OCEANOGRAPHIC OBSERVATIONS IN WEST COAST FLORIDA WATERS, 1949-52

The swarming of a poisonous plankter, which results in extensive destruction of fish, has been known to occur periodically off the west coast of Florida since 1844. This fish-killing plague, known popularly as "red tide" because of the simultaneous appearance of large patches and streaks of water of various degrees of discoloration, resulted in much speculation as to its cause. Most theories advanced, as pointed out by Galtsoff (1948), were not supported by evidence. It was not until 1948 that the cause of the red tide was positively identified as the intense blooming or overgrowth of the dinoflagellate, Gymnodinium brevis Davis.

In 1948 following destructive outbreaks in 1946 and 1947, the U. S. Fish and Wildlife Service set up an investigation based at Sarasota, Florida, for the purpose of determining factors responsible for the intense blooming of G. brevis. The goal of this investigation was to develop methods for prediction and control of red tide outbreaks. This work is now being continued by the Fish and Wildlife Service at Galveston, Texas, and Fort Myers, Florida, and by the Florida State Board of Conservation through the University of Miami Marine Laboratory and the Department of Engineering of the University of Florida.

The original program included the collection of chemical, meteorological, and hydrographic information at approximately monthly intervals at various river, coastal, and offshore stations (figs. 1 and 2).

Presented in tables I through XXVII are data collected between 1949 and 1952, which includes phosphorus data already presented by Graham, et al (1954). These data will be used for comparison with more recent findings and are presented here for use by scientists engaged in red-tide research.

CRUISE PATTERNS

The initial cruise pattern, which consisted of two river and six Gulf stations, was followed from 1949 to 1950 when a modified pattern was established which consisted of six Gulf stations. This pattern was followed until this particular oceanographic phase of the investigation was terminated in 1952.

METHODS

Nansen bottles were used for collection of water samples. These were lowered from the 62-foot motor vessel Pompano to the desired depth by means of a 1/8-inch hydrographic cable attached to an electrically-driven winch. Depths were determined by measuring the length of cable unwound from the drum. No attempt was made to correct for wire angles caused by drift of the vessel. Wind velocities were estimated according to the Beaufort scale and wind directions were determined with the aid of the ship's flag and compass. Inorganic phosphate and nitrate determinations were made according to the methods described by Robinson and Thompson (1948). Total phosphate was determined by the method described by Harvey (1948), except that comparisons were made by means of Nessler tubes. Oxygen was determined by the modified Winkler method which increased the concentration of the alkali-iodide reagent from 2.5 N and .9 N respectively. Water temperatures were taken with reversing thermometers attached to the Nansen bottles. Temperature values presented in the tables are not corrected and for this reason are not recorded beyond the nearest tenth of a degree. The pH measurements were made with a Hellige comparator and were corrected for salinity. Salinities were determined by the method described by Martin Knudsen (1901). Water transparency was measured with a standard secchi disc.

Rose Mary Calaway assisted in tabulating and proof reading the data presented in this paper and also constructed and photographed the cruise pattern figures.

