15.71	16.36	15.49	15.22	15.32	14.75	14.95	15.22	15.93	17.13
17	15.72	15.52	15.64	16.45	15.54	15.28	15.29	14.71	14.93	15.21	15.92	17.06
18	15.62	15.68	15.63	16.62	15.66	15.31	15.23	14.65	14.89	15.19	15.96	16.96
19	15.53	15.43	15.59	16.37	15.55	15.32	15.20	14.64	14.93	15.18	16.05	16.84
20	15.48	15.30	15.75	16.32	15.51	15.30	15.17	14.75	15.01	15.20	16.03	16.83
21	15.43	15.24	16.03	16.27	15.46	15.26	15.17	14.67	15.10	15.17	16.10	16.77
22	15.44	15.34	15.81	16.25	15.31	15.41	15.13	14.41	15.18	15.16	16.17	16.74
23	15.41	15.49	15.77	16.42	15.71	15.51	15.16	14.54	15.27	15.23	16.21	16.74
24	15.40	15.32	15.68	16.88	15.57	15.67	15.03	14.61	15.27	15.32	16.26	16.71
25	15.40	15.26	15.94	16.29	15.58	15.53	14.82	14.62	15.31	15.39	16.31	16.70
26	15.40	15.33	16.01	16.14	15.53	15.38	15.10	14.64	15.29	15.41	16.36	16.77
27	15.39	15.33	15.93	16.26	15.47	15.41	15.20	14.60	15.28	15.43	16.42	16.82
28	15.35	15.36	15.98	16.15	15.51	15.51	15.19	14.91	15.29	15.39	16.43	16.88
29	15.30	15.50	15.84	16.05	---	15.55	15.22	14.93	15.25	15.37	16.49	16.92
30	15.33	15.23	15.80	16.03	---	15.81	15.10	15.00	15.20	15.36	16.51	17.13
31	15.45	---	15.70	16.02	---	---	---	14.98	---	15.37	16.53	---
TOTAL	481.90	459.24	483.11	504.96	438.86	---	---	460.92	451.39	473.47	493.09	506.26
MEAN	15.55	15.31	15.58	16.29	15.67	---	---	14.87	15.05	15.27	15.91	16.88
MAX	15.78	15.68	16.03	16.88	16.08	---	---	15.26	15.31	15.43	16.53	17.13
MIN	15.30	15.02	15.16	15.93	15.31	---	---	14.41	14.89	15.16	15.39	16.54

02283498 NORTH NEW RIVER CANAL AT S-2 AND S-351, NEAR SOUTH BAY, FL

CANAL
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	10.62	10.68	10.51	10.45	11.53	10.45	---	10.07	10.11	10.39	10.13	10.24
2	10.58	10.78	10.34	10.78	11.60	10.45	10.35	10.69	10.52	10.40	11.32	10.19
3	11.11	10.87	10.88	10.95	11.55	10.52	10.28	10.40	10.88	10.83	10.64	10.02
4	11.36	10.76	10.88	10.88	11.66	10.57	10.52	10.19	11.08	10.81	10.58	9.79
5	11.30	10.69	10.63	10.86	11.26	10.76	10.92	10.34	11.27	10.83	10.90	9.98
6	11.38	10.91	10.84	10.97	11.44	10.62	10.84	10.76	11.00	11.07	10.72	10.29
7	11.31	10.75	10.85	11.18	11.41	10.61	---	10.75	11.06	11.03	9.77	10.51
8	11.34	10.87	10.92	11.50	11.43	10.60	---	11.11	11.18	10.99	10.44	10.43
9	11.37	10.83	11.06	11.50	11.43	10.57	---	11.11	11.27	10.85	10.73	9.95
10	11.34	10.82	11.62	11.53	11.28	10.58	10.45	10.94	10.91	10.53	10.48	9.42
11	11.28	10.85	10.99	11.50	11.32	10.68	10.93	11.37	10.39	10.10	11.34	9.15
12	11.31	10.95	10.22	11.55	11.40	10.88	11.22	11.46	9.88	9.89	11.16	9.60
13	11.32	11.21	10.53	11.57	11.46	10.84	11.20	11.20	10.51	10.12	10.24	10.07
14	11.21	11.13	11.13	11.73	11.01	10.56	11.21	11.27	10.06	10.19	10.28	10.43
15	10.38	11.09	10.91	11.59	10.61	10.69	11.34	11.22	10.12	10.59	9.65	10.44
16	10.44	11.17	10.56	11.55	10.72	10.86	11.40	11.00	10.29	11.03	9.66	10.04
17	11.30	11.92	10.59	11.41	10.89	11.42	11.53	11.21	10.60	10.92	10.33	10.0
18	11.35	10.42	10.44	11.48	11.04	10.60	11.53	11.05	10.67	10.36	10.64	10.20
19	11.38	10.93	10.57	11.52	10.95	10.15	11.62	11.08	10.74	10.11	9.96	10.48
20	11.30	11.19	11.31	11.48	10.84	10.61	11.55	10.79	10.00	10.17	10.0	10.62
21	11.33	11.15	11.75	11.54	11.02	10.45	11.57	10.54	11.65	10.26	10.73	10.87
22	11.54	10.81	10.87	11.40	11.05	9.76	11.52	10.57	11.79	10.66	10.84	10.81
23	11.44	10.42	10.85	11.26	10.57	10.06	11.48	10.59	11.79	10.94	10.93	10.62
24	11.38	10.85	10.32	11.32	10.52	10.64	11.33	10.67	11.21	11.46	11.08	10.63
25	11.44	10.91	10.16	11.73	10.46	9.60	11.47	11.00	10.25	10.03	11.56	10.68
26	11.69	10.70	10.44	11.56	10.59	10.18	11.30	10.85	10.75	10.77	10.64	11.16
27	11.13	10.68	10.52	11.32	10.65	10.90	9.99	11.01	10.34	10.68	10.22	10.23
28	10.96	10.85	10.23	11.47	10.51	11.83	10.97	12.22	10.41	10.60	9.96	11.30
29	11.33	10.80	10.41	11.57	---	10.77	11.41	12.07	10.62	10.32	10.99	11.10
30	11.15	10.54	10.60	11.58	---	9.97	10.31	11.50	10.59	9.85	10.02	11.77
31	10.66	---	10.52	11.58	---	---	---	10.92	---	10.01	9.95	---
TOTAL	347.03	326.53	332.45	352.31	310.20	---	---	339.95	321.94	326.79	325.89	311.02
MEAN	11.19	10.88	10.72	11.36	11.08	---	---	10.97	10.73	10.54	10.51	10.37
MAX	11.69	11.92	11.75	11.73	11.66	---	---	12.22	11.79	11.46	11.56	11.77
MIN	10.38	10.42	10.16	10.45	10.46	---	---	10.07	9.88	9.85	9.65	9.15

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02283498 NORTH NEW RIVER CANAL AT S-2 AND S-351, NEAR SOUTH BAY, FL

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	37	53	0.50	1,450	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	204	0.00	184	331	1,320	0.00	-4.7	0.00	0.00	0.00	0.00	0.00
3	807	30	369	406	1,320	127	0.00	0.00	0.00	0.00	0.00	0.00
4	410	8.8	149	586	1,150	352	462	0.00	0.00	0.00	0.00	0.00
5	175	66	73	504	1,130	259	108	178	0.00	0.00	0.00	0.00
6	150	27	76	796	1,300	218	0.00	493	0.00	0.00	0.00	0.00
7	247	91	108	1,170	1,330	88	45	648	0.00	0.00	0.00	0.00
8	519	196	94	1,470	1,310	233	61	971	0.00	0.00	0.00	0.00
9	570	64	35	1,480	1,290	44	-75	1,100	0.00	0.00	0.00	0.00
10	507	2.9	0.00	1,480	1,300	152	169	635	0.00	0.00	0.00	0.00
11	491	0.00	0.00	1,410	1,410	371	867	1,100	0.00	0.00	0.00	0.00
12	337	217	0.00	1,470	1,400	368	774	1,490	0.00	0.00	0.00	0.00
13	249	226	0.00	1,490	1,410	522	624	1,460	0.00	0.00	0.00	0.00
14	89	198	0.00	1,490	683	355	1,050	1,500	0.00	0.00	0.00	0.00
15	0.00	83	0.00	1,450	160	187	1,380	1,480	0.00	0.00	0.00	0.00
16	338	0.00	0.00	1,490	87	247	1,240	1,520	0.00	0.00	0.00	0.00
17	863	0.00	0.00	1,490	19	0.00	1,300	930	0.00	0.00	0.00	0.00
18	820	0.00	0.00	1,480	13	0.00	1,370	519	0.00	0.00	0.00	0.00
19	755	0.00	262	1,430	12	0.00	1,490	305	0.00	0.00	0.00	0.00
20	453	0.00	193	1,430	-1.7	0.00	1,470	7.3	0.00	0.00	0.00	0.00
21	276	0.00	0.00	1,450	-14	0.00	1,520	318	0.00	0.00	0.00	0.00
22	708	0.00	0.00	1,490	0.00	0.00	1,530	90	0.00	0.00	0.00	0.00
23	737	36	0.00	1,510	0.00	0.00	1,510	0.00	0.00	0.00	0.00	0.00
24	275	235	0.00	1,520	0.00	0.00	1,530	0.00	0.00	0.00	0.00	0.00
25	18	78	0.00	1,470	0.00	0.00	1,470	0.00	0.00	0.00	0.00	0.00
26	0.00	42	54	1,200	0.00	0.00	349	0.00	0.00	0.00	0.00	0.00
27	7.9	102	77	1,240	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	308	73	128	1,450	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	350	0.00	237	1,450	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	147	66	234	1,390	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	48	---	141	1,420	---	0.00	---	0.00	---	-15	0.00	---
TOTAL	10858.90	1,878.70	2,467.00	38,443.50	18,078.30	3,523.00	20,239.30	14,744.30	0.00	-15.00	0.00	0.00
MEAN	350	62.6	79.6	1,240	646	114	675	476	0.000	-0.48	0.000	0.000
MAX	863	235	369	1,520	1,450	522	1,530	1,520	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.50	-14	0.00	-75	0.00	0.00	-15	0.00	0.00
AC-FT	21,540	3,730	4,890	76,250	35,860	6,990	40,140	29,250	0.00	-30	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

MEAN	24.6	139	197	226	299	381	760	513	8.86	-178	-185	-269
MAX	928	1,143	1,131	1,240	1,692	1,810	2,056	2,151	1,857	1,320	669	1,264
(WY)	(1995)	(1974)	(1996)	(2003)	(1993)	(1985)	(1993)	(1989)	(1989)	(1992)	(1974)	(1992)
MIN	-1,059	-643	-434	-343	-447	-1,316	-85.5	-889	-1,601	-1,203	-1,694	-1,408
(WY)	(1972)	(1999)	(1995)	(1977)	(1983)	(1970)	(1972)	(1972)	(1968)	(1975)	(1981)	(1981)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1968 - 2003	
ANNUAL TOTAL	84,563.60		110,218.00			
ANNUAL MEAN	232		302		159	
HIGHEST ANNUAL MEAN					715	
LOWEST ANNUAL MEAN					-296	
HIGHEST DAILY MEAN	1,960	May 29	1,530	Apr 22	3,440	Mar 15, 1985
LOWEST DAILY MEAN	-745	Feb 11	-75	Apr 9	-4,030	Oct 5, 2000
ANNUAL SEVEN-DAY MINIMUM	-135	Feb 10	-2.2	Feb 20	-3,190	Aug 17, 1981
ANNUAL RUNOFF (AC-FT)	167,700		218,600		115,000	
10 PERCENT EXCEEDS	912		1,400		1,130	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		-562	

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02283500 NORTH NEW RIVER CANAL BELOW S-351, NEAR SOUTH BAY, FL

LOCATION.--Lat 26°41'50", long 80°42'50", in SW ¼ sec.35, T.43 S., R.36 E., Palm Beach County, Hydrologic Unit 03090202, 30 ft from west bank, 800 ft downstream from Hillsboro Canal, 1,600 ft downstream from gate structure S-351 and pump station 2 at Lake Okeechobee, and 2.5 mi north of South Bay.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--February 1957 to current year. Records of gage heights prior to October 1961 are available in files of the U.S. Geological Survey.

REVISED RECORDS.--WDR FL-77-2A, 1974, 1975; WDR FL-92-2A, 1991; WDR FL-93-2A, 1977, 1985.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter. Prior to January 1, 2002, acoustic velocity meter at same site and datum. Prior to October 1, 1986, water-stage recorder at pump station 2 used for gage heights at this station. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to January 18, 1954, water-stage and deflection-meter recorder at site 1,600 ft downstream at same datum. January 19, 1965 to September 30, 1967, deflection-meter recorder at site 1,600 ft downstream. Satellite data collection platform collecting stage and velocity data was installed November 29, 1990.

REMARKS.--Records poor. Flow regulated by S-351 gate and pump station at Lake Okeechobee. Flow occasionally reversed during and after periods of heavy rainfall by pumpage into the canal from agricultural lands in the Everglades by pumping at structure 2 or by gravity flow through gates during periods of negative heads (negative figures indicate flow reversed). Discharge was the difference in flow between North New River Canal at S-2 and S-351 and Hillsboro Canal below S-351 October 1967 to June 9, 1987. Records of stage and discharge for water year 2002 are published in the data book for water year 2003.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 41 complete water years of discharge (1958-95,1997-98, 2000).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 14.09 ft Sept. 28, 1962; minimum, 6.98 ft observed Oct. 28, 1981.

EXTREME STAGES FOR WATER YEAR 2002.--Maximum gage height, 13.09 ft Feb. 11; minimum, 9.02 ft Nov. 5.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 12.75 ft May 28; minimum, 8.79 ft Sept. 10.

SPECIAL NOTE.--The gage height and discharge data for the 2002 water year was unavailable at the time WDR FL-02-2A was published. The 2002 water year tables are shown below.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.67	9.99	11.43	11.42	11.04	11.08	10.83	11.41	11.26	11.16	9.64	e11.22
2	10.58	10.30	11.40	e10.83	11.00	10.95	10.81	11.43	11.55	11.82	10.17	11.05
3	10.49	10.02	11.21	10.65	11.00	10.68	10.77	11.46	e11.44	11.04	10.41	10.64
4	11.14	9.62	11.05	10.65	10.96	10.62	10.97	11.45	e11.34	10.80	10.09	11.06
5	10.80	10.17	10.97	10.73	10.94	10.59	10.76	e11.44	e11.37	10.71	e10.39	10.93
6	10.56	11.31	e10.98	10.89	10.97	10.69	10.73	11.50	e11.40	10.30	e10.43	10.70
7	10.71	10.31	e11.10	10.98	10.96	10.31	e10.60	12.09	e11.36	11.62	10.40	10.69
8	10.64	10.29	11.17	e10.88	10.91	9.72	10.61	e12.20	e11.22	11.51	10.52	10.51
9	10.56	10.22	11.19	10.94	11.12	9.75	10.62	e12.10	e10.60	11.58	317	10.58
10	10.82	10.41	11.75	10.95	11.80	9.85	10.67	12.06	e10.50	11.64	10.26	10.42
11	10.88	10.58	11.39	10.98	12.36	10.00	10.89	12.05	e10.35	11.22	10.29	10.41
12	10.96	10.83	11.27	10.92	11.90	10.06	11.27	12.02	10.31	11.07	10.46	10.17
13	10.78	11.01	11.13	10.87	10.99	10.16	11.30	11.92	11.38	11.51	10.54	10.15
14	10.75	11.07	11.12	10.87	10.25	10.66	11.16	11.93	11.35	10.61	11.56	10.36
15	10.80	11.04	11.26	11.06	10.43	10.61	e10.72	11.78	11.39	10.42	11.18	10.40
16	10.68	10.93	11.35	10.81	10.87	10.48	10.91	e11.56	11.42	10.86	10.91	e10.39
17	10.77	10.94	11.36	10.77	10.83	10.62	11.27	e10.92	11.27	e10.41	10.49	10.37
18	10.80	10.95	e11.27	10.73	11.39	10.60	11.05	10.43	10.96	10.47	e10.25	10.21
19	10.66	10.92	11.17	10.48	11.26	10.59	10.86	10.08	10.23	10.28	10.38	10.21
20	10.36	10.78	11.09	10.53	10.97	10.81	11.16	10.96	11.50	10.18	10.95	10.10
21	10.47	10.83	10.99	10.63	10.95	e10.69	10.97	10.71	11.38	10.37	10.94	10.10
22	e11.11	10.91	10.95	10.76	10.68	10.79	11.00	10.44	11.48	11.18	11.27	10.30
23	e11.19	11.32	10.95	10.75	9.98	10.70	11.20	10.07	10.93	10.65	11.13	10.11
24	e10.96	11.37	10.92	10.65	11.19	10.64	11.17	e10.23	e11.89	10.71	10.81	10.33
25	e11.48	11.35	10.95	10.61	11.09	10.71	11.10	10.61	12.02	10.77	10.20	10.64
26	10.37	11.26	11.38	10.62	10.65	10.81	11.25	10.61	11.60	10.60	10.26	10.70
27	10.18	e11.19	11.44	10.62	10.65	10.84	11.54	e10.51	10.76	10.40	10.43	e10.39
28	11.22	e11.11	11.42	10.62	11.10	e10.71	11.45	10.89	10.30	10.22	e10.56	e10.22
29	11.16	e11.04	11.39	10.98	---	10.72	11.42	11.49	10.55	10.46	10.30	e10.57
30	10.68	11.13	11.43	e10.99	---	10.64	11.50	11.49	10.97	10.31	10.97	e10.63
31	10.27	---	11.61	10.90	---	10.85	---	11.63	---	9.98	11.60	---
TOTAL	333.50	323.20	348.09	335.07	308.24	326.93	330.56	349.47	334.08	334.86	634.79	314.56
MEAN	10.76	10.77	11.23	10.81	11.01	10.55	11.02	11.27	11.14	10.80	20.48	10.49
MAX	11.48	11.37	11.75	11.42	12.36	11.08	11.54	12.20	12.02	11.82	317.00	11.22
MIN	10.18	9.62	10.92	10.48	9.98	9.72	10.60	10.07	10.23	9.98	9.64	10.10

e Estimated

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02283500 NORTH NEW RIVER CANAL BELOW S-351, NEAR SOUTH BAY, FL

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	-1,030	---	-25	226	126	51	90	677	389	-129	185	---
2	-453	e-384	-208	e-307	53	130	165	534	619	-236	206	-249
3	-262	-135	-213	-188	-35	94	49	673	745	-516	-23	-323
4	-276	-78	-216	16	69	66	-323	642	e699	-546	-65	-363
5	-213	-29	-314	-128	103	-4.6	42	e560	e546	-442	e-16	-385
6	9.8	78	-258	-114	85	-70	16	807	e554	-375	e-266	-351
7	86	140	e-45	-98	-25	-145	e12	1,200	465	-253	58	-307
8	91	-168	105	e24	417	-364	45	---	e-246	-244	47	-441
9	e49	-145	e-84	-116	242	-289	199	---	e-254	13	317	-383
10	46	-236	-329	-146	237	-280	133	1,110	---	e-196	234	-305
11	e-38	-175	-270	-170	-275	-185	399	1,050	---	-162	137	-280
12	-188	-157	-285	-152	248	-204	486	915	137	-168	12	-356
13	-207	-110	-135	-182	211	-223	494	1,030	-139	e-39	17	-357
14	-189	-71	-243	-182	2.5	-518	139	1,120	-372	-281	-479	-325
15	-185	11	-299	-116	-294	-316	e-69	560	-500	-581	-620	-377
16	-20	68	-294	-40	-56	-167	-113	---	-556	-255	-473	e-388
17	-215	-50	-285	20	-245	-323	-236	---	-430	e-197	-219	-365
18	e-290	-59	---	-178	-102	-365	-173	-43	-269	-291	e-340	-291
19	e-265	-144	-262	-211	-22	-7.2	206	-14	-135	-349	-221	-336
20	-225	-132	-164	-86	-57	62	386	112	-25	-382	-226	-309
21	-266	-185	-192	-91	-146	e355	220	84	-256	-273	-186	-20
22	e-23	-224	-221	-114	50	150	686	78	-19	-349	-107	-234
23	e5.4	-356	-227	-61	-107	149	662	209	-55	-555	141	-107
24	---	-310	-227	-136	e135	147	564	422	---	-470	107	-186
25	e16	-318	-164	-205	-138	156	637	384	182	-436	-202	-362
26	---	-294	2.1	-317	111	-30	760	340	161	-340	-287	-396
27	---	e-241	169	-288	294	-247	768	281	71	-282	-172	-360
28	---	e-254	-56	-0.67	-10	e-158	703	936	-152	-271	---	-275
29	---	---	-78	319	---	-91	880	1,170	-390	-210	-413	e-436
30	---	---	-11	e129	---	40	911	1,090	8.5	-322	-64	e-349
31	---	---	-162	185	---	-76	---	517	---	-265	-117	---
TOTAL	---	---	---	-2,707.67	871.5	-2,662.8	8,738	---	---	-9,402	---	---
MEAN	---	---	---	-87.3	31.1	-85.9	291	---	---	-303	---	---
MAX	---	---	---	319	417	355	911	---	---	13	---	---
MIN	---	---	---	-317	-294	-518	-323	---	---	-581	---	---
AC-FT	---	---	---	-5,370	1,730	-5,280	17,330	---	---	-18,650	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	-37.3	109	172	134	211	283	489	351	-17.7	-114	-96.9	-248
MAX	609	776	685	751	1,141	1,525	1,405	1,393	1,073	819	401	900
(WY)	(1995)	(1974)	(1996)	(1996)	(1993)	(1985)	(1993)	(1992)	(1979)	(1992)	(1974)	(1992)
MIN	-779	-431	-309	-1,487	-283	-782	-265	-668	-987	-939	-1,086	-1,902
(WY)	(1961)	(1999)	(1995)	(1958)	(1958)	(1970)	(1958)	(1972)	(1982)	(1959)	(1981)	(1960)

SUMMARY STATISTICS

ANNUAL MEAN	110
HIGHEST ANNUAL MEAN	501
LOWEST ANNUAL MEAN	-232
HIGHEST DAILY MEAN	2,920
LOWEST DAILY MEAN	-3,460
ANNUAL SEVEN-DAY MINIMUM	-2,720
ANNUAL RUNOFF (AC-FT)	79,850
10 PERCENT EXCEEDS	706
50 PERCENT EXCEEDS	116
90 PERCENT EXCEEDS	-432

WATER YEARS 1957 - 2002

110	
501	1992
-232	1982
2,920	Mar 13, 1985
-3,460	Jun 25, 1982
-2,720	Jun 18, 1959
79,850	
706	
116	
-432	

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02283500 NORTH NEW RIVER CANAL BELOW S-351, NEAR SOUTH BAY, FL

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	10.63	10.69	10.52	10.47	11.56	10.47	10.30	10.13	10.18	10.46	10.20	10.31
2	10.59	10.78	10.36	10.80	11.63	10.47	10.37	10.75	10.59	10.47	11.38	10.26
3	11.13	10.88	10.89	10.96	11.58	10.55	10.31	10.47	10.95	10.89	10.71	10.09
4	11.38	10.77	10.89	10.90	11.68	10.60	10.54	10.26	11.14	10.88	10.64	9.86
5	11.32	10.71	10.65	10.87	11.29	10.78	10.94	10.41	11.33	10.89	10.96	10.05
6	11.40	10.92	10.85	11.00	11.47	10.65	10.87	10.83	11.07	11.14	10.78	10.35
7	11.33	10.76	10.87	11.19	11.44	10.63	10.68	10.82	11.12	11.10	9.84	10.58
8	11.36	10.88	10.93	11.52	11.45	10.62	10.69	11.19	11.24	11.05	10.50	10.49
9	11.39	10.84	11.07	11.52	11.46	10.59	10.54	11.19	11.33	10.91	10.79	10.02
10	11.36	10.83	11.64	11.55	11.31	10.60	10.47	11.02	10.97	10.59	10.54	9.48
11	11.30	10.85	11.00	11.51	11.35	10.70	10.95	11.45	10.46	10.17	11.40	9.22
12	11.33	10.96	10.24	11.57	11.43	10.91	11.24	11.54	9.95	9.96	11.21	9.67
13	11.34	11.22	10.56	11.59	11.48	10.86	11.22	11.29	10.58	10.19	10.30	10.14
14	11.22	11.14	11.14	11.75	11.03	10.59	11.24	11.35	10.13	10.26	10.34	10.49
15	10.40	11.10	10.92	11.61	10.64	10.71	11.37	11.30	10.20	10.66	9.71	10.50
16	10.46	11.18	10.57	11.57	10.73	10.88	11.43	11.08	10.37	11.09	9.72	10.11
17	11.31	11.93	10.61	11.43	10.91	11.44	11.56	11.29	10.67	10.98	10.39	10.07
18	11.37	10.43	10.46	11.49	11.05	10.62	11.57	11.12	10.73	10.42	10.70	10.27
19	11.39	10.94	10.59	11.54	10.97	10.17	11.65	11.15	10.81	10.18	10.02	10.55
20	11.31	11.20	11.33	11.50	10.86	10.63	11.58	10.86	10.07	10.24	10.06	10.68
21	11.34	11.16	11.76	11.56	11.04	10.48	11.60	10.61	11.71	10.33	10.79	10.93
22	11.56	10.82	10.88	11.42	11.08	9.79	11.56	10.64	11.85	10.73	10.90	10.88
23	11.47	10.44	10.86	11.28	10.59	10.08	11.51	10.66	11.84	11.01	10.99	10.68
24	11.40	10.86	10.34	11.33	10.54	10.66	11.36	10.74	11.26	11.52	11.14	10.69
25	11.46	10.92	10.18	11.75	10.48	9.62	11.52	11.06	10.32	10.09	11.62	10.74
26	11.71	10.71	10.46	11.57	10.61	10.21	11.37	10.91	10.82	10.83	10.70	11.22
27	11.15	10.69	10.54	11.34	10.67	10.92	10.06	11.07	10.40	10.74	10.28	10.30
28	10.98	10.86	10.25	11.49	10.53	11.85	11.04	12.29	10.48	10.66	10.03	11.36
29	11.34	10.80	10.43	11.59	---	10.79	11.46	12.13	10.69	10.38	11.05	11.16
30	11.17	10.56	10.61	11.61	---	9.97	10.38	11.56	10.66	9.92	10.09	11.82
31	10.67	---	10.54	11.61	---	10.48	---	10.98	---	10.08	10.02	---
TOTAL	347.57	326.83	332.94	352.89	310.86	328.32	331.38	342.15	323.92	328.82	327.80	312.97
MEAN	11.21	10.89	10.74	11.38	11.10	10.59	11.05	11.04	10.80	10.61	10.57	10.43
MAX	11.71	11.93	11.76	11.75	11.68	11.85	11.65	12.29	11.85	11.52	11.62	11.82
MIN	10.40	10.43	10.18	10.47	10.48	9.62	10.06	10.13	9.95	9.92	9.71	9.22

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02283500 NORTH NEW RIVER CANAL BELOW S-351, NEAR SOUTH BAY, FL

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	e-303	-208	e-37	-77	890	127	e-130	-39	-458	-79	-175	-420
2	---	-201	116	201	809	-4.8	-40	-232	-393	-25	-515	-312
3	e392	-241	177	72	877	151	3.2	-367	-317	-269	-425	-200
4	-59	-240	64	187	e915	239	346	-348	-433	-299	-330	-299
5	-158	-202	35	128	709	201	170	31	-526	13	-366	-229
6	e-108	-366	112	273	795	267	165	258	-491	-118	-245	-380
7	-123	-165	0.54	543	799	190	e124	430	-307	115	-261	-340
8	-4.1	-10	80	855	778	246	e56	575	-128	-73	-382	-248
9	96	-101	46	922	777	164	---	611	-307	-41	-31	-191
10	e101	-200	-24	898	806	88	57	260	-521	50	-77	-48
11	140	-262	-306	803	e916	123	533	630	-442	179	65	-181
12	-103	-28	-87	849	852	95	492	937	-464	-146	284	-230
13	-163	13	-85	876	836	121	447	832	-406	-250	-39	-308
14	-225	---	-33	919	285	32	653	883	-365	-238	44	-215
15	-454	e-89	-196	833	e112	10	655	846	-399	75	-158	-409
16	122	19	-225	e804	122	38	522	953	-366	-32	-172	-275
17	467	231	-249	e851	153	29	691	505	-425	-135	32	-221
18	403	-26	-227	e834	e129	-188	886	297	-384	-219	-142	-317
19	275	-68	e62	837	202	-279	949	173	-276	-365	-344	-216
20	30	107	-91	793	250	-146	907	-21	-360	-280	-264	-130
21	-34	276	e-106	851	162	-59	882	229	-165	-248	-255	-72
22	186	e203	e-275	e891	-84	-128	883	-145	-276	-33	-515	-185
23	168	---	-271	940	-124	-224	912	-174	-531	-36	-223	-219
24	-228	e176	-116	e879	153	-153	e920	-67	-390	-238	-579	-94
25	-554	3.5	e-119	1,000	194	-175	828	-44	-464	-385	-603	-99
26	---	-32	e35	678	199	-50	251	-633	-563	-428	-491	-128
27	-547	e142	e-176	671	217	18	-81	-170	-451	-255	-436	-120
28	-36	e136	e-48	880	198	-41	124	-411	-460	-174	-249	-107
29	37	---	e30	895	---	e-270	437	-295	-151	-29	65	37
30	e-141	e64	e28	861	---	---	73	-454	-157	-85	-396	-83
31	-211	---	-71	878	---	e-120	---	-512	---	-259	-504	---
TOTAL	---	---	-1,956.46	21,825	12,927	---	---	4,538	-11,376	-4,307	-7,687	-6,239
MEAN	---	---	-63.1	704	462	---	---	146	-379	-139	-248	-208
MAX	---	---	177	1,000	916	---	---	953	-128	179	284	37
MIN	---	---	-306	-77	-124	---	---	-633	-563	-428	-603	-420
AC-FT	---	---	-3,880	43,290	25,640	---	---	9,000	-22,560	-8,540	-15,250	-12,380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2003, BY WATER YEAR (WY)

MEAN	-37.3	109	167	146	216	283	489	346	-25.5	-115	-100	-247
MAX	609	776	685	751	1,141	1,525	1,405	1,393	1,073	819	401	900
(WY)	(1995)	(1974)	(1996)	(1996)	(1993)	(1985)	(1993)	(1992)	(1979)	(1992)	(1974)	(1992)
MIN	-779	-431	-309	-1,487	-283	-782	-265	-668	-987	-939	-1,086	-1,902
(WY)	(1961)	(1999)	(1995)	(1958)	(1958)	(1970)	(1958)	(1972)	(1982)	(1959)	(1981)	(1960)

SUMMARY STATISTICS

ANNUAL MEAN
 HIGHEST ANNUAL MEAN
 LOWEST ANNUAL MEAN
 HIGHEST DAILY MEAN
 LOWEST DAILY MEAN
 ANNUAL SEVEN-DAY MINIMUM
 ANNUAL RUNOFF (AC-FT)
 10 PERCENT EXCEEDS
 50 PERCENT EXCEEDS
 90 PERCENT EXCEEDS

WATER YEARS 1957 - 2003

110
 501
 -232
 2,920
 -3,460
 -2,720
 79,850
 706
 116
 -432

1992
 1982
 Mar 13, 1985
 Jun 25, 1982
 Jun 18, 1959

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

263537080211400 NORTH LOXAHATCHEE CONSERVATION AREA No. 1, NEAR BOYNTON BEACH, FL

LOCATION.--Lat 26°35'37", long 80°21'14", in T.46 S., R.41 E., Palm Beach County, Hydrologic Unit 03090202 in Loxahatchee Wildlife Refuge (Arthur R. Marshall). Township and range approximated from topographic map for which most section lines are not delineated, unable to determine section.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--July 2001 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Station is one of several located in Conservation Area No. 1.

COOPERATION.--U.S. Army Corps of Engineers.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 17.60 ft Nov. 5, 6, 2001; minimum, 15.66 ft May 15, 16, 2002.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 17.37 ft Sept. 10, 11; minimum, 16.02 ft May 19.

REVISIONS.--Revised figures of gage height for the 2002 water year, superseding those published in WDR FL-02-2A are provided in the following table.

REVISED EXTREMES FOR WATER YEAR 2002.--Maximum gage height, 17.61 ft Nov. 5, 6; minimum, 15.66 ft May 15, 16.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.41	17.57	17.11	---	16.71	16.87	16.47	16.08	15.84	16.66	16.72	16.61
2	17.39	17.56	17.11	---	16.70	16.85	16.46	16.05	15.80	16.71	16.71	16.65
3	17.38	17.56	17.10	---	16.69	16.84	16.48	16.03	15.77	16.71	16.73	16.66
4	17.38	17.54	17.09	---	16.68	16.83	16.53	16.00	15.74	16.69	16.71	16.67
5	17.37	17.59	17.07	---	16.66	16.81	16.51	15.97	15.71	16.68	16.71	16.68
6	17.37	17.59	17.06	---	16.65	16.80	16.50	15.94	15.80	16.69	16.71	16.70
7	17.36	17.56	17.15	---	16.65	16.79	16.48	15.91	16.00	16.69	16.69	16.71
8	17.35	17.53	17.18	---	16.63	16.81	16.46	15.88	16.03	16.73	16.68	16.72
9	17.34	17.50	17.16	---	16.63	16.79	16.44	15.85	16.10	16.86	16.66	16.73
10	17.33	17.48	17.14	---	16.77	16.77	16.42	15.82	16.08	16.89	16.64	16.73
11	17.32	17.46	17.13	---	16.94	16.77	16.41	15.78	16.06	16.94	16.67	16.74
12	17.31	17.45	17.11	---	16.91	16.76	16.39	15.76	16.07	17.02	16.73	16.77
13	17.30	17.42	17.09	---	16.88	16.75	16.38	15.73	16.14	17.11	16.71	16.77
14	17.29	17.40	17.08	---	16.88	16.73	16.39	15.70	16.21	17.11	16.69	16.78
15	17.29	17.38	17.07	---	16.87	16.71	16.40	15.67	16.30	17.10	16.67	16.78
16	17.30	17.37	17.06	---	16.94	16.70	16.39	---	16.34	17.09	16.65	16.78
17	17.30	17.35	17.05	---	16.96	16.68	16.41	---	16.43	17.10	16.70	16.78
18	17.28	17.33	17.03	---	16.93	16.66	16.40	15.96	16.47	17.09	16.68	16.77
19	17.27	17.31	17.02	---	16.91	16.65	16.38	15.98	16.45	17.09	16.66	16.78
20	17.27	17.30	---	---	16.90	16.63	16.36	16.03	16.44	17.06	16.65	16.78
21	17.28	17.28	---	---	16.89	16.62	16.34	16.00	16.56	17.03	16.65	16.77
22	17.41	17.26	---	---	16.88	16.61	16.32	15.97	16.57	17.00	16.63	16.77
23	17.50	17.24	---	---	16.94	16.59	16.29	15.93	16.57	16.97	16.62	16.78
24	17.51	17.22	---	---	16.95	16.57	16.27	15.90	16.58	16.94	16.62	16.80
25	17.56	17.21	---	16.73	16.93	16.56	16.25	15.86	e16.59	16.91	16.61	16.80
26	17.56	17.20	---	16.72	16.91	16.54	16.22	15.84	16.59	16.88	16.60	16.80
27	17.57	17.18	---	16.71	16.90	16.54	16.20	15.82	16.59	16.85	16.61	16.80
28	17.55	17.16	---	16.70	16.88	16.54	16.17	15.78	16.61	16.82	16.62	16.80
29	17.53	17.14	---	16.69	---	16.52	16.14	15.75	16.59	16.80	16.61	16.80
30	17.55	17.12	---	16.69	---	16.50	16.11	15.78	16.61	16.77	16.59	16.79
31	17.57	---	---	16.68	---	16.49	---	15.87	---	16.75	16.58	---
MEAN	17.39	17.38	---	---	16.83	16.69	16.37	---	16.25	16.89	16.66	16.75
MAX	17.57	17.59	---	---	16.96	16.87	16.53	---	16.61	17.11	16.73	16.80
MIN	17.27	17.12	---	---	16.63	16.49	16.11	---	15.71	16.66	16.58	16.61

e Estimated

REVISED

EVERGLADES AND SOUTHEASTERN COASTAL AREA

263537080211400 NORTH LOXAHATCHEE CONSERVATION AREA No. 1, NEAR BOYNTON BEACH, FL

 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	16.78	16.70	16.85	17.16	16.89	16.63	16.66	16.46	16.38	16.68	16.59	17.25
2	16.78	16.71	16.85	17.16	16.88	16.62	16.65	16.46	16.36	16.66	16.65	17.26
3	16.77	16.70	16.85	17.18	16.86	16.61	16.63	16.44	16.34	16.64	16.68	17.24
4	16.76	16.70	16.84	17.17	16.85	16.61	16.62	16.42	16.36	16.62	16.68	17.24
5	16.76	16.70	16.84	17.16	16.84	16.59	16.61	16.40	16.55	16.61	16.66	17.27
6	16.74	16.69	16.84	17.15	16.83	16.58	16.59	16.37	16.57	16.61	16.66	17.32
7	16.73	16.69	16.84	17.14	16.82	16.57	16.57	16.35	16.55	16.60	16.74	17.33
8	16.72	16.68	16.84	17.13	16.81	16.55	16.55	16.32	16.62	16.59	16.74	17.32
9	16.71	16.68	16.86	17.13	16.80	16.54	16.54	16.30	16.78	16.57	16.80	17.31
10	16.70	16.67	16.97	17.12	16.79	16.54	16.54	16.27	16.77	16.54	16.87	17.31
11	16.69	16.66	16.98	17.11	16.77	16.53	16.52	16.24	16.78	16.52	16.87	17.35
12	16.68	16.66	16.99	17.10	16.76	16.52	16.50	16.21	16.74	16.50	16.88	17.32
13	16.66	16.66	17.01	17.09	16.74	16.50	16.48	16.18	16.70	16.48	16.89	17.31
14	16.66	---	17.04	17.11	16.73	16.50	16.46	16.15	16.67	16.46	16.96	17.29
15	16.65	16.65	17.05	17.10	16.73	16.49	16.45	16.12	16.65	16.46	17.00	17.28
16	16.66	16.68	17.05	17.09	16.72	16.48	16.44	16.09	16.63	16.53	17.02	17.26
17	16.65	16.78	17.05	17.08	16.72	16.59	16.42	16.07	16.61	16.51	17.03	17.24
18	16.64	16.77	17.05	17.06	16.70	16.60	16.41	16.05	16.62	16.50	17.04	17.21
19	16.63	16.77	17.06	17.05	16.69	16.59	16.40	16.06	16.68	16.48	17.06	17.18
20	16.63	16.77	17.09	17.04	16.69	16.57	16.38	16.09	16.67	16.47	17.09	17.17
21	16.62	16.91	17.14	17.02	16.68	16.62	16.36	16.05	16.68	16.45	17.14	17.16
22	16.62	16.90	17.14	17.02	16.67	16.64	16.34	16.08	16.69	16.44	17.16	17.14
23	16.62	---	17.16	17.01	16.70	16.69	16.32	16.16	16.69	16.46	17.18	17.12
24	16.62	16.88	17.17	16.99	16.68	16.70	16.29	16.17	16.71	16.45	17.23	17.11
25	16.63	16.87	17.18	16.98	16.67	16.67	16.27	16.19	16.69	16.44	17.24	17.12
26	---	16.87	17.19	16.97	16.66	16.66	16.39	16.24	16.72	16.43	17.25	17.11
27	16.70	16.86	17.19	16.95	16.65	16.68	16.46	16.37	16.79	16.42	17.24	17.12
28	16.70	16.86	17.18	16.94	16.64	16.74	16.49	16.43	16.75	16.41	17.25	17.17
29	16.69	---	17.17	16.93	---	16.72	16.48	16.43	16.73	16.44	17.27	17.19
30	16.69	16.85	17.16	16.91	---	---	16.46	16.42	16.70	16.54	17.25	17.25
31	16.69	---	17.15	16.90	---	16.68	---	16.40	---	16.58	17.24	---
MEAN	---	---	17.03	17.06	16.75	---	16.48	16.26	16.64	16.52	16.98	17.23
MAX	---	---	17.19	17.18	16.89	---	16.66	16.46	16.79	16.68	17.27	17.35
MIN	---	---	16.84	16.90	16.64	---	16.27	16.05	16.34	16.41	16.59	17.11

263180080205001 SITE 7 IN CONSERVATION AREA NO. 1 NEAR SHAWANO, FL

LOCATION.--Lat 26°31'10", long 80°20'50", in T.45 S., R.40 E., Palm Beach County, Hydrologic Unit 03090202, in Loxahatchee Wildlife Refuge (Arthur R. Marshall Park). Township and range approximated from topographic map for which most section lines are not delineated, unable to determine section.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--July 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and a tipping bucket rain gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 15 ft above National Geodetic Vertical datum of 1929. Station is one of several located in Conservation Area No. 1. Gage is capable of recording water levels below land-surface datum. Rainfall is not published, but is available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003.

COOPERATION.--U.S. Army Corps of Engineers.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 18.22 ft Nov. 17, 18, 1994; minimum, 14.85 ft May 22, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 17.26 ft Sept. 6; minimum, 15.82 ft May 21, 22.

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	16.68	16.62	16.75	---	16.77	16.48	16.42	16.17	16.18	16.37	16.26	17.08
2	16.67	16.62	16.76	---	16.76	16.46	16.40	16.16	16.16	16.35	16.38	17.11
3	16.66	16.62	16.75	---	16.74	16.45	16.39	16.15	16.14	16.34	16.45	17.10
4	16.65	16.62	16.75	---	16.73	16.45	16.37	16.13	16.14	16.34	16.44	17.10
5	16.65	16.62	16.75	---	16.72	16.43	16.35	16.11	16.19	16.34	16.43	17.14
6	16.63	16.62	16.75	---	16.70	16.42	16.34	16.10	16.23	16.34	16.41	17.22
7	16.62	16.61	16.74	---	16.69	16.40	16.32	16.07	16.22	16.33	16.40	17.23
8	16.61	16.60	16.74	---	16.67	16.38	16.31	16.06	16.26	16.31	16.39	17.21
9	16.60	16.60	16.76	---	16.66	16.37	16.30	16.04	16.34	16.29	16.47	17.20
10	16.59	16.60	16.84	---	16.65	16.35	16.32	16.02	16.34	16.27	16.65	17.19
11	16.58	16.59	16.85	16.99	16.63	16.34	16.30	16.00	16.33	16.25	16.68	17.22
12	16.57	16.59	16.86	16.98	16.61	16.33	16.29	15.98	16.31	16.23	16.70	17.20
13	16.56	16.58	16.87	16.97	16.59	16.32	16.27	15.96	16.30	16.21	16.70	17.20
14	16.55	---	16.88	17.01	16.58	16.34	16.25	15.94	16.29	16.20	16.76	17.18
15	16.55	---	16.88	17.00	16.57	16.33	16.24	15.93	16.27	16.20	16.79	17.16
16	16.57	16.59	16.88	16.98	16.56	16.32	16.23	15.91	16.26	16.19	16.82	17.14
17	16.56	16.69	16.88	16.97	16.58	16.41	16.23	15.90	16.26	16.18	16.84	17.13
18	16.55	16.67	16.89	16.95	16.56	16.42	16.22	15.88	16.29	16.17	16.86	17.10
19	16.55	16.66	16.89	16.93	16.55	16.41	16.20	15.86	16.42	16.16	16.87	17.08
20	16.55	---	16.90	16.92	16.54	16.40	16.19	15.85	16.47	16.14	16.92	17.07
21	16.56	---	16.91	16.91	16.53	16.45	16.17	15.83	16.52	16.13	16.97	17.07
22	16.56	16.79	16.91	16.90	16.52	16.44	16.16	15.86	16.53	16.15	16.99	17.05
23	16.56	---	16.91	16.89	16.57	16.48	16.14	15.94	16.52	16.23	17.00	17.03
24	16.56	16.77	16.92	16.87	16.55	16.49	16.12	15.96	16.51	16.22	17.03	17.02
25	16.57	16.77	---	16.85	16.53	16.46	16.11	15.96	16.48	16.21	17.05	17.03
26	---	16.77	---	16.84	16.52	16.45	16.15	15.98	16.47	16.22	17.05	17.03
27	16.60	16.77	---	16.83	16.51	16.46	16.18	16.05	16.47	16.22	17.06	17.04
28	16.61	16.76	---	16.82	16.49	16.51	16.19	16.16	16.44	16.21	17.07	17.06
29	16.61	---	---	16.81	---	16.50	16.18	16.25	16.42	16.19	17.07	17.12
30	16.62	16.75	---	16.80	---	---	16.17	16.23	16.40	16.21	17.07	17.14
31	16.62	---	---	16.79	---	---	---	16.20	---	16.24	17.07	---
TOTAL	---	---	---	---	465.08	---	487.51	496.64	490.16	503.44	519.65	513.65
MEAN	---	---	---	---	16.61	---	16.25	16.02	16.34	16.24	16.76	17.12
MAX	---	---	---	---	16.77	---	16.42	16.25	16.53	16.37	17.07	17.23
MIN	---	---	---	---	16.49	---	16.11	15.83	16.14	16.13	16.26	17.02

EVERGLADES AND SOUTHEASTERN COASTAL AREA

263050080145001 SITE 8T IN CONSERVATION AREA NO. 1 NEAR BOYNTON BEACH, FL

LOCATION.--Lat 26°30'50", long 80°14'50", in T.41 S., R.41 E., Palm Beach County, Hydrologic Unit 03090202, in Loxahatchee Wildlife Refuge (Arthur R. Marshall Park). Township and range approximated from topographic map for which most section lines are not delineated, unable to determine section.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--July 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and tipping bucket rain gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 15 ft above National Geodetic Vertical datum of 1929. Station is one of several located in Conservation Area No. 1. Gage is capable of recording water levels below land-surface datum. Rainfall record is not published, but available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003.

COOPERATION.--U.S. Army Corps of Engineers.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 18.11 ft Nov. 17, 1994; minimum, 13.91 ft May 21, 22, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 17.31 ft Sept. 10; minimum, 15.47 ft May 21, 22.

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	16.60	16.66	16.73	16.95	16.55	16.20	16.26	15.90	15.89	16.12	16.10	17.05
2	16.60	16.65	16.73	16.95	16.53	16.20	16.23	15.93	15.80	16.08	16.13	17.10
3	16.61	16.64	16.73	---	16.50	16.18	16.20	15.94	15.73	16.04	16.18	17.09
4	16.62	16.63	16.72	16.98	16.48	16.17	16.17	15.93	15.75	16.01	16.25	17.14
5	16.62	16.62	16.72	16.97	16.46	16.16	16.13	15.92	15.78	15.99	16.31	17.16
6	16.61	16.62	16.74	16.96	16.44	16.14	16.09	15.89	15.90	15.99	16.36	17.21
7	16.59	16.61	16.74	16.96	16.43	16.13	---	15.86	15.87	15.99	16.40	17.22
8	16.58	16.59	16.73	16.93	16.42	16.10	16.01	15.83	15.86	15.97	16.45	17.20
9	16.56	16.58	16.75	16.91	16.40	16.08	15.98	15.79	15.93	15.94	16.52	17.18
10	16.56	16.57	16.89	16.89	16.38	16.07	15.98	15.77	15.96	15.91	16.64	17.19
11	16.55	16.55	16.89	16.88	16.37	16.04	15.95	15.75	15.96	15.88	16.72	17.24
12	16.53	16.54	16.89	16.85	16.33	16.02	15.92	15.73	15.95	15.85	16.75	17.19
13	16.53	16.53	16.92	16.83	16.30	16.00	15.89	15.71	15.95	15.82	16.76	17.16
14	16.54	---	16.94	16.86	16.27	16.11	15.87	15.68	15.95	15.80	16.82	17.12
15	16.56	---	16.93	16.86	16.24	16.10	15.85	15.64	15.93	15.79	16.86	17.10
16	16.63	16.51	16.90	16.83	16.22	16.10	15.84	15.62	15.91	15.85	16.86	17.08
17	16.63	16.66	16.89	16.81	16.24	16.21	15.83	15.61	15.88	15.90	16.86	17.05
18	16.61	16.65	16.91	16.80	16.22	16.25	15.81	15.58	15.84	15.89	16.87	17.03
19	16.60	16.63	16.92	16.79	16.19	16.25	15.79	15.56	15.84	15.87	16.89	17.02
20	16.60	16.63	16.96	16.78	16.20	16.23	15.77	15.53	15.86	15.87	16.92	17.01
21	16.62	16.72	17.00	16.77	16.20	16.23	15.75	15.50	15.91	15.89	16.98	17.00
22	16.62	---	16.99	16.75	16.21	16.25	15.73	15.53	15.98	15.89	17.00	16.98
23	16.63	---	17.00	16.74	16.28	16.28	15.71	15.68	16.06	15.89	---	16.97
24	16.62	16.75	17.00	16.72	16.27	16.30	15.67	15.70	16.12	15.89	17.03	16.97
25	16.63	16.75	17.03	16.69	16.24	16.28	15.64	15.70	16.14	15.92	17.04	16.96
26	---	16.75	17.01	16.67	16.23	16.23	15.69	15.70	16.14	15.94	17.02	16.97
27	16.65	16.76	17.00	16.65	16.21	16.24	15.74	15.80	16.16	15.96	17.02	16.98
28	16.65	16.76	16.98	16.62	16.20	16.28	15.80	16.00	16.18	15.97	17.03	17.01
29	16.66	---	16.98	16.59	---	---	15.82	16.06	16.17	16.01	17.05	17.08
30	16.65	16.74	16.97	16.58	---	---	15.86	16.03	16.14	16.07	17.04	17.14
31	16.66	---	16.95	16.56	---	---	---	15.96	---	16.09	17.03	---
TOTAL	---	---	523.54	---	457.01	---	---	488.83	478.54	494.08	---	512.60
MEAN	---	---	16.89	---	16.32	---	---	15.77	15.95	15.94	---	17.09
MAX	---	---	17.03	---	16.55	---	---	16.06	16.18	16.12	---	17.24
MIN	---	---	16.72	---	16.19	---	---	15.50	15.73	15.79	---	16.96

263000080120001 SITE 8C NEAR L-40 IN CONSERVATION AREA 1 NEAR BOYNTON BEACH, FL

LOCATION.--Lat 26°29'57", long 80°13'20", T.46 S., R.41 E., Palm Beach County, Hydrologic Unit 03090202, 20 ft west of L-40 near Loxahatchee Wildlife Refuge (Arthur R. Marshall Park). Township and range approximated from topographic map for which most section lines are not delineated, unable to determine section.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--April 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and tipping bucket rain gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Station is one of several located in Conservation Area No. 1. Rainfall data is not published, but available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003.

COOPERATION.--U.S. Army Corps of Engineers.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 18.21 ft Oct. 16, 1999; minimum, 12.02 ft May 22, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 17.41 ft Sept. 10, 11; minimum, 15.07 ft June 3.

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	16.77	16.83	16.90	17.12	16.70	16.37	16.46	16.16	15.64	16.28	16.32	17.21
2	16.78	16.82	16.90	17.12	16.68	16.37	16.44	16.14	15.36	16.23	16.37	17.25
3	16.78	16.81	16.90	17.15	16.65	16.35	16.38	16.13	15.20	16.19	16.40	17.25
4	16.79	16.80	16.88	17.15	16.63	16.34	16.31	16.12	15.34	16.16	16.46	17.28
5	16.79	16.79	16.90	17.13	16.61	16.32	16.28	16.08	15.43	16.15	16.54	17.31
6	16.78	16.80	16.91	17.13	16.60	16.31	16.22	16.04	15.63	16.16	16.59	17.36
7	16.76	16.79	16.91	17.12	16.60	16.30	---	16.00	15.70	16.14	16.63	17.37
8	16.74	16.76	16.89	17.09	16.57	16.26	16.13	15.95	15.76	16.10	16.66	17.35
9	16.73	16.75	16.91	17.07	16.56	16.25	16.13	15.91	15.90	16.06	16.71	17.33
10	16.73	16.73	17.07	17.05	16.54	16.23	16.13	15.90	16.01	16.02	16.84	17.33
11	16.71	16.72	17.06	17.03	16.52	16.20	16.08	15.89	16.08	15.98	16.91	17.39
12	16.70	16.70	17.06	17.01	16.49	16.17	16.04	15.87	16.09	15.96	16.94	17.34
13	16.70	16.69	17.10	16.99	16.46	16.16	16.03	15.83	16.09	15.93	16.94	17.30
14	16.72	---	17.11	17.02	16.45	16.28	16.00	15.79	16.07	15.92	17.01	17.28
15	16.75	16.65	17.09	17.02	16.44	16.26	15.97	15.76	16.03	15.95	17.05	17.26
16	16.81	16.68	17.06	16.98	16.40	16.25	15.96	15.73	15.98	15.97	17.04	17.24
17	16.81	16.84	17.06	16.97	16.41	16.38	15.95	15.70	15.91	15.99	17.03	17.21
18	16.78	16.81	17.08	16.97	16.38	16.43	15.93	15.68	15.93	16.02	17.04	17.19
19	16.77	16.80	17.10	16.95	16.35	16.42	15.91	15.65	15.98	16.06	17.06	17.18
20	16.78	16.80	17.14	16.94	16.36	16.40	15.89	15.62	16.01	16.08	17.10	17.16
21	16.80	16.91	17.17	16.93	16.38	16.41	15.88	15.59	16.11	16.11	17.15	17.15
22	16.81	---	17.16	16.91	16.40	16.43	15.86	15.66	16.19	16.09	17.17	17.13
23	16.81	---	17.16	16.90	16.45	16.46	15.83	15.79	16.26	16.12	17.18	17.13
24	16.81	16.93	17.17	16.87	16.44	16.49	15.77	15.81	16.32	16.14	17.20	17.12
25	16.81	16.92	17.21	16.85	16.42	16.45	15.74	15.82	16.34	16.18	17.20	17.11
26	---	16.93	17.18	16.82	16.42	16.39	15.80	15.84	16.35	16.20	17.18	17.14
27	16.83	16.93	17.16	16.80	16.41	16.42	15.89	15.95	16.38	16.22	17.18	17.16
28	16.83	---	17.15	16.77	16.38	16.47	15.98	16.15	16.39	16.23	17.20	17.18
29	16.83	---	17.14	16.74	---	---	16.04	16.19	16.36	16.24	17.22	17.25
30	16.83	16.92	17.13	16.73	---	---	16.11	16.12	16.32	16.26	17.20	17.31
31	16.84	---	17.10	16.71	---	---	---	15.91	---	16.30	17.19	---
TOTAL	---	---	528.76	526.04	461.70	---	---	492.78	479.16	499.44	524.71	517.27
MEAN	---	---	17.06	16.97	16.49	---	---	15.90	15.97	16.11	16.93	17.24
MAX	---	---	17.21	17.15	16.70	---	---	16.19	16.39	16.30	17.22	17.39
MIN	---	---	16.88	16.71	16.35	---	---	15.59	15.20	15.92	16.32	17.11

EVERGLADES AND SOUTHEASTERN COASTAL AREA

262750080175001 SITE 9 IN CONSERVATION AREA NO. 1, NEAR BOYNTON BEACH, FL

LOCATION.--Lat 26°27'50", long 80°17'50", in T.50 S., R.40 E., Palm Beach County, Hydrologic Unit 03090202, in Loxahatchee Wildlife Refuge (Arthur R. Marshall Park). Township and range approximated from topographic map for which most section lines are not delineated, unable to determine section.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--July 1991 to current year.

REVISED RECORDS.--WDR FL-97-2A: 1997.

GAGE.--Satellite data collection platform with water-stage shaft encoder and tipping rain gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 15 ft above National Geodetic Vertical Datum of 1929. Station is one of several located in Conservation Area No. 1. Gage is capable of recording water levels below land-surface datum. Rainfall data is not published, but available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003.

COOPERATION.--U.S. Army Corps of Engineers.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 18.02 ft Oct. 15, 1999; minimum, 14.97 ft May 22, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 17.18 ft Sept. 4, 10, 11; minimum, 15.63 ft May 21, 22.

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	16.58	16.59	16.69	16.92	16.59	16.25	16.20	15.99	16.03	16.10	16.09	17.00
2	16.58	16.59	16.69	16.91	16.57	16.23	16.19	15.98	16.01	16.12	16.08	17.03
3	16.57	16.59	16.69	16.93	16.55	16.22	16.17	15.98	15.98	16.13	16.12	17.03
4	16.56	16.58	16.68	16.93	16.53	16.22	16.17	15.96	15.97	16.11	16.17	17.08
5	16.55	16.57	16.67	16.93	16.52	16.21	16.16	15.94	16.00	16.09	16.17	17.12
6	16.55	16.57	16.67	16.92	16.51	16.19	16.15	15.91	16.08	16.10	16.17	17.15
7	16.55	16.55	16.67	16.91	16.49	16.17	16.14	15.90	16.07	16.10	16.16	17.16
8	16.53	16.55	16.68	16.91	16.47	16.16	16.12	15.88	16.07	16.08	16.20	17.14
9	16.52	16.55	16.70	16.89	16.46	16.14	16.11	15.86	16.07	16.06	16.31	17.12
10	16.51	16.54	16.83	16.87	16.45	16.13	16.12	15.84	16.07	16.05	16.49	17.12
11	16.50	16.53	16.83	16.86	16.43	16.12	16.09	15.83	16.07	16.03	16.60	17.17
12	16.49	16.51	16.84	16.84	16.41	16.11	16.08	15.81	16.06	16.01	16.63	17.14
13	16.48	16.50	16.85	16.82	16.39	16.11	16.06	15.79	16.04	15.99	16.65	17.12
14	16.47	---	16.86	16.84	16.37	16.19	16.04	15.77	16.03	15.96	16.73	17.09
15	16.48	---	16.86	16.83	16.36	16.19	16.02	15.75	16.01	15.96	16.77	17.07
16	16.53	16.50	16.86	16.82	16.35	16.18	16.01	15.73	16.00	15.96	16.79	17.04
17	16.53	16.62	16.85	16.81	16.34	16.27	16.00	15.71	15.99	15.97	16.79	17.03
18	16.53	16.61	16.85	16.79	16.33	16.28	15.99	15.69	15.97	15.97	16.80	17.01
19	16.53	16.59	16.87	16.77	16.32	16.28	15.98	15.68	15.98	15.97	16.82	16.99
20	16.53	16.59	16.89	16.77	16.31	16.26	15.96	15.67	16.01	15.95	16.86	16.98
21	16.53	16.71	16.93	16.75	16.30	16.25	15.95	15.65	16.11	15.95	16.93	16.98
22	16.54	16.71	16.95	16.75	16.29	16.24	15.93	15.68	16.16	15.94	16.94	16.95
23	16.55	---	16.95	16.73	16.32	16.25	15.92	15.79	16.16	15.94	16.94	16.93
24	16.55	16.71	16.95	16.71	16.31	16.26	15.90	15.82	16.16	15.94	16.94	16.93
25	16.55	16.70	16.95	16.69	16.29	16.25	15.88	15.82	16.15	15.93	16.96	16.94
26	---	16.70	16.96	16.69	16.29	16.24	15.93	15.82	16.14	15.93	16.98	16.94
27	16.57	16.70	16.96	16.67	16.27	16.24	15.98	15.88	16.13	15.93	16.98	16.94
28	16.57	16.70	16.95	16.65	16.26	16.25	16.01	16.06	16.14	15.97	16.97	16.93
29	16.58	---	16.95	16.63	---	---	16.00	16.07	16.13	16.10	16.98	17.00
30	16.58	16.70	16.94	16.62	---	---	15.99	16.07	16.11	16.13	16.98	17.06
31	16.58	---	16.93	16.60	---	---	---	16.05	---	16.11	16.98	---
TOTAL	---	---	521.95	520.76	459.08	---	481.25	491.38	481.90	496.58	515.98	511.19
MEAN	---	---	16.84	16.80	16.40	---	16.04	15.85	16.06	16.02	16.64	17.04
MAX	---	---	16.96	16.93	16.59	---	16.20	16.07	16.16	16.13	16.98	17.17
MIN	---	---	16.67	16.60	16.26	---	15.88	15.65	15.97	15.93	16.08	16.93

262528080202700 SOUTH LOXAHATCHEE CONSERVATION AREA No. 1, NEAR BOYNTON BEACH, FL

LOCATION.--Lat 26°25'28", long 80°20'27", T.46 S., R.41 E., Palm Beach County, Hydrologic Unit 03090202 in Loxahatchee Wildlife Refuge (Arthur R. Marshall). Township and range approximated from topographic map for which most section lines are not delineated, unable to determine section.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--May 2001 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Station is one of several located in Conservation Area No. 1

COOPERATION.--U.S. Army Corps of Engineers.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 17.33 ft Oct. 30, 31 and Nov. 1, 2001; minimum, 14.53 ft June 5, 6, 2002.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 17.02 ft Sept. 6, 7; minimum, 15.33 ft May 21, 22.

REVISIONS.--Revised figures of gage height for the 2002 water year, superseding those published in WDR FL-02-2A are provided below in the following table.

REVISED EXTREMES FOR WATER YEAR 2002.--Maximum gage height, 17.27 ft Oct. 30, 31 and Nov. 1; minimum, 14.53 ft June 5, 6.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.91	17.26	16.80	16.66	16.30	16.49	15.73	15.01	14.63	16.09	15.97	16.34
2	16.98	17.24	16.80	16.65	16.31	16.45	15.71	14.99	14.61	16.12	15.96	16.35
3	17.03	17.17	16.79	16.65	16.32	16.42	15.70	14.97	14.59	16.13	15.94	16.42
4	17.05	17.12	16.78	16.64	16.30	16.39	15.72	14.95	14.57	16.12	15.93	16.50
5	17.06	17.17	16.77	16.61	16.28	16.36	15.70	14.92	14.55	e16.10	15.91	16.51
6	17.07	17.24	16.76	16.61	16.26	16.32	15.68	14.90	14.59	e16.13	15.91	16.53
7	17.05	17.22	16.80	16.61	16.25	16.31	15.65	14.88	14.70	e16.19	15.90	16.53
8	17.05	17.19	16.80	16.60	16.23	16.33	15.62	14.85	14.72	e16.24	15.89	16.56
9	17.06	17.16	16.80	16.57	16.22	16.30	15.59	14.83	14.72	e16.29	15.89	16.57
10	17.05	17.15	16.80	16.56	16.32	16.27	15.56	14.81	14.69	e16.36	15.88	16.57
11	17.03	17.12	16.79	16.54	16.40	16.23	15.53	14.79	14.68	e16.37	15.88	16.58
12	17.01	17.10	16.77	16.53	16.43	16.23	15.49	14.76	14.83	e16.42	15.90	16.64
13	16.99	17.09	e16.77	16.51	16.46	16.19	15.46	14.74	15.04	e16.56	15.89	16.62
14	16.97	17.08	e16.77	16.50	16.49	16.16	15.47	14.72	15.06	16.54	15.89	16.61
15	16.96	17.06	16.75	16.49	16.52	16.14	15.49	14.70	15.13	16.54	15.93	16.60
16	16.96	17.04	e16.74	16.49	16.60	16.11	15.47	---	15.12	16.53	15.95	16.59
17	16.97	17.03	16.73	16.48	16.66	16.09	15.45	14.94	15.13	e16.51	15.96	16.57
18	16.99	17.01	16.72	16.46	16.64	16.06	15.43	14.91	15.14	16.49	15.97	16.56
19	17.00	16.99	16.71	16.45	16.61	16.04	15.40	14.93	15.19	16.48	15.96	16.55
20	17.00	16.97	16.70	16.45	16.57	16.01	15.37	14.95	15.26	16.43	15.96	16.55
21	17.02	16.95	16.69	16.43	16.53	15.99	15.33	14.92	15.45	16.39	15.99	16.55
22	17.10	16.92	16.67	16.42	16.52	15.96	15.29	14.90	15.60	16.34	16.02	16.54
23	17.17	16.90	16.65	16.41	16.59	15.94	15.26	14.87	15.73	16.28	16.05	16.55
24	17.19	16.88	16.64	16.40	16.61	15.92	15.22	14.84	15.85	16.23	16.10	16.57
25	17.20	16.88	16.63	16.38	16.59	15.89	15.19	14.81	15.93	16.17	16.13	16.57
26	17.23	16.87	16.66	16.37	16.57	15.87	15.16	14.78	15.99	16.11	16.16	16.56
27	17.25	16.85	16.64	16.36	16.55	15.85	15.12	14.75	16.03	16.07	16.22	16.55
28	17.25	16.84	16.62	16.34	16.53	15.83	15.09	14.72	16.08	16.05	16.25	16.54
29	17.25	16.82	16.61	16.33	---	15.81	15.06	14.69	16.08	16.02	16.28	16.53
30	17.26	16.80	16.60	16.32	---	15.78	15.04	14.67	16.07	15.99	16.30	16.51
31	17.27	---	16.63	16.30	---	15.75	---	14.65	---	15.98	16.33	---
MEAN	17.08	17.04	16.72	16.49	16.45	16.11	15.43	---	15.19	16.27	16.01	16.54
MAX	17.27	17.26	16.80	16.66	16.66	16.49	15.73	---	16.08	16.56	16.33	16.64
MIN	16.91	16.80	16.60	16.30	16.22	15.75	15.04	---	14.55	15.98	15.88	16.34

e Estimated

REVISED

EVERGLADES AND SOUTHEASTERN COASTAL AREA

262528080202700 SOUTH LOXAHATCHEE CONSERVATION AREA No. 1, NEAR BOYNTON BEACH, FL

 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	16.51	16.57	16.61	16.86	16.47	16.09	16.16	15.76	15.62	16.01	16.02	16.90
2	16.52	16.57	16.62	16.85	16.44	16.07	16.14	15.81	15.55	15.98	16.06	16.91
3	16.52	16.55	16.62	16.87	16.42	16.06	16.11	15.86	15.48	15.94	16.11	16.92
4	16.51	16.53	16.62	16.87	16.40	16.06	16.07	15.83	15.45	15.94	16.16	16.93
5	16.49	16.53	16.62	16.87	16.38	16.04	16.03	15.81	15.49	15.92	16.19	16.94
6	16.48	16.53	16.63	16.87	16.37	16.02	15.99	15.79	15.51	15.91	16.24	17.00
7	16.46	16.53	16.64	16.87	16.36	16.00	15.95	15.76	15.47	15.88	16.30	17.02
8	16.46	16.51	16.62	16.84	16.34	15.98	15.91	15.72	15.49	15.85	16.33	17.00
9	16.45	16.49	16.65	16.81	16.32	15.96	15.87	15.68	15.49	15.81	16.41	16.99
10	16.44	16.46	16.76	16.79	16.30	15.94	15.85	15.64	15.55	15.78	16.56	16.99
11	16.44	16.44	16.76	16.78	16.27	15.92	15.81	15.61	15.72	15.74	16.62	17.01
12	16.44	16.42	16.78	16.75	16.25	15.90	15.78	15.59	15.76	15.71	16.64	17.00
13	16.44	16.41	16.80	16.74	16.22	15.88	15.74	15.56	15.77	15.69	16.65	16.98
14	16.44	---	16.81	16.76	16.18	15.95	15.71	15.53	15.77	15.66	16.74	16.95
15	16.46	16.37	16.81	16.76	16.15	15.94	15.69	15.51	15.74	15.65	16.76	16.93
16	16.52	16.39	16.79	16.75	16.13	15.94	15.67	15.50	15.71	15.65	16.74	16.91
17	16.53	16.51	16.80	16.75	16.12	16.03	15.68	15.46	15.67	15.65	16.73	16.89
18	16.53	16.50	16.83	16.73	16.10	16.08	15.65	15.43	15.67	15.65	16.71	16.88
19	16.53	16.51	16.84	16.72	16.09	16.11	15.63	15.41	15.72	15.67	16.72	16.86
20	16.53	16.53	16.87	16.70	16.09	16.10	15.61	15.39	15.73	15.70	16.80	16.86
21	16.53	16.68	16.90	16.69	16.09	16.12	15.59	15.36	15.85	15.78	16.85	16.87
22	16.53	16.66	16.91	16.68	16.10	16.12	15.57	15.42	15.90	15.81	16.85	16.85
23	16.54	---	16.91	16.67	16.13	16.15	15.54	15.53	15.93	15.92	16.85	16.83
24	16.54	16.66	16.92	16.63	16.14	16.18	15.50	15.53	15.98	15.85	16.85	16.82
25	16.54	16.66	16.92	16.62	16.14	16.18	15.48	15.53	16.02	15.84	16.85	16.81
26	---	16.66	16.91	16.59	16.13	16.16	15.51	15.54	16.04	15.88	16.85	16.83
27	16.57	16.66	16.91	16.55	16.11	16.14	15.57	15.62	16.07	15.90	16.85	16.83
28	16.57	16.66	16.90	16.53	16.10	16.16	15.64	15.82	16.09	15.92	16.86	16.85
29	16.57	---	16.89	16.51	---	16.18	15.65	15.80	16.07	15.96	16.87	16.94
30	16.56	16.63	16.87	16.49	---	---	15.69	15.76	16.04	15.98	16.88	17.00
31	16.56	---	16.87	16.48	---	16.18	---	15.69	---	16.00	16.88	---
MEAN	---	---	16.79	16.72	16.23	---	15.76	15.62	15.74	15.83	16.61	16.92
MAX	---	---	16.92	16.87	16.47	---	16.16	15.86	16.09	16.01	16.88	17.02
MIN	---	---	16.61	16.48	16.09	---	15.48	15.36	15.45	15.65	16.02	16.81

EVERGLADES AND SOUTHEASTERN COASTAL AREA

262358080055700 E-4 CANAL AT CLINT-MOORE ROAD, BOCA RATON, FL

LOCATION.--Lat 26°23'58", long 80°05'57", in NE 1/4 NE 1/4 NW 1/4 sec.6, T.47 S., R.43 E., Palm Beach County, Hydrologic Unit 03090202, 0.6 mi west on Clint-Moore Road from U.S. Interstate 95 overpass in Boca Raton.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--March 1982 to current year.

GAGE.--Electronic data logger. Digital water-level recorder prior to May 24, 1999. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Station is part of a canal system operated and controlled by Lake Worth Drainage District.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 7.52 ft Oct. 15, 1999; minimum, 2.33 ft May 14-16, 1989.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 5.18 ft Sept. 28; minimum, 3.62 ft Apr. 24, 25.

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	4.45	4.38	4.34	4.37	4.28	4.37	4.37	4.40	4.58	4.55	4.36	4.57
2	4.44	4.38	4.35	4.35	4.26	4.37	4.38	4.38	4.56	4.58	4.34	4.67
3	4.42	4.36	4.32	4.38	4.26	4.37	4.36	4.36	4.55	4.60	4.34	4.63
4	4.43	4.35	4.31	4.36	4.25	4.37	4.37	4.36	4.54	4.59	4.34	4.64
5	4.42	4.33	4.32	4.34	4.25	4.37	4.34	4.35	4.53	4.59	4.39	4.64
6	4.42	4.33	4.32	4.32	4.26	4.37	4.31	4.33	4.52	4.60	4.41	4.64
7	4.40	4.28	4.31	4.30	4.26	4.37	4.30	4.31	4.55	4.60	4.41	4.63
8	4.39	4.29	4.30	4.31	4.24	4.35	4.28	4.28	4.64	4.58	4.43	4.63
9	4.39	4.29	4.35	4.32	4.26	4.34	4.23	4.26	4.73	4.56	4.43	4.70
10	4.36	4.28	4.70	4.30	4.26	4.32	4.18	4.24	4.77	4.56	4.50	4.66
11	4.36	4.28	4.59	4.28	4.22	4.30	4.17	4.21	4.73	4.54	4.49	4.63
12	4.35	4.26	4.56	4.29	4.20	4.26	4.18	4.17	4.65	4.52	4.47	4.62
13	4.34	4.27	4.58	4.28	4.17	4.24	4.17	4.11	4.61	4.53	4.46	4.61
14	4.34	4.27	4.54	4.33	4.18	4.33	4.14	4.07	4.65	4.51	4.53	4.58
15	4.45	4.28	4.51	4.32	4.22	4.33	4.08	4.01	4.64	4.51	4.49	4.56
16	4.56	4.33	4.50	4.30	4.20	4.30	4.05	3.97	4.63	4.49	4.47	4.54
17	4.51	4.51	4.48	4.30	4.21	4.46	4.02	3.89	4.63	4.48	4.46	4.53
18	4.48	4.45	4.47	4.31	4.20	4.48	4.01	3.84	4.62	4.45	4.43	4.53
19	4.44	4.43	4.47	4.31	4.19	4.46	3.96	3.83	4.65	4.43	4.43	4.53
20	4.44	4.42	4.49	4.31	4.48	4.43	3.90	3.86	4.65	4.42	4.49	4.54
21	4.43	4.47	4.47	4.30	4.46	4.42	3.85	3.87	4.67	4.42	4.50	4.53
22	4.42	4.45	4.46	4.30	4.44	4.42	3.77	3.95	4.70	4.41	4.50	4.52
23	4.40	4.42	4.45	4.30	4.46	4.48	3.70	4.41	4.71	4.44	4.50	4.52
24	4.38	4.40	4.42	4.29	4.42	4.49	3.63	4.41	4.69	4.43	4.51	4.54
25	4.44	4.39	4.41	4.35	4.39	4.44	3.65	4.44	4.65	4.43	4.49	4.53
26	4.41	4.38	4.38	4.37	4.39	4.42	3.93	4.45	4.64	4.42	4.52	4.54
27	4.40	4.38	4.39	4.33	4.39	4.43	4.28	4.60	4.61	4.41	4.49	4.55
28	4.38	4.35	4.37	4.31	4.37	4.44	4.45	4.84	4.59	4.39	4.56	4.61
29	4.34	4.35	4.36	4.30	---	4.42	4.43	4.72	4.58	4.36	4.58	4.81
30	4.34	4.34	4.37	4.30	---	4.40	4.41	4.65	4.57	4.38	4.56	4.74
31	4.33	---	4.38	4.29	---	4.37	---	4.60	---	4.38	4.55	---
TOTAL	136.66	130.70	137.27	133.82	120.17	135.92	123.90	132.17	138.84	139.16	138.43	137.97
MEAN	4.41	4.36	4.43	4.32	4.29	4.38	4.13	4.26	4.63	4.49	4.47	4.60
MAX	4.56	4.51	4.70	4.38	4.48	4.49	4.45	4.84	4.77	4.60	4.58	4.81
MIN	4.33	4.26	4.30	4.28	4.17	4.24	3.63	3.83	4.52	4.36	4.34	4.52

EVERGLADES AND SOUTHEASTERN COASTAL AREA

262337080074800 E-3 CANAL AT 51ST STREET, BOCA RATON, FL

LOCATION.--Lat 26°23'37", long 80°07'48", in NE ¼ NE ¼ NW ¼ sec.11, T.47 S., R.42 E., Palm Beach County, Hydrologic Unit 03090202, 2.2 mi west of U.S. Interstate 95, Yamato Road exit approximately 110 yards south of 51st Street (Yamato Road) on the E-3 Canal in Boca Raton.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--March 1982 to current year.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to June 1, 1994, at site 100 yards upstream at same datum.

REMARKS.--Station is part of a canal system operated by Lake Worth Drainage District.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 13.53 ft June 18, 1999; minimum, 7.61 ft May 23, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 10.79 ft May 28; minimum, 8.79 ft Nov. 12, 13, Apr. 21.

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	9.47	9.21	9.27	9.24	9.24	9.19	9.22	9.48	9.71	9.42	9.28	9.72
2	9.43	9.18	9.25	9.24	9.26	9.16	9.24	9.36	9.66	9.51	9.44	9.96
3	9.40	9.13	9.20	9.32	9.24	9.20	9.23	9.40	9.67	9.65	9.46	9.96
4	9.39	9.08	9.20	9.27	9.22	9.23	9.23	9.43	9.67	9.62	9.39	9.94
5	9.39	9.04	9.29	9.24	9.23	9.20	9.22	9.26	9.63	9.60	9.46	9.95
6	9.37	9.02	9.45	9.25	9.21	9.20	9.23	9.31	9.59	9.65	9.46	10.01
7	9.35	8.97	9.41	9.28	9.22	9.20	9.23	9.32	9.58	9.61	9.56	10.02
8	9.32	8.93	9.35	9.28	9.26	9.21	9.23	9.18	9.57	9.55	9.78	10.01
9	9.29	8.89	9.35	9.25	9.20	9.20	9.21	9.35	9.62	9.49	9.81	9.93
10	9.28	8.86	9.69	9.23	9.21	9.21	9.23	9.48	9.67	9.44	10.11	9.84
11	9.24	8.83	9.69	9.26	9.24	9.20	9.23	9.40	9.63	9.41	10.14	9.77
12	9.22	8.81	9.63	9.24	9.21	9.20	9.24	9.45	9.58	9.35	9.97	9.73
13	9.25	8.91	9.61	9.23	9.21	9.20	9.22	9.43	9.58	9.30	9.80	9.69
14	9.20	9.25	9.60	9.31	9.26	9.23	9.22	9.44	9.62	9.44	9.84	9.64
15	9.29	9.24	9.55	9.24	9.25	9.22	9.19	9.44	9.65	9.56	9.77	9.59
16	9.50	9.26	9.50	9.24	9.23	9.20	9.06	9.37	9.65	9.47	9.71	9.51
17	9.51	9.57	9.44	9.28	9.21	9.36	9.06	9.33	9.62	9.41	9.69	9.50
18	9.48	9.54	9.39	9.22	9.23	9.39	9.24	9.32	9.56	9.49	9.68	9.50
19	9.44	9.57	9.35	9.29	9.20	9.46	9.07	9.33	9.57	9.45	9.65	9.51
20	9.41	9.47	9.34	9.25	9.57	9.50	8.92	9.29	9.59	9.56	9.68	9.55
21	9.38	9.57	9.38	9.29	9.62	9.44	8.85	9.26	9.58	9.42	9.79	9.56
22	9.33	9.54	9.39	9.23	9.53	9.38	9.11	9.32	9.62	9.35	9.79	9.54
23	9.27	9.45	9.38	9.26	9.52	9.34	9.22	9.64	9.64	9.50	9.76	9.50
24	9.22	9.37	9.39	9.27	9.46	9.39	9.30	9.71	9.62	9.45	9.72	9.52
25	9.22	9.32	9.37	9.25	9.39	9.32	9.31	9.80	9.57	9.42	9.68	9.53
26	9.25	9.33	9.33	9.21	9.32	9.27	9.40	9.88	9.54	9.38	9.75	9.63
27	9.22	9.33	9.31	9.24	9.31	9.23	9.45	10.15	9.56	9.33	9.77	9.62
28	9.23	9.34	9.29	9.26	9.25	9.21	9.84	10.53	9.56	9.52	9.77	9.61
29	9.20	9.31	9.27	9.25	---	9.16	9.74	9.92	9.50	9.44	9.79	10.11
30	9.23	9.30	9.31	9.23	---	9.11	9.60	9.93	9.45	9.32	9.74	10.21
31	9.24	---	9.27	9.21	---	9.06	---	9.79	---	9.27	9.69	---
TOTAL	289.02	276.62	291.25	286.86	260.30	286.87	277.54	295.30	288.06	293.38	300.93	292.16
MEAN	9.32	9.22	9.40	9.25	9.30	9.25	9.25	9.53	9.60	9.46	9.71	9.74
MAX	9.51	9.57	9.69	9.32	9.62	9.50	9.84	10.53	9.71	9.65	10.14	10.21
MIN	9.20	8.81	9.20	9.21	9.20	9.06	8.85	9.18	9.45	9.27	9.28	9.50

EVERGLADES AND SOUTHEASTERN COASTAL AREA

262300080220001 HILLSBORO CANAL AT S-10-D, NEAR DEERFIELD BEACH, FL

LOCATION.--Lat 26°23'14", long 80°22'50", in NE ¼ sec.6, T.47 S., R.40 E., Palm Beach County, Hydrologic Unit 03090202, on Hillsboro Canal on the north bank of the spillway 200 ft northeast of S-10-D, a four-gated control structure, 11.9 mi west of State Road 7 (U.S. Highway 441) on Hillsboro Boulevard. The auxiliary stage recorder is located approximately 20 yards downstream of S-10-D on the south bank of the spillway.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--June 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoders upstream and downstream of structure S-10-D. Tipping bucket rain gage at S-10-D upstream. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers).

REMARKS.--Station is one of several located on L-39 which regulates flow for Conservation Areas 1 and 2A. Gage records are primarily used to determine stages. Gage is capable of recording water levels below land-surface datum. Rainfall data is not published but is available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003.

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 17.82 ft Dec. 15, 1997; minimum, dry May 11-26, 2001.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 17.07 ft Oct. 15, 1996, Oct. 15, 1999; minimum, 11.43 ft May 22, 2001.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 17.19 ft Sept. 30; minimum, 14.87 ft June 3.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 15.06 ft May 30, 31; minimum, 11.86 ft May 21, 22.

UPSTREAM
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	16.65	16.72	16.72	16.97	16.58	16.17	16.32	15.98	15.38	16.09	16.18	17.03
2	16.66	16.70	16.74	16.98	16.54	16.16	16.26	---	15.11	15.97	16.23	17.04
3	16.66	16.67	16.75	17.00	16.52	16.16	16.21	---	15.01	15.97	16.28	17.05
4	16.63	16.65	16.75	17.01	16.47	16.14	16.17	15.97	15.07	16.00	16.32	17.05
5	16.62	16.66	16.75	17.01	16.49	16.13	16.13	15.94	15.17	16.00	16.40	17.06
6	16.60	16.65	16.76	17.01	16.48	16.10	16.08	15.91	15.38	15.98	16.47	17.11
7	16.59	16.66	16.76	17.00	16.47	16.08	16.03	15.85	15.52	15.96	16.54	17.13
8	16.59	16.63	16.75	16.97	16.47	16.06	16.00	15.80	15.60	15.89	16.56	17.12
9	16.58	16.59	16.78	16.93	16.42	16.04	15.95	15.76	15.69	15.87	16.61	17.13
10	16.57	16.56	16.88	16.91	16.41	16.03	15.92	15.73	15.81	15.82	16.74	17.12
11	16.58	16.53	16.90	16.89	16.40	16.02	15.86	15.70	15.88	15.78	16.80	17.13
12	16.59	16.51	16.92	16.87	16.36	15.99	15.83	15.67	15.91	15.75	16.84	17.11
13	16.59	16.51	16.94	16.85	16.32	15.97	15.82	15.64	15.91	15.73	16.88	17.09
14	16.60	---	16.94	16.90	16.27	16.03	15.81	15.62	15.85	15.71	16.94	17.07
15	16.64	---	16.93	16.90	16.24	16.04	15.79	15.57	15.79	15.74	16.93	17.05
16	16.70	16.47	16.92	16.89	16.20	16.03	15.78	15.55	15.75	15.74	16.87	17.03
17	16.70	16.59	16.96	16.88	16.21	16.14	15.76	15.52	15.72	15.78	16.84	17.01
18	16.70	16.63	16.97	16.87	16.19	16.21	15.74	15.49	15.75	15.82	16.81	16.99
19	16.70	16.64	16.97	16.84	16.19	16.22	15.72	15.47	15.83	15.84	16.82	16.98
20	16.69	16.65	17.00	16.81	16.19	16.21	15.71	15.46	15.86	15.86	16.90	16.98
21	16.69	16.76	17.05	16.81	16.19	16.24	15.68	15.43	15.95	15.86	16.98	16.98
22	16.70	---	17.05	16.80	16.17	16.27	15.64	---	16.03	15.86	16.99	16.96
23	16.70	---	17.06	16.78	16.26	16.32	15.62	---	16.10	15.92	16.98	16.94
24	16.69	16.78	17.06	16.78	16.27	16.35	15.58	15.60	16.21	15.95	16.98	16.92
25	16.70	16.78	17.05	16.72	16.25	16.33	15.51	15.62	16.24	15.99	16.98	16.92
26	---	16.79	17.05	16.68	16.23	16.26	---	15.64	16.24	16.01	16.97	16.95
27	16.74	16.79	17.04	16.67	16.20	16.26	15.68	15.71	16.23	16.03	16.98	16.96
28	16.73	---	17.03	16.64	16.19	16.34	15.78	15.87	16.23	16.04	16.99	17.01
29	16.72	---	17.01	16.63	---	---	15.87	15.82	16.20	16.07	17.02	17.09
30	16.71	16.73	16.99	16.61	---	---	15.95	15.75	16.17	16.11	17.03	17.17
31	16.72	---	16.98	16.60	---	---	---	15.60	---	16.14	17.04	---
TOTAL	---	---	524.46	522.21	457.18	---	---	---	473.59	493.28	519.90	511.18
MEAN	---	---	16.92	16.85	16.33	---	---	---	15.79	15.91	16.77	17.04
MAX	---	---	17.06	17.01	16.58	---	---	---	16.24	16.14	17.04	17.17
MIN	---	---	16.72	16.60	16.17	---	---	---	15.01	15.71	16.18	16.92

EVERGLADES AND SOUTHEASTERN COASTAL AREA

262300080220001 HILLSBORO CANAL AT S-10-D, NEAR DEERFIELD BEACH, FL

 DOWNSTREAM
 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	13.44	13.32	12.56	12.46	13.91	12.55	12.23	12.15	15.00	13.61	12.47	14.22
2	13.43	13.32	12.55	12.42	13.92	12.52	12.24	---	14.89	14.11	12.49	14.26
3	13.42	13.32	12.53	12.42	13.93	12.48	12.24	---	14.62	13.77	12.49	14.27
4	13.41	13.29	12.54	12.40	13.83	12.47	12.24	12.16	14.40	13.28	12.48	14.27
5	13.41	13.13	12.53	12.40	13.65	12.45	12.24	12.15	14.37	13.14	12.49	14.24
6	13.40	13.03	12.52	12.39	13.61	12.42	12.24	12.13	13.92	13.06	12.53	14.10
7	13.39	12.94	12.50	---	13.59	12.39	12.24	12.10	13.40	12.98	12.53	13.93
8	13.38	12.92	12.50	---	13.57	12.37	12.21	12.08	13.24	12.91	12.53	13.90
9	13.38	12.90	12.55	---	13.58	12.34	12.18	12.06	13.19	12.85	12.60	13.93
10	13.37	12.87	12.73	14.00	13.57	12.31	12.11	12.04	13.16	12.79	12.76	13.99
11	13.36	12.85	12.70	13.97	13.67	12.31	12.10	12.02	13.13	12.75	12.74	14.01
12	13.36	12.83	12.68	13.96	13.76	12.30	12.09	12.00	13.16	12.70	12.71	14.01
13	13.36	12.78	12.67	13.97	13.72	12.29	12.07	11.97	13.55	12.66	12.68	14.01
14	13.34	---	12.62	13.98	13.66	12.44	12.07	11.95	14.09	12.62	12.77	13.99
15	13.34	---	12.59	13.98	13.60	12.41	12.07	11.94	14.13	12.62	13.87	13.96
16	13.35	12.81	12.57	13.98	13.58	12.40	12.05	11.94	14.15	12.62	14.76	13.94
17	13.33	12.91	12.55	13.96	13.57	12.52	12.03	11.93	13.78	12.65	14.79	13.78
18	13.33	12.86	12.54	13.95	13.43	12.55	12.03	11.92	13.36	12.61	14.79	13.51
19	13.32	12.80	12.55	13.96	13.15	12.58	12.03	11.91	13.28	12.57	14.77	13.42
20	13.32	12.77	12.53	13.98	13.02	12.56	12.02	11.89	13.23	12.54	14.77	13.37
21	13.32	12.84	12.50	13.98	12.93	12.54	12.00	11.86	13.19	12.54	14.76	13.35
22	13.32	---	12.50	13.98	12.87	12.49	11.97	---	13.17	12.53	14.76	13.30
23	13.33	---	12.49	13.93	12.81	12.45	11.94	---	13.15	12.59	14.76	13.26
24	13.33	12.71	12.52	13.88	12.75	12.41	11.93	12.17	13.14	12.53	14.76	13.28
25	13.33	12.69	12.47	13.90	12.69	12.40	11.94	12.16	13.12	12.51	14.77	13.27
26	---	12.66	12.45	13.90	12.65	12.39	---	12.21	13.09	12.50	14.77	13.24
27	13.33	12.64	12.44	13.89	12.61	12.40	12.08	---	13.08	12.48	14.78	13.21
28	13.32	---	12.42	13.90	12.57	12.38	12.21	---	13.09	12.47	14.51	13.20
29	13.32	---	12.42	13.91	---	---	12.18	---	13.10	12.52	14.24	13.29
30	13.32	12.56	12.42	13.91	---	---	12.17	14.96	13.08	12.50	14.21	13.37
31	13.32	---	12.46	13.91	---	---	---	15.05	---	12.50	14.21	---
TOTAL	---	---	388.60	---	374.20	---	---	---	407.26	396.51	424.55	411.88
MEAN	---	---	12.54	---	13.36	---	---	---	13.58	12.79	13.70	13.73
MAX	---	---	12.73	---	13.93	---	---	---	15.00	14.11	14.79	14.27
MIN	---	---	12.42	---	12.57	---	---	---	13.08	12.47	12.47	13.20

262200080210001 HILLSBORO CANAL AT S-10-C, NEAR DEERFIELD BEACH, FL

LOCATION.--Lat 26°22'16", long 80°21'00", in NW ¼ sec.14, T.47 S., R.40 E., Palm Beach County, Hydrologic Unit 03090202, on Hillsboro Canal on the north bank of the spillway 200 ft northeast of S-10-C, a four-gated control structure, 9.6 mi west of State Road 7 (U.S. Highway 441) on Hillsboro Boulevard. The auxiliary stage recorder is located approximately 20 yards downstream of S-10-C on the south bank of the spillway.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--June 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoders upstream and downstream of structure S-10-C. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Station is one of several located on L-39 which regulates flow for Conservation Areas 1 and 2A. Gage records are primarily used to determine stages. Water levels below land-surface datum can be recorded.

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 17.82 ft Dec. 15, 1997; minimum, 11.79 ft May 22, 23, 2001.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 16.92 ft Oct. 15, 1999; minimum, 11.45 ft May 22, 2001.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 17.15 ft Sept. 10; minimum, 14.76 ft June 3.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 14.87 ft May 31; minimum, 11.80 ft May 22.

UPSTREAM
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	16.61	16.68	16.72	16.92	16.55	16.18	16.29	15.93	15.16	16.07	16.13	17.00
2	16.62	16.67	16.74	16.95	16.51	16.16	16.24	15.95	14.96	15.99	16.19	17.02
3	16.62	16.65	16.75	16.98	16.48	16.16	16.19	15.97	14.91	15.95	16.23	17.04
4	16.62	16.62	16.76	17.00	16.44	16.15	16.14	15.94	15.07	15.96	16.27	17.05
5	16.61	16.62	16.74	17.00	16.44	16.14	16.10	15.91	15.12	15.95	16.33	17.06
6	16.59	16.61	16.76	17.00	16.44	16.11	16.05	15.88	15.30	15.94	16.39	17.10
7	16.58	16.63	16.78	16.98	16.42	16.09	15.99	15.83	15.42	15.92	16.46	17.13
8	16.57	16.61	16.76	16.93	16.43	16.08	15.95	15.78	15.49	15.87	16.48	17.12
9	16.56	16.57	16.78	16.89	16.39	16.04	15.91	15.74	15.60	15.85	16.54	17.13
10	16.55	16.54	16.86	16.87	16.36	16.04	---	15.72	15.75	15.80	16.68	17.12
11	16.54	16.52	16.87	16.86	16.35	16.03	15.85	15.71	15.83	15.76	16.74	17.14
12	16.54	16.50	16.89	16.84	16.32	15.99	15.82	15.68	15.86	15.73	16.77	17.11
13	---	16.51	16.89	16.82	16.29	15.98	15.82	15.65	15.88	15.71	16.80	17.09
14	16.55	---	16.93	16.86	16.26	16.08	15.81	15.62	15.84	15.69	16.88	17.06
15	16.58	---	16.93	16.86	16.22	16.07	15.79	15.57	15.79	15.72	16.89	17.06
16	16.65	16.49	16.90	16.84	16.18	16.05	15.78	15.55	15.75	15.73	16.85	17.03
17	16.66	16.61	16.92	16.83	16.20	16.15	15.77	15.51	15.70	15.75	16.83	17.01
18	16.65	16.64	16.93	16.83	16.20	16.20	15.74	15.50	15.70	15.79	16.80	16.99
19	16.64	16.64	16.94	16.81	16.18	16.21	15.73	15.46	15.75	15.81	16.81	16.98
20	16.64	16.64	16.96	16.78	16.19	16.19	15.71	15.45	15.79	15.84	16.89	16.97
21	16.65	16.75	17.02	16.76	16.19	16.18	15.69	15.42	15.88	15.87	16.96	16.97
22	16.64	16.76	17.01	16.75	16.16	16.22	15.65	15.48	15.97	15.87	16.97	16.95
23	16.65	---	17.01	16.73	16.25	16.28	15.62	15.58	16.05	15.91	16.96	16.94
24	16.64	16.78	17.00	16.76	16.27	16.32	15.58	15.59	16.13	15.91	16.96	16.92
25	16.65	16.77	17.01	16.70	16.26	16.30	15.51	15.61	16.15	15.95	16.96	16.91
26	---	16.79	17.03	16.66	16.24	16.24	15.58	15.64	16.15	15.98	16.95	16.93
27	16.69	16.79	17.02	16.64	16.20	16.22	15.68	15.72	16.16	16.00	16.95	16.94
28	16.68	---	17.01	16.61	16.19	16.27	15.77	15.86	16.18	16.02	16.96	16.98
29	16.67	---	16.99	16.59	---	---	15.80	15.73	16.15	16.05	16.99	17.07
30	16.66	16.74	16.97	16.57	---	---	15.88	15.60	16.12	16.07	17.00	17.14
31	16.67	---	16.94	16.56	---	---	---	15.34	---	16.11	17.00	---
TOTAL	---	---	523.82	521.18	456.61	---	---	485.92	471.61	492.57	518.62	510.96
MEAN	---	---	16.90	16.81	16.31	---	---	15.67	15.72	15.89	16.73	17.03
MAX	---	---	17.03	17.00	16.55	---	---	15.97	16.18	16.11	17.00	17.14
MIN	---	---	16.72	16.56	16.16	---	---	15.34	14.91	15.69	16.13	16.91

EVERGLADES AND SOUTHEASTERN COASTAL AREA

262200080210001 HILLSBORO CANAL AT S-10-C, NEAR DEERFIELD BEACH, FL

 DOWNSTREAM
 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	13.45	13.34	12.57	12.50	13.93	12.55	12.25	12.14	14.82	13.53	---	14.16
2	13.45	13.33	12.56	12.46	13.93	12.52	12.25	12.12	14.75	14.00	---	14.18
3	13.44	13.33	12.55	12.47	13.94	12.48	12.25	12.16	14.47	13.76	---	---
4	13.43	13.30	12.55	12.44	13.84	12.47	12.25	12.15	14.21	13.32	---	---
5	13.42	13.13	12.54	12.44	13.65	12.44	12.24	12.13	14.18	13.16	---	14.17
6	13.41	13.04	12.53	12.42	13.62	12.42	12.23	12.11	13.86	13.07	---	14.07
7	13.41	12.96	12.51	13.18	13.59	12.39	12.23	12.09	13.40	13.00	---	13.91
8	13.40	12.93	12.51	14.07	13.58	12.36	12.20	12.07	13.25	12.93	---	13.89
9	13.39	12.91	12.56	14.02	13.59	12.34	12.18	12.05	13.20	12.87	---	13.91
10	13.39	12.88	12.75	14.02	13.58	12.32	---	12.03	13.16	12.82	---	13.96
11	13.39	12.86	12.71	13.98	13.69	12.31	12.11	12.02	13.13	12.78	---	14.00
12	13.38	12.85	12.69	13.97	13.77	12.30	12.10	11.99	13.16	12.73	---	13.99
13	---	12.81	12.69	13.98	13.72	12.29	12.08	11.97	13.48	12.70	12.67	13.99
14	13.36	---	12.65	14.00	13.67	12.44	12.07	11.95	13.97	12.66	12.77	13.97
15	13.37	---	12.61	13.99	13.60	12.41	12.06	11.93	14.02	12.66	13.60	13.95
16	13.38	12.84	12.58	13.98	13.59	12.41	12.05	11.90	14.03	12.65	14.38	13.93
17	13.36	12.93	12.57	13.97	13.59	12.53	12.04	11.89	13.75	12.68	14.42	13.79
18	13.35	12.87	12.56	13.97	13.44	12.55	12.03	11.89	13.38	12.64	14.44	13.53
19	13.35	12.80	12.57	13.98	13.15	12.58	12.02	11.87	13.30	12.61	14.45	13.45
20	13.35	12.77	12.56	13.99	13.02	12.56	12.01	11.84	13.25	12.57	14.47	13.40
21	13.35	12.84	12.53	14.00	12.93	12.54	11.99	11.82	13.21	12.57	14.48	13.37
22	13.35	---	12.53	13.99	12.87	12.49	11.97	11.97	13.19	12.54	14.48	13.32
23	13.35	---	12.52	13.94	12.82	12.46	11.94	12.15	13.17	12.54	14.49	13.28
24	13.35	12.71	12.54	13.90	12.75	12.42	11.93	12.13	13.15	12.53	14.49	13.30
25	13.35	12.69	12.51	13.92	12.69	12.40	11.94	12.13	13.12	12.53	14.49	13.29
26	---	12.66	12.48	13.92	12.65	12.39	12.01	12.17	13.10	12.55	14.50	13.26
27	13.35	12.64	12.47	13.92	12.62	12.39	12.08	12.28	13.10	---	14.51	13.23
28	13.35	---	12.45	13.92	12.57	12.39	12.20	13.42	13.11	---	14.37	13.22
29	13.35	---	12.44	13.92	---	---	12.16	14.61	13.12	---	14.19	13.31
30	13.35	12.57	12.45	13.92	---	---	12.15	14.76	13.10	---	14.16	13.39
31	13.35	---	12.49	13.93	---	---	---	14.86	---	---	14.16	---
TOTAL	---	---	389.23	423.11	374.39	---	---	382.60	406.14	---	---	---
MEAN	---	---	12.56	13.65	13.37	---	---	12.34	13.54	---	---	---
MAX	---	---	12.75	14.07	13.94	---	---	14.86	14.82	---	---	---
MIN	---	---	12.44	12.42	12.57	---	---	11.82	13.10	---	---	---

262100080190001 HILLSBORO CANAL AT S-10-A, NEAR DEERFIELD BEACH, FL

LOCATION.--Lat 26°21'32", long 80°18'37", in NE ¼ sec.24, T.47 S., R.40 E., Palm Beach County, Hydrologic Unit 03090202, on Hillsboro Canal on the north bank of the spillway 200 ft northeast of S-10-A, a four-gated control structure, 6.9 mi west of State Road 7 (U.S. Highway 441) on Hillsboro Boulevard. The auxiliary stage recorder is located approximately 20 yards downstream of S-10-A on the south bank of the spillway.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--June 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoders upstream and downstream of structure S-10-A. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Station is one of several located on L-39 which regulates flow for Conservation Areas 1 and 2A. Gage records are primarily used to determine stages. Water levels below land-surface datum can be recorded. Revised figures of downstream stage for water year 2000 are available in the files of the U.S. Geological Survey. These supersede those published in the water year 2000 report. Revisions were necessary due to new levels, run February 7, 2002.

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 17.78 ft Dec. 14, 15, 1998; minimum gage height, 12.03 ft May 23, 2001.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 16.77 ft (estimated) Oct. 16, 1999; minimum, 11.43 ft May 22, 2001.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 17.11 ft Sept. 10, 11, 12; minimum, 14.74 ft June 3.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 14.72 ft May 31; minimum, 11.79 ft May 21.

UPSTREAM
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	16.58	16.65	16.70	16.87	16.50	16.16	16.26	15.91	15.14	16.05	16.12	16.97
2	16.60	16.65	16.71	16.91	16.46	16.15	16.21	15.92	14.94	15.99	16.17	17.00
3	16.60	16.63	16.71	16.95	16.42	16.15	16.16	15.93	14.89	15.94	16.20	17.01
4	16.60	16.60	16.70	16.96	16.40	16.13	16.11	15.91	15.06	15.93	16.25	17.03
5	16.60	16.59	16.70	16.95	16.41	16.12	16.06	15.88	15.13	15.93	---	17.04
6	16.58	16.59	16.72	16.95	16.40	16.09	16.01	15.84	15.29	15.92	16.37	---
7	16.57	16.62	16.73	16.92	16.38	16.08	15.94	15.79	15.41	15.90	16.43	---
8	16.56	16.59	16.72	16.85	16.39	16.05	15.91	15.75	15.47	15.86	---	---
9	16.55	16.56	16.73	16.82	16.35	16.03	15.87	15.71	15.60	15.84	---	---
10	16.54	16.53	16.82	16.79	16.32	16.02	15.86	15.70	15.75	15.79	16.62	---
11	16.53	16.52	16.83	16.78	16.31	16.00	15.83	15.69	15.83	15.75	16.69	17.11
12	16.52	16.49	16.83	16.78	16.28	15.97	15.81	15.66	15.84	15.73	---	17.10
13	16.52	16.51	16.84	16.75	16.25	15.96	15.81	15.64	15.86	---	16.74	17.09
14	16.53	---	16.87	16.79	16.22	16.07	15.79	15.59	15.83	---	16.80	17.07
15	16.56	---	16.88	16.78	16.19	16.05	15.78	15.55	15.78	15.72	16.82	17.06
16	16.62	16.47	16.86	16.76	16.16	16.03	15.76	15.52	15.73	15.74	16.82	17.04
17	16.63	16.61	16.87	16.74	16.19	16.14	15.75	15.49	15.68	15.76	16.81	17.01
18	16.62	16.63	16.88	16.76	16.19	16.19	15.73	15.47	15.68	15.79	16.79	17.00
19	16.62	16.62	16.88	16.74	16.16	16.19	15.71	15.44	15.72	15.82	16.80	16.98
20	16.62	16.63	16.92	16.71	16.17	16.16	15.70	15.44	15.76	15.85	16.86	16.98
21	16.62	16.70	16.98	16.70	16.18	16.15	15.67	15.40	15.86	15.87	16.92	16.97
22	16.62	---	16.98	16.68	16.15	16.20	15.64	15.47	15.96	---	16.93	16.95
23	16.62	---	16.97	16.67	16.25	16.25	15.61	15.57	16.04	---	16.93	16.94
24	16.62	16.73	16.95	16.70	16.26	16.28	15.55	15.60	16.10	---	16.93	16.93
25	16.62	16.73	16.98	16.65	16.24	16.27	15.49	15.61	16.12	15.94	16.93	16.91
26	---	16.74	16.99	16.61	16.22	16.20	15.57	15.63	16.12	15.97	16.92	16.92
27	16.65	16.74	16.98	16.59	16.19	16.18	15.67	15.72	16.14	15.99	16.92	16.94
28	16.65	---	16.98	16.56	16.18	16.24	15.75	15.86	16.16	16.01	16.92	16.97
29	16.64	---	16.97	16.53	---	---	---	15.74	16.12	16.03	16.95	17.06
30	16.63	16.72	16.94	16.52	---	---	15.86	15.60	16.09	16.06	16.96	17.09
31	16.64	---	16.89	16.51	---	---	---	15.33	---	16.09	16.96	---
TOTAL	---	---	522.51	519.28	455.82	---	---	485.36	471.10	---	---	---
MEAN	---	---	16.86	16.75	16.28	---	---	15.66	15.70	---	---	---
MAX	---	---	16.99	16.96	16.50	---	---	15.93	16.16	---	---	---
MIN	---	---	16.70	16.51	16.15	---	---	15.33	14.89	---	---	---

EVERGLADES AND SOUTHEASTERN COASTAL AREA

262100080190001 HILLSBORO CANAL AT S-10-A, NEAR DEERFIELD BEACH, FL

 DOWNSTREAM
 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	13.40	13.30	12.54	12.44	13.91	12.53	12.24	12.14	14.69	13.38	---	14.09
2	13.40	13.29	12.52	12.40	13.91	12.50	12.23	12.12	14.62	13.83	---	14.12
3	13.39	13.29	12.51	12.42	13.91	12.46	12.23	12.15	14.36	13.65	---	14.14
4	13.39	13.25	12.50	12.40	13.81	12.45	12.22	12.13	14.08	13.23	---	14.14
5	13.38	13.08	12.50	12.39	13.63	12.42	12.21	12.11	14.03	13.09	---	14.12
6	13.37	13.00	12.50	12.38	13.59	12.41	12.20	12.09	13.78	13.02	---	---
7	13.36	12.92	12.48	13.12	13.58	12.38	12.19	12.07	13.36	12.95	---	13.92
8	13.36	12.88	12.47	14.02	13.56	12.35	12.18	12.04	13.21	12.88	---	13.89
9	13.35	12.86	12.51	13.98	13.57	12.33	12.17	12.02	13.16	12.82	---	13.90
10	13.34	12.84	12.72	13.98	13.57	12.30	12.14	12.00	13.10	12.76	---	13.93
11	13.34	12.82	12.68	13.94	13.67	12.29	12.10	11.98	13.08	12.72	---	13.97
12	13.34	12.81	12.65	13.94	13.75	12.27	12.09	11.96	13.10	12.68	---	13.96
13	13.33	12.78	12.66	13.94	13.70	12.27	12.07	11.94	13.34	---	12.66	13.96
14	13.32	---	12.62	13.96	13.64	12.42	12.05	11.91	13.78	---	12.75	13.94
15	13.33	---	12.58	13.96	13.57	12.40	12.04	11.90	13.85	12.61	13.38	13.92
16	13.35	12.80	12.55	13.95	13.56	12.39	12.02	11.91	13.86	12.61	14.12	13.90
17	13.32	12.93	12.53	13.95	13.57	12.51	12.01	11.89	13.64	12.63	14.19	13.77
18	13.31	12.85	12.51	13.95	13.42	12.53	12.00	11.88	13.31	12.60	14.23	13.54
19	13.31	12.78	12.51	13.95	13.13	12.56	12.00	11.87	13.24	12.56	14.28	13.45
20	13.31	12.75	12.52	13.95	13.00	12.54	11.99	11.84	13.19	12.54	14.31	13.40
21	13.31	12.82	12.49	13.96	12.90	12.52	11.97	11.81	13.16	12.53	14.33	13.37
22	13.31	---	12.48	13.97	12.85	12.48	11.95	11.97	13.14	---	14.33	13.32
23	13.30	---	12.47	13.93	12.80	12.45	11.93	12.15	13.11	---	14.34	13.29
24	13.31	12.69	12.49	13.89	12.73	12.42	11.91	12.14	13.09	---	14.34	13.31
25	13.31	12.66	12.48	13.89	12.67	12.39	11.91	12.14	13.06	---	14.34	13.30
26	---	12.63	12.44	13.89	12.63	12.37	11.99	12.18	13.04	---	14.36	13.28
27	13.31	12.61	12.43	13.89	12.60	12.38	12.07	12.28	13.04	---	14.36	13.26
28	13.30	---	12.41	13.89	12.56	12.38	12.18	---	13.04	---	14.28	13.24
29	13.30	---	12.40	13.89	---	---	---	---	13.04	---	14.12	13.33
30	13.31	12.56	12.40	13.89	---	---	12.13	14.58	13.02	---	14.08	13.40
31	13.30	---	12.42	13.91	---	---	---	14.71	---	---	14.08	---
TOTAL	---	---	387.97	422.02	373.79	---	---	---	403.52	---	---	---
MEAN	---	---	12.52	13.61	13.35	---	---	---	13.45	---	---	---
MAX	---	---	12.72	14.02	13.91	---	---	---	14.69	---	---	---
MIN	---	---	12.40	12.38	12.56	---	---	---	13.02	---	---	---

262007080321500 S-150 AT TERRYTOWN, FL

LOCATION.--Lat 26°20'07", long 80°32'15", in NW ¼ sec.27, T.47 S., R.38 E., Palm Beach County, Hydrologic Unit 03090202, 175 ft downstream of S-150, on the west side of U.S. Highway 27, 18.6 mi north of U.S. Interstate 595.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--November 1990 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter. Prior to January 29, 2002, satellite data collection platform with water-stage shaft encoder and acoustic velocity meter. Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter installed May 24, 2001. The acoustic velocity meter and acoustic doppler velocity meter were run in tandem for the period of May 24, 2001 to January 29, 2002. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity. Flow regulated by sluice gates upstream at S-150. Flow occasionally reversed during and after periods of heavy rainfall by pumpage at S-7 which may draw water through S-150 gates.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 7 complete water years of discharge (1994-95, 1997-98, 2000, 2002-03).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 13.50 ft Nov. 2, 1999; minimum, 7.17 ft Apr. 18, 1991.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 11.75 ft Sept. 3; minimum, 9.01 ft Apr. 16.

