

PRELIMINARY COASTAL WATER QUALITY
MONITORING NETWORK FOR
EVERGLADES NATIONAL PARK,
BISCAYNE NATIONAL MONUMENT
AND ADJACENT ESTUARIES

Oceanographic Project Report No. 1

Thomas W. Schmidt
U.S. National Park Service
South Florida Research Center
Everglades National Park
Homestead, Florida 33030

January, 1979

TABLE OF CONTENTS

LIST OF TABLES	ii
LIST OF FIGURES	v
INDEX MAP OF SOUTHERN FLORIDA	1
INTRODUCTION.	2
METHODS.	2
RESULTS AND EVALUATION	4
CONCLUSIONS	44
REFERENCES	45
APPENDIX A - Analysis of Variance Tables	54
APPENDIX B - Big Cypress Estuary Water Quality Field Data	67
APPENDIX C - Everglades Estuary Water Quality Field Data	70
APPENDIX D - Florida Bay Water Quality Field Data	80
APPENDIX E - Card-Barnes Sound Water Quality Field Data	89
APPENDIX F - Southern Biscayne Bay Water Quality Field Data	101

LIST OF TABLES

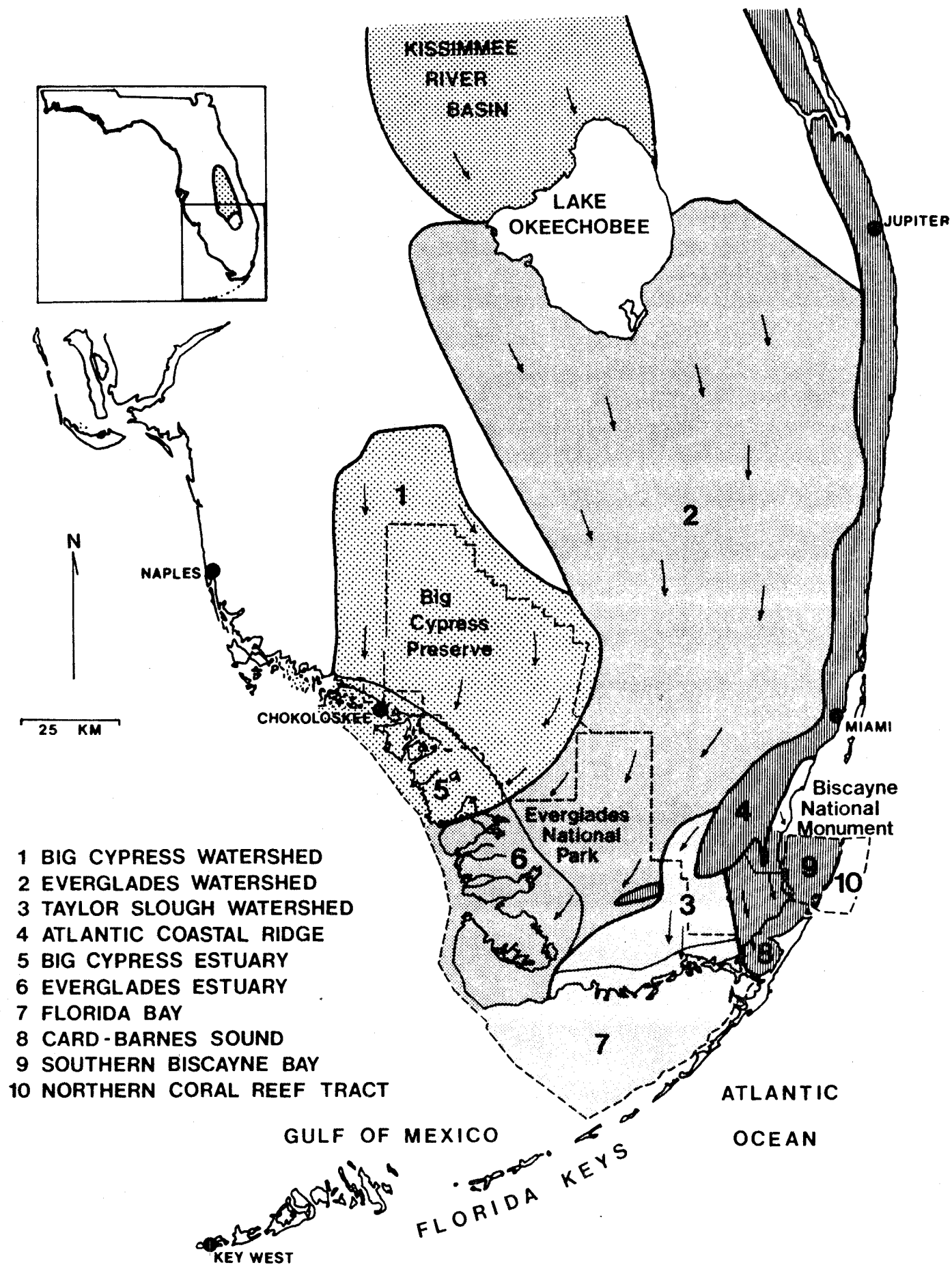
<u>Table</u>		<u>Page</u>
1.	Water quality records analyzed	3
2.	Matrix of cross correlation coefficients between salinity stations located on the Lostman's, Shark, Harney and Broad River, 1962-1967 (Marshall and Jones, unpublished data).	6
3.	Results of studentized range test for differences in salinity by station (Marshall and Jones, unpublished data) in the Big Cypress Estuary.	7
4.	Results of studentized range test for differences in salinity by station (Marshall and Jones, unpublished data) in the Big Cypress Estuary.	7
5.	Results of studentized range test for differences in salinity by station (Finucane and Dragovitch, 1959) in the Big Cypress Estuary.	7
6.	Results of studentized range test for differences in salinity by (Station I) water year periods in the Everglades Estuary. .	14
7.	Results of studentized range test for differences in salinity by (Station IV) water year periods in the Everglades Estuary .	14
8.	Results of studentized range test for differences in salinity by station (HR1, HR2, and SP) in the Everglades Estuary. .	14
9.	Results of studentized range test for differences in salinity by station (RB, LBP, TB1, TB2, SR & PL) in the Everglades Estuary	15
10.	Results of studentized range test for differences in salinity by station (I, II, III, IV & V) in the Everglades Estuary. . . .	15
11.	Results of studentized range test for differences in salinity by station (S6, S5, S4, S3, S2, S1, S1A, S1B, & S1C) in the Everglades Estuary	15
12.	Results of studentized range test for differences in salinity by station (H4, H3, H2, H1A & H1) in the Everglades Estuary.	15

13.	Results of studentized range test for differences in dissolved oxygen concentrations by station (RR3, RR2 & RR1) in the Everglades Esuary.	16
14.	Results of studentized range test for differences in dissolved oxygen concentration by station (RB, LBP, SR1, TB2 & TB1) in the Everglades Estuary.	16
15.	Results of studentized range test for differences in dissolved oxygen concentrations by station (HR1, HR2 & SP) in the Everglades Estuary.	16
16.	Results of studentized range test for differences in pH by station (I, II, III, IV, and V) in the Everglades Estuary. . .	16
17.	Results of studentized range test for differences in turbidity by station (RR3, RR2 & RR1) in the Everglades Estuary. .	17
18.	Results of studentized range test for differences in turbidity by station (NR1, NR2 & NR3) in the Everglades Estuary. .	17
19.	Results of studentized range test for differences in turbidity by station (TB1, TB2, LBP, RB, SR1 & PL) in the Everglades Estuary.	17
20.	Relationship between salinity (ppt) measured at the Florida Bay entrance to the Buttonwood Canal and water levels (1-month lag) at well P-36	27
21.	Matrix of simple correlation coefficients between monthly salinity values at 5 stations in Florida Bay and monthly rainfall and water levels from the Florida Bay region, October 1973 through September 1976	27
22.	Results of studentized range test for differences in salinity by station (1, 7, 3, and 6) in western Florida Bay.	28
23.	Results of studentized range test for differences in salinity by station (32, 59, 26, 13 and 56) in central and eastern Florida Bay.	28
24.	Results of studentized range test for differences in salinity by station (47, 48, 50, 54, 53, 26, 43 and 27) in central and eastern Florida Bay.	28
25.	Results of studentized range test for differences in dissolved oxygen concentration by station in central and eastern Florida Bay.	29

26.	Results of studentized range test for differences in dissolved oxygen by station in western Florida Bay.	29
27.	Results of studentized range test for differences in pH by station in central and eastern Florida Bay.	29
28.	Results of studentized range test for differences in turbidity by station in Florida Bay.	30
29.	Results of studentized range test for differences in bottom salinity by station in Card-Barnes Sound.	40
30.	Results of studentized range test for differences in surface salinity by station in Card-Barnes Sound.	40
31.	Results of studentized range test for differences in salinity by station (11-month period) for southern Biscayne Bay. . .	47
32.	Results of studentized range test for differences in salinity by station (30-month period) for southern Biscayne Bay. . .	47
33.	Results of studentized range test for differences in salinity by station (40-month period) for southern Biscayne Bay. . .	47
34.	Results of studentized range test for differences in turbidity by station in southern Biscayne Bay.	47
35.	Locations of 18 water quality stations from the coastal zone of Everglades National Park, Biscayne National Monument, and adjacent estuaries.	51
36.	A summary of 18 water quality primary reference stations by coastal zones and parameters in Everglades National Park, Biscayne National Monument and adjacent estuaries . . .	53

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1.	Map of Big Cypress Estuary showing the variable sampling area of primary station-1	8
2.	Map of Big Cypress Estuary showing the variable sampling area of primary station-2	9
3.	Map of Big Cypress Estuary showing the variable sampling area of primary station-3	10
4.	Map of Everglades Estuary showing the variable sampling area of primary station-4	18
5.	Map of Everglades Estuary showing the variable sampling area of primary station-5 (Salinity, dissolved oxygen, temperature and turbidity; pH)	20
6.	Map of Everglades Estuary showing the variable sampling area of primary station-6	22
7.	Map of Florida Bay showing the variable sampling area of primary station-7	31
8.	Map of Florida Bay showing the variable sampling area primary station-8	32
9.	Map of Florida Bay showing the variable sampling area of primary station-9	33
10.	Map of Florida Bay showing the variable sampling area of primary station-10 (Salinity, temperature, and dissolved oxygen; pH)	34
11.	Map of Florida Bay showing the variable sampling area of primary station-11	36
12.	Map of Florida Bay showing the variable sampling area of primary station-12	37
13.	Map of Florida Bay showing the variable sampling area of primary station-13	38
14.	Map of Card Sound of the Card-Barnes Sound coastal zone showing the variable sampling area of primary station-14 .	41



Map of southern Florida showing major watersheds, drainage patterns and coastal zones.

INTRODUCTION

The design and implementation of a marine and estuarine water quality monitoring network has been proposed by the National Park Service for Everglades National Park and Biscayne National Monument. For further background information the reader is referred to the Introduction section of a technical report (T-519) entitled: "A summary of estuarine and marine water quality information collected in Everglades National Park, Biscayne National Monument and adjacent estuaries, 1879-1977."

The current report presents the results of an investigation carried out to determine the design of preliminary water quality monitoring network for the coastal zones of the south Florida National Park Service areas and adjacent estuaries. This report documents, in part, the published and unpublished historical water quality information used for the evaluation and identification of coastal zone boundary determinations and the number and location of primary (permanent) water quality stations.

The six coastal zones (Big Cypress Estuary, Everglades Estuary, Florida Bay, Card-Barnes Sound, southern Biscayne Bay and the northern coral reef tract) investigated as the report area, are located on the extreme southern terminus of the Florida peninsula between Chokoloskee Bay on the lower southwest coast and Biscayne Bay on the lower southeast coast of Florida. The westernmost coastal zones, the Big Cypress and the Everglades estuaries are identified as part of the Big Cypress and Everglades watersheds respectively whereas Florida Bay is the lower unit of the Taylor Slough Drainageway. Card and Barnes Sound, Southern Biscayne Bay and the northern coral reef tract receives drainage through the southeast Atlantic Coastal Ridge. The land uses within the 4 drainageways exhibit considerable variation in the mix of urban, agricultural and protected undeveloped lands of park and monument areas.

METHODS

The historical water quality record was checked for completeness and consistency. Those hydrographic studies covering a minimum period of 1 year, unless otherwise noted, are used statistically to establish the number and location of primary stations and coastal zone boundaries. When necessary these data were supplemented by local biophysical factors including climatological (rainfall and water levels), topographical and geological conditions, the activities of man, and flora or faunal characteristics of a particular coastal zone.

The coastal water quality records used in the statistical analysis of the data are summarized in Table 1.

In areas of incomplete water quality information, a design study to collect supplemental hydrographic data will be developed and implemented. Data will be used from these surveys to establish additional primary station sites or increase the aerial representativeness of nearby primary stations.

Most of the computational methods presented in this report were performed using the statistical programs available on the Wang 2200 minicomputer. They included the one-way analysis of variance (ANOVA), fixed effects model (Model I), and the least squares linear regression technique. Studentized range tests were computed on desk-top calculators.

Table 1. Water Quality Records Analyzed.

Location	Parameter	Period	Frequency	Years of Data	Percent of Data Missing
Southern Biscayne Bay (Biscayne National Monument)	Salinity	Sept 1970-Apr 1977	2Xmonth-monthly	6.3	7.9
	Temp.	Sept 1970-Apr 1977	2Xmonth-monthly	6.1	7.9
	Dissolved Oxygen	Sept 1970-June 1971	monthly	0.7	0.0
	Turbidity	Apr 1972-Apr 1977	2Xmonth-monthly	4.1	14.2
Northern Reef Tract (Biscayne National Monument)	None				
Card-Barnes Sound	Salinity	Sept 1970-Oct 1972	monthly	2.1	0.0
	Temp.	Sept 1970-Oct 1972	monthly	2.1	0.0
	Dissolved Oxygen	Sept 1970-Oct 1972	monthly	1.9	0.0
Florida Bay	Salinity	Apr 1965-Sept 1976	monthly	4.5	4.1
	Temp.	Sept 1973-Sept 1976	monthly	3.1	4.4
	Dissolved Oxygen	Dec 1973-Aug 1976	monthly	2.6	12.5
	pH	Oct 1973-Sept 1976	monthly	3.0	3.5
	Turbidity	Oct 1973-Sept 1974	monthly	1.0	1.5
Everglades Estuary	Salinity	Oct 1957-Sept 1974	monthly	9.6	19.2
	Temp.	Oct 1957-Sept 1974	monthly	5.0	6.0
	Dissolved Oxygen	Oct 1957-Sept 1974	monthly	1.0	20.0
	pH	Oct 1973-Sept 1974	monthly	1.0	19.2
	Turbidity	Oct 1973-Sept 1974	monthly	1.0	19.4
Big Cypress Estuary	Salinity	Mar 1956-Feb 1972	monthly quarterly	3.8	42.4
	Temp.	Mar 1956-Feb 1972	monthly quarterly	2.0	0.0

The assumption for using these techniques was based on independent observations with random samples from normally distributed populations. All tests of significance were performed at the .01 significance level, unless otherwise noted.

Groups of stations by parameter that did not vary significantly (areas of homogeneity) were superimposed on maps as discrete sampling units. Primary station locations were then selected to represent aerially as many discrete units by parameter as possible.

Homogeneous areas are defined as areas of hydrological regimes which vary within very narrow limits from one station to another.

RESULTS AND EVALUATION

The results of the statistical analyses of historical station data are presented separately by parameter for each of the six coastal zones.

Estuarine and coastal marine water quality parameters analyzed in the Big Cypress Estuary were obtained from three studies: Finucane and Dragovitch, 1959, Marshall and Jones, unpublished data, and Lindall et al., 1973 (Appendix-B).

Big Cypress Estuary

Coastal Zone

Boundary Determinants

The Broad River flows between the Lostman's and Harney Rivers of the Big Cypress and Everglades estuaries, respectively. Historically, these estuaries received sustained freshwater flow from large, interconnected, upland watersheds through the Lostman's, Broad, Shark and the Harney Rivers.

However, specific environmental data for the inclusion of the Broad River to within the Big Cypress or the Everglades Estuary is unavailable.

In this analysis, coastal zone boundaries are delineated from results on cross correlations between monthly salinities on the four rivers. These data were obtained from a five year study conducted by Marshall and Jones, unpublished data of the Bureau of Sportfish and Wildlife and are reported in Appendix B-3 and C-1. From these data the statistical significance of the apparent correlations in salinity values between stations was tested using the least squares linear regression approach.

The analysis of 19 stations indicated that there were significant correlations at the 99% confidence level between stations (Table 2).

The results show that stronger significant correlations values were obtained between stations at the headwaters of the Lostman's and Broad Rivers than between comparable stations on the Harney and Broad Rivers. In addition, a strong relationship between the salinities of the Shark and Harney Rivers corroborates the placement of the Harney River within the Everglades system. Using these results, the Broad River system was included in the Big Cypress Estuary.

Salinity

Salinities were taken from all three investigations. Most of the salinity values were recorded quarterly or monthly offshore (Lindall, et al., and Finucane and Dragovitch), with increased concentrations of monthly stations located inshore between the Chatham and Broad Rivers (Marshall and Jones, unpublished data).

The statistical significances of the apparent differences in salinity between stations were tested using the analysis of variance (ANOVA) technique (Appendices A-1 and 2). The analysis of monthly stations indicated that there were significant salinity differences between Broad and Lostman's Rivers, particularly at the river mouth stations. Using the studentized range test stations in which salinity values were significantly different at the .01 level of significance have been grouped together in Tables 3 and 4. Stations connected by a single line in the tables did not have significantly different observations. The order, from left to right, of stations in the table indicates the lowest values of salinity were at the headwaters of the Broad and Lostman's Rivers whereas the higher values occurred near the Gulf of Mexico.

The only monthly salinity observations with sufficient data for analysis, offshore and inshore northwest of Chatham River (Appendix A-3) indicated that there are significant differences between the lower salinities, nearshore and the higher salinities, offshore (Table 5).

The ANOVA, using similarly located quarterly salinity stations (Lindall, et al.) indicated that salinity values did not vary significantly over an annual sampling period (Appendix A-4). Based on the grouping of stations that did not vary significantly (discrete areas) three primary stations were identified and plotted on Figures 1, 2, and 3.

Water Temperatures

Monthly and quarterly records of water temperatures in the Big Cypress Estuary were made by Finucane and Dragovitch and Lindall et al., respectively. Differences in water temperatures between stations were tested for statistical significance using the analysis of variance technique. The results of these analyses (Appendices A-5 and 6) indicate that both monthly and quarterly station values did not vary significantly over one or two year periods of record. Therefore one primary reference station was selected as representing the discrete sampling area for water temperature in the Big Cypress Estuary (Figure 1).

pH, Dissolved Oxygen and Turbidity

Numerous missing data for monthly pH and dissolved oxygen concentrations made an analysis of variance for these parameters impossible. The quarterly sampling frequency of dissolved oxygen (Lindall, et al.) was considered insufficient for determining aerial homogeneity. Turbidity records from the Big Cypress Estuary were unavailable.

Table 2. Matrix of cross correlation coefficients between salinity stations located on the Lostman's, Shark, Harney and Broad River, 1962-1967 (Marshall and Jones, unpublished data).

Stations	B ₁ ^c	B ₂	B ₃	B ₄	B ₅	SC ^d	SIB	SIA	S ₁	S ₂
H ₁ ^a	.59					.85				
H ₂		.89					.85			
H ₃			.92					.80		
H ₄				.88						.96
L ₂ ^b	.66									
L ₃		.80								
L ₄			.83							
L ₆				.91						
L ₇					.98					

^a data for H₁ through H₄ from Harney River

^b data for L₂ through L₇ from Lostman's River

^c data for B₁ through B₅ from Broad River

^d data for SC₁ through S₂ from Shark River

Table 3. Results of studentized range test for differences in salinity by station^b in the Big Cypress Estuary

(7.4)	(7.7)	(9.01)	(13.5)	(17.8)	(21.9)	25.8)
B7	B6	B5	B4	B3	B2	B1

Table 4. Results of studentized range test for differences in salinity by station^b in the Big Cypress Estuary

(9.5)	(10.11)	(1038)	(10.6)	(12.5)	(13.3)	(13.3)	(16.7)	(18.6)	(27.9)	(27.7)
L8A	L11	L8	L7	L10	L9	L6	L5	L4	L3	L2

Table 5. Results of studentized range test for differences in salinity by station^a in the Big Cypress Estuary

(16.25)	(21.8)	(28.9)	(32.8)	(33.5)	(34.62)	(36.2)	(36.3)	(36.5)	(37.4)
55	62	37	64	41	50	54	36	42	67

^aFinucane and Dragovitch, 1959

^bMarshall and Jones, unpublished data

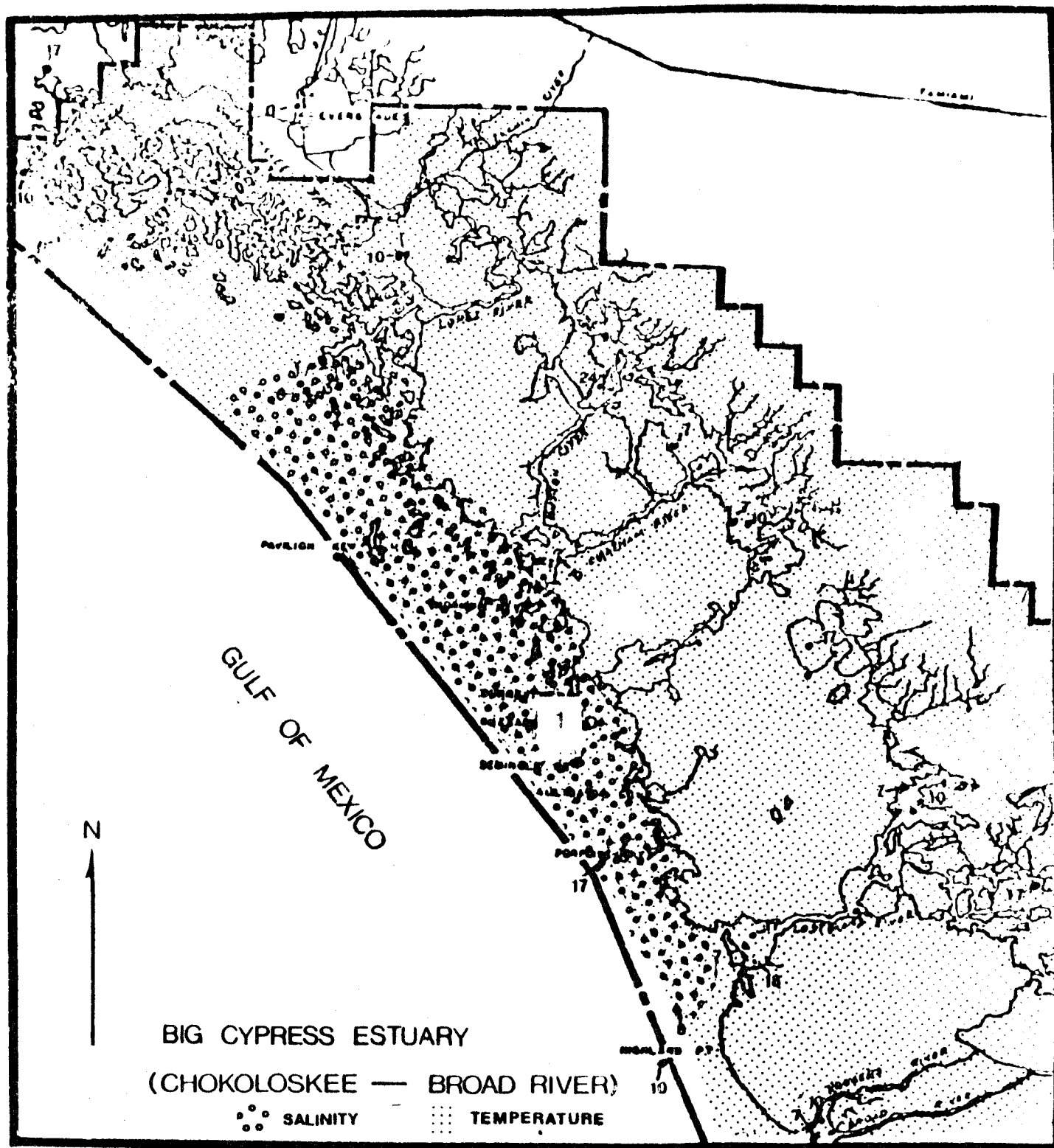


Figure 1 Map of Big Cypress showing the variable sampling area of primary station-1.

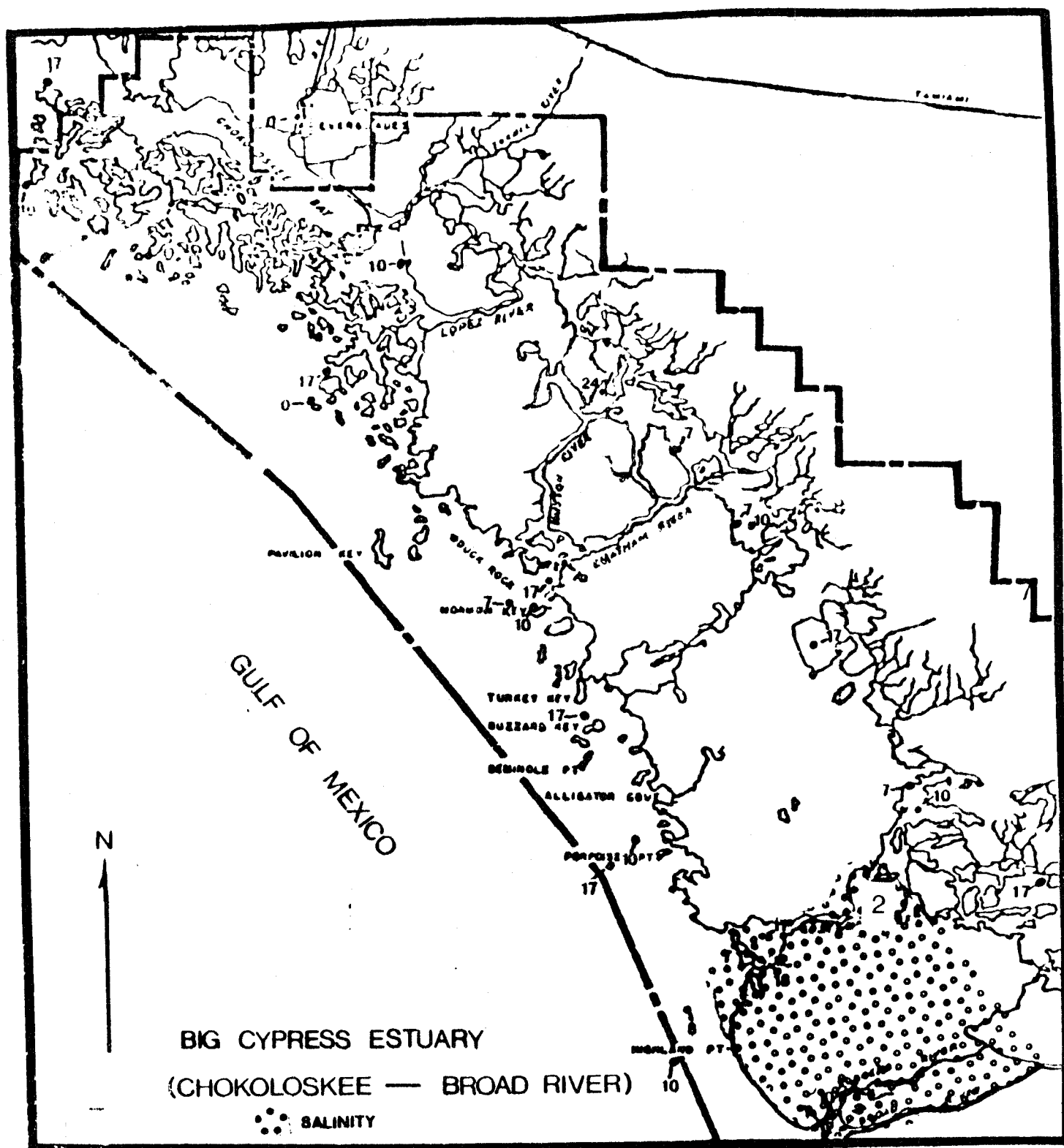


Figure 2 Map of Big Cypress estuary showing the variable sampling area of primary station-2.

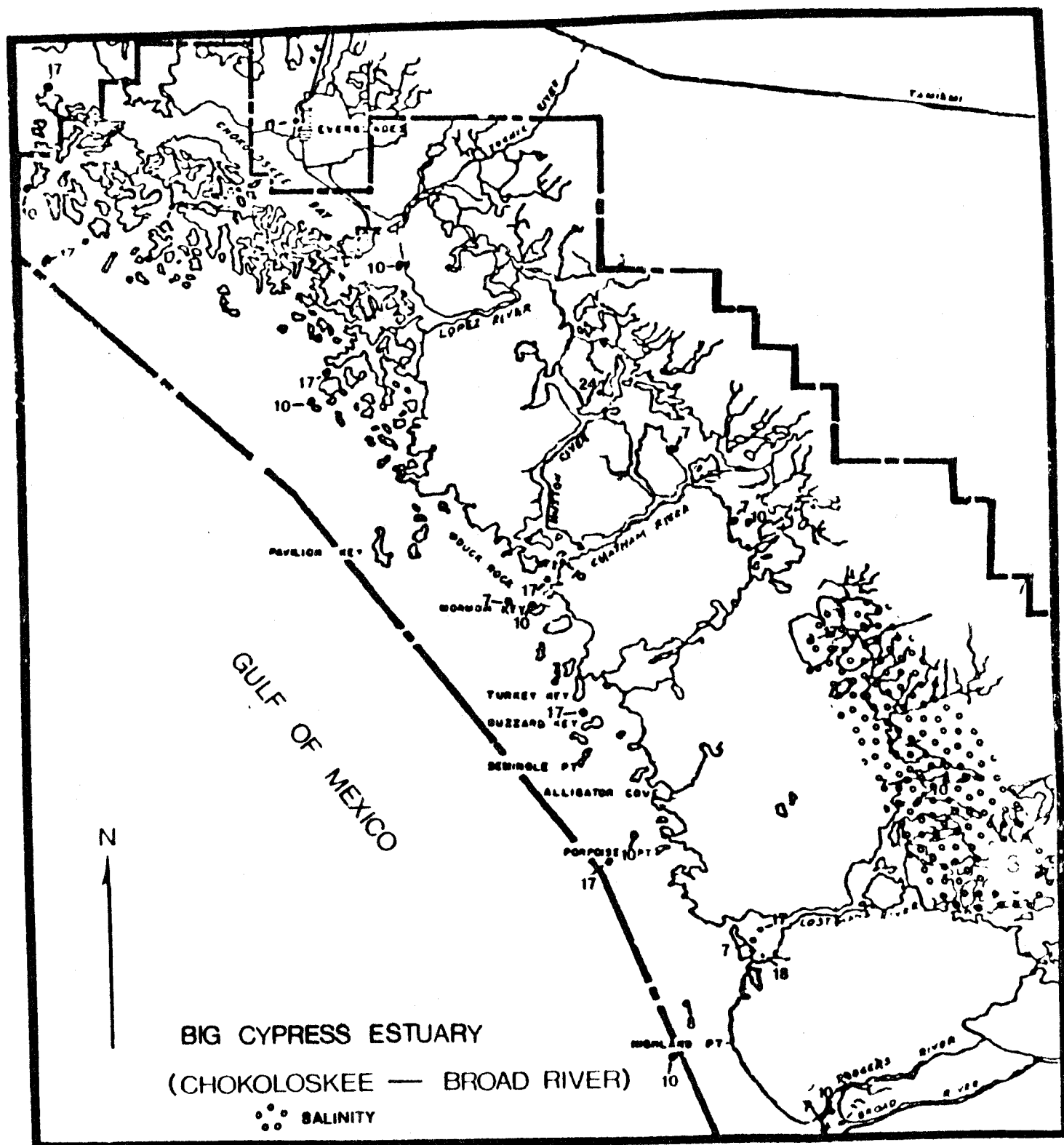


Figure 3 Map of Big Cypress Estuary showing the variable sampling area of primary station-3.

Everglades Estuary

The largest recorded number (5) of complete and consistent water quality studies with sufficient historical information for statistical analysis were identified in the Everglades coastal zone. The five hydrographic studies analyzed were: Tabb et al. (1959); Tabb and Dubrow (1962); Marshall and Jones, unpublished data; Heald (1968); and Davis and Hilsenbeck (1974) (Appendix C).

Salinity

The earliest complete salinity records were compared over similarly sampled stations in the Whitewater Bay area by the water years of 1957, 1959, 1960, and 1973. The statistical significance of the apparent differences between the water year periods was tested using the analysis of variance technique. The analysis of the 12 month periods indicated that salinities varied significantly between water year periods (Appendices A-7 and 8). Using the studentized range test, water periods with significantly different salinities at the .01 level of significance have been grouped together in Tables 6 and 7.

The salinities were significantly higher in 1973 than during 1957, 1959 and the 1960 period of record. Clearly, the 1973 period of record was more indicative of the recent estuarine and marine salinity regime in the Everglades Estuary, particularly in the Whitewater Bay area. Thus, 1973 salinity data (Davis and Hilsenbeck, 1974) was selected for further station analysis in Whitewater Bay, North, Roberts, Watson, Harney and the Shark River.

The statistical significance of the apparent differences between salinity stations in Whitewater Bay, Roberts, North, Watson, Harney, and Shark River were tested using the one-way analysis of variance method.

The analysis of the data indicated that salinities varied significantly in Whitewater Bay, the Shark and Harney Rivers (Appendix A-9). Using the studentized range test monthly stations in which salinities were significantly different at the .01 level of significance have been combined in Tables 8 through 10, and discrete sampling areas are plotted on Figures 4, 5 and 6.

The results of an analysis of monthly salinity stations (Marshall and Jones, unpublished data) for boundary determinations between the Big Cypress and Everglades Estuaries using Shark and Harney River data tended to corroborate these findings (Appendices A-10 and 11) (Tables 11 and 12). Since monthly salinities between certain stations along the Roberts, North, and Watson Rivers did not vary significantly, the station variances were grouped homogeneously then identified as a discrete sampling area and plotted on Figure 5.

Water Temperature

The statistical significance of differences between water year periods was tested using the analysis of variance technique. The analysis of the data showed that water temperature periods did not vary significantly between similarly located

stations in the Whitewater Bay area during 1957, 1959, 1960 and 1973 (Appendix A-12 and 13). Thus, one primary station location was selected and plotted on Figure 5.

Dissolved Oxygen

NPS water quality study conducted by Davis and Hilsenbeck supplied the only dissolved oxygen record in the Everglades Estuary with sufficient data for statistical analysis.

Differences in dissolved oxygen concentrations between stations were tested for statistical significance using the analysis of variance approach. The results of these analyses (Appendix A-9) indicate that diel dissolved oxygen concentrations did vary significantly between bay and river stations in the Everglades Estuary. The studentized range test was used to separate stations with significantly different dissolved oxygen concentrations at the .05 and .01 probability levels and are grouped together in Tables 13, 14, and 15.

The analysis of the data indicated that the Whitewater Bay system and the North River stations varied significantly at the .05 level of significance whereas the Roberts, Shark and Harney Rivers differed significantly at the .01 level of probability. At three Watson River stations there were no significant oxygen differences during the 1973-1974 period of record.

Three primary stations were selected from the discrete areas and plotted on the Everglades estuary water quality map adapted from Davis and Hilsenbeck, 1974 (Figures 4-6).

pH

Only 1973-74 park (Davis and Hilsenbeck) water quality data was sufficiently complete for the statistical analysis of pH in the Everglades Estuary. Apparent differences in pH values were tested. The results (Appendix A-9) indicate that pH in the Whitewater Bay system varied significantly at the .05 level of significance whereas the results from other 1973-74 data on pH indicate that no significant variations occurred between the remaining Everglades coastal stations. Using the studentized range test to separate the stations in the Whitewater Bay area with significantly different pH's Table 16 shows statistically, the variations occurred between stations in the Little Shark River(V) and Oyster (IV) and Whitewater Bays (I, II, III). Discrete variable areas for pH were identified and two reference stations are plotted on Figures 4 and 5.

