

THIRD PROGRESS REPORT (FOR THE  
MONTHS OF JULY AND AUGUST, 1974)  
FROM THE  
MOTE MARINE LABORATORY

TO

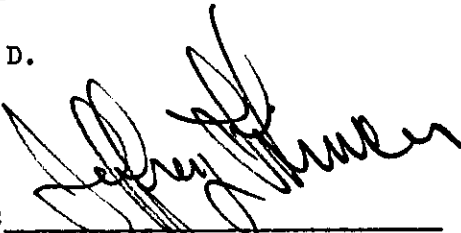
THE BOARD OF COUNTY COMMISSIONERS  
SARASOTA COUNTY

ON

THE ECOLOGICAL STATUS OF DONA AND ROBERT'S BAY  
AND ITS RELATIONSHIP TO COW PEN SLOUGH  
AND OTHER POSSIBLE PERTURBATIONS

Respectfully Submitted  
by  
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Date Submitted: 18 October 1974

By:   
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Project Coordinator

## I. INTRODUCTION

This progress report is primarily for the months of July and August, however, references back to previous months are made when light can be thrown on changes that are taking place in water quality, etc.

The format is basically the same as in the past and includes progress made under the following headings: water quality and other monitoring; biological surveys, and; photographic efforts.

In an effort to conserve paper and reduce duplication costs, you will notice that this report is typed single-space. If you find this unacceptable, please contact the author so that subsequent reports can be typed double-space.

## II. WATER QUALITY MONITORING

### Nutrients

High nutrient levels were associated with the heavy rains in late June. These nutrient levels in the study area continued to generally rise until late July. At this point, levels began a slow decrease which continued through August. This is probably a reflection of a latent maximum flow and the continued rains over much of the watershed. Maximum leaching of intermittently wet-dry areas, to date, occurred in late July, with the expected decrease in nutrient levels through August. By late August the total nitrogen and ortho-phosphate levels were greatly reduced from July levels (see Appendix A) but remained higher than values obtained during the "dry season" (April, May, and early June).

In situ sulfide analysis was not initiated as planned due to instrumental limitations. A strong sulfide odor, however, was associated with sediment samples taken from bay waters. Furthermore, deposits of silver sulfide and gold sulfide were formed on the diver's jewelry in less than an hour during the bottom investigations. While precise values of  $S^{2-}$  (sulfide) could not be obtained, it is obvious that a strong sulfide layer associated with decomposition of organic matter existed.

### Dissolved Oxygen and Salinity

During the months of July and August, the bays remained essentially fresh water. Aerial photographs of the Venice Jetty area indicated that the bay system was relatively unaffected by incoming tides, because the outflow was sufficiently strong to nullify the effects of flood tides. As a result many of the freshwater weeds remained viable longer than normal in the estuaries. The expected decline in dissolved oxygen (DO) associated with decomposition of freshwater weeds in saline waters did not occur

during August at our bridge sampling sites. However, bridge sites are characterized by rapidly flowing, highly oxygenated water. For this reason, a special sampling program was instigated to investigate the DO and other parameters in Dona and related bays (see section entitled "Special Hydro-Lab Monitoring Study").

#### Suspended Solids and Chlorophyll

The July and August suspended solids levels reflected rainy season conditions. For the tidal stations, readings remained steady in July and dropped slightly in August. These levels were still much higher than the May and June "dry season" values.

Suspended solids for the tidal stations are shown in Figure 1 for the months of April - August. Of interest is the peaking effect at stations 3, 4, and 5. (Shakett Creek, Curry Creek, and Dona Bay, respectively) late in June. The South Creek stations (1 and 2) did not show the exaggerated peaking after the late June rains (as did the Dona Bay stations) but were generally higher than those stations during July and August. This was presumably due to a continuing and more spread out flow of runoff water in response to the more natural condition of the South Creek system.

The freshwater stations rose substantially in suspended solids levels during July and August. Station 8 on Main #1 at Cattlemen Road showed an increase in suspended solids of five times the early June level. Station 7 on upper South Creek (Oscar Scherer Recreation Area) remained consistently lower than the other stations. These and other freshwater station values are graphed in Figure 2.

While suspended solids levels rose at the freshwater stations in July and August, the chlorophyll levels (which reflect phytoplankton populations) dropped. The one exception to this was a high reading in July for station 7 (upper South Creek). It is likely that increased suspended solids prevented adequate sunlight from reaching the microscopic phytoplankton resulting in a population decrease.

Chlorophylls at the tidal stations generally showed higher levels during the rainy season than they had before it. Stations 1 and 2, at South Creek, had consistently high readings in July. Similarly, Station 3 at Shakett Creek showed a substantial rise in chlorophylls in late July.

#### Bacteria

Counts at freshwater stations (7 through 12) showed an increase in numbers of the three bacterial groups observed. However, the increases were not large. Stations 7 (upper South Creek at Oscar Scherer Park) and 8 (Main #1 and Cattlemen Road) showed the highest counts and greatest increase in counts of fecal coliforms and of fecal streptococci.

3 = 53,400

Figure 1. Suspended solids in water samples collected at tidal stations.

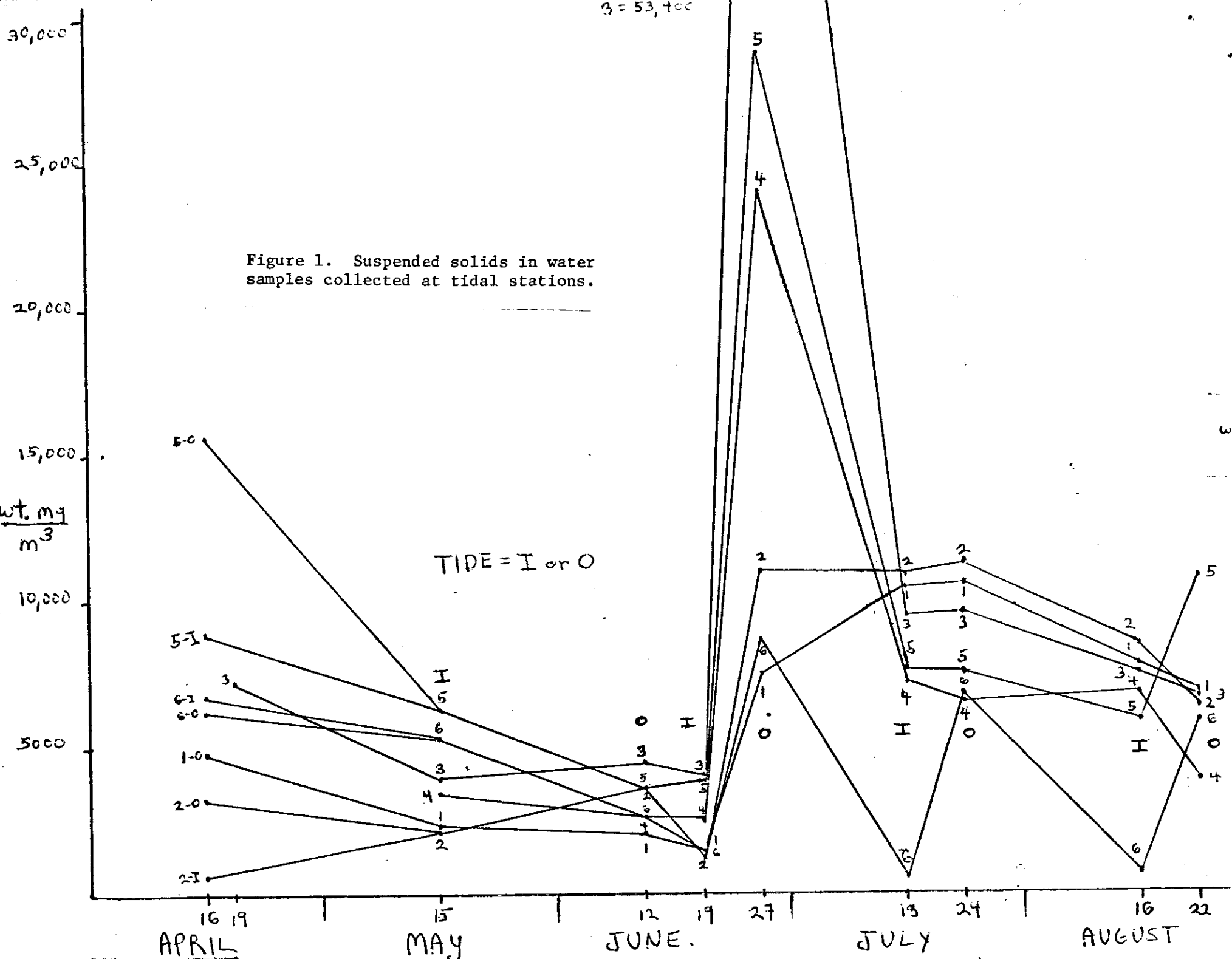
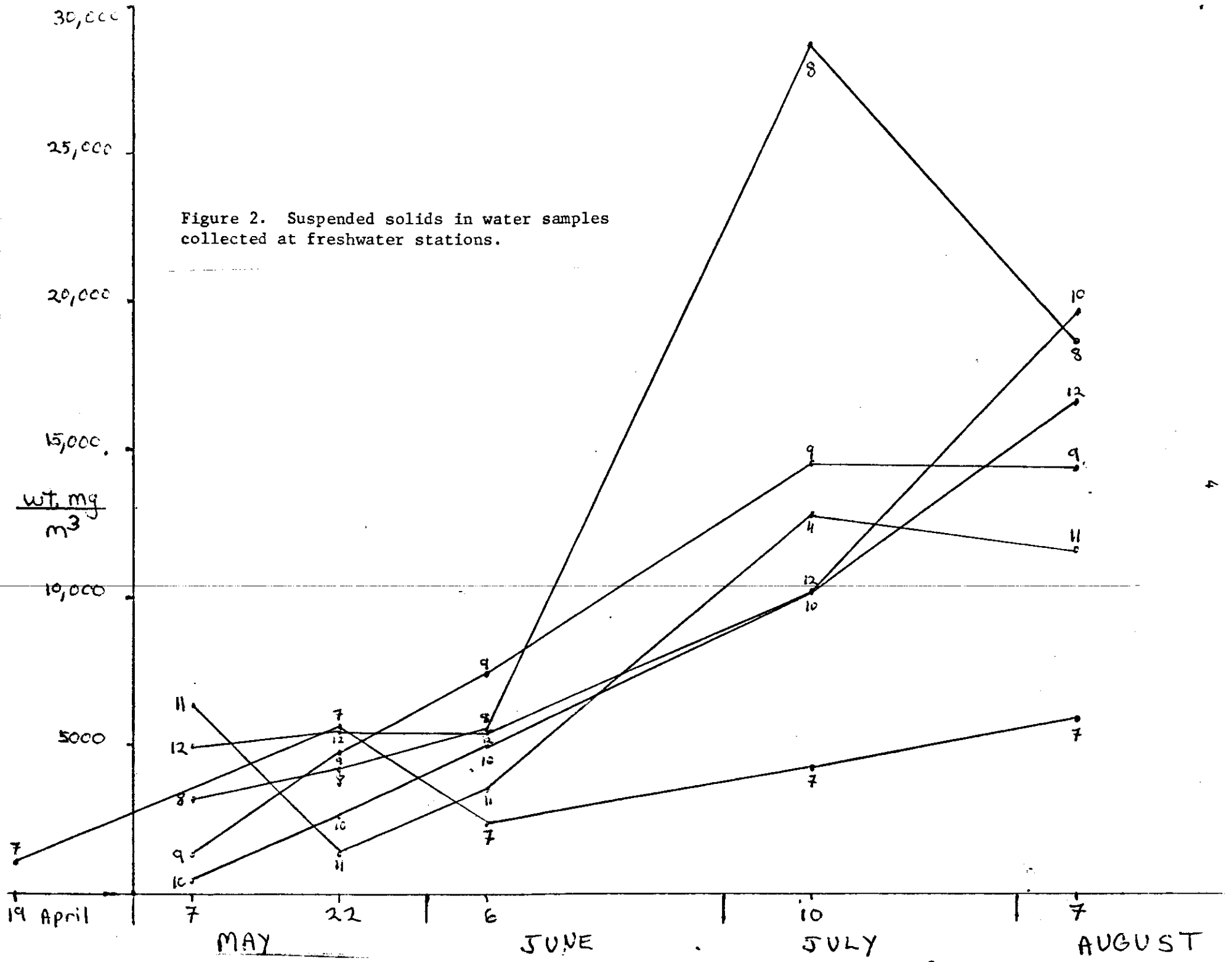


Figure 2. Suspended solids in water samples collected at freshwater stations.