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	11.17	10.48	10.17	10.49	11.05	10.49	---	9.60	10.80	11.24	11.06	11.67
2	11.15	10.46	10.16	10.46	11.10	10.24	9.52	9.55	10.85	11.24	11.07	11.73
3	11.12	10.44	10.13	10.45	11.06	9.94	9.49	9.53	10.92	11.26	11.11	11.74
4	11.11	10.42	10.15	10.44	11.06	9.92	9.49	9.54	10.83	11.27	11.10	11.73
5	11.08	10.41	10.14	10.42	10.99	9.88	9.46	9.53	10.85	11.28	11.09	11.78
6	11.06	10.39	10.11	10.39	11.03	9.81	9.44	9.53	10.86	11.29	11.09	11.84
7	11.03	10.36	10.08	10.39	11.03	9.73	---	9.50	10.84	11.27	11.10	11.87
8	11.00	10.35	10.08	10.70	11.04	9.68	---	9.45	10.84	11.25	11.10	11.87
9	10.98	10.32	10.19	10.89	11.02	9.65	---	9.42	10.87	11.23	11.13	11.87
10	10.96	10.29	10.39	10.93	10.95	9.60	9.32	9.38	10.87	11.21	11.21	11.86
11	10.95	10.26	10.40	10.98	10.95	9.58	9.30	9.34	10.87	11.19	11.19	11.84
12	10.93	10.24	10.49	11.04	11.01	9.56	9.25	9.29	10.88	11.17	11.19	11.83
13	10.90	10.20	10.57	11.04	11.02	9.54	9.21	9.28	10.87	11.16	11.18	11.85
14	10.97	10.21	10.71	11.14	10.61	9.54	9.16	9.39	10.86	11.15	11.23	11.83
15	10.90	10.21	10.57	11.13	9.98	9.50	9.11	9.42	10.86	11.18	11.24	11.83
16	10.93	10.30	10.55	11.11	9.91	9.51	9.09	9.38	10.85	11.15	11.26	11.82
17	11.17	10.85	10.56	11.01	9.89	9.73	9.15	9.33	10.85	11.12	11.30	11.82
18	11.25	10.39	10.55	10.97	9.95	9.75	9.22	9.30	---	11.08	11.36	11.81
19	11.19	10.33	10.56	11.07	9.99	9.75	9.25	9.28	10.91	11.07	11.38	11.78
20	10.88	10.38	10.78	11.09	10.29	9.72	9.24	9.26	10.96	11.07	11.41	11.76
21	10.81	10.62	11.24	11.09	10.71	9.77	9.22	9.21	11.00	11.05	11.45	11.74
22	10.77	10.64	10.94	10.93	10.77	9.71	9.22	9.37	11.03	11.05	11.50	11.72
23	10.73	10.35	10.65	10.44	10.53	9.71	9.18	9.55	11.06	11.11	11.57	11.69
24	10.69	10.29	10.63	10.55	10.51	9.65	9.18	9.63	11.09	11.06	11.58	11.69
25	10.67	10.27	10.59	10.93	10.50	9.63	9.26	9.72	11.10	11.04	11.60	11.72
26	10.83	10.25	10.58	11.10	10.61	9.62	9.27	9.74	11.15	11.02	11.59	11.74
27	10.79	10.25	10.57	11.03	10.65	9.64	9.35	9.85	11.21	11.00	11.59	11.73
28	10.63	10.22	10.54	11.03	10.58	9.70	9.36	10.35	11.22	10.99	11.61	11.75
29	10.60	10.20	10.51	10.98	---	---	9.49	10.57	11.23	11.01	11.63	11.85
30	10.56	10.19	10.50	11.01	---	---	9.53	10.67	11.24	11.02	11.63	11.93
31	10.52	---	10.51	11.07	---	---	---	10.76	---	11.04	11.65	---
TOTAL	338.33	310.57	324.60	336.30	298.79	---	---	297.72	---	345.27	351.20	353.69
MEAN	10.91	10.35	10.47	10.85	10.67	---	---	9.60	---	11.14	11.33	11.79
MAX	11.25	10.85	11.24	11.14	11.10	---	---	10.76	---	11.29	11.65	11.93
MIN	10.52	10.19	10.08	10.39	9.89	---	---	9.21	---	10.99	11.06	11.67

EVERGLADES AND SOUTHEASTERN COASTAL AREA

262007080321500 S-150 AT TERRYTOWN, FL

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	e13	16	4.8	e26	550	278	e3.8	8.3	9.8	23	13	17	
2	e9.5	18	5.8	e27	589	137	4.2	5.4	12	16	10	18	
3	24	23	10	e26	530	27	1.9	5.3	11	17	18	16	
4	33	30	19	17	554	31	1.4	6.8	14	21	17	15	
5	35	36	30	19	491	35	-7.8	9.5	6.6	21	16	12	
6	34	31	23	18	535	34	-2.5	7.7	9.9	21	13	20	
7	32	20	8.2	64	533	31	e4.9	6.2	13	22	17	17	
8	31	23	13	385	546	31	e3.9	7.2	12	19	13	18	
9	31	32	13	471	518	29	e1.8	11	10	19	16	17	
10	29	33	15	475	472	20	-0.87	10	7.9	20	15	18	
11	34	32	6.7	498	507	19	0.10	8.0	12	19	16	17	
12	34	33	11	528	544	20	-1.2	7.1	15	22	19	15	
13	34	27	69	519	544	15	2.9	4.8	15	19	15	-2.9	
14	e190	e21	175	590	221	16	3.7	9.8	12	21	20	-9.2	
15	e8.4	e25	17	547	33	13	4.5	9.5	10	21	15	-1.4	
16	79	143	15	539	36	15	1.7	8.8	11	e16	15	1.4	
17	458	381	18	414	30	17	2.5	10	15	16	18	e2.9	
18	489	5.9	17	450	99	15	2.2	9.5	e17	20	18	e1.3	
19	336	3.8	22	536	155	20	3.8	9.1	16	18	16	e-6.6	
20	14	91	307	534	317	20	7.0	8.8	17	17	18	e-5.4	
21	31	263	656	547	467	15	0.94	6.6	16	21	12	e6.6	
22	33	e202	255	317	417	-0.45	-0.66	9.6	17	19	12	3.4	
23	34	e11	31	82	263	2.4	-2.4	10	14	8.3	14	-5.6	
24	36	e8.4	22	287	305	0.44	5.9	11	19	9.9	21	-6.9	
25	34	14	10	573	315	5.2	e7.1	8.8	17	13	16	-2.4	
26	e264	5.4	14	587	375	11	e5.0	9.1	19	14	20	-5.3	
27	116	4.5	54	522	369	6.6	e2.2	13	19	13	18	-7.5	
28	35	e4.5	14	540	314	1.2	e5.9	11	18	12	19	-3.1	
29	40	e10	19	475	---	---	e7.8	4.2	14	22	11	20	5.1
30	35	4.2	20	547	---	---	e1.5	7.1	9.4	21	13	22	3.0
31	21	---	e19	572	---	---	e1.8	---	12	---	9.0	20	---
TOTAL	2,626.9	1,551.7	1,913.5	11,732	10,629	875.49	73.21	277.3	428.2	531.2	512	167.4	
MEAN	84.7	51.7	61.7	378	380	28.2	2.44	8.95	14.3	17.1	16.5	5.58	
MAX	489	381	656	590	589	278	7.1	14	22	23	22	20	
MIN	8.4	3.8	4.8	17	30	-0.45	-7.8	4.8	6.6	8.3	10	-9.2	
AC-FT	5,210	3,080	3,800	23,270	21,080	1,740	145	550	849	1,050	1,020	332	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2003, BY WATER YEAR (WY)

	7.58	8.10	32.0	93.1	131	102	150	139	104	74.9	33.7	5.78
MEAN	7.58	8.10	32.0	93.1	131	102	150	139	104	74.9	33.7	5.78
MAX	84.7	94.6	231	378	523	514	566	602	390	408	152	91.3
(WY)	(2003)	(1998)	(1997)	(2003)	(1992)	(1992)	(1992)	(1992)	(1992)	(2000)	(1998)	(1993)
MIN	-49.0	-50.0	-50.0	-50.0	-21.1	-13.7	-15.9	-0.92	-0.70	-22.1	-31.6	-52.0
(WY)	(1995)	(1995)	(1995)	(1995)	(1995)	(1995)	(1993)	(2000)	(1993)	(1992)	(1992)	(1992)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1991 - 2003

ANNUAL TOTAL	23,499.42		31,317.90		58.2	
ANNUAL MEAN	64.4		85.8		-6.29	
HIGHEST ANNUAL MEAN					101	
LOWEST ANNUAL MEAN					1995	
HIGHEST DAILY MEAN	656	Dec 21	656	Dec 21	850	Jan 16, 1991
LOWEST DAILY MEAN	-14	Jul 14	-9.2	Sep 14	-108	Sep 20, 1992
ANNUAL SEVEN-DAY MINIMUM	-5.7	Jul 14	-3.9	Sep 22	-82	Sep 16, 1992
ANNUAL RUNOFF (AC-FT)	46,610		62,120		42,200	
10 PERCENT EXCEEDS	224		430		291	
50 PERCENT EXCEEDS	18		17		3.7	
90 PERCENT EXCEEDS	-0.18		3.0		-24	

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02284300 NORTH NEW RIVER CANAL AT S-7, AT TERRYTOWN, FL

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	0.00	0.00	0.00	0.00	0.00	---	---	---	---	---	---
2	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---	---	---	---
3	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---	---	---	---
4	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---	---	---	---
5	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---	---	---	---
6	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---	---	---	---
7	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---	---	---	---
8	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---	---	---	---
9	0.00	0.00	977	0.00	0.00	0.00	---	---	---	---	---	---
10	0.00	0.00	1,800	0.00	0.00	0.00	---	---	---	---	---	---
11	0.00	0.00	1,580	0.00	0.00	0.00	---	---	---	---	---	---
12	0.00	0.00	1,020	0.00	0.00	0.00	---	---	---	---	---	---
13	0.00	0.00	572	0.00	0.00	0.00	---	---	---	---	---	---
14	0.00	0.00	434	e244	0.00	0.00	---	---	---	---	---	---
15	0.00	0.00	0.00	e77	0.00	0.00	---	---	---	---	---	---
16	0.00	0.00	0.00	0.00	0.00	0.00	---	---	---	---	---	---
17	0.00	1,170	0.00	0.00	0.00	1,360	---	---	---	---	---	---
18	0.00	742	0.00	0.00	0.00	1,240	---	---	---	---	---	---
19	0.00	0.00	0.00	0.00	0.00	281	---	---	---	---	---	---
20	0.00	0.00	0.00	0.00	0.00	224	---	---	---	---	---	---
21	0.00	376	0.00	0.00	0.00	366	---	---	---	---	---	---
22	0.00	e433	0.00	0.00	0.00	e318	---	---	---	---	---	---
23	0.00	0.00	0.00	0.00	314	e317	---	---	---	---	---	---
24	0.00	0.00	355	0.00	0.00	1,030	---	---	---	---	---	---
25	0.00	0.00	0.00	0.00	0.00	509	---	---	---	---	---	---
26	0.00	35	0.00	0.00	0.00	---	---	---	---	---	---	---
27	0.00	0.00	0.00	0.00	0.00	---	---	---	---	---	---	---
28	0.00	0.00	0.00	0.00	0.00	---	---	---	---	---	---	---
29	0.00	0.00	0.00	73	---	---	---	---	---	---	---	---
30	0.00	0.00	0.00	0.00	---	---	---	---	---	---	---	---
31	0.00	---	0.00	0.00	---	---	---	---	---	---	---	---
TOTAL	0.00	2,756.00	6,738.00	394.00	314.00	---	---	---	---	---	---	---
MEAN	0.000	91.9	217	12.7	11.2	---	---	---	---	---	---	---
MAX	0.00	1,170	1,800	244	314	---	---	---	---	---	---	---
MIN	0.00	0.00	0.00	0.00	0.00	---	---	---	---	---	---	---
AC-FT	0.00	5,470	13,360	781	623	---	---	---	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2003, BY WATER YEAR (WY)

	294	165	114	167	162	191	216	229	376	356	380	440
MEAN	1,114	1,331	1,319	1,527	1,486	864	1,442	1,066	1,553	1,523	1,359	1,814
(WY)	(1995)	(1995)	(1995)	(1993)	(1993)	(1966)	(1993)	(1966)	(1982)	(1992)	(1974)	(1992)
MIN	0.000	0.000	-1.39	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-126	0.000
(WY)	(1961)	(1961)	(1967)	(1960)	(1974)	(1967)	(1967)	(1967)	(1981)	(1981)	(1966)	(1976)

SUMMARY STATISTICS

ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

WATER YEARS 1960 - 2003

245
663
47.1
2,860
-755
-620
177,500
858
0.00
0.00

1993
1967
Jun 30, 1992
Jul 31, 1966
Jul 30, 1966

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

261952080074500 E-3 CANAL AT SW 18TH STREET, BOCA RATON, FL

LOCATION.--Lat 26°19'52", long 80°07'45", in SE ¼ NE ¼ NW ¼ sec.35, T.47 S., R.42 E., Palm Beach County, Hydrologic Unit 03090202, 0.7 mi west of U.S. Interstate 95, 1.5 mi south of Palmetto Park Road exit in Boca Raton.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--March 1982 to current year.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Salinity monitoring was discontinued for water year 2001. Station is part of a canal system operated and controlled by Lake Worth Drainage District.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 11.79 ft May 4, 1982; minimum, 5.33 ft Aug. 24, 2000.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 10.40 ft May 28; minimum, 8.74 ft Nov. 12.

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	9.43	9.18	9.24	9.19	9.22	9.18	9.23	9.42	9.59	9.39	9.25	9.56
2	9.39	9.15	9.22	9.21	9.23	9.20	9.23	9.31	9.57	9.46	9.42	9.69
3	9.36	9.10	9.18	9.28	9.22	9.24	9.22	9.34	9.59	9.58	9.44	9.68
4	9.35	9.05	9.18	9.24	9.18	9.21	9.21	9.37	9.57	9.56	9.32	9.67
5	9.34	8.99	9.25	9.21	9.21	9.19	9.20	9.21	9.55	9.54	9.38	9.66
6	9.33	8.98	9.43	9.22	9.18	9.19	9.20	9.24	9.52	9.58	9.40	9.69
7	9.31	8.95	9.39	9.23	9.19	9.20	9.19	9.25	9.52	9.54	9.50	9.67
8	9.29	8.90	9.32	9.22	9.25	9.23	9.19	9.14	9.51	9.49	9.64	9.67
9	9.26	8.86	9.30	9.20	9.17	9.19	9.18	9.30	9.56	9.45	9.67	9.60
10	9.25	8.83	9.64	9.20	9.19	9.21	9.22	9.45	9.60	9.40	9.91	9.59
11	9.20	8.79	9.64	9.23	9.24	9.19	9.22	9.36	9.55	9.35	9.86	9.58
12	9.19	8.76	9.58	9.22	9.23	9.19	9.22	9.41	9.51	9.30	9.74	9.54
13	9.22	8.90	9.54	9.20	9.22	9.18	9.20	9.40	9.52	9.25	9.62	9.51
14	9.17	9.22	9.55	9.28	9.24	9.21	9.20	9.42	9.55	9.41	9.67	9.50
15	9.24	9.21	9.52	9.22	9.19	9.21	9.17	9.39	9.58	9.50	9.63	9.48
16	9.47	9.22	9.47	9.21	9.18	9.20	9.05	9.32	9.58	9.44	9.58	9.45
17	9.50	9.53	9.41	9.25	9.18	9.32	9.04	9.29	9.54	9.37	9.57	9.47
18	9.46	9.51	9.35	9.19	9.23	9.35	9.22	9.28	9.49	9.46	9.56	9.48
19	9.41	9.54	9.29	9.26	9.19	9.41	9.07	9.29	9.52	9.41	9.55	9.47
20	9.37	9.45	9.28	9.22	9.53	9.45	8.88	9.28	9.53	9.51	9.58	9.51
21	9.34	9.53	9.34	9.25	9.53	9.41	8.84	9.24	9.52	9.36	9.64	9.51
22	9.29	9.51	9.36	9.20	9.45	9.35	9.09	9.28	9.56	9.31	9.63	9.48
23	9.24	9.41	9.35	9.23	9.47	9.32	9.19	9.57	9.55	9.48	9.61	9.45
24	9.19	9.33	9.33	9.26	9.43	9.38	9.28	9.62	9.54	9.43	9.58	9.46
25	9.19	9.28	9.33	9.23	9.36	9.31	9.25	9.70	9.52	9.39	9.57	9.47
26	9.22	9.31	9.30	9.20	9.31	9.25	9.39	9.77	9.49	9.34	9.61	9.50
27	9.19	9.31	9.27	9.24	9.27	9.19	9.43	9.91	9.51	9.31	9.61	9.48
28	9.19	9.31	9.26	9.24	9.23	9.19	9.78	9.99	9.51	9.50	9.60	9.48
29	9.17	9.29	9.23	9.23	---	9.15	9.66	9.50	9.46	9.40	9.61	9.77
30	9.20	9.27	9.26	9.20	---	9.10	9.52	9.75	9.42	9.28	9.58	9.80
31	9.21	---	9.20	9.19	---	9.09	---	9.65	---	9.24	9.54	---
TOTAL	287.97	275.67	290.01	285.95	259.52	286.49	276.77	292.45	286.03	292.03	296.87	286.87
MEAN	9.29	9.19	9.36	9.22	9.27	9.24	9.23	9.43	9.53	9.42	9.58	9.56
MAX	9.50	9.54	9.64	9.28	9.53	9.45	9.78	9.99	9.60	9.58	9.91	9.80
MIN	9.17	8.76	9.18	9.19	9.17	9.09	8.84	9.14	9.42	9.24	9.25	9.45

EVERGLADES AND SOUTHEASTERN COASTAL AREA

261710080190001 SITE 19 IN CONSERVATION AREA 2A NEAR CORAL SPRINGS, FL

LOCATION.--Lat 26°16'55", long 80°18'23", T.48 S., R.40 E., Broward County, Hydrologic Unit 03090202, in Conservation Area 2A near Coral Springs. Station is located approximately 0.5 mi west of the Sawgrass Expressway and 1 mi north of Sample Road in line with the water tower in Coral Springs. No section could be determined from existing maps.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1992 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and tipping bucket rain gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 10.60 ft above National Geodetic Vertical Datum of 1929. Station is one of several located in Conservation Area 2A. Rainfall data available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003.

COOPERATION.--U.S. Army Corps of Engineers.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 15.33 ft Dec. 9, 10, 1994; minimum, 10.88 ft Apr. 5-12, 1997.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 13.61 ft Sept. 6, 7; minimum, 10.97 ft Apr. 23-26 and May 21, 22.

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	13.03	12.49	12.20	11.57	---	11.72	11.36	11.13	---	12.96	12.23	13.48
2	13.01	12.47	12.18	11.54	12.16	11.69	11.34	11.14	12.47	12.93	12.25	13.53
3	12.98	12.46	12.15	11.55	12.17	11.65	11.33	11.22	12.56	12.92	12.28	13.51
4	12.95	12.44	12.13	11.53	12.18	11.62	11.31	11.24	---	12.89	12.29	13.51
5	12.94	12.42	12.12	11.50	12.18	11.59	11.29	11.25	---	12.87	12.27	13.53
6	12.91	12.42	12.12	11.47	12.17	11.56	11.28	11.23	---	12.84	12.27	13.59
7	12.88	12.40	12.09	11.45	12.16	11.52	---	11.21	---	12.80	12.29	13.60
8	12.85	12.36	12.06	11.42	12.14	11.49	---	11.20	---	12.75	12.31	13.60
9	12.82	12.34	---	11.40	12.12	11.45	11.21	11.19	12.98	12.70	12.38	13.57
10	12.78	12.31	---	11.42	12.09	11.43	11.18	11.17	13.09	12.65	12.62	13.54
11	12.76	12.28	---	11.56	12.08	11.40	11.16	11.14	13.15	12.61	12.67	13.52
12	12.72	12.26	12.19	11.72	12.05	11.37	11.14	11.12	13.17	12.56	12.70	13.49
13	12.69	12.24	12.18	11.84	12.03	11.34	11.12	11.10	13.17	12.51	12.73	13.47
14	12.66	---	12.17	11.97	12.03	11.46	11.10	11.08	13.19	12.46	12.83	13.45
15	12.63	12.21	12.15	12.04	12.02	11.42	11.09	11.05	13.21	12.44	12.88	13.42
16	12.66	12.22	12.13	---	12.01	11.41	11.07	11.04	13.21	12.39	12.92	13.39
17	12.65	12.36	12.10	---	12.03	11.54	11.05	11.03	13.21	12.37	12.96	13.37
18	12.64	12.36	12.07	---	12.02	11.56	11.03	11.01	13.21	12.36	13.04	13.33
19	12.63	12.35	12.04	---	12.01	11.55	11.01	11.00	13.20	12.33	13.13	13.30
20	12.61	12.36	12.01	---	12.01	11.53	11.00	10.99	13.18	12.30	13.25	13.28
21	12.60	12.43	11.98	---	11.99	11.52	10.99	10.97	13.15	12.28	13.35	13.24
22	12.59	---	11.94	---	11.95	11.50	10.99	11.16	13.13	12.27	13.40	13.21
23	12.57	---	11.90	---	11.94	11.48	10.98	11.43	13.12	12.26	13.43	13.18
24	12.57	12.38	11.86	---	11.90	11.46	10.97	11.52	13.10	12.23	13.44	13.17
25	12.56	12.35	11.82	---	11.86	11.45	10.97	11.62	13.09	12.20	13.45	13.16
26	12.55	12.33	11.78	---	11.82	11.43	11.01	11.77	13.07	12.20	13.46	13.16
27	12.54	12.31	11.74	---	11.79	11.41	11.06	11.82	13.08	12.19	13.48	13.17
28	12.53	---	11.70	---	11.76	11.41	11.09	---	13.08	12.18	13.49	13.24
29	12.52	---	11.67	---	---	11.41	11.09	---	13.04	12.23	13.50	13.36
30	12.51	12.23	11.63	---	---	---	11.11	---	13.00	12.24	13.48	---
31	12.50	---	11.60	---	---	---	---	---	---	12.23	13.47	---
TOTAL	393.84	---	---	---	---	---	---	---	---	387.15	400.25	---
MEAN	12.70	---	---	---	---	---	---	---	---	12.49	12.91	---
MAX	13.03	---	---	---	---	---	---	---	---	12.96	13.50	---
MIN	12.50	---	---	---	---	---	---	---	---	12.18	12.23	---

261300080280001 NORTH NEW RIVER CANAL AT S-11-C, NEAR ANDYTOWN, FL

LOCATION.--Lat 26°13'43", long 80°27'37", in NE ¼ sec.32, T.48 S., R.37 E., Broward County, Hydrologic Unit 03090202, in North New River Canal on the east bank of the spillway, 100 ft southeast of S-11-C, a four-gated control structure, 5.9 mi north of State Road 84 on U.S. Highway 27. The auxiliary stage recorder is located approximately 30 yards downstream of structure S-11-C on the west bank of the spillway.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--May 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoders upstream and downstream of structure S-11-C. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Station is one of several located on Levee 38W which regulates flow for Conservation Areas 2A and 3A. Gage records are primarily used to determine stages.

COOPERATION.--U.S. Army Corps of Engineers.

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 14.90 ft Dec. 22, 1994; minimum, 9.64 ft May 22, 2001.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 13.93 ft Dec. 12, 1994; minimum, indeterminate, well was dry several days during the 2001 and 2002 water years.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 13.51 ft Sept. 6; minimum, 10.52 ft Jan. 9.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 12.02 ft Sept. 30; minimum, 9.07 ft Apr. 16.

UPSTREAM
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	13.03	12.51	12.18	10.81	10.92	11.21	11.79	11.54	11.41	12.67	---	13.17
2	13.03	12.48	12.16	10.79	10.92	11.12	11.76	11.59	11.37	12.59	12.18	13.21
3	13.00	12.46	12.13	10.79	10.93	11.05	11.72	11.64	11.65	12.57	12.21	13.28
4	12.98	12.44	12.11	10.77	10.93	11.02	11.68	11.59	11.21	12.60	12.22	13.37
5	12.95	12.40	12.09	10.73	10.94	10.92	11.63	11.54	12.34	12.59	12.23	13.41
6	12.93	12.37	12.07	10.68	10.96	10.84	11.58	11.49	12.54	12.57	12.26	13.49
7	12.89	12.34	12.04	10.62	10.96	10.83	11.52	11.43	12.68	12.53	12.29	13.49
8	12.85	12.32	12.03	10.56	10.95	10.85	11.47	11.38	12.79	12.48	12.29	13.48
9	12.81	12.30	12.05	10.54	10.94	10.84	11.42	11.31	12.96	12.43	---	13.45
10	12.78	12.27	12.21	10.61	10.92	10.85	11.41	11.22	13.10	12.36	---	13.42
11	12.74	12.24	12.23	10.64	10.92	10.87	11.32	11.14	13.17	12.30	---	13.39
12	12.70	12.22	12.17	10.63	10.92	10.87	11.23	11.10	13.19	---	---	13.36
13	12.66	12.21	12.14	10.62	10.91	---	11.14	11.01	13.20	12.12	12.81	13.35
14	12.63	---	12.13	10.69	10.90	10.89	11.04	11.11	13.19	12.06	12.93	13.31
15	12.61	---	12.09	10.72	10.86	10.94	10.94	11.12	13.17	12.05	12.96	13.28
16	12.66	12.21	12.04	10.71	10.83	10.98	10.84	11.17	13.16	12.06	12.92	13.23
17	12.68	12.35	11.99	10.71	10.83	11.17	10.83	11.16	13.15	12.13	12.91	13.22
18	12.66	12.42	11.93	10.71	10.80	11.35	10.78	11.14	13.13	12.13	12.98	13.25
19	12.64	12.41	11.84	10.71	10.84	11.40	10.73	11.12	13.09	12.12	---	13.24
20	12.63	12.41	11.67	10.72	10.97	11.40	10.66	11.11	13.02	12.09	13.08	13.21
21	12.62	12.47	11.57	10.74	11.07	11.44	10.64	11.10	12.98	12.05	13.15	13.19
22	12.61	---	11.48	10.76	11.13	11.50	10.76	11.25	12.98	12.05	13.19	13.15
23	12.60	---	11.39	10.78	11.23	11.57	10.81	11.49	13.00	12.09	13.15	13.12
24	12.59	12.40	11.34	10.78	11.30	11.62	10.80	11.59	13.02	12.06	13.16	13.09
25	12.58	12.36	11.27	10.81	11.34	11.64	10.80	11.67	13.03	12.06	13.20	13.09
26	---	12.33	11.16	10.82	11.40	11.61	10.97	11.73	---	12.05	13.21	13.11
27	12.58	12.30	11.06	10.83	11.39	11.61	11.14	11.86	---	12.02	13.22	13.15
28	12.56	---	10.96	10.86	11.29	11.70	11.16	12.14	12.88	12.03	13.21	13.24
29	12.55	---	10.86	10.90	---	---	11.31	11.99	12.81	12.12	13.21	13.42
30	12.53	12.21	10.80	10.90	---	---	11.44	11.78	12.74	12.10	13.19	13.47
31	12.53	---	10.84	10.91	---	---	---	11.48	---	---	13.17	---
TOTAL	---	---	364.03	332.85	308.30	---	335.32	353.99	---	---	---	398.64
MEAN	---	---	11.74	10.74	11.01	---	11.18	11.42	---	---	---	13.29
MAX	---	---	12.23	10.91	11.40	---	11.79	12.14	---	---	---	13.49
MIN	---	---	10.80	10.54	10.80	---	10.64	11.01	---	---	---	13.09

EVERGLADES AND SOUTHEASTERN COASTAL AREA

261300080280001 NORTH NEW RIVER CANAL AT S-11-C, NEAR ANDYTOWN, FL

 DOWNSTREAM
 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	11.18	10.52	10.24	10.53	10.18	10.11	9.58	9.64	10.95	11.30	---	11.76
2	11.15	10.50	10.23	10.51	10.18	10.07	9.56	9.59	10.96	11.30	11.11	11.82
3	11.13	10.47	10.21	10.54	10.17	9.96	9.54	9.57	10.94	11.30	11.12	11.80
4	11.12	10.45	10.21	10.52	10.16	9.94	9.52	9.57	10.80	11.31	11.11	11.78
5	11.10	10.43	10.20	10.49	10.15	9.90	9.49	9.56	10.84	11.31	11.11	11.82
6	11.07	10.43	10.19	10.47	10.15	9.83	9.46	9.55	10.85	11.32	11.12	11.91
7	11.04	10.40	10.16	10.44	10.14	9.76	9.43	9.52	10.84	11.30	11.14	11.94
8	11.02	10.38	10.15	10.44	10.12	9.71	9.41	9.48	10.85	11.29	11.13	11.94
9	11.00	10.35	10.25	10.43	10.11	9.69	9.43	9.45	10.88	11.27	---	11.93
10	10.98	10.32	10.45	10.41	10.10	9.65	9.38	9.42	10.90	11.25	---	11.92
11	10.96	10.30	10.49	10.39	10.08	9.62	9.36	9.39	10.91	11.22	---	11.90
12	10.95	10.28	10.58	10.37	10.06	9.60	9.30	9.35	10.91	---	---	11.89
13	10.93	10.27	10.62	10.36	10.05	---	9.25	9.33	10.90	11.19	11.24	11.90
14	10.91	---	10.66	10.40	10.03	9.59	9.20	9.44	10.89	11.18	11.25	11.89
15	10.92	---	10.64	10.39	9.94	9.55	9.15	9.45	10.88	11.21	11.26	11.88
16	10.92	10.27	10.62	10.37	9.91	9.56	9.13	9.41	10.87	11.17	11.32	11.87
17	10.88	10.43	10.62	10.37	9.92	9.75	9.19	9.36	10.87	11.13	11.38	11.85
18	10.86	10.40	10.61	10.35	9.90	9.78	9.26	9.34	10.90	11.11	11.44	11.81
19	10.84	10.37	10.61	10.33	9.86	9.78	9.29	9.33	10.95	11.10	---	11.79
20	10.81	10.37	10.65	10.32	9.93	9.75	9.28	9.31	11.01	11.10	---	---
21	10.78	10.41	10.70	10.31	10.09	9.79	9.26	9.26	11.05	11.08	11.53	---
22	10.75	---	10.71	10.30	10.11	9.75	9.26	9.37	11.08	11.08	11.58	---
23	10.71	---	10.68	10.26	10.08	9.73	9.23	9.56	11.12	11.12	11.65	---
24	10.69	10.33	10.67	10.22	10.04	9.69	9.21	9.64	11.15	11.09	11.66	---
25	10.68	10.32	10.67	10.23	10.03	9.67	9.27	9.73	11.17	11.07	11.67	11.69
26	---	10.31	10.64	10.23	10.05	9.65	9.31	9.77	---	11.06	11.67	11.72
27	10.65	10.31	10.62	10.22	10.08	9.66	---	9.85	---	11.04	11.68	11.74
28	10.62	---	10.60	10.22	10.13	9.74	---	10.30	11.29	11.04	11.70	11.81
29	10.59	---	10.57	10.21	---	---	---	10.63	11.30	11.06	11.72	11.93
30	10.58	10.26	10.54	10.20	---	---	9.56	10.81	11.30	11.07	11.72	12.02
31	10.54	---	10.53	10.19	---	---	---	10.94	---	---	11.73	---
TOTAL	---	---	325.32	321.02	281.75	---	---	298.92	---	---	---	---
MEAN	---	---	10.49	10.36	10.06	---	---	9.64	---	---	---	---
MAX	---	---	10.71	10.54	10.18	---	---	10.94	---	---	---	---
MIN	---	---	10.15	10.19	9.86	---	---	9.26	---	---	---	---

262240080258001 SITE 17 NEAR L-38 IN CONSERVATION AREA 2A NEAR CORAL SPRINGS, FL

LOCATION.--Lat 26°17'11", long 80°24'40", in NE ¼ sec.11, T.48 S., R.39 E., Broward County, Hydrologic Unit 03090202, in Conservation Area 2A near L-38 and approximately 7 mi west of Coral Springs.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--August 1991 to current year. Prior to August 1991 station was operated by the U.S. Army Corps of Engineers.

GAGE.--Satellite data collection platform with water-stage shaft encoder and tipping bucket rain gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 11.10 ft above National Geodetic Vertical datum of 1929. Gage is capable of recording water levels below land-surface datum. Rainfall data is not published but is available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 15.38 ft Dec. 9, 1994; minimum, 10.30 ft May 19, 1999.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 13.58 ft Sept. 6-9; minimum, 11.65 ft May 14, 15.

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	13.05	12.48	12.23	11.84	11.80	11.78	11.88	---	---	13.02	12.24	13.49
2	13.04	12.47	12.21	11.83	11.81	11.77	11.91	---	---	12.96	12.26	13.51
3	13.01	12.45	12.19	11.82	11.81	11.76	11.92	---	12.43	12.91	12.28	13.50
4	12.99	12.43	12.17	11.82	11.82	11.76	11.93	---	12.48	12.88	12.28	13.49
5	12.96	12.41	12.16	11.81	11.82	11.75	11.93	---	12.59	12.85	12.28	13.51
6	12.94	12.40	12.15	11.80	11.82	11.74	11.92	11.77	12.69	12.83	12.30	13.57
7	12.91	12.37	12.13	11.79	11.82	11.73	---	11.75	12.78	12.79	12.34	13.58
8	12.87	12.34	12.10	11.77	11.82	11.71	11.88	11.73	12.88	12.75	12.37	13.58
9	12.84	12.32	12.10	11.76	11.82	11.70	11.87	11.72	13.00	12.70	12.46	13.57
10	12.80	12.30	12.20	11.76	11.82	11.69	11.85	11.70	13.12	12.64	12.70	13.55
11	12.77	12.28	12.22	11.75	11.82	11.69	11.83	11.69	13.21	12.59	---	13.52
12	12.74	12.25	12.23	11.74	11.82	11.68	11.82	11.68	13.26	12.54	---	13.49
13	12.70	12.23	12.24	11.73	11.80	11.67	11.81	11.67	13.26	12.49	12.84	13.49
14	12.67	---	12.27	11.75	11.80	---	11.80	11.66	13.26	12.44	12.96	13.45
15	12.65	---	12.25	11.75	11.79	---	11.78	---	13.25	12.43	13.02	13.42
16	12.67	12.21	12.23	11.75	11.78	---	11.77	---	13.23	12.42	13.05	13.38
17	12.65	12.31	---	11.74	11.79	---	11.75	---	13.21	12.43	13.08	13.35
18	12.64	12.31	---	11.72	11.79	---	11.74	---	13.20	12.39	13.16	13.32
19	12.63	12.32	---	11.71	11.79	---	11.74	---	13.19	12.35	13.20	13.30
20	12.61	12.35	---	11.70	11.79	---	11.74	---	13.17	12.32	13.25	13.28
21	12.60	12.41	---	11.69	11.79	---	11.74	---	13.14	12.29	13.32	13.25
22	12.60	12.42	---	11.69	11.78	---	11.72	---	13.14	12.27	13.37	13.22
23	12.58	---	---	11.69	11.80	---	11.70	---	13.14	12.33	13.40	13.19
24	12.58	12.41	---	11.69	11.79	---	11.69	---	13.16	12.30	13.41	13.16
25	12.57	12.39	---	11.71	11.79	---	11.67	---	13.17	12.27	13.44	13.16
26	---	12.36	---	11.73	11.79	---	---	---	13.20	12.25	13.46	13.17
27	12.54	12.34	---	11.75	11.79	---	---	---	13.23	12.24	13.48	13.17
28	12.53	12.31	11.90	11.77	11.79	11.81	---	---	13.20	12.22	13.52	13.23
29	12.52	---	11.88	11.78	---	11.82	---	---	13.14	12.23	13.54	13.40
30	12.51	12.25	11.86	11.79	---	---	---	---	13.08	12.24	13.52	13.46
31	12.49	---	11.85	11.80	---	---	---	---	---	12.24	13.50	---
TOTAL	---	---	---	364.43	330.45	---	---	---	---	387.61	---	401.76
MEAN	---	---	---	11.76	11.80	---	---	---	---	12.50	---	13.39
MAX	---	---	---	11.84	11.82	---	---	---	---	13.02	---	13.58
MIN	---	---	---	11.69	11.78	---	---	---	---	12.22	---	13.16

EVERGLADES AND SOUTHEASTERN COASTAL AREA

261200080275001 NORTH NEW RIVER CANAL AT S-11-B NEAR ANDYTOWN, FL

LOCATION.--Lat 26°12'08", long 80°27'13", in NE ¼ sec.9, T.48 S., R.37 E., Broward County, Hydrologic Unit 03090202, on North New River Canal on the east bank of the spillway, 100 ft southeast of S-11-B, a four-gated control structure, 4.0 mi north of State Road 84 on U.S. Highway 27. The auxiliary stage recorder is located approximately 30 yards downstream of S-11-B, on the west bank of the spillway .

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--May 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoders upstream and downstream of structure S-11-B. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Station is one of several located on L-38W which regulates flow for Conservation Area 2A and 3A. Gage records are primarily used to determine stage.

COOPERATION.--U.S. Army Corps of Engineers.

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 14.85 ft Jan. 15, 1995; minimum, 9.67 ft May 22, 2001.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 13.84 ft Dec. 5, 1994; minimum, indeterminate, gage was dry in May 2001 and May 2002.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 13.51 ft Sept. 30; minimum, 10.52 ft Jan. 9.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 11.97 ft Sept. 30; minimum, 9.03 ft Apr. 16.

UPSTREAM
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	13.04	12.52	12.18	10.81	10.92	11.22	11.73	11.51	11.40	12.67	12.18	13.17
2	13.03	12.50	12.16	10.79	10.92	11.14	11.71	11.57	11.37	12.60	12.20	13.22
3	13.01	12.47	12.13	10.80	10.92	11.06	11.68	11.62	11.64	12.58	12.22	13.27
4	12.98	12.44	12.11	10.78	10.93	11.03	11.64	11.57	---	12.61	12.23	13.35
5	12.96	12.41	12.09	10.74	10.94	10.93	11.59	11.51	---	12.60	12.24	13.40
6	12.94	12.38	12.07	10.69	10.96	10.84	11.54	11.46	12.55	12.59	12.27	13.48
7	12.90	12.36	12.05	10.63	10.96	10.82	---	11.41	12.69	12.55	12.29	13.49
8	12.86	12.33	12.02	10.57	10.96	10.85	11.44	11.37	12.80	12.50	12.30	13.47
9	12.82	12.30	12.04	10.55	10.93	10.85	11.40	11.30	12.97	12.44	12.41	13.43
10	12.79	12.27	12.19	10.61	10.92	10.86	11.41	11.22	13.11	12.38	12.67	13.40
11	12.75	12.25	12.22	10.64	10.92	10.88	11.31	11.13	13.19	12.32	12.71	13.37
12	12.71	12.22	12.17	10.64	10.91	10.87	11.23	11.09	13.22	12.23	12.76	13.33
13	12.67	12.22	12.14	10.62	10.91	10.87	11.14	11.01	13.22	12.14	12.82	13.32
14	12.64	---	12.13	10.69	10.90	10.90	11.04	11.12	13.21	12.08	12.93	13.29
15	12.61	12.19	12.10	10.72	10.87	10.95	10.94	11.13	13.20	12.07	12.97	13.25
16	12.66	12.22	12.05	10.71	10.83	10.99	10.83	11.17	13.19	12.08	12.92	13.21
17	12.69	12.36	12.00	10.71	10.83	11.15	10.80	11.17	13.17	12.15	12.92	13.22
18	12.67	12.42	11.94	10.72	10.81	11.31	10.76	11.15	13.16	12.16	12.98	13.25
19	12.65	12.42	11.84	10.72	10.85	11.36	10.70	11.13	13.10	12.14	13.04	13.24
20	12.63	12.42	11.67	10.72	10.99	11.37	10.63	11.13	13.03	12.11	13.09	13.22
21	12.62	12.48	11.57	10.74	11.07	11.40	10.60	11.12	12.99	12.07	13.17	13.19
22	12.61	12.48	11.48	10.76	11.13	11.48	10.74	11.27	12.99	12.07	13.21	13.16
23	12.60	---	11.40	10.78	11.24	11.54	10.80	11.51	13.01	12.12	13.16	13.12
24	12.59	12.40	11.33	10.80	11.30	11.59	10.79	11.61	13.03	12.08	13.17	13.10
25	12.59	12.36	11.27	10.82	11.35	11.60	10.78	11.68	13.03	12.08	13.20	13.10
26	---	12.33	11.17	10.83	11.41	11.55	10.94	11.74	13.03	12.06	13.21	13.11
27	12.58	12.30	11.07	10.84	11.40	11.56	11.11	11.87	13.01	12.04	13.22	13.15
28	12.57	12.27	10.97	10.86	11.30	11.66	11.15	12.15	---	12.06	13.20	---
29	12.56	---	10.87	10.90	---	---	11.28	11.99	---	12.14	13.20	---
30	12.54	12.20	10.81	10.91	---	---	11.41	11.78	---	12.12	13.19	---
31	12.53	---	10.84	10.91	---	---	---	11.47	---	12.15	13.17	---
TOTAL	---	---	364.08	333.01	308.38	---	---	353.96	---	379.99	397.25	---
MEAN	---	---	11.74	10.74	11.01	---	---	11.42	---	12.26	12.81	---
MAX	---	---	12.22	10.91	11.41	---	---	12.15	---	12.67	13.22	---
MIN	---	---	10.81	10.55	10.81	---	---	11.01	---	12.04	12.18	---

261200080275001 NORTH NEW RIVER CANAL AT S-11-B NEAR ANDYTOWN, FL

DOWNSTREAM
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	11.11	10.48	10.20	10.45	10.10	9.98	9.54	9.60	10.81	11.19	10.96	---
2	11.09	10.46	10.20	10.43	10.09	9.95	9.52	9.55	10.84	11.19	10.98	---
3	11.06	10.43	10.17	10.45	10.07	9.88	9.49	9.53	10.79	11.18	10.98	---
4	11.05	10.42	10.17	10.43	10.06	9.85	9.47	9.54	---	11.18	10.97	---
5	11.02	10.40	10.16	10.40	10.06	9.82	9.45	9.52	---	11.18	10.97	---
6	10.99	10.40	10.16	10.39	10.05	9.77	9.41	9.51	10.66	11.18	10.98	---
7	10.97	10.38	10.13	10.36	10.04	9.71	---	9.48	10.65	11.17	11.00	---
8	10.95	10.36	10.11	10.35	10.03	9.66	9.36	9.44	10.66	11.15	10.99	---
9	10.93	10.32	10.22	10.35	10.02	9.64	9.38	9.41	10.70	11.13	11.03	---
10	10.92	10.29	10.41	10.33	10.01	9.60	9.34	9.38	10.73	11.11	11.11	11.86
11	10.90	10.27	10.43	10.31	9.98	9.58	9.31	9.35	10.74	11.09	11.10	11.85
12	10.89	10.25	10.48	10.29	9.97	9.55	9.25	9.31	10.75	11.07	11.11	11.83
13	10.86	10.24	10.51	10.28	9.95	9.53	9.20	9.29	10.73	11.05	11.10	11.84
14	10.84	---	10.54	10.31	9.94	9.54	9.15	9.40	10.71	11.05	11.14	11.83
15	10.85	10.23	10.52	10.30	9.88	9.51	9.10	9.41	10.70	11.07	11.16	11.83
16	10.88	10.24	10.51	10.28	9.85	9.51	9.08	9.37	10.69	11.02	11.21	11.82
17	10.84	10.39	10.50	10.29	9.87	9.69	9.14	9.32	10.69	10.97	11.26	11.78
18	10.82	10.37	10.49	10.27	9.85	9.72	9.21	9.30	10.70	10.95	11.31	11.75
19	10.79	10.34	10.51	10.25	9.80	9.72	9.24	9.29	10.77	10.94	11.34	11.73
20	10.77	10.34	10.56	10.23	9.88	9.69	9.23	9.27	10.83	10.94	11.37	11.70
21	10.75	10.36	10.59	10.22	10.02	9.73	9.21	9.22	10.91	10.93	11.41	11.68
22	10.72	10.36	10.59	10.21	10.02	9.70	9.21	9.33	10.95	10.93	11.48	11.66
23	10.68	---	10.58	10.19	10.01	9.68	9.19	9.51	11.00	10.96	11.56	11.64
24	10.65	10.29	10.58	10.16	9.97	9.65	9.17	9.59	11.03	10.94	11.57	11.62
25	10.65	10.29	10.59	10.15	9.95	9.62	9.22	9.68	11.04	10.92	11.58	11.63
26	---	10.28	10.57	10.15	9.97	9.60	9.27	9.73	11.07	10.90	11.58	11.65
27	10.61	10.28	10.55	10.14	9.97	9.61	9.36	9.80	11.14	10.89	---	11.68
28	10.58	10.25	10.53	10.14	10.00	9.69	9.37	10.22	11.18	10.89	---	---
29	10.56	---	10.50	10.13	---	---	9.50	10.54	11.19	10.92	---	---
30	10.54	10.22	10.47	10.11	---	---	9.53	10.71	11.20	10.93	---	---
31	10.50	---	10.45	10.10	---	---	---	10.81	---	10.94	---	---
TOTAL	---	---	322.98	318.45	279.41	---	---	297.41	---	341.96	---	---
MEAN	---	---	10.42	10.27	9.98	---	---	9.59	---	11.03	---	---
MAX	---	---	10.59	10.45	10.10	---	---	10.81	---	11.19	---	---
MIN	---	---	10.11	10.10	9.80	---	---	9.22	---	10.89	---	---

EVERGLADES AND SOUTHEASTERN COASTAL AREA

261117080315201 SITE 63 IN CONSERVATION AREA 3A, NEAR ANDYTOWN, FL

LOCATION.--Lat 26°11'19", long 80°31'52", in SE ¼ sec.10, T.38 S., R.49 E., Broward County, Hydrologic Unit 03090202, in Conservation Area 3A, 6.2 mi west of intersection of U.S. Interstate 75 and U.S. Highway 27 and 4 mi north of U.S. Interstate 75.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--June 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and tipping bucket rain gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 8.40 ft above National Geodetic Vertical Datum of 1929. Gage is capable of recording water levels below land-surface datum. Rainfall data available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 13.45 ft Dec. 6, 9-11, 1994; minimum, 7.24 ft June 1, 1992.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 11.83 ft Sept. 29, 30; minimum, 9.36 ft Apr. 26.

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	11.03	10.45	10.16	10.36	10.05	9.89	9.70	9.58	10.34	10.97	10.90	11.44
2	11.01	10.42	10.15	10.35	10.03	9.89	9.68	9.59	10.38	10.97	---	11.51
3	10.99	10.40	10.14	10.36	10.01	9.86	9.66	9.59	10.43	10.98	---	11.51
4	10.97	10.38	10.13	10.35	10.00	9.85	9.65	9.59	10.47	10.99	---	11.53
5	10.95	10.36	10.12	10.34	9.98	9.84	9.63	9.59	10.53	11.00	---	11.58
6	10.93	10.35	10.12	10.32	9.98	9.82	9.62	9.59	10.54	11.01	---	11.68
7	10.90	10.33	10.10	10.30	9.98	9.80	---	9.58	10.54	---	---	11.71
8	10.88	10.31	10.09	10.28	9.97	9.77	9.59	9.57	10.55	---	---	11.73
9	10.86	10.30	10.14	10.28	9.95	9.75	9.57	9.56	10.57	10.99	10.90	11.73
10	10.84	10.28	10.30	10.28	9.94	9.73	9.55	9.54	10.59	10.97	10.94	11.73
11	10.82	10.26	10.32	10.26	9.93	9.71	9.53	9.53	10.62	10.95	10.94	11.72
12	10.82	10.23	10.33	10.23	9.91	9.69	9.51	9.51	10.62	10.95	10.94	11.70
13	10.80	10.21	10.35	10.21	9.90	9.67	9.49	9.52	10.62	10.95	10.94	11.69
14	10.77	---	10.36	10.25	9.88	9.65	9.47	9.62	10.62	10.93	10.98	11.69
15	10.75	---	10.36	10.24	9.86	9.64	9.46	9.60	10.60	10.93	11.00	11.70
16	10.78	10.19	10.36	10.22	9.85	9.62	9.44	9.59	10.60	10.93	11.00	11.69
17	10.77	10.27	10.36	10.21	9.85	---	9.42	9.58	10.58	10.93	11.00	11.69
18	10.75	10.28	10.36	10.20	9.85	---	9.43	9.56	10.59	10.93	11.01	11.68
19	10.73	10.28	10.36	10.18	9.84	---	9.51	9.55	10.62	10.93	11.05	11.66
20	10.71	10.28	10.37	10.17	9.83	---	9.49	9.54	10.64	10.92	11.10	11.64
21	10.69	10.28	10.37	10.17	9.84	---	9.46	9.52	10.67	10.90	11.18	11.61
22	10.67	---	10.38	10.16	9.86	---	9.44	9.52	10.72	10.88	11.24	11.59
23	10.65	---	10.38	10.14	9.90	---	9.41	9.56	10.78	10.91	11.29	11.57
24	10.62	10.27	10.39	10.13	9.90	---	9.39	9.61	10.81	10.91	11.30	11.55
25	10.60	10.25	10.41	10.11	9.90	---	9.38	9.68	10.82	10.89	11.31	11.53
26	---	10.24	10.42	10.10	9.93	---	9.43	9.70	10.85	10.87	11.32	11.54
27	10.56	10.22	10.42	10.09	9.93	---	9.50	9.77	10.91	10.87	11.35	11.57
28	10.54	10.21	10.41	10.08	9.90	---	9.53	10.10	10.94	10.84	11.37	11.62
29	10.52	---	10.40	10.07	---	---	9.54	10.18	10.95	10.89	11.40	11.72
30	10.49	10.17	10.39	10.06	---	---	9.53	10.22	10.96	10.92	11.40	11.83
31	10.47	---	10.37	10.05	---	---	---	10.30	---	10.89	11.41	---
TOTAL	---	---	319.32	316.55	277.75	---	---	299.54	319.46	---	---	349.14
MEAN	---	---	10.30	10.21	9.92	---	---	9.66	10.65	---	---	11.64
MAX	---	---	10.42	10.36	10.05	---	---	10.30	10.96	---	---	11.83
MIN	---	---	10.09	10.05	9.83	---	---	9.51	10.34	---	---	11.44

261150080270001 NORTH NEW RIVER CANAL AT S-11-A, NEAR ANDYTOWN, FL

LOCATION.--Lat 26°10'40", long 80°26'53", in SE ¼ sec.16, T.49 S., R.39 E., Broward County, Hydrologic Unit 03090202, on North New River Canal on the east bank of the spillway, 100 ft northeast of S-11-A, a four-gated control structure, 2.2 mi north of State Road 84 on U.S. Highway 27. The auxiliary stage recorder is located approximately 30 yards upstream of S-11-A on the west bank of the spillway.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--May 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoders upstream and downstream of structure S-11-A and tipping bucket rain gage. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Station is one of several located on Levee 38W which regulates flow for Conservation Areas 2A and 3A. Gage records are primarily used to determine stage. Rainfall data available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003.

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 15.12 ft Dec. 21, 1994; minimum, 9.64 ft May 22, 23, 2001.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 13.80 ft Dec. 5, 1994; minimum, 7.53 ft May 14, 2002.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 13.48 ft Sept. 6, 30; minimum, 10.47 ft Apr. 21.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 11.98 ft Sept. 30; minimum, 9.04 ft Apr. 16.

UPSTREAM
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	13.02	12.51	12.16	10.79	10.90	11.17	11.68	11.47	11.36	12.63	12.14	13.15
2	13.02	12.48	12.14	10.78	10.90	11.09	11.65	11.52	11.33	12.56	12.16	13.19
3	13.00	12.45	12.12	10.79	10.90	11.02	11.61	11.57	11.61	12.55	12.18	13.25
4	12.97	12.43	12.09	10.77	10.90	10.98	11.57	11.52	12.10	12.59	12.19	13.33
5	12.95	12.39	12.07	10.73	10.92	10.88	11.52	11.46	12.33	12.57	12.20	13.37
6	12.92	12.36	12.06	10.68	10.93	10.79	11.47	11.41	12.52	12.56	12.23	13.45
7	12.89	12.36	12.03	10.62	10.93	10.78	11.42	11.36	12.65	12.52	12.25	13.46
8	12.84	12.32	12.01	10.55	10.93	10.81	11.37	11.32	12.76	12.47	---	13.45
9	12.81	12.29	12.03	10.53	10.91	10.80	11.33	11.26	---	12.41	---	13.41
10	12.77	12.26	12.17	10.59	10.89	10.82	11.34	11.17	---	12.34	---	13.38
11	12.73	12.24	12.21	10.62	10.89	10.84	11.24	11.08	---	12.28	---	13.35
12	12.69	12.21	12.15	10.62	10.89	10.83	11.16	11.04	13.21	12.20	12.72	13.31
13	12.65	12.21	12.12	10.60	10.88	10.82	11.07	10.97	13.23	12.11	---	13.30
14	12.62	---	12.12	10.67	10.87	10.85	10.97	11.08	13.21	12.05	12.91	13.27
15	12.59	12.17	12.08	10.70	10.83	10.91	10.87	11.09	13.19	12.04	12.95	13.24
16	12.65	12.20	12.04	10.69	10.79	10.95	10.76	11.13	13.18	12.04	12.90	13.20
17	12.68	12.34	11.99	10.69	10.80	11.10	10.73	11.13	13.16	12.11	12.90	13.19
18	12.66	12.41	11.93	10.70	10.77	11.26	10.68	11.11	13.14	12.11	12.96	13.22
19	12.64	12.41	11.82	10.70	10.80	11.30	10.62	11.09	13.09	12.10	13.02	13.21
20	12.62	12.41	11.65	10.71	10.95	11.31	10.55	11.09	13.02	12.06	13.08	13.19
21	12.61	12.46	11.55	10.72	11.03	11.35	10.53	11.09	12.98	12.03	13.16	13.17
22	12.60	12.47	11.46	10.73	11.08	11.43	10.67	11.24	12.98	12.02	13.19	13.13
23	12.59	---	11.38	10.76	11.20	11.50	10.73	11.48	12.99	12.07	13.14	13.10
24	12.57	12.38	11.30	10.79	11.27	11.55	10.73	11.57	13.01	12.04	13.14	13.07
25	12.57	12.35	11.24	10.79	11.32	11.55	10.71	11.65	13.01	12.04	13.18	13.07
26	---	12.32	11.15	10.81	11.37	11.50	10.87	11.71	13.01	12.03	13.19	13.08
27	12.56	12.29	11.06	10.82	11.35	11.50	11.05	11.84	12.96	12.00	13.20	13.13
28	12.55	12.26	10.96	10.84	11.26	11.60	11.10	12.12	12.85	12.02	13.17	13.22
29	12.54	---	10.85	10.87	---	11.63	11.24	11.95	12.78	12.10	13.18	13.41
30	12.52	12.19	10.79	10.88	---	---	11.36	11.75	12.71	12.08	13.16	13.47
31	12.52	---	10.82	10.89	---	---	---	11.44	---	12.11	13.15	---
TOTAL	---	---	363.55	332.43	307.46	---	332.60	352.71	---	378.84	---	397.77
MEAN	---	---	11.73	10.72	10.98	---	11.09	11.38	---	12.22	---	13.26
MAX	---	---	12.21	10.89	11.37	---	11.68	12.12	---	12.63	---	13.47
MIN	---	---	10.79	10.53	10.77	---	10.53	10.97	---	12.00	---	13.07

EVERGLADES AND SOUTHEASTERN COASTAL AREA

261150080270001 NORTH NEW RIVER CANAL AT S-11-A, NEAR ANDYTOWN, FL

DOWNSTREAM
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	11.06	10.47	10.18	10.41	10.07	9.93	9.55	9.59	10.74	11.14	10.91	11.62
2	11.04	10.44	10.18	10.39	10.06	9.91	9.52	9.56	10.74	11.13	10.94	11.69
3	11.02	10.41	10.15	10.41	10.05	9.85	9.49	9.54	10.68	11.11	10.94	11.70
4	11.00	10.40	10.15	10.40	10.04	9.83	9.47	9.54	10.54	11.08	10.93	11.70
5	10.98	10.38	10.14	10.37	10.04	9.80	9.44	9.52	10.60	11.09	10.93	11.74
6	10.95	10.38	10.14	10.36	10.03	9.76	9.41	9.51	10.61	11.09	10.94	11.85
7	10.93	10.36	10.11	10.32	10.02	9.71	9.38	9.48	10.60	11.08	10.95	11.88
8	10.91	10.34	10.09	10.31	10.00	9.66	9.35	9.44	10.61	11.06	10.94	11.87
9	10.89	10.30	10.20	10.31	9.99	9.63	9.37	9.41	10.66	---	10.99	11.86
10	10.87	10.27	10.39	10.30	9.98	9.60	9.33	9.38	---	---	11.06	11.84
11	10.86	10.25	10.41	10.27	9.96	9.58	9.31	9.35	---	11.00	11.07	11.83
12	10.85	10.23	10.45	10.25	9.94	9.55	9.25	9.31	10.72	10.98	11.08	11.81
13	10.81	10.23	10.48	10.24	9.92	9.53	9.20	9.30	10.70	10.96	---	11.82
14	10.80	---	10.50	10.28	9.92	9.54	9.15	9.40	10.68	10.96	---	11.81
15	10.81	10.21	10.47	10.26	9.87	9.51	9.10	9.41	10.67	10.98	11.10	11.81
16	10.85	10.22	10.47	10.24	9.85	9.51	9.09	9.37	10.65	10.96	11.11	11.80
17	10.81	10.37	10.46	10.25	9.86	9.69	9.15	9.33	10.65	10.92	11.13	11.77
18	10.78	10.35	10.45	10.23	9.85	9.72	9.22	9.30	10.65	10.91	11.18	11.75
19	10.76	10.33	10.47	10.21	9.79	9.72	9.25	9.29	10.70	10.91	11.22	11.73
20	10.73	10.32	10.52	10.19	9.87	9.68	9.24	9.27	10.76	10.91	11.27	11.71
21	10.72	10.34	10.54	10.19	10.0	9.72	9.22	9.23	10.79	10.89	11.33	11.68
22	10.68	10.34	10.53	10.18	10.0	9.70	9.22	9.33	10.84	10.89	11.41	11.66
23	10.65	---	10.53	10.17	10.0	9.68	9.20	9.51	10.90	10.92	11.49	11.65
24	10.62	10.27	10.54	10.16	9.95	---	9.17	9.59	10.94	10.90	11.50	11.64
25	10.62	10.27	10.55	10.14	9.93	---	9.22	9.68	10.95	10.87	11.51	11.63
26	---	10.27	10.52	10.12	9.94	---	9.26	9.73	10.97	10.86	11.52	11.65
27	10.57	10.26	10.51	10.11	9.93	9.60	9.36	9.80	11.07	10.85	11.54	11.69
28	10.55	10.24	10.49	10.12	9.95	9.69	9.36	10.20	11.13	10.85	11.56	11.76
29	10.53	---	10.47	10.10	---	9.64	9.50	10.47	11.14	10.89	11.58	11.89
30	10.51	10.20	10.43	10.08	---	---	9.52	10.61	11.14	10.90	11.59	11.98
31	10.48	---	10.42	10.08	---	---	---	10.72	---	10.89	11.59	---
TOTAL	---	---	321.94	317.45	278.81	---	279.30	297.17	---	---	---	352.82
MEAN	---	---	10.39	10.24	9.96	---	9.31	9.59	---	---	---	11.76
MAX	---	---	10.55	10.41	10.07	---	9.55	10.72	---	---	---	11.98
MIN	---	---	10.09	10.08	9.79	---	9.09	9.23	---	---	---	11.62

EVERGLADES AND SOUTHEASTERN COASTAL AREA

261023080443001 SITE 62 IN CONSERVATION AREA 3A, NEAR ANDYTOWN, FL

LOCATION.--Lat 26°10'28", long 80°45'05", T.36 S., R.49 E., Broward County, Hydrologic Unit 03090202, 20.5 mi west of intersection of U.S. Interstate 75 and U.S. Highway 27 and 1.5 mi north of U.S. Interstate 75. No section could be determined from existing map.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--August 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and tipping bucket rain gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 9.90 ft above National Geodetic Vertical Datum of 1929. Gage is capable of recording water levels below land-surface datum. Rainfall data available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 13.68 ft Oct. 21, 1999; minimum, 8.06 ft June 3, 1992.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 12.58 ft Sept. 12; minimum, 10.56 ft Mar. 14, 15.

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	11.67	11.20	10.91	11.11	10.92	10.72	10.85	10.94	11.12	11.76	11.63	12.20
2	11.65	11.18	10.90	11.10	10.91	10.71	10.83	10.93	11.13	11.73	11.65	12.23
3	11.64	11.15	10.88	11.15	10.89	10.71	10.81	10.90	11.20	11.73	11.66	12.23
4	11.62	11.12	10.89	11.15	10.89	10.72	10.79	10.87	11.26	11.71	11.65	12.26
5	11.60	11.09	10.88	11.13	10.89	10.70	10.83	10.84	11.27	11.72	11.66	12.31
6	11.56	11.07	10.87	11.11	10.88	10.68	10.93	10.82	11.29	11.74	11.72	12.36
7	11.54	11.07	10.88	11.12	10.86	10.67	10.88	10.79	11.33	11.72	11.72	12.35
8	11.53	11.05	10.86	11.10	10.85	10.65	10.86	10.76	11.33	11.72	11.75	12.33
9	11.51	11.04	10.99	11.09	10.83	10.62	10.85	---	11.35	11.70	11.77	12.31
10	11.48	11.01	11.14	11.09	10.82	10.61	10.83	10.71	11.38	11.68	11.80	12.28
11	11.47	10.99	11.13	11.09	10.80	10.60	10.81	10.69	11.38	11.65	11.80	12.25
12	11.45	10.97	11.14	11.07	10.78	10.59	10.80	10.66	11.38	11.63	11.80	12.27
13	11.44	10.96	11.15	11.06	10.77	10.57	10.79	10.64	11.38	11.60	11.82	12.48
14	11.45	---	11.15	11.07	10.75	10.57	10.77	10.63	11.42	---	11.86	12.40
15	11.45	---	11.13	11.08	10.74	10.57	10.74	10.63	11.43	11.58	11.88	12.40
16	11.48	10.95	11.13	11.06	10.73	10.61	10.72	10.63	11.41	11.62	11.90	12.39
17	11.46	11.07	11.15	11.05	10.75	10.76	10.71	10.61	11.40	11.65	11.92	12.39
18	11.44	11.05	11.17	11.05	10.74	10.84	10.70	10.60	11.40	11.66	11.97	12.39
19	11.43	11.05	11.18	11.05	10.73	10.87	10.70	10.62	11.47	11.66	12.00	12.37
20	11.41	11.03	11.17	11.03	10.73	10.85	10.68	10.68	11.52	11.64	12.02	12.36
21	11.39	11.03	11.17	11.01	10.73	10.87	10.67	10.67	11.52	11.62	12.06	12.33
22	11.37	11.02	11.15	11.01	10.73	10.86	10.65	10.66	11.57	11.60	12.09	12.31
23	11.34	---	11.16	11.00	10.75	10.88	10.63	10.70	11.62	11.62	12.11	12.28
24	11.31	10.99	11.15	11.00	10.75	10.93	10.61	10.72	11.66	11.64	12.12	---
25	11.31	10.98	11.16	10.99	10.73	10.90	10.59	10.71	11.68	11.61	12.14	---
26	---	10.98	11.14	10.98	10.73	10.89	10.67	10.69	11.72	11.59	12.17	---
27	11.27	10.97	11.13	10.97	10.72	10.88	10.73	10.71	11.81	11.58	12.18	---
28	11.25	10.97	11.13	10.95	10.71	10.89	10.72	10.92	11.83	11.58	12.18	12.26
29	11.24	---	11.11	10.95	---	10.91	10.70	11.08	11.80	11.57	12.18	12.37
30	11.22	10.92	11.10	10.95	---	10.88	10.72	11.12	11.78	11.60	12.19	12.47
31	11.21	---	11.09	10.94	---	10.87	---	11.14	---	11.63	12.18	---
TOTAL	---	---	343.19	342.51	302.11	333.38	322.57	---	343.84	---	369.58	---
MEAN	---	---	11.07	11.05	10.79	10.75	10.75	---	11.46	---	11.92	---
MAX	---	---	11.18	11.15	10.92	10.93	10.93	---	11.83	---	12.19	---
MIN	---	---	10.86	10.94	10.71	10.57	10.59	---	11.12	---	11.63	---

EVERGLADES AND SOUTHEASTERN COASTAL AREA

260810080222001 SITE 99 NEAR L-35A IN CONSERVATION AREA 2B, NEAR SUNRISE, FL

LOCATION.--Lat 26°08'21", long 80°22'02", in sec.32, T.49 S., R.40 E., Broward County, Hydrologic Unit 03090202, located in Conservation Area 2B, north of North New River Canal, West of Markham Park.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--July 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 6.20 ft above National Geodetic Vertical Datum of 1929. Rainfall data collection discontinued April 4, 1996. Rainfall data available in files of the U.S. Geological Survey. Prior to July 1991, station operated by the U.S. Army Corps of Engineers.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 11.92 ft Dec. 23, 1994; minimum, 4.12 ft May 26, 1992.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 11.35 ft Sept. 29, 30; minimum, 9.03 ft Apr. 26.

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	10.63	10.50	10.30	10.51	9.93	9.83	9.55	9.24	10.10	10.50	10.85	11.04
2	10.66	10.48	10.31	10.50	9.91	9.82	9.54	9.25	10.07	10.51	10.86	11.10
3	10.67	10.46	10.32	10.51	9.88	9.81	9.53	9.32	10.09	10.54	10.91	11.10
4	10.68	10.44	10.33	10.50	9.86	9.80	9.52	9.33	10.12	10.55	10.90	11.11
5	10.70	10.41	10.35	10.48	9.85	9.77	9.50	9.33	10.12	10.56	10.91	11.13
6	10.71	10.39	10.37	10.46	9.83	9.75	9.49	9.33	10.11	10.58	10.91	11.21
7	10.73	10.37	10.37	10.44	9.81	9.74	---	9.33	10.10	10.59	10.91	11.23
8	10.73	10.34	10.37	10.41	9.79	9.72	9.46	9.32	10.08	10.59	10.90	11.22
9	10.74	10.32	10.42	10.38	9.77	9.69	9.45	9.31	10.07	10.60	10.94	11.21
10	10.74	10.29	10.53	10.36	9.75	9.68	9.43	9.30	10.11	10.60	11.13	11.20
11	10.76	10.27	10.55	10.34	9.73	9.66	9.41	9.29	10.11	10.60	11.14	11.20
12	10.77	10.26	10.57	10.32	9.71	9.64	9.38	9.27	10.09	10.60	11.12	11.17
13	10.78	10.24	10.58	10.30	9.69	9.62	9.36	9.26	10.07	10.60	11.09	11.15
14	10.78	---	10.61	10.31	9.67	9.64	9.34	9.31	10.08	10.64	11.12	11.14
15	10.79	---	10.61	10.30	9.65	9.64	9.32	9.31	10.09	10.67	11.13	11.12
16	10.84	10.20	10.61	10.27	9.64	9.63	9.29	9.31	10.12	10.70	11.11	11.09
17	10.82	10.34	10.61	10.25	9.65	9.69	9.27	9.30	10.14	10.73	11.09	11.07
18	10.79	10.34	10.61	10.23	9.64	9.70	9.25	9.30	10.17	10.73	11.07	11.05
19	10.77	10.31	10.62	10.21	9.62	9.69	9.23	9.30	10.22	10.74	11.10	11.03
20	10.74	10.29	10.62	10.18	9.80	9.69	9.21	9.27	10.25	10.74	11.14	11.01
21	10.72	10.29	10.62	10.16	9.84	9.69	9.18	9.24	10.27	10.74	11.17	10.98
22	10.70	10.28	10.62	10.14	9.81	9.68	9.16	9.44	10.30	10.75	11.17	10.96
23	10.68	---	10.62	10.12	9.82	9.66	9.13	9.65	10.35	10.77	11.16	10.95
24	10.68	10.27	10.61	10.11	9.81	9.66	9.09	9.72	10.37	10.77	11.14	10.93
25	10.67	10.26	10.63	10.08	9.82	9.64	9.06	9.78	10.37	10.77	11.12	10.94
26	---	10.27	10.62	10.06	9.86	9.62	9.10	9.79	10.42	10.77	11.10	10.98
27	10.62	10.29	10.61	10.04	9.85	9.61	9.15	9.86	10.47	10.77	11.08	10.99
28	10.59	10.29	10.60	10.02	9.85	9.62	9.20	10.10	10.47	10.78	11.06	11.09
29	10.57	---	10.58	10.0	---	---	9.22	10.13	10.49	10.84	11.06	11.29
30	10.55	10.30	10.56	9.98	---	---	9.22	10.14	10.49	10.86	11.05	11.35
31	10.53	---	10.53	9.96	---	---	---	10.12	---	10.86	11.03	---
TOTAL	---	---	326.26	317.93	273.84	---	---	293.95	306.31	331.05	342.47	333.04
MEAN	---	---	10.52	10.26	9.78	---	---	9.48	10.21	10.68	11.05	11.10
MAX	---	---	10.63	10.51	9.93	---	---	10.14	10.49	10.86	11.17	11.35
MIN	---	---	10.30	9.96	9.62	---	---	9.24	10.07	10.50	10.85	10.93

02286100 SOUTH NEW RIVER CANAL AT S-13, NEAR DAVIE, FL

LOCATION.--Lat 26°03'57", long 80°12'32", in SW ¼ sec.25, T.50 S., R.41 E., Broward County, Hydrologic Unit 03090202, 18 ft from north bank, 150 ft upstream from pump station S-13, 300 ft west of U.S. Highway 441, and 1.5 mi east of Davie.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--March 1957 to current year.

REVISED RECORDS.--WDR FL-87-2A, 1962-86 (maximum daily reverse flow); WDR FL-95-2A, 1994; WDR FL-99-2A, 1996-98.

GAGE.--Electronic data logger for upstream with water-stage shaft encoder for downstream. Prior to July 20, 1999, water-stage recorders. Prior to October 25, 2001, electronic data logger for gate recorder. Datum of gage is National Geodetic vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Flow is affected by tide and is occasionally reversed. Negative figures indicate reverse flow. Flow is regulated by pumpage and operation of gate at S-13. Flow is affected by regulation of control-structure 13A, 5 mi upstream, and by upstream withdrawals from the canal during the growing season and pumpage into the canal during high water. Discharge is computed from relation between head and gate-opening at S-13. The discharge published represents gate discharge computed by U.S. Geological Survey combined with pump discharge computed by South Florida Water Management District unless otherwise noted. The South Florida Water Management District determined that the previous rating used to compute pump discharge needed revision. The pump rating was revised during 1999. They revised their pump discharge for the water years 1995 through 1999. Prior to 1995 the accuracy of the pump discharge combined with our gate discharge can not be determined. Downstream stage is basically tidal, but at times is affected by gate operation and pumping at S-13. The downstream stage record published is the maximum and minimum elevation for each calendar day. Prior to October 1, 2001, the downstream stage record published is the maximum and minimum tide event for each calendar day. Prior to 1998 tidal stages were published under station number 02286101. Prior to September 30, 1984, deflection vane and prior to September 30, 1985, electromagnetic velocity meter at same site. During the 2003 water year auxiliary gage data from South Florida Water Management was used all year.

COOPERATION.--Gate-opening and pump records provided by South Florida Water Management District.

ANNUAL MEAN AND ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 36 complete water years of discharge (1958-86, 1988, 1990, 1999-2003).

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 5.04 ft Oct. 15, 1999; minimum, -0.79 ft July 14, 1961.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 2.80 ft May 28; minimum, -0.03 ft May 1, 2003.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 4.33 ft Oct. 15, 1999; minimum, -1.97 ft Apr. 28, 1963.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 3.01 ft May 27; minimum -0.95 ft Feb. 14.

UPSTREAM
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	1.60	1.68	1.64	1.59	1.65	1.59	1.56	0.45	1.59	1.61	1.62	1.65
2	1.61	1.60	1.64	1.63	1.67	1.62	1.61	1.57	1.60	1.56	1.67	1.64
3	1.67	1.66	1.63	1.62	1.67	1.64	1.59	1.66	1.54	1.57	1.68	1.63
4	1.67	1.68	1.62	1.64	1.61	1.67	1.61	1.63	1.61	1.59	1.67	1.63
5	1.62	1.65	1.58	1.66	1.60	1.65	1.60	1.61	1.56	1.60	1.65	1.68
6	1.68	1.66	1.64	1.64	1.67	1.66	1.58	1.58	1.60	1.56	1.62	1.65
7	1.65	1.62	1.65	1.65	1.56	1.60	1.56	1.57	1.59	1.59	1.61	1.66
8	1.66	1.72	1.63	1.62	1.47	1.60	1.53	1.55	1.57	1.63	1.58	1.63
9	1.65	1.68	1.61	1.67	1.53	1.57	1.62	1.55	1.56	1.63	1.62	1.65
10	1.65	1.67	1.71	1.61	1.55	1.54	1.62	1.53	1.60	1.62	1.58	1.67
11	1.64	1.64	1.65	1.62	1.50	1.54	1.64	1.57	1.58	1.62	1.58	1.67
12	1.62	1.65	1.60	1.62	1.51	1.50	1.61	1.61	1.56	1.62	1.65	1.68
13	1.61	1.61	1.59	1.63	1.55	1.49	1.64	1.63	1.59	1.64	1.32	1.69
14	1.63	1.70	1.57	1.64	1.56	1.60	1.62	1.63	1.59	1.63	0.52	1.69
15	1.67	1.60	1.57	1.62	1.58	1.60	1.65	1.61	1.61	1.61	1.35	1.68
16	1.67	1.75	1.56	1.65	1.52	1.57	1.64	1.60	1.60	1.63	1.28	1.69
17	1.65	1.64	1.62	1.61	1.60	1.68	1.65	1.57	1.61	1.62	1.21	1.80
18	1.66	1.60	1.56	1.62	1.59	1.63	1.65	1.59	1.61	1.60	1.23	1.78
19	1.67	1.59	1.62	1.65	1.55	1.62	1.62	1.59	1.43	1.59	1.23	1.80
20	1.65	1.56	1.62	1.65	1.58	1.62	1.61	1.72	1.35	1.57	1.27	1.83
21	1.63	1.61	1.63	1.66	1.71	1.59	1.61	1.84	1.28	1.56	1.48	1.79
22	1.67	1.62	1.58	1.61	1.59	1.61	1.61	1.65	1.21	1.61	1.36	1.72
23	1.61	1.65	1.62	1.64	1.72	1.63	1.61	1.72	1.27	1.60	1.32	1.71
24	1.65	1.66	1.62	1.63	1.58	1.62	1.60	1.65	1.24	1.57	1.30	1.71
25	1.67	1.66	1.63	1.66	1.54	1.60	1.57	1.61	1.36	1.58	1.32	1.73
26	1.67	1.66	1.66	1.68	1.52	1.63	1.67	1.60	1.61	1.57	1.32	1.73
27	1.66	1.63	1.63	1.60	1.63	1.60	1.67	1.78	1.62	1.58	1.60	1.71
28	1.67	1.64	1.66	1.69	1.58	1.63	1.67	2.08	1.62	1.60	1.59	1.68
29	1.66	1.67	1.65	1.69	---	1.60	1.65	1.19	1.61	1.60	1.64	1.73
30	1.58	1.63	1.66	1.70	---	1.58	1.18	1.15	1.60	1.63	1.63	1.77
31	1.69	---	1.63	1.59	---	1.59	---	1.60	---	1.62	1.64	---
TOTAL	51.09	49.39	50.28	50.79	44.39	49.67	48.05	48.69	45.77	49.61	45.14	51.08
MEAN	1.65	1.65	1.62	1.64	1.59	1.60	1.60	1.57	1.53	1.60	1.46	1.70
MAX	1.69	1.75	1.71	1.70	1.72	1.68	1.67	2.08	1.62	1.64	1.68	1.83
MIN	1.58	1.56	1.56	1.59	1.47	1.49	1.18	0.45	1.21	1.56	0.52	1.63

02286100 SOUTH NEW RIVER CANAL AT S-13, NEAR DAVIE, FL

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	77	102	30	64	34	222	210	110	237	92	114	163
2	82	59	12	48	0.00	220	192	100	235	165	121	200
3	54	46	37	73	62	202	204	222	246	149	137	181
4	50	32	85	61	211	238	204	234	196	103	154	161
5	76	45	92	50	114	231	204	239	222	101	224	149
6	44	46	58	58	131	226	191	251	196	104	231	212
7	45	41	50	44	270	224	199	220	185	94	252	185
8	45	30	50	67	235	216	203	226	230	82	227	189
9	42	13	125	38	250	234	83	223	229	62	237	145
10	43	50	174	66	235	224	117	219	257	57	290	137
11	43	0.00	156	44	265	244	114	198	230	52	254	124
12	45	39	169	48	223	225	90	177	176	62	230	117
13	47	49	140	52	216	252	84	205	160	54	318	119
14	45	45	119	61	219	161	91	210	160	60	197	123
15	41	4.1	109	50	216	179	65	216	174	82	176	117
16	54	56	109	53	224	217	83	195	162	70	176	150
17	57	161	86	38	195	152	78	223	142	79	164	189
18	39	121	106	44	203	78	77	213	117	107	147	220
19	36	97	80	32	248	98	78	211	228	110	144	130
20	44	112	75	42	235	173	76	115	255	115	188	186
21	47	84	65	0.00	12	127	78	190	225	139	223	175
22	3.1	76	99	41	43	44	86	183	218	133	242	147
23	45	61	48	33	0.00	62	79	230	208	118	144	164
24	34	61	51	32	142	140	60	277	202	144	148	157
25	50	60	81	43	220	226	86	249	146	122	126	177
26	25	56	56	0.00	225	212	108	238	121	137	130	152
27	52	57	68	38	228	136	91	288	120	122	96	139
28	8.1	49	25	0.00	240	105	129	599	112	115	102	230
29	40	37	84	20	---	204	115	521	109	126	148	215
30	57	50	34	32	---	209	275	319	110	108	134	254
31	0.00	---	42	14	---	205	---	277	---	130	131	---
TOTAL	1,370.20	1,739.10	2,515	1,286.00	4,896.00	5,686	3,750	7,378	5,608	3,194	5,605	5,007
MEAN	44.2	58.0	81.1	41.5	175	183	125	238	187	103	181	167
MAX	82	161	174	73	270	252	275	599	257	165	318	254
MIN	0.00	0.00	12	0.00	0.00	44	60	100	109	52	96	117
AC-FT	2,720	3,450	4,990	2,550	9,710	11,280	7,440	14,630	11,120	6,340	11,120	9,930

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2003, BY WATER YEAR (WY)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003											
MEAN	188	157	139	147	135	127	99.2	121	200	187	178	195	394	459	472	465	328	419	371	339	404	371	443	510	188	157	139	147	135	127	99.2	121	200	187	178	195	394	459	472	465	328	419	371	339	404	371	443	510										
MAX (WY)	(1965)	(1970)	(1961)	(1961)	(1983)	(1970)	(1957)	(1969)	(1984)	(1958)	(1966)	(1960)	(1965)	(1970)	(1961)	(1961)	(1962)	(1963)	(1964)	(1965)	(1966)	(1967)	(1968)	(1969)	(1970)	(1971)	(1972)	(1973)	(1974)	(1975)	(1976)	(1977)	(1978)	(1979)	(1980)	(1981)	(1982)	(1983)	(1984)	(1985)	(1986)	(1987)	(1988)	(1989)	(1990)	(1991)	(1992)	(1993)	(1994)	(1995)	(1996)	(1997)	(1998)	(1999)	(2000)	(2001)	(2002)	(2003)
MIN (WY)	43.2	9.49	5.25	4.10	0.000	2.35	0.000	0.000	47.5	36.0	26.5	62.2	43.2	9.49	5.25	4.10	0.000	2.35	0.000	0.000	47.5	36.0	26.5	62.2	43.2	9.49	5.25	4.10	0.000	2.35	0.000	0.000	47.5	36.0	26.5	62.2	43.2	9.49	5.25	4.10	0.000	2.35	0.000	0.000	47.5	36.0	26.5	62.2										

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1957 - 2003

ANNUAL TOTAL	31,333.50	48,034.30	
ANNUAL MEAN	85.8	132	161
HIGHEST ANNUAL MEAN			320
LOWEST ANNUAL MEAN			51.9
HIGHEST DAILY MEAN	573	Jun 24	599
LOWEST DAILY MEAN	0.00	Jan 18	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Apr 5	20
ANNUAL RUNOFF (AC-FT)	62,150		95,280
10 PERCENT EXCEEDS	210		232
50 PERCENT EXCEEDS	65		120
90 PERCENT EXCEEDS	0.00		41
			116,900
			342
			133
			0.00

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript

EVERGLADES AND SOUTHEASTERN COASTAL AREA

260037080303401 SITE 76 IN CONSERVATION AREA 3B NEAR ANDYTOWN, FL

LOCATION.--Lat 26°00'27", long 80°28'58", in NW ¼ sec.18, T.39 S., R.51 E., Broward County, Hydrologic Unit 03090202, in Conservation Area 3B approximately 0.7 mi southeast of Levee 67C, 3 mi southwest of intersection of Levee 67C and Levee 67A.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--July 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and tipping bucket rain gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 6.80 ft above National Geodetic Vertical Datum of 1929. Rainfall data is available in files of the U.S. Geological Survey. Revised figures of stage required because an erroneous M.P. elevation was initially used for the 1995-98 water years. These will not be republished and supersede those published in the reports for 1995-98. The revised data are available in the files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 9.60 ft Oct. 15, 1999; minimum, 5.39 ft May 22, 23 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 8.76 ft Sept. 29, 30; minimum, 7.38 ft Apr. 15, 16.

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	8.21	7.83	7.70	7.68	7.54	7.50	7.52	7.51	7.77	7.86	7.85	8.24
2	8.19	7.82	7.69	7.68	7.53	7.49	7.51	7.49	7.75	7.86	7.91	8.23
3	8.16	7.80	7.68	7.69	7.53	7.49	7.51	7.49	7.74	7.85	7.96	8.23
4	8.13	7.80	7.67	7.68	7.53	7.48	7.49	7.48	7.74	7.85	7.97	8.27
5	8.10	7.79	7.67	7.67	7.52	7.48	7.49	7.48	7.77	7.86	7.98	8.39
6	8.08	7.78	7.66	7.67	7.52	7.47	7.48	7.47	7.80	7.85	7.97	8.43
7	8.06	7.77	7.65	7.66	7.52	7.46	7.47	7.46	7.79	7.85	7.96	8.46
8	8.03	7.75	7.65	7.65	7.52	7.45	7.47	7.44	7.79	7.84	8.00	8.46
9	8.01	7.74	7.77	7.64	7.51	7.45	7.45	7.43	7.85	7.83	8.08	8.45
10	7.99	7.73	7.89	7.63	7.50	7.44	7.45	7.42	7.93	7.82	8.17	8.44
11	8.00	7.72	7.88	7.63	7.49	7.44	7.43	7.41	7.92	7.81	8.16	8.43
12	8.03	7.71	7.88	7.62	7.49	7.44	7.43	---	7.92	7.80	8.16	8.46
13	8.01	7.71	7.89	7.61	7.49	7.44	7.42	7.41	7.90	7.79	8.14	8.50
14	8.03	---	7.89	7.63	7.48	7.44	7.42	7.46	7.88	7.78	8.16	8.48
15	8.01	---	7.87	7.63	7.47	7.43	7.39	7.46	7.87	7.78	8.16	8.47
16	8.07	7.71	7.85	7.62	7.47	7.47	7.41	7.44	7.87	7.78	8.14	8.45
17	8.05	7.84	7.83	7.61	7.47	7.55	7.50	7.44	7.87	7.78	8.12	8.43
18	8.03	7.83	7.82	7.61	7.47	7.53	7.48	7.46	7.86	7.78	8.11	8.43
19	8.01	7.81	7.81	7.60	7.47	7.52	7.49	7.48	7.86	7.79	8.12	8.43
20	8.00	7.81	7.80	7.60	7.53	7.51	7.48	7.47	7.87	7.80	8.22	8.42
21	7.99	7.80	7.79	7.59	7.54	7.51	7.46	7.45	7.86	7.83	8.25	8.42
22	7.97	---	7.78	7.59	7.52	7.51	7.44	7.48	7.86	7.85	8.24	8.40
23	7.96	---	7.77	7.58	7.53	7.49	7.43	7.54	7.91	7.83	8.25	8.39
24	7.94	7.77	7.76	7.58	7.52	7.49	7.42	7.55	7.95	7.83	8.28	8.37
25	7.93	7.76	7.75	7.57	7.51	7.48	7.40	7.65	7.93	7.82	8.26	8.37
26	---	7.75	7.73	7.57	7.52	7.47	7.45	7.68	7.92	7.82	8.24	8.41
27	7.91	7.74	7.72	7.57	7.51	7.53	7.47	7.69	7.91	7.83	8.24	8.45
28	7.89	7.73	7.71	7.56	7.51	7.60	7.49	7.83	7.90	7.83	8.25	8.58
29	7.88	---	7.71	7.56	---	7.56	7.50	7.83	7.89	7.84	8.26	8.69
30	7.86	7.71	7.70	7.56	---	7.54	7.50	7.82	7.88	7.85	8.25	8.75
31	7.84	---	7.69	7.55	---	7.53	---	7.79	---	7.83	8.24	---
TOTAL	---	---	240.66	236.09	210.21	232.19	223.85	---	235.76	242.52	252.10	252.93
MEAN	---	---	7.76	7.62	7.51	7.49	7.46	---	7.86	7.82	8.13	8.43
MAX	---	---	7.89	7.69	7.54	7.60	7.52	---	7.95	7.86	8.28	8.75
MIN	---	---	7.65	7.55	7.47	7.43	7.39	---	7.74	7.78	7.85	8.23

EVERGLADES AND SOUTHEASTERN COASTAL AREA

255828080401301 SITE 64 IN CONSERVATION AREA 3A NEAR COOPERTOWN, FL

LOCATION.--Lat 25°58'31", long 80°40'10", in T.37 S., R.51 E., Broward County, Hydrologic Unit 03090202, approximately 17 mi northwest of Coopertown.
No section could be determined from existing maps.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--June 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and tipping bucket rain gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 8.40 ft above National Geodetic Vertical Datum of 1929. Gage is capable of recording water levels below land-surface datum. Rainfall data is available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 12.81 ft Nov. 2, 1999; minimum, 8.23 ft May 31, 1992.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 11.74 ft Sept. 29, 30; minimum 9.45 ft Apr. 25, 26.

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	11.01	10.53	10.37	10.45	10.13	10.0	9.82	9.70	9.89	10.68	10.67	11.12
2	11.00	10.53	10.37	10.44	10.11	9.99	9.80	9.69	9.90	10.68	10.68	11.17
3	10.99	10.53	10.37	10.43	10.11	9.96	9.79	9.70	9.95	10.68	10.69	11.17
4	10.96	10.52	10.35	10.43	10.10	9.95	9.77	9.72	9.97	10.69	10.70	11.19
5	10.94	10.52	10.34	10.43	10.08	9.93	9.75	9.71	10.02	10.70	10.72	11.23
6	10.92	10.49	10.34	10.42	10.07	9.92	9.73	9.69	10.02	10.72	10.73	11.36
7	10.90	10.48	10.33	10.41	10.07	9.90	9.71	9.67	10.02	10.72	10.76	11.39
8	10.87	10.46	10.32	10.39	10.04	9.88	9.69	9.65	10.04	10.71	10.76	11.41
9	10.85	10.44	10.38	10.39	10.03	9.86	9.67	9.63	10.06	10.71	10.75	11.41
10	10.83	10.42	10.51	10.37	10.01	9.84	9.64	9.61	10.14	10.70	10.75	11.41
11	10.82	10.41	10.51	10.37	9.99	9.84	9.62	9.59	10.24	10.69	10.75	11.40
12	10.83	10.39	10.51	10.36	9.97	9.84	9.59	9.56	10.24	10.68	10.74	11.39
13	10.82	10.39	10.52	10.35	9.95	9.81	9.57	9.58	10.25	10.67	10.74	11.39
14	10.81	---	10.53	10.35	9.93	9.80	9.54	9.75	10.25	10.66	10.78	11.40
15	10.80	---	10.52	10.34	9.92	9.78	9.52	9.74	10.25	---	10.80	11.41
16	10.81	10.38	10.52	10.33	9.91	9.85	9.51	9.71	10.26	---	10.80	11.41
17	10.81	10.44	10.51	10.32	9.91	10.07	9.49	9.68	10.26	---	10.80	11.41
18	10.80	10.45	10.51	10.29	9.91	10.05	9.47	9.65	10.26	---	10.85	11.41
19	10.77	10.45	10.51	10.29	9.91	10.0	9.49	9.63	10.27	---	10.91	11.41
20	10.75	10.44	10.51	10.28	9.90	9.97	9.51	9.60	10.29	---	10.91	11.41
21	10.74	10.44	10.50	10.26	9.92	9.97	9.51	9.58	10.29	---	10.96	11.41
22	10.72	---	10.49	10.25	9.94	9.96	9.51	9.56	10.33	---	10.99	11.40
23	10.70	---	10.49	10.23	9.96	9.95	9.50	9.57	10.42	---	11.01	11.40
24	10.68	10.44	10.49	10.20	9.96	9.95	9.48	9.61	10.52	---	11.03	11.40
25	10.66	10.43	10.49	10.19	9.97	9.92	9.46	9.62	10.54	10.69	11.09	11.41
26	---	10.43	10.48	10.18	10.02	9.89	9.50	9.62	10.57	10.68	11.09	11.48
27	10.62	10.42	10.47	10.17	10.01	9.88	9.54	9.64	10.67	10.69	11.09	11.48
28	10.61	10.41	10.46	10.16	10.01	9.89	9.59	9.75	10.70	10.69	11.10	11.50
29	10.58	---	10.45	10.15	---	9.89	9.69	9.85	10.70	10.69	11.11	11.63
30	10.56	10.38	10.45	10.15	---	9.88	9.68	9.89	10.69	10.69	11.11	11.74
31	10.54	---	10.45	10.14	---	9.85	---	9.89	---	10.68	11.11	---
TOTAL	---	---	324.05	319.52	279.84	307.27	288.14	299.84	308.01	---	336.98	341.75
MEAN	---	---	10.45	10.31	9.99	9.91	9.60	9.67	10.27	---	10.87	11.39
MAX	---	---	10.53	10.45	10.13	10.07	9.82	9.89	10.70	---	11.11	11.74
MIN	---	---	10.32	10.14	9.90	9.78	9.46	9.56	9.89	---	10.67	11.12

EVERGLADES AND SOUTHEASTERN COASTAL AREA

255300080370001 SITE 69 IN CONSERVATION AREA 3B NEAR COOPERTOWN, FL

LOCATION.--Lat 25°53'00", long 80°37'00", in T.52 S., R.35 E., Miami-Dade County, Hydrologic Unit 03090202. Two gages are located on the east and west sides of the Levee 67A, 11.3 mi northeast of access gate at the Tamiami Trail. No section could be determine from existing maps.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD FOR EAST GAGE.--July 1991 to current year.

PERIOD OF RECORD FOR WEST GAGE.--October 1994 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder with tipping bucket rain gage located in the east gage shelter. Shaft encoder located in the west gage shelter. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Rainfall data is available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003.

COOPERATION.--U.S. Army Corps of Engineers.

EXTREME STAGES FOR EAST GAGE FOR PERIOD OF RECORD.--Maximum gage height, 10.48 ft Oct. 15, 1999; minimum, 7.22 ft June 3, 1992.

EXTREME STAGES FOR EAST GAGE FOR CURRENT YEAR.--Maximum gage height, 9.74 ft Sept. 30; minimum, 8.35 ft Apr. 15-18, 24, 25.

EXTREME STAGES FOR WEST GAGE FOR PERIOD OF RECORD.--Maximum gage height, 12.74 ft Dec. 21, 1994; minimum, 7.42 ft Apr. 27, 1999.

EXTREME STAGES FOR WEST GAGE FOR CURRENT YEAR.--Maximum gage height, 11.51 ft Sept. 29, 30; minimum, 9.08 ft Apr. 16.

EAST
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	9.18	9.04	8.83	8.82	8.63	8.58	8.51	8.51	8.64	9.01	8.94	9.25
2	9.17	9.01	8.82	8.81	8.62	---	8.50	8.51	8.63	9.00	8.97	9.31
3	9.15	8.98	8.81	8.83	8.61	---	8.49	8.50	8.63	9.00	8.98	9.30
4	9.13	8.96	8.80	8.82	8.61	---	8.48	8.51	8.66	8.99	8.99	9.31
5	9.12	8.94	8.80	8.81	8.60	8.54	8.46	8.49	8.76	8.99	9.00	9.36
6	9.11	8.92	8.79	8.80	8.59	8.53	8.45	8.47	8.72	9.01	9.00	---
7	9.09	8.90	8.78	8.79	8.59	8.52	---	8.46	8.70	9.00	9.00	9.44
8	9.07	8.88	8.77	8.78	8.58	8.50	8.43	8.45	8.70	8.99	9.02	9.43
9	9.06	8.87	8.85	8.78	8.57	8.49	8.42	8.44	8.78	8.98	9.07	9.42
10	9.07	8.86	8.99	8.77	8.57	8.48	8.42	8.43	8.90	8.96	9.15	9.40
11	9.16	8.85	8.99	8.77	8.56	8.48	8.40	8.41	8.88	8.95	9.12	9.38
12	9.21	8.84	8.97	8.75	8.54	8.48	8.39	8.40	8.88	8.94	9.11	9.37
13	9.16	8.85	8.97	8.75	8.53	8.47	8.38	8.44	8.87	8.93	9.09	9.40
14	9.20	---	8.96	8.76	8.52	8.46	8.36	8.51	8.85	8.92	9.10	9.44
15	9.16	---	8.94	8.75	8.52	8.45	8.36	8.47	8.85	8.94	9.11	9.44
16	9.23	8.85	8.92	8.74	8.51	8.46	8.35	8.45	8.85	8.93	9.10	9.42
17	9.18	9.02	8.91	8.74	8.51	8.51	8.35	8.44	8.83	8.94	9.10	9.41
18	9.14	8.99	8.90	8.73	8.51	8.51	8.37	8.43	8.83	8.94	9.12	9.40
19	9.11	8.97	8.90	8.72	8.50	8.50	8.43	8.44	8.83	8.93	9.12	9.41
20	9.09	8.95	8.90	8.71	8.58	8.50	8.40	8.44	8.84	8.93	9.15	9.40
21	9.07	8.94	8.89	8.70	8.57	8.49	8.39	8.41	8.83	8.94	9.21	9.40
22	9.05	---	8.88	8.70	8.56	8.49	8.37	8.41	8.88	8.96	9.23	9.39
23	9.04	---	8.87	8.69	8.56	8.48	8.37	8.44	8.96	8.95	9.21	9.37
24	9.02	8.90	8.87	8.68	8.56	8.48	8.36	8.46	9.03	8.94	9.20	9.37
25	9.01	8.89	8.87	8.67	8.57	8.47	8.36	8.49	9.06	8.93	9.20	9.42
26	---	8.88	8.85	8.66	8.64	8.46	8.39	8.48	9.04	8.94	9.24	9.50
27	8.98	8.87	8.85	8.65	8.61	8.48	8.41	8.49	9.05	8.94	9.25	9.49
28	8.97	8.86	8.84	8.65	8.60	8.57	8.41	8.61	9.05	8.93	9.25	9.49
29	8.95	---	8.83	8.64	---	---	8.45	8.64	9.04	8.93	9.27	9.63
30	8.94	8.84	8.82	8.64	---	---	8.47	8.66	9.03	8.92	9.26	9.74
31	8.93	---	8.82	8.63	---	---	---	8.65	---	8.93	9.25	---
TOTAL	---	---	274.99	270.74	239.92	---	---	262.94	265.60	277.59	282.81	---
MEAN	---	---	8.87	8.73	8.57	---	---	8.48	8.85	8.95	9.12	---
MAX	---	---	8.99	8.83	8.64	---	---	8.66	9.06	9.01	9.27	---
MIN	---	---	8.77	8.63	8.50	---	---	8.40	8.63	8.92	8.94	---

EVERGLADES AND SOUTHEASTERN COASTAL AREA

255300080370001 SITE 69 IN CONSERVATION AREA 3B NEAR COOPERTOWN, FL

WEST
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	10.71	10.39	10.22	10.28	9.96	9.82	9.61	9.52	9.80	10.45	10.38	10.85
2	10.69	10.37	10.21	10.28	9.94	---	9.58	9.51	9.80	10.45	10.39	10.91
3	10.69	10.34	10.20	10.31	9.91	---	9.53	9.50	9.81	10.46	10.41	10.91
4	10.66	10.32	10.19	10.30	9.90	---	9.49	9.51	9.84	10.48	10.41	10.93
5	10.65	10.29	10.18	10.28	9.89	---	9.45	9.48	9.91	10.48	10.42	10.98
6	10.64	10.28	10.18	10.28	9.88	---	9.42	9.46	9.91	10.50	10.41	---
7	10.63	10.26	10.16	10.27	9.86	---	---	9.43	9.91	10.49	10.42	11.10
8	10.62	10.25	10.16	10.25	9.85	---	9.35	9.40	9.91	10.48	10.43	11.12
9	10.61	10.24	10.23	10.23	9.83	---	9.33	9.38	9.98	10.48	10.45	11.11
10	10.61	10.23	10.37	10.21	9.81	---	9.30	9.34	10.04	10.46	10.45	11.11
11	10.67	10.22	10.37	10.20	9.79	---	9.27	9.31	10.06	10.45	10.46	11.10
12	10.65	10.21	10.38	10.19	9.77	---	9.23	9.28	10.09	10.44	10.48	11.09
13	10.61	10.21	10.40	10.18	9.75	9.57	9.19	9.28	10.09	10.42	10.47	11.12
14	10.60	---	10.41	10.20	9.73	9.56	9.15	9.35	10.08	10.42	10.50	11.15
15	10.57	---	10.40	10.18	9.72	9.54	9.12	9.35	10.09	10.43	10.52	11.16
16	10.64	10.24	10.39	10.17	9.71	9.54	9.10	9.34	10.10	10.44	10.51	11.14
17	10.61	10.36	10.38	10.16	9.73	9.65	9.14	9.31	10.10	10.45	10.51	11.13
18	10.58	10.33	10.38	10.15	9.72	9.67	9.19	9.29	10.11	10.44	10.54	11.12
19	10.55	10.32	10.37	10.13	9.71	9.66	9.28	9.29	10.12	10.44	10.58	11.11
20	10.53	10.32	10.38	10.11	9.78	9.64	9.27	9.28	10.14	10.43	10.61	11.13
21	10.51	10.32	10.37	10.09	9.84	9.65	9.26	9.24	10.15	10.42	10.66	11.12
22	10.49	---	10.37	10.08	9.84	9.64	9.25	9.23	10.23	10.41	10.69	11.10
23	10.47	---	10.36	10.07	9.85	9.64	9.23	9.29	10.32	10.41	10.71	11.09
24	10.44	10.29	10.36	10.08	9.84	9.64	9.21	9.34	10.38	10.40	10.72	11.09
25	10.43	10.29	10.36	10.05	9.85	9.61	9.20	9.39	10.39	10.39	10.75	11.14
26	---	10.28	10.35	10.03	9.88	9.58	9.26	9.41	10.41	10.40	10.79	11.24
27	10.39	10.28	10.34	10.02	9.86	9.61	9.32	9.46	10.47	10.40	10.80	11.23
28	10.37	10.26	10.33	10.00	9.84	9.72	9.35	9.65	10.50	10.39	10.82	11.26
29	10.35	---	10.32	9.99	---	---	9.43	9.74	10.48	10.38	10.84	11.44
30	10.33	10.24	10.31	9.98	---	---	9.45	9.78	10.46	10.36	10.84	11.50
31	10.33	---	10.28	9.96	---	---	---	9.79	---	10.36	10.84	---
TOTAL	---	---	319.71	314.71	275.04	---	---	291.93	303.68	323.41	327.81	---
MEAN	---	---	10.31	10.15	9.82	---	---	9.42	10.12	10.43	10.57	---
MAX	---	---	10.41	10.31	9.96	---	---	9.79	10.50	10.50	10.84	---
MIN	---	---	10.16	9.96	9.71	---	---	9.23	9.80	10.36	10.38	---

EVERGLADES AND SOUTHEASTERN COASTAL AREA

254848080432001 SITE 65 IN CONSERVATION AREA 3A NEAR COOPERTOWN, FL

LOCATION.--Lat 25°48'52", long 80°43'12", SE ¼ T.53 S., R.36 E., Miami-Dade County, Hydrologic Unit 03090202, in the Everglades Water Conservation Area 3A, 4 mi north of Tamiami Trail (U.S. Highway 41) and 5 mi west of Levee 67A. No section could be determined from existing maps.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder with tipping bucket rain gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Rainfall data is available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003.

COOPERATION.--U.S. Army Corps of Engineers.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 12.06 ft Dec. 21, 22, 1994; minimum, 7.82 ft May 22, 23, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 11.05 ft Sept. 29, 30; minimum, 8.81 ft Apr. 26.

