UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER-QUALITY DATA FOR SELECTED STATIONS IN THE EAST EVERGLADES, FLORIDA

OPEN-FILE REPORT 81-821

Prepared in cooperation with the

METROPOLITAN DADE COUNTY PLANNING DEPARTMENT

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER-QUALITY DATA FOR SELECTED STATIONS IN THE EAST EVERGLADES, FLORIDA

By Bradley G. Waller

Open-File Report 81-821

Prepared in cooperation with the

METROPOLITAN DADE COUNTY PLANNING DEPARTMENT

Tallahassee, Florida

1981

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Doyle G. Frederick, Acting Director

For additional information write to:

U.S. Geological Survey
Suite F-240
325 John Knox Road
Tallahassee, Florida 32303

CONTENTS

ILLUSTRATIONS

TABLES

TABLES (Continued)

TABLES (Continued)

TABLES (Continued)

CONVERSION FACTORS AND ABBREVIATIONS

Factors for converting inch-pound units to International System (SI) units and abbreviation of units

Conversion factors

Multiply	By	To obtain
	Length	
inch (in.)	25.40	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)

Abbreviations

mg/L	=	milligram per liter
ug/L	=	microgram per liter
mg/kg	=	milligram per kilogram
ug/g	=	microgram per gram
ug/kg	=	microgram per kilogram
g/m^2	=	gram per square meter
mg/m^2	=	milligram per square meter

National Geodetic Vertical Datum of 1929 (NGVD of 1929): A geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called "mean sea level."

WATER-QUALITY DATA FOR SELECTED STATIONS IN THE EAST EVERGLADES, FLORIDA

By Bradley G. Waller

ABSTRACT

The results of water-quality samples collected from April 1978 through April 1980 from three canal stations, four marsh stations, and two ground-water stations within the East Everglades, Dade County, Florida, are tabulated in 37 tables. The major categories of parameters analyzed are field measurements, physical characteristics, macronutrients (carbon, nitrogen, and phosphorus), major ions, trace elements, and algae.

Chemical data for bulk-precipitation stations within and adjacent to the East Everglades are also given. The parameters analyzed include macronutrients, major ions, and trace elements. The period of record for these stations is October 1977 through April 1980.

Bottom material at the canal and marsh stations was collected twice during the investigation. These data include analyses for macronutrients, trace elements, and chlorinated-hydrocarbon insecticides.

INTRODUCTION

The East Everglades study area (fig. 1) is a virtually undeveloped wetland in western Dade County. The area is bounded on the north by the Tamiami Canal, on the west and south by Everglades National Park, and on the east by the Levee 31 complex which divides the East Everglades from the developed areas of Dade County.

As development spread westward into the East Everglades, concern was raised by Dade County officials about the water quality and the possible adverse effects caused by development. To determine best management practices for future development in the East Everglades, a plan of study (Metropolitan Dade County Planning Department, 1978) was approved by Dade County officials. Parts of the plan of study were to establish baseline water-quality conditions at selected stations within the East Everglades. This report presents the water-quality data at these stations from October 1977 through April 1980.

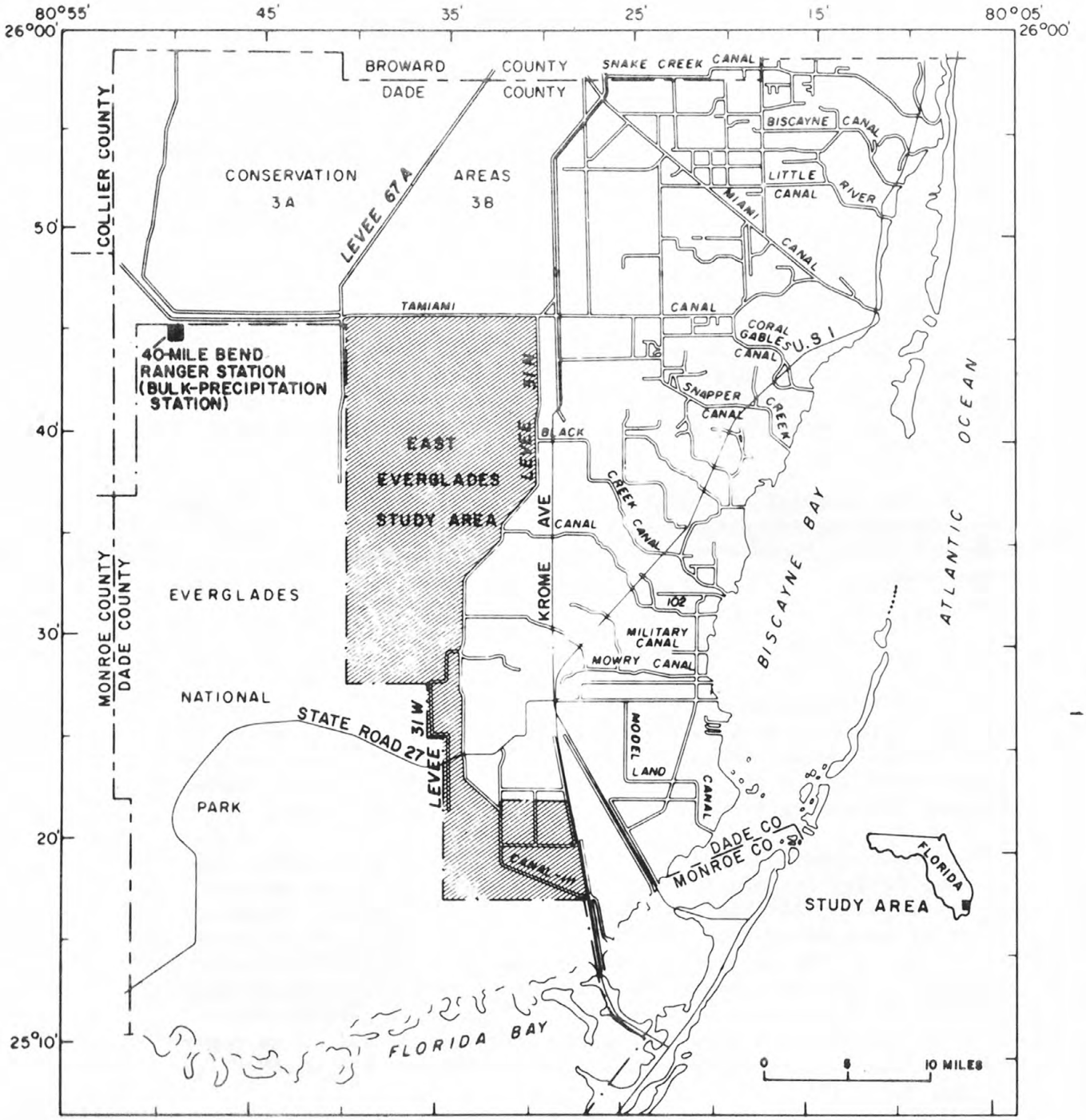

Figure 1.--Dade County, the East Everglades study area, and the location of the bulk-precipitation station at 40-Mile Bend Ranger Station.

Purpose and Scope

The purpose of this report is to present a summary of water-quality data for four types of stations (canal, marsh, ground water, and bulk precipitation) within and adjacent to the East Everglades.

The scope of this investigation included collecting water and bottom material samples at these stations and analyzing them for selected physical and chemical parameters (table 1). The frequency of sampling for each type of station is shown in table 2.

Ground-water samples were collected from wells by using a centrifugal pump until a uniform representative water, based on physical characteristics, was obtained. Bulk-precipitation samples were collected in specially designed, refrigerated collectors (fig. 2). These collectors maintain a temperature of 4 degrees centigrade for sample preservation. All physical and chemical parameters were analyzed in either the field or at the U.S. Geological Survey Laboratories in Ocala, Fla. and Atlanta, Ga.

Acknowledgments

The author thanks Margaret L. Ronald and Vida S. Piera of the Metropolitan Dade County Department of Environmental Resources Management for technical assistance during this investigation.

WATER-QUALITY DATA

Water-quality data are presented by the types of stations where the water samples were collected: (1) canal; (2) marsh; (3) ground water; and (4) bulk precipitation. All water-quality data are shown for each type in tabular format. A statistical summary of selected parameters is also presented for individual stations or groups of stations.

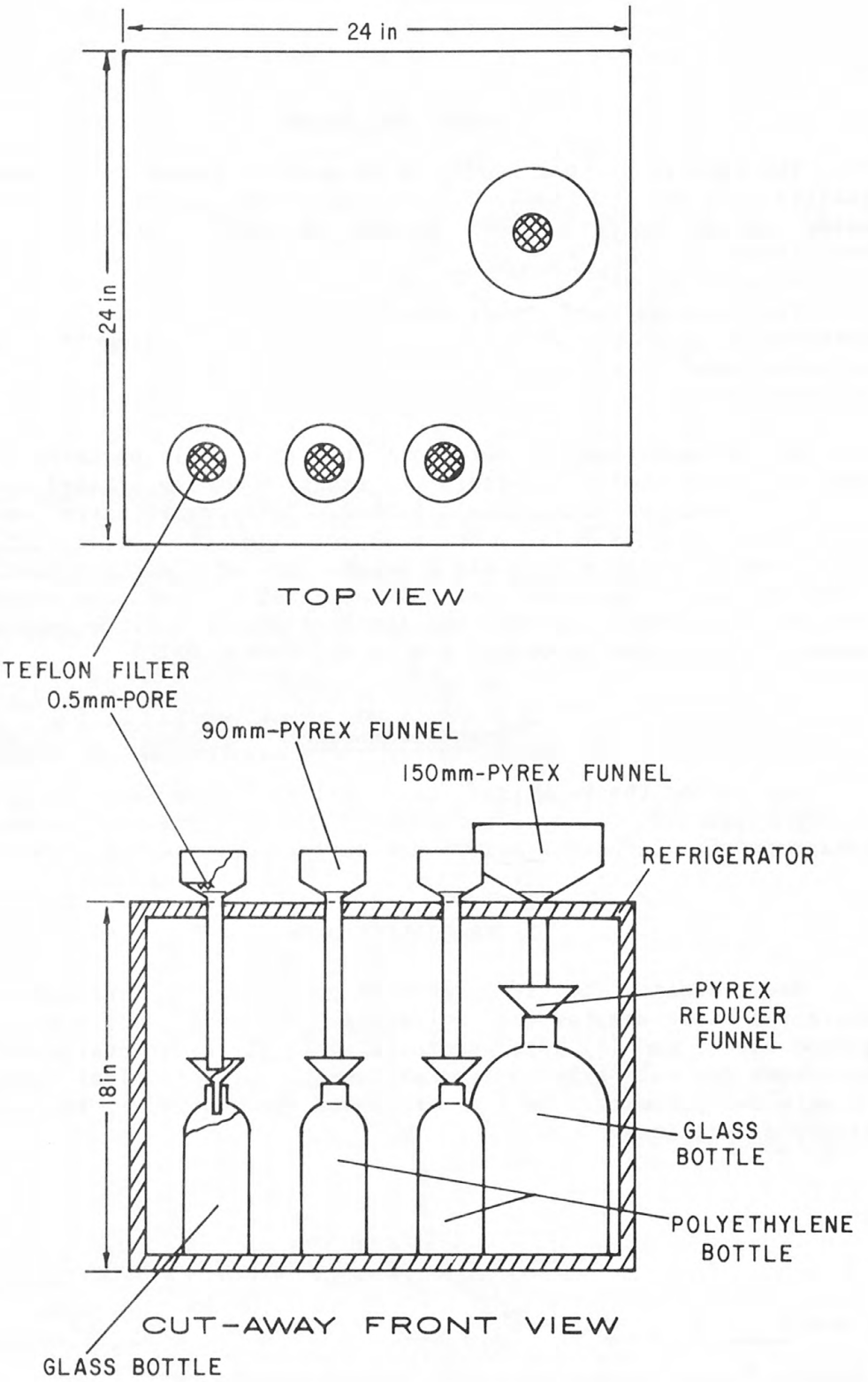

Figure 2.--Plan and front section of refrigerated bulk-precipitation collector.

Table 1.--Water-quality parameters

	Category	Parameters
A.	Field measurements	Dissolved oxygen, temperature pH, alkalinity, and specific conductance
B.	Macronutrients	Nitrate, nitrite, ammonium, organic nitrogen, total nitrogen, orthophosphate, total phosphorus, and total organic carbon
C.	Physical parameters	Color, turbidity, and total suspended solids
D.	Major ions and related parameters	Calcium, magnesium, sodium, potassium, bicarbonate, chloride, sulfate, fluoride, dissolved solids, and hardness
E.	Trace elements	Arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, and zinc
F.	Periphyton	Ash weight, dry weight, and chlorophyll A and B
G.	Phytoplankton	Number of cells

Table 2.--Sampling frequency at each type of station by water-quality parameter categories[1]/

Station	Frequency and category[1]/				
	Monthly	Bimonthly	8 per year	3 per year	Semiannually
Canal	A,B,C			F,G	D,E
Marsh			A,B,C	F,G	D,E
Ground-water		A[2]/,B,C[3]/			D,E
Bulk-precipitation	A[2]/,B,C[3]/	D			E

1/ Categories A through G given in table 1.

2/ Dissolved oxygen concentration not measured.

3/ Total suspended solids concentration not measured.

Surface Water

Canal Stations

The locations of the three canal stations are shown in figure 3. The designated names of these stations and the U.S. Geological Survey identification numbers are as follows:

Station name	Identification number
Tamiami Canal Outlets, Levee 30 to Levee 67A (Bridge 53)	02289060
Levee 67 Extended Canal at South End	253735080402100
Grossman Road Borrow Canal	253530080343000

The data tables for the station Tamiami Canal Outlets, Levee 30 to Levee 67A, are as follows:

Table 3 (field measurements, physical parameters, and macronutrients)

Table 4 (statistical summary of selected parameters)

The data tables for the station Levee 67 Extended Canal at South End are as follows:

Table 5 (field measurements, physical parameters, and macronutrients)

Table 6 (statistical summary of selected parameters)

The data tables for the station Grossman Road Borrow Canal are as follows:

Table 7 (field measurements, physical parameters, and macronutrients)

Table 8 (statistical summary of selected parameters)

Major ions and trace elements for all three canal stations are shown in tables 9 and 10, respectively.

The algal characteristics of the canal stations are summarized in table 11.

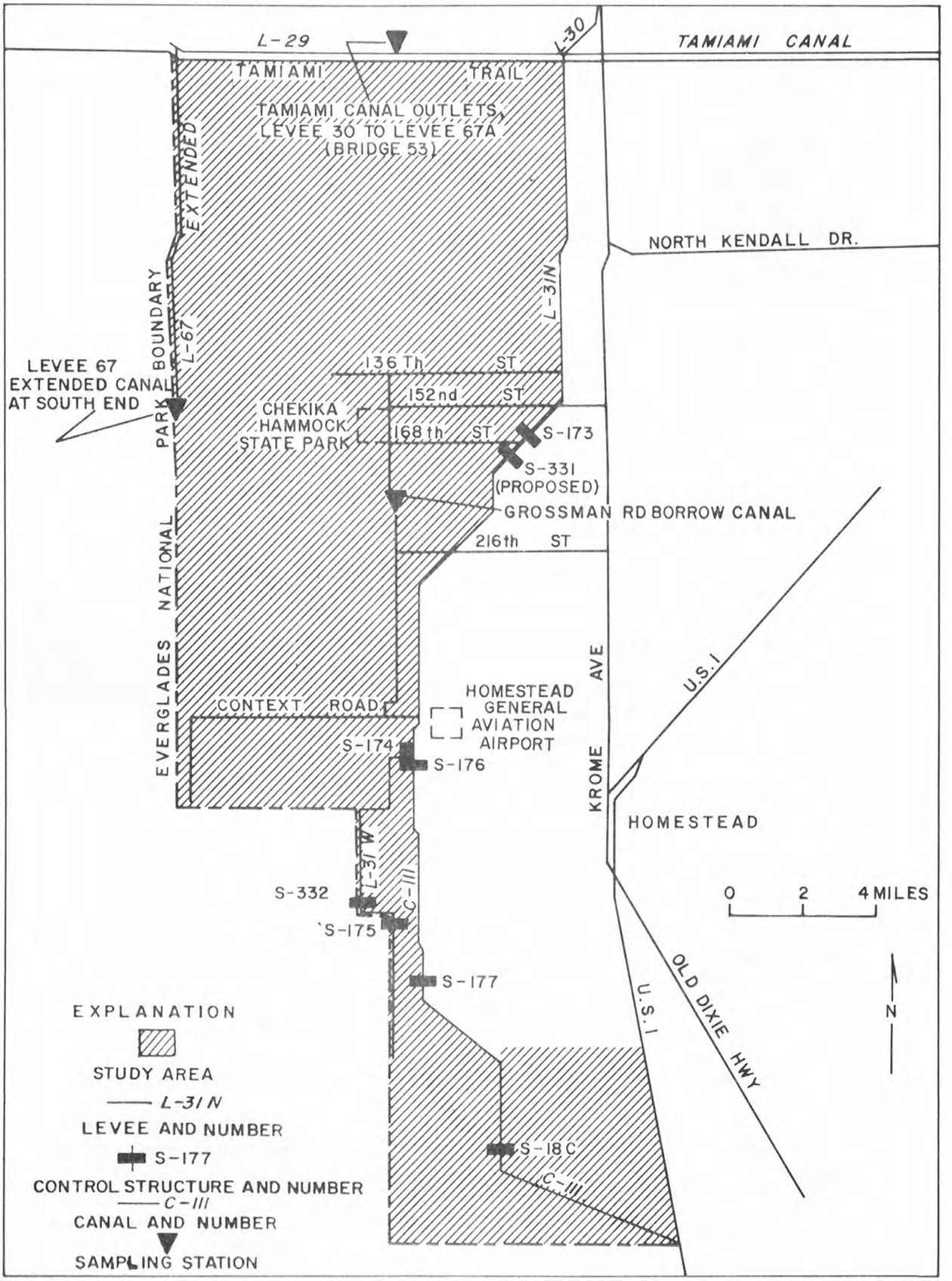

Figure 3.--Location of the three canal stations.