The ratios of fecal coliforms to fecal streptococci were calculated as indicators of source of bacterial contamination of surface water. Ratios calculated for all freshwater stations, except one, indicated mixed sources of bacteria, with livestock the predominant source. The ratio for station 8, on July 10 only, indicated human wastes as the source of bacteria.

Counts at tidal stations (1 through 6) were generally higher than those made in June. Total coliform counts remained below the permissible level of 10,000/100 ml (1) with two exceptions. On July 24, total coliforms at station 2 (South Creek) were 10,200/100 ml., and on August 16, total coliforms at station 1 (South Creek at the Intracoastal Waterway) were 13,600/100 ml. Fecal coliform counts and fecal streptococcus counts, though higher than those of May and June were not unduly high. This suggests that the high total coliform counts may be from other than animal sources (plants, soil, etc.).

The total coliform count, with the possible contributions from non-animal sources, is not as sensitive an indicator of potentially dangerous water pollution as is the percent contributed by fecal coliforms (2). Thus, station 8 (Cattlemen Road) on July 10 with 1,900/100 ml total coliforms and 1,100 fecal coliforms, had a more significant bacterial count than the same station on August 7 with a far higher total coliform count (5,700/100 ml) but only about 5 1/2% of those being fecal coliforms (320/100 ml).

The (tidal station) ratios of fecal coliforms to fecal streptococci were calculated although significance of this ratio in salt water is normally questionable. This is because variable factors such as salinity have varying effects on different kinds of bacteria (3). However, because of the freshwater nature of the bays following the rains, more significance can be placed on these data for this period. All ratios, except two, indicated mixed sources of bacteria with livestock wastes predominating. On August 22, bacteria counts at stations 5 (Dona Bay) and 6 (Venice Jetties) were low, but the fecal coliform to fecal streptococcus ratios at both stations indicated human wastes as the source of the bacteria.

Figure 3 provides an overview of ranges in bacterial counts and ratios for July and August.

#### Special Hydro-Lab Monitoring Study

In response to the need for a more intense monitoring of Dona Bay, a close investigation of that region was initiated mid-July. Since then, the study has been enlarged to 27 stations and now includes, not only observations on Dona and Robert's Bays, but also Lyons Bay and a segment of the Intracoastal Waterway from the Bay region to South Creek. (See Appendix B for station locations). Preliminary data on water temperature, DO, conductivity, pH and oxidation-reduction potential (ORP) indicate that all of these areas have direct influence on the water quality of Dona Bay. Initial observations also indicate that, especially during an

Figure 3. An overview of ranges in bacterial counts.  
 Values (except ratio) expressed per 100 ml of water.

Collection	Total Colif.	Fecal Colif.	Fecal Strep.	FC/FS
July 10 (Freshwater)	1600 - 3300	<10 - 1200	24 - 430	1.1 - 8.4 <sup>t</sup>
July 18 (Tidal)	<10 - 2180	3 - 246	1 - 260	.33 - 1.6
July 24 (Tidal)	105 - 10,200***	4 - 134	9 - 510	.04 - 1.2
August 7 (Freshwater)	1100 - 5700	40 - 440	196 - 500	.08 - 1.2
August 16 (Tidal)	65 - 13,600**	<1 - 200	7 - 370	<.1 - 2.4
August 22 (Tidal)	295 - 3000	26 - 72	3 - 136	.44 - 17.0*

- \* 17.0 at station 6  
 11.3 at station 5  
 \*\* 13,600 at station 1  
 \*\*\* 10,200 at station 2  
 t 8.4 at station 8

ebb tide, water from Robert's Bay, Lyons Bay and the adjacent northern and southern sections of the Intracoastal Waterway all merge at the mouth of Dona Bay and exit out Venice Inlet. This accounts for the tremendous ebb flow at Venice Inlet regardless of a heavy rain during that period or not. It has been noted that, during a flood tide, there is only a minimal tidal current pushing saline water back through Venice Inlet into the bay region. This counteracting tidal phenomenon has been clearly indicated by the common occurrence of "salt water wedges" at the mouth of Dona and Robert's Bay. A "wedge", defined as a body of fresh water lying over a body of salt water, develops as the result of a head-on collision between two contrasted bodies of water. To help determine the counteracting influence of water flow from Cow Pen Slough, three water volume monitoring stations will be established to determine Shakett Creek's water volume input into Dona Bay. These will be compared to existing hydrological data requested from Mr. Horace Sutcliff (U.S.G.S.).

The preliminary data from this study indicates the relationship and relevance of several other possible causative factors behind the poor (rainy season) water quality conditions in Dona Bay. The average dissolved oxygen reading (mid-July through August) for Dona Bay was 3.5 ppm as opposed to 6.5 and 5.4 ppm for Lyons Bay and Robert's Bay, respectively. Unusually low DO levels were observed in Dona Bay as well as in surrounding waters during July and August. For instance, DO levels between 5.6 and 8.0 ppm characterized those waters mid-July. By the end of July and throughout August, DO readings both at the surface and at the bottom commonly ranged between 1.9 and 3.0 ppm.

The pH average of 7.39 for Dona Bay was significantly lower than the 8.1 and 8.13 averages for Robert's Bay and Lyons Bay, respectively. Although a pH of 7.39 is not dangerously low, it presents selective conditions favorable for only a small group of salt water fishes.

#### Computer Analysis

Due to the wealth of data that requires careful evaluation, we have enlisted the aid of the Sarasota County Vocational and Technical School computer system to help establish seasonal trends and correlative factors that work within the Bay region. An example of a computer read-out for part of one day's Hydro-Lab sampling can be found in Appendix C. In addition, the computer program is adapted for more general use in evaluating the CPS fresh and tidal station data as well as water quality data collected by the County, other levels of government or other investigators.

#### Pesticide Monitoring

Collections of oysters (Crassostrea virginica) for pesticide analysis were made as follows:

On May 5, 1974, twelve living oysters were collected at each of the following sites:

Dona Bay at Highway 41 bridge, Venice  
 Robert's Bay at Highway 41 bridge, Venice  
 South Creek at Highway 41 bridge  
 Buck Creek at Highway 775 bridge, Englewood

On June 13, 1974, a second collection was undertaken. Living oysters were found at Dona Bay. At Phillippi Creek-Highway 41 bridge, a few living oysters were found among large beds of empty shells. At South Creek and at Robert's Bay an extensive search was made by two investigators, but they were unable to find any living oysters among the large beds of empty shells. Subsequent communication with other investigators indicated that the mass die-off was in response to a widespread bacterial infestation.

On July 21, 1974, a third collecting effort was made but no living oysters were found at Robert's Bay, South Creek, North Creek or Phillippi Creek. However, enough oysters for analysis were found at Dona Bay.

All samples of oysters collected to date have been shelled and oven-dried in preparation for gas chromatographic pesticide analysis.

Fish, collected during our first biological survey, have been preserved for selection and pesticide analysis.

### III. BIOLOGICAL SURVEY

#### Fishes

On the 17th and 25th of July, 1974, ten stations were surveyed for fishes, six in the Dona and Robert's Bays system and four in South Creek. Freshwater fishes of both systems are homogenous, consistent with recorded Florida species, and appeared healthy and prolific. The quantity of catch at most of the marine stations was greater than that of the May collection, however, there was still a lack of species diversity. The only species taken in abundance was the mojarra (Eucinostomus argenteus) which is very tolerant of wide salinity changes (i.e. euryhaline). Centrarchidae (bass-sunfish family), which are normally considered strictly freshwater, were taken at one "brackish" and two "marine" sites (Shakett Creek, Dona Bay at Highway 41 and South Creek at Highway 41). This indicated that they were flushed over salinity barriers by the force of water currents yet survived in the estuary because of the resulting low saline conditions.

Dona Bay proper was found to be poorer in species diversity and quantity of catch (four species, including the Centrarchidae, and twenty total fish) than adjacent areas. It also had a bottom coating of thick, foul-smelling black muck which was not found at any other marine station. In this muck (collected 17 July 1974) were decaying strands of Elodea/Hydrilla

which made up almost 100% of the freshwater weeds present. This black muck was still present to a depth of at least 4 to 6 inches on 12 September 1974, when our divers descended to study the bottom more intensely. By comparison, similar collections made on 29 May 1974 (before the rains) at the same site had revealed "only a little bottom mud and ... a healthy growth of marine algae". Five species of fishes, 322 total, were collected in Robert's Bay, and seven species, 273 total, at the junction midway between Robert's and Dona Bays. South Creek at its mouth had a small amount of bottom mud containing decaying terrestrial vegetation. Three species, all euryhaline, were collected in South Creek; 124 fishes total.

Statistical analyses are being continued on the species of fishes collected. These data, when completed after the final biological survey, will give an informed estimate of the fish population of the estuarine systems in relation to the time of year and the various water parameters, particularly temperature and salinity changes.

#### Aquatic Plants

The rains of late June produced a purging effect on the weeds of the Cow Pen Slough. The following are some typical observations made during the critical dry-wet-dry seasonal change. On 22 May 1974, Hydrilla/Elodea were observed in large quantities along the slough. They were particularly thick north of Route 72 (stations 9 and 10) but decreased in quantity as observers moved south (stations 11 and 12). On 27 June 1974, the following observations were made at station 3 (Laurel Road/Shakett Creek), "Quantities of hyacinths and Elodea floating down. Flooded conditions. Elodea/Hydrilla - some long strands, root systems ...."

On 17 July 1974 (after the initial rains), and during the second fish collection, the following was noted at Shakett Creek, between Laurel Road and Control Structure 1: "Fresh water flowed heavily over the dam [Control Structure No. 1] ... Elodea/Hydrilla were piled approximately 60 cm [2 ft.] high against the dam struts on the slough side. Some Elodea, Hydrilla and hyacinth mats were observed floating in Shakett Creek and large quantities of the weeds in varied stages of decomposition, including long strands [some] with roots, were brought up in trawls. On 25 July 1974, during a similar fish collection on the slough, just below Control Structure 2, the following was noted, "Sight observations confirmed that the slough was flushed almost clear of aquatic weeds and of some of the bottom muck". By comparison, on 29 May 1974, during the first fish collection at the same site the following was recorded, "Solid growth of Elodea/Hydrilla from bottom to surface, with approximately 8 feet towards middle of slough from bank, on each side. So solid it stopped our net (heavy boat seine) and made collection almost impossible. We paddled approximately 1/4 mile upstream, seeking clearer area, but found same condition throughout".

On 7 August 1974, during the aquatic plant collections, water hyacinths, Elodea and Hydrilla were sighted in great quantity at the four plant collection

stations beginning with the north shore of Salt Creek (DB-5) and ending with a station just east of Route 41 (DB-2). All were either adrift or caught in the mangroves. Only about 20% of the observable plants were hyacinths and this is probably an overestimate since these plants float more readily than the submergent Elodea and Hydrilla. The majority was Hydrilla with smaller amounts of Elodea.

As a matter of permanent record, monthly aerial infrared photographs as well as color ground photographs taken during almost weekly water collections confirm the above records.

During the first week in August, diatoms, algae and higher plants were collected from nine stations in Dona and Robert's Bays. Unlike previous collections, plants consisted of almost exclusively microscopic algae; blue-greens, greens and diatoms predominating. Many species, which are commonly found in "polluted" water (4-7), were collected and include the following:

Blue-Green spp.:	<u>Anabaena</u> <u>Lyngbya</u> <u>Oscillatoria</u> <u>Phormidium</u>
Green spp.:	<u>Chlamydomonas</u> <u>Chlorella</u> <u>Chlorococcum</u> <u>Spyrogyra</u>
Diatoms spp.:	<u>Gomphonema</u> <u>Navicula</u> <u>Nitzschia</u>
Euglenoids spp.:	<u>Euglena</u> <u>Phacus</u>

### Invertebrates

The second invertebrate sampling for the Cow Pen Slough Project was carried out between 27 July and 2 August 1974. Collections were made at 3 invertebrate stations in South Creek and 8 in Dona and Robert's Bays.

There was a marked decline in both the number of species present at each station and the number of individuals per species. Although there was a drastic change in water quality, no new species appeared in this sampling (as compared to the first sampling).

