

BIG CYPRESS SWAMP AND SOUTHWESTERN COASTAL AREA

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 31 complete water years of discharge (1941-54, 1988-2004).

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.43	5.98	4.20	3.54	3.74	4.94	2.97	2.89	2.68	2.69	---	11.26
2	11.51	5.80	4.12	3.50	3.78	4.72	2.95	2.89	2.69	2.69	---	11.24
3	11.51	5.89	4.06	3.48	3.79	4.52	2.94	2.90	2.69	2.69	4.24	11.02
4	11.45	5.93	4.01	3.46	3.78	4.34	2.93	2.90	2.68	2.69	4.62	10.83
5	11.33	6.07	3.96	3.44	3.73	4.16	2.93	2.89	2.68	2.69	4.92	10.78
6	11.19	6.78	3.89	3.41	3.66	4.04	2.91	2.88	2.68	2.68	5.23	10.80
7	11.00	6.93	3.83	3.38	3.61	3.92	2.96	2.91	2.68	2.68	5.62	10.69
8	10.78	6.90	3.78	3.36	3.53	3.82	2.90	2.87	2.68	2.68	5.69	10.65
9	10.50	6.70	3.74	3.34	3.46	3.71	2.90	2.86	2.68	2.68	5.66	10.73
10	10.27	6.51	3.71	3.34	3.41	3.60	2.89	2.85	2.67	2.68	5.51	10.94
11	10.07	6.34	3.73	3.31	3.38	3.50	2.88	2.85	2.68	2.68	5.59	10.81
12	9.82	6.18	3.70	3.29	3.34	3.43	2.92	2.84	2.67	2.70	5.82	10.63
13	9.56	6.03	3.65	3.27	3.32	3.37	2.94	2.83	2.67	2.69	6.42	10.38
14	9.32	5.86	3.67	3.26	3.30	3.32	2.93	2.81	2.68	2.68	8.51	10.20
15	9.08	5.71	3.77	3.25	3.35	3.29	2.92	2.81	2.68	2.68	9.12	10.03
16	8.83	5.57	3.77	3.26	3.40	3.18	2.91	2.80	2.68	2.68	9.38	9.83
17	8.61	5.46	4.02	3.25	3.39	3.05	2.90	2.80	2.68	2.69	9.60	9.62
18	8.39	5.38	4.12	3.26	3.36	3.04	2.90	2.79	2.68	2.68	9.98	9.39
19	8.17	5.32	4.11	3.32	3.30	3.04	2.90	2.78	2.67	2.72	10.14	9.16
20	7.95	5.27	4.07	3.35	3.27	3.03	2.89	2.78	2.67	2.80	10.12	8.93
21	7.77	5.16	4.00	3.35	3.25	3.02	2.89	2.76	2.67	2.86	10.08	8.78
22	7.61	5.03	3.93	3.33	3.22	3.01	2.88	2.76	2.67	---	10.19	8.71
23	7.45	4.93	3.88	3.31	3.20	3.01	2.88	2.75	2.67	---	10.20	8.48
24	7.24	4.84	3.85	3.30	3.18	3.00	2.88	2.74	2.67	---	10.16	8.25
25	7.01	4.76	3.83	3.28	3.31	3.00	2.88	2.73	2.68	---	10.15	8.03
26	6.84	4.68	3.78	3.26	4.38	2.99	2.88	2.72	2.67	---	10.22	8.03
27	6.68	4.61	3.73	3.27	4.88	2.98	2.88	2.71	2.67	2.97	10.64	8.01
28	6.56	4.53	3.69	3.26	5.12	2.98	2.88	2.70	2.69	3.01	11.00	7.91
29	6.55	4.40	3.64	3.26	5.12	2.97	2.88	2.70	2.70	3.05	11.05	7.80
30	6.36	4.28	3.61	3.27	---	3.01	2.89	2.69	2.70	3.08	11.12	7.70
31	6.21	---	3.58	3.48	---	2.98	---	2.69	---	3.14	11.28	---
TOTAL	277.05	167.83	119.43	103.44	105.56	106.97	87.19	86.88	80.36	---	---	289.62
MEAN	8.94	5.59	3.85	3.34	3.64	3.45	2.91	2.80	2.68	---	---	9.65
MAX	11.51	6.93	4.20	3.54	5.12	4.94	2.97	2.91	2.70	---	---	11.26
MIN	6.21	4.28	3.58	3.25	3.18	2.97	2.88	2.69	2.67	---	---	7.70