Table 3.--Field measurements, physical parameters, and macronutrient and potassium concentrations at Tamiami Canal Outlets, Levee 30 to Levee 67A

STATION NUMBER	DATE OF SAMPLE	TIME	STREAM STAGE (FT ABOVE DATUM)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	COLOR (PLATINUM COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SPECIFIC CONDUCTANCE (MICROMHOS)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)
02289060	78-04-25	0815	--	25.5	5.0	50	3.1	37	600	--	--
	78-05-18	0915	6.03	27.0	4.0	--	2.4	29	600	--	--
	78-06-13	1430	6.39	31.5	3.0	40	4.0	53	640	--	--
	78-07-11	1030	--	31.0	3.0	50	4.1	54	620	--	--
	78-08-16	1115	6.94	29.5	3.0	--	3.1	40	550	--	--
	78-09-13	1400	7.25	30.0	2.0	60	2.6	34	600	--	--
	78-10-16	1015	--	--	4.0	35	--	--	600	--	--
	78-11-20	1330	--	25.0	7.0	40	1.4	16	640	386	378
	78-12-18	0830	--	21.7	5.0	50	1.1	12	690	397	390
	79-01-19	1015	--	21.0	8.0	45	1.5	16	770	--	430
	79-02-21	1215	6.63	21.0	4.0	45	5.9	65	770	--	290
	79-03-16	1000	--	22.5	9.0	60	1.7	19	680	--	458
	79-04-19	1015	6.20	26.5	4.0	40	2.8	34	730	483	466
	79-05-14	1030	--	29.0	2.0	35	3.1	39	650	323	322
	79-06-18	1400	6.48	34.0	3.0	50	4.8	67	725	451	451
	79-07-22	1300	--	31.0	5.0	30	3.7	49	--	418	415
	79-08-30	1430	--	30.5	4.0	40	4.2	--	680	440	434
	79-10-16	1330	--	27.0	10	50	2.4	29	640	406	401
	79-11-19	1430	--	23.5	4.0	60	3.0	34	620	--	--
	79-12-27	1030	--	20.8	5.0	40	1.9	21	570	382	372
	80-01-31	1115	--	21.5	5.0	40	2.0	22	625	395	392
	80-02-19	1330	--	19.8	4.0	--	3.6	39	660	401	400
	80-04-24	1200	--	27.5	6.0	70	3.1	38	760	518	513

Table 3.—Field measurements, physical parameters, and macronutrient and potassium concentrations at Tamiami Canal Outlets, Levee 30 to Levee 67A--Continued

DATE OF SAMPLE	SOLIDS, SUSP. TOTAL, RESIDUE AT 110 DEG. C (MG/L)	PH FIELD (UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY (MG/L AS CACO3)	BICAR- BONATE (MG/L AS HCO3)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)
78-04-25	7	8.0	4.8	246	300	1.0	.02	.010	.680	.95	1.6	1.6
78-05-18	4	7.3	22	230	280	--	.06	.010	.530	1.0	1.5	1.6
78-06-13	--	7.6	11	220	270	1.2	.08	.010	.250	1.3	1.5	1.6
78-07-11	13	7.4	18	236	288	--	.01	.000	.620	1.1	1.7	1.7
78-08-16	1	7.6	10	203	248	--	.03	.020	.130	1.4	1.5	1.5
78-09-13	5	8.2	2.3	185	225	2.5	.02	.010	.090	1.4	1.4	1.5
78-10-16	--	7.3	24	250	300	1.0	.01	.000	1.000	1.8	2.8	2.8
78-11-20	8	7.3	26	262	320	--	.00	.010	1.000	1.0	2.0	2.0
78-12-18	7	7.9	6.0	244	297	.9	.01	.000	.820	1.3	2.1	2.1
79-01-19	5	7.3	--	--	--	1.8	.15	.020	.550	1.3	1.8	2.0
79-02-21	4	7.5	13	217	264	--	.07	.010	.030	1.7	1.7	1.8
79-03-16	9	7.5	17	269	328	1.3	.00	.010	.700	5.8	6.5	6.5
79-04-19	17	7.5	13	220	264	3.4	.02	.010	.060	2.1	2.1	2.1
79-05-14	1	7.3	23	233	284	--	.01	.010	.300	1.4	1.7	1.7
79-06-18	0	7.3	24	243	296	2.4	.03	.010	.180	1.4	1.5	1.6
79-07-22	3	7.0	51	262	320	--	.02	.010	.500	1.8	2.3	2.3
79-08-30	6	--	--	--	--	--	.02	.010	.300	1.7	2.0	2.0
79-10-16	5	7.8	7.9	260	312	3.1	.00	.010	.750	1.1	1.8	1.8
79-11-19	--	7.4	13	190	232	--	.01	.000	.500	1.9	2.4	2.4
79-12-27	10	7.3	20	203	248	--	.01	.000	.820	1.2	2.0	2.0
80-01-31	3	7.5	13	213	260	--	.01	.000	.070	1.0	1.0	1.0
80-02-19	1	7.4	14	203	248	--	.01	.000	.780	1.1	1.8	1.8
80-04-24	5	--	--	--	--	--	.08	.000	.020	1.6	1.6	1.7

Table 3.--Field measurements, physical parameters, and macronutrient and potassium concentrations at Tamiami Canal Outlets, Levee 30 to Levee 67A--Continued

DATE OF SAMPLE	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, INORGANIC, TOTAL (MG/L AS C)
78-04-25	.010	.010	15	59
78-05-18	.010	.010	20	57
78-06-13	.080	.010	47	50
78-07-11	.010	.000	12	64
78-08-16	.040	.000	28	50
78-09-13	.020	.000	25	50
78-10-16	.010	.000	20	68
78-11-20	.020	.000	24	--
78-12-18	.010	.000	27	--
79-01-19	.010	.000	23	--
79-02-21	.110	.010	20	--
79-03-16	.020	.010	20	--
79-04-19	.020	.010	35	--
79-05-14	.020	.000	21	--
79-06-18	.020	.010	21	--
79-07-22	.010	.010	20	--
79-08-30	.020	.010	30	--
79-10-16	.010	.000	18	--
79-11-19	.010	.010	18	--
79-12-27	.010	.000	18	--
80-01-31	.010	.000	23	--
80-02-19	.010	.010	18	--
80-04-24	.010	.010	36	--

Table 4.--Statistical summary of selected physical and chemical parameters at Tamiami Canal Outlets, Levee 30 to Levee 67A

PARAMETER	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM
STREAM STAGE (FT ABOVE DATUM)	7	6.5599958	0.42253046	6.029994	7.249992	0.1597015	45.9200
TEMPERATURE, WATER (DEG C)	22	26.2181653	4.24921358	19.799988	34.000000	0.9059354	576.7996
TURBIDITY (NTU)	23	4.7391291	2.07183318	1.999997	9.999999	0.4320071	109.0000
COLOR (PLATINUM COBALT UNITS)	20	46.4999779	10.14370180	29.999985	69.999985	2.2682007	929.9996
OXYGEN, DISSOLVED (MG/L)	22	2.9772723	1.18359076	1.099999	5.900000	0.2523424	65.5000
OXYGEN, DISSOLVED (PERCENT SATURATION)	21	36.0866456	15.51428746	12.400000	67.199997	3.3854951	757.3996
SPECIFIC CONDUCTANCE (MICROMHOS)	22	655.4541570	83.58192125	549.999268	769.999756	13.5557112	14419.9915
SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG	12	416.6664225	50.92299594	322.999756	517.999756	14.7002027	4999.9971
SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED	15	407.4664225	56.15777095	289.999756	512.999756	14.4998741	6111.9963
SOLIDS, SUSP. TOTAL, RESIDUE AT 110 DEG.	20	5.6999975	4.23145763	0.000000	16.999985	0.9461827	114.0000
PH FIELD (UNITS)	22	7.5227261	0.29225188	7.000000	8.200000	0.0623083	165.5000
CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	20	16.6500001	10.58869800	2.299999	51.000000	2.3677049	333.0000
ALKALINITY (MG/L AS CACO3)	20	229.4500000	25.13013498	185.000000	269.000000	5.6192690	4589.0000
BICARBONATE (MG/L AS HCO3)	20	279.1998177	30.22126711	224.999680	327.999756	6.7576808	5583.9964
POTASSIUM, DISSOLVED (MG/L AS K)	10	1.8599999	0.92879868	0.900000	3.400002	0.2937120	18.6000
NITROGEN, NITRATE TOTAL (MG/L AS N)	23	0.0295652	0.03586314	0.000000	0.150000	0.0074780	0.6800
NITROGEN, NITRITE TOTAL (MG/L AS N)	23	0.0073913	0.00619192	0.000000	0.020000	0.0012911	0.1700
NITROGEN, AMMONIA TOTAL (MG/L AS N)	23	0.4643476	0.32237496	0.020000	1.000000	0.0672198	10.6800
NITROGEN, ORGANIC TOTAL (MG/L AS N)	23	1.5804339	0.47499674	0.949999	5.799999	0.2033013	36.3500
NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L A	23	2.0447816	1.03708469	1.070000	6.500000	0.2162471	47.0300
NITROGEN, TOTAL (MG/L AS N)	23	2.0817381	1.02682842	1.080000	6.509999	0.2145256	47.8800
PHOSPHORUS, TOTAL (MG/L AS P)	23	0.0217391	0.02461560	0.010000	0.110000	0.0051327	0.5000
PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L	23	0.0052174	0.00510754	0.000000	0.010000	0.0010650	0.1200
CARBON, ORGANIC TOTAL (MG/L AS C)	23	23.4347817	7.73906869	11.999981	46.999939	1.6137074	538.9995
CARBON, INORGANIC, TOTAL (MG/L AS C)	7	56.8570709	7.31273062	49.999939	67.999908	2.7639524	397.9995

Table 5.--Field measurements, physical parameters, and macronutrient and potassium concentrations at Levee 67A Extended Canal at South End

STATION NUMBER	DATE OF SAMPLE	TIME	STREAM STAGE (FT ABOVE DATUM)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	COLOR (PLATINUM COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SPECIFIC CONDUCTANCE (MICROMHOS)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)
253735080402100	78-04-25	1200	--	25.5	1.0	40	3.3	39	540	--	--
	78-05-18	1100	6.58	28.0	2.0	--	4.4	55	435	--	--
	78-06-13	1300	6.65	30.5	2.0	45	3.8	50	440	--	--
	78-07-11	1200	--	30.0	2.0	40	1.9	24	450	--	--
	78-08-16	0920	7.30	29.5	2.0	--	2.4	31	530	--	--
	78-09-18	1000	7.42	29.0	3.0	80	1.9	24	680	--	--
	78-10-10	1020	7.32	26.0	1.0	40	3.5	42	600	--	--
	78-11-21	1030	7.38	24.5	2.0	60	1.9	22	640	416	413
	78-12-19	1100	7.20	19.5	3.0	50	3.6	38	590	407	390
	79-01-23	1045	7.10	19.5	3.0	40	4.2	45	570	--	350
	79-02-28	1000	6.98	19.5	3.0	40	4.0	43	690	--	452
	79-03-16	1130	--	23.0	2.0	40	4.8	55	740	--	504
	79-04-24	1030	6.56	24.5	2.0	30	2.5	29	660	445	432
	79-05-00	1100	6.87	27.0	1.0	40	1.3	16	560	318	314
	79-06-14	1100	--	29.0	--	--	1.3	--	--	--	--
	79-07-17	1300	--	32.5	2.0	30	9.0	123	--	330	319
	79-08-30	1040	--	28.5	1.0	60	1.7	--	750	496	494
	79-10-16	1015	8.18	26.0	8.0	60	2.3	28	700	450	442
	79-11-20	1055	7.96	21.5	1.0	65	4.0	44	815	--	--
	79-12-28	1110	7.74	17.4	1.0	35	4.3	44	660	388	382
	80-01-31	1200	--	19.5	1.0	30	4.0	43	545	337	336
	80-02-19	1100	--	17.0	1.0	--	4.8	49	850	538	536
	80-04-24	1110	--	25.2	2.0	40	4.3	51	580	389	386

Table 5.—Field measurements, physical parameters, and macronutrient and potassium concentrations at Levee 67A Extended Canal at South End--Continued

DATE OF SAMPLE	SOLIDS, SUSP. TOTAL, RESIDUE AT 110 DEG. C (MG/L)	PH FIELD (UNITS)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	ALKALINITY (MG/L AS CACO3)	BICARBONATE (MG/L AS HCO3)	POTASSIUM, DISSOLVED (MG/L AS K)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)
78-04-25	4	7.6	8.0	160	200	2.1	.01	.010	.060	1.1	1.1	1.1
78-05-18	6	7.8	4.6	148	180	--	.02	.000	.040	1.3	1.3	1.3
78-06-13	--	7.3	14	140	170	1.6	.03	.000	.040	1.1	1.1	1.1
78-07-11	6	7.4	12	161	196	--	.01	.000	.040	1.1	1.1	1.1
78-08-16	1	7.6	9.0	184	224	--	.01	.000	.030	1.2	1.2	1.2
78-09-18	--	--	--	--	--	--	.01	.000	.020	1.2	1.2	1.2
78-10-10	2	7.5	11	170	210	2.4	.01	.000	.010	.99	1.0	1.0
78-11-21	3	7.5	13	217	264	--	.01	.010	.020	1.4	1.4	1.4
78-12-19	17	8.1	3.1	197	240	2.4	.02	.000	.030	1.4	1.4	1.4
79-01-23	9	7.3	30	312	380	2.1	.05	.000	.020	1.4	1.4	1.4
79-02-28	1	7.6	10	210	256	--	.05	.010	.020	1.4	1.4	1.4
79-03-16	2	7.6	11	223	272	4.7	.10	.010	.030	1.6	1.6	1.7
79-04-24	13	7.4	16	200	248	3.4	.03	.010	.090	1.8	1.8	1.9
79-05-00	4	7.3	17	171	208	--	.02	.000	.090	1.2	1.2	1.3
79-06-14	--	7.7	8.6	221	270	--	--	--	--	--	--	--
79-07-17	11	8.3	.9	92	112	--	.02	.000	.050	1.3	1.3	1.3
79-08-30	2	--	--	--	--	--	.28	.020	.050	2.2	2.2	2.5
79-10-16	8	7.4	18	230	280	.8	.02	.010	.030	1.5	1.5	1.5
79-11-20	--	7.4	17	223	272	--	.16	.000	.020	1.7	1.7	1.8
79-12-28	6	7.5	12	187	228	--	.06	.000	.020	1.4	1.4	1.4
80-01-31	1	7.4	14	203	248	--	.06	.000	.100	1.2	1.3	1.3
80-02-19	2	7.6	8.8	180	220	--	.04	.000	.040	1.8	1.8	1.8
80-04-24	3	--	--	--	--	--	.03	.000	.020	2.1	2.1	2.1

Table 5.--Field measurements, physical parameters, and macronutrient and potassium concentrations at Levee 67A Extended Canal at South End--Continued

DATE OF SAMPLE	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, INORGANIC, TOTAL (MG/L AS C)
78-04-25	.010	.000	17	44
78-05-18	.020	.010	20	37
78-06-13	.060	.010	20	35
78-07-11	.020	.000	20	38
78-08-16	.010	.000	28	47
78-09-18	.010	.000	30	50
78-10-10	.010	.000	19	52
78-11-21	.030	.000	32	--
78-12-19	.010	.000	2.7	--
79-01-23	.010	.000	19	--
79-02-28	.010	.000	--	--
79-03-16	.010	.010	--	--
79-04-24	.040	.010	23	--
79-05-00	.020	.010	23	--
79-06-14	--	--	--	--
79-07-17	.030	.010	18	--
79-08-30	.010	.000	29	--
79-10-16	.010	.000	50	--
79-11-20	--	.000	29	--
79-12-28	.010	.000	22	--
80-01-31	.010	.000	38	--
80-02-19	.030	.000	29	--
80-04-24	.010	.010	27	--

Table 6.--Statistical summary of selected physical and chemical parameters at Levee 67 Extended Canal at South End