Since the decline in numbers of both species and individuals could be an expected seasonal trend, comparison with hydrographic data, invertebrate literature and further sampling will be necessary before the significance of this faunal change can be determined.

The bottom at many shallow water invertebrate stations remained much the same as in May ranging from shell-mud substrate to sand-mud. The only outstanding difference was in Shakett Creek, where the bottom was drastically changed to a yellow sand whereas in May it was a shell-mud bottom. There were no living invertebrates found in this sample.

A massive buildup in similar sand on the upstream sides of both control structures 1 and 2 began shortly after the late June rains. These observations and the suspended solids data indicate that the Cow Pen Slough is the major source of these bottom-covering solids.

#### IV. AERIAL PHOTOGRAPHY

Color infrared aerial photos of the twelve sampling stations have been taken at one month intervals. These pictures are providing a good record of algae and higher aquatic plant populations. Comparison of the three sets that have been taken show variations in delineation of salt and fresh water. Drastic changes of the quantity of aquatic plants are portrayed very well in these three sets. It is anticipated that as these pictures are compiled throughout the seasons we will have an excellent visual record of the changes in terrestrial and aquatic plants. These photos will also, of course, provide some information as to water quality.

Aerial photos of the entire project area taken in 1948, 1957, 1960, and 1972 have been very useful for viewing and dating the many geographic changes this region has undergone through the years such as sea-walling, dredging, landfilling and alterations in the slough itself.

Other photos portraying the history of the Dona Bay region are being collected along with interviews of long-time residents of the area. Information and dates provided by these individuals should provide valuable comparisons with known and/or recorded changes that have occurred in the watershed area.

APPENDIX A

Raw Water Quality Data  
Stations 1 - 12

July and August, 1974

	7	8	9	10	11	12	
	AM	AM	AM	AM	AM	AM	
	14:30	09:40	10:30	11:15	13:55	12:15	Time
	F	F	N	VF	I	I	Curr. (6)*
	32.0	33.5	34.0	32.0	32.0	36.0	Air. Temp.
	1'	½'	½'	3'	½'	7'	Dpth. (5)
	30.6	28.8	31.2	28.2	29.9	29.9	H <sub>2</sub> O Temp. (2)
	70+	70+	70+	70+	70+	70+	Color
	NA	1/1.5	-	-	0.5/1.5	0.5/1.5	Secchi
	0.3M	0.4	0.1M	0.9	0.3	0.4	Sal. (3)
	30.0	28.5	30.0	27.5	29.1	27.8	Dpth. (4)
	0.15	4.31	10.2	2.90	3.80	3.05	Temp.
	215	18.0	60	125	130	125	DO
	6.89	7.21	6.85	6.50	6.80	6.60	Cond.
	+135	+180	+190	+221	+279	+265	pH
	-	-	-	-	-	-	ORP
	19.2	47	12.0	10.9	15.5	11.4	S <sup>=</sup>
	(0)	0.43	2.0	(0)	0.15	(0)	SO <sub>4</sub>
	1.22	1.09	1.12	1.21	1.04	1.22	BOD-5
	2.11	1.99	1.89	1.95	1.78	1:92	NO <sub>3</sub> -N
	0.678	0.550	0.169	0.229	0.261	0.235	NH <sub>3</sub> -N
	493.0	306.2	461.8	184.3	71.8	125.7	≤ N
	1	24	4.2	2.5	4.0	3.2	PO <sub>4</sub> -P
	<1°/oo	<1°/oo	<1°/oo	<1°/oo	<1°/oo	<1°/oo	COD
	4250	28,800	14,600	10,500	12,900	10,500	Turb.
	16.6	5.40	2.42	4.41	5.73	3.60	Sal. (1)
	11.4	1.88	1.09	4.61	4.18	2.40	Sal. (6) (co)
	29.4	14.0	1.24	7.41	13.9	0.41	SS
	57.4	21.3	4.76	16.4	23.8	6.40	Chlor a
	1200	1100	130	95	50	< 10	Chlor b
	3300	1900	1800	3100	2000	1600	Chlor c
	430	130	120	72	24	80	≤ Chlor
							F. colif.
							≤ colif.
							F. strep.
							F colif/
							F stre

(6)\* None (N), Slow (S), Intermediate (I), Fast (Fa), Very Fast (VF), Flood (Fl).  
 2.8 8.4 1.1 1.3 2.1 1.2

A-2  
TIDAL STATIONS  
(pre-high)

Coll. No. 8

Date. 18 Jul

1		2		3		4		5		6		Sta. No.
AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
09:10	13:45	09:50	-	10:35	-	11:03	-	11:30	-	12:00	16:30	Time
I	0	I	0	S	0	S	0	S	0	S	0	Tid. Act.
27.5	34.0	29.0	32.0	29.5	30.0	29.3	29.5	29.2	31.0	30.5	29.5	Air. Temp.
0.5M	-	1.0M	1.0M	2.3M	2.0M	1.6M	1.1M	1.8M	2.5M	1.2M	-M	Dpth. (5)
31.1	31.6	28.0	31.2	29.2	30.8	29.4	29.4	30.6	31.1	29.3	30.3	H <sub>2</sub> O Temp. (2)
40	70+	70+	70+	70+	70+	70+	70+	70+	70+	10	35	Color
2B/	1.3'/2.0'	1.5'/2.0'	1/1.5'	1.5'/2'	1.25'/2.0'	-	0.75'/1.0'	2'/3.5'	1.5'/2.0'	NA	-	Secchi
												Sal. (3)
0.2M	0.3	0.2M	0.4M	0.3M	0.4M	0.3M	0.4M	0.3M	0.4M	0.4M	0.4M	Dpth. (4)
29.5	30.5	28.0	29.5	28.5	25.9	28.5	29.0	30.0	31.5	29.5	30.5	Temp.
3.45	9.3	5.4	4.4	6.4	5.5	2.8	1.85	5.95	5.40	7.1	-	DO
19,500	3,000	10,500	1,200	270	25(v)	170	10	12,000	800	13,000	-	Cond.
8.20	8.35	7.35	7.60	7.10	7.25	6.70	6.70	7.95	7.55	8.20	8.25	pH
+270	+271	+245	+270	+315	+285	+310	+280	+265	+289	260	268	ORP
-	-	-	-	-	-	-	-	-	-	-	-	S <sup>=</sup>
33.6		34.5		30.3		12.7		27.0		47.2		SO <sub>4</sub>
1.05		2.29		3.04		2.0		4.45		0.8		BOD-5
												NO <sub>3</sub> -N
0.412		0.493		0.431		0.457		0.499		0.455		NH <sub>3</sub> -N
1.02		2.03		1.16		1.41		1.39		0.91		N
0.100		0.830		0.338		0.815		0.285		0.005		PO <sub>4</sub> -P
125.9		132.9		80.3		102.5		94.3		147.4		COD
4.0		2.0		4.4		1.5		3.0		0.5		Turb.
												Sal. (1)
												Sal. (6)
10,800		12,300		10,700		8,210		8,560		850		SS
16.5		15.9		2.79		8.10		10.4		0.62		Chlor a
11.2		8.65		1.83		4.83		5.32		0		Chlor b
20.7		7.34		0.59		0.46		8.40		0		Chlor c
48.4		31.9		5.21		13.4		24.1		0.62		Chlor
3		142		168		179		246		17		F. colif
< 10		1700		1600		1170		2180		250		colif
1		102		260		64		132		27		F. strep
.33		.72		1.5		.38		.80		1.6		Ratio FC/F

HYDROLAB

A-3  
TIDAL STATIONS  
(pre+low)

Coll. No. 9  
Date 24 July  
1974

	1		2		3		4		5		6		
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
	0920	1400	0950	1432	1015	1500	1037	1515	1235	1535	1300	1600	Time
	0	I	0	I	0	I	0	I	0	I	I	I	Tid. Act.
	-	31	31.5	31.5	32	31.5	30	32	33	28.9	31	29.9	Air. Temp.
	1.2M	0.6M	-	0.8M	(1.9M)	(1.9M)	-	1.2M	2.5M	3.1M	1.1M	1.1M	Dpth. (5)
	29.5	32.0	28.8	32.4	30.8	31.7	29.0	31.5	31.1	33.4	30.9	29.7	H <sub>2</sub> O Temp. (2)
	70+	60	70+	70+	70+	70+	70+	(30)	70+	70+	70+	20	Color
	NA	1.75'	0.5/1'	1/2'	0.5/1'	1/1.5'	0.8/1'	0.5/1'	1/1.5'	1/2.5'	2.5'/3.5'	3.5B/	Secchi
	0.5M	0.2	0.2M	0.15	0.2M	0.2M	0.3M	0.2M	0.2M	0.2M	0.2M	0.2M	Sal. (3)
	29.6	31.9	28.6	32.2	29.5	31.6	28.7	29.5	30.7	32.6	30.3	29.5	Dpth. (4)
	6.60	9.90	4.95	11.0	6.80	8.2	2.81	2.2	5.0	7.0	8.10	6.7	Temp.
	22,000	(10)	750	(10)	170	335	250	(15)	7,000	(10)	19,000	(10)	DO
	8.20	8.58	7.60	8.25	7.30	7.48	6.80	6.90	7.60	8.10	8.35	8.35	Cond.
	+150	+250	+250	+270	+270	305	+280	310	+280	280	+265	275	pH
	76		71		23		8		51		72		ORP
* BOD-6	3.5		3.78		2.0		1.2		0.7		3.81		S=
	0.794		0.787		0.605		0.665		0.754		0.901		SO <sub>4</sub>
	1.414		1.281		1.466		1.585		1.312		1.306		BOD-5*
	0.300		0.402		0.244		0.880		0.236		0.090		NO <sub>3</sub> -N
	132.6		159.1		117		153.7		83.9		83.1		NH <sub>3</sub> -N
	3.9		3.5		2.0		1.8		2.5		2.0		ΣN
													PO <sub>4</sub> -P
													COD
													Turb.
													Sal. (1)
													Sal. (6)
	10600		11300		9620		6490		7550		6750		SS
	25.5		17.9		16.9		6.64		4.79		8.55		Chlor a
	15.5		10.7		10.3		3.96		2.48		5.39		Chlor b
	28.7		10.2		15.8		4.31		4.77		9.92		Chlor c
	69.7		38.8		43.0		14.9		12.0		23.9		← Chlor
	92		134		4		4		28		5		F. colif
	>300		10,200		2430		2300		105		380		Σ colif
	304		510		106		82		23		9		F. strep
	.3		.26		.04		.05		1.2		.55		RATIO FC/F

FIELD OBSERVATIONS  
HYDROLAB

A-4  
F/W STATIONS

Coll. No. 10

Date 7 August

	7	8	9	10	11	12	
	AM	AM	AM	AM	AM	AM	
	13:45	09:30	10:30	11:30	14:35	12:35	Time
	F	F	N	F	S	I	Curr. (6)*
	-	-	-	-	-	-	Air. Temp.
	0.2M	0.8M	0.2M	0.3M	1.8M	1.5M	Dpth. (5)
	28.8	26.2	29.0	27.0	28.5	27.7	H <sub>2</sub> O Temp. (2)
	70+	70+	70+	70+	70+	70+	Color
	-	0.75/ 1.5	-	-	-	-	Secchi
							Sal. (3)
	0.2M	0.2M	0.2M	0.3M	0.2M	0.2M	Dpth. (4)
	28.2	27.0	27.0	26.2	27.5	27.5	Temp.
	3.2	4.8	3.0	5.4	6.2	4.8	DO
	-	-	-	-	-	-	Cond.
	7.00	7.30	6.90	6.60	6.70	6.80	pH
	+275	+250	+281	+325	+320	+350	ORP
							S=
	23	34	8	Trace	17.	8	SO <sub>4</sub>
	0.55	0.80	(0.0)	1.22	0.42	0.75	BOD-5
							NO <sub>3</sub> -N
	0.470	0.465	0.470	0.582	0.518	0.622	NH <sub>3</sub> -N
	1.60	1.59	1.35	1.78	1.60	2.05	<N
	0.595	1.31	0.209	0.192	0.342	0.260	PO <sub>4</sub> -P
	65.0	75.3	45.2	61.6	60.4	49.4	COD
	3.2	10	3.9	7.5	6.9	-	Turb.
							Sal. (1)
							Sal. (6)
	6000	18700	14,400	19700	11700	16700	SS
	3.72	1.83	5.84	1.01	2.54	0.87	Chlor a
	3.52	0.22	4.66	0.48	1.77	2.82	Chlor b
	6.33	3.64	11.32	3.76	7.58	7.28	Chlor c
	13.57	5.69	21.8	5.25	11.89	10.97	< Chlor
	40	320	> 200	440	79	250	F. colif
	1440	5700	1180	>4000	1100	2300	< colif
	500	410	196	370	200	410	F. strep

Field Observations  
HYDROLAB

(6)\* None (N), Slow (S), Intermediate (I), Fast (Fa), Very Fast (VF), Flood (Fl). Ratio fc/fs  
.08 .8 ~1 1.2 .4 .6

A-5  
TIDAL STATIONS  
(pre-high)

Coll. No. 11

Date. 16 Aug.