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	10.35	10.14	10.03	10.06	9.75	9.62	9.47	9.11	9.25	9.91	9.98	10.35
2	10.34	10.11	10.02	10.06	9.74	9.60	9.46	---	9.25	9.90	9.99	10.39
3	10.32	10.07	10.02	10.07	9.72	9.59	9.44	---	---	9.92	10.00	10.41
4	10.30	10.05	10.01	10.07	9.70	9.56	9.40	---	9.28	9.93	10.0	10.40
5	10.28	10.02	10.01	10.06	9.69	9.55	9.37	9.07	---	9.93	9.98	10.42
6	10.26	10.01	10.0	10.05	9.68	9.53	9.34	9.06	9.30	---	10.00	10.48
7	10.24	9.98	9.99	10.04	9.66	9.50	9.30	9.05	---	---	10.01	10.49
8	10.21	9.97	9.98	10.03	9.64	9.49	9.27	9.03	---	---	10.03	10.49
9	10.20	9.97	10.01	10.01	9.62	9.47	9.24	---	---	---	10.05	10.50
10	10.18	9.98	10.13	9.99	9.61	9.46	9.22	---	---	---	10.04	10.50
11	10.19	9.98	10.14	9.98	9.59	9.46	9.19	---	---	9.91	10.03	10.50
12	10.19	9.98	10.15	9.97	9.57	9.44	9.16	8.93	---	---	10.03	10.50
13	10.19	10.00	10.16	9.96	9.54	9.43	9.13	8.90	---	---	10.03	10.53
14	10.19	---	10.17	9.96	9.52	9.41	9.10	8.93	---	---	10.04	10.57
15	10.18	---	10.17	9.96	9.51	9.40	9.08	8.92	9.54	---	10.05	10.58
16	10.26	10.03	10.17	9.95	9.51	9.39	9.06	8.94	9.55	---	10.05	10.58
17	10.24	10.14	10.17	9.93	9.50	9.43	9.03	---	9.56	---	10.06	10.57
18	10.21	10.13	10.17	9.92	9.50	9.44	9.02	---	9.57	9.91	10.07	10.57
19	10.19	10.13	10.17	9.90	9.50	9.44	9.02	9.07	9.59	---	10.08	10.56
20	10.17	10.13	10.17	9.89	9.56	9.44	9.04	---	9.62	---	10.15	10.56
21	10.16	10.13	10.17	9.88	9.62	9.47	9.05	---	9.64	---	10.19	10.57
22	10.14	---	10.17	9.87	9.63	9.46	9.05	---	9.75	---	10.21	10.57
23	10.12	---	10.17	9.86	9.63	9.45	9.05	8.93	9.84	---	---	10.56
24	10.10	10.11	10.16	9.84	9.63	9.45	9.04	8.92	9.86	10.05	10.23	10.59
25	10.08	10.10	10.15	9.84	9.63	9.44	9.03	8.91	9.87	10.03	10.27	10.67
26	---	10.10	10.14	9.83	9.63	9.43	8.94	8.94	---	10.03	---	10.79
27	10.04	10.09	10.14	9.81	9.63	9.44	8.94	8.99	---	10.03	10.29	10.78
28	10.02	10.07	10.12	9.81	9.62	9.50	8.97	9.11	---	10.02	10.32	10.80
29	10.01	---	10.10	9.79	---	9.50	9.02	9.19	---	10.00	10.35	11.00
30	9.99	10.04	10.08	9.78	---	9.50	---	9.25	---	9.98	10.35	11.04
31	10.02	---	10.07	9.77	---	9.49	---	9.25	---	9.97	10.35	---
TOTAL	---	---	313.31	307.94	269.13	293.78	---	---	---	---	---	317.32
MEAN	---	---	10.11	9.93	9.61	9.48	---	---	---	---	---	10.58
MAX	---	---	10.17	10.07	9.75	9.62	---	---	---	---	---	11.04
MIN	---	---	9.98	9.77	9.50	9.39	---	---	---	---	---	10.35

EVERGLADES AND SOUTHEASTERN COASTAL AREA

255250080335001 SITE 71 IN CONSERVATION AREA 3B, NEAR COOPERTOWN, FL

LOCATION.--Lat 25°53'04", long 80°33'25", in T.52 S., R.35 E., Miami-Dade County, Hydrologic Unit 03090202, in Conservation Area 3B, 2.6 mi east of Levee 67°C and 8.3 mi southeast of intersection with Levee 30. No section could be determined from existing maps.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--July 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and tipping bucket rain gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 7.00 ft above National Geodetic Vertical Datum of 1929. Gage is capable of recording water levels below land-surface datum. Rainfall data available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 9.80 ft Oct. 15, 1999; minimum, 6.04 ft May 22, 23, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 8.84 ft Sept. 29, 30; minimum, 7.42 ft Apr. 18.

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	8.41	8.28	8.00	7.93	7.74	7.68	7.63	7.69	7.79	8.18	8.08	8.45
2	8.38	8.24	7.99	7.92	7.73	7.67	7.61	7.67	7.78	8.17	8.12	8.51
3	8.36	8.20	7.98	7.94	7.72	7.65	7.60	7.66	7.82	8.17	8.14	8.50
4	8.34	8.18	7.96	7.94	7.71	7.65	7.59	7.65	7.86	8.16	8.15	8.51
5	8.32	8.16	7.96	7.93	7.71	7.63	7.57	7.63	7.98	8.15	8.17	8.58
6	8.30	8.14	7.94	7.92	7.70	7.62	7.56	7.61	7.94	8.17	8.18	8.63
7	8.29	8.12	7.93	7.91	7.70	7.60	7.55	7.59	7.91	8.17	8.18	8.64
8	8.27	8.10	7.92	7.90	7.69	7.59	7.53	7.57	7.92	8.15	8.24	8.64
9	8.25	8.08	8.01	7.89	7.68	7.58	7.52	7.56	8.02	8.13	8.33	8.62
10	8.25	8.06	8.20	7.88	7.68	7.57	7.51	7.54	8.16	8.11	8.45	8.60
11	8.31	8.04	8.18	7.88	7.66	7.57	7.49	7.52	8.13	8.10	8.39	8.61
12	8.39	8.02	8.16	7.87	7.66	7.56	7.48	7.51	8.14	8.08	8.37	8.59
13	8.34	8.03	8.15	7.86	7.65	7.55	7.47	7.54	8.10	8.07	8.34	8.65
14	8.41	---	8.14	7.87	7.63	7.54	7.45	7.62	8.07	8.06	8.35	8.65
15	8.34	---	8.12	7.86	7.62	7.54	7.45	7.62	8.07	8.06	8.36	8.66
16	8.37	8.04	8.10	7.85	7.62	7.53	7.45	7.61	8.07	8.04	8.34	8.63
17	8.36	8.23	8.09	7.84	7.62	7.59	7.44	7.59	8.06	8.04	8.33	8.61
18	8.33	8.20	8.08	7.84	7.62	7.60	7.45	7.57	8.04	8.04	8.35	8.61
19	8.30	8.18	8.07	7.82	7.61	7.60	7.58	7.56	8.05	8.04	8.34	8.61
20	8.28	8.16	8.06	7.82	7.64	7.60	7.56	7.56	8.06	8.04	8.36	8.60
21	8.27	8.15	8.05	7.81	7.65	7.59	7.53	7.53	8.04	8.06	8.41	8.59
22	8.26	---	8.04	7.81	7.65	7.58	7.51	7.53	8.10	8.12	8.42	8.58
23	8.25	---	8.02	7.80	7.66	7.57	7.49	7.58	8.18	8.11	8.40	8.56
24	8.23	8.11	8.01	7.79	7.65	7.56	7.47	7.60	8.22	8.09	8.40	8.55
25	8.22	8.09	8.01	7.77	7.66	7.55	7.45	7.63	8.26	8.08	8.39	8.59
26	---	8.08	7.99	7.77	7.73	7.53	7.50	7.63	8.23	8.08	8.41	8.66
27	8.21	8.07	7.98	7.76	7.71	7.58	7.55	7.64	8.23	8.07	8.42	8.65
28	8.21	8.06	7.97	7.76	7.70	7.71	7.56	7.78	8.21	8.06	8.45	8.65
29	8.20	---	7.96	7.76	---	7.69	7.61	7.81	8.21	8.06	8.45	8.75
30	8.18	8.01	7.95	7.75	---	7.67	7.63	7.82	8.20	8.07	8.44	8.83
31	8.18	---	7.94	7.74	---	7.65	---	7.80	---	8.07	8.45	---
TOTAL	---	---	248.96	243.19	214.80	235.60	225.79	236.22	241.85	251.00	258.21	258.31
MEAN	---	---	8.03	7.84	7.67	7.60	7.53	7.62	8.06	8.10	8.33	8.61
MAX	---	---	8.20	7.94	7.74	7.71	7.63	7.82	8.26	8.18	8.45	8.83
MIN	---	---	7.92	7.74	7.61	7.53	7.44	7.51	7.78	8.04	8.08	8.45

02286200 SNAKE CREEK CANAL AT NW 67TH AVENUE, NEAR HIALEAH, FL

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	110	127	107	115	e57	490	650	365	e9.7	449
2	---	130	209	106	99	107	e46	400	470	339	e11	465
3	300	116	230	281	104	98	e54	153	305	333	e6.4	e452
4	145	128	120	186	107	120	77	100	429	333	e29	483
5	121	e122	127	240	100	124	82	56	530	321	e51	758
6	e122	e244	108	107	99	117	71	83	548	323	e14	836
7	126	172	89	91	113	126	e85	105	600	e312	e26	801
8	111	93	98	97	96	114	e89	100	432	e318	38	735
9	114	98	---	108	108	124	e96	111	---	273	73	710
10	129	117	---	168	116	111	e228	125	---	76	156	478
11	137	128	666	309	106	e68	282	138	594	e49	215	493
12	134	116	649	318	99	104	203	131	620	70	500	427
13	126	97	571	206	92	110	87	---	568	65	515	355
14	219	e100	579	105	e87	94	---	---	566	64	491	409
15	e284	e117	525	90	102	103	e59	---	531	e79	422	347
16	347	155	511	91	121	122	81	---	600	95	e133	314
17	181	639	289	103	108	386	88	112	587	74	e336	e313
18	116	445	93	85	93	291	91	93	e514	53	345	309
19	117	231	78	88	94	234	84	105	495	59	324	294
20	e132	251	132	100	103	---	80	e83	623	46	466	e325
21	130	193	290	107	105	---	120	e50	608	44	671	e296
22	125	---	308	121	104	e199	e124	e150	592	27	629	343
23	112	---	247	109	93	340	96	---	588	e9.9	512	212
24	135	e175	121	89	e68	316	80	738	590	e22	476	200
25	179	69	97	86	87	302	104	729	475	e31	476	314
26	e297	205	87	95	98	312	97	711	508	35	350	495
27	226	128	87	94	104	275	98	687	384	e36	e22	601
28	187	e85	86	85	98	513	94	671	346	e26	e218	634
29	214	e79	88	97	---	299	95	798	334	e5.8	---	630
30	197	112	93	91	---	---	270	745	350	46	---	697
31	141	---	97	105	---	---	---	704	---	e20	325	---
TOTAL	---	---	---	4,085	2,811	---	---	---	---	3,949.7	---	14,175
MEAN	---	---	---	132	100	---	---	---	---	127	---	472
MAX	---	---	---	318	121	---	---	---	---	365	---	836
MIN	---	---	---	85	68	---	---	---	---	5.8	---	200
AC-FT	---	---	---	8,100	5,580	---	---	---	---	7,830	---	28,120

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

	331	245	177	174	168	161	140	178	346	285	323	343
MEAN	331	245	177	174	168	161	140	178	346	285	323	343
MAX	642	727	348	408	408	625	623	650	829	740	920	891
(WY)	(1967)	(1970)	(1970)	(1995)	(1969)	(1970)	(1970)	(1979)	(1968)	(1966)	(1966)	(1966)
MIN	4.64	3.41	1.49	9.39	3.26	28.3	4.87	-4.84	31.3	10.0	1.64	1.94
(WY)	(1994)	(1994)	(1994)	(1994)	(1996)	(1996)	(1998)	(2001)	(1993)	(1993)	(1993)	(1993)

SUMMARY STATISTICS

ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

WATER YEARS 1963 - 2003

269
518
114
1,550
-64
-13
194,700
562
216
59

1966
1993
Mar 10, 1969
Sep 10, 1984
May 7, 2001

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript

EVERGLADES AND SOUTHEASTERN COASTAL AREA

255026080231300 SNAPPER CREEK CANAL EXTENSION AT NW 74TH STREET, NEAR HIALEAH, FL

LOCATION.--Lat 25°50'26", long 80°23'13", in SE ¼ sec.12, T.53 S., R.39 E., Miami-Dade County, Hydrologic Unit 03090202, on the north side of a short spur canal that runs west from the main canal at N.W. 74th Street, and 5.5 mi upstream from the Tamiami Canal.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--April 1984 to current year.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 7.07 ft Oct. 15-17, 1999; minimum, 0.21 ft June 5, 6, 1989.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 5.52 ft Sept. 29, 30; minimum, 3.33 ft Apr. 25.

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	4.68	4.53	4.07	3.84	3.54	3.59	3.74	4.15	4.28	4.61	4.27	4.86
2	4.65	4.50	4.05	3.82	3.53	3.57	3.70	4.03	4.28	4.71	4.40	4.88
3	4.61	4.47	4.03	3.92	3.52	3.56	3.67	3.95	4.25	4.81	4.49	4.87
4	4.58	4.44	4.01	3.89	3.50	3.54	3.65	3.90	4.20	4.73	4.48	4.90
5	4.55	4.40	4.00	3.86	3.48	3.52	3.61	3.82	4.16	4.72	4.48	5.08
6	4.53	4.38	4.00	3.83	3.47	3.52	3.58	3.76	4.19	4.71	4.49	5.25
7	4.50	4.34	3.99	3.79	3.48	3.52	3.56	3.70	4.14	4.68	4.49	5.27
8	4.46	4.30	4.00	3.76	3.48	3.49	3.53	3.67	4.12	4.64	4.63	5.26
9	4.43	4.26	4.23	3.74	3.49	3.46	3.49	3.61	4.11	4.59	4.66	5.22
10	4.40	4.23	4.54	3.73	3.49	3.47	3.48	3.58	4.31	4.55	4.71	5.18
11	4.38	4.19	4.50	3.72	3.48	3.53	3.46	3.56	4.38	4.50	4.69	5.15
12	4.40	4.16	4.45	3.70	3.48	3.49	3.44	3.54	4.37	4.45	4.67	5.11
13	4.36	4.14	4.39	3.69	3.47	3.45	3.42	3.63	4.31	4.39	4.63	---
14	4.33	4.10	4.33	3.73	3.46	3.43	3.40	4.03	4.28	4.35	4.66	---
15	4.29	4.08	4.26	3.71	3.46	3.42	3.49	3.93	4.40	4.32	4.74	---
16	4.43	4.14	4.19	3.68	3.46	3.56	3.48	3.83	4.46	4.32	4.70	---
17	4.42	4.56	4.12	3.66	3.48	4.00	3.52	3.76	4.43	4.34	4.68	---
18	4.37	4.48	4.09	3.64	3.47	3.97	3.47	3.71	4.41	4.30	4.65	---
19	4.34	4.44	4.06	3.63	3.46	3.90	3.50	3.68	4.40	4.27	4.62	5.12
20	4.32	4.39	4.04	3.63	3.48	3.82	3.48	3.66	4.44	4.25	4.68	5.10
21	4.30	4.38	4.01	3.61	3.47	3.76	3.45	3.61	4.43	4.25	4.75	5.06
22	4.31	4.36	3.98	3.60	3.43	3.70	3.42	3.64	4.62	4.22	4.73	5.03
23	4.37	4.32	3.96	3.60	3.48	3.72	3.40	3.82	4.88	4.19	4.71	4.97
24	4.34	4.28	3.94	3.58	3.48	3.77	3.38	4.03	4.85	4.16	4.71	5.16
25	4.33	4.24	3.97	3.57	3.51	3.69	3.36	4.15	4.81	4.15	4.72	5.20
26	4.39	4.21	3.93	3.55	3.75	3.63	3.51	4.25	4.77	4.14	4.74	5.20
27	4.46	4.19	3.90	3.52	3.67	3.74	3.67	4.19	4.75	4.10	4.74	5.18
28	4.45	4.17	3.87	3.51	3.62	4.11	3.62	4.34	4.71	4.09	4.84	5.22
29	4.42	4.13	3.85	3.52	---	3.99	3.62	4.49	4.68	4.18	4.90	5.33
30	4.39	4.10	3.84	3.53	---	3.91	3.91	4.47	4.65	4.24	4.88	5.48
31	4.37	---	3.83	3.53	---	3.82	---	4.37	---	4.21	4.86	---
TOTAL	137.16	128.91	126.43	114.09	98.09	113.65	106.01	120.86	133.07	136.17	144.40	---
MEAN	4.42	4.30	4.08	3.68	3.50	3.67	3.53	3.90	4.44	4.39	4.66	---
MAX	4.68	4.56	4.54	3.92	3.75	4.11	3.91	4.49	4.88	4.81	4.90	---
MIN	4.29	4.08	3.83	3.51	3.43	3.42	3.36	3.54	4.11	4.09	4.27	---

02286400 MIAMI CANAL AT S-354, AND S-3, AT LAKE HARBOR, FL

LOCATION.--Lat 26°41'42", long 80°48'25", in SE 1/4 sec. 35, T.44 S., R.35 E., Palm Beach County, Hydrologic Unit 03090202, 0.25 mi downstream of S-354 and pump station 3 at Lake Okeechobee, 0.05 mi south of U.S. Highway 27 on the Miami Canal in Lake Harbor, FL.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--Prior to October 1940, monthly discharge only, published in WSP 1304. October 1988 to current year. December 1939 to June 1943 (published as Miami Canal at Lake Harbor, October 1957 to September 1988, published as Miami Canal at HGS-3, and S-3, at Lake Harbor.

REVISED RECORDS.--WDR FL-93-2A, 1992

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter. Datum of gage is National Geodetic Vertical Datum of 1929. December 1, 1939 to June 30, 1943, nonrecording gage at this site at same datum. October 1, 1957 to September 30, 1959, dual water-stage recorder at present site, at datum 0.05 ft lower and October 1, 1959 to February 7, 1962, at datum 0.22 ft lower. October 1, 1957 to September 30, 1968, two deflection vane recorders. From 1981 water year to April 1, 1987, electromagnetic velocity meter and digital recorder. Electromagnetic velocity meter reinstalled May 11, 1988 and discontinued in the 1992 water year, September 11, 1991 to October 4, 2003, acoustic velocity meter. Satellite data collection platform installed September 11, 1991. Acoustic doppler velocity meter installed May 23, 2002 and ran simultaneously with the acoustic velocity meter until October 4, 2003 when the acoustic velocity meter was removed. Prior to October 1, 1998, lake stage published under station number 02286399. Lake station discontinued September 30, 1998.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by gates and pump station at Lake Okeechobee. Discharge is the flow through acoustic velocity meter site approximately 0.25 mi below S-354 structure. Stage collected also at the acoustic velocity meter site. Flow frequently reversed during and after periods of heavy rainfall by pumpage into the canal from agricultural lands in the Everglades, or by the operation of pump station 3 (negative figure indicates reverse flow). Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity.

COOPERATION.--S-3 pump, syphon record and S-354 gate-operation record provided by South Florida Water Management District.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 38 complete water years of discharge (1957-89, 1993-97, 2001).

EXTREME CANAL STAGES FOR PERIOD OF RECORD.--Maximum gage height 14.92 ft, present datum, Mar. 21, 1960 and Oct. 2, 1965; minimum, 7.45 ft May 2, 2001.

EXTREME CANAL STAGES FOR CURRENT YEAR.--Maximum gage height, 12.45 ft June 23; minimum, 8.99 ft Apr. 27.

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	10.91	10.44	10.55	---	10.28	10.44	---	9.47	10.45	10.52	9.66	10.47
2	10.71	10.65	10.55	10.48	10.41	10.35	10.35	10.17	10.48	10.48	10.37	10.57
3	10.73	10.63	10.64	10.67	10.43	10.35	10.15	10.29	10.35	11.38	10.64	10.20
4	---	10.41	10.83	10.69	10.40	10.24	10.24	10.19	10.63	10.83	10.86	10.20
5	---	10.47	10.86	10.63	10.28	10.24	10.54	10.17	10.69	10.30	10.16	10.13
6	---	10.76	10.76	10.51	10.44	10.38	10.42	10.34	10.66	10.89	10.20	10.34
7	---	10.57	10.82	10.46	10.24	10.53	---	10.45	10.27	10.57	9.77	---
8	---	---	10.72	10.71	10.29	10.40	---	10.48	10.20	10.71	9.97	10.18
9	---	10.46	10.55	10.43	10.41	10.36	10.39	10.46	10.44	10.56	10.14	10.15
10	---	10.37	10.94	10.34	10.33	10.40	---	10.53	10.52	10.28	10.34	9.72
11	---	10.42	10.92	---	10.16	10.48	10.28	10.60	11.07	10.08	10.82	9.79
12	---	10.74	10.51	10.40	10.18	10.44	10.38	10.41	---	10.09	11.17	10.17
13	---	---	11.06	10.59	10.22	---	10.20	10.41	---	10.44	10.58	10.83
14	---	---	11.46	10.48	---	10.17	10.19	10.59	10.69	10.54	10.42	10.61
15	---	---	10.72	10.37	10.28	10.22	10.34	10.78	10.84	10.59	10.09	10.18
16	---	---	11.21	10.47	10.24	10.37	10.89	10.73	10.82	11.03	10.01	10.06
17	---	11.09	---	10.46	10.40	10.66	10.46	11.26	10.53	10.99	10.24	---
18	---	10.93	10.98	10.33	10.61	10.16	10.59	11.21	---	10.98	11.05	9.97
19	---	10.66	11.14	10.48	10.64	10.68	10.71	11.23	10.59	10.98	10.13	9.92
20	---	10.59	11.26	10.47	10.52	10.40	10.68	10.91	10.51	11.11	10.16	10.24
21	---	10.46	11.49	10.57	---	10.46	10.54	10.67	11.44	11.17	10.26	10.81
22	---	---	10.91	10.50	11.01	10.33	10.50	10.54	11.79	11.27	11.13	10.97
23	---	---	10.83	10.39	---	10.41	10.68	10.27	12.17	11.54	---	10.85
24	---	10.43	10.26	10.46	---	10.52	10.59	10.23	11.49	11.70	---	10.88
25	---	10.74	10.20	10.54	---	10.26	11.06	10.66	10.82	11.16	---	10.83
26	---	10.63	10.58	10.31	---	10.24	10.55	10.63	---	10.99	11.37	11.51
27	---	10.64	10.65	10.33	---	10.48	9.39	10.74	10.69	10.56	10.77	10.53
28	---	10.70	---	10.43	10.40	10.70	10.39	11.48	10.91	10.49	10.86	10.63
29	11.15	---	10.59	10.46	---	10.75	10.32	11.69	10.79	10.00	10.65	10.83
30	11.01	10.56	10.60	10.43	---	---	9.68	11.17	10.55	9.87	10.17	11.80
31	10.71	---	10.52	10.44	---	---	---	10.28	---	9.83	10.48	---
TOTAL	---	---	---	---	---	---	---	329.04	---	331.93	---	---
MEAN	---	---	---	---	---	---	---	10.61	---	10.71	---	---
MAX	---	---	---	---	---	---	---	11.69	---	11.70	---	---
MIN	---	---	---	---	---	---	---	9.47	---	9.83	---	---

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02286400 MIAMI CANAL AT S-354, AND S-3, AT LAKE HARBOR, FL

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	4.4	11	-9.1	e5.2	-0.83	13	e18	33	16	9.6	5.5	508
2	-18	-17	-14	13	-1.3	31	0.16	8.6	3.0	30	3.9	231
3	-5.2	-15	-0.33	-5.4	7.4	18	3.7	21	8.8	-18	4.1	32
4	e0.00	19	133	-20	20	22	177	-7.1	1.7	22	2.8	37
5	e0.00	132	120	-6.5	14	9.1	144	e35	27	-0.60	21	27
6	e0.00	64	108	-7.8	-2.6	248	89	370	18	-0.15	32	29
7	e0.00	-27	100	-7.3	0.03	180	---	292	4.2	0.28	14	e16
8	e0.00	e31	87	-12	-3.4	187	e61	554	5.4	2.2	9.1	22
9	e0.00	116	46	8.4	-7.3	138	9.7	703	25	-15	15	14
10	e0.00	133	20	5.7	18	125	e-4.8	643	13	-9.9	39	19
11	e0.00	123	4.1	e-2.2	-4.5	102	164	649	6.4	20	34	31
12	e0.00	407	11	1.9	8.9	38	79	679	e0.00	12	28	-15
13	e0.00	e108	-11	-6.3	-1.8	e100	40	802	e0.00	13	31	-16
14	e0.00	---	-0.32	-29	e-25	-31	265	673	10	15	65	4.9
15	e0.00	---	-17	-2.2	-4.6	-3.7	751	652	18	0.36	11	27
16	e0.00	e3.3	-6.8	-21	2.9	-18	580	488	2.3	-16	-11	6.1
17	e0.00	-11	e-1.3	-16	11	22	303	560	22	-3.3	-6.3	e23
18	e0.00	-24	-2.5	-24	-13	36	736	406	e-4.5	1.0	6.0	-17
19	e0.00	-15	15	-18	-25	19	671	269	13	1.4	18	0.32
20	e0.00	-34	-17	-23	-1.2	e12	592	15	10	1.9	-5.9	2.5
21	e0.00	2.6	-6.6	-31	e5.9	61	e477	-27	12	28	45	3.5
22	e0.00	e-2.8	4.1	73	-26	13	879	-14	8.8	8.2	16	3.9
23	e0.00	e8.2	-8.0	411	e15	-0.08	895	-13	32	12	e0.00	-9.0
24	e0.00	-23	-21	251	e24	-6.0	910	2.1	-3.6	-16	e0.00	-1.9
25	e0.00	-31	-6.4	74	e3.8	7.8	1,120	-7.3	-21	3.4	e0.00	12
26	e0.00	-10	-17	-13	e-32	-6.7	319	3.1	e-25	-4.4	-20	38
27	e0.00	-10	-4.3	5.9	e27	28	-14	8.9	-14	7.2	-1.0	32
28	e17	-12	e-17	-10	25	-15	-31	-144	-0.50	-0.94	-5.6	30
29	15	e-8.9	-8.1	-9.6	---	2.5	22	25	5.3	3.9	12	51
30	11	-22	-1.0	-20	---	---	-16	22	28	9.7	4.0	-33
31	9.3	---	-42	-18	---	---	---	14	---	-5.6	263	---
TOTAL	33.50	---	437.45	546.8	34.40	---	---	7,715.3	221.30	111.25	629.60	1,108.32
MEAN	1.08	---	14.1	17.6	1.23	---	---	249	7.38	3.59	20.3	36.9
MAX	17	---	133	411	27	---	---	802	32	30	263	508
MIN	-18	---	-42	-31	-32	---	---	-144	-25	-18	-20	-33
AC-FT	66	---	868	1,080	68	---	---	15,300	439	221	1,250	2,200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1997, BY WATER YEAR (WY)

MEAN	-72.2	45.0	91.2	113	209	236	443	298	-23.5	-72.6	-104	-180
MAX	609	420	385	634	1,439	1,415	1,480	966	626	936	302	1,191
(WY)	(1989)	(1974)	(1969)	(1993)	(1993)	(1966)	(1993)	(1974)	(1980)	(1992)	(1993)	(1992)
MIN	-1,167	-429	-330	-849	-373	-1,185	-316	-296	-897	-769	-899	-1,614
(WY)	(1961)	(1961)	(1958)	(1958)	(1983)	(1970)	(1958)	(1972)	(1968)	(1985)	(1981)	(1960)

SUMMARY STATISTICS

ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

WATER YEARS 1958 - 1997

73.4
487 1993
-290 1960
2,280 Mar 24, 1966
-2,790 Mar 26, 1970
-2,170 Jun 18, 1959
53,150
555
0.00
-382

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript

02286700 MIAMI CANAL AT S-8, NEAR LAKE HARBOR, FL

LOCATION.--Lat 26°19'53", long 80°46'29", in NE 1/4 sec.7, T.48 S., R.36 E., Broward County, Hydrologic Unit 03090202, 26 mi south of Lake Harbor, and 26.4 mi downstream from S-354 and pump station 3 at Lake Okeechobee.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--March 1962 to September 1968 (gage heights and discharge), October 1968 to December 1982, October 1990 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter. Prior to May 14, 2002, satellite data collection platform with water-stage shaft encoder and acoustic velocity meter. Acoustic doppler velocity meter installed November 16, 2001. The acoustic velocity meter and acoustic doppler meter were run in tandem for the period of November 16, 2001 to May 14, 2002. The acoustic velocity meter was installed October 2, 1990. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Records fair except for estimated discharges, which are poor. Flow regulated by pumpage and operation of gate at pump station 8, by operation of S-354 and pump station 3 at Lake Okeechobee, and operation of drainage and irrigation pumps upstream.

COOPERATION.--Discharge record furnished by South Florida Water Management District October 1968 to December 1982 for publication. Prior to October 1968, gage height, gate opening and pump records furnished by South Florida Water Management District, and records computed by U.S. Geological Survey.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTIC.--Figures represent 27 complete water years of discharge (1963-82, 1992, 1995-96, 1998, 2000, 2002-03).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 15.17 ft, Oct. 17, 1995; minimum (daily) gage height, 6.02 ft June 7, 1981.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 15.00 ft Sept. 26; minimum, 9.50 ft May 12, 13.

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	12.00	11.40	11.30	11.71	11.28	11.22	11.60	11.86	11.88	12.70	12.80	13.83
2	11.47	11.36	11.30	11.89	11.26	11.18	11.56	10.27	11.81	12.66	12.67	14.17
3	11.44	11.35	11.28	11.74	11.24	11.15	11.53	10.10	12.52	13.69	12.95	13.81
4	11.57	11.31	11.29	11.70	11.22	11.33	11.50	10.01	12.63	14.18	13.47	13.81
5	11.46	11.31	11.31	11.71	11.20	11.21	11.47	9.96	12.67	12.99	13.60	13.80
6	11.41	11.29	11.28	11.71	11.18	11.11	11.45	9.92	12.68	13.13	13.76	14.07
7	11.32	11.26	11.29	11.71	11.17	11.06	11.42	9.86	12.73	12.71	13.30	14.08
8	11.26	11.25	11.26	11.72	11.13	11.01	11.39	9.79	12.51	12.65	13.36	13.68
9	11.43	11.23	12.41	11.72	11.12	10.97	11.35	9.73	13.13	12.63	13.41	13.79
10	11.69	11.21	13.53	11.69	11.09	10.94	11.32	9.69	12.91	12.58	13.73	13.43
11	11.71	11.18	13.65	11.66	11.06	10.94	11.28	9.62	13.40	12.40	14.21	12.92
12	11.69	11.18	13.41	11.66	11.02	10.93	11.25	9.55	12.81	12.06	14.51	12.66
13	11.70	11.19	13.51	11.65	10.99	10.90	11.21	9.66	12.59	12.00	14.22	13.66
14	11.76	11.18	13.86	11.67	10.97	10.88	11.17	10.17	12.58	11.97	14.12	14.17
15	12.13	11.15	13.04	11.65	10.95	10.87	11.12	10.44	11.98	11.99	13.78	14.04
16	11.80	11.15	12.32	11.64	10.93	10.93	11.21	10.59	12.39	12.02	13.49	13.78
17	11.73	12.37	11.89	11.61	10.95	12.67	10.83	10.76	12.49	12.00	13.07	13.53
18	11.70	12.32	11.84	11.58	10.96	12.61	10.53	10.89	12.87	11.99	13.75	13.49
19	11.67	11.63	11.82	11.56	10.96	11.62	10.55	10.96	13.01	11.98	13.76	13.46
20	11.65	11.55	11.81	11.55	10.95	11.54	10.54	11.02	12.82	11.95	13.85	12.38
21	11.64	11.51	12.45	11.53	11.79	11.49	10.52	11.01	13.71	11.91	13.75	12.62
22	11.60	11.96	12.39	11.51	12.58	11.44	10.36	10.97	14.52	11.89	14.32	12.23
23	11.57	11.55	12.20	11.48	12.24	11.41	10.46	11.65	14.73	11.90	14.42	12.63
24	11.59	11.48	12.16	11.44	11.52	11.98	10.22	11.39	14.60	13.58	14.41	12.16
25	11.79	11.46	11.82	11.43	11.40	11.54	10.46	11.27	14.12	14.25	14.60	12.65
26	11.98	11.68	11.80	11.41	11.35	11.43	12.04	11.21	13.52	14.10	14.61	13.72
27	12.28	11.48	11.78	11.38	11.30	11.89	10.76	11.43	13.14	13.90	14.27	14.19
28	11.65	11.41	11.76	11.36	11.26	13.07	10.40	13.94	13.21	13.91	14.32	14.11
29	11.57	11.35	11.74	11.35	---	12.25	12.94	14.34	12.91	13.61	14.22	14.28
30	11.48	11.34	11.73	11.34	---	12.06	12.80	14.19	12.71	13.26	13.82	14.70
31	11.45	---	11.73	11.31	---	11.99	---	12.72	---	13.29	13.90	---
TOTAL	361.19	343.09	374.96	359.07	315.07	355.62	335.24	338.97	389.58	395.88	428.45	405.85
MEAN	11.65	11.44	12.10	11.58	11.25	11.47	11.17	10.93	12.99	12.77	13.82	13.53
MAX	12.28	12.37	13.86	11.89	12.58	13.07	12.94	14.34	14.73	14.25	14.61	14.70
MIN	11.26	11.15	11.26	11.31	10.93	10.87	10.22	9.55	11.81	11.89	12.67	12.16

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02286700 MIAMI CANAL AT S-8, NEAR LAKE HARBOR, FL

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	381	e-17	e-2.6	e-26	e-26	e-5.5	e-32	501	e-18	505	482	1,500
2	e3.7	e-28	e-26	122	5.4	e-9.4	e-3.3	2.3	3.0	461	482	2,030
3	31	e-11	e-20	e-5.1	e-4.4	e-0.50	e-4.7	15	582	1,850	830	1,450
4	170	18	11	e-20	5.3	35	e-13	38	601	2,190	1,510	1,500
5	99	e-15	18	e-22	e-27	1.1	e-35	46	663	640	1,360	1,500
6	e86	e-8.8	e-18	e-17	12	e-39	15	7.4	667	1,040	1,580	1,910
7	6.4	e-15	e-25	e-18	e-17	e-7.1	e-8.1	5.3	676	483	958	1,870
8	1.4	e-26	5.0	e-25	e-20	e-16	e9.6	49	416	470	1,020	1,310
9	e-12	1.2	786	e-7.2	38	e-9.1	e-3.0	85	1,090	482	1,060	1,490
10	3.9	4.5	1,580	4.4	e-6.4	e-33	e-16	82	764	444	1,510	959
11	e-4.0	e-6.0	1,680	10	e-16	29	e-6.8	57	1,540	258	2,250	449
12	e-14	18	1,360	e-33	e-4.0	14	e-19	47	625	15	2,730	354
13	e-22	14	1,490	e-5.1	5.4	e-12	e-22	29	610	e-13	2,150	1,630
14	e-14	e-18	1,960	e-36	20	e-16	e-4.1	33	604	e-30	1,980	2,080
15	277	e21	979	e-27	8.1	e-24	e-22	37	6.4	e-8.6	1,470	1,790
16	e-32	23	360	12	e-16	e-8.3	e-13	57	447	3.5	1,080	1,420
17	e-27	781	6.0	e-30	e-13	1,040	121	54	493	4.7	544	e1,080
18	e-21	506	e-10	e-14	e-15	564	305	35	e815	e-8.5	1,670	e1,060
19	e-4.7	e-27	3.6	e-30	e-13	10	320	45	946	e-22	1,420	1,110
20	e-18	e-9.7	e-6.4	e-22	e-12	e-19	332	7.9	742	e-12	1,580	e-3.5
21	e-5.7	e-30	591	e-7.3	430	8.1	321	e-1.5	1,900	e-5.6	1,430	e365
22	e-9.1	e242	497	e-20	778	e-21	306	7.6	2,800	e-11	2,360	22
23	e-0.28	e-15	297	e-1.4	356	e-3.8	342	255	3,190	30	2,490	480
24	70	e-11	247	e-33	8.9	297	275	e-3.8	2,880	1,850	2,520	15
25	149	e-4.0	6.4	e-23	e-5.1	1.7	383	6.3	1,970	2,340	2,890	501
26	e218	78	e-11	e-28	e-7.6	e-0.55	975	e-18	1,140	2,050	2,830	1,960
27	514	e-17	e-27	e-24	e-3.2	373	209	149	793	1,760	2,070	2,140
28	61	e-19	e-13	1.1	e-5.5	945	293	2,070	1,040	1,780	2,250	1,980
29	50	e-15	e-18	e-42	---	427	1,070	2,500	727	1,370	2,030	2,260
30	e-27	e-22	9.0	e-16	---	e254	1,000	2,160	471	967	1,360	3,000
31	e-29	---	e-9.9	e-7.4	---	e237	---	510	---	985	1,590	---
TOTAL	1,881.62	1,392.2	11,699.1	-390.0	1,455.9	4,011.65	6,074.6	8,867.5	29,183.4	21,867.5	51,486	39,211.5
MEAN	60.7	46.4	377	-12.6	52.0	129	202	286	973	705	1,661	1,307
MAX	514	781	1,960	122	778	1,040	1,070	2,500	3,190	2,340	2,890	3,000
MIN	-32	-30	-27	-42	-27	-39	-35	-18	-18	-30	482	-3.5
AC-FT	3,730	2,760	23,210	-774	2,890	7,960	12,050	17,590	57,890	43,370	102,100	77,780

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2003, BY WATER YEAR (WY)

	437	186	150	173	276	210	259	248	483	519	606	671
MEAN	437	186	150	173	276	210	259	248	483	519	606	671
MAX	2,116	1,289	1,551	1,053	1,830	1,385	1,395	767	2,059	1,854	1,975	1,950
(WY)	(2000)	(1999)	(1995)	(1979)	(1993)	(1966)	(1993)	(1996)	(1982)	(1982)	(1974)	(1992)
MIN	6.58	-33.2	-186	-54.5	-56.9	-40.5	0.000	0.065	0.000	0.097	-0.48	0.000
(WY)	(1982)	(2001)	(2000)	(2000)	(2000)	(2000)	(1968)	(1962)	(1962)	(1962)	(1966)	(1981)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1962 - 2003	
ANNUAL TOTAL	145,329.92		176,740.97			
ANNUAL MEAN	398		484		353	
HIGHEST ANNUAL MEAN					900	
LOWEST ANNUAL MEAN					41.6	
HIGHEST DAILY MEAN	3,010	Jul 2	3,190	Jun 23	4,240	Oct 22, 1969
LOWEST DAILY MEAN	-38	Sep 19	-42	Jan 29	-369	Aug 3, 1991
ANNUAL SEVEN-DAY MINIMUM	-21	Sep 17	-24	Jan 24	-300	Dec 8, 1999
ANNUAL RUNOFF (AC-FT)	288,300		350,600		255,900	
10 PERCENT EXCEEDS	1,650		1,780		1,060	
50 PERCENT EXCEEDS	35		29		73	
90 PERCENT EXCEEDS	-15		-22		0.00	

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02287395 MIAMI CANAL EAST OF LEVEE 30, NEAR MIAMI, FL

LOCATION.--Lat 25°56'28", long 80°26'23", in NE ¼ sec.9, T.52 S., R.39 E., Miami-Dade County, Hydrologic Unit 03090202, south of State Road 997 approximately 800 ft on south bank, 1000 ft downstream from control structure 32, 14.1 mi upstream from salinity-structure 26, 19.5 mi northwest of Miami, and 19.8 mi upstream from mouth.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--November 1959 to current year. Published as "at broken dam, near Miami" November 1959 to September 1967, and October 1984 to November 1988.

REVISED RECORDS.--WDR FL-99-2A, 1998.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter. Datum of gage is National Geodetic Vertical Datum of 1929 (Dade County bench mark). Prior to January 20, 1968 and October 1984 to November 1988, at site 0.5 mi downstream at same datum.

REMARKS.--Records fair except for flows below 100 cfs and estimated daily discharges, which are poor. Flow affected by regulation at downstream salinity-control structure S-26 and by upstream storage releases at control structures 31, 32, and 32A and S-337. Prior to August 23, 1999, water-stage recorder and electromagnetic velocity meter. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity.

COOPERATION.--South Florida Water Management District.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 31 complete water years of discharge (1961-84, 87, 1992-94, 1999-2001).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 6.59 ft July 1, 1982; minimum, 1.40 ft May 31, 1962 (site at broken dam). See PERIOD OF RECORD.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 3.90 ft Sept. 6; minimum, 2.07 ft May 2.

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	2.36	2.85	2.88	2.90	2.83	2.62	---	2.41	2.36	2.93	2.75	3.19
2	2.33	2.82	2.89	2.92	2.88	2.62	2.84	2.25	2.45	2.92	2.84	3.19
3	2.47	2.86	2.88	2.96	2.87	2.62	2.79	2.57	2.68	2.66	---	3.18
4	2.76	2.87	2.88	2.91	2.74	2.60	2.84	2.65	2.76	2.89	2.96	3.26
5	2.83	---	2.88	2.92	2.68	2.68	2.78	2.61	2.78	2.92	2.99	3.53
6	---	2.80	2.86	2.94	2.75	2.79	2.78	2.56	2.78	2.94	3.01	3.75
7	2.83	2.83	2.85	2.92	2.81	2.70	---	2.55	2.80	2.90	2.99	3.62
8	2.85	2.85	2.90	2.90	2.82	2.49	2.80	2.58	2.78	2.86	3.10	3.51
9	---	2.91	3.05	2.89	2.87	2.40	---	2.48	2.81	2.84	3.14	3.40
10	2.87	2.92	2.86	2.77	2.83	2.41	---	2.47	2.88	2.82	3.28	3.34
11	2.79	2.90	---	2.65	2.82	2.68	2.75	2.48	2.89	2.79	3.25	3.34
12	2.83	2.83	---	2.63	2.83	2.73	2.73	2.48	2.90	2.78	3.21	3.30
13	2.76	2.88	2.42	---	2.83	2.70	---	2.55	2.89	2.76	3.02	3.26
14	2.70	---	2.35	---	2.82	2.67	2.73	2.61	2.86	2.75	3.04	3.20
15	2.45	---	2.32	2.79	2.85	2.69	2.71	2.75	2.87	2.71	3.05	3.15
16	2.64	2.95	2.31	2.88	2.86	2.79	2.77	2.68	2.92	2.69	3.09	3.16
17	2.72	2.69	2.32	2.84	2.84	2.89	2.79	---	2.90	2.72	3.12	3.14
18	2.79	2.68	2.75	2.87	2.81	2.83	---	---	2.89	2.71	3.14	3.12
19	2.86	2.88	2.84	2.91	2.82	2.84	2.84	---	2.78	2.70	3.13	3.09
20	2.81	2.87	2.85	2.92	2.75	2.85	2.83	2.65	2.59	2.73	3.22	3.07
21	2.77	2.86	2.86	2.83	2.53	2.78	2.81	2.58	2.48	2.75	3.18	3.07
22	2.83	---	2.86	2.83	---	2.62	2.77	---	2.58	2.71	3.06	3.03
23	2.82	---	2.87	2.81	2.53	2.67	2.70	2.77	2.84	2.69	3.01	3.01
24	2.91	---	2.94	2.82	2.55	2.70	2.66	2.64	2.77	2.68	---	3.10
25	---	2.85	2.86	2.82	2.46	2.76	2.52	2.89	2.74	2.66	2.95	3.14
26	---	2.85	2.87	2.76	2.57	2.76	2.56	2.87	2.93	2.64	2.91	3.12
27	2.85	2.81	2.83	2.73	2.57	2.90	2.62	2.86	2.93	2.63	3.00	3.05
28	2.86	---	2.87	2.79	2.61	2.74	2.58	---	2.91	---	3.15	3.16
29	---	---	2.83	2.83	---	---	2.50	2.72	2.94	2.72	3.23	3.36
30	---	2.83	2.93	---	---	---	2.58	2.58	2.95	2.77	3.19	3.47
31	2.77	---	2.98	2.86	---	---	---	2.45	---	2.73	3.17	---
TOTAL	---	---	---	---	---	---	---	---	83.64	---	---	97.31
MEAN	---	---	---	---	---	---	---	---	2.79	---	---	3.24
MAX	---	---	---	---	---	---	---	---	2.95	---	---	3.75
MIN	---	---	---	---	---	---	---	---	2.36	---	---	3.01

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02287395 MIAMI CANAL EAST OF LEVEE 30, NEAR MIAMI, FL

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	190	169	154	151	138	64	---	65	57	97	43	68
2	190	166	150	154	139	56	139	63	73	85	49	66
3	186	169	148	142	140	60	143	73	76	88	e60	67
4	175	173	148	144	147	52	141	71	79	58	57	69
5	175	e173	148	154	145	121	146	80	53	67	53	76
6	e173	162	142	151	145	173	148	77	78	62	68	75
7	172	151	140	150	155	110	---	81	65	75	63	77
8	170	157	145	153	159	55	153	85	66	68	50	73
9	e169	161	149	156	159	49	e152	86	60	48	68	77
10	165	162	163	98	166	115	e145	70	63	58	67	76
11	167	163	---	62	163	172	128	79	61	61	53	73
12	171	158	---	62	156	164	135	60	89	65	76	75
13	172	144	166	e61	151	165	---	54	92	56	64	72
14	174	e149	156	---	146	160	133	77	84	56	70	73
15	175	e159	158	115	149	151	137	82	89	48	78	72
16	173	158	165	159	159	148	134	---	99	37	70	74
17	167	165	166	151	163	156	137	e92	100	55	76	76
18	166	162	171	146	152	162	e142	e63	95	56	73	74
19	170	158	166	150	150	174	145	e84	81	44	71	70
20	174	160	164	157	109	175	146	70	86	47	78	73
21	180	161	157	154	74	120	147	83	78	50	79	72
22	178	e160	162	143	e70	44	148	---	79	53	79	66
23	178	---	163	137	59	50	153	74	74	50	76	71
24	177	e157	158	139	62	98	114	67	87	56	e77	69
25	e174	157	148	146	63	140	61	63	90	49	76	72
26	---	154	149	149	64	148	52	77	92	58	74	75
27	179	153	155	140	59	146	39	75	93	56	76	77
28	176	e151	151	145	59	158	52	e68	93	e44	74	80
29	e171	---	156	144	---	e161	58	84	94	48	76	79
30	e166	153	157	e144	---	---	57	67	96	41	74	80
31	169	---	154	142	---	---	---	67	---	42	73	---
TOTAL	---	---	---	---	3,501	---	---	---	2,422	1,778	2,121	2,197
MEAN	---	---	---	---	125	---	---	---	80.7	57.4	68.4	73.2
MAX	---	---	---	---	166	---	---	---	100	97	79	80
MIN	---	---	---	---	59	---	---	---	53	37	43	66
AC-FT	---	---	---	---	6,940	---	---	---	4,800	3,530	4,210	4,360

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2003, BY WATER YEAR (WY)

	212	218	202	202	189	171	201	161	139	149	167	186
MEAN	212	218	202	202	189	171	201	161	139	149	167	186
MAX	921	696	638	586	826	826	885	689	798	636	668	649
(WY)	(1961)	(1961)	(1961)	(1961)	(1983)	(1983)	(1970)	(1970)	(1970)	(1982)	(1982)	(1966)
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	(1981)	(1981)	(1981)	(1982)	(1982)	(1980)	(1980)	(1979)	(1979)	(1980)	(1980)	(1980)

SUMMARY STATISTICS

ANNUAL MEAN
 HIGHEST ANNUAL MEAN
 LOWEST ANNUAL MEAN
 HIGHEST DAILY MEAN
 LOWEST DAILY MEAN
 ANNUAL SEVEN-DAY MINIMUM
 ANNUAL RUNOFF (AC-FT)
 10 PERCENT EXCEEDS
 50 PERCENT EXCEEDS
 90 PERCENT EXCEEDS

WATER YEARS 1961 - 2003

197
 476
 28.4
 1,090
 0.00
 0.00
 142,700
 345
 190
 0.00

Mar 20, 1970
 Apr 26, 1979
 Apr 26, 1979

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript

02287497 N.W. WELLFIELD CANAL NEAR DADE BROWARD LEVEE, NEAR PENNSUCO, FL

LOCATION.--Lat 25°53'28", long 80°25'13", in NE ¼ sec.27, T.52 S., R.39 E., Miami-Dade County, Hydrologic Unit 03090202, (Pennsuco quadrangle), 0.7 mi north of Pennsuco Canal, 1.9 mi east of Dade Broward Levee, 2.0 mi southwest of the Miami Canal, 4 mi east of Levee 30 Canal, and 2.5 mi west of Pennsuco. (Corrected).

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--February 1991 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter. Electronic data logger at auxiliary gage downstream of NW 137th Avenue gated culverts began February 24, 2003. Datum of gage is National Geodetic Vertical Datum of 1929 (DERM bench mark). Prior to February 21, 2003, site was 1.0 mi upstream at datum 0.10 ft lower. Prior to October 9, 2002, acoustic velocity meter. Acoustic doppler velocity meter installed February 21, 2003.

REMARKS.--Records fair except for flows below 40 cfs and estimated daily discharges, which are poor. Flow is the sum of regulation from vertical control structure DERM No. 1, NW 137th Avenue gated culverts and from levee seepage. Flow is positive to the east. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 6 water years of complete discharge (1992, 1996-2000).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 7.07 ft Oct. 15-17, 1999; minimum, 1.39 ft May 28, 1992.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 5.74 ft Sept. 29, 30; minimum, 3.53 ft Apr. 25.

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	e4.92	4.71	4.19	3.95	3.64	3.82	---	4.48	4.57	4.94	4.48	5.18
2	e4.88	4.66	4.17	3.93	3.64	3.80	3.93	4.34	4.60	4.99	4.65	5.19
3	4.84	e4.64	4.14	4.06	3.64	3.79	3.90	4.23	4.55	5.06	4.76	5.18
4	4.79	e4.60	4.13	4.01	3.62	3.77	3.87	4.15	4.50	5.01	4.74	5.23
5	4.75	4.56	4.11	3.98	3.60	3.75	3.83	---	4.49	5.01	4.73	5.40
6	e4.70	4.53	4.10	3.94	3.59	3.75	3.81	4.00	4.56	5.01	4.73	5.56
7	4.66	4.48	4.08	3.90	3.59	3.74	---	3.94	4.51	4.99	4.75	5.57
8	4.61	4.44	4.10	3.88	3.59	3.72	---	3.89	4.46	4.95	4.94	5.55
9	4.56	4.40	4.41	3.86	3.59	3.68	---	3.84	4.46	4.90	4.99	5.51
10	4.52	4.36	4.71	3.85	3.60	3.71	3.69	3.81	4.65	4.86	5.05	5.47
11	4.51	4.32	4.67	3.84	3.58	3.77	3.66	3.77	4.74	4.80	5.03	5.45
12	4.53	4.29	4.63	3.82	3.57	3.72	3.65	3.75	4.73	4.74	5.01	5.43
13	4.49	e4.26	4.58	3.81	3.56	3.68	3.63	3.86	4.67	4.67	4.97	5.50
14	4.45	e4.23	4.52	3.86	3.56	3.65	3.61	4.30	4.63	4.62	5.00	5.52
15	4.41	e4.20	4.45	3.83	3.56	3.63	3.73	4.17	4.70	4.58	5.04	5.51
16	4.55	e4.33	4.38	3.80	3.56	3.80	3.72	4.07	4.76	4.60	5.01	5.49
17	4.52	e4.72	4.31	3.78	3.58	4.27	3.75	3.99	4.73	4.63	4.99	5.47
18	4.47	4.66	4.27	3.76	3.57	---	3.68	3.94	4.72	4.58	4.96	5.45
19	4.44	4.61	4.23	3.75	3.56	4.13	3.72	3.91	4.71	4.53	4.94	5.43
20	4.41	4.55	4.20	3.75	3.58	---	3.69	---	4.73	4.51	4.99	5.40
21	4.41	4.52	4.16	3.73	3.67	---	3.65	---	4.72	4.49	5.08	5.38
22	4.44	e4.50	4.13	3.72	3.67	---	3.63	---	4.86	4.47	5.07	5.34
23	4.52	e4.43	4.10	3.71	3.73	3.95	3.60	4.04	5.11	4.44	5.06	5.35
24	4.48	4.41	4.08	3.69	3.72	4.00	3.58	---	5.12	4.42	5.06	5.45
25	4.48	4.37	4.08	3.68	3.78	3.91	3.56	4.37	5.10	4.41	5.05	5.48
26	e4.58	4.34	4.06	3.67	4.02	3.85	3.73	4.48	5.07	4.42	5.07	5.50
27	4.66	4.31	4.03	3.64	3.92	4.00	3.89	4.43	5.05	4.38	5.07	5.49
28	e4.65	e4.29	3.99	3.63	3.85	4.41	3.84	4.59	5.03	4.35	5.15	5.54
29	e4.62	e4.22	3.97	3.63	---	4.26	3.83	4.74	5.00	4.37	5.20	5.61
30	4.58	4.22	3.95	3.64	---	---	4.23	4.73	4.98	4.40	5.19	5.73
31	4.54	---	3.95	3.64	---	---	---	---	---	4.38	5.18	---
TOTAL	141.97	133.16	130.88	117.74	102.14	---	---	---	142.51	144.51	153.94	163.36
MEAN	4.58	4.44	4.22	3.80	3.65	---	---	---	4.75	4.66	4.97	5.45
MAX	4.92	4.72	4.71	4.06	4.02	---	---	---	5.12	5.06	5.20	5.73
MIN	4.41	4.20	3.95	3.63	3.56	---	---	---	4.46	4.35	4.48	5.18

e Estimated

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02287497 N.W. WELLFIELD CANAL NEAR DADE BROWARD LEVEE, NEAR PENNSUCO, FL

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	---	---	---	---	---	90	e98	142	127	142	124	153
2	---	---	---	---	---	87	94	134	137	129	142	154
3	---	---	---	---	---	88	92	122	125	122	143	151
4	---	---	---	---	---	86	89	110	121	130	142	153
5	127	---	---	---	---	86	89	e106	135	134	138	158
6	e123	---	---	---	---	85	88	101	149	137	136	134
7	e117	---	---	---	---	82	e89	96	142	137	141	138
8	---	---	---	---	---	88	e88	90	140	139	157	140
9	---	---	---	---	---	87	e89	89	142	138	159	147
10	---	---	---	---	---	94	83	86	149	135	161	148
11	---	---	---	---	---	97	82	84	154	131	161	148
12	---	---	---	---	---	88	83	85	153	127	159	149
13	---	---	---	---	---	85	83	100	151	123	160	144
14	---	---	---	---	---	85	83	121	147	119	157	140
15	---	---	---	---	---	81	96	106	137	117	150	144
16	---	---	---	---	---	98	94	101	135	126	151	146
17	---	---	---	---	---	117	95	94	138	130	151	150
18	---	---	---	---	---	e107	90	91	137	125	149	151
19	---	---	---	---	---	103	93	92	139	119	150	150
20	---	---	---	---	---	e97	89	e87	132	115	148	152
21	---	---	---	---	---	e89	85	e85	132	111	148	156
22	---	---	---	---	---	87	e91	84	e85	118	114	153
23	---	---	---	---	---	88	95	84	96	119	112	153
24	---	---	---	---	---	e84	98	81	e105	133	109	157
25	---	---	---	---	---	100	92	80	104	137	116	155
26	---	---	---	---	---	111	88	96	106	142	120	152
27	---	---	---	---	---	100	106	97	108	141	117	154
28	---	---	---	---	---	95	126	96	116	143	110	152
29	---	---	---	---	---	---	117	96	112	143	103	150
30	---	---	---	---	---	---	e110	136	122	144	102	150
31	---	---	---	---	---	---	e103	---	e124	---	104	152
TOTAL	---	---	---	---	---	2,946	2,722	3,200	4,142	3,793	4,655	4,293
MEAN	---	---	---	---	---	95.0	90.7	103	138	122	150	143
MAX	---	---	---	---	---	126	136	142	154	142	161	158
MIN	---	---	---	---	---	81	80	84	118	102	124	117
AC-FT	---	---	---	---	---	5,840	5,400	6,350	8,220	7,520	9,230	8,520

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2003, BY WATER YEAR (WY)

	170	180	172	169	168	158	160	147	157	158	178	177
MEAN	170	180	172	169	168	158	160	147	157	158	178	177
MAX	219	228	225	231	225	217	268	248	235	219	229	210
(WY)	(1998)	(1996)	(1999)	(1999)	(1998)	(1995)	(1994)	(1994)	(1994)	(1997)	(1994)	(1995)
MIN	97.5	128	99.6	99.3	93.7	87.7	74.1	60.1	94.0	121	118	132
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(1992)	(1992)	(1992)	(1991)	(1993)	(1993)	(1993)

SUMMARY STATISTICS

ANNUAL MEAN
 HIGHEST ANNUAL MEAN
 LOWEST ANNUAL MEAN
 HIGHEST DAILY MEAN
 LOWEST DAILY MEAN
 ANNUAL SEVEN-DAY MINIMUM
 ANNUAL RUNOFF (AC-FT)
 10 PERCENT EXCEEDS
 50 PERCENT EXCEEDS
 90 PERCENT EXCEEDS

WATER YEARS 1991 - 2003

182
 208
 129
 360
 38
 42
 131,600
 223
 192
 126

1996
 1992
 Aug 16, 1992
 Oct 22, 2001
 May 9, 1991

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript

02288600 MIAMI CANAL AT N.W. 36TH STREET, MIAMI, FL

LOCATION.--Lat 25°48'29", long 80°15'49", in NE ¼ sec.29, T.53 S., R.41 E., Miami-Dade County, Hydrologic Unit 03090202, on right bank at downstream end of NW 36th Street bridge fender at Miami, 1200 ft upstream from salinity-control structure S-26.(Corrected).

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--February 1959 to current year.

REVISED RECORDS.--WDR FL-98-2A, 1997

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter. Prior to June 12, 2002, electronic data logger with water-stage shaft encoder and acoustic velocity meter with phone/radio telemetry provided by South Florida Water Management District. Datum of gage is National Geodetic Vertical Datum of 1929 (Dade County bench mark).

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow affected by tide and is occasionally reversed. Some seepage losses above station into Miami-Dade Water and Sewer Authority well field for groundwater withdrawals. Natural flow materially affected by levee and control structures 31, 32 and 32A about 14 mi upstream, and structure 26 downstream. Acoustic velocity meter began on October 1, 1996, and was removed on June 12, 2002. Acoustic doppler velocity meter began on June 12, 2002. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity.

COOPERATION.--South Florida Water Management District.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 28 complete water years of discharge (1960-85, 1987-88).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 5.28 ft (estimated) Oct. 15, 1999; minimum, -0.55 ft Apr. 26, 1970.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 3.16 ft July 2, Sept. 29; minimum, 0.17 ft July 2.

REVISED EXTREME STAGES FOR 2002 WATER YEAR.--Maximum gage height, 3.44 ft Oct. 16, 17; minimum, 0.73 ft Aug. 25.

REVISIONS.--Revised figures of gage height and discharge for the 2002 water year, due to revised datum corrections superseding those published in the report for 2002 are provided below. These corrections applied to the stage resulted in the revision of the index velocity vs. mean channel velocity rating.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.17	2.15	1.75	2.56	2.56	---	2.55	2.33	2.63	1.50	2.77	---
2	2.12	2.15	1.69	2.51	2.62	---	2.55	2.30	2.73	1.51	2.09	1.89
3	2.37	2.04	1.70	2.52	2.68	2.13	2.53	2.27	2.76	1.50	2.28	---
4	2.66	2.01	1.67	2.55	2.69	2.42	2.51	2.25	2.69	1.51	1.58	1.91
5	2.33	2.31	1.80	2.48	2.68	2.45	2.55	2.23	2.63	1.51	2.06	1.89
6	1.92	1.94	---	2.55	2.66	2.52	2.54	2.19	2.65	1.53	1.98	1.92
7	1.79	1.83	---	2.54	2.66	2.49	2.57	2.15	2.66	1.53	2.02	1.94
8	1.80	1.90	1.78	2.57	2.71	2.06	2.63	2.11	2.71	1.62	1.99	1.89
9	1.82	1.85	1.74	2.54	2.69	2.40	2.62	2.08	2.77	1.59	2.15	1.82
10	2.01	1.80	1.77	2.54	2.41	2.27	2.63	2.04	2.20	1.61	2.12	1.81
11	2.85	1.84	1.76	2.56	2.49	2.30	2.60	2.01	1.70	1.61	1.95	1.77
12	2.98	1.82	1.75	2.55	2.76	2.21	2.64	1.99	1.70	1.60	1.83	1.76
13	3.10	1.86	1.77	2.56	2.74	2.76	2.65	1.96	1.70	1.61	1.75	1.59
14	3.10	1.83	2.15	2.59	2.76	2.54	2.68	1.98	1.65	1.58	1.73	1.57
15	3.11	1.88	2.55	2.59	2.67	2.91	2.67	2.14	1.63	1.55	1.68	1.53
16	3.22	1.84	2.54	2.57	2.69	2.86	2.64	2.57	1.62	1.51	1.62	---
17	2.63	1.84	2.53	2.55	2.72	2.42	2.62	2.72	1.59	---	1.60	1.61
18	---	1.84	2.54	2.60	2.74	2.85	2.60	2.75	1.63	1.54	---	1.64
19	---	1.75	2.54	2.60	2.79	2.48	2.58	2.60	2.26	1.54	1.65	1.71
20	---	1.70	2.54	2.57	2.75	2.44	2.58	2.55	2.68	1.98	1.68	1.75
21	2.09	1.67	2.49	2.64	2.68	2.55	2.58	2.60	2.04	2.38	1.61	1.76
22	2.49	1.63	2.52	2.62	2.65	1.99	2.55	2.58	1.76	1.55	1.64	1.75
23	2.20	1.57	2.57	2.62	2.09	1.53	2.54	2.68	1.72	2.13	1.63	1.69
24	2.07	1.58	2.57	2.59	2.27	1.58	2.50	2.70	1.70	2.50	1.61	1.63
25	1.98	1.58	2.58	2.60	2.74	2.15	2.46	2.80	1.67	2.49	2.33	1.63
26	1.83	1.60	2.54	2.57	2.95	2.55	2.44	2.73	1.73	2.51	2.70	1.62
27	1.81	1.61	2.55	2.53	2.81	2.60	2.41	2.78	1.57	2.49	2.72	1.58
28	1.92	1.66	2.58	2.54	2.79	2.60	2.39	2.70	1.50	2.50	---	1.57
29	2.09	1.74	2.54	2.64	---	2.57	2.39	2.66	1.48	2.51	1.59	1.54
30	2.12	1.83	2.55	2.66	---	2.54	2.36	2.69	1.44	2.78	1.65	1.65
31	2.11	---	2.57	2.59	---	2.58	---	2.67	---	---	1.69	---
TOTAL	---	54.65	---	79.70	74.45	---	76.56	74.81	61.20	---	---	---
MEAN	---	1.82	---	2.57	2.66	---	2.55	2.41	2.04	---	---	---
MAX	---	2.31	---	2.66	2.95	---	2.68	2.80	2.77	---	---	---
MIN	---	1.57	---	2.48	2.09	---	2.36	1.96	1.44	---	---	---

REVISED

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02288600 MIAMI CANAL AT N.W. 36TH STREET, MIAMI, FL

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	740	494	613	313	202	---	332	17	144	707	233	---
2	687	481	663	305	156	---	314	16	48	761	440	---
3	549	505	639	282	172	425	303	23	8.0	719	397	---
4	464	500	621	237	160	296	254	19	12	652	650	409
5	884	511	577	304	152	281	230	17	13	649	335	454
6	800	584	e649	277	154	261	223	17	7.9	614	466	462
7	738	544	e682	223	170	285	230	15	3.9	614	441	439
8	661	491	709	185	103	388	168	15	32	e621	499	488
9	646	471	674	237	170	397	173	15	13	e512	437	482
10	539	454	648	260	408	355	148	17	255	e633	428	483
11	163	424	637	244	128	329	117	16	403	e741	486	523
12	226	413	627	266	157	388	16	15	e427	837	488	549
13	165	383	594	223	129	149	19	20	394	764	435	568
14	171	380	364	170	128	238	17	7.5	440	717	389	564
15	168	e357	253	207	174	118	19	8.2	641	680	382	563
16	126	e407	260	203	89	165	21	401	671	680	351	536
17	337	e341	272	246	106	384	16	76	575	659	341	496
18	---	e326	255	210	58	132	15	9.7	518	651	268	301
19	e673	399	271	224	19	352	14	199	229	632	271	430
20	e680	431	301	245	65	286	11	395	176	384	341	427
21	708	478	319	137	147	243	5.8	322	729	359	409	421
22	1,060	483	301	177	149	488	8.7	264	675	586	358	412
23	973	495	284	166	594	604	6.0	143	640	305	375	435
24	907	482	254	203	304	576	2.2	73	610	306	377	449
25	902	486	253	224	69	328	18	23	598	336	110	428
26	858	528	287	234	59	279	15	54	837	326	69	420
27	761	643	243	248	192	270	20	16	789	315	69	398
28	677	652	239	228	252	273	15	168	732	301	---	283
29	599	633	287	153	---	283	9.9	93	672	287	---	318
30	558	582	291	134	---	296	8.5	95	665	151	---	349
31	545	---	301	187	---	272	---	113	---	153	---	---
TOTAL	---	14,358	13,368	6,952	4,666	---	2,749.1	2,682.4	11,957.8	16,652	---	---
MEAN	---	479	431	224	167	---	91.6	86.5	399	537	---	---
MAX	---	652	709	313	594	---	332	401	837	837	---	---
MIN	---	326	239	134	19	---	2.2	7.5	3.9	151	---	---
AC-FT	---	28,480	26,520	13,790	9,260	---	5,450	5,320	23,720	33,030	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2002, BY WATER YEAR (WY)

MEAN	373	282	210	189	184	147	120	126	255	266	286	362
MAX	1,272	1,071	1,041	939	791	729	662	682	813	791	848	1,146
(WY)	(1961)	(1961)	(1960)	(1961)	(1961)	(1960)	(1960)	(1960)	(1968)	(1959)	(1960)	(1960)
MIN	34.5	6.94	0.000	0.000	0.000	-1.61	0.000	-5.53	0.33	4.08	2.32	76.6
(WY)	(1981)	(1989)	(1982)	(1981)	(1982)	(1962)	(1974)	(1993)	(1980)	(1981)	(1987)	(1987)

SUMMARY STATISTICS

ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

WATER YEARS 1959 - 2002

251
843
31.2
1,730
-279
-69
182,000
610
202
0.00

1960
1987
Oct 16, 1999
Jun 1, 1993
May 26, 1993

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

REVISED

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02288600 MIAMI CANAL AT N.W. 36TH STREET, MIAMI, FL

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	2.56	2.75	2.69	2.75	2.60	---	1.66	1.49	2.75	2.44	2.59
2	---	2.60	2.77	2.77	2.80	2.63	2.73	1.79	2.01	2.07	2.46	2.59
3	2.18	2.67	2.74	2.72	2.76	2.60	2.63	2.54	2.59	1.79	2.52	---
4	2.67	2.68	2.71	2.74	2.63	2.60	2.73	2.63	2.64	2.61	2.63	2.43
5	2.74	---	2.72	2.70	2.59	2.62	2.65	2.55	2.68	2.57	2.63	1.62
6	2.79	2.63	2.74	2.77	2.64	2.70	2.61	2.47	2.63	2.64	2.70	1.36
7	2.71	2.71	2.73	2.78	2.74	2.66	---	2.48	2.64	2.63	2.64	1.21
8	2.77	2.67	2.75	2.74	2.76	2.47	---	2.51	2.62	2.68	2.61	1.34
9	2.79	2.77	2.18	2.72	2.77	2.40	---	2.41	2.63	2.69	2.66	1.60
10	2.80	2.80	1.61	2.67	2.74	2.12	2.72	2.41	2.58	2.68	2.71	2.18
11	2.61	2.78	1.43	2.59	2.77	2.58	2.69	2.45	2.57	2.64	2.75	2.58
12	2.68	---	1.44	2.59	2.77	2.63	2.68	2.48	2.65	2.61	2.15	2.58
13	2.61	2.76	1.45	2.62	2.75	2.60	2.66	2.39	2.73	2.58	1.55	2.28
14	2.29	---	1.46	2.68	2.68	2.58	2.64	2.19	2.69	2.57	1.62	1.83
15	1.97	---	1.50	2.70	2.73	2.63	2.56	2.72	2.51	2.54	2.02	2.19
16	2.30	2.57	1.52	2.70	2.75	2.65	2.71	2.64	2.49	2.51	2.65	2.56
17	2.56	1.51	1.80	2.69	2.78	2.50	2.72	2.58	2.66	2.51	2.68	---
18	2.67	2.19	2.57	2.73	2.73	2.55	2.68	2.53	---	2.50	2.67	---
19	2.76	2.62	2.63	2.77	2.73	2.64	2.72	2.58	2.07	2.50	2.70	---
20	2.64	2.63	2.68	2.77	2.69	2.67	2.72	2.63	1.56	2.52	2.19	---
21	2.61	2.59	2.69	2.68	2.47	2.69	2.72	2.54	1.48	2.54	1.48	2.56
22	2.67	---	2.70	2.72	2.39	2.63	2.71	2.60	1.49	2.49	1.51	2.56
23	2.68	---	2.69	2.71	2.53	2.63	2.59	2.30	1.50	2.44	1.52	2.54
24	2.80	---	2.75	2.78	2.52	2.63	2.59	2.02	1.44	2.41	1.54	2.54
25	2.74	2.63	2.64	2.72	2.44	2.66	2.46	2.50	2.06	2.36	1.61	2.56
26	---	2.67	2.67	2.65	2.51	2.63	2.50	2.51	2.56	2.31	1.80	1.98
27	2.61	2.63	2.60	2.64	2.57	2.38	2.61	2.47	2.59	2.32	2.63	1.94
28	2.64	---	2.73	2.69	2.60	1.88	2.57	1.47	2.62	2.38	2.61	1.94
29	2.60	---	2.59	2.73	---	---	2.50	1.45	2.68	2.43	---	2.00
30	2.62	2.63	2.72	2.76	---	---	2.06	1.50	2.71	2.52	---	1.93
31	2.58	---	2.73	2.79	---	---	---	1.50	---	2.48	2.60	---
TOTAL	---	---	73.69	84.01	74.59	---	---	71.50	---	77.27	---	---
MEAN	---	---	2.38	2.71	2.66	---	---	2.31	---	2.49	---	---
MAX	---	---	2.77	2.79	2.80	---	---	2.72	---	2.75	---	---
MIN	---	---	1.43	2.59	2.39	---	---	1.45	---	1.79	---	---

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02288600 MIAMI CANAL AT N.W. 36TH STREET, MIAMI, FL

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	393	254	9.6	77	37	17	e20	421	438	22	14	105
2	e381	163	15	15	13	1.3	21	262	187	327	7.6	110
3	e131	109	25	90	14	16	62	13	24	354	41	---
4	e3.3	102	24	28	17	7.9	23	5.0	33	148	12	174
5	e-0.31	---	30	79	e-8.7	29	21	16	8.6	144	29	394
6	e4.5	114	4.7	44	17	21	23	23	37	112	15	481
7	e35	29	11	8.6	e-14	17	e39	20	19	93	17	439
8	e1.4	55	14	9.6	e-16	15	e31	21	36	51	51	448
9	8.1	17	478	e-0.65	6.1	13	e12	19	66	31	24	369
10	7.7	19	703	7.4	31	159	5.2	23	152	20	30	206
11	141	22	623	13	e-9.4	17	4.2	19	156	19	9.7	130
12	76	e72	569	17	6.1	23	0.28	14	86	17	158	136
13	85	3.4	507	21	11	22	12	115	31	19	215	213
14	299	e9.6	471	11	46	20	14	218	51	17	233	296
15	309	e20	419	8.3	28	10	93	21	180	16	147	186
16	204	202	420	15	30	65	14	21	175	13	8.9	128
17	137	697	221	1.7	3.0	307	9.4	12	68	10	10	---
18	60	253	16	e-3.0	22	214	14	15	e65	16	e-3.3	---
19	19	136	26	12	17	115	19	23	304	14	9.2	---
20	100	120	16	9.9	7.3	72	17	13	456	48	192	---
21	88	192	3.7	8.1	22	40	16	23	444	15	337	---
22	81	---	11	3.9	35	12	6.4	69	492	6.2	292	123
23	36	---	20	39	8.9	51	77	260	576	19	264	148
24	13	---	22	3.5	18	70	18	322	548	13	275	190
25	51	104	119	7.0	14	18	22	245	268	14	233	198
26	e170	72	76	17	63	15	42	197	149	17	173	267
27	149	82	110	9.7	12	267	10	215	132	12	19	316
28	130	e89	11	11	27	435	12	600	107	2.9	101	344
29	103	e13	108	18	---	---	3.2	628	53	22	---	336
30	82	81	52	e-0.39	---	---	275	540	50	7.2	---	489
31	124	---	28	e-2.5	---	e141	---	468	---	12	91	---
TOTAL	3,421.69	---	5,163.0	578.16	457.3	---	935.68	4,861.0	5,391.6	1,631.3	---	---
MEAN	110	---	167	18.7	16.3	---	31.2	157	180	52.6	---	---
MAX	393	---	703	90	63	---	275	628	576	354	---	---
MIN	-0.31	---	3.7	-3.0	-16	---	0.28	5.0	8.6	2.9	---	---
AC-FT	6,790	---	10,240	1,150	907	---	1,860	9,640	10,690	3,240	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2003, BY WATER YEAR (WY)

	MEAN	366	282	209	185	180	147	118	127	253	261	286	362
MAX	1,272	1,071	1,041	939	791	729	662	682	813	791	848	1,146	
(WY)	(1961)	(1961)	(1960)	(1961)	(1961)	(1960)	(1960)	(1960)	(1968)	(1959)	(1960)	(1960)	
MIN	34.5	6.94	0.000	0.000	0.000	-1.61	0.000	-5.53	0.33	4.08	2.32	76.6	
(WY)	(1981)	(1989)	(1982)	(1981)	(1982)	(1962)	(1974)	(1993)	(1980)	(1981)	(1987)	(1987)	

SUMMARY STATISTICS

ANNUAL MEAN
 HIGHEST ANNUAL MEAN
 LOWEST ANNUAL MEAN
 HIGHEST DAILY MEAN
 LOWEST DAILY MEAN
 ANNUAL SEVEN-DAY MINIMUM
 ANNUAL RUNOFF (AC-FT)
 10 PERCENT EXCEEDS
 50 PERCENT EXCEEDS
 90 PERCENT EXCEEDS

WATER YEARS 1959 - 2003

251
 843 1960
 31.2 1987
 1,730 Oct 16, 1999
 -279 Jun 1, 1993
 -69 May 26, 1993
 182,000
 610
 202
 0.00

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript

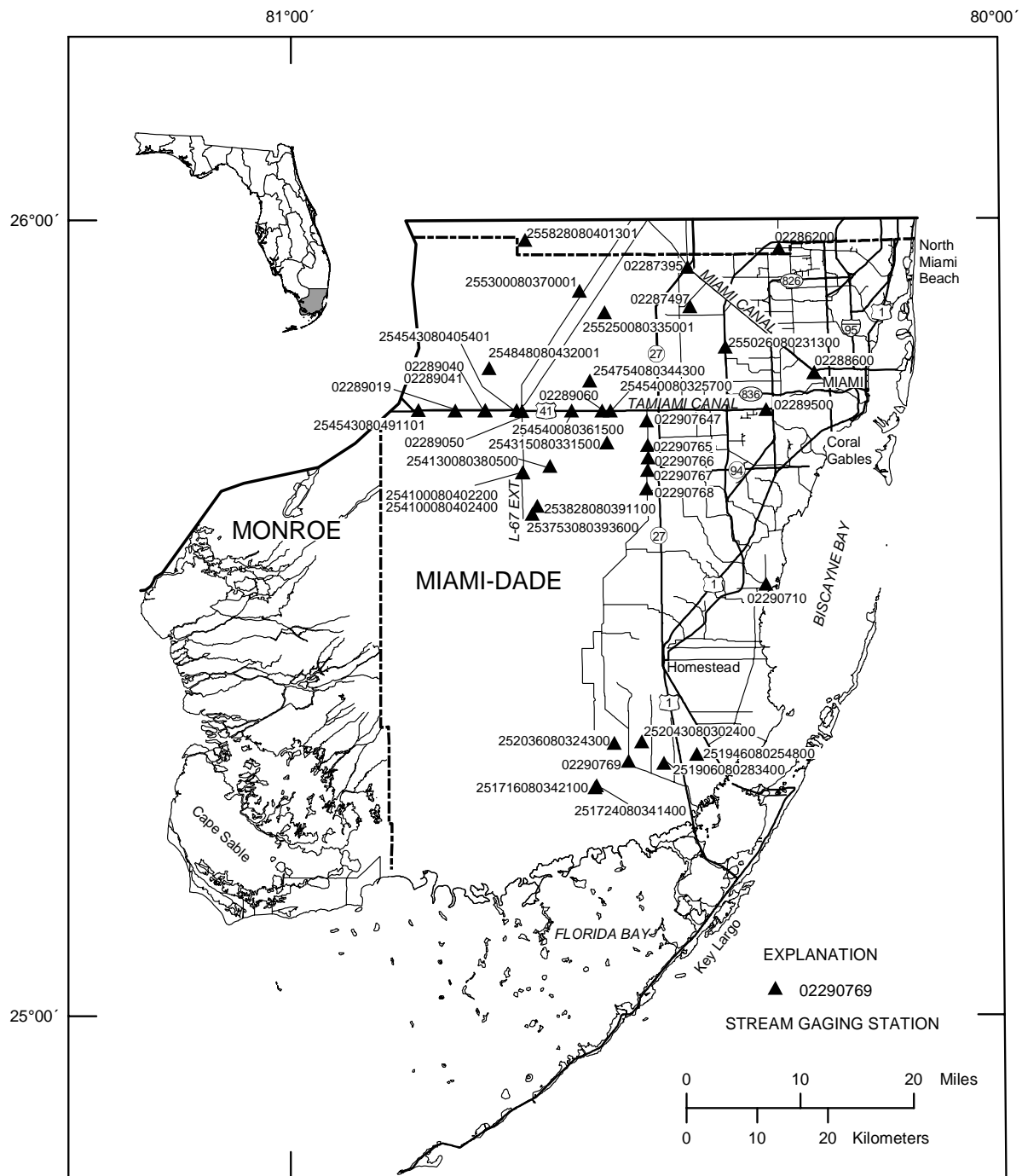
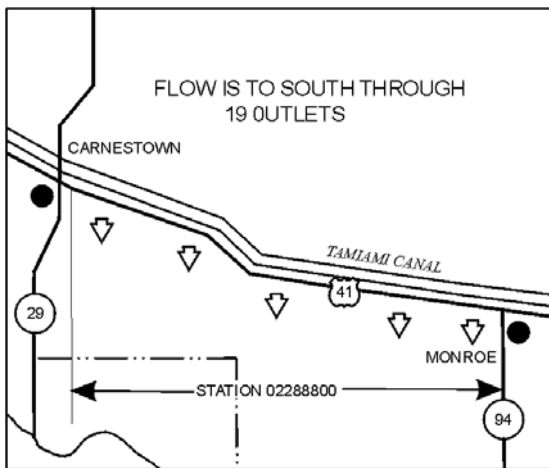
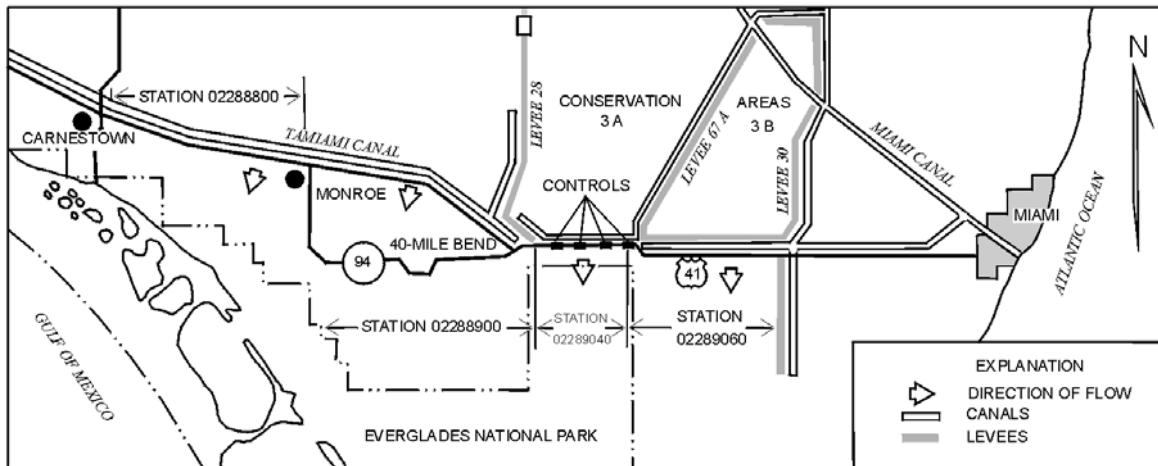
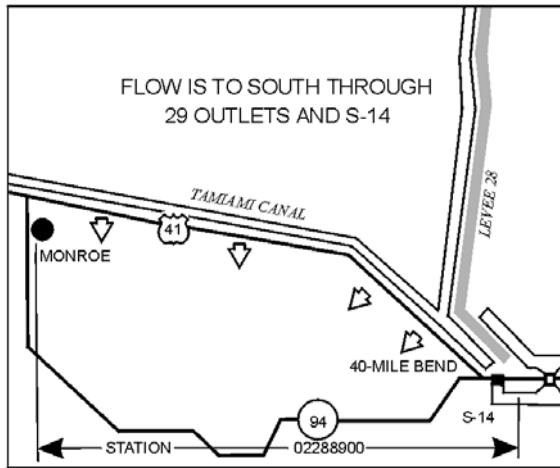


Figure 7. Location of gaging stations in the portion of the Everglades and the southeastern coastal area south of latitude 26 degrees, Florida Bay, and the Florida Keys.

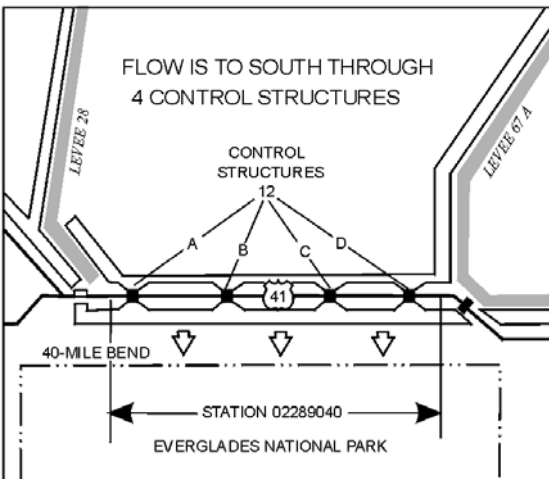
TAMIAMI CANAL OUTLETS



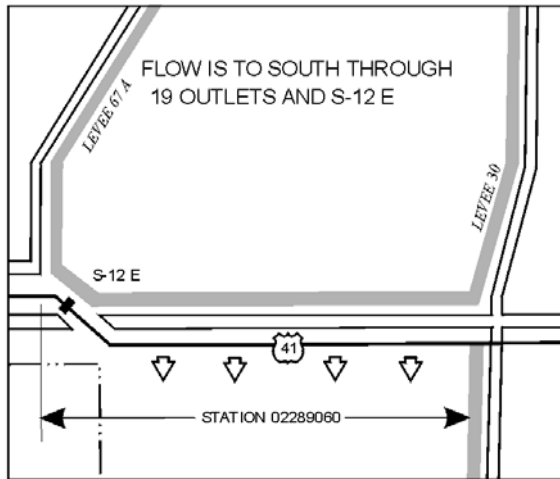
STATION 02288800 MONROE TO CARNESTOWN



STATION 02288900 40-MILE BEND TO MONROE



STATION 02289040 LEVEE 67A TO 40-MILE BEND



STATION 02289060 LEVEE 30 TO LEVEE 67A

Figure 8. Tamiami Canal Outlets.

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA

02288800 TAMAMI CANAL OUTLETS, MONROE TO CARNESTOWN, FL

LOCATION.--Lat 25°53'10", long 81°15'30", in NW ¼ sec.6, T.53 S., R.31 E., Collier County, Hydrologic Unit 03090204, on downstream side of bridge 84 on U.S. Highway 41, 7 mi east of Carnestown, and 10 mi west of Monroe.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--August 1960 to current year.

REVISED RECORDS.--WDR FL-98-2A, 1997.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 2, 1963, at site 2 mi east at datum 0.93 ft lower. From May 2, 1963 to February 10, 1965, at site on west bank of unnamed lateral 30 ft downstream.

REMARKS.--No estimated daily discharges. Records poor. Figures of discharge consist of runoff from Big Cypress Watershed as represented by flow through all the outlets of the Tamiami Canal from Monroe, 55 mi west of Miami, to a point 1 mi east of the intersection with State Highway 29 at Carnestown (Bridge numbers 95-77). Flow at western-most outlets affected by tide. Flow measurements under tidal influence are computed as zero flow. Zero flow occurs for numerous days, during most of the water years. Peak flow above base is not determined.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 42 complete water years of discharge (1960-94, 1996-2003).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 5.90 ft present datum Sept. 14, 1960; minimum, -0.52 ft, June 5-8, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 5.62 ft Sept. 30; minimum, 1.38 ft Apr. 26.

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	4.75	4.25	3.64	3.90	3.32	3.08	2.77	3.65	4.41	4.72	4.88	4.61
2	4.76	4.28	3.62	3.88	3.30	3.04	2.71	3.86	4.33	4.64	4.93	4.60
3	4.76	4.28	3.60	3.97	3.27	3.00	2.65	3.87	4.25	4.55	4.86	4.57
4	4.74	4.24	3.58	4.00	3.26	2.95	2.58	3.81	4.19	4.48	4.75	4.55
5	4.70	4.19	3.56	3.97	3.24	2.89	2.53	3.72	4.12	4.43	4.65	4.58
6	4.65	4.13	3.54	3.95	3.23	2.84	2.56	3.62	4.04	4.42	4.64	4.68
7	4.60	4.06	3.51	3.92	3.21	2.79	2.51	3.52	4.04	4.36	4.60	4.70
8	4.53	3.99	3.48	3.89	3.19	2.73	2.43	3.43	4.06	4.29	4.60	4.69
9	4.46	3.93	3.69	3.86	3.17	2.67	2.36	3.37	4.04	4.22	4.65	4.67
10	4.40	3.87	4.29	3.83	3.14	2.69	2.37	3.31	4.08	4.16	4.67	4.64
11	4.35	3.81	4.33	3.81	3.12	2.90	2.27	3.24	4.02	4.15	4.65	4.59
12	4.33	3.76	4.34	3.79	3.08	2.89	2.20	3.18	4.12	4.27	4.61	4.53
13	4.29	3.71	4.37	3.76	3.03	2.82	2.11	3.12	4.08	4.16	4.59	4.51
14	4.31	3.66	4.39	3.77	2.99	2.76	2.02	3.14	4.00	4.08	4.61	4.56
15	4.28	3.61	4.39	3.75	2.97	2.90	1.94	3.35	3.94	4.02	4.65	4.62
16	4.38	3.61	4.37	3.71	2.95	2.86	1.87	3.36	3.90	4.03	4.65	4.65
17	4.39	3.88	4.35	3.68	3.20	3.20	2.11	3.33	3.97	4.11	4.66	4.64
18	4.38	3.95	4.33	3.65	3.25	3.30	2.18	3.32	4.15	4.12	4.63	4.61
19	4.38	3.93	4.31	3.61	3.23	3.29	2.12	3.33	4.21	4.16	4.58	4.58
20	4.37	3.90	4.29	3.58	3.22	3.24	2.05	3.47	4.24	4.15	4.55	4.57
21	4.36	3.88	4.26	3.56	3.26	3.23	1.93	3.51	4.29	4.07	4.54	4.50
22	4.34	3.90	4.23	3.54	3.25	3.22	1.81	3.55	4.51	4.00	4.59	4.45
23	4.32	3.89	4.20	3.52	3.26	3.19	1.70	3.58	4.68	4.01	4.61	4.41
24	4.29	3.86	4.18	3.49	3.23	3.18	1.57	3.58	4.74	4.27	4.62	4.42
25	4.28	3.83	4.15	3.46	3.20	3.12	1.46	3.56	4.80	4.31	4.64	4.52
26	4.25	3.81	4.12	3.44	3.18	3.05	2.04	3.50	4.77	4.33	4.66	4.75
27	4.23	3.79	4.09	3.42	3.15	3.03	3.00	3.54	4.75	4.32	4.65	4.85
28	4.27	3.76	4.06	3.39	3.12	3.06	3.03	4.24	4.83	4.33	4.64	4.91
29	4.30	3.72	4.01	3.38	---	2.99	2.97	4.42	4.83	4.58	4.62	5.15
30	4.29	3.67	3.96	3.36	---	2.92	3.08	4.52	4.79	4.77	4.59	5.56
31	4.27	---	3.93	3.34	---	2.85	---	4.48	---	4.80	4.59	---
TOTAL	137.01	117.15	125.17	114.18	89.02	92.68	68.93	111.48	129.18	133.31	144.16	139.67
MEAN	4.42	3.90	4.04	3.68	3.18	2.99	2.30	3.60	4.31	4.30	4.65	4.66
MAX	4.76	4.28	4.39	4.00	3.32	3.30	3.08	4.52	4.83	4.80	4.93	5.56
MIN	4.23	3.61	3.48	3.34	2.95	2.67	1.46	3.12	3.90	4.00	4.54	4.41

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA

02288800 TAMIAMI CANAL OUTLETS, MONROE TO CARNESTOWN, FL

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	1,140	398	90	221	26	13	28	255	981	1,570	2,260	1,280
2	1,160	429	84	211	23	10	20	395	859	1,370	2,490	1,240
3	1,160	440	78	263	21	8.6	13	386	762	1,170	2,240	1,190
4	1,120	412	75	279	19	7.2	8.5	326	692	1,040	1,920	1,150
5	1,090	373	71	259	19	6.2	6.5	258	626	920	1,650	1,220
6	1,040	334	69	241	18	5.4	6.5	194	556	915	1,650	1,450
7	980	295	64	221	18	4.7	5.1	143	569	807	1,560	1,500
8	909	257	60	198	17	4.0	3.7	105	612	696	1,570	1,480
9	851	230	140	182	16	3.5	2.8	86	608	605	1,720	1,420
10	797	206	490	167	15	3.9	2.7	67	683	524	1,780	1,350
11	754	187	546	156	13	6.6	1.8	52	630	516	1,740	1,260
12	733	171	568	145	11	6.5	1.2	40	783	642	1,650	1,130
13	702	157	609	133	9.8	5.5	0.69	30	755	511	1,620	1,100
14	716	143	651	134	8.9	4.6	0.23	31	665	427	1,670	1,200
15	697	129	662	126	8.4	6.9	0.00	59	609	374	1,800	1,330
16	754	126	654	112	8.0	6.2	0.00	62	579	391	1,780	1,390
17	732	244	644	102	24	30	0.00	58	689	473	1,770	1,370
18	697	276	624	90	29	51	0.00	57	931	489	1,670	1,280
19	668	254	597	81	27	55	0.00	62	981	539	1,520	1,230
20	636	226	566	73	26	51	0.00	95	1,010	537	1,420	1,180
21	614	211	536	66	29	53	0.00	109	1,060	465	1,380	1,060
22	565	211	503	63	29	55	0.00	124	1,490	410	1,460	958
23	515	202	469	57	29	55	0.00	139	1,870	428	1,480	869
24	480	180	439	52	26	59	0.00	143	2,000	723	1,490	890
25	457	167	418	47	23	52	0.00	137	2,120	797	1,520	1,060
26	425	155	388	42	21	45	2.3	121	1,980	842	1,530	1,550
27	406	144	359	39	18	45	15	153	1,860	842	1,480	1,800
28	435	129	330	36	15	54	22	684	2,020	874	1,440	1,940
29	457	116	293	33	---	48	22	970	1,970	1,380	1,380	2,630
30	442	99	262	30	---	41	50	1,160	1,800	1,860	1,290	4,130
31	418	---	238	28	---	35	---	1,100	---	2,000	1,260	---
TOTAL	22,550	6,901	11,577	3,887	547.1	831.8	212.02	7,601	32,750	25,137	51,190	42,637
MEAN	727	230	373	125	19.5	26.8	7.07	245	1,092	811	1,651	1,421
MAX	1,160	440	662	279	29	59	50	1,160	2,120	2,000	2,490	4,130
MIN	406	99	60	28	8.0	3.5	0.00	30	556	374	1,260	869
AC-FT	44,730	13,690	22,960	7,710	1,090	1,650	421	15,080	64,960	49,860	101,500	84,570

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2003, BY WATER YEAR (WY)

	870	341	165	136	105	105	40.9	47.0	460	766	887	1,224
MEAN	870	341	165	136	105	105	40.9	47.0	460	766	887	1,224
MAX	2,623	1,877	1,627	1,312	840	1,499	397	347	2,658	2,830	1,948	3,165
(WY)	(2000)	(1995)	(1995)	(1995)	(1983)	(1970)	(1970)	(1996)	(1969)	(1966)	(1981)	(1960)
MIN	68.7	12.8	0.029	0.011	0.000	0.000	0.000	0.000	6.58	40.0	38.0	341
(WY)	(1962)	(1991)	(1991)	(2001)	(1982)	(1975)	(1961)	(1962)	(2001)	(1980)	(1963)	(1967)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1960 - 2003

ANNUAL TOTAL	220,754.92	205,820.92	
ANNUAL MEAN	605	564	413
HIGHEST ANNUAL MEAN			790
LOWEST ANNUAL MEAN			187
HIGHEST DAILY MEAN	3,760	Jun 29	4,130
LOWEST DAILY MEAN	0.00	many days	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	many days	0.00
INSTANTANEOUS LOW FLOW			0.00
ANNUAL RUNOFF (AC-FT)	437,900	408,200	299,300
10 PERCENT EXCEEDS	1,700	1,520	1,260
50 PERCENT EXCEEDS	167	334	102
90 PERCENT EXCEEDS	0.00	8.2	0.00

** Many days during water years 1961-62, 1966, 1970, 1972-77, 1979-83, 1988-96, 1998-2002

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA

02288900 TAMIAMI CANAL OUTLETS, 40-MILE BEND TO MONROE, FL

LOCATION.--Lat 25°51'05", long 80°58'50", in SW ¼ sec.13, T.53 S., R.33 E., Collier County, Hydrologic Unit 03090202, on south bank, 25 ft east of bridge 105 on U.S. Highway 41, and 54 mi west of Miami, Dade County.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--November 1939 to September 1963 (monthly discharge only), October 1963 to current year. Prior to October 1963, published as Tamiami Canal at bridge 105, near Miami (auxiliary). Records of gage height prior to October 1963, are available in files of the U.S. Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to February 20, 1952, non-recording gage and February 20, 1952, to May 28, 1952, water-stage recorder, at same site at datum 0.37 ft higher.

REMARKS.--No estimated daily discharges. Records poor. Figures of daily discharge consist of runoff from Big Cypress Watershed and from the southern extension of the Levee 28 canal as represented by flow through all 29 bridges from bridge 28 to 22 and bridge 117 to 96. Prior to October 1963, daily discharge for this portion of canal was published as part of the total daily discharge of station, Tamiami Canal Outlets, Miami to Monroe (station 02289000). No NASQAN water quality records collected after September 30, 1993. No peaks above base determined. Zero flow occurs numerous days, during many water years.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Average annual mean discharge, 347 ft³/s, 251,400 acre-ft/yr. Figures represent 61 complete water years of discharge (1964-88, 1990-97, 1999-2003). Monthly discharge only, available 1941-63 water years.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 10.01 ft Oct. 20, 1947 (present datum); minimum, 2.65 ft May 26, 1974.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 8.89 ft Sept. 29, 30; minimum, 6.57 ft Apr. 26.

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	8.46	8.35	8.14	8.03	7.61	7.32	7.94	7.88	8.31	8.47	8.50	8.61
2	8.44	8.38	8.12	8.01	7.58	7.28	7.90	7.92	8.29	8.46	8.48	8.64
3	8.41	8.38	8.10	8.08	7.54	7.25	7.85	7.93	8.27	8.49	8.49	8.64
4	8.39	8.39	8.08	8.08	7.51	7.21	7.80	8.02	8.27	8.51	8.49	8.64
5	8.38	8.40	8.07	8.06	7.49	7.17	7.73	8.00	8.26	8.50	8.49	8.72
6	8.38	8.40	8.06	8.05	7.48	7.13	7.66	7.97	8.26	8.50	8.50	8.79
7	8.36	8.40	8.04	8.03	7.47	7.09	7.58	7.94	8.28	8.48	8.48	8.79
8	8.34	8.38	8.03	8.02	7.44	7.05	7.50	7.91	8.30	8.46	8.47	8.76
9	8.32	8.37	8.14	8.00	7.42	6.99	7.44	7.88	8.34	8.43	8.48	8.72
10	8.32	8.35	8.37	7.98	7.40	6.97	7.39	7.84	8.37	8.40	8.50	8.69
11	8.39	8.33	8.38	7.97	7.36	6.98	7.31	7.80	8.37	8.36	8.55	8.66
12	8.36	8.31	8.38	7.95	7.33	6.94	7.23	7.75	8.47	8.33	8.63	8.67
13	8.34	8.31	8.37	7.94	7.29	6.89	7.16	7.68	8.42	8.33	8.59	8.70
14	8.34	8.29	8.36	8.02	7.26	6.87	7.09	7.62	8.37	8.37	8.58	8.67
15	8.37	8.26	8.34	8.01	7.23	6.86	7.03	7.60	8.32	8.35	8.55	8.66
16	8.52	8.27	8.32	7.99	7.20	6.83	6.99	7.58	8.28	8.34	8.55	8.65
17	8.52	8.38	8.30	7.98	7.39	7.30	6.96	7.53	8.26	8.32	8.55	8.67
18	8.52	8.36	8.28	7.95	7.39	7.49	7.11	7.47	8.27	8.31	8.54	8.67
19	8.51	8.34	8.27	7.93	7.36	7.45	7.06	7.45	8.29	8.31	8.57	8.65
20	8.49	8.32	8.25	7.91	7.35	7.41	6.97	7.58	8.27	8.33	8.57	8.64
21	8.47	8.31	8.23	7.89	7.34	7.44	6.91	7.57	8.28	8.31	8.58	8.65
22	8.46	8.30	8.21	7.87	7.33	7.40	6.84	7.52	8.37	8.33	8.65	8.64
23	8.43	8.28	8.19	7.85	7.45	7.36	6.77	7.48	8.43	8.44	8.69	8.65
24	8.41	8.26	8.18	7.83	7.44	7.32	6.70	7.44	8.48	8.52	8.65	8.67
25	8.42	8.24	8.16	7.80	7.42	7.25	6.62	7.38	8.51	8.48	8.64	8.64
26	8.41	8.23	8.14	7.77	7.40	7.18	6.98	7.37	8.49	8.46	8.61	8.66
27	8.39	8.21	8.12	7.75	7.38	7.44	7.39	7.52	8.50	8.45	8.59	8.65
28	8.37	8.19	8.10	7.71	7.35	8.08	7.35	8.22	8.56	8.46	8.61	8.66
29	8.35	8.17	8.08	7.68	---	8.05	7.28	8.32	8.53	8.48	8.63	8.79
30	8.32	8.15	8.06	7.66	---	8.02	7.35	8.35	8.50	8.48	8.61	8.89
31	8.31	---	8.04	7.64	---	7.98	---	8.33	---	8.46	8.60	---
TOTAL	260.50	249.31	253.91	245.44	207.21	226.00	217.89	240.85	250.92	260.92	265.42	260.54
MEAN	8.40	8.31	8.19	7.92	7.40	7.29	7.26	7.77	8.36	8.42	8.56	8.68
MAX	8.52	8.40	8.38	8.08	7.61	8.08	7.94	8.35	8.56	8.52	8.69	8.89
MIN	8.31	8.15	8.03	7.64	7.20	6.83	6.62	7.37	8.26	8.31	8.47	8.61

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA

02288900 TAMIAMI CANAL OUTLETS, 40-MILE BEND TO MONROE, FL

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	628	236	160	56	47	99	153	574	949	993	1,160
2	964	706	222	151	54	46	91	176	569	908	929	1,320
3	883	712	206	205	51	45	83	189	564	1,030	931	1,290
4	815	733	189	191	49	44	75	227	560	1,100	927	1,300
5	781	751	179	173	47	39	67	176	534	1,020	945	1,590
6	788	763	169	156	46	33	60	134	544	1,020	941	1,860
7	735	731	157	140	45	28	52	112	596	934	873	1,860
8	697	687	146	127	43	24	43	98	628	876	864	1,760
9	664	643	288	118	40	19	38	85	722	780	893	1,600
10	663	601	604	112	39	16	33	74	801	695	938	1,430
11	864	561	631	106	36	15	27	65	815	614	1,140	1,300
12	772	520	623	100	33	12	22	55	1,130	549	1,440	1,320
13	712	499	610	95	31	8.5	17	45	934	535	1,280	1,470
14	695	457	590	104	29	6.5	13	37	777	628	1,190	1,310
15	806	416	545	99	27	5.4	10	32	660	595	1,090	1,250
16	1,350	441	503	94	25	3.6	9.0	32	565	553	1,070	1,220
17	1,340	677	467	92	38	21	8.8	31	518	527	1,060	1,290
18	1,280	631	434	88	38	30	16	29	542	494	1,030	1,330
19	1,240	569	403	86	37	29	14	30	557	496	1,090	1,270
20	1,170	531	381	84	36	27	11	42	531	536	1,100	1,230
21	1,100	510	360	81	36	30	8.9	43	548	509	1,120	1,300
22	1,000	488	336	79	36	29	6.9	41	740	546	1,370	1,260
23	926	447	316	77	46	27	5.3	40	918	812	1,550	1,290
24	865	413	295	74	47	25	4.0	39	1,080	1,040	1,390	1,410
25	890	386	277	71	48	22	2.7	37	1,160	913	1,330	1,310
26	814	362	253	69	49	19	20	39	1,090	835	1,220	1,380
27	758	334	238	67	49	48	44	62	1,090	808	1,120	1,390
28	706	304	217	64	48	116	43	314	1,350	863	1,190	1,420
29	651	274	199	62	---	112	41	496	1,230	917	1,250	1,950
30	577	252	182	60	---	109	51	587	1,060	901	1,160	2,330
31	542	---	168	59	---	105	---	581	---	863	1,120	---
TOTAL	27,118	16,027	10,424	3,244	1,159	1,141.0	1,015.6	4,101	23,387	23,846	34,544	43,200
MEAN	875	534	336	105	41.4	36.8	33.9	132	780	769	1,114	1,440
MAX	1,350	763	631	205	56	116	99	587	1,350	1,100	1,550	2,330
MIN	542	252	146	59	25	3.6	2.7	29	518	494	864	1,160
AC-FT	53,790	31,790	20,680	6,430	2,300	2,260	2,010	8,130	46,390	47,300	68,520	85,690

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	841	482	267	198	151	134	76.5	64.8	350	595	695	826
MAX	4,052	3,057	3,369	3,062	1,790	971	437	583	1,707	2,021	1,499	2,275
(WY)	(1996)	(1995)	(1995)	(1995)	(1995)	(1995)	(1983)	(1969)	(1982)	(1966)	(1966)	(1995)
MIN	66.6	26.4	3.80	1.54	0.53	0.000	0.000	0.000	0.60	50.6	29.7	135
(WY)	(1973)	(1975)	(1991)	(1990)	(1985)	(1971)	(1971)	(1967)	(1989)	(1987)	(1987)	(1967)

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1964 - 2003	
ANNUAL TOTAL	189,097.08		189,206.6			
ANNUAL MEAN	518		518		396	
HIGHEST ANNUAL MEAN					1,660	
LOWEST ANNUAL MEAN					118	
HIGHEST DAILY MEAN	2,030	Jun 27	2,330	Sep 30	7,270	Oct 17, 1999
LOWEST DAILY MEAN	0.00	many days	2.7	Apr 25	0.00	**
ANNUAL SEVEN-DAY MINIMUM	0.00	many days	7.5	Apr 19	0.00	**
ANNUAL RUNOFF (AC-FT)	375,100		375,300		287,200	
10 PERCENT EXCEEDS	1,300		1,250		1,110	
50 PERCENT EXCEEDS	314		467		132	
90 PERCENT EXCEEDS	1.5		29		1.2	

** Many days during water years 1965-67, 1971-77, 1979, 1981-82, 1984-85, 1988-92, 1999-2002

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

254754080344300 SHARK RIVER SLOUGH NO. 1 IN CONSERVATION AREA 3B NEAR COOPERTOWN, FL

LOCATION.--Lat 25°47'54", long 80°33'43", in SW ¼ sec.30, T.53 S., R.38 E., Miami-Dade County, Hydrologic Unit 03090202, 2.8 mi northwest of Coopertown on east-west ditch in Conservation Area 3B.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1976 to September 1980, October 1982 to current year. Prior to October 1977, published as "Shark Valley Slough No. 1 in Conservation Area 3B near Coopertown."