PARAMETER	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM
STREAM STAGE (FT ABOVE DATUM)	14	7.2314276	0.4949574	6.559999	8.179999	0.1322829	101.2400
TEMPERATURE, WATER (DEG C)	23	24.8956412	4.5254313	16.999985	32.499985	0.9436177	572.5997
TURBIDITY (NTU)	22	2.0909087	1.5089918	1.000000	8.000000	0.3217181	46.0000
COLOR (PLATINUM COBALT UNITS)	19	45.5263013	13.5292615	29.999985	79.999985	3.1038255	864.9997
OXYGEN, DISSOLVED (MG/L)	23	3.4434783	1.6689203	1.299999	9.000000	0.3479939	79.2000
OXYGEN, DISSOLVED (PERCENT SATURATION)	21	43.0761755	21.5389754	16.099991	122.999985	4.7001898	904.5997
SPECIFIC CONDUCTANCE (MICROMHOS)	21	620.2378860	115.1847881	434.999756	849.999756	25.1364725	13024.9956
SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG	11	410.3633922	69.1133456	317.999756	537.999756	20.8384578	4513.9973
SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED	14	410.7140416	69.5211215	313.999756	535.999756	18.6604797	5749.9966
SOLIDS, SUSP. TOTAL, RESIDUE AT 110 DEG.	19	5.3157881	4.4975603	0.999999	16.999985	1.0318111	101.0000
PH FIELD (UNITS)	21	7.5928570	0.2758102	7.299999	8.299999	0.0601867	159.4500
CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	20	11.4000001	6.2609063	0.900000	30.000000	1.3999812	238.0000
ALKALINITY (MG/L AS CACO3)	20	191.4499985	44.4515999	92.000000	312.000000	9.9396799	3829.0000
BICARBONATE (MG/L AS HCO3)	20	233.8999161	54.0505167	111.999985	379.999756	12.0860629	4677.9983
POTASSIUM, DISSOLVED (MG/L AS K)	8	2.4375001	1.1746580	0.800000	4.700000	0.4153043	19.5000
NITROGEN, NITRATE TOTAL (MG/L AS N)	22	0.0477273	0.0628626	0.010000	0.280000	0.0134024	1.0500
NITROGEN, NITRITE TOTAL (MG/L AS N)	22	0.0036364	0.0058109	0.000000	0.020000	0.0012389	0.0800
NITROGEN, AMMONIA TOTAL (MG/L AS N)	22	0.0395454	0.0251618	0.010000	0.100000	0.0053645	0.8700
NITROGEN, ORGANIC TOTAL (MG/L AS N)	22	1.4268176	0.3231010	0.990000	2.200000	0.0688854	31.3900
NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L A	22	1.4663629	0.3232802	1.000000	2.250000	0.0689236	32.2600
NITROGEN, TOTAL (MG/L AS N)	22	1.5177266	0.3695163	1.009999	2.549999	0.0787811	33.3900
PHOSPHORUS, TOTAL (MG/L AS P)	21	0.0180952	0.0132737	0.010000	0.060000	0.0028966	0.3800
PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L	22	0.0031818	0.0047673	0.000000	0.010000	0.0010164	0.0700
CARBON, ORGANIC TOTAL (MG/L AS C)	20	24.7849824	9.4856302	2.700000	49.999985	2.1165792	495.6996
CARBON, INORGANIC, TOTAL (MG/L AS C)	7	43.2856838	6.7259331	34.999954	51.999985	2.5421638	302.9998

Table 7.--Field measurements, physical parameters, and macronutrient and potassium concentrations at Grossman Road Borrow Canal

STATION NUMBER	DATE OF SAMPLE	TIME	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	COLOR (PLATINUM COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SPECIFIC CONDUCTANCE (MICROMHOS)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, SUSP. TOTAL, RESIDUE AT 110 DEG. C (MG/L)
253530080343000	78-04-25	1320	25.0	3.0	30	3.1	37	1580	--	--	6
	78-05-18	1230	24.5	3.0	--	6.7	79	1700	--	--	4
	78-06-14	0950	27.0	2.0	10	4.5	55	1820	--	--	--
	78-07-11	1320	30.0	2.0	20	6.4	83	1200	--	--	8
	78-08-13	1000	29.0	3.0	--	6.4	82	1700	--	--	2
	78-09-19	1300	28.8	2.0	15	--	--	720	616	614	2
	78-10-11	1340	28.0	2.0	15	6.4	81	1280	--	--	4
	78-11-20	1230	25.0	3.0	20	1.9	22	945	723	721	2
	78-12-18	0930	23.5	4.0	30	.7	8	1400	708	700	8
	79-01-17	1245	28.0	5.0	10	1.9	24	1540	--	930	6
	79-02-14	1300	23.0	4.0	15	2.8	32	1480	--	840	2
	79-03-14	0930	23.5	5.0	20	.8	9	1160	--	712	1
	79-04-23	0930	23.0	5.0	15	1.1	12	1350	797	784	13
	79-05-00	1130	27.0	1.0	10	3.6	44	970	494	492	2
	79-06-20	1330	28.5	5.0	20	4.1	52	1930	1150	1150	1
	79-07-00	1200	32.0	2.0	5	3.7	50	--	970	969	1
	79-08-30	1230	27.5	2.0	5	7.3	--	1790	1030	1030	5
	79-10-15	1500	29.5	8.0	5	5.2	67	1020	581	576	5
	79-11-19	0930	23.0	3.0	10	1.5	17	1400	--	--	--
	79-12-26	1400	23.0	3.0	20	3.1	35	1260	717	710	7
	80-01-30	1400	23.6	4.0	10	3.4	39	1330	778	776	2
	80-02-20	1330	22.5	3.0	--	3.2	36	1430	793	792	1
	80-04-24	1030	22.9	4.0	5	3.5	40	1160	687	682	5

Table 7.—Field measurements, physical parameters, and macronutrient and potassium concentrations at Grossman Road Borrow Canal--Continued

DATE OF SAMPLE	PH FIELD (UNITS)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	ALKA-LINITY (MG/L AS CACO3)	BICAR-BONATE (MG/L AS HCO3)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
78-04-25	7.1	38	243	296	10	.01	.010	.240	.41	.65	.67	.000
78-05-18	7.3	22	223	272	--	.04	.000	.070	.52	.59	.63	.010
78-06-14	--	--	--	--	--	.05	.000	.030	.57	.60	.65	.010
78-07-11	7.5	12	194	236	--	.01	.000	.030	.49	.52	.53	.010
78-08-13	7.4	15	190	232	--	.01	.010	.070	.51	.58	.59	.010
78-09-19	--	--	--	--	--	.02	.000	.070	.34	.41	.43	.010
78-10-11	7.6	10	210	250	7.2	.02	.000	.100	.54	.64	.66	.010
78-11-20	7.3	24	249	304	--	.01	.000	.220	.56	.78	.79	.010
78-12-18	7.6	12	238	290	10	.02	.010	.180	.98	1.1	1.1	.000
79-01-17	7.1	59	381	464	12	.05	.010	.160	.68	.84	.90	.010
79-02-14	7.3	24	243	296	--	.05	.010	.120	.82	.94	1.0	.010
79-03-14	7.3	24	246	300	7.6	.02	.000	.220	1.2	1.4	1.4	.010
79-04-23	6.9	60	250	300	8.3	.00	.010	.240	1.2	1.4	1.4	.010
79-05-00	7.3	19	194	236	--	.03	.000	.100	.92	1.0	1.0	.000
79-06-20	7.9	5.8	236	--	--	.04	.000	.090	.96	1.0	1.0	.010
79-07-00	7.1	38	243	296	--	.02	.010	.120	1.4	1.5	1.5	.010
79-08-30	--	--	--	--	--	.03	.000	.080	1.6	1.6	1.7	.010
79-10-15	7.8	6.2	200	244	6.0	.02	.000	.070	.78	.85	.87	.010
79-11-19	7.3	22	230	280	--	.03	.000	.200	.90	1.1	1.1	.000
79-12-26	7.4	18	233	284	--	.04	.010	.170	1.1	1.2	1.3	.010
80-01-30	7.8	7.6	246	300	--	.03	.000	.180	.92	1.1	1.1	.010
80-02-20	7.7	8.6	220	268	--	.04	.010	.180	.94	1.1	1.1	.010
80-04-24	--	--	--	--	--	.02	.000	.180	.52	.70	.72	.010

Table 7.--Field measurements, physical parameters, and macronutrient and potassium concentrations at Grossman Road Borrow Canal--Continued

DATE OF SAMPLE	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, INORGANIC, TOTAL (MG/L AS C)
78-04-25	.000	5.0	60
78-05-18	.000	8.0	53
78-06-14	.000	11	53
78-07-11	.000	5.0	50
78-08-13	.000	15	59
78-09-19	.000	25	52
78-10-11	.000	5.0	59
78-11-20	.000	10	--
78-12-18	.000	2.3	--
79-01-17	.000	8.6	--
79-02-14	.000	9.7	--
79-03-14	.000	7.3	--
79-04-23	.000	7.9	--
79-05-00	.000	8.6	--
79-06-20	.000	6.3	--
79-07-00	.010	9.0	--
79-08-30	.000	21	--
79-10-15	.000	7.8	--
79-11-19	.000	13	--
79-12-26	.000	26	--
80-01-30	.000	--	--
80-02-20	.000	12	--
80-04-24	.010	4.0	--

Table 8.--Statistical summary of selected physical and chemical parameters at Grossman Road Borrow Canal

PARAMETER	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM
TEMPERATURE, WATER (DEG C)	23	25.991288	2.8600533	22.499985	31.99998	0.5963623	597.7996
TURBIDITY (NTU)	23	3.391304	1.5296804	1.000000	8.00000	0.3189604	78.0000
COLOR (PLATINUM COBALT UNITS)	20	14.499994	7.5915420	5.000000	30.00000	1.6975204	289.9999
OXYGEN, DISSOLVED (MG/L)	22	3.697726	1.9999078	0.750000	7.30000	0.4263818	81.3500
OXYGEN, DISSOLVED (PERCENT SATURATION)	21	43.517592	24.3112378	8.740000	83.79990	5.3051470	913.8694
SPECIFIC CONDUCTANCE (MICROMHOS)	22	1371.135820	310.5825965	720.000000	1930.00000	66.2164321	30164.9880
SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG	13	772.615178	183.6203935	493.999756	1150.00000	50.9271342	10043.9973
SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED	16	779.874786	171.7599202	491.999756	1150.00000	42.9399801	12477.9966
SOLIDS, SUSP. TOTAL, RESIDUE AT 110 DEG.	21	4.142856	3.1029932	1.000000	13.00000	0.6771286	87.0000
PH FIELD (UNITS)	19	7.405262	0.2717716	6.900004	7.90000	0.0623487	140.7000
CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	19	22.378947	16.0749487	5.799999	60.00000	3.6878461	425.2000
ALKALINITY (MG/L AS CACO3)	19	235.210526	40.6988656	190.000000	381.00000	9.3369601	4469.0000
BICARBONATE (MG/L AS HCO3)	18	285.999774	51.1330234	231.999710	463.99976	12.0521692	5147.9959
POTASSIUM, DISSOLVED (MG/L AS K)	7	8.728572	2.0483429	6.000003	12.00000	0.7742008	61.1000
NITROGEN, NITRATE TOTAL (MG/L AS N)	23	0.026087	0.0149967	0.000000	0.05000	0.0031270	0.6000
NITROGEN, NITRITE TOTAL (MG/L AS N)	23	0.003913	0.0049901	0.000000	0.01000	0.0010405	0.0900
NITROGEN, AMMONIA TOTAL (MG/L AS N)	23	0.135652	0.0665941	0.030000	0.24000	0.0138858	3.1200
NITROGEN, ORGANIC TOTAL (MG/L AS N)	23	0.820000	0.3310589	0.340000	1.60000	0.0690306	18.8600
NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L A	23	0.955652	0.3515268	0.410000	1.68000	0.0732984	21.9800
NITROGEN, TOTAL (MG/L AS N)	23	0.985652	0.3540007	0.430000	1.71000	0.0738143	22.6700
PHOSPHORUS, TOTAL (MG/L AS P)	23	0.008261	0.0038755	0.000000	0.01000	0.0008081	0.1900
PHOSPHORUS, ORTHOPH OSPHATE TOTAL (MG/L	23	0.000870	0.0028810	0.000000	0.01000	0.0006007	0.0200
CARBON, ORGANIC TOTAL (MG/L AS C)	22	10.340904	6.3544956	2.299999	25.99998	1.3547830	227.4999
CARBON, INORGANIC, TOTAL (MG/L AS C)	7	55.142805	4.0590833	49.999939	59.99992	1.5341893	385.9996

Table 9.--Concentrations of major ions, dissolved solids, and hardness at the canal stations

STATION NAME	DATE OF SAMPLE	TIME	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SULFATE DIS-SOLVED (MG/L AS SO4)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
Tamiami Canal Outlets, Levee 30 to Levee 67A (Bridge 53)	78-04-25	0815	86	5.5	34	57	6.0	.1	5.4	372	343
	78-06-13	1430	85	6.4	42	69	2.0	.2	6.4	392	346
	78-09-13	1400	61	12	46	78	11	.4	10	385	335
	78-10-16	1015	96	6.3	30	54	4.1	.1	8.0	389	348
	79-04-19	1015	61	16	59	97	29	.3	4.9	449	402
	79-06-18	1400	76	13	61	91	10	.3	8.9	453	409
	79-10-16	1330	68	15	52	79	20	.4	12	428	404
Grossman Road Borrow Canal	78-04-25	1320	84	29	210	310	120	.3	6.9	927	917
	78-10-11	1340	78	22	140	240	88	.3	6.3	708	706
	79-04-23	0930	80	23	150	240	87	.2	6.5	761	744
	79-10-15	1500	68	16	120	170	57	.3	6.6	579	565
Levee 67 Extended Canal at South End	78-04-25	1200	54	10	43	70	7.9	.2	5.1	340	292
	78-06-13	1300	50	7.2	34	50	3.8	.2	8.8	282	240
	78-10-10	1020	59	13	46	78	5.7	.2	12	360	321
	79-04-24	1030	58	14	54	85	20	.3	4.4	407	362
	79-10-16	1015	90	6.1	35	54	2.1	.2	8.7	377	335

Table 9.--Concentrations of major ions, dissolved solids, and hardness at the canal stations--Continued

DATE OF SAMPLE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	STRONTIUM, DISSOLVED (UG/L AS SR)
78-04-25	240	0	540
78-06-13	240	18	560
78-09-13	200	18	780
78-10-16	270	20	570
79-04-19	220	3	1100
79-06-18	240	0	1000
79-10-16	220	0	1100
78-04-25	330	87	1300
78-10-11	290	82	1200
79-04-23	300	50	1000
79-10-15	280	80	990
78-04-25	180	13	700
78-06-13	160	16	560
78-10-10	200	30	860
79-04-24	200	0	920
79-10-16	220	0	560

Table 10.--Concentrations of trace elements at the canal stations

STATION NAME	DATE OF SAMPLE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
Tamiami Canal Outlets, Levee 30 to Levee 67A (Bridge 53)	78-04-25	0815	2	0	<10	4	950	0	20	7	20	.7
	78-10-16	1015	1	0	10	2	870	--	20	4	10	<.5
	79-05-14	1030	4	0	10	2	490	3	30	13	20	<.5
	79-10-16	1330	5	0	30	3	1300	2	30	0	10	.2
Grossman Road Borrow Canal	78-04-25	1320	1	0	<10	4	600	33	20	23	20	<.5
	78-10-11	1340	0	2	<10	1	300	10	20	10	10	.7
	79-10-15	1500	5	0	20	1	330	0	20	1	0	.3
Levee 67 Extended Canal at South End	78-04-25	1200	2	0	<10	5	240	1	10	7	10	<.5
	78-10-10	1020	1	0	<10	0	110	3	0	8	0	1.1
	79-10-16	1015	5	0	20	1	180	0	10	0	0	.3

Table 11.--Periphyton and phytoplankton data from the canal stations

STATION NAME	DATE OF SAMPLE	TIME	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)
Tamiami Canal Outlets, Levee 30 to Levee 67A (Bridge 53)	78-06-13	1430	--	--	--	--	44
	78-07-11	1030	1.50	2.76	18.1	.640	--
	78-09-13	1400	--	--	10.2	.000	2200
	78-11-20	1330	1.02	1.65	.740	.000	1200
	79-06-18	1400	.000	.080	.240	.000	3700
Grossman Road Borrow Canal	78-06-14	0950	--	--	--	--	560
	78-07-11	1320	5.28	7.24	21.7	11.4	--
	78-09-19	1300	2.05	3.78	4.33	.360	420
	78-11-20	1230	.472	.709	.000	.000	1400
	79-06-20	1335	.550	.940	.280	.020	2900
Levee 67 Extended Canal at South End	78-06-13	1300	--	--	--	--	1300
	78-07-11	1200	2.05	3.86	36.8	5.40	--
	78-09-18	1000	4.57	7.87	11.2	2.49	--
	78-11-21	1030	4.88	8.58	15.9	3.67	870
	79-06-14	1105	--	--	--	--	390

Marsh Stations

The locations of the four marsh stations are shown in figure 4. The designated names of these stations and the U.S. Geological Survey identification numbers are as follows:

Station name	Identification number
Context Road at Bridge 27	252953080390300
Taylor Slough drainage north of Context Road	253210080402000
Northeast Shark River Slough Station 1	254130080380500
Northeast Shark River Slough Station 2	254315080331500

The data tables for the station Context Road at Bridge 27 and Taylor Slough drainage north of Context Road are as follows:

Table 12 (field measurements, physical parameters, and macronutrients)

Table 13 (statistical summary of selected parameters)

The data tables for Northeast Shark River Slough Stations 1 and 2 are as follows:

Table 14 (field measurements, physical parameters, and macronutrients)

Table 15 (statistical summary of selected parameters)

Major ions and trace elements for the four marsh stations are shown in tables 16 and 17, respectively.

The algal characteristics of the marsh stations are summarized in table 18.