1		2		3		4		5		6		Sta. No.	
AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
0922	1350	0950	1405	1025	1425	1045	1440	1125	1453	1145	1505		Time
0	0	0	0	S	0	0	0	I	0	S	0		Tid. Act.
37	51(v)	34	47(v)	36	48(v)	40	47(v)	35	45(v)	-	49(v)		Air. Temp.
1M	1½'	1M	NA	2.2M	9.5'	1.4M	3.6'	1.8M	2.4M	1.0	0.7M		Dpth.(5)
30.1	31.9	29.9	29.9	30.0	31.1	29.2	30.4	31.3	31.6	32.0	33.1		H <sub>2</sub> O Temp.(2)
70+	70+	70+	70+	70+	70+	70+	70+	-	70+	30	50		Color
1/2.5'	75/1.5B	0.5/1.5'	0.75/1.0'	½'	0.5/1.0'	1/1.5'	NA	1.5/2.5'	NA	NA	1.5/2.5'		Secchi
10	NA		NA		NA		NA	6	2.5	27	2.5		Sal. (3)
0.1M	0.1M	0.2M	0.2M	0.2M	0.2M	0.2M	0.4M	0.2M	0.4M	0.2M	0.4M		Dpth.(4)
29.5	31.5	27.1	29.3	28.0	29.5	28.4	29.5	31.0	31.0	31.4	32.5		Temp.
6.95	4.2	3.25	3.05	5.20	6.40	4.51	7.38	6.90	5.92	7.22	7.40		DO
-	-	-	-	-	-	-	-	-	-	-	-		Cond.
8.00	7.45	7.05	7.11	7.20	7.30	6.72	6.70	8.30	7.59	8.50	8.50		pH
+240	+210	+240	+232	+285	+280	+289	+290	+270	+285	+240	+250		ORP
-	-	-	-	-	-	-	-	-	-	-	-		S=
116		25		18		8		114		154			SO <sub>4</sub>
3.75		0.10		3.70		0.40		3.10		0.72			BOD-5
													NO <sub>3</sub> -N
0.499		0.440		0.241		0.160		0.242		0.030			NH <sub>3</sub> -N
0.776		0.855		0.691		0.575		0.812		0.030			N
0.350		0.467		0.226		0.432		0.225		0.005			PO <sub>4</sub> -P
233		273		203		112		176		144			COD
3.0		3.9		0.8		1.0		0.5		0.0			Turb.
*By AgNO <sub>3</sub>		0.18*		0.15*		0.26*		0.12*					Sal.(1)
titration													Sal.(6)
7880		8430		7680		6880		5880		750			SS
11.65		1.94		4.88		2.19		10.08		1.51			Chlor a
6.54		0.46		1.72		0.78		5.83		0.84			Chlor b
11.88		0.94		0.79		0		11.26		0.61			Chlor c
30.1		3.3		7.4		3.0		27.2		3.0			<Chlor
78		200		102		53		62		< 1			F. colif
13,600		480		370		640		830		65			< colif
150		112		370		216		26		7			F. strep
1.9		1.8		.28		.24		2.4		<.1			Ratio FC/FS

Field Observations  
 HYDROLAB  
 LAB

A-6  
TIDAL STATIONS  
(pre-low)

Coll. No. 12

Date 22 Aug.

1		2		3		4		5		6		Boat at Dock - no sample taken	
AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
10:00	1400	1011	1420	1045	1435	1105	1445	1135	1500	1155		Time	
0	I	0	I	0	S	0	I	0	0	I	NA	Tid. Act.	
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Air. Temp.	
0.5'		0.5'		1.7M		0.8M		1.2M		0.6M		Dpth.(5)	
29.8	33.9	29.8	33.1	29.8	33.5	29.0	30.8	30.7	33.5	31.5		H2O Temp.(2)	
70+	70+	70+	70+	70+	70+	70+	70+	70+	70+	70+		Color	
NA	NA	NA	1/2'	1 1/2'	1 1/2'	0.5/1'	1/2'	1 1/2'	0.5/2'	NA		Secchi	
												Sal.(3)	
0.1M	0.1M	0.2M	0.2M	0.2M	0.2M	0.2M	0.2M	0.2M	0.2M	0.2M		Dpth.(4)	
29.4	32.5	28.5	32.0	29.0	30.0	28.3	30.0	30.0	31.7	30.0		Temp.	
4.85	9.05	3.60	5.90	5.05	6.50	3.55	6.10	4.6	8.60	4.70		DO	
20,000	35,000	2,750	3,800	2,200	3,900	400	350	18,000	33,000	40,000		Cond.	
7.82	8.50	7.50	7.60	7.60	7.70	7.02	7.00	7.72	8.45	8.20		pH	
+170	+210	+180	+238	+180	+240	+235	+255	+250	+260	+220		ORP	
												S=	
												SO <sub>4</sub>	
1.85		4.95		4.0		1.49		2.66		3.61		BOD-5	
												NO <sub>3</sub> -N	
0.060		0.106		0.131		0.268		0.035		0.00		NH <sub>3</sub> -N	
0.490		0.451		0.475		0.592		0.284		0.364		ΣN	
0.290		0.390		0.119		0.434		0.154		0.150		PO <sub>4</sub> -P	
88.8		74.2		46.8		45.9		72.2		122.3		COD	
4.0		4.9		3.1		3.0		3.0		1.0		Turb.	
												Sal.(1)	
												Sal.(6)	
6880		6380		6700		3880		10880		5910		SS	
												Chlor a	
												Chlor b	
												Chlor c	
												Chlor	
72		60		26		53		68		51		F. colif	
2200		3000		1120		2040		887		295		Σ colif	
98		136		57		106		6		3		F. strep	
.46		.44		.46		.5		11.3		17.0		Ratio	

N.D.

LAB

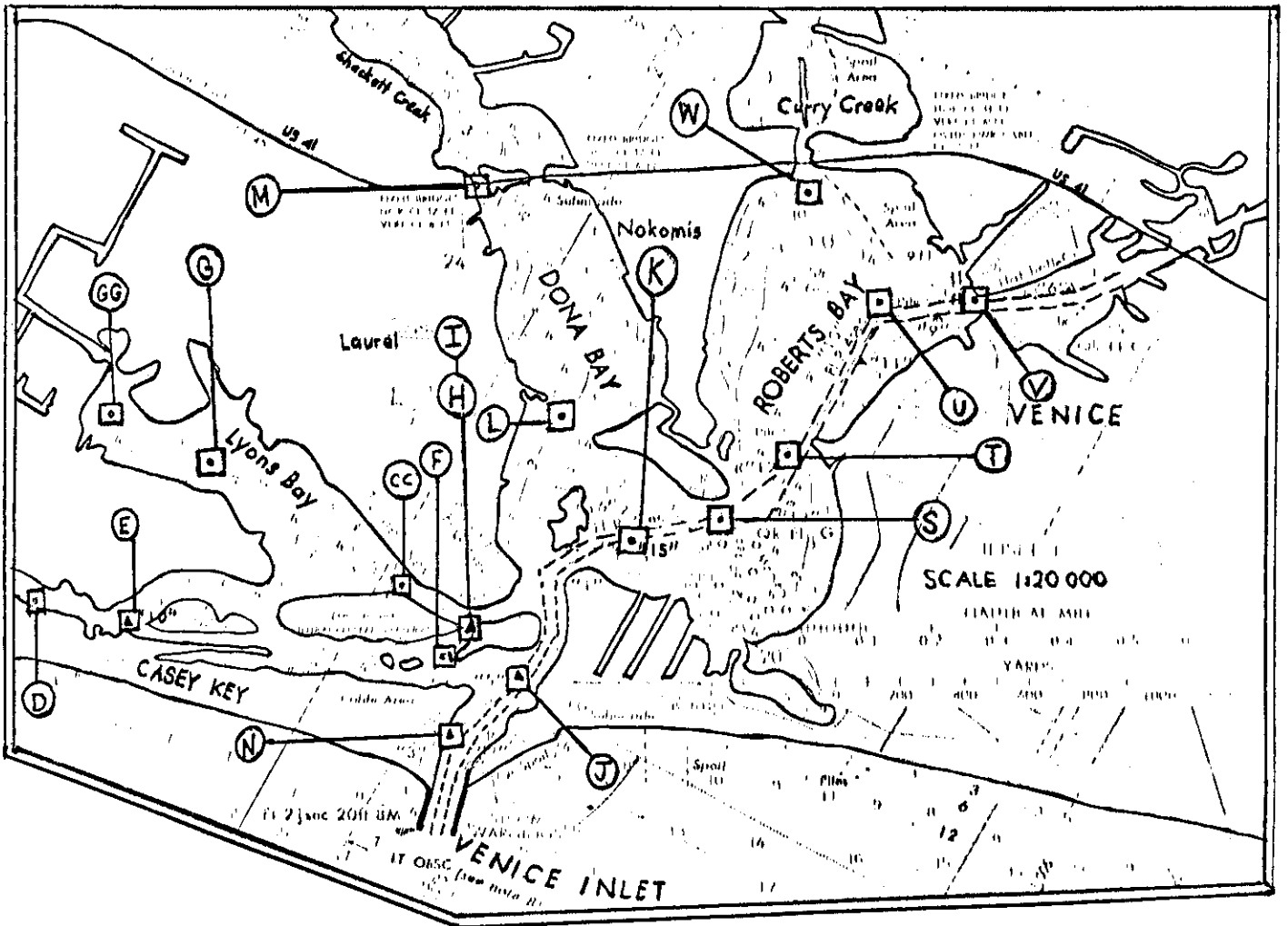
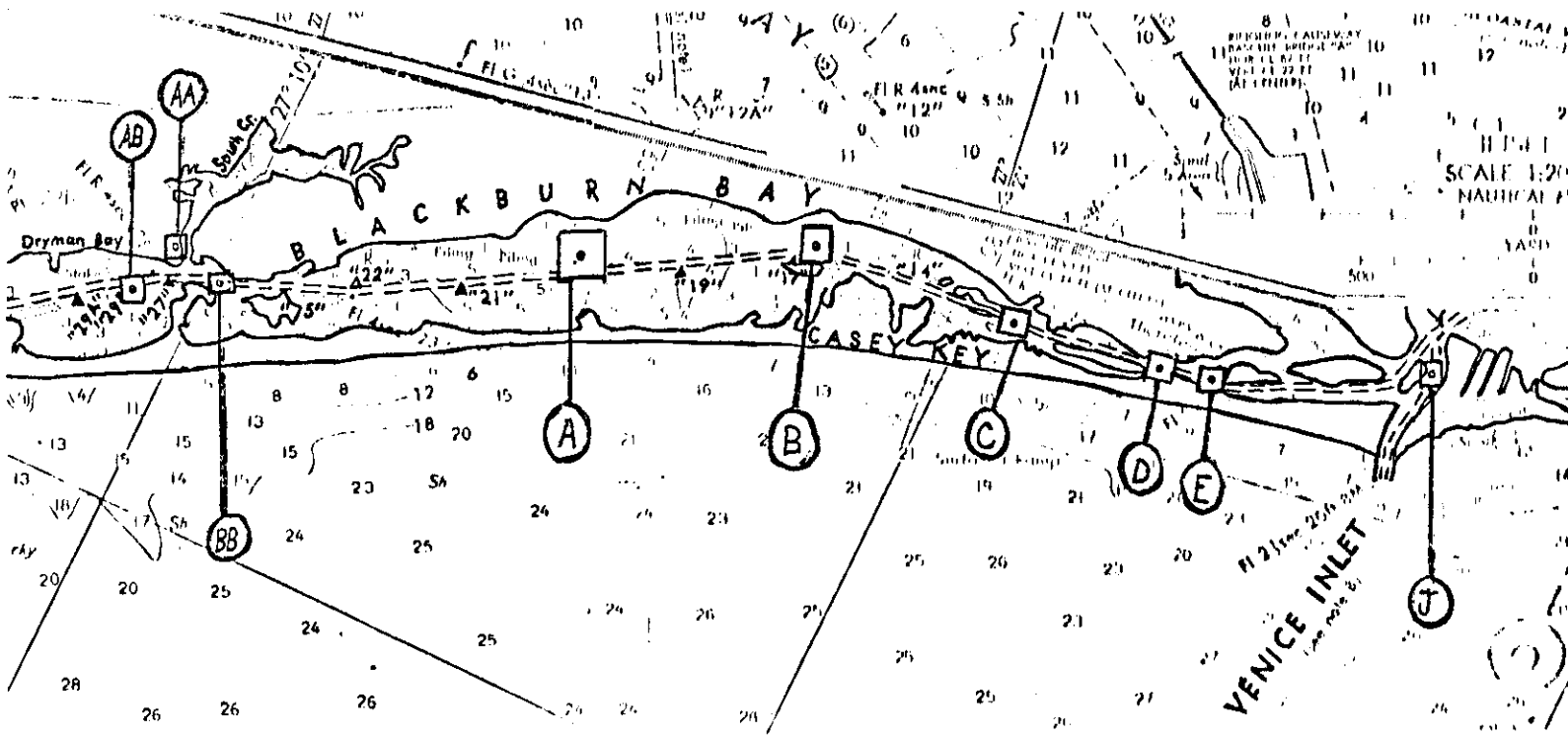
APPENDIX B

