

# Determination of Roughness Coefficients for Streams in West-Central Florida

**02295420 Payne Creek near Bowling Green, Fla.**

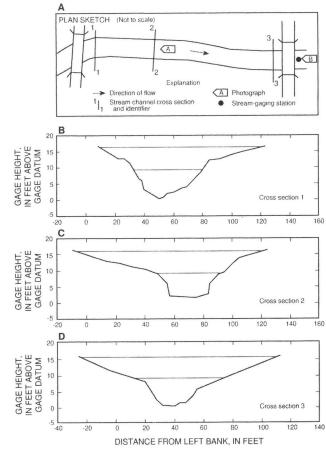


Figure 10. Payne Creek near Bowling Green. (A) plan sketch, (B) cross section 1, (C) cross section 2, and (D) cross section 3.

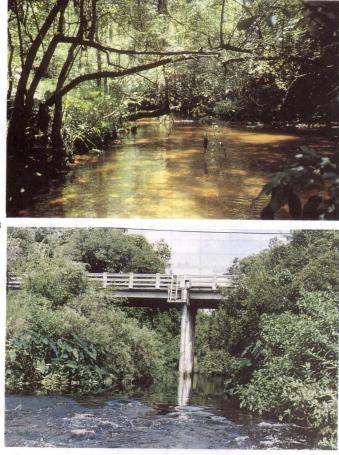


Figure 12. Payne Creek near Bowling Green. Photographs of channel looking (A) upstream from cross section 2 and (B) looking upstream from cross section 3.

**Location.**-- Lat 27°37'14", long 81°49'33", near Bowling Green, Florida.

**Description of channel.**--  $d_{50} = 0$  mm.  $d_{84} = 0$  mm.

Date of observation	Average depth (ft)	Average surface width (ft)	Discharge (ft <sup>3</sup> /s)	Average cross section area (ft <sup>2</sup> )	Hydraulic radius (ft)	Mean velocity (ft/s)	Slope	Coefficient of roughness n
Sept. 10, 1988	---	---	1500.0	899.0	6.60	1.680	0.001030	0.104
Aug. 15, 1992	---	---	915.0	550.0	5.60	1.680	0.000810	0.081
Aug. 12, 1992	---	---	852.0	497.0	5.55	1.730	0.000700	0.071
Aug. 11, 1992	---	---	728.0	712.0	5.35	1.780	0.000670	0.064
Aug. 09, 1992	---	---	674.0	380.0	5.23	1.790	0.000710	0.065
June 30, 1992	---	---	607.0	336.0	4.99	1.820	0.000640	0.058
Sept. 05, 1992	---	---	539.0	298.0	4.77	1.820	0.000640	0.056
June 29, 1992	---	---	524.0	289.0	4.72	1.820	0.000630	0.055
Sept. 15,	---	---	491.0	272.0	4.63	1.810	0.000660	0.056

1992								
June 26, 1992	---	---	460.0	256.0	4.56	1.800	0.000650	0.056

# 02295637 Peace River at Zolfo Springs, Fla.

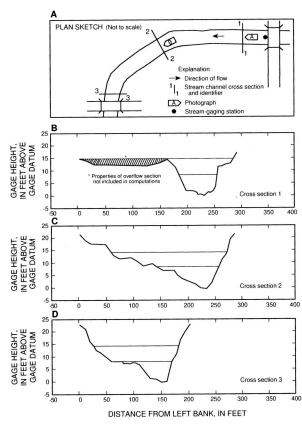


Figure 13. Peace River at Zolfo Springs. (A) plan sketch, (B) cross section 1, (C) cross section 2, (D) cross section 3.

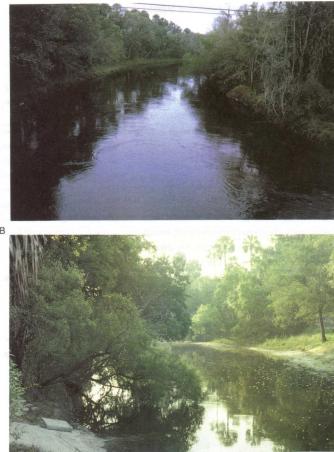


Figure 15. Peace River at Zolfo Springs. Photographs of channel looking (A) downstream from above cross section 1 and (B) looking downstream from above cross section 2.