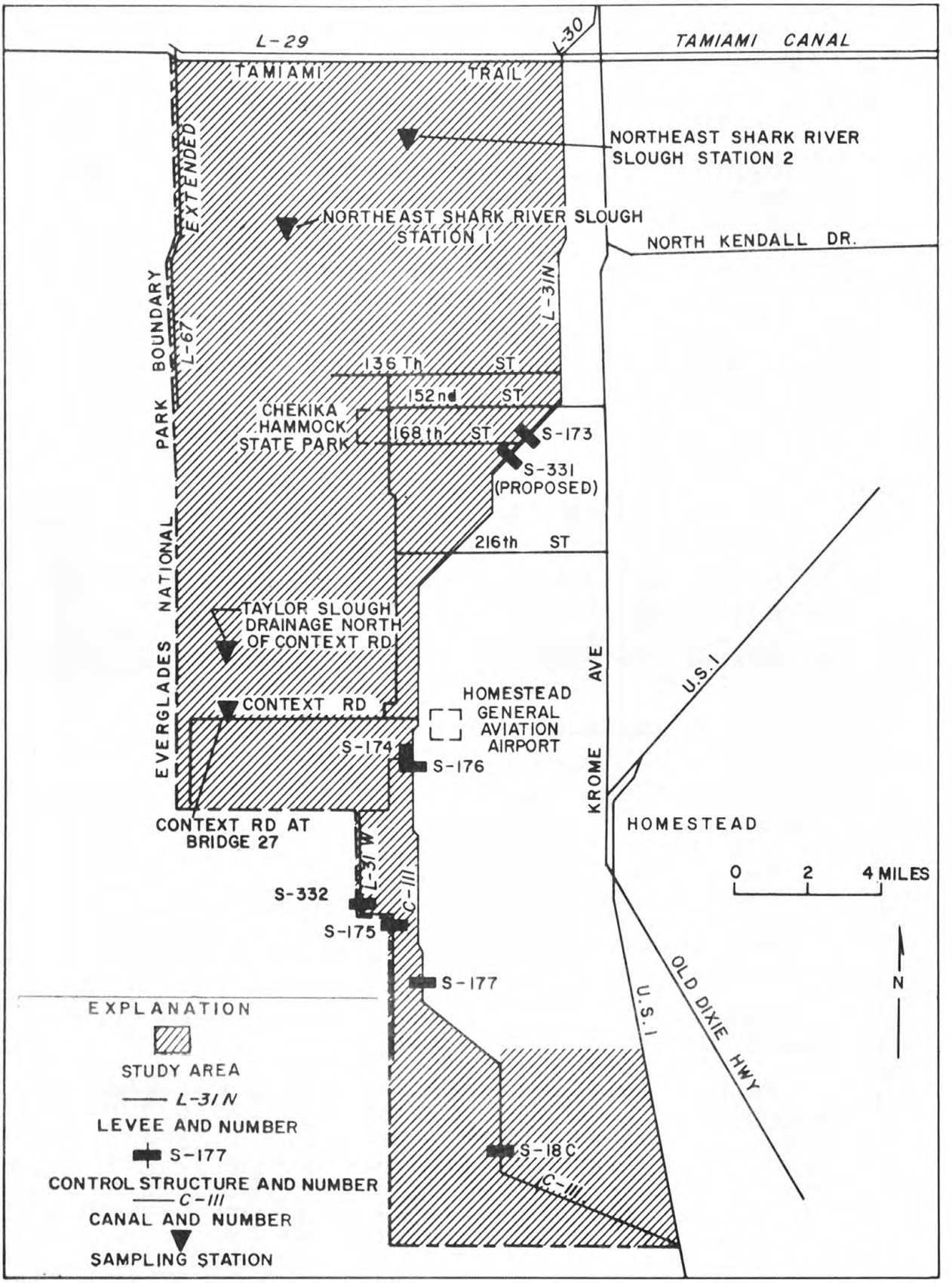

Figure 4.--Location of the four marsh stations.

Table 12.—Field measurements, physical parameters, and macronutrient and potassium concentrations at Taylor Slough drainage north of Context Road and Context Road at Bridge 27

STATION NAME	DATE OF SAMPLE	TIME	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	COLOR (PLATINUM COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SPECIFIC CONDUCTANCE (MICROMHOS)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, SUSP. TOTAL, RESIDUE AT 110 DEG. C (MG/L)
Context Road at Bridge 27	78-06-14	1300	30.0	2.0	40	4.1	53	427	--	--	--
	78-07-13	1130	28.5	3.0	40	4.8	61	300	--	--	--
	78-08-17	1250	33.0	2.0	--	7.6	104	210	--	--	--
	78-09-19	1220	31.0	1.0	20	--	--	390	151	146	5
	78-10-10	1440	27.5	1.0	20	7.0	87	275	--	--	--
	78-11-21	1330	27.0	1.0	20	3.5	43	322	--	--	--
	78-12-18	1130	20.5	4.0	30	2.3	25	390	--	--	--
	79-05-16	1000	29.0	1.0	25	5.5	70	190	--	--	--
	79-06-20	1030	28.5	1.0	20	2.9	37	250	--	--	--
	79-07-17	1345	32.0	2.0	5	7.4	100	--	--	--	--
	79-08-30	1115	28.0	1.0	10	3.7	--	360	--	--	--
	79-10-16	1100	28.5	4.0	10	6.4	--	220	--	--	--
	79-11-20	1135	22.0	1.0	20	5.8	65	390	--	--	--
	79-12-26	1130	20.0	1.0	20	6.1	66	400	--	--	--
Taylor Slough drainage north of Context Road	78-06-14	1115	27.5	2.0	40	4.9	61	469	--	--	--
	78-07-12	1030	31.0	3.0	30	3.9	51	320	--	--	--
	78-08-16	0900	29.5	3.0	--	4.8	62	420	--	--	--
	78-09-19	0950	--	1.0	20	--	--	245	186	184	2
	78-10-10	0945	25.8	2.0	20	4.5	54	339	--	--	--
	78-11-21	0930	24.8	2.0	20	3.4	40	315	--	--	--
	78-12-26	1200	27.0	4.0	30	4.0	49	480	--	--	--
	79-05-16	1030	27.5	1.0	15	5.1	63	220	--	--	--
	79-06-20	1015	29.0	27	30	3.7	47	245	--	--	--
	79-07-17	1330	31.0	1.0	10	8.9	118	--	--	--	--
	79-08-30	1100	28.0	2.0	10	3.2	--	300	--	--	--
	79-10-16	1045	27.0	3.0	20	2.4	29	240	--	--	--
	79-11-20	1120	22.2	1.0	5	7.3	83	425	--	--	--
	79-12-28	1130	19.7	1.0	20	7.8	84	395	--	--	--

Table 12.--Field measurements, physical parameters, and macronutrient and potassium concentrations at Taylor Slough drainage north of Context Road and Context Road at Bridge 27--Continued

DATE OF SAMPLE	PH FIELD (UNITS)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	ALKA-LINITY (MG/L AS CACO3)	BICAR-BONATE (MG/L AS HCO3)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
78-06-14	7.6	9.6	200	240	.5	.00	.000	.030	.84	.87	.87	.020
78-07-13	7.2	17	138	168	--	.00	.000	.010	.93	.94	.94	.010
78-08-17	8.2	1.4	112	136	--	.01	.000	.020	.64	.66	.67	.010
78-09-19	--	--	--	--	--	.00	.000	.010	.73	.74	.74	.010
78-10-10	7.7	4.8	120	150	.3	.01	.000	.020	.63	.65	.66	.010
78-11-21	7.6	9.0	184	224	--	.00	.010	.100	.68	.78	.79	.030
78-12-18	7.5	9.9	160	195	.5	.04	.020	.710	1.3	2.0	2.0	.070
79-05-16	7.7	3.5	90	110	--	.01	.000	.040	.58	.62	.63	.010
79-06-20	7.7	3.8	98	120	.2	.00	.000	.030	.92	.95	.95	.010
79-07-17	7.9	2.6	105	128	--	.01	.000	.020	.59	.61	.62	.010
79-08-30	--	--	--	--	--	.00	.000	.020	1.1	1.1	1.1	.010
79-10-16	7.9	2.4	98	120	.2	.01	.000	.020	.83	.85	.86	.010
79-11-20	7.8	5.9	190	232	--	.02	.000	.030	.77	.80	.82	.000
79-12-26	7.7	6.4	190	200	.2	.01	.000	.040	.51	.56	.56	.010
78-06-14	--	--	--	--	--	.00	.000	.010	1.0	1.0	1.0	.020
78-07-12	7.3	13	138	168	--	.00	.000	.010	.85	.86	.86	.010
78-08-16	7.5	12	190	232	--	.00	.000	.020	.72	.74	.74	.010
78-09-19	--	--	--	--	--	.00	.000	.010	.79	.80	.80	.010
78-10-10	7.4	11	140	170	.4	.00	.000	.010	.71	.72	.72	.020
78-11-21	7.7	5.6	144	176	--	.01	.000	.010	.87	.88	.89	.020
78-12-26	7.4	16	204	249	2.5	.00	.010	2.400	1.4	3.8	3.8	.110
79-05-16	7.6	4.8	98	120	--	.02	.000	.050	.65	.70	.72	.010
79-06-20	7.6	10	207	252	--	.00	.000	.030	1.0	1.0	1.0	.020
79-07-17	7.8	4.0	128	156	--	.00	.000	.010	.65	.66	.66	.010
79-08-30	--	--	--	--	--	.00	.000	.020	1.5	1.5	1.5	.020
79-10-16	7.6	5.5	110	136	.3	.00	.000	.020	.61	.63	.63	.010
79-11-20	7.6	8.6	197	240	--	.01	.000	.040	.28	.32	.33	.010
79-12-28	7.7	6.6	170	208	.1	.01	.000	.010	.64	.65	.66	.010

Table 12.--Field measurements, physical parameters, and macronutrient and potassium concentrations at Taylor Slough drainage north of Context Road and Context Road at Bridge 27--Continued

DATE OF SAMPLE	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, INORGANIC, TOTAL (MG/L AS C)
78-06-14	.000	22	47
78-07-13	.000	6.0	36
78-08-17	.000	10	22
78-09-19	.000	27	29
78-10-10	.000	3.0	42
78-11-21	.000	13	--
78-12-18	.020	4.1	--
79-05-16	.000	10	--
79-06-20	.000	13	--
79-07-17	.000	10	--
79-08-30	.000	11	--
79-10-16	.000	74	--
79-11-20	.000	10	--
79-12-26	.000	20	--
78-06-14	.000	18	40
78-07-12	.000	3.0	38
78-08-16	.000	10	47
78-09-19	.000	16	40
78-10-10	.000	30	45
78-11-21	.000	11	--
78-12-26	.020	4.0	--
79-05-16	.000	15	--
79-06-20	.010	14	--
79-07-17	.000	13	--
79-08-30	.000	13	--
79-10-16	.000	62	--
79-11-20	.000	--	--
79-12-28	.000	9.5	--

Table 13.—Statistical summary of selected physical and chemical parameters at Taylor Slough drainage north of Context Road and Context Road at Bridge 27

PARAMETER	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM
TEMPERATURE, WATER (DEG C)	27	27.2407232	3.61111643	19.699997	32.999954	0.6949597	735.49953
TURBIDITY (NTU)	28	2.7857129	4.85612849	0.999999	26.999985	0.9177220	77.99996
COLOR (PLATINUM COBALT UNITS)	26	21.1538307	9.93051485	5.000000	39.999954	1.9475342	549.99960
OXYGEN, DISSOLVED (MG/L)	26	5.0384606	1.81263854	2.299999	8.900000	0.3554877	130.99998
OXYGEN, DISSOLVED (PERCENT SATURATION)	23	63.6043097	23.74632565	25.299988	117.999985	4.9514512	1462.89912
SPECIFIC CONDUCTANCE (MICROMHOS)	26	328.3459344	85.21819017	190.000000	479.999756	16.7126621	8536.99429
SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG	2	168.4999847	24.74873734	150.999985	185.999985	17.5000000	336.99997
SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED	2	164.9999847	26.87005769	145.999985	183.999985	19.0000000	329.99997
SOLIDS, SUSP. TOTAL, RESIDUE AT 110 DEG.	2	3.5000000	2.12132034	2.000000	5.000000	1.5000000	7.00000
PH FIELD (UNITS)	26	7.6903840	0.26833594	7.199992	8.500000	0.0526250	199.94998
CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	23	7.5391305	4.26952603	1.400000	17.000000	0.8902577	173.40000
ALKALINITY (MG/L AS CACO3)	24	151.0833327	41.76322044	90.000000	214.999985	8.5248817	3625.99998
BICARBONATE (MG/L AS HCO3)	23	179.5651690	47.69678699	110.000000	251.999985	9.9454680	4129.99889
POTASSIUM, DISSOLVED (MG/L AS K)	10	0.5200001	0.70836272	0.100000	2.500000	0.2240040	5.20000
NITROGEN, NITRATE TOTAL (MG/L AS N)	28	0.0060714	0.00916486	0.000000	0.040000	0.0017320	0.17000
NITROGEN, NITRITE TOTAL (MG/L AS N)	28	0.0014286	0.00448395	0.000000	0.020000	0.0008474	0.04000
NITROGEN, AMMONIA TOTAL (MG/L AS N)	26	0.1339285	0.46295613	0.010000	2.400000	0.0874905	3.75000
NITROGEN, ORGANIC TOTAL (MG/L AS N)	28	0.8114283	0.26877923	0.280000	1.500000	0.0507945	22.71999
NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L A	28	0.9457139	0.64234757	0.320000	3.799999	0.1213923	26.47999
NITROGEN, TOTAL (MG/L AS N)	28	0.9528568	0.64589212	0.330000	3.809999	0.1220621	26.67999
PHOSPHORUS, TOTAL (MG/L AS P)	28	0.0182143	0.02178235	0.000000	0.110000	0.0041165	0.51000
PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L	28	0.0017857	0.00547964	0.000000	0.020000	0.0010356	0.05000
CARBON, ORGANIC TOTAL (MG/L AS C)	27	16.7259177	16.26183302	2.999996	73.999985	3.1295912	451.59978
CARBON, INORGANIC, TOTAL (MG/L AS C)	10	38.5999557	7.97494814	21.999969	46.999939	2.5219000	385.99956

Table 14.--**Field measurements, physical parameters, and macronutrient and potassium concentrations at Northeast Shark River Slough Stations 1 and 2**

STATION NAME	DATE OF SAMPLE	TIME	STREAM STAGE (FT ABOVE DATUM)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	COLOR (PLATINUM COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)
Northeast Shark River Slough Station 1	78-05-24	1015	5.26	--	--	--	--	--	--	--	--
	78-06-12	1000	5.32	34.0	9.0	100	5.1	71	465	7.6	10
	78-07-12	1000	5.84	29.5	10	90	5.0	64	490	7.4	12
	78-08-16	1030	6.04	29.5	5.0	--	5.1	66	350	7.9	3.3
	78-09-18	1030	6.30	30.0	6.0	50	2.9	38	470	7.5	8.6
	78-10-10	1045	6.28	25.0	6.0	40	4.1	30	457	7.5	9.1
	78-11-21	1100	6.02	26.0	1.0	40	6.3	76	--	8.0	2.8
	78-12-26	1315	5.86	--	7.0	--	--	71	--	--	--
	79-05-16	0900	6.06	26.5	1.0	40	6.3	77	355	7.7	5.1
	79-06-14	1020	5.68	28.0	6.0	60	5.5	69	--	7.7	6.1
	79-07-17	1200	5.85	32.0	9.0	35	4.7	63	--	7.9	3.1
	79-08-30	1015	--	27.0	11	70	4.5	--	400	--	--
	79-10-16	0930	6.41	27.0	7.0	40	4.6	57	375	7.5	8.1
	79-11-20	1020	6.15	22.2	4.0	40	5.5	62	560	--	--
	79-12-28	1000	6.17	19.0	2.0	30	5.3	56	485	7.6	8.6
Northeast Shark River Slough Station 2	78-05-24	1030	4.89	--	--	--	--	--	--	--	--
	78-06-12	1100	5.21	33.0	4.0	80	11.2	154	360	--	--
	78-07-12	0930	5.70	28.5	5.0	70	5.2	66	370	7.6	6.8
	78-08-16	1000	5.89	29.5	2.0	--	6.3	81	300	7.9	2.9
	78-09-18	1100	6.30	29.5	4.0	40	3.6	46	480	7.5	7.6
	78-10-11	1115	6.18	25.9	2.0	40	7.4	90	514	7.8	4.1
	78-11-21	1130	6.16	25.5	4.0	30	4.5	54	--	7.8	4.7
	78-12-26	1230	5.70	26.0	2.0	50	9.2	112	490	7.8	5.5
	79-05-16	0930	6.00	26.5	1.0	40	5.5	67	315	7.6	6.0
	79-06-14	1030	5.62	28.0	4.0	60	5.4	68	470	7.8	4.7
	79-07-17	1215	5.80	31.5	1.0	30	5.6	75	--	8.1	1.3
	79-08-30	1000	--	27.0	2.0	40	4.8	--	450	--	--
	79-10-16	0915	6.30	26.5	3.0	30	4.3	52	250	7.7	4.3
	79-11-20	1040	--	22.8	2.0	30	8.0	92	375	7.8	5.6
	79-12-28	1050	6.02	19.1	1.0	30	7.1	76	440	7.9	4.4

Table 14.--Field measurements, physical parameters, and macronutrient and potassium concentrations at Northeast Shark River Slough Stations 1 and 2--Continued