Turbidity

The only turbidity values obtained from the Everglades Estuary were recorded by the NPS water quality investigation. The turbidity values analyzed were highly variable between stations throughout the Everglades Estuary. The results of the one-way analysis of variance, testing turbidity by stations, indicates that there is a significant variation at the 99% confidence level within Roberts, North and Shark

River stations (Appendix A-9). When stations are grouped using the studentized range test the results show that turbidity values from the lower river stations RR1, NR3 and PL were significantly higher than upper Roberts, North and Shark River stations (Tables 17-19).

Two discrete areas were identified from these analyses, resulting in the location of two primary station locations (Figures 4 and 5).

Table 6. Results of studentized range test for differences in salinity by water year periods in the Everglades Estuary.

(8.9)	(15.1)	(17.0)	(21.8)
I	I	I	I
10/59-9/60 ^a	10/57-9/58 ^b	10/60-9/61 ^a	10/73-9/74 ^c

Table 7. Results of studentized range test for differences in salinity by water year periods in the Everglades Estuary.

(21.8)	(23.7)	(24.8)	(30.7)
IV	IV	IV	IV
10/59-9/60 ^a	10/57-9/58 ^b	10/60-9/61 ^a	10/73-9/74 ^c

Table 8. Results of studentized range test for differences in salinity by station^c in the Everglades Estuary.

(20.77)	(28.43)	(30.66)
HR1	HR2	SP

^aTabb and Dubrow, 1962

^bTabb, et al., 1959

^cDavis and Hilsenbeck, 1974

Table 9. Results of studentized range test for differences in salinity by station^c in the Everglades Estuary.

(3.24)	(4.56)	(10.96)	(11.07)	(21.05)	(31.32)
RB	LBP	TB1	TB2	SR	PL

Table 10. Results of studentized range test for differences in salinity by station^c in the Everglades Estuary.

(21.36)	(21.38)	(25.47)	(29.72)	(30.42)
II	I	III	V	IV

Table 11. Results of studentized range test for differences in salinity by station^d in the Everglades Estuary.

(4.7)	(5.06)	(10.5)	(11.75)	(14.6)	(21.67)	(24.8)	(26.9)	(29.6)
S6	S5	S3	S4	S2	S1	S1A	S1B	S1C

Table 12. Results of studentized range test for differences in salinity by station^d in the Everglades Estuary.

(12.8)	(18.4)	(22.4)	(24.7)	(27.3)
H4	H3	H2	H1A	H1

^cDavis and Hilsenbeck, 1974

^dMarshall and Jones, unpublished data

Table 13. Results of studentized range test for differences in dissolved oxygen concentrations by station^C in the Everglades Estuary.

(3.35)	(5.47)	(6.17)
RR3	RR2	RR1

Table 14. Results of studentized range test for differences in dissolved oxygen concentrations by station^C in the Everglades Estuary.

(3.42)	(3.53)	(4.35)	(5.1)	(5.39)	(6.41)
RB	LBP	SR1	TB2	TB1	PL

Table 15. Results of studentized range test for differences in dissolved oxygen concentrations by station^C in the Everglades estuary.

(4.01)	(5.03)	(6.6)
HR1	HR2	SP

Table 16. Results of studentized range test for differences in pH by station^C in the Everglades Estuary.

(7.4)	(7.62)	(7.85)	(7.87)	(7.89)
V	IV	I	III	II

^CDavis and Hilsenbeck, 1974.

Table 17. Results of studentized range test for differences in turbidity by station^C in the Everglades Estuary.

(.78)	(1.6)	(2.22)
RR3	RR2	RR1

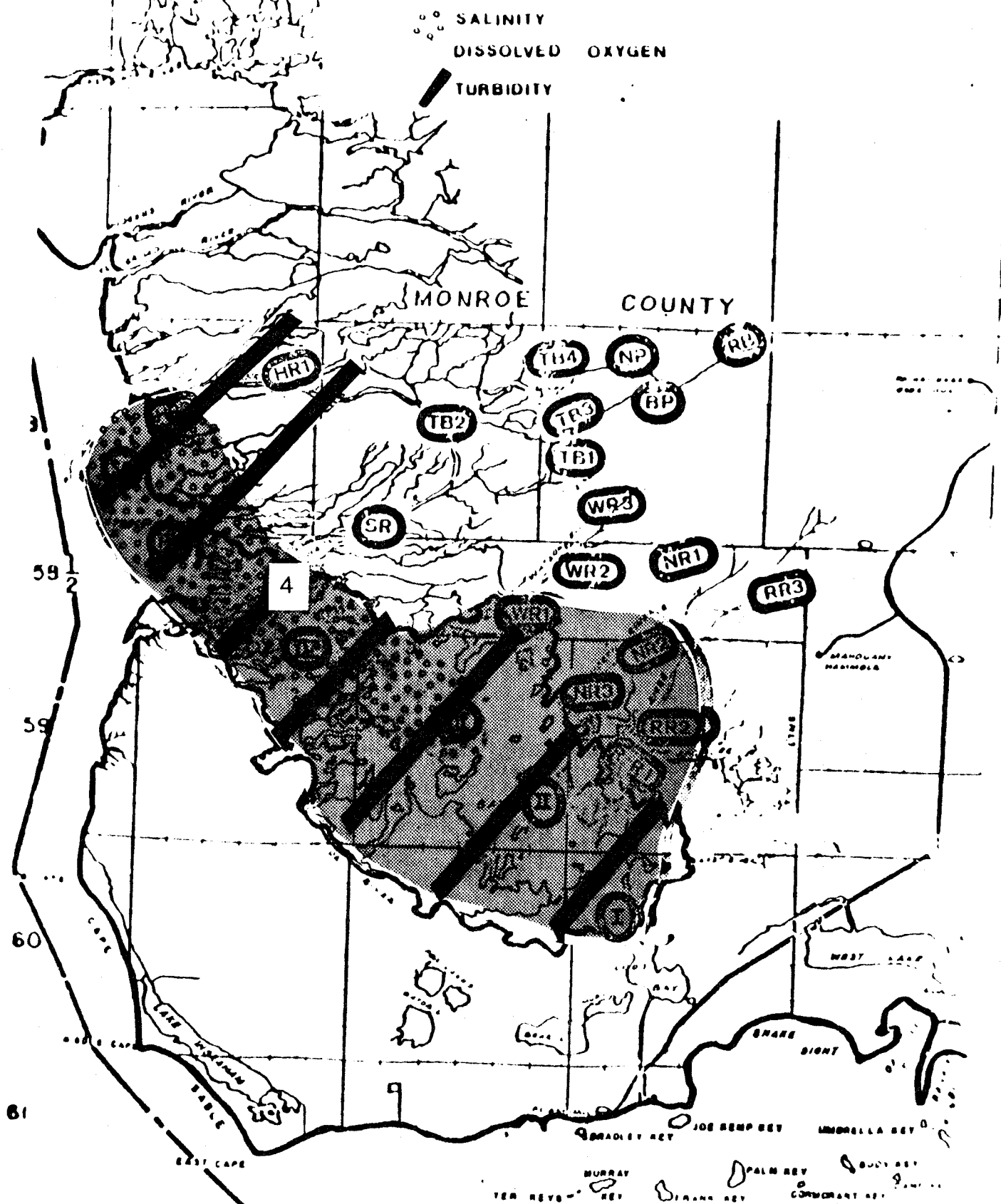
Table 18. Results of studentized range test for differences in turbidity by station^C in the Everglades Estuary.

(.85)	(1.02)	(2.13)
NR1	NR2	NR3

Table 19. Results of studentized range test for differences in turbidity by station^C in the Everglades Estuary

(1.0)	(1.09)	(1.14)	(1.32)	(1.6)	(5.14)
TB1	TB2	LBP	RB	SR1	PL

^CDavis and Hilsenbeck, 1974



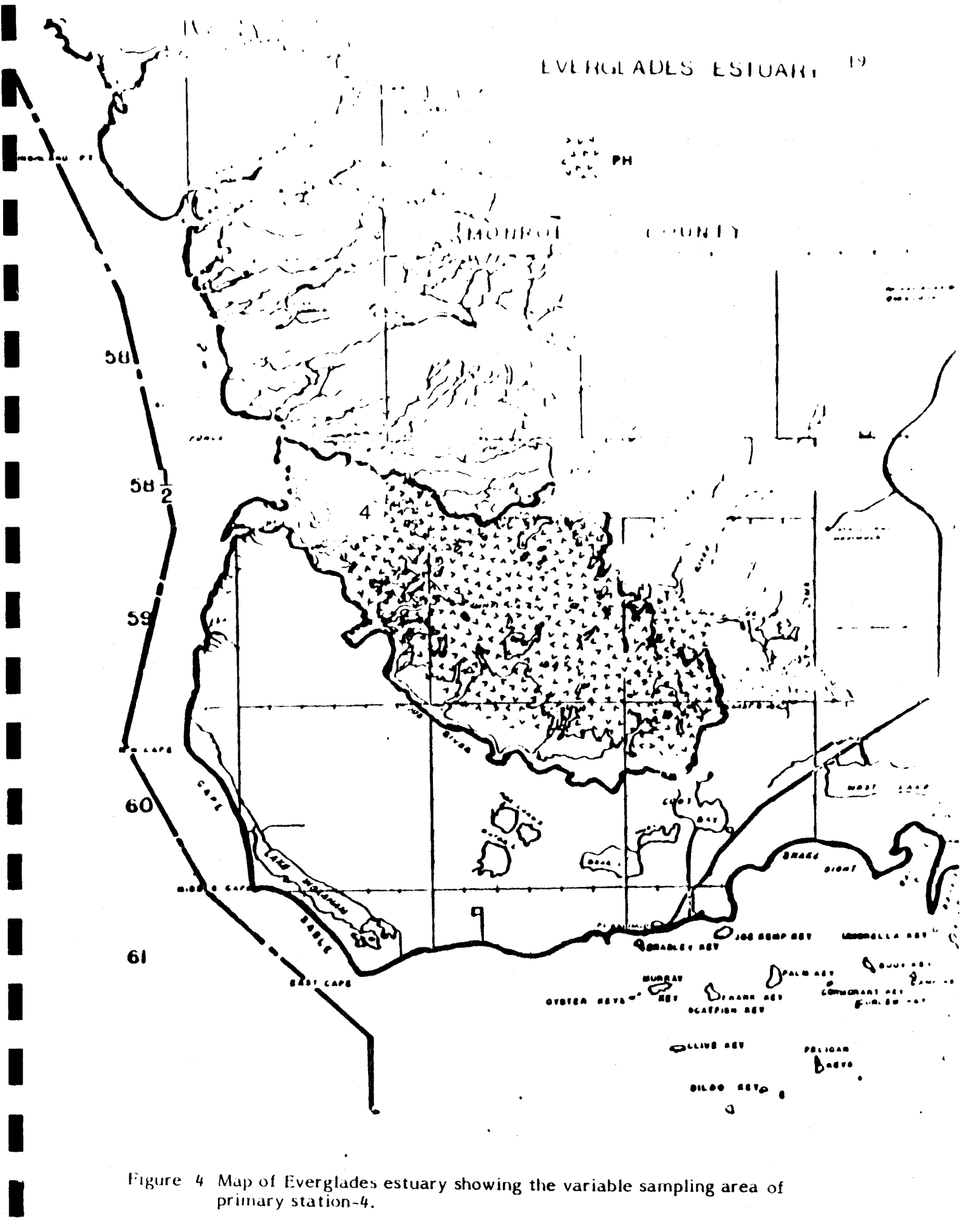


Figure 4 Map of Everglades estuary showing the variable sampling area of primary station-4.

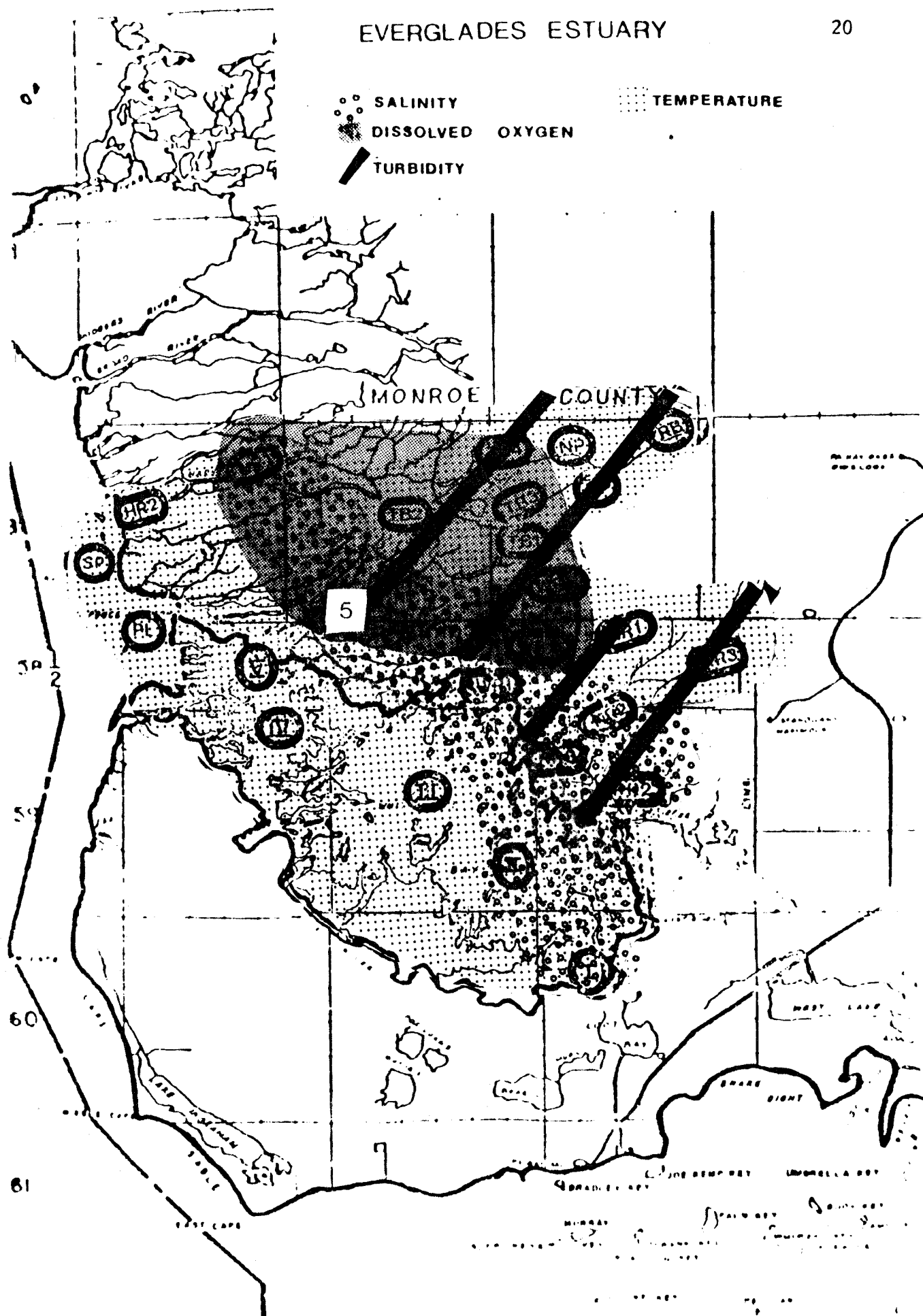


Figure 5 Map of Everglades estuary showing the variable sampling area of primary station-5.

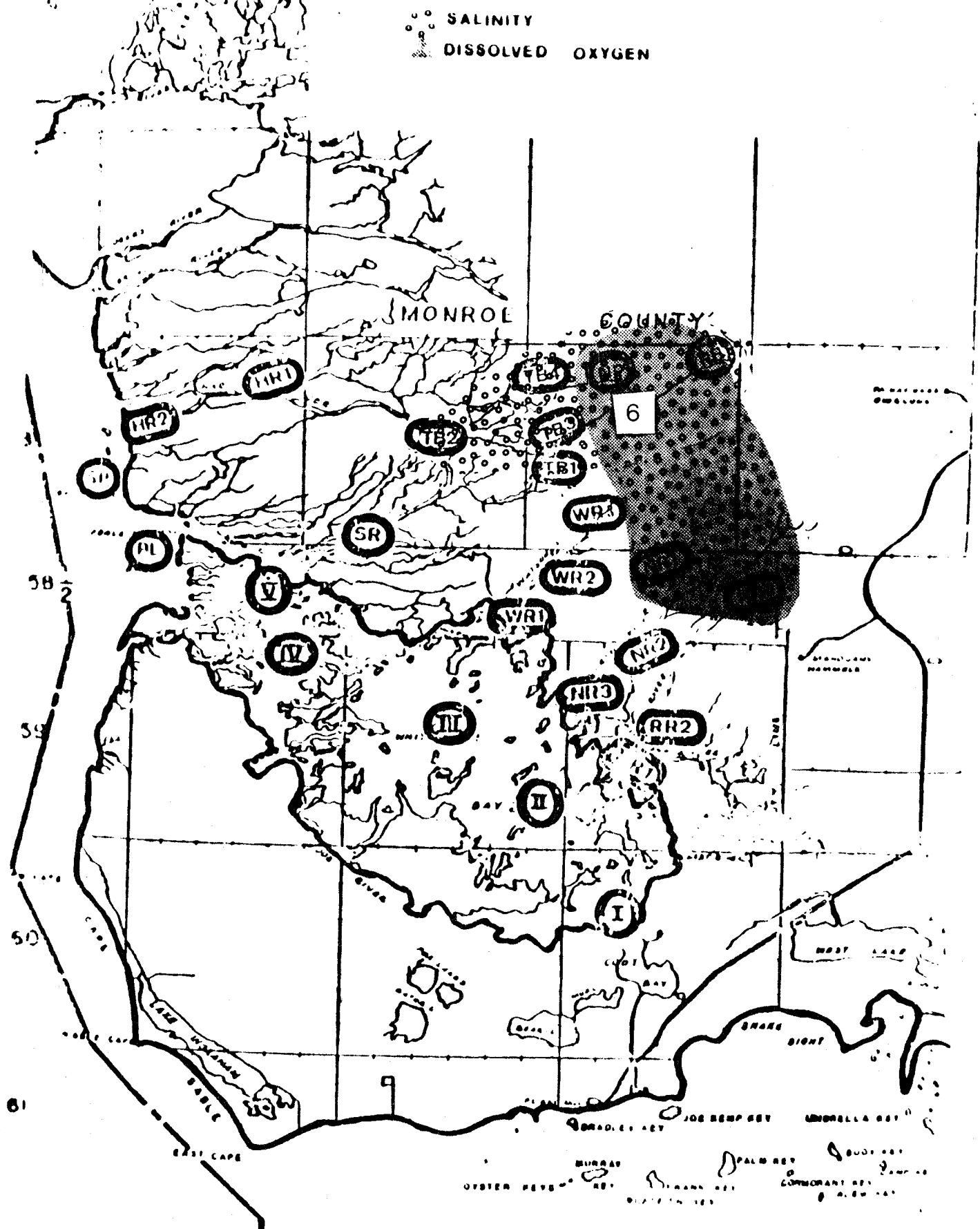


Figure 6 Map of Everglades estuary showing the variable sampling area of primary station-6.

Florida Bay

Coastal water quality and climatological parameters analyzed in the Florida Bay region were taken from the following investigations and reports: Tabb, unpublished salinity data in Florida Bay; Schmidt, unpublished salinity, water temperature, dissolved oxygen, pH, and turbidity data in Florida Bay; water levels from the USGS and park hydrological records; rainfall data from the National Weather Service and park hydrological records (Appendix D).

Coastal Zone

Boundary Determinants

The Florida Bay Estuary receives upland freshwater runoff (water levels) primarily through the Taylor River in the northeastern portions of the Bay and low salinity runoff through the Buttonwood Canal in northwestern Florida Bay. Local rainfall in the Florida Bay region was measured at Flamingo, Royal Palm and Tavernier (Appendix D-3). Water levels were recorded at the Taylor Slough bridge and at Well P-36 (Appendix D-4).

The formulation of Florida Bay coastal boundaries based on historical salinity values, and climatological factors (rainfall and water levels) are analyzed by the linear regression approach.

In western Florida Bay no significant inverse correlations were found between local rainfall at Flamingo and western Florida Bay salinities during the 1973-1976 period of observation (Schmidt, unpublished data) and in the Buttonwood Canal during the 1964-1966 period of record (Roessler, 1970).

In the current study the relationship between three years of salinity values at a Buttonwood Canal station (Schmidt, unpublished data) are correlated with one month lag water levels recorded at Well P-36 in the lower southeastern portion of the Everglades watershed. The results of this analysis, Table 20, indicates that P-36 water levels were inversely related, significantly at the 99% confidence level with salinity values recorded at the Florida Bay entrance to the Buttonwood Canal. Applying the above results, Buttonwood Canal water quality data were included in the Everglades Estuary.

In central and eastern Florida Bay, climatological factors, considered independent variables, were tested with five stations for the significance of associations between monthly salinity values (dependent variables) at permanent reference stations and nearly 3 years of local rainfall data from Tavernier and Royal Palm and one month lag water levels recorded at the Taylor Slough Bridge. The results (Table 21) show that a strong significant inverse relationship occurred between the northeast Florida Bay reference station 47 (Taylor River entrance to Little Madeira Bay) with water levels recorded at the Taylor Slough Bridge at the .01 probability level. Weaker, but significantly inverse relationships at the .05 probability level between water levels and salinity values were identified at station 13 south of Little Madeira Bay at Manatee Key. No significant inverse associations were found between the salinities measured at the permanent reference station located in central Florida Bay (Whipray Basin) and available climatological data.

Salinity

The earliest complete salinity data available from similarly located stations in northeast Florida Bay were compared using similar 14 month drought periods observed in 1965-66 (Tabb, unpublished data) and 1974-75 (Schmidt, unpublished data). The results of two ANOVA's, one for 1965-66 data and one for 1974-75 data, show that no statistically significant variation occurred between stations from either study (Appendix A-14). Thus, the more recent data collected by Schmidt was selected to represent statistically the salinity variations recorded in Florida Bay.

An analysis of variance was performed to test for the significance of the variation in monthly salinity values (October 1973-September 1976) between stations in western Florida Bay. The results of this analysis (Appendix A-16) indicated that there is a significant difference at the 99% confidence level between four western Florida Bay stations. Using the studentized range test to separate the significantly different stations, Table 22 shows the three year salinity variations between station (1) located near the Florida Bay entrance to the Buttonwood Canal and the remaining near and offshore stations.

The salinity observations in central and eastern Florida Bay were highly variable. The results of the analysis of variance (Appendices A-17 and 18) of salinity values by stations indicates that there is a significant variation at the 99% confidence level between stations sampled from October 1973 to September 1976. When the stations are grouped using the studentized range test the results, (Table 23) show that station 56 had significantly higher salinity values than stations 32 and 59 and that stations 56, 13 and 26 were significantly higher than stations 32 and 59. Stations 47 and 48 had significantly lower values than stations 50, 54, 53, 26, 43 and 27 (Table 24).

From these data a map of the discrete sampling areas and their five primary station sites are presented in Figures 7, 9, 10, 12, and 13. Although sufficient data was available for the determination of monthly reference station locations, other researchers (Patty and Coleman, unpublished data; Creamer, unpublished data) have also suggested that a monthly sampling frequency is not sufficient to account for the large salinity variations that occur frequently in the eastern part of the Bay. Thus, in eastern Florida Bay additional salinity stations with an increased sampling frequency will be implemented in the Design Study to determine spatial and temporal network densities.

Water Temperature

The water temperatures in Florida Bay were analyzed from the records provided by the 1973-76 park water quality study (Schmidt, unpublished data). The statistical significance of the apparent differences in temperatures between stations was tested using the ANOVA approach. The analysis of 24 monthly stations indicated that there were no significant variations between stations (Appendix A-19). One centrally located site was selected to represent the temperature regime of Florida Bay and plotted on Figure 10.

Dissolved Oxygen

Concentrations of dissolved oxygen were evaluated statistically based on the two and one half years of monthly station data obtained from the park water quality study conducted by Schmidt, unpublished data.

Variations in diurnal dissolved oxygen concentrations from central and eastern Florida Bay stations were tested for statistical significance using the ANOVA technique. The results of these analyses (Appendix A-20) indicated that stations varied significantly in western and eastern Florida Bay. The studentized range test was used to group stations with significant variations in dissolved oxygen concentration at the .01 level of significance (Table 25). The lowest mean concentrations at stations 42 and 43 were significantly different from the remaining 23 stations.

In western Florida Bay apparent differences in daytime dissolved oxygen concentrations were tested using the same technique. Appendix A-21 shows that significant statistical variations at the 99% confidence level occurred between stations.

Table 26 shows that stations connected by a single line did not have significantly different concentrations.

Plots of discrete areas and five permanent station locations were determined from these analyses and are presented in figures 7-12.

pH

The variability of pH values in Florida Bay were statistically analyzed from station data collected by Schmidt, unpublished data. Other Florida Bay water quality studies did not provide sufficient pH data for station analysis.

Differences in pH values between stations were tested for statistical significance using the ANOVA technique. The results of these analyses (Appendices A-22 and 23) indicate that stations did not vary significantly in western and eastern Florida Bay.

Using the same technique the statistical significance of the apparent station differences in central and southeast Florida Bay were tested. The results (Appendix A-24) suggest that pH's varied significantly at the 95% confidence level. When the stations are grouped using the studentized range test the results (Table 27) show that station 56 in central Florida Bay had significantly higher pH values than the other stations.

Using the above areas of homogeneity, variable pH sampling areas and two primary reference station locations were defined and plotted on Figures 8 and 10.

Turbidity

The 1973-76 park water quality monitoring network provided the current investigation with the only turbidity records with sufficient consistency to evaluate station representativeness by statistical techniques.

The ANOVA approach was used to test the apparent significant difference in turbidity values between 32 monthly stations over a two year sampling period. Appendix A-25 shows that there is a significant variation of turbidity values between stations at the 99% confidence level.

When the stations are grouped using the studentized range test the results in Table 28 show that nearshore western Florida Bay stations (1, 4, 9, and 8) had significantly higher turbidity values than other stations in central and eastern portions of the Bay as well as offshore stations in the western part of the Bay. Applying the groups of Florida Bay stations which did not vary significantly, two variable sampling areas were identified, one in northwestern Florida Bay and the other covering eastern, central and southwestern portions of the Bay. They are represented by Bay primary station sites 8 and 13 respectively (Figures 8 and 13).

Table 20. Relationship between salinity (ppt) measured at the Florida Bay entrance to the Buttonwood Canal and water levels (1-month lag) at well P-36.

Y-INTERCEPT= 51.014287657

SLOPE=-5.117259081714

REGRESSION TABLE

SOURCE	SUM OF SQ.	DEG.FREEDOM	MEAN SQ.
REGRESSION	280.0843369342	1	280.0943369342
RESIDUAL	962.804753976	31	31.05821787019
TOTAL	1242.88909091	32	

F= 9.018042764232

COEFF. OF DETERMINATION=225349420944

COEFF. OF CORRELATION= .47470982815**

STANDARD ERROR OF ESTIMATE= 5.5729900296

**Significant at the 99 percent level, 32 d.f.

Table 21. Matrix of simple correlation coefficients between monthly salinity values at 5 stations in Florida Bay and monthly rainfall and water levels from the Florida Bay region, October 1973 through September 1976.

Stations	Rainfall Royal Palm			Water Levels at Tavernier Taylor Slough Bridge			
	Actual	1-mo. lag	2-mo. lag	Actual	1-mo. lag	2-mo. lag	1-mo. lag
47	-.25	-.30	0.08	0.61**	-.51**	.12	-.74**
13	.16	.03	.27	-.29	-.25	-.08	-.36*
12	.25	.30	-.24	-.13	.17	.12	-.22
56	-.11	.06	.27	-.28	-.08	.11	.04
28	.12	.38	.49	-.17	.30	.20	-.09

* Significant at the 95 percent level, 35 df.

**Significant at the 99 percent level, 35 df.

Table 22. Results of studentized range test for differences in salinity by station in western Florida Bay.

(34.8) (38.3) (38.5) (39.3)

1 7 3 6

Table 23. Results of studentized range test for differences in salinity by station in central and eastern Florida Bay.

(41.6) (43.7) (44.4) (44.6) (47.3)

32 59 26 13 56

Table 24. Results of studentized range test for differences in salinity by station in central and eastern Florida Bay.

(32) (33.6) (41.7) (42) (43.9) (44.4) (44.5) (47.3)

47 48 50 54 53 26 43 27

Table 25. Results of studentized range test for differences in dissolved oxygen by stations in central and eastern Florida Bay

(4.9)	(5.3)	(6.5)	(6.7)	(6.8)	(6.8)	(6.9)	(7.2)	(7.3)	(7.3)	(7.4)	(7.5)	(7.5)	(7.5)	(7.6)	(7.6)	(7.6)
42	43	26	47	52	44	32	45	48	46	27	50	49	31	53	56	58

(7.6)	(7.7)	(7.8)	(7.8)	(7.9)	(8.0)	(8.2)
59	12	54	57	55	51	13

Table 26.. Results of studentized range test for differences in dissolved oxygen by station in western Florida Bay

(6.3)	(6.8)	(7.3)	(7.6)	(8.2)	(8.8)	(9.7)
1	2	4	5	6	7	3

Table 27. Results of studentized range test for differences in pH by station in central and eastern Florida Bay

(7.7)	(7.7)	(7.9)	(7.9)	(8.0)	(8.0)	(8.1)	(8.1)	(8.2)
44	57	42	26	45	55	59	43	56

Table 28. Results of studentized range test for differences in turbidity by station in Florida Bay.

(0.8)	(0.9)	(0.9)	(1.0)	(1.1)	(1.2)	(1.3)	(1.3)	(1.5)	(1.6)	(1.6)	(1.6)	(1.9)	(2.0)	(2.1)	(2.1)	(2.2)
60	52	31	28	51	42	56	6	3	59	43	7	5	13	53	27	12
(2.7)	(3.3)	(3.4)	(3.9)	(4.3)	(4.1)	(4.6)	(4.8)	(5.3)	(7.2)	(8.3)	(8.7)	(11.5)				
49	54	44	47	2	46	48	26	50	1	4	9	8				

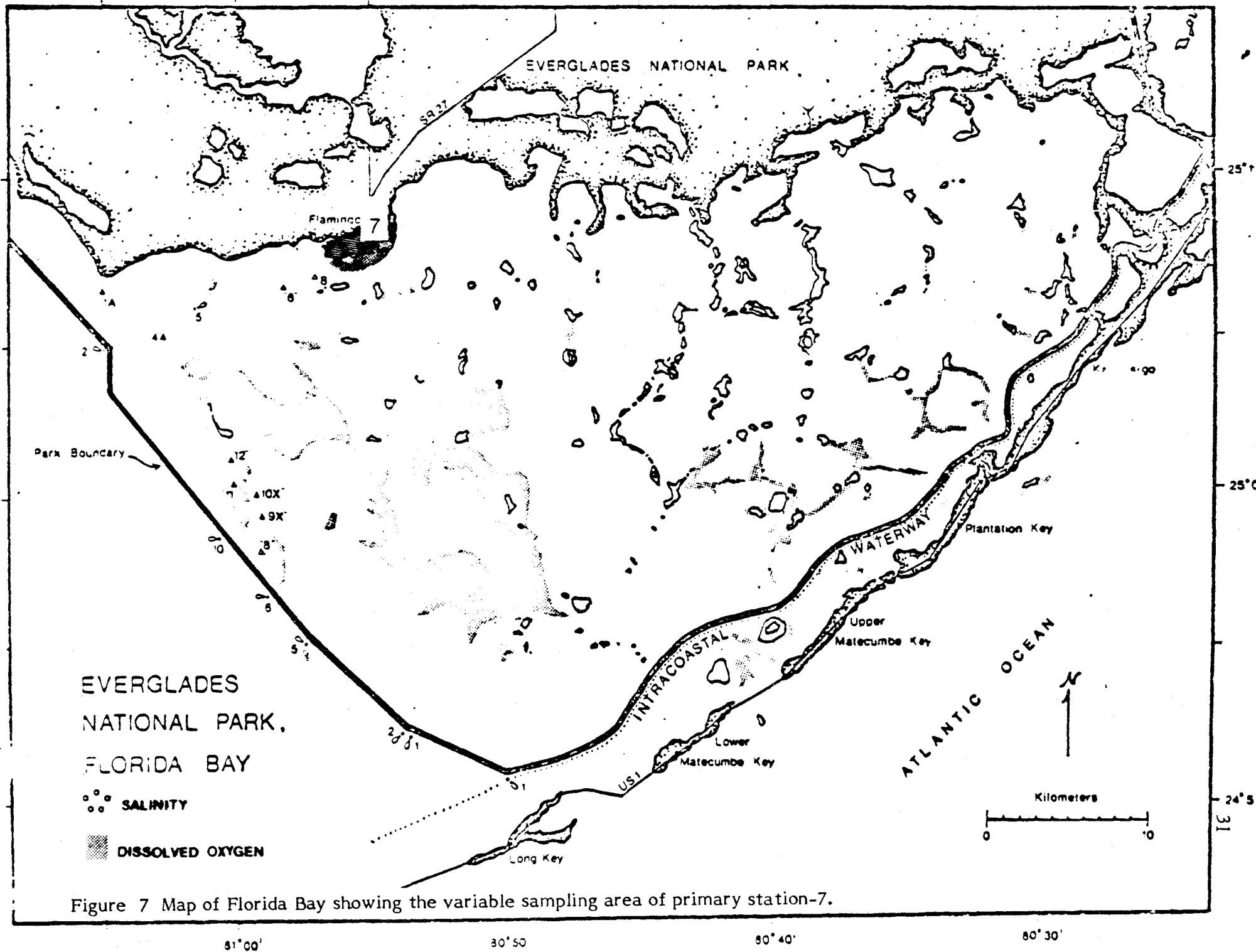
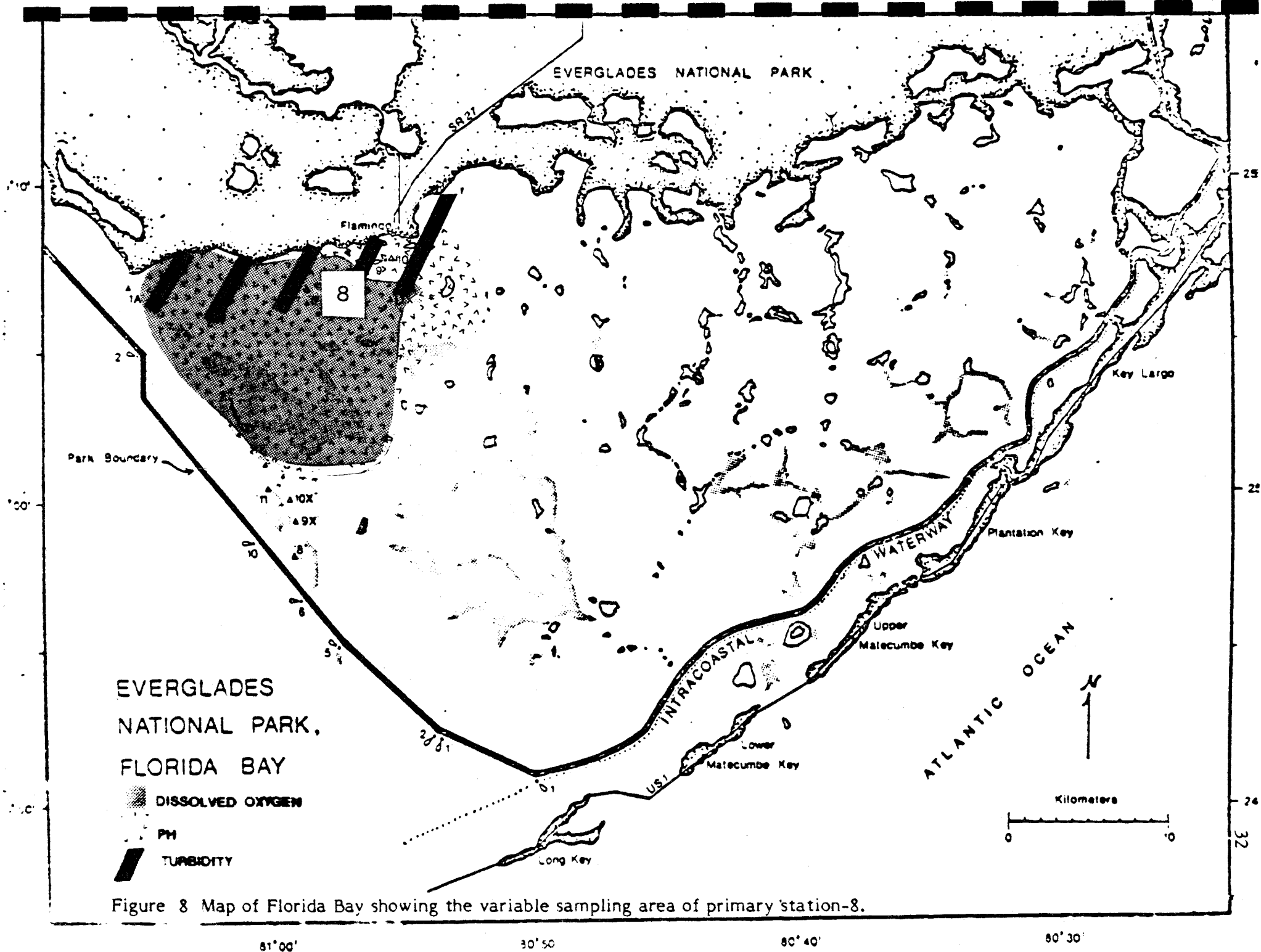


Figure 7 Map of Florida Bay showing the variable sampling area of primary station-7.