Official List of Monitoring Stations

Special Hydro-Lab Monitoring Study

A Intracoastal Waterway Navigational Marker (IWNM) #20  
AA Mouth of South Creek, by the marker post  
AB IWNM #29  
B IWNM #16  
BB 200 meters south of the South Creek mouth  
C IWNM #13  
CC<sub>1</sub> Beginning of Southern exit from Lyons Bay  
CC<sub>2</sub> Beginning of Southern exit from Lyons Bay  
D South bridge to Casey Key  
DD<sub>1</sub> 50 meters west of Venice Inlet Navigational Marker (VINM) #5  
DD<sub>2</sub> 50 meters west of VINM #5  
E IWNM #10  
F IWNM #7  
G Lyons Bay, middle  
GG Lyons Bay, far end  
H IWNM #4 (clear)  
I IWNM #4 (turbid)  
J VINM #5  
K VINM #15  
L Off Nokomis Point  
M Cow Pen Slough tidal station #5  
N Cow Pen Slough tidal station #6  
O - R deleted from this list  
S VINM #14  
T VINM #12  
U VINM #10  
V VINM #8  
W Route 41, Curry Creek bridge

Location of Bay Region Stations

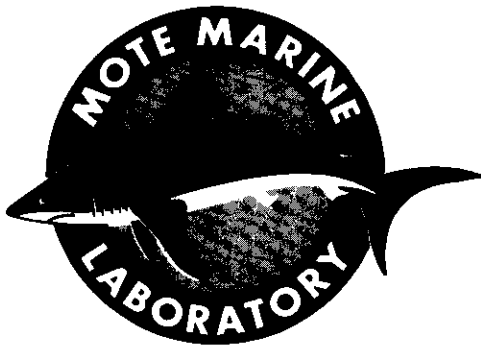


DATE	SEMI-DIURNAL OR DIURNAL	HIGH /LOW	TIDE	DATUM PLANE	HIGH /LOW	TIDE	DATUM PLANE	STATION	TIME	DEPTH	TEMP	D.O.	COND.	PH	ORP	SULFUR ION
08/01/74	S	H	1124	2.46	L	1937	0.18	AB	1145	0.4	27.50	2.85	19,500	8.15	270	.
08/01/74	S	H	1124	2.46	L	1937	0.18	AB	1145	0.8	27.50	2.80	20,000	8.20	270	.
08/01/74	S	H	1124	2.46	L	1937	0.18	AA	1150	0.4	27.25	2.20	20,000	8.15	270	.
08/01/74	S	H	1124	2.46	L	1937	0.18	AA	1150	0.8	27.25	2.30	21,500	8.20	260	.
08/01/74	S	H	1124	2.46	L	1937	0.18	BB	1155	0.4	27.75	2.80	14,000	8.20	255	.
08/01/74	S	H	1124	2.46	L	1937	0.18	BB	1155	0.8	27.50	2.75	16,000	8.20	255	.
08/01/74	S	H	1124	2.46	L	1937	0.18	A	1205	0.4	28.25	2.85	19,500	8.20	250	.
08/01/74	S	H	1124	2.46	L	1937	0.18	A	1205	0.8	28.00	2.70	20,500	8.20	250	.
08/01/74	S	H	1124	2.46	L	1937	0.18	B	1210	0.4	28.50	3.00	20,000	8.25	245	.
08/01/74	S	H	1124	2.46	L	1937	0.18	B	1210	0.8	28.25	2.85	24,000	8.30	245	.
08/01/74	S	H	1124	2.46	L	1937	0.18	C	1215	0.4	28.50	3.00	23,000	8.30	240	.
08/01/74	S	H	1124	2.46	L	1937	0.18	C	1215	0.8	28.50	2.90	23,500	8.30	240	.
08/01/74	S	H	1124	2.46	L	1937	0.18	D	1220	0.4	28.25	2.80	21,000	8.25	240	.
08/01/74	S	H	1124	2.46	L	1937	0.18	D	1220	0.8	28.50	3.00	26,000	8.35	240	.
08/01/74	S	H	1124	2.46	L	1937	0.18	E	1235	0.4	28.00	3.25	17,500	8.25	235	.
08/01/74	S	H	1124	2.46	L	1937	0.18	E	1235	0.8	28.50	2.90	28,000	8.20	240	.
08/01/74	S	H	1124	2.46	L	1937	0.18	F	1240	0.4	28.00	3.05	14,000	8.10	240	.
08/01/74	S	H	1124	2.46	L	1937	0.18	F	1240	0.8	28.00	3.10	22,000	8.30	240	.
08/01/74	S	H	1124	2.46	L	1937	0.18	G	1250	0.4	28.25	2.80	14,500	8.00	240	.
08/01/74	S	H	1124	2.46	L	1937	0.18	G	1250	0.8	27.75	1.90	23,500	8.20	245	.
08/01/74	S	H	1124	2.46	L	1937	0.18	GG	1255	0.4	27.50	2.25	12,000	7.85	245	.
08/01/74	S	H	1124	2.46	L	1937	0.18	GG	1255	0.8	28.00	2.35	15,000	7.85	240	.
08/01/74	S	H	1124	2.46	L	1937	0.18	CC	1310	0.4	28.25	2.55	19,000	8.15	235	.
08/01/74	S	H	1124	2.46	L	1937	0.18	CC	1310	0.8	28.00	2.55	22,500	8.20	240	.
08/01/74	S	H	1124	2.46	L	1937	0.18	HI	1315	0.4	27.75	2.80	12,000	7.90	240	.
08/01/74	S	H	1124	2.46	L	1937	0.18	HI	1315	0.8	28.00	2.75	13,500	8.00	240	.
08/01/74	S	H	1124	2.46	L	1937	0.18	J	1320	0.4	27.00	2.70	45,000	5.60	245	.
08/01/74	S	H	1124	2.46	L	1937	0.18	J	1320	0.8	27.00	2.60	13,000	8.00	250	.
08/01/74	S	H	1124	2.46	L	1937	0.18	N	1335	0.4	27.75	3.05	19,000	8.20	250	.
08/01/74	S	H	1124	2.46	L	1937	0.18	N	1335	0.8	28.00	2.95	21,500	8.20	250	.
08/01/74	S	H	1124	2.46	L	1937	0.18	K	1340	0.4	27.00	2.65	3,700	7.60	250	.
08/01/74	S	H	1124	2.46	L	1937	0.18	K	1340	0.8	27.00	2.65	3,800	7.55	255	.
08/01/74	S	H	1124	2.46	L	1937	0.18	L	1350	0.4	27.00	2.85	2,200	7.30	255	.
08/01/74	S	H	1124	2.46	L	1937	0.18	L	1350	0.8	26.50	2.85	2,400	7.20	260	.
08/01/74	S	H	1124	2.46	L	1937	0.18	M	1400	0.4	26.00	3.10	450	7.00	260	.
08/01/74	S	H	1124	2.46	L	1937	0.18	M	1400	0.8	26.00	3.05	455	6.95	265	.
08/01/74	S	H	1124	2.46	L	1937	0.18	S	1405	0.4	27.00	2.70	6,750	7.60	270	.
08/01/74	S	H	1124	2.46	L	1937	0.18	S	1405	0.8	27.00	2.50	8,200	7.65	270	.
08/01/74	S	H	1124	2.46	L	1937	0.18	T	1410	0.4	27.00	2.65	5,850	7.55	265	.
08/01/74	S	H	1124	2.46	L	1937	0.18	T	1410	0.8	27.00	2.55	8,300	8.00	270	.
08/01/74	S	H	1124	2.46	L	1937	0.18	U	1415	0.4	26.50	2.40	2,700	7.10	265	.
08/01/74	S	H	1124	2.46	L	1937	0.18	U	1415	0.8	27.00	2.35	6,500	7.50	260	.



### Literature Cited

- (1) Report of the National Technical Advisory Committee to the Secretary of the Interior. 1968. Water Quality Criteria. Federal Water Pollution Control Administration. Washington, D. C.
- (2) Environmental Protection Agency. 1974. Current Practices in Water Microbiology. PB 229 825. Distributed by N.T.I.S., U. S. Dept. Commerce. Pp. 1-9 through 1-12.
- (3) Environmental Protection Agency. 1974. Current Practices in Water Microbiology. PB 229 825. Distributed by N.T.I.S., U. S. Dept. Commerce. Pp. 2-1 through 2-14.
- (4) Prescott, G. W. 1970. How to Know the Freshwater Algae. Tom C. Brown Co., Dubuque, Iowa.
- (5) American Public Health Association, Inc. 1971. Standard Methods for the Examination of Water and Wastewater. New York. 13th Edition.
- (6) Harris, D. O. and D. E. James. Toxic Algae. Carolina Tips. Carolina Biological Supply Co., Burlington, North Carolina and Gladstone, Oregon. Volume 37, No. 4, pp. 13-14.
- (7) Scagel, R. F., R. J. Bandoni, G. E. Rouse, W. B. Schofield, J. R. Stein and T. M. C. Taylor. 1968. An Evolutionary Survey of the Plant Kingdom. Wadsworth Publishing Company, Belmont, California.



9 5 0 1   B L I N D   P A S S   R O A D  
S A R A S O T A ,   F L O R I D A   3 3 5 8 1

PHONE: (813) 921-6661

WILLIAM R. MOTE  
PRESIDENT

PERRY W. GILBERT  
DIRECTOR

28 January 1975

Mr. E. C. Engman  
Research Associate  
Planning/Marketing Services, Inc.  
1800 Siesta Drive  
Sarasota, FL 33579

Dear Gene,

In an effort to organize the literature pertinent to the Cow Pen Slough-Dona Bay Ecological Study, we have assembled a working bibliography. Some of you have already received copies of the first two installments of the project bibliography and can add the enclosed Addendum B to that file. I am trying to make sure that you all have complete sets but if by my oversight you don't have the Bibliography, Addendum A, and now Addendum B, please let me know.

If we have overlooked pertinent references, especially locally-important ones, we would very much appreciate your input.

Sincerely yours,

Jeffrey L. Lincer, Ph.D.  
Project Coordinator

JLL/jcl  
enc.

Partial Bibliography Compiled

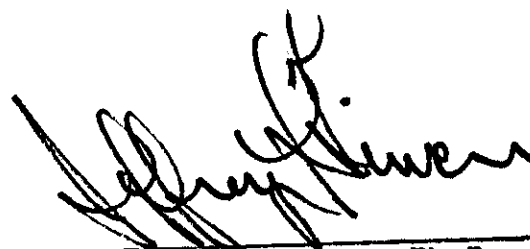
for

Project Entitled:

THE ECOLOGICAL STATUS OF DONA AND ROBERT'S BAY  
AND ITS RELATIONSHIP TO COW PEN SLOUGH  
AND OTHER POSSIBLE PERTURBATIONS

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By:



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Project Coordinator

Alberts, James, Albert Hanke, and Robert Harriss. 1969.  
Studies on the geochemistry and hydrography of the Charlotte Harbor estuary. Progress Report No. I, sponsored by Department of Oceanography, FSU, Tallahassee, Fla., and The Mote Marine Laboratory, Sarasota, Fla. December, 1969. 6 p.