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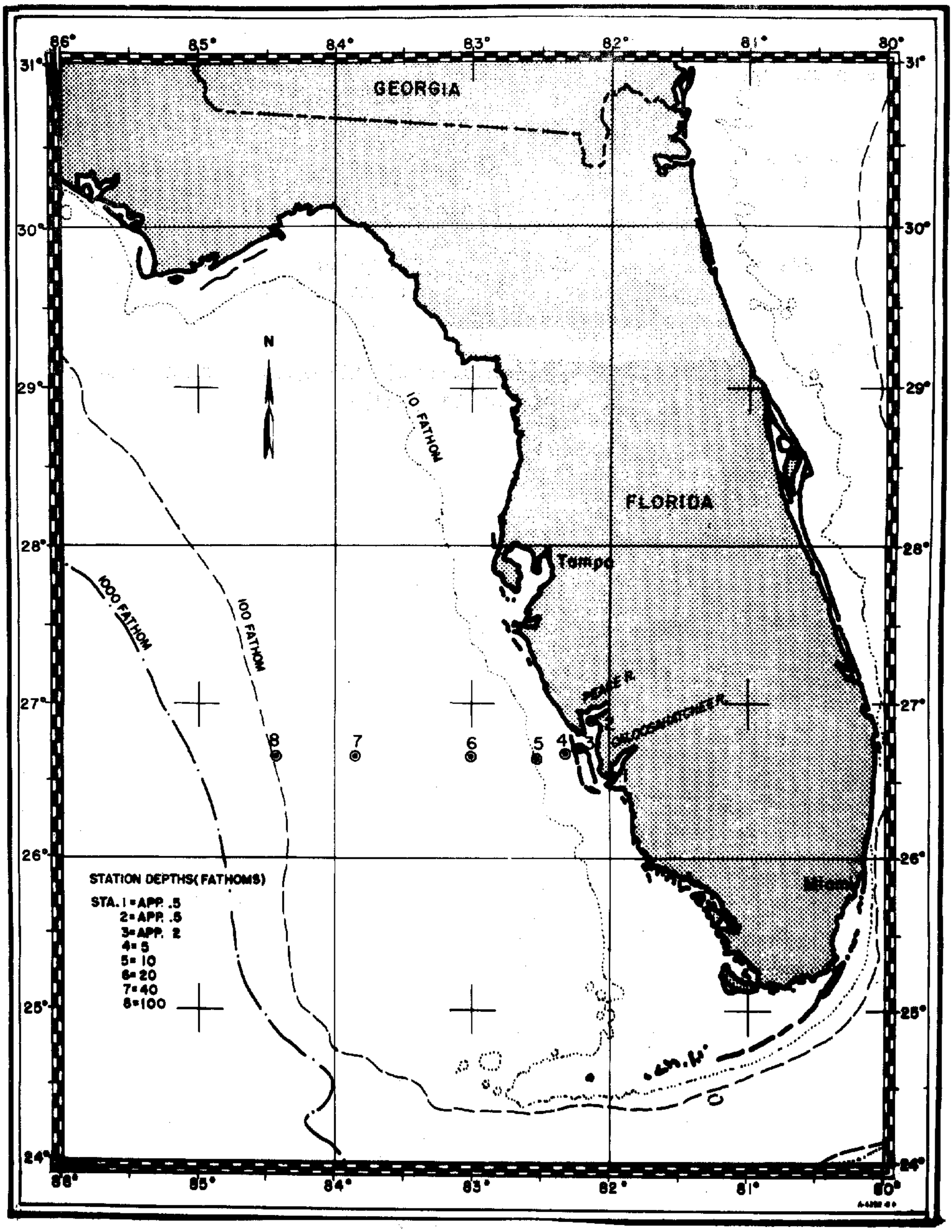