02291500 IMPERIAL RIVER NEAR BONITA SPRINGS, FL-Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	804	155	53	29	35	89	14	12	8.4	8.5	e29	778
2	829	142	50	28	37	77	13	12	8.4	8.5	e48	775
3	830	148	47	27	37	68	13	12	8.5	8.5	55	731
4	817	151	45	26	37	59	13	12	8.4	8.4	72	693
5	793	161	43	26	35	52	13	12	8.4	8.5	88	683
6	764	217	41	25	33	47	13	12	8.3	8.4	106	687
7	727	230	39	24	31	42	14	13	8.3	8.3	130	666
8	683	227	37	24	29	38	12	12	8.3	8.3	134	659
9	636	210	35	23	27	35	12	12	8.3	8.3	133	675
10	604	195	35	23	25	31	12	12	8.2	8.3	123	715
11	577	181	35	22	24	28	12	11	8.3	8.4	128	690
12	543	169	34	22	23	26	13	11	8.2	8.6	143	657
13	510	158	33	21	22	24	13	11	8.2	8.4	192	619
14	480	146	33	21	22	23	13	11	8.3	8.4	386	594
15	451	136	36	21	23	22	13	11	8.3	8.4	455	571
16	421	126	37	21	25	19	13	11	8.3	8.3	487	545
17	396	119	46	21	24	16	13	10	8.3	8.4	515	517
18	372	115	50	21	24	16	12	10	8.3	8.4	564	489
19	348	111	50	22	22	16	12	10	8.2	9.1	586	460
20	326	108	48	23	21	15	12	10	8.2	11	584	433
21	307	101	45	23	21	15	12	9.8	8.2	12	577	415
22	292	94	43	23	20	15	12	9.7	8.1	e12	592	408
23	276	88	41	22	19	15	12	9.6	8.1	e13	594	381
24	257	83	40	22	19	15	12	9.4	8.2	e13	588	349
25	236	79	39	21	23	15	12	9.2	8.3	e13	588	319
26	222	76	37	21	62	14	12	9.0	8.2	e14	597	318
27	209	72	35	21	86	14	12	8.9	8.2	14	659	314
28	199	68	34	21	99	14	12	8.7	8.5	15	726	302
29	198	62	32	21	99	14	12	8.6	8.7	16	736	291
30	183	57	31	21	---	15	12	8.5	8.7	16	749	280
31	172	---	30	27	---	14	---	8.4	---	18	782	---
TOTAL	14,462	3,985	1,234	713	1,004	903	375	326.8	249.3	327.4	12,146	16,014
MEAN	467	133	39.8	23.0	34.6	29.1	12.5	10.5	8.31	10.6	392	534
MAX	830	230	53	29	99	89	14	13	8.7	18	782	778
MIN	172	57	30	21	19	14	12	8.4	8.1	8.3	29	280
AC-FT	28,690	7,900	2,450	1,410	1,990	1,790	744	648	494	649	24,090	31,760

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

MEAN	256	88.3	38.9	32.9	26.9	23.9	16.6	8.98	46.3	151	222	324
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 2003 CALENDAR YEAR

FOR 2004 WATER YEAR

WATER YEARS 1940 - 2004

ANNUAL TOTAL	65,766	51,739.5	
ANNUAL MEAN	180	141	104
HIGHEST ANNUAL MEAN			273
LOWEST ANNUAL MEAN			24.1
HIGHEST DAILY MEAN	830	Oct 3	2,890
LOWEST DAILY MEAN	11	Apr 19	8.1
ANNUAL SEVEN-DAY MINIMUM	11	Apr 19	8.2
MAXIMUM PEAK FLOW			833
MAXIMUM PEAK STAGE			11.52
INSTANTANEOUS LOW FLOW			8.0
ANNUAL RUNOFF (AC-FT)	130,400	102,600	75,080
10 PERCENT EXCEEDS	480	579	306
50 PERCENT EXCEEDS	70	26	21
90 PERCENT EXCEEDS	13	8.4	1.3

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.