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Water years 1994 - 1997 were corrected by -0.02 ft, due to levels. Water years 1998 and 1999 were corrected by -0.03 ft, due to levels. Corrected data are in the files of the U.S. Geological Survey.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 9.76 ft Oct. 15, 1999; minimum, 3.95 ft May 23, 1990.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 8.63 ft Sept. 29, 30; minimum, 7.12 ft Apr. 18.

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	8.17	7.91	7.71	7.63	7.42	7.31	7.27	7.48	7.62	8.12	7.93	8.25
2	8.14	7.91	7.70	7.63	7.42	7.31	7.27	7.48	7.60	8.10	7.98	8.29
3	8.12	7.90	7.68	7.65	7.41	7.30	7.25	7.46	7.61	8.09	8.02	8.31
4	8.10	7.88	7.67	7.64	7.40	7.30	7.24	7.44	7.63	8.07	8.04	8.32
5	8.09	7.86	7.66	7.63	7.40	7.29	7.24	7.42	7.68	8.06	8.05	8.32
6	8.08	7.85	7.66	7.62	7.39	7.28	7.24	7.40	7.68	8.04	8.05	8.39
7	8.06	7.83	7.64	7.61	7.39	7.28	---	7.37	7.67	8.02	8.04	8.41
8	8.03	7.81	7.62	7.60	7.38	7.26	7.23	7.37	7.71	8.00	8.03	8.42
9	8.02	7.78	7.66	7.59	7.37	7.26	7.21	7.36	7.75	7.98	8.06	8.41
10	7.99	7.77	7.82	7.58	7.36	7.25	7.21	7.35	7.82	7.95	8.15	8.40
11	7.99	7.75	7.82	7.57	7.35	7.25	7.19	---	7.92	7.93	8.16	8.41
12	8.02	7.73	7.82	7.56	7.34	7.24	7.18	---	7.93	7.90	8.14	8.39
13	8.00	7.72	7.82	7.55	7.33	7.24	7.17	---	7.94	7.88	8.13	8.41
14	7.98	---	7.81	7.56	7.32	7.23	7.16	---	7.92	7.86	8.14	8.42
15	7.97	7.69	7.79	7.55	7.32	7.22	7.16	---	7.91	7.86	8.15	8.42
16	8.06	7.72	7.78	7.54	7.31	7.22	7.15	---	7.93	7.90	8.13	8.40
17	8.07	7.92	7.76	7.54	7.31	7.27	7.14	---	7.92	7.94	8.14	8.39
18	8.05	7.93	7.74	7.53	7.30	7.28	7.14	---	7.92	7.90	8.18	8.39
19	8.03	7.91	7.74	7.52	7.29	7.28	7.25	---	7.91	7.91	8.16	8.40
20	8.01	7.89	7.73	7.51	7.31	7.28	7.24	---	7.92	7.90	8.18	8.38
21	8.01	7.88	7.71	7.50	7.31	7.27	7.23	---	7.94	7.91	8.23	8.38
22	8.00	---	7.69	7.50	7.30	7.26	7.22	---	8.08	7.99	8.24	8.36
23	7.98	---	7.68	7.49	7.31	7.25	7.20	---	8.23	7.97	8.22	8.34
24	7.97	7.84	7.67	7.47	7.31	7.24	7.18	---	8.24	7.94	8.21	8.33
25	7.95	7.82	7.69	7.47	7.31	7.23	7.17	---	8.25	7.92	8.20	8.33
26	---	7.81	7.68	7.46	7.33	7.22	7.21	---	8.22	7.89	8.22	8.37
27	7.94	7.79	7.67	7.45	7.32	7.24	7.25	---	8.21	7.87	8.21	8.38
28	7.92	---	7.66	7.44	7.32	7.30	7.30	7.53	8.20	7.85	8.23	8.39
29	7.90	---	7.64	7.43	---	7.30	7.41	7.61	8.17	7.84	8.25	8.52
30	7.88	7.73	7.64	7.43	---	---	7.43	7.65	8.14	7.84	8.24	8.63
31	7.87	---	7.63	7.42	---	---	---	7.64	---	7.87	8.23	---
TOTAL MEAN	---	---	238.99	233.67	205.63	---	---	---	237.67	246.30	252.34	251.56
MAX	---	---	7.71	7.54	7.34	---	---	---	7.92	7.95	8.14	8.39
MIN	---	---	7.82	7.65	7.42	---	---	---	8.25	8.12	8.25	8.63
MIN	---	---	7.62	7.42	7.29	---	---	---	7.60	7.84	7.93	8.25

261533080571600 L-28 INTERCEPTOR CANAL BELOW S-190 NEAR CLEWISTON, FL

LOCATION.--Lat 26°15'33", long 80°57'16", in SW ¼ sec.32, T.48 S., R.34 E., Hendry County, Hydrologic Unit 03090202, on east bank of Levee 28 Interceptor canal, 500 ft upstream from the northern boundary of Big Cypress National Preserve and inside the southern boundary of the Big Cypress Seminole Indian Reservation, 3.3 mi south of State Road 833, 4.6 mi west of the intersection of the Hendry, Collier and Broward county lines, 6.6 mi north of U.S. Interstate 75, and 33 mi south of Clewiston.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1996 to current year.

GAGE.--Water-stage shaft encoder and acoustic doppler velocity meter provided by the U.S. Geological Survey. Acoustic velocity meter prior to January 1, 2001. Electronic data logger with cellular phone/radio telemetry provided by South Florida Water Management District. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for daily discharges below 100 cfs and estimated discharges, which are poor. Flow affected by levee and control structure S-190 about 2 mi upstream. Flow is positive to the south.

COOPERATION.--Seminole Tribe of Florida.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 4 complete water years of discharge (1998-2001).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 13.80 ft Nov. 5, 1998; minimum, 9.13 ft May 23, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 13.44 ft Sept. 30; minimum, 10.77 ft Apr. 26.

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	11.97	11.61	11.27	11.68	11.30	11.07	11.23	11.18	11.42	11.87	11.77	12.47
2	11.87	11.37	11.22	11.66	11.35	11.05	11.26	11.16	11.38	11.81	11.92	12.38
3	11.72	11.42	11.31	11.68	11.29	11.03	11.20	11.17	11.50	11.81	11.91	12.38
4	11.59	11.45	11.34	11.67	11.24	11.02	11.18	11.15	11.56	11.85	12.00	12.35
5	11.64	11.36	11.28	11.60	11.20	11.02	11.16	11.15	11.48	11.76	12.05	12.37
6	11.66	11.28	11.23	11.48	11.19	10.99	11.22	11.14	11.57	11.80	12.09	12.51
7	11.63	11.20	11.18	11.56	11.17	---	11.20	11.13	11.55	11.79	12.18	12.47
8	11.56	11.21	11.18	11.41	11.13	10.96	11.18	11.10	11.57	11.73	12.18	12.35
9	11.49	11.37	11.34	11.44	11.14	10.94	11.15	11.09	11.65	11.68	12.19	12.27
10	11.54	11.35	11.74	11.48	11.21	10.92	11.09	11.07	11.63	11.70	12.28	12.22
11	11.59	11.28	11.75	11.46	11.30	10.92	11.06	11.05	11.63	11.67	12.38	12.14
12	11.46	11.24	11.74	11.45	11.20	11.01	11.05	11.02	11.54	11.58	12.31	---
13	11.42	11.17	11.76	11.35	11.15	11.00	11.03	11.00	11.58	11.62	12.31	12.61
14	11.42	11.15	11.76	11.39	11.14	10.99	11.02	11.01	11.55	11.58	12.35	12.89
15	11.59	11.16	11.74	11.43	11.14	10.99	11.00	10.99	11.49	11.63	12.39	12.90
16	11.63	11.19	11.67	11.35	11.12	11.03	10.98	10.97	11.55	11.74	12.42	12.80
17	11.50	11.48	11.67	11.45	11.13	11.19	10.96	10.97	11.49	11.71	12.58	12.64
18	11.52	11.46	11.64	11.33	11.11	11.20	10.96	11.03	11.60	11.72	12.55	12.68
19	11.51	11.35	11.62	11.28	11.10	11.19	10.98	11.03	11.64	11.72	12.57	12.55
20	11.43	11.48	11.65	11.25	11.10	11.19	10.96	11.03	11.68	11.70	12.59	12.57
21	11.40	11.36	11.69	11.24	11.12	11.17	10.94	11.04	11.74	11.67	12.64	12.45
22	11.38	11.46	11.67	11.33	11.13	11.27	10.91	11.02	11.91	---	12.70	12.39
23	11.36	11.37	11.64	11.32	11.10	11.32	10.88	11.01	12.01	---	12.71	12.32
24	11.52	11.49	11.66	11.19	11.09	11.37	10.87	11.05	12.01	11.83	12.72	12.30
25	11.71	11.33	11.59	11.19	11.07	11.41	10.86	11.06	12.07	11.73	12.81	12.38
26	11.69	11.44	11.62	11.18	11.09	11.29	10.91	11.06	12.03	11.83	12.75	12.98
27	11.67	11.32	11.57	11.31	11.08	11.32	10.97	11.30	11.94	11.93	12.73	12.98
28	11.65	11.25	11.46	11.35	11.07	11.38	11.01	11.58	11.91	11.82	---	12.99
29	11.57	11.33	11.57	11.28	---	11.41	11.03	11.61	11.92	11.78	---	13.13
30	11.50	11.35	11.51	11.24	---	11.25	11.08	11.48	11.90	11.73	12.58	13.40
31	11.61	---	11.60	11.21	---	11.11	---	11.47	---	11.75	12.54	---
TOTAL	358.80	340.28	357.67	353.24	312.46	---	331.33	345.12	350.50	---	---	---
MEAN	11.57	11.34	11.54	11.39	11.16	---	11.04	11.13	11.68	---	---	---
MAX	11.97	11.61	11.76	11.68	11.35	---	11.26	11.61	12.07	---	---	---
MIN	11.36	11.15	11.18	11.18	11.07	---	10.86	10.97	11.38	---	---	---

261533080571600 L-28 INTERCEPTOR CANAL BELOW S-190 NEAR CLEWISTON, FL

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	271	92	1.7	192	122	-40	86	7.2	122	172	188	422
2	175	3.1	10	152	9.1	-5.2	5.4	11	23	63	268	381
3	68	109	76	129	-21	31	-5.0	29	50	117	166	379
4	12	-14	2.0	122	-45	-29	-22	-15	113	161	317	341
5	92	-20	-22	123	28	-25	-6.1	-48	16	114	328	306
6	46	16	-8.6	15	-15	-36	5.7	-16	31	69	354	493
7	80	1.4	2.0	86	4.8	---	7.6	-30	81	127	420	439
8	-9.9	9.5	-1.7	23	47	-6.3	-13	-40	-37	137	408	327
9	-31	91	113	105	-30	12	-33	-45	100	85	382	---
10	60	-10	232	14	76	41	28	-30	106	30	490	---
11	36	-16	264	133	39	7.0	30	-8.2	60	58	547	---
12	20	-18	219	12	15	-28	35	32	-1.8	1.2	479	---
13	26	1.3	206	4.0	15	-17	14	16	53	-15	437	694
14	3.8	18	240	81	-5.7	18	2.3	-20	94	---	460	851
15	54	-3.7	184	---	-23	31	0.29	-15	-43	---	491	844
16	155	-3.2	116	---	-35	3.1	11	-11	64	---	509	686
17	6.1	126	177	---	21	-24	19	-21	68	---	629	518
18	109	99	170	-2.9	24	11	-15	---	64	130	595	602
19	14	---	85	1.5	-16	-32	-27	---	127	96	620	439
20	8.9	---	125	2.3	-14	-43	-11	---	199	126	594	477
21	-7.5	---	131	4.6	-26	-49	16	---	214	167	634	371
22	22	---	141	70	-46	---	29	e-13	358	---	707	359
23	1.6	50	158	28	12	---	40	-15	389	---	686	300
24	193	50	82	-13	-2.3	---	-35	-10	352	218	702	309
25	190	-3.1	88	5.5	-1.5	---	-50	-19	423	127	789	462
26	237	101	104	8.7	12	-34	-3.2	-17	378	233	655	1,040
27	127	7.8	108	69	-17	78	-14	197	237	252	665	970
28	98	9.7	28	3.2	46	12	-21	163	218	183	---	913
29	100	81	69	-3.1	---	127	-19	204	191	132	---	1,060
30	-2.4	27	92	-0.15	---	16	-1.8	80	118	58	509	1,470
31	188	---	9.2	-18	---	-16	---	131	---	111	486	---
TOTAL	2,342.6	---	3,200.6	---	173.4	---	53.19	---	4,167.2	---	---	---
MEAN	75.6	---	103	---	6.19	---	1.77	---	139	---	---	---
MAX	271	---	264	---	122	---	86	---	423	---	---	---
MIN	-31	---	-22	---	-46	---	-50	---	-43	---	---	---
AC-FT	4,650	---	6,350	---	344	---	106	---	8,270	---	---	---

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

	269	81.4	36.7	-3.58	9.44	7.73	-10.1	-11.9	40.2	70.3	149	225
MEAN	269	81.4	36.7	-3.58	9.44	7.73	-10.1	-11.9	40.2	70.3	149	225
MAX	536	302	164	80.6	108	105	2.50	7.24	139	144	303	485
(WY)	(2001)	(1999)	(1998)	(1998)	(1998)	(1998)	(2002)	(1997)	(2003)	(2001)	(2002)	(2001)
MIN	42.5	0.69	-49.7	-53.5	-39.2	-35.3	-29.3	-30.2	-18.9	-16.5	10.3	37.6
(WY)	(1998)	(2001)	(1997)	(2000)	(1997)	(1997)	(1997)	(2000)	(2000)	(1998)	(2000)	(2000)

SUMMARY STATISTICS

ANNUAL MEAN	73.4
HIGHEST ANNUAL MEAN	106
LOWEST ANNUAL MEAN	38.6
HIGHEST DAILY MEAN	2,050
LOWEST DAILY MEAN	-135
ANNUAL SEVEN-DAY MINIMUM	-91
ANNUAL RUNOFF (AC-FT)	53,140
10 PERCENT EXCEEDS	221
50 PERCENT EXCEEDS	14
90 PERCENT EXCEEDS	-47

WATER YEARS 1997 - 2003

73.4	
106	2001
38.6	2000
2,050	Oct 5, 2000
-135	Jan 18, 2000
-91	Jan 17, 2000
53,140	
221	
14	
-47	

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

261543080495000 L28 CANAL ABOVE S-140 NEAR CLEWISTON, FL

LOCATION.--Lat 26°15'43", long 80°49'50", in SW ¼ sec. 34, T.48 S., R.35 E., Broward County, Hydrologic Unit 03090202, Florida, on east bank, 500 ft upstream from the northern boundary of the Miccosukee Tribe of Florida and inside the southern boundary of the Big Cypress Seminole Indian Reservation, 3.1 mi east of the intersection of the Broward, Collier and Hendry county lines, 6.0 mi north of Pump Station S-140, 6.9 mi north of U.S. Interstate 75, and 33 mi south of Clewiston on the Levee 28 canal.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--February 1997 to current year.

GAGE.--Electronic data logger with water-stage shaft encoder and acoustic velocity meter with cellular phone/radio telemetry provided by South Florida Management District. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for discharge below 100 cfs and estimated discharges, which are poor. Flow affected by G-89 and USSO culvert structures upstream and pump structure S-140 downstream. Positive flow is to the south. Discharge computed from continuous velocity record obtained from acoustic velocity meter and relations between stage vs. area and index velocity vs. mean channel velocity.

COOPERATION.--Seminole Tribe of Florida.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 4 complete water years of discharge (1998-2002).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 12.06 ft Oct. 16, 1999; minimum, 7.84 ft Mar. 7, 2002.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 11.53 ft Sept. 14; minimum, 8.62 ft Nov. 1.

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	9.98	9.39	10.28	10.38	10.59	10.09	10.63	9.75	10.11	9.93	9.50	9.32
2	9.90	9.93	10.58	9.90	10.66	10.39	10.77	9.99	10.54	9.89	9.45	9.94
3	9.86	10.43	9.83	9.64	9.97	10.53	10.79	10.31	10.31	9.94	9.54	9.79
4	9.78	10.64	10.01	10.14	10.04	10.62	10.37	10.66	10.01	9.79	9.52	9.65
5	10.62	10.80	10.46	10.57	10.38	10.67	10.51	10.75	9.81	9.86	9.78	9.78
6	10.46	10.01	9.76	9.85	10.56	10.68	10.76	10.74	9.71	10.13	10.10	9.65
7	9.93	10.28	9.91	10.06	10.66	10.68	10.82	10.70	9.86	9.92	10.01	9.51
8	9.67	9.70	10.34	10.46	10.65	10.67	10.02	10.65	9.88	9.79	10.00	9.84
9	10.41	9.86	9.74	9.92	10.67	10.67	10.22	10.61	9.85	9.91	9.99	9.79
10	9.90	10.27	9.79	9.51	10.69	10.67	10.61	10.63	9.76	9.87	9.99	9.74
11	9.48	10.50	9.77	9.91	10.68	10.70	9.96	10.62	9.78	9.66	9.98	9.68
12	10.11	10.69	9.64	10.39	10.66	10.73	10.05	10.60	9.89	9.46	9.99	---
13	10.73	10.75	9.59	10.64	10.66	10.69	10.38	10.59	10.05	9.54	10.01	10.22
14	10.05	10.79	10.31	9.93	10.67	9.88	10.54	10.60	9.90	10.19	9.98	10.54
15	9.69	9.97	10.81	10.17	10.67	10.0	10.63	10.58	9.80	10.24	9.93	9.60
16	9.99	10.19	10.23	10.57	10.68	10.44	10.67	10.58	9.80	10.26	9.85	9.64
17	10.34	10.32	9.89	9.86	10.74	10.20	10.67	10.59	9.91	10.21	9.98	9.65
18	9.92	9.81	9.57	9.91	10.72	9.90	10.66	10.66	9.98	10.05	9.98	9.64
19	9.52	10.31	10.12	10.30	10.70	10.46	10.68	10.68	10.04	9.81	9.93	9.65
20	10.19	10.16	9.95	10.49	10.73	10.02	10.68	10.59	10.01	9.80	9.85	9.70
21	9.82	10.52	10.37	10.60	10.75	10.10	10.68	9.78	10.0	10.49	9.91	10.51
22	10.21	10.01	9.88	10.68	10.78	10.48	10.69	9.85	9.95	10.31	9.99	10.35
23	10.69	10.35	10.26	9.85	10.73	9.89	10.65	10.29	9.48	9.94	10.04	9.98
24	10.88	10.74	9.90	9.80	10.75	10.24	10.63	10.59	9.91	9.93	10.09	9.92
25	10.11	9.97	10.23	10.12	10.74	10.38	10.61	10.71	9.91	9.80	9.91	9.90
26	10.52	10.26	10.64	10.30	10.74	10.60	10.67	10.75	9.17	9.60	9.32	10.02
27	10.86	9.79	9.96	10.47	10.73	10.60	10.68	10.81	8.91	9.40	9.51	9.55
28	10.14	10.03	10.23	10.65	9.96	10.12	10.66	9.65	9.63	9.48	---	9.53
29	10.55	10.51	10.64	9.94	---	10.49	10.66	9.89	10.10	9.50	---	9.73
30	10.03	10.00	10.78	10.06	---	9.95	9.93	9.89	9.82	9.48	9.94	9.96
31	9.64	---	10.09	10.42	---	10.15	---	10.02	---	9.48	9.96	---
TOTAL	313.98	306.98	313.56	315.49	296.96	321.69	316.28	323.11	295.88	305.66	---	---
MEAN	10.13	10.23	10.11	10.18	10.61	10.38	10.54	10.42	9.86	9.86	---	---
MAX	10.88	10.80	10.81	10.68	10.78	10.73	10.82	10.81	10.54	10.49	---	---
MIN	9.48	9.39	9.57	9.51	9.96	9.88	9.93	9.65	8.91	9.40	---	---

261543080495000 L28 CANAL ABOVE S-140 NEAR CLEWISTON, FL

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	169	120	e30	94	-13	50	47	68	139	181	103	252
2	176	53	11	138	41	74	31	75	86	164	101	270
3	158	26	109	98	121	24	48	3.4	176	177	133	281
4	146	90	57	35	70	84	107	39	154	213	118	267
5	51	e97	101	22	24	81	104	112	140	155	141	330
6	116	140	113	120	72	61	120	68	124	154	164	362
7	130	44	25	31	87	91	74	67	133	168	193	328
8	135	e120	16	35	21	69	118	94	120	156	185	318
9	49	58	145	123	50	86	58	102	129	132	176	299
10	156	86	129	103	63	34	22	91	144	179	169	288
11	144	106	126	33	6.6	4.8	100	63	170	157	166	279
12	61	116	138	42	12	75	15	56	e127	157	176	---
13	71	56	141	35	6.9	104	10	-14	e164	160	229	379
14	145	33	e79	118	48	102	28	7.5	157	121	234	549
15	139	105	---	40	67	-9.0	15	49	e145	104	223	513
16	122	36	e163	63	43	26	-0.71	63	e130	131	178	499
17	98	107	e114	114	50	96	-31	52	e154	137	195	468
18	135	114	130	29	1.1	95	-2.1	64	e178	139	214	515
19	124	54	96	18	57	77	47	74	e157	144	210	463
20	56	129	147	12	78	98	17	14	e159	127	211	439
21	152	63	61	53	82	70	-2.8	71	163	115	218	407
22	79	134	135	70	58	54	13	41	266	164	225	420
23	85	44	67	101	34	120	-50	46	e255	139	229	370
24	88	30	151	20	30	29	20	43	e209	135	246	361
25	144	108	55	-4.6	24	72	43	74	e296	117	290	348
26	80	40	52	-17	56	93	23	103	e248	110	267	377
27	93	107	130	26	123	89	30	148	205	90	235	370
28	164	32	47	30	121	125	71	230	201	130	---	373
29	106	20	39	107	---	62	73	172	199	140	---	414
30	144	72	83	30	---	119	120	143	180	126	306	506
31	129	---	129	-17	---	39	---	124	---	106	340	---
TOTAL	3,645	2,340	---	1,701.4	1,433.6	2,194.8	1,267.39	2,342.9	5,108	4,428	---	---
MEAN	118	78.0	---	54.9	51.2	70.8	42.2	75.6	170	143	---	---
MAX	176	140	---	138	123	125	120	230	296	213	---	---
MIN	49	20	---	-17	-13	-9.0	-50	-14	86	90	---	---
AC-FT	7,230	4,640	---	3,370	2,840	4,350	2,510	4,650	10,130	8,780	---	---

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

	2000	1999	1998	1998	1998	1998	2003	1997	1999	2002	2002	1999
MEAN	226	106	49.6	31.9	39.5	36.4	15.4	25.3	127	179	156	184
MAX	495	287	140	67.0	102	125	42.2	98.6	242	407	208	324
(WY)	(2000)	(1999)	(1998)	(1998)	(1998)	(1998)	(2003)	(1997)	(1999)	(2002)	(2002)	(1999)
MIN	59.3	9.04	2.72	-3.51	-7.12	-10.2	0.98	-9.62	3.17	59.4	49.6	115
(WY)	(1998)	(1998)	(2001)	(2000)	(2000)	(1997)	(2000)	(2001)	(2000)	(2000)	(2000)	(2000)

SUMMARY STATISTICS

ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

WATER YEARS 1997 - 2003

98.4
129 2002
71.3 2000
853 Oct 5, 2000
-77 Apr 24, 2002
-37 May 8, 2001
71,270
276
54
-13

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02289027 DRAINAGE CANAL BELOW STRUCTURE G-136, NEAR CLEWISTON, FL

LOCATION.--Lat 26°40'02", long 80°56'18", in SW ¼ sec.9, T.44 S., R.34 E., Hendry County, Hydrologic Unit 03090202, approximately 1,000 ft east of structure G-136, and approximately 6 mi south of Clewiston, FL.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--May - July 1992 (gage heights only), August 1992 to current year.

REVISED RECORDS.--WDR FL-94-2A, 1992, 1993.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter. Prior to February 1, 2002, acoustic velocity meter. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Flow affected by structure activity at G-136 and by agricultural pumping. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity.

ANNUAL MEAN AND ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 3 complete water years of discharge (1996-97, 2000).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 13.88 ft Nov. 5, 1998; minimum, 9.08 ft May 21, 22, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 12.97 ft Sept. 30; minimum, 9.43 ft Apr. 27.

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	11.19	10.66	10.77	10.68	10.45	---	---	9.79	10.71	10.78	9.91	10.82
2	---	10.86	10.77	10.72	10.63	---	10.59	10.38	10.73	10.72	10.63	---
3	10.98	10.83	10.86	10.89	10.65	---	10.38	10.52	10.61	11.61	10.91	10.58
4	11.41	10.61	11.07	10.94	10.59	10.42	10.45	10.40	10.88	11.09	11.14	10.53
5	11.28	10.67	11.06	10.87	10.51	10.45	10.77	10.40	10.93	10.56	10.42	10.63
6	11.24	10.94	10.97	10.74	10.66	10.55	10.67	10.51	10.92	11.18	10.46	10.88
7	---	10.78	11.03	10.69	10.41	10.71	---	10.65	10.53	10.83	10.04	10.77
8	---	10.53	10.94	10.91	10.51	10.61	---	10.65	10.44	10.97	10.24	10.55
9	11.30	10.67	10.79	10.63	10.63	10.52	---	10.59	10.66	10.82	10.40	10.54
10	11.36	10.56	11.24	10.53	10.48	10.61	10.42	10.69	10.75	10.55	10.61	10.10
11	11.12	10.63	11.50	10.76	10.36	10.73	10.40	10.76	11.35	10.34	11.08	10.10
12	10.87	10.91	11.02	10.62	10.38	---	---	10.51	10.10	10.33	11.45	10.41
13	10.56	11.25	11.49	10.81	10.44	---	10.39	10.51	11.05	10.69	10.90	11.07
14	11.06	---	11.93	10.70	10.54	---	10.39	10.75	10.96	10.78	10.76	10.86
15	11.03	---	11.15	10.58	10.49	10.43	10.47	10.93	11.08	10.83	10.44	10.41
16	10.89	11.31	11.52	10.70	10.42	10.60	11.08	10.91	11.07	11.26	10.33	10.30
17	11.07	11.28	11.18	10.63	10.58	10.85	10.63	11.45	10.80	11.23	10.57	---
18	11.25	11.17	11.22	10.52	10.83	10.36	10.73	11.42	10.88	11.22	11.38	10.19
19	11.26	10.87	11.39	10.70	10.87	10.90	10.89	11.46	10.82	11.22	10.51	10.16
20	11.18	10.82	11.46	10.68	10.75	10.61	10.87	11.17	10.76	11.33	10.58	10.45
21	11.23	10.67	11.79	10.79	11.01	10.64	10.72	10.92	11.67	11.39	10.62	11.07
22	11.31	---	11.17	---	11.21	10.53	10.56	10.79	12.12	11.50	11.49	11.20
23	11.33	---	11.11	10.51	10.70	10.62	10.79	10.50	12.54	11.77	11.42	11.08
24	11.47	---	10.49	10.65	10.87	10.73	10.69	10.43	11.86	11.94	11.58	11.10
25	11.75	10.96	10.36	10.77	10.59	10.49	11.09	10.89	11.19	11.44	11.92	11.06
26	---	10.84	10.81	10.54	10.65	10.45	10.84	10.88	10.79	11.26	11.72	11.82
27	11.58	10.85	10.88	10.55	---	10.71	9.65	10.96	10.97	10.85	11.16	11.00
28	11.50	---	10.57	10.66	---	10.91	10.59	11.94	11.19	10.75	11.24	11.24
29	11.37	---	10.82	10.69	---	10.96	10.53	12.12	11.09	10.27	11.05	11.51
30	11.20	10.76	10.85	10.65	---	---	10.06	11.61	10.83	10.11	10.69	12.50
31	10.92	---	10.77	10.66	---	---	---	10.64	---	10.09	10.89	---
TOTAL	---	---	342.98	---	---	---	---	336.13	330.28	339.71	336.54	---
MEAN	---	---	11.06	---	---	---	---	10.84	11.01	10.96	10.86	---
MAX	---	---	11.93	---	---	---	---	12.12	12.54	11.94	11.92	---
MIN	---	---	10.36	---	---	---	---	9.79	10.10	10.09	9.91	---

02289027 DRAINAGE CANAL BELOW STRUCTURE G-136, NEAR CLEWISTON, FL

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	15	13	11	40	10	e6.5	---	38	46	25	11	105
2	e15	12	13	49	13	e14	11	18	40	19	17	---
3	14	14	15	44	15	e11	9.2	21	33	22	47	87
4	15	10	13	45	11	14	11	14	39	23	52	79
5	16	12	10	36	7.0	11	13	6.5	39	15	44	117
6	17	14	13	31	8.3	10	7.9	9.6	40	21	40	139
7	e16	12	13	31	15	10	e7.7	12	29	13	41	132
8	e18	10	14	24	9.8	14	e7.8	13	29	20	47	98
9	18	12	13	23	10	15	e12	12	28	11	46	85
10	19	12	74	21	15	11	6.0	12	42	11	58	67
11	18	13	167	22	10	12	7.5	14	43	14	64	56
12	15	8.8	129	18	12	e9.4	e9.5	9.2	14	10	69	49
13	14	9.8	129	28	11	e10	12	13	21	9.7	52	37
14	14	e13	140	14	7.4	e10	12	7.7	15	14	50	45
15	16	e10	111	19	9.3	11	12	12	19	16	68	49
16	7.8	11	83	15	11	11	15	15	16	14	60	27
17	10	8.1	78	8.1	10	12	17	13	11	18	80	e12
18	14	14	64	8.5	8.9	11	14	13	16	15	80	20
19	14	16	50	12	14	11	13	12	16	18	89	16
20	13	12	39	13	13	7.8	11	12	18	6.8	86	8.0
21	8.1	11	56	6.9	16	11	14	11	31	19	86	13
22	13	e12	53	e11	13	9.0	13	7.9	92	15	125	18
23	16	e15	50	7.7	9.0	11	13	12	97	17	138	13
24	12	e11	41	9.9	14	7.9	11	7.0	89	28	119	12
25	14	16	31	13	12	10	11	14	86	50	118	22
26	e17	13	28	26	14	9.5	13	13	68	55	114	74
27	17	13	29	26	e19	11	8.1	11	48	54	122	95
28	17	e6.9	21	13	e15	20	13	105	42	40	120	147
29	15	e18	24	11	---	24	9.0	116	33	31	114	184
30	11	9.0	18	12	---	---	41	99	23	28	124	254
31	13	---	17	19	---	---	---	66	---	22	118	---
TOTAL	451.9	361.6	1,547	657.1	332.7	---	---	738.9	1,163	674.5	2,399	---
MEAN	14.6	12.1	49.9	21.2	11.9	---	---	23.8	38.8	21.8	77.4	---
MAX	19	18	167	49	19	---	---	116	97	55	138	---
MIN	7.8	6.9	10	6.9	7.0	---	---	6.5	11	6.8	11	---
AC-FT	896	717	3,070	1,300	660	---	---	1,470	2,310	1,340	4,760	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)																								
MEAN	52.5	138	7.27	(1996)	26.5	113	0.12	(1999)	25.5	84.1	0.039	(1995)	22.5	77.3	4.04	(1995)	27.1	73.6	9.98	(1998)	21.4	38.2	12.7	(1998)	13.7	19.6	4.38	(1997)	18.4	33.9	9.04	(1996)	39.6	116	6.54	(1996)	46.6	127	13.5	(2002)	55.1	131	14.4	(1997)	59.3	124	15.5	(1999)
MAX	138	113	7.27	(1996)	113	77.3	4.04	(1999)	84.1	73.6	9.98	(1995)	77.3	73.6	4.04	(1995)	73.6	38.2	12.7	(1998)	38.2	19.6	4.38	(1998)	19.6	33.9	4.38	(1997)	33.9	116	9.04	(1996)	46.6	127	13.5	(2002)	55.1	131	14.4	(1997)	59.3	124	15.5	(1999)				
MIN	7.27	0.12	0.039	(1996)	0.12	0.039	4.04	(1999)	0.039	4.04	9.98	(1995)	4.04	9.98	4.04	(1995)	9.98	12.7	4.38	(1998)	12.7	4.38	4.38	(1998)	4.38	4.38	4.38	(1997)	4.38	9.04	9.04	(1996)	6.54	13.5	6.54	(2002)	14.4	14.4	14.4	(1997)	15.5	15.5	15.5	(1999)				
(WY)	(1996)	(1999)	(1995)	(1996)	(1999)	(1995)	(1995)	(1996)	(1998)	(1998)	(1997)	(1996)	(1996)	(2002)	(1997)	(1999)	(1996)	(1996)	(1993)	(2001)	(1998)	(1993)	(2001)	(1998)	(1996)	(1996)	(1997)	(1996)	(1998)	(1993)	(2001)	(1998)	(1993)	(2002)	(1997)	(1999)	(1996)	(1996)	(1999)	(1999)	(1999)	(1999)	(1999)					

SUMMARY STATISTICS

ANNUAL MEAN	30.2
HIGHEST ANNUAL MEAN	42.0
LOWEST ANNUAL MEAN	21.1
HIGHEST DAILY MEAN	376
LOWEST DAILY MEAN	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00
ANNUAL RUNOFF (AC-FT)	21,850
10 PERCENT EXCEEDS	68
50 PERCENT EXCEEDS	16
90 PERCENT EXCEEDS	2.4

WATER YEARS 1992 - 2003

30.2	
42.0	1996
21.1	1993
376	Oct 17, 1995
0.00	Sep 19, 1992
0.00	Nov 10, 1992
21,850	
68	
16	
2.4	

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02289031 LEVEE 3 CANAL BELOW STRUCTURE G-155, NEAR CLEWISTON, FL

LOCATION.--Lat 26°19'48", long 80°52'48", in NW ¼ sec.7, T.48 S., R.35 E., Broward County, Hydrologic Unit 03090202, approximately 1,050 ft downstream, due east of structure G-155, 3.0 mi northeast of Snake Road, and 35 mi south of Clewiston, FL.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--May to August 1992 (gage heights only), September 1992 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic velocity meter until January 17, 2002, when it was removed. Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter installed September 25, 2001. The acoustic velocity meter and acoustic doppler velocity meter were run in tandem for the period of September 25, 2001 to January 17, 2002. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity. Flow affected by structure activity at G-155 and by agricultural pumping. Gage height records revised May 1992 through September 1994, based upon new elevation for BM L-4-6 from 22.578 ft to 22.543 ft. Discharge was not revised. Revised records are available in the files of the U.S. Geological Survey. The elevation of BM L-4-6 was revised by South Florida Water Management for a second time, elevation is now 22.380 ft. Gage height records for the 1992 - 1994 water years require an adjustment of + 0.16 ft due to the revised elevation of BM L-4-6. Gage height records for the 1995 - 1996 water years require an adjustment of + 0.19 ft also due to the revised elevation of BM L-4-6.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 1 complete water year of discharge (1997).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 15.56 ft Nov. 8, 1998; minimum, 7.75 ft May 17, 2002.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 14.61 ft Sept. 13; minimum, 10.05 ft May 16.

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	14.07	12.88	13.08	13.57	13.01	13.05	---	12.39	13.74	13.52	13.14	13.94
2	---	12.75	13.08	13.61	12.98	13.05	13.25	12.31	13.78	13.54	13.63	---
3	14.00	12.65	13.07	13.82	12.89	12.93	13.22	12.25	13.63	13.48	13.93	13.71
4	13.47	12.59	13.06	13.86	12.77	13.11	13.10	12.21	13.52	13.28	---	13.61
5	13.25	12.55	13.07	13.92	12.48	12.90	13.05	12.17	13.54	13.38	---	---
6	13.15	12.51	13.05	13.76	12.10	12.82	13.05	12.10	13.48	13.66	---	13.99
7	13.07	12.46	13.00	13.73	11.95	12.83	---	12.03	13.44	13.63	13.92	13.91
8	13.00	12.42	13.01	13.50	11.86	12.85	---	11.84	13.46	13.53	13.89	13.82
9	12.95	12.39	13.11	13.67	11.86	12.82	---	11.37	13.45	13.52	13.89	13.71
10	12.91	12.39	13.19	13.39	11.90	12.77	13.01	11.04	13.30	13.52	13.99	13.61
11	12.93	12.42	13.27	13.25	11.62	12.74	12.98	11.13	13.49	13.46	14.06	13.64
12	12.91	12.38	13.30	13.37	11.50	12.75	12.95	11.10	13.26	13.20	14.13	14.04
13	12.74	12.19	13.38	13.13	11.42	12.77	12.92	10.68	13.56	13.09	14.21	14.44
14	12.66	---	13.54	12.95	11.47	12.85	12.84	10.59	13.60	12.93	14.22	14.32
15	12.57	---	13.51	12.80	11.61	12.73	12.61	10.24	13.66	12.83	14.20	14.29
16	12.58	---	13.55	12.78	11.68	12.61	12.27	10.10	13.63	12.90	14.20	14.16
17	12.49	13.20	13.81	12.83	11.81	13.18	11.84	10.46	13.60	13.42	14.16	---
18	12.33	12.97	13.62	12.96	11.89	12.94	11.52	11.16	13.59	13.11	14.16	---
19	12.17	13.56	13.51	13.05	12.42	13.31	---	11.40	13.56	12.97	14.17	13.87
20	12.05	13.51	13.63	13.02	13.15	13.38	---	11.51	13.50	12.87	14.16	14.07
21	11.98	13.36	13.74	13.00	13.37	13.18	---	11.58	13.54	12.81	14.19	14.12
22	11.87	---	13.66	13.03	13.44	13.17	12.11	11.59	13.84	13.26	14.23	14.13
23	12.02	---	13.48	13.03	13.41	13.42	11.58	11.64	13.94	13.72	14.26	14.10
24	13.24	---	13.65	13.00	13.46	13.51	11.07	11.76	14.01	13.66	14.27	14.14
25	13.60	13.10	13.65	13.02	13.33	13.51	10.82	12.05	14.05	13.34	14.27	14.08
26	---	13.07	13.21	13.31	13.19	13.28	11.93	13.50	13.98	13.25	14.27	14.05
27	13.67	13.07	13.23	13.06	13.42	13.32	12.14	13.60	13.89	13.22	14.30	13.93
28	13.35	---	13.20	12.99	13.33	13.40	12.27	13.23	13.84	13.21	14.29	14.07
29	13.53	---	13.08	13.03	---	13.72	12.60	12.96	13.82	13.17	14.32	14.28
30	13.43	13.07	13.21	12.99	---	---	12.46	12.94	13.66	13.15	14.30	14.45
31	13.17	---	13.39	12.98	---	---	---	13.27	---	13.07	14.18	---
TOTAL	---	---	413.34	410.41	349.32	---	---	366.20	409.36	411.70	---	---
MEAN	---	---	13.33	13.24	12.48	---	---	11.81	13.65	13.28	---	---
MAX	---	---	13.81	13.92	13.46	---	---	13.60	14.05	13.72	---	---
MIN	---	---	13.00	12.78	11.42	---	---	10.10	13.26	12.81	---	---

02289031 LEVEE 3 CANAL BELOW STRUCTURE G-155, NEAR CLEWISTON, FL

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	37	59	18	34	38	e76	29	36	109	53	212
2	e78	35	51	58	56	41	71	20	34	69	102	e187
3	126	37	78	26	59	39	76	31	62	93	256	148
4	75	44	81	41	37	35	90	29	49	105	---	110
5	92	38	50	42	34	65	101	42	48	64	---	e165
6	80	30	45	49	17	41	107	43	63	97	---	310
7	67	35	54	51	11	36	e83	42	77	85	e276	191
8	55	36	46	24	15	53	e78	28	42	92	e253	176
9	51	40	69	23	32	40	e50	24	66	87	e249	121
10	49	43	64	33	13	33	61	27	60	109	e316	118
11	64	41	109	12	14	46	54	19	139	126	e317	73
12	76	25	128	39	18	51	20	12	75	103	e336	136
13	41	27	171	46	15	37	25	18	74	67	e381	412
14	38	e16	203	31	20	56	38	12	70	47	389	423
15	34	e20	146	35	31	29	17	17	70	45	401	388
16	34	e-13	88	43	24	37	19	18	64	1.8	390	290
17	30	24	95	48	24	8.8	17	e-1.1	77	73	370	e233
18	25	31	76	57	24	31	0.42	13	90	72	356	223
19	28	25	63	55	e-20	34	e-14	25	77	59	359	151
20	25	76	51	44	33	88	e27	25	75	31	356	128
21	25	43	60	47	59	25	e28	16	139	33	385	104
22	22	e50	61	33	39	34	17	30	346	43	404	105
23	7.6	e63	28	51	41	39	13	32	373	105	413	78
24	8.7	e89	48	47	27	58	9.4	30	393	107	407	114
25	26	92	61	23	83	80	e-14	e-14	401	102	403	108
26	e9.3	59	49	51	71	92	e-24	e-5.7	345	93	397	123
27	68	57	36	43	50	88	17	29	247	99	393	211
28	59	e51	59	47	51	46	4.7	55	211	93	388	293
29	63	e58	49	58	---	60	23	41	184	81	397	375
30	37	52	33	69	---	e71	27	34	127	56	381	474
31	43	---	68	45	---	e100	---	21	---	73	314	---
TOTAL	1,505.6	1,261	2,279	1,289	912	1,531.8	1,097.52	741.2	4,114	2,419.8	---	6,180
MEAN	48.6	42.0	73.5	41.6	32.6	49.4	36.6	23.9	137	78.1	---	206
MAX	126	92	203	69	83	100	107	55	401	126	---	474
MIN	7.6	-13	28	12	-20	8.8	-24	-14	34	1.8	---	73
AC-FT	2,990	2,500	4,520	2,560	1,810	3,040	2,180	1,470	8,160	4,800	---	12,260

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2003, BY WATER YEAR (WY)

	228	63.2	40.0	25.7	53.7	53.6	16.8	25.9	81.0	183	223	265
MEAN	228	63.2	40.0	25.7	53.7	53.6	16.8	25.9	81.0	183	223	265
MAX	594	181	189	78.8	272	351	36.6	94.2	168	605	486	491
(WY)	(2000)	(1995)	(1998)	(1998)	(1998)	(1998)	(2003)	(1997)	(1994)	(1999)	(1998)	(1994)
MIN	30.9	-2.04	-20.6	-7.67	-7.05	-11.2	-9.36	-5.17	3.43	46.3	43.6	65.4
(WY)	(1993)	(1998)	(1997)	(1997)	(1999)	(1999)	(1999)	(1999)	(1999)	(1993)	(2001)	(2000)

SUMMARY STATISTICS

WATER YEARS 1992 - 2003

ANNUAL MEAN	114	
HIGHEST ANNUAL MEAN	114	1997
LOWEST ANNUAL MEAN	114	1997
HIGHEST DAILY MEAN	1,040	Jun 25, 1996
LOWEST DAILY MEAN	-51	Mar 24, 1999
ANNUAL SEVEN-DAY MINIMUM	-33	Dec 26, 1996
ANNUAL RUNOFF (AC-FT)	82,270	
10 PERCENT EXCEEDS	353	
50 PERCENT EXCEEDS	34	
90 PERCENT EXCEEDS	-16	

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02289032 LEVEE 4 BELOW STRUCTURE G-88, NEAR CLEWISTON, FL

LOCATION.--Lat 26°19'52", long 80°52'48", in NW ¼ sec.7, T.48 S., R.35 E., Broward County, Hydrologic Unit 03090202, approximately 1,050 ft below structure G-88, 3.0 mi northeast of Snake Road and 35 mi south of Clewiston, FL.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--May to July 1992 (gage height only), August 1992 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter. Prior to October 18, 2001, satellite data collection platform with water-stage shaft encoder and acoustic velocity meter. Acoustic doppler velocity meter installed January 10, 2001. The acoustic velocity meter and acoustic doppler velocity meter were run in tandem for the period of January 10, 2001 to October 18, 2001. Datum of gage is National Geodetic Vertical Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Flow affected by operation of G-88, pump station S-8, and by agricultural pumping. Flow reversal occurs at times, during agricultural activity. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity. Gage height records revised -0.04 ft May 1992 through September 1994, based upon revised elevation for BM L-4-6 from 22.578 ft to 22.543 ft. Discharge was not revised. Revised records are available in the files of the U.S. Geological Survey. The elevation of BM L-4-6 was revised by South Florida Water Management for a second time, elevation is now 22.380 ft. Gage height records for the 1992 - 1994 water years are now in error +0.21 ft in the files of the U.S. Geological Survey due to the revised elevation of BM L-4-6. Gage height records for the 1995-1996 water years are now in error +0.25 ft in the files of the U.S. Geological Survey due to the revised elevation of BM L-4-6.

ANNUAL MEAN AND ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 5 complete water years of discharge (1994, 1996-97, 2001-2002).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 14.72 ft July 12, 2002; minimum, 8.11 ft May 17, 2002.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 14.59 ft Sept. 13; minimum, 10.13 ft May 16.

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	14.05	12.86	13.07	13.55	13.01	13.07	---	12.41	13.71	13.50	13.12	13.91
2	---	12.72	13.07	13.59	12.98	13.08	13.29	12.33	13.74	13.52	13.62	---
3	13.98	12.63	13.06	13.79	12.89	12.95	13.26	12.28	13.61	13.47	13.91	13.68
4	13.44	12.57	13.05	13.84	12.76	13.13	13.14	12.23	13.50	13.28	---	13.58
5	13.23	12.55	13.05	13.90	12.48	12.93	13.09	12.19	13.52	13.37	---	---
6	13.13	12.51	13.03	13.74	12.10	12.84	13.09	12.12	13.46	13.64	---	13.99
7	13.04	12.45	12.99	13.71	11.95	12.86	---	12.05	13.43	13.61	---	13.91
8	12.97	12.41	12.99	13.49	11.86	12.88	13.09	11.86	13.45	13.51	---	13.81
9	12.92	12.37	13.10	13.65	11.86	12.85	---	11.39	13.44	13.51	---	13.70
10	12.88	12.38	13.19	13.37	11.90	12.80	13.06	11.08	13.30	13.51	13.98	13.59
11	12.89	12.41	13.26	13.23	11.62	12.77	13.02	11.17	13.47	13.45	14.05	13.62
12	12.88	12.37	13.30	13.35	11.50	12.78	12.99	11.14	13.27	13.19	---	14.02
13	12.71	12.18	13.37	13.12	11.42	12.79	12.95	10.74	13.54	13.08	---	14.43
14	12.63	---	13.57	12.93	11.47	12.88	12.87	10.65	13.58	12.92	---	14.33
15	12.55	---	---	12.79	11.61	12.76	12.65	10.32	13.63	12.82	---	14.30
16	12.55	11.90	---	12.77	11.68	12.65	12.31	10.18	13.60	12.89	---	14.17
17	12.49	13.19	13.81	12.83	11.80	13.21	11.87	10.51	13.58	13.40	---	---
18	12.31	12.95	13.62	12.96	11.89	12.98	---	11.20	13.57	13.10	---	14.00
19	12.16	13.54	13.50	13.05	12.41	13.34	12.42	11.42	13.55	12.95	---	13.86
20	12.03	13.50	13.62	13.02	13.14	13.42	12.98	11.52	13.49	12.86	---	14.05
21	11.97	13.35	---	13.00	13.35	13.22	12.70	11.58	13.53	12.79	---	14.10
22	11.86	---	13.66	13.02	13.42	13.21	12.13	11.60	13.83	13.24	---	14.10
23	12.00	---	13.47	13.03	13.43	13.46	11.63	11.64	13.93	13.70	14.28	14.07
24	13.22	---	---	12.99	13.48	13.54	11.12	11.76	---	13.64	14.29	14.11
25	13.58	13.09	---	13.01	13.35	13.55	10.88	12.05	---	13.33	14.28	14.05
26	---	13.06	13.20	13.30	13.21	13.32	11.94	13.48	13.98	13.25	14.29	14.02
27	13.64	13.06	13.21	13.05	13.43	13.37	12.17	13.58	13.88	13.21	14.30	13.91
28	13.33	---	13.19	12.99	13.35	13.45	---	13.23	13.81	13.20	14.30	14.07
29	13.51	---	13.07	13.02	---	13.76	---	12.96	13.80	13.16	14.32	14.29
30	13.41	---	13.19	12.99	---	---	12.50	12.95	13.64	13.14	14.28	14.47
31	13.16	---	13.38	12.98	---	---	---	13.26	---	13.06	14.16	---
TOTAL	---	---	---	410.06	349.35	---	---	366.88	---	411.30	---	---
MEAN	---	---	---	13.23	12.48	---	---	11.83	---	13.27	---	---
MAX	---	---	---	13.90	13.48	---	---	13.58	---	13.70	---	---
MIN	---	---	---	12.77	11.42	---	---	10.18	---	12.79	---	---

02289032 LEVEE 4 BELOW STRUCTURE G-88, NEAR CLEWISTON, FL

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	48	13	40	0.15	15	20	e53	-3.4	17	40	22	92
2	e53	11	38	16	24	8.2	52	-11	9.3	28	52	e80
3	56	19	39	-16	22	21	46	6.8	22	32	110	70
4	39	21	41	14	4.4	6.0	39	8.1	6.6	47	---	62
5	32	26	28	26	-29	26	35	34	7.0	47	---	e86
6	32	6.4	28	21	-25	12	49	31	29	51	---	144
7	28	-2.0	26	19	-24	7.1	e43	26	35	47	e125	106
8	34	18	33	-8.9	-4.8	19	40	5.4	17	37	e112	105
9	33	23	46	-2.9	9.4	12	e17	-3.6	25	50	---	99
10	29	25	50	-0.21	-16	4.1	2.5	12	30	52	147	86
11	30	31	68	-13	-22	30	7.7	15	55	40	148	67
12	25	1.2	68	-0.47	-15	31	5.4	-20	35	38	e162	78
13	14	-8.1	74	13	0.74	21	11	-20	51	36	e183	173
14	27	e-4.3	92	-3.6	8.6	28	28	-11	41	19	e172	187
15	1.9	e8.0	e46	2.1	13	0.82	5.6	-21	28	11	e173	186
16	-7.1	-19	e37	11	2.0	20	-4.6	-18	30	-11	e165	164
17	-16	-20	53	12	-3.1	-17	-24	-43	45	27	e153	e140
18	6.3	4.6	53	22	-1.4	4.0	e-33	0.39	39	30	e160	131
19	7.7	7.4	28	27	-27	16	-19	14	40	21	e158	97
20	-1.0	38	11	20	6.1	35	24	15	47	8.2	e160	89
21	-8.2	31	e-10	23	24	1.6	-5.7	17	70	16	e171	87
22	-9.1	e30	-65	16	25	24	-40	17	144	22	e183	66
23	-3.7	e52	20	16	10	24	-33	7.2	158	50	191	59
24	-17	e50	e36	19	19	29	-15	6.3	e174	59	182	63
25	-4.2	45	e16	16	34	53	-39	-16	e180	46	176	49
26	e-2.0	37	23	26	37	58	-28	-21	155	50	175	56
27	42	38	33	21	21	56	-5.7	-6.1	109	48	174	103
28	24	e34	34	27	11	59	e-7.6	11	91	42	167	148
29	28	e37	25	34	---	69	e-6.5	7.9	78	32	178	168
30	2.8	e29	26	29	---	e66	8.7	19	59	24	175	213
31	9.0	---	35	28	---	e56	---	23	---	27	139	---
TOTAL	533.4	582.2	1,072	413.17	118.94	799.82	205.8	81.99	1,826.9	1,066.2	---	3,254
MEAN	17.2	19.4	34.6	13.3	4.25	25.8	6.86	2.64	60.9	34.4	---	108
MAX	56	52	92	34	37	69	53	34	180	59	---	213
MIN	-17	-20	-65	-16	-29	-17	-40	-43	6.6	-11	---	49
AC-FT	1,060	1,150	2,130	820	236	1,590	408	163	3,620	2,110	---	6,450

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2003, BY WATER YEAR (WY)

	264	73.0	77.2	58.9	29.4	15.0	-8.10	-14.7	64.6	111	67.3	221
MEAN	264	73.0	77.2	58.9	29.4	15.0	-8.10	-14.7	64.6	111	67.3	221
MAX	756	242	438	290	69.7	86.0	37.4	79.5	186	218	133	676
(WY)	(1996)	(1995)	(1995)	(1995)	(1998)	(1998)	(1997)	(1997)	(1999)	(1994)	(1994)	(1995)
MIN	17.2	-6.15	-0.25	-5.53	-6.28	-30.1	-65.2	-74.7	-23.4	11.4	8.39	40.7
(WY)	(2003)	(1998)	(2001)	(2001)	(1996)	(1999)	(1999)	(1993)	(2000)	(1993)	(2000)	(2000)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

WATER YEARS 1992 - 2003

ANNUAL TOTAL	14,130.41		
ANNUAL MEAN	38.7		70.8
HIGHEST ANNUAL MEAN			126
LOWEST ANNUAL MEAN			28.3
HIGHEST DAILY MEAN	353	Jul 13	995
LOWEST DAILY MEAN	-126	May 18	-214
ANNUAL SEVEN-DAY MINIMUM	-63	Apr 28	-127
ANNUAL RUNOFF (AC-FT)	28,030		51,310
10 PERCENT EXCEEDS	106		177
50 PERCENT EXCEEDS	30		26
90 PERCENT EXCEEDS	-16		-10

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

254543080491101 TAMIAMI CANAL AT S-12-A, NEAR MIAMI, FL

LOCATION.--Lat 25°45'43", long 80°49'11", T.54 S., R.35 E., Dade County, Hydrologic Unit 03090202, on northwest bank of Levee 29 Tamiami Canal, 50 feet south of structure S-12-A. Approximately 21.8 mi west of State Road 997 (old State Road 27) along U.S. Highway 41 near 40 mile bend. No section could be determined from existing maps.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1963 to September 1965, October 1970 to September 1971, October 1975 to September 1976, October 1977 to September 1980 (discharge only), October 1980 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoders for upstream and downstream stages. Datum of gage is National Geodetic Vertical Datum of 1929. Satellite data collection platform installed April 1, 1990.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Station is one of several located downstream from the control structures, in Levee 29 at Tamiami Canal. Gage record is primarily used to determine discharge through control structure 12-A. Discharge is the total discharge through the S-12-A structure, from Conservation Area 3A. The daily discharge computed from relations between discharge, head, and gate-openings when flow is controlled by gates and computed by relation between stage and discharge under uncontrolled conditions. Stage and discharge records prior to 1980, were either fragmentary or unavailable from the files of the U.S. Geological Survey. Upstream gage height records were formerly published under 254543080491100. Upstream gage height records have been relocated under 254543080491101 as Published Upstream record in the files of the U.S. Geological Survey.

COOPERATION.--Gate opening records provided by U.S. Army Corps of Engineers.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 30 complete water years of discharge (1964-65, 1971, 1976, 1978-2003).

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 11.83 ft Dec. 21, 1994; minimum, 5.17 ft June 18, 19, 1989.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 10.69 ft Sept. 29, 30; minimum, 8.90 ft Apr. 16.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 11.80 ft Dec. 21, 1994; minimum, 5.21 ft June 19, 20, 1989.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 10.68 ft Sept. 30; minimum, 7.80 ft Apr. 17.

UPSTREAM
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	10.00	9.94	10.04	10.03	9.73	9.59	9.48	9.30	9.47	10.06	9.72	10.02
2	9.99	9.96	10.03	10.04	9.72	9.57	9.45	9.29	9.49	10.05	9.73	10.04
3	9.97	9.95	10.02	10.07	9.69	9.56	9.40	9.29	9.51	10.06	9.72	10.04
4	9.95	9.93	10.02	10.07	9.67	9.54	9.35	9.30	9.50	10.06	9.72	10.03
5	9.94	9.91	10.0	10.05	9.66	9.52	9.31	9.29	9.51	10.08	9.74	10.05
6	9.93	9.89	9.99	10.04	9.65	9.50	9.28	9.26	9.53	10.10	9.76	10.09
7	9.91	9.90	9.99	10.04	9.62	9.48	---	9.24	9.54	10.09	9.75	10.10
8	9.89	9.94	9.98	10.02	9.61	9.47	9.20	9.21	9.55	10.09	9.80	10.10
9	9.87	9.96	10.03	9.99	9.59	9.45	9.16	9.18	9.56	10.08	9.80	10.11
10	9.87	9.97	10.14	9.97	9.57	9.44	9.11	9.14	9.58	10.07	9.79	10.11
11	9.92	9.97	10.15	9.96	9.55	9.43	9.07	9.10	9.63	10.06	9.78	10.12
12	9.90	9.97	10.16	9.96	9.54	9.42	9.04	9.07	9.69	10.04	9.78	10.11
13	9.88	9.99	10.16	9.96	9.52	9.39	9.00	9.06	9.71	10.02	9.79	10.12
14	9.87	---	10.17	9.96	9.50	9.38	8.97	9.13	9.72	10.02	9.79	10.15
15	9.86	10.01	10.18	9.96	9.50	9.38	8.94	9.13	9.72	10.03	9.79	10.17
16	9.96	10.03	10.18	9.94	9.48	9.36	8.92	9.15	9.74	10.07	---	10.17
17	9.94	10.14	10.17	9.92	9.48	9.42	8.94	9.14	9.76	10.03	---	10.17
18	9.92	10.14	10.17	9.91	9.49	9.43	8.99	9.11	9.76	9.99	---	10.17
19	9.89	10.13	10.16	9.90	9.48	9.43	9.08	9.11	9.78	9.97	---	10.17
20	9.88	10.13	10.16	9.88	9.58	9.42	9.10	9.10	9.79	9.97	---	10.19
21	9.86	10.13	10.16	9.86	9.74	9.41	9.08	9.07	9.81	9.95	---	10.20
22	9.85	---	10.16	9.84	9.65	9.41	9.06	9.04	9.93	9.89	---	10.20
23	9.84	---	10.16	9.83	9.65	9.42	9.05	9.03	10.03	9.83	9.90	10.19
24	9.82	10.11	10.13	9.84	9.65	9.44	9.04	9.04	10.07	9.81	9.90	10.21
25	9.82	10.11	10.13	9.84	9.64	9.41	9.00	9.07	10.09	9.80	9.94	10.26
26	---	10.10	10.13	9.82	9.64	9.38	9.06	9.10	10.09	9.80	9.96	10.35
27	9.79	10.09	10.13	9.81	9.62	9.39	9.12	9.16	10.10	9.79	9.96	10.37
28	9.78	---	10.11	9.80	9.61	9.48	9.14	9.33	10.10	9.76	10.00	10.38
29	9.77	---	10.10	9.78	---	9.50	9.19	9.43	10.09	9.73	10.02	10.57
30	9.75	10.05	10.08	9.76	---	---	9.24	9.48	10.07	9.71	10.01	10.69
31	9.77	---	10.06	9.74	---	---	---	9.48	---	9.70	10.01	---
TOTAL	---	---	313.25	307.59	268.83	---	---	284.83	292.92	308.71	---	305.65
MEAN	---	---	10.10	9.92	9.60	---	---	9.19	9.76	9.96	---	10.19
MAX	---	---	10.18	10.07	9.74	---	---	9.48	10.10	10.10	---	10.69
MIN	---	---	9.98	9.74	9.48	---	---	9.03	9.47	9.70	---	10.02

EVERGLADES AND SOUTHEASTERN COASTAL AREA

254543080491101 TAMIAMI CANAL AT S-12-A, NEAR MIAMI, FL

DOWNSTREAM
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	9.99	8.47	8.15	8.11	7.99	7.99	7.97	8.07	8.16	8.20	9.70	10.02
2	9.97	8.35	8.15	8.11	7.98	7.98	7.97	8.03	8.16	8.20	9.70	10.04
3	9.95	8.30	8.14	8.14	7.98	7.97	7.96	8.00	8.21	8.20	9.70	10.03
4	9.93	8.27	8.14	8.13	7.97	7.97	7.95	8.00	8.18	8.20	9.69	10.03
5	9.93	8.25	8.13	8.12	7.97	7.96	7.94	7.98	8.16	8.21	9.71	10.04
6	9.92	8.24	8.13	8.12	7.97	7.95	7.92	7.96	8.14	8.22	9.74	10.09
7	9.90	8.22	8.13	8.11	7.97	7.95	---	7.95	8.14	8.21	9.73	10.10
8	9.88	8.21	8.12	8.11	7.96	7.95	7.91	7.94	8.13	8.21	9.78	10.09
9	9.86	8.21	8.15	8.10	7.95	7.94	7.90	7.94	8.12	8.20	9.79	10.10
10	9.86	8.19	8.21	8.09	7.94	7.95	7.90	7.93	8.13	8.19	9.77	10.10
11	9.91	8.19	8.19	8.09	7.94	7.96	7.88	7.92	8.12	8.18	9.75	10.10
12	9.89	8.18	8.18	8.09	7.93	7.95	7.87	7.91	8.11	8.18	9.75	10.09
13	9.87	8.20	8.18	8.08	7.92	7.94	7.86	7.92	8.11	8.17	9.76	10.10
14	9.86	---	8.18	8.09	7.91	7.94	7.84	7.99	8.10	8.17	9.76	10.13
15	9.85	8.18	8.17	8.08	7.90	7.94	7.83	7.99	8.09	8.19	9.77	10.15
16	9.94	8.20	8.17	8.08	7.90	7.94	7.82	8.06	8.09	8.26	9.79	10.15
17	9.93	8.26	8.16	8.08	7.93	8.05	7.82	8.02	8.10	8.24	9.81	10.16
18	9.90	8.23	8.16	8.06	7.92	8.00	7.89	7.98	8.14	8.23	9.79	10.15
19	9.88	8.22	8.16	8.06	7.92	7.98	8.01	7.96	8.13	8.25	9.77	10.15
20	9.87	8.22	8.16	8.05	8.01	7.96	7.95	7.94	8.12	8.25	9.79	10.18
21	9.85	8.21	8.15	8.05	8.13	7.96	7.91	7.92	8.13	8.25	9.86	10.19
22	9.84	---	8.14	8.04	8.07	7.96	7.88	7.93	8.22	9.02	9.89	10.18
23	9.82	---	8.14	8.04	8.07	7.97	7.87	7.95	8.24	9.62	9.88	10.18
24	9.81	8.19	8.14	8.03	8.05	7.97	7.85	7.93	8.24	9.69	9.89	10.19
25	9.79	8.18	8.14	8.02	8.03	7.94	7.84	7.92	8.23	9.75	9.92	10.25
26	---	8.18	8.13	8.02	8.02	7.93	7.93	7.94	8.22	9.75	9.95	10.34
27	9.76	8.17	8.13	8.02	8.01	7.94	7.98	7.99	8.21	9.75	9.95	10.35
28	9.74	---	8.12	8.01	8.00	7.98	7.94	8.16	8.21	9.73	9.99	10.37
29	9.74	---	8.12	8.00	---	8.00	7.92	8.23	8.21	9.70	10.01	10.55
30	9.73	8.15	8.12	8.00	---	---	7.97	8.22	8.21	9.68	10.00	10.67
31	9.47	---	8.11	8.00	---	---	---	8.19	---	9.67	10.00	---
TOTAL	---	---	252.60	250.13	223.34	---	---	247.87	244.76	268.77	304.39	305.27
MEAN	---	---	8.15	8.07	7.98	---	---	8.00	8.16	8.67	9.82	10.18
MAX	---	---	8.21	8.14	8.13	---	---	8.23	8.24	9.75	10.01	10.67
MIN	---	---	8.11	8.00	7.90	---	---	7.91	8.09	8.17	9.69	10.02

EVERGLADES AND SOUTHEASTERN COASTAL AREA

254543080491101 TAMIAMI CANAL AT S-12-A, NEAR MIAMI, FL

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	525	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	362	470
2	517	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	359	478
3	504	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	354	475
4	493	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	350	475
5	487	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	355	479
6	482	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	362	497
7	471	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	353	501
8	459	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	370	500
9	449	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	370	502
10	446	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	360	503
11	464	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	350	503
12	455	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	347	499
13	444	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	347	500
14	437	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	347	513
15	433	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	347	523
16	473	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e354	525
17	465	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e365	525
18	453	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e358	529
19	444	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e351	529
20	438	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e360	542
21	432	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e388	552
22	425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	296	e400	548
23	419	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	424	397	547
24	413	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	403	403	558
25	405	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	381	418	588
26	e397	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	380	430	636
27	392	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	380	432	647
28	385	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	372	453	656
29	384	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	361	460	768
30	380	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	355	456	846
31	259	---	0.00	0.00	---	0.00	---	0.00	---	350	459	---
TOTAL	13,630	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,702.00	11,817	16,414
MEAN	440	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	119	381	547
MAX	525	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	424	460	846
MIN	259	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	347	470
AC-FT	27,040	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7,340	23,440	32,560

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

	297	230	113	72.6	63.8	61.0	36.6	18.0	35.6	121	163	201
MEAN	297	230	113	72.6	63.8	61.0	36.6	18.0	35.6	121	163	201
MAX	1,152	1,261	1,335	1,346	849	580	464	267	394	714	682	722
(WY)	(1996)	(1995)	(1995)	(1995)	(1995)	(1993)	(1993)	(1993)	(1993)	(1982)	(1982)	(1995)
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1964 - 2003

ANNUAL TOTAL	56,447.00	45,563.00	
ANNUAL MEAN	155	125	133
HIGHEST ANNUAL MEAN			672
LOWEST ANNUAL MEAN			0.000
HIGHEST DAILY MEAN	583	Aug 19	846
LOWEST DAILY MEAN	0.00	Jan 1	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00
ANNUAL RUNOFF (AC-FT)	112,000		90,370
10 PERCENT EXCEEDS	511		472
50 PERCENT EXCEEDS	0.00		0.00
90 PERCENT EXCEEDS	0.00		0.00

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02289019 TAMIAMI CANAL AT S-12-B, NEAR MIAMI, FL

LOCATION.--Lat 25°45'40", long 80°46'05", T.54 S., R.36 E., Miami-Dade County, Hydrologic Unit 03090202, on west bank of spillway, 100 ft southwest of control structure 12-B, and 35 mi west of Miami. No section could be determined from existing maps.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--April 1963 to September 1963, October 1963 to September 1965, October 1966 to September 1975 (gage heights only), October 1975 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoders for upstream and downstream stages. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Since March 9, 1990, satellite data collection platform. Station is one of several located below the gated control structures in Levee 29 at Tamiami Canal. Gage record is primarily used to determine discharge through structure 12-B. Discharge computed from relation between discharge, head, and gate openings when flow is controlled by gates and computed by relation between stage and discharge under uncontrolled conditions. Discharge records for the missing periods above were either fragmentary or unavailable from files of the U.S. Geological Survey. Upstream gage height records were formerly published under 02289018. Upstream gage height records have been relocated under 02289019 as "Published upstream" record in the files of the U.S. Geological Survey.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 30 complete water years of discharge (1964-65, 1976-2003).

COOPERATION.--Gate opening records provided by U.S. Army Corps of Engineers.

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 11.92 ft Dec. 21, 1994; minimum, 5.14 ft June 18, 19, 1989.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 10.74 ft Sept. 29; minimum, 8.87 ft Apr. 16.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 11.91 ft Dec. 21, 1994; minimum, 5.02 ft June 19, 1989.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 10.73 ft Sept. 29; minimum, 7.63 ft Apr. 17.

UPSTREAM
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	10.02	9.92	10.02	10.02	9.71	9.57	9.46	9.28	9.47	10.04	9.73	10.07
2	10.00	9.93	10.01	10.03	9.69	9.55	9.41	9.28	9.48	10.04	9.74	10.09
3	9.99	9.91	10.00	10.07	9.67	9.54	9.36	9.27	9.49	10.04	9.73	10.09
4	9.97	9.89	10.00	10.06	9.65	9.52	9.32	9.28	9.49	10.06	9.73	10.09
5	9.96	9.88	9.98	10.04	9.64	9.50	9.28	9.27	9.51	10.06	9.75	10.10
6	9.95	9.86	9.98	10.03	9.62	9.48	9.24	9.24	9.51	10.08	9.77	10.16
7	9.93	9.87	9.98	10.03	9.60	9.46	---	9.21	9.53	10.07	9.76	10.16
8	9.90	9.92	9.97	10.01	9.59	9.45	9.17	9.19	9.54	10.07	9.82	10.16
9	9.89	9.94	10.01	9.98	9.57	9.43	9.13	9.16	9.57	10.07	9.82	10.16
10	9.89	9.95	10.12	9.96	9.54	9.42	9.08	9.11	9.61	10.06	9.81	10.16
11	9.92	9.96	10.14	9.95	9.52	9.42	9.04	9.08	9.65	10.04	9.79	10.16
12	9.92	9.95	10.15	9.95	9.51	9.39	9.01	9.04	9.68	10.03	9.79	10.16
13	9.90	9.98	10.15	9.94	9.50	9.37	8.97	9.03	9.70	10.01	9.80	10.18
14	9.89	---	10.17	9.95	9.48	9.36	8.94	9.10	9.71	10.00	9.81	10.20
15	9.88	10.00	10.17	9.94	9.47	9.35	8.91	9.11	9.71	10.01	9.81	10.22
16	9.98	10.02	10.17	9.92	9.46	9.34	8.89	9.13	9.73	10.02	9.83	10.22
17	9.96	10.13	10.16	9.90	9.47	9.40	8.92	9.12	9.75	9.98	9.85	10.22
18	9.93	10.12	10.16	9.90	9.47	9.41	8.96	9.08	9.76	9.93	9.83	10.21
19	9.91	10.12	10.15	9.88	9.47	9.42	9.06	9.09	9.77	9.91	9.82	10.21
20	9.89	10.11	10.15	9.86	9.58	9.41	9.07	9.08	9.79	9.91	9.85	10.23
21	9.88	10.11	10.16	9.84	9.70	9.40	9.06	9.05	9.82	9.90	9.92	10.25
22	9.86	---	10.15	9.83	9.62	9.39	9.04	9.02	9.94	9.87	9.94	10.24
23	9.84	---	10.15	9.81	9.63	9.40	9.03	9.01	10.03	9.84	9.93	10.24
24	9.84	10.09	10.12	9.83	9.63	9.41	9.01	9.03	10.06	9.81	9.94	10.26
25	9.82	10.08	10.12	9.82	9.62	9.39	8.98	9.05	10.08	9.78	9.97	10.31
26	---	10.08	10.12	9.80	9.63	9.35	9.04	9.08	10.08	9.78	10.00	10.41
27	9.79	10.07	10.12	9.79	9.60	9.37	9.10	9.14	10.09	9.78	10.01	10.41
28	9.77	10.06	10.10	9.78	9.59	9.47	9.13	9.32	10.08	9.76	10.04	10.44
29	9.76	---	10.08	9.76	---	---	9.18	9.42	10.07	9.73	10.06	10.64
30	9.75	10.03	10.07	9.74	---	---	9.22	9.47	10.06	9.71	10.05	10.73
31	9.77	---	10.05	9.72	---	---	---	9.47	---	9.69	10.05	---
TOTAL	---	---	312.88	307.14	268.23	---	---	284.21	292.76	308.08	305.75	307.18
MEAN	---	---	10.09	9.91	9.58	---	---	9.17	9.76	9.94	9.86	10.24
MAX	---	---	10.17	10.07	9.71	---	---	9.47	10.09	10.08	10.06	10.73
MIN	---	---	9.97	9.72	9.46	---	---	9.01	9.47	9.69	9.73	10.07

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02289019 TAMiami CANAL AT S-12-B, NEAR MIAMI, FL

 DOWNSTREAM
 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	10.00	9.90	8.00	7.94	7.88	7.88	7.84	7.98	7.93	8.40	9.73	10.05
2	9.99	9.91	7.99	7.94	7.88	7.86	7.84	7.92	7.92	8.41	9.73	10.08
3	9.97	9.89	7.99	7.97	7.88	7.86	7.83	7.89	7.93	8.41	9.73	10.07
4	9.95	9.88	7.99	7.94	7.87	7.85	7.82	7.87	7.93	8.42	9.72	10.08
5	9.94	9.86	7.98	7.93	7.87	7.84	7.81	7.86	7.92	8.43	9.74	10.09
6	9.93	9.84	7.97	7.93	7.87	7.83	7.80	7.84	7.93	8.44	9.76	10.15
7	9.91	9.49	7.96	7.91	7.86	7.82	---	7.81	7.97	8.44	9.75	10.15
8	9.89	9.14	7.96	7.91	7.86	7.82	7.78	7.79	7.98	8.44	9.81	10.15
9	9.88	9.12	8.02	7.91	7.85	7.81	7.77	7.78	7.99	8.44	9.81	10.16
10	9.87	9.11	8.07	7.91	7.85	7.83	7.76	7.76	8.02	8.45	9.79	10.16
11	9.91	9.11	8.02	7.91	7.84	---	7.74	7.74	8.02	8.45	9.78	10.15
12	9.90	9.11	8.00	7.91	7.84	---	7.73	7.72	8.06	8.45	9.78	10.15
13	9.88	8.81	7.99	7.91	7.83	---	7.71	7.73	8.07	8.45	9.79	10.17
14	9.88	---	7.98	7.92	7.82	7.84	7.69	7.83	8.04	8.46	9.79	10.19
15	9.87	8.20	7.97	7.91	7.82	7.86	7.68	7.85	8.03	8.46	9.80	10.21
16	9.96	8.18	7.96	7.90	7.82	7.85	7.66	7.93	8.03	9.08	9.81	10.21
17	9.94	8.23	7.96	7.90	7.84	7.92	7.66	7.92	8.03	9.76	9.84	10.21
18	9.91	8.17	7.96	7.89	7.84	7.90	7.75	7.89	8.03	9.87	9.82	10.21
19	9.89	8.13	7.96	7.89	7.83	7.88	7.87	7.87	8.07	9.92	9.81	10.21
20	9.87	8.11	7.96	7.89	8.00	7.86	7.83	7.86	8.07	9.92	9.84	10.23
21	9.86	8.09	7.96	7.89	8.06	7.90	7.79	7.83	8.10	9.90	9.90	10.24
22	9.84	---	7.96	7.89	7.95	7.88	7.77	7.81	8.20	9.87	9.93	10.24
23	9.83	---	7.96	7.89	7.94	7.88	7.74	7.82	8.21	9.83	9.92	10.23
24	9.81	8.04	7.96	7.88	7.91	7.87	7.73	7.81	8.17	9.80	9.93	10.25
25	9.81	8.04	8.00	7.88	7.91	7.85	7.71	7.80	8.14	9.78	9.97	10.31
26	---	8.03	7.98	7.89	7.94	7.84	7.82	7.79	8.13	9.78	9.99	10.40
27	9.77	8.02	7.97	7.88	7.91	7.89	7.91	7.83	8.15	9.78	10.00	10.41
28	9.76	8.01	7.96	7.88	7.89	7.95	7.89	7.98	8.36	9.75	10.03	10.43
29	9.75	---	7.95	7.88	---	---	7.89	8.02	8.39	9.73	10.05	10.63
30	9.73	8.00	7.95	7.88	---	---	7.92	7.98	8.40	9.71	10.04	10.72
31	9.75	---	7.94	7.88	---	---	---	7.94	---	9.70	10.04	---
TOTAL	---	---	247.28	245.04	220.66	---	---	243.45	242.22	282.73	305.43	306.94
MEAN	---	---	7.98	7.90	7.88	---	---	7.85	8.07	9.12	9.85	10.23
MAX	---	---	8.07	7.97	8.06	---	---	8.02	8.40	9.92	10.05	10.72
MIN	---	---	7.94	7.88	7.82	---	---	7.72	7.92	8.40	9.72	10.05

02289019 TAMAMIAMI CANAL AT S-12-B, NEAR MIAMI, FL

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	403	340	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	290	395
2	391	344	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	288	406
3	377	339	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	284	409
4	364	333	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	278	413
5	353	328	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	280	421
6	345	322	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	284	446
7	331	194	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	277	452
8	318	132	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	290	456
9	306	135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	288	461
10	299	136	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	280	465
11	302	137	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	272	468
12	293	137	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	269	471
13	282	60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	268	482
14	274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	267	498
15	265	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	267	510
16	294	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	252	272	515
17	293	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	401	282	509
18	288	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	368	279	502
19	286	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	351	279	495
20	285	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	350	290	501
21	284	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	345	313	500
22	284	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	334	324	492
23	282	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	322	324	483
24	282	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	314	330	488
25	284	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	305	344	509
26	e283	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	306	356	548
27	281	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	305	360	543
28	281	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	299	375	549
29	282	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	291	384	647
30	282	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	284	384	689
31	291	---	0.00	0.00	---	0.00	---	0.00	---	281	387	---
TOTAL	9,465	2,937.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,108.00	9,465	14,723
MEAN	305	97.9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	165	305	491
MAX	403	344	0.00	0.00	0.00	0.00	0.00	0.00	0.00	401	387	689
MIN	265	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	267	395
AC-FT	18,770	5,830	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10,130	18,770	29,200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

MEAN	296	242	141	81.6	66.6	61.4	32.3	17.9	36.4	107	153	203
MAX	930	1,032	1,232	1,160	681	424	338	192	311	519	550	605
(WY)	(1996)	(2000)	(1995)	(1995)	(1995)	(1995)	(1993)	(1993)	(1993)	(1982)	(1982)	(1995)
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1964 - 2003

ANNUAL TOTAL	49,529.00	41,698.00	
ANNUAL MEAN	136	114	127
HIGHEST ANNUAL MEAN			561
LOWEST ANNUAL MEAN			0.000
HIGHEST DAILY MEAN	487	Aug 19	689
LOWEST DAILY MEAN	0.00	Jan 1	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00
ANNUAL RUNOFF (AC-FT)	98,240		82,710
10 PERCENT EXCEEDS	411		380
50 PERCENT EXCEEDS	0.00		0.00
90 PERCENT EXCEEDS	0.00		0.00

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02289040 TAMAMI CANAL OUTLETS, LEVEE 67A TO 40-MILE BEND, NEAR MIAMI, FL

LOCATION.--Lat 25°45'22", long 80°43'34", T.54 S., R.36 E., Miami-Dade County, Hydrologic Unit 03090202, on south bank of Levee 29 Borrow Canal, 100 ft northwest of control structure 12-C, and 33 mi west of Miami. No section could be determined from existing maps.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--November 1939 to September 1963 (monthly discharge), October 1963 to current year.

REVISED RECORDS.--WDR FL-87-2A, 1986; WDR FL-89-2A, 1983.

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Discharge is the total discharge through the S-12 structures A, B, C, and D from Conservation Area 3A. Prior to October 1963 discharge was the total discharge of station, Tamiami Canal Outlets, Miami to Monroe (station 02289000). The daily discharge computed from relation between discharge, head, and gate openings when flow is controlled by gates and computed by relation between stage and discharge under uncontrolled conditions. Satellite data collection platform at S-12-C downstream that records upstream and downstream gages.

COOPERATION.--Gate-opening records for S-12 complex provided by U.S. Army Corps of Engineers.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Average annual mean discharge, 581 ft³/s, 420,900 acre-ft/yr. Figures represent 60 complete water years of discharge (1941-97,1999-2001). Monthly discharge only, available 1941-63 water years.
SPECIAL NOTE: Statistics for the period of record 1941-2001 computed manually. NWIS database not complete.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 11.87 ft Dec. 21, 1994; minimum, 5.17 ft June 19, 1989.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 10.79 ft Sept. 29, 30; minimum, 8.88 ft Apr. 16.

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	10.07	9.94	10.02	10.02	9.73	9.59	9.46	9.30	9.50	10.05	9.75	10.08
2	10.05	9.94	10.02	10.04	---	9.57	9.41	9.30	9.50	10.04	9.75	10.10
3	10.03	9.91	10.01	10.07	---	9.56	9.35	9.29	9.51	10.05	9.75	10.10
4	10.01	9.90	10.00	10.07	9.67	9.54	9.30	9.30	9.51	10.06	9.74	---
5	10.00	9.88	9.99	10.05	9.66	9.51	9.26	9.29	9.53	10.06	9.76	---
6	9.99	9.86	9.98	10.04	9.64	9.49	9.23	9.26	9.54	10.07	9.78	10.20
7	9.97	9.88	9.98	10.04	9.61	9.48	---	9.23	9.56	10.07	9.77	10.20
8	9.96	9.94	9.97	---	9.61	9.47	9.15	9.20	9.57	10.07	9.82	10.20
9	9.94	9.96	10.02	---	9.58	9.45	9.11	9.17	9.61	10.07	9.82	10.21
10	9.94	9.96	10.13	---	9.56	9.43	9.07	9.12	9.65	10.05	9.80	10.21
11	9.97	9.96	10.15	---	9.55	9.43	9.04	9.09	9.69	10.04	9.79	10.20
12	9.97	9.96	10.16	---	---	9.41	9.00	9.06	9.73	10.02	9.79	10.20
13	9.95	9.98	10.16	---	---	9.39	8.97	9.05	9.74	10.01	9.80	---
14	9.94	---	10.18	---	9.48	9.37	8.94	9.11	9.74	10.00	9.81	---
15	9.93	9.99	10.18	---	9.48	9.37	8.91	9.12	9.75	10.00	9.82	---
16	10.02	10.02	10.18	---	9.46	9.35	8.90	9.14	9.77	10.00	9.83	10.29
17	10.00	10.14	10.18	---	9.47	9.41	8.94	9.12	9.78	9.97	9.85	10.29
18	9.98	---	10.16	---	---	9.43	8.98	9.09	9.79	9.94	9.83	10.29
19	9.95	10.12	10.16	---	---	9.43	9.08	9.10	9.81	9.92	9.84	10.30
20	9.93	10.12	10.15	---	---	9.42	9.09	9.09	9.82	9.91	9.88	10.30
21	9.92	10.11	10.14	---	---	9.41	9.08	9.05	9.85	9.90	9.94	10.31
22	9.90	---	10.12	---	9.61	9.41	9.06	9.02	9.97	9.87	9.96	---
23	9.88	---	10.11	---	9.64	9.41	9.05	9.02	10.06	9.84	9.95	---
24	9.87	10.10	10.08	---	9.64	9.43	9.03	9.05	10.08	9.82	---	10.33
25	9.86	10.09	10.09	---	9.64	9.39	9.00	9.08	10.10	9.80	---	10.38
26	---	10.08	10.12	---	9.65	9.36	9.06	9.10	10.10	9.80	9.99	10.48
27	9.83	10.08	10.12	---	9.62	9.39	9.12	9.17	10.11	9.80	10.00	10.47
28	9.81	10.07	10.10	---	9.60	9.51	9.16	9.35	10.09	9.78	10.05	10.51
29	9.80	---	10.10	---	---	9.51	9.21	9.44	10.08	9.75	10.07	10.72
30	9.78	10.04	10.08	9.77	---	---	9.24	9.49	10.06	9.73	10.07	10.78
31	9.80	---	10.05	9.75	---	---	---	9.49	---	9.72	10.06	---
TOTAL	---	---	312.89	---	---	---	---	284.69	293.60	308.21	---	---
MEAN	---	---	10.09	---	---	---	---	9.18	9.79	9.94	---	---
MAX	---	---	10.18	---	---	---	---	9.49	10.11	10.07	---	---
MIN	---	---	9.97	---	---	---	---	9.02	9.50	9.72	---	---

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02289041 TAMAMIAMI CANAL BELOW S-12-C, NEAR MIAMI, FL

LOCATION.--Lat 25°45'40", long 80°43'34", T.54 S., R.36 E., Miami-Dade County, Hydrologic Unit 03090202, on west bank of spillway, 100 ft southwest of control structure 12-C, and 33 mi west of Miami. No section could be determined from existing maps.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--April 1963 to September 1963, October 1965 to September 1976 (gage heights only), October 1963 to September 1965, October 1976 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoders for upstream and downstream stages. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Daily mean for upstream gage height published under 02289040. Station is one of several located downstream from the control structures in Levee 29 at Tamiami Canal. Gage record is primarily used to determine discharge through control structure 12-C. Discharge is the total discharge through the S-12-C structure, from Conservation Area 3A. The daily discharge computed from relation between discharge, head, and gate-openings when flow is controlled by gates and computed by relation between stage and discharge under uncontrolled conditions. Since March 16, 1990, data collection platform. Discharge records prior to 1976, for missing periods were fragmentary or missing from the files of the U.S. Geological Survey.

COOPERATION.--Gate-opening records provided by the U.S. Army Corps of Engineers.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 28 complete water years of discharge (1964-65, 1977-2002).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 11.86 ft Dec. 21, 1994; minimum, 4.87 ft June 19, 20, 1989.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 10.78 ft Sept. 29, 30; minimum, 7.63 ft Apr. 17.

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	10.08	9.94	8.03	7.96	7.92	7.92	7.85	7.98	7.91	9.55	9.73	10.07
2	10.06	9.94	8.03	7.96	7.91	7.91	7.85	7.92	7.90	9.55	9.73	10.09
3	10.04	9.92	8.02	8.00	7.91	7.90	7.84	7.88	7.92	9.56	9.73	10.10
4	10.02	9.90	8.01	7.98	7.90	7.90	7.83	7.87	7.92	9.56	9.72	---
5	10.01	9.89	8.01	7.97	7.91	7.88	7.82	7.86	7.91	9.56	9.74	---
6	10.00	9.87	8.00	7.96	7.91	7.87	7.81	7.83	7.92	9.57	9.76	10.19
7	9.98	9.48	8.00	7.96	7.91	7.87	---	7.80	7.96	9.58	9.75	10.19
8	9.96	8.97	7.99	7.95	7.90	7.86	7.78	7.78	7.97	9.58	9.81	10.19
9	9.94	8.93	8.04	7.95	7.89	7.86	7.77	7.76	7.99	9.58	9.82	10.19
10	9.94	8.92	8.10	7.95	7.89	7.88	7.77	7.75	8.03	9.58	9.80	10.19
11	9.97	8.91	8.05	7.95	7.88	7.89	7.74	7.73	8.03	9.57	9.79	10.19
12	9.97	8.90	8.03	7.95	7.88	7.88	7.73	7.71	8.06	9.56	9.79	10.19
13	9.95	8.69	8.02	7.94	7.87	7.87	7.71	7.71	8.07	9.56	9.80	---
14	9.95	---	8.01	7.96	7.86	7.86	7.69	7.82	8.04	9.55	9.81	---
15	9.93	8.23	8.00	7.95	7.86	7.88	7.68	7.85	8.03	9.56	9.82	---
16	10.02	8.21	8.00	7.94	7.86	7.88	7.66	7.93	8.03	9.81	9.83	10.27
17	10.01	8.26	7.99	7.94	7.88	7.94	7.66	7.92	8.03	9.96	9.85	10.27
18	9.98	8.20	7.99	7.93	---	7.93	7.73	7.88	8.04	9.92	9.83	10.26
19	9.96	8.16	7.99	7.93	---	7.90	7.84	7.86	8.06	9.90	9.84	10.27
20	9.94	8.14	7.99	7.93	8.00	7.88	7.81	7.85	8.07	9.90	9.87	10.28
21	9.92	8.13	7.99	7.93	8.10	7.92	7.78	7.81	8.11	9.88	9.94	10.29
22	9.90	---	7.98	7.93	8.01	7.90	7.76	7.79	8.23	9.86	9.96	---
23	9.89	---	7.98	---	8.00	7.90	7.74	7.80	8.27	9.82	9.95	---
24	9.88	8.08	7.98	---	7.96	7.89	7.71	7.79	8.22	9.80	---	10.32
25	9.87	8.07	8.02	---	7.96	7.87	7.70	7.78	8.19	9.78	---	10.37
26	---	8.06	8.01	---	7.99	7.85	7.81	7.78	8.18	9.78	10.00	10.47
27	9.83	8.05	7.99	---	7.96	7.91	7.90	7.81	8.58	9.78	10.01	10.46
28	9.81	8.05	7.98	7.92	7.94	7.98	7.89	7.98	9.56	9.76	10.04	10.50
29	9.80	---	7.97	7.92	---	7.93	7.89	8.01	9.56	9.73	10.06	10.71
30	9.79	8.03	7.96	7.92	---	---	7.91	7.98	9.55	9.71	10.05	10.76
31	9.80	---	7.96	7.92	---	---	---	7.93	---	9.70	10.05	---
TOTAL	---	---	248.12	---	---	---	---	243.15	246.34	300.56	---	---
MEAN	---	---	8.00	---	---	---	---	7.84	8.21	9.70	---	---
MAX	---	---	8.10	---	---	---	---	8.01	9.56	9.96	---	---
MIN	---	---	7.96	---	---	---	---	7.71	7.90	9.55	---	---

02289041 TAMAMI CANAL BELOW S-12-C, NEAR MIAMI, FL

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	725	650	0.00	0.00	0.00	0.00	0.00	0.00	0.00	641	652	768
2	716	651	0.00	0.00	0.00	0.00	0.00	0.00	0.00	635	652	778
3	708	643	0.00	0.00	0.00	0.00	0.00	0.00	0.00	638	651	784
4	698	634	0.00	0.00	0.00	0.00	0.00	0.00	0.00	639	643	e781
5	692	627	0.00	0.00	0.00	0.00	0.00	0.00	0.00	639	649	e797
6	689	619	0.00	0.00	0.00	0.00	0.00	0.00	0.00	642	658	833
7	680	388	0.00	0.00	0.00	0.00	0.00	0.00	0.00	637	655	832
8	669	163	0.00	0.00	0.00	0.00	0.00	0.00	0.00	638	678	829
9	660	167	0.00	0.00	0.00	0.00	0.00	0.00	0.00	633	681	830
10	659	168	0.00	0.00	0.00	0.00	0.00	0.00	0.00	628	674	830
11	673	169	0.00	0.00	0.00	0.00	0.00	0.00	0.00	622	670	824
12	671	169	0.00	0.00	0.00	0.00	0.00	0.00	0.00	618	668	820
13	665	74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	608	667	e822
14	663	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	608	673	---
15	657	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	606	676	e858
16	695	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	679	679	861
17	690	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	716	684	857
18	678	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	701	679	851
19	665	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	695	680	854
20	653	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	696	691	868
21	648	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	691	721	878
22	639	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	683	729	e883
23	631	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	670	722	e891
24	628	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	664	e726	917
25	624	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	654	e739	958
26	e614	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	659	742	1,030
27	609	0.00	0.00	0.00	0.00	0.00	0.00	0.00	273	662	743	1,030
28	597	0.00	0.00	0.00	0.00	0.00	0.00	0.00	661	655	764	1,070
29	593	0.00	0.00	0.00	---	0.00	0.00	0.00	656	645	771	1,230
30	587	0.00	0.00	0.00	---	0.00	0.00	0.00	650	639	765	1,280
31	592	---	0.00	0.00	---	0.00	---	0.00	---	637	765	---
TOTAL	20,368	5,122.00	0.00	0.00	0.00	0.00	0.00	0.00	2,240.00	20,178	21,547	---
MEAN	657	171	0.000	0.000	0.000	0.000	0.000	0.000	74.7	651	695	---
MAX	725	651	0.00	0.00	0.00	0.00	0.00	0.00	661	716	771	---
MIN	587	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	606	643	---
AC-FT	40,400	10,160	0.00	0.00	0.00	0.00	0.00	0.00	4,440	40,020	42,740	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

	506	457	285	208	160	146	85.3	54.0	91.5	265	329	400
MEAN	506	457	285	208	160	146	85.3	54.0	91.5	265	329	400
MAX	1,385	1,542	1,752	1,677	1,174	789	537	366	431	948	855	1,136
(WY)	(1996)	(2000)	(1995)	(1995)	(1995)	(1995)	(1993)	(1993)	(1993)	(1982)	(1982)	(1995)
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

WATER YEARS 1964 - 2003

ANNUAL TOTAL	94,714.00	
ANNUAL MEAN	259	262
HIGHEST ANNUAL MEAN		919
LOWEST ANNUAL MEAN		0.000
HIGHEST DAILY MEAN	864	2,500
LOWEST DAILY MEAN	0.00	-49
ANNUAL SEVEN-DAY MINIMUM	0.00	-9.7
ANNUAL RUNOFF (AC-FT)	187,900	189,600
10 PERCENT EXCEEDS	783	714
50 PERCENT EXCEEDS	0.00	101
90 PERCENT EXCEEDS	0.00	0.00

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

254543080405401 TAMIAMI CANAL AT S-12-D, NEAR MIAMI, FL

LOCATION.--Lat 25°45'43", long 80°40'54", T.54 S., R.36 E., Miami-Dade County, Hydrologic Unit 03090202, on south bank 100 ft southwest of structure 12-D, near east boundary of Indian Reservation on U.S. Highway 41. No section could be determined from existing maps.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1963 to September 1965, October 1975 to September 1977, October 1978 to September 1979, October 1980 to September 1981 (discharge only), October 1981 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoders for upstream and downstream stages, tipping bucket rain gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Station is one of several located downstream from the control structures in Levee 29 at Tamiami Canal. Gage records are primarily used to determine discharge through control structure 12-D. Discharge is the total discharge through the S-12-D structure from Conservation Area 3A. The daily discharge computed from relations between discharge, head, and gate openings when flow is controlled by gates and computed by relation between stage and discharge under uncontrolled conditions. Discharge and stage record for missing periods were fragmentary or missing from the files of the U.S. Geological Survey. Since October 1, 1989, satellite data collection platform. Rainfall data is available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003. Upstream gage height records were formerly published under 254543080405400. Upstream gage height records have been relocated under 254543080405401 as "Published upstream" record in the files of the U.S. Geological Survey.

COOPERATION.--Gate-opening records provided by the U.S. Army Corps of Engineers.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.-- Figures represent 26 complete water years of discharge (1964-65, 1976-77, 1979, 1981-97, 1999-2001, 2003).

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 11.99 ft Dec. 21, 1994; minimum, 5.16 ft June 19, 1989.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 10.99 ft Sept. 29, 30; minimum, 8.85 ft Apr. 16.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 11.94 ft Dec. 21, 1994; minimum, 4.70 ft June 20, 1989.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 10.93 ft Sept. 29, 30; minimum, 8.35 ft Mar. 20-25.

UPSTREAM
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	---	10.06	10.03	10.02	9.72	9.59	9.45	9.32	9.51	10.08	9.90	10.32
2	---	10.04	10.03	10.04	9.70	9.57	9.38	9.31	9.51	10.10	9.90	10.35
3	10.21	10.01	10.02	10.08	9.68	9.56	9.30	9.30	9.51	10.11	9.91	10.36
4	10.19	9.99	10.01	10.06	9.65	9.54	9.26	9.31	9.51	10.11	9.90	10.36
5	10.17	9.97	9.99	10.05	9.64	9.51	9.22	9.29	9.55	10.11	9.90	10.39
6	10.16	9.94	9.99	10.04	9.61	9.49	9.19	9.26	9.55	10.12	9.92	10.46
7	10.14	9.95	9.98	10.03	9.59	9.48	9.16	9.23	9.57	10.12	9.92	10.46
8	10.12	10.00	9.98	10.01	9.59	9.47	9.12	9.20	9.58	10.12	9.99	10.48
9	10.10	10.00	10.02	9.97	9.56	9.45	9.08	9.17	9.63	10.11	10.02	10.49
10	10.10	10.00	10.14	9.96	9.53	9.44	9.04	9.12	9.68	10.10	10.01	10.49
11	10.14	10.00	10.17	9.95	9.52	9.44	9.01	9.08	9.72	10.08	10.00	10.49
12	10.15	9.99	10.18	9.96	9.50	9.41	8.98	9.06	9.74	10.06	10.01	10.48
13	10.13	10.00	10.17	9.95	9.49	9.39	8.95	9.04	9.74	10.04	10.02	10.51
14	10.13	---	10.20	9.96	9.47	9.38	8.91	9.10	9.75	10.04	10.03	10.56
15	10.10	10.01	10.20	9.95	9.48	9.37	8.89	9.11	9.76	10.04	10.04	10.56
16	10.19	10.04	10.20	9.92	9.47	9.35	8.88	9.12	9.78	10.05	10.04	10.55
17	10.17	10.16	10.18	9.91	9.49	9.42	8.94	9.10	9.79	10.04	10.05	10.54
18	10.14	10.15	10.18	9.90	9.49	9.44	8.98	9.08	9.79	10.02	10.05	10.53
19	10.11	10.14	10.17	9.88	9.48	9.44	9.08	9.09	9.81	10.00	10.07	10.54
20	10.09	10.14	10.17	9.86	9.53	9.42	9.08	9.08	9.83	10.00	10.12	10.55
21	10.08	10.14	10.19	9.84	9.63	9.40	9.08	9.04	9.84	9.99	10.17	---
22	10.06	---	10.18	9.83	9.59	9.41	9.07	9.00	---	9.97	10.19	10.54
23	10.04	---	10.16	9.82	9.63	9.41	9.06	9.02	---	9.95	10.19	10.53
24	10.03	10.12	10.13	9.84	9.63	9.42	9.03	9.06	10.09	9.94	10.21	10.55
25	10.02	10.10	10.14	9.82	9.63	9.38	9.00	9.08	10.10	9.93	10.24	10.61
26	---	10.10	10.14	9.80	9.65	9.34	9.06	9.11	10.11	9.93	10.25	10.72
27	9.98	10.10	10.13	9.79	9.63	9.40	9.13	9.18	10.12	9.94	10.26	10.70
28	9.96	10.09	10.11	9.77	9.61	9.52	9.17	9.38	10.13	9.92	10.29	10.72
29	9.94	---	10.10	9.76	---	9.52	9.22	9.46	10.11	9.90	10.32	10.93
30	9.92	10.06	10.07	9.75	---	---	9.25	9.51	10.09	9.88	10.31	10.97
31	9.93	---	10.04	9.74	---	---	---	9.51	---	9.88	10.31	---
TOTAL	---	---	313.40	307.26	268.19	---	272.97	284.72	---	310.68	312.54	---
MEAN	---	---	10.11	9.91	9.58	---	9.10	9.18	---	10.02	10.08	---
MAX	---	---	10.20	10.08	9.72	---	9.45	9.51	---	10.12	10.32	---
MIN	---	---	9.98	9.74	9.47	---	8.88	9.00	---	9.88	9.90	---

EVERGLADES AND SOUTHEASTERN COASTAL AREA

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254543080405401 TAMIAMI CANAL AT S-12-D, NEAR MIAMI, FL

DOWNSTREAM
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	---	10.04	9.28	8.92	8.78	8.42	8.63	8.95	9.47	10.06	9.87	10.28
2	---	10.02	9.28	8.92	8.77	8.43	8.76	8.95	9.47	10.07	9.88	10.31
3	10.19	9.99	9.08	8.92	8.77	8.43	8.84	8.94	9.49	10.08	9.88	10.32
4	10.17	9.97	8.88	8.92	8.73	8.50	8.83	8.95	9.52	10.08	9.87	10.32
5	10.15	9.94	8.88	8.91	8.68	8.58	8.82	8.94	9.54	10.08	9.88	10.34
6	10.14	9.92	8.88	8.91	8.67	8.58	8.81	8.92	9.56	10.09	9.89	10.41
7	10.12	9.65	8.87	8.91	8.66	8.58	8.80	8.91	9.57	10.09	9.89	10.42
8	10.11	9.24	8.87	8.91	8.66	8.58	8.79	8.90	9.58	10.09	9.96	10.44
9	10.09	9.21	8.88	8.90	8.65	8.58	8.77	8.88	9.63	10.08	9.98	10.45
10	10.09	9.20	8.89	8.89	8.64	8.58	8.76	8.86	9.68	10.07	9.98	10.45
11	10.13	9.19	8.90	8.89	8.59	8.58	8.75	8.84	9.72	10.05	9.97	10.44
12	10.13	9.18	8.96	8.89	8.55	8.58	8.74	8.83	9.74	10.03	9.98	10.44
13	10.11	9.08	8.96	8.89	8.54	8.57	8.72	8.82	9.74	10.02	9.99	10.47
14	10.11	---	8.96	8.89	8.53	8.57	8.71	8.86	9.75	10.01	10.00	10.51
15	10.08	8.92	8.96	8.89	8.53	8.57	8.70	8.91	9.76	10.01	10.01	10.52
16	10.17	8.94	8.96	8.88	8.53	8.57	8.69	8.93	9.78	10.02	10.01	10.50
17	10.15	8.96	9.08	8.88	8.54	8.59	8.72	8.93	9.79	10.01	10.02	10.50
18	10.12	9.06	9.20	8.87	8.53	8.49	8.83	8.92	9.80	9.99	10.02	10.49
19	10.09	9.22	9.20	8.87	8.48	8.37	8.95	8.92	9.81	9.97	10.04	10.50
20	10.08	9.22	9.22	8.87	8.43	8.36	8.96	8.91	9.83	9.96	10.08	10.50
21	10.06	9.22	9.23	8.86	8.43	8.36	8.96	8.89	9.86	9.95	10.14	---
22	10.04	---	9.23	8.83	8.42	8.36	8.95	8.87	9.97	9.94	10.15	10.49
23	10.03	---	9.22	8.79	8.44	8.35	8.94	8.88	10.05	9.92	10.15	10.48
24	10.01	9.21	9.21	8.80	8.43	8.35	8.93	8.90	10.07	9.91	10.18	10.50
25	10.00	9.20	9.23	8.80	8.43	8.46	8.91	8.92	10.09	9.90	10.20	10.56
26	---	9.22	9.12	8.80	8.43	8.58	8.96	8.94	10.09	9.90	10.22	10.67
27	9.97	9.26	8.94	8.79	8.43	8.62	9.00	8.98	10.11	9.91	10.23	10.65
28	9.95	9.29	8.93	8.79	8.42	8.63	9.03	9.14	10.10	9.89	10.26	10.67
29	9.93	---	8.93	8.79	---	8.63	8.98	9.32	10.08	9.87	10.28	10.88
30	9.91	9.28	8.92	8.79	---	---	8.92	9.41	10.07	9.85	10.27	10.91
31	9.92	---	8.92	8.78	---	---	---	9.47	---	9.84	10.27	---
TOTAL	---	---	280.07	274.75	239.69	---	265.16	277.79	293.72	309.74	311.55	---
MEAN	---	---	9.03	8.86	8.56	---	8.84	8.96	9.79	9.99	10.05	---
MAX	---	---	9.28	8.92	8.78	---	9.03	9.47	10.11	10.09	10.28	---
MIN	---	---	8.87	8.78	8.42	---	8.63	8.82	9.47	9.84	9.87	---

EVERGLADES AND SOUTHEASTERN COASTAL AREA

254543080405401 TAMIAMI CANAL AT S-12-D, NEAR MIAMI, FL

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	e646	656	250	179	133	50	110	186	359	580	576	694
2	e630	649	291	180	132	49	152	185	341	584	576	707
3	619	630	210	182	131	49	165	184	326	594	576	712
4	605	615	146	182	116	74	146	185	315	593	568	714
5	603	602	145	180	105	89	135	182	326	600	566	731
6	597	591	146	180	104	88	132	178	334	605	568	780
7	586	432	145	180	103	87	138	173	341	607	566	785
8	576	268	145	178	103	86	141	168	350	610	602	796
9	567	275	147	176	102	85	134	163	369	610	610	804
10	567	277	154	175	101	85	129	155	393	604	602	803
11	588	279	166	175	85	85	124	151	413	596	595	807
12	593	277	186	176	75	84	119	146	427	591	593	801
13	583	208	175	175	74	83	116	144	437	583	595	823
14	585	e160	170	176	74	82	110	150	446	583	598	853
15	569	160	170	175	74	82	105	169	459	586	599	857
16	624	160	160	174	74	81	106	182	473	593	595	847
17	619	167	245	172	75	83	114	176	485	589	597	850
18	609	225	300	172	75	52	93	171	486	580	595	845
19	601	292	299	170	59	32	86	174	490	574	602	849
20	598	291	296	169	48	32	84	172	493	575	624	845
21	595	292	296	168	51	32	169	163	505	574	650	e838
22	591	e278	296	151	50	32	210	153	561	573	656	828
23	589	e259	295	139	50	32	205	160	598	568	653	819
24	588	262	292	140	51	32	196	165	609	566	662	823
25	588	269	290	138	50	80	184	169	616	563	672	859
26	e586	271	248	137	51	106	195	175	613	570	681	931
27	583	265	186	136	51	108	218	189	618	579	683	909
28	579	259	184	136	50	115	228	270	614	574	697	925
29	576	e256	184	135	---	115	197	344	598	565	706	1,080
30	571	254	182	134	---	---	e114	175	586	558	697	1,100
31	578	---	180	134	---	---	e114	---	374	---	559	692
TOTAL	18,389	9,879	6,579	5,074	2,247	2,318	4,416	5,934	13,981	18,086	19,252	25,015
MEAN	593	329	212	164	80.2	74.8	147	191	466	583	621	834
MAX	646	656	300	182	133	115	228	378	618	610	706	1,100
MIN	567	160	145	134	48	32	84	144	315	558	566	694
AC-FT	36,470	19,600	13,050	10,060	4,460	4,600	8,760	11,770	27,730	35,870	38,190	49,620

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

MEAN	445	413	254	188	183	143	102	60.7	115	242	264	343
MAX	1,843	1,885	2,343	2,076	1,413	1,071	614	411	518	1,406	1,241	1,447
(WY)	(1996)	(1995)	(1995)	(1995)	(1995)	(1995)	(1998)	(1993)	(1993)	(1982)	(1982)	(1995)
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	(1964)	(1964)	(1964)	(1964)	(1964)	(1964)	(1965)	(1965)	(1965)	(1965)	(1964)	(1964)

SUMMARY STATISTICS

ANNUAL TOTAL
ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

FOR 2003 WATER YEAR

131,170
359

1,100
32
35
260,200
676
269
85

Sep 30
Mar 19
Mar 18

WATER YEARS 1964 - 2003

265
1,177
0.000
2,670
-16
-2.3
191,700
753
77
0.00

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02289050 TAMIAMI CANAL AT S-333 NEAR MIAMI, FL

LOCATION.--Lat 25°45'39", long 80°40'27", in SW ¼ sec.6, T.54 S., R.37 E., Miami-Dade County, Hydrologic Unit 03090202, on south bank of Levee 29 in control house of control structure 333 at Levee 67A, 100 ft north of U.S. Highway 41 and 29 mi west of Miami.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--August 1978 to September 1981 (gage heights only), October 1981 to current year.