Alberts, J., H. Matraw, R. Harriss, and A. Hanke. 1970.  
Studies on the geochemistry and hydrography of the Charlotte Harbor estuary, Florida. Progress Report No. II, sponsored by the Department of Oceanography, FSU, Tallahassee, Fla., and The Mote Marine Laboratory, Sarasota and Placida, Fla. 34 p.

Allen, Ross. 1969. Why save the alligator. presented to Conservation 'O's Inc., Environmental Legislative Workshop Homosassa Springs, Fla., Panel No. 4, Wildlife Resources. Sept. 13, 1969.

Alvarez, K. O. An annotated checklist of the vertebrate of Myakka River State Park. unpublished report. n.p.

Alvarez, K. O. 1972. Development Threat to Mayakka River State Park. unpublished memorandum to Capt. Jim Stevenson, 26 May 1972.

Alvarez, K. O. 1973. Environmental problems in our state parks. unpublished letter in response to Pamela Pearlman (U. of Fla. student) 26 Jan. 1973. 4 p.

Alvarez, K. O. // Water quality analysis, Oscar Scherer State Park. unpublished report, n.p.

Andrews, Jay D. 1973. Effects of tropical storm Agnes on epifaunal invertebrates in Virginia estuaries. Chesapeake Science, Vol. 14(4), p. 223-234. December, 1973

Anonymous Staff Writer. 1974. Cowpen Slough drain study begun. Sarasota Herald-Tribune, 6 May 1974. p. 2B?

Anonymous. 1972. Dona and Robert's Bays Environmental Society Newsletter. 2 p. plus att. 6 March 1972.

Anonymous. Project Manasota-88, Report of an environmental health study in Manatee and Sarasota Counties, Florida 1966-1968. Sponsored by Manatee Bd. of County Commissioners, Sarasota Bd. of County Comm., Fla. St. Bd. of Health, Fla. St. U., U. of Fla., U.S. Public Health Service. 176 p.

Barada, William R. and William M. Partington, Jr. 1971. Organic Soil survey of agricultural area South of Lake Okeechobee, Prepared for Florida Trustees of the Internal Improvement Fund. June 17. 1971. 27 p. plus att.

Barada, William, and William M. Partington, Jr. 1972. Report of investigation of the environmental effects of private waterfront canals, Prepared for Florida Trustees of the Internal Improvement Fund. 63 p. plus Appendices A, B, C, and D.

Barada, William, and William M. Partington, Jr. 1973. The relation of aquatic anomalies to marine pollution with special references to Florida. Prepared for the Florida Department of Natural Resources, Division of Marine Fisheries, and The Florida Audubon Society. 84 p. plus Appendix A1-8.

Bell, Craig T. 1969. The third forest for people and products. unpublished report. 2 p.

Bellan, Gerard. Effects of an Artificial stream on marine communities. p. 74-78.

Bernstein, I. Leonard and Robert S. Saifferman. 1973. The biomedical impact of algae. Carolina Tips 36(12): 45-56. 1973 Carolina Biological Supply Co. Oct. 1, 1973.

Bloom, S. A., and J. L. Simon and V. D. Hunter. 1972. Animal-sediment relations and community analysis of a Florida estuary. Marine Biology, 13(1): 43-56.

Browning, Jan. 1972. Man's effect on the quality of our water (The problem: utilizing the gift). In Depth Report, Vol. 1(2), February, 1972. published by Central and Southern Florida Flood Control District.

Burgess, J. Edward. 1969. Future of Florida's fresh water resources. unpublished report. 6 p.

Burkhalter, Alva P. (Prepared by). 1972. Guidelines for aquatic weed control. Florida Dept. of Natural Resources, Bureau of Aquatic Plant Research and Control, Tallahassee, Florida. 66 p.

Butler, Philip A. (Ed.) 1959. Annotated bibliography of unpublished estuarine research in the Gulf of Mexico 1925-1959. Gulf States Marine Fisheries Commission, New Orleans, Louisiana. 51 p.

Butler, Philip A. (Ed.) 1960. Annotated Bibliography of unpublished estuarine research in the Gulf of Mexico, Supplement 1, October 1960. Gulf States Marine Fisheries Commission, New Orleans, La.. n.p.

Cochova, Irina and Ernst M. Davis. 1973. Trend surface analysis and seasonal distribution patterns of primary nutrients and chlorophyll in unstratified Gulf coast estuaries. Water Resources Research, 9(6): 1543-1554.

Clark, John. 1974. Coastal ecosystems, Ecological considerations for management of the Coastal zone. The Conservation Foundation, Washington, D.C. 178 p.

The Conservation Foundation. 1968. Rookery Bay Area project, A demonstration study in conservation and development, Naples, Florida. The Conservation Foundation, Washington, D.C. 61 p. Copy One.

The Conservation Foundation. 1968. Rookery Bay Area project, A demonstration study in conservation and development, Naples, Florida. The Conservation Foundation, Washington, D.C. 61 p. Copy Two.

Coulter, O. H. 1969. Florida forestry and conservation needs. (O. H. Coulter, unpublished data).

Covill, R. W., A. W. Davies, and J. R. Chandler.  
Parameters of Marine pollution in the forth estuary.  
p. 12-30.

Duce, Robert A., Patrick L. Parker, and C. S. Giam. 1974.  
Pollutant transfer to the marine environment. Deliberations and recommendations of the NSF/IDOE Pollutant Transfer Workshop held in Port Aransas, Texas Jan. 11-12, 1974. 55 p.

Eastman Kodak Company. 1972. Applied infrared photography. Eastman Kodak Co., Washington, D.C. Standard Book Number 0-87985-009-4, Cat. 101 8365. 88 p.

Feiss, Carl, Ruth McQuown, Paul Roberts, and Rodney May.  
1973. Rookery Bay land use studies, Environmental planning strategies for the development of a mangrove shoreline. The Conservation Foundation, Washington, D.C. Study No. 1, The demographic, political, and administrative setting. September, 1973

Fickett, Steve B. Jr. 1969. Wildlife management practices. read at Environmental Legislative Workshop of Conservation 70's, Inc., Homosassa Springs, Fla. Sept. 13, 1969.

Finucane, John H. and Ralph W. Campbell II. 1968. Ecology of American Oysters in Old Tampa Bay, Florida. Quart. J. Fla. Acad. Sci. 31(1): 37-46,

Florida Board of Conservation. 1966. Florida Land and water resources, Southwest Florida. Tallahassee, Florida. 181 p.

Fla. Dept. of Natural Resources (Ed.) Aquatic weed identification and control manual. Bureau of Aquatic Plant Research and Control, Fla. Dept. of Nat. Res., Tallahassee, Fla. 100 p.

State of Florida Department of Pollution Control. 1974. Eutrophication (The ageing of lakes) A Florida water quality problem. Tallahassee, Fla. 9 p.

State of Florida Department of Pollution Control. 1973. Water pollution control in Florida. Tallahassee, Fla. 18 p.

Gascoine, I. S., and D. J. Wildish. 1971. A chemical and biological study of the Medway estuary. Wat. Pollut. Control 1971, p. 11-25.

Glendinning, Sally. 1972. John MacArthur: I don't snoop around. Sarasota Herald-Tribune. 18 Feb. 1972. p. 1-2B

Gold, Kenneth. Plankton as indicators of pollution  
in New York waters. *Journal of Marine Research*  
p. 93-100.

Gunter, Gordon. 1955. Mortality of Oysters and abundance  
of certain associates as related to salinity. Ecology,  
36: 601-605

Gunter, G., B. S. Ballard, and A. Venkataramaiah. 1973.  
Salinity problems of organisms in coastal areas subject  
to the effect of engineering works. Gulf Coast Research  
Laboratory, Ocean Springs, Miss., Contract report H-73-3.  
176 p.

Harris, Denny O. and Daniel E. James. 1974. Toxic algae.  
Carolina Tide, Vol. 3(4), p. 13-15. 1 April 1974.  
1974 Carolina Biological Supply Company

Hartman, Kip. 1974. Cow Pen slough project; Suspended solid  
and chlorophyll analyses data review for April-August 1974.  
Mote Marine Laboratory In-House Report, Sarasota, Florida.  
34 p.

Heald, Eric J. and Durbin C. Tabb. 1973. Rookery Bay land  
use studies, Environmental planning strategies for the  
development of a mangrove shoreline. The Conservation  
Foundation, Washington, D.C. Study No. 6, Applicability  
of the interceptor waterway concept to the Rookery Bay  
area, November, 1973

Hestand, R.S., B. E. May, D. P. Schultz, and O. R. Walker.  
1973. Ecological implications of water levels on plant  
growth in a shallow water reservoir. Hyacinth Control  
Journal, Vol. 11, p. 54-58.

Hickel, Walter J., Secretary of the Interior. 1970. The  
national estuarine pollution study: Report of the Secretary  
of the Interior to the United States Congress pursuant to  
Public Law 89-753, The clean water restoration act of  
1966. U. S. Govt. Printing Office, Washington, D.C.  
Document No. 91-58. 633 p.

Hopkins, Thomas S. 1973. Marine ecology in Escarosa. State of Florida, Department of Natural Resources, Coastal Coordinating Council, 99 p.

Ingle, Robert M. (Ed.) 1966. Current status of marine research. Special Scientific Report No. 12, Florida Board of Conservation, Salt Water Fisheries Division. 17 p.

Ingle, Robert M. 1963. Review of recent progress in departmental marine research. Special Scientific Report No. 7, 31 December 1963, Florida State Board of Conservation, Salt Water Fisheries Division. 10 p.

Institute of Marine Resources, et al for the Environmental Protection Agency. 1971. Eutrophication in coastal waters: Nitrogen as a controlling factor. U. S. Government Printing Office, Washington, D.C. 67 p.

Jackson, Daniel F. 1971. Algae and water quality. Ward's Bulletin 10(74):1-2. Ward's Natural Science Est., Inc. Rochester, N.Y.

Jones, James I., Ronald E. Ring, Murice O. Rinkel, and Robert E. Smith, (Eds.) 1973. A summary of knowledge of the Eastern Gulf of Mexico 1973. Coordinated by The State University System of Florida Institute of Oceanography, St. Petersburg, Fla.

Kreis, R. Douglas, and Marion R. Scalf, and James F. McNabb. 1972. Characteristics of rainfall runoff from a beef cattle feedlot. Project 13040 FHP. U.S.E.P.A., Sept, 1972, EPA-R2-72-061. 43 p.

Kuperberg, Joel. 1969. Acquisition by plan-Joel Kuperberg- A portion of Forum IV-New ideas in conservation. from The Nature Conservancy XXth Annual Conference, Seattle, Washington, August 22-23, 1969.

Layne, James. 1969. Wildlife Resources. Abstract from Panel No. 4, Conservation 70's, Environmental Workshop, Homosassa Springs, Fla. Sept. 13, 1969, unpublished paper, n.p.

Layne, James N. 1969. The relationships of wildlife to man. presented at the Environmental Legislative Workshop sponsored by Conservation 70's Inc., Homosassa Springs, Fla. Sept. 13, 1969.

Lee County Planning Dept. circa 1973. Base Data Appendices. unpublished report, furnished by John C. Davidson, Sr. Planner, Division of County Development, Fort Myers, Fla. n.p.

Leighty, Ralph G., Orlando E. Cruz., Robert Wildermuth, and F. B. Smith. 1955. Soil associations of Sarasota County, Florida. University of Florida Agricultural Experiment Stations, Circular S-84.

Lewis, Robin, and Jim Thomas (Co-Chairmen). 1974. Proceedings of the first annual conference on restoration of coastal vegetation in Florida, May 4, 1974, Hillsborough Community College, Tampa, Florida. sponsored by The Florida Audubon Society.

Lincer, Jeffrey L. 1973. The ecological status of Dona and Robert's Bay and its relationship to Cow Pen Slough and other possible perturbations; A proposal from the Mote Marine Laboratory to The Board of County Commissioners, Sarasota County on---. np.

Lincer, Jeffrey L. 1974. The ecological status of Dona and Robert's Bay and its relationship to Cow Pen Slough and other possible perturbations; First progress report (for the period 1 March-1 June) from the Mote Marine Laboratory to the Board of County Commissioners, Sarasota County on ----. 28 June 1974. 7 p., Appendix A and B.