DATE OF SAMPLE	ALKALINITY (MG/L AS CACO3)	BICARBONATE (MG/L AS HCO3)	POTASSIUM, DISSOLVED (MG/L AS K)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, INORGANIC, TOTAL (MG/L AS C)
78-05-24	--	--	--	--	--	--	--	--	--	--	--	--	--
78-06-12	210	260	1.8	.00	.010	.360	2.6	2.9	2.9	.010	.010	47	48
78-07-12	154	188	--	.00	.010	.040	2.0	2.0	2.0	.010	.000	26	38
78-08-16	133	162	--	.00	.000	.020	1.9	1.9	1.9	.010	.000	31	29
78-09-18	140	170	1.1	.00	.000	.040	1.9	1.9	1.9	.010	.000	32	46
78-10-10	150	180	1.2	.01	.000	.070	1.5	1.5	1.5	.010	.000	34	44
78-11-21	141	172	--	.01	.000	.020	1.5	1.5	1.5	.000	.000	33	--
78-12-26	--	--	1.6	.00	.010	.070	2.2	2.2	2.2	.000	.000	40	--
79-05-16	131	160	--	.01	.000	.060	1.5	1.5	1.5	.010	.000	28	--
79-06-14	156	190	.7	.00	.010	.090	2.4	2.4	2.5	.010	.000	34	--
79-07-17	125	152	--	.00	.010	.020	2.1	2.1	2.1	.010	.000	28	--
79-08-30	--	--	--	.00	.010	.040	1.9	1.9	1.9	.010	.000	22	--
79-10-16	130	160	.9	.00	.000	.050	1.3	1.3	1.3	.010	.000	94	--
79-11-20	177	216	--	.00	.010	.320	1.9	2.2	2.2	.010	.010	28	--
79-12-28	160	240	1.0	.02	.000	.190	1.8	1.9	2.0	.010	.000	48	--
78-05-24	--	--	--	--	--	--	--	--	--	--	--	--	--
78-06-12	--	--	--	.00	.000	.040	3.1	3.1	3.1	.010	.000	44	25
78-07-12	138	168	--	.00	.000	.030	1.8	1.8	1.8	.020	.000	30	30
78-08-16	118	144	--	.00	.000	.020	1.5	1.5	1.5	.010	.000	26	27
78-09-18	120	150	1.3	.00	.000	.010	1.6	1.6	1.6	.010	.000	42	36
78-10-11	130	160	2.0	.01	.000	.020	1.6	1.6	1.6	.010	.000	53	42
78-11-21	151	184	--	.01	.000	.070	1.9	1.9	1.9	.010	.000	38	--
78-12-26	178	217	1.1	.00	.010	.090	2.0	2.0	2.1	.000	.000	31	--
79-05-16	123	150	--	.01	.000	.050	1.5	1.5	1.5	.010	.000	26	--
79-06-14	151	184	--	.00	.010	.040	1.8	1.8	1.8	.010	.000	24	--
79-07-17	82	100	--	.01	.000	.020	1.5	1.5	1.5	.010	.000	25	--
79-08-30	--	--	--	.01	.000	.020	2.2	2.2	2.2	.010	.000	26	--
79-10-16	110	136	.6	.00	.000	.030	1.0	1.0	1.0	.010	.000	64	--
79-11-20	180	220	--	.01	.000	.030	1.3	1.3	1.3	.000	.000	16	--
79-12-28	170	220	.6	.01	.000	.050	1.5	1.5	1.5	.010	.000	34	--

Table 15.--Statistical summary of selected physical and chemical parameters at Northeast Shark River Slough Stations 1 and 2

PARAMETER	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM
STREAM STAGE (FT ABOVE DATUM)	27	5.8892573	0.37792867	4.889999	6.410000	0.0727324	159.00995
TEMPERATURE, WATER (DEG C)	27	27.2222070	3.63987403	18.999985	33.999954	0.7004941	734.99959
TURBIDITY (NTU)	28	4.3214263	2.94459237	1.000000	10.999999	0.5564757	120.99994
COLOR (PLATINUM COBALT UNITS)	25	48.1999707	19.83680073	29.999985	99.999832	3.9673601	1204.99927
OXYGEN, DISSOLVED (MG/L)	27	5.6666658	1.73426978	2.900000	11.200000	0.3337604	152.99998
OXYGEN, DISSOLVED (PERCENT SATURATION)	26	70.8999599	23.83965544	29.999954	153.999786	4.6753411	1843.39896
SPECIFIC CONDUCTANCE (MICROMHOS)	22	419.1361084	78.60039265	250.000000	559.999756	16.7576600	9220.99438
PH FIELD (UNITS)	23	7.7239124	0.18207709	7.399992	8.099999	0.0379657	177.64998
CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	23	5.8565219	2.64211122	1.299999	12.000000	0.5509183	134.70000
ALKALINITY (MG/L AS CACO3)	24	144.0833327	27.19001812	82.000000	210.000000	5.5501392	3457.99998
BICARBONATE (MG/L AS HCO3)	24	178.4582876	36.14702777	99.999985	260.000000	7.3784811	4282.99890
POTASSIUM, DISSOLVED (MG/L AS K)	12	1.1583334	0.45418932	0.600000	2.000001	0.1311132	13.90000
NITROGEN, NITRATE TOTAL (MG/L AS N)	28	0.0042857	0.00572750	0.000000	0.020000	0.0010824	0.12000
NITROGEN, NITRITE TOTAL (MG/L AS N)	28	0.0032143	0.00475595	0.000000	0.010000	0.0008988	0.09000
NITROGEN, AMMONIA TOTAL (MG/L AS N)	28	0.0682143	0.08463659	0.010000	0.360000	0.0159948	1.91000
NITROGEN, ORGANIC TOTAL (MG/L AS N)	28	1.8142846	0.43351586	1.000000	3.099996	0.0819268	50.79997
NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L A	28	1.8824986	0.46829524	1.030000	3.139996	0.0884995	52.70996
NITROGEN, TOTAL (MG/L AS N)	28	1.8899987	0.46897789	1.030000	3.139996	0.0886285	52.91996
PHOSPHORUS, TOTAL (MG/L AS P)	28	0.0089286	0.00416269	0.000000	0.020000	0.0007867	0.25000
PHOSPHORUS, ORTHOPH OSPHATE TOTAL (MG/L	28	0.0007143	0.00262265	0.000000	0.010000	0.0004956	0.02000
CARBON, ORGANIC TOTAL (MG/L AS C)	28	35.8571161	15.39291048	15.999999	93.999985	2.9089866	1003.99925
CARBON, INORGANIC, TOTAL (MG/L AS C)	10	36.4999496	8.38317502	24.999969	47.999939	2.6509927	364.99950

Table 16.--Concentrations of major ions, dissolved solids, and hardness at the marsh stations

STATION NAME	DATE OF SAMPLE	TIME	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SULFATE DIS-SOLVED (MG/L AS SO4)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
Context Road at Bridge 27	78-06-14	1300	81	2.5	7.4	12	4.1	.1	7.7	273	234
	78-10-10	1440	53	1.8	4.2	7.7	5.2	.1	2.8	163	149
	79-06-20	1030	39	1.4	4.7	7.1	1.7	.1	2.6	137	116
	79-10-16	1100	36	1.2	3.8	5.7	.5	.1	2.4	109	109
	79-12-26	1130	75	2.3	7.6	13	.1	.1	2.6	231	216
Taylor Slough drainage north of Context Road	78-10-10	0945	58	2.9	[illegible]	18	5.7	.1	2.5	198	182
	78-12-26	1200	77	4.4	19	30	3.8	.1	2.9	297	263
	79-10-16	1045	44	2.1	7.4	11	.9	.1	3.0	150	136
	79-12-28	1130	65	3.5	15	9.1	1.6	.2	1.7	228	199
Northeast Shark River Slough Station 1	78-06-12	1000	73	8.5	38	64	.2	.1	15	418	330
	78-09-18	1030	57	5.1	29	51	2.0	.1	12	314	242
	78-10-10	1045	62	4.9	29	53	2.8	.1	7.9	284	250
	78-12-26	--	70	6.8	44	78	2.7	.1	4.3	377	317
	79-06-14	1020	66	7.0	44	92	.5	.3	7.9	410	310
	79-10-16	0930	49	3.2	23	39	1.5	.1	8.9	233	205
	79-12-28	1000	64	4.8	31	55	.1	.1	5.8	311	258
Northeast Shark River Slough Station 2	78-09-18	1100	46	6.9	40	62	2.2	.1	9.7	309	243
	78-10-11	1115	45	9.3	44	76	5.0	.2	7.8	319	269
	78-12-26	1230	66	8.5	34	57	2.3	.1	2.7	325	279
	79-10-16	0915	40	2.7	9.9	14	.7	.1	5.6	154	141
	79-12-28	1050	60	4.8	22	35	.1	.2	3.4	263	229

Table 16.--Concentrations of major ions, dissolved solids, and hardness at the marsh stations--Continued

DATE OF SAMPLE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	STRONTIUM, DISSOLVED (UG/L AS SR)
78-06-14	210	17	720
78-10-10	140	17	420
79-06-20	100	2	310
79-10-16	120	22	270
79-12-26	200	7	570
78-10-10	160	18	500
78-12-26	210	6	680
79-10-16	180	68	360
79-12-28	180	7	540
78-06-12	220	5	780
78-09-18	160	24	490
78-10-10	180	28	420
78-12-26	200	23	510
79-06-14	190	34	440
79-10-16	180	49	330
79-12-28	180	20	450
78-09-18	140	21	550
78-10-11	150	20	560
78-12-26	200	22	620
79-10-16	160	48	310
79-12-28	170	0	480

Table 17.--Concentrations of trace elements at the marsh stations

STATION NAME	DATE OF SAMPLE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
Context Road at Bridge 27	78-10-10	1440	1	3	<10	1	120	--	10	7	10	.7
	79-05-16	1000	2	0	10	1	80	4	10	14	20	<.5
	79-10-16	1100	4	0	20	1	230	1	10	1	10	.3
	79-12-26	1130	1	0	10	0	260	2	10	0	110	.2
Taylor Slough drainage north of Context Road	78-10-10	0945	1	0	<10	0	150	2	10	8	0	<.5
	78-12-26	1200	2	2	10	1	750	--	120	20	60	.2
	79-05-16	1030	2	0	20	3	60	4	10	11	10	<.5
	79-10-16	1045	4	0	20	0	150	0	0	0	0	.3
	79-12-28	1130	1	1	10	0	100	12	10	0	10	.2
Northeast Shark River Slough Station 1	78-10-10	1045	1	0	<10	1	830	2	0	8	10	1.1
	78-12-26	--	1	8	<10	0	1200	--	10	13	0	.2
	79-05-16	0900	3	0	20	1	430	2	10	8	10	<.5
	79-10-16	0930	5	0	20	1	900	1	0	0	0	.3
	79-12-28	1000	1	0	10	0	550	12	10	0	90	.2
Northeast Shark River Slough Station 2	78-10-11	1115	0	0	10	0	180	2	0	4	10	1.2
	78-12-26	1230	1	8	10	1	500	--	10	9	10	.0
	79-05-16	0930	3	0	30	1	240	0	10	9	20	<.5
	79-10-16	0915	5	0	20	1	500	0	0	1	20	.3
	79-12-28	1050	1	0	20	0	350	6	10	1	10	.2

Table 18.--Periphyton and phytoplankton data from the marsh stations

STATION NAME	DATE OF SAMPLE	TIME	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)
Context Road at Bridge 27	78-06-14	1300	--	--	--	--	700
	78-07-13	1130	2.20	2.68	4.98	.820	--
	78-09-19	1220	.551	1.73	2.61	.680	630
	78-11-21	1330	1.50	2.52	3.57	.900	1000
	79-06-20	1030	.790	1.18	2.33	.450	120
Taylor Slough drainage north of Context Road	78-06-14	1115	--	--	--	--	0
	78-07-12	1030	.079	.157	3.37	.060	--
	78-09-19	0950	.472	1.34	1.58	.000	4300
	78-11-21	0930	--	--	--	--	1600
	79-06-20	1010	--	--	--	--	900
Northeast Shark River Slough Station 1	78-06-12	1000	--	--	--	--	2200
	78-07-12	1000	.551	1.26	3.81	.100	--
	78-09-18	1030	.630	2.05	1.07	.010	5000
	78-11-21	1100	.000	.079	.110	.000	910
	79-06-14	1025	.390	1.10	3.16	.030	1400
Northeast Shark River Slough Station 2	78-06-12	1100	--	--	--	--	1800
	78-07-12	0930	2.52	3.46	2.09	.000	--
	78-09-18	1100	1.50	2.20	.650	.060	4700
	78-11-21	1130	.157	.630	.530	.000	420
	79-06-14	1030	.000	.080	.750	.000	2300

Ground-Water Stations

The locations of the ground-water stations (wells) are shown in figure 5. The local identifier for these ground-water stations, their U.S. Geological Survey identification numbers, and depth below land surface are as follows:

Local identifier	Identification number	Depth (feet)
G-3170 (near Context Road at Bridge 27)	252953080390301	12
G-3171 (near Northeast Shark River Slough Station 1)	254130080380501	12

Each well was drilled and then cased with 2-inch black iron pipe. The wells are finished with an open hole in the underlying limestone. The data tables for these two wells are as follows:

Table 19 (field measurements, physical parameters, and macronutrients)

Table 20 (major ions)

Table 21 (trace elements)

The statistical summary of selected parameters for wells G-3170 and G-3171 are shown in tables 22 and 23, respectively.

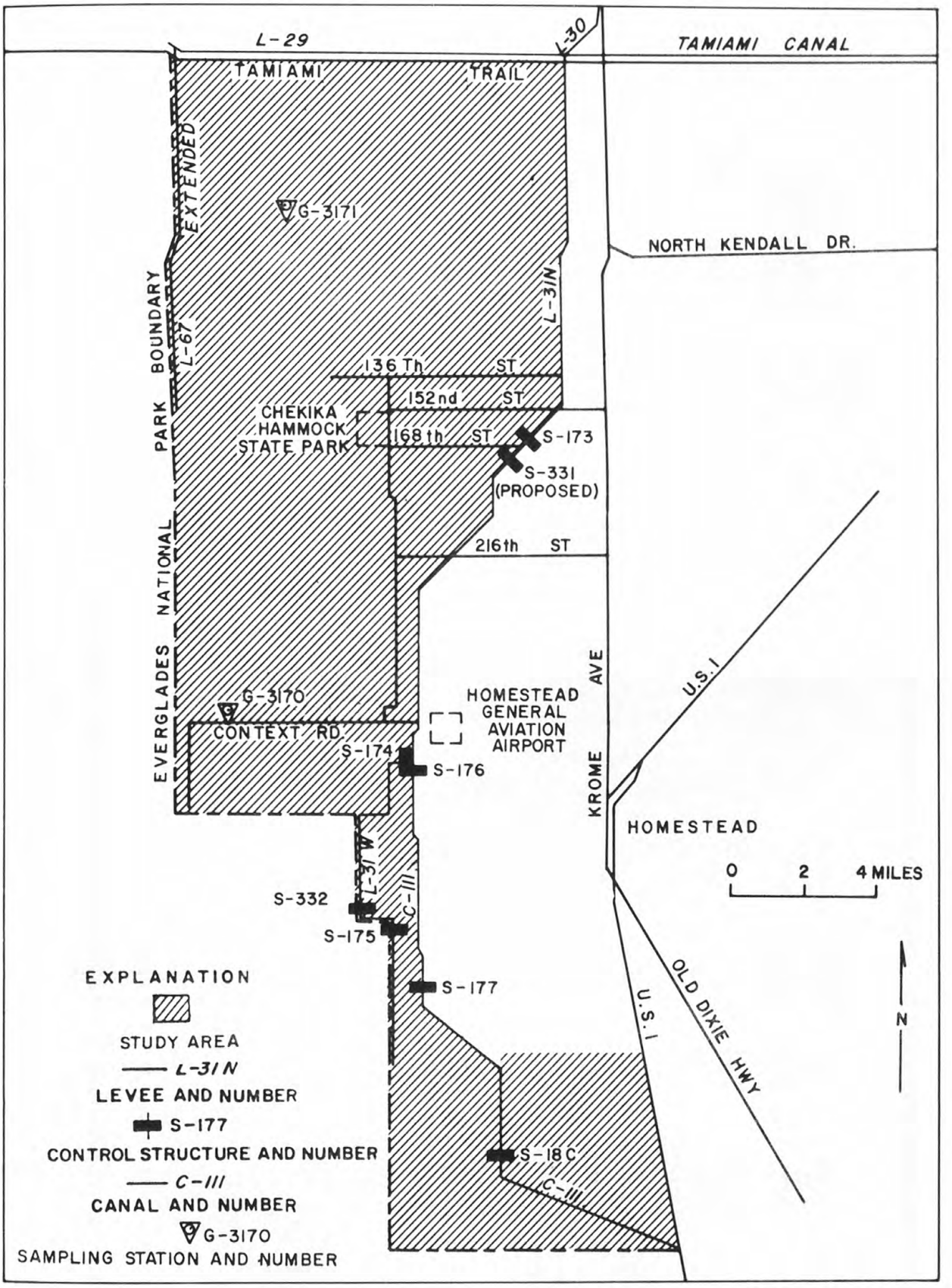

Figure 5.--Location of the two ground-water stations.