**Location.**-- Lat  $27^{\circ}30'15''$ , long  $81^{\circ}48'04''$ , near Zolfo Springs, Florida.

**Description of channel.**--  $d_{50} = 0$  mm.  $d_{84} = 2$  mm.

Date of observation	Average depth (ft)	Average surface width (ft)	Discharge (ft <sup>3</sup> /s)	Average cross section area (ft <sup>2</sup> )	Hydraulic radius (ft)	Mean velocity (ft/s)	Slope	Coefficient of roughness n
Aug. 12, 1992	---	---	3010.0	1310.0	7.12	2.390	0.000170	0.032
Sept. 05, 1992	---	---	2300.0	1100.0	6.26	2.170	0.000160	0.031
Aug. 31, 1992	---	---	1860.0	947.0	5.84	2.020	0.000140	0.029
June 30, 1992	---	---	1810.0	925.0	5.77	2.010	0.000130	0.029
Oct. 05, 1992	---	---	1760.0	904.0	5.71	2.000	0.000130	0.029
Sept. 17, 1992	---	---	1120.0	644.0	5.48	1.770	0.000100	0.029
Sept. 30, 1992	---	---	865.0	523.0	4.94	1.680	0.000080	0.026
Oct. 13, 1992	---	---	837.0	504.0	4.88	1.680	0.000090	0.029
Feb. 04, 1993	---	---	790.0	477.0	4.73	1.680	0.000110	0.030

## 02297155 Horse Creek near Myakka Head, Fla.

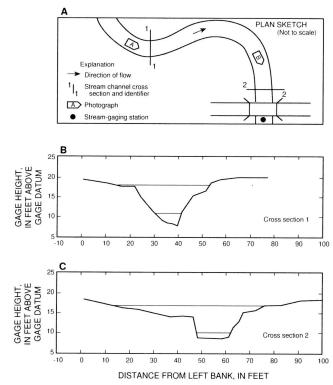


Figure 16. Horse Creek near Myakka Head. (A) plan sketch, (B) cross section 1, and (C) cross section 2.

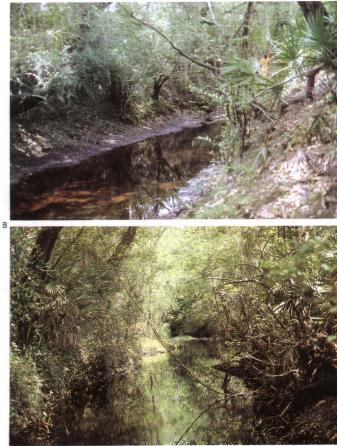


Figure 18. Horse Creek near Myakka Head. Photographs of channel looking (A) downstream from above cross section 1 and (B) looking downstream from above cross section 2.

**Location.**-- Lat 27°29'13", long 82°01'25", near Myakka Head, Florida.

**Description of channel.**--  $d_{50} = 0$  mm.  $d_{84} = 0$  mm.

Date of observation	Average depth (ft)	Average surface width (ft)	Discharge (ft <sup>3</sup> /s)	Average cross section area (ft <sup>2</sup> )	Hydraulic radius (ft)	Mean velocity (ft/s)	Slope	Coefficient of roughness n
Sept. 02, 1994	---	---	529.0	232.0	3.43	2.400	0.001600	0.060
Apr. 01, 1993	---	---	495.0	208.0	3.36	2.500	0.001470	0.054
Aug. 11, 1992	---	---	488.0	203.0	3.35	2.500	0.001600	0.056
Mar. 13, 1993	---	---	211.0	73.3	3.00	2.890	0.001630	0.044
Sept. 17, 1992	---	---	69.0	31.1	1.84	2.240	0.001500	0.039
Oct. 13, 1992	---	---	37.0	22.9	1.49	1.600	0.002270	0.058
Feb. 04, 1993	---	---	22.0	18.3	1.28	1.200	0.002410	0.071