REVISED RECORDS.--WDR FL-87-2A, 1986.

GAGE.--Water-stage shaft encoders for upstream and downstream, and gate-opening recorder with cellular phone/radio telemetry. Water-stage recorders prior to September 1, 1999. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Records good except for estimated discharges, which are poor. Flow is regulated by operation of control structure 333. Discharge computed from relations between discharge, head, and gate opening. Records prior to October 1981, are available in files of the South Florida Water Management District.

COOPERATION.--Control structure S-333 gate-operation records and upstream and downstream data provided by South Florida Water Management District.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 20 complete water years of discharge (1982-2001).

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 12.10 ft Dec. 21, 1994; minimum, 5.20 ft June 19, 1989 (estimated).

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 10.99 ft Sept. 29; minimum, 8.84 ft Apr. 16.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 7.90 ft Sept. 30; minimum, 6.89 ft Mar. 31.

UPSTREAM
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	10.31	10.08	10.05	10.03	9.74	9.58	9.45	9.31	9.50	10.09	---	10.34
2	10.29	10.06	10.04	10.06	9.72	9.56	9.38	9.31	9.50	10.10	9.92	10.37
3	10.26	10.03	10.03	10.09	9.69	9.55	9.30	9.30	9.50	10.11	9.93	10.38
4	10.24	10.00	10.02	10.08	9.66	9.53	9.26	9.30	9.50	10.11	9.92	10.38
5	10.22	9.98	10.00	10.06	9.65	9.50	9.22	9.28	9.54	10.11	9.93	10.40
6	10.21	9.96	---	10.05	9.62	9.48	9.18	9.25	9.55	10.12	9.94	10.47
7	10.19	9.97	10.00	10.05	9.59	9.46	9.14	9.21	9.56	10.12	9.94	10.49
8	10.17	10.00	10.00	10.03	9.59	9.45	9.11	---	9.58	10.12	10.01	10.50
9	10.16	10.01	10.04	9.99	9.56	9.43	9.06	---	9.62	10.11	10.03	10.51
10	10.16	10.00	10.16	9.98	9.53	9.42	9.03	---	9.68	10.09	10.03	10.50
11	10.20	10.00	10.19	9.97	9.52	9.42	9.00	9.07	9.72	10.07	10.02	10.50
12	10.19	9.99	10.20	9.97	9.50	9.40	8.98	9.04	9.74	10.06	10.03	---
13	10.17	10.00	10.19	9.96	9.48	9.37	8.94	9.01	9.74	10.04	10.04	---
14	10.17	10.02	10.22	9.97	---	9.36	8.91	9.07	9.75	10.04	---	10.58
15	10.14	10.01	10.22	9.97	9.48	9.35	8.88	9.08	9.76	10.04	---	10.58
16	10.23	10.03	10.22	9.94	9.47	9.34	8.88	9.09	9.78	10.05	---	10.57
17	10.21	10.16	10.21	9.93	9.49	9.40	8.93	9.07	9.79	10.05	10.07	10.56
18	10.18	10.16	10.20	9.92	9.49	9.42	---	9.05	9.79	10.03	10.07	10.54
19	10.16	10.15	10.19	9.90	9.47	9.42	---	9.06	9.81	10.01	10.10	10.54
20	10.14	10.15	10.19	9.88	9.53	9.40	9.08	9.05	9.82	10.01	10.14	10.56
21	10.12	10.14	10.20	9.87	9.62	9.39	9.08	9.01	9.85	---	10.19	10.56
22	10.10	---	10.19	9.85	9.58	9.39	9.06	8.98	9.97	9.99	10.21	10.55
23	10.08	10.13	10.18	9.84	9.62	9.40	9.05	9.00	10.05	9.97	10.21	10.53
24	10.07	10.12	10.14	9.87	9.62	9.41	9.03	9.04	10.09	9.96	10.23	10.54
25	10.06	10.11	10.16	9.84	9.63	9.36	8.99	9.07	10.10	9.94	10.25	10.60
26	10.04	10.11	10.16	9.82	9.65	9.33	9.05	9.09	10.10	9.95	10.27	10.73
27	10.02	---	---	9.81	9.62	9.39	9.12	9.16	10.12	9.95	10.28	10.70
28	10.0	---	10.13	9.79	9.60	9.52	9.16	9.35	10.13	9.94	---	10.72
29	9.98	---	10.11	9.78	---	9.52	9.22	9.44	10.11	9.91	---	10.93
30	9.96	---	10.09	9.76	---	9.49	9.25	9.50	10.09	9.90	---	10.97
31	9.97	---	10.06	9.75	---	9.50	---	9.50	---	---	10.33	---
TOTAL	314.40	---	---	307.81	---	292.54	---	---	293.84	---	---	---
MEAN	10.14	---	---	9.93	---	9.44	---	---	9.79	---	---	---
MAX	10.31	---	---	10.09	---	9.58	---	---	10.13	---	---	---
MIN	9.96	---	---	9.75	---	9.33	---	---	9.50	---	---	---

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02289050 TAMIAMI CANAL AT S-333 NEAR MIAMI, FL

 DOWNSTREAM
 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	7.34	7.23	7.08	7.48	7.53	7.46	7.11	7.08	7.10	7.46	7.30	7.49
2	7.31	7.24	7.09	7.48	7.53	7.45	7.18	7.08	7.12	7.39	7.35	7.53
3	7.30	7.24	7.16	7.54	7.52	7.43	7.30	7.07	7.14	7.37	7.40	7.52
4	7.29	7.23	7.17	7.60	7.50	7.39	7.29	7.07	7.13	7.38	7.39	7.52
5	7.29	7.21	7.15	7.59	7.53	7.39	7.28	7.09	7.16	7.38	7.40	7.53
6	7.27	7.17	---	7.59	7.52	7.33	7.28	7.09	7.16	7.37	7.40	7.62
7	7.25	7.16	7.15	7.59	7.51	7.27	7.27	7.10	7.14	7.36	7.38	7.62
8	7.23	7.15	7.16	7.63	7.52	7.26	7.25	---	7.12	7.33	7.43	7.61
9	7.21	7.13	7.21	7.69	7.51	7.24	7.22	---	7.16	7.31	7.37	7.59
10	7.18	7.12	7.29	7.68	7.49	7.23	7.18	---	7.26	7.28	7.40	7.57
11	7.18	7.10	7.24	7.67	7.50	7.24	7.18	7.15	7.23	7.26	7.37	7.56
12	7.20	7.14	7.22	7.65	7.53	7.24	7.18	7.13	7.23	7.25	7.37	---
13	7.18	7.24	7.19	7.65	7.54	7.23	7.17	7.14	7.24	7.24	7.37	---
14	7.19	7.25	7.17	7.67	---	7.22	7.16	7.17	7.20	7.21	---	7.55
15	7.17	7.25	7.16	7.66	7.26	7.21	7.17	7.17	7.20	7.23	---	7.55
16	7.30	7.29	7.14	7.70	7.25	7.23	7.12	7.18	7.24	7.24	---	7.52
17	7.29	7.44	7.13	7.67	7.25	7.29	7.04	7.17	7.21	7.25	7.37	7.51
18	7.27	7.40	7.11	7.63	7.25	7.33	---	7.16	7.18	7.25	7.38	7.51
19	7.25	7.31	7.11	7.59	7.24	7.33	---	7.15	7.16	7.24	7.38	7.53
20	7.24	7.29	7.07	7.58	7.34	7.32	7.02	7.15	7.17	7.24	7.40	7.53
21	7.29	7.26	7.06	7.57	7.40	7.30	7.00	7.14	7.20	---	7.46	7.54
22	7.29	---	7.05	7.56	7.31	7.29	6.98	7.13	7.45	7.33	7.50	7.51
23	7.28	7.22	7.11	7.55	7.32	7.31	6.98	7.13	7.56	7.30	7.50	7.51
24	7.26	7.20	7.22	7.58	7.35	7.30	6.98	7.15	7.58	7.28	7.50	7.54
25	7.25	7.19	7.23	7.57	7.38	7.25	6.97	7.16	7.62	7.26	7.49	7.55
26	7.25	7.16	7.24	7.55	7.46	7.23	7.01	7.16	7.57	7.25	7.49	7.60
27	7.25	---	---	7.56	7.46	7.12	7.01	7.13	7.54	7.24	7.49	7.59
28	---	---	7.48	7.56	7.46	7.04	7.03	7.13	7.53	7.23	---	7.59
29	---	---	7.48	7.55	---	7.04	7.04	7.19	7.53	7.23	---	7.75
30	7.18	---	7.50	7.54	---	7.00	7.07	7.17	7.49	7.24	---	7.86
31	7.19	---	7.50	7.53	---	7.04	---	7.13	---	7.25	7.50	---
TOTAL	---	---	---	235.46	---	225.01	---	---	218.62	---	---	---
MEAN	---	---	---	7.60	---	7.26	---	---	7.29	---	---	---
MAX	---	---	---	7.70	---	7.46	---	---	7.62	---	---	---
MIN	---	---	---	7.48	---	7.00	---	---	7.10	---	---	---

02289050 TAMIAMI CANAL AT S-333 NEAR MIAMI, FL

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	84	0.00	0.00	522	772	623	514	166	0.00	116	369	0.00
2	80	0.00	57	514	771	622	793	218	127	13	366	0.00
3	102	0.00	120	599	768	620	996	259	241	73	362	0.00
4	132	0.00	119	664	767	621	987	254	237	150	363	0.00
5	128	0.00	128	643	914	617	980	290	232	149	362	0.00
6	121	0.00	e127	649	1,020	538	969	389	222	150	363	0.00
7	113	0.00	128	648	1,010	491	960	454	210	150	364	0.00
8	103	0.00	127	718	1,010	491	953	---	191	151	126	0.00
9	96	0.00	127	797	1,010	490	950	---	194	152	0.00	0.00
10	91	0.00	53	775	1,000	488	947	---	88	207	0.00	0.00
11	30	0.00	0.00	762	999	485	935	714	0.00	258	0.00	0.00
12	0.00	98	0.00	717	985	482	929	715	74	270	0.00	0.00
13	0.00	207	0.00	728	979	480	918	713	133	270	0.00	0.00
14	0.00	199	0.00	779	e814	480	904	707	111	270	0.00	0.00
15	0.00	198	0.00	716	632	480	896	723	78	334	0.00	8.4
16	0.00	195	0.00	781	634	472	680	744	19	383	0.00	0.60
17	0.00	191	0.00	782	638	466	454	733	0.00	381	0.00	0.00
18	0.00	103	0.00	789	639	464	---	722	0.00	381	0.00	0.00
19	0.00	0.00	0.00	793	637	464	e320	720	56	380	0.00	0.00
20	0.00	0.00	0.00	791	630	571	182	700	96	380	0.00	0.00
21	0.00	0.00	0.00	790	635	678	182	686	65	e376	0.00	0.00
22	0.00	0.00	0.00	789	643	680	180	673	11	372	0.00	0.00
23	0.00	0.00	109	789	647	678	177	667	2.7	373	0.00	0.00
24	0.00	0.00	213	786	643	781	176	659	0.00	373	0.00	0.00
25	0.00	0.00	213	781	639	889	175	654	0.00	373	1.7	0.00
26	0.00	0.00	213	779	632	888	169	642	0.00	375	5.2	0.00
27	0.00	0.00	---	777	630	431	171	406	17	376	0.00	0.00
28	0.00	0.00	378	774	627	119	172	120	75	376	0.00	0.00
29	0.00	0.00	537	773	---	116	169	25	126	374	0.00	0.00
30	0.00	0.00	530	771	---	114	166	0.00	134	372	0.00	0.00
31	0.00	---	524	771	---	302	---	0.00	---	371	0.00	---
TOTAL	1,080.00	1,191.00	---	22,747	21,725	16,121	---	---	2,739.70	8,729	2,681.90	9.00
MEAN	34.8	39.7	---	734	776	520	---	---	91.3	282	86.5	0.30
MAX	132	207	---	797	1,020	889	---	---	241	383	369	8.4
MIN	0.00	0.00	---	514	627	114	---	---	0.00	13	0.00	0.00
AC-FT	2,140	2,360	---	45,120	43,090	31,980	---	---	5,430	17,310	5,320	18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2003, BY WATER YEAR (WY)

	196	218	187	173	274	296	374	311	137	218	329	179
MEAN	196	218	187	173	274	296	374	311	137	218	329	179
MAX	739	689	693	734	1,094	1,051	936	1,208	346	733	1,188	655
(WY)	(1986)	(1985)	(1993)	(2003)	(2000)	(2002)	(1998)	(1985)	(1985)	(1986)	(2001)	(1991)
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	(1982)	(1982)	(1982)	(1982)	(1982)	(1989)	(1989)	(1982)	(1982)	(1983)	(1987)	(1994)

SUMMARY STATISTICS

ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

WATER YEARS 1982 - 2003

238
572
51.8
1,670
0.00
0.00
172,100
705
127
0.00

1993
1989
Feb 24, 2000
Oct 1, 1981
Oct 1, 1981

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

254540080361500 TAMIAMI CANAL AT S-355A, NEAR MIAMI, FL

LOCATION.--Lat 25°45'40", long 80°36'15", in SW ¼ sec. T.54 S., R.37 E., Miami-Dade County, Hydrologic Unit 03090202, on north bank of Levee 29 in control house 100 ft east of structure 355A, 2.4 mi west of structure 355B, 6.7 mi west of State Road 997.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 2000 to September 2003. Discontinued.

GAGE.--Satellite data collection platform with water-stage shaft encoders for upstream and downstream inside structure 355A control house; potentiometer-gage recorder attached to hydraulic ram of gate. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Station is one of two located between structure 333 and structure 334 on Levee 29. Gage records are primarily used to determine discharge. Discharge is not available at time of publication. The gate is opened once a month for about an hour when conditions allow for maintenance purposes.

COOPERATION.--U.S. Army Corps of Engineers.

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 8.78 ft Oct. 24, 2001; minimum, 4.95 ft May 22, 23, 2001.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 8.40 ft Nov. 7, 2000; minimum, 4.91 ft May 22, 23, 2001.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 8.66 ft Sept. 29, 30; minimum, 7.12 ft Apr. 26.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 8.05 ft Sept. 30; minimum, 7.08 ft Mar. 31.

UPSTREAM
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	8.25	8.01	7.79	7.70	7.50	7.38	7.30	7.56	7.60	8.12	7.96	8.26
2	8.22	8.00	7.77	7.69	7.50	7.38	7.29	7.55	7.59	8.10	8.02	8.32
3	8.20	7.98	7.75	7.73	7.49	7.37	7.29	7.53	7.60	8.08	8.03	8.34
4	8.17	7.96	7.75	7.72	7.48	7.37	7.28	7.53	7.60	8.06	8.01	8.34
5	8.17	7.94	7.73	7.71	7.48	7.36	7.27	7.50	7.65	8.05	8.02	8.34
6	8.16	7.93	7.72	7.70	7.48	7.35	7.26	7.48	7.64	8.03	8.03	8.42
7	8.13	7.91	7.71	7.68	7.46	7.34	---	7.45	7.61	8.01	8.01	8.43
8	8.10	7.88	7.69	7.68	7.45	7.33	7.24	7.43	7.63	7.99	8.02	8.43
9	8.08	7.87	7.74	7.66	7.45	7.32	7.23	7.41	7.69	7.96	8.05	8.41
10	8.06	7.85	7.91	7.66	7.44	7.31	7.22	7.39	7.80	7.93	8.13	8.40
11	8.05	7.83	7.90	7.65	7.43	7.31	7.21	7.37	7.93	7.91	8.12	8.42
12	8.08	7.81	7.89	7.64	7.42	7.31	7.20	7.35	7.93	7.89	8.11	8.40
13	8.06	7.80	7.88	7.64	7.41	7.29	7.18	7.34	7.92	7.86	8.10	8.39
14	8.05	---	7.88	7.64	7.41	7.29	7.17	7.35	7.90	7.84	8.12	8.41
15	8.04	7.77	7.86	7.64	7.39	7.27	7.16	7.38	7.91	7.84	8.12	8.41
16	8.13	7.81	7.84	7.62	7.38	7.28	7.16	7.39	7.92	7.88	8.10	8.40
17	8.14	8.03	7.83	7.62	7.37	7.32	7.14	7.38	7.91	7.93	8.09	8.39
18	8.11	8.01	7.81	7.61	7.37	7.34	7.14	7.36	7.89	7.89	---	8.39
19	8.09	7.99	7.80	7.60	7.36	7.34	7.17	7.35	7.88	7.87	---	8.40
20	8.08	7.97	7.79	7.59	7.36	7.34	7.18	7.33	7.89	7.88	---	8.39
21	8.08	7.95	7.77	7.58	7.37	7.33	7.18	7.31	7.97	7.91	---	8.38
22	8.06	---	7.76	7.58	7.37	7.33	7.17	7.32	8.12	8.00	---	8.37
23	8.04	---	7.74	7.57	7.38	7.32	7.16	7.37	8.25	7.97	---	8.35
24	8.03	7.91	7.73	7.56	7.37	7.30	7.15	7.37	8.26	7.94	---	8.35
25	8.02	7.89	7.76	7.55	7.37	7.29	7.14	7.38	8.26	7.92	---	8.35
26	---	7.88	7.76	7.54	7.39	7.27	7.19	7.39	8.22	7.89	---	8.39
27	8.00	7.86	7.74	7.54	7.39	7.29	7.26	7.43	8.22	7.87	---	8.40
28	7.99	---	7.73	7.53	7.39	7.33	7.31	7.52	8.21	7.85	---	8.40
29	7.97	---	7.72	7.52	---	---	7.45	7.61	8.18	7.84	---	8.56
30	7.95	7.80	7.71	7.52	---	---	7.49	7.64	8.15	7.82	8.25	8.63
31	7.95	---	7.70	7.51	---	---	---	7.62	---	7.84	8.25	---
TOTAL	---	---	241.16	236.18	207.66	---	---	230.39	237.33	245.97	---	251.87
MEAN	---	---	7.78	7.62	7.42	---	---	7.43	7.91	7.93	---	8.40
MAX	---	---	7.91	7.73	7.50	---	---	7.64	8.26	8.12	---	8.63
MIN	---	---	7.69	7.51	7.36	---	---	7.31	7.59	7.82	---	8.26

EVERGLADES AND SOUTHEASTERN COASTAL AREA

227

254540080361500 TAMiami CANAL AT S-355A, NEAR MIAMI, FL

DOWNSTREAM
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	7.48	7.40	7.25	7.66	7.72	7.67	7.27	7.28	7.29	7.63	7.46	7.66
2	7.46	7.40	7.27	7.66	7.72	7.67	7.33	7.27	7.30	7.56	7.52	7.71
3	7.45	7.40	7.32	7.72	7.71	7.64	7.43	7.25	7.32	7.54	7.57	7.70
4	7.45	7.39	7.33	7.76	7.70	7.60	7.42	7.26	7.31	7.55	7.56	7.72
5	7.44	7.37	7.33	7.76	7.71	7.59	7.41	7.26	7.34	7.54	7.58	7.71
6	7.43	7.35	7.32	7.76	7.69	7.54	7.40	7.26	7.34	7.53	7.58	7.81
7	7.41	7.33	7.32	7.76	7.68	7.49	---	7.26	7.31	7.52	7.56	7.82
8	7.39	7.32	7.32	7.80	7.68	7.48	7.37	7.25	7.30	7.49	7.61	7.80
9	7.37	7.31	7.37	7.86	7.67	7.46	7.36	7.28	7.34	7.47	7.55	7.77
10	7.35	7.29	7.47	7.86	7.66	7.45	7.34	7.32	7.44	7.45	7.58	7.75
11	7.35	7.27	7.42	7.85	7.66	7.44	7.33	7.31	7.41	7.43	7.55	7.74
12	7.36	7.32	7.39	7.84	7.70	7.44	7.32	7.29	7.40	7.41	7.55	7.73
13	7.35	7.41	7.38	7.83	7.71	7.43	7.31	7.30	7.41	7.39	7.54	7.74
14	7.36	---	7.36	7.86	7.61	7.43	7.29	7.32	7.38	7.38	7.56	7.73
15	7.35	7.42	7.34	7.84	7.44	7.42	7.30	7.33	7.37	7.39	7.57	7.72
16	7.47	7.46	7.32	7.88	7.44	7.42	7.28	7.33	7.41	7.40	7.55	7.70
17	7.46	7.63	7.30	7.87	7.44	7.50	7.22	7.32	7.38	7.41	7.55	7.69
18	7.43	7.57	7.28	7.80	7.44	7.53	7.20	7.31	7.36	7.41	---	7.70
19	7.41	7.49	7.27	7.77	7.42	7.53	7.20	7.30	7.35	7.40	---	7.71
20	7.41	7.46	7.25	7.76	7.53	7.51	7.20	7.29	7.35	7.41	7.58	7.71
21	7.46	7.43	7.23	7.76	7.58	7.48	7.19	7.28	7.38	7.43	7.64	7.70
22	7.46	---	7.22	7.76	7.49	7.48	7.17	7.27	7.62	7.49	---	7.69
23	7.45	---	7.27	7.75	7.50	7.48	7.17	7.29	7.75	7.46	7.66	7.69
24	7.43	7.38	7.39	7.74	7.51	7.47	7.16	7.31	7.76	7.45	7.66	7.72
25	7.42	7.36	7.41	7.74	7.58	7.41	7.16	7.32	7.79	7.43	7.65	7.73
26	---	7.34	7.42	7.74	7.67	7.39	7.20	7.32	7.75	7.41	7.64	7.77
27	7.42	7.32	7.51	7.73	7.67	7.31	7.21	7.31	7.72	7.41	7.63	7.77
28	7.40	---	7.63	7.73	7.67	7.24	7.22	7.32	7.71	7.40	---	7.77
29	7.38	---	7.65	7.73	---	---	7.24	7.38	7.69	7.40	7.69	7.91
30	7.36	7.27	7.65	7.73	---	---	7.25	7.36	7.66	7.41	7.67	8.03
31	7.36	---	7.66	7.73	---	---	---	7.32	---	7.42	7.66	---
TOTAL	---	---	228.65	241.04	213.00	---	---	226.27	223.94	231.02	---	232.40
MEAN	---	---	7.38	7.78	7.61	---	---	7.30	7.46	7.45	---	7.75
MAX	---	---	7.66	7.88	7.72	---	---	7.38	7.79	7.63	---	8.03
MIN	---	---	7.22	7.66	7.42	---	---	7.25	7.29	7.38	---	7.66

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02289060 TAMAMI CANAL OUTLETS, LEVEE 30 TO LEVEE 67A, NEAR MIAMI, FL

LOCATION.--Lat 25°45'40", long 80°33'40", in SE 1/4 sec.6, T.54 S., R.38 E., Miami-Dade County, Hydrologic Unit 03090202, on south bank of Levee 29, 50 ft west of bridge 53 on U.S. Highway 41, and 22.8 mi west of Miami.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--November 1939 to September 1963 (monthly discharge), October 1963 to current year. October 1962 to September 1963, stage only (twice monthly) published as Tamiami Canal at bridge 45, near Miami (auxiliary). Stage records prior to October 1962, are available in files of the U.S. Geological Survey. Prior to October 1963, daily discharge for this portion of the canal was published as part of the total daily discharge of station, Tamiami Canal Outlets, Miami to Monroe (station 02289000).

REVISED RECORDS.--WDR FL-2000-2A, 1998-99.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to August 27, 1942, non-recording gage at datum 0.80 ft lower; August 27, 1942 to February 21, 1952, non-recording gage at present datum; and February 21, 1952 to August 7, 1969, water-stage recorder at same datum, all at site 4 mi to the west.

REMARKS.--Records poor. Figures of daily discharge consist of seepage through levee 29 from Conservation Area 3B and discharges from S-333 distributed along Levee 29 from Conservation Area 3A as represented by flow through all the outlets of Tamiami Canal from levee 30 to levee 67A (Bridges 45-59). Flow releases from S-334 were observed during portions of the water year. The discharge from S-334 are not included in the table of mean daily discharge for this station.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Average annual mean discharge, 231 ft³/s, 167,400 acre-ft/yr. Figures represent 63 complete water years of discharge (1941-2003). Monthly discharge only, available 1941-1963 water years.

SPECIAL NOTE: Statistics for the period of record 1941-2003 computed manually. NWIS database not complete.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 9.76 ft Nov. 1, 1960; minimum, 1.66 ft May 13, 14, 1971.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 7.99 ft Sept. 30; minimum, 7.03 ft Mar. 31.

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	7.41	7.33	7.17	7.57	7.62	7.60	7.18	7.22	7.24	7.56	7.39	7.59
2	7.39	7.34	7.19	7.57	7.61	7.60	7.21	7.20	7.25	7.50	7.43	7.63
3	7.38	7.33	7.25	7.63	7.61	7.57	7.30	7.19	7.26	7.48	7.48	7.63
4	7.38	7.32	7.25	7.67	7.60	7.53	7.30	7.19	7.25	7.48	7.48	7.64
5	7.37	7.30	7.26	7.67	7.60	7.52	7.29	7.19	7.28	7.48	7.49	7.64
6	7.36	7.29	7.25	7.67	7.57	7.47	7.28	7.19	7.28	7.46	7.49	7.74
7	7.34	7.26	7.24	7.66	7.57	7.43	7.27	7.19	7.26	7.45	7.48	7.75
8	7.32	7.24	7.24	7.70	7.56	7.41	7.26	7.18	7.25	7.43	7.54	7.73
9	7.30	7.23	7.28	7.76	7.56	7.40	7.25	7.21	7.28	7.40	7.48	7.70
10	7.28	7.22	7.39	7.76	7.55	7.39	7.24	7.24	7.38	7.38	7.51	7.68
11	7.29	7.20	7.34	7.75	7.55	7.38	7.22	7.23	7.35	7.36	7.48	7.67
12	7.30	7.24	7.32	7.73	7.59	7.37	7.21	7.22	7.34	7.34	7.47	7.65
13	7.28	7.33	7.30	7.73	7.59	7.37	7.19	7.22	7.34	7.33	7.46	7.66
14	7.29	7.34	7.29	7.76	7.50	7.36	7.18	7.24	7.32	7.32	7.48	7.65
15	7.28	7.34	7.26	7.73	7.35	7.35	7.18	7.25	7.32	7.32	7.49	7.65
16	7.40	7.39	7.24	7.77	7.35	7.36	7.18	7.25	7.35	7.33	7.47	7.63
17	7.40	7.55	7.22	7.76	7.35	7.43	7.14	7.24	7.32	7.35	7.48	7.62
18	7.36	7.49	7.20	7.69	7.35	7.47	7.13	7.23	7.31	7.34	7.50	7.62
19	7.34	7.41	7.19	7.66	7.33	7.47	7.13	7.22	7.29	7.34	7.49	7.63
20	7.34	7.38	7.18	7.65	7.45	7.45	7.13	7.21	7.30	7.35	7.51	7.63
21	7.39	7.36	7.15	7.65	7.50	7.40	7.12	7.20	7.33	7.37	7.57	7.62
22	7.38	7.34	7.14	7.64	7.41	7.41	7.12	7.19	7.56	7.43	7.61	7.61
23	7.38	7.32	7.19	7.64	7.42	7.41	7.11	7.21	7.68	7.40	7.61	7.62
24	7.36	7.30	7.30	7.63	7.43	7.38	7.09	7.23	7.70	7.38	7.61	7.64
25	7.35	7.28	7.34	7.63	7.50	7.30	7.09	7.24	7.72	7.36	7.60	7.65
26	7.35	7.26	7.33	7.63	7.59	7.28	7.13	7.24	7.68	7.35	7.59	7.70
27	7.35	7.25	7.42	7.63	7.60	7.22	7.14	7.25	7.65	7.34	7.57	7.70
28	7.33	7.22	7.54	7.62	7.60	7.18	7.15	7.27	7.64	7.33	7.59	7.69
29	7.32	7.20	7.55	7.62	---	7.17	7.17	7.32	7.62	7.33	7.61	7.83
30	7.30	7.19	7.56	7.62	---	7.16	7.18	7.31	7.59	7.34	7.59	7.94
31	7.30	---	7.56	7.62	---	7.15	---	7.27	---	7.36	7.58	---
TOTAL	227.62	219.25	226.14	237.82	210.31	228.99	215.57	224.04	222.14	228.99	233.13	230.14
MEAN	7.34	7.31	7.29	7.67	7.51	7.39	7.19	7.23	7.40	7.39	7.52	7.67
MAX	7.41	7.55	7.56	7.77	7.62	7.60	7.30	7.32	7.72	7.56	7.61	7.94
MIN	7.28	7.19	7.14	7.57	7.33	7.15	7.09	7.18	7.24	7.32	7.39	7.59

02289060 TAMAMI CANAL OUTLETS, LEVEE 30 TO LEVEE 67A, NEAR MIAMI, FL

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	122	95	138	638	627	605	161	115	111	117	145	87
2	117	98	144	638	616	609	250	117	97	105	157	95
3	116	96	165	712	613	573	333	121	91	107	175	97
4	117	92	166	765	607	530	327	131	83	115	167	100
5	115	88	170	758	606	520	325	140	88	122	169	102
6	112	85	168	745	569	485	314	149	86	127	163	139
7	106	77	162	742	568	441	310	158	77	132	156	143
8	101	73	161	794	559	429	303	163	73	134	176	137
9	98	69	180	871	556	426	297	188	78	132	147	129
10	93	66	222	858	554	415	288	220	104	136	153	123
11	96	64	182	849	549	410	275	224	90	138	139	122
12	100	87	158	825	593	410	269	232	86	139	131	117
13	94	235	140	823	597	407	258	248	82	144	124	121
14	101	258	125	846	494	406	250	272	73	150	127	121
15	97	258	106	806	279	404	250	294	70	161	125	121
16	139	289	90	861	277	405	241	296	74	162	116	118
17	133	405	79	841	278	483	208	288	66	169	114	113
18	121	359	73	733	274	514	191	283	62	162	115	114
19	113	297	69	676	266	500	179	278	57	158	108	118
20	111	275	67	663	408	461	168	273	59	160	110	117
21	125	256	62	661	507	407	156	263	64	167	125	113
22	123	247	59	655	417	397	145	257	130	189	136	110
23	118	228	77	654	426	381	134	267	170	174	131	111
24	113	214	146	634	433	345	122	279	178	161	125	107
25	108	204	223	637	498	279	113	267	188	152	117	96
26	108	190	303	640	596	257	119	241	166	145	110	97
27	107	180	475	634	605	216	114	221	154	137	101	83
28	98	168	608	628	609	184	113	207	144	133	103	71
29	94	156	620	628	---	172	110	202	137	132	104	97
30	89	148	623	628	---	158	107	173	125	132	95	116
31	86	---	627	628	---	148	---	139	---	136	89	---
TOTAL	3,371	5,357	6,588	22,471	13,981	12,377	6,430	6,706	3,063	4,428	4,053	3,335
MEAN	109	179	213	725	499	399	214	216	102	143	131	111
MAX	139	405	627	871	627	609	333	296	188	189	176	143
MIN	86	64	59	628	266	148	107	115	57	105	89	71
AC-FT	6,690	10,630	13,070	44,570	27,730	24,550	12,750	13,300	6,080	8,780	8,040	6,610

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2003, BY WATER YEAR (WY)

	206	212	168	135	169	166	168	139	107	168	251	190
MEAN	206	212	168	135	169	166	168	139	107	168	251	190
MAX	763	624	785	725	976	979	914	784	550	828	1,230	694
(WY)	(1993)	(1986)	(1993)	(2003)	(1993)	(1993)	(1993)	(1993)	(1995)	(1986)	(2001)	(1991)
MIN	48.0	46.9	23.4	1.99	0.90	0.000	-0.77	-2.61	-0.37	-0.55	1.58	18.0
(WY)	(1981)	(1972)	(1974)	(1990)	(1990)	(1974)	(1964)	(1964)	(1965)	(1965)	(1965)	(1989)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1964 - 2003*

ANNUAL TOTAL	96,035.8	92,160	
ANNUAL MEAN	263	252	173
HIGHEST ANNUAL MEAN			660
LOWEST ANNUAL MEAN			28.3
HIGHEST DAILY MEAN	1,160	Feb 28	871
LOWEST DAILY MEAN	9.1	May 27	57
ANNUAL SEVEN-DAY MINIMUM	11	May 23	65
MAXIMUM PEAK FLOW			893
MAXIMUM PEAK STAGE			7.77
INSTANTANEOUS LOW FLOW			51
ANNUAL RUNOFF (AC-FT)	190,500	182,800	125,600
10 PERCENT EXCEEDS	729	614	478
50 PERCENT EXCEEDS	156	158	92
90 PERCENT EXCEEDS	64	89	2.0

*The period of record statistics were computed from complete water year's of record stored in the NWIS database. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript for the statistics for the complete period of record (1941-2003).

EVERGLADES AND SOUTHEASTERN COASTAL AREA

254540080325700 TAMIAMI CANAL AT S-355B, NEAR MIAMI, FL

LOCATION.--Lat 25°45'40", long 80°32'57", in SW ¼ sec. T.54 S., R.37 E., Miami-Dade County, Hydrologic Unit 03090202, on north bank of Levee 29 in control house 100 ft east of structure 355B, 2.4 mi east of structure 355A, 4.3 mi east of State Road 997.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--July 1999 to September 2003. Discontinued.

GAGE.--Satellite data collection platform with water-stage shaft encoders for upstream and downstream inside structure 355B control house; potentiometer-gage recorder attached to hydraulic ram of gate. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Station is one of two located between structure 333 and structure 334 on Levee 29. Gage records are primarily used to determine discharge. Discharge is not available at time of publication. The gate is opened once a month for about an hour when conditions allow for maintenance purposes.

COOPERATION.--U.S. Army Corps of Engineers.

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 9.67 ft Oct. 17, 18, 1999; minimum, 4.80 ft May 23, 2001.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 8.88 ft Oct. 15, 1999; minimum, 4.89 ft May 22, 23, 2001.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 8.45 ft Sept. 29; minimum, 6.87 ft Apr. 26.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 8.03 ft Sept. 30; minimum, 7.09 ft Mar. 31.

UPSTREAM
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	8.06	7.82	7.57	7.51	7.31	7.19	7.08	7.25	7.42	7.92	7.75	8.07
2	8.04	7.80	7.56	7.51	7.31	7.19	7.07	7.25	7.43	7.89	7.83	8.12
3	8.01	7.78	7.54	7.54	7.30	7.18	7.07	7.24	7.46	7.88	7.88	8.15
4	7.99	7.77	7.53	7.54	7.29	7.17	7.06	7.23	7.45	7.87	7.86	8.16
5	7.97	7.75	7.52	7.53	7.28	7.17	7.05	7.22	7.52	7.85	7.88	8.15
6	7.96	7.73	7.50	7.52	7.27	7.15	7.05	7.20	7.52	7.83	7.90	8.28
7	7.94	7.71	7.49	7.51	7.27	7.14	7.04	7.18	7.49	7.83	7.88	8.28
8	7.92	7.69	7.47	7.50	7.26	7.13	7.02	7.16	7.51	7.79	7.89	8.26
9	7.89	7.66	7.53	7.50	7.25	7.11	7.01	7.14	7.55	7.77	7.90	8.24
10	7.86	7.64	7.72	7.49	7.24	7.11	7.00	7.13	7.62	7.74	7.99	8.22
11	7.86	7.62	7.71	7.48	7.23	7.09	6.99	7.11	7.70	7.71	7.95	8.22
12	7.87	7.61	7.70	7.47	7.23	7.09	6.97	7.10	7.71	7.69	7.94	8.20
13	7.86	7.61	7.69	7.47	7.21	7.08	6.96	7.12	7.71	7.66	7.94	8.22
14	7.87	---	7.68	7.47	7.20	7.07	6.94	7.18	7.69	7.64	7.95	8.23
15	7.84	---	7.67	7.46	7.19	7.05	6.93	7.20	7.70	7.64	7.96	8.23
16	7.96	7.61	7.65	7.45	7.18	7.05	6.92	7.17	7.72	7.65	7.94	8.22
17	7.96	7.81	7.63	7.45	7.18	7.10	6.91	7.15	7.72	7.68	7.94	8.20
18	7.94	7.80	7.62	7.44	7.17	7.12	6.90	7.12	7.71	7.66	7.96	8.21
19	7.91	7.78	7.61	7.43	7.15	7.13	6.95	7.11	7.69	7.65	7.95	8.21
20	7.89	7.76	7.59	7.42	7.16	7.12	6.95	7.09	7.69	7.67	7.96	8.19
21	7.90	7.75	7.58	7.41	7.17	7.11	6.94	7.06	7.72	7.69	8.02	8.18
22	7.88	---	7.56	7.40	7.16	7.11	6.93	7.08	7.90	7.77	8.05	8.16
23	7.87	---	7.55	7.39	7.17	7.10	6.92	7.16	8.01	7.75	8.04	8.16
24	7.84	7.71	7.55	7.38	7.17	7.08	6.90	7.21	8.04	7.73	8.03	8.17
25	7.83	7.69	7.57	7.37	7.17	7.07	6.89	7.26	8.07	7.70	8.02	8.16
26	---	7.67	7.57	7.37	7.19	7.05	6.95	7.26	8.03	7.67	8.03	8.21
27	7.81	7.65	7.55	7.35	7.19	7.07	7.02	7.29	8.01	7.65	8.04	8.20
28	7.80	---	7.55	7.35	7.19	7.11	7.04	7.38	8.01	7.64	8.06	8.20
29	7.79	---	7.54	7.34	---	---	7.11	7.46	7.98	7.63	8.08	8.34
30	7.77	7.59	7.53	7.33	---	---	7.15	7.46	7.95	7.64	8.07	8.43
31	7.77	---	7.52	7.33	---	---	---	7.44	---	7.67	8.06	---
TOTAL	---	---	235.05	230.71	202.09	---	209.72	223.41	231.73	239.56	246.75	246.27
MEAN	---	---	7.58	7.44	7.22	---	6.99	7.21	7.72	7.73	7.96	8.21
MAX	---	---	7.72	7.54	7.31	---	7.15	7.46	8.07	7.92	8.08	8.43
MIN	---	---	7.47	7.33	7.15	---	6.89	7.06	7.42	7.63	7.75	8.07

EVERGLADES AND SOUTHEASTERN COASTAL AREA

254540080325700 TAMAMI CANAL AT S-355B, NEAR MIAMI, FL

DOWNSTREAM
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	7.48	7.41	7.26	7.64	7.69	7.65	7.23	7.27	7.29	7.62	7.44	7.63
2	7.48	7.41	7.27	7.64	7.69	7.65	7.27	7.25	7.28	7.58	7.48	7.67
3	7.46	7.41	7.31	7.68	7.69	7.62	7.35	7.23	7.30	7.55	---	7.67
4	7.46	7.40	7.31	7.71	7.69	7.58	7.35	7.23	7.29	7.55	---	7.68
5	7.46	7.39	7.31	7.72	7.67	7.58	7.35	7.23	7.31	7.55	---	7.68
6	7.44	7.36	7.31	7.72	7.64	7.55	7.33	7.23	7.32	7.54	---	7.77
7	7.41	7.35	7.31	7.72	7.64	7.50	7.32	7.23	7.31	7.52	7.55	7.79
8	7.40	7.33	7.30	7.75	7.62	7.48	7.31	7.22	7.29	7.50	7.60	7.78
9	7.37	7.31	7.35	7.80	7.62	7.48	7.30	7.23	7.32	7.46	7.57	7.76
10	7.36	7.29	7.47	7.83	7.62	7.45	7.29	7.27	7.43	7.44	7.58	7.75
11	7.36	7.28	7.42	7.83	7.61	7.44	7.28	7.26	7.41	7.42	7.56	7.74
12	7.37	7.31	7.40	7.81	7.63	7.43	7.27	7.24	7.40	7.40	7.55	7.72
13	7.35	7.40	7.39	7.81	7.64	7.43	7.26	7.24	7.40	7.38	7.54	7.72
14	7.35	---	7.37	7.82	7.57	7.42	7.25	7.26	7.38	7.36	---	7.72
15	7.35	---	7.35	7.80	7.42	7.41	7.24	7.27	7.37	7.37	---	7.72
16	7.47	7.45	7.33	7.84	7.42	7.41	7.24	7.28	7.40	7.38	---	7.71
17	7.48	7.62	7.30	7.83	7.42	7.47	7.22	7.27	7.38	7.39	---	7.68
18	7.44	7.59	7.29	7.78	7.42	7.52	7.20	7.26	7.36	7.39	---	7.67
19	7.42	7.50	7.27	7.74	7.41	7.51	7.20	7.25	7.34	7.38	---	7.67
20	7.42	7.47	7.26	7.74	7.50	7.49	7.19	7.24	7.35	7.39	7.55	7.68
21	7.45	7.45	7.25	7.73	7.56	7.46	7.19	7.23	7.38	7.42	7.61	7.67
22	7.46	---	7.24	7.72	7.49	7.46	7.18	7.22	7.60	7.47	7.65	7.67
23	7.45	---	7.27	7.72	7.48	7.46	7.17	7.23	7.73	7.45	7.66	7.68
24	7.44	7.38	7.35	7.70	7.49	7.43	7.16	7.25	7.74	7.43	7.66	7.69
25	7.43	7.36	7.41	7.70	7.54	7.35	7.16	7.27	7.76	7.41	7.65	7.69
26	---	7.34	7.42	7.70	7.64	7.34	7.19	7.27	7.75	7.40	7.64	7.74
27	7.43	7.33	7.49	7.69	7.65	7.28	7.21	7.27	7.72	7.39	7.63	7.75
28	7.41	---	7.58	7.69	7.65	7.24	7.22	7.30	7.69	7.38	7.65	7.75
29	7.39	---	7.59	7.69	---	---	7.23	7.34	7.67	7.37	7.66	7.87
30	7.37	7.28	7.60	7.69	---	---	7.23	7.35	7.65	7.38	7.64	7.99
31	7.37	---	7.60	7.69	---	---	---	7.33	---	7.40	7.63	---
TOTAL	---	---	228.38	239.93	212.11	---	217.39	225.02	223.62	230.67	---	231.71
MEAN	---	---	7.37	7.74	7.58	---	7.25	7.26	7.45	7.44	---	7.72
MAX	---	---	7.60	7.84	7.69	---	7.35	7.35	7.76	7.62	---	7.99
MIN	---	---	7.24	7.64	7.41	---	7.16	7.22	7.28	7.36	---	7.63

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02289500 TAMiami CANAL NEAR CORAL GABLES, FL

LOCATION.--Lat 25°45'43", long 80°19'42", in SW ¼ sec.3, T.54 S., R.40 E., Miami-Dade County, Hydrologic Unit 03090202, on upstream side of footbridge, 25 ft from south bank, 0.5 mi upstream from Coral Gables Canal, 2.5 mi west of Coral Gables city limits, 3.5 mi downstream from Snapper Creek Canal, and 6.2 mi upstream from mouth.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--January 1940 to June 1943, October 1959 to current year.

REVISED RECORDS.--WDR FL-87-2A, 1986; WDR FL-97-2A, 1995; WDR FL-98-2A, 1997.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic velocity meter. Datum of gage is National Geodetic Vertical Datum of 1929. January 1940 to June 1943, non-recording gage at same site at datum 0.22 ft lower. Benchmark was readjusted, datum prior to 1963, 0.48 lower.

REMARKS.--Records poor. The flow is slightly affected by tide and is regulated by control structures downstream at the Coral Gables Canal, Comfort Canal (S-25), S-25A, S-25B and upstream by S-336 and drainage from the Snapper Creek. Discharge computed from continuous velocity record obtained from acoustic velocity metering system and stage. Records of gage height prior to October 1960, are available in files of the U.S. Geological Survey.

COOPERATION.--South Florida Water Management District.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 32 complete water years of discharge (1941, 42, 1960-83, 1985-88, 1990, 2001).

EXTREME STAGES FOR OUTSIDE PERIOD OF RECORD.--Maximum stage known, 8.01 ft Oct. 12, 1947, present datum, from non-recording gage reading.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 7.90 ft Oct. 4, 2000; minimum, 1.08 ft May 31, 1962.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 4.01 ft Sept. 30; minimum, 2.37 ft Dec.20, July 13.

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	2.55	2.70	2.54	2.92	3.17	3.18	2.77	2.81	2.71	2.64	2.66	2.68
2	2.58	2.74	2.54	2.82	3.17	3.19	3.03	2.68	2.68	3.16	2.65	2.70
3	2.59	2.71	2.53	2.82	3.07	3.19	3.12	3.08	2.76	3.38	2.69	2.74
4	2.60	2.68	2.53	2.92	2.83	3.18	3.07	3.18	2.79	3.06	2.68	2.66
5	2.65	2.66	2.52	3.17	2.74	3.18	2.79	2.93	2.80	2.92	2.76	2.83
6	2.66	2.65	2.50	3.07	2.94	3.18	2.71	2.82	2.76	2.83	2.74	3.05
7	2.65	2.61	2.50	2.88	3.04	3.12	---	3.01	2.64	2.78	2.67	3.05
8	2.65	2.59	2.52	2.82	3.07	2.82	3.05	3.06	2.58	2.72	2.74	2.92
9	2.66	2.59	2.59	2.83	3.09	2.70	3.09	2.78	2.67	2.66	2.67	2.78
10	2.66	2.59	2.88	2.83	3.10	2.86	3.11	2.95	2.92	2.61	2.60	2.74
11	2.64	2.56	2.77	2.80	3.10	2.98	3.12	3.06	2.93	2.55	2.53	2.76
12	2.63	2.60	2.63	2.83	3.10	3.03	3.12	3.09	2.91	2.49	2.56	2.78
13	2.61	2.54	2.54	3.08	3.10	2.94	3.11	3.16	2.83	2.46	2.55	2.87
14	2.61	---	2.51	3.20	3.09	2.94	3.10	3.21	2.74	2.54	2.57	2.89
15	2.60	2.53	2.52	3.21	3.09	3.01	3.11	3.26	2.86	2.56	2.57	2.79
16	2.65	2.61	2.49	2.98	3.09	3.11	3.13	3.03	2.87	2.56	2.60	2.78
17	2.66	2.93	2.46	2.90	3.11	3.21	3.09	2.90	2.81	2.60	2.63	2.86
18	2.60	2.79	2.45	3.09	3.11	3.24	3.07	2.83	2.76	2.56	2.59	2.90
19	2.60	---	2.47	3.18	3.10	3.14	3.14	3.04	2.84	2.52	2.64	2.83
20	2.57	---	2.47	3.14	3.04	3.04	3.15	3.14	2.94	2.50	2.70	2.87
21	2.56	---	2.47	2.91	2.79	2.95	3.14	3.00	2.74	2.52	2.59	2.86
22	2.56	---	2.50	3.07	2.70	2.92	3.14	3.14	3.30	2.54	2.58	2.74
23	2.57	---	2.58	3.17	2.94	3.14	3.12	3.07	3.52	2.51	2.54	2.70
24	2.61	---	2.90	3.19	2.95	3.12	3.09	2.88	3.36	2.48	2.56	2.88
25	2.59	---	3.00	3.02	2.79	2.85	3.05	3.29	3.24	2.43	2.51	2.91
26	---	---	2.86	2.84	3.09	2.75	3.04	3.03	3.03	2.43	2.54	3.05
27	2.62	---	2.99	2.86	3.15	2.93	3.13	2.88	2.94	2.51	2.62	2.95
28	2.58	2.64	2.84	3.05	3.17	2.71	3.02	3.03	2.84	2.59	2.74	2.88
29	2.57	2.54	3.08	3.10	---	2.99	2.88	3.26	2.74	2.63	2.81	---
30	2.58	2.54	3.18	3.13	---	3.15	2.88	2.92	2.72	2.67	2.74	---
31	2.57	---	3.15	3.15	---	2.90	---	2.77	---	2.68	2.68	---
TOTAL MEAN	---	---	82.51	92.98	84.73	93.65	---	93.29	86.23	82.09	81.71	---
MAX	---	---	2.66	3.00	3.03	3.02	---	3.01	2.87	2.65	2.64	---
MIN	---	---	3.18	3.21	3.17	3.24	---	3.29	3.52	3.38	2.81	---
MIN	---	---	2.45	2.80	2.70	2.70	---	2.68	2.58	2.43	2.51	---

02289500 TAMiami CANAL NEAR CORAL GABLES, FL

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	200	218	190	174	93	110	162	193	e246	264	240	268
2	203	223	186	162	94	111	107	168	e239	408	236	268
3	201	217	187	e193	139	107	97	121	e233	438	240	280
4	199	209	189	e216	191	111	118	124	e229	350	240	299
5	212	204	182	e229	178	110	168	165	e226	320	269	314
6	215	199	184	e213	107	113	163	169	239	301	268	375
7	211	195	177	e202	90	132	e113	134	258	279	252	350
8	210	202	183	197	85	171	103	133	255	265	265	328
9	233	e181	186	224	93	168	90	161	264	250	256	311
10	e253	e188	221	208	92	120	92	123	299	239	252	293
11	e252	e204	210	182	88	102	e89	108	289	233	246	e315
12	e199	e207	204	160	87	101	89	100	282	237	225	e303
13	e195	e216	189	128	88	130	89	e110	258	230	203	315
14	e191	e218	173	116	92	111	83	e180	248	222	208	322
15	e187	e228	161	122	92	102	e85	152	268	231	216	313
16	e184	e234	160	e218	91	114	90	e141	e297	226	225	301
17	e191	e284	157	e207	92	201	110	155	e323	215	238	317
18	190	e247	158	114	91	209	99	e150	e290	228	239	314
19	e191	e207	169	106	94	198	e88	106	e322	226	241	295
20	192	---	164	123	125	e202	83	105	335	228	248	281
21	e190	---	168	188	192	187	89	124	282	232	256	267
22	e177	---	e162	119	178	170	87	120	372	230	241	276
23	e191	---	e166	103	111	117	89	e154	395	223	228	274
24	197	---	e127	97	125	144	86	e158	369	226	219	325
25	e189	e201	169	170	158	185	e122	e173	347	228	219	312
26	e190	e202	e176	197	120	188	e151	203	315	223	208	316
27	185	e199	154	162	114	149	e119	183	308	204	217	304
28	e194	190	171	103	109	203	141	201	304	206	254	287
29	e200	198	e193	93	---	e117	151	279	290	225	293	---
30	206	198	134	92	---	e95	176	e266	268	238	288	---
31	e217	---	160	94	---	161	---	e255	---	231	274	---
TOTAL	6,245	---	5,410	4,912	3,209	4,439	3,329	4,914	8,650	7,856	7,504	---
MEAN	201	---	175	158	115	143	111	159	288	253	242	---
MAX	253	---	221	229	192	209	176	279	395	438	293	---
MIN	177	---	127	92	85	95	83	100	226	204	203	---
AC-FT	12,390	---	10,730	9,740	6,370	8,800	6,600	9,750	17,160	15,580	14,880	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

MEAN	197	165	161	139	124	104	79.1	83.7	143	156	163	188
MAX	398	376	346	380	329	304	286	283	303	485	344	432
(WY)	(1961)	(1960)	(1961)	(1961)	(1961)	(1983)	(1960)	(1979)	(1969)	(1991)	(1994)	(1960)
MIN	37.1	12.8	33.4	25.9	4.11	10.4	-5.43	-54.5	7.03	35.3	39.1	33.5
(WY)	(1990)	(1990)	(1990)	(1989)	(1991)	(1990)	(1975)	(1991)	(1974)	(1990)	(1965)	(1989)

SUMMARY STATISTICS

ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

WATER YEARS 1940 - 2003

139
288
30.8
1,120
-259
-127
100,600
268
120
31

1960
1990
Oct 16, 1999
May 22, 1991
May 17, 1991

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

254315080331500 NORTHEAST SHARK RIVER SLOUGH NO. 2 NEAR COOPERTOWN, FL

LOCATION.--Lat 25°43'11", long 80°33'26", in NW ¼ sec.4, T.54 S., Miami-Dade County, Hydrologic Unit 03090202, 2.7 mi south of Coopertown in Northeast Shark River Slough.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1976 to September 1980, October 1982 to current year (gage heights only). Published as "Northeast Shark Valley Slough No. 2 near Coopertown" October 1976 to September 1977.

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 5.4 ft above National Geodetic Vertical Datum of 1929. Water levels below land-surface datum are recorded.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 8.51 ft Oct. 16, 1999; minimum, 3.41 ft estimated, Apr. 23, 1979.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 7.74 ft Sept. 29, 30; minimum, 6.46 ft Apr. 25, 26.

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	7.20	7.07	6.95	6.95	7.01	6.88	6.74	6.72	7.04	7.32	7.07	7.36
2	7.17	7.13	6.94	6.96	7.00	6.88	6.72	6.73	7.02	7.30	7.16	7.41
3	7.15	7.12	6.93	7.00	7.00	6.88	6.70	6.73	7.02	7.28	7.23	7.41
4	7.13	7.11	6.92	7.01	6.99	6.88	6.69	6.74	7.01	7.25	7.21	7.41
5	7.12	7.09	6.91	7.01	6.99	6.88	6.68	6.74	7.01	7.25	7.21	7.40
6	7.11	7.07	6.90	7.02	6.99	6.87	6.67	6.73	7.02	7.24	7.21	7.52
7	7.09	7.05	6.89	7.03	6.98	6.86	6.66	6.72	7.01	7.21	7.20	7.52
8	7.08	7.03	6.88	7.03	6.97	6.85	6.66	6.72	7.00	7.19	7.22	7.50
9	7.07	7.01	6.94	7.03	6.97	6.83	6.65	6.70	7.02	7.17	7.23	7.48
10	7.05	7.00	7.15	7.04	6.96	6.82	6.64	6.69	7.05	7.14	7.27	7.45
11	7.04	6.98	7.13	7.05	6.95	6.82	6.62	6.68	7.07	7.11	7.25	7.43
12	7.05	6.97	7.11	7.06	6.94	6.83	6.61	6.67	7.08	7.09	7.25	7.41
13	7.04	6.96	7.10	7.07	6.93	6.80	6.60	6.67	7.07	7.07	7.23	7.41
14	7.04	6.96	7.08	7.08	6.93	6.79	6.59	6.67	7.06	7.06	7.27	7.40
15	7.03	6.95	7.06	7.08	6.92	6.77	6.58	6.68	7.09	7.05	7.29	7.40
16	7.14	6.98	7.03	7.08	6.91	6.76	6.56	6.68	7.13	7.04	7.27	7.38
17	7.15	7.17	7.01	7.08	6.91	6.83	6.55	6.67	7.10	7.03	7.28	7.37
18	7.12	7.17	7.00	7.08	6.89	6.84	6.54	6.66	7.08	7.02	7.30	7.39
19	7.10	7.16	6.98	7.08	6.87	6.83	6.54	6.65	7.06	7.01	7.29	7.41
20	7.13	7.14	6.96	7.07	6.88	6.83	6.53	6.64	7.05	7.01	7.30	7.40
21	7.19	7.12	6.94	7.07	6.87	6.82	6.52	6.62	7.08	7.04	7.35	7.39
22	7.17	7.12	6.93	7.06	6.87	6.83	6.51	6.63	7.30	7.10	7.39	7.38
23	7.16	7.10	6.91	7.06	6.89	6.83	6.50	6.66	7.42	7.09	7.39	7.39
24	7.14	7.08	6.90	7.05	6.88	6.81	6.48	6.70	7.49	7.08	7.39	7.43
25	7.13	7.06	6.92	7.04	6.87	6.80	6.47	6.79	7.51	7.06	7.37	7.43
26	7.13	7.04	6.93	7.03	6.87	6.79	6.51	6.82	7.46	7.05	7.35	7.47
27	7.12	7.03	6.92	7.03	6.87	6.80	6.56	6.87	7.43	7.04	7.34	7.47
28	7.10	7.01	6.92	7.02	6.87	6.83	6.57	6.98	7.41	7.03	7.36	7.48
29	7.09	6.99	6.92	7.02	---	6.80	6.61	7.11	7.38	7.06	7.38	7.64
30	7.07	6.97	6.93	7.01	---	6.78	6.64	7.10	7.35	7.07	7.36	7.72
31	7.05	---	6.93	7.01	---	6.76	---	7.07	---	7.06	7.35	---
TOTAL	220.36	211.64	216.02	218.21	193.98	211.58	197.90	209.24	214.82	220.52	225.77	223.26
MEAN	7.11	7.05	6.97	7.04	6.93	6.83	6.60	6.75	7.16	7.11	7.28	7.44
MAX	7.20	7.17	7.15	7.08	7.01	6.88	6.74	7.11	7.51	7.32	7.39	7.72
MIN	7.03	6.95	6.88	6.95	6.87	6.76	6.47	6.62	7.00	7.01	7.07	7.36

254130080380500 NORTHEAST SHARK RIVER SLOUGH NO. 1 NEAR COOPERTOWN, FL

LOCATION.--Lat 25°41'30", long 80°38'05" in NW ¼ sec.4, T.54 S., R.31 E., Miami-Dade County, Hydrologic Unit 03090202, 0.7 mi west of southeast corner of Blue Shanty Canal, 0.8 mi south of east-west section of Shanty Canal, and 4.7 mi southwest of Coopertown.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1976 to September 1980, July 1982 to current year (gage heights only).

REVISED RECORDS.--WDR FL-79-2A, 1977; WDR FL-96-2A, 1995.

GAGE.--Satellite data collection platform with water-stage shaft encoder and tipping bucket rain gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 5.9 ft above National Geodetic Vertical Datum of 1929. Rainfall data available in files of the U.S. Geological Survey. The rainfall record was discontinued September 30, 2003. Water levels below land-surface datum are recorded. Prior to October 1977, published as "Northeast Shark Valley Slough No. 1 near Coopertown."

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 8.54 ft Oct. 16, 1999; minimum, indeterminate, well was dry.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 7.91 ft Sept. 29, 30; minimum, 6.52 ft Apr. 25, 26.

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	7.38	7.26	7.08	6.96	6.97	6.84	6.77	6.89	7.10	7.41	7.34	7.53
2	7.36	7.28	7.06	6.96	6.97	6.84	6.76	6.88	7.08	7.38	7.38	7.53
3	7.33	7.26	7.05	7.00	6.96	6.83	6.74	6.89	7.07	7.37	7.41	7.54
4	7.32	7.25	7.04	7.01	6.96	6.83	6.73	6.92	7.07	7.37	7.41	7.55
5	7.31	7.24	7.02	7.01	6.95	6.82	6.72	6.91	7.06	7.37	7.39	7.56
6	7.29	7.22	7.01	7.01	6.95	6.81	6.70	6.88	7.07	7.35	7.38	7.64
7	7.29	7.21	7.00	7.01	6.95	6.81	6.69	6.85	7.13	7.33	7.37	7.65
8	7.28	7.20	6.99	7.01	6.94	6.80	6.68	6.83	7.16	7.31	7.42	7.63
9	7.26	7.19	7.02	7.00	6.93	6.80	6.67	6.81	7.19	7.29	7.42	7.62
10	7.25	7.17	7.20	7.00	6.93	6.79	6.66	6.79	7.25	7.26	7.45	7.59
11	7.26	7.16	7.20	7.00	6.93	6.79	6.65	6.77	7.24	7.24	7.43	7.58
12	7.28	7.15	7.19	7.01	6.92	6.79	6.64	6.75	7.23	7.22	7.43	7.58
13	7.26	7.14	7.18	7.01	6.92	6.78	6.63	6.73	7.22	7.21	7.42	7.59
14	7.25	---	7.17	7.02	6.92	6.77	6.61	6.72	7.20	7.18	7.43	7.59
15	7.24	7.12	7.14	7.02	6.91	6.76	6.60	6.71	7.18	7.19	7.44	7.61
16	7.34	7.16	7.12	7.02	6.91	6.76	6.59	6.70	7.20	7.22	7.43	7.59
17	7.35	7.38	7.09	7.02	6.91	6.80	6.59	6.69	7.18	7.26	7.41	7.58
18	7.33	7.36	7.08	7.02	6.91	6.82	6.57	6.69	7.17	7.25	7.41	7.60
19	7.32	7.33	7.06	7.02	6.90	6.81	6.61	6.68	7.16	7.23	7.41	7.62
20	7.33	7.31	7.05	7.02	6.87	6.81	6.60	6.67	7.15	7.23	7.43	7.60
21	7.41	7.29	7.03	7.02	6.87	6.81	6.58	6.65	7.17	7.23	7.51	7.60
22	7.37	---	7.01	7.01	6.86	6.83	6.57	6.65	7.37	7.26	7.54	7.59
23	7.35	---	7.00	7.01	6.88	6.84	6.56	6.67	7.51	7.26	7.53	7.58
24	7.33	7.22	6.99	7.01	6.88	6.82	6.54	6.72	7.53	7.25	7.52	7.57
25	7.32	7.20	7.00	7.00	6.87	6.81	6.53	6.88	7.54	7.24	7.52	7.58
26	---	7.18	7.00	7.00	6.86	6.79	6.57	6.89	7.52	7.22	7.50	7.64
27	7.33	7.16	6.99	7.00	6.85	6.80	6.64	6.89	7.50	7.22	7.50	7.66
28	7.31	---	6.98	6.99	6.85	6.84	6.69	6.97	7.49	7.22	7.52	7.66
29	7.29	---	6.97	6.99	---	6.83	6.79	7.11	7.46	7.23	7.55	7.78
30	7.27	7.09	6.96	6.98	---	6.81	6.80	7.14	7.43	7.23	7.54	7.91
31	7.25	---	6.96	6.98	---	6.80	---	7.13	---	7.25	7.54	---
TOTAL	---	---	218.64	217.12	193.53	211.04	199.48	211.46	217.63	225.28	230.98	228.35
MEAN	---	---	7.05	7.00	6.91	6.81	6.65	6.82	7.25	7.27	7.45	7.61
MAX	---	---	7.20	7.02	6.97	6.84	6.80	7.14	7.54	7.41	7.55	7.91
MIN	---	---	6.96	6.96	6.85	6.76	6.53	6.65	7.06	7.18	7.34	7.53

EVERGLADES AND SOUTHEASTERN COASTAL AREA

254100080402400 L-67 EXTENDED CANAL WEST NEAR FLORIDA CITY, FL

LOCATION.--Lat 25°41'00", long 80°40'24", between sec.24, T.55 S., R.36 E., and sec.6, T.55 S., R.37 E., between hiatus of unsurveyed area, Miami-Dade County, Hydrologic Unit 03090202, 5.8 mi south of U.S. Highway 41 on the Levee 67 extension and 11.8 mi west of Krome Avenue.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1983 to current year (gage heights only).

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--During the 1999 water year, due to a change in starting benchmarks, a -0.12 ft datum correction was applied to published records for the 1984 to 1996 water years. Revised daily mean values for 1984 - 1996 are available in the files of the U.S. Geological Survey.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 9.32 ft Oct. 16, 1999; minimum, 3.38 ft Apr. 8, 1990.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 8.32 ft Sept. 17; minimum, 6.75 ft Mar. 8, 12, 13.

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	7.99	7.82	7.32	7.12	6.96	6.81	---	7.11	7.27	7.66	7.89	8.12
2	7.98	7.82	7.31	7.11	6.95	6.79	---	7.10	7.26	7.66	7.92	8.12
3	7.96	7.82	7.29	7.15	6.95	6.78	---	7.09	7.26	7.67	7.94	8.12
4	7.95	7.82	7.27	7.14	6.95	6.77	---	7.10	7.27	7.68	7.93	8.12
5	7.95	7.82	7.25	7.12	6.94	6.76	---	7.07	7.29	7.70	7.90	8.12
6	7.94	7.81	7.23	7.11	6.93	6.76	---	7.05	7.35	7.71	7.88	8.21
7	7.93	7.81	7.20	7.10	6.93	6.76	---	7.02	7.49	7.71	7.88	8.21
8	7.92	7.79	7.18	7.08	6.92	6.76	---	7.01	7.46	7.71	7.97	8.20
9	7.92	7.76	7.21	7.08	6.91	6.77	---	6.99	7.46	7.71	7.96	8.19
10	7.90	7.72	7.33	7.07	6.90	6.76	---	6.97	7.51	7.70	7.97	8.17
11	7.94	7.68	7.32	7.07	6.89	6.76	---	6.96	7.49	7.69	7.98	8.18
12	7.95	7.65	7.30	7.06	6.87	6.76	---	6.94	7.48	7.69	7.98	8.17
13	7.93	7.63	7.29	7.05	6.86	---	---	6.93	7.49	7.69	7.95	8.17
14	7.92	7.61	7.27	7.06	6.84	---	---	6.92	7.47	7.69	7.96	8.24
15	7.91	7.56	7.25	7.05	6.83	---	---	6.92	7.46	7.73	7.97	8.29
16	7.99	7.56	7.23	7.04	6.83	---	---	6.95	7.46	7.75	7.95	8.27
17	8.00	7.74	7.21	7.04	6.83	---	---	6.96	7.44	7.78	7.94	8.26
18	7.98	7.67	7.20	7.03	6.82	---	---	6.97	7.44	7.77	7.94	8.28
19	7.96	7.63	7.20	7.03	6.82	---	6.82	6.97	7.44	7.79	7.94	8.25
20	7.96	7.61	7.19	7.03	6.83	---	6.84	6.96	7.44	7.81	7.96	8.24
21	7.97	7.56	7.19	7.02	6.87	---	6.85	6.95	7.51	7.80	8.03	8.24
22	7.95	7.53	7.18	7.02	6.87	---	6.86	6.95	7.66	7.80	8.06	8.22
23	7.93	7.49	7.18	7.02	6.88	---	6.86	6.96	7.75	7.80	8.07	8.22
24	7.91	7.46	7.18	7.00	6.87	---	6.86	6.99	7.76	7.79	8.06	8.21
25	7.91	7.44	7.20	6.99	6.85	---	6.87	7.07	7.76	7.79	8.08	---
26	7.91	7.42	7.21	6.99	6.85	---	6.92	7.07	7.72	7.80	8.07	---
27	7.90	7.39	7.19	6.98	6.83	---	6.98	7.06	7.70	7.81	8.06	---
28	7.88	7.37	7.17	6.97	6.82	---	7.00	7.17	7.68	7.82	8.11	---
29	7.87	7.35	7.16	6.97	---	---	7.02	7.28	7.67	7.82	8.13	---
30	7.85	7.33	7.14	6.97	---	---	7.05	7.29	7.67	7.83	8.14	---
31	7.83	---	7.13	6.97	---	---	---	7.28	---	7.85	8.12	---
TOTAL	245.89	228.67	223.98	218.44	192.60	---	---	218.06	225.11	240.21	247.74	---
MEAN	7.93	7.62	7.23	7.05	6.88	---	---	7.03	7.50	7.75	7.99	---
MAX	8.00	7.82	7.33	7.15	6.96	---	---	7.29	7.76	7.85	8.14	---
MIN	7.83	7.33	7.13	6.97	6.82	---	---	6.92	7.26	7.66	7.88	---

254100080402200 NORTHEAST SHARK RIVER SLOUGH EAST OF L 67 EXT. NEAR RICHMOND HEIGHTS, FL

LOCATION.--Lat 25°41'00", long 80°40'22", in NW ¼ sec.6, T.55 S., R.37 E., Miami-Dade County, Hydrologic Unit 03090202, 5.8 mi south of U.S. Highway 41 on the Levee 67 extension and 11.8 mi west of Krome Avenue.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--January 1984 to current year (gage heights only).

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Due to a change in the starting benchmarks, a -0.12 ft datum correction was applied to the published records for the 1984 to 1996 water years. Revised daily mean values for 1984-1996 are available in the files of Geological Survey.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 8.85 ft Oct. 15, 1999; minimum, indeterminate, well was dry.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 8.32 ft Sept. 29, 30; minimum 6.65 ft Apr. 17.

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	7.79	7.63	7.25	7.07	6.99	6.84	6.79	7.06	7.22	7.59	7.77	7.95
2	7.78	7.63	7.23	7.07	6.98	6.82	6.78	7.05	7.21	7.58	7.78	7.95
3	7.77	7.63	7.20	7.11	6.98	6.81	6.77	7.05	7.20	7.58	7.80	7.94
4	7.75	7.63	7.18	7.10	6.97	6.80	6.77	7.06	7.21	7.58	7.79	7.93
5	7.75	7.63	7.16	7.09	6.97	6.79	6.76	7.03	7.22	7.60	7.77	7.93
6	7.74	7.62	7.14	7.08	6.96	6.79	6.76	7.00	7.30	7.60	7.75	8.03
7	7.73	7.61	7.13	7.07	6.95	6.78	6.75	6.97	7.43	7.59	7.75	8.03
8	7.72	7.60	7.11	7.07	6.95	6.78	6.75	6.94	7.40	7.59	7.83	8.01
9	7.71	7.58	7.16	7.06	6.93	6.78	6.74	6.92	7.43	7.58	7.82	7.99
10	7.70	7.55	7.28	7.05	6.92	6.78	6.73	6.89	7.47	7.57	7.81	7.98
11	7.73	7.52	7.27	7.05	6.92	6.78	6.72	6.87	7.45	7.56	7.82	7.98
12	7.75	7.49	7.26	7.05	6.91	6.77	6.71	6.86	7.44	7.55	7.82	7.97
13	7.73	7.47	7.25	7.04	6.89	6.76	6.70	6.84	7.45	7.55	7.79	7.97
14	7.72	7.44	7.23	7.05	6.88	6.76	6.69	6.83	7.43	7.56	7.81	8.02
15	7.71	7.42	7.21	7.05	6.87	6.75	6.68	6.82	7.42	7.60	7.81	8.08
16	7.80	7.45	7.18	7.05	6.87	6.75	6.67	6.83	7.42	7.62	7.79	8.06
17	7.80	7.64	7.17	7.05	6.88	6.84	6.67	6.83	7.41	7.66	7.78	8.06
18	7.78	7.58	7.15	7.04	6.87	6.84	6.67	6.83	7.41	7.64	7.78	8.08
19	7.76	7.53	7.15	7.04	6.86	6.82	6.69	6.83	7.41	7.65	7.77	8.06
20	7.78	7.50	7.14	7.04	6.87	6.80	6.69	6.82	7.42	7.67	7.80	8.04
21	7.80	7.47	7.13	7.04	6.90	6.83	6.69	6.81	7.46	7.67	7.87	8.04
22	7.77	7.45	7.12	7.04	6.88	6.82	6.69	6.82	7.60	7.68	7.90	8.03
23	7.75	7.42	7.12	7.04	6.91	6.82	6.69	6.82	7.68	7.68	7.89	8.00
24	7.73	7.39	7.11	7.03	6.89	6.80	6.69	6.89	7.69	7.67	7.88	7.99
25	7.73	7.37	7.13	7.02	6.88	6.78	6.70	7.03	7.69	7.67	7.89	8.04
26	7.73	7.35	7.13	7.01	6.87	6.76	6.80	7.03	7.66	7.68	7.89	8.13
27	7.72	7.32	7.12	7.01	6.86	6.81	6.89	7.01	7.63	7.69	7.88	8.13
28	7.71	7.31	7.10	7.00	6.85	6.85	6.92	7.10	7.62	7.69	7.93	8.13
29	7.69	7.28	7.09	7.00	---	6.83	6.96	7.22	7.60	7.69	7.96	8.22
30	7.66	7.27	7.08	7.00	---	6.82	6.99	7.24	7.59	7.70	7.97	8.32
31	7.65	---	7.08	6.99	---	6.81	---	7.22	---	7.71	7.95	---
TOTAL	239.94	224.78	222.06	218.41	193.46	210.77	202.51	215.52	223.57	236.45	242.85	241.09
MEAN	7.74	7.49	7.16	7.05	6.91	6.80	6.75	6.95	7.45	7.63	7.83	8.04
MAX	7.80	7.64	7.28	7.11	6.99	6.85	6.99	7.24	7.69	7.71	7.97	8.32
MIN	7.65	7.27	7.08	6.99	6.85	6.75	6.67	6.81	7.20	7.55	7.75	7.93

EVERGLADES AND SOUTHEASTERN COASTAL AREA

253828080391100 NORTHEAST SHARK RIVER SLOUGH NO. 4, NORTH OF GROSSMAN, FL

LOCATION.--Lat 25°38'24", long 80°39'10", in NW ¼ sec.4, T.54 S., R. Government Lot 6 E., Miami-Dade County, Hydrologic Unit 03090202, approximately 2.0 mi northeast of the extreme southern end of the Levee 67 extension and 11.8 mi west of Krome Avenue.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--July 1985 to current year (gage heights only).

REVISED RECORDS.--WDR FL-93-2A, 1990-1992; WDR FL-95-2A, 1994; WDR FL-96-2A, 1993, 1986-1989 (extremes only).

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Hurricane Andrew destroyed the gage and all reference marks in 1992. The station was rebuilt on February 19, 1993, and precise adjustments to the gage datum prior to 1993 based on Everglades National Park contractor surveys were not possible. The reader should use -0.40 to approximate this adjustment for water years prior to 1993. Land surface is approximately 5.5 ft above National Geodetic Vertical Datum of 1929. Gage is capable of recording water levels below land-surface datum.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 8.41 ft Oct. 15, 1999; minimum, indeterminate, well was dry.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 7.81 ft Sept. 29, 30; minimum, 6.31 Apr. 25, 26.

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	7.24	7.11	6.91	6.74	6.63	6.53	6.50	6.63	6.92	7.21	7.21	7.43
2	7.22	7.10	6.89	6.74	6.61	6.53	6.49	6.64	6.90	7.19	7.23	7.42
3	7.21	7.09	6.88	6.77	6.61	6.52	6.48	6.65	6.88	7.20	7.26	7.41
4	7.20	7.09	6.86	6.76	6.61	6.51	6.47	6.65	6.88	7.20	7.25	7.42
5	7.19	7.08	6.85	6.75	6.60	6.50	6.47	6.64	6.87	7.19	7.25	7.43
6	7.18	7.07	6.84	6.74	6.59	6.49	6.46	6.64	6.92	7.17	7.24	7.48
7	7.18	7.06	6.82	6.73	6.59	6.49	---	6.63	7.06	7.15	7.25	7.49
8	7.17	7.05	6.81	6.73	6.59	6.48	6.44	6.61	7.05	7.13	7.35	7.47
9	7.16	7.04	6.87	6.72	6.59	6.47	6.43	6.60	7.07	7.11	7.31	7.45
10	7.14	7.03	7.04	6.71	6.57	6.46	6.42	6.58	7.09	7.09	7.33	7.45
11	7.14	7.02	7.03	6.71	6.57	6.47	6.41	6.57	7.05	7.07	7.31	7.43
12	7.15	7.01	7.02	6.70	6.57	6.46	6.39	6.55	7.04	7.05	7.32	7.42
13	7.15	7.01	7.01	6.70	6.56	6.45	6.38	6.54	7.03	7.04	7.30	7.44
14	7.14	---	6.99	6.69	6.55	6.45	6.37	6.52	7.01	7.03	7.34	7.46
15	7.14	6.97	6.96	6.69	6.55	6.44	6.36	6.51	7.02	7.03	7.35	7.48
16	7.20	7.01	6.93	6.69	6.54	6.46	6.35	6.52	7.04	7.06	7.32	7.47
17	7.22	7.21	6.91	6.69	6.54	6.52	6.36	6.51	7.02	7.11	7.31	7.48
18	7.20	7.18	6.90	6.67	6.53	6.53	6.42	6.50	7.02	7.12	7.30	7.55
19	7.18	7.16	6.88	6.67	6.53	6.51	6.40	6.50	7.02	7.12	7.29	7.55
20	7.21	7.13	6.87	6.67	6.53	6.50	6.39	6.49	7.03	7.13	7.31	7.53
21	7.27	7.11	6.85	6.66	6.54	6.50	6.37	6.48	7.04	7.14	7.37	7.51
22	7.24	---	6.84	6.66	6.54	6.56	6.36	6.47	7.25	7.17	7.38	7.49
23	7.22	---	6.82	6.66	6.57	6.56	6.35	6.47	7.34	7.14	7.38	7.47
24	7.21	7.05	6.81	6.66	6.56	6.55	6.33	6.55	7.34	7.12	7.38	7.46
25	7.19	7.03	6.81	6.65	6.56	6.54	6.32	6.77	7.34	7.11	7.37	7.50
26	---	7.01	6.81	6.65	6.56	6.53	6.36	6.77	7.31	7.12	7.36	7.60
27	7.19	6.99	6.79	6.64	6.55	6.54	6.43	6.77	7.29	7.12	7.35	7.59
28	7.18	---	6.78	6.64	6.54	6.54	6.44	6.86	7.28	7.12	7.40	7.58
29	7.15	---	6.77	6.63	---	6.54	6.48	6.96	7.25	7.14	7.43	7.70
30	7.13	6.93	6.76	6.63	---	---	6.54	6.97	7.23	7.13	7.45	7.80
31	7.12	---	6.75	6.63	---	---	---	6.95	---	7.15	7.43	---
TOTAL	---	---	213.06	207.38	183.88	---	---	205.50	212.59	220.86	227.13	224.96
MEAN	---	---	6.87	6.69	6.57	---	---	6.63	7.09	7.12	7.33	7.50
MAX	---	---	7.04	6.77	6.63	---	---	6.97	7.34	7.21	7.45	7.80
MIN	---	---	6.75	6.63	6.53	---	---	6.47	6.87	7.03	7.21	7.41

EVERGLADES AND SOUTHEASTERN COASTAL AREA

253753080393600 NORTHEAST SHARK RIVER SLOUGH NO. 5, SOUTH OF GROSSMAN, FL

LOCATION.--Lat 25°37'55", long 80°39'42", in NW ¼ sec.4, T.54 S., R. Government Lot 6 E., Miami-Dade County, Hydrologic Unit 03090202, approximately 0.3 mi northeast of the extreme southern end of the Levee 67 extension levee and 11.8 mi west of Krome Avenue.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--July 1985 to current year (gage heights only).

REVISED RECORDS.--WDR FL-95-2A, 1994.

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records for water years prior to 1993 were published with a datum of 0.48 ft lower. Levels were run during the 1995 water year. The gage datum was reset based on elevations provided by James Beadman and Associates, Inc. Levels were run during the 2000 water year. A -0.07 ft correction was prorated from a zero correction in 1995 to a -0.07 ft correction in the 2000 water year. Data were revised for water years 1997-2000 and are available in the files of the U.S. Geological Survey. Land surface is approximately 5.2 ft above National Geodetic Vertical Datum of 1929.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 8.45 ft Oct. 15, 1999; minimum, indeterminate many days during 1989, 1990, 1991, 1992, 2001 water years when well went dry.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 7.63 ft Sept. 29, 30; minimum, 6.19 ft Apr. 25, 26.

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	7.15	7.02	6.81	6.64	6.51	6.42	6.39	6.49	6.79	7.08	7.08	7.32
2	7.13	7.00	6.80	6.64	6.50	6.42	6.38	6.51	6.77	7.07	7.12	7.31
3	7.12	7.00	6.78	6.66	6.50	6.41	6.37	6.54	6.75	7.07	7.14	7.31
4	7.11	6.99	6.77	6.66	6.49	6.40	6.36	6.54	6.74	7.08	7.14	7.32
5	7.10	6.98	6.75	6.64	6.49	6.39	6.36	6.54	6.74	7.07	7.13	7.32
6	7.10	6.98	6.74	6.64	6.49	6.38	6.35	6.52	6.82	7.05	7.13	7.34
7	7.09	6.97	6.72	6.62	6.48	6.37	---	6.51	6.98	7.03	7.13	7.34
8	7.07	6.96	6.71	6.62	6.48	6.36	6.33	6.49	6.96	7.01	7.23	7.34
9	7.06	6.95	6.77	6.61	6.48	6.36	6.32	6.47	6.96	6.99	7.19	7.33
10	7.05	6.94	6.94	6.60	6.47	6.35	6.31	6.46	6.98	6.97	7.20	7.32
11	7.04	6.93	6.93	6.60	6.46	6.35	6.29	6.44	6.93	6.95	7.19	7.31
12	7.05	6.92	6.92	6.59	6.45	6.34	6.28	6.43	6.92	6.93	7.21	7.30
13	7.05	6.92	6.91	6.58	6.44	6.33	6.27	6.41	6.91	6.92	7.19	7.32
14	7.05	---	6.89	6.59	6.44	6.33	6.26	6.40	6.89	6.90	7.22	7.33
15	7.05	6.89	6.86	6.58	6.43	6.32	6.25	6.39	6.90	6.91	7.24	7.33
16	7.10	6.92	6.83	6.58	6.42	6.34	6.24	6.38	6.92	6.95	7.21	7.33
17	7.11	7.12	6.81	6.57	6.42	6.40	6.25	6.37	6.90	7.01	7.20	7.35
18	7.10	7.09	6.80	6.56	6.42	6.40	6.30	6.36	6.91	7.00	7.19	7.44
19	7.09	7.06	6.78	6.56	6.41	6.39	6.28	6.37	6.91	7.01	7.18	7.44
20	7.11	7.04	6.77	6.56	6.42	6.38	6.26	6.36	6.92	7.03	7.20	7.41
21	7.16	7.02	6.75	6.55	6.43	6.39	6.25	6.34	6.93	7.02	7.25	7.41
22	7.14	---	6.73	6.55	6.43	6.43	6.24	6.33	7.15	7.05	7.26	7.38
23	7.12	---	6.72	6.54	6.46	6.43	6.22	6.34	7.22	7.03	7.26	7.36
24	7.10	6.95	6.71	6.54	6.45	6.42	6.21	6.42	7.22	7.01	7.26	7.35
25	7.09	6.93	6.71	6.53	6.45	6.40	6.20	6.65	7.22	7.00	7.25	7.40
26	---	6.91	6.70	6.53	6.45	6.39	6.24	6.65	7.19	7.01	7.24	7.49
27	7.09	6.89	6.69	6.53	6.44	6.42	6.30	6.65	7.16	7.01	7.24	7.48
28	7.07	---	6.68	6.52	6.44	6.45	6.30	6.74	7.15	7.00	7.28	7.47
29	7.06	---	6.66	6.52	---	6.44	6.32	6.84	7.13	7.01	7.32	7.56
30	7.04	6.83	6.65	6.52	---	---	6.39	6.84	7.11	7.01	7.33	7.63
31	7.03	---	6.64	6.52	---	---	---	6.82	---	7.02	7.32	---
TOTAL	---	---	209.93	203.95	180.75	---	---	201.60	209.08	217.20	223.53	221.34
MEAN	---	---	6.77	6.58	6.46	---	---	6.50	6.97	7.01	7.21	7.38
MAX	---	---	6.94	6.66	6.51	---	---	6.84	7.22	7.08	7.33	7.63
MIN	---	---	6.64	6.52	6.41	---	---	6.33	6.74	6.90	7.08	7.30

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02290710 BLACK CREEK CANAL AT S-21, NEAR GOULDS, FL

LOCATION.--Lat 25°32'34", long 80°19'52", in NE ¼ sec.21, T.56 S., R.40 E., Dade County, Hydrologic Unit 03090202, in control house of salinity-control structure S-21, 0.5 mi upstream from mouth, and 3.5 mi east of Goulds.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--March 1957 to October 1969 (gage heights only), November 1969 to September 1977, October 1978 to current year.

REVISED RECORDS.--WDR FL-89-2A, 1988; WDR FL-01-2A, 2000.

GAGE.--Electronic data loggers for upstream and downstream stages and electronic data logger with shaft encoders for gate operation. Datum of gage is National Geodetic Vertical Datum of 1929 (Dade County bench mark). Prior to August 9, 1960, water-stage recorder at site 270 ft upstream in north lateral borrow canal, and April 9, 1960 to July 8, 1968, at site 810 ft upstream in north lateral borrow canal, all at same datum.

REMARKS.--Records fair, except for estimated daily discharges, which are poor. Flow is regulated by the operation of salinity-control structure S-21 and by some upstream pumpage for irrigation. Downstream stage is basically tidal, but at times is affected by gate operation. Starting in the 2002 water year, the downstream stage record published is the maximum and minimum stage for each calendar day. Prior to the 2002 water year, the daily mean for the downstream stage was published. Discharge computed from relation between head, discharges and gate-openings at structure S-21. Records of gage heights prior to October 1962, are available in files of the U.S. Geological Survey. Discharge occurring under submerged weir flow conditions is considered estimated.

COOPERATION.--Supplementary gate-opening record and gage-height record provided by the South Florida Water Management District.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 22 complete water years of discharge (1971-77, 1979-90, 1995, 1998, 2002).

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 10.17 ft Aug. 24, 1992; minimum, -1.09 ft Aug. 24, 1992.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 2.85 ft Sept. 30; minimum, 0.61 ft Nov. 7.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 2.76 ft Oct. 5; minimum, -0.88 ft Jan. 20.

UPSTREAM
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	1.68	1.71	1.54	1.54	1.79	1.66	1.63	1.65	2.01	1.86	1.87	2.14
2	1.71	1.81	1.53	1.53	1.63	1.76	1.73	2.07	1.94	1.80	2.01	2.06
3	1.81	1.84	1.53	1.51	1.76	1.82	1.68	2.13	2.09	1.74	2.05	2.08
4	1.82	2.05	1.62	1.53	1.70	1.61	1.73	2.06	2.07	1.74	2.04	2.06
5	1.84	1.96	1.52	1.55	1.75	1.88	1.78	2.04	2.10	1.83	2.01	2.05
6	1.81	1.65	1.53	1.85	1.69	1.54	1.73	1.72	2.13	1.85	1.94	1.68
7	1.82	---	1.47	1.71	1.75	1.86	1.78	1.76	2.12	1.90	1.90	1.55
8	1.82	---	1.61	1.39	1.69	1.53	1.52	1.69	2.11	1.81	2.07	1.78
9	1.82	1.62	1.76	1.24	1.72	1.80	1.78	1.63	1.99	1.80	2.07	2.11
10	1.81	1.59	1.67	1.24	1.69	1.62	1.79	1.65	1.99	1.77	1.99	2.09
11	1.74	1.68	1.50	1.53	1.72	1.58	1.62	1.71	2.00	1.82	2.04	2.14
12	1.73	1.78	1.35	1.67	1.88	1.72	1.88	1.77	1.80	1.89	1.79	2.15
13	1.73	1.66	1.47	1.73	1.63	1.58	1.60	1.84	2.00	1.91	1.61	2.14
14	1.79	1.78	1.32	1.67	1.89	1.90	1.85	1.79	1.99	1.96	1.63	2.15
15	1.76	1.65	1.50	1.56	1.58	1.59	1.73	1.94	2.00	1.87	1.77	2.13
16	1.84	1.62	1.43	1.82	1.84	1.62	1.86	1.89	1.99	1.85	1.95	2.10
17	1.80	1.63	1.61	1.62	1.60	1.65	1.65	1.84	1.99	1.85	2.05	2.08
18	1.61	1.54	1.50	1.58	1.86	1.69	1.74	1.83	2.00	1.79	1.98	2.08
19	1.72	1.50	1.53	1.82	1.73	1.77	1.75	1.78	1.68	1.83	2.04	2.08
20	1.80	1.60	1.55	1.64	1.81	1.75	1.74	1.88	1.44	2.14	1.85	2.11
21	1.75	1.68	1.46	1.63	1.69	1.81	1.77	1.96	1.55	2.22	1.64	2.14
22	1.77	1.66	1.53	1.79	1.74	1.58	1.90	1.89	1.35	2.31	1.68	2.08
23	1.57	1.55	1.48	1.55	1.73	1.65	1.67	1.61	1.47	2.06	1.65	2.12
24	1.88	1.54	1.60	1.86	1.69	1.78	1.85	1.83	1.38	2.07	1.70	2.11
25	1.85	1.61	1.44	1.40	1.82	1.63	1.94	1.79	1.72	2.05	1.73	2.15
26	1.55	1.59	1.37	1.81	1.62	1.67	1.64	2.02	2.00	1.96	1.91	1.84
27	1.75	1.49	1.47	1.59	1.79	1.78	1.59	2.03	2.03	2.03	1.94	1.75
28	1.85	1.47	1.43	1.81	1.63	1.59	1.85	2.07	2.11	2.02	2.06	1.76
29	1.76	1.44	1.57	1.64	---	1.66	1.68	2.00	2.09	2.01	2.18	1.72
30	1.90	1.57	1.60	1.79	---	1.54	1.83	1.99	2.01	1.94	2.17	1.73
31	1.77	---	1.63	1.60	---	1.60	---	2.01	---	1.83	2.21	---
TOTAL	54.86	---	47.12	50.20	48.42	52.22	52.29	57.87	57.15	59.51	59.53	60.16
MEAN	1.77	---	1.52	1.62	1.73	1.68	1.74	1.87	1.91	1.92	1.92	2.01
MAX	1.90	---	1.76	1.86	1.89	1.90	1.94	2.13	2.13	2.31	2.21	2.15
MIN	1.55	---	1.32	1.24	1.58	1.53	1.52	1.61	1.35	1.74	1.61	1.55

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02290710 BLACK CREEK CANAL AT S-21, NEAR GOULDS, FL

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	630	204	364	371	0.00	151	141	872	754	629	514	592
2	591	643	360	372	139	0.00	86	592	739	616	455	881
3	448	547	370	406	0.00	58	125	594	714	593	459	837
4	395	e403	344	375	120	131	112	588	724	553	497	811
5	406	e882	395	371	0.00	24	69	532	740	518	534	860
6	e459	e1,240	381	157	128	134	124	e519	698	496	560	1,100
7	438	---	373	377	0.00	0.00	1.0	582	699	472	591	1,000
8	446	---	313	504	264	158	158	576	704	505	618	856
9	417	637	259	177	0.00	0.00	128	498	705	474	711	784
10	393	629	453	0.00	126	166	2.1	584	706	495	831	754
11	457	1,290	458	137	0.50	163	152	454	695	420	865	e617
12	357	1,740	439	0.00	44	0.00	57	468	764	453	922	357
13	470	1,350	387	164	62	174	87	327	698	437	826	394
14	289	864	327	3.3	0.00	31	78	288	677	356	519	494
15	182	971	347	160	112	128	120	216	710	424	644	570
16	69	822	377	24	0.00	195	0.00	297	714	432	575	514
17	e-105	1,520	361	97	107	167	139	282	688	434	575	490
18	e-58	1,550	414	149	0.00	153	149	262	675	515	597	483
19	45	1,240	355	0.00	85	110	0.00	287	653	342	584	555
20	72	622	448	106	94	128	146	221	548	0.00	664	547
21	59	434	384	142	15	72	0.00	318	709	5.7	612	446
22	99	449	415	0.00	127	120	38	338	926	0.00	610	485
23	177	503	369	121	112	184	136	496	1,430	115	534	545
24	78	439	367	45	12	128	6.6	386	1,530	148	481	606
25	60	409	430	123	3.4	50	68	721	1,060	159	415	546
26	193	417	359	0.00	127	156	153	717	642	191	418	615
27	134	436	375	135	129	183	125	744	646	161	93	578
28	0.00	386	362	0.00	25	303	134	716	613	174	499	559
29	128	392	349	123	---	186	214	946	607	298	556	721
30	51	355	331	0.00	---	206	448	876	617	582	526	649
31	116	---	325	140	---	114	---	780	---	562	558	---
TOTAL	7,496.00	---	11,591	4,779.30	1,831.90	3,773.00	3,196.70	16,077	22,785	11,559.70	17,843	19,246
MEAN	242	---	374	154	65.4	122	107	519	760	373	576	642
MAX	630	---	458	504	264	303	448	946	1,530	629	922	1,100
MIN	-105	---	259	0.00	0.00	0.00	0.00	216	548	0.00	93	357
AC-FT	14,870	---	22,990	9,480	3,630	7,480	6,340	31,890	45,190	22,930	35,390	38,170

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2003, BY WATER YEAR (WY)

	MEAN	285	162	111	104	92.4	72.3	48.4	94.8	271	225	297	346
MAX	1,059	682	643	1,180	833	508	236	519	1,151	880	717	791	
(WY)	(1995)	(1995)	(1995)	(1995)	(1995)	(1995)	(1998)	(1982)	(2003)	(1983)	(2002)	(1995)	(1981)
MIN	46.0	26.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.65	40.3
(WY)	(1990)	(1985)	(1985)	(1971)	(1971)	(1971)	(1971)	(1971)	(1971)	(1974)	(1981)	(1987)	(1989)

SUMMARY STATISTICS

ANNUAL MEAN
 HIGHEST ANNUAL MEAN
 LOWEST ANNUAL MEAN
 HIGHEST DAILY MEAN
 LOWEST DAILY MEAN
 ANNUAL SEVEN-DAY MINIMUM
 ANNUAL RUNOFF (AC-FT)
 10 PERCENT EXCEEDS
 50 PERCENT EXCEEDS
 90 PERCENT EXCEEDS

WATER YEARS 1970 - 2003

172
 600
 33.0
 2,340
 -384
 -94
 124,300
 496
 81
 0.00

1995
 1989
 Aug 18, 1981
 Jan 23, 1983
 Oct 23, 1998

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

022907647 LEVEE 31 NORTH EXTENSION AT 1 MILE NEAR WEST MIAMI, FL

LOCATION.--Lat 25°44'53", long 80°29'53", in SE 1/4 sec. 35, T.54 S., R.38 E., Miami-Dade County, Hydrologic Unit 03090202, (South Miami NW quadrangle), 0.5 mi west of intersection of U.S. Highway 41 and Krome Avenue, and 1.0 mi south of U.S. Highway 41 on the west side of Levee 31 North.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--November 1989 to November 1990, (gage heights only). February 1992 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic velocity meter. Datum of gage is 0.10 ft below National Geodetic Vertical Datum of 1929 (FCE bench mark).

REMARKS.--Records poor. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity. Flow is the sum of regulation from upstream control structures S-334, S-335, and S-336 and from levee seepage and rainfall. Positive flow is to the south and may reverse for short periods. Datum of gage is based upon an adjustment to the RM elevation.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 5 complete water years of discharge (1997-2001).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 8.17 ft Oct. 15, 1999; minimum, 2.33 ft May 23, 1990.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 6.60 ft June 23; minimum, 5.42 ft Apr. 22.

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	5.84	6.16	6.07	6.01	5.90	5.93	5.75	5.96	6.04	6.23	6.09	6.27
2	5.85	6.31	6.07	6.02	5.87	5.88	5.88	5.89	6.03	6.17	6.09	6.36
3	5.85	6.18	6.07	6.05	5.80	5.86	5.95	5.88	6.09	6.12	6.12	6.27
4	5.88	6.09	6.06	6.05	5.79	5.85	5.92	5.85	6.11	6.15	6.12	6.27
5	5.87	6.09	6.06	6.03	5.78	5.82	5.89	5.86	6.10	6.14	6.20	6.31
6	5.85	6.07	6.07	6.02	5.82	5.76	5.89	5.88	6.12	6.10	6.19	6.48
7	5.86	6.08	6.07	6.01	5.86	5.67	---	5.86	6.14	6.11	6.21	6.49
8	5.86	6.09	6.07	5.99	5.85	5.51	5.87	5.86	6.06	6.11	6.18	6.43
9	5.85	6.11	6.14	5.84	5.86	5.50	5.87	5.92	6.08	6.08	6.23	6.38
10	5.87	6.08	6.24	5.95	5.86	5.49	5.83	5.99	6.12	6.11	6.15	6.33
11	5.80	6.07	6.15	5.83	5.92	5.50	---	5.97	6.07	6.11	6.10	6.28
12	5.74	6.08	5.95	5.81	5.91	5.53	5.78	5.87	6.09	6.08	6.11	6.24
13	5.71	6.12	5.98	5.82	5.86	5.54	5.76	5.93	6.08	6.08	6.10	6.25
14	5.73	---	6.13	5.80	5.86	5.53	5.76	5.93	6.07	6.07	6.12	6.25
15	5.78	6.13	6.11	5.80	5.92	5.51	5.85	5.90	6.10	6.09	6.11	6.23
16	5.95	6.15	6.08	5.80	5.90	5.74	5.87	5.82	6.12	6.12	6.11	6.19
17	5.95	6.09	6.08	5.78	5.93	5.95	5.68	5.82	6.08	6.07	6.09	6.17
18	6.02	6.09	6.07	5.85	5.93	5.94	5.68	5.82	6.10	6.08	6.11	6.18
19	6.13	6.11	6.08	5.87	5.90	5.90	5.72	5.86	6.09	6.08	6.16	6.19
20	6.15	6.10	6.07	5.88	5.67	5.88	5.65	5.89	6.07	6.13	6.15	6.16
21	6.09	6.11	6.07	5.82	5.68	5.85	5.60	5.88	6.12	6.11	6.20	6.14
22	6.10	---	6.07	5.77	5.94	5.90	5.53	5.87	6.27	6.15	6.22	6.11
23	6.12	---	6.07	5.79	5.99	5.94	5.51	5.93	6.56	6.12	6.21	6.08
24	6.12	6.08	6.06	5.73	5.93	5.86	5.50	---	6.45	6.08	6.20	6.11
25	6.13	6.07	6.09	5.76	5.90	5.73	5.52	---	6.39	6.07	6.18	6.12
26	---	6.08	6.07	5.76	5.89	5.69	5.63	---	6.40	6.08	6.19	6.19
27	6.09	6.08	6.06	5.75	5.96	5.71	5.83	---	6.38	6.07	6.18	6.17
28	6.08	6.08	6.06	5.76	5.96	5.83	5.87	5.95	6.31	6.07	6.26	6.14
29	6.13	---	6.04	5.79	---	5.93	5.86	6.24	6.31	6.11	6.32	6.30
30	6.13	6.07	6.03	5.79	---	---	5.94	6.23	6.27	6.17	6.28	6.55
31	6.12	---	6.02	5.84	---	---	---	6.12	---	6.16	6.25	---
TOTAL	---	---	188.26	181.77	164.44	---	---	---	185.22	189.42	191.23	187.64
MEAN	---	---	6.07	5.86	5.87	---	---	---	6.17	6.11	6.17	6.25
MAX	---	---	6.24	6.05	5.99	---	---	---	6.56	6.23	6.32	6.55
MIN	---	---	5.95	5.73	5.67	---	---	---	6.03	6.07	6.09	6.08

EVERGLADES AND SOUTHEASTERN COASTAL AREA

022907647 LEVEE 31 NORTH EXTENSION AT 1 MILE NEAR WEST MIAMI, FL

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	489	176	300	317	363	266	469	345	176	333	499	292
2	532	219	303	e321	367	253	572	351	295	345	511	254
3	528	236	310	327	389	335	712	407	405	403	543	285
4	544	254	316	321	404	353	719	415	442	403	520	285
5	532	243	326	318	549	296	719	435	455	405	494	280
6	557	259	320	322	640	228	702	478	453	392	514	236
7	568	310	323	327	577	241	e696	520	390	414	512	272
8	574	338	321	314	564	315	706	514	438	449	231	278
9	592	367	309	295	572	340	673	553	425	432	178	305
10	605	371	191	200	572	340	666	585	296	473	208	280
11	584	403	233	250	529	397	e676	609	273	488	237	306
12	582	376	288	250	465	442	679	628	321	501	305	311
13	582	306	249	240	460	441	671	659	389	522	316	310
14	555	e250	258	251	479	449	664	694	396	539	265	291
15	520	262	255	242	464	425	604	712	326	631	239	300
16	555	242	257	230	426	237	463	718	203	637	260	313
17	547	258	268	267	414	158	351	687	257	622	253	313
18	483	266	282	370	401	139	214	673	249	648	236	300
19	390	285	306	404	435	130	70	648	318	642	234	285
20	363	278	298	402	318	268	58	614	377	607	211	306
21	300	266	317	411	380	419	78	601	402	521	206	297
22	318	e268	315	415	454	507	91	575	194	506	256	295
23	307	e268	322	414	384	471	97	596	152	499	251	284
24	295	260	319	410	329	590	130	e601	222	503	259	276
25	262	269	331	401	280	707	119	e587	252	544	261	250
26	e257	283	324	404	271	703	149	e550	252	555	267	229
27	291	294	326	407	323	414	164	e386	258	539	252	241
28	266	293	337	393	320	246	94	245	314	511	247	247
29	246	e294	322	386	---	243	187	101	357	491	272	199
30	212	301	328	387	---	---	281	141	343	459	286	203
31	236	---	329	366	---	---	---	186	---	495	294	---
TOTAL	13,672	8,495	9,283	10,362	12,129	---	12,474	15,814	9,630	15,509	9,617	8,323
MEAN	441	283	299	334	433	---	416	510	321	500	310	277
MAX	605	403	337	415	640	---	719	718	455	648	543	313
MIN	212	176	191	200	271	---	58	101	152	333	178	199
AC-FT	27,120	16,850	18,410	20,550	24,060	---	24,740	31,370	19,100	30,760	19,080	16,510

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

MEAN	323	365	368	377	367	393	479	437	216	274	327	306
MAX	441	573	638	852	594	486	802	742	404	500	572	460
(WY)	(2003)	(2002)	(2002)	(2000)	(2000)	(1999)	(1998)	(1998)	(1998)	(2003)	(2002)	(2002)
MIN	183	184	186	194	230	246	222	128	8.04	83.7	194	191
(WY)	(1998)	(1998)	(1998)	(1998)	(2002)	(2001)	(2001)	(2001)	(2001)	(2001)	(1998)	(1998)

SUMMARY STATISTICS

WATER YEARS 1998 - 2003

ANNUAL MEAN	330	
HIGHEST ANNUAL MEAN	439	2000
LOWEST ANNUAL MEAN	231	2001
HIGHEST DAILY MEAN	1,090	Jan 16, 2000
LOWEST DAILY MEAN	-112	Oct 4, 2000
ANNUAL SEVEN-DAY MINIMUM	-4.7	Jun 6, 2001
ANNUAL RUNOFF (AC-FT)	239,200	
10 PERCENT EXCEEDS	634	
50 PERCENT EXCEEDS	268	
90 PERCENT EXCEEDS	135	

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02290765 LEVEE 31 NORTH EXTENSION AT 3 MILE NEAR WEST MIAMI, FL

LOCATION.--Lat 25°43'02", long 80°29'50", in SE 1/4 sec.35, T.54 S., R.38 E., Miami-Dade County, Hydrologic Unit 03090202, (South Miami NW quadrangle), 0.5 mi west of intersection of U.S. Highway 41 and Krome Avenue, and 3 mi south of U.S. Highway 41 on the west side of Levee 31 North.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--March 1992 to current year.

REVISED RECORDS.--WDR 97-2A, 1992-96.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic velocity meter. Datum of gage is 0.10 ft below National Geodetic Vertical Datum of 1929 (FCE bench mark).

REMARKS.--Records poor. Flow is the sum of regulation from upstream control structures S-334, S-335, and S-336, downstream from structures G-211 and S-338 and from levee seepage and rainfall. Positive flow is to the south and may reverse for short periods. Datum of gage is based upon an adjustment to the RM elevation. To convert stage values to NGVD, a +0.10 ft correction must be applied to all water years. Negative discharge is considered estimated due to insufficient measurements to verify negative portion of the rating.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 9 complete water years of discharge (1993-2001).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 8.19 ft Oct. 15, 1999; minimum, 3.48 ft May 23, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 6.58 ft June 23; minimum, 5.34 ft Apr. 22. See REMARKS.