Table 19.--Field measurements, physical parameters, and macronutrient and potassium concentrations at wells G-3170 and G-3171

STATION	DATE OF SAMPLE	TIME	STREAM STAGE (FT ABOVE DATUM)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	COLOR (PLATINUM COBALT UNITS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	ALKALINITY (MG/L AS CACO3)	BICARBONATE (MG/L AS HCO3)
G-3170 (near Context Road at Bridge 27)	78-08-17	1305	--	26.0	8.0	--	420	7.5	13	217	264
	78-09-19	1230	--	25.2	12	40	345	8.5	1.3	215	248
	78-10-10	1425	--	25.3	19	10	500	7.1	37	240	290
	78-12-18	1100	--	25.5	35	20	590	7.8	8.6	280	341
	79-02-27	1245	--	23.5	15	--	480	7.1	40	256	312
	79-04-23	1220	--	23.0	15	10	465	7.0	47	240	296
	79-06-20	1400	--	25.0	27	80	510	7.4	21	269	328
	79-10-16	1130	--	25.0	18	20	520	7.0	54	280	336
G-3171 (near Northeast Shark River Slough Station 1)	78-04-26	1140	--	--	2.0	250	740	7.0	67	341	416
	78-06-12	0945	--	--	8.0	100	440	--	--	--	--
	78-08-16	1030	6.04	24.0	12	--	550	7.0	65	335	408
	78-10-10	--	--	25.0	17	140	760	7.0	64	330	400
	78-12-26	1300	--	25.0	17	120	710	--	--	334	407
	79-02-28	0930	5.62	24.0	10	--	740	6.8	112	361	440
	79-04-24	1300	3.90	24.0	6.0	100	740	7.0	72	370	448
	79-06-14	1025	5.68	--	7.0	100	728	7.0	67	341	416
	79-10-16	0945	6.41	25.0	14	100	770	6.9	86	350	428
	79-12-28	1020	--	24.2	10	140	760	7.1	36	230	280

Table 19.--Field measurements, physical parameters, and macronutrient and potassium concentrations at wells G-3170 and G-3171--Continued

DATE OF SAMPLE	POTASSIUM, DISSOLVED (MG/L AS K)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, INORGANIC, TOTAL (MG/L AS C)
78-08-17	--	.03	.01	.24	.24	.48	.52	.010	.00	3.0	50
78-09-19	--	.00	.00	.32	.23	.55	.55	.020	.01	13	76
78-10-10	.3	.00	.00	.30	.30	.60	.60	.020	.00	6.0	63
78-12-18	.3	.01	.00	.37	.47	.84	.85	.010	.00	3.1	--
79-02-27	.2	.01	.00	.26	.28	.54	.55	.010	.01	10	--
79-04-23	.3	.00	.00	.32	.43	.75	.75	.010	.01	5.7	--
79-06-20	--	.00	.00	.33	.49	.82	.82	.010	.01	8.6	--
79-10-16	.2	.00	.00	.36	.29	.65	.65	.010	.00	74	--
78-04-26	.9	.01	.00	2.0	.89	2.8	2.9	.010	.00	36	94
78-06-12	--	.00	.00	2.2	.82	3.0	3.0	.010	.01	50	90
78-08-16	--	.00	.00	2.3	.92	3.2	3.2	.010	.01	19	95
78-10-10	.8	.00	.00	2.1	1.2	3.3	3.3	.020	.00	34	104
78-12-26	.7	.01	.00	2.1	1.2	3.3	3.3	.010	.00	4.0	--
79-02-28	.7	.01	.00	2.0	1.4	3.4	3.4	.010	.01	4.0	--
79-04-24	.7	.00	.01	2.3	1.2	3.5	3.5	.010	.01	22	--
79-06-14	--	.00	.00	2.2	1.0	3.2	3.2	.010	.01	38	--
79-10-16	.6	.01	.00	2.1	1.4	3.5	3.5	.020	.00	74	--
79-12-28	--	.01	.00	2.2	1.5	3.7	3.7	.010	.00	33	--

Table 20.--Concentrations of major ions, dissolved solids, and hardness at wells G-3170 and G-3171

STATION	DATE OF SAMPLE	TIME	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SULFATE DIS-SOLVED (MG/L AS SO4)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
G-3170 (near Context Road at Bridge 27)	78-10-10	1425	96	3.4	5.8	13	7.4	.1	4.7	283	275
	79-04-23	1220	82	3.0	7.9	14	3.3	.2	4.3	267	262
	79-10-16	1130	99	3.1	7.1	11	1.3	.2	5.0	289	293
G-3171 (near Northeast Shark River Slough Station 1)	78-04-26	1140	120	7.2	25	50	6.8	.2	7.2	470	426
	78-10-10	--	140	7.6	25	51	4.3	.2	7.3	473	435
	79-04-24	1300	120	7.1	25	50	2.0	.2	7.2	460	437
	79-10-16	0945	120	7.0	25	48	1.7	.2	7.7	457	425

Table 20.--Concentrations of major ions, dissolved solids, and hardness at wells G-3170 and G-3171--Continued

DATE OF SAMPLE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	STRONTIUM, DISSOLVED (UG/L AS SR)
78-10-10	250	17	720
79-04-23	220	0	620
79-10-16	230	0	740
78-04-26	330	0	820
78-10-10	380	54	830
79-04-24	330	0	790
79-10-16	360	9	820

Table 21.--Concentrations of trace elements at wells G-3170 and G-3171

STATION	DATE OF SAMPLE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
G-3170 (near Context Road at Bridge 27)	78-10-10	1425	1	1	<10	0	1900	0	30	8	10	.6
	79-10-16	1130	5	0	20	0	2600	0	30	2	0	.2
G-3171 (near Northeast Shark River Slough Station 1)	78-04-26	1140	2	0	<10	3	3100	34	40	10	10	<.5
	78-10-10	--	1	0	<10	1	4000	10	100	10	20	.8
	79-10-16	0945	5	0	20	1	3800	0	50	1	10	.3

Table 22.--Statistical summary of selected physical and chemical parameters at well G-3170

PARAMETER	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM
STREAM STAGE (FT ABOVE DATUM)	0	.	.	.	.	.	.
TEMPERATURE, WATER (DEG C)	8	24.8124809	1.02459910	23.000000	25.999969	0.3622505	198.49985
TURBIDITY (NTU)	8	18.6249868	8.63443844	7.999991	34.999985	3.0527350	148.99989
COLOR (PLATINUM COBALT UNITS)	8	22.4999849	26.83280490	9.999986	79.999985	10.9544488	179.99991
OXYGEN, DISSOLVED (MG/L)	0	.	.	.	.	.	.
OXYGEN, DISSOLVED (PERCENT SATURATION)	0	.	.	.	.	.	.
SPECIFIC CONDUCTANCE (MICROMHOS)	8	478.7497253	72.73988502	344.999512	589.999756	25.7174330	3829.99780
SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG	0	.	.	.	.	.	.
SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED	0	.	.	.	.	.	.
SOLIDS, SUSP. TOTAL, RESIDUE AT 110 DEG.	0	.	.	.	.	.	.
PH FIELD (UNITS)	8	7.4249989	0.51754537	7.000005	8.499991	0.1829799	59.39999
CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	8	27.7374998	19.36380575	1.299999	54.000000	6.8461392	221.90000
ALKALINITY (MG/L AS CACO3)	8	249.6250000	25.93914582	215.000000	280.000000	9.1708730	1997.00000
BICARBONATE (MG/L AS HCO3)	8	301.8748035	33.79119285	247.999649	340.999756	11.9469908	2414.99843
POTASSIUM, DISSOLVED (MG/L AS K)	5	0.2600001	0.05477229	0.200000	0.300000	0.0244949	1.30000
NITROGEN, NITRATE TOTAL (MG/L AS N)	8	0.0062500	0.01060659	0.000000	0.030000	0.0037500	0.05000
NITROGEN, NITRITE TOTAL (MG/L AS N)	8	0.0012500	0.00353553	0.000000	0.010000	0.0012500	0.01000
NITROGEN, AMMONIA TOTAL (MG/L AS N)	8	0.3124999	0.04496036	0.240000	0.370000	0.0158959	2.50000
NITROGEN, ORGANIC TOTAL (MG/L AS N)	8	0.3412499	0.10507659	0.230000	0.490000	0.0371502	2.73000
NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L A	8	0.6537498	0.13542940	0.479999	0.840000	0.0478815	5.23000
NITROGEN, TOTAL (MG/L AS N)	8	0.6612498	0.12944268	0.519999	0.850000	0.0457649	5.29000
PHOSPHORUS, TOTAL (MG/L AS P)	8	0.0125000	0.00462909	0.010000	0.020000	0.0016366	0.10000
PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L	8	0.0050000	0.00534522	0.000000	0.010000	0.0018898	0.04000
CARBON, ORGANIC TOTAL (MG/L AS C)	8	15.4249946	23.91238037	2.999996	73.999985	8.4543032	123.39996
CARBON, INORGANIC, TOTAL (MG/L AS C)	3	62.9999237	12.99998474	49.999939	75.999908	7.5055447	188.99977

Table 23.--Statistical summary of selected physical and chemical parameters at well G-3171

PARAMETER	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM
STREAM STAGE (FT ABOVE DATUM)	5	5.5299984	0.9646235	3.900000	6.410000	0.4313927	27.64999
TEMPERATURE, WATER (DEG C)	7	24.4571272	0.5126572	23.999954	25.000000	0.1937813	171.19989
TURBIDITY (NTU)	10	10.4999921	4.6726085	1.999997	16.999985	1.4776086	104.99992
COLOR (PLATINUM COBALT UNITS)	8	131.2499733	51.1126369	99.999832	250.000000	18.0710461	1049.99979
OXYGEN, DISSOLVED (MG/L)	0	.	.	.	.	.	.
OXYGEN, DISSOLVED (PERCENT SATURATION)	0	.	.	.	.	.	.
SPECIFIC CONDUCTANCE (MICROMHOS)	10	693.7996338	109.2906321	439.999268	770.000000	34.5607324	6937.99634
SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG	0	.	.	.	.	.	.
SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED	0	.	.	.	.	.	.
SOLIDS, SUSP. TOTAL, RESIDUE AT 110 DEG.	0	.	.	.	.	.	.
PH FIELD (UNITS)	8	6.9749991	0.0886347	6.799999	7.099999	0.0313389	55.79999
CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	5	71.1250000	21.5435605	36.000000	112.000000	7.6167989	569.00000
ALKALINITY (MG/L AS CACO3)	9	332.4444444	40.6051447	230.000000	370.000000	13.5350482	2992.00000
BICARBONATE (MG/L AS HCO3)	9	404.7775065	49.3606282	279.999756	448.000000	16.4602094	3642.99756
POTASSIUM, DISSOLVED (MG/L AS K)	5	0.7333335	0.1032796	0.600000	0.900000	0.0421637	4.40000
NITROGEN, NITRATE TOTAL (MG/L AS N)	10	0.0050000	0.0052705	0.000000	0.010000	0.0016667	0.05000
NITROGEN, NITRITE TOTAL (MG/L AS N)	10	0.0010000	0.0031623	0.000000	0.010000	0.0010000	0.01000
NITROGEN, AMMONIA TOTAL (MG/L AS N)	10	2.1499987	0.1060123	1.999997	2.299999	0.0341565	21.49999
NITROGEN, ORGANIC TOTAL (MG/L AS N)	10	1.1529994	0.2373022	0.819999	1.500000	0.0750415	11.52999
NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L A	10	3.3029984	0.2387037	2.889997	3.700000	0.0754847	33.02998
NITROGEN, TOTAL (MG/L AS N)	10	3.3089983	0.2409458	2.899997	3.709999	0.0761938	33.08998
PHOSPHORUS, TOTAL (MG/L AS P)	10	0.0120000	0.0042164	0.010000	0.020000	0.0013333	0.12000
PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L	10	0.0050000	0.0052705	0.000000	0.010000	0.0016667	0.05000
CARBON, ORGANIC TOTAL (MG/L AS C)	10	31.3999756	21.0248439	4.000000	73.999985	6.6486394	313.99976
CARBON, INORGANIC, TOTAL (MG/L AS C)	4	95.7498779	5.9090042	89.999893	103.999832	2.9545021	382.99951

Bulk-Precipitation Stations

The locations of the four bulk-precipitation stations are shown in figures 1 and 6. The designated names of these stations and their U.S. Geological Survey identification numbers are as follows:

Station name	Identification number
Rainfall at 40-Mile Bend Ranger Station	254542080493001
Rainfall at the Everglades National Park Research Center	252323080405000
Rainfall at Trail Glades Range	254555080284000
Rainfall at Chekika Hammock State Park	253656080350302

The data tables for the station at 40-Mile Bend Ranger Station are as follows:

Table 24 (field measurements, physical parameters, and macronutrients)

Table 25 (major ions)

Table 26 (trace elements)

The data tables for the station at the Everglades National Park Research Center are as follows:

Table 27 (major ions)

Table 28 (trace elements)

The data tables for the station at Trail Glades Range are as follows:

Table 29 (field measurements, physical parameters, and macronutrients)

Table 30 (major ions)

Table 31 (trace elements)

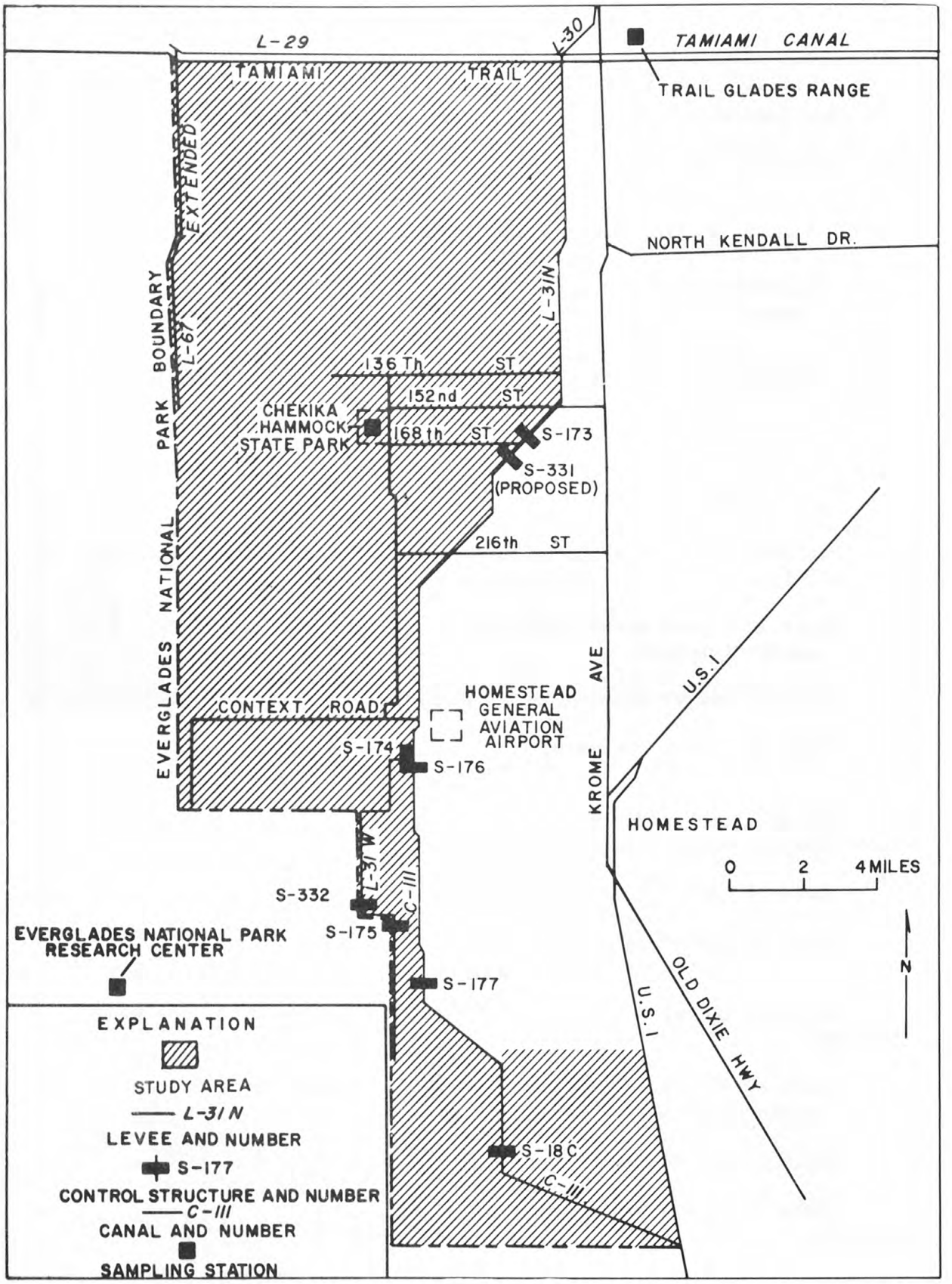

Figure 6.--Location of three bulk-precipitation stations.