## 02299737 South Creek near Vamo, Fla.

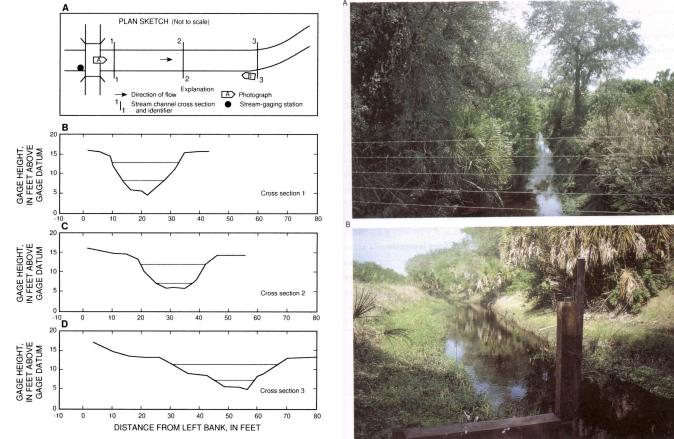


Figure 19. South Creek near Varno. (A) plan sketch, (B) cross section 1, (C) cross section 2, and (D) cross section 3.

Figure 21. South Creek near Varno. Photographs of channel looking (A) downstream from cross section 1 and (B) looking upstream from cross section 3.

**Location.**-- Lat  $27^{\circ}11'46''$ , long  $82^{\circ}27'46''$ , near Varno, Florida.

**Description of channel.**--  $d_{50} = 0$  mm.  $d_{84} = 0$  mm.

Date of observation	Average depth (ft)	Average surface width (ft)	Discharge (ft <sup>3</sup> /s)	Average cross section area (ft <sup>2</sup> )	Hydraulic radius (ft)	Mean velocity (ft/s)	Slope	Coefficient of roughness <i>n</i>
Apr. 02, 1993	---	---	166.0	114.0	3.58	1.470	0.000380	0.047
Apr. 05, 1993	---	---	130.0	93.1	3.18	1.410	0.000360	0.043
Mar. 13, 1993	---	---	94.0	72.2	2.74	1.300	0.000330	0.040
Jan. 16, 1993	---	---	59.0	50.3	2.26	1.240	0.000410	0.043
Oct. 05, 1992	---	---	55.0	48.6	2.23	1.130	0.000380	0.043
Jan. 26, 1993	---	---	50.0	46.0	2.18	1.090	0.000410	0.045
Feb. 27, 1993	---	---	20.0	29.7	1.72	0.660	0.000360	0.059
Oct. 14, 1992	---	---	13.0	26.4	1.59	0.500	0.000520	0.090

**02299861 Walker Creek near Sarasota, Fla.**

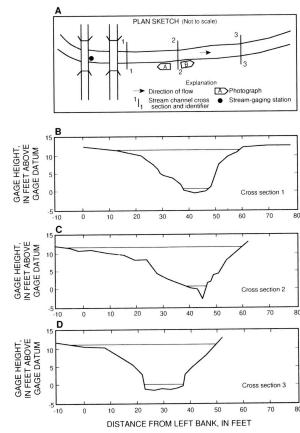


Figure 22. Walker Creek near Sarasota. (A) plan sketch, (B) cross section 1, (C) cross section 2, and (D) cross section 3.



Figure 24. Walker Creek near Sarasota. Photographs of channel looking (A) upstream from cross section 2 and (B) looking downstream from cross section 2.