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	5.82	6.13	6.04	5.97	5.87	5.90	5.72	5.92	6.03	6.21	6.06	6.26
2	5.83	6.28	6.04	5.98	5.83	5.85	5.83	5.85	---	6.15	6.07	6.35
3	5.83	6.15	6.04	6.02	5.76	5.82	5.89	5.84	6.08	6.11	6.09	6.26
4	5.85	6.06	6.03	6.01	5.75	5.81	5.86	5.81	6.10	6.13	6.09	6.25
5	5.84	6.06	6.03	6.00	5.74	5.79	5.83	5.82	6.10	6.12	6.17	6.30
6	5.82	6.03	6.04	5.99	5.77	5.73	5.84	5.84	6.11	6.08	6.16	6.46
7	5.83	6.05	6.04	5.98	5.81	5.63	---	5.82	6.13	6.09	6.18	6.47
8	5.83	6.06	6.03	5.95	5.81	5.47	5.81	5.82	6.06	6.09	6.16	6.42
9	5.82	6.07	6.10	5.80	5.81	5.47	5.81	5.88	6.08	6.06	6.20	6.37
10	5.83	6.05	6.20	5.91	5.82	5.45	5.77	5.94	6.11	6.08	6.12	6.32
11	5.77	6.04	6.11	5.79	5.87	5.47	5.73	5.92	6.07	6.07	6.08	6.27
12	5.71	6.05	5.91	5.78	5.87	5.49	5.73	5.82	6.07	6.04	6.09	6.23
13	5.67	6.09	5.94	5.78	5.82	5.50	5.71	5.88	6.07	6.05	6.08	6.24
14	5.70	---	6.10	5.77	5.82	5.50	5.71	5.88	6.06	6.03	6.09	6.25
15	5.74	6.10	6.08	5.77	5.88	5.48	5.81	5.85	6.09	6.05	6.09	6.23
16	5.91	6.11	6.05	5.76	5.86	5.71	5.83	5.77	6.11	6.08	6.09	6.19
17	5.92	6.06	6.05	5.75	5.89	5.91	5.65	5.77	6.07	6.03	6.07	6.16
18	5.99	6.06	6.04	5.81	5.90	5.91	5.64	5.77	6.08	6.03	6.09	6.17
19	6.11	6.08	6.04	5.83	5.86	5.87	5.69	5.81	6.07	6.03	6.14	6.18
20	6.12	6.07	6.03	5.84	5.63	5.83	5.62	5.85	6.05	6.08	6.13	6.16
21	6.07	6.08	6.04	5.78	5.64	5.80	5.57	5.83	6.11	6.06	6.19	6.14
22	6.08	---	6.04	5.73	5.88	5.86	5.50	5.81	6.25	6.11	6.20	6.11
23	6.10	---	6.03	5.75	5.95	5.90	5.48	5.88	6.54	6.09	6.20	6.09
24	6.10	6.05	6.02	5.70	5.90	5.81	5.47	5.97	6.43	6.05	6.19	6.11
25	6.11	6.05	6.05	5.72	5.87	5.67	5.48	6.01	6.38	6.05	6.17	6.12
26	---	6.05	6.04	5.72	5.86	5.64	5.60	6.01	6.39	6.06	6.18	6.18
27	6.07	6.05	6.03	5.71	5.92	5.66	5.79	5.90	6.37	6.04	6.18	6.16
28	6.05	---	6.02	5.72	5.93	5.80	5.84	5.94	6.30	6.04	6.25	6.13
29	6.10	---	6.01	5.75	---	5.90	5.83	6.22	6.29	6.08	6.31	6.30
30	6.09	6.04	5.99	5.75	---	---	---	6.22	6.25	6.14	6.27	6.54
31	6.09	---	5.98	5.80	---	---	---	6.11	---	6.13	6.24	---
TOTAL	---	---	187.19	180.62	163.32	---	---	182.76	---	188.46	190.63	187.42
MEAN	---	---	6.04	5.83	5.83	---	---	5.90	---	6.08	6.15	6.25
MAX	---	---	6.20	6.02	5.95	---	---	6.22	---	6.21	6.31	6.54
MIN	---	---	5.91	5.70	5.63	---	---	5.77	---	6.03	6.06	6.09

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02290765 LEVEE 31 NORTH EXTENSION AT 3 MILE NEAR WEST MIAMI, FL

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	570	215	344	353	396	268	519	e379	e358	480	525	387
2	602	243	330	e400	438	299	609	383	e389	504	514	395
3	602	233	326	e353	461	365	774	439	e629	520	538	430
4	618	303	329	---	475	389	805	434	e630	551	526	431
5	596	317	337	---	652	372	807	469	e638	524	515	459
6	621	300	341	e361	747	287	809	484	e651	529	510	398
7	636	324	330	348	662	334	e776	489	e647	544	518	421
8	621	339	326	352	650	418	802	488	e650	574	327	425
9	639	361	315	343	669	476	776	523	e631	571	309	422
10	645	358	189	253	653	435	766	549	389	603	378	389
11	641	365	289	359	594	480	785	556	384	596	378	403
12	631	386	360	324	513	524	770	588	448	594	440	426
13	628	313	290	336	518	498	748	e820	502	590	414	445
14	602	e240	268	324	542	478	754	e654	525	602	419	424
15	574	244	261	300	521	492	662	e887	423	631	377	428
16	596	228	271	324	483	301	482	684	333	618	376	410
17	615	257	302	326	449	e141	366	653	353	604	380	391
18	512	278	e326	385	437	145	170	630	401	615	332	442
19	386	301	e328	441	485	137	60	610	450	616	369	445
20	346	284	e324	439	427	274	82	569	469	585	331	449
21	296	279	324	484	462	441	78	545	476	533	363	455
22	341	e293	342	499	507	526	97	531	317	518	380	423
23	338	e271	e355	473	425	495	152	548	249	540	401	409
24	364	286	333	467	353	665	63	574	331	533	418	421
25	315	304	343	464	336	813	130	473	349	552	394	406
26	e357	309	347	473	359	808	145	497	360	550	392	380
27	350	310	360	464	374	470	145	397	394	550	412	406
28	350	e325	351	456	372	246	92	307	466	526	389	412
29	309	e303	361	455	---	e225	220	142	488	486	411	347
30	303	319	371	454	---	e211	e293	219	484	470	393	353
31	268	---	342	419	---	e240	---	253	---	488	398	---
TOTAL	15,272	8,888	10,015	---	13,960	12,253	13,737	15,774	13,814	17,197	12,827	12,432
MEAN	493	296	323	---	499	395	458	509	460	555	414	414
MAX	645	386	371	---	747	813	809	887	651	631	538	459
MIN	268	215	189	---	336	137	60	142	249	470	309	347
AC-FT	30,290	17,630	19,860	---	27,690	24,300	27,250	31,290	27,400	34,110	25,440	24,660

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2003, BY WATER YEAR (WY)

MEAN	379	383	386	386	378	397	471	370	248	334	379	393
MAX	493	698	759	877	645	564	887	845	542	555	678	592
(WY)	(2003)	(2002)	(2002)	(2000)	(2000)	(1999)	(1998)	(1998)	(1998)	(2003)	(2002)	(2002)
MIN	262	244	233	231	240	219	206	77.5	-30.7	56.9	244	278
(WY)	(1998)	(1998)	(2001)	(1994)	(2002)	(2001)	(2001)	(2001)	(2001)	(2001)	(1992)	(1997)

SUMMARY STATISTICS

ANNUAL MEAN
 HIGHEST ANNUAL MEAN
 LOWEST ANNUAL MEAN
 HIGHEST DAILY MEAN
 LOWEST DAILY MEAN
 ANNUAL SEVEN-DAY MINIMUM
 ANNUAL RUNOFF (AC-FT)
 10 PERCENT EXCEEDS
 50 PERCENT EXCEEDS
 90 PERCENT EXCEEDS

WATER YEARS 1992 - 2003

358
 467 2000
 251 2001
 1,210 Nov 1, 2001
 -218 Oct 4, 2000
 -69 Jul 10, 2001
 259,100
 547
 336
 192

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02290766 LEVEE 31 NORTH EXTENSION AT 4 MILE NEAR WEST MIAMI, FL

LOCATION.--Lat 25°42'06", long 80°29'46", in NE 1/4 NE 1/4 NE 1/4 sec.35, T.54 S., R. 38 E., Miami-Dade County, Hydrologic Unit 03090202, 0.5 mi west of the junction of U.S. Highway 41 and Krome Avenue and 4.1 mi south of U.S. Highway 41 on west side of Levee 31 North, near West Miami, FL.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--June 1994 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic velocity meter. Datum of gage is National Geodetic Vertical Datum of 1929 (FCE bench mark).

REMARKS.--Records poor. Flow is the sum of regulation from upstream control structures S-334, S-335 and S-336; downstream at G-211 and S-338; from levee seepage and rainfall. Positive flow is to the south and may reverse for short periods. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 6 complete water years of discharge (1995, 1997-2001).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 8.32 ft Oct. 15, 1999; minimum, 3.53 ft May 23, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 6.64 ft June 23; minimum, 5.42 ft Apr. 24.

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	5.88	6.20	6.08	6.01	5.91	5.94	5.76	5.96	6.08	6.26	6.13	6.32
2	5.90	6.35	6.09	6.03	5.87	5.89	5.87	5.90	6.07	6.21	6.13	6.41
3	5.88	6.21	6.09	6.06	5.80	5.86	5.92	5.88	6.12	6.16	6.15	6.33
4	5.89	6.13	6.08	6.06	5.78	5.85	5.89	5.86	6.14	6.18	6.15	6.32
5	5.88	6.12	6.07	6.04	5.77	5.83	5.86	5.86	6.13	6.17	6.23	6.37
6	5.87	6.10	6.08	6.03	5.80	5.77	5.87	5.88	6.15	6.13	6.22	6.53
7	5.87	6.12	6.08	6.02	5.84	5.67	---	5.87	6.17	6.14	6.24	6.54
8	5.87	6.12	6.08	5.99	5.84	5.51	5.85	5.86	6.10	6.14	6.22	6.48
9	5.86	6.14	6.14	5.84	5.84	5.51	5.84	5.92	6.12	6.11	6.27	6.44
10	5.88	6.11	6.24	5.96	5.85	5.49	5.80	5.98	6.16	6.13	6.19	6.39
11	5.81	6.10	6.16	5.84	5.91	5.51	5.76	5.96	6.12	6.12	6.15	6.34
12	5.76	6.11	5.96	5.82	5.91	5.53	5.76	5.85	6.12	6.09	6.16	6.30
13	5.72	6.16	5.98	5.83	5.85	5.54	5.75	5.92	6.12	6.10	6.15	6.31
14	5.75	---	6.15	5.81	5.85	5.54	5.74	5.92	6.11	6.08	6.16	6.31
15	5.78	6.17	6.13	5.82	5.91	5.52	5.84	5.88	6.14	6.10	6.16	6.29
16	5.97	6.17	6.10	5.80	5.90	5.75	5.88	5.80	6.16	6.12	6.16	6.25
17	5.97	---	6.09	5.79	5.93	5.95	5.70	5.80	6.12	6.08	6.14	6.23
18	6.05	---	6.08	5.85	5.94	5.95	5.69	5.81	6.13	6.08	6.16	6.24
19	6.16	6.13	6.08	5.87	5.90	5.91	5.74	5.84	6.13	6.07	6.20	6.25
20	6.18	6.12	6.07	5.88	5.68	5.87	5.67	5.88	6.10	---	6.20	6.23
21	6.12	6.12	6.09	5.82	5.68	5.84	5.62	5.87	6.16	---	6.26	6.21
22	6.14	6.13	6.08	5.77	5.91	5.90	5.55	5.85	6.31	6.18	6.27	6.18
23	6.16	---	6.08	5.78	6.00	5.94	5.53	5.91	6.60	6.15	6.26	6.15
24	6.15	6.09	6.06	5.75	5.94	5.85	5.52	6.01	6.49	6.11	6.26	6.17
25	6.16	6.09	6.09	5.76	5.91	5.70	5.53	6.05	6.44	6.11	6.24	6.18
26	---	6.10	6.08	5.76	5.90	5.67	5.64	6.05	6.44	6.12	6.25	6.25
27	6.12	6.09	6.08	5.76	5.96	5.70	5.84	5.95	6.42	6.10	6.24	6.23
28	6.11	6.09	6.07	5.76	5.97	5.84	5.89	5.99	6.35	6.10	6.31	6.20
29	6.17	---	6.05	5.79	---	---	5.87	6.27	6.35	6.14	6.38	6.37
30	6.16	6.08	6.03	5.79	---	---	5.96	6.27	6.31	6.20	6.34	6.61
31	6.15	---	6.02	5.84	---	---	---	6.16	---	6.19	6.30	---
TOTAL	---	---	188.56	181.93	164.35	---	---	184.01	186.36	---	192.68	189.43
MEAN	---	---	6.08	5.87	5.87	---	---	5.94	6.21	---	6.22	6.31
MAX	---	---	6.24	6.06	6.00	---	---	6.27	6.60	---	6.38	6.61
MIN	---	---	5.96	5.75	5.68	---	---	5.80	6.07	---	6.13	6.15

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02290766 LEVEE 31 NORTH EXTENSION AT 4 MILE NEAR WEST MIAMI, FL

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	579	253	361	381	442	318	537	380	311	486	553	386
2	599	263	373	418	466	332	619	404	428	484	580	409
3	610	266	370	390	493	407	751	462	615	509	580	438
4	605	301	369	387	501	436	772	460	574	546	575	406
5	601	334	370	398	663	399	764	478	574	536	549	423
6	626	367	378	395	744	312	767	543	566	530	563	391
7	641	378	369	392	680	371	e740	573	521	553	556	439
8	638	382	366	398	666	437	743	554	561	583	303	415
9	659	405	354	395	667	447	722	585	527	580	275	397
10	655	388	243	296	672	461	743	632	392	604	383	384
11	647	394	330	413	613	501	744	633	386	608	389	403
12	645	412	415	381	549	528	739	684	462	605	427	411
13	637	349	332	367	545	519	735	712	537	595	470	418
14	612	---	318	357	560	498	724	772	540	605	420	427
15	592	287	319	337	543	496	641	782	450	665	404	414
16	614	289	323	359	498	288	492	793	348	678	355	441
17	617	e323	343	388	486	215	368	757	359	663	371	392
18	531	e320	355	440	474	193	183	732	420	673	330	413
19	420	344	382	490	510	172	102	692	476	674	354	458
20	377	323	358	486	423	327	117	658	504	e632	313	441
21	335	313	379	519	470	493	140	651	528	e564	334	434
22	321	321	385	524	513	548	124	625	316	548	351	424
23	320	---	394	507	457	521	171	633	235	561	377	418
24	333	313	367	500	394	665	93	657	359	561	374	414
25	332	318	383	500	377	804	95	570	361	576	378	381
26	---	343	385	509	388	784	166	608	318	601	378	361
27	335	e353	392	504	405	482	128	478	384	592	413	380
28	339	---	390	485	383	284	92	350	474	572	360	420
29	343	---	400	476	---	---	235	173	471	535	394	323
30	338	358	407	485	---	---	307	288	478	501	392	311
31	327	---	381	457	---	---	---	242	---	517	381	---
TOTAL	---	---	11,291	13,334	14,582	---	13,554	17,561	13,475	17,937	12,882	12,172
MEAN	---	---	364	430	521	---	452	566	449	579	416	406
MAX	---	---	415	524	744	---	772	793	615	678	580	458
MIN	---	---	243	296	377	---	92	173	235	484	275	311
AC-FT	---	---	22,400	26,450	28,920	---	26,880	34,830	26,730	35,580	25,550	24,140

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)

MEAN	385	434	430	438	410	416	505	367	251	323	385	397
MAX	495	705	758	977	725	585	892	833	465	579	671	574
(WY)	(2002)	(2002)	(2002)	(2000)	(2000)	(2002)	(1998)	(1998)	(1998)	(2003)	(2002)	(2002)
MIN	240	238	241	264	235	236	213	115	9.68	84.2	242	265
(WY)	(1998)	(1998)	(1998)	(1997)	(1996)	(1996)	(2001)	(2001)	(2001)	(2001)	(1997)	(1997)

SUMMARY STATISTICS

ANNUAL MEAN
 HIGHEST ANNUAL MEAN
 LOWEST ANNUAL MEAN
 HIGHEST DAILY MEAN
 LOWEST DAILY MEAN
 ANNUAL SEVEN-DAY MINIMUM
 ANNUAL RUNOFF (AC-FT)
 10 PERCENT EXCEEDS
 50 PERCENT EXCEEDS
 90 PERCENT EXCEEDS

WATER YEARS 1994 - 2003

385
 526 2000
 271 2001
 1,210 Jan 16, 2000
 -300 Jun 10, 1997
 -16 May 29, 2001
 278,700
 665
 350
 175

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02290767 LEVEE 31 NORTH EXTENSION AT 5 MILE NEAR WEST MIAMI, FL

LOCATION.--Lat 25°41'09", long 80°29'50", T.54 S., R.38 E., Dade County, Hydrologic Unit 03090202, (South Miami NW quadrangle), 1.05 mi west of the junction of U.S. Highway 41 and Krome Avenue, and 5.25 mi south of U.S. Highway 41 on west side of Levee 31 North, near West Miami, FL.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--June 16, 1994 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic velocity meter. Datum of gage is National Geodetic Vertical Datum of 1929 (FCE bench mark).

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow is the sum of regulation from upstream control structures S-334, S-335 and S-336, downstream at G-211 and S-338 and from levee seepage and rainfall. Positive flow is to the south and may reverse for short periods. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 6 water years of discharge (1995, 1997-2001).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 8.27 ft Oct. 15, 1999; minimum, 3.48 ft May 23, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 6.57 ft June 23; minimum, 5.22 ft Apr. 25.

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	5.79	6.14	6.04	5.97	5.85	5.87	---	5.90	6.01	6.20	6.04	---
2	---	6.27	6.04	5.98	5.80	5.82	5.80	5.84	6.01	6.14	6.03	6.32
3	5.79	6.15	6.04	6.02	5.73	5.79	5.84	5.82	6.05	6.09	6.06	6.24
4	5.79	6.06	6.03	6.01	5.71	5.78	5.82	5.80	6.08	6.11	6.06	6.23
5	5.79	6.05	6.02	6.00	5.69	5.76	5.78	5.80	6.07	6.10	6.14	6.28
6	---	6.03	6.04	5.99	5.72	5.70	5.79	5.82	6.09	6.06	6.13	6.43
7	5.79	6.05	6.04	5.98	5.77	5.61	5.78	5.80	6.11	6.06	6.15	6.45
8	5.78	6.05	6.03	5.96	5.77	5.45	5.77	5.79	6.03	6.06	6.14	6.40
9	5.77	6.06	6.09	5.80	5.77	5.44	5.76	5.86	6.05	6.04	6.18	6.36
10	5.79	6.04	6.18	5.92	5.77	5.43	---	5.91	6.10	6.05	6.10	---
11	5.75	6.03	6.11	---	5.84	5.44	5.68	5.89	6.06	6.04	6.06	6.25
12	5.69	6.04	5.94	---	5.84	5.46	5.68	5.78	6.06	6.01	6.07	6.21
13	5.66	6.09	5.96	---	5.79	5.47	5.67	5.85	6.05	6.02	6.06	6.23
14	5.69	---	6.09	---	5.78	5.47	5.66	5.84	6.05	6.00	6.08	6.23
15	5.72	---	6.07	5.78	5.84	5.45	5.77	5.81	6.08	6.01	6.07	6.21
16	5.90	6.09	6.05	5.77	5.83	5.68	5.80	5.73	6.10	6.04	6.07	6.17
17	5.90	6.05	6.04	5.75	5.86	5.88	5.63	5.73	6.06	5.99	6.05	6.14
18	5.98	6.05	6.03	5.80	5.87	5.88	5.60	5.74	6.07	5.99	6.07	6.15
19	6.09	6.07	6.04	5.82	5.83	5.84	5.53	5.77	6.06	5.99	6.12	6.16
20	6.10	6.07	6.03	5.83	5.61	5.80	5.47	5.82	6.04	6.05	6.11	6.14
21	6.08	6.07	6.04	5.76	---	5.76	5.41	5.80	6.10	6.03	6.18	6.12
22	6.09	---	6.03	5.72	5.84	5.83	5.35	5.78	6.25	6.08	6.18	6.09
23	6.10	---	6.03	5.73	5.93	5.87	5.33	---	6.53	6.06	6.18	6.06
24	6.10	---	6.01	5.70	5.87	5.77	5.32	5.94	6.43	6.01	6.17	6.08
25	6.11	6.04	---	5.71	5.84	5.63	5.31	5.99	6.38	6.01	6.15	6.10
26	---	6.05	6.04	5.70	5.83	5.61	---	5.98	6.38	6.02	6.16	6.16
27	6.08	6.04	6.03	5.69	5.90	5.64	---	5.88	6.35	6.01	6.16	6.14
28	6.07	---	6.02	5.70	5.90	5.77	5.83	---	6.29	6.01	6.23	6.11
29	6.11	---	6.01	5.73	---	5.88	5.82	6.20	6.28	6.05	---	6.28
30	---	6.04	5.99	5.73	---	---	5.90	6.21	6.24	6.11	---	6.52
31	6.10	---	5.97	5.78	---	---	---	6.10	---	6.10	---	---
TOTAL MEAN	---	---	---	---	---	---	---	---	184.46	187.54	---	---
MAX	---	---	---	---	---	---	---	---	6.53	6.20	---	---
MIN	---	---	---	---	---	---	---	---	6.01	5.99	---	---

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02290767 LEVEE 31 NORTH EXTENSION AT 5 MILE NEAR WEST MIAMI, FL

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	588	220	327	346	398	289	---	318	297	388	546	e319
2	e597	252	326	364	410	258	568	367	449	407	567	346
3	598	264	329	356	451	369	718	422	570	499	578	343
4	608	283	318	345	469	383	732	413	550	501	573	339
5	585	321	341	358	626	376	732	429	551	480	538	303
6	e607	316	340	347	709	297	710	472	544	488	563	320
7	619	356	329	347	641	325	701	509	512	507	543	359
8	620	371	327	351	625	423	704	498	539	527	329	388
9	626	368	318	348	621	402	693	519	501	522	249	353
10	633	376	219	234	636	430	e703	584	347	539	310	e378
11	624	381	280	e325	579	457	705	591	324	554	293	345
12	619	389	373	e321	509	471	701	643	401	572	356	373
13	611	315	321	e309	511	458	695	673	490	566	382	364
14	587	---	312	e324	507	453	667	736	478	583	368	377
15	556	---	315	305	491	448	596	739	402	642	367	366
16	579	251	316	300	467	229	439	746	319	642	326	377
17	591	319	321	334	450	175	324	711	303	637	313	336
18	510	316	335	428	429	144	154	684	327	646	287	377
19	378	339	338	458	466	141	63	653	396	640	281	369
20	355	321	329	452	373	311	41	618	457	622	263	369
21	315	308	344	488	e422	440	43	601	473	582	294	346
22	316	---	353	506	462	489	112	588	334	563	283	348
23	285	---	351	482	415	466	144	e590	267	551	339	347
24	282	---	339	509	353	622	e-8.9	607	300	544	e320	361
25	276	301	e344	470	310	774	63	526	361	566	e324	327
26	---	319	341	477	318	765	e120	572	337	579	328	328
27	257	323	349	476	342	462	e82	463	348	578	339	335
28	279	---	347	457	321	220	29	e351	411	562	305	355
29	277	---	351	443	---	181	177	166	411	526	e327	295
30	e268	330	348	454	---	---	258	252	407	501	e325	257
31	290	---	361	422	---	---	---	265	---	529	e314	---
TOTAL	---	---	10,242	12,136	13,311	---	---	16,306	12,406	17,043	11,530	10,400
MEAN	---	---	330	391	475	---	---	526	414	550	372	347
MAX	---	---	373	509	709	---	---	746	570	646	578	388
MIN	---	---	219	234	310	---	---	166	267	388	249	257
AC-FT	---	---	20,320	24,070	26,400	---	---	32,340	24,610	33,800	22,870	20,630

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)

MEAN	414	460	444	444	435	415	517	360	251	331	415	417
MAX	604	776	828	1,066	804	587	914	859	462	550	669	582
(WY)	(2001)	(2000)	(2000)	(2000)	(2000)	(2002)	(1998)	(1998)	(1998)	(2003)	(2002)	(2002)
MIN	231	229	256	246	266	189	266	110	-47.8	76.3	251	266
(WY)	(1998)	(1998)	(1998)	(1997)	(2002)	(1996)	(2001)	(1996)	(2001)	(1994)	(1997)	(1997)

SUMMARY STATISTICS

ANNUAL MEAN	
HIGHEST ANNUAL MEAN	
LOWEST ANNUAL MEAN	
HIGHEST DAILY MEAN	
LOWEST DAILY MEAN	
ANNUAL SEVEN-DAY MINIMUM	
ANNUAL RUNOFF (AC-FT)	
10 PERCENT EXCEEDS	
50 PERCENT EXCEEDS	
90 PERCENT EXCEEDS	

WATER YEARS 1994 - 2003

405	
605	2000
280	1997
1,300	Jan 17, 2000
-285	Jun 10, 1997
-68	Jun 6, 2001
293,100	
702	
363	
191	

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02290768 LEVEE 31 NORTH EXTENSION AT 7 MILE NEAR WEST MIAMI, FL

LOCATION.--Lat 25°39'48", long 80°29'54", NE ¼ NE ¼ SE ¼ sec.11, T.55 S., R.38 E., Miami-Dade County, Hydrologic Unit 03090202, (South Miami NW quadrangle), 0.5 mi west of junction of U.S. Highway 41 and Krome Avenue and 6.9 mi south of U.S. Highway 41 on the west side of Levee 31 North Levee, near West Miami, FL.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--June 1994 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic velocity meter. Datum of gage is National Geodetic Vertical Datum of 1929 (FCE bench mark).

REMARKS.--Records fair except for estimated daily discharges, which are poor. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity. Flow is the sum of regulation from upstream control structures S-334, S-335 and S-336 from levee seepage and rainfall, and from structures S-338 and G-211 downstream. Positive flow is to the south and may reverse for short periods.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 6 complete water years of discharge (1995, 1997-98, 2000-02).

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum gage height, 8.19 ft Oct. 15, 1999; minimum, 3.46 ft May 23, 2001.

EXTREME STAGES FOR CURRENT YEAR.--Maximum gage height, 6.53 ft June 23; minimum, 5.30 ft Apr. 22.

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	5.74	6.09	5.99	5.90	5.82	5.84	5.65	5.86	5.98	6.16	6.00	6.22
2	5.75	6.24	5.99	5.93	5.78	5.80	5.76	5.80	5.97	6.10	6.00	6.30
3	5.74	6.10	5.99	5.96	5.70	5.77	5.80	5.78	6.01	6.05	6.02	6.22
4	5.76	6.01	5.98	5.96	5.68	5.76	5.77	5.76	6.03	6.08	---	6.21
5	5.75	6.00	5.97	5.95	5.65	5.73	5.74	5.76	6.02	6.07	6.11	6.25
6	5.74	5.97	5.99	5.94	5.68	5.68	5.75	5.78	6.04	6.02	6.10	6.41
7	5.74	6.01	5.99	5.93	5.73	5.58	5.74	5.76	6.06	6.03	6.12	6.42
8	5.74	6.00	5.98	5.90	5.73	5.42	5.72	5.75	5.99	6.04	6.11	6.39
9	5.73	6.02	6.05	5.74	5.73	5.41	5.71	5.82	6.01	6.01	6.15	6.34
10	5.74	5.99	6.14	5.87	5.74	5.40	5.67	5.87	6.06	6.02	6.07	6.28
11	5.67	5.98	6.06	5.75	5.80	5.41	5.64	5.85	6.02	6.01	6.03	6.22
12	5.62	5.99	5.85	5.74	5.81	5.43	5.64	5.73	6.02	5.98	6.04	6.18
13	5.58	6.05	5.87	5.74	5.75	5.44	5.62	5.81	6.02	5.98	6.04	6.20
14	5.62	---	6.05	5.73	5.75	5.44	5.62	5.79	6.01	5.96	6.05	6.20
15	5.64	6.05	6.03	5.73	5.81	5.42	5.74	5.76	6.05	---	6.04	6.18
16	5.83	6.05	6.00	5.72	5.80	5.66	5.78	5.67	6.07	6.00	6.05	6.15
17	5.84	6.01	5.99	5.69	5.83	5.85	5.60	5.68	6.03	5.95	6.02	6.12
18	5.92	6.01	5.98	5.75	5.85	5.86	5.60	5.68	6.03	5.96	6.05	6.13
19	6.04	6.03	5.99	5.77	5.80	5.82	5.65	5.72	6.02	5.95	6.09	6.14
20	6.06	6.02	5.97	5.78	5.58	5.77	5.58	5.77	6.00	6.01	6.09	6.11
21	6.00	6.03	5.99	5.71	5.58	5.72	5.54	5.76	6.06	6.00	6.15	6.09
22	6.02	---	5.98	5.66	5.80	5.80	5.46	5.73	6.21	6.05	6.16	6.06
23	6.04	---	5.98	5.68	5.90	5.84	5.45	5.80	6.50	6.02	6.15	6.04
24	6.04	5.99	5.95	5.66	5.85	5.73	5.43	5.89	6.40	5.98	6.14	6.06
25	6.05	5.99	6.00	5.66	5.82	5.57	5.43	5.94	6.34	5.98	6.13	6.07
26	---	6.00	5.99	5.66	5.81	5.53	5.55	5.93	6.34	5.99	6.14	6.13
27	6.01	6.00	5.98	5.66	5.87	5.59	5.75	5.84	6.31	5.97	6.14	6.11
28	6.00	---	5.97	5.66	5.88	5.75	5.80	5.90	6.24	5.97	6.20	6.08
29	6.05	---	5.96	5.69	---	5.86	5.79	6.17	6.24	6.02	6.27	6.25
30	6.04	5.98	5.94	5.69	---	---	5.86	6.18	6.20	6.08	6.23	6.50
31	6.04	---	5.91	5.75	---	---	---	6.06	---	6.07	6.20	---
TOTAL	---	---	185.51	178.96	161.53	---	169.84	180.60	183.28	---	---	186.06
MEAN	---	---	5.98	5.77	5.77	---	5.66	5.83	6.11	---	---	6.20
MAX	---	---	6.14	5.96	5.90	---	5.86	6.18	6.50	---	---	6.50
MIN	---	---	5.85	5.66	5.58	---	5.43	5.67	5.97	---	---	6.04

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02290768 LEVEE 31 NORTH EXTENSION AT 7 MILE NEAR WEST MIAMI, FL

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	690	282	348	382	430	303	---	384	325	512	608	379
2	699	362	352	391	444	286	---	406	e502	516	631	418
3	698	382	358	385	496	375	---	451	595	583	649	424
4	687	371	360	378	519	406	802	440	601	589	e636	413
5	678	380	361	378	691	370	811	454	608	581	602	420
6	698	393	356	376	787	309	790	511	602	577	617	441
7	707	383	355	376	692	359	787	550	559	581	609	457
8	713	404	353	375	678	412	790	535	593	598	383	449
9	716	416	363	393	691	433	765	558	558	588	316	436
10	721	415	315	258	688	438	779	626	405	605	389	461
11	715	412	365	358	621	444	782	630	396	624	389	448
12	701	419	473	354	554	496	765	708	432	639	450	454
13	699	340	385	342	558	490	757	730	526	630	443	434
14	670	---	339	357	563	481	746	812	526	645	464	423
15	630	256	337	339	529	471	640	813	475	e709	430	419
16	631	271	334	332	486	224	474	828	402	711	367	432
17	656	349	345	374	470	175	340	785	391	716	362	405
18	e555	342	360	458	457	157	170	759	387	712	382	412
19	415	358	371	505	491	137	83	714	476	720	384	427
20	382	347	371	500	395	315	74	666	508	687	355	425
21	348	342	372	545	438	482	86	654	526	641	389	429
22	333	---	377	561	501	533	105	638	392	621	403	438
23	342	---	381	540	452	498	96	643	337	601	406	422
24	328	---	373	539	374	685	167	698	434	611	383	436
25	312	---	379	521	337	859	94	626	467	622	397	420
26	---	345	369	530	318	847	130	648	438	634	391	420
27	318	351	375	528	361	509	100	543	463	633	376	437
28	335	---	373	500	338	244	97	441	529	625	377	458
29	301	---	375	483	---	184	208	279	527	579	379	415
30	319	345	380	479	---	---	302	334	520	567	388	417
31	307	---	367	442	---	---	---	353	---	592	376	---
TOTAL	---	---	11,322	13,279	14,359	---	---	18,217	14,500	19,249	13,731	12,869
MEAN	---	---	365	428	513	---	---	588	483	621	443	429
MAX	---	---	473	561	787	---	---	828	608	720	649	461
MIN	---	---	315	258	318	---	---	279	325	512	316	379
AC-FT	---	---	22,460	26,340	28,480	---	---	36,130	28,760	38,180	27,240	25,530

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

MEAN	548	663	559	541	478	407	343	402	254	426	498	495
MAX	611	798	809	998	745	583	450	588	483	621	699	641
(WY)	(2002)	(2002)	(2002)	(2000)	(2000)	(2002)	(2000)	(2003)	(2003)	(2003)	(2002)	(2002)
MIN	453	413	258	273	266	220	202	118	32.8	109	388	416
(WY)	(2000)	(2001)	(2001)	(2001)	(2002)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2000)

SUMMARY STATISTICS

ANNUAL MEAN
 HIGHEST ANNUAL MEAN
 LOWEST ANNUAL MEAN
 HIGHEST DAILY MEAN
 LOWEST DAILY MEAN
 ANNUAL SEVEN-DAY MINIMUM
 MAXIMUM PEAK FLOW
 ANNUAL RUNOFF (AC-FT)
 10 PERCENT EXCEEDS
 50 PERCENT EXCEEDS
 90 PERCENT EXCEEDS

WATER YEARS 2000 - 2003

462
 564 2000
 288 2001
 1,340 Nov 1, 2001
 -184 Oct 4, 2000
 18 Jun 20, 2001
 1,320 Mar 24, 2003
 334,800
 843
 428
 170

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02290769 CANAL 111 AT S-18-C, NEAR FLORIDA CITY, FL

LOCATION.--Lat 25°19'49", long 80°31'31", in NW ¼ sec.3, T.59 S., R.38 E., Miami-Dade County, Hydrologic Unit 03090202, at control structure 18-C, and 8.5 mi south of Florida City.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1968 to current year.

REVISED RECORDS.--WDR FL-78-2A, 1974-77.

GAGE.--Satellite data collection platform with water-stage shaft encoder and acoustic doppler velocity meter. Prior to September 30, 2001, satellite data collection platform with water-stage shaft encoder and acoustic velocity meter. The acoustic velocity meter and acoustic doppler velocity meter were run in tandem for the period of May 24, 2001 to October 17, 2001. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Records good except for estimated and negative daily discharges, which are poor. Flow regulated by S-18-C. Prior to November 30, 1992, discharge computed from relation between head, and gate openings at S-18-C. After December 1, 1992, discharge computed based on continuous record of stage and velocity at newly established acoustic velocity meter site downstream of S-18-C. Discharge computed from relations between stage vs. area and index velocity vs. mean channel velocity. Prior to the 1993 water year the downstream gage height is available in files of the U.S. Geological Survey under station number 02290770. Starting with the 1993 water year, the downstream gage height is available in files of the U.S. Geological Survey under station number 02290769. Prior to 1994 water year discharge published under the name Canal 111 Above S-18-C under the same station number (02290769). Prior to December 1, 1992, digital water-stage recorders, electromagnetic velocity meter recorder, and dual graphic water-stage and gate opening recorder.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 29 complete water years of discharge (1969-90, 1993-94, 1996, 1998-99, 2002-03).

COOPERATION.--Gate-opening recorder record and record of slot operations provided by South Florida Water Management District, upon request.

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD (1969-92).--Maximum gage height, 3.62 ft July 24, 1985; minimum, -1.53 ft estimated May 14, 1971.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD (1993-current year).--Maximum gage height, 3.82 ft Oct. 15, 1999; minimum, 0.13 ft May 19, 2002.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 2.76 ft Sept. 29; minimum, 1.11 ft Mar. 15.

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	2.23	1.72	1.63	1.72	1.37	1.34	2.07	2.34	2.28	2.36	2.11	2.51
2	2.21	1.71	1.62	1.71	1.36	1.32	2.03	2.23	2.26	2.32	2.16	2.50
3	2.19	1.71	1.62	1.71	1.35	1.31	2.00	2.21	2.24	2.30	2.20	2.48
4	2.18	1.70	1.62	1.70	1.35	1.31	1.97	2.18	2.23	2.28	2.25	2.49
5	2.17	1.69	1.61	1.69	1.34	1.30	1.93	2.14	2.21	2.27	2.23	2.52
6	2.16	1.67	1.59	1.68	1.35	1.28	1.91	2.11	2.22	2.26	2.24	2.61
7	2.14	1.64	1.59	1.67	1.34	1.26	1.90	2.07	2.25	2.26	2.23	2.63
8	2.11	1.64	1.60	1.65	1.32	1.24	1.85	2.05	2.27	2.24	2.31	2.61
9	2.10	1.63	1.77	1.65	1.32	1.23	1.78	2.02	2.35	2.21	2.34	2.59
10	2.09	1.62	2.26	1.63	1.31	1.20	1.73	1.96	2.42	2.19	2.31	2.57
11	2.08	1.60	2.24	1.62	1.29	1.19	1.73	1.90	2.37	2.16	2.29	2.55
12	2.07	1.59	2.22	1.61	1.27	1.18	1.71	1.82	2.39	2.14	2.29	2.55
13	2.06	1.57	2.18	1.61	1.26	1.16	1.70	1.78	2.39	2.13	2.32	2.56
14	2.09	1.56	2.16	1.59	1.25	1.14	1.69	1.77	2.39	2.11	2.43	2.56
15	2.10	1.55	2.12	1.58	1.23	1.13	1.68	1.75	2.42	2.09	2.40	2.55
16	2.03	1.56	2.07	1.58	1.22	1.16	1.65	1.73	2.47	2.04	2.34	2.53
17	2.01	1.78	2.06	1.55	1.21	1.28	1.65	1.72	2.45	2.04	2.32	2.53
18	2.00	1.80	2.05	1.54	1.20	1.34	1.64	1.70	2.46	2.02	2.33	2.53
19	1.99	1.80	2.02	1.52	1.19	1.34	1.63	1.68	2.41	2.00	2.34	2.53
20	1.97	1.70	1.98	1.51	1.21	1.34	1.61	1.65	2.37	1.97	2.39	2.52
21	1.94	1.70	1.95	1.50	1.20	1.32	1.59	1.63	2.34	1.94	2.48	2.55
22	1.87	1.69	1.92	1.49	1.20	1.30	1.57	1.70	2.38	1.91	2.52	2.53
23	1.85	1.68	1.86	1.47	1.29	1.29	1.55	1.79	2.48	1.88	2.52	2.50
24	1.83	1.68	1.84	1.45	1.33	1.35	1.54	1.78	2.58	1.80	2.51	2.50
25	1.81	1.67	1.80	1.44	1.33	1.35	1.52	1.80	2.55	1.78	2.50	2.53
26	1.76	1.67	1.79	1.44	1.37	1.34	1.55	1.79	2.48	1.76	2.47	2.62
27	1.78	1.66	1.78	1.42	1.36	1.56	1.62	1.81	2.44	1.73	2.47	2.62
28	1.76	1.66	1.76	1.42	1.35	2.15	1.60	1.91	2.43	1.76	2.46	2.59
29	1.75	1.64	1.75	1.41	---	2.15	1.59	2.28	2.43	1.91	2.50	2.69
30	1.73	1.64	1.75	1.40	---	2.08	1.89	2.43	2.42	1.99	2.50	2.69
31	1.71	---	1.75	1.39	---	2.08	---	2.36	---	2.08	2.50	---
TOTAL	61.77	49.93	57.96	48.35	36.17	43.02	51.88	60.09	71.38	63.93	73.26	76.74
MEAN	1.99	1.66	1.87	1.56	1.29	1.39	1.73	1.94	2.38	2.06	2.36	2.56
MAX	2.23	1.80	2.26	1.72	1.37	2.15	2.07	2.43	2.58	2.36	2.52	2.69
MIN	1.71	1.55	1.59	1.39	1.19	1.13	1.52	1.63	2.21	1.73	2.11	2.48

EVERGLADES AND SOUTHEASTERN COASTAL AREA

02290769 CANAL 111 AT S-18-C, NEAR FLORIDA CITY, FL

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	248	-7.5	7.3	-15	-5.7	-11	234	736	502	334	270	432
2	217	-3.8	11	24	13	-21	183	395	e384	299	294	392
3	212	-18	-3.6	41	15	-9.9	169	409	e361	303	385	417
4	204	7.5	31	-0.99	21	-17	176	335	371	287	430	e430
5	187	2.4	11	-11	16	-1.7	99	289	293	269	e390	447
6	185	4.4	19	-4.0	22	-21	e91	241	350	269	350	515
7	175	20	-7.8	-0.45	-21	-20	e54	211	427	267	346	533
8	127	0.75	-16	-5.6	28	2.8	e24	183	449	265	482	503
9	121	-3.2	127	11	15	-11	-20	172	600	138	429	460
10	164	27	679	29	-13	-5.4	-10	91	610	226	348	444
11	180	0.83	502	9.7	25	-8.5	-12	67	483	277	268	393
12	104	1.9	412	22	4.2	8.9	e-11	e12	553	262	246	345
13	85	28	314	12	-4.3	1.8	e-8.5	4.4	566	249	407	424
14	136	e1.8	289	4.8	3.4	-5.5	1.8	14	545	190	639	392
15	119	e0.16	239	2.9	-26	-25	-85	-15	648	182	437	397
16	94	16	183	9.1	41	-19	-5.5	-4.6	690	128	344	381
17	88	71	177	16	12	-46	-6.7	11	627	167	292	422
18	71	e65	154	-8.3	-8.2	-38	-1.6	e21	623	246	301	431
19	99	63	122	8.2	-6.5	-35	-13	-9.2	505	202	329	416
20	117	-14	73	-12	-11	-17	-29	e-50	453	198	412	411
21	57	6.2	50	1.3	-6.0	-34	-49	e-42	388	142	558	347
22	6.6	e-13	12	-1.2	9.1	-15	-11	e4.6	489	136	590	338
23	-11	e-0.18	-24	53	1.6	-26	-29	20	744	92	592	260
24	10	-17	31	1.9	-6.3	34	1.5	e37	886	-5.0	579	244
25	12	-21	-4.1	-9.2	-10	-21	25	35	697	11	524	369
26	e30	-3.6	-9.7	-19	11	e12	-6.9	14	542	20	468	516
27	-21	-5.6	-17	0.29	-24	132	-7.2	28	474	11	430	450
28	6.0	e-4.1	e-1.1	-0.23	-11	e515	-20	e165	458	63	441	331
29	0.31	e1.3	-15	19	---	e412	2.9	e842	430	153	461	650
30	-8.3	6.8	0.01	-3.9	---	e250	363	899	400	189	452	707
31	-4.2	---	34	-13	---	e250	---	648	---	246	444	---
TOTAL	3,010.41	213.06	3,379.01	161.32	84.3	1,210.5	1,098.8	5,763.2	15,548	5,816.0	12,938	12,797
MEAN	97.1	7.10	109	5.20	3.01	39.0	36.6	186	518	188	417	427
MAX	248	71	679	53	41	515	363	899	886	334	639	707
MIN	-21	-21	-24	-19	-26	-46	-85	-50	293	-5.0	246	244
AC-FT	5,970	423	6,700	320	167	2,400	2,180	11,430	30,840	11,540	25,660	25,380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2003, BY WATER YEAR (WY)

	340	166	80.0	74.0	75.9	66.4	45.1	61.3	284	207	318	407
MEAN	340	166	80.0	74.0	75.9	66.4	45.1	61.3	284	207	318	407
MAX	958	771	517	486	884	965	529	262	1,097	764	1,477	1,001
(WY)	(1988)	(1988)	(1995)	(1995)	(1983)	(1983)	(1983)	(1995)	(1972)	(1986)	(1988)	(1983)
MIN	0.000	0.000	0.000	-2.01	-2.49	-2.25	-11.4	-12.3	0.000	0.000	0.000	0.000
(WY)	(1975)	(1975)	(1971)	(2001)	(2001)	(2001)	(1999)	(1999)	(1974)	(1974)	(1974)	(1974)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1969 - 2003

ANNUAL TOTAL	66,285.99	62,019.60	
ANNUAL MEAN	182	170	170
HIGHEST ANNUAL MEAN			485
LOWEST ANNUAL MEAN			4.42
HIGHEST DAILY MEAN	1,130	Jun 21	899
LOWEST DAILY MEAN	-70	May 23	-85
ANNUAL SEVEN-DAY MINIMUM	-36	May 22	-31
ANNUAL RUNOFF (AC-FT)	131,500		123,000
10 PERCENT EXCEEDS	493		613
50 PERCENT EXCEEDS	68		3.0
90 PERCENT EXCEEDS	-17		0.00

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

EVERGLADES AND SOUTHEASTERN COASTAL AREA

255

251716080342100 EVERGLADES 5A IN C-111 BASIN NEAR HOMESTEAD, FL

LOCATION.--Lat 25°17'10", long 80°34'22", in SW ¼ sec.18, T.59 S., R.38 E., Miami-Dade County, Hydrologic Unit 03090202, in C-111 drainage basin, 2.5 mi south of Levee 31 canal and 7 mi west of U.S. Highway 1, 12.5 mi southwest of Florida City.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1985 to current year.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 1.1 ft above National Geodetic Vertical Datum of 1929. Data prior to 1993 water year are unpublished and in files of the U.S. Geological Survey. Unit values prior to 1993 water year were not available for review to determine instantaneous maximum and minimum gage height. Water levels below land-surface datum are recorded.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum mean daily gage height, 3.06 ft Oct. 16, 1999; minimum, -0.98 ft May 19, 2002.

EXTREME STAGES FOR CURRENT YEAR.--Maximum mean daily gage height, 1.93 ft Sept. 30; minimum, 0.36 ft Nov. 16.

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	1.42	1.17	1.09	1.12	0.84	0.80	1.15	1.61	1.20	1.49	1.25	1.63
2	1.38	1.18	1.08	1.12	0.82	0.78	1.12	1.58	1.17	1.44	1.24	1.64
3	1.34	1.18	1.07	1.13	0.81	0.77	1.09	1.52	1.17	1.39	1.24	1.61
4	1.31	1.16	1.07	1.13	0.80	0.75	1.07	1.46	1.16	1.35	1.23	1.61
5	1.28	1.15	1.07	1.12	0.80	0.71	1.05	1.40	1.14	1.34	1.23	1.65
6	1.26	1.15	1.06	1.11	0.80	0.68	1.04	1.36	1.14	1.32	1.26	1.76
7	1.25	1.16	1.05	1.10	0.78	0.65	1.02	1.31	1.14	1.30	1.26	1.77
8	1.24	1.18	1.04	1.09	0.77	0.61	0.99	1.25	1.13	1.33	1.26	1.74
9	1.24	1.17	1.14	1.08	0.76	0.58	0.97	1.20	1.12	1.28	1.26	1.68
10	1.24	1.15	1.39	1.07	0.74	0.54	0.94	1.16	1.12	1.24	1.25	1.64
11	1.25	1.14	1.38	1.06	0.71	0.51	0.90	1.12	1.12	1.21	1.23	1.62
12	1.27	1.12	1.34	1.05	0.68	0.47	0.88	1.08	1.16	1.19	1.22	1.63
13	1.28	1.11	1.32	1.04	0.64	0.43	0.85	1.05	1.17	1.19	1.22	1.70
14	1.27	1.10	1.30	1.05	0.62	0.40	0.83	1.02	1.17	1.21	1.22	1.67
15	1.25	1.08	1.27	1.03	0.59	0.38	0.80	1.00	1.18	1.20	1.26	1.62
16	1.30	1.09	1.25	1.02	0.58	0.36	0.81	0.97	1.20	1.18	1.30	1.59
17	1.41	1.23	1.24	1.01	0.57	0.74	0.87	0.93	1.18	1.17	1.33	1.57
18	1.44	1.22	1.23	1.00	0.55	0.84	0.88	0.90	1.19	1.19	1.32	1.57
19	1.40	1.20	1.23	0.98	0.52	0.81	0.91	0.87	1.17	1.18	1.33	1.58
20	1.37	1.19	1.23	0.97	0.55	0.81	0.88	0.84	1.17	1.17	1.43	1.59
21	1.38	1.23	1.22	0.96	0.53	0.78	0.84	0.82	1.22	1.15	1.55	1.63
22	1.40	1.23	1.21	0.95	0.49	0.75	0.81	0.95	1.26	1.12	1.60	1.64
23	1.39	1.20	1.20	0.94	0.74	0.75	0.78	1.06	1.30	1.10	1.60	1.63
24	1.36	1.19	1.20	0.93	0.78	0.85	0.74	1.07	1.32	1.08	1.56	1.65
25	1.33	1.17	1.19	0.91	0.80	0.84	0.69	1.10	1.32	1.06	1.55	1.66
26	1.29	1.16	1.17	0.90	0.87	0.83	0.82	1.07	1.34	1.03	1.54	1.76
27	1.25	1.15	1.16	0.89	0.84	1.12	1.04	1.07	1.37	1.00	1.53	1.81
28	1.22	1.14	1.15	0.88	0.83	1.36	1.04	1.05	1.41	1.10	1.54	1.81
29	1.20	1.12	1.14	0.87	---	1.29	1.04	1.24	1.40	1.29	1.62	1.91
30	1.18	1.10	1.13	0.86	---	1.25	1.28	1.28	1.53	1.27	1.63	1.93
31	1.17	---	1.13	0.86	---	1.21	---	1.24	---	1.27	1.62	---
TOTAL	40.37	34.82	36.75	31.23	19.81	23.65	28.13	35.58	36.67	37.84	42.68	50.30
MEAN	1.30	1.16	1.19	1.01	0.71	0.76	0.94	1.15	1.22	1.22	1.38	1.68
MAX	1.44	1.23	1.39	1.13	0.87	1.36	1.28	1.61	1.53	1.49	1.63	1.93
MIN	1.17	1.08	1.04	0.86	0.49	0.36	0.69	0.82	1.12	1.00	1.22	1.57

EVERGLADES AND SOUTHEASTERN COASTAL AREA

251724080341400 EVERGLADES 5B IN C-111 BASIN NEAR HOMESTEAD, FL

LOCATION.--Lat 25°17'14", long 80°34'08", in SW ¼ sec.18, T.59 S., R.38 E., Miami-Dade County, Hydrologic Unit 03090202, in C-111 drainage basin, 2.5 mi south of Levee 31 canal and 7 mi west of U.S. Highway 1, 12.5 mi southwest of Florida City.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1985 to current year.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Land surface is approximately 1.1 ft above National Geodetic Vertical Datum of 1929. Water levels below land-surface datum are recorded. Data prior to 1993 water year are unpublished and in the files of the U.S. Geological Survey. Unit values data prior to 1993 water year was not available to determine instantaneous maximum and minimum gage height.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum mean daily gage height, 3.10 ft Oct. 16, 1999; minimum, indeterminate.

EXTREME STAGES FOR CURRENT YEAR.--Maximum mean daily gage height, 1.92 ft Sept. 30; minimum, indeterminate, well was dry for many days.

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	1.47	1.25	1.24	1.27	---	---	1.28	1.65	1.28	1.56	---	1.63
2	1.44	1.24	1.24	1.27	---	---	1.26	1.62	1.27	1.51	---	1.64
3	1.41	1.24	1.24	1.29	---	---	1.24	1.57	1.27	1.47	---	1.61
4	1.38	---	1.24	1.28	---	---	1.23	1.51	1.27	1.44	---	1.61
5	1.36	---	1.23	1.27	---	---	---	1.46	1.27	1.42	---	1.65
6	1.34	---	1.23	1.26	---	---	---	1.41	1.27	1.41	---	1.75
7	1.33	---	1.23	1.25	---	---	---	1.36	1.28	1.40	---	1.76
8	1.32	---	1.23	1.25	---	---	---	1.32	1.28	1.41	---	1.72
9	1.32	---	1.29	---	---	---	---	1.28	1.29	1.38	---	1.67
10	1.31	---	1.46	---	---	---	---	1.26	1.29	1.35	---	1.63
11	1.31	---	1.44	---	---	---	---	1.25	1.28	1.34	---	1.61
12	1.31	---	1.41	---	---	---	---	1.24	1.31	1.33	---	1.62
13	1.32	---	1.39	---	---	---	---	1.25	1.32	1.34	---	1.69
14	1.31	---	1.38	---	---	---	---	---	1.31	1.35	1.37	1.66
15	1.31	---	1.36	---	---	---	---	---	1.32	1.34	1.40	1.61
16	1.34	---	1.36	---	---	---	---	---	1.33	1.32	1.43	1.58
17	1.41	1.32	1.36	---	---	---	---	---	1.32	1.32	1.45	1.56
18	1.46	1.31	1.35	---	---	---	---	---	1.32	1.34	1.44	1.57
19	1.43	1.30	1.35	---	---	---	---	---	1.31	1.32	1.44	1.57
20	1.39	1.29	1.35	---	---	---	---	---	1.31	1.31	1.55	1.58
21	1.41	1.32	1.34	---	---	---	---	---	1.35	1.30	1.64	1.65
22	1.43	1.31	1.34	---	---	---	---	---	1.37	1.29	1.68	1.65
23	1.42	1.30	1.33	---	---	---	---	1.27	1.40	1.27	1.68	1.65
24	1.39	1.29	1.33	---	---	---	---	1.27	1.42	1.26	1.64	1.68
25	1.37	1.29	1.32	---	---	---	---	1.29	1.41	1.25	1.64	1.68
26	1.34	1.28	1.31	---	---	---	---	1.26	1.43	1.24	1.63	1.77
27	1.32	1.28	1.31	---	---	1.31	---	1.27	1.48	1.24	1.63	1.81
28	1.30	1.26	1.30	---	---	1.44	---	1.27	1.50	1.27	1.62	1.80
29	1.28	1.25	1.29	---	---	1.36	---	1.38	1.50	1.29	1.62	1.89
30	1.27	1.24	1.29	---	---	1.33	1.39	1.35	1.62	---	1.63	1.92
31	1.26	---	1.28	---	---	1.31	---	1.31	---	---	1.62	---
TOTAL	42.06	---	40.82	---	---	---	---	---	40.38	---	---	50.22
MEAN	1.36	---	1.32	---	---	---	---	---	1.35	---	---	1.67
MAX	1.47	---	1.46	---	---	---	---	---	1.62	---	---	1.92
MIN	1.26	---	1.23	---	---	---	---	---	1.27	---	---	1.56

EVERGLADES AND SOUTHEASTERN COASTAL AREA

251906080283400 EVERGLADES 2A IN C-111 BASIN NEAR HOMESTEAD, FL

LOCATION.--Lat 25°18'57", long 80°28'41", in sec.7, T.59 S., R.39 E., Miami-Dade County, Hydrologic Unit 03090202, in C-111 basin between C-109 and C-110 Canals, 1.6 mi west of U.S. Highway 1 and 1.5 mi north of C-111 Canal, approximately 8.5 mi south of Florida City.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--September 25, 1985 to current year.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929

REMARKS.--Unit values prior to 1993 water year were not available to determine instantaneous maximum and minimum gage height. Land surface is approximately 1.2 ft above National Geodetic Vertical Datum of 1929. Water levels below land-surface datum are recorded. Gage height records prior to October 1992, are available in the files of the U.S. Geological Survey. Water year 2000 was revised. Revised data is available in the files of the U.S. Geological Survey.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum mean daily gage height, 3.60 ft Oct. 15, 1999, (estimated); minimum, 0.03 ft May 18, 19, 2002.

EXTREME STAGES FOR CURRENT YEAR.--Maximum mean daily gage height, 2.71 ft Sept. 30; minimum, 1.12 ft Mar. 15.

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	2.24	1.76	1.68	1.82	1.43	1.34	1.91	2.03	2.13	2.36	1.90	2.50
2	2.23	1.76	1.67	1.80	1.42	1.33	1.95	2.08	2.19	2.33	1.95	2.51
3	2.21	1.75	1.67	1.80	1.41	1.32	1.96	2.10	2.22	2.31	1.97	2.49
4	2.19	1.73	1.66	1.79	1.40	1.32	1.96	2.12	2.22	2.29	1.99	2.51
5	2.18	1.72	1.66	1.77	1.39	1.30	1.96	2.12	2.21	2.27	2.01	2.54
6	2.16	1.71	1.65	1.76	1.39	1.29	1.95	2.11	2.23	2.25	2.04	2.67
7	2.14	1.69	1.64	1.74	1.38	1.27	1.94	2.10	2.22	2.25	2.05	2.69
8	2.13	1.67	1.64	1.73	1.37	1.26	1.92	2.09	2.22	2.25	2.07	2.67
9	2.11	1.67	1.72	1.71	1.36	1.24	1.89	2.07	2.27	2.23	2.10	2.64
10	2.10	1.65	1.87	1.70	1.35	1.21	1.86	2.04	2.36	2.20	2.11	2.61
11	2.09	1.65	1.93	1.69	1.34	1.20	1.83	2.02	2.35	2.17	2.11	2.59
12	2.07	1.64	1.98	1.68	1.32	1.18	1.81	1.98	2.35	2.15	2.12	2.58
13	2.06	1.63	2.02	1.67	1.30	1.15	1.79	1.94	2.35	2.14	2.12	2.63
14	2.04	1.61	2.04	1.66	1.28	1.13	1.77	1.92	2.33	2.12	2.16	2.64
15	2.04	1.60	2.04	1.65	1.27	1.12	1.75	1.89	2.33	2.09	2.21	2.61
16	2.07	1.60	2.04	1.64	1.26	1.16	1.73	1.87	2.35	2.08	2.25	2.57
17	2.04	1.67	2.05	1.63	1.25	1.26	1.72	1.84	2.34	2.05	2.25	2.55
18	2.02	1.67	2.05	1.60	1.23	1.33	1.71	1.81	2.39	2.03	2.25	2.54
19	2.00	1.68	2.04	1.59	1.21	1.33	1.70	1.78	2.37	2.01	2.29	2.54
20	1.99	1.69	2.03	1.58	1.27	1.32	1.68	1.75	2.36	1.99	2.35	2.52
21	1.98	1.71	2.01	1.56	1.26	1.32	1.66	1.73	2.34	1.97	2.41	2.54
22	1.96	1.73	1.99	1.55	1.24	1.31	1.65	1.77	2.35	1.94	2.44	2.52
23	1.94	1.72	1.98	1.54	1.31	1.30	1.64	1.83	2.37	1.91	2.45	2.52
24	1.91	1.72	1.97	1.52	1.32	1.35	1.62	1.82	2.40	1.87	2.45	2.53
25	1.88	1.72	1.94	1.51	1.33	1.35	1.60	1.84	2.41	1.85	2.44	2.56
26	1.86	1.72	1.91	1.50	1.35	1.34	1.62	1.82	2.42	1.82	2.43	2.63
27	1.84	1.71	1.89	1.48	1.35	1.45	1.68	1.84	2.42	1.79	2.43	2.63
28	1.82	1.71	1.87	1.47	1.34	1.70	1.67	1.88	2.41	1.79	2.44	2.61
29	1.81	1.70	1.85	1.46	---	1.76	1.66	2.00	2.40	1.83	2.46	2.70
30	1.79	1.69	1.84	1.45	---	1.82	1.78	2.09	2.39	1.86	2.46	2.71
31	1.77	---	1.83	1.44	---	1.87	---	2.12	---	1.87	2.48	---
TOTAL	62.67	50.68	58.16	50.49	37.13	41.63	53.37	60.40	69.70	64.07	69.19	77.55
MEAN	2.02	1.69	1.88	1.63	1.33	1.34	1.78	1.95	2.32	2.07	2.23	2.58
MAX	2.24	1.76	2.05	1.82	1.43	1.87	1.96	2.12	2.42	2.36	2.48	2.71
MIN	1.77	1.60	1.64	1.44	1.21	1.12	1.60	1.73	2.13	1.79	1.90	2.49

EVERGLADES AND SOUTHEASTERN COASTAL AREA

251946080254800 EVERGLADES 1 IN C-111 BASIN NEAR HOMESTEAD, FL

LOCATION.--Lat 25°19'50", long 80°26'06", in NE ¼ sec.4, T.59 S., R.39 E., Dade County, Hydrologic Unit 03090202, approximately 1 mi east of U.S. Highway 1, 1.3 mi west-southwest of Levee 31-E, east of S-18-C, southeast of Florida City.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--April 1985 to current year.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Land surface is approximately 1.1 ft above National Geodetic Vertical Datum of 1929. Data prior to 1993 water year are available in files of the U.S. Geological Survey. Unit values prior to 1993 water year were not available for review to determine maximum and minimum instantaneous gage height. Water levels below land-surface datum can be recorded.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum mean daily gage height, 3.26 ft Nov. 15, 1994; minimum, 0.05 ft May 18, 19, 2002.

EXTREME STAGES FOR CURRENT YEAR.--Maximum mean daily gage height, 1.95 ft Sept. 29,30; minimum, 0.92 ft Mar. 14.

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	1.71	1.48	1.45	1.48	1.15	1.08	1.51	1.73	1.58	1.68	1.54	1.81
2	1.70	1.48	1.44	1.48	1.14	1.06	1.50	1.69	1.61	1.67	1.56	1.81
3	1.69	1.47	1.44	1.50	1.12	1.05	1.49	1.65	1.63	1.67	1.55	1.79
4	1.67	1.46	1.43	1.50	1.11	1.03	1.48	1.62	1.63	1.66	1.52	1.79
5	1.67	1.46	1.42	1.49	1.11	1.02	1.48	1.59	1.63	1.65	1.52	1.81
6	1.67	1.46	1.42	1.48	1.11	1.00	1.47	1.58	1.68	1.67	1.58	1.93
7	1.67	1.46	1.42	1.47	1.09	0.98	1.47	1.56	1.66	1.66	1.58	1.94
8	1.66	1.45	1.42	1.46	1.08	0.96	1.46	1.54	1.66	1.66	1.57	1.91
9	1.65	1.44	1.48	1.45	1.06	0.94	1.45	1.53	1.69	1.64	1.58	1.88
10	1.66	1.43	1.62	1.44	1.05	0.93	1.44	1.52	1.73	1.63	1.58	1.86
11	1.66	1.43	1.62	1.43	1.02	0.97	1.43	1.51	1.69	1.62	1.58	1.84
12	1.65	1.42	1.61	1.42	1.00	0.94	1.42	1.49	1.67	1.60	1.58	1.83
13	1.64	1.42	1.60	1.41	0.97	0.94	1.41	1.49	1.67	1.59	1.58	1.92
14	1.62	1.41	1.60	1.41	0.96	0.92	1.40	1.50	1.65	1.59	1.61	1.91
15	1.61	1.40	1.59	1.41	0.94	0.93	1.40	1.49	1.66	1.58	1.64	1.88
16	1.65	1.40	1.58	1.40	0.94	1.07	1.40	1.47	1.65	1.61	1.67	1.85
17	1.66	1.47	1.59	1.39	0.94	1.20	1.43	1.46	1.67	1.59	1.66	1.84
18	1.70	1.46	1.58	1.38	0.94	1.29	1.41	1.44	1.70	1.57	1.65	1.83
19	1.76	1.45	1.58	1.37	0.93	1.29	1.41	1.42	1.69	1.55	1.67	1.82
20	1.77	1.45	1.58	1.36	0.96	1.27	1.39	1.41	1.67	1.53	1.71	1.80
21	1.72	1.56	1.57	1.33	0.96	1.24	1.39	1.40	1.68	1.52	1.77	1.81
22	1.68	1.56	1.57	1.32	0.95	1.21	1.38	1.45	1.69	1.50	1.77	1.81
23	1.65	1.53	1.57	1.29	1.13	1.18	1.38	1.53	1.70	1.48	1.75	1.83
24	1.62	1.51	1.56	1.26	1.16	1.30	1.37	1.51	1.72	1.47	1.74	1.90
25	1.59	1.50	1.56	1.24	1.15	1.31	1.36	1.50	1.71	1.45	1.73	1.91
26	1.57	1.49	1.55	1.23	1.15	1.28	1.40	1.48	1.70	1.44	1.72	1.94
27	1.55	1.49	1.54	1.21	1.13	1.39	1.48	1.49	1.71	1.42	1.72	1.91
28	1.53	1.48	1.53	1.20	1.10	1.60	1.46	1.52	1.72	1.41	1.77	1.88
29	1.51	1.47	1.51	1.18	---	1.56	1.44	1.66	1.71	1.44	1.78	1.95
30	1.49	1.46	1.50	1.17	---	1.54	1.53	1.66	1.69	1.52	1.78	1.95
31	1.48	---	1.49	1.17	---	1.53	---	1.61	---	1.55	1.80	---
TOTAL	50.86	43.95	47.42	42.33	29.35	36.01	43.04	47.50	50.25	48.62	51.26	55.94
MEAN	1.64	1.47	1.53	1.37	1.05	1.16	1.43	1.53	1.68	1.57	1.65	1.86
MAX	1.77	1.56	1.62	1.50	1.16	1.60	1.53	1.73	1.73	1.68	1.80	1.95
MIN	1.48	1.40	1.42	1.17	0.93	0.92	1.36	1.40	1.58	1.41	1.52	1.79

EVERGLADES AND SOUTHEASTERN COASTAL AREA

252036080324300 EVERGLADES 4 IN C-111 BASIN NEAR HOMESTEAD, FL

LOCATION.--Lat 25°20'19", long 80°32'47", in sec.30, T.58 S., R.38 E., Miami-Dade County, Hydrologic Unit 03090202, approximately 1.3 mi northwest of S-18-C and approximately 1.8 mi east of Aerojet Road.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1985 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 2.4 ft above National Geodetic Vertical Datum of 1929. Gage is capable of recording water levels below land-surface datum. Unpublished data prior to 1993 water year are available in the files of the U.S. Geological Survey. Unit value data prior to 1993 water year were not available for review to determine instantaneous maximum and minimum gage height.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum mean daily gage height, 3.58 ft Oct. 16, 1999; minimum, indeterminate, well was dry during many years.

EXTREME STAGES FOR CURRENT YEAR.--Maximum mean daily gage height, 2.70 ft Sept. 30; minimum 1.44 ft Mar.14.

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	2.26	1.97	1.94	2.05	1.55	1.71	2.21	2.30	2.13	2.31	2.27	2.50
2	2.23	1.96	1.92	2.04	1.54	1.67	2.18	2.27	2.17	2.30	2.27	2.51
3	2.21	1.95	1.90	2.05	1.52	1.65	2.15	2.24	2.20	2.29	2.28	2.50
4	2.19	1.94	1.89	2.04	1.54	1.63	2.11	2.20	2.18	2.28	2.29	2.50
5	2.18	1.93	1.88	2.02	1.56	1.60	2.08	2.16	2.15	2.27	2.29	2.51
6	2.16	1.92	1.87	2.01	1.57	1.57	2.06	2.12	2.17	2.26	2.30	2.57
7	2.14	1.89	1.85	1.99	1.56	1.56	2.04	2.08	2.22	2.26	2.28	2.59
8	2.12	1.87	1.84	1.97	1.56	1.54	2.01	2.04	2.19	2.26	2.27	2.58
9	2.09	1.85	---	1.95	1.56	1.52	1.99	2.01	2.19	2.24	2.26	2.55
10	2.08	1.84	---	1.94	1.55	1.50	1.97	1.97	2.20	2.22	2.25	2.54
11	2.07	1.83	---	1.92	1.54	1.49	1.94	1.94	2.18	2.19	2.24	2.53
12	2.05	1.82	---	1.89	1.51	1.47	1.93	1.90	2.23	2.16	2.23	2.54
13	2.04	1.80	---	1.88	1.49	1.45	1.90	1.90	2.23	2.17	2.23	2.53
14	2.02	---	---	1.88	1.48	1.44	1.87	1.92	2.22	2.15	2.25	2.53
15	2.01	1.76	---	1.86	1.48	1.45	1.85	1.90	2.24	2.11	2.26	2.52
16	2.06	1.83	---	1.83	1.48	1.46	1.85	1.89	2.26	2.08	2.29	2.51
17	2.04	2.25	2.24	1.81	1.49	1.84	1.90	1.87	2.27	2.09	2.30	2.50
18	2.02	2.19	2.22	1.79	1.48	1.90	1.86	1.84	2.27	2.07	2.30	2.50
19	1.99	2.15	2.21	1.76	1.46	1.86	1.84	1.82	2.27	2.04	2.30	2.50
20	1.97	2.11	2.20	1.74	1.47	1.84	1.80	1.80	2.27	2.02	2.34	2.50
21	2.13	2.10	2.18	1.72	1.47	1.82	1.77	1.77	2.27	2.00	2.42	2.53
22	2.18	---	2.16	1.69	1.46	1.78	1.74	1.87	2.28	1.97	2.45	2.53
23	2.13	---	2.16	1.67	1.76	1.76	1.70	1.96	2.29	1.95	2.47	2.52
24	2.09	2.04	2.15	1.64	1.74	1.83	1.65	1.93	2.30	1.94	2.50	2.51
25	2.08	2.03	2.14	1.63	1.76	1.78	1.60	1.96	2.30	1.92	2.48	2.53
26	---	2.02	2.13	1.62	1.83	1.75	1.82	1.92	2.32	1.90	2.47	2.61
27	2.05	2.00	2.11	1.61	1.79	2.07	2.03	1.91	2.34	1.89	2.45	2.61
28	2.04	---	2.09	1.59	1.76	2.33	1.96	1.92	2.34	1.99	2.47	2.59
29	2.02	---	2.08	1.58	---	---	1.91	2.19	2.32	2.20	2.49	2.67
30	2.01	1.95	2.07	1.58	---	---	2.11	2.20	2.33	2.27	2.49	2.70
31	1.99	---	2.06	1.57	---	---	---	2.16	---	2.28	2.48	---
TOTAL	---	---	---	56.32	43.96	---	57.83	61.96	67.33	66.08	72.67	76.31
MEAN	---	---	---	1.82	1.57	---	1.93	2.00	2.24	2.13	2.34	2.54
MAX	---	---	---	2.05	1.83	---	2.21	2.30	2.34	2.31	2.50	2.70
MIN	---	---	---	1.57	1.46	---	1.60	1.77	2.13	1.89	2.23	2.50

EVERGLADES AND SOUTHEASTERN COASTAL AREA

252043080302400 EVERGLADES 3 IN C-111 BASIN NEAR HOMESTEAD, FL

LOCATION.--Lat 25°20'53", long 80°30'28", in sec.23, T.58 S., R.38 E., Miami-Dade County, Hydrologic Unit 03090202, approximately 1.5 mi north-northeast of S-18-C and approximately 3.2 mi west of U.S. Highway 1 southwest of Florida City.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1985 to current year.

REVISED RECORDS.--WDR FL-96-2A, 1994, 1995.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Land surface is approximately 1.7 ft above National Geodetic Vertical Datum of 1929. Data prior to 1993 water year are unpublished and in files of the U.S. Geological Survey.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum mean daily gage height, 3.76 ft Oct. 16, 1999; minimum, 0.40 ft May 17, 1991.

EXTREME STAGES FOR CURRENT YEAR.--Maximum mean daily gage height, 2.88 ft Sept. 30; minimum 1.57 ft Mar. 14.

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	2.33	2.02	2.05	2.08	1.65	1.76	2.29	2.34	2.23	2.46	2.14	2.62
2	2.30	2.01	2.04	2.07	1.64	1.73	2.28	2.34	2.24	2.44	2.15	2.62
3	2.28	2.00	2.02	2.08	1.62	1.72	2.26	2.31	2.26	2.42	2.16	2.62
4	2.25	1.99	2.01	2.07	1.64	1.71	2.23	2.30	2.27	2.39	2.16	2.64
5	2.25	1.99	1.99	2.06	1.67	1.69	2.21	2.28	2.26	2.37	2.16	2.66
6	2.23	1.99	1.98	2.05	1.68	1.67	2.20	2.26	2.26	2.35	2.17	2.76
7	2.20	1.97	1.97	2.03	1.69	1.65	2.18	2.23	2.27	2.35	2.18	2.80
8	2.18	1.96	1.97	2.01	1.69	1.64	2.17	2.21	2.27	2.35	2.17	2.78
9	2.16	1.95	2.11	1.99	1.69	1.62	2.15	2.18	2.26	2.32	2.18	2.75
10	2.15	1.94	2.27	1.98	1.68	1.60	2.12	2.15	2.31	2.29	2.19	2.72
11	2.14	1.93	2.27	1.96	1.67	1.60	2.10	2.12	2.37	2.26	2.19	2.70
12	2.12	1.92	2.27	1.94	1.66	1.60	2.09	2.09	2.44	2.22	2.20	2.68
13	2.10	1.91	2.27	1.93	1.64	1.58	2.07	2.08	2.42	2.22	2.19	2.73
14	2.09	1.90	2.26	1.93	1.63	1.57	2.05	2.07	2.41	2.19	2.23	2.73
15	2.08	1.88	2.26	1.91	1.63	1.59	2.03	2.05	2.42	2.16	2.26	2.70
16	2.10	1.90	2.24	1.89	1.63	1.65	2.01	2.04	2.45	2.12	2.31	2.66
17	2.08	2.10	2.22	1.87	1.63	1.79	2.00	2.02	2.46	2.11	2.32	2.65
18	2.06	2.12	2.21	1.85	1.63	1.84	1.99	2.00	2.54	2.09	2.37	2.64
19	2.04	2.12	2.21	1.83	1.62	1.86	1.97	1.98	2.51	2.06	2.48	2.62
20	2.03	2.12	2.20	1.81	1.66	1.86	1.95	1.94	2.49	2.04	2.55	2.62
21	2.04	2.14	2.19	1.79	1.66	1.86	1.93	1.92	2.47	2.01	2.60	2.65
22	2.06	2.14	2.18	1.77	1.65	1.85	1.90	2.01	2.47	1.98	2.61	2.64
23	2.07	2.13	2.18	1.75	1.78	1.85	1.88	2.07	2.48	1.96	2.61	2.62
24	2.07	2.12	2.17	1.73	1.81	1.86	1.85	2.05	2.50	1.95	2.60	2.60
25	2.08	2.12	2.16	1.71	1.81	1.86	1.81	2.04	2.51	1.94	2.59	2.64
26	2.08	2.11	2.15	1.70	1.80	1.85	1.88	2.02	2.51	1.93	2.58	2.74
27	2.08	2.10	2.14	1.69	1.80	2.03	2.04	2.02	2.53	1.91	2.57	2.75
28	2.07	2.09	2.13	1.68	1.78	2.29	2.03	2.02	2.52	1.94	2.58	2.73
29	2.06	2.08	2.12	1.67	---	2.27	2.02	2.18	2.50	2.04	2.61	2.84
30	2.05	2.06	2.11	1.67	---	2.27	2.17	2.22	2.49	2.13	2.60	2.88
31	2.03	---	2.09	1.67	---	2.32	---	2.23	---	2.16	2.60	---
TOTAL	65.86	60.81	66.44	58.17	47.14	56.04	61.86	65.77	72.12	67.16	73.31	80.79
MEAN	2.12	2.03	2.14	1.88	1.68	1.81	2.06	2.12	2.40	2.17	2.36	2.69
MAX	2.33	2.14	2.27	2.08	1.81	2.32	2.29	2.34	2.54	2.46	2.61	2.88
MIN	2.03	1.88	1.97	1.67	1.62	1.57	1.81	1.92	2.23	1.91	2.14	2.60

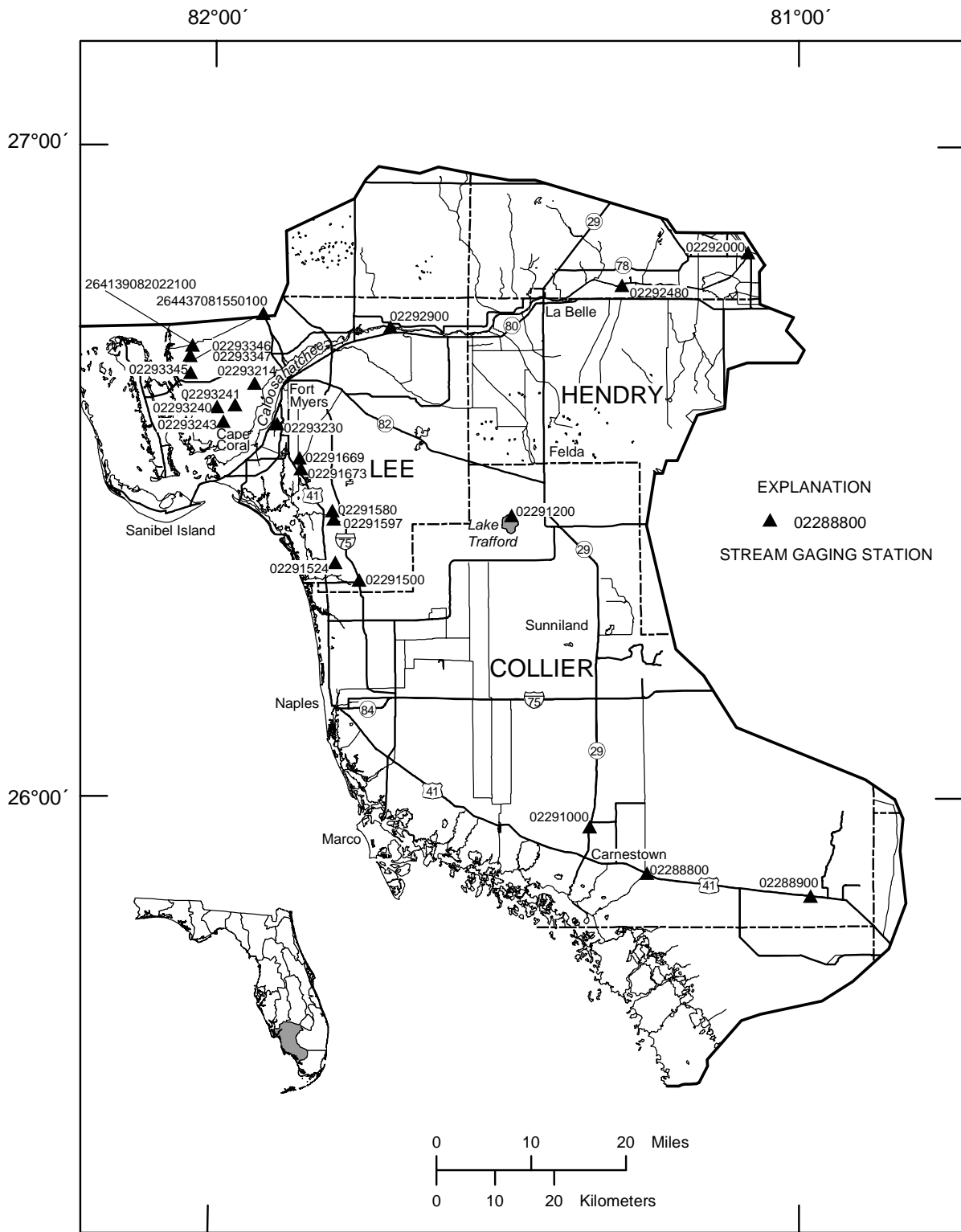


Figure 9. Location of gaging stations in the Big Cypress Swamp and the southeastern coastal area, the Caloosahatchee River, Lake Trafford, Charlotte Harbor and the coastal area.

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA

02291000 BARRON RIVER CANAL NEAR EVERGLADES, FL

LOCATION.--Lat 25°57'28", long 81°21'19", in NW ¼ sec.7, T.52 S., R.30 E., Collier County, Hydrologic Unit 03090204, on right bank 40 ft upstream from control structure No. 6, 0.7 mi north of Copeland, 7 mi north of town of Everglades City, and 7.5 mi upstream from mouth.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--July to December 1951 (discharge measurements only), January 1952 to current year.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929 (State Department of Transportation bench mark). Prior to January 24, 1952, non-recording gage.

REMARKS.--Records poor. Zero flow for numerous days, during many water years. Flow regulated by operation of control structure at, above, and below station. Overbank flow not included in discharge figures. Records prior to January 1952 are available in files of the U.S. Geological Survey.

ANNUAL MEAN and ANNUAL SUMMARY STATISTICS.--Figures represent 48 complete years of discharge (1952-87, 1989-94, 1996, 1998-2003).

EXTREME STAGE FOR PERIOD OF RECORD.--Maximum gage height, 7.07 ft Aug. 26, 1995; minimum, 0.21 ft May 18, 1962 and May 18, 1972.

EXTREMES FOR STAGES FOR CURRENT YEAR.--Maximum gage height, 6.03 ft Sept. 30; minimum, 3.83 ft Apr. 25, 26.

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	5.45	5.34	5.20	5.46	5.28	5.14	5.16	5.39	5.55	5.48	5.43	5.60
2	5.43	5.36	5.18	5.46	5.27	5.07	5.12	5.38	5.52	5.42	5.48	5.60
3	5.42	5.33	5.15	5.52	5.28	5.02	5.07	5.37	5.51	5.38	5.52	5.63
4	5.41	5.30	5.12	5.51	5.27	4.98	5.02	5.36	5.50	5.34	5.54	5.62
5	5.40	5.27	5.10	5.49	5.29	4.93	4.96	5.35	5.50	5.31	5.54	5.65
6	5.38	5.24	5.08	5.48	5.28	4.88	4.91	5.35	5.51	5.30	5.52	5.74
7	5.37	5.20	5.04	5.47	5.28	4.82	4.84	5.34	5.50	5.27	5.48	5.73
8	5.35	5.13	5.00	5.45	5.29	4.76	4.76	5.32	5.48	5.26	5.45	5.71
9	5.38	5.09	5.22	5.45	5.30	4.71	4.73	5.30	5.46	5.25	5.59	5.68
10	5.38	5.06	5.61	5.44	5.30	4.67	4.66	5.27	5.47	5.22	5.66	5.65
11	5.34	5.00	5.61	5.44	5.29	4.62	4.55	5.23	5.46	5.20	5.64	5.62
12	5.33	4.95	5.63	5.43	5.26	4.57	4.45	5.17	5.46	5.20	5.62	5.59
13	5.35	4.91	5.66	5.42	5.24	4.50	4.34	5.09	5.48	5.20	5.62	5.57
14	5.41	4.84	5.68	5.41	5.23	4.44	4.24	5.03	5.51	5.21	5.65	5.56
15	5.44	4.80	5.67	5.40	5.21	4.46	4.16	5.14	5.53	5.22	5.66	5.57
16	5.47	4.96	5.66	5.39	5.19	4.40	4.14	5.17	5.52	5.25	5.65	5.56
17	5.48	5.40	5.65	5.39	5.33	5.01	4.71	5.26	5.58	5.26	5.67	5.56
18	5.48	5.36	---	5.38	5.29	5.12	4.67	5.28	5.57	5.27	5.70	5.55
19	5.47	5.33	---	5.36	5.26	5.01	4.57	5.28	5.51	5.27	5.70	5.56
20	5.46	5.32	5.61	5.35	5.27	4.92	4.44	5.39	5.49	5.27	5.74	5.64
21	5.46	5.32	5.60	5.35	5.30	4.86	4.30	5.43	5.48	5.28	5.77	5.62
22	5.45	5.35	5.59	5.34	5.28	4.95	4.19	5.45	5.61	5.28	5.82	5.58
23	5.45	5.35	5.57	5.34	5.33	5.08	4.08	5.45	5.70	5.31	5.88	5.55
24	5.45	5.34	5.56	5.32	5.29	5.27	3.97	5.44	5.71	5.41	5.85	5.55
25	5.44	5.33	5.56	5.32	5.26	5.22	3.88	5.41	5.66	5.42	5.81	5.58
26	5.42	5.32	5.53	5.31	5.23	5.18	4.63	5.38	5.62	5.46	5.76	5.69
27	5.40	5.30	5.51	5.31	5.21	5.21	5.22	5.40	5.60	5.42	5.71	5.73
28	5.38	5.28	5.49	5.30	5.18	5.30	5.13	5.57	5.62	5.37	5.67	5.74
29	5.37	5.24	5.48	5.30	---	5.28	5.06	5.59	5.58	5.38	5.65	5.86
30	5.36	5.21	5.46	5.29	---	5.26	5.20	5.60	5.53	5.40	5.63	6.03
31	5.34	---	5.46	5.29	---	5.22	---	5.57	---	5.39	5.61	---
TOTAL	167.72	156.23	---	167.17	147.49	152.86	139.16	165.76	166.22	164.70	175.02	169.32
MEAN	5.41	5.21	---	5.39	5.27	4.93	4.64	5.35	5.54	5.31	5.65	5.64
MAX	5.48	5.40	---	5.52	5.33	5.30	5.22	5.60	5.71	5.48	5.88	6.03
MIN	5.33	4.80	---	5.29	5.18	4.40	3.88	5.03	5.46	5.20	5.43	5.55

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA

02291200 LAKE TRAFFORD NEAR IMMOKALEE, FL

LOCATION.--Lat 26°26'08", long 81°29'25", in NW ¼ sec.35, T.46 S., R.28 E., Collier County, Hydrologic Unit 03090204, at county boat ramp dock, on north side of lake and 4.2 mi west of Immokalee.

SURFACE AREA.--1,485 acres.

DRAINAGE AREA.--27 mi², approximately.

PERIOD OF RECORD.--March 1941 to current year. Records of elevations prior to October 1960 are available in files of the U.S. Geological Survey.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to October 6, 1960, gage was located at sites in the immediate vicinity at same datum. May 15, 1962, to September 30, 1962, auxiliary nonrecording gage in canal at county boat landing, 0.3 mi southeast. October 1, 1962, to November 25, 1968, nonrecording gage at same site and datum. Gage relocated March 30, 1988, because of excessive aquatic growth in ditch causing erroneous record at low stage.

REMARKS.--Lake is landlocked except above an elevation of about 21 ft, when there is overflow to the south into Corkscrew Swamp.

EXTREME STAGES FOR PERIOD OF RECORD.--Maximum elevation, 22.79 ft Sept. 23, 1947; minimum, 15.90 ft estimated, June 6-10, 1962.

EXTREME STAGES FOR CURRENT YEAR.--Maximum elevation, 21.65 ft Sept. 30; minimum, 19.57 ft May 22.

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	20.95	20.64	20.50	20.61	20.33	20.33	---	19.83	19.94	20.87	20.76	20.95
2	20.95	20.61	20.50	20.64	20.31	20.32	---	19.82	19.93	20.88	20.79	20.93
3	20.93	20.59	20.48	20.68	20.30	20.29	---	19.80	19.92	20.86	20.78	20.91
4	20.91	20.57	20.48	20.68	20.29	20.28	---	19.79	19.93	20.84	20.76	20.89
5	20.89	20.56	20.47	20.68	20.28	20.25	---	19.77	19.93	20.84	20.75	20.95
6	20.87	20.54	20.45	20.67	20.27	20.23	---	19.75	19.92	20.82	---	21.19
7	20.84	20.51	20.43	20.65	20.26	20.21	---	19.73	19.94	20.79	---	21.21
8	20.81	20.49	20.42	20.65	20.24	20.18	19.96	19.71	19.99	20.76	---	21.20
9	20.79	20.47	20.44	20.64	20.23	20.17	19.96	19.69	20.00	20.73	---	21.18
10	20.76	20.45	20.51	20.64	20.22	20.16	19.94	19.66	19.99	20.70	---	21.15
11	20.74	20.43	20.50	20.62	20.19	20.15	19.90	19.64	19.98	20.67	---	21.12
12	20.78	20.41	20.51	20.60	20.17	20.13	19.89	19.62	19.97	20.65	---	21.09
13	20.77	20.37	20.56	20.59	20.15	20.11	19.87	19.59	19.97	20.64	---	21.15
14	20.86	20.35	20.58	20.58	20.13	20.09	19.84	19.60	19.97	20.66	---	21.24
15	20.90	20.33	20.57	20.56	20.13	---	19.82	19.67	19.97	20.66	---	21.21
16	20.92	20.40	20.56	20.55	20.13	---	19.81	19.66	19.98	20.66	---	21.17
17	20.91	20.56	20.56	20.54	20.14	---	19.80	19.64	19.99	20.68	---	21.15
18	20.90	20.56	20.55	20.52	20.12	---	19.79	19.62	20.03	20.67	---	21.11
19	20.88	20.56	20.55	20.51	20.11	---	19.77	19.60	20.04	20.68	---	21.11
20	20.87	20.57	20.55	20.50	20.18	---	19.75	19.60	20.05	20.82	20.96	21.10
21	20.86	20.57	20.54	20.49	20.38	---	19.73	19.58	20.20	20.90	20.97	21.11
22	20.84	20.58	20.53	20.48	20.41	---	19.72	19.57	20.50	20.89	20.97	21.08
23	20.83	20.57	20.53	20.46	20.42	---	19.69	19.64	20.67	20.88	20.98	21.05
24	20.83	20.56	20.54	20.41	20.40	---	19.66	19.65	20.77	20.90	21.02	21.05
25	20.80	20.56	20.53	20.41	20.38	---	19.65	19.64	20.84	20.87	21.01	21.14
26	20.78	20.55	20.51	20.40	20.37	---	19.69	19.63	20.88	20.84	21.01	21.25
27	20.76	20.54	20.50	20.38	20.37	---	19.72	19.71	20.90	20.83	20.98	21.26
28	20.74	20.53	20.48	20.36	20.35	---	19.74	19.84	20.91	20.80	21.00	21.31
29	20.72	20.51	20.47	20.36	---	---	19.81	19.92	20.90	20.79	21.02	21.47
30	20.70	20.50	20.45	20.35	---	---	19.81	19.95	20.89	20.77	21.01	21.65
31	20.67	---	20.45	20.34	---	---	---	19.95	---	20.76	20.98	---
TOTAL	645.76	615.44	635.70	636.55	567.26	---	---	610.87	606.90	644.11	---	634.38
MEAN	20.83	20.51	20.51	20.53	20.26	---	---	19.71	20.23	20.78	---	21.15
MAX	20.95	20.64	20.58	20.68	20.42	---	---	19.95	20.91	20.90	---	21.65
MIN	20.67	20.33	20.42	20.34	20.11	---	---	19.57	19.92	20.64	---	20.89

02291500 IMPERIAL RIVER NEAR BONITA SPRINGS, FL

LOCATION.--Lat 26°20'07", long 81°44'59", in SW ¼ sec.31, T.47 S., R.26 E., Lee County, Hydrologic Unit 03090204, on left bank, 4 ft downstream of bridge on Orr Road, 0.3 mi north of Bonita Beach Road, 2.0 mi east of U.S. Highway 41 at Bonita Springs, and 7.4 mi upstream from mouth.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--May 1940 to November 1954, February 1987 to current year.

GAGE.--Satellite data collection platform with a water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929. May 1940 to November 1954, water-stage recorder at wooden control on right bank, 1.5 mi east of Bonita Springs (lat 26°20'05", long 81°45'20"). Prior to September 10, 1941, staff gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Days of no flows for the period of record only occurred during the period of May 27 to June 3, 1940.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 30 complete water years of discharge (1941-54, 1988-2003).

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	8.47	5.65	4.77	4.84	3.58	---	3.08	2.97	2.98	8.94	8.93	8.60
2	8.25	5.49	4.79	5.31	3.53	---	3.07	2.97	2.99	8.69	10.07	8.66
3	8.02	5.33	4.73	5.56	3.49	---	---	2.96	2.99	8.56	10.85	8.39
4	7.78	5.19	4.67	5.60	3.44	---	3.06	2.96	3.01	8.40	10.93	8.11
5	7.58	5.05	4.62	5.52	3.41	---	---	2.96	3.01	8.79	10.70	8.48
6	7.38	4.95	4.58	5.41	3.38	---	---	2.95	3.04	8.78	10.41	9.37
7	7.15	4.83	4.50	5.27	3.35	---	---	2.93	3.29	8.55	10.06	9.27
8	6.92	4.68	4.42	5.13	3.32	3.08	---	2.92	3.53	8.29	9.70	9.17
9	6.71	4.58	4.41	5.00	3.28	3.08	---	2.92	3.44	8.02	9.83	8.80
10	6.51	4.48	4.65	4.93	3.26	3.08	---	2.92	3.44	---	9.91	8.43
11	6.34	4.39	4.68	4.85	3.24	3.07	3.02	2.92	4.52	---	9.68	8.18
12	6.18	4.29	4.63	4.76	3.21	3.07	3.01	2.91	4.52	---	9.37	7.91
13	6.46	4.22	4.75	4.68	3.19	3.07	3.00	2.91	4.47	---	9.02	8.23
14	8.23	---	5.14	4.66	3.18	3.06	3.00	2.92	4.94	---	8.84	8.20
15	8.88	---	5.13	4.59	3.17	3.06	2.98	2.92	5.08	---	8.82	8.02
16	9.07	4.28	5.05	4.48	3.17	3.06	2.97	2.92	5.08	8.36	8.45	7.89
17	8.81	5.89	4.95	4.40	3.17	3.21	2.97	2.92	4.86	8.99	8.12	7.71
18	8.47	6.40	4.85	4.32	3.17	3.26	2.96	2.94	4.66	8.86	8.07	7.69
19	8.10	6.48	4.75	4.23	3.16	3.24	2.95	2.94	4.62	8.97	8.18	7.65
20	7.79	6.39	4.71	4.17	3.16	3.21	2.94	2.95	4.77	8.71	8.79	7.68
21	7.54	6.23	4.67	4.12	3.15	3.17	2.94	2.94	6.15	8.42	9.43	7.70
22	7.28	---	4.58	4.07	3.15	3.14	2.93	2.94	7.60	8.14	9.62	7.64
23	7.00	---	4.50	4.07	3.18	3.12	2.92	2.95	8.34	7.81	9.76	7.59
24	6.76	5.76	4.46	4.06	3.19	3.12	2.91	2.95	9.48	7.60	9.60	7.57
25	6.58	5.59	4.44	4.01	3.18	3.11	2.91	2.94	10.50	7.60	9.47	7.74
26	---	5.45	4.38	3.89	3.16	3.10	2.98	2.92	10.31	7.51	9.40	9.47
27	6.23	5.31	4.30	3.84	3.16	3.11	3.03	2.92	10.04	7.60	9.24	9.86
28	6.08	---	4.24	3.84	---	3.13	2.97	2.94	9.74	8.01	9.16	9.73
29	5.96	---	4.16	3.76	---	3.11	2.96	2.96	9.50	8.64	8.97	10.30
30	5.83	4.84	4.10	3.68	---	---	---	2.97	9.26	8.79	9.07	11.28
31	5.80	---	4.05	3.62	---	---	---	2.98	---	8.78	8.87	---
TOTAL	---	---	142.66	140.67	---	---	---	91.12	170.16	---	291.32	255.32
MEAN	---	---	4.60	4.54	---	---	---	2.94	5.67	---	9.40	8.51
MAX	---	---	5.14	5.60	---	---	---	2.98	10.50	---	10.93	11.28
MIN	---	---	4.05	3.62	---	---	---	2.91	2.98	---	8.07	7.57

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA

02291500 IMPERIAL RIVER NEAR BONITA SPRINGS, FL

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	370	126	74	79	28	e15	14	13	15	416	418	382
2	348	115	75	103	26	e15	14	12	15	389	551	389
3	326	105	73	118	25	e15	14	12	15	376	673	360
4	304	97	70	121	23	e15	14	12	15	359	688	330
5	286	89	68	116	22	e14	e13	12	15	399	648	371
6	268	84	66	109	21	e14	e13	12	16	398	599	466
7	249	78	62	101	21	e14	e13	12	23	373	546	455
8	230	70	59	93	20	14	e13	12	31	347	505	443
9	211	66	58	86	19	14	e13	12	28	319	518	401
10	195	61	69	83	18	14	e13	12	28	e294	527	362
11	180	57	70	79	17	14	13	12	71	e280	503	337
12	167	53	68	75	17	14	12	12	71	e242	474	310
13	189	50	74	71	16	13	12	12	69	e241	434	341
14	345	45	94	70	16	13	12	12	93	e291	413	338
15	409	42	93	67	16	13	12	12	101	e329	410	320
16	430	53	89	62	16	13	12	12	100	e352	369	308
17	402	140	84	58	16	17	12	12	89	419	334	291
18	366	174	79	55	16	18	12	13	79	404	330	288
19	329	180	74	51	16	18	11	13	77	418	341	285
20	300	173	72	49	16	17	11	13	84	390	406	287
21	277	162	70	47	16	16	11	13	172	360	478	289
22	254	157	66	45	15	15	11	13	287	332	496	283
23	231	e141	62	45	16	15	11	13	356	299	510	278
24	210	130	60	44	17	15	11	13	483	280	494	276
25	194	120	59	43	16	15	11	13	615	280	481	292
26	e177	111	57	38	16	14	13	13	584	272	473	475
27	167	103	54	36	16	15	14	13	544	281	454	520
28	156	95	51	36	e16	15	12	13	507	320	445	504
29	146	e83	48	33	---	15	12	14	478	385	423	592
30	137	78	45	31	---	e15	12	14	450	402	435	760
31	135	---	44	29	---	14	---	14	---	401	412	---
TOTAL	7,988	3,038	2,087	2,073	513	458	371	390	5,511	10,648	14,788	11,333
MEAN	258	101	67.3	66.9	18.3	14.8	12.4	12.6	184	343	477	378
MAX	430	180	94	121	28	18	14	14	615	419	688	760
MIN	135	42	44	29	15	13	11	12	15	241	330	276
AC-FT	15,840	6,030	4,140	4,110	1,020	908	736	774	10,930	21,120	29,330	22,480

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	249	86.9	38.9	33.2	26.6	23.7	16.7	8.92	47.6	155	217	318
MAX	1,097	387	219	185	184	226	207	55.4	331	569	709	1,178
(WY)	(1996)	(1996)	(1988)	(1995)	(1998)	(1998)	(1941)	(1941)	(1947)	(1992)	(1995)	(1995)
MIN	7.01	1.73	1.51	1.25	0.82	0.86	0.74	0.72	0.61	1.84	20.8	61.5
(WY)	(1951)	(1943)	(1943)	(1951)	(1949)	(1949)	(1949)	(1950)	(1951)	(1944)	(1942)	(1990)

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL TOTAL	36,277.8		59,198			
ANNUAL MEAN	99.4		162		102	
HIGHEST ANNUAL MEAN					273	
LOWEST ANNUAL MEAN					24.1	
HIGHEST DAILY MEAN	599	Sep 13	760	Sep 30	2,890	Sep 12, 1940
LOWEST DAILY MEAN	6.9	May 10	11	Apr 19	0.00	**
ANNUAL SEVEN-DAY MINIMUM	7.1	May 6	11	Apr 19	0.07	Jun 27, 1940
MAXIMUM PEAK FLOW			779	Sep 30	2,890	Sep 12, 1940
MAXIMUM PEAK STAGE					13.68	Oct 15, 1995
INSTANTANEOUS LOW FLOW			11	May 13	0.00	**
ANNUAL RUNOFF (AC-FT)	71,960		117,400		74,170	
10 PERCENT EXCEEDS	403		432		300	
50 PERCENT EXCEEDS	25		73		21	
90 PERCENT EXCEEDS	8.2		13		1.2	

e Estimated

**Many days during water year 1940

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA

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02291524 SPRING CREEK HEADWATER NEAR BONITA SPRINGS, FL

LOCATION.--Lat 26°21'42", long 81°47'27", in SE ¼ sec.22, T.47 S., R.25 E., Lee County, Hydrologic Unit 03090204, at culvert on State Road 887 (old U.S. Highway 41), 1.8 mi north of Bonita Springs, 4.7 mi upstream from mouth and 5.6 mi south of Estero.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--November 1987 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929 (Florida State Road Department Bench Mark).

REMARKS.--Records are fair, except for estimated daily values, which are poor. Days of no flow occurred during water years 1989, 1990, 1997.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 15 complete water years of discharge (1989-2003).

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	7.77	7.23	7.20	7.49	6.95	7.03	6.93	6.94	6.80	7.40	7.67	7.42
2	7.76	7.20	7.24	7.53	---	7.03	6.90	6.94	6.77	7.33	8.23	7.43
3	7.61	7.17	7.20	7.44	---	7.01	6.89	6.91	6.77	7.33	8.40	7.44
4	7.53	7.16	7.17	7.36	---	6.99	6.86	6.87	6.78	7.47	8.02	7.39
5	7.49	7.14	7.15	7.29	---	6.98	6.85	6.85	6.77	7.57	7.76	7.67
6	7.44	7.14	7.16	7.24	---	6.98	6.84	6.84	6.76	7.46	7.60	8.13
7	7.41	7.12	7.14	7.19	---	6.97	6.83	6.80	6.78	7.34	7.53	7.86
8	7.38	7.10	7.12	7.17	---	6.98	6.83	6.77	6.76	7.29	7.50	7.64
9	7.34	7.09	7.13	7.15	---	6.97	6.83	6.74	6.73	7.26	7.80	7.52
10	7.32	7.08	7.24	7.14	---	7.01	6.83	6.72	6.71	7.22	8.08	7.45
11	7.29	7.07	7.24	7.13	---	7.01	6.82	6.70	6.76	7.18	7.79	7.40
12	7.26	7.06	7.20	7.11	---	7.00	6.80	6.69	6.75	7.16	7.60	7.38
13	7.37	7.02	7.35	7.10	---	6.99	6.78	6.68	6.75	7.14	7.47	7.35
14	8.38	6.95	7.53	7.09	---	6.99	6.78	6.67	6.90	7.18	7.54	7.33
15	8.09	6.94	7.43	7.07	---	6.99	6.77	6.66	6.91	7.14	7.84	7.31
16	8.07	7.19	7.36	7.05	---	6.98	6.77	6.65	6.89	7.13	7.68	7.27
17	7.86	8.16	7.30	7.06	---	7.20	6.75	6.65	6.90	7.45	7.54	7.24
18	7.70	7.88	7.25	7.05	---	7.24	6.72	6.67	6.88	7.35	7.47	7.22
19	7.60	7.66	7.22	7.03	---	7.20	6.71	6.67	6.85	7.37	7.46	7.20
20	7.54	7.54	7.23	7.01	---	7.13	6.72	6.67	6.85	7.30	7.69	7.24
21	7.49	7.48	7.25	7.01	7.09	7.08	6.71	6.66	7.64	7.24	7.89	7.37
22	7.45	7.48	7.20	7.00	7.07	7.05	6.69	6.64	8.07	7.17	7.89	7.34
23	7.42	7.43	7.17	7.03	7.20	7.01	6.68	6.64	8.26	7.10	7.76	7.30
24	7.38	7.36	7.16	7.05	7.16	6.96	6.68	6.68	8.40	7.09	7.59	7.25
25	7.35	7.32	7.16	7.03	7.12	6.93	6.67	6.68	8.52	7.20	7.73	7.26
26	7.33	7.29	7.14	7.01	7.10	6.91	6.80	6.66	8.05	7.31	8.28	8.50
27	7.31	7.26	7.12	7.00	7.07	6.95	6.88	6.64	7.80	7.58	7.93	8.43
28	7.28	7.23	7.09	6.98	7.05	7.01	6.87	6.66	7.70	8.23	7.68	8.15
29	7.25	7.20	7.07	6.97	---	7.02	6.86	6.78	7.57	8.00	7.56	8.62
30	7.24	7.18	7.05	6.97	---	7.01	6.89	6.87	7.46	7.72	7.51	9.21
31	7.24	---	7.05	6.97	---	6.96	---	6.83	---	7.55	7.47	---
TOTAL	232.95	218.13	223.32	220.72	---	217.57	203.94	208.83	215.54	228.26	239.96	228.32
MEAN	7.51	7.27	7.20	7.12	---	7.02	6.80	6.74	7.18	7.36	7.74	7.61
MAX	8.38	8.16	7.53	7.53	---	7.24	6.93	6.94	8.52	8.23	8.40	9.21
MIN	7.24	6.94	7.05	6.97	---	6.91	6.67	6.64	6.71	7.09	7.46	7.20

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA
 02291524 SPRING CREEK HEADWATER NEAR BONITA SPRINGS, FL

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	15	6.3	7.0	11	4.2	5.1	4.0	4.5	3.1	11	18	13
2	15	5.8	7.5	11	e4.1	5.1	3.7	4.6	2.9	10	33	13
3	12	5.6	7.1	10	e4.1	4.9	3.6	4.2	2.9	10	39	13
4	11	5.3	6.7	9.1	e4.0	4.6	3.4	3.8	3.0	12	27	12
5	10	5.1	6.5	8.2	e3.8	4.6	3.2	3.6	2.9	14	20	17
6	9.8	5.0	6.5	7.6	e3.7	4.5	3.1	3.5	2.8	12	17	27
7	9.4	4.7	6.3	6.9	e3.6	4.4	3.0	3.2	2.9	10	16	20
8	8.9	4.6	6.0	6.6	e3.6	4.6	3.0	2.9	2.7	9.6	15	16
9	8.5	4.4	6.2	6.4	e3.5	4.5	3.1	2.5	2.4	9.1	22	14
10	8.1	4.2	7.5	6.3	e3.4	4.9	3.0	2.4	2.3	8.5	29	12
11	7.7	4.1	7.5	6.2	e3.3	4.8	2.9	2.3	2.7	7.9	21	12
12	7.4	3.9	7.1	5.9	e3.3	4.7	2.7	2.2	2.6	7.6	17	11
13	9.3	3.5	9.0	5.9	e3.2	4.6	2.6	2.0	2.6	7.4	15	10
14	31	2.8	11	5.8	e3.1	4.6	2.5	2.0	4.0	8.0	16	10
15	23	2.8	10	5.5	e3.1	4.6	2.5	1.9	4.1	7.3	22	9.6
16	22	6.2	9.1	5.3	e3.0	4.5	2.5	1.8	3.9	7.2	18	8.8
17	17	25	8.3	5.4	e3.1	7.0	2.3	1.8	4.0	12	15	8.4
18	14	18	7.7	5.2	e3.1	7.5	2.1	2.0	3.8	10	14	8.1
19	12	14	7.4	5.0	e3.0	7.1	2.0	2.0	3.5	11	14	7.7
20	11	12	7.4	4.9	e3.9	6.3	2.1	2.0	3.6	9.7	18	8.1
21	10	11	7.6	4.9	5.8	5.6	2.0	1.9	14	8.7	23	9.7
22	9.5	11	7.1	4.7	5.5	5.3	1.8	1.7	23	7.8	23	9.3
23	9.0	10	6.7	5.1	7.0	4.9	1.8	1.8	28	6.8	19	8.6
24	8.5	9.1	6.5	5.3	6.5	4.4	1.7	2.1	33	6.7	16	7.9
25	8.1	8.6	6.6	5.1	6.1	4.1	1.7	2.1	39	8.2	19	8.0
26	7.8	8.1	6.3	4.9	5.8	3.8	2.8	1.9	24	9.9	33	41
27	7.4	7.8	6.1	4.7	5.5	4.2	3.6	1.7	18	15	23	37
28	7.1	7.4	5.8	4.6	5.3	4.8	3.6	1.9	16	31	17	28
29	6.7	7.1	5.5	4.5	---	4.9	3.5	2.9	14	25	15	61
30	6.4	6.8	5.3	4.4	---	4.9	3.9	3.8	12	18	14	105
31	6.5	---	5.3	4.4	---	4.3	---	3.5	---	15	13	---
TOTAL	349.1	230.2	220.6	190.8	117.6	154.1	83.7	80.5	283.7	346.4	621	566.2
MEAN	11.3	7.67	7.12	6.15	4.20	4.97	2.79	2.60	9.46	11.2	20.0	18.9
MAX	31	25	11	11	7.0	7.5	4.0	4.6	39	31	39	105
MIN	6.4	2.8	5.3	4.4	3.0	3.8	1.7	1.7	2.3	6.7	13	7.7
AC-FT	692	457	438	378	233	306	166	160	563	687	1,230	1,120

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.8	7.26	4.52	3.84	3.54	2.76	2.01	1.32	6.97	14.8	19.2	22.9
MAX	95.9	26.5	14.1	9.45	15.3	11.8	5.56	6.41	28.9	42.0	46.1	52.6
(WY)	(1996)	(1999)	(1998)	(1995)	(1998)	(1998)	(1993)	(1991)	(1992)	(1999)	(1995)	(1995)
MIN	4.05	1.63	1.02	0.71	0.28	0.11	0.11	0.18	0.43	0.90	5.16	9.20
(WY)	(1990)	(1990)	(1993)	(1997)	(1997)	(1997)	(1990)	(1989)	(1988)	(1988)	(1989)	(1996)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1987 - 2003

ANNUAL TOTAL	2,913.81	3,243.9	
ANNUAL MEAN	7.98	8.89	9.02
HIGHEST ANNUAL MEAN			17.2
LOWEST ANNUAL MEAN			3.18
HIGHEST DAILY MEAN	111	Aug 29	105
LOWEST DAILY MEAN	0.37	Jun 7	1.7
ANNUAL SEVEN-DAY MINIMUM	0.41	Jun 1	1.9
MAXIMUM PEAK FLOW			89
MAXIMUM PEAK STAGE			9.53
INSTANTANEOUS LOW FLOW			1.6
ANNUAL RUNOFF (AC-FT)	5,780	6,430	6,540
10 PERCENT EXCEEDS	18	18	20
50 PERCENT EXCEEDS	5.5	6.4	3.8
90 PERCENT EXCEEDS	1.1	2.6	0.65

e Estimated

**Many days during water years 1989, 1990, 1997

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02291580 NORTH BRANCH ESTERO RIVER AT ESTERO, FL

LOCATION.--Lat 26°26'30", long 81°47'45", in SW ¼ SW ¼ NE ¼ sec.27, T.46 S., R.25 E., Lee County, Hydrologic Unit 03090204, on right bank behind house at east end of Broadway Road, 0.95 mi east of U.S. Highway 41, 0.9 mi upstream from confluence with South Branch Estero River and 5.6 mi upstream from mouth of Estero River.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--February 1987 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Many days of no flow during the water year.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 16 complete water years of discharge (1988-2003).