The data tables for the station at Chekika Hammock State Park are as follows:

Table 32 (field measurements, physical parameters, and macronutrients)

Table 33 (major ions)

Table 34 (trace elements)

Table 24.--Field measurements, physical parameters, and macronutrient concentrations in bulk precipitation at 40-Mile Bend Ranger Station

[Chemical constituents shown in milligrams per liter, except for specific conductance, color, turbidity, and pH]

Composite dates	Specific conductance (micromhos at 25°C)	Color (Platinum cobalt standard)	Turbidity (Nephelometric units)	pH	Alkalinity as $CaCO_3$	Nitrogen species					Phosphorus (P) as P		Carbon (C)		
						Ammonia (NH_3-N)	Nitrite (NO_2-N)	Nitrate (NO_3-N)	Organic (N)	Total (N)	Orthophosphate	Total phosphorus	Organic carbon	Inorganic carbon	Total carbon
10/06/77 to 11/30/77	36	-	2	6.7	5	0.42	0.01	0.24	0.61	1.2	0.06	0.09	1	3	4
11/30/77 to 01/26/78	-	-	-	6.3	-	.31	.01	.13	.47	.92	.04	.05	2	3	5
01/26/78 to 03/09/78	12	10	1	6.4	4	.16	.00	.14	.10	.40	.01	.01	2	4	6
03/09/78 to 04/25/78	14	-	1	5.5	-	.27	.01	.18	.18	.64	.01	.03	0	2	2
04/25/78 to 06/06/78	14	5	2	6.0	4	.38	.01	.39	.29	1.1	.02	.04	4	1	5
06/06/78 to 06/21/78	9	-	1	6.9	-	.16	.01	.11	.31	.59	.01	.02	-	-	-
06/21/78 to 06/30/78	6	-	0	6.4	4	.05	.01	.10	.06	.22	.00	.01	0	0	0

Table 24.--Field measurements, physical parameters, and macronutrient concentrations in bulk precipitation at 40-Mile Bend Ranger Station--Continued

[Chemical constituents shown in milligrams per liter, except for specific conductance, color, turbidity, and pH]

Composite dates	Specific conductance (micromhos at 25°C)	Color (Platinum cobalt standard)	Turbidity (Nephelometric units)	pH	Alkalinity as $CaCO_3$	Nitrogen species					Phosphorus (P) as P		Carbon (C)		
						Ammonia (NH_3-N)	Nitrite (NO_2-N)	Nitrate (NO_3-N)	Organic (N)	Total (N)	Orthophosphate	Total phosphorus	Organic carbon	Inorganic carbon	Total carbon
06/30/78 to 08/11/78	13	-	1	5.5	-	0.10	0.01	0.20	0.08	0.39	0.01	0.02	0	0	0
08/11/78 to 09/13/78	8	0	1	6.3	0	.20	.01	.21	.16	.58	.01	.02	0	1	1
09/13/78 to 10/16/78	10	0	1	5.9	1	.21	.01	.32	.21	.75	.01	.03	0	0	0
10/16/78 to 11/30/78	26	-	1	6.9	-	.65	.04	.26	.71	1.7	.12	.19	2	-	-
11/30/78 to 01/23/79	21	0	3	7.0	-	.31	.01	.14	.03	.49	.03	.04	5	-	-
01/23/79 to 03/08/79	38	5	2		7	.32	.01	.38	.10	.81	.06	.07	1	-	-
03/08/79 to 04/27/79	18	0	1	7.0	8	.26	.01	.16	.14	.57	.02	.03	4	-	-

Table 24.--Field measurements, physical parameters, and macronutrient concentrations in bulk precipitation at 40-Mile Bend Ranger Station--Continued

[Chemical constituents shown in milligrams per liter, except for specific conductance, color, turbidity, and pH]

Composite dates	Specific conductance (micromhos at 25°C)	Color (Platinum cobalt standard)	Turbidity (Nephelometric units)	pH	Alkalinity as $CaCO_3$	Nitrogen species					Phosphorus (P) as P		Carbon (C)		
						Ammonia (NH_3-N)	Nitrite (NO_2-N)	Nitrate (NO_3-N)	Organic (N)	Total (N)	Orthophosphate	Total phosphorus	Organic carbon	Inorganic carbon	Total carbon
04/27/79 to 05/14/79	11	-	1	5.9	-	0.32	0.01	0.15	0.23	0.71	0.04	0.06	3	-	-
05/14/79 to 05/31/79	6	-	1	6.1	-	.17	.01	.14	.05	.37	.01	.02	2	-	-
05/31/79 to 06/27/79	18	5	1	6.4	-	.20	.01	.30	.26	.77	.01	.02	2	-	-
06/27/79 to 07/22/79	10	5	1	5.1	-	.12	.01	.24	.11	.48	.00	.01	0	-	-
07/22/79 to 08/21/79	7	5	1	6.1	-	.12	.01	.11	.23	.47	.01	.02	3	-	-
08/21/79 to 10/15/79	11	5	2	5.7	-	.13	.01	.14	.25	.53	.01	.01	1	-	-
10/15/79 to 11/19/79	12	0	2	7.4	1	.13	.01	.10	.25	.49	.01	.01	11	-	-

Table 24.--Field measurements, physical parameters, and macronutrient concentrations in bulk precipitation at 40-Mile Bend Ranger Station--Continued

[Chemical constituents shown in milligrams per liter, except for specific conductance, color, turbidity, and pH]

Composite dates	Specific conductance (micromhos at 25°C)	Color (Platinum cobalt standard)	Turbidity (Nephelometric units)	pH	Alkalinity as $CaCO_3$	Nitrogen species					Phosphorus (P) as P		Carbon (C)		
						Ammonia (NH_3-N)	Nitrite (NO_2-N)	Nitrate (NO_3-N)	Organic (N)	Total (N)	Orthophosphate	Total phosphorus	Organic carbon	Inorganic carbon	Total carbon
11/19/79 to 12/27/79	18	0	0	5.4	-	0.30	0.01	0.15	0.35	0.81	0.10	0.11	10	-	-
12/27/79 to 01/31/80	11	0	0	6.4	-	.32	.01	.14	.13	.60	.06	.07	1	-	-
01/31/80 to 04/23/80	17	0	2	5.8	1	.36	.00	.28	.29	.93	.02	.02	3	-	-

Table 25.--Concentrations of major ions, hardness, and dissolved solids in bulk precipitation at 40-Mile Bend Ranger Station

[Chemical constituents shown in milligrams per liter, except for strontium]

Composite dates	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Strontium (Sr) [micrograms per liter]	Chloride (Cl)	Sulfate (SO_4)	Fluoride (F)	Bicarbonate (HCO_3)	Specific conductance	Dissolved solids: Residue at 180°C	Dissolved solids: Calculated	Hardness ($CaCO_3$): Calcium, magnesium	Hardness ($CaCO_3$): Noncarbonate	Silica (SiO_2)
10/16/77 to 01/26/78	1.0	0.2	1.2	0.3	30	2.3	2.8	0.0	6	16	11	11	3	0	0.0
01/26/78 to 03/09/78	.7	.2	1.1	.2	50	1.1	1.4	.1	5	15	10	11	3	0	-
03/09/78 to 06/06/78	1.3	.0	.5	.2	40	.9	.4	.0	5	14	4	8	3	0	1.0
06/06/78 to 06/30/78	.5	.1	.5	.1	40	.6	1.6	.0	5	9	9	6	2	0	.1
06/30/78 to 09/13/78	.5	.0	.2	.2	0	.9	.0	.1	0	8	5	3	1	1	.1
09/13/78 to 10/16/78	.5	.1	.5	.3	20	.8	.2	.1	1	10	15	4	2	1	.0
10/16/78 to 01/23/79	.7	.2	2.7	.1	10	3.6	-	.1	-	21	-	-	3	0	.5

Table 25.--Concentrations of major ions, hardness, and dissolved solids in bulk precipitation at 40-Mile Bend Ranger Station--Continued

[Chemical constituents shown in milligrams per liter, except for strontium]

Composite dates	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Strontium (Sr) [micrograms per liter]	Chloride (Cl)	Sulfate (SO_4)	Fluoride (F)	Bicarbonate (HCO_3)	Specific conductance	Dissolved solids: Residue at 180°C	Dissolved solids: Calculated	Hardness ($CaCO_3$): Calcium, magnesium	Hardness ($CaCO_3$): Non carbonate	Silica (SiO_2)
01/23/79 to 03/08/79	2.2	0.4	1.9	0.1	10	4.7	1.4	0.1	8.0	38	26	19	7	1	2.2
03/08/79 to 04/27/79	1.3	.2	1.3	.1	6	2.2	1.0	.0	7.0	20	14	12	4	0	.6
04/27/79 to 06/27/79	.8	.1	.7	.1	0	.5	1.3	.0	6.0	18	6	5	2	2	.7
06/27/79 to 08/21/79	.5	.0	.4	.1	3	.6	1.5	.0	4.0	9	8	5	1	0	.2
08/21/79 to 11/19/79	.4	.1	1.0	.1	0	1.7	.2	.2	1.0	12	5	5	1	0	.4
11/19/79 to 01/31/80	.8	.2	.9	.2	0	1.6	.1	.1	1.5	20	15	5	3	0	.4
01/31/80 to 04/23/80	.8	.1	1.0	.2	40	1.7	.2	.0	2.0	17	2	7	2	1	.6

Table 26.--Concentrations of trace elements in bulk precipitation at 40-Mile Bend Ranger Station

[Chemical constituents shown in micrograms per liter]

Composite dates	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Lead (Pb)	Manganese (Mn)	Mercury (Hg)	Nickel (Ni)	Zinc (Zn)
06/06/78 to 06/30/78	0	1	10	-	-	9	-	< 0.5	-	10
06/30/78 to 10/16/78	0	0	< 10	1	0	0	0	< .5	8	10
03/08/79 to 04/27/79	2	0	20	2	30	6	0	1.0	21	20
04/27/79 to 06/27/79	0	0	20	3	30	5	10	< .5	49	20
06/27/79 to 08/21/79	3	0	< 10	0	50	6	0	< .5	1	10

Table 27.--Concentrations of major ions, hardness, and dissolved solids in bulk precipitation at the Everglades National Park research center

[Chemical constituents shown in milligrams per liter, except for strontium]

Composite dates	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Strontium (Sr) [micrograms per liter]	Chloride (Cl)	Sulfate (SO_4)	Fluoride (F)	Bicarbonate (HCO_3)	Specific conductance	Dissolved solids: Residue at 180°C	Dissolved solids: Calculated	Hardness ($CaCO_3$): Calcium, magnesium	Hardness ($CaCO_3$): Noncarbonate	Silica (SiO_2)
02/06/78 to 03/03/78	0.7	0.1	0.9	0.2	40	1.4	1.3	0.0	3.0	12	15	6	2	0	0.0
03/03/78 to 03/30/78	2.1	.3	1.9	1.2	40	4.1	3.7	.0	13.0	40	14	20	7	0	.1
03/30/78 to 04/25/78	1.1	.1	1.1	.3	180	2.0	.0	.0	2.0	18	8	7	3	1	.1
04/25/78 to 06/07/78	1.9	.1	1.0	.3	40	1.8	.3	.0	5.2	25	14	10	5	1	.1
06/07/78 to 07/27/78	1.4	.2	1.0	.6	30	1.6	1.8	.0	10.0	30	16	12	4	0	.1
07/27/78 to 08/17/78	NO DATA - SAMPLE CONTAMINATED														
08/17/78 to 09/15/78	.4	.1	.6	.7	20	.4	1.6	.0	4.0	17	8	6	1	0	.0
09/15/78 to 10/16/78	.9	.1	.4	.3	30	1.0	.2	.2	.0	12	9	4	3	3	.0

Table 27.--Concentrations of major ions, hardness, and dissolved solids in bulk precipitation at the Everglades National Park research center--Continued

[Chemical constituents shown in milligrams per liter, except for strontium]

Composite dates	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Strontium (Sr) [micrograms per liter]	Chloride (Cl)	Sulfate (SO_4)	Fluoride (F)	Bicarbonate (HCO_3)	Specific conductance	Dissolved solids: Residue at 180°C	Dissolved solids: Calculated	Hardness ($CaCO_3$): Calcium, magnesium	Hardness ($CaCO_3$): Noncarbonate	Silica (SiO_2)
10/16/78 to 11/17/78	0.8	0.3	1.9	0.6	20	3.5	1.4	0.1	2	23	7	11	3	1	0.0
11/17/78 to 01/23/79	.5	.4	4.3	.2	20	12.0	-	.1	-	33	-	-	3	-	.5
01/24/79 to 03/08/79	1.3	.4	2.6	2.5	10	8.4	3.9	.1	22	80	40	35	5	-	.9
03/08/79 to 04/27/79	1.0	.4	2.2	.6	6	3.9	2.1	.0	14	39	16	18	4	0	.1
04/27/79 to 06/06/79	.8	.1	4.2	.6	5	1.5	1.4	.0	8	23	12	13	2	0	.0
06/06/79 to 07/17/79	.8	.2	1.0	.5	5	.9	1.2	.0	7	21	8	9	3	0	.5
07/17/79 to 08/31/79	2.0	.1	1.2	.5	10	2.0	1.9	.0	7	26	16	12	5	0	.2

Table 28.--Concentrations of trace elements in bulk precipitation at Everglades National Park research center

[Chemical constituents shown in micrograms per liter]

Composite dates	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Lead (Pb)	Manganese (Mn)	Mercury (Hg)	Nickel (Ni)	Zinc (Zn)
06/07/78 to 07/27/78	0	0	10	-	-	4	-	0.5	-	20
09/15/78 to 10/16/78	0	0	10	1	10	-	10	.5	8	10
03/08/79 to 04/27/79	2	0	20	3	30	4	0	1.1	19	30
06/06/79 to 07/17/79	0	2	20	3	40	2	0	.5	3	20

Table 29.--Field measurements, physical parameters, and macronutrient concentrations in bulk precipitation at Trail Glades Range

[Chemical constituents shown in milligrams per liter, except for specific conductance, color, turbidity, and pH]

Composite dates	Specific conductance (micromhos at 25°C)	Color (Platinum cobalt standard)	Turbidity (Nephelometric units)	pH	Alkalinity as $CaCO_3$	Nitrogen species					Phosphorus (P) as P		Carbon (C)		
						Ammonia (NH_3-N)	Nitrite (NO_2-N)	Nitrate (NO_3-N)	Organic (N)	Total (N)	Orthophosphate	Total phosphorus	Organic carbon	Inorganic carbon	Total carbon
05/04/78 to 06/07/78	17	5	2	6.2	3	0.23	0.01	0.28	0.20	0.72	0.02	0.04	4	1	5
06/07/78 to 06/21/78	9	-	1	6.3	-	.04	.01	.14	.04	.23	.00	.00	4	4	8
06/21/78 to 07/12/78	13	-	2	6.2	9	.10	.01	.29	.84	1.2	.01	.02	0	0	0
07/12/78 to 08/11/78	16	-	1	6.4	-	.18	.02	.18	.24	.62	.04	.05	0	1	1
08/11/78 to 09/13/78	15	0	1	6.6	1	.22	.01	.36	.40	.99	.01	.02	2	0	2
09/13/78 to 10/16/78	22	0	1	6.4	2	.19	.01	.42	.56	1.2	.02	.04	4	0	4
10/16/78 to 11/17/78	26	0	1	6.7	2	.22	.02	.27	.24	.75	.01	.03	2	-	-

Table 29.--Field measurements, physical parameters, and macronutrient concentrations in bulk precipitation at Trail Glades Range--Continued

[Chemical constituents shown in milligrams per liter, except for specific conductance, color, turbidity, and pH]

Composite dates	Specific conductance (micromhos at 25°C)	Color (Platinum cobalt standard)	Turbidity (Nephelometric units)	pH	Alkalinity as $CaCO_3$	Nitrogen species					Phosphorus (P) as P		Carbon (C)		
						Ammonia (NH_3-N)	Nitrite (NO_2-N)	Nitrate (NO_3-N)	Organic (N)	Total (N)	Orthophosphate	Total phosphorus	Organic carbon	Inorganic carbon	Total carbon
11/17/78 to 01/22/78	82	0	2	6.9	-	0.98	0.04	0.50	0.62	2.1	0.08	0.12	3	-	-
01/22/79 to 03/08/79	-	-	2	-	-	.56	.07	1.1	1.0	2.7	.03	.09	57	-	-
03/08/79 to 04/27/79	51	0	2	6.4	9	.52	.01	.09	.61	1.2	.08	.12	6	-	-
04/27/79 to 05/07/79	10	-	1	6.8	-	.31	.01	.26	.12	.70	.01	.02	6	-	-
05/07/79 to 06/27/79	24	-	1	5.4	-	.35	.02	.53	.43	1.3	.02	.03	5	-	-
06/27/79 to 07/22/79	16	5	-	5.4	-	.10	.01	.25	.13	.49	.01	.01	3	-	-
07/22/79 to 08/21/79	16	5	1	6.3	-	.19	.01	.26	.09	.55	.03	.03	3	-	-

Table 29.--Field measurements, physical parameters, and macronutrient concentrations in bulk precipitation at Trail Glades Range--Continued

[Chemical constituents shown in milligrams per liter, except for specific conductance, color, turbidity, and pH]

Composite dates	Specific conductance (micromhos at 25°C)	Color (Platinum cobalt standard)	Turbidity (Nephelometric units)	pH	Alkalinity as $CaCO_3$	Nitrogen species					Phosphorus (P) as P		Carbon (C)		
						Ammonia (NH_3-N)	Nitrite (NO_2-N)	Nitrate (NO_3-N)	Organic (N)	Total (N)	Orthophosphate	Total phosphorus	Organic carbon	Inorganic carbon	Total carbon
08/21/79 to 10/16/79	32	5	2	5.9	-	1.0	0.01	0.13	0.98	2.1	0.20	0.22	2	-	-
10/16/79 to 11/19/79	NO DATA - SAMPLE CONTAMINATED														
11/19/79 to 12/27/79	8	5	0	-	-	.25	.10	.18	.35	.79	.02	.03	4	-	-
12/27/79 to 01/31/80	21	0	1	6.4	-	.25	.02	.25	.23	.75	.02	.03	1	-	-
01/31/80 to 03/05/80	20	3	1	6.3	2	.44	.02	.22	.26	.94	.03	.06	2	-	-
03/05/80 to 04/24/80	31	0	-	5.2	-	-	-	-	-	-	-	-	-	-	-

Table 30.--Concentrations of major ions, hardness, and dissolved solids in bulk precipitation at Trail Glades Range

[Chemical constituents shown in milligrams per liter, except for strontium]

Composite dates	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Strontium (Sr) [micrograms per liter]	Chloride (Cl)	Sulfate (SO_4)	Fluoride (F)	Bicarbonate (HCO_3)	Specific conductance	Dissolved solids: Residue at 180°C	Dissolved solids: Calculated	Hardness ($CaCO_3$): Calcium, magnesium	Hardness ($CaCO_3$): Noncarbonate	Silica (SiO_2)
05/04/78 to 06/07/78	1.8	0.1	0.9	0.2	40	1.2	0.0	0.1	4	17	10	8	5	3	1.0
06/07/78 to 07/12/78	1.3	.2	1.1	.6	50	1.1	1.0	.0	11	15	10	11	4	0	.6
07/12/78 to 09/13/78	.9	.1	.3	.2	10	1.1	.8	.1	1	15	8	6	3	2	.3
09/13/78 to 10/16/78	1.9	.2	1.2	.2	40	2.0	1.9	.1	3	22	12	11	6	3	.0
10/16/78 to 11/17/78	1.8	.4	2.5	.3	40	4.2	6.2	.0	3	26	17	21	6	4	.0
11/17/78 to 01/22/79	3.1	.9	9.6	.9	10	15.0	-	.1	-	82	-	-	11	-	.5