**Location.**-- Lat  $27^{\circ}22'03''$ , long  $82^{\circ}32'40''$ , near Sarasota, Florida.

**Description of channel.**--  $d_{50} = 0$  mm.  $d_{84} = 1$  mm.

Date of observation	Average depth (ft)	Average surface width (ft)	Discharge (ft <sup>3</sup> /s)	Average cross section area (ft <sup>2</sup> )	Hydraulic radius (ft)	Mean velocity (ft/s)	Slope	Coefficient of roughness n
June 25, 1992	---	---	971.0	316.0	4.49	3.090	0.000950	0.042
July 23, 1992	---	---	438.0	166.0	4.14	2.570	0.000930	0.045
Aug. 07, 1992	---	---	398.0	157.0	4.40	2.290	0.000800	0.044
Apr. 01, 1993	---	---	312.0	131.0	3.79	2.400	0.000970	0.048
Apr. 01, 1993	---	---	278.0	121.0	3.63	2.320	0.000950	0.047
Jan. 15, 1993	---	---	242.0	107.0	3.40	2.290	0.000930	0.045
Jan. 15, 1993	---	---	217.0	103.0	3.33	2.140	0.001000	0.049
Jan. 14, 1993	---	---	141.0	73.8	2.74	1.940	0.001050	0.048
Sept. 27, 1994	---	---	19.0	25.0	1.53	0.800	0.001480	0.094
Feb. 29, 1992	---	---	13.0	26.7	1.60	0.530	0.001920	0.155
Oct. 14, 1992	---	---	9.4	20.1	1.33	0.540	0.001510	0.121
Mar. 12, 1993	---	---	4.8	17.8	1.22	0.320	0.001480	0.194
Nov. 16, 1992	---	---	4.6	16.3	1.15	0.330	0.001700	0.190
Dec. 14, 1992	---	---	3.9	16.2	1.15	0.280	0.001630	0.218

# 02300700 Bullfrog Creek near Wimauma, Fla.

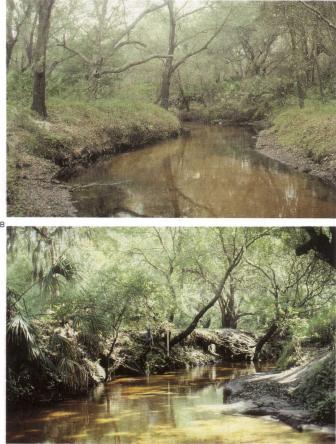


Figure 27. Bullfrog Creek near Wimauma. Photographs of channel looking (A) downstream from above cross section 1, (B) looking downstream from cross section 3, and (C) looking upstream from cross section 5—Continued.

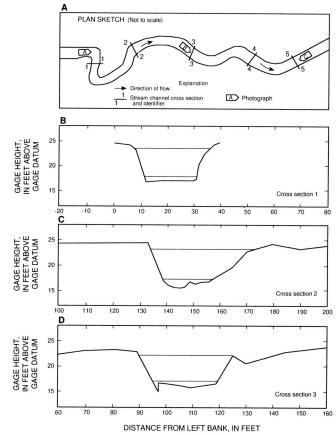


Figure 28. Bullfrog Creek near Wimauma. (A) plan sketch, (B) cross section 1, (C) cross section 2, (D) cross section 3, (E) cross section 4, and (F) cross section 5.

**Location.**-- Lat 27°47'30", long 82°21'08", near Wimauma, Florida.

**Description of channel.**--  $d_{50} = 0$  mm.  $d_{84} = 0$  mm.

Date of observation	Average depth (ft)	Average surface width (ft)	Discharge (ft <sup>3</sup> /s)	Average cross section area (ft <sup>2</sup> )	Hydraulic radius (ft)	Mean velocity (ft/s)	Slope	Coefficient of roughness n
Mar. 13, 1993	---	---	356.0	211.0	4.00	1.820	0.000740	0.059
Apr. 16, 1993	---	---	264.0	163.0	3.79	1.710	0.000720	0.062
June 08, 1992	---	---	216.0	131.0	3.28	1.730	0.000820	0.058
Apr. 25, 1992	---	---	142.0	90.8	2.72	1.610	0.000630	0.055
Jan. 09, 1993	---	---	141.0	95.1	2.79	1.530	0.000800	0.057

June 16, 1992	---	---	19.0	21.0	0.90	0.930	0.000830	0.045
Nov. 16, 1992	---	---	11.0	14.7	0.67	0.780	0.000910	0.047

## 02301750 Delaney Creek near Tampa, Fla.

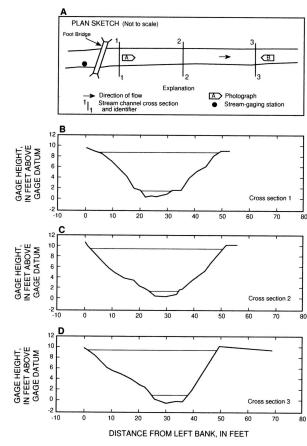


Figure 28. Delaney Creek near Tampa. (A) plan sketch, (B) cross section 1, (C) cross section 2, and (D) cross section 3.