Figure 1.--Location of stations for cruise pattern No. 1

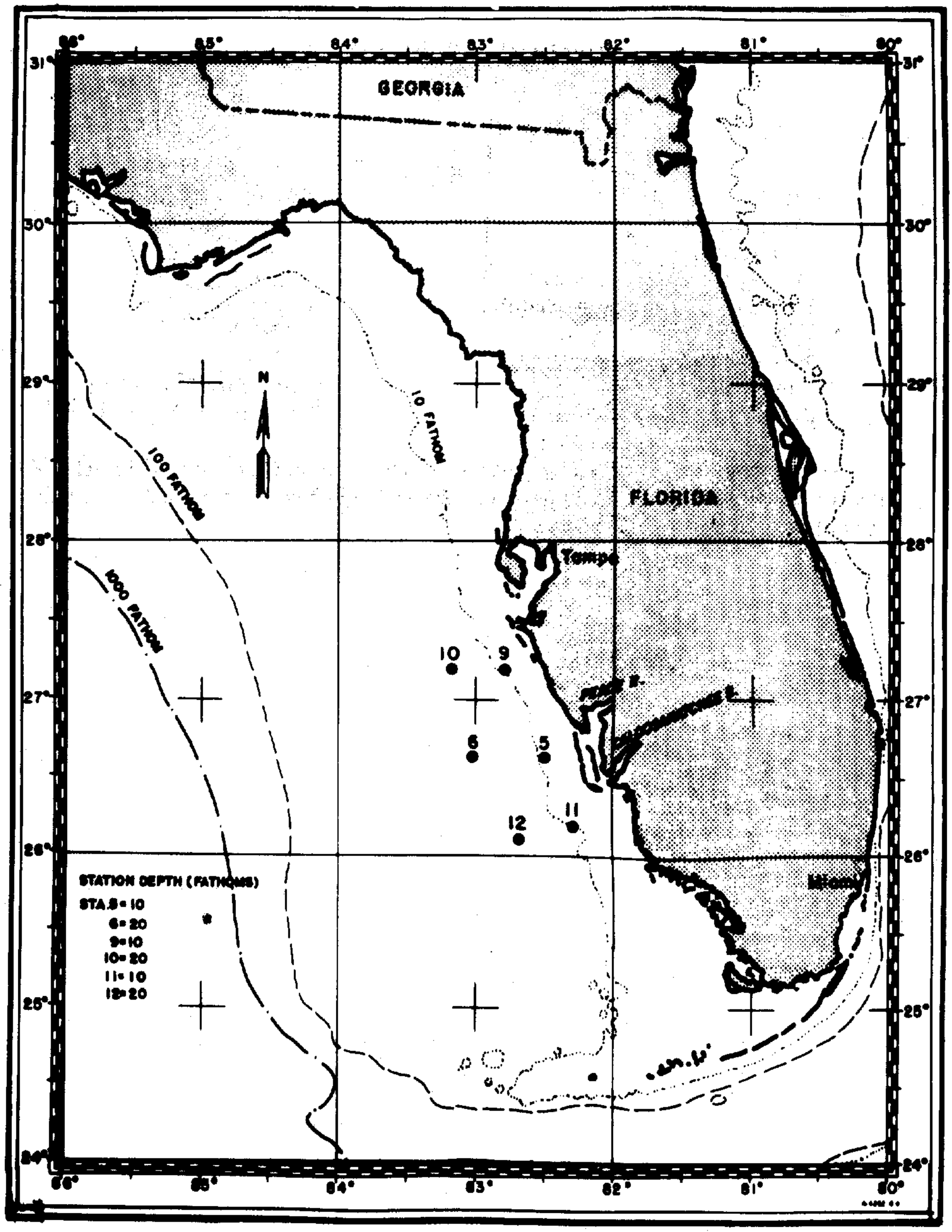

Figure 2.-- Location of stations for cruise pattern No. 2

EXPLANATION OF TABLES

Units:

Depth	Meters
Temperature	°C
O_2 (Oxygen)	cc/1
T. PO_4 (Total Phosphate)	µgat PO_4-P/1
I. PO_4 (Inorganic Phosphate)	µgat PO_4-P/1
NO_2 (Nitrite)	µgat NO_2-N/1
Sal. (Salinity)	o/oo
Wind Velocity	Beaufort Force No.
Sky	Eighths of Sky Covered

Stations 1 and 2 of cruise pattern number one marked with an asterisk on tables I through XVII were occupied from the shore and water samples were transported by automobile.

TABLE I
CRUISE 1 - M/V POMPANO MAY 9-12, 1949

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
1*	5/9	1.5	28.5	4.15	1.20	0.50	----	8.2	29.96	-----	----	WSW	1	27.0	2
2*	5/10	0	27.3	3.80	6.00	2.50	----	8.3	29.60	2.5	1130	NW	1	29.4	1
		3	27.2	3.63	2.20	1.75	----	8.3	-----						
3	5/10	0	27.9	4.47	-----	0.10	----	8.2	35.17	3.5	1400	WNW	1	28.3	1
		2	27.8	4.52	0.30	0.10	----	8.2	35.17						
4	5/10	0	27.6	4.63	1.00	0.05	----	8.2	35.12	2.5	1555	NW	1	28	1
		7	27.2	5.02	0.20	0.05	----	8.2	35.17						
5	5/11	0	26.1	4.58	0.60	0.05	----	8.2	35.41	13	0925	W	1	28.0	6
		10	26.1	4.52	1.10	0.05	----	8.2	35.44						
		16	25.3	4.52	0.90	0.05	----	8.2	35.81						
6	5/11	0	26.4	4.66	0.60	0.05	----	8.2	35.97	14.5	1415	W	1	29.4	3
		10	25.4	4.75	0.10	0.05	----	8.2	36.27						
		20	24.4	4.91	0.20	0.05	----	8.2	36.82						
		31	23.3	4.91	0.20	0.05	----	8.2	37.18						
7	5/12	0	24.9	4.63	0.20	0.00	----	8.2	36.69	35	0900	NE	1	27.8	1
		10	24.8	4.71	0.15	0.00	----	8.2	36.17						
		20	23.9	4.75	0.35	0.05	----	8.2	35.97						
		30	22.8	4.86	0.60	0.05	----	8.2	36.04						
		50	21.8	4.80	0.50	0.05	----	8.2	36.17						
		71	19.8	3.80	0.50	0.25	----	8.2	36.35						
8	5/12	0	25.4	4.57	0.20	0.05	----	8.2	36.20	30	1525	NW	1	26.0	6
		10	25.1	4.69	0.15	0.05	----	8.2	36.17						
		20	24.5	4.80	0.20	0.05	----	8.2	36.20						
		30	23.3	4.83	0.25	0.05	----	8.2	36.06						
		50	22.3	4.80	0.20	0.05	----	8.2	36.09						
		75	21.8	3.74	0.60	0.05	----	8.2	36.38						
		100	19.4	3.02	0.50	0.40	----	8.2	36.40						
		150	15.0	2.82	1.10	1.10	----	8.0	35.97						
		170	15.0	2.74	1.10	1.10	----	8.0	35.97						