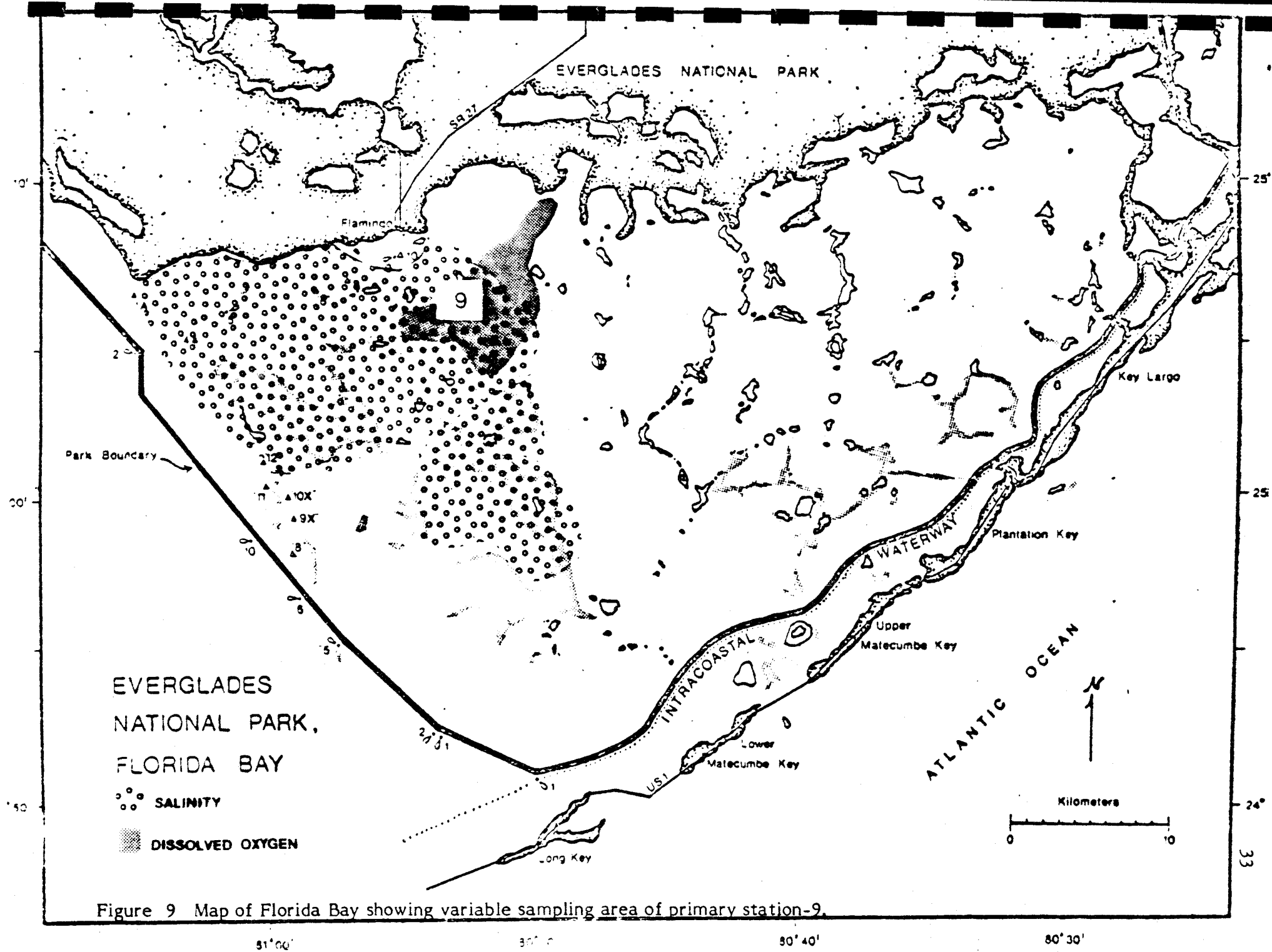


Figure 9 Map of Florida Bay showing variable sampling area of primary station-9.

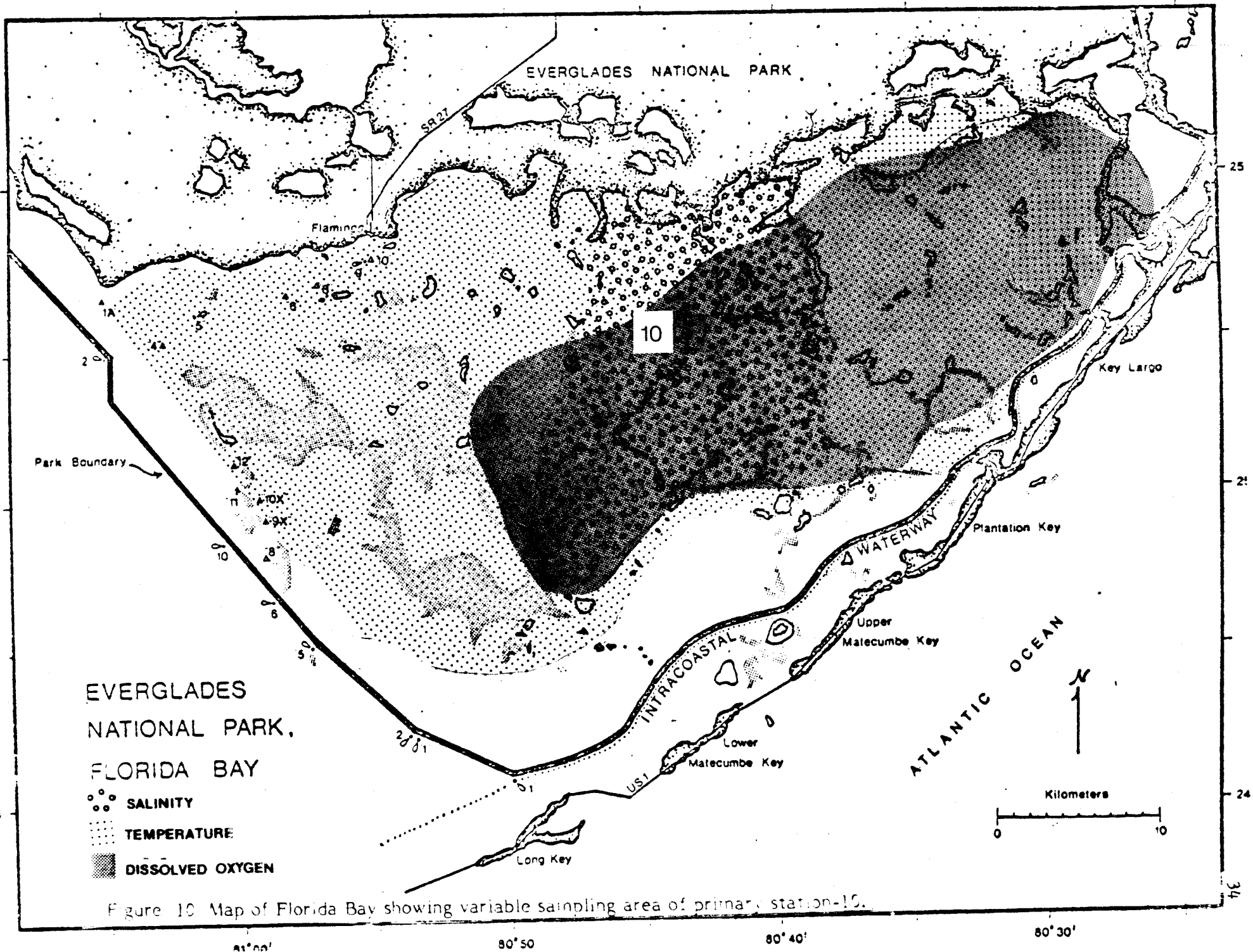
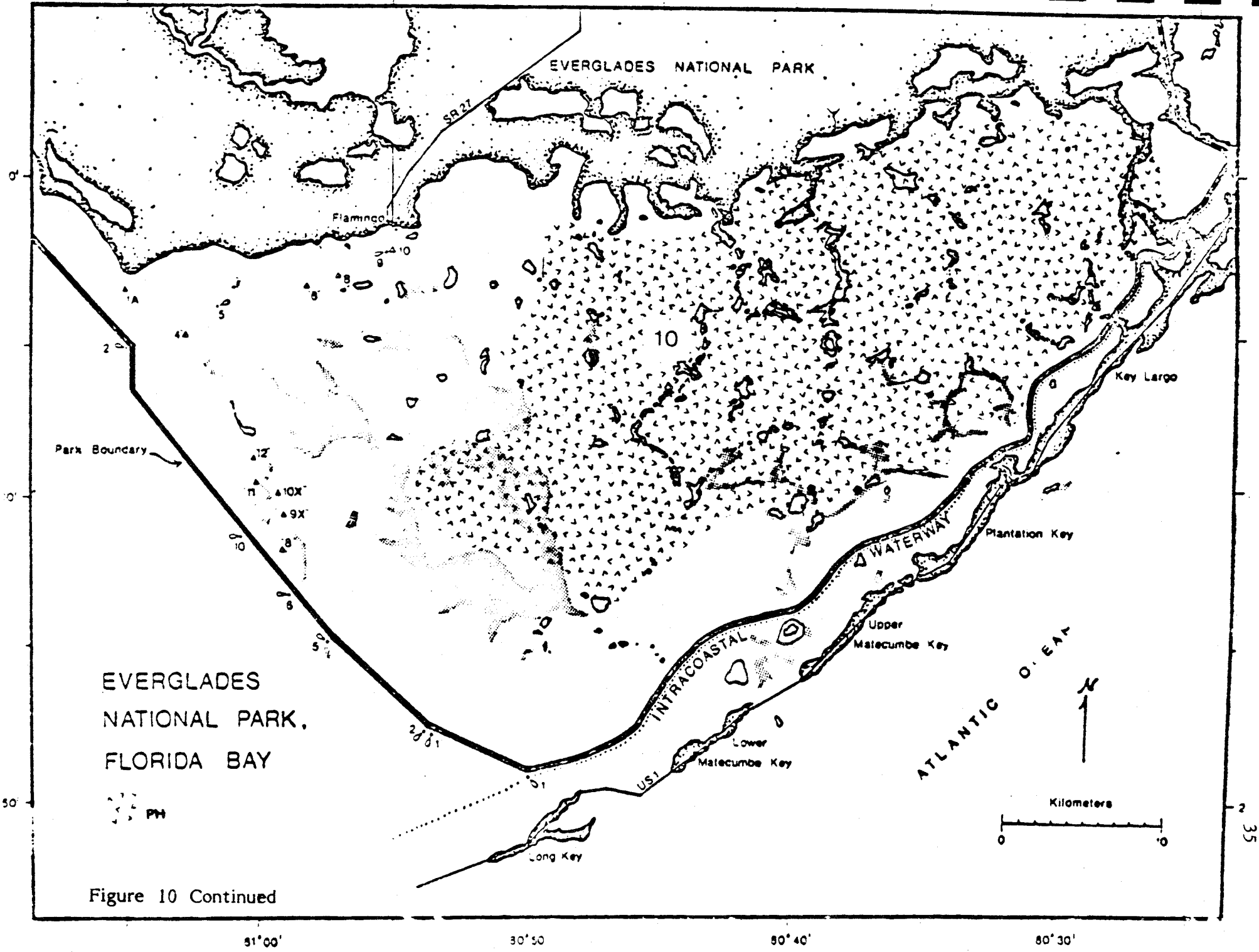


Figure 10 Map of Florida Bay showing variable sampling area of primary station-10.



EVERGLADES
NATIONAL PARK,
FLORIDA BAY

Figure 10 Continued

81° 00'

80° 50'

80° 40'

80° 30'

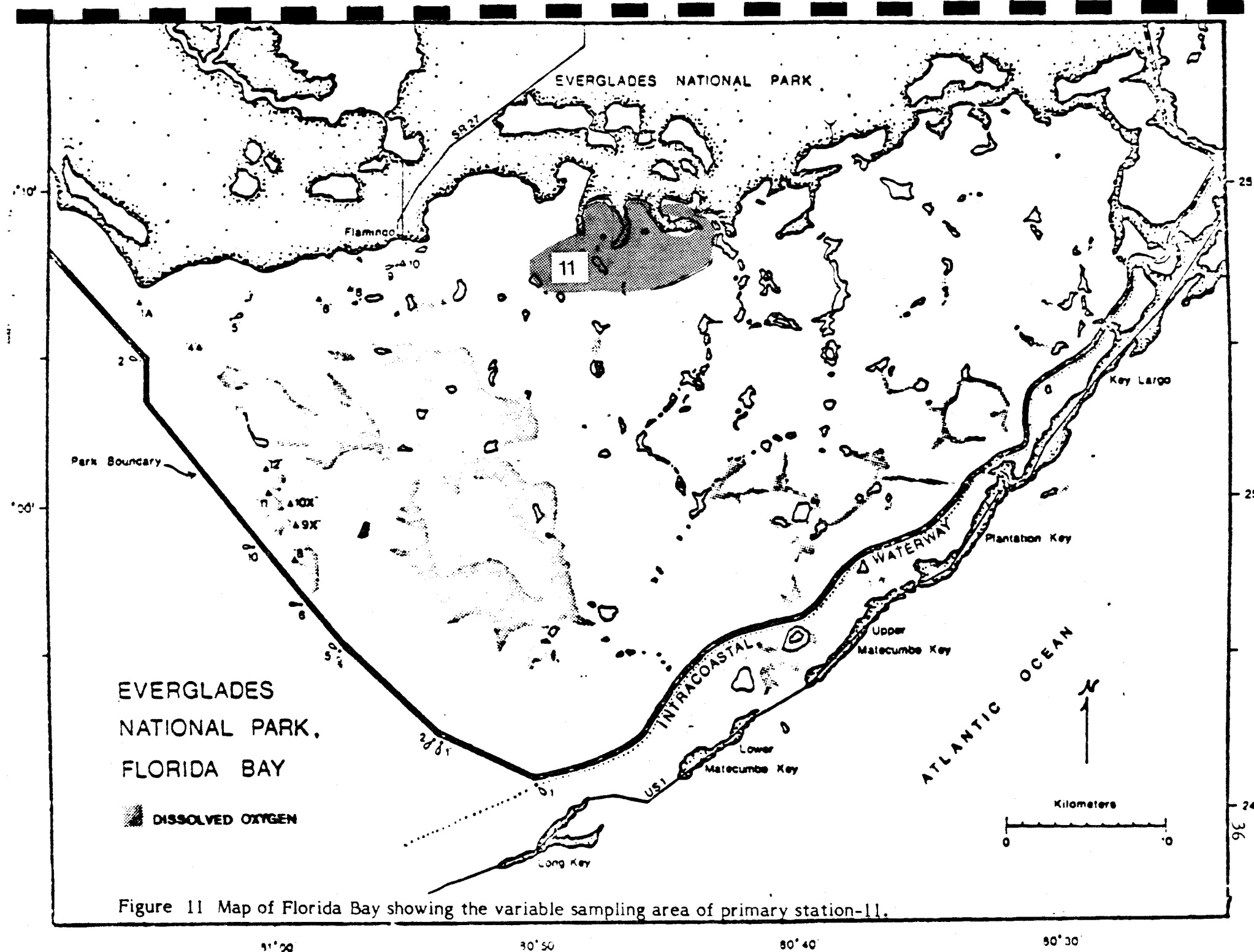
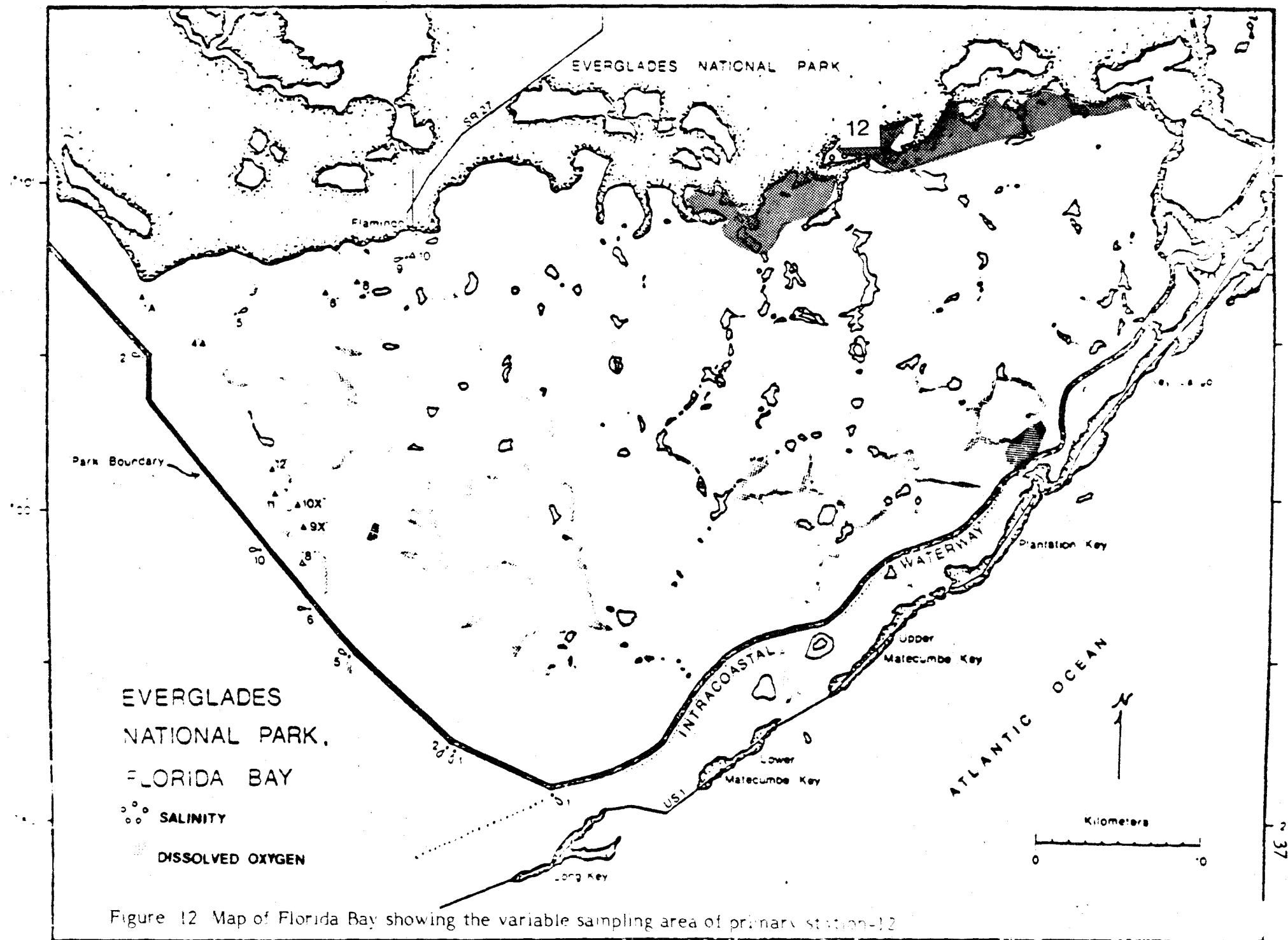
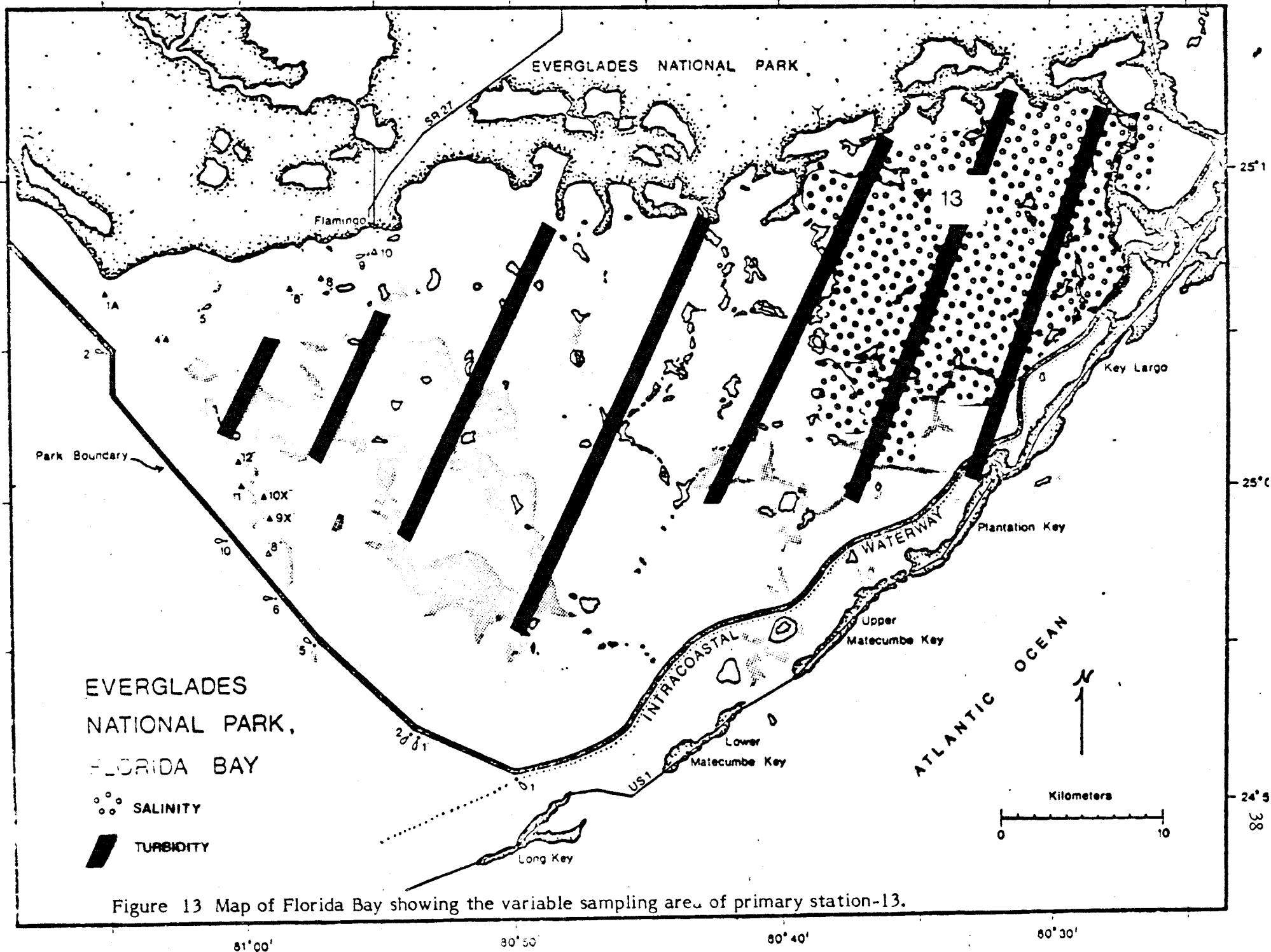


Figure 11 Map of Florida Bay showing the variable sampling area of primary station-11.





Marine and estuarine water quality parameters analyzed in the Card Sound coastal zone were obtained from three studies: Segar, et al. 1971; Smith, 1973; and Hixon, 1976 (Appendix E). No hydrographic data was available for statistical analysis in Barnes Sound.

Salinity

The earliest study in Card Sound with complete records covering a time period of sufficient duration (nine months) was conducted by Segar et al. 1971.

An analysis of variance was performed to test for the significance of differences in monthly salinities between 20 stations throughout the Card Sound area. The results (Appendix A-26) indicate that salinity values did not vary significantly from station to station between September 1970 and May 1971.

Salinities were obtained from monthly station sites (Hixon, 1976) used previously by Segar, et al. 1971, from October 1971 to October 1972. The results of an ANOVA (Appendices A-27 and 28) of surface and bottom salinity values by station shows that there is a significant variation at the 99% and 95% confidence levels, respectively between five stations. When the variations are grouped using the studentized range test, the results (Tables 29 and 30) demonstrate that station 0603 near the Card Sound entrance to the Model Land Canal had significantly lower bottom and surface salinity values than the remaining stations sampled across Card Sound. Using the homogeneous groupings of stations, two discrete variable areas were identified, one near the entrance to the Model Land Canal and the other midway across northern Card Sound. From these data variable areas are plotted in Figures 14 and 15, with primary stations coinciding with stations 0603 and 0405.

Water Temperatures

The 1970-71 ecological study conducted by the University of Miami produced the only available water temperature records covering the Card Sound area. Twenty monthly stations with sufficient water temperature values were selected to perform an ANOVA in differences in temperatures recorded between September 1970 and May 1971 (Appendix A-29). The results of this analysis shows that water temperature did not vary significantly from station to station (range of mean station values 22.9 to 25°C). Using this information, one variable sampling area was identified, with one primary station site placed in the nearshore, central portion of Card Sound (Figure 15).

Dissolved Oxygen

Dissolved oxygen concentrations were compared statistically based on one and a half years of continuous monthly values taken from the three studies in the Card Sound coastal zone.

The ANOVA approach was used to test for the differences in dissolved oxygen concentrations between similarly located station sites used concurrently by the three studies from April 1971 through October 1972. The results (Appendices A-30 and 31) show that no significant variations in oxygen values were detected

Table 29. Results of studentized range test for differences
in bottom salinity by station for Card-Barnes Sound

(33.3)	(34.1)	(34.6)	(34.9)	(35.1)
0603	0504	0405	0306	0207

Table 30. Results of studentized range test for differences
in surface salinity by station in Card-Barnes Sound

(31.7)	(32.9)	(34.0)	(34.5)	(34.5)
0603	0504	0405	0306	0207

CARD BARNES SOUND

41

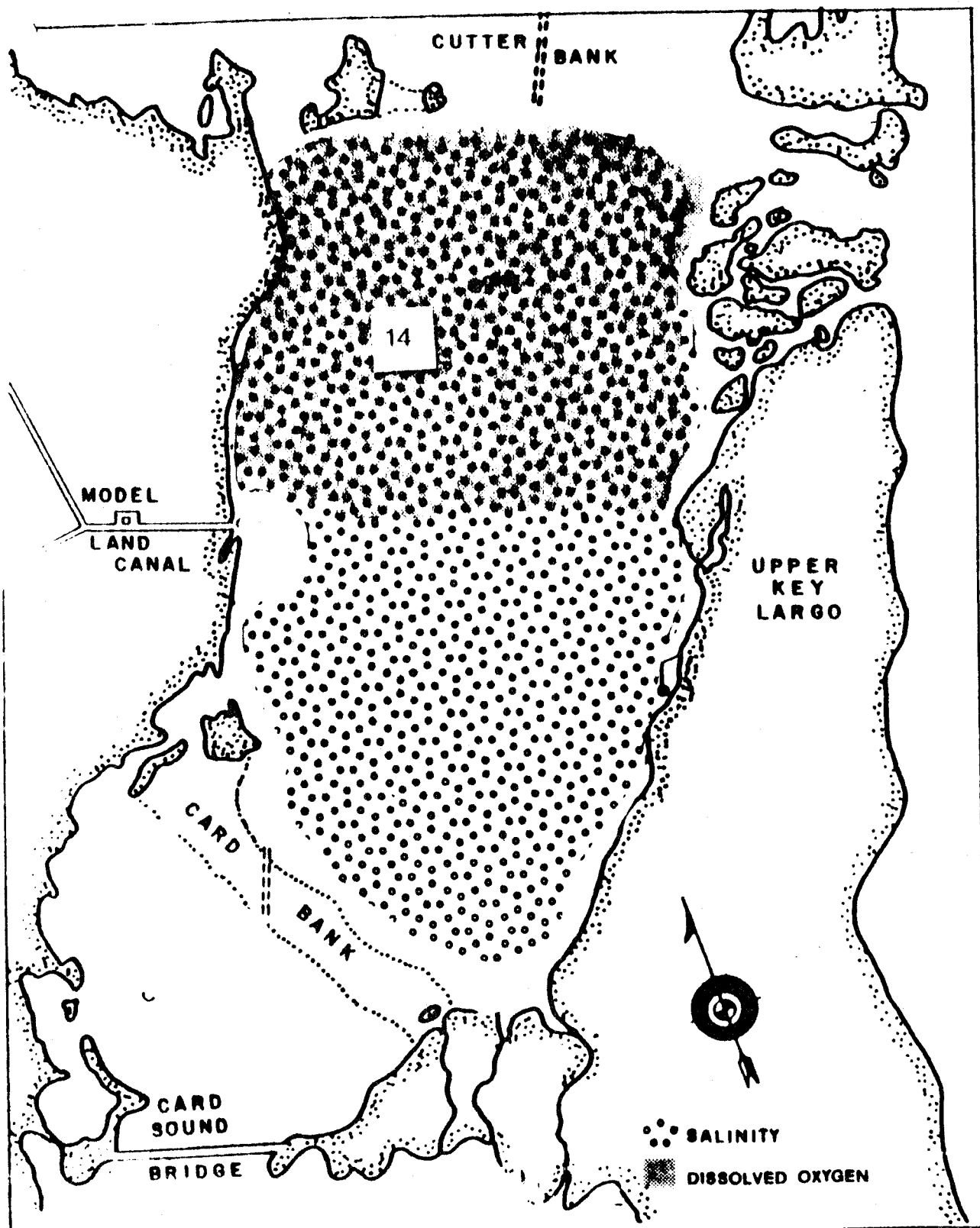


Figure 14 Map of Card Sound of the Card-Barnes Sound coastal zone showing the variable sampling area of primary station-14.

CARD BARNES SOUND

42

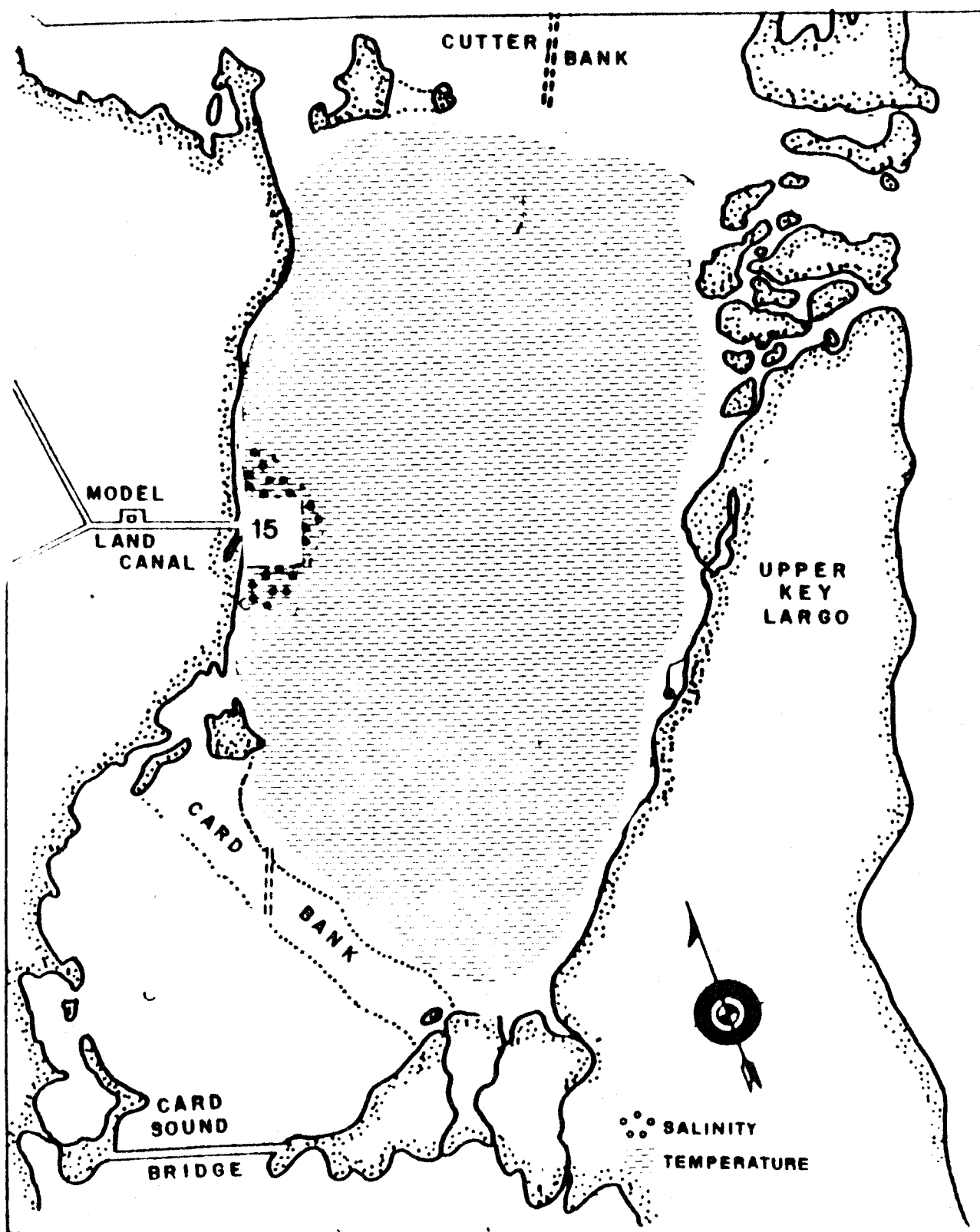


Figure 15 Map of Card Sound of the Card-Barnes coastal zone showing the variable sampling area of primary station-15.

between the stations. Thus, one variable sampling area for dissolved oxygen was recognized in northern Card Sound with one primary station site corresponding to station 0306 assigned midway across the northern portion of the Sound (Figure 14).

Southern Biscayne Bay

Segar, et al. 1971 and Tilmant, unpublished data on salinity, temperature, and turbidity provided the current investigation with the only sufficient water quality information for the statistical evaluation of station representativeness in southern Biscayne Bay (Appendix F).

Salinity

Segar, et al. established a water quality monitoring network near Florida Power and Light's Turkey Point facility.

The ANOVA technique was used to test for the differences between 32 monthly stations sampled from September 1970 through April 1971.

The results (Appendix A-32) indicate that no statistically significant variation occurred between stations. Using the same method, the statistical significance was tested between bimonthly and monthly stations sampled from April 1972 through June 1977 by Tilmant, unpublished data.

There was a significant variation at the 99% level of confidence between stations using 11, 30, or 40 monthly periods of record (Appendix A-33, 34 and 35).

Using the studentized range test to separate the stations with significantly different salinity values, Table 31 and 32 shows, statistically, the significantly lower nearshore values from stations 11, 21, and 31 as sampled over a 11 and 30 month period of record respectively.