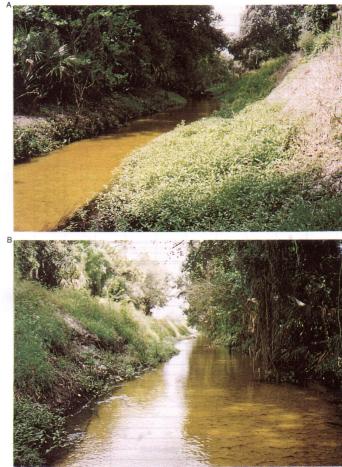


Figure 29. Delaney Creek near Tampa. Photographs of channel looking (A) downstream from cross section 1 and (B) looking upstream from cross section 3.

**Location.**-- Lat 27°55'32", long 82°21'52", near Tampa, Florida.

**Description of channel.**--  $d_{50} = 0$  mm.  $d_{84} = 0$  mm.

Date of observation	Average depth (ft)	Average surface width (ft)	Discharge (ft <sup>3</sup> /s)	Average cross section area (ft <sup>2</sup> )	Hydraulic radius (ft)	Mean velocity (ft/s)	Slope	Coefficient of roughness <i>n</i>
June 28, 1992	---	---	496.0	224.0	4.56	2.220	0.000570	0.045
Sept. 06, 1993	---	---	222.0	113.0	3.09	1.970	0.000300	0.028
Sept. 04, 1992	---	---	119.0	67.0	2.40	1.790	0.000290	0.024
Sept. 28, 1994	---	---	80.0	42.0	1.90	1.940	0.001000	0.035
Sept. 27, 1994	---	---	76.0	39.8	1.84	1.940	0.000900	0.032
Oct. 03, 1992	---	---	37.0	22.9	1.29	1.670	0.000910	0.029
Aug. 17, 1993	---	---	31.0	21.5	1.24	1.520	0.000950	0.031
Oct. 06, 1992	---	---	20.0	15.7	1.00	1.390	0.001050	0.032
Sept. 16, 1992	---	---	11.0	12.2	0.84	1.000	0.000870	0.035

Feb. 05, 1993	---	---	5.6	10.0	0.75	0.630	0.001030	0.055
Sept. 28, 1992	---	---	4.7	10.1	0.77	0.530	0.000910	0.063
Sept. 22, 1992	---	---	4.4	9.8	0.77	0.510	0.000900	0.065
Apr. 26, 1993	---	---	1.8	6.4	0.56	0.350	0.001020	0.080
Oct. 23, 1992	---	---	1.8	7.8	0.65	0.270	0.000980	0.112

## 02303205 Baker Creek at McIntosh Road near Antioch, Fla.

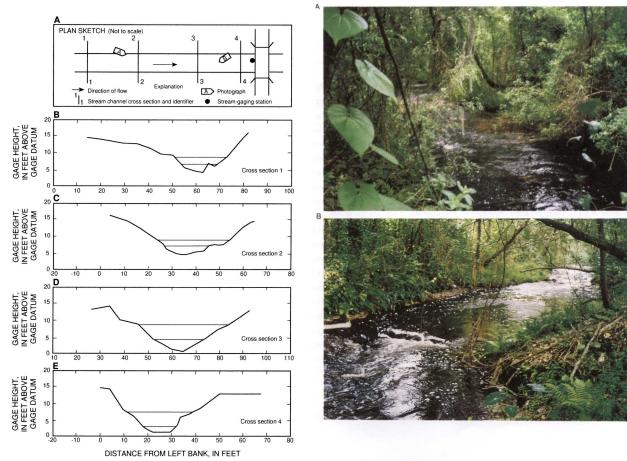


Figure 31. Baker Creek at McIntosh Road near Antioch. (A) plan sketch, (B) cross section 1, (C) cross section 2, (D) cross section 3, and (E) cross section 4.



Figure 32. Baker Creek at McIntosh Road near Antioch. Photographs of channel looking (A) downstream from cross section 2 and (B) looking upstream from cross section 4.