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	8.62	7.71	7.77	7.94	7.52	7.25	7.57	7.09	7.15	9.03	8.42	8.57
2	8.49	7.67	7.79	8.07	7.49	7.23	7.49	7.07	7.15	8.95	8.97	8.47
3	8.30	7.62	7.79	8.09	7.46	7.21	7.44	7.07	7.27	8.78	9.02	8.44
4	8.13	7.59	7.81	8.04	7.43	7.18	7.39	7.06	7.64	8.69	8.74	8.47
5	8.04	7.56	7.84	7.93	7.42	7.14	7.33	7.06	7.72	8.76	8.59	8.71
6	8.03	7.54	7.85	7.85	7.42	7.13	7.27	7.06	7.73	8.74	8.49	9.28
7	7.97	7.51	7.78	7.78	7.40	7.11	7.20	7.05	7.89	8.62	8.41	9.10
8	7.89	7.48	7.75	7.74	7.43	7.11	7.13	7.05	7.90	8.54	8.43	8.89
9	7.84	7.46	7.76	7.96	7.40	7.11	7.09	7.05	7.85	8.49	8.76	8.72
10	7.80	7.45	7.95	7.88	7.39	7.12	7.08	7.06	7.81	8.45	8.93	8.61
11	7.77	7.43	8.08	7.75	7.41	7.13	7.07	7.06	7.77	8.39	8.64	8.53
12	7.76	7.42	8.00	7.68	7.38	7.12	7.06	7.05	7.75	8.34	8.57	8.45
13	7.82	7.43	8.05	7.64	7.36	7.12	7.04	7.05	7.77	8.40	8.54	8.73
14	8.44	7.41	8.23	7.61	7.32	7.12	7.03	7.06	7.98	8.43	8.49	9.90
15	9.01	7.39	8.18	7.59	7.30	7.11	7.03	7.06	8.20	8.42	8.51	10.25
16	9.11	7.55	8.07	7.58	7.28	7.11	7.03	7.05	8.10	8.39	8.41	10.13
17	8.71	8.56	8.00	7.58	7.32	7.24	7.03	7.04	8.02	8.38	8.32	9.83
18	8.43	8.58	7.94	7.59	7.30	7.22	7.02	7.04	7.99	8.37	8.25	9.75
19	8.28	---	7.89	7.57	7.29	7.23	7.02	7.05	7.96	8.43	8.24	9.64
20	8.18	---	7.89	7.56	7.29	7.33	7.02	7.06	7.95	8.36	8.67	9.46
21	8.11	---	7.99	7.55	7.29	7.33	7.01	7.03	8.16	8.29	9.37	9.41
22	8.04	8.17	8.00	7.55	7.28	7.34	7.01	7.02	9.93	8.29	9.96	9.35
23	7.98	8.12	7.91	7.56	7.37	7.36	7.00	7.04	11.71	8.27	9.57	9.18
24	7.97	8.01	7.85	7.60	7.36	7.35	7.00	7.07	11.57	8.21	9.28	9.05
25	7.99	7.93	7.85	7.63	7.35	7.29	7.00	7.07	11.25	8.24	9.07	9.28
26	---	7.88	7.81	7.60	7.34	7.25	7.10	7.06	10.36	8.31	9.05	12.09
27	7.91	7.86	7.76	7.58	7.31	7.33	7.09	7.06	9.94	8.26	8.96	13.24
28	7.89	7.82	7.73	7.54	7.28	7.57	7.07	7.11	9.87	8.23	8.86	13.34
29	7.86	7.80	7.70	7.50	---	7.86	7.06	7.17	9.47	8.34	8.77	13.60
30	7.80	7.76	7.67	7.50	---	7.78	7.09	7.15	9.15	8.36	8.77	13.71
31	7.76	---	7.70	7.51	---	7.67	---	7.15	---	8.36	8.71	---
TOTAL	---	---	244.39	238.55	206.19	225.45	213.77	219.07	257.01	262.12	271.77	294.18
MEAN	---	---	7.88	7.70	7.36	7.27	7.13	7.07	8.57	8.46	8.77	9.81
MAX	---	---	8.23	8.09	7.52	7.86	7.57	7.17	11.71	9.03	9.96	13.71
MIN	---	---	7.67	7.50	7.28	7.11	7.00	7.02	7.15	8.21	8.24	8.44

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA

02291580 NORTH BRANCH ESTERO RIVER AT ESTERO, FL

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	15	2.2	2.6	4.0	0.94	0.13	1.1	0.00	0.02	25	14	10
2	12	1.9	2.8	5.5	0.81	0.11	0.79	0.00	0.02	23	26	8.5
3	8.9	1.6	2.7	5.7	0.70	0.08	0.59	0.00	0.23	19	28	8.0
4	6.4	1.4	2.9	5.1	0.58	0.05	0.43	0.00	1.4	17	20	8.5
5	5.3	1.2	3.1	3.9	0.57	0.03	0.29	0.00	1.9	19	17	13
6	5.1	1.1	3.1	3.1	0.57	0.02	0.17	0.00	1.9	18	15	26
7	4.4	1.00	2.6	2.6	0.50	0.01	0.08	0.00	3.2	16	13	21
8	3.6	0.85	2.4	2.3	0.58	0.01	0.02	0.00	3.2	14	14	16
9	3.2	0.78	2.5	4.3	0.49	0.01	0.01	0.00	2.9	13	21	13
10	2.8	0.74	4.1	3.4	0.47	0.02	0.00	0.00	2.5	12	25	11
11	2.6	0.67	5.6	2.4	0.51	0.02	0.00	0.00	2.2	11	19	8.9
12	2.5	0.62	4.6	1.9	0.45	0.02	0.00	0.00	2.0	10	17	7.7
13	3.0	0.66	5.3	1.6	0.37	0.02	0.00	0.00	2.3	12	17	14
14	11	0.60	7.5	1.5	0.27	0.01	0.00	0.00	4.1	12	16	47
15	24	0.53	6.8	1.3	0.24	0.01	0.00	0.00	6.5	12	16	63
16	27	1.3	5.5	1.3	0.19	0.01	0.00	0.00	5.3	12	14	58
17	17	14	4.7	1.2	0.27	0.12	0.00	0.00	4.5	12	12	46
18	11	14	4.0	1.3	0.25	0.09	0.00	0.00	4.2	11	11	44
19	8.5	e10	3.6	1.2	0.21	0.11	0.00	0.00	4.0	13	11	40
20	7.0	e6.9	3.6	1.1	0.22	0.29	0.00	0.00	4.0	11	20	34
21	6.1	e5.9	4.6	1.1	0.22	0.29	0.00	0.00	6.6	10	37	33
22	5.2	6.8	4.7	1.1	0.21	0.31	0.00	0.00	70	10	54	32
23	4.6	6.2	3.7	1.1	0.41	0.34	0.00	0.00	157	10	37	27
24	4.4	4.8	3.2	1.3	0.38	0.33	0.00	0.00	148	9.0	28	24
25	4.6	4.0	3.2	1.5	0.34	0.20	0.00	0.00	128	9.6	22	34
26	e4.3	3.6	2.8	1.3	0.31	0.14	0.01	0.00	80	11	21	187
27	3.8	3.3	2.4	1.2	0.27	0.32	0.00	0.00	59	10	19	272
28	3.6	3.0	2.2	1.1	0.21	1.2	0.00	0.01	56	9.6	16	281
29	3.3	2.8	2.0	0.86	---	3.1	0.00	0.04	40	12	14	304
30	2.9	2.5	1.8	0.87	---	2.5	0.00	0.02	29	12	14	314
31	2.5	---	2.0	0.91	---	1.7	---	0.02	---	12	13	---
TOTAL	225.6	104.95	112.6	67.04	11.54	11.60	3.49	0.09	829.97	407.2	621	2,005.6
MEAN	7.28	3.50	3.63	2.16	0.41	0.37	0.12	0.003	27.7	13.1	20.0	66.9
MAX	27	14	7.5	5.7	0.94	3.1	1.1	0.04	157	25	54	314
MIN	2.5	0.53	1.8	0.86	0.19	0.01	0.00	0.00	0.02	9.0	11	7.7
AC-FT	447	208	223	133	23	23	6.9	0.2	1,650	808	1,230	3,980

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)
	24.4	153	0.000	(1996)	8.29	59.7	0.000	(1999)	2.70	23.6	0.000	(1998)
	1.55	11.2	0.000	(1998)	3.22	49.2	0.000	(1998)	1.38	21.0	0.000	(1988)
	0.17	1.42	0.000	(1987)	0.030	27.7	0.000	(1998)	4.28	30.8	0.000	(1989)
	8.14	30.8	0.000	(2003)	8.14	30.8	0.000	(1999)	11.6	82.4	0.000	(1995)
	28.6	104	0.000	(2001)	28.6	104	0.000	(2001)	28.6	104	0.000	(2001)
	0.000	0.000	0.000	(1990)	0.000	0.000	0.000	(1990)	0.000	0.000	0.000	(1989)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1987 - 2003

ANNUAL TOTAL	909.35	4,400.68	
ANNUAL MEAN	2.49	12.1	8.07
HIGHEST ANNUAL MEAN			17.9
LOWEST ANNUAL MEAN			0.000
HIGHEST DAILY MEAN	39	Sep 6	366
LOWEST DAILY MEAN	0.00	many days	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	many days	0.00
MAXIMUM PEAK FLOW			381
MAXIMUM PEAK STAGE			14.41
ANNUAL RUNOFF (AC-FT)	1,800	8,730	5,840
10 PERCENT EXCEEDS	6.8	24	17
50 PERCENT EXCEEDS	0.25	2.8	0.03
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

**Many days during water years 1988-2003

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02291597 SOUTH BRANCH ESTERO RIVER AT ESTERO, FL

LOCATION.--Lat 26°25'43", long 81°47'36", in NW ¼ sec.34, T.46 S., R.25 E., Lee County, Hydrologic Unit 03090204, near left bank on downstream culvert headwall on Corkscrew Road, 1.1 mi east of U.S. Highway 41 at Estero and 3.9 mi upstream from mouth of Estero River.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--February 1987 to current year.

REVISED RECORDS.--WDR FL-2000-2A, 1999.

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Water years 2000 and 2001 at datum 0.30 ft higher than current datum. Water years 1987-1999 at datum near 0.30 ft higher than current datum (original benchmark destroyed during road construction in July 1999). Days of no flow occurred during water years 1996, 1999, 2000.

ANNUAL MEAN AND ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 14 complete water years of discharge (1989-98, 2000-2003).

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	4.30	---	3.19	3.53	3.14	3.28	3.18	3.59	2.79	4.25	4.48	3.75
2	4.20	---	3.21	3.48	3.12	3.31	3.18	---	2.77	4.05	5.59	3.89
3	4.01	---	3.18	3.42	3.10	3.32	3.18	---	2.99	3.95	5.82	3.73
4	3.85	---	3.16	3.40	3.09	3.33	3.17	---	3.17	4.04	5.42	3.59
5	3.72	---	3.16	3.41	3.09	3.33	3.15	---	3.02	4.34	5.01	4.19
6	3.60	---	3.15	3.39	3.08	3.32	3.13	3.50	3.08	4.35	4.64	4.86
7	3.50	---	3.14	3.35	3.10	3.32	3.12	3.51	3.34	4.05	4.32	4.62
8	3.40	---	3.13	3.32	3.14	3.33	3.13	3.49	3.15	3.82	4.24	4.33
9	3.34	---	3.16	3.31	3.17	3.32	3.15	3.48	3.09	3.66	4.52	4.07
10	3.31	---	3.28	3.29	3.21	3.36	3.22	3.48	3.03	3.52	4.67	3.84
11	3.28	---	3.26	3.27	3.24	3.32	3.26	3.47	3.01	3.41	4.49	3.65
12	3.25	---	3.22	3.25	3.23	3.34	3.01	3.46	3.05	3.38	4.35	3.51
13	3.27	2.98	3.34	3.24	3.23	3.33	3.01	3.45	3.08	3.61	4.21	3.86
14	3.45	2.98	3.44	3.24	3.22	3.31	3.53	3.33	3.41	3.73	4.13	4.74
15	3.47	2.98	3.32	3.22	3.23	3.31	3.42	2.86	3.58	3.67	4.18	4.56
16	3.47	3.40	3.24	3.22	3.23	3.30	3.73	2.74	3.51	3.60	4.00	4.32
17	3.41	4.06	3.20	3.22	3.29	3.48	3.70	2.75	3.52	3.79	3.88	4.13
18	3.33	3.75	3.16	3.22	3.29	3.31	3.60	2.76	3.46	3.86	3.85	4.03
19	3.27	3.54	3.12	3.20	3.30	3.20	3.56	2.74	3.38	4.62	3.78	3.94
20	3.23	3.46	3.19	3.24	3.33	3.18	3.53	2.66	3.36	4.42	4.06	3.92
21	3.33	3.43	3.25	3.24	3.39	3.18	3.52	2.64	3.86	4.18	4.92	4.23
22	3.28	3.48	3.18	3.24	3.40	3.24	3.48	2.65	4.96	3.95	5.34	4.12
23	3.21	3.44	3.13	3.25	3.47	3.26	3.51	2.64	5.70	3.76	5.10	3.95
24	3.18	3.38	3.12	3.24	3.46	3.28	3.49	2.68	5.98	3.74	4.79	3.81
25	3.15	3.34	3.17	3.24	3.48	3.25	3.47	2.66	6.03	3.67	4.74	3.97
26	---	3.30	3.20	3.24	3.45	3.22	3.61	2.65	5.66	3.62	4.78	6.93
27	---	3.26	3.17	3.23	3.29	3.40	3.58	2.65	5.35	3.73	4.72	6.87
28	---	3.23	3.15	3.20	3.29	3.48	3.53	2.72	5.08	4.40	4.53	6.69
29	---	3.19	3.15	3.17	---	3.34	3.55	2.99	4.83	4.56	4.30	7.54
30	---	3.17	3.15	3.17	---	3.26	3.59	2.89	4.54	4.46	4.09	8.03
31	---	---	3.17	3.16	---	3.20	---	2.82	---	4.37	3.88	---
TOTAL	---	---	99.09	101.60	91.06	102.41	101.29	---	115.78	122.56	140.83	137.67
MEAN	---	---	3.20	3.28	3.25	3.30	3.38	---	3.86	3.95	4.54	4.59
MAX	---	---	3.44	3.53	3.48	3.48	3.73	---	6.03	4.62	5.82	8.03
MIN	---	---	3.12	3.16	3.08	3.18	3.01	---	2.77	3.38	3.78	3.51

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA

02291597 SOUTH BRANCH ESTERO RIVER AT ESTERO, FL

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	33	e2.9	5.4	15	4.4	7.8	5.2	5.0	0.11	24	34	14
2	31	e2.8	5.8	14	4.1	8.4	5.3	e4.1	0.07	18	80	18
3	26	e2.9	5.3	12	3.8	8.7	5.2	e3.8	1.5	16	90	14
4	22	e3.0	4.9	11	3.6	8.9	4.9	e3.5	1.6	18	71	10
5	18	e2.9	4.7	12	3.5	9.2	4.6	e3.3	0.46	28	54	29
6	15	e2.8	4.6	11	3.4	8.9	4.2	3.4	1.4	28	40	51
7	13	e2.6	4.4	9.8	3.8	8.9	4.1	3.5	3.2	19	28	43
8	10	e2.5	4.3	8.9	4.5	9.0	4.2	3.3	0.94	12	26	33
9	8.9	e2.4	4.9	8.4	5.1	8.8	4.7	3.1	0.50	7.7	35	25
10	8.0	e2.3	7.6	7.9	5.9	9.9	5.3	3.0	0.32	4.5	41	18
11	7.4	e2.2	7.1	7.5	6.7	8.8	4.9	3.0	0.23	2.7	34	13
12	6.5	e1.8	6.2	6.9	6.4	9.5	2.2	2.9	0.29	2.3	29	8.9
13	7.1	2.0	9.5	6.6	6.3	9.2	2.2	2.7	0.41	6.5	25	20
14	12	2.0	12	6.6	6.2	8.6	7.0	2.0	2.8	9.6	23	48
15	12	2.0	8.9	6.2	6.3	8.6	4.3	0.49	5.3	8.1	24	42
16	13	12	6.7	6.1	6.4	8.1	8.5	0.45	3.7	6.5	19	33
17	11	31	5.6	6.2	8.0	13	7.7	0.43	3.9	12	16	28
18	8.7	21	4.8	6.0	7.9	8.5	5.3	0.42	3.0	14	15	25
19	7.1	15	4.1	5.7	8.1	5.6	4.3	0.35	2.0	39	13	22
20	6.2	13	5.6	6.6	9.1	5.1	3.9	0.16	1.7	31	22	22
21	8.9	12	6.9	6.7	11	5.2	3.7	0.12	13	23	52	31
22	7.4	13	5.3	6.6	11	6.6	3.1	0.11	52	16	69	28
23	5.8	12	4.3	6.9	13	7.1	3.6	0.08	83	11	59	23
24	5.2	10	4.0	6.6	13	7.6	3.3	0.12	97	10	47	19
25	4.6	9.2	5.1	6.7	14	6.8	2.9	0.08	99	8.4	45	24
26	e4.0	8.1	5.6	6.6	12	6.1	5.8	0.05	81	7.1	47	144
27	e3.5	7.2	5.0	6.4	8.0	11	4.8	0.04	67	11	45	140
28	e3.4	6.3	4.6	5.7	7.9	13	3.9	0.09	56	31	38	131
29	e3.3	5.5	4.6	5.0	---	9.3	4.4	1.5	46	37	30	172
30	e3.2	4.9	4.6	5.0	---	7.2	5.1	0.35	35	33	24	195
31	e3.1	---	5.0	4.8	---	5.7	---	0.17	---	30	18	---
TOTAL	328.3	217.3	177.4	241.4	203.4	259.1	138.6	51.61	662.43	524.4	1,193	1,423.9
MEAN	10.6	7.24	5.72	7.79	7.26	8.36	4.62	1.66	22.1	16.9	38.5	47.5
MAX	33	31	12	15	14	13	8.5	5.0	99	39	90	195
MIN	3.1	1.8	4.0	4.8	3.4	5.1	2.2	0.04	0.07	2.3	13	8.9
AC-FT	651	431	352	479	403	514	275	102	1,310	1,040	2,370	2,820

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	30.4	11.6	4.24	3.32	5.16	3.60	1.44	0.77	6.89	17.7	30.1	42.2
MEAN	30.4	11.6	4.24	3.32	5.16	3.60	1.44	0.77	6.89	17.7	30.1	42.2
MAX (WY)	220 (1996)	59.5 (1999)	28.6 (1998)	13.6 (1998)	57.4 (1998)	31.5 (1998)	8.66 (1987)	4.69 (1987)	29.8 (1996)	60.7 (1992)	126 (1995)	142 (1995)
MIN (WY)	4.87 (1989)	0.61 (1993)	0.30 (1991)	0.29 (1997)	0.10 (1997)	0.10 (1997)	0.067 (2000)	0.015 (2000)	0.17 (1988)	0.85 (2000)	2.60 (1989)	4.91 (1990)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1987 - 2003

ANNUAL TOTAL	2,433.61	5,420.84	
ANNUAL MEAN	6.67	14.9	12.7
HIGHEST ANNUAL MEAN			33.6 1995
LOWEST ANNUAL MEAN			2.03 1989
HIGHEST DAILY MEAN	58 Sep 6	195 Sep 30	410 Aug 26, 1995
LOWEST DAILY MEAN	0.17 Jun 6	0.04 May 27	0.00 **
ANNUAL SEVEN-DAY MINIMUM	0.19 Jun 1	0.08 May 22	0.00 **
MAXIMUM PEAK FLOW		235 Sep 26	440 Aug 25, 1995
MAXIMUM PEAK STAGE		8.81 Sep 26	12.60 Aug 25, 1995
INSTANTANEOUS LOW FLOW		0.01 May 27	0.00 **
ANNUAL RUNOFF (AC-FT)	4,830	10,750	9,210
10 PERCENT EXCEEDS	20	34	35
50 PERCENT EXCEEDS	2.6	7.1	2.0
90 PERCENT EXCEEDS	0.55	2.1	0.20

e Estimated

**Many days during water years 1996, 1999, 2000

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA

02291669 SIXMILE CYPRESS CREEK NORTH NEAR FORT MYERS, FL

LOCATION.--Lat 26°31'18", long 81°51'09", in SW ¼ NW ¼ NW ¼ sec.31, T.45 S., R.25 E., Lee County, Hydrologic Unit 03090204, 10 ft upstream from Tennile Canal, 0.4 mi south of Sixmile Cypress parkway, and 5.2 mi south of Colonial Boulevard in Ft. Myers, FL.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--December 1987 to 1990, 1992 to current year.

REVISED RECORDS.--WDR FL-01-2A, 2000.

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929.

COOPERATION.--Gate operation log provided by the county of Lee.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow can be regulated by four vertical lift gates, two on either side of control weir. New control weir constructed in 1991. Records of discharge for water years 1999-2003 represent only flow over the top of the weir. Daily value discharge during water years 1999-2003 are not provided when partial or full gate openings occurred. Records of discharge prior to water year 1999 include combinations of flow over the weir and gate flow. No distinctions in flow types prior to water year 1999 have been made. Zero flow occurs numerous days, during all water years. During the 2003 water year, discharge data for June 23-30, August 22 to September 4 and September 4-30 were deleted due to gate operations. Discharge for water year 2000 has been revised based on an evaluation of the high end of the rating used.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 9 complete water years of discharge (1989-90, 1992-98).

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	11.13	10.92	10.98	11.05	10.91	---	10.65	6.58	5.56	11.18	11.06	11.20
2	11.11	10.88	10.97	11.06	10.91	---	10.47	7.14	5.54	11.13	11.06	11.11
3	11.10	10.82	10.97	11.07	10.91	---	10.23	7.21	5.56	11.10	11.06	11.04
4	11.07	10.76	10.97	11.07	10.91	---	9.97	6.86	5.56	11.07	11.05	11.16
5	11.06	10.66	10.97	11.07	10.91	8.02	9.67	6.45	5.57	11.06	11.07	11.33
6	11.04	10.57	10.98	11.06	10.91	7.83	9.34	6.17	5.58	11.06	11.07	11.49
7	11.03	10.48	10.97	11.05	10.90	7.67	---	6.14	5.58	11.05	11.07	11.67
8	11.01	10.34	10.97	11.03	10.90	7.51	8.67	5.99	5.57	11.06	11.10	11.74
9	11.00	10.18	10.98	11.02	10.89	7.32	8.40	5.86	5.55	11.04	11.18	11.57
10	10.98	10.02	11.01	11.01	10.88	7.20	8.13	5.76	5.54	11.03	11.22	11.26
11	10.97	9.85	11.01	11.00	10.86	7.04	7.87	5.69	5.55	11.04	11.24	11.14
12	10.97	9.68	11.01	10.99	10.83	6.87	7.65	5.65	5.55	11.03	11.24	11.01
13	10.98	9.50	11.03	10.98	10.78	6.69	7.38	5.63	5.57	11.03	11.25	10.93
14	11.02	---	11.05	10.98	10.72	6.51	7.05	5.62	5.59	11.02	11.28	11.00
15	11.02	9.09	11.04	10.97	10.63	6.34	6.74	5.63	6.82	11.01	11.30	11.01
16	11.01	9.34	11.03	10.96	10.52	6.20	6.49	5.60	7.96	11.00	11.34	10.96
17	11.00	10.89	11.03	10.96	10.43	7.21	6.32	5.59	8.62	10.98	11.33	10.81
18	11.00	11.05	11.03	10.95	10.32	8.95	6.18	5.62	9.55	10.96	11.30	10.74
19	10.99	11.07	11.03	10.94	10.16	9.81	6.05	5.60	10.29	10.94	11.31	9.82
20	10.99	11.07	11.04	10.94	10.01	10.06	5.95	5.63	10.86	10.93	11.33	8.99
21	10.98	11.06	11.03	10.94	9.90	10.21	5.87	5.61	10.97	10.93	11.39	8.07
22	10.98	---	11.02	10.93	9.79	10.29	5.80	5.59	11.16	10.93	11.41	7.34
23	10.97	---	11.02	10.93	9.81	10.46	5.74	5.59	11.33	10.91	11.33	6.86
24	10.97	11.04	11.02	10.93	9.75	10.79	5.68	5.60	11.27	10.89	11.34	9.04
25	10.97	11.03	11.02	10.92	9.61	10.90	5.64	5.59	11.30	10.89	11.39	11.26
26	---	11.02	11.02	10.92	---	10.90	6.14	5.57	11.24	10.93	11.54	11.36
27	10.96	11.01	11.01	10.92	---	10.89	6.70	5.56	11.13	10.97	11.53	11.41
28	10.96	---	11.01	10.91	---	10.88	6.70	5.60	10.95	10.98	11.49	11.43
29	10.95	---	11.00	10.91	---	10.85	6.57	5.58	9.74	11.00	11.42	11.49
30	10.94	10.98	11.00	10.91	---	---	6.45	5.57	8.89	11.04	11.33	11.53
31	10.93	---	11.00	10.91	---	---	---	5.56	---	11.06	11.27	---
TOTAL	---	---	341.22	340.29	---	---	---	181.84	239.95	341.25	349.30	319.77
MEAN	---	---	11.01	10.98	---	---	---	5.87	8.00	11.01	11.27	10.66
MAX	---	---	11.05	11.07	---	---	---	7.21	11.33	11.18	11.54	11.74
MIN	---	---	10.97	10.91	---	---	---	5.56	5.54	10.89	11.05	6.86

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA
 02291669 SIXMILE CYPRESS CREEK NORTH NEAR FORT MYERS, FL

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	55	3.2	12	32	3.9	e0.00	0.00	0.00	0.00	108	36	---
2	50	1.3	11	36	3.7	e0.00	0.00	0.00	0.00	83	36	---
3	44	0.23	10	39	3.6	e0.00	0.00	0.00	0.00	65	36	---
4	34	0.00	9.4	40	3.6	e0.00	0.00	0.00	0.00	54	33	---
5	29	0.00	9.2	41	3.8	0.00	0.00	0.00	0.00	50	39	137
6	23	0.00	11	37	3.9	0.00	0.00	0.00	0.00	48	40	242
7	20	0.00	11	32	3.0	0.00	e0.00	0.00	0.00	45	38	377
8	17	0.00	10	28	2.7	0.00	0.00	0.00	0.00	48	49	443
9	14	0.00	12	24	2.2	0.00	0.00	0.00	0.00	42	90	---
10	11	0.00	17	21	1.3	0.00	0.00	0.00	0.00	38	113	---
11	9.0	0.00	18	18	0.83	0.00	0.00	0.00	0.00	40	124	---
12	8.4	0.00	19	16	0.31	0.00	0.00	0.00	0.00	36	119	---
13	10	0.00	24	13	0.05	0.00	0.00	0.00	0.00	36	120	---
14	18	e0.00	29	13	0.00	0.00	0.00	0.00	0.00	31	139	---
15	17	0.00	27	12	0.00	0.00	0.00	0.00	0.00	29	149	---
16	17	0.00	24	11	0.00	0.00	0.00	0.00	0.00	27	174	---
17	14	14	23	10	0.00	0.00	0.00	0.00	0.00	21	169	---
18	14	28	23	8.5	0.00	0.00	0.00	0.00	0.00	15	148	---
19	13	36	23	7.5	0.00	0.00	0.00	0.00	0.00	11	150	---
20	12	37	25	6.9	0.00	0.00	0.00	0.00	5.3	9.2	161	---
21	10	34	24	6.9	0.00	0.00	0.00	0.00	19	7.9	203	---
22	10	e33	22	6.3	0.00	0.00	0.00	0.00	103	7.9	---	---
23	9.1	e32	21	5.7	0.00	0.00	0.00	0.00	---	6.0	---	---
24	8.4	27	20	5.7	0.00	0.49	0.00	0.00	---	4.0	---	---
25	8.4	24	21	4.7	0.00	3.5	0.00	0.00	---	4.0	---	---
26	e7.4	21	21	4.6	e0.00	3.3	0.00	0.00	---	7.1	---	---
27	7.0	19	19	4.6	e0.00	2.9	0.00	0.00	---	15	---	---
28	6.9	e18	19	4.1	e0.00	2.3	0.00	0.00	---	17	---	---
29	5.2	e14	19	3.6	---	0.98	0.00	0.00	---	23	---	---
30	4.6	12	18	3.6	---	e0.23	0.00	0.00	---	32	---	---
31	3.9	---	18	3.7	---	e0.09	---	0.00	---	41	---	---
TOTAL	510.3	353.73	569.6	499.4	32.89	13.79	0.00	0.00	---	1,001.1	---	---
MEAN	16.5	11.8	18.4	16.1	1.17	0.44	0.000	0.000	---	32.3	---	---
MAX	55	37	29	41	3.9	3.5	0.00	0.00	---	108	---	---
MIN	3.9	0.00	9.2	3.6	0.00	0.00	0.00	0.00	---	4.0	---	---
AC-FT	1,010	702	1,130	991	65	27	0.00	0.00	---	1,990	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	MEAN	49.0	8.01	3.71	4.35	2.67	4.46	0.39	0.024	6.13	29.0	78.1	70.8												
MAX (WY)	216	(1996)	38.0	(1996)	22.7	(1998)	18.6	(1998)	23.2	(1998)	48.5	(1998)	5.04	(1998)	0.31	(1998)	42.1	(1992)	153	(1992)	195	(1995)	238		
MIN (WY)	2.45	(1990)	0.000	(1993)	0.000	(1990)	0.000	(1989)	0.000	(1989)	0.000	(1990)	0.000	(1988)	0.000	(1988)	0.000	(1988)	0.079	(1988)	0.079	(1993)	2.79	(1997)	26.3

SUMMARY STATISTICS

ANNUAL MEAN
 HIGHEST ANNUAL MEAN
 LOWEST ANNUAL MEAN
 HIGHEST DAILY MEAN
 LOWEST DAILY MEAN
 ANNUAL SEVEN-DAY MINIMUM
 MAXIMUM PEAK FLOW
 MAXIMUM PEAK STAGE
 ANNUAL RUNOFF (AC-FT)
 10 PERCENT EXCEEDS
 50 PERCENT EXCEEDS
 90 PERCENT EXCEEDS

WATER YEARS 1987 - 2003

23.3
 47.2 1995
 6.84 1993
 860 Aug 27, 1995
 0.00 **
 0.00 **
 1,830 Aug 11, 1988
 12.12 Aug 27, 1995
 16,910
 70
 0.00
 0.00

e Estimated

**Many days during water years 1988-2003

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA

275

02291673 TENMILE CANAL AT CONTROL NEAR ESTERO, FL

LOCATION.--Lat 26°30'19", long 81°51'00", in NW ¼ SW ¼ NW ¼ sec. 6, T.46 S., R.24 E., Lee County, Hydrologic Unit 03090204, on left bank 367 ft upstream of weir, 1.05 mi north of Alico Road, and 5.3 mi northwest of Estero.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--December 1987 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929 (State Department of Transportation bench mark).

REMARKS.--Records fair except for estimated daily discharges, which are poor. Downstream gage discontinued as of October 1, 1997. Flow can be regulated by two vertical lift gates, one on each side of the control weir. Records of discharge for water years 1999-2003 represent only flow over the top of the weir. Daily value discharge during water years 1999-2003 are not provided when partial or full gate openings occurred. During the 2003 water year, discharge data for June 25 to July 3, August 22 to September 4, September 9-30, have been deleted due to gate operations. Records of discharge prior to water year 1999 include combinations of flow over the weir with gate flow included. No distinctions in flow types prior to water year 1999 have been made. Zero flow occurs numerous days during most water years.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 9 complete water years of discharge (1990-98).

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	5.83	5.59	5.66	5.88	5.60	---	5.56	5.55	5.53	---	5.78	5.96
2	5.80	5.58	5.65	5.85	5.60	---	5.56	5.54	5.52	---	5.80	5.89
3	5.77	5.57	5.65	5.83	5.60	---	5.55	5.54	5.53	5.20	5.78	5.80
4	5.75	5.57	---	5.81	5.59	---	5.55	5.53	5.53	5.75	5.75	5.91
5	5.73	5.57	---	5.79	5.59	---	5.54	5.53	5.53	5.73	5.77	6.15
6	5.71	5.57	5.64	5.77	5.59	---	5.54	5.53	5.54	5.72	5.81	6.78
7	5.70	5.57	5.64	5.75	5.58	---	5.53	5.54	5.55	5.71	5.82	---
8	5.68	5.56	5.64	5.74	5.57	---	5.53	5.53	5.53	5.71	5.85	---
9	5.67	5.57	5.65	5.73	5.57	---	---	5.52	5.52	5.70	6.03	6.43
10	5.65	5.56	5.68	---	5.57	---	---	5.52	5.52	5.69	6.07	6.22
11	5.64	5.56	5.69	5.71	5.56	5.52	5.52	5.52	5.52	5.71	6.02	6.08
12	5.64	5.56	5.69	5.70	5.55	5.52	5.52	5.51	5.52	5.70	5.97	5.99
13	5.65	5.56	5.72	5.69	5.55	5.51	5.52	5.51	5.53	5.69	5.97	6.02
14	5.69	---	5.75	5.68	5.55	5.51	5.51	5.51	5.55	5.67	6.03	6.13
15	5.72	---	5.73	5.67	5.55	5.51	5.51	5.51	5.58	5.65	6.06	6.08
16	5.72	5.67	5.71	5.66	5.55	5.51	5.51	5.50	5.58	5.65	6.10	6.02
17	5.70	5.87	5.71	5.66	5.56	5.62	5.51	5.50	5.60	5.64	6.09	5.97
18	5.69	5.83	5.71	5.65	5.55	5.60	5.51	5.52	5.64	5.61	6.05	5.97
19	5.68	5.82	5.71	5.64	5.55	---	---	5.53	5.69	5.59	6.06	5.92
20	5.67	5.79	5.71	5.64	5.55	---	---	5.56	5.69	5.59	6.14	5.91
21	5.67	5.77	5.71	5.64	5.55	---	5.49	5.55	5.82	5.59	6.30	5.82
22	5.66	---	5.71	5.64	5.55	---	5.48	5.54	6.26	---	6.47	5.75
23	5.66	---	5.69	5.64	5.56	---	5.47	5.54	6.62	5.59	6.33	5.67
24	5.65	5.73	5.69	5.62	5.55	---	5.45	5.54	6.57	5.59	6.25	---
25	5.65	5.72	---	5.61	5.55	5.59	5.44	5.53	6.42	5.60	6.33	---
26	---	5.70	5.70	5.61	5.54	5.59	5.55	5.53	---	5.66	6.66	---
27	5.63	5.69	5.70	5.61	5.54	5.58	5.58	5.52	---	5.67	6.52	6.73
28	5.63	---	5.69	5.61	5.53	5.59	5.57	5.54	5.99	5.69	6.39	6.62
29	5.62	---	5.68	5.61	---	5.58	5.55	5.54	---	5.70	6.26	6.79
30	5.61	5.66	5.67	5.61	---	---	5.55	5.53	---	5.74	6.14	6.87
31	5.61	---	5.67	5.61	---	---	---	5.53	---	5.77	6.07	---
TOTAL	---	---	---	---	155.75	---	---	171.39	---	---	188.67	---
MEAN	---	---	---	---	5.56	---	---	5.53	---	---	6.09	---
MAX	---	---	---	---	5.60	---	---	5.56	---	---	6.66	---
MIN	---	---	---	---	5.53	---	---	5.50	---	---	5.75	---

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA

02291673 TENMILE CANAL AT CONTROL NEAR ESTERO, FL

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	111	21	36	138	15	e3.3	4.0	4.3	6.7	---	94	---
2	98	17	33	113	14	e3.0	4.0	4.3	6.0	---	103	---
3	83	16	33	104	14	e2.6	3.2	3.9	6.8	---	93	---
4	72	16	e30	95	13	e2.1	3.0	3.6	7.2	85	78	---
5	61	16	e30	85	12	e2.0	2.6	3.5	6.6	78	84	345
6	54	17	31	72	12	e1.7	2.3	4.7	7.9	70	103	995
7	48	15	30	64	10	e1.6	2.0	5.2	8.2	66	106	e854
8	43	15	30	59	9.0	e1.5	1.9	4.1	5.9	67	123	e718
9	38	15	31	54	8.4	e1.4	e2.0	4.0	4.7	63	245	---
10	33	15	44	e50	8.1	e2.3	e1.6	4.0	4.8	60	273	---
11	31	14	47	47	6.0	2.0	1.3	3.7	5.4	67	234	---
12	30	14	47	41	5.5	1.9	1.0	3.4	4.9	63	196	---
13	33	13	57	39	5.1	1.7	1.0	3.9	5.8	58	196	---
14	48	e13	66	35	5.0	1.5	0.91	4.1	8.5	48	238	---
15	59	e14	57	32	5.0	1.5	0.87	3.7	13	44	265	---
16	57	54	52	30	5.0	1.4	0.86	3.3	12	42	292	---
17	48	144	51	29	5.6	13	0.84	4.2	16	38	282	---
18	44	121	50	27	5.0	10	0.80	5.8	26	30	247	---
19	42	110	50	25	5.0	e8.2	e0.85	7.9	40	25	256	---
20	41	99	51	25	5.2	e7.1	e0.60	12	39	25	325	---
21	39	87	52	25	5.0	e7.2	0.47	11	97	24	478	---
22	37	e86	49	22	5.3	e7.3	0.21	10	457	e22	---	---
23	36	e68	44	22	6.0	e6.7	0.15	10	830	22	---	---
24	35	62	43	18	5.3	e7.5	0.09	10	774	22	---	---
25	34	56	e49	16	4.7	7.3	0.04	9.4	---	25	---	---
26	e33	51	47	16	4.0	7.1	5.3	8.1	---	41	---	---
27	31	46	46	16	3.8	6.6	6.0	7.1	---	48	---	---
28	30	e42	41	16	3.5	7.1	5.9	8.0	---	53	---	---
29	28	e37	39	16	---	6.1	4.0	8.0	---	57	---	---
30	25	36	36	16	---	e5.5	3.7	7.9	---	74	---	---
31	23	---	37	16	---	e4.3	---	7.1	---	86	---	---
TOTAL	1,425	1,330	1,339	1,363	205.5	142.5	61.49	190.2	---	---	---	---
MEAN	46.0	44.3	43.2	44.0	7.34	4.60	2.05	6.14	---	---	---	---
MAX	111	144	66	138	15	13	6.0	12	---	---	---	---
MIN	23	13	30	16	3.5	1.4	0.04	3.3	---	---	---	---
AC-FT	2,830	2,640	2,660	2,700	408	283	122	377	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2003, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	128	30.0	20.7	23.0	24.4	16.2	5.33	8.60	55.6	143	228	241				
MAX	603	118	131	65.8	186	136	14.6	107	212	676	555	827				
(WY)	(1996)	(1994)	(1998)	(1998)	(1998)	(1998)	(1994)	(1991)	(1991)	(1991)	(1990)	(1995)				
MIN	14.7	2.84	0.91	0.020	0.000	1.85	0.000	0.000	1.20	3.90	35.3	67.2				
(WY)	(1989)	(1990)	(1991)	(1989)	(1989)	(1990)	(1999)	(1988)	(1998)	(1988)	(1993)	(1997)				

SUMMARY STATISTICS

ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
MAXIMUM PEAK STAGE
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

WATER YEARS 1988 - 2003

90.4
165
29.6
2,170
0.00
0.00
8.34
65,510
261
16
0.29

Sep 18, 2000
**
**
Aug 26, 1995

e Estimated

**Many days during water years 1989-95, 1997-2002

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02292000 CALOOSAHATCHEE CANAL AT MOORE HAVEN, FL

LOCATION.--Lat 26°50'22", long 81°05'15", in NW ¼ NW ¼ sec.12, T.42 S., R.32 E., Glades County, Hydrologic Unit 03090205, on the west side of the lock structure approximately 75 ft north of lock control house, 0.1 mi west of control structure 77, 0.45 mi upstream from U.S. Highway 27, and 15 mi upstream from lock 2.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--May to September 1913 (discharge measurements), October 1938 to September 2003. Discontinued. Monthly discharge only for some periods, published in WSP 1304. Prior to October 1938, published as Threemile Canal near Ritta.

REVISED RECORDS.--WDR FL-98-2A, 1996-97.

GAGE.--U.S Army Corps of Engineers owned and operated satellite data collection platform with water-stage shaft encoders. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to January 17, 1952, at site 0.5 mi downstream, at datum 1.44 ft lower. January 17, 1952 to September 30, 1966, at site 0.5 mi downstream at present datum. October 1938 to September 1966, auxiliary water-stage recorder 0.2 mi upstream from Lake Hicpochee and 3.0 mi downstream. Since October 1966, auxiliary water-stage recorder on upstream side of hurricane gate structure and lock 1. U.S. Geological Survey satellite data collection platform removed October 19, 1998.

REMARKS.--Records poor. Flow regulated by operation of control structure S-77 at Lake Okeechobee. Gage height and discharge records revised October 1995 through September 1997, except 1996 canal gage height, based upon new elevation for lake and canal measuring point. Revised records are available in the files of the U.S. Geological Survey.

COOPERATION.-- Stage, gate-opening and lock operation record provided by U.S. Army Corps of Engineer.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS--Figures represent 62 complete water years of discharge (1939-96, 1998-2000, 2002).

EXTREME LAKE STAGES FOR PERIOD OF RECORD.--Maximum lake gage height, 18.61 ft Oct. 23, 1995; minimum, 7.24 ft present datum, estimated Aug. 8, 1940.

EXTREME LAKE STAGES FOR CURRENT YEAR.--Maximum gage height, 17.02 ft Sept. 30; minimum, 14.01 ft May 23.

EXTREME CANAL STAGES FOR PERIOD OF RECORD.--Maximum canal gage height, 16.98 ft present datum, Sept. 27, 1948; minimum, 7.14 ft present datum, estimated Aug. 8, 1940.

EXTREME CANAL STAGES FOR CURRENT YEAR.--Maximum gage height, 12.43 ft Aug. 22; minimum, 10.06 ft Sept. 11.

LAKE
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	15.76	15.32	15.09	15.77	15.52	15.38	15.52	15.11	14.77	14.70	15.16	16.08
2	15.77	15.30	15.13	15.74	15.24	15.30	15.48	15.11	14.82	14.89	15.15	16.04
3	15.76	15.25	15.16	15.50	15.21	15.46	15.45	15.14	14.88	15.10	15.16	16.02
4	15.74	15.20	15.14	15.57	15.32	15.30	15.44	15.03	14.92	15.24	15.23	16.20
5	15.67	15.13	15.08	15.77	15.50	15.35	15.37	14.92	14.89	15.35	15.27	16.24
6	15.47	14.99	15.13	15.90	15.62	15.26	15.43	14.96	14.79	15.37	15.33	16.44
7	15.18	15.14	15.16	15.98	15.58	15.18	15.45	14.96	14.66	15.33	15.37	16.54
8	15.21	15.14	15.15	16.02	15.72	15.32	15.37	14.98	14.69	15.03	15.41	16.46
9	15.33	15.09	15.21	16.04	15.67	15.24	15.19	14.96	14.78	14.66	15.44	16.40
10	15.36	15.05	15.25	16.07	15.54	15.27	15.01	14.92	14.87	14.73	15.57	16.43
11	15.37	15.05	15.33	16.14	15.49	15.36	15.03	14.87	14.90	14.92	15.66	16.50
12	15.40	14.99	15.39	15.99	15.39	15.34	15.17	14.83	14.90	15.00	15.78	16.38
13	15.44	15.04	15.21	15.74	15.42	15.19	15.21	14.84	14.97	15.10	15.86	16.26
14	15.47	15.06	15.11	15.75	15.47	15.21	15.24	14.69	14.96	15.10	15.70	16.26
15	15.41	15.00	15.25	15.90	15.44	15.20	15.22	14.45	14.90	15.16	15.47	16.27
16	15.41	15.00	15.34	16.06	15.38	15.22	15.26	14.49	14.87	15.15	15.68	16.22
17	15.48	14.98	15.43	16.01	15.35	15.20	15.17	14.55	14.80	15.17	15.63	16.20
18	15.52	15.22	15.49	16.10	15.43	15.22	15.15	14.58	14.76	15.19	15.63	16.28
19	15.48	15.21	15.53	16.15	15.49	15.28	15.20	14.59	14.73	15.15	15.80	16.22
20	15.41	15.19	15.52	16.17	15.47	15.28	15.21	14.69	14.86	15.12	15.95	16.36
21	15.36	15.13	15.65	16.14	15.46	15.20	15.05	14.70	14.91	15.10	15.88	16.42
22	15.37	15.13	15.63	15.87	15.34	15.28	14.97	14.57	15.02	15.09	15.81	16.43
23	15.37	15.18	15.48	15.44	15.37	15.36	14.97	14.53	15.12	14.70	---	16.32
24	15.35	15.18	15.19	15.57	15.57	15.42	14.97	14.56	15.24	14.83	---	16.30
25	15.35	15.16	15.06	15.73	15.53	15.47	14.85	14.58	15.31	14.83	---	16.31
26	15.34	15.16	15.38	15.81	15.48	15.42	15.12	14.55	15.29	14.90	15.99	16.35
27	15.36	15.17	15.57	15.92	15.36	15.43	15.09	14.57	15.20	14.90	16.06	16.34
28	15.34	15.15	15.62	15.98	15.37	15.44	15.20	14.79	14.83	14.88	16.15	16.50
29	15.26	15.15	15.67	15.97	---	15.45	15.17	14.78	14.74	14.83	16.09	16.83
30	15.20	15.08	15.71	15.95	---	15.31	15.17	14.77	14.66	14.81	16.05	16.94
31	15.29	---	15.73	15.90	---	15.42	---	14.78	---	14.83	16.16	---
TOTAL	478.23	453.84	475.79	492.65	432.73	474.76	456.13	457.85	447.04	465.16	---	490.54
MEAN	15.43	15.13	15.35	15.89	15.45	15.31	15.20	14.77	14.90	15.01	---	16.35
MAX	15.77	15.32	15.73	16.17	15.72	15.47	15.52	15.14	15.31	15.37	---	16.94
MIN	15.18	14.98	15.06	15.44	15.21	15.18	14.85	14.45	14.66	14.66	---	16.02

CALOOSAHATCHEE RIVER

02292000 CALOOSAHATCHEE CANAL AT MOORE HAVEN, FL

 CANAL
 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	10.61	11.05	11.13	11.05	10.96	11.16	11.29	11.38	11.06	11.33	11.01	11.46
2	10.65	11.10	11.03	11.09	11.00	11.35	11.24	10.78	10.97	11.12	10.97	11.50
3	10.75	11.15	11.09	11.37	11.25	11.06	10.74	10.90	10.84	11.16	11.13	11.56
4	10.88	11.09	11.05	11.13	11.32	10.85	10.85	11.17	10.90	11.20	11.33	11.27
5	10.60	10.86	11.14	11.04	11.22	11.23	11.00	11.32	11.05	10.98	11.07	11.26
6	10.68	10.85	11.12	10.90	11.03	10.98	11.02	11.05	11.26	10.83	10.95	11.40
7	10.90	10.94	10.87	10.75	10.87	11.15	10.82	11.10	11.19	10.80	11.02	11.38
8	10.93	10.86	10.83	10.69	10.91	11.01	11.00	10.97	11.26	11.08	11.18	11.44
9	10.84	10.96	11.11	10.85	10.64	10.99	11.22	10.97	11.16	11.39	11.09	11.40
10	10.92	11.04	11.05	10.79	10.65	10.84	11.14	11.07	11.14	11.24	10.94	11.28
11	10.68	11.11	10.98	10.76	11.02	11.06	10.84	11.14	10.72	10.98	11.02	11.30
12	11.07	10.90	11.08	11.02	11.18	11.13	10.98	11.01	11.03	10.81	11.16	11.60
13	10.91	10.83	11.12	11.29	11.02	11.10	11.05	10.98	11.15	11.18	11.27	11.49
14	11.12	10.95	11.15	11.25	10.88	11.23	10.85	11.12	11.08	10.83	11.60	11.85
15	10.98	10.82	10.99	10.95	11.09	11.31	10.95	11.16	10.83	10.79	11.44	11.85
16	11.06	11.11	10.89	10.69	11.07	11.09	11.13	11.01	10.91	10.75	11.11	11.81
17	11.00	11.37	10.78	10.66	11.15	11.40	10.93	10.98	11.02	10.81	11.16	11.61
18	11.07	11.12	10.85	10.74	10.97	11.08	10.99	10.95	11.03	10.79	11.21	11.55
19	11.16	10.95	11.16	10.66	10.71	11.07	11.22	10.79	11.06	10.92	11.20	11.47
20	11.09	10.90	11.03	10.94	10.97	11.17	10.96	10.67	11.07	10.82	11.00	11.05
21	11.02	11.00	11.01	10.82	11.12	11.12	11.07	10.56	11.24	10.73	11.28	11.19
22	10.98	11.10	10.94	11.13	11.15	10.85	11.15	10.73	11.13	10.77	11.77	11.11
23	10.89	11.01	11.06	11.44	11.16	11.20	10.96	11.03	11.21	10.83	---	10.93
24	10.83	11.06	11.27	11.36	11.13	11.25	10.86	---	10.99	10.96	---	10.88
25	10.70	11.14	11.38	11.19	11.06	11.01	11.04	---	10.79	11.24	---	10.98
26	10.78	11.15	11.04	10.96	11.14	10.99	11.24	11.28	10.84	11.03	11.26	11.40
27	10.99	11.13	11.00	10.94	11.06	11.18	11.47	11.24	10.94	10.72	11.26	11.18
28	11.10	11.07	11.04	10.84	11.05	11.25	11.44	11.33	11.47	11.01	11.23	11.11
29	10.96	11.05	10.96	10.94	---	11.19	11.24	11.03	11.74	11.06	11.37	11.29
30	10.90	11.08	10.80	11.00	---	11.39	10.69	11.50	11.56	10.74	11.76	11.27
31	11.03	---	10.90	10.94	---	11.17	---	10.95	---	11.07	11.48	---
TOTAL	338.08	330.75	341.85	340.18	308.78	344.86	331.38	---	332.64	339.97	---	340.87
MEAN	10.91	11.03	11.03	10.97	11.03	11.12	11.05	---	11.09	10.97	---	11.36
MAX	11.16	11.37	11.38	11.44	11.32	11.40	11.47	---	11.74	11.39	---	11.85
MIN	10.60	10.82	10.78	10.66	10.64	10.84	10.69	---	10.72	10.72	---	10.88

02292000 CALOOSAHATCHEE CANAL AT MOORE HAVEN, FL

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	1,660	208	0.00	1,160	4,220	506	0.00	0.00	0.00	4,280	0.00	e6,040
2	972	206	0.00	3,280	e5,830	318	279	301	0.00	3,270	696	e6,230
3	567	204	0.00	4,660	e5,300	814	323	938	0.00	2,250	2,280	e6,230
4	471	204	0.00	4,120	4,260	823	287	2,180	0.00	1,250	3,180	e4,620
5	1,160	209	0.00	3,170	3,290	232	1,340	3,060	679	652	2,730	e5,370
6	3,290	206	0.00	2,380	2,290	685	464	2,620	2,140	518	2,130	3,310
7	4,640	207	0.00	1,660	1,940	974	408	2,050	3,060	1,170	1,640	3,500
8	4,100	210	0.00	988	915	0.00	1,290	1,630	2,580	3,290	1,270	e5,320
9	3,160	205	0.00	592	508	0.00	735	1,260	2,050	4,680	915	e6,310
10	2,350	202	0.00	519	501	650	146	876	1,590	4,130	574	e6,470
11	1,660	200	0.00	1,510	2,090	905	972	557	1,250	3,170	484	e5,530
12	925	205	653	4,360	3,100	824	1,410	484	854	2,370	142	e6,870
13	532	208	2,170	e5,960	2,650	1,030	624	818	560	1,620	1,370	e7,130
14	420	205	3,100	e5,390	2,080	702	674	2,100	483	982	4,290	e7,150
15	128	207	2,590	4,340	1,570	0.00	1,580	3,060	820	575	e5,570	e7,090
16	0.00	130	2,070	3,330	1,240	18	826	2,660	2,220	498	4,000	e7,070
17	0.00	0.00	1,610	2,260	900	30	1,090	2,400	3,070	144	4,080	e6,860
18	0.00	0.00	1,270	1,260	576	187	1,350	2,420	2,600	0.00	3,350	e6,270
19	0.00	0.00	917	623	494	896	472	1,710	2,050	0.00	2,320	e6,240
20	0.00	0.00	578	462	381	410	135	891	1,630	0.00	1,300	e5,320
21	0.00	0.00	484	1,530	0.00	0.00	1,790	565	912	0.00	2,980	e5,270
22	0.00	0.00	1,180	4,370	0.00	296	394	477	465	0.00	4,140	4,480
23	0.00	0.00	3,440	e6,030	0.00	108	659	276	512	0.00	---	4,510
24	0.00	0.00	4,590	e5,430	0.00	0.00	1,920	e112	505	0.00	---	4,520
25	52	0.00	3,990	4,280	0.00	0.00	825	e110	145	0.00	---	4,470
26	217	0.00	3,210	3,280	0.00	0.00	73	111	0.00	0.00	4,520	4,270
27	211	0.00	2,420	2,250	0.00	0.00	0.00	0.60	1,360	0.00	4,510	4,440
28	208	0.00	1,660	1,970	241	0.00	0.00	0.00	3,850	0.00	4,450	4,500
29	210	0.00	962	900	---	0.00	0.00	0.00	4,570	0.00	e5,240	4,500
30	210	0.00	568	466	---	0.00	0.00	0.00	4,820	0.00	e5,350	4,480
31	208	---	470	1,500	---	0.00	---	0.00	---	0.00	e5,590	---
TOTAL	27351.00	3,216.00	37,932.00	84,030	44,376.00	10,408.00	20,066.00	33,666.60	44,775.00	34,849.00	---	164,370
MEAN	882	107	1,224	2,711	1,585	336	669	1,086	1,492	1,124	---	5,479
MAX	4,640	210	4,590	6,030	5,830	1,030	1,920	3,060	4,820	4,680	---	7,150
MIN	0.00	0.00	0.00	462	0.00	0.00	0.00	0.00	0.00	0.00	---	3,310
AC-FT	54,250	6,380	75,240	166,700	88,020	20,640	39,800	66,780	88,810	69,120	---	326,000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2003, BY WATER YEAR (WY)

MEAN	967	886	674	834	980	1,168	1,294	811	596	645	845	654
MAX	4,669	5,394	4,871	5,801	5,677	7,504	7,505	3,889	3,908	3,949	7,058	5,863
(WY)	(1996)	(1970)	(1948)	(1970)	(1983)	(1983)	(1983)	(1954)	(1970)	(1947)	(1974)	(1995)
MIN	0.000	5.00	5.00	5.00	0.000	5.00	5.00	5.00	-692	-243	-476	-601
(WY)	(1994)	(1969)	(1978)	(1969)	(1994)	(1987)	(1962)	(1979)	(2001)	(1990)	(1981)	(1981)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

WATER YEARS 1939 - 2003

ANNUAL TOTAL	237,034.40	
ANNUAL MEAN	649	874
HIGHEST ANNUAL MEAN		3,716
LOWEST ANNUAL MEAN		10.0
HIGHEST DAILY MEAN	4,700	8,290
LOWEST DAILY MEAN	0.00	-4,410
ANNUAL SEVEN-DAY MINIMUM	0.00	-1,790
ANNUAL RUNOFF (AC-FT)	470,200	632,900
10 PERCENT EXCEEDS	2,090	3,690
50 PERCENT EXCEEDS	266	10
90 PERCENT EXCEEDS	0.00	5.0

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

CALOOSAHATCHEE RIVER

02292480 CALOOSAHATCHEE CANAL AT ORTONA LOCK NEAR LA BELLE, FL

LOCATION.--Lat 26°47'22", long 81°18'11", in SW ¼ sec.26, T.42 S., R.30 E., Glades County, Hydrologic Unit 03090205, near right bank, 500 ft upstream from Ortona Lock, 1.4 mi downstream from Long Hammock Creek, and 9.0 mi east of La Belle.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--October 1948 to September 1950 (discharge measurements and gage heights), July 1971 to September 2003. Discontinued.

REVISED RECORDS.--WDR FL-80-2A, 1979; WDR FL-96-2A, 1995.

GAGE.--U.S. Army Corps of Engineers owned and operated satellite data collection platform with water-stage shaft encoders. Prior to September 29, 1998, similar equipment belonging to the U.S. Geological Survey was used. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated discharges, which are poor. Flow regulated by operation of control structures 77 and 78. Satellite data collection platform installed September 7, 1994. Extremes for downstream stages for the period of record are not available at the present time. Records of gage heights and discharge measurements can be found in the files of the U.S. Geological Survey.

COOPERATION.--Stage, gate-opening and lock operation records provided by U.S. Army Corps of Engineers.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 28 complete water years of discharge (1972-93, 1995, 1996-99, 2002).

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 12.80 ft June 26, 1974; minimum, 8.59 ft May 16, 2001.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 12.22 ft Aug. 22; minimum, 10.20 ft Apr. 30.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD.--Not available at this time.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 4.26 ft Oct. 23; minimum, 2.09 ft Oct. 18, Sept. 11.

UPSTREAM
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	10.64	11.14	11.21	11.02	10.69	11.21	11.40	11.37	11.08	10.89	11.01	10.72
2	10.71	11.19	11.11	10.92	10.58	11.36	11.36	10.82	11.01	10.84	10.96	10.74
3	10.82	11.25	11.18	10.99	10.94	11.14	10.85	10.93	10.90	10.98	11.00	10.78
4	10.96	11.17	11.16	10.86	11.11	10.88	10.94	11.07	10.97	11.09	11.09	10.75
5	10.65	10.94	11.21	10.91	11.12	11.28	11.07	11.35	11.09	10.92	10.77	10.77
6	10.57	10.90	11.19	10.84	10.98	10.99	11.12	11.10	---	10.80	10.73	11.20
7	10.63	11.02	10.96	10.78	10.84	11.16	10.91	11.14	10.98	10.75	10.84	11.16
8	10.74	10.97	10.93	10.74	10.97	11.07	11.04	11.03	11.06	10.87	11.00	10.87
9	10.77	11.06	11.19	10.91	10.69	11.02	11.26	11.04	11.00	11.03	10.93	10.74
10	10.90	11.13	11.05	10.84	10.65	10.89	11.07	11.16	11.00	10.94	10.80	10.52
11	10.71	11.20	11.00	10.78	10.99	---	10.76	11.20	10.64	10.83	10.89	10.72
12	11.10	10.98	11.09	10.77	11.09	11.20	10.94	11.05	10.98	10.75	11.02	10.74
13	10.95	10.90	11.00	10.82	10.96	11.14	11.04	11.05	11.12	---	11.12	10.58
14	11.23	11.04	10.94	10.81	10.89	11.30	10.83	11.17	11.04	---	---	11.00
15	11.07	10.93	10.88	10.70	11.11	11.40	10.94	11.20	10.78	10.86	11.00	11.01
16	11.14	11.18	10.83	10.59	11.07	11.20	11.14	11.07	10.80	10.82	10.90	10.95
17	11.10	11.37	10.78	10.63	11.15	11.46	10.89	11.06	10.89	10.89	10.98	10.84
18	11.18	11.17	10.91	10.79	11.01	11.15	10.98	11.05	10.91	10.87	11.00	11.02
19	11.25	11.03	11.21	10.75	10.78	11.14	11.23	10.90	10.95	10.99	11.00	10.86
20	11.13	11.01	11.07	11.03	11.04	11.25	10.96	10.80	10.96	10.88	10.88	10.63
21	11.07	11.07	11.07	10.83	11.18	11.17	11.04	10.71	11.09	10.79	11.16	10.88
22	11.06	11.16	10.97	10.99	11.17	10.93	11.08	10.87	10.96	10.84	11.38	11.04
23	10.98	11.09	10.92	11.00	11.19	11.30	10.91	11.16	11.03	10.91	---	10.65
24	10.91	11.14	10.98	11.05	11.22	11.34	10.82	11.16	10.88	11.02	11.06	10.68
25	10.78	11.22	11.09	10.96	11.14	11.12	10.99	11.23	10.75	11.27	10.92	10.81
26	10.86	11.22	10.89	10.85	11.22	11.10	11.22	11.20	10.84	11.04	10.82	11.15
27	11.09	11.20	10.96	10.94	11.09	11.28	11.45	11.14	10.84	10.74	10.86	10.89
28	11.18	11.13	11.04	10.92	11.08	11.33	11.43	11.18	11.05	11.01	10.82	10.84
29	11.04	11.12	10.99	11.03	---	11.28	11.20	10.85	11.21	11.05	---	---
30	10.97	11.15	10.87	11.09	---	11.44	10.68	11.39	11.05	10.75	11.17	10.84
31	11.12	---	10.98	10.98	---	11.25	---	10.95	---	11.08	10.89	---
TOTAL	339.31	333.08	341.66	337.12	307.95	---	331.55	343.40	---	---	---	---
MEAN	10.95	11.10	11.02	10.87	11.00	---	11.05	11.08	---	---	---	---
MAX	11.25	11.37	11.21	11.09	11.22	---	11.45	11.39	---	---	---	---
MIN	10.57	10.90	10.78	10.59	10.58	---	10.68	10.71	---	---	---	---

02292480 CALOOSAHATCHEE CANAL AT ORTONA LOCK NEAR LA BELLE, FL

DOWNSTREAM
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	2.57	3.02	3.01	3.10	3.27	2.86	3.12	3.03	3.13	3.37	2.96	3.04
2	2.64	2.88	2.91	3.25	3.29	3.17	3.00	3.01	2.96	3.20	3.04	2.97
3	2.68	3.06	3.05	3.28	3.34	3.02	2.89	3.03	3.04	2.91	3.15	2.98
4	2.76	3.14	3.16	3.27	3.28	2.96	3.02	3.01	3.00	3.24	3.27	2.95
5	2.52	3.13	3.13	3.27	2.98	2.78	3.05	3.16	3.18	3.01	3.02	2.97
6	2.80	3.19	3.02	3.10	2.95	2.69	2.95	3.02	---	3.18	3.07	3.21
7	2.85	3.23	3.05	2.99	3.03	3.18	2.93	2.87	3.17	3.01	2.90	2.66
8	2.98	3.25	2.97	3.07	2.90	3.07	3.00	3.03	3.38	3.12	2.98	3.13
9	2.56	3.18	3.00	3.19	2.80	3.01	3.03	3.01	3.12	3.14	2.91	3.06
10	2.66	3.10	3.00	3.07	3.20	3.16	3.04	2.93	3.18	3.24	3.08	2.82
11	2.75	3.21	2.74	2.99	2.99	---	2.89	2.91	3.15	3.10	3.15	2.82
12	2.48	3.20	2.84	3.05	3.00	3.08	2.78	2.98	2.95	3.04	3.01	2.92
13	2.41	3.08	3.01	3.37	3.02	2.99	2.94	2.99	3.00	---	2.83	3.15
14	2.66	3.11	3.15	3.34	3.06	2.98	2.95	3.15	3.08	---	---	3.12
15	2.65	3.17	3.20	3.14	3.01	3.17	3.00	2.98	2.83	2.91	3.41	3.07
16	2.60	3.09	3.05	3.07	3.18	3.02	2.99	3.24	3.06	2.91	3.23	2.97
17	2.48	2.94	3.07	3.06	3.08	3.17	2.88	2.93	3.00	2.86	3.24	2.89
18	2.57	2.70	2.94	2.92	2.91	3.05	2.99	3.08	3.12	2.81	3.24	2.94
19	2.87	2.85	2.91	2.94	2.92	3.13	2.90	2.99	3.08	2.58	3.32	3.03
20	3.00	2.89	3.01	3.05	2.94	3.07	2.94	3.00	3.19	2.67	3.33	2.65
21	2.95	2.98	2.99	2.91	2.98	3.18	3.09	2.91	3.59	2.76	3.38	2.72
22	3.03	2.99	2.86	2.99	3.28	3.07	3.02	3.01	3.95	2.82	3.40	---
23	3.09	2.90	2.97	3.29	3.26	3.06	2.80	3.02	3.90	2.77	---	3.00
24	3.10	2.91	3.27	3.19	3.05	3.15	2.82	3.06	3.47	2.62	3.64	2.79
25	2.90	3.12	3.37	3.19	2.95	2.97	3.07	3.09	3.22	2.89	3.86	2.73
26	2.99	3.07	2.82	3.15	3.12	3.24	3.10	3.04	3.05	2.69	3.69	3.03
27	3.05	2.87	2.76	2.98	3.22	3.15	3.08	3.07	3.27	2.91	3.61	3.03
28	3.00	3.15	2.74	2.97	2.98	3.16	3.09	3.27	3.49	2.95	3.50	2.96
29	2.94	3.14	2.93	2.97	---	3.13	3.04	3.24	3.34	3.00	3.39	3.36
30	2.93	2.93	3.03	3.11	---	3.13	3.18	3.40	3.53	2.92	3.17	3.47
31	3.08	---	2.96	3.05	---	3.14	---	3.10	---	3.10	2.87	---
TOTAL	86.55	91.48	92.92	96.32	85.99	---	89.58	94.56	---	---	---	---
MEAN	2.79	3.05	3.00	3.11	3.07	---	2.99	3.05	---	---	---	---
MAX	3.10	3.25	3.37	3.37	3.34	---	3.18	3.40	---	---	---	---
MIN	2.41	2.70	2.74	2.91	2.80	---	2.78	2.87	---	---	---	---

CALOOSAHATCHEE RIVER

02292480 CALOOSAHATCHEE CANAL AT ORTONA LOCK NEAR LA BELLE, FL

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	2,010	35	228	2,430	4,480	447	53	858	884	6,080	779	8,040
2	1,570	35	142	4,430	5,760	169	336	958	1,170	4,800	1,110	7,730
3	492	35	35	6,070	5,010	393	557	1,130	749	4,100	1,420	7,740
4	642	35	35	5,390	4,340	747	943	2,070	570	3,300	3,430	6,460
5	1,270	35	35	4,120	3,510	340	1,130	3,060	1,320	2,930	3,810	6,820
6	2,970	35	288	3,530	2,760	811	669	2,510	e2,470	2,180	2,890	4,820
7	4,480	35	390	2,410	1,890	607	216	1,700	3,900	2,430	2,180	4,930
8	4,130	35	122	1,240	1,060	35	801	1,220	3,970	3,970	2,080	7,110
9	3,010	35	734	1,100	771	35	554	806	3,530	5,500	2,010	7,520
10	2,080	35	2,470	1,100	747	1,080	246	398	3,600	5,120	544	8,190
11	1,450	35	2,490	2,010	1,840	e656	499	366	2,560	3,740	168	6,500
12	699	35	2,590	4,660	2,930	35	876	169	1,610	2,940	831	8,310
13	591	35	3,910	6,490	2,920	514	340	469	1,400	e2,010	2,000	8,700
14	1,040	35	4,740	6,450	1,950	588	749	1,470	1,420	---	e5,740	7,950
15	812	35	3,910	4,880	1,430	660	850	2,710	1,400	1,630	6,960	7,960
16	611	238	3,310	3,430	1,340	503	277	2,550	2,330	1,410	4,850	8,000
17	294	1,250	2,950	1,930	1,120	1,080	778	2,020	2,990	1,270	4,490	7,900
18	236	1,770	1,730	957	1,050	1,860	1,060	1,760	2,770	488	4,710	6,890
19	109	1,390	1,710	501	464	1,860	214	1,280	2,480	709	4,560	6,960
20	362	534	1,390	548	127	642	236	1,090	3,100	754	4,270	6,010
21	75	703	1,380	2,340	63	837	1,170	346	3,940	574	4,830	5,640
22	35	414	1,860	3,280	196	481	376	312	4,470	394	6,140	e5,330
23	35	495	3,980	5,570	197	411	730	248	5,130	398	e7,450	5,340
24	35	202	5,230	5,120	200	560	1,320	394	4,340	406	6,960	4,850
25	35	200	5,020	5,020	79	564	396	386	3,350	542	6,860	4,590
26	35	200	4,050	3,780	109	150	230	884	1,930	1,230	6,800	5,450
27	35	204	2,840	2,650	196	399	1,010	1,500	3,300	833	6,760	5,920
28	35	115	2,120	1,630	356	823	976	3,510	6,020	599	6,700	5,840
29	35	35	1,620	886	---	726	1,600	3,480	7,310	780	e7,040	e6,660
30	35	35	940	773	---	282	762	2,770	6,780	569	7,690	7,240
31	35	---	925	1,940	---	541	---	2,370	---	243	7,210	---
TOTAL	29,283	8,310	63,174	96,665	46,895	18,836	19,954	44,794	90,793	---	133,272	201,400
MEAN	945	277	2,038	3,118	1,675	608	665	1,445	3,026	---	4,299	6,713
MAX	4,480	1,770	5,230	6,490	5,760	1,860	1,600	3,510	7,310	---	7,690	8,700
MIN	35	35	35	501	63	35	53	169	570	---	168	4,590
AC-FT	58,080	16,480	125,300	191,700	93,020	37,360	39,580	88,850	180,100	---	264,300	399,500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2003, BY WATER YEAR (WY)

	904	601	521	864	1,085	1,163	1,087	518	800	902	1,403	1,289
MEAN	904	601	521	864	1,085	1,163	1,087	518	800	902	1,403	1,289
MAX	6,690	5,430	4,799	4,639	6,842	8,436	7,449	2,085	3,026	3,882	8,724	6,817
(WY)	(1996)	(1996)	(1995)	(1995)	(1983)	(1983)	(1983)	(1983)	(2003)	(1974)	(1974)	(1995)
MIN	40.4	10.1	7.01	8.20	6.16	14.9	37.8	52.3	10.1	0.64	0.23	12.6
(WY)	(1973)	(1977)	(1974)	(1972)	(1982)	(1973)	(1973)	(1990)	(1990)	(1981)	(1981)	(1981)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

WATER YEARS 1971 - 2003

ANNUAL TOTAL	494,314		
ANNUAL MEAN	1,354		921
HIGHEST ANNUAL MEAN			3,062
LOWEST ANNUAL MEAN			113
HIGHEST DAILY MEAN	7,620	Jun 27	9,720
LOWEST DAILY MEAN	35	Jan 2	0.00
ANNUAL SEVEN-DAY MINIMUM	35	Oct 22	0.00
ANNUAL RUNOFF (AC-FT)	980,500		667,500
10 PERCENT EXCEEDS	3,770		2,980
50 PERCENT EXCEEDS	699		199
90 PERCENT EXCEEDS	35		9.2

e Estimated

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

02292900 CALOOSAHATCHEE RIVER AT S-79, NEAR OLGA, FL

LOCATION.--Lat 26°43'25", long 81°41'55", in SW ¼ sec.23, T.43 S., R.26 E., Lee County, Hydrologic Unit 03090205, in control house at southeast end of lock at salinity-control structure 79, 1 mi upstream from Telegraph Creek, and 1.2 mi northeast of Olga.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--December 1964 to March 1966 (gage heights only), April 1966 to current year.

REVISED RECORDS.--WDR FL-79-2A, 1978.

GAGE.--U.S. Army Corps of Engineers owned and operated satellite data collection platform with water-stage shaft encoders. Prior to October 16, 1998, similar equipment belonging to the U.S. Geological Survey was used. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by operation of salinity-control structure 79. Downstream stage is basically tidal, but at times is affected by gate operation. Starting in the 2002 water year the downstream stage record published is the maximum and minimum gage height for each calendar day. Prior to the 2002 water year daily mean for downstream stage was published. Discharge computed from relations between discharge, head, and gate opening. Satellite data collection platform with shaft encoders were installed August 30, 1991 to collect upstream and downstream stages. U.S. Army Corps of Engineers equipment installed on October 16, 1998.

COOPERATION.--Records of stage, gate and lock operation provided by U.S. Army Corps of Engineers.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 30 complete years of discharge (1967-94, 1996-97, 2003).

EXTREME UPSTREAM STAGES FOR PERIOD OF RECORD.--Maximum gage height, 6.04 ft Sept. 14, 2001; minimum, 1.18 ft Sept. 22, 1966.

EXTREME UPSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 3.82 ft Sept. 6; minimum, 2.35 ft July 26, Aug. 22.

EXTREME DOWNSTREAM STAGES FOR PERIOD OF RECORD.--Not available.

EXTREME DOWNSTREAM STAGES FOR CURRENT YEAR.--Maximum gage height, 3.79 ft Sept. 6; minimum, -1.29 ft Jan. 24.

UPSTREAM
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	2.89	3.20	3.19	3.10	3.17	3.03	3.32	3.14	3.23	3.06	3.11	2.91
2	2.98	3.06	3.09	3.16	3.15	3.30	3.19	3.15	3.11	3.04	3.18	2.86
3	3.05	3.25	3.24	3.02	3.28	3.21	3.09	3.18	3.20	2.84	3.19	2.88
4	3.11	3.33	3.37	3.12	3.24	3.11	3.21	3.12	3.18	3.26	3.17	3.05
5	2.85	3.32	3.30	3.24	3.05	2.95	3.21	3.26	3.32	3.09	2.95	3.04
6	3.01	3.33	3.20	3.14	3.05	2.82	3.14	3.14	3.16	3.33	3.09	3.35
7	2.98	3.40	3.23	3.11	3.14	3.33	3.14	3.03	3.17	3.14	2.96	2.81
8	3.16	3.44	3.18	3.20	3.09	3.25	3.16	3.20	3.36	3.08	3.02	3.03
9	2.81	3.37	3.18	3.32	2.97	3.15	3.14	3.18	3.12	2.96	2.97	2.93
10	2.95	3.29	3.08	3.19	3.32	3.31	3.09	3.10	3.18	3.12	3.18	2.71
11	3.06	3.38	2.84	3.11	3.10	3.24	2.98	3.07	3.22	3.11	3.25	2.86
12	3.05	3.37	2.93	2.95	3.07	3.27	2.91	3.13	3.07	3.11	3.13	2.79
13	2.99	3.24	2.99	3.16	3.12	3.13	3.09	3.16	3.14	3.15	2.91	3.01
14	3.18	3.30	3.05	3.13	3.21	3.16	3.11	3.29	3.22	3.29	3.01	2.95
15	3.19	3.36	3.19	3.09	3.16	3.34	3.20	3.07	2.98	3.32	2.96	2.88
16	3.14	3.24	3.10	3.12	3.31	3.21	3.19	3.36	3.15	3.32	3.03	2.80
17	3.04	2.99	3.17	3.16	3.19	3.28	3.03	3.08	3.06	3.28	3.09	2.79
18	3.12	2.83	3.11	3.06	3.06	3.17	3.16	3.24	3.19	3.25	3.04	3.00
19	3.09	3.01	3.06	3.10	3.09	3.27	3.13	3.15	3.15	3.00	3.08	3.10
20	3.18	3.09	3.13	3.20	3.13	3.25	3.14	3.18	3.24	3.09	3.13	2.84
21	3.11	3.14	3.14	3.00	3.16	3.30	3.26	3.12	3.37	3.20	3.08	3.00
22	3.21	3.15	2.99	3.01	3.41	3.24	3.15	3.19	3.33	3.26	2.94	3.04
23	3.29	3.07	2.96	3.11	3.41	3.23	2.94	3.19	3.20	3.21	3.01	3.28
24	3.28	3.10	3.19	3.11	3.26	3.31	2.99	3.23	3.03	2.89	2.94	3.14
25	3.07	3.30	3.21	3.13	3.14	3.17	3.24	3.27	3.06	3.05	3.07	3.07
26	3.17	3.25	2.79	3.17	3.31	3.43	3.29	3.21	3.09	2.86	2.95	3.10
27	3.25	3.04	2.84	3.08	3.36	3.34	3.23	3.20	3.18	3.11	3.00	3.06
28	3.18	3.31	2.85	3.14	3.13	3.33	3.26	3.21	3.05	3.13	2.93	2.98
29	3.12	3.31	3.08	3.15	---	3.30	3.18	3.17	2.85	3.18	3.05	3.16
30	3.09	3.10	3.20	3.28	---	3.25	3.36	3.36	3.15	3.12	3.06	3.08
31	3.28	---	3.16	3.18	---	3.29	---	3.15	---	3.28	2.81	---
TOTAL	95.88	96.57	96.04	97.04	89.08	99.97	94.53	98.53	94.76	97.13	94.29	89.50
MEAN	3.09	3.22	3.10	3.13	3.18	3.22	3.15	3.18	3.16	3.13	3.04	2.98
MAX	3.29	3.44	3.37	3.32	3.41	3.43	3.36	3.36	3.37	3.33	3.25	3.35
MIN	2.81	2.83	2.79	2.95	2.97	2.82	2.91	3.03	2.85	2.84	2.81	2.71

02292900 CALOOSAHATCHEE RIVER AT S-79, NEAR OLGA, FL

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	3,410	311	620	3,950	5,320	208	353	1,380	2,600	8,880	2,190	10,700
2	2,650	61	626	6,790	6,390	0.00	745	1,310	2,020	7,090	2,290	10,300
3	1,650	0.00	0.00	7,840	5,810	578	566	1,670	1,320	6,080	3,810	10,000
4	1,570	0.00	488	7,020	5,210	220	133	2,030	1,670	5,420	6,480	8,570
5	2,010	0.00	250	5,480	3,920	0.00	720	3,260	2,470	4,790	6,040	9,000
6	3,910	0.00	549	4,730	3,140	506	680	2,850	3,670	3,840	4,530	10,100
7	5,190	0.00	647	2,890	1,870	258	241	1,340	5,060	4,050	3,820	8,700
8	5,310	48	409	1,730	1,360	0.00	605	1,240	5,810	5,550	3,720	10,200
9	3,690	265	1,140	2,120	523	0.00	611	585	5,200	6,990	3,430	11,000
10	2,140	150	3,690	1,960	835	951	156	353	5,350	6,740	3,440	10,200
11	2,200	0.00	3,460	2,790	1,990	646	580	61	4,360	4,370	3,370	7,450
12	815	112	3,450	5,940	2,940	0.00	649	0.00	3,340	4,120	3,080	9,950
13	893	62	4,920	7,220	2,640	568	166	128	2,730	2,840	4,080	11,100
14	3,120	0.00	5,990	7,730	2,270	242	686	1,650	2,850	3,050	8,720	11,300
15	2,760	79	5,210	5,870	1,410	610	722	2,390	2,180	2,760	9,810	10,700
16	2,440	1,710	4,420	3,540	1,390	584	194	2,990	3,430	2,830	7,090	10,200
17	1,300	3,170	3,440	2,230	1,400	1,910	1,480	2,120	3,910	4,110	6,490	9,710
18	1,350	3,360	2,630	574	1,000	2,450	1,160	1,700	4,030	2,710	7,200	8,580
19	809	2,470	2,140	443	529	2,640	190	1,500	3,820	2,250	8,480	8,610
20	1,040	1,450	2,490	1,270	174	863	100	1,480	4,460	2,120	9,600	7,660
21	721	1,800	2,760	3,160	0.00	1,110	760	731	9,250	1,690	9,280	7,020
22	233	1,440	3,010	3,130	216	674	199	403	15,200	2,010	10,300	5,700
23	436	1,430	5,150	5,880	588	810	642	727	14,700	1,780	12,000	6,750
24	1,120	1,060	6,080	5,090	641	1,080	706	1,530	12,600	1,610	11,700	5,940
25	762	631	6,770	6,320	183	777	180	1,050	9,960	1,820	13,200	5,650
26	359	1,130	5,410	4,830	64	265	810	1,470	7,150	2,010	12,600	6,950
27	430	717	3,660	3,380	302	647	1,840	2,410	7,800	2,100	11,200	7,400
28	374	314	2,750	1,910	708	1,700	1,470	5,980	10,200	1,930	10,800	7,690
29	229	865	1,870	1,030	---	1,260	2,450	6,510	10,400	2,230	10,900	9,740
30	65	354	1,540	1,180	---	721	1,630	5,720	9,570	1,790	11,600	12,000
31	0.00	---	1,740	1,930	---	585	---	4,130	---	1,760	10,300	---
TOTAL	52986.00	22,989.00	87,309.00	119,957	52,823.00	22,863.00	21,424	60,698.00	177,110	111,320	231,550	268,870
MEAN	1,709	766	2,816	3,870	1,887	738	714	1,958	5,904	3,591	7,469	8,962
MAX	5,310	3,360	6,770	7,840	6,390	2,640	2,450	6,510	15,200	8,880	13,200	12,000
MIN	0.00	0.00	0.00	443	0.00	0.00	100	0.00	1,320	1,610	2,190	5,650
AC-FT	105,100	45,600	173,200	237,900	104,800	45,350	42,490	120,400	351,300	220,800	459,300	533,300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)

	2,036	1,074	717	1,228	1,381	1,652	1,232	779	2,070	2,524	2,882	2,627
MEAN	10,390	6,869	5,519	7,486	10,080	10,320	8,198	2,914	6,053	7,376	10,750	9,357
(WY)	(1996)	(1970)	(1995)	(1970)	(1983)	(1983)	(1983)	(2000)	(1982)	(1974)	(1974)	(1995)
MIN	84.7	23.9	0.000	2.91	0.000	5.68	10.0	10.0	192	80.7	228	370
(WY)	(1973)	(1997)	(2001)	(1982)	(2001)	(1990)	(1967)	(1967)	(1979)	(1981)	(1972)	(1972)

SUMMARY STATISTICS

ANNUAL TOTAL
ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

FOR 2003 WATER YEAR

1,229,899.00
3,370
15,200
0.00
16
2,440,000
9,100
2,140
204

WATER YEARS 1966 - 2003

1,627
5,203
296
21,400
0.00
1,179,000
5,260
486
9.9

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

CALOOSAHATCHEE RIVER

02293214 MEADE CANAL AT CAPE CORAL, FL

LOCATION.--Lat 26°38'10", long 81°55'48", in NE ¼ NW ¼ NE ¼ sec.20 T.44 S., R.24 E., Lee County, Hydrologic Unit 0300205, near left bank on upstream side of containment wall, 20 ft east of bridge wingwall, on Viscaya Parkway, 100 ft west of SE 21st Avenue, and 1.2 mi upstream from Caloosahatchee River at Cape Coral.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--November 1986 to current year.

REVISED RECORDS.--WDR FL-99-2A, 1997, 1998.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929 (State Road Department Bench Mark).

REMARKS.--Records are poor. Zero flow occurs for numerous days, during most water years. Station subjected to major shifting of the stage discharge relationship based on heavy debris buildup on carp grates and installation/removal of stoplogs, which are installed on top of the weir.

ANNUAL MEAN and RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 16 complete water years of discharge (1988-2003).

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	5.36	5.29	5.61	5.50	5.27	5.35	5.44	5.45	5.41	5.23	5.69	5.65
2	5.36	5.28	5.65	5.47	5.27	5.34	5.40	5.43	5.39	5.13	6.13	5.60
3	5.35	5.26	5.62	5.45	5.27	5.33	5.38	5.42	5.38	5.16	6.23	5.56
4	5.34	5.26	5.60	5.43	5.28	5.32	5.36	5.40	5.37	5.35	6.05	5.52
5	5.33	5.26	5.59	5.42	5.28	5.32	5.36	5.38	5.37	5.38	5.90	5.72
6	5.33	5.27	5.62	5.40	5.27	5.31	5.35	5.36	5.40	5.38	5.84	6.16
7	5.32	5.26	5.65	5.38	5.27	5.31	5.35	5.36	5.42	5.37	5.83	5.75
8	5.33	5.25	5.70	5.38	5.26	5.30	5.34	5.35	5.39	5.36	5.95	5.60
9	5.32	5.25	5.78	5.38	5.25	5.30	5.35	5.34	5.37	5.36	6.57	5.53
10	5.32	5.25	6.18	5.39	5.25	5.33	5.33	5.32	5.42	5.35	6.60	5.50
11	5.32	5.25	6.15	5.39	5.24	5.31	5.32	5.31	5.53	5.35	6.22	5.48
12	5.32	5.25	5.78	5.39	5.24	5.30	5.32	5.30	5.53	5.35	5.76	5.45
13	5.34	5.24	5.84	5.39	5.24	5.30	5.31	5.29	5.55	5.35	5.66	5.81
14	5.38	5.23	5.88	5.41	5.24	5.30	5.31	5.29	5.64	5.35	5.70	5.98
15	5.42	5.24	5.83	5.42	5.24	5.30	5.31	5.29	5.61	5.38	5.74	5.66
16	5.42	6.75	5.80	5.45	5.25	5.30	5.30	5.28	5.55	5.45	5.80	5.54
17	5.40	6.44	5.76	5.47	5.28	5.54	5.32	5.29	5.48	5.44	5.92	5.49
18	5.38	5.91	5.69	5.46	5.27	5.49	5.31	5.31	5.47	5.44	5.91	5.48
19	5.38	5.72	5.62	5.46	5.27	5.44	5.31	5.31	5.44	5.47	5.85	5.47
20	5.38	5.60	5.63	5.47	5.27	5.40	5.30	5.34	5.43	5.42	5.94	5.52
21	5.38	5.54	5.70	5.49	5.27	5.38	5.29	5.32	5.69	5.40	6.06	5.50
22	5.37	5.50	5.74	5.46	5.28	5.37	5.29	5.31	6.21	5.39	6.10	5.50
23	5.37	5.47	5.70	5.35	5.31	5.37	5.29	5.40	6.45	5.39	5.89	---
24	5.36	5.47	5.45	5.28	5.30	5.37	5.28	5.44	5.87	5.42	5.76	---
25	5.35	5.47	5.40	5.27	5.29	5.35	5.28	5.40	5.48	5.44	5.70	---
26	5.34	5.47	5.37	5.27	5.29	5.34	5.48	5.38	5.33	5.52	5.78	---
27	5.34	5.48	5.35	5.27	5.32	5.68	5.50	5.37	5.33	5.48	5.72	---
28	5.33	5.49	5.34	5.27	5.35	5.97	5.47	5.46	5.35	5.47	5.79	---
29	5.32	5.53	5.33	5.27	---	5.77	5.46	5.53	5.32	5.47	5.87	---
30	5.31	5.57	5.33	5.28	---	5.63	5.45	5.48	5.27	5.52	5.77	5.54
31	5.30	---	5.33	5.28	---	5.51	---	5.44	---	5.54	5.76	---
TOTAL	165.87	164.25	175.02	167.00	147.62	167.63	160.56	166.35	165.45	167.11	183.49	---
MEAN	5.35	5.47	5.65	5.39	5.27	5.41	5.35	5.37	5.51	5.39	5.92	---
MAX	5.42	6.75	6.18	5.50	5.35	5.97	5.50	5.53	6.45	5.54	6.60	---
MIN	5.30	5.23	5.33	5.27	5.24	5.30	5.28	5.28	5.27	5.13	5.66	---

02293214 MEADE CANAL AT CAPE CORAL, FL

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	6.3	2.0	24	15	1.4	5.3	12	9.0	10	0.99	31	21
2	5.8	1.3	26	13	1.5	5.0	9.4	7.6	9.0	0.00	76	18
3	5.5	0.86	24	12	1.6	4.4	7.9	6.7	8.2	0.44	89	15
4	4.6	0.72	23	11	1.7	3.8	7.1	5.7	7.5	5.7	65	13
5	4.2	0.67	22	10	1.7	4.4	6.4	4.7	7.3	7.7	47	31
6	3.8	1.0	24	8.8	1.5	5.0	6.1	3.5	9.5	7.7	41	77
7	3.3	0.62	27	7.6	2.4	4.7	5.7	3.6	10	6.3	40	30
8	3.6	0.43	31	7.4	2.2	4.3	5.0	3.3	8.0	5.8	55	18
9	3.3	0.39	39	7.5	1.6	4.1	5.1	2.7	6.9	5.7	145	13
10	3.0	0.40	85	7.9	1.7	5.2	4.2	2.0	10	5.3	149	11
11	3.0	0.39	83	8.1	1.4	4.3	3.2	1.5	17	5.3	91	9.9
12	3.2	0.39	38	8.1	0.96	3.8	3.1	0.78	17	5.0	34	8.3
13	4.0	0.25	45	8.2	0.96	3.6	2.9	0.46	18	4.5	22	52
14	6.7	0.10	49	9.1	0.99	3.7	2.3	0.46	24	4.6	25	55
15	9.0	0.22	44	10	1.0	3.6	2.1	0.42	22	6.4	28	22
16	8.6	211	40	11	1.3	3.6	1.9	0.29	19	11	34	14
17	7.5	128	37	13	2.7	19	2.5	0.44	14	10	46	11
18	6.6	53	30	12	2.1	15	2.2	1.0	12	10	45	9.8
19	6.4	34	24	13	2.0	11	2.0	1.3	9.2	12	39	9.5
20	6.6	23	26	13	2.0	8.7	1.7	2.1	8.3	8.9	49	13
21	6.6	19	31	14	1.8	7.4	1.2	1.3	27	7.5	67	11
22	5.9	16	34	13	2.3	7.0	1.1	0.95	92	6.7	69	11
23	5.8	15	31	5.6	3.8	6.9	1.0	5.2	126	6.7	43	e12
24	5.3	14	12	2.3	2.9	6.8	0.78	6.9	50	8.7	30	e10
25	4.5	14	9.5	1.4	2.7	6.0	0.73	4.8	15	10	25	e18
26	4.1	14	7.3	1.4	2.8	5.1	12	3.8	5.6	15	32	e49
27	4.0	15	6.6	1.4	4.2	36	12	3.3	5.2	13	27	e36
28	3.4	16	5.6	1.4	5.8	58	11	8.4	6.5	11	35	e23
29	3.1	18	4.7	1.5	---	35	9.9	15	4.8	12	41	e18
30	2.8	21	4.7	1.8	---	23	9.4	15	2.3	15	31	18
31	2.2	---	4.8	1.8	---	16	---	13	---	16	30	---
TOTAL	152.7	620.74	892.2	251.3	59.01	329.7	151.91	135.20	581.3	244.93	1,581	657.5
MEAN	4.93	20.7	28.8	8.11	2.11	10.6	5.06	4.36	19.4	7.90	51.0	21.9
MAX	9.0	211	85	15	5.8	58	12	15	126	16	149	77
MIN	2.2	0.10	4.7	1.4	0.96	3.6	0.73	0.29	2.3	0.00	22	8.3
AC-FT	303	1,230	1,770	498	117	654	301	268	1,150	486	3,140	1,300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	MEAN	5.84	3.49	3.75	3.87	2.66	2.55	1.69	1.77	9.81	13.4	14.5	11.2
MAX	22.5	20.7	28.8	9.98	16.3	10.6	5.06	5.05	24.8	29.0	51.0	22.9	
(WY)	(2001)	(2003)	(2003)	(1999)	(1998)	(2003)	(2003)	(1997)	(1995)	(1995)	(2003)	(1995)	
MIN	0.000	0.079	0.052	0.43	0.11	0.17	0.000	0.014	1.27	1.59	3.20	4.14	
(WY)	(1989)	(1990)	(1997)	(2001)	(1994)	(1995)	(1990)	(1993)	(1988)	(1996)	(1991)	(1992)	

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1987 - 2003

ANNUAL TOTAL	4,337.69	5,657.49	
ANNUAL MEAN	11.9	15.5	6.34
HIGHEST ANNUAL MEAN			15.5
LOWEST ANNUAL MEAN			2.28
HIGHEST DAILY MEAN	211	Nov 16	321
LOWEST DAILY MEAN	0.00	several days	0.00
ANNUAL SEVEN-DAY MINIMUM	0.02	May 6	0.00
MAXIMUM PEAK FLOW			356
MAXIMUM PEAK STAGE			Nov 16
INSTANTANEOUS LOW FLOW			0.00
ANNUAL RUNOFF (AC-FT)	8,600	11,220	4,590
10 PERCENT EXCEEDS	31	38	17
50 PERCENT EXCEEDS	4.1	7.6	2.3
90 PERCENT EXCEEDS	0.66	1.3	0.00

e Estimated

**Many days during water years 1989-2003

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

CALOOSAHATCHEE RIVER

02293230 WHISKEY CREEK AT FT. MYERS, FL

LOCATION.--Lat 26°34'27", long 81°53'29", in NW ¼ NW ¼ SE ¼, sec.10, T.45 S., R.24 E., Lee County, Hydrologic Unit 03090205, 300 ft upstream from mouth on left bank, above spillway at Whiskey Creek Drive, 1.4 mi south of Colonial Boulevard.

DRAINAGE AREA.--Approximately 9 mi sq. Information provided by Johnson Engineering, Inc. 1979.

PERIOD OF RECORD.--April 1994 to current year.

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are poor. Discharge for all periods when the vertical gates are opened are not included. Formerly published as Whiskey Creek at Whiskey Creek Drive near Ft. Myers, Fl. Days of zero flow occurred during water years 1994, 1995 and 1997.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 5 complete water years of discharge (1995-98, 2002).

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	3.10	3.07	3.04	---	3.03	3.01	3.07	3.03	3.03	3.13	3.14	3.24
2	3.08	3.07	3.04	3.10	3.03	3.01	3.07	3.03	3.03	3.12	3.16	3.21
3	3.08	3.06	3.04	3.08	3.03	3.01	3.06	3.03	3.04	3.12	3.13	3.18
4	3.09	3.05	3.04	3.09	3.02	3.01	3.06	3.03	3.05	3.12	3.11	3.17
5	3.09	3.05	3.04	3.08	3.03	3.02	3.05	3.03	3.05	3.12	3.18	3.51
6	3.08	3.06	3.05	3.08	3.03	3.02	3.05	3.04	3.05	3.11	3.15	3.68
7	3.08	3.06	3.04	3.07	3.03	3.02	3.05	3.05	3.06	3.11	3.13	3.29
8	3.08	3.05	3.04	3.07	3.03	3.03	3.06	3.05	3.04	3.11	3.20	3.21
9	3.08	3.04	3.06	3.06	3.03	3.03	3.06	3.04	3.05	3.10	3.33	3.18
10	3.08	3.04	3.09	3.05	3.03	3.03	3.06	3.04	3.06	3.12	3.23	3.16
11	3.08	3.05	3.06	3.05	3.03	3.01	3.05	3.04	3.06	3.12	3.16	3.14
12	3.08	3.07	3.07	3.05	3.03	3.01	3.05	3.04	3.06	3.11	3.16	3.27
13	3.06	3.07	3.10	3.05	3.03	3.02	3.05	3.04	3.09	3.12	3.15	3.31
14	3.12	3.06	3.08	3.05	3.02	3.02	3.05	3.03	3.24	3.11	3.23	3.23
15	3.11	3.06	3.06	3.04	3.02	3.02	3.05	3.03	3.18	3.12	3.20	3.18
16	3.08	3.45	3.06	3.04	3.02	3.03	3.03	3.03	3.12	3.13	3.29	3.15
17	3.09	3.29	3.05	3.04	3.03	3.20	3.05	3.04	3.21	3.12	3.26	3.14
18	3.09	3.16	3.05	3.04	3.01	3.06	3.05	3.05	3.21	3.11	3.21	3.13
19	3.08	3.11	3.04	3.03	3.01	3.04	3.05	3.04	3.24	3.11	3.23	3.17
20	3.08	3.09	3.07	3.03	3.02	3.04	3.04	3.06	3.19	3.11	3.30	3.20
21	3.08	3.08	3.06	3.03	3.02	3.04	3.04	3.04	3.50	3.11	3.42	3.15
22	3.08	3.09	3.05	3.03	3.03	3.04	3.06	3.04	3.76	3.11	3.39	3.14
23	3.08	3.08	3.04	3.03	3.04	3.04	3.05	3.05	3.58	3.11	3.27	3.14
24	3.07	3.07	3.04	3.02	3.02	3.08	3.05	3.06	3.30	3.11	3.21	3.18
25	3.07	3.07	3.07	3.02	3.02	3.07	3.05	3.05	3.21	3.15	3.31	3.28
26	3.07	3.06	3.06	3.03	3.02	3.06	3.17	3.05	3.18	3.14	3.35	3.52
27	---	3.06	3.06	3.03	3.01	3.07	3.05	3.04	3.17	3.12	3.24	3.28
28	---	3.06	3.05	3.02	3.01	3.06	3.04	3.04	3.16	3.12	3.23	3.25
29	---	3.05	3.05	3.02	---	3.06	3.02	3.05	3.14	3.13	3.22	3.41
30	3.08	3.04	3.06	3.03	---	3.06	3.03	3.04	3.14	3.11	3.25	3.31
31	3.07	---	3.06	3.03	---	3.07	---	3.03	---	3.11	3.24	---
TOTAL	---	92.62	94.72	---	84.68	94.29	91.62	94.26	95.20	96.64	100.08	97.41
MEAN	---	3.09	3.06	---	3.02	3.04	3.05	3.04	3.17	3.12	3.23	3.25
MAX	---	3.45	3.10	---	3.04	3.20	3.17	3.06	3.76	3.15	3.42	3.68
MIN	---	3.04	3.04	---	3.01	3.01	3.02	3.03	3.03	3.10	3.11	3.13

CALOOSAHATCHEE RIVER

02293230 WHISKEY CREEK AT FT. MYERS, FL

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	9.1	4.7	2.8	e45	1.7	0.95	4.2	1.7	0.54	24	19	34
2	7.3	4.6	2.6	8.4	1.4	0.96	4.0	1.6	0.53	22	21	28
3	7.1	4.3	2.4	5.8	1.4	0.95	3.2	1.4	0.85	22	15	23
4	7.5	3.4	2.3	6.5	1.3	0.98	2.9	1.5	0.75	21	13	---
5	7.0	3.3	2.4	5.8	1.4	1.1	2.7	1.6	0.75	20	26	---
6	6.2	4.1	3.5	5.4	1.4	1.2	2.7	1.7	0.84	18	18	200
7	5.9	3.8	2.6	4.8	1.3	1.2	2.8	1.8	0.90	18	15	59
8	5.3	3.2	2.6	4.4	1.4	1.5	2.9	2.0	0.51	18	30	40
9	5.3	2.5	4.0	3.9	1.4	1.5	3.2	1.6	0.47	18	58	32
10	5.5	2.3	7.0	3.1	1.4	1.7	3.0	1.4	0.53	21	32	27
11	6.0	3.6	4.0	3.5	1.6	0.96	2.5	1.4	0.57	19	19	22
12	5.6	4.4	4.7	3.5	1.5	0.96	2.6	1.3	0.57	18	20	63
13	4.4	4.6	8.3	3.0	1.4	1.1	2.5	1.7	2.5	18	17	58
14	12	3.9	5.8	3.2	1.2	1.1	2.5	1.3	37	17	---	37
15	10	4.3	4.3	2.6	1.2	1.3	2.8	1.2	8.1	18	---	26
16	5.8	---	3.9	2.4	1.2	1.4	1.8	1.2	1.9	20	---	20
17	7.4	---	3.4	2.3	1.7	30	2.4	1.8	27	19	---	17
18	6.7	16	2.8	2.3	0.98	2.9	2.7	1.9	11	16	---	14
19	6.2	9.6	2.5	2.1	0.95	2.1	2.7	2.1	16	15	---	22
20	5.4	7.3	5.5	2.1	1.2	2.0	2.1	3.0	8.8	16	---	25
21	5.4	6.0	3.7	1.9	1.3	1.9	2.3	1.5	90	15	---	15
22	5.9	6.4	3.0	1.9	1.5	1.9	3.1	1.6	210	16	---	13
23	5.6	5.8	2.6	1.9	2.3	2.0	2.4	2.2	155	15	41	12
24	4.9	4.9	2.5	1.7	1.3	4.5	2.8	2.4	65	15	28	18
25	5.1	4.4	5.5	1.7	1.2	3.8	2.5	1.8	43	23	64	46
26	5.3	4.1	3.9	1.8	1.3	3.3	23	1.8	34	18	62	---
27	e5.0	3.9	3.8	1.8	1.00	4.4	2.7	1.6	32	16	34	---
28	e5.3	3.7	3.3	1.6	0.95	3.2	1.8	1.6	29	16	31	---
29	e5.8	2.9	3.2	1.3	---	2.9	1.1	1.4	26	17	30	---
30	5.8	2.8	3.5	1.4	---	2.9	1.7	1.1	25	13	37	---
31	4.7	---	4.1	1.5	---	3.9	---	0.94	---	14	33	---
TOTAL	194.5	---	116.5	138.6	37.88	90.56	99.6	51.14	829.11	556	---	---
MEAN	6.27	---	3.76	4.47	1.35	2.92	3.32	1.65	27.6	17.9	---	---
MAX	12	---	8.3	45	2.3	30	23	3.0	210	24	---	---
MIN	4.4	---	2.3	1.3	0.95	0.95	1.1	0.94	0.47	13	---	---
AC-FT	386	---	231	275	75	180	198	101	1,640	1,100	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)

MEAN	9.81	5.03	4.52	4.43	2.68	3.93	3.52	2.72	15.1	23.5	22.5	27.0
MAX	16.3	9.22	10.0	8.10	5.01	10.6	5.32	6.18	32.4	31.0	37.5	50.0
(WY)	(1997)	(2000)	(1998)	(1996)	(2002)	(1998)	(2000)	(1996)	(1996)	(2001)	(2001)	(2001)
MIN	3.81	1.41	1.52	0.88	0.72	1.00	1.35	0.71	2.21	14.4	10.7	13.4
(WY)	(1995)	(1997)	(1997)	(2001)	(2001)	(1995)	(1999)	(1994)	(1994)	(2002)	(1997)	(1994)

SUMMARY STATISTICS

ANNUAL MEAN
HIGHEST ANNUAL MEAN
LOWEST ANNUAL MEAN
HIGHEST DAILY MEAN
LOWEST DAILY MEAN
ANNUAL SEVEN-DAY MINIMUM
MAXIMUM PEAK FLOW
MAXIMUM PEAK STAGE
ANNUAL RUNOFF (AC-FT)
10 PERCENT EXCEEDS
50 PERCENT EXCEEDS
90 PERCENT EXCEEDS

WATER YEARS 1994 - 2003

10.9
13.1 1995
8.88 1997
380 Sep 2, 1995
0.00 **
0.00 **
1,280 Jun 15, 1996
4.87 Sep 5, 2003
7,920
23
4.9
0.97

e Estimated

**Many days during water years 1994, 1995, 1997

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

CHARLOTTE HARBOR AND COASTAL AREA

02293240 ARIES CANAL AT CAPE CORAL, FL

LOCATION.--Lat 26°36'00", long 81°59'39", in SE ¼ SW ¼ NE ¼ sec.34, T.44 S., R.23 E., Lee County, Hydrologic Unit 03090205, on right wingwall on downstream side of bridge at SW 28th Street, 0.33 mi west of Skyline Boulevard, and 4.6 mi upstream from Caloosahatchee River at Cape Coral.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--December 1989 to current year.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Zero flow occurs for numerous days, during most water years. Station subjected to major shifting of the stage discharge relationship based on heavy debris build up on carp grates and installation/removal of stoplogs, which are installed on top of the weir.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 14 complete water years of discharge (1990-2003).