Table 33 presents the groups of stations that varied significantly during the 40 month period of observation, April 1972 through June 1977. Nearshore stations 11, 21, 31 adjacent to the South Dade drainage canals had significantly lower salinity values than the remaining stations. Salinities of nearshore stations 61, 51, and 71 located immediately south of the Turkey Point power plant varied significantly from the other offshore (75 and 25) and canal influenced stations.

Groupings of the homogeneous areas are defined from the above analyses and are shown in Figure 16-18 with the corresponding three primary station locations.

Water Temperature

Both hydrographic studies supplied sufficient information for the statistical analysis of station to station water temperature variability.

Water temperature values were tested with the ANOVA from 32 stations sampled monthly from September 1970 through April 1971. The results of the analysis (Appendix A-36) show that no statistical variation occurred between stations. A

longer sampling period was tested on water temperatures obtained from 13 and 29 months of station records collected by Tilmant, unpublished data. Using the same method (Appendix A-37 and 38) shows that water temperature recorded from five and nine stations across southern Biscayne Bay did not vary significantly from May 1972 to May 1973 or November 1974 through April 1977.

One homogeneous sampling area for southern Biscayne Bay was identified from the above analyses. A primary water temperature reference station was plotted on Figure 17.

Dissolved Oxygen

Dissolved oxygen concentrations were statistically analyzed from 32 stations sampled by Segar, et al., near the Turkey Point power plant. Variations in daytime dissolved oxygen concentrations were tested using the analysis of variance approach. Appendix A-39 indicates that dissolved oxygen concentrations did not vary significantly between stations in southern Biscayne Bay.

In applying these results, one discrete sampling area was defined east of the Turkey Point power plant and plotted with the location of a primary reference station in Figure 18.

Turbidity

The five year water quality monitoring program conducted by Tilmant, unpublished data provided sufficient turbidity records for the statistical determination of discrete sampling areas in southern Biscayne Bay. The statistical significance of the apparent differences in turbidity values was tested using the ANOVA technique.

The analysis of 10 stations (Appendix A-40) indicated that there were significant variations between stations at the 99% confidence level. When the stations were grouped using the studentized range test, the results showed that station combinations which did not vary significantly overlapped one another (Table 34). Thus one primary turbidity station was selected to represent the variable sampling area within the Monument waters of southern Biscayne Bay (Figure 17).

CONCLUSIONS

A total of 18 permanent water quality reference stations have been identified from those coastal zones where historical information is sufficient to permit a statistical analysis of the pertinent data (Table 35). By parameter 15 stations measure salinity, 5 water temperature, 11 dissolved oxygen, 4 pH, and 5 turbidity (Table 36). The Florida Bay coastal zone contains the largest number of stations (7). Three stations each are located in the Everglades Estuary, Southern Biscayne Bay and the Big Cypress Estuary, while two stations are found in Card - Barnes Sound. Insufficient historical data prevented the determination of permanent reference stations in the northern coral reef tract zone.

In order to complete the NPS coastal water quality monitoring network, a design study to collect supplemental data on spatial and temporal deficiencies will be developed and implemented within the study area.

LITERATURE CITED

- Creamer, D. (unpublished data on northeast Florida Bay salinities) from Fish and Wildlife Service, Vero Beach, Florida.
- Davis, G. E., and C. Hilsenbeck. 1974. The effects of Watershed Management on the Shark Slough Whitewater Bay Estuary of Everglades National Park, Florida. 16 pp. (unpublished report).
- Finucane, J. H. and A. Dragovich. 1959. Counts of Red Tide Organisms, *Gymnodinium breve*, and Associated Oceanographic Data from Florida West Coast 1954-1957. United States Fish and Wildlife Service Special Scientific Report-Fisheries No. 289:202-295.
- Heald, E. 1971. The Production of organic detritus in a South Florida Estuary. Univ. of Miami, Coral Gables, Fl. Sea Grant Program (Estuarine and Coastal Studies). Sea Grant Tech. Bull. No. 6. 110 pp.
- Hixon, R. 1976. Studies on the Abundance of Animals Captured in Artificial Habitats in Card Sound, Florida. M.S. thesis, Univ. of Miami, Coral Gables, Fl. 104 pp.
- Lindall, W. N., Jr., J. R. Hall, W. A. Fable, Jr., and L. A. Collins. 1973. Fishes and Commercial Invertebrates of the Nearshore and Estuarine Zone between Cape Romano and Cape Sable, Florida. In South Florida Ecological Study Appendix E, Estuarine-Dependent Marine Fishes. National Marine Fisheries Service, Gulf Coastal Fisheries Center, St. Petersburg Beach Laboratory, St. Petersburg Beach, Florida. Pt. II. Sect. II. 59 pp.
- Marshall, A. and R. Jones. (unpublished data on Big Cypress and Everglades coastal salinities). From Branch of River Basin Studies, Fish and Wildlife Service, Vero Beach, Fl.
- National Oceanographic and Atmospheric Administration, Climatological Data, Florida 1973-1976, Vol. 77-80, Environmental Data Service, National Climatic Center, Asheville, N.C.
- National Park Service, Everglades National Park, Hydrology Records, South Florida Research Center, Homestead, Florida.
- Patty, P. and R. Coleman (unpublished data on eastern Florida Bay salinities) from South Florida Research Center, Everglades National Park, Homestead, Florida.
- Roessler, M. A. 1970. Checklist of Fishes in Buttonwood Canal, Everglades National Park, Florida, and Observation on the Seasonal Occurrence and Life Histories of Selected Species. Bull. Mar. Sci. 20:860-893.
- Schmidt, T. W. Florida Bay Fishery Ecology Studies. South Florida Research Center, Everglades National Park, Homestead, Florida (unpublished report on Florida Bay salinity, temperature, dissolved oxygen, pH, and turbidity).

- Segar, D. W., S. M. Gerchakov, and T. Johnson. 1971. Chemistry. In An Ecological Study of South Biscayne Bay and Card Sound, Florida, Pt. IV. Univ. of Miami, Coral Gables, Florida. RSMAS. Progress Report to the U.S. Atomic Energy Comm. and Florida Power and Light Co. 201 pp.
- Smith, R. 1973. Abundance and Diversity of Sponges and Growth Rates of Spongia graminea in Card Sound, Florida. M.S. Thesis, Univ. of Miami, Coral Gables, Florida. 66 pp.
- Tabb, D. C. (unpublished data). From Tropical Bio-Industries Development Co., Miami, Fl.
- Tabb, D. C., B. Drummond, and N. Kenny. 1974. Coastal Marshes of Southern Florida as Habitat for Fishes and Effects of Changes in Water Supply on these Habitats. Report to U.S. Dept. of the Interior, Bureau of Sport Fisheries and Wildlife, Branch of River Basins. Contract No. 14-16-0004-56. Univ. of Miami, RSMAS, Coral Gables, Florida. 63 pp.
- Tabb, D., and D. Dubrow. 1962. Hydrographic Data. Supplement I. From the Inshore Bays and Estuaries of Everglades National Park, Florida 1959-1962. Univ. of Miami, the Marine Laboratory, Coral Gables, Florida. ML 62245. pp. 4-21.
- Tabb, D., D. Dubrow and R. Manning. 1959. Hydrographic Data from the Inshore Bays and Estuaries of Everglades National Park, Florida. 1957-1959. Univ. of Miami, the Marine Laboratory, Coral Gables, Florida. ML 59253. 26 pp.
- Tilmant, J. (unpublished data on southern Biscayne Bay salinity, temperatures, and turbidity) From Biscayne National Monument, Homestead, Florida.
- U.S. Geological Survey 1965-1976. Water Resources Data for Florida, Part II. Water Quality Records.

Table 31. Results of studentized range test for differences in salinity by station for southern Biscayne Bay.

(26.1)	(27.8)	(31)	(33.6)	(34.6)	(35.8)
11	21	31	92	96	25

Table 32. Results of studentized range test for differences in salinity by station for southern Biscayne Bay.

(25.4)	(25.9)	(27.1)	(32.7)	(34.1)	(34.3)	(34.3)	(34.4)
21	11	31	92	96	28	68	78

Table 33. Results of studentized range test for differences in salinity by station for southern Biscayne Bay.

(25.1)	(26.9)	(28.6)	(31.9)	(32.2)	(32.4)	(34.6)	(35.5)
11	21	31	61	51	71	75	25

Table 34. Results of studentized range test for differences in turbidity concentration by station for southern Biscayne Bay.

(.58)	(.65)	(.72)	(.8)	(.95)	(.96)	(1)	(1)	(1.05)	(1.15)
81	92	96	61	65	85	15	25	55	35

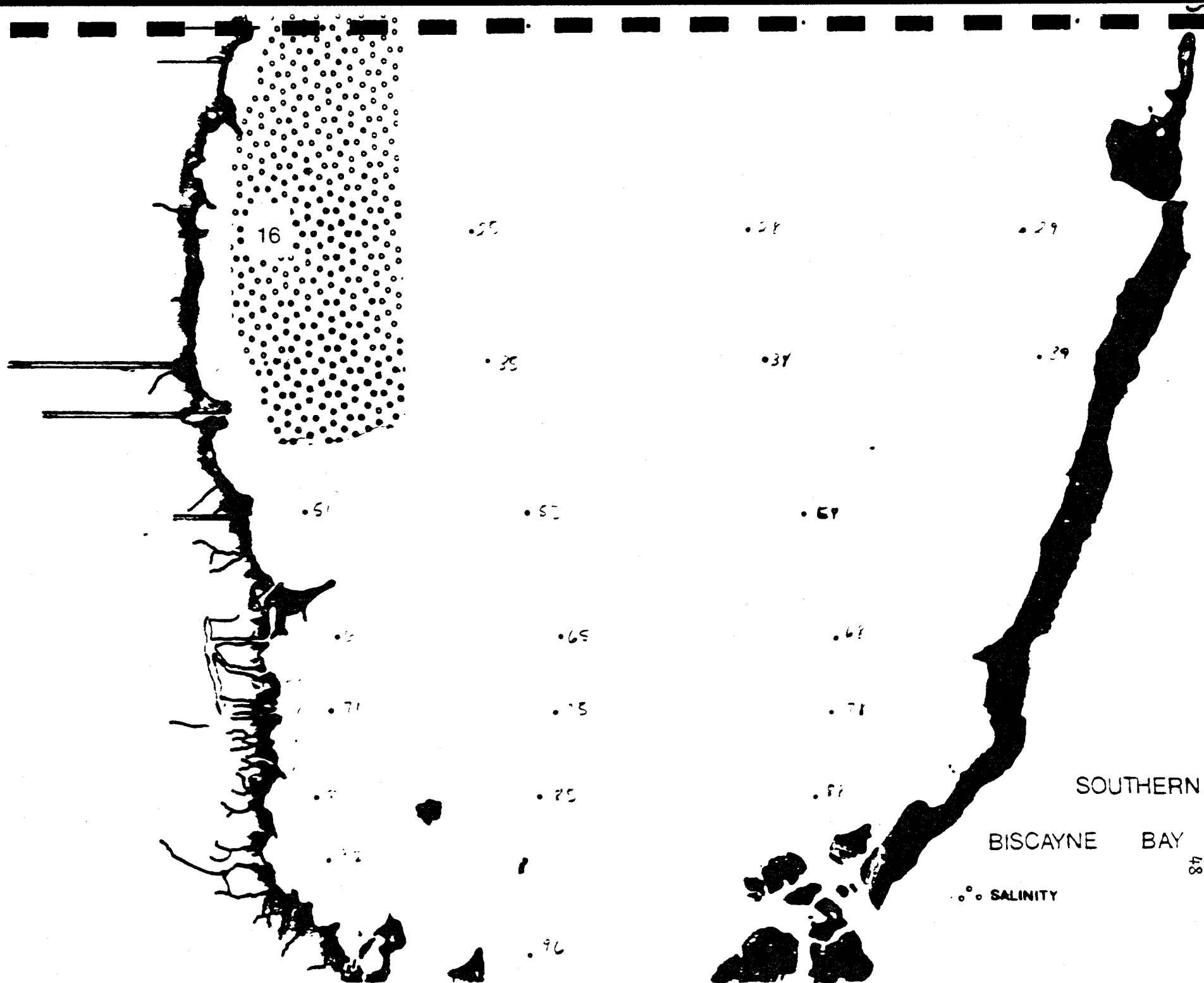


Figure 16 Map of southern Biscayne Bay showing the variable sampling area of primary station-16.

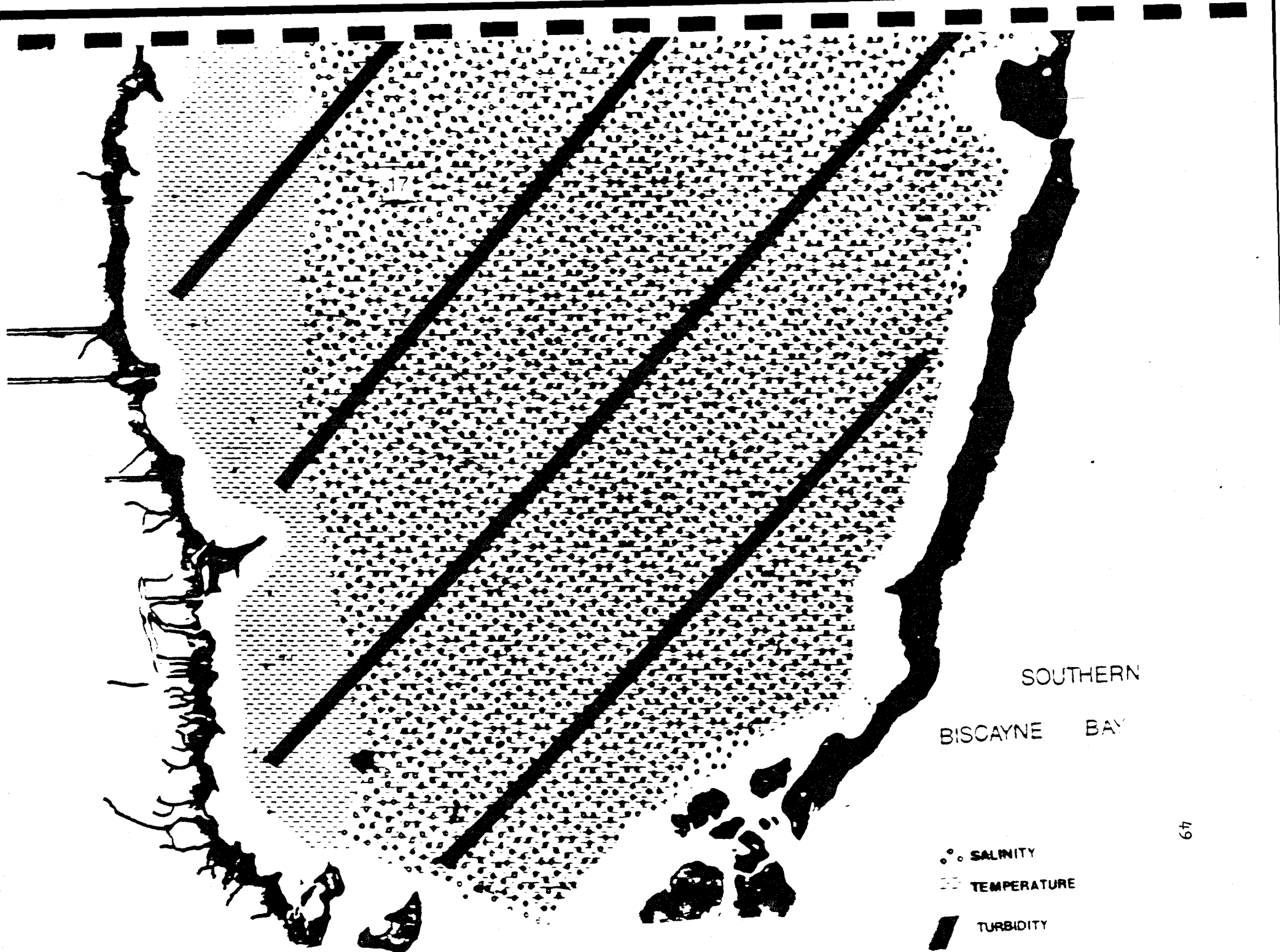


Figure 17 Map of southern Biscayne Bay showing the variable sampling area of primary station 17.

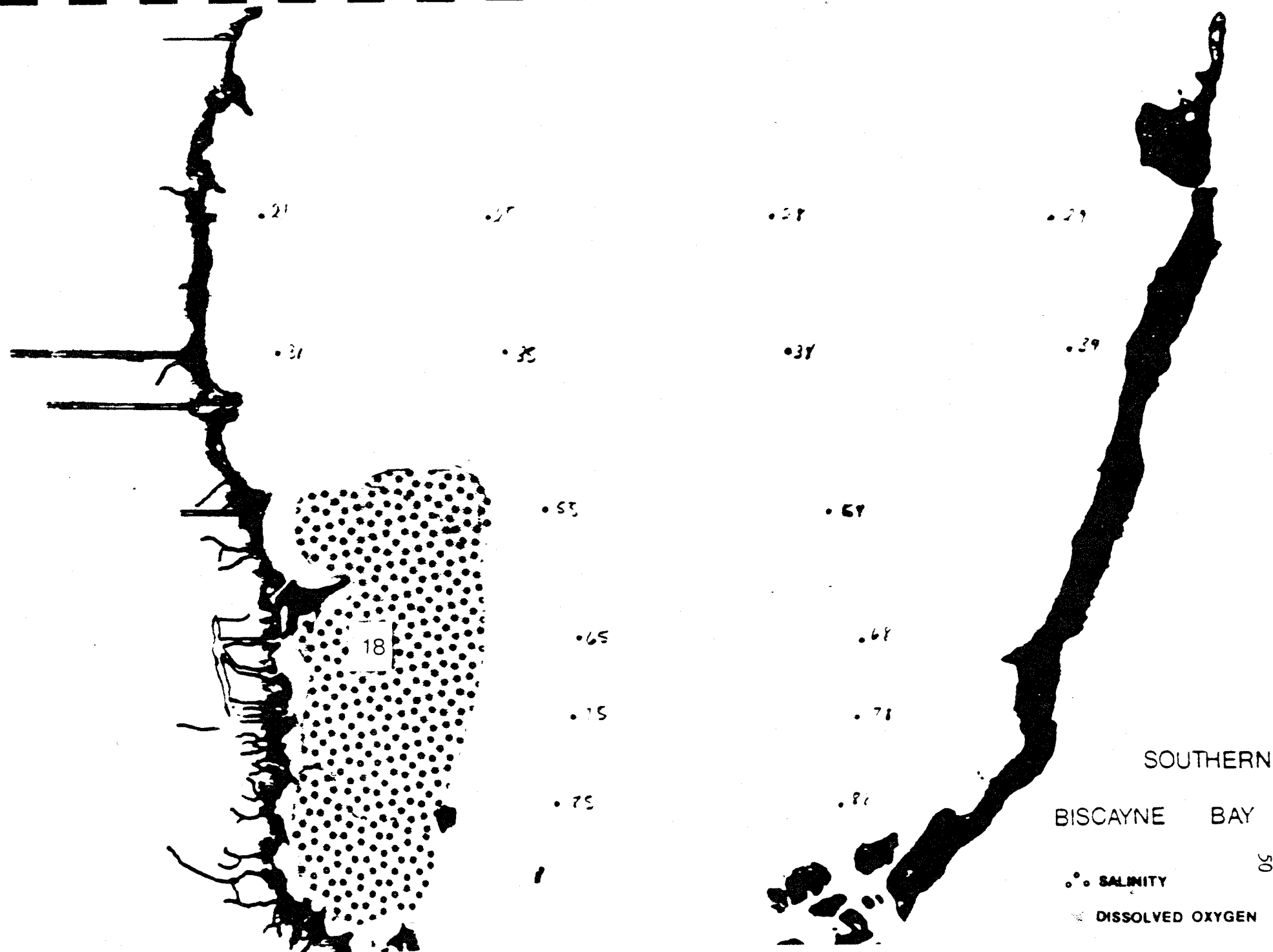


Figure 18 Map of southern Biscayne Bay showing the variable sampling area of primary station-18.

Table 35. Location of 18 water primary quality stations from the coastal zones of Everglades National Park, Biscayne National Monument, and adjacent estuaries. Station locations were obtained from historical data and their representative stations.

Primary Station No.	Coastal Zone	Station Location	<u>Historical data analyzed</u>	
			Representative station no.	Source
1	Big Cypress Estuary	Buzzard Key	50	Finucane and Dragovitch, 1959
2	Big Cypress Estuary	First Bay	L3	Marshall and Jones, unpublished data
3	Big Cypress Estuary	Lostman's Bay	L7	Marshall and Jones, unpublished data
4	Everglades Estuary	Oyster Bay	IV	Tabb, et al., 1962 Davis and Hilsenbeck, 1974
5	Everglades Estuary	Middle Shark River	SR	Tabb, et al., 1962 Davis and Hilsenbeck, 1974
6	Everglades Estuary	Upper Shark River	BP	Tabb, et al., 1962 Davis and Hilsenbeck, 1974
7	Florida Bay (western)	Florida Bay entrance to the Buttonwood Canal	1	Schmidt, unpublished data
8	Florida Bay (western)	W of Murray Key	4	Schmidt, unpublished data
9	Florida Bay (western)	S of Palm Key	3	Schmidt, unpublished data
10	Florida Bay (central)	SE Whipray Basin	56	Schmidt, unpublished data
11	Florida Bay (northcentral)	E of Buoy Key	42	Schmidt, unpublished data
12	Florida Bay (northeast)	Little Madeira entrance to Taylor River	47	Schmidt, unpublished data

Table 35. Continued

Primary Station No.	Coastal Zone	Station Location	<u>Historical data analyzed</u>	
			Representative station no.	Source
13	Florida Bay (northeast)	W of Big Tern Key	53	Schmidt, unpublished data
14	Card-Barnes Sound	N Card Sound	0306	Segar, et al., 1971; Smith, 1973; Hixon, 1976
15	Card-Barnes Sound	Card Sound entrance to Model Land Canal	0603	Segar, et al., 1971
16	Southern Biscayne Bay	1,000 yds E of Military Canal	21	Tilmant, unpublished data
17	Southern Biscayne Bay	5,000 yds E of Military Canal	25	Tilmant, unpublished data
18	Southern Biscayne Bay	1,000 yds. E of Grand Canal	61	Tilmant, unpublished data

Table 36. A summary of 18 water quality primary reference stations by coastal zones and parameters in Everglades National Park, Biscayne National Monument and adjacent estuaries.

Coastal Zone/Parameter	Station Numbers																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<u>Big Cypress Estuary</u>																		
Salinity	X	X	X															
Water Temperature	X																	
<u>Everglades Estuary</u>																		
Salinity				X	X	X												
Water Temperature					X													
Dissolved Oxygen				X	X	X												
pH				X	X													
Turbidity				X	X													
<u>Florida Bay</u>																		
Salinity						X			X	X		X	X					
Water Temperature										X								
Dissolved Oxygen						X	X	X	X	X	X	X						
pH							X			X								
Turbidity							X						X					
<u>Card-Barnes Sound</u>																		
Salinity														X	X			
Water Temperature															X			
Dissolved Oxygen														X				
<u>Southern Biscayne Bay</u>																		
Salinity																X	X	X
Water Temperature																	X	
Dissolved Oxygen																		X
Turbidity																	X	

Appendix A

Analysis of variance tables from statistical testing of water quality data from the Big Cypress Estuary, Everglades Estuary, Florida Bay, Card-Barnes Sounds and Southern Biscayne Bay.

The significance of F is indicated as follows:

- * Significant at the 95% confidence level.
- ** Significant at the 99% confidence level.
- *** Not significant at the 95% confidence level.

APPENDIX A

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
---------------------------	----------------------	--------------------------	-----------------	---

Appendix A-1

Analysis of variance table for salinity from 7 stations^b
in the Big Cypress Estuary

Between stations	8381.275	6	1396.87	17.821**
Within stations	13716.815	175	78.38	
Total	22098.041	181		

Appendix A-2

Analysis of variance table for salinity from 11 stations^b
in the Big Cypress Estuary

Between stations	9018.843	10	901.884	8.320**
Within stations	9806.862	275	108.388	
Total	38825.706	285		

Appendix A-3

Analysis of variance table for salinity from 10 stations^a
in the Big Cypress Estuary

Between stations	5464.441	9	607.160	15.337**
Within stations	4354.597	110	39.587	
Total	9819.038	119		

^aFinucane and Dragovitch (1959)

^bMarshall and Jones, unpublished data

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
---------------------------	----------------------	--------------------------	-----------------	---

Appendix A-4

Analysis of variance table for salinity from 10 stations^b
in the Big Cypress Estuary

Between stations	1140.381	9	126.709	2.01***
Within stations	1889.755	30	62.991	
Total	3030.136	39		

Appendix A-5

Analysis of variance table for water temperature from 10 stations^a
in the Big Cypress Estuary

Between station	29.190	9	3.243	.253***
Within stations	1406.162	110	12.783	
Total	1435.353	119		

Appendix A-6

Analysis of variance table for water temperature from 10 stations^b
in the Big Cypress Estuary

Between stations	18.680	9	2.075	1.65***
Within stations	375.401	30	12.513	
Total	394.081	39		

^aFinucane and Dragovitch, 1959

^bLindall, et al., 1973.

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
---------------------------	----------------------	--------------------------	-----------------	---

Appendix A-7

Analysis of variance table for salinity during 4 water year periods, 1957^a,
1959^b, 1960^b, and 1973^c from one station (I) in the Everglades Estuary.

Between periods	1025.052	3	341.684	7.435***
Within periods	2022.025	44	45.955	
Total	3047.077	47		

Appendix A-8

Analysis of variance table for salinity during 4 water year periods;
1957^a, 1959^b, 1960^b, and 1973^c
From one station (IV) in the Everglades Estuary

Between periods	533.175	3	177.725	6.791**
Within periods	1151.447	49	26.169	
Total	1684.622	47		

^aTabb et al. 1959

^bTabb and Dubrow, 1962

^cDavis and Hilsenbeck, 1974

Appendix A-9. Summary of F values observed between stations^C and water quality parameters in the Everglades Estuary.

Stations	Location	Salinity	Temperature	pH	DO	Turbidity
I -V	Whitewater Bay System	5.009**	.037	2.481*	3.081*	.642
RR1-RR3	Roberts River	.751	.170	1.873	8.128**	5.640**
NR1-NR3	North River	1.859	.428	1.456	4.601*	8.157**
WR1-WR3	Watson River	1.814	.039	.148	1.978	4.105
SR1, TB1, TB2, RB, LBP, & PL	Shark River System	29.287**	.433	.559	9.374**	6.199**
SP, HR1, HR2	Harney River	7.963**	.040	.263	12.004**	3.693

^CDavis and Hilsenbeck, 1974

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
---------------------	----------------	--------------------	--------------	---

Appendix A-10

Analysis of variance table for salinity from nine stations^d
in the Everglades Estuary

Between stations	26067.233	8	3258.404	70.721**
Within stations	14098.584	306	46.073	
Total	40165.817	314		

Appendix A-11

Analysis of variance table for salinity from 5 stations^d
in the Everglades Estuary

Between stations	4525.562	4	1131.390	20.476**
Within stations	9393.082	170	55.253	
Total	13918.644	174		

Appendix A-12

Analysis of variance table for water temperature during 4 water year periods;
1957^a, 1959^b, 1960^b and 1973^c, from one station in the Everglades Estuary

Between periods	9.372	3	3.124	.233***
Within periods	587.872	44	13.360	
Total	597.244	47		

Appendix A-13

Analysis of variance table for water temperature during 4 water year periods;
1957^a, 1959^b, 1960^b, and 1973^c, from one station in the Everglades Estuary.

Between periods	.994	3	.331	
Within periods	622.465	44	14.146	.023***
Total	623.459	47		

^aTabb, et al. 1959^bTabb and Dubrow, 1962^cDavis and Hilsenbeck, 1974^dMarshall and Jones, unpublished data

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
---------------------------	----------------------	--------------------------	-----------------	---

Appendix A-14

Analysis of variance table for salinity from 6 stations^b
in Northeast Florida Bay

Between stations	1500.003	5	300.001	1.408***
Within stations	17895.190	84	213.037	
Total	19395.196	89		

Appendix A-15

Analysis of variance table for salinity from 5 stations^a
in Northeast Florida Bay

Between stations	103.919	4	25.979	.556***
Within stations	3268.550	70	46.693	
Total	3372.469	74		

Appendix A-16

Analysis of variance tables for salinity from four stations
in western Florida Bay

Between stations	442.227	3	147.409	8.45**
Within stations	2440.724	140	17.434	
Total	2883.001	143		

Appendix A-17

Analysis of variance table for salinity from five stations
in central and eastern Florida Bay

Between stations	768.037	4	192.009	10.372**
Within stations	3054.336	105	18.511	
Total	3822.373	167		

^aSchmidt, unpublished data

^bTabb, unpublished data

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
---------------------	----------------	--------------------	--------------	---

Appendix A-18

Analysis of variance table for salinity from eight stations
in central and eastern Florida Bay

Between stations	8045.555	7	1149.365	9.97**
Within stations	32268.341	280	115.244	
Total	40313.896	287		

Appendix A-19

Analysis of variance table for water temperature from 24 stations^a
in Central and Eastern Florida Bay

Between stations	412.950	23	17.206	1.57***
Within stations	9826.421	900	10.918	
Total	10239.371	923		

Appendix A-20

Analysis of variance table for dissolved oxygen from 24 stations
in eastern Florida Bay

Between stations	408.021	23	17.740	17.832**
Within stations	644.644	648	.994	
Total	10522.665	671		

Appendix A-21

Analysis of variance table for dissolved oxygen from 7 stations
in western Florida Bay

Between stations	265.819	6	44.303	12.544**
Within stations	692.204	196	3.531	
Total	958.023	202		

^aSchmidt, unpublished data

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
---------------------	----------------	--------------------	--------------	---

Appendix A-22

Analysis of variance table for pH from seven stations
in western Florida Bay

Between stations	3.070	6	.511	1.709***
Within stations	58.671	196	.299	
Total	61.741	202		

Appendix A-23

Analysis of variance table for pH from 14 stations
in eastern Florida Bay

Between stations	5.331	13	.410	1.547***
Within stations	129.834	490	.264	
Total	135.166	503		

Appendix A-24

Analysis of variance table for pH from nine stations
in central and eastern Florida Bay

Between stations	6.566	9	.729	2.00**
Within stations	127.973	350	.365	
Total	134.539	359		

Appendix A-25

Analysis of variance table for turbidity from 32 stations^a
in Florida Bay

Between stations	2511.223	31	81.007	5.60**
Within stations	5088.252	352	14.455	
Total	7599.475	383		

^aSchmidt, unpublished data

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
---------------------------	----------------------	--------------------------	-----------------	---

Appendix A-26

Analysis of variance table for salinity from 20 stations^a
in Card-Barnes Sound

Between stations	14.087	19	.741	.143***
Within stations	829.433	160	5.183	
Total	843.5206	179		

Appendix A-27

Analysis of variance table for surface salinity from 5 stations^b
in Card-Barnes Sound

Between stations	74.942	4	18.735	4.129**
Within stations	272.218	60	4.536	
Total	347.160	64		

Appendix A-28

Analysis of variance table for bottom salinity from 5 stations^b
in Card-Barnes Sound

Between stations	26.816	4	6.704	2.99*
Within stations	134.467	60	2.241	
Total	161.284	64		

Appendix A-29

Analysis of variance table for water temperature
from 20 stations^a in Card-Barnes Sound

Between stations	8.765	19	.461	.026***
Within stations	2778.062	160	17.362	
Total		2786.827	179	

^aSegar, et al. 1971,^bHixon 1976

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
---------------------	----------------	--------------------	--------------	---

Appendix A-30

Analysis of variance table for dissolved oxygen from 20 stations^b
Card-Barnes Sound

Between stations	2.428	19	.127	.228***
Within stations	67.105	120	.559	
Total	69.533	139		

Appendix A-31

Analysis of variance table for bottom dissolved oxygen from 5 stations^c
in Card-Barnes Sound

Between stations	4.027	4	1.006	.995***
Within stations	101.095	100	1.010	
Total	105.122	104		

Appendix A-32

Analysis of variance table for salinity from 32 stations^b
in southern Biscayne Bay

Between stations	52.349	31	1.688	.089***
Within stations	4220.535	224	18.841	
Total	4272.884	255		

Appendix A-33

Analysis of variance table for salinity from 6 stations^a
in southern Biscayne Bay

Between stations	1431.99	5	286.398	17.91**
Within stations	1630.717	102	15.987	
Total	3062.709	107		

^aTilmant, unpublished data (2-1/2 years)

^bSegar, et al., 1971

^cHixon, 1976

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
---------------------	----------------	--------------------	--------------	---

Appendix A-34

Analysis of variance table for salinity from eight stations^a
in southern Biscayne Bay

Between stations	3025.393	7	432.199	22.144**
Within stations	3434.990	176	19.516	
Total	6460.384	183		

Appendix A-35

Analysis of variance table for salinity from 8 stations
in southern Biscayne Bay

Between stations	3867.443	7	552.491	25.253**
Within stations	7175.981	328	21.877	
Total	11043.425	335		

Appendix A-36

Analysis of variance table for water temperature from 32 stations^b
in southern Biscayne Bay

Between stations	533.768	31	17.218	.581***
Within stations	8531.75	288	29.624	
Total	9065.518	319		

^aTilmant, unpublished data

^bSegar, et al., 1972

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
---------------------	----------------	--------------------	--------------	---

Appendix A-37

Analysis of variance table for water temperature for nine stations^a
in southern Biscayne Bay

Between stations	1.755	8	.219	.0073***
Within stations	5918.347	198	29.89	
Total	5929.102	206		

Appendix A-38

Analysis of variance table for water temperature from five stations^a
in southern Biscayne Bay

Between stations	2.580	4	.645	.03***
Within stations	2013.325	120	16.777	
Total	2015.905	124		

Appendix A-39

Analysis of variance table for dissolved oxygen from 32 stations^b
in southern Biscayne Bay

Between stations	26.776	31	.863	1.426***
Within stations	135.598	224	.605	
Total	162.374	255		

Appendix A-40

Analysis of variance table for turbidity from 10 stations^a
in southern Biscayne Bay

Between stations	12.875	9	1.43	4.696**
Within stations	115.744	380	.304	
Total	128.619	389		

^aTilmant, unpublished data^bSegar, et al. 1972

Appendix B-1. Salinity (ppt), temperature ($^{\circ}\text{C}$) observed at 10 stations in the Big Cypress Estuary, May 1971 to February 1972.

	<u>Station Numbers</u>									
	3	4	5	6	7	8	15	18	21	24
May	40.3	39.8	39.7	32.8	36.1	34.4	38.2	38.4	36.7	34.8
Aug.	21.5	33.7	28.2	7.9	22.6	30.9	36.4	35.4	34.2	34.8
Nov.	21.9	27.5	5	3.5	17.4	23.3	28.7	30	30.7	31.5
Feb.	27.6	29	22.4	20.8	29.7	28.1	30.6	30.5	30.7	31.9
Salinity Mean	27.8	32.5	23.8	16.2	26.4	29.1	33	33.2	33.4	33.5
May	28.5	28.8	27.8	28.8	28.5	29.6	28.5	27.8	26.5	28.3
Aug.	28.7	30.3	29.3	29.5	28.7	29.6	28.6	28.6	29.6	28.5
Nov.	28.4	28.6	29.1	27.9	27.3	26.6	26.7	26.6	26.4	26.5
Feb.	21.2	20.8	21.5	25	23.8	22.4	20.5	19.7	19.5	21.8
Temp. Mean	26.7	27.1	26.9	27.8	27.1	27	25.5	26.2	26	25.6

From: Lindall, et al. 1973

Appendix B-2. Salinity (ppt) observed at 10 stations in the Big Cypress Estuary, March, 1956 to February, 1957.