**Location.**-- Lat 28°01'41", long 82°14'41", near Antioch, Florida.

**Description of channel.**--  $d_{50} = 0$  mm.  $d_{84} = 0$  mm.

Date of observation	Average depth (ft)	Average surface width (ft)	Discharge (ft <sup>3</sup> /s)	Average cross section area (ft <sup>2</sup> )	Hydraulic radius (ft)	Mean velocity (ft/s)	Slope	Coefficient of roughness <i>n</i>
Aug. 30, 1994	---	---	310.0	108.0	3.10	3.120	0.002230	0.051
Oct. 03, 1992	---	---	151.0	57.9	2.34	3.020	0.003240	0.058
Aug. 27, 1993	---	---	128.0	49.3	2.13	2.880	0.004760	0.066
Sept. 06, 1993	---	---	81.0	40.6	1.88	2.140	0.004270	0.095
Aug. 28, 1993	---	---	78.0	37.3	1.78	2.230	0.004150	0.088
Sept. 07, 1993	---	---	51.0	30.0	1.54	1.790	0.004240	0.108

Aug. 25, 1994	---	---	43.0	28.0	1.47	1.630	0.004510	0.118
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## 02310000 Anclote River near Elfers, Fla.

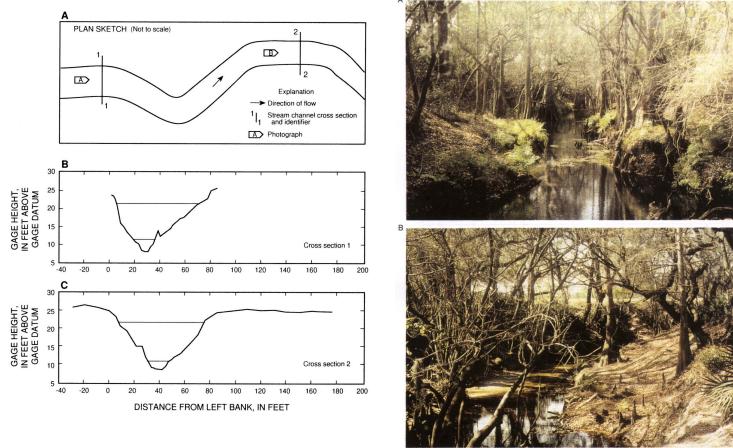


Figure 34. Anclote River near Elfers. (A) plan sketch, (B) cross section 1, and (C) cross section 2.

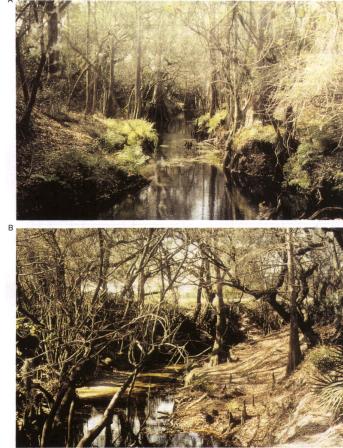


Figure 36. Anclote River near Elfers. Photographs of channel looking (A) downstream from cross section 1 and (B) looking downstream from cross section 2.

**Location.**-- Lat 28°12'50", long 82°40'00", near Elfers, Florida.

**Description of channel.**--  $d_{50} = 0$  mm.  $d_{84} = 0$  mm.

Date of observation	Average depth (ft)	Average surface width (ft)	Discharge (ft <sup>3</sup> /s)	Average cross section area (ft <sup>2</sup> )	Hydraulic radius (ft)	Mean velocity (ft/s)	Slope	Coefficient of roughness <i>n</i>
Oct. 05, 1992	---	---	782.0	458.0	6.23	1.710	0.000520	0.066
Sept. 10, 1992	---	---	274.0	194.0	3.85	1.420	0.000720	0.068
Sept. 06, 1992	---	---	209.0	153.0	3.32	1.380	0.000880	0.070
Sept. 01, 1992	---	---	173.0	128.0	3.16	1.360	0.000680	0.060
Sept. 10, 1993	---	---	152.0	118.0	3.02	1.310	0.000840	0.069
Sept. 15, 1992	---	---	107.0	94.8	2.64	1.160	0.001240	0.086
Mar. 15, 1993	---	---	100.0	89.2	2.54	1.140	0.000740	0.066
Apr. 17, 1993	---	---	76.0	72.0	2.31	1.080	0.000780	0.067
Apr. 16, 1993	---	---	67.0	63.3	2.22	1.070	0.000660	0.060
Apr. 01, 1993	---	---	54.0	61.4	2.19	0.900	0.000720	0.075