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	3.30	3.19	---	3.42	3.16	3.13	3.30	3.24	3.33	---	3.55	3.62
2	3.28	3.18	---	3.35	3.15	3.13	3.27	3.23	3.30	---	3.96	3.60
3	3.27	3.16	---	3.36	3.15	3.13	3.25	3.22	3.28	---	4.07	3.53
4	3.25	3.16	---	3.32	3.15	3.12	3.24	3.21	3.26	---	3.81	3.47
5	3.24	3.17	---	3.30	3.15	3.12	3.23	3.20	3.25	---	3.68	3.93
6	3.22	3.17	---	3.27	3.14	3.12	3.22	3.18	3.24	---	3.59	4.63
7	3.21	3.16	---	3.25	3.15	3.12	3.22	3.17	3.24	---	3.53	3.96
8	3.20	3.15	---	3.24	3.15	3.12	3.21	3.17	3.23	---	3.83	3.69
9	3.19	3.15	---	3.23	3.14	3.12	3.22	3.17	3.22	---	4.49	3.57
10	3.19	3.15	---	3.24	3.15	3.12	3.20	3.17	3.22	---	4.58	3.50
11	3.19	3.15	---	3.24	3.14	3.12	3.18	3.16	3.22	---	4.14	3.47
12	3.18	3.16	3.44	3.23	3.13	3.12	3.18	3.15	3.25	---	3.85	3.47
13	3.23	3.15	3.46	3.23	3.12	3.11	3.18	3.14	3.27	---	3.72	3.66
14	3.47	---	3.46	3.22	3.12	3.10	3.17	3.13	3.49	---	3.75	4.19
15	3.60	---	3.39	3.20	3.12	3.12	3.17	3.13	3.63	---	3.79	3.77
16	3.43	---	3.35	3.20	3.13	3.12	3.17	3.13	3.44	---	3.80	3.58
17	3.35	---	3.32	3.20	3.15	3.43	3.17	3.13	3.39	---	3.85	3.50
18	3.31	---	3.29	3.20	3.14	3.32	3.17	3.14	3.39	3.30	3.70	3.47
19	3.28	---	3.27	3.19	3.13	3.26	3.16	3.14	3.36	3.28	3.65	3.46
20	3.27	---	3.33	3.19	3.13	3.23	3.17	3.16	3.42	3.26	3.93	3.52
21	3.26	---	3.33	3.19	3.13	3.21	3.17	3.14	3.73	3.25	4.06	3.47
22	3.25	---	3.29	3.19	3.14	3.22	3.17	3.12	4.96	3.24	3.95	3.44
23	3.24	---	3.27	3.19	3.16	3.22	3.15	3.25	6.23	3.24	3.78	3.41
24	3.23	---	3.26	3.17	3.14	3.23	3.13	3.37	---	3.27	3.68	3.43
25	3.22	---	3.30	3.16	3.13	3.20	3.12	3.30	---	3.28	3.61	3.58
26	3.21	---	3.28	3.16	3.13	3.20	3.36	3.26	---	3.39	3.71	4.24
27	3.21	---	3.26	3.16	3.13	3.49	3.34	3.24	---	3.39	3.90	3.88
28	3.20	---	3.25	3.15	3.13	3.73	3.28	3.29	---	3.38	3.85	3.69
29	3.19	---	3.23	3.16	---	3.49	3.25	3.39	---	3.37	3.88	3.63
30	3.19	---	3.23	3.16	---	3.39	3.24	3.41	---	3.45	3.71	3.65
31	3.20	---	3.23	3.16	---	3.32	---	3.37	---	3.49	3.65	---
TOTAL	101.06	---	---	99.93	87.89	99.86	96.29	99.51	---	---	119.05	110.01
MEAN	3.26	---	---	3.22	3.14	3.22	3.21	3.21	---	---	3.84	3.67
MAX	3.60	---	---	3.42	3.16	3.73	3.36	3.41	---	---	4.58	4.63
MIN	3.18	---	---	3.15	3.12	3.10	3.12	3.12	---	---	3.53	3.41

CHARLOTTE HARBOR AND COASTAL AREA

02293240 ARIES CANAL AT CAPE CORAL, FL

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	6.9	e3.0	27	3.5	1.5	13	8.4	15	e51	30	28
2	15	6.1	e2.4	20	3.2	1.6	11	7.5	13	e49	80	26
3	13	5.1	e2.4	21	3.0	1.4	8.7	6.8	11	e43	96	19
4	11	4.9	e1.9	17	2.8	0.99	7.9	6.1	8.6	e39	57	14
5	9.9	5.3	e1.4	15	2.8	0.94	7.3	5.3	7.4	e37	40	86
6	8.8	5.4	e0.94	13	2.6	1.0	6.4	4.2	6.7	e35	29	231
7	8.0	4.7	e0.94	11	3.0	0.98	6.1	3.6	7.2	e31	23	102
8	7.2	4.2	e1.4	10	3.0	1.0	5.6	3.3	6.5	e29	65	56
9	6.6	4.2	e18	9.6	2.5	0.99	5.9	3.5	5.3	e28	180	37
10	6.2	4.2	e56	9.6	2.8	1.1	5.1	3.4	4.6	e26	201	26
11	5.9	4.4	e44	10	2.5	0.94	3.8	2.8	5.1	e24	103	22
12	5.4	4.8	29	9.6	2.0	0.80	3.8	2.2	6.7	e21	58	22
13	9.8	4.4	31	8.3	1.6	0.53	3.5	1.7	9.0	e18	40	50
14	34	e4.2	31	7.4	1.4	0.36	3.1	1.4	31	e15	44	125
15	48	e3.6	24	6.5	1.5	0.94	3.2	1.9	44	e14	47	59
16	28	e130	20	6.2	1.8	0.97	3.1	1.9	23	e12	50	35
17	20	e123	17	6.6	3.2	27	3.1	2.0	18	e11	56	26
18	16	e39	15	6.3	2.5	15	2.8	2.2	18	11	37	23
19	14	e19	13	5.9	2.0	9.9	2.5	2.7	15	8.7	32	23
20	13	e12	18	5.5	1.7	7.6	2.7	3.4	21	6.9	73	29
21	12	e10	18	5.5	1.8	6.1	2.9	2.2	57	5.3	86	24
22	10	e7.7	14	5.4	1.9	7.1	2.8	1.5	316	4.4	68	21
23	9.7	e6.9	13	5.6	2.8	7.3	1.8	12	595	3.9	47	18
24	9.0	e6.2	12	4.5	2.0	7.4	0.78	21	e358	5.8	34	21
25	9.2	e6.2	15	3.6	1.6	5.8	0.59	13	e154	6.7	27	39
26	8.6	e5.5	13	3.6	1.4	5.2	20	9.9	e112	15	41	138
27	8.3	e4.2	12	3.5	1.3	39	17	8.3	e84	14	62	76
28	7.7	e4.2	11	3.2	1.2	62	11	12	e71	13	56	51
29	7.1	e3.6	9.6	3.4	---	33	8.4	22	e66	12	59	43
30	7.0	e3.6	9.0	3.5	---	22	8.4	23	e55	20	39	46
31	7.4	---	9.1	3.6	---	15	---	19	---	22	32	---
TOTAL	393.8	453.5	466.08	270.9	63.4	285.44	182.27	218.2	2,144.1	631.7	1,892	1,516
MEAN	12.7	15.1	15.0	8.74	2.26	9.21	6.08	7.04	71.5	20.4	61.0	50.5
MAX	48	130	56	27	3.5	62	20	23	595	51	201	231
MIN	5.4	3.6	0.94	3.2	1.2	0.36	0.59	1.4	4.6	3.9	23	14
AC-FT	781	900	924	537	126	566	362	433	4,250	1,250	3,750	3,010

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2003, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	16.1	5.49	4.60	7.99	5.41	3.97	2.86	2.60	21.9	40.5	31.7	42.3		
MAX	33.2	15.3	20.6	22.3	31.6	11.8	8.56	8.67	71.5	127	61.0	110		
(WY)	(1992)	(1999)	(1998)	(1999)	(1998)	(1998)	(1992)	(1996)	(2003)	(1999)	(2003)	(2000)		
MIN	2.52	0.015	0.40	1.25	0.74	0.23	0.000	0.000	0.92	7.92	6.02	13.6		
(WY)	(1999)	(1997)	(1991)	(1990)	(2001)	(1997)	(1999)	(1994)	(1994)	(1994)	(1994)	(1996)		

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1990 - 2003

ANNUAL TOTAL	6,372.26		8,517.39			
ANNUAL MEAN	17.5		23.3			15.5
HIGHEST ANNUAL MEAN						27.9
LOWEST ANNUAL MEAN						5.73
HIGHEST DAILY MEAN	187	Jun 29	595	Jun 23	595	Jun 23, 2003
LOWEST DAILY MEAN	0.00	many days	0.36	Mar 14	0.00	**
ANNUAL SEVEN-DAY MINIMUM	0.00	many days	0.81	Mar 10	0.00	**
MAXIMUM PEAK FLOW			737	Jun 23	849	Jul 24, 2001
MAXIMUM PEAK STAGE			6.77	Jun 23	7.17	Jul 24, 2001
ANNUAL RUNOFF (AC-FT)	12,640		16,890		11,230	
10 PERCENT EXCEEDS	47		55		39	
50 PERCENT EXCEEDS	6.2		9.1		5.1	
90 PERCENT EXCEEDS	0.00		1.9		0.00	

e Estimated

**Many days during water years 1990-91, 1994-2002

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

CALOOSAHATCHEE RIVER

02293241 SAN CARLOS CANAL AT CAPE CORAL, FL

LOCATION.--Lat 26°36'11", long 81°57'48", in NW ¼ SW ¼ NE ¼ sec.36, T.44 S., R.23 E., Lee County, Hydrologic Unit 03090205, near right bank on upstream side of wingwall of bridge on SE 26th Terrace, 300 ft west of Retunda Parkway and 2.4 mi upstream of Caloosahatchee River.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--November 1986 to current year.

REVISED RECORDS.--WDR FL-01-2A, 2000.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929 (State Road Department bench mark).

REMARKS.--No estimated daily discharges. Records fair except for daily discharge during periods when stop logs are removed, which are poor. Station is subject to disruption of the stage discharge relationship based on heavy debris buildup on the carp grates, which are installed on top of the weir. Removal of carp grates and stop logs during highflow events also alters the stage discharge relationship. There are many days of no flow during the water year.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 16 complete water years of discharge (1988-2003).

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	5.35	5.09	5.18	5.54	5.06	4.83	5.16	4.69	4.25	4.28	4.52	4.28
2	5.32	5.08	5.18	5.48	5.03	4.80	5.13	4.73	4.25	4.24	5.08	4.26
3	5.29	5.03	5.17	5.45	5.00	4.77	5.10	4.73	4.23	4.22	5.16	4.23
4	5.28	5.01	5.16	5.41	4.98	4.73	5.12	4.68	4.22	4.22	4.82	4.21
5	5.24	4.97	5.16	5.37	4.96	4.70	5.09	4.63	4.18	4.21	4.73	4.47
6	5.20	4.96	5.22	5.34	4.91	4.65	5.04	4.57	4.20	4.17	4.68	4.94
7	5.18	4.96	5.22	5.32	4.94	4.65	5.01	4.50	4.21	4.14	4.68	4.57
8	5.16	4.97	5.20	5.30	4.95	4.63	4.97	4.41	4.20	4.13	4.80	4.41
9	5.12	4.94	5.26	5.28	4.91	4.58	4.94	4.38	4.18	4.11	5.40	4.35
10	5.10	4.89	5.86	5.29	4.88	4.57	4.91	4.35	4.14	4.08	5.46	4.30
11	5.13	4.83	5.66	5.28	4.86	4.55	4.92	4.25	4.14	4.08	5.05	4.28
12	5.13	4.79	5.52	5.26	4.83	4.51	4.89	4.16	4.15	4.08	4.67	4.29
13	5.11	4.77	5.54	5.24	4.79	4.43	4.83	4.07	4.22	4.07	4.54	4.61
14	5.46	4.72	5.54	5.22	4.80	4.44	4.79	3.97	4.52	4.05	4.57	4.92
15	5.78	4.73	5.47	5.19	4.79	4.43	4.73	3.87	4.65	4.03	4.60	4.52
16	5.51	6.64	5.43	5.17	4.77	4.38	4.68	3.83	4.71	4.11	4.68	4.42
17	5.39	6.31	5.41	5.21	4.83	4.85	4.63	3.78	4.81	4.22	4.75	4.35
18	5.35	5.68	5.38	5.22	4.84	4.95	4.62	3.74	5.04	4.22	4.61	4.31
19	5.30	5.48	5.36	5.20	4.81	4.96	4.60	3.69	5.10	4.19	4.55	4.32
20	5.27	5.39	5.44	5.19	4.79	4.95	4.54	3.72	5.18	4.13	4.71	4.40
21	5.23	5.34	5.47	5.18	4.84	4.98	4.45	3.69	5.39	4.09	4.93	4.36
22	5.21	5.34	5.44	5.15	4.85	4.99	4.40	3.63	6.22	4.05	4.94	4.31
23	5.18	5.30	5.41	5.13	4.91	5.02	4.32	3.73	6.60	4.04	4.73	4.29
24	5.15	5.27	5.34	5.14	4.89	5.08	4.23	3.93	5.20	4.11	4.63	4.26
25	5.16	5.25	5.36	5.12	4.86	5.07	4.20	3.93	4.71	4.19	4.62	4.30
26	5.15	5.24	5.33	5.09	4.83	5.05	4.48	3.90	4.52	4.37	4.69	4.71
27	5.11	5.21	5.33	5.07	4.80	5.26	4.67	3.86	4.46	4.32	4.74	4.64
28	5.13	5.19	5.30	5.05	4.83	5.45	4.69	3.93	4.45	4.28	4.73	4.56
29	5.11	5.22	5.27	5.05	---	5.33	4.67	4.10	4.41	4.26	4.67	4.54
30	5.08	5.20	5.26	5.02	---	5.26	4.66	4.21	4.34	4.28	4.44	4.54
31	5.07	---	5.25	5.05	---	5.21	---	4.26	---	4.33	4.34	---
TOTAL	162.25	155.80	166.12	162.01	136.54	150.06	142.47	127.92	138.88	129.30	147.52	132.95
MEAN	5.23	5.19	5.36	5.23	4.88	4.84	4.75	4.13	4.63	4.17	4.76	4.43
MAX	5.78	6.64	5.86	5.54	5.06	5.45	5.16	4.73	6.60	4.37	5.46	4.94
MIN	5.07	4.72	5.16	5.02	4.77	4.38	4.20	3.63	4.14	4.03	4.34	4.21

CALOOSAHATCHEE RIVER

02293241 SAN CARLOS CANAL AT CAPE CORAL, FL

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	15	1.0	3.7	26	0.26	0.00	3.0	0.00	0.00	12	31	8.3
2	12	0.73	3.5	21	0.01	0.00	2.1	0.00	0.00	9.7	106	7.3
3	11	0.02	3.3	19	0.00	0.00	1.4	0.00	0.00	8.7	113	6.0
4	9.9	0.00	2.9	16	0.00	0.00	1.8	0.00	0.00	8.5	60	5.3
5	8.2	0.00	2.9	13	0.00	0.00	1.1	0.00	0.00	8.1	50	26
6	6.1	0.00	5.0	12	0.00	0.00	0.10	0.00	0.00	6.3	43	74
7	5.0	0.00	5.4	10	0.00	0.00	0.00	0.00	0.00	4.8	44	30
8	4.3	0.00	4.4	8.9	0.00	0.00	0.00	0.00	0.00	4.2	60	17
9	3.1	0.00	8.2	7.8	0.00	0.00	0.00	0.00	0.00	3.4	158	12
10	2.2	0.00	61	8.7	0.00	0.00	0.00	0.00	0.00	2.2	166	9.2
11	3.1	0.00	37	8.2	0.00	0.00	0.00	0.00	0.00	2.4	93	7.7
12	3.2	0.00	24	7.0	0.00	0.00	0.00	0.00	0.00	2.5	42	8.2
13	2.8	0.00	26	6.0	0.00	0.00	0.00	0.00	0.00	2.0	29	48
14	33	0.00	26	5.2	0.00	0.00	0.00	0.00	0.00	1.5	32	70
15	56	0.00	21	4.0	0.00	0.00	0.00	0.00	0.00	1.1	35	24
16	27	258	17	3.2	0.00	0.00	0.00	0.00	0.00	4.0	44	16
17	17	135	16	4.8	0.00	0.00	0.00	0.00	0.00	8.1	51	11
18	14	40	14	5.4	0.00	0.00	0.00	0.00	0.19	7.9	35	7.7
19	12	21	13	4.5	0.00	0.00	0.00	0.00	1.3	6.6	30	7.5
20	9.5	14	18	4.1	0.00	0.00	0.00	0.00	3.7	3.6	46	11
21	7.6	11	20	3.6	0.00	0.00	0.00	0.00	15	2.3	74	8.4
22	6.4	11	18	2.6	0.00	0.00	0.00	0.00	142	1.4	75	5.5
23	4.4	8.9	16	2.1	0.00	0.02	0.00	0.00	311	1.1	47	4.1
24	2.7	7.4	11	2.3	0.00	0.80	0.00	0.00	129	2.9	36	2.8
25	3.0	6.4	13	1.8	0.00	0.63	0.00	0.00	52	7.0	36	4.5
26	2.6	5.9	11	1.1	0.00	0.12	0.00	0.00	32	16	42	30
27	1.5	4.8	11	0.60	0.00	12	0.00	0.00	26	13	48	23
28	2.1	4.1	9.2	0.19	0.00	19	0.00	0.00	25	11	47	16
29	1.6	5.1	7.5	0.12	---	11	0.00	0.00	21	9.8	41	14
30	0.68	4.5	6.7	0.00	---	6.9	0.00	0.00	16	10	19	22
31	0.56	---	6.3	0.22	---	4.6	---	0.00	---	13	12	---
TOTAL	287.54	538.85	442.0	209.43	0.27	55.07	9.50	0.00	774.19	195.1	1,745	536.5
MEAN	9.28	18.0	14.3	6.76	0.010	1.78	0.32	0.000	25.8	6.29	56.3	17.9
MAX	56	258	61	26	0.26	19	3.0	0.00	311	16	166	74
MIN	0.56	0.00	2.9	0.00	0.00	0.00	0.00	0.00	0.00	1.1	12	2.8
AC-FT	570	1,070	877	415	0.5	109	19	0.00	1,540	387	3,460	1,060

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	6.71	2.77	2.23	2.91	1.56	1.33	0.55	0.47	8.84	11.4	13.9	13.5
MEAN	6.71	2.77	2.23	2.91	1.56	1.33	0.55	0.47	8.84	11.4	13.9	13.5
MAX	19.8	18.0	14.3	9.77	12.7	5.60	2.03	3.63	34.1	33.8	56.3	39.5
(WY)	(1996)	(2003)	(2003)	(1998)	(1998)	(1998)	(1987)	(1996)	(1995)	(1995)	(2003)	(1995)
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017	0.038	4.48	2.39
(WY)	(1999)	(2001)	(1991)	(1997)	(1996)	(1995)	(1990)	(1988)	(2001)	(1997)	(1999)	(1987)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1987 - 2003

ANNUAL TOTAL	2,688.26	4,793.45	
ANNUAL MEAN	7.37	13.1	5.63
HIGHEST ANNUAL MEAN			13.1
LOWEST ANNUAL MEAN			2.39
HIGHEST DAILY MEAN	258	Nov 16	330
LOWEST DAILY MEAN	0.00	**	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	**	0.00
MAXIMUM PEAK FLOW		570	577
MAXIMUM PEAK STAGE		7.55	7.58
INSTANTANEOUS LOW FLOW		0.00	0.00
ANNUAL RUNOFF (AC-FT)	5,330	9,510	4,080
10 PERCENT EXCEEDS	19	35	14
50 PERCENT EXCEEDS	0.00	3.1	1.3
90 PERCENT EXCEEDS	0.00	0.00	0.00

**Many days during water years 1987, 1989-2003

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

CALOOSAHATCHEE RIVER

02293243 COURTNEY CANAL AT CAPE CORAL, FL

LOCATION.--Lat 26°34'40", long 81°59'00", in SW ¼ SE ¼ SW ¼ sec.2, T.45 S., R.23 E., Lee County, Hydrologic Unit 03090205, near left bank on upstream side of wing wall of bridge at Mohawk Parkway, 200 ft west of 5th Avenue, 1.07 mi north of West Cape Coral Parkway and 3.15 mi upstream from Caloosahatchee River at Cape Coral.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--November 1986 to current year.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929 (State Road Department bench mark).

REMARKS.--Records poor. Zero flow occurs for numerous days during all water years. Station subjected to major shifting of the stage discharge relationship based on heavy debris buildup on carp grates and installation/removal of stoplogs, which are installed on top of the weir.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 16 complete water years of discharge (1988-2003).

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	4.96	4.19	5.03	4.85	4.53	4.42	4.72	4.40	4.71	4.39	4.63	4.70
2	4.92	4.17	5.04	4.79	4.49	4.44	4.67	4.43	4.68	4.36	5.14	4.63
3	4.85	4.13	5.03	4.82	4.46	4.41	4.63	4.37	4.66	4.33	5.21	4.46
4	4.81	4.08	4.99	4.77	4.45	4.38	4.67	4.29	4.61	4.40	4.88	4.41
5	4.73	4.06	4.93	4.72	4.42	4.35	4.61	4.18	4.59	4.38	4.74	4.78
6	4.63	4.07	4.81	4.68	4.38	4.41	4.54	4.07	4.65	4.34	4.62	5.36
7	4.57	4.10	4.63	4.67	4.46	4.51	4.51	3.94	4.59	4.31	4.55	4.82
8	4.52	4.20	4.52	4.62	4.48	4.48	4.47	3.78	4.54	4.27	4.75	4.63
9	4.45	4.19	4.55	4.61	4.45	4.40	4.43	3.78	4.53	4.26	5.44	4.54
10	4.41	4.15	5.01	4.75	4.44	4.41	4.40	3.90	4.53	4.24	5.58	4.49
11	4.43	4.14	4.92	4.78	4.45	4.44	4.45	3.99	4.55	4.25	5.23	4.55
12	4.39	4.12	4.84	4.75	4.44	4.40	4.42	4.08	4.53	4.19	4.94	4.54
13	4.41	4.10	4.95	4.74	4.41	4.37	4.34	4.14	4.65	---	4.82	4.69
14	4.71	4.06	4.95	4.70	4.47	4.46	4.27	4.16	4.82	---	4.70	5.12
15	4.94	4.15	4.89	4.66	4.44	4.44	4.19	4.18	4.88	---	4.71	4.70
16	4.75	5.98	4.85	4.64	4.37	4.39	4.07	4.31	4.81	---	4.74	4.59
17	4.69	6.57	4.78	4.73	4.43	4.75	3.97	4.36	4.84	4.07	4.83	4.54
18	4.69	5.89	4.70	4.72	4.44	4.71	4.04	4.43	4.88	4.14	4.70	4.50
19	4.61	5.56	4.64	4.66	4.41	4.64	4.05	4.47	4.88	4.11	4.62	4.52
20	4.53	5.34	4.72	4.64	4.38	4.57	4.07	4.57	4.95	4.07	4.86	4.59
21	4.49	5.09	4.73	4.65	4.46	4.61	4.09	4.51	5.13	4.03	4.98	4.53
22	4.45	5.13	4.69	4.66	4.44	4.61	4.05	4.44	6.18	3.95	5.01	4.48
23	4.41	5.13	4.66	4.62	4.48	4.62	4.00	4.63	6.63	3.87	4.84	4.44
24	4.38	5.11	4.63	4.57	4.45	4.66	3.92	4.71	5.59	3.88	4.71	4.45
25	4.42	5.11	4.70	4.51	4.43	4.62	3.99	4.66	5.06	4.03	4.65	4.62
26	4.38	5.09	4.68	4.46	4.39	4.57	4.29	4.63	4.71	4.30	4.81	5.10
27	4.33	5.05	4.73	4.47	4.37	4.74	4.56	4.62	4.65	4.32	4.93	4.87
28	4.31	5.02	4.71	4.51	4.44	5.11	4.59	4.68	4.68	4.31	4.79	4.79
29	4.26	5.08	4.66	4.50	---	4.94	4.56	4.81	4.61	4.32	4.86	4.77
30	4.19	5.07	4.63	4.47	---	4.81	4.42	4.84	4.53	4.43	4.76	4.78
31	4.14	---	4.58	4.54	---	4.77	---	4.76	---	4.47	4.74	---
TOTAL	140.76	142.13	148.18	144.26	124.26	141.44	129.99	135.12	145.65	---	150.77	139.99
MEAN	4.54	4.74	4.78	4.65	4.44	4.56	4.33	4.36	4.86	---	4.86	4.67
MAX	4.96	6.57	5.04	4.85	4.53	5.11	4.72	4.84	6.63	---	5.58	5.36
MIN	4.14	4.06	4.52	4.46	4.37	4.35	3.92	3.78	4.53	---	4.55	4.41

CALOOSAHATCHEE RIVER

02293243 COURTNEY CANAL AT CAPE CORAL, FL

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	50	0.00	56	35	5.8	0.53	21	0.03	26	31	55	62
2	45	0.00	56	30	3.3	0.68	16	0.11	22	27	102	55
3	37	0.00	56	33	1.7	0.21	13	0.11	19	24	109	37
4	34	0.00	51	27	1.4	0.06	16	0.00	13	31	80	32
5	25	0.00	44	22	0.63	0.01	12	0.00	11	29	66	68
6	15	0.00	31	18	0.12	0.42	6.4	0.00	14	25	55	120
7	10	0.00	14	17	1.6	4.4	4.2	0.00	8.5	22	47	75
8	6.1	0.00	5.0	13	2.7	2.7	1.8	0.00	4.3	19	67	56
9	1.8	0.00	8.2	12	1.7	0.39	0.58	0.00	2.8	17	126	47
10	0.38	0.00	53	25	1.1	0.31	0.19	0.00	2.7	16	138	34
11	0.74	0.00	43	28	1.5	0.91	0.68	0.00	2.6	17	110	28
12	0.42	0.00	35	25	1.1	0.31	0.40	0.00	1.3	11	86	25
13	1.6	0.00	46	24	0.41	0.06	0.00	0.00	8.3	e9.0	74	38
14	24	0.00	46	20	2.0	1.5	0.00	0.00	22	e7.5	62	79
15	46	0.00	39	16	1.1	0.85	0.00	0.00	27	e5.9	63	35
16	27	133	36	15	0.20	0.11	0.00	0.00	19	e4.5	67	23
17	20	180	28	24	0.47	26	0.00	0.00	21	2.6	75	18
18	20	131	20	22	0.75	22	0.00	0.42	25	7.6	63	15
19	13	105	15	16	0.30	15	0.00	2.5	26	5.4	55	17
20	6.7	86	22	15	0.04	9.2	0.00	8.1	32	2.6	77	24
21	3.7	62	23	16	1.3	13	0.00	3.8	52	0.69	89	17
22	1.7	66	19	17	1.3	12	0.00	1.1	138	0.01	92	13
23	0.53	65	16	13	2.4	13	0.00	14	191	0.00	76	9.8
24	0.09	63	14	8.8	1.4	16	0.00	20	138	0.00	63	9.7
25	0.41	64	20	4.3	0.65	13	0.00	15	96	4.5	58	19
26	0.35	62	18	1.7	0.24	9.1	0.37	13	64	21	72	69
27	0.00	58	23	2.3	0.02	26	7.7	12	58	23	85	45
28	0.00	54	21	5.0	0.90	62	10	18	61	22	71	36
29	0.00	61	17	3.7	---	46	7.2	34	54	23	79	34
30	0.00	60	14	2.5	---	31	0.95	42	45	34	69	34
31	0.00	---	9.8	6.9	---	26	---	33	---	39	67	---
TOTAL	390.52	1,250.00	899.0	518.2	36.13	352.75	118.47	217.17	1,204.5	481.30	2,398	1,174.5
MEAN	12.6	41.7	29.0	16.7	1.29	11.4	3.95	7.01	40.1	15.5	77.4	39.1
MAX	50	180	56	35	5.8	62	21	42	191	39	138	120
MIN	0.00	0.00	5.0	1.7	0.02	0.01	0.00	0.00	1.3	0.00	47	9.7
AC-FT	775	2,480	1,780	1,030	72	700	235	431	2,390	955	4,760	2,330

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.8	6.41	4.81	7.28	5.60	4.04	1.28	0.96	13.8	24.2	27.2	24.4
MAX	33.7	41.7	34.2	44.0	66.7	39.3	6.09	7.01	59.7	72.2	77.4	54.5
(WY)	(2001)	(2003)	(1998)	(1998)	(1998)	(1998)	(2001)	(2003)	(1999)	(1998)	(2003)	(1995)
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.60	4.02
(WY)	(1989)	(1989)	(1988)	(1989)	(1988)	(1989)	(1988)	(1988)	(1988)	(1994)	(1999)	(1987)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1987 - 2003

ANNUAL TOTAL	6,630.79	9,040.54	
ANNUAL MEAN	18.2	24.8	11.2
HIGHEST ANNUAL MEAN			28.2
LOWEST ANNUAL MEAN			3.51
HIGHEST DAILY MEAN	180	Nov 17	220
LOWEST DAILY MEAN	0.00	**	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	**	0.00
MAXIMUM PEAK FLOW		235	358
MAXIMUM PEAK STAGE			7.44
INSTANTANEOUS LOW FLOW		0.00	0.00
ANNUAL RUNOFF (AC-FT)	13,150	17,930	8,120
10 PERCENT EXCEEDS	56	66	34
50 PERCENT EXCEEDS	0.62	15	0.15
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

**Many days during water years 1987-2003

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

CHARLOTTE HARBOR AND COASTAL AREA

02293345 SHADROE CANAL AT CAPE CORAL, FL

LOCATION.--Lat 26°39'07", long 82°02'22", in SE ¼ SW ¼ SW ¼ sec.8 T.44 S., R.23 E., Lee County, Hydrologic Unit 03100103, near right bank on downstream side of wingwall of bridge on Embers Parkway, 75 ft west of NW 29th Place, 0.28 mi east of State Road 765 (Burnt Store Road) and 0.3 mi upstream of weir, at Cape Coral.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--January 1987 to current year.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929 (State Road Department Bench Mark).

REMARKS.--Records good except for estimated daily discharges, which are poor. Zero flow occurs for numerous days, during most water years.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT)SUMMARY STATISTICS.--Figures represent 16 complete water years of discharge (1988-2003).

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	2.56	2.49	---	---	2.56	2.50	2.52	2.48	2.58	2.60	2.70	2.62
2	2.56	2.48	---	---	2.56	2.51	2.52	2.48	2.55	2.59	2.81	2.60
3	2.54	2.47	---	---	2.56	2.50	2.53	2.49	2.54	2.68	2.70	2.60
4	2.52	2.47	---	---	2.56	2.50	2.53	2.47	2.53	2.68	2.61	2.59
5	2.52	2.47	---	---	2.56	2.50	2.52	2.47	2.53	2.63	2.61	3.01
6	2.51	2.48	---	---	2.55	2.50	2.52	2.47	2.52	2.65	2.61	3.07
7	2.51	2.46	---	---	2.55	2.49	2.52	2.47	2.52	2.62	2.64	2.78
8	2.51	2.46	---	2.56	2.54	2.48	2.51	2.46	2.52	2.61	3.01	2.67
9	2.50	2.46	---	2.56	2.54	2.48	2.51	2.47	2.55	2.63	3.17	2.63
10	2.50	2.46	---	2.56	2.52	2.49	2.49	2.46	2.54	2.59	3.09	2.61
11	2.50	2.46	---	2.56	2.51	2.48	2.48	2.45	2.54	2.58	2.78	2.59
12	2.50	2.46	---	2.57	2.51	2.48	2.48	2.44	2.53	2.60	2.77	2.58
13	2.54	---	---	2.57	2.51	2.47	2.49	2.44	2.59	2.64	2.80	2.91
14	2.76	---	---	2.57	2.50	2.48	2.49	2.43	2.71	2.62	2.83	2.96
15	2.74	---	---	2.57	2.51	2.48	2.48	2.43	2.68	2.58	2.81	2.70
16	2.59	---	---	2.57	2.51	2.47	2.47	2.43	2.59	2.56	2.88	2.63
17	2.55	---	---	2.57	2.52	2.57	2.48	2.43	2.61	2.55	2.77	2.63
18	2.53	---	---	2.56	2.51	2.52	2.47	2.44	2.66	2.54	2.67	2.61
19	2.52	---	---	2.56	2.51	2.50	2.47	2.46	2.59	2.53	2.64	2.59
20	2.52	---	---	2.56	2.51	2.49	2.47	2.45	2.85	2.53	2.68	2.61
21	2.52	---	---	2.56	2.50	2.49	2.47	2.43	3.12	2.53	2.72	2.59
22	2.52	---	---	2.56	2.51	2.49	2.46	2.42	3.54	2.53	2.71	2.58
23	2.52	---	---	2.56	2.51	2.49	2.44	2.72	3.66	2.52	2.65	2.57
24	2.51	---	---	2.56	2.51	2.49	2.43	2.65	2.90	2.52	2.62	2.57
25	2.51	---	---	2.56	2.50	2.48	2.43	2.55	2.71	2.52	2.65	2.69
26	2.51	---	---	2.56	2.50	2.47	2.63	2.52	2.65	2.54	2.83	3.23
27	2.50	---	---	2.56	2.50	2.85	2.55	2.52	2.89	2.54	2.76	2.78
28	2.50	---	---	2.56	2.51	2.74	2.50	2.67	2.82	2.52	2.73	2.74
29	2.49	---	---	2.56	---	2.60	2.49	2.98	2.67	2.52	2.70	2.86
30	2.49	---	---	2.56	---	2.56	2.50	2.67	2.62	2.53	2.65	2.75
31	2.49	---	---	2.56	---	2.53	---	2.60	---	2.56	2.67	---
TOTAL	78.54	---	---	---	70.64	78.08	74.85	77.85	81.31	79.84	85.27	81.35
MEAN	2.53	---	---	---	2.52	2.52	2.50	2.51	2.71	2.58	2.75	2.71
MAX	2.76	---	---	---	2.56	2.85	2.63	2.98	3.66	2.68	3.17	3.23
MIN	2.49	---	---	---	2.50	2.47	2.43	2.42	2.52	2.52	2.61	2.57

CHARLOTTE HARBOR AND COASTAL AREA

02293345 SHADROE CANAL AT CAPE CORAL, FL

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	2.7	e6.0	e32	10	5.9	12	6.6	19	22	50	27
2	9.5	2.1	e5.3	e20	10	6.3	12	6.6	16	19	69	23
3	7.6	1.7	e4.8	e13	10	5.6	11	6.9	14	38	41	23
4	5.6	1.6	e4.5	e13	11	5.6	11	5.7	13	36	24	21
5	5.4	1.6	e3.5	e12	11	5.6	10	5.8	12	25	23	135
6	4.8	2.0	e2.8	e12	10	5.4	9.8	5.8	11	29	24	146
7	4.7	1.4	e2.1	e11	10	4.7	9.9	5.2	11	24	28	64
8	4.4	1.2	e2.0	10	9.8	4.2	9.8	5.1	11	21	132	37
9	3.9	1.1	e2.0	10	9.3	4.1	9.7	5.2	14	24	174	28
10	3.9	1.2	e53	10	7.0	4.8	7.6	4.3	12	18	149	25
11	3.8	1.2	e131	11	6.4	4.3	6.8	3.8	13	17	61	22
12	3.7	1.2	e91	12	6.4	3.9	6.7	3.1	12	19	60	20
13	10	e1.6	e53	12	6.3	3.4	7.3	3.1	24	27	67	112
14	47	e1.6	e40	11	5.9	3.5	7.2	2.6	45	22	78	114
15	41	e62	e31	12	6.1	3.9	6.1	3.2	37	16	70	40
16	13	e205	e22	12	6.4	3.4	4.8	3.2	20	14	89	26
17	7.9	e162	e18	11	7.1	13	5.3	3.2	24	12	59	24
18	6.2	e121	e13	11	6.5	7.1	5.0	3.5	32	12	34	20
19	5.6	e89	e10	10	6.4	5.6	4.9	5.7	20	10	29	16
20	5.6	e55	e48	10	6.4	4.3	5.0	4.4	85	10	38	18
21	5.6	e22	e97	10	6.0	4.5	4.5	2.7	160	10	47	14
22	5.6	e11	e50	10	6.4	4.8	3.5	2.4	286	10	44	11
23	5.5	e10	e39	10	6.7	5.0	2.1	67	321	9.8	31	10
24	5.1	e9.7	e28	10	6.2	4.7	1.9	34	94	9.3	25	9.4
25	4.7	e9.1	e22	10	5.8	3.8	1.8	16	44	9.3	34	39
26	4.7	e8.8	e20	10	5.6	3.0	29	11	31	11	79	192
27	4.2	e8.7	e17	10	6.0	99	13	11	100	11	61	62
28	3.7	e7.2	e16	10	6.1	55	7.5	44	74	9.6	52	51
29	3.4	e6.7	e14	10	---	23	6.3	120	34	9.2	44	81
30	3.1	e6.0	e14	10	---	17	8.1	36	25	9.9	33	51
31	3.4	---	e23	10	---	13	---	22	---	16	37	---
TOTAL	252.6	815.4	883.0	365	210.8	337.4	239.6	459.1	1,614	530.1	1,786	1,461.4
MEAN	8.15	27.2	28.5	11.8	7.53	10.9	7.99	14.8	53.8	17.1	57.6	48.7
MAX	47	205	131	32	11	99	29	120	321	38	174	192
MIN	3.1	1.1	2.0	10	5.6	3.0	1.8	2.4	11	9.2	23	9.4
AC-FT	501	1,620	1,750	724	418	669	475	911	3,200	1,050	3,540	2,900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	16.8	7.00	4.81	5.70	5.36	4.01	2.49	3.29	10.8	20.4	20.7	26.4					
MAX	114	27.2	28.5	19.3	38.2	13.1	7.99	14.8	53.8	63.6	68.4	75.8					
(WY)	(1996)	(2003)	(2003)	(1998)	(1998)	(1998)	(2003)	(2003)	(2003)	(1995)	(1995)	(1995)					
MIN	2.56	0.50	0.000	0.82	0.31	0.37	0.030	0.000	0.011	3.31	3.43	3.77					
(WY)	(1989)	(1991)	(1991)	(2001)	(2001)	(1990)	(2000)	(1999)	(1988)	(1988)	(1989)	(1990)					

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1987 - 2003

ANNUAL TOTAL	4,481.40	8,954.4		
ANNUAL MEAN	12.3	24.5	10.4	
HIGHEST ANNUAL MEAN			24.5	2003
LOWEST ANNUAL MEAN			3.70	1990
HIGHEST DAILY MEAN	205	Nov 16	321	Jun 23
LOWEST DAILY MEAN	0.00	several days	1.1	Nov 9
ANNUAL SEVEN-DAY MINIMUM	0.00	several days	1.3	Nov 7
MAXIMUM PEAK FLOW			581	Jun 22
MAXIMUM PEAK STAGE			4.50	Jun 22
INSTANTANEOUS LOW FLOW			0.81	Nov 7
ANNUAL RUNOFF (AC-FT)	8,890	17,760	7,510	
10 PERCENT EXCEEDS	29	61	20	
50 PERCENT EXCEEDS	4.7	10	3.5	
90 PERCENT EXCEEDS	0.14	3.5	0.18	

e Estimated

**Many days during water years 1989-92, 1994-95, 1997-2001, several days in 2002

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

CHARLOTTE HARBOR AND COASTAL AREA

02293346 HORSESHOE CANAL AT CAPE CORAL, FL

LOCATION.--Lat 26°40'41", long 82°02'26", in SW ¼ NW ¼ NW ¼ sec.5, T.44 S., R.23 E., Lee County, Hydrologic Unit 03100103, on left bank, 100 ft north of Diplomat Parkway 152 ft upstream from weir and 252 ft east of State Road 765 (Burnt Store Road) in Cape Coral.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--January 1987 to current year.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929 (State Road Department bench mark).

REMARKS.--Records fair except for estimated daily discharge, which are poor. Gage-height records for the 1998, 1999 and 2000 water years were revised based on levels run during the 2001 water year. The corrected gage heights are in the files of the U.S. Geological Survey. Extremely low flows are occasionally affected by water that is diverted from the canal during dry periods by the City of Cape Coral to supplement their dual water supply. Zero flow occurs for numerous days during most water years.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 16 complete water years of discharge (1988-2003).

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	2.77	2.66	---	---	2.66	2.52	2.77	2.65	2.84	2.87	2.89	2.93
2	2.77	2.63	---	---	2.65	2.51	2.76	2.64	2.81	2.85	3.25	2.91
3	2.76	2.60	---	---	2.65	2.51	2.74	2.64	2.79	2.88	3.21	2.90
4	2.75	2.58	---	---	2.65	2.50	2.74	2.63	2.77	2.91	3.03	2.90
5	2.75	2.56	---	---	2.64	2.50	2.73	2.63	2.75	2.88	2.94	3.26
6	2.74	2.57	---	---	2.63	2.50	2.71	2.62	2.74	2.87	2.95	3.54
7	2.74	2.58	---	---	2.62	2.49	2.71	2.60	2.74	2.85	2.96	3.26
8	2.74	2.57	---	2.77	2.61	2.49	2.69	2.60	2.72	2.85	3.20	3.11
9	2.73	2.57	---	2.76	2.60	2.49	2.68	2.60	2.72	2.85	3.39	3.02
10	2.72	2.56	---	2.74	2.60	2.52	2.66	2.57	2.72	2.82	3.47	2.96
11	2.71	2.56	---	2.74	2.60	2.49	2.65	2.54	2.74	2.81	3.21	2.92
12	2.71	2.55	---	2.72	2.60	2.49	2.65	2.52	2.79	2.86	3.14	2.90
13	2.73	---	---	2.72	2.59	2.48	2.65	2.52	2.80	2.92	3.10	3.05
14	2.76	---	---	2.72	2.59	2.48	2.64	2.51	2.83	2.90	3.13	3.15
15	2.76	---	---	2.71	2.55	2.48	2.61	2.50	2.80	2.90	3.08	2.97
16	2.74	---	---	2.71	2.55	2.48	2.59	2.50	2.75	2.89	3.11	2.91
17	2.73	---	---	2.71	2.57	2.59	2.58	2.51	2.74	2.87	3.15	2.89
18	2.72	---	---	2.70	2.54	2.55	2.57	2.51	2.77	2.86	3.25	2.89
19	2.71	---	---	2.70	2.53	2.54	2.57	2.53	2.76	2.90	3.32	2.89
20	2.71	---	---	2.70	2.52	2.53	2.56	2.51	2.84	2.89	3.22	2.89
21	2.71	---	---	2.70	2.53	2.52	2.55	2.50	3.09	2.86	3.27	2.88
22	2.71	---	---	2.69	2.54	2.53	2.55	2.49	3.71	2.82	3.31	2.87
23	2.71	---	---	2.69	2.55	2.55	2.54	2.72	4.10	2.80	3.20	2.85
24	2.70	---	---	2.69	2.54	2.53	2.54	2.85	3.55	2.79	3.09	2.84
25	2.69	---	---	2.68	2.51	2.52	2.53	2.78	3.19	2.78	3.04	2.91
26	2.69	---	---	2.67	2.51	2.50	2.64	2.74	3.05	2.81	3.17	3.20
27	2.69	---	---	2.67	2.51	2.78	2.63	2.74	3.15	2.80	3.06	3.05
28	2.68	---	---	2.67	2.51	2.93	2.62	2.97	3.11	2.78	3.01	3.06
29	2.68	---	---	2.66	---	2.86	2.62	3.25	2.98	2.77	3.00	3.11
30	2.68	---	---	2.66	---	2.82	2.65	3.02	2.91	2.78	2.99	3.08
31	2.67	---	---	2.66	---	2.78	---	2.91	---	2.81	2.99	---
TOTAL	84.36	---	---	---	72.15	79.46	79.13	82.30	88.26	88.23	97.13	90.10
MEAN	2.72	---	---	---	2.58	2.56	2.64	2.65	2.94	2.85	3.13	3.00
MAX	2.77	---	---	---	2.66	2.93	2.77	3.25	4.10	2.92	3.47	3.54
MIN	2.67	---	---	---	2.51	2.48	2.53	2.49	2.72	2.77	2.89	2.84

CHARLOTTE HARBOR AND COASTAL AREA

02293346 HORSESHOE CANAL AT CAPE CORAL, FL

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	13	e19	e26	13	0.16	38	12	11	62	68	26
2	24	8.6	e17	e28	12	0.11	35	11	7.4	55	203	23
3	23	4.6	e14	e28	11	0.11	31	9.6	6.2	64	181	22
4	21	2.4	e12	e28	12	0.05	30	8.4	5.0	72	99	21
5	22	1.5	e10	e31	11	0.05	27	8.2	4.5	62	64	167
6	22	2.2	e8.7	e31	8.7	0.05	24	6.9	4.1	59	59	285
7	23	2.8	e7.3	e34	7.2	0.04	22	5.4	4.9	53	56	151
8	24	3.2	e7.3	42	6.6	0.03	18	4.6	4.2	53	146	87
9	23	2.4	e8.7	40	4.3	0.03	18	4.4	5.4	53	213	60
10	20	1.6	e124	35	4.8	0.25	14	1.7	6.9	44	240	42
11	18	1.9	e152	32	4.6	0.04	13	0.64	11	41	113	30
12	18	1.5	e124	29	4.4	0.02	12	0.25	23	60	78	27
13	25	e2.7	e99	28	4.1	0.01	11	0.19	29	77	61	88
14	32	e1.3	e99	28	3.6	0.01	9.9	0.14	38	70	75	110
15	32	e0.82	e76	26	1.0	0.02	5.8	0.06	32	71	56	48
16	29	e0.52	e63	25	0.73	0.01	3.4	0.07	24	66	68	34
17	25	e225	e45	25	1.8	3.9	2.4	0.09	24	60	86	29
18	24	e217	e34	23	0.64	0.83	1.8	0.12	30	58	127	28
19	22	e168	e26	23	0.33	0.43	1.8	0.46	29	71	159	29
20	21	e120	e45	23	0.25	0.31	1.2	0.14	53	67	116	31
21	21	e106	e60	23	0.30	0.24	0.84	0.05	139	58	142	28
22	21	e83	e54	22	0.61	0.50	0.98	0.03	416	45	157	26
23	21	e63	e36	22	1.1	0.69	0.53	44	600	38	110	22
24	20	e57	e28	21	0.46	0.43	0.44	54	337	36	66	21
25	18	e54	e23	19	0.11	0.25	0.36	26	177	33	55	44
26	18	e48	e48	17	0.10	0.06	13	11	121	41	98	142
27	19	e36	e21	17	0.11	74	8.7	6.2	168	38	59	86
28	17	e31	e21	17	0.13	89	7.1	66	144	34	46	91
29	17	e21	e17	14	---	66	7.4	144	96	32	45	110
30	16	e19	e17	14	---	55	11	49	73	34	43	103
31	15	---	e12	14	---	43	---	23	---	44	41	---
TOTAL	674	1,299.04	1,328.0	785	114.97	335.63	369.65	497.64	2,623.6	1,651	3,130	2,011
MEAN	21.7	43.3	42.8	25.3	4.11	10.8	12.3	16.1	87.5	53.3	101	67.0
MAX	32	225	152	42	13	89	38	144	600	77	240	285
MIN	15	0.52	7.3	14	0.10	0.01	0.36	0.03	4.1	32	41	21
AC-FT	1,340	2,580	2,630	1,560	228	666	733	987	5,200	3,270	6,210	3,990

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	28.7	12.3	9.20	10.6	11.6	10.2	5.95	7.93	37.7	57.5	56.8	56.6
MAX	93.0	43.3	60.5	62.4	130	72.9	27.8	43.4	88.0	115	134	128
(WY)	(1996)	(2003)	(1998)	(1998)	(1998)	(1998)	(1987)	(1991)	(1995)	(1991)	(1995)	(2001)
MIN	4.44	0.14	0.007	0.007	0.004	0.002	0.000	0.000	0.037	8.90	27.5	12.7
(WY)	(1990)	(2001)	(2001)	(2001)	(2001)	(2002)	(1999)	(1999)	(2001)	(2000)	(2000)	(1990)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1987 - 2003

ANNUAL TOTAL	8,750.48	14,819.53	
ANNUAL MEAN	24.0	40.6	25.2
HIGHEST ANNUAL MEAN			50.1
LOWEST ANNUAL MEAN			10.9
HIGHEST DAILY MEAN	225	Nov 17	1,060
LOWEST DAILY MEAN	0.00	many days	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	many days	0.00
MAXIMUM PEAK FLOW			737
MAXIMUM PEAK STAGE			4.41
INSTANTANEOUS LOW FLOW			0.00
ANNUAL RUNOFF (AC-FT)	17,360	29,390	18,280
10 PERCENT EXCEEDS	68	101	66
50 PERCENT EXCEEDS	7.3	23	7.1
90 PERCENT EXCEEDS	0.00	0.32	0.00

e Estimated

**Many days during water years 1989-90, 1992, 1994-2002

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

CHARLOTTE HARBOR AND COASTAL AREA

02293347 HERMOSA CANAL AT CAPE CORAL, FL

LOCATION.--Lat 26°40'41", long 82°02'26", in NW ¼ SW ¼ SW ¼ sec.5, T.44 S., R.23 E., Lee County, Hydrologic Unit 03100103, on right bank, 175 ft upstream of bridge on State Road 765 (Burnt Store Road) and approximately 50 ft south of NW 9th Terrace in Cape Coral.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--January 1987 to current year.

REVISED RECORDS.--WDR FL-01-2A, 2000.

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929 (State Road Department bench mark).

REMARKS.--Records good except for estimated daily discharges, which are poor. Revised figures of discharge for the 2000 water year based upon weir cleaning and inspection records from the City of Cape Coral.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 16 complete water years of discharge (1988-2003).

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	2.74	2.58	---	---	2.54	2.51	2.71	2.61	2.85	2.86	2.84	2.89
2	2.75	2.56	---	---	2.54	2.51	2.70	2.61	2.82	2.84	3.21	2.88
3	2.73	2.53	---	---	2.53	2.51	2.69	2.61	2.80	2.87	3.17	2.86
4	2.73	2.52	---	---	2.53	2.51	2.67	2.60	2.78	2.88	2.96	2.84
5	2.72	2.52	---	---	2.53	2.51	2.66	2.59	2.77	2.85	2.89	3.25
6	2.71	2.53	---	---	2.52	2.51	2.66	2.58	2.76	2.86	2.89	3.40
7	2.70	2.52	---	---	2.52	2.50	2.65	2.58	2.75	2.83	2.92	3.12
8	2.70	2.53	---	2.67	2.52	2.49	2.64	2.57	2.74	2.83	3.22	2.96
9	2.68	2.52	---	2.66	2.52	2.49	2.64	2.57	2.73	2.84	3.39	2.89
10	2.65	2.52	---	2.64	2.52	2.52	2.61	2.55	2.72	2.80	3.44	2.85
11	2.64	2.52	---	2.63	2.52	2.50	2.61	2.53	2.75	2.78	3.15	2.83
12	2.64	2.52	---	2.63	2.51	2.49	2.61	2.52	2.81	2.81	3.08	2.82
13	2.68	---	---	2.62	2.51	2.48	2.61	2.51	2.84	2.90	3.01	3.03
14	2.74	---	---	2.62	2.51	2.48	2.60	2.51	2.87	2.86	3.08	3.08
15	2.71	---	---	2.61	2.51	2.49	2.57	2.50	2.82	2.85	3.03	2.89
16	2.68	---	---	2.61	2.53	2.49	2.54	2.50	2.76	2.83	3.07	2.84
17	2.67	---	---	2.61	2.54	2.57	2.53	2.50	2.74	2.82	3.12	2.82
18	2.66	---	---	2.60	2.53	2.53	2.53	2.50	2.76	2.81	3.19	2.81
19	2.65	---	---	2.60	2.52	2.52	2.53	2.51	2.75	2.85	3.23	2.80
20	2.64	---	---	2.60	2.52	2.52	2.52	2.51	2.87	2.84	3.16	2.81
21	2.64	---	---	2.60	2.52	2.51	2.51	2.50	3.14	2.82	3.23	2.79
22	2.64	---	---	2.60	2.53	2.52	2.52	2.49	3.75	2.78	3.31	2.78
23	2.64	---	---	2.60	2.54	2.53	2.51	2.73	4.03	2.74	3.20	2.77
24	2.64	---	---	2.60	2.52	2.52	2.51	2.85	3.44	2.73	3.08	2.77
25	2.63	---	---	2.58	2.51	2.51	2.51	2.78	3.12	2.72	3.03	2.84
26	2.63	---	---	2.58	2.51	2.50	2.64	2.74	2.97	2.75	3.18	3.17
27	2.62	---	---	2.58	2.51	2.79	2.59	2.72	3.11	2.74	3.04	2.91
28	2.61	---	---	2.57	2.51	2.88	2.58	2.96	3.07	2.73	2.96	2.92
29	2.60	---	---	2.57	---	2.80	2.57	3.30	2.93	2.73	2.94	2.99
30	2.59	---	---	2.56	---	2.76	2.61	3.02	2.87	2.74	2.93	2.93
31	2.59	---	---	2.54	---	2.73	---	2.92	---	2.76	2.93	---
TOTAL	82.65	---	---	---	70.62	79.18	77.83	81.97	88.12	87.05	95.88	87.54
MEAN	2.67	---	---	---	2.52	2.55	2.59	2.64	2.94	2.81	3.09	2.92
MAX	2.75	---	---	---	2.54	2.88	2.71	3.30	4.03	2.90	3.44	3.40
MIN	2.59	---	---	---	2.51	2.48	2.51	2.49	2.72	2.72	2.84	2.77

CHARLOTTE HARBOR AND COASTAL AREA

02293347 HERMOSA CANAL AT CAPE CORAL, FL

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	30	5.6	e19	e28	2.6	0.56	28	4.3	24	62	28	35
2	31	3.0	e17	e42	2.1	0.53	25	3.6	19	56	136	32
3	29	0.77	e14	e38	1.2	0.54	24	3.0	17	63	111	29
4	27	0.03	e13	e26	1.2	0.53	21	1.3	16	66	45	26
5	26	0.05	e12	e24	1.2	0.53	20	0.49	15	56	29	172
6	24	0.61	e11	e22	0.95	0.53	18	0.25	14	56	29	214
7	23	0.27	e11	e21	0.53	0.22	17	0.00	14	47	32	99
8	22	0.44	e10	19	0.65	0.01	15	0.00	14	47	139	56
9	19	0.25	e13	17	0.53	0.13	15	0.00	14	48	189	39
10	14	0.02	e194	14	0.53	1.9	11	0.00	14	37	208	32
11	13	0.02	e214	13	0.28	0.25	11	0.00	20	32	89	28
12	13	0.03	e183	12	0.03	0.00	12	0.00	32	40	68	25
13	19	e0.0	e144	11	0.03	0.00	11	0.00	42	57	48	104
14	31	e0.0	e127	11	0.03	0.00	10	0.00	51	45	75	99
15	24	e0.0	e88	10	0.27	0.00	6.2	0.00	41	43	57	43
16	19	e151	e74	9.5	1.1	0.02	3.1	0.00	29	37	68	33
17	17	e169	e58	9.4	2.5	7.0	1.7	0.00	27	34	83	30
18	15	e161	e46	8.9	1.6	2.7	1.2	0.00	31	30	108	28
19	14	e121	e38	8.2	0.96	1.6	0.65	0.00	28	38	120	25
20	13	e105	e55	8.0	0.53	1.1	0.16	0.00	57	35	98	29
21	13	e96	e82	8.3	0.54	0.64	0.01	0.00	143	29	129	27
22	13	e63	e78	7.9	1.3	1.9	0.00	0.00	438	21	159	24
23	12	e53	e72	8.4	2.0	2.3	0.00	26	601	15	113	23
24	12	e48	e68	8.1	0.91	1.7	0.00	25	285	12	75	23
25	12	e46	e65	6.4	0.04	0.99	0.00	13	150	10	63	46
26	11	e41	e58	5.7	0.03	0.25	13	6.8	99	14	110	135
27	9.7	e32	e52	5.8	0.33	67	3.6	4.0	154	12	65	57
28	8.5	e28	e50	5.3	0.53	69	2.1	61	130	8.9	49	62
29	7.7	e20	e46	4.7	---	48	1.1	156	83	8.8	44	79
30	6.6	e19	e43	3.8	---	38	3.9	60	68	9.3	40	63
31	6.3	---	e38	2.9	---	32	---	36	---	11	43	---
TOTAL	534.8	1,164.09	1,993	419.3	24.50	279.93	274.72	400.74	2,670	1,080.0	2,650	1,717
MEAN	17.3	38.8	64.3	13.5	0.88	9.03	9.16	12.9	89.0	34.8	85.5	57.2
MAX	31	169	214	42	2.6	69	28	156	601	66	208	214
MIN	6.3	0.00	10	2.9	0.03	0.00	0.00	0.00	14	8.8	28	23
AC-FT	1,060	2,310	3,950	832	49	555	545	795	5,300	2,140	5,260	3,410

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

	33.1	15.4	12.1	9.86	9.60	7.48	4.01	5.69	29.7	44.5	47.1	48.7
MEAN	33.1	15.4	12.1	9.86	9.60	7.48	4.01	5.69	29.7	44.5	47.1	48.7
MAX	88.1	47.0	64.3	59.6	98.2	41.1	12.0	25.6	89.0	92.9	114	126
(WY)	(1996)	(1988)	(2003)	(1998)	(1998)	(1998)	(1994)	(1991)	(2003)	(1995)	(1995)	(2000)
MIN	7.51	2.52	1.00	0.23	0.000	0.002	0.000	0.000	0.28	8.93	16.4	7.21
(WY)	(1989)	(1991)	(1997)	(1997)	(2000)	(2000)	(1999)	(1999)	(1998)	(2000)	(1999)	(1987)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1987 - 2003

ANNUAL TOTAL	8,271.49		13,208.08		22.8		39.1		1995	
ANNUAL MEAN	22.7		36.2		12.7		19.0		1990	
HIGHEST ANNUAL MEAN					1,040		Aug 25, 1995			
LOWEST ANNUAL MEAN					0.00		**			
HIGHEST DAILY MEAN	214	Dec 11	601	Jun 23	1,370	Aug 25, 1995				
LOWEST DAILY MEAN	0.00	many days	0.00	many days	0.00	**				
ANNUAL SEVEN-DAY MINIMUM	0.00	many days	0.00	many days	0.00	**				
MAXIMUM PEAK FLOW			862	Jun 23	1,370	Aug 25, 1995				
MAXIMUM PEAK STAGE			4.45	Jun 23	5.11	Aug 25, 1995				
ANNUAL RUNOFF (AC-FT)	16,410		26,200		16,530					
10 PERCENT EXCEEDS	62		98		58					
50 PERCENT EXCEEDS	6.6		17		9.0					
90 PERCENT EXCEEDS	0.00		0.03		0.00					

e Estimated

**Many days during water years 1989, 1996-2003

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

CHARLOTTE HARBOR AND COASTAL AREA

264437081550100 GATOR SLOUGH AT U.S. 41 NEAR FT. MYERS, FL

LOCATION.--Lat 26°44'38", long 81°54'59", in SE ¼ NE ¼ SW ¼ sec.9, T.43 S., R.24 E., Lee County, Hydrologic Unit 03100103, 325 ft upstream of bridge on U.S. Highway 41, 4.4 mi north of State Road 78, and 8.3 mi upstream from mouth.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--1973 to 1984 (annual maximum gage heights only), June 1984 to current year. Prior to 1984, published as Gator Slough near Ft. Myers, FL.

GAGE.--Satellite data collection platform with water-stage shaft encoder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to April 26, 1988, at site 325 ft downstream on upstream side of bridge on U.S. Highway 41 at datum -1.07 ft lower. Gage was extended into deeper water at same location May 27, 1997.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Zero flow occurs for numerous days during most water years.

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 18 complete water years of discharge (1985-2003).

REVISIONS.--Discharge for September 5-30, 2001 has been revised. Data are available in the files of the U.S. Geological Survey.

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	15.66	15.98	16.28	15.75	15.42	16.03	15.66	15.82	15.97	16.11	16.12
2	16.47	15.62	15.98	16.32	15.74	15.41	15.99	15.65	15.76	15.98	16.59	16.13
3	16.38	15.58	15.96	16.29	15.75	15.40	15.95	15.63	15.71	16.01	16.49	16.11
4	16.27	15.56	15.96	16.25	15.74	15.39	15.93	15.60	15.71	16.01	16.16	16.19
5	16.18	15.53	15.96	16.19	15.71	15.38	15.90	15.56	15.69	16.02	16.02	16.86
6	16.13	15.52	15.96	16.15	15.67	15.38	15.87	15.54	15.67	16.00	15.95	17.63
7	16.08	15.52	15.96	16.12	15.65	15.38	15.84	15.53	15.69	15.97	15.95	17.08
8	16.04	15.51	15.96	16.10	15.64	15.38	15.82	15.50	15.68	15.94	16.01	16.69
9	16.01	15.48	15.96	16.08	15.62	15.38	15.80	15.48	15.69	15.91	16.35	16.44
10	15.98	15.45	16.82	16.06	15.60	15.41	15.77	15.46	15.73	15.91	16.99	16.26
11	15.95	15.43	16.93	16.06	15.58	15.42	15.74	15.44	15.73	15.94	16.89	16.16
12	15.94	15.41	16.63	16.05	15.56	15.41	15.71	15.42	15.72	16.15	16.75	16.10
13	15.92	15.40	16.55	16.04	15.53	15.38	15.68	15.41	15.70	16.34	16.43	16.09
14	15.97	15.39	16.57	16.02	15.51	15.38	15.64	15.41	15.69	16.27	16.36	16.23
15	16.01	15.38	16.44	16.02	15.49	15.37	15.63	15.42	15.65	16.22	16.33	16.18
16	16.04	16.66	16.34	16.02	15.47	15.36	15.62	15.42	15.73	16.31	16.11	16.12
17	16.02	17.59	16.27	16.01	15.51	15.57	15.67	15.41	15.73	16.27	16.18	16.09
18	15.96	17.15	16.21	15.99	15.51	15.58	15.71	15.47	15.85	16.21	16.36	16.06
19	15.95	16.68	16.17	15.97	15.50	15.53	15.69	15.56	15.96	16.45	16.47	16.03
20	15.92	16.45	16.32	15.96	15.48	15.51	15.65	15.53	16.03	16.22	16.40	16.04
21	15.88	16.33	16.48	15.95	15.46	15.49	15.63	15.51	16.96	16.05	16.62	16.23
22	15.85	16.27	16.37	15.94	15.46	15.61	15.61	15.50	17.65	15.95	17.34	16.20
23	15.84	16.19	16.29	15.94	15.48	15.80	---	15.83	17.48	15.91	17.57	16.14
24	15.88	16.14	16.24	15.92	15.48	15.80	---	16.24	17.02	15.88	17.00	16.11
25	15.89	16.11	16.26	15.88	15.46	15.78	---	16.05	16.61	15.94	16.57	16.21
26	15.83	16.06	16.23	15.86	15.45	15.74	15.70	15.88	16.33	15.97	16.32	17.05
27	15.79	16.05	16.18	15.84	15.44	16.09	15.77	15.77	16.16	15.95	16.23	16.95
28	15.77	16.03	16.14	15.82	15.42	16.69	15.73	15.90	16.11	15.93	16.16	16.90
29	15.74	16.01	16.11	15.80	---	16.51	15.70	16.27	16.05	15.91	16.16	17.43
30	15.73	15.99	16.09	15.79	---	16.29	15.68	16.10	16.01	15.91	16.13	17.26
31	15.69	---	16.08	15.78	---	16.13	---	15.93	---	15.99	16.14	---
TOTAL	495.40	478.15	503.40	496.50	435.66	484.37	---	485.08	481.32	497.49	509.14	493.09
MEAN	15.98	15.94	16.24	16.02	15.56	15.62	---	15.65	16.04	16.05	16.42	16.44
MAX	16.47	17.59	16.93	16.32	15.75	16.69	---	16.27	17.65	16.45	17.57	17.63
MIN	15.69	15.38	15.96	15.78	15.42	15.36	---	15.41	15.65	15.88	15.95	16.03

264437081550100 GATOR SLOUGH AT U.S. 41 NEAR FT. MYERS, FL

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	12	1.0	6.2	15	2.7	0.42	7.4	1.9	8.6	18	22	18
2	20	0.81	6.1	16	2.5	0.39	6.3	1.8	7.3	18	53	19
3	16	0.64	5.9	15	2.7	0.36	5.7	1.6	6.4	19	45	17
4	11	0.55	5.8	13	2.5	0.34	5.2	1.3	6.5	19	24	21
5	8.6	0.45	5.8	11	2.2	0.31	4.7	1.1	6.1	20	17	72
6	7.3	0.43	5.8	10	1.9	0.30	4.2	1.0	5.9	19	14	140
7	6.2	0.41	5.8	9.5	1.7	0.30	3.8	0.92	6.5	18	14	90
8	5.4	0.39	5.8	8.9	1.6	0.30	3.5	0.80	6.5	17	16	53
9	4.8	0.30	5.9	8.5	1.5	0.31	3.2	0.69	6.7	16	36	34
10	4.4	0.23	4.8	8.1	1.3	0.37	2.9	0.58	7.7	16	87	23
11	4.0	0.19	5.4	8.0	1.2	0.41	2.5	0.52	7.9	17	76	19
12	3.8	0.13	3.2	7.7	1.0	0.38	2.2	0.46	7.8	27	63	17
13	3.6	0.12	2.7	7.4	0.88	0.31	2.0	0.42	7.5	40	37	16
14	4.2	0.11	2.8	7.1	0.77	0.30	1.6	0.41	7.4	35	33	22
15	4.9	0.09	2.1	7.1	0.68	0.28	1.5	0.45	6.8	31	30	20
16	5.4	5.2	1.7	7.0	0.62	0.25	1.5	0.44	8.8	37	19	17
17	5.1	116	1.4	6.8	0.76	1.1	1.9	0.40	8.9	34	22	16
18	4.1	7.4	1.2	6.4	0.78	1.2	2.3	0.73	1.3	31	35	15
19	4.0	3.5	1.1	6.1	0.71	0.90	2.0	1.1	1.7	47	41	14
20	3.6	2.2	1.7	5.8	0.63	0.78	1.7	0.96	2.0	30	36	14
21	3.0	1.6	2.3	5.6	0.56	0.67	1.6	0.84	9.1	2.1	5.2	2.2
22	2.7	1.4	1.8	5.4	0.55	1.6	1.4	0.77	15.3	1.7	11.5	2.0
23	2.5	1.2	1.5	5.4	0.64	3.3	e1.3	6.1	13.9	1.5	13.8	1.8
24	3.1	1.0	1.3	5.1	0.65	3.2	e1.1	1.5	9.6	1.4	8.4	1.7
25	3.2	9.2	1.4	4.5	0.57	3.0	e0.96	1.0	5.7	1.6	4.5	2.2
26	2.5	8.0	1.3	4.1	0.52	2.6	2.4	7.0	3.6	1.7	2.8	8.2
27	2.1	7.8	1.1	3.8	0.48	1.3	3.0	5.7	2.6	1.6	2.3	6.8
28	1.9	7.3	1.0	3.6	0.43	3.5	2.6	1.1	2.3	1.5	2.0	5.8
29	1.6	6.8	9.2	3.3	---	2.5	2.2	2.6	2.0	1.4	2.0	10.2
30	1.5	6.4	8.7	3.2	---	1.5	2.0	1.8	1.9	1.4	1.8	8.4
31	1.2	---	8.4	3.0	---	9.8	---	1.2	---	1.7	1.9	---
TOTAL	163.7	402.35	477.4	231.4	33.03	121.48	84.66	129.99	833.3	685	1,282	1,150
MEAN	5.28	13.4	15.4	7.46	1.18	3.92	2.82	4.19	27.8	22.1	41.4	38.3
MAX	20	116	54	16	2.7	35	7.4	26	153	47	138	140
MIN	1.2	0.09	5.8	3.0	0.43	0.25	0.96	0.40	5.9	1.4	1.4	1.4
AC-FT	325	798	947	459	66	241	168	258	1,650	1,360	2,540	2,280

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2003, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.14	3.08	2.43	2.30	1.94	1.83	0.94	2.25	12.6	19.4	18.3	17.8
MAX	39.8	13.4	15.4	15.1	23.8	18.6	4.38	28.3	47.3	41.5	49.7	41.9
(WY)	(1996)	(2003)	(2003)	(1998)	(1998)	(1998)	(1998)	(1991)	(1995)	(1991)	(1995)	(1995)
MIN	0.96	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.010	1.66	1.24	0.79
(WY)	(1990)	(1989)	(1989)	(1989)	(1986)	(1989)	(1989)	(1986)	(2001)	(1998)	(1990)	(1990)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1984 - 2003

ANNUAL TOTAL	3,439.82		5,594.31		7.63	
ANNUAL MEAN	9.42		15.3		17.5	
HIGHEST ANNUAL MEAN					1995	
LOWEST ANNUAL MEAN					1990	
HIGHEST DAILY MEAN	116	Nov 17	153	Jun 22	277	Jun 28, 1992
LOWEST DAILY MEAN	0.00	many days	0.09	Nov 15	0.00	**
ANNUAL SEVEN-DAY MINIMUM	0.00	many days	0.17	Nov 9	0.00	**
MAXIMUM PEAK FLOW			199	Aug 22	518	Jun 28, 1992
MAXIMUM PEAK STAGE			18.31	Aug 22	19.44	Aug 25, 1995
INSTANTANEOUS LOW FLOW			0.08	Nov 15		
ANNUAL RUNOFF (AC-FT)	6,820		11,100		5,530	
10 PERCENT EXCEEDS	28		36		22	
50 PERCENT EXCEEDS	0.64		7.0		1.4	
90 PERCENT EXCEEDS	0.00		0.52		0.00	

e Estimated

**Many days during water years 1986, 1989-93, 1997-2002

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

CHARLOTTE HARBOR AND COASTAL AREA

264139082022100 GATOR SLOUGH AT SR 765 AT CAPE CORAL, FL

LOCATION.--Lat 26°41'38", long 82°02'14" in SW ¼ NW ¼ NW ¼ sec.32, T.43 S., R.23 E., Lee County, Hydrologic Unit 380 ft upstream from bridge on SR-765 (Burnt Store Road) in Cape Coral, 280 ft upstream from weir, and 2.9 mi north of Pine Island Road in Cape Coral, FL.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--1973-83 (annual maximum gage heights, only), May 1984 to October 5, 1997, June 2000 to current year. Prior to 1984, published as "near Pine Island."

GAGE.--Electronic data logger. Datum of gage is National Geodetic Vertical Datum of 1929. (State road department bench mark).

REMARKS.--Records fair except for estimated daily discharges, which are poor. Zero flow occurs for numerous days during most water years. Formerly published as, "near Ft. Myers, FL."

ANNUAL MEAN and ANNUAL RUNOFF (AC-FT) SUMMARY STATISTICS.--Figures represent 16 complete water years of discharge (1985-97, 2001-2003).

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	2.71	2.57	2.70	2.80	2.59	2.49	---	2.58	2.80	2.83	2.78	2.81
2	2.71	2.56	2.69	2.81	2.58	2.49	---	2.57	2.73	2.80	3.08	2.81
3	2.71	2.55	2.68	2.81	2.58	2.49	---	2.57	2.69	2.81	3.15	2.80
4	2.68	2.56	2.66	2.81	2.58	2.48	---	2.57	2.68	2.82	2.98	2.84
5	2.66	2.55	2.65	2.80	2.57	2.48	---	2.56	2.67	2.83	2.86	3.14
6	2.65	2.55	2.65	2.78	2.57	2.48	---	2.57	2.67	2.82	2.81	3.65
7	2.64	2.56	2.64	2.76	2.57	2.48	---	2.56	2.66	2.79	2.80	3.48
8	2.64	2.56	2.64	2.74	2.56	2.47	---	2.56	2.65	2.78	2.87	3.19
9	2.63	2.55	2.65	2.74	2.54	2.47	---	2.56	2.64	2.75	3.06	3.03
10	2.62	2.54	3.13	2.73	2.53	2.48	---	2.53	2.64	2.73	3.36	2.91
11	2.61	2.54	3.19	2.72	2.52	2.47	---	2.52	2.70	2.72	3.25	2.86
12	2.61	2.53	3.12	2.71	2.52	2.46	---	2.51	2.71	2.80	3.12	2.82
13	2.61	2.51	3.05	2.71	2.51	2.46	---	2.50	2.70	2.95	2.99	2.83
14	2.60	2.50	3.05	2.70	2.51	2.46	---	2.49	2.70	3.08	2.94	2.89
15	2.60	2.50	2.99	2.69	2.50	2.46	---	2.48	2.68	3.05	2.93	2.86
16	2.59	3.06	2.94	2.69	2.50	2.46	2.55	2.48	2.68	2.96	2.91	2.82
17	2.59	3.31	2.89	2.67	2.51	2.52	2.56	2.48	2.68	2.90	2.98	2.79
18	2.59	3.30	2.84	2.67	2.50	2.50	2.56	2.48	2.75	2.86	3.08	2.76
19	2.59	3.17	2.81	2.66	2.50	2.49	2.56	2.50	2.77	2.94	3.23	2.75
20	2.59	3.05	2.88	2.66	2.50	2.47	2.55	2.48	2.86	2.88	3.11	2.73
21	2.59	3.01	2.93	2.65	2.49	2.47	2.54	2.46	3.28	2.81	3.12	2.74
22	2.59	2.92	2.91	2.64	2.50	2.49	2.54	2.46	3.77	2.78	3.22	2.73
23	2.59	2.86	2.86	2.64	2.50	2.49	2.54	2.70	4.07	2.74	3.32	2.72
24	2.59	2.84	2.83	2.62	2.49	2.48	2.52	2.84	3.83	2.73	3.17	2.70
25	2.59	2.83	2.81	2.61	2.49	2.47	2.52	2.81	3.46	2.71	3.04	2.75
26	2.59	2.81	2.80	2.60	2.49	2.47	2.58	2.75	3.17	2.74	3.00	2.99
27	2.59	2.77	2.80	2.60	2.49	---	2.57	2.68	3.07	2.73	2.93	3.00
28	2.59	2.75	2.78	2.60	2.49	---	2.56	2.81	3.01	2.70	2.88	2.98
29	2.58	2.71	2.78	2.59	---	---	2.57	3.02	2.93	2.68	2.85	3.07
30	2.58	2.70	2.77	2.59	---	---	2.57	2.96	2.87	2.67	2.82	3.12
31	2.58	---	2.74	2.59	---	---	---	2.88	---	2.69	2.81	---
TOTAL	81.09	82.22	87.86	83.39	70.68	---	---	80.92	87.52	87.08	93.45	87.57
MEAN	2.62	2.74	2.83	2.69	2.52	---	---	2.61	2.92	2.81	3.01	2.92
MAX	2.71	3.31	3.19	2.81	2.59	---	---	3.02	4.07	3.08	3.36	3.65
MIN	2.58	2.50	2.64	2.59	2.49	---	---	2.46	2.64	2.67	2.78	2.70

CHARLOTTE HARBOR AND COASTAL AREA

264139082022100 GATOR SLOUGH AT SR 765 AT CAPE CORAL, FL

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	51	9.4	46	88	16	0.62	e64	13	90	124	101	93
2	51	8.2	42	90	15	0.58	e53	11	62	108	274	94
3	49	6.0	39	92	13	0.52	e46	11	48	111	321	89
4	41	6.5	35	88	13	0.46	e39	11	43	116	202	111
5	34	5.4	32	84	12	0.32	e31	8.9	40	119	131	323
6	29	5.9	30	79	12	0.37	e26	11	40	113	106	777
7	27	6.8	28	71	11	0.31	e22	10	38	101	100	601
8	26	6.7	26	67	8.7	0.26	e21	9.3	33	90	136	333
9	24	5.6	30	66	5.2	0.18	e18	8.8	34	77	260	211
10	22	4.8	289	62	4.0	0.29	e15	4.7	35	68	501	141
11	19	4.1	327	57	3.5	0.13	e13	2.9	54	63	403	112
12	19	3.4	278	55	2.4	0.08	e11	1.8	56	108	300	94
13	18	1.3	223	54	1.9	0.08	e11	0.84	55	177	207	103
14	16	0.62	226	51	1.4	0.08	e9.2	0.61	56	257	176	129
15	15	0.62	184	48	1.0	0.09	e9.3	0.45	52	243	167	111
16	14	277	157	45	1.2	0.07	8.3	0.47	50	184	155	90
17	14	440	128	41	1.7	3.1	8.9	0.40	51	144	200	76
18	14	427	104	39	1.3	1.3	8.6	0.49	83	123	265	66
19	14	318	90	37	0.91	0.60	9.0	1.0	90	170	379	61
20	14	227	125	37	1.00	0.26	6.9	0.47	133	137	283	55
21	14	199	150	35	0.78	0.27	5.6	0.14	440	98	291	53
22	14	148	138	32	1.1	0.61	5.7	0.10	903	85	373	51
23	14	113	116	31	1.0	0.65	5.1	73	1,220	69	450	47
24	15	104	99	26	0.80	0.37	2.9	111	957	65	329	40
25	14	99	91	21	0.62	0.16	2.9	97	601	58	234	63
26	14	90	88	19	0.64	0.15	15	70	357	68	204	175
27	14	74	84	19	0.63	e100	12	45	277	63	164	181
28	13	67	79	18	0.55	e167	9.2	101	230	52	130	163
29	11	50	77	16	---	e133	11	211	180	46	115	217
30	11	48	73	16	---	e107	13	176	144	46	101	253
31	10	---	63	16	---	e85	---	127	---	54	97	---
TOTAL	655	2,756.34	3,497	1,500	132.33	603.91	512.6	1,119.37	6,452	3,337	7,155	4,913
MEAN	21.1	91.9	113	48.4	4.73	19.5	17.1	36.1	215	108	231	164
MAX	51	440	327	92	16	167	64	211	1,220	257	501	777
MIN	10	0.62	26	16	0.55	0.07	2.9	0.10	33	46	97	40
AC-FT	1,300	5,470	6,940	2,980	262	1,200	1,020	2,220	12,800	6,620	14,190	9,740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2003, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	64.5	24.8	14.2	14.0	7.29	12.6	10.3	14.7	73.7	110	140	116
MAX	253	91.9	113	48.4	20.1	41.5	43.2	58.0	215	284	359	268
(WY)	(1996)	(2003)	(2003)	(2003)	(1993)	(1987)	(1987)	(1991)	(1995)	(1995)	(1997)	(2001)
MIN	17.4	2.31	0.23	0.000	0.000	0.000	0.000	0.002	0.24	9.15	55.3	23.3
(WY)	(1989)	(2001)	(2001)	(2001)	(1997)	(1997)	(2002)	(2001)	(1985)	(2000)	(1993)	(1990)

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1984 - 2003	
ANNUAL TOTAL	23,741.86		32,633.55			
ANNUAL MEAN	65.0		89.4		51.0	
HIGHEST ANNUAL MEAN					92.7	
LOWEST ANNUAL MEAN					21.7	
HIGHEST DAILY MEAN	789	Aug 29	1,220	Jun 23	1,400	Sep 14, 2001
LOWEST DAILY MEAN	0.00	many days	0.07	Mar 16	0.00	**
ANNUAL SEVEN-DAY MINIMUM	0.00	many days	0.12	Mar 10	0.00	**
MAXIMUM PEAK FLOW			1,320	Jun 23	2,550	Sep 14, 2001
MAXIMUM PEAK STAGE			4.16	Jun 23	4.61	Sep 14, 2001
INSTANTANEOUS LOW FLOW					0.00	**
ANNUAL RUNOFF (AC-FT)	47,090		64,730		36,940	
10 PERCENT EXCEEDS	195		228		130	
50 PERCENT EXCEEDS	13		46		16	
90 PERCENT EXCEEDS	0.00		0.64		0.35	

e Estimated

**Many days during water years 1989-90, 1996-97, 2001-02

The period of record statistics were computed from complete water year's of record. See the annual mean and annual runoff (ac-ft) summary statistics section of the manuscript.

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SURFACE WATER QUALITY RECORDS
FIELD MEASUREMENTS

WATER RESOURCES DATA - FLORIDA, 2003

VOLUME 2A: SOUTH FLORIDA

SURFACE WATER QUALITY RECORDS

FIELD MEASUREMENTS

Station number	Local ident- i- fier	Lat- i- tude	Long- i- tude	Date	Time	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
261034080093500	CA-13 FEEDER CA AT 10TH AV	26 10 34 N	080 09 35 W	10-28-02	1135	428	40.0
		26 10 34 N	080 09 35 W	01-30-03	1130	397	48.0
		26 10 34 N	080 09 35 W	04-17-03	1142	2270	640
		26 10 34 N	080 09 35 W	07-21-03	1120	355	46.0
02282100	CYPRESS CREEK C AT S-37A,	26 12 20 N	080 07 57 W	10-28-02	0905	497	38.0
		26 12 20 N	080 07 57 W	01-30-03	0905	737	114
		26 12 20 N	080 07 57 W	04-17-03	0914	1020	205
		26 12 20 N	080 07 57 W	07-21-03	0853	535	78.0
02282101	CYPRESS CREEK C BL S-37A N	26 12 20 N	080 07 56 W	10-28-02	0905	36300	12300
		26 12 20 N	080 07 56 W	01-30-03	0905	23900	8500
		26 12 20 N	080 07 56 W	04-17-03	0914	14200	4800
		26 12 20 N	080 07 56 W	07-21-03	0853	14800	5000
260037080100700	HOLLYWOOD CANAL AT HOLLYWO	26 00 37 N	080 10 07 W	10-23-02	0802	25600	8900
		26 00 37 N	080 10 07 W	01-23-03	0830	4380	1320
		26 00 37 N	080 10 07 W	04-29-03	0812	19200	6400
		26 00 37 N	080 10 07 W	07-29-03	0850	3270	1040
260104080101300	HOLLYWOOD CANAL AT JOHNSON	26 01 04 N	080 10 13 W	10-23-02	1000	30300	10300
		26 01 04 N	080 10 13 W	01-23-03	0930	6790	2250
		26 01 04 N	080 10 13 W	04-29-03	0931	25600	8100
		26 01 04 N	080 10 13 W	07-29-03	0942	11100	3600
260225080095800	HOLLYWOOD CANAL AT N29 AVE	26 02 25 N	080 09 58 W	10-23-02	1112	36500	12200
		26 02 25 N	080 09 58 W	01-23-03	1138	18500	6500
		26 02 25 N	080 09 58 W	04-29-03	1111	30900	10000
		26 02 25 N	080 09 58 W	07-29-03	1056	29700	11100
260212080112500	HOLLYWOOD CANAL AT N46 AVE	26 02 12 N	080 11 25 W	10-23-02	1121	5290	1600
		26 02 12 N	080 11 25 W	01-23-03	1148	1410	380
		26 02 12 N	080 11 25 W	04-29-03	1119	1440	385
		26 02 12 N	080 11 25 W	07-29-03	1108	2800	840
260132080094900	HOLLYWOOD CANAL AT TAFT ST	26 01 32 N	080 09 49 W	10-23-02	1038	35200	12300
		26 01 32 N	080 09 49 W	01-23-03	1033	16700	5300
		26 01 32 N	080 09 49 W	04-29-03	1020	30700	10200
		26 01 32 N	080 09 49 W	07-29-03	1020	19700	6600
260956080094200	MIDDLE RIVER CA AT OAKLAND	26 09 56 N	080 09 42 W	10-28-02	1217	1710	385
		26 09 56 N	080 09 42 W	01-30-03	1223	1370	325
		26 09 56 N	080 09 42 W	04-17-03	1240	4080	1180
		26 09 56 N	080 09 42 W	07-21-03	1217	655	90.0
02282700	MIDDLE RIVER CANAL AT S-36	26 10 22 N	080 10 47 W	10-28-02	1346	668	76.0
		26 10 22 N	080 10 47 W	01-30-03	1335	626	84.0
		26 10 22 N	080 10 47 W	04-17-03	1346	617	90.0
		26 10 22 N	080 10 47 W	07-21-03	1332	596	84.0
02282701	MIDDLE RIVER CANAL BL S-36	26 10 22 N	080 10 44 W	10-28-02	1346	8370	2450
		26 10 22 N	080 10 44 W	01-30-03	1330	5760	1780
		26 10 22 N	080 10 44 W	04-17-03	1346	12600	4400
		26 10 22 N	080 10 44 W	07-21-03	1332	1040	245
261010080090400	N FORK MIDDLE R AT NW 34 S	26 10 10 N	080 09 04 W	10-28-02	1330	15400	5000
		26 10 10 N	080 09 04 W	01-30-03	1245	9120	3050
		26 10 10 N	080 09 04 W	04-17-03	1252	17800	6000
		26 10 10 N	080 09 04 W	07-21-03	1255	3230	1040

SURFACE WATER QUALITY RECORDS

FIELD MEASUREMENTS

Station number	Local ident- i- fier	Lat- i- tude	Long- i- tude	Date	Time	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
261020080091700	N FORK MIDDLE R AT NW 9 AV	26 10 20 N	080 09 17 W	10-28-02	1342	507	62.0
		26 10 20 N	080 09 17 W	01-30-03	1315	8840	3000
		26 10 20 N	080 09 17 W	04-17-03	1330	18700	6300
		26 10 20 N	080 09 17 W	07-21-03	1301	363	54.0
261000080084900	N FORK MIDDLE RIVER AT AND	26 10 00 N	080 08 49 W	10-28-02	1315	15500	4700
		26 10 00 N	080 08 49 W	01-30-03	1553	13300	4700
		26 10 00 N	080 08 49 W	04-17-03	1106	23700	8200
		26 10 00 N	080 08 49 W	07-21-03	1046	3580	1160
02285101	NORTH NEW RIVER CA AT SR7	26 05 15 N	080 12 00 W	10-29-02	1345	12500	4300
		26 05 15 N	080 12 00 W	01-31-03	1332	795	122
		26 05 15 N	080 12 00 W	04-18-03	1346	982	180
		26 05 15 N	080 12 00 W	07-22-03	1345	709	106
02285001	NORTH NEW RIVER CANAL BL C	26 05 39 N	080 13 50 W	10-29-02	1410	2410	720
		26 05 39 N	080 13 50 W	01-31-03	1416	821	130
		26 05 39 N	080 13 50 W	04-18-03	1415	990	185
		26 05 39 N	080 13 50 W	07-22-03	1409	695	106
02285000	NORTH NEW RIVER CANAL NEAR	26 05 39 N	080 13 48 W	10-29-02	1415	656	98.0
		26 05 39 N	080 13 48 W	01-31-03	1416	790	126
		26 05 39 N	080 13 48 W	04-18-03	1415	1020	180
		26 05 39 N	080 13 48 W	07-22-03	1411	708	108
02283200	PLANTATION RD CA AT S-33 N	26 08 05 N	080 11 42 W	10-28-02	1435	334	28.0
		26 08 05 N	080 11 42 W	01-30-03	1433	323	38.0
		26 08 05 N	080 11 42 W	04-17-03	1426	413	74.0
		26 08 05 N	080 11 42 W	07-21-03	1427	331	42.0
02283201	PLANTATION RD CA BL S-33 N	26 08 05 N	080 11 40 W	10-28-02	1435	556	54.0
		26 08 05 N	080 11 40 W	01-30-03	1433	554	66.0
		26 08 05 N	080 11 40 W	04-17-03	1426	506	62.0
		26 08 05 N	080 11 40 W	07-21-03	1427	387	36.0
261019080100600	ROYAL PALM ISLES CA (C-13F)	26 10 19 N	080 10 06 W	10-28-02	1225	11300	3500
		26 10 19 N	080 10 06 W	01-30-03	1230	5890	1840
		26 10 19 N	080 10 06 W	04-17-03	1245	13800	4600
		26 10 19 N	080 10 06 W	07-21-03	1226	1390	345
261019080100300		26 10 19 N	080 10 03 W	10-28-02	1235	804	105
		26 10 19 N	080 10 03 W	01-30-03	1215	739	104
		26 10 19 N	080 10 03 W	04-17-03	1235	1740	450
		26 10 19 N	080 10 03 W	07-21-03	1213	646	80.0

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**NATIONAL WATER-QUALITY ASSESSMENT
(NAWQA) DATA**

WATER RESOURCES DATA - FLORIDA, 2003
VOLUME 2A: SOUTH FLORIDA

NATIONAL WATER-QUALITY ASSESSMENT (NAWQA) PROGRAM

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey 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-water and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

02281200 -- HILLSBORO CANAL AT S-6 NEAR SHAWANO

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)	Sulfate, water, fltrd, mg/L (00945)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
OCT 10...	10.75	.00	762	2.6	7.5	1110	33.0	28.0	267	325	149	54.3	1.7
NOV 14...	11.26	.00	765	2.9	7.5	844	24.0	23.5	220	268	107	43.4	1.3
JAN 23...	10.36	.00	763	4.5	7.4	789	22.0	15.5	189	230	98.3	45.8	1.4
FEB 20...	11.15	.00	765	1.9	7.4	910	27.0	21.0	224	273	121	45.9	1.5
MAR 20...	11.05	.00	759	2.9	7.4	1260	29.0	26.0	297	362	175	86.1	2.2
APR 23...	8.95	1950	762	5.4	7.9	531	28.0	26.5	112	137	65.6	38.5	1.2
MAY 15...	10.27	231	764	3.2	7.5	599	31.0	30.0	132	161	73.7	39.9	1.2
JUN 19...	9.59	2200	761	1.9	7.5	1300	32.0	28.0	330	403	165	90.2	2.5
JUL 10...	10.74	.00	764	3.9	7.8	1260	32.0	29.5	334	408	146	106	2.0
AUG 21...	8.95	1610	763	1.1	7.4	1600	30.0	27.0	403	492	204	136	3.6
SEP 11...	8.98	1110	760	1.8	7.3	1440	32.5	28.5	393	480	182	75.8	3.0

02281200 -- HILLSBORO CANAL AT S-6 NEAR SHAWANO

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	2,6-Diethyl-aniline water, fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Aceto-chlor, water, fltrd, ug/L (49260)	Ala-chlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atra-zine, water, fltrd, ug/L (39632)	Azin-phos-methyl, water, fltrd 0.7u GF ug/L (82686)	Ben-flur-alin, water, fltrd 0.7u GF ug/L (82673)
OCT 10...	.181	.164	.018	<.007	.026	--	--	--	--	--	--	--	--
NOV 14...	.147	.089	.007	<.007	.022	<.006	E.007	<.006	<.004	<.005	.140	<.050	<.010
JAN 23...	.207	.114	.007	.013	.030	<.006	E.011	<.006	<.004	<.005	.172	<.050	<.010
FEB 20...	.299	.141	.014	.010	.037	<.006	E.014	<.006	<.004	<.005	.302	E.084	<.010
MAR 20...	.414	.838	.051	.044	.069	<.006	E.134	<.006	<.004	<.005	7.78	<.050	<.010
APR 23...	.024	.060	.004	.007	.066	<.006	E.028	<.006	<.004	<.005	.392	<.050	<.010
MAY 15...	.069	.289	.022	.049	.082	<.006	E.031	<.006	<.004	<.005	.346	<.050	<.010
JUN 19...	.305	.836	.086	.031	.069	--	--	--	--	--	--	--	--
JUL 10...	.080	.654	.017	.017	.040	<.006	E.020	<.006	<.004	<.005	.331	<.050	<.010
AUG 21...	.943	.255	.041	.136	.192	--	--	--	--	--	--	--	--
SEP 11...	.279	.347	.027	<.007	.066	<.006	E.002	<.006	<.004	<.005	.035	<.050	<.010

WATER RESOURCES DATA - FLORIDA, 2003

VOLUME 2A: SOUTH FLORIDA

NATIONAL WATER-QUALITY ASSESSMENT (NAWQA) PROGRAM-continued

02281200 -- HILLSBORO CANAL AT S-6 NEAR SHAWANO

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Butyl- ate, water, fltrd, ug/L (04028)	Car- baryl, water, fltrd 0.7u GF (82680)	Carbo- furan, water, fltrd 0.7u GF (82674)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF (82687)	Cyana- zine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF (82682)	Desulf- inyl fipro- nil, water, fltrd, ug/L (62170)	Diazi- non, water, fltrd, ug/L (39572)	Diel- drin, water, fltrd, ug/L (39381)	Disul- foton, water, fltrd 0.7u GF (82677)	EPTC, water, fltrd 0.7u GF (82668)	Ethal- flur- alin, water, fltrd 0.7u GF (82663)
OCT 10...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 14...	<.002	<.041	<.020	.007	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009
JAN 23...	<.002	<.041	<.020	<.005	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009
FEB 20...	<.002	<.041	<.020	<.005	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009
MAR 20...	<.002	<.041	<.020	<.020	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009
APR 23...	<.002	<.041	<.020	.026	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009
MAY 15...	<.002	<.041	<.020	<.005	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009
JUN 19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL 10...	<.002	<.041	<.020	<.005	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009
AUG 21...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP 11...	<.002	<.041	<.020	<.005	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009

02281200 -- HILLSBORO CANAL AT S-6 NEAR SHAWANO

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Etho- prop, water, fltrd 0.7u GF (82672)	Desulf- inyl- fipro- nil amide, wat flt ug/L (62169)	Fipro- nil sulfide water, fltrd, ug/L (62167)	Fipro- nil sulfone water, fltrd, ug/L (62168)	Fipro- nil, water, fltrd, ug/L (62166)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF (82666)	Methyl para- thion, water, fltrd 0.7u GF (82667)	Metola- chlor, water, fltrd, ug/L (39415)	Metri- buzin, water, fltrd, ug/L (82630)	Moli- nate, water, fltrd 0.7u GF (82671)	Naprop- amide, water, fltrd 0.7u GF (82684)
OCT 10...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 14...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	E.009	<.006	<.002	<.007
JAN 23...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	E.009	<.006	<.002	<.007
FEB 20...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	E.010	<.006	<.002	<.007
MAR 20...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	.098	<.006	.128	<.006	<.002	<.007
APR 23...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	E.009	<.006	<.002	<.007
MAY 15...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	E.011	<.006	<.002	<.007
JUN 19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL 10...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	E.011	<.006	<.002	<.007
AUG 21...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP 11...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	E.009	<.006	<.002	<.007

WATER RESOURCES DATA - FLORIDA, 2003
VOLUME 2A: SOUTH FLORIDA

NATIONAL WATER-QUALITY ASSESSMENT (NAWQA) PROGRAM-continued

02281200 -- HILLSBORO CANAL AT S-6 NEAR SHAWANO

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	p,p'-DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd, 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd, 0.7u GF ug/L (82683)	Phorate, water, fltrd, 0.7u GF ug/L (82664)	Prometon, water, fltrd, ug/L (04037)	Pronamide, water, fltrd, 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd, 0.7u GF ug/L (82679)	Propargite, water, fltrd, 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebu-thiuron, water, fltrd, 0.7u GF ug/L (82670)	Terbacil, water, fltrd, 0.7u GF ug/L (82665)
OCT 10...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 14...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	.007	E.01	<.034
JAN 23...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034
FEB 20...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034
MAR 20...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	.019	<.02	<.034
APR 23...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	.012	<.02	<.034
MAY 15...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	.017	E.01	<.034
JUN 19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL 10...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	E.004	<.02	<.034
AUG 21...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP 11...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034

02281200 -- HILLSBORO CANAL AT S-6 NEAR SHAWANO

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Terbufos, water, fltrd, 0.7u GF ug/L (82675)	Thiocarb, water, fltrd, 0.7u GF ug/L (82681)	Triallate, water, fltrd, 0.7u GF ug/L (82678)	Tri-fluralin, water, fltrd, 0.7u GF ug/L (82661)	Suspended sediment concentration, mg/L (80154)
OCT 10...	--	--	--	--	3
NOV 14...	<.02	<.005	<.002	<.009	2
JAN 23...	<.02	<.005	<.002	<.009	2
FEB 20...	<.02	<.005	<.002	<.009	3
MAR 20...	<.02	<.005	<.002	<.009	1
APR 23...	<.02	<.005	<.002	<.009	14
MAY 15...	<.02	<.005	<.002	<.009	2
JUN 19...	--	--	--	--	10
JUL 10...	<.02	<.005	<.002	<.009	2
AUG 21...	--	--	--	--	8
SEP 11...	<.02	<.005	<.002	<.009	3

0Remark codes used in this report:

- < -- Less than
- E -- Estimated value

WATER RESOURCES DATA - FLORIDA, 2003

VOLUME 2A: SOUTH FLORIDA

NATIONAL WATER-QUALITY ASSESSMENT (NAWQA) PROGRAM-continued

252414080333200 -- C-111 CANAL 100 FT ABV S-177 NR HOMESTEAD

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specific conductance, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Alkalinity, water field, mg/L as CaCO3 (39086)	Bicarbonate, water field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)	Sulfate, water, fltrd, mg/L (00945)	Ammonia + org-N, water, unfltrd, mg/L as N (00625)
OCT 19...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 13...	3.28	.00	764	5.8	7.7	473	19.0	25.5	173	213	34.8	3.2	.49
JAN 22...	2.97	.00	764	8.4	7.9	485	23.0	17.5	193	235	33.7	2.7	.41
FEB 19...	3.01	133	767	3.7	7.5	549	29.0	22.0	174	213	58.3	11.1	1.0
MAR 19...	3.99	.00	757	2.5	7.5	600	30.0	26.5	207	253	57.4	5.7	.89
APR 22...	3.20	.00	761	6.2	7.7	493	27.0	26.0	181	221	41.2	3.1	.55
MAY 14...	3.72	.00	763	.5	7.3	498	31.0	26.5	190	232	38.9	3.0	.55
JUN 18...	3.71	527	761	1.1	7.3	508	31.0	25.5	194	237	36.0	4.8	.49
JUL 09...	3.79	87	765	1.2	7.3	499	30.0	26.5	191	233	35.9	3.7	.49
AUG 13...	3.82	336	763	.9	7.3	494	31.0	26.0	196	239	36.2	4.1	.51
SEP 10...	3.66	352	761	.8	7.2	505	30.0	26.5	200	244	34.8	6.0	.44

252414080333200 -- C-111 CANAL 100 FT ABV S-177 NR HOMESTEAD

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd, mg/L (00665)	2,6-Diethyl-aniline water, fltrd, 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl, water, fltrd, 0.7u GF ug/L (82686)	Benfluralin, water, fltrd, 0.7u GF ug/L (82673)
OCT 19...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 13...	E.014	E.020	E.002	<.007	.007	<.006	E.006	<.006	<.004	<.005	.011	<.050	<.010
JAN 22...	E.009	.044	E.002	<.007	.005	<.006	<.006	<.006	<.004	<.005	.018	<.050	<.010
FEB 19...	.065	.080	E.002	<.007	.009	<.006	<.006	<.006	<.004	<.005	.045	<.050	<.010
MAR 19...	.079	.147	.004	<.007	.009	<.006	E.009	<.006	<.004	<.005	.204	<.050	<.010
APR 22...	E.013	E.011	<.002	<.007	.005	<.006	E.006	<.006	<.004	<.005	.041	<.050	<.010
MAY 14...	.025	<.022	E.002	<.007	.005	<.006	E.005	<.006	<.004	<.005	.027	<.050	<.010
JUN 18...	.091	.040	.004	<.007	.008	--	--	--	--	--	--	--	--
JUL 09...	.054	.024	.004	<.007	.008	<.006	E.006	<.006	<.004	<.005	.032	<.050	<.010
AUG 13...	.066	E.019	.003	<.007	.006	--	--	--	--	--	--	--	--
SEP 10...	.069	.077	.009	<.007	.005	<.006	E.003	<.006	<.004	<.005	.024	<.050	<.010

WATER RESOURCES DATA - FLORIDA, 2003
VOLUME 2A: SOUTH FLORIDA

NATIONAL WATER-QUALITY ASSESSMENT (NAWQA) PROGRAM-continued

252414080333200 -- C-111 CANAL 100 FT ABV S-177 NR HOMESTEAD

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Butyl- ate, water, fltrd, ug/L (04028)	Car- baryl, water, fltrd 0.7u GF (82680)	Carbo- furan, water, fltrd 0.7u GF (82674)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF (82687)	Cyana- zine, water, fltrd, ug/L (04041)	DCPA, water, fltrd 0.7u GF (82682)	Desulf- inyl fipro- nil, water, fltrd, ug/L (62170)	Diazi- non, water, fltrd, ug/L (39572)	Diel- drin, water, fltrd, ug/L (39381)	Disul- foton, water, fltrd 0.7u GF (82677)	EPTC, water, fltrd 0.7u GF (82668)	Ethal- flur- alin, water, fltrd 0.7u GF (82663)
OCT 19...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 13...	<.002	<.041	<.020	<.005	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009
JAN 22...	<.002	<.041	<.020	.011	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009
FEB 19...	<.002	<.041	<.020	.008	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009
MAR 19...	<.002	<.041	<.020	.006	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009
APR 22...	<.002	<.041	<.020	<.005	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009
MAY 14...	<.002	<.041	<.020	<.005	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009
JUN 18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL 09...	<.002	<.041	<.020	<.005	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009
AUG 13...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP 10...	<.002	<.041	<.020	<.005	<.006	<.018	<.003	<.004	<.005	<.005	<.02	<.002	<.009

252414080333200 -- C-111 CANAL 100 FT ABV S-177 NR HOMESTEAD

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Etho- prop, water, fltrd 0.7u GF (82672)	Desulf- inyl- fipro- nil amide, wat flt ug/L (62169)	Fipro- nil sulfide water, fltrd, ug/L (62167)	Fipro- nil sulfone water, fltrd, ug/L (62168)	Fipro- nil, water, fltrd, ug/L (62166)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF (82666)	Methyl para- thion, water, fltrd 0.7u GF (82667)	Metola- chlor, water, fltrd, ug/L (39415)	Metri- buzin, water, fltrd, ug/L (82630)	Moli- nate, water, fltrd 0.7u GF (82671)	Naprop- amide, water, fltrd 0.7u GF (82684)
OCT 19...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 13...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	.021	<.006	<.002	<.007
JAN 22...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	.015	<.006	<.002	<.007
FEB 19...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	E.009	<.006	<.002	<.007
MAR 19...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	E.005	<.006	<.002	<.007
APR 22...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	E.011	<.006	<.002	<.007
MAY 14...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	E.010	<.006	<.002	<.007
JUN 18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL 09...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	.022	<.006	<.002	<.007
AUG 13...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP 10...	<.005	<.009	<.005	<.005	<.007	<.003	<.004	<.035	<.006	.018	<.006	<.002	<.007

WATER RESOURCES DATA - FLORIDA, 2003

VOLUME 2A: SOUTH FLORIDA

NATIONAL WATER-QUALITY ASSESSMENT (NAWQA) PROGRAM-continued

252414080333200 -- C-111 CANAL 100 FT ABV S-177 NR HOMESTEAD

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	p,p'-DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd, 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd, 0.7u GF ug/L (82683)	Phorate, water, fltrd, 0.7u GF ug/L (82664)	Prometon, water, fltrd, ug/L (04037)	Pronamide, water, fltrd, 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd, 0.7u GF ug/L (82679)	Propargite, water, fltrd, 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebu-thiuron, water, fltrd, 0.7u GF ug/L (82670)	Terbacil, water, fltrd, 0.7u GF ug/L (82665)
OCT 19...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 13...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	E.01	<.034
JAN 22...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034
FEB 19...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034
MAR 19...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	E.01	<.034
APR 22...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	M	<.034
MAY 14...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034
JUN 18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL 09...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034
AUG 13...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP 10...	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034

252414080333200 -- C-111 CANAL 100 FT ABV S-177 NR HOMESTEAD

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Terbufos, water, fltrd, 0.7u GF ug/L (82675)	Thiocarb, water, fltrd, 0.7u GF ug/L (82681)	Triallate, water, fltrd, 0.7u GF ug/L (82678)	Tri-fluralin, water, fltrd, 0.7u GF ug/L (82661)	Suspended sediment concentration, mg/L (80154)
OCT 19...	--	--	--	--	--
NOV 13...	<.02	<.005	<.002	<.009	2
JAN 22...	<.02	<.005	<.002	E.005	2
FEB 19...	<.02	<.005	<.002	<.009	2
MAR 19...	<.02	<.005	<.002	<.009	2
APR 22...	<.02	<.005	<.002	<.009	2
MAY 14...	<.02	<.005	<.002	<.009	2
JUN 18...	--	--	--	--	1
JUL 09...	<.02	<.005	<.002	<.009	2
AUG 13...	--	--	--	--	3
SEP 10...	<.02	<.005	<.002	<.009	1

Remark codes used in this report:

- < -- Less than
- E -- Estimated value
- M -- Presence verified, not quantified

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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:

$$^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$$



1879–2004