	<u>Station Number</u>									
	36	37	41	42	50	54	55	62	64	67
	<u>Salinity</u>									
3/56	38.8	33.9	34.7	37.7	36.9	34.2	21.8	34.2	35.8	36.6
4/56	38.6	39.3	38.1	37.9	37.5	38.5	25.9	35.1	35	37.4
5/56	39.8	33.7	37.9	37.7	37.8	37.3	27.5	35	34.5	37.2
6/56	37.6	33.3	36.9	37.6	38.1	36.1	16.25	32.1	36.9	36.6
7/56	40	25.4	39.6	40	40.1	38.6	32.2	30.1	33.7	39.3
8/56	34.1	34.4	32.2	38.9	32.3	37.9	16.5	11.2	31.1	39.4
9/56	38.7	31.4	30.6	37.6	34.6	36.3	8.1	10.2	30.7	38.9
10/56	28.1	28.9	24.2	32.7	16	34.4	8.4	3.3	27.9	37.4
11/56	30.6	13	26.9	28.3	34.62	33.1	4.7	8.4	27.6	36.7
12/56	35	18	30.7	35.9	34.62	35.3	16.25	10.4	33	36.7
1/57	36.3	19.1	33.5	36.5	36.1	35.4	7.5	23	35.4	37.2
2/57	38.5	36.4	37.6	37.7	36.8	37.3	9.9	28.9	32.8	36.2
Mean	36.3	28.9	33.5	36.5	34.62	36.2	16.25	21.8	32.8	37.4
	<u>Temperature</u>									
3/56	19.2	25.8	18.7	18.7	18	25	19	19.8	18.5	22.3
4/56	26	27.6	27	25	25	25.6	25.7	26	25.2	23.7
5/56	28.7	27.4	27	27.4	27.2	27.3	28.3	28.3	27.7	26.6
6/56	29.6	31	29.4	29.1	29	27.8	25.8	29.1	28.5	28.8
7/56	29.2	30.9	29	29	29.2	29	29	29	29	29.6
8/56	32.5	27.8	32	30.5	32.1	30.2	31.5	31.5	30.5	32.9
9/56	23.5	27.5	29	28.5	28.5	28.5	29	26	28	28.8
10/56	30.2	30.0	29.2	28.2	26.2	28.5	28.2	28.2	30	23.7
11/56	26	23.6	28.7	24.5	26.2	24	24.4	26	24.5	22.7
12/56	22.7	24.6	23	21.7	26.2	22	22.7	23	26.3	19.5
1/57	23	19.5	27.1	21.5	22.3	21	21.7	21.5	23	21.8
2/57	26	20	26	25	24.5	23	24.5	24.5	24.8	24
Mean	26.8	26.3	27.1	25.7	26.2	25.9	25.8	26	26.3	23.7

From: Finucane and Dragovitch, 1959

Appendix B-3. Salinity (ppt) observed at 18 stations in the Big Cypress Estuary, April 1962 to July 1966.

	<u>Station Numbers</u>																	
	B1	B2	B3	B4	B5	B6	B7	L2	L3	L4	L5	L6	L7	L8	L8A	L9	L10	L11
4/3/62	34	32	25	23	21	17	16	36	37		36				26	35	34	33
7/10/62	12	8	4	3	3	2	1		13		8	8	3	6	5	7		
9/5/62	19	2	1	1	1	1		24	12	6	4	3	2	2	2	3	3	2
9/27/62	25	16	17	7	1	1	0		4	4	2	2	1	1	1	1	2	1
10/30/62	21	20	14	2	1	1		23	10	7	4	1	1	1	1	1	1	1
11/30/72	26	23	15	6	3	3	1	26	18	15	10	7	4	3	4	5	4	3
1/9/63	35	34	32	26	15	9	6	29	33	32	29	26	17	14	9	23	19	16
4/24/63	37	37	36	36	30	28	26	40	36	36	33	36	36	33	29	35	35	34
6/12/63	29	33	28	26	23	20	19	39	35	33	33	28	26	26	26	29	28	24
11/21/63	29	12	6	3	2	1	1	25	20	15	9	6	3	3	2	3	3	2
5/20/64	30	28	28	27	25	23	22	34	34	34	34	34	31	31	26	33	33	
7/21/64	31	26	28	22	7	7	5	36	31	31	13	7	6	6	7	4	3	1
9/16/64	13.9	7.3	3.9	3.6	0	0	0	29	15	12	11	9	5.2	6.6	4	5.7	3.9	2.7
10/21/64	25	21	20	12	6.2	6	3	26	22	16	14	10	6	6	4	10	8	4
11/17/64					2	2	1	28.4	21.3	7.6	6.2	2.8	1.6	1.8	2.1	2.1	1.8	1.6
12/17/64	24.8	20.6	17.9	7.5	3.6	3	2.1	23.4	19.9	11.3	8.8	5.6	3	4	4.4	3.8	2.7	2.1
1/19/65	28.4	26.3	13.9	12	8.8	7.5	5.4	27.7	25.5	22.3	20.6	17.2	12.1	11.1	8.2	15.9		
2/16/65	29	26	27	22	17	14	12	27	26	26	25	22	20	17	15	22	20	18
4/14/65	29	29	28	24	18	18	17	28	28	28	28	28	26	25	21	27	26	26
10/5-6/65	21.3	19.9	13.6	5.6	1	1	.4	19.9	19.6	11.6	7.8	1.6	.8	11.1	1.3	1.1	1.1	.8
11/9/65	27	25.5	20.6	12.6	2.7	1.6	.9	25.5	22.3	15.9	15.2	8.6	2.1	1.7	2.2	6.8	1.6	1.4
12/22/65	21.7	15.9	7.8	6.8	2.3	1.6	1	19.6	16.6	14.9	12.6	5.6	3.8	3.6	3	9.1	6.8	2.7
2/15/66	24.1	22.7	13.3	10.7	8.4	5.6	4.4	19.9	19.9	17.2	15.9	12.9	10.4	11.3	9.2	13.9	13.3	10.7
3/22-23/66	27.3	25.5	17.2	12	8.1	6.7	4.7	24.1	24.1	22.7	21.3	19.6	16.2	14.9	11.6	17.9	17.2	15.6
5/11/66	33.5	32.1	29.1	28.1	24.5	20.3	21.3	35	34	33.5	33.5	33.5	29.9	29.1	23.9	32.1	32.1	29.9
7/26/66	13.3	4.7	.17	.06	.08	.1		20.6	18.2	5.4	.2	.25	.1	.2	.1	.2	.17	.17
Mean	25.8	21.9	17.8	13.5	9	7.7	7.4	27.7	22.9	18.6	16.7	13.3	10.6	10.4	9.5	13.3	12.5	10.1

From: Marshall & Jones, unpublished data

Appendix C - Water quality data from
the Everglades Estuary

Appendix C-1. Salinity (ppt) observed in the Everglades Estuary, 1962-1967.

	Stations												
	H1	H1A	H2	H3	H4	S2	S3	S4	S5	S6	LS1	LS2	LS3
4/3/62	34		28	26	22	20	19	15	10	9	36	35	35
7/10/62	24	12	10	6	6	6	0	0		0	31	33	34
9/5/62	18	11	8	4		4	1		0	0	21	23	28
9/27/62	24	23	22	16		3	1				23	26	28
10/30/62	18	17	16	15	8		2	1		0	20	21	22
11/30/62	30	26	24	21	12		6				30	31	31
1/9/63	34	33	32	29	19	22	23	13			32	32	33
2/12/63	31	30	30	27	22	26	20				33	33	33
3/12/63	33	33	30	28	21	23	17	15	8	7	31	31	33
4/24/63	40	38	38	36	33	34	29	27	22	21	36	36	36
6/12/63	33	33	31	29	23	24	17	12	1	0	40	36	36
11/21/63	26	20	17	9	3	5	2	2	0	0	22	24	28
5/20/64	32	30	29	28	24	26	22	20	15	15	32	33	32
7/21/64		34	32	29	15	23	7	5	1	1	39	41	42
9/16/64	35.1	19.4	15.4	6	3	4	0	0	0	0	35	39	39.5
10/21/64		23	17	12	7	8	43	1	0	0	25	26	28
11/17/64	25	23	23	17	3	3.8	1.5	1.1	0	0	22	23.4	25.5
12/17/64		19.9	18.6	10.4	4.1	4.1	2.4	1.6	.8		21.7	20.6	25.5
1/19/65	27.3	23.7	22.7	18.6	12.9	16.9	11.3	8.4	1.3	1	25.9	25.5	27.3
2/16/65	29	28	29	27	20	22	18	15	8	7	28	29	29
4/14/65	28	28	27	27	26	26	21	19	13	13	28	28	28
5/17/65	27	27	26	24	21	23	19	18	15	15	27	27	27
7/19/65	26	26	25	22	18	24	16	15	9	8	26	29	29
8/18/65	25	22	20	18	11	21	7	6	1	1	28	27	28
10/5-6/65	24.1	23.7	22.7	18.6	4.7	7.2	1	.7	0	0	22.7	25.2	25.5
11/9/65	24.1	22.7	20	18.6	7.3	12.6	7.3	1.3	.1	.1	22.8	22	23.7
12/22/65	24.1	23.4	21.3	18.2	7.8	9.7	3.3	1.7	0	0	21.3	25.5	27.3
2/15/66	25.5	24.1	19.9	11.9	7.8	8.8	6.2	3.7	.8	.8	23.4	24.1	27
3/22-23/66	26.3	23.4	230.6	18.6	12.3	17.2	10	7.8	1.2		27	27	27
5/11/66		32.1	31.3	29.9	28.8	29.9	27.3	24.5	17.9	17.9	36.5	37	37
6/28/66		26.6	16.9	5.3	.7	.5	.3	.15			28.8	34.4	
7/26/66	18.2	17.9	12	1.3	.35	.28	.05	.05	.05	.05	28.8	33.5	34.5
10/12-13/66	23	26.5	26.5	23.5	12						25	25.7	27.5
1/31/67	21.5	11.5	6.5	3.5	1	1					25	25.7	27.5
3/2/67	29	28.4	18.6	12	6.6	8.4					27.9	27.9	30.6
Mean	27.3	24.7	22.4	18.4	12.8	14.6	10.5	11.7	5.1	4.7	29.9	30.9	31.1

From: Marshall and Jones, unpublished data

Appendix C-2. Salinity (ppt) observed at 1 station in the Everglades Estuary,
November 1965 to October 1968.

Date	Salinity
11/65 ¹	7.2
12/65	3.0
1/66	9.3
2/66	9.1
3/66	16.8
4/66	21.4
5/66	18.3
6/66	0.0
7/66	0.0
8/66	0.0
9/66	0.0
11/67 ²	0.0
12/67	2.9
1/68	6.5
2/68	12.5
3/68	11.0
4/68	11.8
5/68	10
6/68	5.5
7/68	0.0
8/68	0.0
9/68	0.0
10/68	0.0

1. data for 11/65 through 9/66 from Tabb, et al. 1974.

2. data for 11/67 through 10/68 from Heald, 1971.

Appendix C-3. Salinity (ppt) observed at 3 Stations in the Everglades Estuary, October, 1959 to September, 1960

<u>Station Numbers</u>					
WBXI		WBI		WBXII	
10/59	14.0	10/59	7.3	10/59	14.4
11/59	11.1	11/59	4.0	11/59	12.4
12/59	21.5	12/59	5.3	12/59	24.3
1/60	18.9	1/60	6.1	1/60	23.9
2/60	20.9	2/60	9.6	2/60	24.3
3/60	27.7	3/60	9.2	3/60	28.6
4/60	21.8	4/60	13.2	4/60	24.3
5/60	31.2	5/60	15.4	5/60	33.3
6/60	23.9	6/60	10.7	6/60	30.9
7/60	21.8	7/60	8.3	7/60	24.3
8/60	26.8	8/60	8.3	8/60	26.8
9/60	21.8	9/60	10.3	9/60	24.3
Mean	21.8		8.9		24.3

WBXI		WBI		WBXII	
10/60	16.0	10/60	6.2	10/60	29.7
11/60	15.9	11/60	5.9	11/60	15.9
12/60	20.5	12/60	6.3	12/60	29.7
1/61	24.8	1/61	17.0	1/61	29.7
2/61	23.9	2/61	8.9	2/61	29.7
3/61	28.7	3/61	12.2	3/61	31.8
4/61	32.9	4/61	18.3	4/61	33.7
5/61	24.8	5/61	23.8	5/61	29.7
6/61	31.8	6/61	24.8	6/61	33.7
7/61	24.8	7/61	27.4	7/61	29.7
8/61	24.8	8/61	26.9	8/61	32.2
9/61	28.8	9/61	25.3	9/61	31.2
Mean	24.8		17.0		29.7

From: Tabb and Dubrow, 1962

Appendix C-3 (Continued). Water temperatures ($^{\circ}\text{C}$) observed at three stations in the Everglades Estuary, October 1959 to September 1961.

<u>Station Numbers</u>					
WBXI		WBI		WBXII	
10/59	29.5	10/59	29.4	10/59	29.5
11/59	24.8	11/59	24.8	11/59	24.7
12/59	22.7	12/59	26.3	12/59	26.4
1/60	17.9	1/60	29.5	1/60	17.7
2/60	21.5	2/60	21.7	2/60	26.4
3/60	24.5	3/60	23.5	3/60	22.5
4/60	25.0	4/60	26.3	4/60	26.4
5/60	30.5	5/60	30.0	5/60	29.5
6/60	32.0	6/60	31.5	6/60	31.0
7/60	31.5	7/60	26.3	7/60	26.4
8/60	31.5	8/60	30.0	8/60	30.0
9/60	31.3	9/60	26.3	9/60	26.4
Mean	26.8		26.3		26.4
10/60	27.8	10/60	28.8	10/60	27.2
11/60	23.0	11/60	24.0	11/60	24.0
12/60	17.7	12/60	19.5	12/60	27.2
1/61	26.1	1/61	26.0	1/61	27.2
2/61	22.6	2/61	23.5	2/61	27.2
3/61	26.2	2/61	23.5	2/61	27.2
3/61	26.2	3/61	26.3	3/61	25.2
4/61	26.7	4/61	28.0	4/61	27.5
5/61	25.5	5/61	26	5/61	27.2
6/61	29.0	6/61	29.8	6/61	29.5
7/61	30.5	7/61	26.0	7/61	27.2
8/61	29.5	8/61	26.0	8/61	28.5
9/61	29.0	9/61	28.5	9/61	28.5
Mean	26.1		26.0		27.2

From: Tabb and Dubrow, 1962

Appendix C-4. Water Temperature ($^{\circ}\text{C}$) and salinity (ppt) observed at three stations in the Everglades Estuary, October 1957 to September 1958

Station Numbers					
WWBXII		WWBXI		WWBI	
10/57	23.3	10/57	28.4	10/57	28.2
11/57	25.4	11/57	25.9	11/57	27.5
12/57	19.5	12/57	19.3	12/57	17.8
1/58	18.9	1/58	19.4	1/58	20
2/58	26.5	2/58	26.1	2/58	17
3/58	25.2	3/58	25	3/58	25
4/58	24.9	4/58	24.8	4/58	24.4
5/58	26.6	5/58	26.8	5/58	28.6
6/58	30.9	6/58	31	6/58	30.5
7/58	30.7	7/58	31.2	7/58	30.8
8/58	31.5	8/58	26.1	8/58	28.8
9/58	29.8	9/58	29.7	9/58	31.5
Mean	26.5		26.1		25.8
Salinity					
10/57	35.9	10/57	31.0	10/57	26.3
11/57	31.0	11/57	29	11/57	17.6
12/57	25	12/57	20.8	12/57	18.8
1/58	27.6	1/58	26.2	1/58	16.7
2/58	27.5	2/58	23.7	2/58	16.1
3/58	29.1	3/58	26.9	3/58	16.3
4/58	25	4/58	24	4/58	15.0
5/58	28.8	5/58	27.8	5/58	16.4
6/58	27.1	6/58	14.9	6/58	11.1
7/58	25.6	7/58	19.2	7/58	9.4
8/58	28.3	8/58	23.7	8/58	9.1
9/58	19.9	9/58	17.5	9/58	9.2
Mean	27.5		23.7		15.1

From: Tabb, et al. 1959.

Appendix C-5- Water temperature ($^{\circ}\text{C}$), salinity (ppt), oxygen (ppm), pH, and turbidity (FTU) from 26 stations in the Shark River Estuary, January 1973 through December 1974.

Station	Jan		Feb*	Mar*	Apr	May		Jun	Jul	Aug	1974 Sep	1973 Oct	Nov		Dec		$\bar{x}$	S.E.
I	24.1	24.3	18.1	25.5	26.8	29.1	31.2	28.7	30.3	29.1	30.5	24.7	22.8	23.4	16.8	21.0	25.40	1.18
II	24.1	24.0	17.7	25.7	29.5	30.1	31.8	30.3	31.4	30.8	30.5	24.6	23.4	23.9	16.8	20.7	25.95	1.48
III	23.8	24.2	17.9	25.4	28.5	30.1	31.4	30.2	30.7	30.5	31.0	25.1	23.4	24.0	16.7	20.3	25.82	1.42
IV	23.7	24.1	20.2	24.7	26.2	28.5	31.1	31.0	30.8	30.8	31.0	23.8	22.9	24.1	17.3	18.8	25.56	1.31
V	23.4	23.9	20.3	24.8	26.1	28.7	30.7	31.1	30.6	31.3	30.9	23.7	22.9	24.1	17.8	19.0	25.58	1.27
RR1	25.2	24.0	18.3	25.9	26.5	28.5	29.8	29.7	29.8	29.8	29.5	24.4	23.8	24.0	15.0	23.5	25.48	1.14
RR2	25.6	24.2	18.4	25.6	26.3	28.4	29.2	29.1	30.2	29.6	29.5	24.7	23.8	24.2	16.3	23.5	25.53	0.98
RR3	24.8	23.5	17.6	25.0	26.6	28.2	27.1	27.6	28.8	28.3	29.2	24.3	22.6	23.5	15.0	24.5	24.78	0.96
NR1	24.8	23.3	16.4	25.2	26.7	27.1	26.9	26.6	28.2	26.9	29.0	24.5	22.4	24.4	15.8	23.7	24.49	0.87
NR2	25.1	24.1	19.1	26.0	27.3	28.5	29.1	28.8	30.3	29.8	29.0	25.2	23.5	24.1	16.4	22.9	25.57	0.95
NR3	25.4	24.0	18.8	25.7	27.2	28.6	30.5	29.9	30.2	29.5	30.1	25.1	23.0	24.1	15.4	23.2	25.66	1.16
WR1	25.5	24.5	19.1	25.7	26.8	28.2	29.8	29.8	30.5	29.9	30.0	24.7	23.7	24.4	16.2	22.4	25.70	1.05
WR2	25.1	24.3	19.0	25.9	26.9	28.4	29.8	28.7	30.0	29.9	29.7	25.0	23.5	24.3	16.5	21.9	25.55	0.99
WR3	25.2	24.0	18.4	25.5	26.6	28.5	29.3	28.3	29.1	29.3	29.5	25.0	23.0	24.0	16.4	22.8	25.30	0.94
SR1	24.0	23.8	20.5	24.6	26.0	28.8	30.4	29.6	29.7	30.2	30.3	23.9	23.3	24.2	17.9	20.7	25.49	0.98
TB1	25.1	25.2	20.7	25.3	26.8	29.0	30.3	28.9	29.6	29.8	30.6	25.7	23.9	23.8	16.5	22.4	25.85	0.94
TB2	23.8	24.5	20.5	24.4	26.7	-	30.5	29.7	30.0	30.2	30.3	-	23.8	24.3	17.4	20.7	25.48	1.27
TB3	-	-	-	25.1	26.7	29.4	30.6	29.8	29.6	28.9	30.0	-	-	-	-	-	28.76	0.44
TB4	-	-	-	-	26.7	29.7	30.3	28.7	29.5	29.5	29.7	-	-	-	-	-	29.15	0.19
RB	22.6	23.3	18.8	22.7	26.3	28.8	28.0	26.9	29.5	28.2	29.5	21.9	21.7	22.7	13.2	21.4	24.09	1.23
LBP	22.9	23.2	18.7	24.6	25.9	29.3	28.5	27.1	30.1	28.9	29.5	22.4	22.4	23.8	14.8	21.5	24.60	1.14
NP	-	-	-	24.7	26.6	29.7	28.3	26.0	29.3	29.5	29.8	-	-	-	-	-	27.98	0.48
SP	23.2	23.3	20.3	24.1	26.5	29.8	30.9	31.2	30.5	30.8	30.6	-	23.0	24.0	17.2	19.5	25.66	1.48
PL	23.6	23.8	19.8	24.3	-	29.3	30.3	30.8	30.1	30.2	30.5	24.6	-	24.3	17.9	18.7	25.58	1.54
HR1	23.0	23.6	20.3	24.4	25.2	29.2	29.8	29.3	28.8	30.0	30.4	-	23.2	24.1	18.2	19.5	25.26	1.12
HR2	23.1	23.9	20.7	24.6	26.8	29.2	29.8	30.7	30.5	29.8	30.5	-	22.9	24.4	17.3	19.9	25.60	1.27
Day of month	10	24	11-15	11-14	24	14	31	14	22	12	25	30-31	12/14	29	12	27		
* 24.1																		

* 24 hr means

Table 1.--Water temperature observed from October 1973 through September 1974 at twenty-six stations in the Shark Slough - White Water Bay system. The temperatures are reported in degrees centigrade.

From: Davis and Hilsenbeck, 1974

Appendix C-5 (continued)

	1974										1973							
Station	Jan	Feb*	Mar*	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	$\bar{x}$	S.E.				
I	-	-	7.9	8.5	7.5	8.3	7.8	7.3	8.2	6.8	7.7	8.2	7.7	8.3	8.0	7.7	7.85	0.01
II	-	-	8.0	8.4	8.6	8.4	7.3	7.1	8.1	7.0	6.8	8.3	8.1	8.4	8.3	7.7	7.89	0.02
III	-	-	7.8	8.4	8.4	8.1	7.2	7.1	8.1	7.6	7.4	8.2	8.1	8.1	8.1	7.7	7.87	0.01
IV	-	-	8.0	8.3	8.0	7.5	7.0	-	7.6	7.0	7.0	7.8	7.6	7.9	7.9	7.5	7.62	0.01
V	-	-	7.8	8.1	8.3	7.3	6.4	6.8	7.6	6.2	6.9	7.5	7.8	7.8	7.7	7.4	7.40	0.02
RR1	-	-	7.8	8.4	7.5	7.7	8.0	7.6	8.2	7.2	7.1	8.4	7.6	7.4	7.7	7.3	7.70	0.01
RR2	-	-	7.7	8.2	7.4	7.5	7.9	7.2	7.8	6.8	7.0	8.2	7.4	7.3	7.4	7.4	7.51	0.01
RR3	-	-	7.3	7.9	7.8	7.1	7.5	7.6	7.4	7.2	6.6	8.0	7.2	7.7	7.4	7.2	7.42	0.0
NR1	-	-	7.2	8.1	8.0	7.2	6.9	7.1	7.4	5.8	6.8	7.8	7.2	7.6	7.7	7.0	7.27	0.02
NR2	-	-	7.6	8.2	8.0	7.6	7.2	7.1	7.8	6.6	6.7	8.0	7.4	7.6	7.4	7.2	7.45	0.01
NR3	-	-	7.7	8.3	8.1	7.6	7.5	7.0	7.6	7.2	6.9	8.0	7.5	7.6	7.8	7.4	7.58	0.01
WR1	-	-	7.5	8.1	7.3	7.4	8.6	7.1	7.8	6.4	6.9	7.8	7.6	7.2	8.0	7.3	7.50	0.02
WR2	-	-	7.6	8.0	8.3	7.4	8.6	6.9	7.5	6.4	6.8	7.6	7.7	7.3	8.0	7.3	7.52	0.02
WR3	-	-	7.5	8.1	8.0	7.3	8.6	7.1	7.4	7.4	6.9	7.6	8.0	7.2	8.0	7.4	7.60	0.01
SR1	-	-	7.4	7.9	7.6	7.2	6.8	7.1	7.2	6.6	6.8	7.4	7.3	7.4	7.3	7.3	7.23	0.0
TB1	-	-	7.7	8.0	7.6	7.2	7.4	7.0	7.2	7.0	7.2	7.4	7.4	7.0	7.6	7.4	7.36	0.0
TB2	-	-	7.7	8.0	7.7	-	7.6	6.9	7.3	7.2	7.3	-	7.7	7.5	7.2	7.1	7.43	0.0
TB3	-	-	-	8.1	7.8	7.2	7.4	7.1	7.5	7.0	7.6	-	-	-	-	-	7.46	0.01
TB4	-	-	-	-	8.0	7.3	7.5	7.0	7.4	7.2	7.4	-	-	-	-	-	7.40	0.01
RB	-	-	7.8	8.2	7.6	7.1	7.2	7.0	7.3	7.0	7.4	7.6	7.2	7.4	7.8	7.1	7.40	0.0
LBP	-	-	7.9	8.0	7.0	7.1	7.4	7.0	7.3	7.0	7.4	7.6	8.0	7.1	7.4	7.1	7.37	0.0
NP	-	-	-	8.0	6.6	7.2	7.4	6.8	7.4	7.0	7.5	-	-	-	-	-	7.23	0.02
SP	-	-	7.9	8.2	7.6	7.4	6.8	6.9	7.4	7.4	6.7	-	7.9	7.8	7.6	7.4	7.46	0.01
PL	-	-	7.9	8.2	-	7.6	6.8	6.8	7.6	6.6	6.7	8.1	-	7.8	7.7	7.4	7.43	0.02
HR1	-	-	7.5	8.0	7.9	7.1	7.3	7.0	7.4	-	6.8	-	7.6	7.1	7.4	7.2	7.35	0.01
HR2	-	-	7.7	8.1	8.2	7.2	6.8	7.0	7.5	7.2	6.7	-	7.8	7.2	7.3	7.2	7.37	0.01
Day of month	10	24	11-15	11-14	24	14	31	14	22	12	25	30-31	12-14	29	12	27		

* 24 hour means

Table 3.--Hydrogen ion concentrations (pH) observed from October 1973 through September 1974 at twenty-six stations in the Shark Slough-White Water Bay system.

From: Davis and Hilsenbeck, 1974

Appendix C-5 (continued)

Station	1974														1973		$\bar{x}$	S.E.
	Jan	Feb *	Mar *	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec						
I	7.6 7.7	9.1	7.9	7.8	6.8 6.1	5.2	6.8	5.5	6.7	-	-	7.3	8.1 9.5	7.29	0.10			
II	7.7 7.6	9.3	7.6	6.8	6.6 4.7	4.7	6.5	-	5.8	-	-	8.2	7.8 9.0	7.10	0.15			
III	7.6 7.4	9.2	8.7	6.3	7.0 4.5	5.2	5.5	-	6.3	-	-	7.6	8.4 9.0	7.13	0.17			
IV	5.8 6.5	8.7	8.2	5.8	5.7 4.7	-	4.2	-	5.6	-	-	7.2	8.2 9.2	6.65	0.22			
V	5.4 5.8	7.6	7.2	5.3	4.3 3.2	4.3	4.3	-	5.0	-	-	7.2	6.9 7.4	5.68	0.16			
RR1	6.7 7.2	8.7	7.2	7.5	4.8 3.6	3.0	6.4	4.5	3.8	-	-	7.2	8.4 7.5	6.17	0.24			
RR2	7.0 6.0	8.4	7.2	5.7	4.7 3.3	2.1	3.5	3.7	4.3	-	-	5.7	7.9 7.2	5.47	0.26			
RR3	4.2 4.1	5.3	4.4	5.2	3.6 1.4	0.0	1.6	0.4	1.8	-	-	4.1	6.7 4.2	3.35	0.28			
NR1	4.6 4.4	6.1	5.8	6.8	1.7 1.7	1.1	1.6	2.1	2.0	-	-	5.8	7.3 2.8	3.84	0.34			
NR2	6.3 6.5	8.1	6.8	5.0	5.6 3.6	2.5	3.5	4.5	4.1	-	-	5.8	- 6.8	5.31	0.20			
NR3	6.5 7.2	8.3	6.9	7.7	5.4 3.5	3.9	4.3	4.8	3.8	-	-	6.6	- 7.0	5.83	0.20			
WR1	6.1 6.3	7.7	6.0	5.7	5.0 3.4	3.5	4.6	4.4	3.8	-	-	6.2	- 6.8	5.34	0.13			
WR2	5.8 6.2	7.3	5.8	5.4	4.4 3.5	2.2	3.2	2.5	3.7	-	-	5.6	- 6.3	4.76	0.19			
WR3	5.6 5.8	6.7	5.7	5.0	4.0 2.8	1.6	2.3	2.5	3.3	-	-	5.1	- 4.8	4.24	0.19			
SR1	4.7 5.1	5.6	6.0	4.6	4.0 3.9	2.1	2.6	2.6	3.2	-	-	5.1	- 5.3	4.35	0.12			
TB1	5.5 6.1	5.8	6.6	6.4	4.5 5.3	3.4	4.2	3.8	4.5	-	-	7.1	- 6.9	5.39	0.11			
TB2	5.8 6.2	6.3	5.3	5.4	- 4.3	3.3	3.7	2.7	3.5	-	-	6.3	6.7 6.9	5.10	0.15			
TB3	-	-	6.4	3.3	4.5 4.2	0.2	1.0	1.2	2.0	-	-	-	-	2.85	0.55			
TB4	-	-	-	6.8	5.5 5.3	3.6	3.2	2.5	2.5	-	-	-	-	4.20	0.39			
RB	3.8 4.6	5.0	5.7	3.8	5.5 0.5	0.1	1.7	2.0	2.6	-	-	4.7	- 4.5	3.42	0.26			
LBP	4.0 4.6	5.0	4.9	3.7	3.1 3.9	1.0	2.0	2.2	2.0	-	-	4.3	- 5.6	3.53	0.17			
NP	-	-	4.1	3.9	5.6 4.1	1.5	2.2	2.4	2.2	-	-	-	-	3.25	0.23			
SP	5.2 6.1	8.9	7.3	5.7	- 5.1	6.1	7.6	-	4.7	-	-	7.3	7.4 7.8	6.60	0.13			
PL	6.7 6.4	8.0	7.4	-	4.5 4.4	4.9	4.0	-	6.6	-	-	7.3	7.3 9.5	6.41	0.23			
HR1	3.8 4.7	4.6	4.6	4.3	3.0 3.0	1.2	2.5	7.5	3.1	-	-	5.5	5.1 4.8	4.01	0.15			
HR2	4.1 4.2	6.6	6.2	7.8	3.6 4.2	3.5	4.6	-	4.0	-	-	5.1	6.8 4.8	5.03	0.14			
Day of month	10 24	11-15	11-14	24	14 31	14	22	12	25	30-31	12-13	29	12 27					
* 24 hour means																		

Table 4.--Dissolved oxygen values observed from October 1973 through September 1974 at twenty-six stations in the Shark Slough-White Water Bay system. The values are given in parts per million (ppm).

Appendix C-5 (continued)

Station	1974												1973		$\bar{x}$	S.E.		
	Jan	Feb*	Mar*	Apr	May		Jun	Jul	Aug	Sep	Oct	Nov	Dec					
I	2.3	-	4.5	3.6	-	1.7	1.0	1.4	1.0	1.0	1.5	2.5	3.0	42.0	3.7	4.8	5.28	8.09
II	2.3	-	4.4	3.8	-	2.3	1.6	1.1	1.0	0.7	1.6	41.0	22.0	26.0	3.2	6.2	8.37	10.77
III	4.7	-	4.2	7.1	-	2.8	2.8	5.5	1.4	1.5	0.8	29.0	18.0	14.0	3.0	5.8	7.18	4.51
IV	4.5	-	1.3	10.9	-	3.3	4.6	-	9.1	1.3	2.3	5.9	4.9	11.0	2.8	4.0	5.06	0.84
V	4.5	-	0.9	11.1	-	2.8	2.5	2.1	4.3	1.6	1.3	3.1	1.7	13.0	1.0	4.4	3.37	0.97
RR1	3.0	-	3.0	4.0	-	1.5	2.2	1.0	0.6	1.6	4.5	1.2	2.0	3.0	1.8	1.7	2.22	0.09
RR2	1.3	-	1.4	2.1	-	1.9	1.4	1.0	0.9	0.9	1.6	6.8	1.1	0.5	0.9	0.7	1.60	0.17
RR3	0.6	-	0.6	1.9	-	0.6	1.0	0.8	0.6	0.7	0.8	0.5	1.0	0.4	0.5	1.0	0.78	0.01
NR1	0.6	-	0.9	1.3	-	0.6	1.5	1.2	0.7	0.7	0.8	0.4	1.0	0.5	0.5	1.3	0.85	0.0
NR2	1.3	-	1.2	1.8	-	0.8	1.2	0.5	0.7	0.9	1.5	0.9	0.9	1.1	0.8	0.7	1.02	0.0
NR3	2.1	-	1.9	3.1	-	3.3	1.4	1.0	1.2	0.8	1.2	2.4	0.8	6.4	1.3	3.0	2.13	0.16
WR1	1.8	-	2.2	3.5	-	2.0	1.5	1.4	3.0	1.3	1.4	1.6	2.4	1.4	1.3	2.2	1.92	0.03
WR2	2.0	-	1.3	2.7	-	1.5	1.5	1.4	2.4	1.0	0.9	1.4	1.4	1.3	0.8	1.1	1.47	0.02
WR3	0.9	-	1.2	1.9	-	2.6	1.0	1.1	0.6	0.7	0.8	2.4	1.9	0.8	0.6	1.1	1.25	0.03
SR1	0.9	-	0.6	4.1	-	1.3	3.0	2.0	1.6	1.3	1.7	1.9	0.9	0.8	1.0	1.4	1.60	0.06
TB1	0.9	-	0.7	1.3	-	0.8	1.4	1.1	0.8	0.7	0.8	1.6	0.8	0.7	1.0	1.4	1.00	0.0
TB2	0.7	-	0.8	2.0	-	-	1.2	0.9	1.0	0.8	1.4	-	0.7	1.1	1.1	1.4	1.09	0.01
TB3	-	-	-	1.5	-	1.0	1.0	1.0	0.9	0.6	0.8	-	-	-	-	-	0.97	0.01
TB4	-	-	-	-	-	0.9	1.1	0.9	1.0	0.6	0.9	-	-	-	-	-	0.90	0.0
RB	1.1	-	1.4	2.1	-	2.0	3.0	1.3	1.0	1.0	1.3	0.8	0.8	1.1	1.0	0.6	1.32	0.02
LBP	1.0	-	1.1	1.5	-	1.0	2.5	1.4	0.7	0.9	1.2	0.7	0.7	1.7	0.7	0.9	1.14	0.01
NP	-	-	-	2.1	-	1.0	1.2	1.1	0.8	1.0	0.8	-	-	-	-	-	1.14	0.02
SP	6.3	-	3.5	40.8	-	25.0	5.5	1.9	3.0	2.5	3.0	-	2.4	22.0	5.4	19.5	10.83	11.37
FL	7.1	-	1.3	22.8	-	2.2	4.5	1.4	2.3	1.0	3.4	9.0	-	1.3	1.9	8.7	5.14	2.78
HR1	2.4	-	0.9	7.2	-	0.9	2.3	0.9	1.0	11.3	2.6	-	2.5	2.0	0.8	2.5	2.86	0.71
HR2	8.4	-	3.5	20.5	-	3.9	3.8	1.7	5.4	2.3	1.8	-	3.7	1.3	18.5	8.3	6.39	3.00
Day of month	10	24	11-15	11-14	24	14	31	14	22	12	25	30-31	12-14	29	12	27		

* 24 hour means

Table 6.--Turbidities observed from October 1973 through September 1974 at twenty-six stations in the Shark Slough-White Water Bay System.
Turbidity values are given in formazin turbidity units (FTU).

From: Davis and Hilsenbeck, 1974

Appendix D. Salinity (ppt) values observed at 31 stations in Florida Bay, October 1973 to October 1976.