Lincer, Jeffrey L. 1974. The ecological status of Dona and Robert's Bay and its relationship to Cow Pen Slough and other possible perturbations; Second progress report (for the month of June) from the Mote Marine Laboratory to the Board of County Commissioners, Sarasota County on ----. 29 July 1974. 8 p., Appendix A.

Lincer, Jeffrey L. 1974. The ecological status of Dona and Robert's Bay and its relationship to Cow Pen Slough and other possible perturbations; Third progress report (for the month of July and August) from the Mote Marine Laboratory to the Board of County Commissioners, Sarasota County on ---. 18 October 1974. 12 p., Appendix A, B, & C.

Lindall, William N. Jr. 1973. Alterations of estuaries of South Florida: a threat to its fish resources. MFR paper 1013, from Marine Fisheries Review, Vol. 35(10), p. 26-33.

Longino, B. T. Jr. (Ch.) and K. A. Clark (Sec.) 1971. Supervisors Annual Report, Sarasota Soil and Water Conservation District, December 31, 1971. unpublished report. 7 p.

Lugo, Ariel and S. C. Snedaker. 1970. The ecology of the Oscar Scherer State Park: the effects of man on its structure and function. A report prepared for the "Save Our Bays Association", October, 1970. n.p.

Mardoo Applied Marine Ecology Station. A Program for ecological investigations. unpublished report. 22 p.

Marco Applied Marine Ecology Station. 1972. Annual Progress report, July 1, 1971-June 30, 1972. Marco Island, Fla. 66 p.

Marco Applied Marine Ecology Station, 1973. Annual Progress report, July 1, 1972-June 30, 1973. Marco Island, Florida. 62 p.

Marshall, Arthur R. 1969. Population and the Florida environment. Conservation 70's, Homosassa Springs, Fla. Sept. 13, 1969.

- Morrison, George. 1971. Dissolved oxygen requirements for embryonic and larval development of the hardshell clam, Mercenaria mercenaria. J. Fish Res. Bd. Canada 28: 379-381
- McCormack, Fred. 1974. Environment Inventory Complete. Sarasota Herald-Tribune, Sec. F. 17 Feb. 1974, 1, 6-7
- McCormack, Fred. 1974. Marine Organism study reveals degeneration of Sarasota Bay, (May become health hazard to residents). Sarasota Herald-Tribune. 1 July 1974.
- McQuigg, John L. 1965. The economic value of preserving the natural shoreline. Address to U. of Fla. Bulkhead Seminar, Stuart, Florida, May 21, 1965. unpublished report, 11 p.
- New York Ocean Science Laboratory, Technical Report No. 0006, The state of knowledge with regard to the effects of physical, chemical and biological conditions on the uses of coastal resources. Montauk, New York. December, 1970. n.p.
- Nixon, Scott W., Candace A. Oviatt, and Sharon L. Northby. 1973. Ecology of Small Boat Marinas. Marine Technical Report Series No. 5. University of Rhode Island, Kingston. 1973.
- Oregon State University. 1971. Oceanography of the nearshore coastal waters of the Pacific Northwest relating to possible pollution, Vol. I for the Environmental Protection Agency. U. S. Govt. Printing Office, Washington, D.C. 615 p.
- Pacheco, Anthony L. (Ed.) 1973. Proceedings of a workshop on egg, larval and juvenile stages of fish in Atlantic Coast estuaries. Held at Bears Bluff Laboratories, Wadmalaw Island, South Carolina, June 1968. Technical Publication No. 1 of the National Marine Fisheries Service, Middle Atlantic Coastal Fisheries Center, Highlands, New Jersey. 338 p.

Partington, William M. 1969. The need for wildlife diversity. read at Conservation '70's Environmental Legislative Workshop, Homosassa Springs, Fla. Sept. 13, 1969.

Peek, Harry M. 1958. Ground-water resources of Manatee County, Florida. State of Florida, State Board of Conservation, Florida Geological Survey, Report of Investigations No. 18. 99 p,

Phillips, Ronald O. and Victor G. Springer. 1960. A report on the hydrography, marine plants and fishes of the Caloosahatchee River area, Lee County, Florida. Special Scientific Report No. 5, 1 Dec. 1960. FSBCML No.: 60-36 34 p.

Phillips, Ronald O. 1962. Distribution of seagrasses in Tampa Bay, Florida. Special Scientific Report No. 6, 1 Sept. 1962, FSBCML No.: 62-13, 12 p.

Reid, George K. 1969. Overview of destructive forces in the present and future of Florida's fresh water. Submitted at Conservation '70's, Homosassa Springs, Fla. Sept. 13, 1969

Reish, Donald J. 1972. Marine and estuarine pollution. Journal WPCF, Literature Review, Vol. 44(6), p. 1218-1226

Rifkin, Erik, William J. Tiffany III, Julie K. Morris, and Edward F. Connor. Natural systems inventory and evaluation study, Community Alpha. New College Environmental Studies Program, Sarasota, Fla. unpublished report. 44 p.

Rifkin, Erik, William J. Tiffany III, Julie K. Morris, and Edward F. Connor. Natural systems inventory and evaluation study, Palmer Ranch property. New College Environmental Studies Program, Sarasota, Fla. unpublished report. 60 p.

Rogers, Lyman E. 1969. Environmental education, better late than never. report by Lyman E. Rogers to Conservation 70's Inc. Environmental Workshop, Homosassa Springs, Fla. Sept. 13-14, 1969.

Rogers, Lyman E. 1969. Environmental education, better late than never. report by Lyman E. Rogers to Conservation 70's Inc. Environmental Workshop, Homosassa Springs, Fla. Sept. 13-14, 1969. (Abstract, Panel No. 7)

Rogers, Lyman E. 1969. Format for aquatic plant control in Florida. Conservation 70's Inc. Environmental Workshop, Homosassa Springs, Fla. Sept. 13-14, 1969. Panel No. 3, Fresh Water Biological Resources.

Ross, Bernard E. 1973. Dona Bay Study. Prepared for the Board of County Commissioners-Sarasota County. 55 p.

Ryther, John H. and William M. Dunstan. 1971. Nitrogen, phosphorus, and eutrophication in the coastal marine environment. Science, Vol. 171, p.1008-1013.

Sameoto, D. D. 1971. Macrozooplankton biomass measurements in Bedford Basin, 1969-1971. Fisheries Research Board of Canada, Technical Report No. 282. Marine Ecology Laboratory Bedford Institute, Dartmouth, Nova Scotia. 238 p.

Sarasota County Planning Department. 1973. Environmental limitations I, for Sarasota County. Long Range Planning Div. of the Sarasota County Planning Dept. unpublished report. 10 p., 4 appendices.

Sarasota Soil Conservation District, et al. 1961. Watershed work plan Sarasota West Coast watershed, Sarasota County, Florida, Manatee County, Florida. unpublished report. 64 p.

Schultz, Donald P. 1973. Uptake and dissipation of the dimethylamine salt of (2,4-dichlorophenoxy) acetic acid in fish, water, and hydrosol. Final report on a research project conducted by The Division of Fishery Research, supported by The Corps of Engineers, Department of the Army, January, 1973. 67 p.

Sheffield, C. W. 1969. Prospects for aquatic plant utilization. Conservation 70's, Homosassa Springs, Fla. Sept. 13, 1969.

Sims, Harold Jr. 1969. The case of Boca Ceiga Bay. talk to Conservation 70's, Homosassa Springs, Fla. Sept. 13, 1969. (Abstract)

Smally, Wellford & Nalven, Consulting Engineers. 1970. Shoreline analysis of the City of Sarasota. Prepared under contract with The Tampa Bay Regional Planning Council. 152 p.

Springer, Victor G. and Kenneth D. Woodburn. 1960. An ecological study of the fishes of the Tampa Bay area. Professional Papers Series, Number One. Florida State Board of Conservation, Marine Laboratory, St. Petersburg, Fla. 104 p.

Steward, Kerry K. 1969. Aquatic plant threat to Florida's waters. presentation to Conservation 70's Environmental Legislative Workshop, Homosassa Springs, Fla. Sept. 13-14, 1969.

Storrs, P. N. 1970. Effects of Waste disposal into marine waters (A survey of studies carried out in the last ten years) Water Research Pergamon Press 1970. Vol. 4: p.709-720. Printed in Great Britain

Stubensky, Eileen D. 1974. An exploratory investigation of the estuarine system of South Creek. Senior Thesis, New College, 1974. 79 p.

- Sutcliffe, W. H. Jr. 1972. Some relations of land drainage, nutrients, particulate material, and fish catch in two eastern Canadian bays. J. Fish. Res. Bd. Canada 29: 357-362.
- Sykes, James E. 1971. Implications of dredging and filling in Boca Ciega Bay, Florida. Environmental Letters, 1(2):151-156.
- Sykes, James E. 1963. Multiple utilization of Gulf coast estuaries. Proceedings of the Seventeenth Annual Conference, Southeastern Association of Game and Fish Commissioners, Sept. 29-30. Oct. 1-2. 1963.. n. 323-326.
- Sykes, James E. 1967. The role of research in the preservation of estuaries. Transactions of the Thirty-Second North American Wildlife and Natural Resources Conference, Mar. 13-15, 1967. p. 150-160.
- Tabb, Durbin. 1969. Marine Resources. Abstract from Panel No. 1, Conservation '70's Environmental Workshop, Homosassa Springs, Fla. Sept. 13, 1969. unpublished paper. n.p.
- Tabb, Durbin C. and Edwin S. Iversen. 1971. Final Report Part I, A survey of the literature relating to the South Florida ecosystem (with pertinent references from outside the geographic boundaries of the subject area). Rosenstiel School of Marine and Atmospheric Science, U. of Miami, Miami, Fla. 205 p.
- Taylor, J. L. and C. H. Saloman. 1969. Sediments, oceanographic observations and floristic data from Tampa Bay, Florida and adjacent waters, 1961-65. Data Report 34, U.S. Dept. of the Interior, Bureau of Commercial Fisheries. Dec. 1969. Microfilm, Sheets 1-9.
- Thayer, Gordon W. 1973. Identity and regulation of nutrients limiting phytoplankton production in the shallow estuaries near Beaufort, N.C. Oecologia (Berl.) 14: p. 75-92. 1974

Tiffany, William J. III. 1973. Checklist of benthic invertebrate communities in Sarasota Bay with special reference to water quality indicator species. New College, Environmental Studies Program. unpublished report

Tyler, James E. 1964. Preliminary exploratory fishing on the Florida West Coast. Special Scientific Report No. 8, Florida State Board of Conservation, Salt Water Fisheries Division, 1 November 1964. 14 p.

U. S. Army, Corps of Engineers. 1973. Flood Plain Information, Coastal areas, Sarasota County, Florida. 28 p.

U. S. Army, Corps of Engineers, 1973. Flood plain information, South Creek, North Creek, Catfish Creek, Clower Creek, Elligraw Bayou, and Matheny Creek, Sarasota County, Florida. 32 p.

U. S. Army Corps of Engineers. 1973. Hyacinths under control on St. Johns River. News release, 30 May 1973, Dept. of the Army, Jacksonville, Fla. 2 p.

U. S. Dept. of Agriculture. 1959. Soil Survey, Sarasota County, Florida. U. S. Govt. Printing Office, Washington, D. C. Series 1954, No. 6. 71 p., 53 sheets.

U. S. Dept. of Commerce. 1974. Water quality modeling, A bibliography with abstracts. National Technical Information Service, U. S. Dept. of Commerce, Springfield, VA. COM-74-10938. 158 p.

U. S. Department of the Interior, Fish and Wildlife Service. 1954. Gulf of Mexico, Its origin, waters, and marine life. Fishery Bulletin 89. U.S. Government Printing Office, Washington, D.C. 604 p.

U. S. Dept. of the Interior. 1969. Problems and management of water quality in Hillsborough Bay, Florida. Hillsborough Bay Technical Assistance Project, Technical Programs, Southeast Region, Federal Water Pollution Control Administration, Tampa, Florida. 86 p.

U. S. Dept. of Interior. 1969. The practice of water pollution biology. U. S. D. I., Water Pollution Control Administration, Div. of Technical Support. U.S. Govt. Printing Office, Washington, D.C. 281 p.