Table 30.--Concentrations of major ions, hardness, and dissolved solids in bulk precipitation at Trail Glades Range--Continued

[Chemical constituents shown in milligrams per liter, except for strontium]

Composite dates	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Strontium (Sr) [micrograms per liter]	Chloride (Cl)	Sulfate (SO_4)	Fluoride (F)	Bicarbonate (HCO_3)	Specific conductance	Dissolved solids: Residue at 180°C	Dissolved solids: Calculated	Hardness ($CaCO_3$): Calcium, magnesium	Hardness ($CaCO_3$): Noncarbonate	Silica (SiO_2)
01/22/79 to 04/27/79	3.4	0.8	5.9	1.3	20	10.0	2.9	0.0	11	62	41	30	12	3	0.4
04/27/79 to 07/22/79	1.3	.1	1.1	.2	5	1.5	1.7	.0	1	20	12	7	4	3	.3
07/22/79 to 08/31/79	1.2	.1	.8	.1	5	2.1	3.0	.0	5	39	13	10	4	0	.5
08/31/79 to 11/19/79	1.3	.3	2.4	.9	0	4.1	.4	.2	3	28	14	8	4	1	.7
11/19/79 to 03/05/80	1.5	.3	1.8	.2	40	3.1	.2	.2	2	20	15	10	5	2	.3
03/05/80 to 04/24/80	2.6	.2	2.0	.3	40	4.0	1.5	.0	0	31	16	11	7	7	.6

Table 31.--Concentrations of trace elements in bulk precipitation at Trail Glades Range

[Chemical constituents shown in micrograms per liter]

Composite dates	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Lead (Pb)	Manganese (Mn)	Mercury (Hg)	Nickel (Ni)	Zinc (Zn)
06/07/78 to 07/12/78	0	0	10	-	-	6	-	0.5	-	10
09/13/78 to 10/16/78	0	1	< 10	2	10	43	0	< .5	6	10
01/22/79 to 04/27/79	2	0	20	3	30	23	0	1.2	22	10
04/27/79 to 07/22/79	3	1	10	3	50	24	30	< .5	3	30

Table 32.--Field measurements, physical parameters, and macronutrient concentrations in bulk precipitation at Chekika Hammock State Park

[Chemical constituents shown in milligrams per liter, except for specific conductance, color, turbidity, and pH]

Composite dates	Specific conductance (micromhos at 25°C)	Color (Platinum cobalt standard)	Turbidity (Nephelometric units)	pH	Alkalinity as $CaCO_3$	Nitrogen species					Phosphorus (P) as P		Carbon (C)		
						Ammonia (NH_3-N)	Nitrite (NO_2-N)	Nitrate (NO_3-N)	Organic (N)	Total (N)	Orthophosphate	Total phosphorus	Organic carbon	Inorganic carbon	Total carbon
05/04/78 to 06/07/78	34	10	3	5.9	8	0.97	0.04	0.19	1.1	2.3	0.32	0.34	7	3	10
06/07/78 to 06/22/78	9	-	1	6.3	-	.07	.01	.10	.16	.34	.01	.02	3	0	3
06/22/78 to 06/30/78	9	2	1	6.6	3	.10	.00	.15	.21	.46	.01	.02	1	0	1
06/30/78 to 07/28/78	25	-	4	6.2	-	.68	.01	.20	2.3	3.2	.27	.34	8	1	9
07/28/78 to 08/13/78	10	-	2	6.6	-	.18	.02	.20	.20	.60	.04	.05	3	1	4
08/13/78 to 09/12/78	13	10	1	6.5	3	.22	.01	.24	.52	.99	.04	.06	0	0	0
09/12/78 to 10/16/78	16	0	2	6.2	2	.45	.01	.37	.69	1.5	.07	.09	6	0	6

Table 32.--Field measurements, physical parameters, and macronutrient concentrations in bulk precipitation at Chekika Hammock State Park--Continued

[Chemical constituents shown in milligrams per liter, except for specific conductance, color, turbidity, and pH]

Composite dates	Specific conductance (micromhos at 25°C)	Color (Platinum cobalt standard)	Turbidity (Nephelometric units)	pH	Alkalinity as $CaCO_3$	Nitrogen species					Phosphorus (P) as P		Carbon (C)		
						Ammonia (NH_3-N)	Nitrite (NO_2-N)	Nitrate (NO_3-N)	Organic (N)	Total (N)	Orthophosphate	Total phosphorus	Organic carbon	Inorganic carbon	Total carbon
10/16/78 to 11/30/78[1]/	6	-	1	6.7	-	2.6	0.04	0.26	3.2	6.1	0.63	0.70	11	-	-
12/01/78 to 01/19/79[1]/	98	-	8	5.2	-	3.7	.05	.40	3.6	7.8	.69	.76	8	-	-
01/19/79 to 03/02/79[1]/	70	-	3	5.5	-	2.3	.19	.46	1.3	4.2	.56	.60	7	-	-
03/02/79 to 04/30/79	46	5	1	6.5	9	.84	.03	.22	.66	1.8	.14	.15	4	-	-
04/30/79 to 05/14/79	14	-	1	5.5	-	.36	.01	.17	.58	1.1	.03	.04	5	-	-
05/14/79 to 05/31/79	9	-	1	6.3	-	.13	.01	.12	.00	.26	.01	.01	2	-	-
05/31/79 to 06/29/79	26	-	1	6.2	-	.25	.01	.33	.33	.92	.02	.03	2	-	-

1/ Sample contaminated

Table 32.--Field measurements, physical parameters, and macronutrient concentrations in bulk precipitation at Chekika Hammock State Park--Continued

[Chemical constituents shown in milligrams per liter, except for specific conductance, color, turbidity, and pH]

Composite dates	Specific conductance (micromhos at 25°C)	Color (Platinum cobalt standard)	Turbidity (Nephelometric units)	pH	Alkalinity as $CaCO_3$	Nitrogen species					Phosphorus (P) as P		Carbon (C)		
						Ammonia (NH_3-N)	Nitrite (NO_2-N)	Nitrate (NO_3-N)	Organic (N)	Total (N)	Orthophosphate	Total phosphorus	Organic carbon	Inorganic carbon	Total carbon
06/29/79 to 07/13/79	14	5	1	5.7	-	0.12	0.01	0.12	0.08	0.33	0.01	0.01	2	-	-
07/13/79 to 07/31/79	19	5	1	7.1	-	.21	.01	.16	.29	.67	.07	.07	5	-	-
07/31/79 to 08/31/79[1]/	21	5	1	6.4	6	1.3	.01	.21	2.9	4.4	.36	.38	5	-	-
08/31/79 to 10/15/79	16	5	2	5.8	-	.51	.01	.08	.42	1.0	.04	.04	7	-	-
10/15/79 to 11/19/79	22	0	1	7.1	2	.38	.01	.34	.69	1.4	.05	.05	0	-	-
11/19/79 to 12/26/79[1]/	28	5	0	7.4	-	1.2	.02	.12	.87	2.2	.44	.45	5	-	-
12/26/79 to 01/30/80	38	0	1	5.1	-	.80	1.5	.60	.45	3.4	.23	.28	6	-	-

1/ Sample contaminated

Table 32.--Field measurements, physical parameters, and macronutrient concentrations in bulk precipitation at Chekika Hammock State Park--Continued

[Chemical constituents shown in milligrams per liter, except for specific conductance, color, turbidity, and pH]

Composite dates	Specific conductance (micromhos at 25°C)	Color (Platinum cobalt standard)	Turbidity (Nephelometric units)	pH	Alkalinity as $CaCO_3$	Nitrogen species					Phosphorus (P) as P		Carbon (C)		
						Ammonia (NH_3-N)	Nitrite (NO_2-N)	Nitrate (NO_3-N)	Organic (N)	Total (N)	Orthophosphate	Total phosphorus	Organic carbon	Inorganic carbon	Total carbon
01/30/80 to 03/05/80	21	5	1	6.6	4	0.44	0.72	0.25	0.56	2.0	0.09	0.11	11	-	-
03/05/80 to 04/25/80	26	0	1	5.9	1	.03	1.0	.10	.29	1.4	.02	.02	1	-	-

Table 33.--Concentrations of major ions, hardness, and dissolved solids in bulk precipitation at Chekika Hammock State Park

[Chemical constituents shown in milligrams per liter, except for strontium]

Composite dates	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Strontium (Sr) [micrograms per liter]	Chloride (Cl)	Sulfate (SO_4)	Fluoride (F)	Bicarbonate (HCO_3)	Specific conductance	Dissolved solids: Residue at 180°C	Dissolved solids: Calculated	Hardness ($CaCO_3$): Calcium, magnesium	Hardness ($CaCO_3$): Noncarbonate	Silica (SiO_2)
05/04/78 to 06/07/78	2.6	0.1	0.9	0.5	40	1.3	0.0	0.1	10	34	12	13	7	0	1.0
06/07/78 to 06/30/78	.9	.1	.7	.1	30	.5	1.2	.0	4	9	10	6	3	0	.2
06/30/78 to 08/18/78	1.1	.1	.8	.7	20	1.4	.1	.1	-	20	15	-	3	3	.3
08/18/78 to 09/12/78	.9	.1	.5	.2	10	.6	1.4	.0	4	10	5	6	3	0	.0
09/12/78 to 10/16/78	1.4	.2	.6	.3	30	1.1	.8	.0	3	16	5	8	4	2	.0
10/16/78 to 03/02/79	NO DATA - SAMPLE CONTAMINATED														

Table 33.--Concentrations of major ions, hardness, and dissolved solids in bulk precipitation at Chekika Hammock State Park--Continued

[Chemical constituents shown in milligrams per liter, except for strontium]

Composite dates	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Strontium (Sr) [micrograms per liter]	Chloride (Cl)	Sulfate (SO_4)	Fluoride (F)	Bicarbonate (HCO_3)	Specific conductance	Dissolved solids: Residue at 180°C	Dissolved solids: Calculated	Hardness ($CaCO_3$): Calcium, magnesium	Hardness ($CaCO_3$): Noncarbonate	Silica (SiO_2)
03/02/79 to 04/30/79	4.7	0.4	1.9	0.2	20	3.5	2.2	0.0	11	48	32	18	13	4	0.1
04/30/79 to 07/13/79	1.4	.0	.5	.1	5	.8	1.3	.0	3	14	11	6	4	1	.1
07/13/79 to 08/31/79	.6	.2	1.3	.5	4	2.5	1.6	.0	6	21	15	11	2	0	.3
08/31/79 to 11/19/79	1.3	.2	1.5	.2	0	2.2	.6	.2	3	18	10	-	-	0	.7
11/19/79 to 03/05/80	1.9	.3	.9	.1	30	1.8	.2	.2	4	21	10	9	6	2	.2
03/05/80 to 04/25/80	2.9	.1	1.0	.2	40	5.4	.4	.0	2	26	18	12	8	7	.6

Table 34.--Concentrations of trace elements in bulk precipitation at Chekika Hammock State Park

[Chemical constituents shown in micrograms per liter]

Composite dates	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Lead (Pb)	Manganese (Mn)	Mercury (Hg)	Nickel (Ni)	Zinc (Zn)
06/07/78 to 06/30/78	0	3	< 10	-	-	28	-	< 0.5	-	10
06/30/78 to 08/18/78	1	1	10	3	50	0	10	2.0	2	20
09/12/78 to 10/16/78	0	5	< 10	2	20	42	0	< .5	8	20
01/19/79 to 03/02/79	1	1	20	2	100	12	10	3.4	29	20
03/02/79 to 04/30/79	2	0	10	2	30	0	0	1.0	30	20
04/30/79 to 07/13/79	0	0	20	1	40	1	0	< .5	2	10

BOTTOM MATERIAL ANALYSIS

Bottom material at the canal and marsh stations was collected in May 1978 and May and June 1979. The data tables for these stations are as follows:

Table 35 (macronutrients, chemical oxygen demand, and loss on ignition)

Table 36 (trace elements)

Table 37 (insecticides and related compounds)

Table 35.—Concentrations of macronutrients, chemical oxygen demand (COD), and residue (loss on ignition) in bottom material

[Chemical constituents shown in milligrams per kilogram]

Station	Date	Inorganic carbon	Organic carbon	Kjeldahl nitrogen	Nitrate plus nitrite	Phosphorus	COD	Loss on ignition	Percent organic material
Tamiami Canal Outlets, Levee 30 to Levee 67A (Bridge 53)	05/18/78	88,000	75,000	24,000	22.0	160	360,000	159,000	15.9
	05/31/79	86,000	112,000	19,000	2.6	170	300,000	141,000	14.1
Levee 67 Extended Canal at South End	05/24/78	57,000	179,000	50,000	6.8	3,900	460,000	360,000	36.0
	05/16/79	82,000	94,000	34,000	6.7	120	160,000	174,000	17.4
Grossman Road Borrow Canal	05/18/78	72,000	59,000	34,000	.0	300	370,000	132,000	13.2
	06/20/79	95,000	20,000	7,700	.4	81	50,000	4,650	.46
Northeast Shark River Slough Station 1	05/24/78	6,000	435,000	24,000	.0	300	860,000	773,000	77.3
	05/16/79	40,000	221,000	26,000	1.4	140	610,000	520,000	52.0
Northeast Shark River Slough Station 2	05/24/78	43,000	269,000	84,000	.0	370	600,000	458,000	45.8
	05/16/79	37,000	108,000	32,000	7.2	150	310,000	182,000	18.2
Taylor Slough Drainage north of Context Road	05/24/78	14,000	61,000	32,000	.0	1,500	180,000	164,000	16.4
	05/16/79	300	171,000	80,000	1.8	480	440,000	352,000	35.2
Context Road at Bridge 27	05/24/78	—	—	34,000	190.0	400	520,000	253,000	25.3
	05/16/79	3,500	184,000	85,000	5.6	440	600,000	390,000	39.0

Table 36.--Concentrations of trace elements in bottom material

[Chemical constituents shown in micrograms per gram]

Station	Date	Arsenic	Cadmium	Chromium	Copper	Iron	Lead	Manganese	Mercury	Nickel	Zinc
Tamiami Canal Outlets, Levee 30 to Levee 67A (Bridge 53)	05/18/78	10	< 10	< 10	< 10	3,400	< 10	40	0.00	< 10	48
	05/31/79	0	< 10	20	< 10	4,800	20	110	.00	20	20
Levee 67 Extended Canal at South End	05/24/78	9	< 10	10	< 10	4,900	< 10	20	.00	< 10	20
	05/16/79	0	< 10	< 10	10	5,600	40	250	.00	20	10
Grossman Road Borrow Canal	05/18/78	7	< 10	10	< 10	17,000	< 10	70	.00	< 10	60
	06/20/79	0	< 10	10	< 10	4,900	40	130	.26	30	20
Northeast Shark River Slough Station 1	05/24/78	27	< 10	< 10	< 10	6,300	< 10	20	.00	< 10	20
	05/16/79	0	< 10	< 10	< 10	2,700	10	40	.00	< 10	< 10
Northeast Shark River Slough Station 2	05/24/78	27	< 10	< 10	< 10	4,400	< 10	40	.00	< 10	20
	05/16/79	0	< 10	< 10	< 10	4,700	60	260	.00	30	20
Taylor Slough Drainage north of Context Road	05/24/78	3	< 10	40	12	16,000	< 10	70	.28	< 10	20
	05/16/79	0	< 10	70	10	13,000	30	30	.00	30	10
Context Road at Bridge 27	05/24/78	40	< 10	10	< 10	1,500	< 10	50	.00	< 10	90
	05/16/79	0	< 10	60	< 10	2,500	40	20	.00	10	30

Table 37.--Concentrations of insecticides and related compounds detected[1]/ in bottom material

[Chemical constituents shown in micrograms per kilogram]

Station	Date	Chlordane	DDD	DDE
Tamiami Canal Outlets, Levee 30 to Levee 67A (Bridge 53)	05/31/79	0	0.1	0.5
Levee 67 Extended Canal at South End	05/16/79	0	.0	2.5
Grossman Road Borrow Canal	05/18/78	0	.0	5.7
	06/20/79	0	.2	.6
Northeast Shark River Slough Station 1	05/24/78	0	.0	6.9
Northeast Shark River Slough Station 2	05/24/78	5	.0	4.5
	05/16/79	0	.0	1.2
Taylor Slough Drainage north of Context Road	05/16/79	2	.0	1.8
Context Road at Bridge 27	05/16/79	0	.0	.7

1/ Additional compounds analyzed for, but not detected, were Aldrin, DDT, Dieldrin, Endrin, Endosulfan I, Heptachlor, Heptachlor epoxide, Lindane, Mirex, Perthane, Toxaphene, Polychlorinated napthalenes, and Polychlorinated biphenyls.

REFERENCE CITED

Metropolitan Dade County Planning Department, 1978, East Everglades Resources Planning Project: Plan of Study, 98 p.

☆U.S. GOVERNMENT PRINTING OFFICE: 1981-740-127/32

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
325 John Knox Rd--Suite F240
Tallahassee, Florida 32303

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF THE INTERIOR
INT. 413