DATE	Stations																																
	44	26	45	27	46	47	48	49	50	51	52	31	12	53	54	13	55	56	57	32	58	59	28	42	43	1	3	4	8	7	6		
10/73	22.7	29.5	27.9	30.1	20.7	15.8	8.4	20.6	26.8	30.0	31.4	33.7		32.7	35.1	33.0	35.6	37.4	35.3	35.8		34.2	35.2	30.1	34.1	18.2	27.8	32.9	33.4	34.1	31.8		
11/73	23.2	32.4	32.7	33.3	29.4	23.0	13.3	19.3	32.0	33.6	34.3	34.8	37.2	32.5	31.4	36.0	36.9	38.1	36.0	36.0	38.0	38.0	37.6	35.0	35.6	20.4	36.5	36.9	35.0	37.4	36.9		
12/73	36.6	36.3	36.8	34.8	30.6	23.3	33.1	35.7	36.2	36.8	35.4	36.9	38.4	36.8	32.6	37.4	38.2	39.8	37.0	37.6	37.6	38.7	38.7	39.1	38.1	34.4	38.5	36.2	35.0	36.2	40.2		
01/74	28.0	35.0	34.2	33.6	31.0	23.9	29.1	32.8	34.2	33.5	35.2	36.0	36.7	35.5	30.2	35.8	36.9	38.2	36.1	36.3	37.6	38.6	38.4	34.2	36.0	32.8	33.7	33.6	37.7	39.2	34.0		
02/74	27.1	32.8	37.5	37.9	30.9	25.5	32.2	32.4	35.2	35.4	36.0	36.7	37.6	36.5	34.4	36.6	39.5	42.0	38.5	38.9	39.1	40.1	40.1	36.6	38.0	32.7	35.7	35.7	35.4	36.0	36.0		
03/74	35.5	37.1	37.3	36.5	33.5	30.5	34.5	35.2	33.8	33.0	33.4	34.0	35.2	35.6	32.2	37.8	40.1	43.2	38.6	39.0	39.7	41.4	39.3	37.6	37.1	36.2	38.3	36.2	35.7	38.8	38.4		
04/74	50.0	48.4	48.0	48.0	44.4	42.0	48.0	46.8	44.8	43.8	47.4	44.8	44.8	43.8	45.2	46.7	46.8	48.4	44.6	44.4	45.0	44.8	44.6	48.0	48.0	43.6	42.0	46.2	40.8	41.6	44.0		
05/74	55.6	55.0	53.0	53.2	49.2	50.6	49.0	50.6	47.0	45.2	45.0	46.2	48.4	48.4	46.0	49.7	48.8	51.0	45.0	43.6	45.6	44.6	44.1	51.8	55.0	44.0	44.0	42.8	42.8	42.2	44.4		
06/74	46.0	47.6	46.6	45.2	46.0	47.4	48.4	47.0	47.0	46.8	44.0	45.8	44.4	48.4	45.8	43.8	47.6	47.6	42.8	40.0	44.0	41.7	41.0	45.4	46.0	40.6	40.2	39.0	37.7	39.0	40.4		
07/74	44.7	46.8	51.0	50.1	50.1	45.0	49.5	49.8	48.6	49.8	48.0	48.3	51.0	49.2	50.4	47.7	50.4	47.4	48.0	40.8	46.5	46.5	43.0	37.0	42.0	36.5	40.2	40.4	40.4	39.0	39.0		
08/74	45.3	50.1	49.2	51.9	43.2	43.5	39.6	48.0	50.4	50.4	47.1	48.0	50.1	49.4	48.9	48.5	53.4	46.8	50.7	45.3	46.5	47.4	45.3	42.0	40.8	39.6	40.5	39.3	39.0	40.8	39.3		
09/74	48.0	47.7	48.3	45.1	37.5	35.0	39.0	48.0	48.0	48.6	45.9	48.0	49.2	48.3	45.0	48.6	49.2	49.5	48.0	42.0	44.7	45.0	42.1	44.4	46.5	37.4	40.8	38.1	37.7	39.9	42.9		
10/74	30.1	30.3	42.9	43.0	34.1	33.5	11.4	30.3	44.1	45.6	43.4	46.2	49.8	46.4	43.5	45.0	48.0	48.0	42.9	39.3	40.5	39.0	45.6	42.0	45.0	28.6	38.5	39.0	39.6	40.2	40.2		
11/74	39.6	45.0	46.8	46.8	37.6	36.1	36.0	42.6	42.9	40.0	40.0	41.7	44.4	41.7	40.2	48.6	45.6	45.0	46.2	39.0	43.5	43.5	45.6	40.6	47.7	33.2	36.2	35.3	37.7	35.9	36.2		
12/74	24.4	24.4	36.0	40.0	46.5	45.0	36.3	42.6	43.0	43.8			44.4	41.1	43.1	44.6		47.3					25.1	24.8		34.1	37.6	37.7	39.2	39.0			
01/75	49.6	49.6	50.8	49.2	43.2	40.0	45.6	45.6	46.0	44.0	42.2	46.4	46.4	46.4	44.0	43.8	48.0	49.2	44.4	40.0	45.6	44.8	42.8	39.7	46.0	36.4	37.0	35.9	35.8	36.5	37.1		
02/75	48.0	48.6	48.0	51.3	46.2	43.8	45.0	47.1	46.2	43.8	42.6	45.9	46.8	47.1	47.7	46.8	49.5	45.6	44.8	42.3	45.3	45.0	40.2	40.2	40.0	37.0	37.7	36.8	37.1	36.5	37.3		
03/75	51.0	52.1	51.0	55.2	50.1	50.1	51.6	50.7	49.9	46.5	45.9	48.6	48.6	50.1	49.9	49.2	51.6	47.4	39.6	48.0	48.3	47.4	42.6	43.2	45.0	40.2	37.6	38.7	37.5	37.6	39.3		
04/75	61.2	58.8	58.5	61.5	56.4	57.6	54.6	54.6	51.6	48.3	46.4	49.0	50.4	52.5	56.7	49.0	49.4	51.6	47.1	42.1	44.1	44.1	43.0	56.4	56.1	43.6	50.4	42.0	56.4	42.3	47.4		
05/75	52.8	54.0	57.2	57.2	50.1	54.0	47.4	42.3	45.6	43.5	48.7	50.1	47.4	48.0	54.3	51.6	53.4	50.4	48.9	46.2	47.7	48.0	46.2	36.9	49.2	43.6	36.5	37.8	38.9	39.0	37.2		
06/75	54.2	54.0	60.3	59.2	51.6	53.4	48.9	45.6	47.4	50.1	48.0	51.0	49.5	51.0	52.0	48.6	52.5	49.1	49.1	40.2	45.3	47.1	45.6	43.5	48.9	38.1	37.5	40.5	39.0	40.0	41.7		
07/75	44.1	45.3	54.0	55.2	10.0	39.3	11.3	25.7	44.1	46.3	50.1	51.6	52.2	46.8	43.8	49.2	49.5	49.5	50.7	43.2	45.9	48.0	44.4	44.4	43.0	39.0	41.4	41.4	37.7	39.3	41.4		
08/75	40.2	35.1	42.0	52.1	35.1	6.3	29.3	24.8	45.9	40.5	43.2	47.4	52.8	47.5	41.6	46.2	50.7	50.2	49.6	46.1	47.2	48.9	46.7	45.6	49.8	43.2		43.2	37.7	41.2	48.0		
09/75	44.1	44.1	45.9	48.6	37.0	29.1	39.6	49.2	47.7	47.4	42.3	50.1	51.0	50.7	42.7	47.4	48.1	50.7	48.0	45.3	45.9	44.4	45.0	50.1	47.4	37.0	42.6	37.4	38.1	48.9	44.4		
10/75	35.4	39.3	45.6	46.5	36.0	10.5	12.6	33.0	44.7	42.3	43.2	48.0	51.0	47.7	39.9	44.4	48.6	51.3	48.9	39.1	46.8	44.1	45.9	37.5	45.9	34.5	40.8	37.6	37.7	40.2	43.0		
11/75		45.3	44.4	46.5	36.7	11.4	39.8	40.6	43.8	40.2	39.2	43.2	45.6	43.8	37.0	42.0	47.4	48.7	45.3	40.1	42.0	40.3	42.3	47.1	45.0	28.1	38.5	38.2	37.7	39.7	40.2		
12/75	45.1	47.4	42.6	47.4	38.7	17.0	37.1	33.0	40.1	40.1	38.5	39.1	41.2	44.1	39.9	45.1	45.1	48.3	40.5	42.9	40.2	41.0	40.6	44.4	47.7	27.4	39.3	34.4	35.8	36.2	36.6		
01/76	45.1	45.9	47.7	49.5	40.1	17.9	35.7	41.6	42.0		41.5	44.7	44.7	41.1	40.2	42.9	46.5	50.1	46.5	46.7	44.4	45.6	46.5	37.5	48.9	29.7	35.2	34.5	37.7	36.6	34.8		
02/76	51.9	50.1	57.9	51.0	44.6	39.0	40.1	46.5	42.1	43.1	40.1	43.8	46.2	45.0	45.0	48.6	49.2	48.0	48.0	40.1	46.8	48.0	37.3	39.1	47.4	34.3	35.7	35.5	35.7	35.0	37.5		
03/76	48.3	49.5	51.6	52.8	44.1	45.0	45.0	44.1	44.1	45.3	39.9	44.1	47.4	45.9	45.9	44.7	49.8	48.9	45.0	42.9	44.4	43.1	40.5	45.3	52.8	35.4	37.5	36.6	37.0	35.9	38.6		
04/76	58.0	53.2	59.0	60.3	51.0	54.3	52.7	51.3	48.3	45.3	43.2	45.6	51.0	51.2	52.6	51.6	52.5	54.5	49.4	45.0		45.0		52.8	60.0	34.4	40.3	39.3	37.3	39.3	41.8		
05/76	58.3	57.9	57.3	61.5	52.5	52.5	51.3	49.2	47.4	46.8	45.3	47.1	47.0	50.1	50.8	51.3	50.7	54.0	49.0	45.0	45.0	45.2	43.2	44.4	46.5	33.0	38.0	39.6	36.5	36.2	37.8		
06/76	43.8	44.4	44.7	45.0	30.7	4.2	2.9	8.5	24.0	28.0	34.8	41.9	43.2	35.0	31.5	35.2	45.3	48.0		35.0		43.0		39.2	45.0	28.8	39.0	35.5	34.9	36.0	36.0		
07/76	45.0	42.1	45.0	35.0		4.0	3.0		20.0					45.0	30.0			47.3						10.6	46.2			37.6	37.7	39.2	39.0		
08/76	22.4	39.4	43.5	45.0	23.4	2.5	8.6	19.1	31.1	39.0	35.2	42.3	36.7	33.8	31.0	44.1	48.0	44.7	43.1	43.1	44.7	44.3		33.4	36.2	30.4	33.4	35.3	33.4	34.9	34.5		
09/76		42.6	40.3	42.3	21.1	1.7	2.5	11.8	32.3	29.3	35.6	40.2	39.1	34.0	32.0	39.0	44.1	45.0	44.0	42.0	44.0	44.6	40.2	34.1	41.4	20.0		33.4	34.2	34.1	39.0		
$\bar{x}$	42.8	44.4	45.4	47.3	38.3	32.0	33.7	38.5	41.7	42.0	41.4	44.1	45.6	43.9	42.0	44.6	46.9	47.3	44.6	41.6	43.9	43.7	42.4	40.4	44.5	34.5	38.3	37.6	37.7	39.2	39.0		

$\bar{x}$ 42.8 44.4 46.4 47.3 38.3 32.0 33.7 38.5 41.7 42.0 41.4 44.1 45.6 43.9 42.0 44.6 46.9 47.3 44.6 41.6 43.9 43.7 42.4 40.4 44.5 34.5 38.3 37.6 37.7 39.2 39.0

From T. Schmidt, unpublished data.

Appendix D. Water Temperature (°C) values observed at 31 stations in Florida Bay, October 1973 through October 1976.

	Stations																															
DATE	42	43	45	27	47	54	52	31	12	53	57	32	44	48	50	26	46	49	51	13	55	56	58	59	1	2	3	4	5	6	7	
09/73	31.9	32.2	33.3	32.2	32.9	32.3	30.9	31.3	31.3	31.2	32.0	31.9	26.5	27.2	26.8	26.4	26.5	26.9	27.2	27.2	26.8	26.8	26.8	26.8	32.4	31.6	31.1	30.5	30.6	31.1	31.0	
10/73	26.6	27.7	27.1	27.8	28.5	28.5	28.9	29.5	27.0	28.5	28.0	27.9	27.8	28.5	29.1	28.0	28.4	28.5	28.8	28.8	29.1	28.7	26.8	27.3	28.7	28.7	25.8	29.5	29.7	30.7	30.8	
11/73	24.1	24.4	24.9	25.0	25.7	25.8	26.0	26.2	25.8	25.6	26.8	27.0	25.3	26.3	25.3	26.2	26.0	25.1	25.8	26.7	21.1	25.6	26.8	26.1	25.4	26.4	27.1	26.8	27.6	28.0	27.8	
12/73	24.4	24.2	23.7	23.7	23.6	23.8	22.9	23.1	23.6	23.5	26.8	27.0	24.1	24.5	23.6	24.0	23.2	26.9	23.8	24.9	24.2	24.7	23.8	25.0	22.5	22.7	24.9	23.9	24.2	23.6	23.4	
01/74	22.7	22.9	23.1	24.3	24.4	25.1	25.0	24.6	24.7	24.4	24.6	24.0	23.8	25.1	24.6	23.8	24.1	24.2	24.7	25.8	24.9	25.0	24.2	24.2	24.0	26.1*	23.0	28.5	23.2	24.0	27.2	
02/74	14.9	14.6	18.3	18.7	19.2	18.4	18.8	18.9	18.7	18.9	18.5	18.5	16.7	19.3	18.7	17.5	18.9	18.8	18.9	19.6	19.5	19.7	17.6	17.1	15.5	16.0	15.8	15.5	15.9	15.9	17.5	
03/74	24.0	23.3	25.8	25.7	27.1	25.2	26.9	26.4	26.6	25.6	24.3	26.5	24.5	27.8	26.6	25.0	26.4	26.9	26.7	24.1	24.1	24.4	24.6	24.7	25.8	24.9	25.5	25.3	26.6	25.3	25.0	
04/74	25.3	24.8	26.0	26.1	26.2	26.0	27.7	27.5	27.3	26.9	26.8	27.2	25.5	28.0	27.4	26.3	26.6	28.0	27.5	27.2	27.2	27.1	27.6	27.4	30.5	28.0	33.1	27.7	28.3	29.0	29.5	
05/74	27.4	27.4	28.7	28.0	29.6	28.0	28.9	29.1	28.8	28.7	27.8	27.9	27.9	29.9	28.8	27.9	27.0	29.4	29.1	27.6	28.0	28.4	28.2	29.1	27.1	27.0	30.7	28.5	28.2	25.6	28.7	
06/74	29.7	29.7	31.4	32.4	30.1	30.4	30.5	31.7	31.0	30.7	30.0	30.4	31.3	30.1	29.6	30.8	30.7	30.2	30.1	29.9	29.5	30.6	30.4	30.5	31.9	31.8	33.0	31.3	31.4	32.3	32.2	
07/74	27.2	28.1	28.2	28.3	29.2	28.6	29.2	29.6	29.2	29.1	28.6	28.6	28.1	28.3	28.6	28.2	28.3	28.6	30.1	29.0	28.4	28.6	29.3	29.3	27.4	27.8	31.2	28.2	28.0	28.3	29.1	
08/74	28.3	28.6	29.3	28.7	29.7	28.6	30.0	29.2	29.5	29.6	29.2	29.7	29.1	30.7	29.8	29.1	30.3	30.1	30.1	29.2	29.2	29.4	29.7	29.6	28.8	28.8	28.4	31.0	27.8	28.7	28.8	
09/74	30.5	30.4	30.8	31.0	30.8	30.5	30.9	31.0	30.9	30.5	30.3	30.5	30.5	31.8	30.9	30.5	26.5	31.0	30.9	31.2	31.0	30.1	30.5	30.4	28.5	29.0	32.2	29.0	29.5	29.7	31.1	
10/74	27.0	27.7	28.2	28.7	29.2	29.3	29.4	27.9	29.2	21.3	27.8	28.1	29.1	28.4	29.1	30.2	28.8	28.7	29.7	28.2	25.5	24.7	27.6	27.6	26.9	26.1	26.7	25.5	26.5	27.1	27.0	
11/74	22.2	22.0	23.3	22.4	24.0	22.5	22.8	23.3	23.5	22.6	22.8	22.2	22.8	23.5	23.0	22.8	23.4	23.5	23.1	22.1	21.8	21.4	23.6	22.6	22.3	21.8	23.1	22.1	22.8	23.1	22.7	
12/74	25.1	24.8	24.9	25.0	24.8	23.5	26.9	27.0*	27.0*	23.6	26.8	27.0*	24.4	24.2	24.4	24.4	25.1	24.5	23.7	27.2	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	
01/75	24.1	24.9	25.8	27.8	26.5	24.7	25.3	25.3	25.6	25.0	24.1	24.3	25.2	27.7	25.7	25.0	25.5	25.8	25.5	24.4	24.5	24.3	25.8	24.8	23.3	23.7	25.7	23.7	24.2	24.7	25.7	
02/75	20.4	19.9	20.9	22.2	22.2	23.2	23.9	24.2	23.2	23.7	23.0	23.1	21.6	22.5	22.5	21.2	21.6	22.3	23.9	22.9	22.9	22.6	23.1	23.1	21.7	21.8	24.7	21.2	22.2	22.6	24.6	
03/75	26.2	25.3	26.6	27.0	27.9	27.1	27.5	27.3	27.8	26.7	26.0	26.0	27.2	29.5	27.6	27.2	27.9	27.8	27.6	27.2	25.7	26.1	25.9	26.1	26.6	26.2	27.2	25.5	26.6	26.6	27.2	
04/75	27.0	26.0	26.8	27.6	27.6	28.1	27.8	27.9	27.5	28.2	26.7	27.2	27.3	27.9	27.5	26.7	27.3	27.2	27.5	27.0	26.3	26.7	26.9	27.3	26.2	25.8	28.6	25.5	27.2	26.0	27.7	
05/75	28.6	28.3	29.5	28.7	30.1	28.7	30.2	30.1	29.3	28.9	29.2	29.9	29.7	30.5	29.3	28.7	29.1	29.0	29.7	29.3	29.0	29.4	24.5	29.5	27.7	26.8	30.7	27.6	27.9	27.9	30.3	
06/75	28.6	28.5	28.7	29.2	28.7	29.5	28.9	29.1	28.6	29.4	29.9	29.8	29.6	28.7	29.2	26.6	29.7	28.5	29.7	30.1	30.1	29.7	30.3	30.2	30.9	30.8	33.2	30.2	30.3	31.2	32.0	
07/75	30.0	29.6	30.2	30.2	30.2	30.9	31.0	30.9	30.3	31.4	30.4	30.6	30.5	31.6	30.4	30.2	30.0	30.3	31.3	31.0	30.4	30.9	30.1	30.8	30.5	30.2	32.4	30.5	31.0	30.7	31.5	
08/75	28.1	29.0	29.8	29.6	31.0	31.3	31.0	31.0	30.7	30.9	31.0	30.7	30.2	30.2	30.7	29.8	30.5	30.3	30.5	30.6	31.2	30.7	30.8	31.2	30.3	29.8	27.2	30.0	30.2	30.3	32.3	
09/75	28.2	28.4	28.9	28.3	29.2	29.4	29.1	29.3	28.9	29.3	29.6	29.8	28.2	28.9	28.8	28.9	28.8	29.1	29.2	30.1	31.8	30.0	30.2	29.1	29.0	31.1	31.3	28.4	28.8	29.3	28.8	
10/75	25.0	25.2	26.2	25.9	25.8	27.3	26.6	26.4	26.1	27.1	26.9	26.7	25.4	26.0	26.0	25.6	26.2	26.4	26.1	26.1	26.8	27.0	26.7	26.1	26.2	27.0	27.8	24.3	24.9	25.2	25.6	
11/75	22.1	22.1	22.9	22.4	23.2	24.3	22.5	22.4	23.4	24.7	22.7	23.3	23.1	23.4	23.8	23.1	23.1	23.6	22.8	23.5	22.5	23.4	23.7	23.4	19.3	20.2	22.3	19.5	20.3	20.1	20.8	
12/75	19.1	21.1	20.2	20.4	21.1	20.7	19.8	20.1	20.7	20.8	21.6	21.4	20.6	21.1	20.5	20.5	19.9	20.7	20.2	22.2	21.5	21.4	21.5	21.4	21.3	22.6	24.4	22.0	22.3	23.2	23.1	
01/76	21.0	21.0	21.2	21.2	21.8	20.3	20.2	20.1	20.3	20.3	19.1	19.7	21.2	21.4	20.7	21.2	21.2	21.5	27.2	20.5	20.8	20.8	26.8	19.6	19.9	20.1	20.3	21.2	22.0	20.8	21.2	
02/76	23.7	24.5	24.1	22.4	22.6	24.3	22.1	22.3	24.6	24.3	23.8	22.7	23.2	21.9	22.5	23.2	22.3	22.2	24.8	24.8	24.7	23.8	23.2	22.7	24.2	23.1	24.1	25.2	25.2	25.0	23.2	
03/76	19.8	20.3	26.6	25.8	25.0	24.7	25.5	26.0	26.6	26.9	26.5	26.3	25.7	24.9	24.8	25.3	25.5	24.4	25.6	26.1	25.8	25.8	26.1	25.7	22.1	20.3	21.0	21.6	22.4	22.7	22.1	
04/76	23.6	24.8	25.8	25.2	25.5	25.8	26.5	27.1	26.8	26.7	26.8	27.0	25.9	25.8	25.5	26.0	25.3	25.5	25.7	27.5	27.8	27.6	26.8	26.8	27.3	27.5	28.5	29.5	28.7	29.8	28.8	
05/76	27.8	29.4	28.7	29.2	29.6	28.5	29.2	28.8	29.3	28.6	29.2	29.1	29.8	29.2	28.8	29.6	29.2	29.4	28.5	30.2	29.8	29.4	28.6	28.8	27.4	27.4	27.7	28.5	28.3	29.3	28.6	
06/76	28.5	28.8	29.8	29.7	29.7	30.0	26.9	27.0*	30.3	29.7	26.8	27.0*	29.9	30.5	31.0	29.7	29.5	30.9	31.2	31.9	32.0	31.7	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	
07/76	25.5*	25.8*	26.4*	26.7*	27.0*	26.7	26.9*	27.0*	27.0*	26.8*	26.8*	27.0*	26.5*	27.2*	26.8*	26.4	26.5	26.9*	27.2*	27.2*	26.8*	26.8*	26.8*	26.8*	26.8*	26.8*	26.8*	26.8*	26.8*	26.8*	26.8*	
08/76	29.4	30.4	31.2	31.2	29.8	26.7*	30.1	30.6	30.1	29.8	30.4	31.2	31.7	30.5	31.0	31.3	31.3	31.0	31.0	31.7	31.2	30.9	30.9	31.2	26.6	26.8	26.5	27.4	26.6	27.4	28.7	
09/76	28.5	30.2	30.7	30.4	30.5	30.8	30.5	31.2	30.9	31.8	32.0	31.4	30.6	31.																		

*Missing value replaced by mean value

From T. Schmidt, unpublished data

937

Appendix D. Dissolved Oxygen (ppm) observed at 24 stations in Florida Bay, December 1973 to August 1976.

Date	Station numbers																							
	42	43	45	27	47	54	52	31	12	53	57	32	44	48	50	26	46	49	51	13	55	56	58	59
	1	2	3	4	5	6	7																	
12/73	5.6	5.3	7.5	7.8	7.8	7.7	7.6	7.8	7.8	7.8	7.8	6.9	6.1	7.0	7.8	6.7	7.8	7.5	7.0	8.3	7.7	8.6	7.8	8.8
1/74	4.4	3.8	7.6	7.2	7.8	8.0	6.8	7.5	7.8	7.7	7.8	6.9	5.7	7.2	7.2	6.8	7.4	7.4	8.0	10.4	8.8	8.6	7.6	7.6
2/74	9.2	7.4	8.6	8.4	8.2	7.6	8.8	8.4	8.2	8.4	8.5	8.9	8.6	7.6	7.6		7.6	7.6	8.3	8.8	7.7	8.2	8.1	8.3
3/74	4.9	5.3	7.2	7.4	6.7	7.8	6.8	7.5	7.7	7.6	8.0	7.5	6.8	7.3	7.5	6.5	7.3	7.5	8.0	8.1	7.7	7.8	7.8	8.7
4/74	4.9	5.3	7.2	7.4	6.7	7.8	6.8	7.5	7.7	7.6	7.8	6.4	6.8	7.3	7.5	6.5	7.3	7.5	8.0	7.2	7.4	6.8	7.4	7.4
5/74	5.8	4.4	6.8	7.4	7.6	7.2	7.3	8.4	7.4	7.6	7.4	5.4	6.2	7.9	7.4	6.4	8.2	7.4	7.8	8.2	7.0	5.6	6.0	5.8
6/74	3.3	4.7	6.4	6.6	6.7	6.2	5.4	6.4	6.9	7.2	4.0	5.8	5.2	7.3	7.5	4.8	7.3	7.4	8.0	5.8	4.2	5.4	5.6	5.6
7/74	5.6	5.8	6.4	6.4	6.3	7.0	5.7	8.0	8.4	7.7	7.0	6.7	5.2	5.2	6.3	5.8	6.0	6.6	8.1	8.4	7.4	7.8	7.3	7.6
8/74	4.4	5.5	7.6	8.0	7.2	7.6	5.8	8.5	7.6	7.0	7.0	6.2	6.2	6.3	7.6	7.4	7.8	7.8	8.6	8.0	7.2	6.6	7.3	7.7
9/74	3.4	4.6	7.4	7.8	7.4	7.0	5.8	7.3	7.4	7.2	7.8	6.7	6.7	8.5	7.7	7.6	7.3	8.5	9.0	7.4	10.3	6.3	7.2	7.3
10/74	4.7	5.3	7.7	6.7	4.5	6.6	5.5	6.4	7.7	6.4	8.0	8.0	5.7	6.3	6.4	5.3	6.3	6.2	7.3	7.4	7.8	7.6	8.2	7.0
11/74	6.1	4.8	8.2	8.2	8.1	7.8	8.3	8.4	9.6	7.6	8.1	7.3	6.8	8.7	8.9	8.4	9.0	8.4	8.9	8.2	8.0	7.7	8.5	8.6
1/75	5.3	6.8	8.2	7.4	8.0	7.8	6.9	7.8	7.8	7.8	8.0	7.2	6.9	9.2	8.0	6.9	7.4	8.2	8.5	9.6	8.7	7.3	9.6	8.3
2/75	5.7	5.4	6.7	7.7	5.8	8.0	8.2	6.7	7.6	7.8	8.4	6.3	6.7	7.8	7.9	7.4	6.9	7.8	8.3	8.0	7.6	7.7	6.6	7.5
3/75	3.6	4.6	6.7	7.3	8.0	8.2	7.8	8.5	7.9	8.3	7.8	6.2	7.0	9.7	8.5	6.8	7.8	8.7	8.8	7.6	7.5	7.5	7.4	6.3
4/75	3.5	3.8	6.8	7.8	7.5	8.2	8.3	7.7	7.8	8.2	7.8	5.4	6.4	8.2	7.6	6.2	7.4	7.6	7.3	7.8	6.4	6.8	7.6	7.6
5/75	6.7	8.3	7.8	7.8	9.8	7.6	6.5	8.7	7.6	7.8	7.9	5.4	6.8	8.2	9.8	7.4	9.7	7.7	9.8	7.9	7.8	7.6	7.8	7.4
6/75	4.6	4.6	7.5	7.6	8.4	9.8	5.2	6.4	7.4	7.7	8.1	4.4	9.5	8.7	7.4	6.5	6.0	8.2	8.0	7.3	5.4	6.4	7.3	7.6
7/75	1.1	3.5	6.2	7.2	6.4	8.4	5.4	8.4	8.0	7.8	7.8	6.9	4.9	5.6	6.8	5.4	3.8	6.8	8.7	8.0	8.4	9.0	7.4	7.7
8/75	2.7	4.2	7.2	7.2	3.6	8.4	8.5	8.0	8.2	8.3	8.0	3.1	6.4	6.6	6.4	5.6	7.6	6.2	8.1	8.1	7.8	8.1	7.5	7.9
9/75	4.7	6.8	7.4	6.9	7.0	7.2	5.0	8.0	6.7	7.5	7.8	7.0	7.5	7.2	6.7	6.9	6.7	7.4	7.4	8.1	11.5	6.2	7.7	7.2
10/75	5.8	6.3	7.8	7.8	7.6	8.1	6.8	7.6	8.2	7.6	7.4	5.3	7.8	7.8	7.9	7.6	8.0	7.9	8.0	8.2	8.8	8.2	7.3	6.8
11/75	5.6	5.8	7.4	6.9	5.2	7.6	8.8	9.2	7.8	7.8	8.5	7.2	7.1	8.2	8.2	7.1	7.4	7.8	9.6	7.8	10.0	8.5	9.2	8.5
1/76	5.4	4.2	4.4	6.4	5.9	7.4	7.0	7.4	7.4	6.9	7.9	7.6	6.8	6.4	7.1	7.2	6.8	7.5	7.2	7.4	8.2	7.4	7.8	8.1
2/76	5.6	7.8	8.5	8.2	7.3	9.6	7.1	7.5	8.6	8.1	9.2	7.5	7.1	7.0	7.5	7.8	8.0	7.5	8.0	10.8	9.4	9.2	7.8	8.3
3/76	4.6	4.9	7.6	7.1	6.8	7.7	5.9	7.8	7.7	8.5	8.5	8.6	8.2	7.0	7.2	7.7	7.6	7.3	7.4	8.6	8.2	8.6	8.6	8.3
5/76	5.7	6.1	7.4	7.2	6.6	7.9	6.8	7.5	6.8	7.0	8.3	9.8	6.8	7.3	6.2	5.7	7.3	7.5	6.6	10.6	8.3	8.9	8.6	8.4
8/76	2.9	3.2	7.6	7.6	3.5	7.8	6.8	8.0	7.2	6.8	7.8	6.9	6.1	6.5	7.0	6.5	6.5	6.8	6.0	7.5	7.8	7.7	7.2	6.1
$\bar{x}$	4.9	5.3	7.2	7.4	6.7	7.8	6.8	7.5	7.7	7.6	7.8	6.9	6.8	7.3	7.5	6.7	7.3	7.5	8.0	8.2	7.9	7.6	7.6	7.6

From: T. Schmidt, unpublished * (values missing replaced by $\bar{x}$ values)

Appendix D. pH values observed at 31 stations in Florida Bay between October 1973 and October 1976.

DATE	Stations																														
	42	43	45	27	47	54	52	31	12	53	57	32	44	48	50	26	46	49	51	13	55	56	58	59	1	2	3	4	5	6	7
10/73	8.2	8.1	7.9	8.0	7.9	8.2	8.1	8.2	7.9	7.9	8.4	8.2	7.7	7.8	7.8	7.9	7.8	7.8	8.0	8.1	8.2	8.5	7.7	8.4	7.6	7.5	8.1	8.1	8.2	8.4	8.4
11/73	8.2	8.1	8.1	7.8	7.8	7.7	8.4	8.4	8.4	8.3	7.7	7.8	8.1	7.5	7.7	7.9	8.0	7.7	8.2	8.5	8.4	8.6	7.7	8.5	7.9	7.7	8.3	8.2	8.4	8.5	8.4
12/73	8.1	7.8	8.2	8.3	8.3	8.9	7.2	7.2	8.7	8.9	7.7	7.8	8.2	8.1	8.2	8.3	8.2	7.7	7.0	8.6	9.3	9.1	9.7	9.8	7.6	8.4	8.1	8.0	8.1	8.1	8.1
01/74	7.8	7.7	7.6	7.7	7.7	8.3	7.7	7.8	7.8	7.6	7.2	7.4	7.3	7.6	7.4	7.8	7.8	8.0	8.2	8.6	8.2	8.8	7.2	8.4							
02/74	8.1	7.7	8.0	8.1	7.7	8.0	7.8	7.9	7.7	7.8	7.8	7.8	7.5	7.7	7.8	9.9	7.8	7.7	7.8	7.8	7.9	8.1	7.9	8.0	7.9	7.8	7.9	7.9	8.2	8.3	7.8
03/74	8.5	8.5	8.4	8.5	8.4	8.2	8.4	8.5	8.3	8.5	8.6	8.5	8.4	8.5	8.4	8.5	8.3	8.3	8.5	8.5	8.6	8.5	8.4	8.6	8.2	8.1	8.2	8.3	8.6	8.7	8.4
04/74	8.5	8.1	8.0	7.9	7.7	8.5	7.8	7.9	7.9	7.9	8.6	8.6	7.7	7.7	7.8	7.9	7.8	7.7	7.8	8.7	8.9	9.1	8.8	8.8	8.6	8.0	9.0	8.8	8.9	9.0	8.8
05/74	8.9	8.7	8.6	8.5	8.3	8.3	8.3	8.3	8.0	8.4	8.1	7.9	8.4	8.3	8.3	8.5	8.3	8.2	8.3	8.0	8.1	8.3	8.1	8.1	8.0	8.0	8.6	7.8	8.1	8.2	8.1
06/74	7.1	7.1	7.3	6.8	7.1	7.4	7.2	7.2	7.0	6.8	7.2	7.4	7.1	6.8	7.4	7.1	6.8	6.9	6.9	7.2	6.4	6.8	7.0	6.8	7.4	7.4	8.2	8.0	7.8	7.8	8.0
07/74	8.5	8.3	7.8	7.9	7.5	8.2	8.1	8.2	8.2	8.2	7.9	7.9	7.6	7.6	7.9	7.7	7.9	7.8	8.1	7.9	8.1	8.6	8.2	8.3	8.0	8.2	8.2	8.1	8.0	8.2	8.4
08/74	8.4	8.2	8.4	8.2	8.0	8.0	8.0	8.4	8.1	8.3	8.2	8.3	8.0	7.8	8.0	8.3	8.0	7.8	8.2	8.3	8.3	8.5	8.3	8.3	8.1	8.1	8.5	8.0	8.4	8.4	8.6
09/74	8.4	8.3	8.5	8.3	8.0	8.2	8.0	8.2	8.3	8.3	8.3	8.3	8.3	8.0	8.2	8.4	7.8	8.1	8.1	8.3	8.5	8.6	8.3	8.2	8.0	8.1	8.9	8.1	8.3	8.3	8.2
10/74	7.4	7.4	8.0	8.1	7.6	8.1	7.8	7.9	8.0	8.1	7.3	7.2	7.6	7.4	8.0	7.8	7.6	7.6	8.0	7.2	8.0	8.0	6.9	7.0	7.3	7.4	7.4	7.6	8.0	8.1	8.0
11/74	7.3	7.2	7.0	6.9	6.9	8.0	7.1	7.2	7.3	7.4	8.0	7.6	7.1	7.1	7.2	7.0	7.1	7.0	7.3	7.0	7.0	7.0	8.4	8.6	7.1	7.3	7.1	7.4	7.4	7.9	7.9
12/74	6.4	6.6	7.8	7.6	7.8	8.1	7.8	7.9	7.9	8.0	7.7	7.8	5.7	7.5	7.9	7.7	7.5	7.6	7.6	8.0	8.0	8.2	7.7	8.1							
01/75	7.9	8.1	8.0	7.9	7.7	8.0	7.8	7.3	7.9	7.9	7.7	7.8	7.7	7.7	7.8	7.9	7.8	7.7	7.8	8.0	8.0	8.2	7.7	8.1							
02/75	8.3	8.5	8.4	8.2	8.0	8.3	8.3	8.3	8.2	8.3	8.4	8.2	8.3	8.2	8.3	8.3	8.1	8.2	8.3	8.3	8.4	8.6	8.2	8.4	8.4	8.3	8.6	8.2	8.4	8.6	8.5
03/75	7.6	8.1	8.0	7.9	7.7	8.0	7.8	7.9	7.9	7.9	8.4	7.2	7.7	7.7	7.8	7.9	7.8	7.7	7.8	6.5	6.8	6.7	7.0	7.2	6.8	6.7	8.1	5.9	5.8	6.3	6.8
04/75	8.4	8.4	8.8	8.4	8.3	8.2	8.4	8.3	8.2	8.2	8.2	8.0	8.4	8.2	8.3	8.3	8.3	8.3	8.3	8.1	8.4	8.3	8.2	8.3	8.2	8.2	8.3	8.2	8.4	8.3	8.3
05/75	8.3	8.2	8.0	8.0	8.1	8.0	7.9	8.0	7.9	8.0	7.9	7.9	8.0	8.1	8.1	7.9	8.1	8.1	8.1	8.0	8.2	8.2	7.9	8.1	7.7	7.7	8.2	7.6	8.1	8.1	8.3
06/75	8.6	8.5	8.3	7.9	8.2	8.3	7.8	7.8	8.1	8.1	7.9	7.9	8.6	7.9	8.2	7.9	7.9	8.2	8.1	8.2	8.5	8.8	8.3	8.2	8.2	8.3	8.5	8.3	8.3	8.3	8.1
07/75	8.3	8.3	8.5	8.3	8.0	8.2	8.2	8.2	8.1	8.1	7.7		8.0	7.8	8.1	8.2	7.4	8.0	8.3	8.7	8.6	8.5	8.4	8.5	8.3	8.4	8.7	8.4	8.5	8.6	7.6
08/75	8.2	8.5	8.7	8.4	7.5	8.1	8.5	8.3	8.3	8.4	8.5	8.4	8.7	8.0	8.3	8.7	8.5	8.0	8.6	8.5	8.6	8.5	8.4	8.6	8.3	8.4	8.1	8.3	8.3	8.8	8.7
09/75	6.7	6.7	6.7	6.9	6.6	6.5	6.6	6.7	6.5	6.5	6.3	6.3	6.7	6.7	6.8	6.7	6.8	6.7	6.7	6.3	6.3	6.4	6.5	6.5	6.6	6.4	6.3	6.6	6.5	6.5	6.5
10/75	6.8	6.6	8.0	7.9	7.7	8.0	7.8	7.9	7.9	7.9	7.3	6.3	6.4	7.7	7.8	6.4	7.8	7.7	7.8	6.5	6.5	6.5	6.3	6.3							
11/75	7.9	7.8	7.7	7.8	7.3	7.9	7.7	7.7	7.6	7.7	8.1	8.0	7.6	7.9	7.9	7.6	7.9	7.9	7.8	8.1	8.5	8.5	8.0	8.1	7.8	8.0	8.2	8.1	8.3	8.3	8.1
12/75	8.3	8.1	8.0	7.9	7.7	8.0	7.8	7.9	7.9	7.9	7.7	7.8	7.7	7.7	7.8	7.9	7.8	7.7	7.8	8.0	8.0	8.2	7.7	8.1	8.4	8.5	8.8	8.2	8.3	8.2	8.4
01/76	8.0	8.3	8.2	8.2	8.1	8.3	8.3	8.3	8.2	8.0	8.2	8.2	8.4	8.0	8.3	8.6	8.0	7.7	8.3	8.4	8.6	8.2	8.0	8.1	8.2	8.2	8.3	8.2	8.4	8.4	8.4
02/76	8.3	8.4	9.0	8.4	8.3	8.6	8.3	8.2	8.6	8.6	8.2	8.1	8.7	8.3	8.3	9.0	8.3	8.3	8.1	8.8	8.7	8.8	8.3	8.5	8.1	8.2	8.3	8.6	8.6	8.4	8.3
03/76	8.2	8.0	8.1	8.0	7.9	8.0	8.1	8.2	8.1	8.1	8.2	8.2	8.1	7.9	8.0	7.9	7.9	8.0	8.0	8.2	8.3	8.5	8.5	8.2	8.3	8.0	8.2	8.2	8.4	8.4	8.2
04/76	8.2	7.8	7.6	7.7	7.3	8.0	7.8	7.8	7.8	7.9	8.0	7.8	7.7	7.7	8.0	7.9	7.8	7.5	7.8	8.0	8.0	8.2	7.7	8.1	7.9	7.8	8.0	8.4	8.3	8.6	8.4
05/76	7.5	7.5	7.6	7.4	7.8	8.0	7.6	7.8	7.7	7.8	8.2	8.2	7.7	7.8	7.8	7.6	8.0	7.8	7.8	8.3	7.9	7.6	8.1	8.2	7.4	7.3	7.4	7.6	7.6	7.6	8.0
06/76	8.1	8.1	8.0	7.9	7.2	8.0	7.8	7.9	8.0	7.7	7.7	7.8	7.7	6.9	7.6	7.9	7.8	7.5	7.8	8.0	8.1	8.1	7.7	8.1							
07/76	7.9	8.1	8.0	7.9	7.7	8.0	7.8	7.9	7.9	7.9	7.7	7.8	7.7	7.7	7.8	7.9	7.8	7.7	7.8	8.0	8.0	8.2	7.7	8.1							
08/76	7.4	7.6	7.6	7.9	6.8	8.0	7.1	7.5	7.3	7.8	7.7	7.8	6.7	6.9	7.2	7.1	7.1	7.1	7.2	8.0	7.2	8.0	7.7	8.1	7.4	7.7	7.5	7.8	7.7	7.8	7.9
09/76	7.4	7.7	7.7	7.8	6.9	7.9	7.6	7.8	7.6	7.8	8.1	8.1	7.8	7.1	7.5	7.9	7.5	7.1	7.3	8.1	8.2	8.3	8.2	8.1							
$\bar{x}$	7.9	8.1	8.0	7.9	7.7	8.0	7.8	7.9	7.9	7.9	7.7	7.8	7.7	7.7	7.8	7.9	7.8	7.7	7.8	8.0	8.0	8.2	7.7	8.1	7.8	7.9	8.1	8.0	8.1	8.2	8.1

From T. Schmidt, unpublished data.