Environmental Protection Agency. 1971. Bio-engineering aspects of agricultural drainage San Joaquin Valley, California, The effects of agricultural waste water treatment on algal bioassay response. U. S. Government Printing Office, Washington, D.C. 57 p.

U. S. Environmental Protection Agency, Cornelius I. Weber (Ed.), 1973. Biological field and laboratory methods for measuring the quality of surface waters and effluents. EPA-670/4-73-001. Cincinnati, Ohio. Copy One.

U. S. Environmental Protection Agency, Cornelius I. Weber (Ed.), 1973. Biological field and laboratory methods for measuring the quality of surface waters and effluents. EPA-670/4-73-001. Cincinnati, Ohio. Copy Two.

U. S. Environmental Protection Agency, 1973. Ecosystems analysis of the Big Cypress Swamp and estuaries. U. S. Environmental Protection Agency, Region IV, Surveillance and Analysis Division, South Florida Ecological Study. Copy One. EPA 904/9-74-002

U. S. Environmental Protection Agency. 1973. Ecosystems analysis of the Big Cypress Swamp and estuaries. U.S. Environmental Protection Agency, Region IV, Surveillance and Analysis Division, South Florida Ecological Study. Copy Two. EPA 904/9-74-002.

Veri, Albert R., Arthur R. Marshall, Susan Uhl Wilson, and James H. Hartwell, et al. 1973. Rookery Bay land use studies, Environmental planning strategies for the development of a mangrove shoreline. The Conservation Foundation, Washington, D.C. Study No. 2, The resource buffer plan: a conceptual land use study. October, 1973

Vitale, Anne M. and Pierre M. Sprey. 1974. Total Urban water pollution loads: the impact of storm water. PB-231 730, Prepared for Council on Environmental Quality, 1974. 183 p.

Wang, Johnson C. S., and Raney, Edward C. 1971. Distribution and fluctuations in the fish fauna of the Charlotte Harbor estuary, Florida. sponsored by The Mote Marine Laboratory, Sarasota and Placida, Fla., and Cornell University, Ithaca, New York. June, 1971. 56 p. plus App. A-1 through A-8 and B-1 through B-38.

Wallace, H. E. 1969. Problems of fish and game management in Florida. presented at the Environmental Legislative Workshop sponsored by Conservation 70's Inc., Homosassa Springs, Fla., Sept. 13, 1969.

Woodburn, Kenneth D. 1969. Submerged land management for Florida. Submitted at Conservation 70's, Homosassa Springs, Fla. Sept. 13, 1969.

Woods, John W. Future of fresh water fishes in Florida. unpublished report. 6 p.

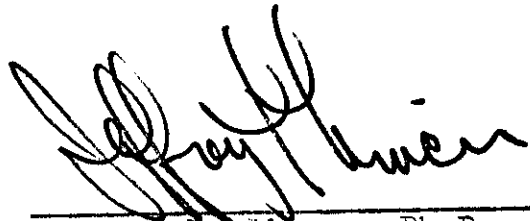
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Council on Environmental Quality, 1970. Environmental quality:  
The first annual report of the Council on Environmental  
Quality. transmitted to the Congress, August, 1970.  
U. S. Govt. Printing Office, Washington, D.C. 326 p.

Council on Environmental Quality, 1971. Environmental quality:  
The second annual report of the Council on Environmental  
Quality, August, 1971. U. S. Govt. Printing Office, Washington,  
D.C. Stock No. 4111-0005. 360 p.

Council on Environmental Quality, 1972. Environmental quality:  
The third annual report of the Council on Environmental  
Quality, August, 1972. U. S. Govt. Printing Office, Washington,  
D.C. Stock No. 4111-0011. 450 p.

Council on Environmental Quality, 1973. Environmental quality:  
The fourth annual report of the Council on Environmental  
Quality, September, 1973. U. S. Govt. Printing Office,  
Washington, D.C. Stock No. 4111-00020. 499 p.

Ketchum, Bostwick H. (Ed.) 1972. The water's edge: Critical  
problems of the Coastal Zone. (Coastal Zone Workshop,  
Woods Hole, Mass., 22 May-3 June, 1972) The MIT Press,  
Cambridge, Mass., and London, England. 393 p.

Klein, Marian. 1973. Minutes of meeting: Review of research  
conducted at Federal Fish Lab., St. Petersburg Beach, Fla.  
Seminar held at New College, Sarasota, Fla., February 2,  
1973. unpublished report.

Lincer, Jeffrey L. and Deena Zalkind. 1973. A preliminary  
note on organochlorine residues in the eggs of fish-eating  
birds of the West Coast of Florida. Florida Field Naturalist,  
Vol. 1, Fall 1973. Copy One

Mackenthun, Kenneth M. and William Marcus Ingram. 1967.  
Biological associated problems in freshwater environments;  
their identification, investigation and control. U. S.  
Dept. of the Interior, Federal Water Pollution Control  
Administration, U. S. Govt. Printing Office, Washington,  
D. C. 287 p.

Millipore Corporation. 1973. Biological analysis of water and wastewater, Application Manual AM302. Millipore Corp., Bedford, MA. 84 p.

Morris, Julie. 1974. An ecological study of Upper Myakka Lake with a special focus on Hyacinth and Hydrilla. unpublished report. 70 p.

Smith, Robert E. (Ed.) 1974. Proceedings of marine environmental implications of offshore drilling in the Eastern Gulf of Mexico, Conference/Workshops, January 31, February 1, 2, 1974. State University System of Florida, Institute of Oceanography, St. Petersburg, Fla. Document 74-4. 455 p.

Steers, J. A. (Ed.) 1971. Introduction to coastline development. The MIT Press, Cambridge, Mass. 229 p.

Taylor, John L. 1965. Bottom samplers for estuarine research. Chesapeake Sci. 6(4): 233-234.

Thomas, William A., Gerald Goldstein, and William H. Wilcox. 1973. Biological indicators of environmental quality; A bibliography of abstracts. Ann Arbor Science Publishers, Inc., Ann Arbor, Michigan. 254 p.

Tiffany, William J. III. 1974. The benthic invertebrates of Dona and Roberts' Bays and South Creek; May, 1974. A report to Dr. Lincer, Mote Marine Laboratory. unpublished report, 25 p., 2 att.

U. S. Government, Committee on Government Operations. 1970. Protecting America's estuaries: the San Francisco Bay and Delta. Thirty-first Report by the Committee on Govt. Operations. U.S. Govt. Printing Office, Washington, D.O., House Report No. 1433. 142 p.

U. S. Government, Committee on Merchant Marine and Fisheries, House of Representatives. 1971. Hearings before the Subcommittee on Oceanography of the Committee on Merchant Marine and Fisheries, House of Representatives, ninety-second Congress, First Session. U. S. Govt. Printing Office, Washington, D.C. Serial No. 92-16. 463 p.

U. S. Government, Committee on Public Works, U. S. Senate. 1971. Hearings before the Subcommittee on Air and Water Pollution of the Committee on Public Works, United States Senate, ninety-second Congress, First session. February 4, 8, and 9, 1971. Serial No. 92-H1. U. S. Govt. Printing Office, Washington, D.C. 781 p.

Addendum B  
to  
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for

Project Entitled:

THE ECOLOGICAL STATUS OF DONA AND ROBERT'S BAY  
AND ITS RELATIONSHIP TO COW PEN SLOUGH  
AND OTHER POSSIBLE PERTURBATIONS

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By:



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- Anern, Ann. Residents Concerned Over Slough Project. Sarasota Herald-Tribune, Section B, South County Report. February 7, 1973
- Alvarez, Lt. Ken. Personal communication re the Myakka River Watershed. unpublished report, n. p.
- Anonymous. Dona Bay Choked with Freshwater Weeds. Sarasota Herald-Tribune, South County Report, Section B, Aug. 8, 1973.
- Anonymous. Exodus of Weeds from Cowpen Slough to Dona Bay. Sarasota Herald Tribune, Section B, October 17, 1974.
- Bureau of Sport Fisheries and Wildlife. Critique of Statement by Kenneth Grant, Administrator, Soil Conservation Service (USDA) at Hearing of the Subcommittee on Flood Control-Rivers and Harbors, Senate Committee on Public Works, July 27, 1971. unpublished report, September 16, 1971, 4 pps.
- Chamberlin, Jill. Weeds Cause Cowpen Slough Fish-Kill; Freshwater Weeds Clog Cowpen Slough, Killing Fish and Creating Stench. Sarasota Herald-Tribune, South County Report, Section B, July 27, 1973.
- Cook, D. W., and G. W. Childers. Relationship between Pollution Indicator Organisms and the Salinity of Mississippi's Estuarine Waters. In: Proceedings Mississippi Water Resources Conference 1970. Water Resources Research Institute, State College, Mississippi. p. 181-191.
- Copeland, B. J. Estuarine Classification and Responses to Disturbances. Transactions of the American Fisheries Society. 99(4):826-835, October 1970.
- Curtis, James. Cow Pen Slough Debate Continues (Water Hyacinthia and Rotting Weeds Choke the Slough...Until the next Flood When they will be Flushed Away). Sarasota Herald-Tribune, Sept. 5, 1973, p.5B.

Hall, J. R., and W. N. Lindall, Jr. Benthic Macroinvertebrates and Sediments from Upland Canals in Tampa Bay, Florida. U. S. Dept. of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service. Seattle, WA. Data Report 94, NMFS-DR-94, 221 pps, September 1974.

Hutchinson, G. E. Eutrophication, Marginalia, The Scientific Background of a Contemporary Practical Problem. American Scientist. 61(3):269-279, May-June 1973.

Johnson, J. W., and R. L. Wiegell. Investigation of Current Measurement in Estuarine and Coastal Waters, for The State Water Pollution Control Board, Standard Service Agreement No. 12C-18, State of California, Sacramento, CA, Publication No. 19. 233 pps, 1959..

Katz, E. E. Chemical Destruction of Aquatic Fauna in the Withlacoochee River, Florida through Hyacinth Control. Florida Game and Fresh Water Fish Commission and Stetson University, Deland. 58 pps., 31 December 1966.

see Moody, H. L., *Withlacoochee River, Florida, 1966*

Ketchum, B. H. Eutrophication of Estuaries. In: Eutrophication: Causes, Consequences, Correctives; Proceedings of a Symposium. Nat. Acad. Sci. pp. 197-208, 1969.

Lincer, J. L. Fourth Progress Report (for the months of September and October, 1974) from the Mote Marine Laboratory to the Board of County Commissioners, Sarasota County on The Ecological Status of Dona and Robert's Bay and its Relationship to Cow Pen Slough and other Possible Perturbations. Mote Marine Laboratory, December 19, 1974, 11 pps, App. A., & App. B.

Lindall, W. N. Jr. Alterations of Estuaries of South Florida: A Threat to its Fish Resources. Marine Fisheries Review. 35(10):26-33, October 1973. MFR Paper 1013.

Martens, C. S., and R. A. Berner. Methane Production in the Interstitial Waters of Sulfate-Depleted Marine Sediments. Science. 185:1167-1169, 27 September 1974.

Moody, H. L., et al. Fishery Improvement Fund, Withlacoochee River Fishery Investigations Completion Report. Game and Fresh Water Fish Commission, Tallahassee, FL. 6 pps., 31 December 1966.  
See Katz, E. E., Chemical Destruction of Aquatic Fauna in the Withlacoochee River, Florida through Hyacinth Control.

Morrill, J. B., C. deNarvaez, R. Foster, F. B. Ayer II, and E. Connor. A Report on the Hydrography and Biology of Two Man-made Canal Systems - Heron Lagoon and Grand Canal - on Siesta Key Sarasota County, Florida. Division of Natural Sciences, New College, Sarasota, FL. 47 pps., 1974.

Sherk, J. A., Jr., and L. E. Cronin. The Effects of Suspended and Deposited Sediments on Estuarine Organisms, An Annotated Bibliography of Selected References. Maryland University, prepared for Coastal Engineering Research Center. NTIS #AD-763 227, 62 pps., April 1970.

U. S. Army, Office, Chief of Engineers. Aquatic Plant Control Program, Technical Report 6: Biological Control of Water Hyacinth with Insect Enemies. U. S. Army Engineer, Waterways Experiment Station, Vicksburg, Miss. p. C8-C11, January 1974.

U. S. Dept. of the Interior. Keys to Water Quality Indicative Organisms (Southeastern United States). Parrish, F. K. (ed.). Federal Water Pollution Control Administration, n.p., November 1968.