Nov. 12, 1992	---	---	54.0	54.9	2.10	1.000	0.000880	0.072
Oct. 16, 1992	---	---	43.0	47.0	1.98	0.940	0.000880	0.074
Jan. 18, 1993	---	---	39.0	43.5	1.92	0.920	0.000780	0.069
Nov. 20, 1992	---	---	19.0	30.5	1.64	0.660	0.000860	0.093
Dec. 17, 1992	---	---	12.0	22.6	1.34	0.580	0.000640	0.081
Feb. 06, 1993	---	---	11.0	21.9	1.32	0.530	0.000880	0.098
Oct. 29, 1992	---	---	8.0	19.7	1.23	0.430	0.000840	0.122

## 02312720 Withlacoochee River at Wysong Dam at Carlson, Fla.

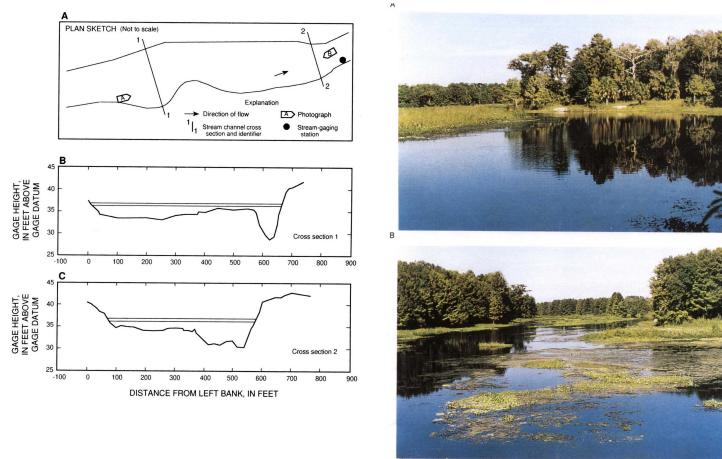


Figure 37. Withlacoochee River at Wysong Dam at Carlson. (A) plan sketch, (B) cross section 1, and (C) cross section 2.



Figure 39. Withlacoochee River at Wysong Dam at Carlson. Photographs of channel looking (A) downstream from cross section 1 and (B) looking upstream from cross section 2.

**Location.**-- Lat 28°49'23", long 82°11'00", near Carlson, Florida.

**Description of channel.**--  $d_{50} = 0$  mm.  $d_{84} = 0$  mm.

Date of observation	Average depth (ft)	Average surface width (ft)	Discharge (ft <sup>3</sup> /s)	Average cross section area (ft <sup>2</sup> )	Hydraulic radius (ft)	Mean velocity (ft/s)	Slope	Coefficient of roughness <i>n</i>
Oct. 15, 1992	---	---	352.0	1890.0	3.22	0.190	0.000050	0.117
Sept. 28, 1993	---	---	332.0	1970.0	3.34	0.170	0.000070	0.157
Oct. 08, 1992	---	---	321.0	1830.0	3.12	0.180	0.000060	0.139
Mar. 17, 1993	---	---	313.0	1980.0	3.36	0.160	0.000050	0.148
Feb. 02, 1993	---	---	284.0	1720.0	2.96	0.170	0.000050	0.125

Aug. 02, 1993	---	---	282.0	1720.0	2.96	0.170	0.000030	0.097
Dec. 04, 1992	---	---	249.0	1680.0	2.89	0.150	0.000040	0.122
Nov. 19, 1992	---	---	232.0	1600.0	2.77	0.150	0.000020	0.086
Dec. 18, 1992	---	---	226.0	1490.0	2.76	0.150	0.000020	0.098
Aug. 26, 1993	---	---	200.0	1490.0	2.59	0.140	0.000050	0.146
June 03, 1993	---	---	169.0	1630.0	2.81	0.110	0.000030	0.161