Appendix D. Turbidity (FTU) observed at 32 stations in Florida Bay, October 1973 to September 1974

DATE	Station number																	
	7	8	9	17	25	18	12	20	13	16	19	21	27	28	29	33	34	35
10/12/73	1.0	0.9	0.8	1.7	0.9	2.5	2.6	1.0	2.0	2.1	2.1	1.0	1.4	1.2	1.3	3.2	1.0	0.6
11/7, 8, 9/73	1.3	2.4	4.3	3.4	2.5	3.3	7.2	2.5	4.7	3.8	4.7	1.8	1.7	2.0	1.5	3.0	2.0	2.0
12/5/73	2.5	5.7	6.2	2.4	1.4	1.2	2.8	21.7	2.0	2.4	3.2	0.7	1.0	1.8	1.0	1.1	0.8	1.8
1/23, 24, 25/74	1.4	2.7	6.0	1.2	2.7	1.3	3.6	1.5	1.3	0.9	1.1	0.7	1.3	1.0	1.3	1.3	1.3	1.0
2/11, 12, 13/74	1.3	4.7	12.8	3.7	2.4	4.6	7.2	2.3	6.4	2.7	2.9	0.7	1.9	1.8	1.7	2.3	0.8	0.8
3/11, 12, 13/74	3.8	20.0	36.0	4.2	2.4	8.4	6.2	3.0	3.7	13.5	2.4	2.3	2.8	2.1	1.0	1.4	1.2	0.5
4/15, 16, 17/74	2.2	7.8	3.0	6.4	3.8	5.0	5.4	2.8	1.8	2.8	1.8	1.0	4.6	1.6	1.6	1.4	0.9	0.8
5/74	1.3	16.5	5.2	13.0	1.8	3.3	2.5	3.2	1.6	2.8	1.4	0.6	1.8	1.4	1.4	1.0	1.2	0.8
6/74	0.7	44.0	10.0	1.7	1.8	8.0	2.0	2.1	3.3	1.8	1.4	0.6	1.2	1.4	1.8	1.8	0.8	0.5
7/74	1.4	15.0	12.0	3.2	2.5	11.0	9.0	17.0	7.0	12.0	7.0	2.0	2.8	1.2	0.9	1.2	0.6	0.6
8/5, 6, 7/74	2.0	18.0	6.7	4.0	3.0	4.4	7.1	5.0	5.2	2.3	3.2	1.4	1.4	1.0	1.3	1.3	0.9	0.5
9/74	0.6	1.1	1.5	1.7	1.0	3.0	1.8	1.5	1.7	2.5	1.6	0.8	1.7	1.0	1.1	1.2	0.5	0.6
$\bar{x}$	1.6	11.5	8.7	3.9	2.1	4.6	4.8	5.3	3.4	4.1	2.7	1.1	2.0	1.5	1.3	1.6	1.0	0.8

From: T. Schmidt, unpublished data

Appendix D Turbidity (FTU) observed at 32 stations in Florida Bay, October 1973 to September 1974 (continued).

DATE	<u>Station numbers</u>													
	2	3	10	11	14	15	26	24	22	23	1	4	5	6
10/12/73	1.0	0.6	1.3	3.5	1.6	1.4	1.0	2.0	1.0	0.8	1.5	1.5	0.9	0.8
11/7, 8, 9/73	2.4	1.0	1.4	1.8	2.5	5.8	3.8	2.8	1.3	1.0	5.0	5.2	1.3	1.0
12/5/73	7.7	5.0	0.8	3.0	0.8	1.5	1.4	2.2	0.6	0.7	8.1	8.5	1.8	3.8
1/23, 24, 25/74	4.4	1.1	1.2	0.8	1.4	1.1	1.3	1.2	1.3	0.8	1.8	1.8	2.7	2.6
2/11, 12, 13/74	4.5	2.4	1.0	1.6	1.8	2.1	1.7	2.4	1.3	0.6	9.8	8.4	4.7	1.4
3/11, 12, 13/74	15.0	1.5	2.2	1.0	2.4	3.0	3.2	3.8	1.4	0.8	7.7	13.5	4.5	1.5
4/15, 16, 17/74	3.5	2.5	0.8	1.3	1.3	1.9	5.5	2.0	0.8	1.0	8.4	7.0	1.0	1.0
5/74	2.4	0.9	0.8	1.2	1.5	1.3	0.9	2.8	0.8	0.6	14.0	20.0	1.3	0.7
6/74	4.0	1.5	1.5	0.9	1.0	1.3	1.8	1.9	0.7	1.5	14.0	12.0	1.9	0.6
7/64	4.0	0.5	1.4	1.2	3.5	1.7	15.0	2.0	0.9	1.2	9.5	17.0	1.2	1.2
8/5, 6, 7/64	1.4	0.8	2.4	1.9	20.1	3.5	3.5	2.1	0.8	1.6	3.2	2.3	0.8	0.9
9/74	1.8	0.6	0.6	1.5	1.8	1.6	1.4	1.8	0.3	0.7	3.9	2.5	1.3	0.5
$\bar{x}$	4.3	1.5	1.2	1.6	3.3	2.1	3.3	2.2	0.9	0.9	7.2	8.3	1.9	1.3

From: T. Schmidt, unpublished data

Appendix D-1. Salinity (ppt) values from 6 stations in Florida Bay, April 1965 to June 1966.

DATE	<u>Stations</u>					
	5A	5B	6A	6B	7A	7B
4/7/65	38.3	36.9	38.7	31.1	38.4	36.1
5/3/65	43.6	43.7	44.8	37.9	43.8	44.8
6/4/65	45.0	43.8	47.3	45.9	45.1	47.1
7/28/65	55.6	52.4	52.4	52.4	50.0	51.6
8/24/65	57.3	54.8	52.3	54.0	52.1	50.8
9/23/65	36.1	21.1	36.1	9.9	18.4	16.5
10/19/65	19.7	4.5	8.9	6.7	13.3	5.9
11/17/65	16.8	4.0	24.6	4.2	31.4	5.1
12/15/65	24.0	3.5	30.5	11.0	34.5	21.0
1/12/66	25.5	5.7	30.8	17.4	31.9	24.2
2/9/66	30.9	6.4	31.9	21.1	33.3	23.0
3/8/66	30.7	13.7	33.9	25.6	31.2	28.7
4/7/66	35.0	33.3	37.0	27.8	34.6	33.9
5/5/66	37.9	37.9	36.1	32.1	34.5	33.0

From: Tabb, unpublished data

Appendix D-3. Total Monthly Rainfall at Royal Palm Ranger Station^a, Everglades National Park and Tavernier^a in the Florida Keys, October, 1973 to September, 1976

Royal Palm												
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
1973										3.87	0.41	2.68
1974	0.31	0.06	0.13	5.33	2.29	9.29	10.76	6.34	5.4	6.00	2.12	0.30
1975	0.16	0.83	0.25	0.06	10.37	11.87	7.10	8.70	6.96	5.31	1.03	0.51
1976	0.93	2.11	0.20	3.85	8.14	8.13	3.94	13.95	8.82			

Tavernier												
1973										4.31	1.45	3.66
1974	2.20	.25	.46	.45	5.62	3.61	2.79	3.79	2.77	.71	.37	2.27
1975	1.37	1.16	.46	.80	3.46	6.61	4.75	7.45	8.35	3.18	1.03	3.04
1976	1.06	3.91	.84	2.67	2.37	12.15	3.38	7.37	5.57			

From: ^aEverglades National Park summarized hydrology records for 1973-76.

^bNOAA Climatological Data - Florida, 1973-76

Appendix D-4. Water Levels at Taylor Slough Bridge, Gauge Height in Feet

	Mean Value											
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
1965			1.67	-.28	-.921	0.30	1.51	2.03	3.31	3.82	3.63	2.51
1966	2.26	2.14	1.91	1.24	1.86							
1973			1.39	0.64	-0.09	0.34	3.05	3.79	4.16	3.33	2.20	1.91
1974	1.88	1.08	0.59	0.02	-0.57	1.34	2.86	3.19	2.60	2.95	2.01	2.32
1975	1.46	0.78	0.11	-0.42	-0.01	2.26	3.68	3.52	3.23	2.99	2.65	1.62
1976	1.07	1.01	.92	2.18	1.45	3.98	3.46	3.65	4.23			

Water Levels at Everglades P-36, gauge height in feet

Mean Values												
1973										3.63	3.60	3.42
1974	3.33	3.20	2.96	2.24	1.47	2.10	3.51	3.58	3.80	3.81	3.57	3.68
1975	3.36	3.07	2.89	2.18	2.02	2.87	3.30	3.35	3.39	3.59	3.44	3.28
1976	3.24	3.15	2.97	2.75	2.95	3.71	3.54	3.70	3.84			

From: U.S. Geological Survey, Water-Data Reports, FL-65-2, 74-2, 75-2 and 76-2

Appendix E

Appendix E-1. Salinity (ppt) observed at 5 stations in Card-Barnes Sound
September 1970 to October 1972

<u>Station No.</u>					
Date	0207	0306	0405	0504	0603
9/70 ¹		37.7	36.9	37.7	36.9
10/70		36.4	36.1	36.2	33.5
11/70		35.3	33.7	34.5	34.5
12/70		35.3	34.9	34.9	35.7
1/71	36.3	36.6	36.4	36.9	35.5
2/71	36.4	36.6	36.8	36.4	36.5
3/71	37.8	37.9	37.8	38.3	38.9
4/71	38.3	38.5	38.6	38.8	39
5/71	38.7	39.4	40	40.3	41.5
6/71 ²	39.1	39.1	39.6	40	40.4
7/71	37.1	37.3	38.6	39	38.1
8/71	37.7	38.1	38.3	39.6	39.6
9/71	37.2	38.1	38.3	39.1	37.8
10/71	36.9	36.1	36.9	36.9	35.3
11/71	35.3	35.3	36.1	36.1	34.5
12/71	32.9	33.7	32.9	31.3	30.5
1/72	33.7	34.5	34.5	33.7	31.3
2/72	36.5	36.5	36.1	34.9	34.9
3/72	35.3	36.9	36.5	35.3	32.5
4/72	36.5	36.1	35.7	35.2	25.3
5/72	36.8	37.1	37.3	26.1	36.9
6/72	33.7	34.9	34.1	34.5	33.7
7/72	33.7	33.3	33.7	32.1	32.5
8/72	35.3	34.1	33.3	33.7	32.9
9/72	35.7	36.5	35.3	34.9	34.5
10/72 ³	33.7	32.5	32.5	32.5	31.7
x	36.1	36.3	36.3	36.2	25.6

¹data for 9/70 through 5/71 from Segar et al. (1972).²data for 6/71 through 9/72 from Smith, (1973).³data for 10/72 from Hixon, (1976).

Appendix E

Appendix E-1. Water temperatures ($^{\circ}\text{C}$) observed at 5 stations in Card-Barnes Sound, September 1970 to October 1972 (continued)

Date	<u>Station No.</u>				
	0207	0306	0405	0504	0603
9/70 ¹		28	27.9	27.9	27.8
10/70		27.9	27.9	27.9	28.9
11/70		23	23.8	24.1	24.6
12/70		20.2	20.2	20.2	20.1
1/71	24.8	24.7	24.7	24	24.9
2/71	17.7	18.2	18.7	19.2	20.7
3/71	23.7	24.4	24.2	25	25.8
4/71	21.2	21.7	21.8	22	22.4
5/71	28	27.9	27.8	28	27.7
6/71 ²	27.2	27.4	27.2	28.1	27.2
7/71	28.5	28.8	29	29	29
8/71	31	30.1	30	30	30
9/71	28	29	28	28.8	28.9
10/71	30	29.5	29.3	29.8	29.8
11/71	26.4	26.1	26.1	26.5	26.2
12/71	23.1	23	23	23	23
1/72	22	22	21.4	21.3	21.6
2/72	21.2	21.5	21.5	21	22
3/72	22.5	23	22	22	23
4/72	26	25.5	25	25.5	25.5
5/72	27.2	27.2	28.2	28.6	31
6/72	28.7	29.2	28.5	28.5	28.6
7/72	33	32.4	32.8	32.8	33.2
8/72	31.5	32.5	31	33.6	32.8
9/72	29.3	29.3	29.2	29.5	29.7
10/72 ³	27.8	27.4	27.6	27	28
x	26.3	26.4	26.2	26.5	26.9

¹data for 9/70 through 5/71 from Segar et al. (1972).

²data for 6/71 through 9/72 from Smith, (1973).

³data for 10/72 from Hixon, (1976).

Appendix E

Appendix E-1. Dissolved oxygen (ppm) observed at 5 stations in Card-Barnes Sound, September 1970 to October 1972 (continued)

Date	<u>Station No.</u>				
	0207	0306	0405	0504	0603
9/70 ¹		5.8	6	5.7	5.5
10/70					
11/70		5.6	5.7	5.7	5.7
12/70		6.7	6.5	7.3	6
1/71	6.6	6	6.2	6.7	6.2
2/71					
3/71					
4/71	6.9	6.9			
5/71	6.1	5.9	6.2	6	5.6
6/71 ²	8	8	8.2	7.5	7.6
7/71	6.2	6.3	6.3	6.2	5.6
8/71	5.7	6	6.1	5.6	5.6
9/71	3.7	6.3	6.2	4.1	4
10/71	6.5	5.7	5.8	6.4	5.2
11/71	5.5	4.5	4.6	4.5	4.2
12/71	5.4	5.5	5.8	5.8	5.5
1/72	6.6	6.7	6.9	6.9	6.5
2/72	7.8	7.9	7.9	7.7	7.5
3/72	8.4	7.9	8	7.2	7.7
4/72	7.8	7.8	7.8	7.8	7.2
5/72	6.8	7.6	7.3	7.6	6.8
6/72	6.8	7.2	7.3	6	6.9
7/72	7.2	7.3	7.2	6.2	7.1
8/72	6.6	6.1	6.7	6.3	6.8
9/72	7.8	6.8	6.6	5.2	5.3
10/72 ³	5.4	5.3	5	5.9	6
x	6.6	6.6	6.7	6.3	6.2

¹data for 9/70 through 5/71 from Segar et al. (1972).

²data for 6/71 through 9/72 from Smith, (1973).

³data for 10/72 from Hixon, (1976).

Appendix E-2. Water temperatures ($^{\circ}\text{C}$), salinity (ppt) and oxygen (ppm) values from Card-Barnes Sound,
September, 1970 to June, 1971

SURFACE TEMPERATURES - CARD SOUND

STA. NO.	($^{\circ}\text{C}$)									
	<u>9/16/70</u>	<u>10/14/70</u>	<u>11/12/70</u>	<u>12/9/70</u>	<u>1/13/71</u>	<u>1/14/71</u>	<u>2/17/71</u>	<u>3/17/71</u>	<u>4/7/71</u>	<u>5/12/71</u>
0104	28.2	28.0	24.0	20.1	24.3	24.5	18.7	24.5	19.8	27.1
0105	-	-	-	-	25.0	0	18.6	23.2	-	-
0106	-	-	-	-	24.7	-	18.3	23.0	-	-
0107	-	-	-	-	24.8	-	17.7	23.0	-	-
1204	27.5	28.2	23.5	20.0	24.8	24.2	18.9	24.0	21.8	27.8
0205	-	-	-	-	25.0	-	18.3	24.3	-	-
0206	-	-	-	-	24.8	-	17.9	24.0	-	-
0207	-	-	-	-	24.8	-	17.5	23.7	-	-
0208	27.2	27.9	25.0	20.1	24.8	24.1	18.4	23.8	21.8	28.0
0304	27.3	27.7	23.0	20.0	24.6	24.5	18.6	24.8	22.2	27.8
0305	-	-	-	-	24.8	-	18.6	24.8	-	-
0306	27.9	28.0	23.0	-	24.6	24.2	18.2	24.4	21.7	27.7
0307	-	-	-	-	24/8	-	17.9	24.6	-	-
0308	-	-	-	-	24.6	-	19.2	25.0	-	-

<u>STA. NO.</u>	<u>9/16/70</u>	<u>10/14/70</u>	<u>11/12/70</u>	<u>12/9/70</u>	<u>1/13/71</u>	<u>1/14/71</u>	<u>2/17/71</u>	<u>3/17/71</u>	<u>4/7/71</u>	<u>5/12/71</u>
0403	28.0	27.9	25.0	20.0	24.7	24.2	20.5	25.0	22.6	27.2
0404	27.2	27.7	24.1	20.1	24.7	24.1	19.0	24.8	22.0	27.2
0405	27.8	27.9	23.7	20.1	24.5	24.2	18.7	24.2	21.7	27.6
0406	-	-	-	-	24.7	-	18.4	-	-	-
0407	-	-	-	-	24.8	-	18.1	24.8	-	-
0408	-	-	-	-	24.6	-	18.6	24.6	-	-
0503	27.8	27.9	24.9	20.2	24.7	24.5	20.8	25.5	21.1	27.5
0504	27.9	28.0	25.1	20.1	-	24.0	19.2	25.0	22.0	27.6
0505	-	-	-	-	24.6	-	18.9	24.8	-	-
0506	-	-	-	-	24.6	-	18.4	24.9	-	-
0507	-	-	-	-	24.6	-	-	24.8	-	-
0508	-	-	-	-	24.7	-	19.2	25.0	-	-
0603	27.8	29.9	24.5	20.0	21.0	24.9	21.2	25.8	22.3	27.2
0604	28.0	27.9	24.1	20.1	24.5	24.2	19.2	25.0	22.0	27.6
0605	-	-	-	-	24.3	-	18.5	24.4	-	-
0606	28.0	28.0	24.0	20.1	24.6	24.2	18.5	24.5	22.1	28.0
0607	-	-	-	-	24.7	-	18.2	25.0	-	-
0608	28.0	28.2	24.0	20.5	24.9	24.5	19.0	25.0	22.2	28.5
0703	28.0	29.1	25.0	20.1	24.0	24.9	19.8	25.6	22.3	27.5

<u>STA. NO.</u>	<u>9/16/70</u>	<u>10/14/70</u>	<u>11/12/70</u>	<u>12/9/70</u>	<u>1/13/71</u>	<u>1/14/71</u>	<u>2/17/71</u>	<u>3/17/71</u>	<u>4/7/71</u>	<u>5/12/71</u>
0704	28.0	28.0	24.0	20.1	24.0	24.2	18.4	24.9	22.2	27.2
0705	-	-	-	-	23.5	-	18.4	24.6	-	-
0706	-	-	-	-	23.5	-	18.0	24.6	-	-
0707	-	-	-	-	24.0	-	18.0	24.8	-	-
0708	-	-	-	-	24.0	-	18.2	24.8	-	-
0803	27.9	28.2	25.0	20.2	24.0	24.7	19.8	25.7	22.3	27.8
0804	28.0	27.9	24.5	20.1	24.0	24.2	18.6	24.9	22.2	27.2
0805	28.0	27.9	24.0	20.1	24.0	24.5	18.4	24.6	22.0	27.5
0806	-	-	-	-	24.0	-	18.2	24.5	-	-
0807	-	-	-	-	23.5	-	18.2	24.5	-	-
0808	-	-	-	-	24.0	-	18.2	24.4	-	-
0904	-	-	-	-	24.0	-	18.4	25.0	-	-
0905	-	-	-	-	24.0	-	18.0	24.5	-	-
0906	-	-	-	-	24.0	-	18.0	24.5	-	-
0907	-	-	-	-	24.0	-	18.0	24.6	-	-
0908	-	-	-	-	24.0	-	18.2	24.5	-	-
1002	-	-	-	-	24.0	-	18.0	25.2	-	-
1004	27.8	28.6	24.5	20.5	23.5	24.5	18.2	25.0	22.3	27.2
1005	-	-	-	-	24.0	-	18.0	24.8	-	-
1006	-	-	-	-	24.0	-	17.8	25.0	-	-

<u>STA. NO.</u>	<u>9/16/70</u>	<u>10/14/70</u>	<u>11/12/70</u>	<u>12/9/70</u>	<u>1/13/71</u>	<u>1/14/71</u>	<u>2/17/71</u>	<u>3/17/71</u>	<u>4/7/71</u>	<u>5/12/71</u>
1007	-	-	-	-	24.0	-	18.0	25.0	-	-
1102	-	-	-	-	24.0	-	18.2	25.0	-	-
1103	-	-	-	-	24.0	-	18.2	25.0	-	-
1105	-	-	-	-	23.5	-	18.2	24.5	-	-
1106	-	-	-	-	23.5	-	18.2	24.5	-	-
1107	-	-	-	-	24.0	-	18.0	24.8	-	-
1202	-	-	-	-	24.0	-	18.4	25.0	-	-
1204	-	-	-	-	24.0	-	18.0	24.8	-	-
1206	-	-	-	-	23.5	-	18.0	25.0	-	-

SURFACE SALINITY - CARD SOUND

(ppt)

0104	37.7	33.5	33.7	30.5	35.7	37.3	36.7	38.6	39.3	40.9
0105	-	-	-	-	36.0	-	36.5	38.9	-	-
0106	-	-	-	-	36.1	-	36.6	38.5	-	-
0107	-	-	-	-	36.4	-	36.6	37.7	-	-
0204	37.3	30.1	34.5	32.1	35.7	37.3	36.7	38.8	38.8	41.2
0205	-	-	-	-	36.1	-	36.7	38.8	38.8	41.2
0205	-	-	-	-	36.1	-	36.5	32.4	-	-

<u>STA. NO.</u>	<u>9/16/70</u>	<u>10/14/70</u>	<u>11/12/70</u>	<u>12/9/70</u>	<u>1/13/71</u>	<u>1/14/71</u>	<u>2/17/71</u>	<u>3/17/71</u>	<u>4/7/71</u>	<u>5/12/71</u>
0206	-	-	-	-	36.1	-	36.6	38.1	-	-
0207	-	-	-	-	36.2	-	36.6	37.8	-	-
0208	36.5	37.5	35.3	35.3	36.6	37.3	36.6	37.6	38.0	37.9
0304	37.0	34.4	34.5	32.5	35.7	36.9	36.5	38.7	39.0	40.5
0305	-	-	-	-	36.3	-	36.5	38.5	-	-
0306	37.7	36.5	35.3	34.9	36.6	37.3	36.6	38.0	38.6	39.4
0307	-	-	-	-	36.5	-	36.6	37.7	-	-
0308	-	-	-	-	36.6	-	36.7	37.6	-	-
0403	36.9	34.1	38.5	33.7	35.6	36.9	36.7	38.5	39.0	40.8
0404	37.7	34.3	36.13	34.5	36.0	36.9	36.5	38.1	38.9	40.3
0405	36.9	36.2	33.7	35.3	36.4	37.3	36.8	38.0	38.7	40.1
0406	-	-	-	-	36.6	-	36.7	-	-	-
0407	-	-	-	-	36.6	-	36.6	37.6	-	-
0408	-	-	-	-	36.6	-	36.5	37.4	-	-
0503	37.0	34.3	33.7	32.5	35.6	36.9	35.9	38.5	39.0	41.4
0504	37.7	36.2	34.5	34.5	-	36.9	36.4	38.4	38.8	40.4
0505	-	-	-	-	36.5	-	36.5	37.9	-	-
0506	-	-	-	-	36.6	-	36.5	37.7	-	-
0507	-	-	-	-	36.6	-	-	37.6	-	-
0508	-	-	-	-	36.6	-	36.5	37.9	-	-
0603	36.9	32.6	34.5	35.3	325.7	36.9	36.5	39.2	38.9	41.3

<u>STA. NO.</u>	<u>9/16/70</u>	<u>10/14/70</u>	<u>11/12/70</u>	<u>12/9/70</u>	<u>1/13/71</u>	<u>1/14/71</u>	<u>2/17/71</u>	<u>3/17/71</u>	<u>4/7/71</u>	<u>5/12/71</u>
0604	37.3	34.3	35.3	34.5	35.6	36.9	36.3	38.4	38.8	40.9
0605	-	-	-	-	36.3	-	36.6	38.1	-	-
0606	36.9	36.1	35.3	35.3	36.6	37.3	36.6	38.1	-	40.8
0607	-	-	-	-	36.7	-	36.4	38.1	-	-
0608	36.5	36.6	36.1	35.3	36.7	37.3	36.3	37.5	38.0	41.6
0703	37.3	33.9	35.3	35.7	35.8	36.5	36.6	38.2	39.2	41.3
0704	37.3	34.8	335.3	34.5	36.4	36.5	37.0	37.6	38.9	41.1
0705	-	-	-	-	36.3	-	37.0	37.6	-	-
0706	-	-	-	-	36.5	-	37.2	37.4	-	-
0707	-	-	-	-	36.6	-	37.0	37.3	-	-
0708	-	-	-	-	36.8	-	36.8	37.4	-	-
0803	37.3	33.8	35.3	33.3	35.7	36.1	36.3	38.9	39.2	41.9
0804	37.7	34.5	35.3	34.9	35.9	36.1	36.6	37.4	38.9	40.8
0805	36.9	35.3	35.3	35.3	36.0	36.1	36.9	37.5	38.6	41.3
0806	-	-	-	-	36.2	-	36.9	37.4	-	-
0807	-	-	-	-	36.4	-	36.9	37.5	-	-
0808	-	-	-	-	36.4	-	36.8	37.5	-	-
0904	-	-	-	-	35.8	-	36.8	37.9	-	-
0905	-	-	-	-	36.0	-	37.0	37.8	-	-
0906	-	-	-	-	36.3	-	37.0	37.7	-	-
0907	-	-	-	-	36.3	-	36.9	37.8	-	-

<u>STA. NO.</u>	<u>9/16/70</u>	<u>10/14/70</u>	<u>11/12/70</u>	<u>12/9/70</u>	<u>1/13/71</u>	<u>1/14/71</u>	<u>2/17/71</u>	<u>3/17/71</u>	<u>4/7/71</u>	<u>5/12/71</u>
0908	-	-	-	-	36.3	-	36.9	37.4	-	-
1002	-	-	-	-	36.2	-	37.2	39.0	-	-
1004	36.9	35.1	35.3	34.5	36.0	36.1	36.9	38.1	39.5	42.1
1005	-	-	-	-	36.1	-	36.7	38.2	-	-

SURFACE DISSOLVED OXYGEN - CARD SOUND

(ppm)

<u>STA. NO.</u>	<u>9/16/70</u>	<u>11/12/70</u>	<u>12/9/70</u>	<u>1/13/71</u>	<u>1/14/71</u>	<u>3/17/71</u>	<u>4/7/71</u>	<u>5/12/71</u>
0104	6.0	6.3	6.1	6.5	7.8	6.2	6.3	5.5
0105	-	-	-	6.5	-	6.6	-	-
0106	-	-	-	6.3	-	6.2	-	-
0107	-	-	-	6.8	-	6.7	-	-
0204	5.6	4.2	6.0	6.3	7.1	-	7.0	5.8
0205	-	-	-	6.8	-	-	-	-
0206	-	-	-	6.8	-	-	-	-
0207	-	-	-	6.8	-	-	-	-
0208	5.5	6.0	6.5	6.7	6.6	-	-	6.5
0304	5.6	5.7	6.4	6.7	6.3	-	6.9	5.8
0305	-	-	-	6.8	-	-	-	-
0306	5.7	5.9	6.5	6.6	6.5	-	7.2	5.9

<u>STA. NO.</u>	<u>9/16/70</u>	<u>11/12/70</u>	<u>12/9/70</u>	<u>1/13/71</u>	<u>1/14/71</u>	<u>3/17/71</u>	<u>4/7/71</u>	<u>5/12/71</u>
0307	-	-	-	6.6	-	-	-	-
0308	-	-	-	6.2	-	-	-	-
0403	5.9	5.4	7.2	6.5	7.1	-	-	5.8
0404	5.7	5.8	7.2	6.4	6.6	-	-	5.8
0405	5.9	5.7	6.6	6.6	6.5	-	-	6.3
0406	-	-	-	6.6	-	-	-	-
0407	-	-	-	7.0	-	-	-	-
0408	-	-	-	6.7	-	-	-	-
0503	5.6	5.7	6.5	6.8	6.7	-	-	-
0504	5.6	6.0	7.3	-	6.4	-	-	-
0505	-	-	-	6.6	-	-	-	-
0506	-	-	-	7.1	-	-	-	-
0507	-	-	-	7.3	-	-	-	-
0508	-	-	-	6.6	-	-	-	-
0603	5.5	5.9	6.0	6.2	6.8	-	-	5.6
0604	5.8	6.0	6.5	7.4	6.5	-	-	5.9
0605	-	-	-	6.8	-	-	-	-
0606	5.7	6.2	7.4	7.4	6.3	-	-	5.9
0607	-	-	-	6.8	-	-	-	-
0608	5.8	5.7	6.8	6.8	6.7	-	-	6.1
0703	5.8	6.1	6.5	9.2	6.6	-	-	5.7

<u>STA. NO.</u>	<u>9/16/70</u>	<u>11/12/70</u>	<u>12/9/70</u>	<u>1/13/71</u>	<u>1/14/71</u>	<u>3/17/71</u>	<u>4/7/71</u>	<u>5/12/71</u>
0704	6.0	6.2	6.6	8.7	6.4	-	-	6.0
0705	-	-	-	8.9	-	-	-	-
0706	-	-	-	9.2	-	-	-	-
0707	-	-	-	8.7	-	-	-	-
0708	-	-	-	8.3	-	-	-	-
0803	5.7	-	6.6	8.3	6.6	-	-	5.8
0804	5.9	6.1	6.7	8.2	6.4	-	-	6.1
0805	5.9	5.7	8.3	6.4	-	-	-	5.8
0806	-	-	-	9.0	-	-	-	-
0807	-	-	-	8.7	-	-	-	-
0808	-	-	-	8.4	-	-	-	-
0904	-	-	-	8.3	-	-	-	-
0905	-	-	-	8.2	-	-	-	-
0906	-	-	-	8.2	-	-	-	-
0907	-	-	-	8.4	-	-	-	-
0908	-	-	-	8.4	-	-	-	-
1002	-	-	-	8.9	-	-	-	-
1004	5.6	6.1	6.7	8.2	6.3	-	-	5.8
1005	-	-	-	8.2	-	-	-	-
1006	-	-	-	8.9	-	-	-	-

From: Segar, et al., 1971

Appendix F. Salinity (ppt) values observed at 23 stations in Southern Biscayne Bay, April 1972 to June 1977.

DATE	Stations																						
	31	12	13	33	36	21	22	71	61	85	54	14	34	54	95	11	74	75	24	25	26	51	52
04/18/72	34.9	31.9	34.8	35.6	37.0	33.7	35.7	35.5	35.4	36.4	36.7	36.6	36.5	36.7	35.4	31.3	36.1	36.8	37.1		37.5	35.7	36.0
05/03/72		34.6	36.5									37.7				31.2							
05/05/72	34.8	33.8	35.7		38.0	32.2	35.8	36.5	36.5			38.0	37.6		36.9	30.3			37.8	37.6		36.5	37.2
05/19/72	35.2	29.6	32.2	36.0	35.3	29.5	34.2	35.8	35.8	36.4	36.9	36.3	35.4	37.0	36.2	28.8	36.5	36.4	36.8	36.2	36.5	36.3	36.5
06/01/72	32.3	26.6	29.4	34.5	36.4	29.9	31.0	34.8	34.6	34.6	35.0	33.0	35.8	35.4	34.5	24.0	34.6	35.0	34.7	36.4	36.8	34.9	35.2
06/15/72	14.8	22.3	26.2	33.4	34.3	16.8	23.9	32.4	32.6	34.7	33.8	32.0	33.9	34.0	34.0	15.9	34.2	34.5	34.5	34.8	34.8	33.0	33.6
06/29/72						30.2	32.2					33.4				27.4			34.7	35.9	36.0		
07/01/72	30.7	29.6	31.6	33.8	34.8	30.4	31.9	33.4	32.8	34.5	33.8	34.1	34.1	33.9	33.8	28.1	34.2	34.9	33.8	34.8	35.5	33.0	33.5
07/14/72	29.7	28.5	30.2	33.4	34.8	24.0	30.4	32.8	31.1	33.7	33.9	34.1	34.2	33.9	34.3	25.7	33.3	34.0	33.4	34.4	35.2	33.2	33.0
07/26/72	24.0	17.1	22.7	34.3	35.0	24.0	28.5	30.8	30.6	34.9	35.3	31.6	34.4	35.6	33.6	13.0	35.0	35.1	33.3	34.3	34.9	31.9	34.1
08/06/72	31.1	29.3	29.6	34.4	36.0	31.1	32.6	32.3	31.3	35.1	35.7	33.4	34.6	35.2	33.5	26.9	34.7	35.0	35.3	35.6	35.9	32.5	33.5
08/22/72	34.4	30.2	32.0	35.0	36.0	30.4	34.0	34.7	35.2	36.0	36.0	34.8	36.2	35.6	36.0	26.5	36.0	36.0	35.4	36.1	35.9	35.2	35.3
09/06/72	33.8	27.0	29.1	35.3	37.1	29.4	32.9	33.3	33.5	35.5	35.9	32.8	35.6	35.8	35.8	24.0	35.3	35.3	36.1	36.7	36.7	33.5	34.0
09/20/72	16.3	25.6	30.4	35.0	35.8	17.3	27.5	24.9	27.5	35.6	34.8	34.4	34.6	34.8	35.5	17.3	35.3	35.5	35.4	35.6	36.1	28.2	30.4
10/05/72	25.7	25.0	28.3	33.2	36.1	24.6	29.3	31.2	30.9	33.8	34.4	32.2	34.6	35.4	31.3	23.0	33.7	33.7	33.5	34.4	35.3	26.7	30.5
11/02/72	22.0			32.6	35.7	25.7	27.9	30.5	28.7	33.9	33.8	33.8	34.3	34.4	31.6	24.8	31.3	34.0	33.8	34.9	35.6	31.5	32.7
11/21/72	29.8			32.3	35.5	25.5	28.2	31.2	31.5	33.1	33.2	32.4	34.4	34.0	31.7	23.1	32.8	33.4	32.5	34.2	35.3	32.5	33.1
12/14/72	28.0			34.7	35.5	22.5	24.0	32.9	32.8	35.7	35.1	33.5	33.8	34.2	33.6	27.4	35.4	36.4	35.5	34.9	34.4	33.1	33.5
01/09/73	33.5			34.2	36.3	32.1	33.4	34.5	34.5	35.6	35.2	35.4	35.9	35.7	34.0	29.3	34.8	35.6	36.3	36.1	36.2	34.8	34.8
01/16/73	30.1			34.2	36.5	28.2	34.6	31.2	32.4	34.5	36.5	33.6	34.4	36.7	32.5	27.2	35.2	35.6	34.4	36.5	36.8	33.1	33.6
02/02/73	32.7			34.2	36.2	29.7	31.9	34.6	34.5	34.6	35.1	34.6	35.5	34.5	34.1	29.4	35.2	35.2	35.9	36.5	36.5	34.2	34.3
02/20/73	29.0			35.1	37.2	26.8	30.9	33.8	32.7	35.7	36.1	33.5	36.7	36.6	35.4	25.2	35.9	30.3	36.3	39.1	36.8	31.5	31.2
03/08/73	29.7			34.3	34.8	30.3	31.4	36.5	31.4	33.6	35.3	33.8	33.5	35.0	34.7	28.8	35.5	35.6	33.2	33.9	34.5	31.3	32.9
03/27/73	36.1			35.9	36.0	34.8	35.1	36.5	36.6	37.0	37.3	35.6	35.5	37.4	36.2	30.8	36.4	36.4	36.3	37.3	37.3	35.7	36.7
05/04/73	39.6			39.6	39.6	38.8	39.1	39.6	39.1	39.4	39.7	39.4	39.5	39.6	39.0	38.8	39.6	39.8	39.4	39.8	39.6	39.4	39.3
05/25/73	37.5			37.5	37.8	37.2	37.5	37.2	36.9	37.5	37.2	37.6	37.6	37.6	37.7	30.9	37.3	37.4	37.5	37.6	37.7	37.0	37.4
01/28/74	33.6				36.4	32.9		35.5				35.4	35.8	36.0	36.0	34.7	35.9	33.5	35.7			33.8	
02/03/74	35.6					36.4		36.3				33.7	36.5	36.2	36.5	33.6	36.5	37.4	36.6			36.3	
03/07/74	35.0					37.7		30.5				38.4	38.7	38.4	38.3	38.7	38.6	39.0	38.5			38.4	
03/19/74	35.1					33.2		36.0				35.0	35.3	35.3	34.7	33.0	35.2	34.9	35.3			36.2	
04/09/74	37.7					36.5		36.6				36.7	36.6	36.5	36.4	37.0	36.2	35.8	36.1			37.5	

Appendix F. (Continued)

DATE	Stations																						
	31	12	13	83	36	21	22	71	61	85	64	14	34	54	95	11	74	75	24	25	26	51	52
11/04/74	24.0					26.5		25.6	23.5	37.4						31.3	37.3	37.0				24.8	
12/10/74	24.0					22.6		27.9	27.3	31.9						21.1	31.6	31.8				26.7	
07/11/75	30.7					25.0		32.4	32.4	35.4						20.9	35.5	33.9				32.6	
08/19/75	28.9					25.6		32.9	31.8	34.9						23.4	33.5	30.1				31.4	
09/03/75	29.8					26.4			33.0							27.9	35.0	36.3					
10/07/75	32.0					20.5		36.6	36.9							20.4	35.2	35.2				35.8	
11/19/75	21.7					23.2		30.5	27.7							19.7	34.8	32.3				27.2	
12/15/75	23.3								28.7								32.3	33.1				29.0	
01/20/76	23.0					27.9			33.2							29.5		34.1					
03/05/76	31.6					31.6			36.0							31.0	34.8					36.2	
04/12/76	36.0					36.6		37.0	36.0							35.8	35.7	35.9				35.9	
05/17/76	35.7					35.6		35.6	35.6							36.6	34.2	35.0				35.6	
06/16/76	25.1					25.9		28.7	28.5							5.2	34.5	31.2				28.8	
07/19/76	32.1					26.6		32.6	32.2							27.5	33.9	32.6				32.5	
09/01/76	20.7					10.8		33.0	31.9							10.8	33.2	30.4				31.5	
09/23/76	19.6					21.8		31.4	31.3							16.9	31.6	30.9				31.3	
10/15/76	21.5					19.4		26.5	26.1							19.9	28.9	32.9				23.4	
11/13/76	24.0					22.6		25.6	25.9							18.5	30.3	30.0				23.9	
12/16/76	25.8					24.6			28.8								31.1						
01/21/77	25.7					23.6		28.7	28.7							21.9	32.3	33.3				28.8	
02/17/77	19.3					25.6		28.6	26.0							22.4	31.1	32.2				28.8	
04/26/77	39.9					33.2		38.9	38.8							38.4	37.9	39.3				39.0	
06/14/77	27.5					26.8		34.0	33.5							21.0	33.9	30.7				32.1	
$\bar{X}$	28.6	28.0	30.6	34.5	36.1	26.9	31.3	32.4	31.2	35.1	35.3	34.7	35.8	35.7	34.4	25.1	35.2	34.6	35.4	35.5	36.0	32.2	33.9

From J. Tilmant, unpublished data.

Appendix F. Turbidities (FTU) observed at 26 stations in Southern Biscayne Bay, April 1972 to April 1976.

	Station numbers																											
DATE	11	12	13	14	15	21	22	23	24	25	26	31	32	33	51	52	53	54	55	61	75	81	96	85	65	71		
4/19/72	2.0	1.4	1.4	1.6	1.7	3.1	1.5	1.3	1.9	1.6	2.1	1.6	1.9	1.9	0.8	0.9	0.8	0.9	2.0	.46	7.8				1.5	0.9		
5/3/72	3.7	1.1	1.2	2.1	1.8																							
5/5/72		2.5	1.8	1.5	1.9	3.2	1.2		1.6	1.5	1.5	0.8	0.8	0.8	2.2	1.2	0.9	1.7	2.5	0.8	1.8	2.7		1.6	3.7	1.3		
5/19/72	4.5	1.8	1.5	1.8	1.6	1.2	1.0	0.8	0.8	0.9	1.1	1.0	.85	.87	1.1	1.2	1.0	1.2	1.4	0.9	.76	.52		.75	1.1	1.3		
6/1/72	1.5	6.7	1.6	1.2	1.0	.41	.68	.68	1.0	1.1	2.2	.44	1.0	1.0	0.7	0.9	0.8	0.7	.64	.61	.87	.41		2.6	.89	.63		
6/15/72	1.5	1.6	1.0	1.1	1.0	.65	.78	.83	1.4	1.8	.85	1.2	1.9	1.9	1.7	1.4	1.2	2.4	1.7	2.3	1.4	1.0	1.5	1.0	3.0	4.7		
6/29/72	1.2			.61	1.1	.53	.76	1.0	0.7	1.1	1.4																	
7/1/72	1.5	2.3	1.1	0.9	1.4	.72	.59	1.3	1.0	1.4	7.9	.63	.68	.72	.88	.49	.55	.65	.76	1.0	.55	.41	.55	0.7	.67	.57		
7/14/72	2.1	1.4	0.9	.96	1.2	1.3	.43	1.0	1.0	1.3	1.4	1.4	.59	.87	.79	.52	.67	.97	.83	.98	.78	.45	0.6	.68	.91	1.2		
7/26/72	2.8	1.4	.76	.91	1.8	1.0	1.0	1.3	1.6	2.5	2.3	0.6	.85	1.5	1.7	1.5	1.1	.61	.85	.86	1.0	.51	.69	1.3	1.1	1.0		
8/6/72	1.4	1.1	.59	.78	1.6	.94	.66	1.6	1.2	1.5	1.4	.78	1.3	1.1	.95	.92	.72	.44	3.7	1.0	.71	.59	.52	.69	.56	1.0		
8/22/72	2.3	.62	.66	.93	1.4	.98	.77	.92	1.2	1.9	4.9	.63	1.0	1.7	1.5	1.7	.57	.61	.58	1.1	.72	0.4	.68	.83	.72	1.1		
9/6/72	1.9	.51	.54	.82	1.3	.66	.64	1.2	1.6	1.2	1.2	.78	.76	1.1	.61	.67	.78	.42	.46	.81	.77	.44	.53	.67	.79	.57		
9/20/72	1.3	.57	.37	1.1	1.4	1.5	.57	1.6	1.6	2.4	2.0	.88	.48	.59	.46	.55	.57	.49	.58	2.1	.98	.57	.88	.94	1.7			
10/5/72	1.0	1.1	.46	.93	1.8	1.2	.64	1.3	1.6	2.6	2.0	1.4	1.0	1.6	.68	1.0	1.3	1.0	1.2	0.9	.97	.52	.65	.89	1.2	.65		
10/16/72	1.4	.61	.52	.95	1.6	1.0	1.2	1.0	1.4	1.8	2.2	1.0	.75	0.6	1.5	1.0	1.1	1.0	1.6	.56	.71	.61	0.6	.62	.82	.54		
11/2/72	1.0	.56	.64	1.1	1.3	2.4	.54	.94	1.5	1.7	2.1	1.0	.76	1.9	1.1	1.5	1.4	1.5	3.8	1.2	1.0	.46	1.0	3.1	1.2	1.1		
11/21/72	3.5	1.1	.34	.58	.64	1.1	.34	.45	.48	.48			.22	.66	.67	1.7	.75	.74	.51	.75	.47	.22	.75	.51	0.3	.85	.51	
12/14/72	.43	.39	.42	.71	.78	.54	.39	.45	.82	.63	.79	1.1	.64	.69	1.6	1.0	.71	1.0	.86	1.6	.64	.52	.76	.56	.87	1.9		
1/3/73	.75	0.6	.47	.57	.96	.34	.45	.73	.77	0.6	.78	0.5	.44	.89	1.4	.48	.64	.89	.62	.53	.76	.49	.87	.68	1.86	1.1		
1/16/73	.93	.43	.55	.58	.61	.68	.35	.71	.73	0.6	1.2	.35	.65	.55	1.1	.48	.62	1.1	.86	.65	1.3	.74	.55	.87	1.0	.75		
2/2/73	1.1	.69	.84	1.6	1.3	.43	0.5	.68	.79	1.2	1.4	.58	1.4	1.2	1.0	.81	.74	1.0	1.3	.54	.63	.64	.57	.74	1.1	2.2		
2/20/73	1.9	1.1	1.0	.79	1.3	.69	.62	.73	.94	1.3	1.25	.37	.62	1.0	.57	.58	.59	1.3	1.4	1.0	.63	.64	.57	.74	1.1	2.2		
3/8/73	1.3	1.3	1.5	1.2	1.1	0.3	.75	.83	1.1	1.1	1.3	.56	.58	1.2	.78	.76	.83	.94	1.2	.65	.79	.49	1.4	.63	1.2	1.1		
3/27/73	1.1	1.2	1.1	.83	1.1	1.1	.51	1.5	.83	1.2	2.1	.55	.72	.67	1.0	.71	.85	1.4	.82	.59	.66	.34	1.1	.37	1.8	.63		
5/4/73	4.9	1.0	1.0	.63	.94	.42	.65	.45	.43	1.5	1.5	.85	.66	0.9	1.0	.75	.58	2.2	3.7	.63	2.1	.49	.72	.68	2.1	1.4		
5/25/73	2.5	1.5	0.7	0.6	.57	0.4	.51	1.5	1.4	.64	1.4	.52	.36	0.8	.69	.34	.55	.73	.44	.42	.46	.76	.48	.53	.59	.47		
1/23/74	1.0			1.4		1.7			1.8			1.2			3.0			1.8			2.1					1.3		
2/3/74	.78			1.4		2.4			1.2			2.5			1.6			1.6			2.0					2.4		
3/7/74	2.9			1.4		.55			1.0			1.3			1.1			.84			1.4					.91		
3/19/74	.73			.53		.45			.45			.07			.47			.89			.91					.51		
5/3/74	.36			.41		.55			.38			.85			.59						1.6					.58		
11/4/74	.24				.27	.23				.24		0.2			.48						0.4	0.5	.72	.51	.44	.49		
12/10/74	1.6				1.35	.88				.95		2.0			.75				.89	0.7	.75	.64	1.0	.82	.72	1.3		

Appendix F (Continued)

Station numbers																											
DATE	11	12	13	14	15	21	22	23	24	25	26	31	32	33	51	52	53	54	55	61	75	81	96	85	65	71	
7/11/75	.38				.26	.21				.28		.24			.36				0.5	.44	.31	.33	.67	.68	.41	.35	
8/19/75	.75				.61	.37				.45		.66			.39				.41	.48	.59	.49	.73	.71	.56	.51	
9/3/75	0.8				.79	.96				.51		.59			.68				.59	.85	0.7	.52	.82	0.6	.72	.64	
10/5/75	.74				.62	.71				.58		.43			.66				0.7	.49	.67	.47	.61	1.15	0.6	0.5	
11/19/75	.42				.27	.34				.39		.34			.54				.38	.34	.45	.33	.34	0.8	.46	.56	
12/15/75	.45				.51	0.3				.76		.48			.34				.72	.41	.87	.37	.32	.34	.23	0.4	
1/20/76	.64				2.35	1.0				1.05		.56			1.2				1.45	.66	1.7	.55	1.35	1.7	1.6	.95	
3/5/76	.29				.37	.34				.61		.36			.39				.57	.44	.45	.32	.47	.54	.47	.37	
4/12/76	0.4				.76	.64				.76		.64			.69				.74	0.9	.81	.68	.64	.79	.84	.61	
5/17/76	.51				1.4	.63				.76		1.7			.56	.76				.75	.92	.72	1.4	.73	.55	.56	
5/16/76	.68				1.2	.74				.77		.57			.58				1.1	.43	.69	.57	1.5	.64	0.7	.57	
7/19/76	.48				.14	.47				.52		.42			.46				.49	.51	.42	.63	0.6		.54	.55	
9/1/76	.74				.52	.76				.54		.65			.53				0.6	.58	.53	.47	.47	.66	0.6	.46	
9/23/76	.77				.26	.48				.22		.27			.26				.28	.22	0.3	.23	.26	.39	.23	.24	
10/15/76	.77				.52	.57				.83		.53			0.7				.55	.49	.54	.32	.45	.56	.55	.29	
11/18/76	.63				0.4	.38				.31		.33			.32				.43	0.5	.38	.43	.38	.42	.41	.35	
12/16/76	.71				.49	.49				.52		.52							.41	2.3	.36	.26	.54	.43	.37	.44	
1/21/77	1.11				.54	.43				.74		0.4			.77				.63	.59	.68	.38	1.06	.62	.76	.53	
2/17/77	1.07				1.06	1.08				1.06		1.08			1.12				1.11	1.05	1.25	1.06	1.21	1.08	1.07	1.06	
3/16/77	.75				.58	.55				.46		.33			1.103				.98	.63	.61	.49	.59	.57	.79	.92	
4/26/77	.44				.54	.54				.85		.38			0.6				.75	0.8	.55	.57	.77	.51	.78	.32	
$\bar{x}$	1.3	1.33	.88	1.01	1.0	.84	.69	.99	1.1	1.0	1.93	.74	.85	1.07	.92	.88	.81	1.04	1.05	0.8	.97	.58	.72	.96	.95	0.9	

From: J. Tilmant, unpublished data.

Appendix F. Water Temperature ($^{\circ}\text{C}$) values observed at 12 stations in Southern Biscayne Bay, from April 1972 to April 1977.

DATE	Stations										
	11	21	25	28	29	31	39	68	78	88	92 96
04/18/72						26.9					29.4
04/19/72	30.2	29.9	28.6			29.3					
05/03/72	25.9										
05/05/72	27.4	28.0	27.1			28.3					30.3
05/19/72	26.9	26.5	26.8			27.1					26.4
06/01/72	26.6	26.9	26.9			26.8					27.2
06/15/72	26.0	25.9	26.4			25.8					25.7 25.9
06/29/72	30.3	31.1	30.6			25.9					26.2
07/01/72	30.4	30.9	30.9			31.4					32.4 31.9
07/14/72	29.8	29.8	29.4			29.8					29.7 30.0
07/26/72	28.4	28.4	28.5			28.8					28.6 28.8
08/06/72	31.4	31.1	30.3			30.8					30.4 29.5
08/22/72	30.4	30.4	30.1			30.6					29.4 29.0
09/06/72	28.8	29.2	28.2			28.6					26.9 27.4
09/20/72	30.0	29.9	29.3			30.0					29.7 29.0
10/05/72	28.0	28.4	28.1			28.0					26.9 27.6
10/16/72	26.1	26.1	25.6			26.5					25.7 25.4
11/02/72	26.0	26.4	26.2			26.5					26.8 26.8
11/21/72	23.9	24.0	23.6			23.7					23.4 23.6
12/14/72	24.9	24.5	24.2			24.3					26.1 25.2
01/09/73	24.0	24.0	23.7			23.7					24.7 24.0
01/16/73	15.7	15.5	15.4			15.3					14.3 14.9
02/02/73	19.8	19.6	19.4			19.4					22.7 21.4
02/20/73	17.7	17.2	16.4			16.7					17.8 17.2
03/08/73	25.7	25.6	33.9			25.7					26.1 25.0
03/27/73	23.3	22.5	21.8			22.5					23.7 23.1
05/04/73	26.0	25.8	25.1			24.6					25.0 24.6
05/25/73	28.7	28.7	27.8			25.9					28.4 27.9
01/28/74	25.1	25.0				24.9			23.0		
02/08/74	22.7	23.7				23.5			23.4		
03/07/74	24.6	24.8				24.7			23.7		
03/19/74	25.5	25.3				24.8			24.4		
04/08/74	23.5	23.9				23.6			21.9		
05/03/74	28.3	27.9				27.8			26.0		
11/04/74	26.0	25.7	25.2	24.6		25.2		24.6	24.5		24.6 24.5
12/10/74	18.5	18.2	18.2	18.2		17.5		18.2	17.7		16.5 18.0
07/11/75	28.7	29.2	29.5	29.8		29.8		30.2	30.3		30.7 30.7
08/19/75	29.8	29.9	31.0	30.4		29.8		30.6	30.5		30.5 30.5
09/03/75	31.6	31.4	30.9	31.2		31.7		30.8	30.8		29.8 30.2
10/07/75	28.0	28.1	28.7	29.6	29.5	28.7	29.5	29.7	30.0	29.8	28.9 29.3
11/19/75	23.5	22.8	21.6	20.6		22.0		20.9	20.9		21.4 20.8
12/15/75	21.1	21.0	20.7	20.8		21.0		20.3	20.2	20.0	20.4 20.2
01/20/76	16.1	15.2	15.5	15.4		14.9		15.9	15.7	15.1	14.6 15.2
03/05/76	24.3	23.9	24.3	24.5		24.0		24.4	24.2	24.6	25.5 25.1
04/12/76	22.5	22.3	22.8	22.5		23.0		23.7	23.9	23.7	24.0 23.9
05/17/76	27.3	27.1	27.2	27.5	27.5	27.1	27.9	28.0	28.3		29.1 29.0
06/16/76	27.0	27.1	28.5	28.0		28.0		28.6	28.9	29.4	29.8 29.8
07/19/76	30.3	30.0	30.5	30.5	30.7	30.2	30.7	31.0	31.2	31.5	31.7 31.7
09/01/76	29.0	28.7	29.2	29.3		30.1		29.6	29.7	30.1	30.2 30.4
09/23/76	31.6	31.2	29.8	29.6		31.2		30.0	29.9	30.2	29.3 28.8
10/15/76	25.4	25.7	25.7	26.2	26.1	26.2	26.3	26.2	26.2	26.0	25.9 26.3
11/18/76	29.0	28.6	27.2	26.7	27.6	27.7	27.1	26.7	26.9	27.3	29.1 28.0
12/16/76	22.7	22.1		22.0		22.9		22.2	22.0	21.8	21.9 21.6
01/21/77	11.0	11.3	12.0	11.7	11.3	12.4	12.2	13.0	11.4	11.4	11.8 11.9
02/17/77	14.2	16.0	16.5	17.7	17.1	17.9	17.0	17.5	17.1	16.5	15.6 16.9
03/16/77	28.9	29.0	27.7	26.3	26.9	28.2	26.9	26.5	26.7	26.8	28.0 27.4
04/26/77	25.0	25.2	24.3	23.8	23.8	23.2	23.7	24.0	24.1	24.2	25.0 24.2
$\bar{X}$	25.5	25.6	25.6	24.6	24.5	25.4	24.5	24.9	23.9	24.3	27.6 25.6

From J. Tilmant, unpublished data.

Appendix F-1. Water temperatures ($^{\circ}\text{C}$), salinity (ppt) and oxygen (ppm) from 32 stations in Southern Biscayne Bay,
September 1970 to June, 1971

SURFACE TEMPERATURE - TURKEY POINT

	($^{\circ}\text{C}$)									
<u>STA. NO.</u>	<u>9/2/70</u>	<u>9/16/70</u>	<u>9/30/70</u>	<u>10/14/70</u>	<u>10/21/70</u>	<u>11/25/70</u>	<u>12/30/70</u>	<u>1/28/71</u>	<u>3/24/71</u>	<u>4/21/71</u>
11	29.9	30.6	28.9	27.0	25.9	15.2	18.0	16.5	23.8	28.5
12	29.9	ND	28.9	27.1	25.9	15.2	18.2	16.0	23.8	27.0
13	29.2	30.4	28.8	27.5	25.8	15.2	18.8	15.9	22.9	27.9
14	29.0	ND	27.5	27.3	26.0	15.1	18.2	16.0	22.6	28.0
15	29.0	29.2	28.2	27.1	26.0	15.5	18.0	16.0	22.3	27.0
16	28.9	ND	28.0	27.1	26.0	15.7	17.9	16.0	22.3	27.1
01	30.6	30.4	29.2	28.0	26.2	15.1	18.4	16.8	24.8	28.0
02	30.9	31.0	28.7	28.3	26.1	14.9	19.3	16.4	24.2	29.0
03	29.9	30.0	28.1	27.3	25.9	15.3	19.4	16.3	23.3	28.1
04	29.5	24.0	27.7	27.3	26.0	15.2	18.8	16.1	22.9	28.0
05	29.0	29.0	27.8	27.1	26.0	15.9	18.2	16.0	22.5	26.5
06	28.8	ND	27.8	27.1	26.1	15.8	17.9	16.1	22.8	27.5
41	30.9	29.0	28.5	28.2	25.8	14.5	18.1	16.0	23.1	28.0

<u>STA. NO.</u>	<u>9/2/70</u>	<u>9/16/70</u>	<u>9/30/70</u>	<u>10/14/70</u>	<u>10/21/70</u>	<u>11/25/70</u>	<u>12/30/70</u>	<u>1/28/71</u>	<u>3/24/71</u>	<u>4/21/71</u>
42	31.5	31.2	29.4	28.8	26.1	15.1	20.0	17.0	25.3	27.0
43	30.0	29.3	27.5	28.3	26.1	15.9	20.0	17.0	24.7	28.5
44	29.5	28.7	28.1	27.8	26.2	15.9	18.0	16.9	23.9	29.0
45	29.3	28.2	28.0	27.2	26.2	16.1	17.9	16.3	23.1	29.0
46	29.2	28.2	27.9	27.2	26.2	16.0	17.9	16.1	22.7	27.5
21	31.8	30.5	30.6	29.5	26.4	15.1	19.9	16.9	25.0	29.0
22	32.8	31.0	30.1	29.1	26.3	15.9	21.2	18.0	25.4	30.0
23	30.5	28.5	29.0	28.1	26.4	16.0	19.8	17.8	26.4	30.0
24	29.8	28.3	28.2	27.8	26.6	15.9	17.8	17.0	24.4	28.0
25	29.5	28.0	28.1	27.5	27.1	15.9	17.8	16.9	23.5	28.0
26	29.5	28.0	28.1	27.5	27.0	-	17.5	16.2	23.2	29.0
29	33.2	31.1	32.3	29.2	-	16.9	21.1	21.0	26.7	30.0
30	30.8	28.2	29.7	29.5	28.3	17.3	19.5	19.0	25.9	29.0
31	35.9	32.3	34.2	32.4	31.5	22.2	21.5	22.1	27.0	33.0
32	33.1	29.6	30.6	31.5	29.5	20.0	21.7	22.0	26.6	32.0
33	31.0	28.3	29.5	29.0	29.2	16.8	19.9	19.8	27.0	30.5
34	30.3	28.2	28.8	28.5	28.7	16.3	18.2	18.1	25.3	29.1
35	30.0	27.8	28.7	28.0	28.2	16.3	18.0	17.1	24.0	29.0
36	30.0	28.0	28.6	27.6	27.6	16.2	17.5	16.3	23.7	29.0

<u>STA. NO.</u>	<u>9/2/70</u>	<u>9/16/70</u>	<u>9/30/70</u>	<u>10/14/70</u>	<u>10/21/70</u>	<u>11/25/70</u>	<u>12/30/70</u>	<u>1/28/71</u>	<u>3/24/71</u>	<u>4/21/71</u>
NI	-	-	-	-	-	-	-	-	22.9	26.3
NII	-	-	-	-	-	-	-	-	22.6	25.8
NIII	-	-	-	-	-	-	-	-	-	-
NEI	-	-	-	-	-	-	-	-	-	-
NEII	-	-	-	-	-	-	-	-	-	-
NEIII	-	-	-	-	-	-	-	-	-	-
NEIV	-	-	-	-	-	-	-	-	-	-
A	-	-	-	-	-	-	-	-	-	-
B	-	-	-	-	-	-	-	-	-	-

SURFACE SALINITY - TURKEY POINT

(ppt)

<u>STA. NO.</u>	<u>9/2/70</u>	<u>9/30/70</u>	<u>10/21/70</u>	<u>11/25/70</u>	<u>12/30/70</u>	<u>1/28/71</u>	<u>3/24/71</u>	<u>4/21/71</u>
11	40.9	33.6	27.3	30.5	34.5	37.7	39.2	43.0
12	40.5	34.4	27.6	30.5	34.5	37.3	38.9	42.6
13	39.3	34.5	28.5	32.1	35.3	37.7	38.9	43.1
14	38.5	34.4	28.5	31.3	35.7	37.7	39.2	42.5
15	33.5	35.4	29.6	32.1	-	37.7	38.6	41.7
16	38.1	35.6	31.8	32.9	36.1	38.1	38.4	41.5
01	40.1	33.4	29.3	30.9	35.3	37.7	39.2	43.1
02	40.1	34.8	28.9	30.9	35.3	37.7	38.9	43.0
03	38.9	35.5	38.7	30.9	-	37.7	40.0	42.9
04	38.5	35.8	29.1	31.3	-	37.7	38.9	43.1
05	38.5	36.2	30.2	32.1	35.3	36.9	38.6	43.0
06	38.5	36.2	31.5	32.5	36.1	37.3	38.7	42.5
41	40.1	33.9	29.7	30.9	-	36.9	39.1	43.4
42	40.1	34.7	29.8	31.3	34.9	36.9	39.1	42.8
43	39.7	36.1	29.3	30.9	35.3	37.3	39.0	42.8
44	38.9	36.2	29.6	31.3	35.3	37.7	39.2	43.2
45	38.5	36.4	30.5	32.5	36.1	37.7	39.2	43.2

<u>STA. NO.</u>	<u>9/2/70</u>	<u>9/30/70</u>	<u>10/21/70</u>	<u>11/25/70</u>	<u>12/30/70</u>	<u>1/28/71</u>	<u>3/24/71</u>	<u>4/21/71</u>
46	38.1	36.3	31.3	32.1	36.1	37.7	39.1	43.1
21	40.1	34.1	30.0	30.5	34.9	37.7	39.2	43.2
22	40.1	34.6	30.2	30.5	34.5	37.3	38.8	43.2
23	39.7	35.2	30.4	31.3	35.3	37.7	39.1	43.0
24	38.5	36.0	30.8	32.5	35.3	37.7	38.9	43.1
25	33.1	36.1	30.8	32.9	35.7	38.1	39.4	43.4
26	38.1	36.1	30.8	-	35.7	38.1	39.7	42.8
29	33.2	32.9	-	30.5	35.3	37.7	39.1	43.0
30	38.5	34.7	29.5	29.7	34.9	37.7	-	44.4
31	39.3	32.9	28.8	31.3	34.9	37.7	39.2	43.0
32	40.1	34.4	28.9	31.3	34.5	37.7	-	43.4
33	39.7	35.2	29.2	30.9	34.9	37.7	39.1	43.4
34	38.5	35.6	29.7	31.3	34.9	37.7	39.3	43.9
35	38.1	36.3	29.9	31.3	35.3	37.7	39.2	44.0
36	37.7	36.1	30.5	32.1	35.7	38.1	39.7	43.5
NI	-	-	-	-	-	-	38.9	42.9
NII	-	-	-	-	-	-	38.8	42.6
NIII	-	-	-	-	-	-	-	-
NEI	-	-	-	-	-	-	-	-
NEII	-	-	-	-	-	-	-	-
NEIII	-	-	-	-	-	-	-	-

<u>STA. NO.</u>	<u>9/2/70</u>	<u>9/30/70</u>	<u>10/21/70</u>	<u>11/25/70</u>	<u>12/30/70</u>	<u>1/28/71</u>	<u>3/24/71</u>	<u>4/21/71</u>
NEIV	-	-	-	-	-	-	-	-
A	-	-	-	-	-	-	-	-
B	-	-	-	-	-	-	-	-

SURFACE DISSOLVED OXYGEN - TURKEY POINT

33	5.6	5.8	6.8	6.9	7.5	6.3	7.1	6.5
34	5.3	6.0	7.0	6.9	7.6	6.5	6.5	6.8
35	6.2	5.8	7.8	6.7	8.1	6.6	6.9	6.8
36	6.5	5.7	8.3	6.9	7.9	6.8	6.6	6.7
NI	-	-	-	-	-	-	5.1	5.1
NII	-	-	-	-	-	-	5.6	5.1
NIII	-	-	-	-	-	-	-	-
NEI	-	-	-	-	-	-	-	-
NEII	-	-	-	-	-	-	-	-
NEIII	-	-	-	-	-	-	-	-
NEIV	-	-	-	-	-	-	-	-
A	-	-	-	-	-	-	-	-
B	-	-	-	-	-	-	-	-

STA. NO. 9/2/70 9/30/70 10/21/70 11/25/70 12/30/70 1/28/71 3/24/71 4/21/71

SURFACE DISSOLVED OXYGEN - TURKEY POINT

(ppt)

11	4.5	6.3	4.1	6.4	7.0	6.4	5.7	5.0
12	4.2	-	4.2	6.5	7.6	6.5	6.0	5.6
13	5.0	6.7	4.6	6.5	7.6	6.6	6.3	5.8
14	5.6	-	4.6	6.4	7.7	6.6	6.3	5.9
15	5.4	6.4	5.3	6.5	7.7	6.4	6.6	6.0
16	5.4	-	5.4	6.4	7.7	6.4	6.6	6.0
01	4.9	6.6	4.2	6.4	6.1	6.3	5.6	5.9
02	4.6	6.6	5.2	6.4	7.1	6.7	6.1	6.0
03	5.2	6.6	5.6	6.4	7.3	6.7	6.6	5.9
04	5.3	6.3	5.6	5.8	7.4	6.5	6.5	6.2
05	5.4	6.1	5.6	5.6	7.5	6.5	6.5	6.2
06	5.2	-	5.8	5.7	7.8	6.5	6.5	6.3
41	4.5	6.3	4.5	5.8	5.9	6.1	5.2	5.8
42	4.8	6.3	5.1	5.7	7.1	6.8	5.8	5.1
43	5.5	6.4	5.8	5.9	7.2	6.7	6.0	5.7
44	5.3	6.3	7.1	5.7	7.8	6.5	6.3	6.0
45	5.4	6.3	7.0	5.6	7.7	6.5	6.5	6.2
46	5.5	6.2	7.2	5.4	7.6	6.6	6.7	6.3

<u>STA. NO.</u>	<u>9/2/70</u>	<u>9/30/70</u>	<u>10/21/70</u>	<u>11/25/70</u>	<u>12/30/70</u>	<u>1/28/71</u>	<u>3/24/71</u>	<u>4/21/71</u>
21	5.1	5.8	6.0	6.8	6.5	6.7	5.1	5.7
22	5.0	5.5	6.4	6.5	7.3	6.6	5.2	6.0
23	5.3	6.2	6.9	6.3	7.3	6.5	5.6	6.1
24	5.4	6.1	7.2	5.9	7.8	6.5	6.1	6.1
25	6.0	6.3	7.3	5.6	7.8	6.4	6.6	6.4
26	6.0	6.1	7.0	-	7.6	6.6	6.4	6.3
29	5.1	6.0	6.2	6.6	7.3	7.2	7.1	6.6
30	5.6	5.2	7.1	5.6	7.1	6.3	6.3	6.9
31	4.7	5.9	6.4	6.2	7.3	5.9	5.3	5.5
31	9.1	5.5	6.8	6.5	7.6	7.1	7.8	6.7

From: Segar, et al., 1971