TABLE II
CRUISE 2 - M/V POMPANO JUNE 9-10, 1949

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi		Wind		Air T.	Sky
										Depth	Time	Dir.	Vel.		
1*	6/10	1	28.2	4.63	2.70	0.15	----	8.2	22.70	-----	----	SE	2	24.7	8
2*	6/10	2	28.5	4.58	23.0	6.00	----	8.2	27.94	-----	----	E	1	24.2	9
3	6/7	0	28.7	4.15	0.80	0.25	----	8.2	37.12	-----	1535	SW	2	27.2	1
4	6/7	0	28.3	4.30	0.80	0.15	----	8.4	35.97	-----	1250	SW	1	27.2	1
		7	27.5	4.42	0.55	0.05	----	8.4	35.95						
5	6/8	0	26.6	4.63	1.10	0.10	----	8.2	35.77	13.5	0940	SE	1	27.0	5
		10	26.2	4.63	1.30	0.10	----	8.2	35.75						
		17	24.7	4.92	1.30	0.10	----	8.2	35.97						
6	6/8	0	27.5	4.52	0.40	0.05	----	8.2	36.02	20.5	1343	SE	1	27.8	6
		10	26.5	4.49	0.45	0.05	----	8.2	36.09						
		20	26.3	4.52	0.15	0.05	----	8.2	36.06						
		35	23.5	4.86	0.35	0.10	----	8.2	36.17						
7	6/9	0	26.5	4.44	0.20	0.05	----	8.2	36.27	29	0800	SW	1	24	9
		10	26.5	4.49	0.15	0.05	----	8.2	36.26						
		20	26.1	4.47	0.30	0.05	----	8.2	36.24						
		30	25.3	4.55	0.15	0.05	----	8.2	36.17						
		50	23.3	4.69	0.30	0.05	----	8.2	36.15						
		73	21.0	4.13	0.25	0.10	----	8.2	36.20						

TABLE III
CRUISE 3 - M/V POMPANO JUNE 20-27, 1949

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
1*	6/27	1	30.0	3.07	2.30	1.10	----	7.8	17.21	2	1200	S	1	33.0	1
2*	6/27	2	30.0	2.01	10.17	3.20	----	8.0	26.44	4.5	1415	S	1	34.0	1
3	6/20	0	29.7	4.52	1.95	0.25	----	8.2	34.99	2	1615	SW	2	28.0	8
4	6/20	0	29.8	4.55	0.5	0.05	----	8.2	35.88	5.5	1435	SW	1	29.3	2
		7	29.2	4.69	0.5	0.05	----	8.2	35.91						
5	6/21	0	27.9	4.36	0.30	0.05	----	8.2	35.26	18	0940	SE	1	27.0	7
		10	27.6	4.47	0.20	0.05	----	8.2	35.53						
		16	26.3	4.92	0.30	0.05	----	8.2	35.90						
6	6/21	0	28.4	4.42	0.45	0.05	----	8.2	35.53	19	1242	SW	1	31.0	4
		10	27.6	4.52	0.35	0.05	----	8.2	35.59						
		20	26.5	4.71	0.75	0.05	----	8.2	35.52						
		35	23.2	4.80	0.20	0.05	----	8.2	36.09						
7	6/22	0	27.8	4.49	0.10	0.05	----	8.2	35.23	-----	-----	SW	1	26.7	9
		10	27.4	4.52	0.15	0.05	----	8.2	35.25						
		20	26.2	4.75	0.15	0.05	----	8.2	35.43						
		30	24.4	5.00	0.20	0.05	----	8.2	35.82						
		50	22.2	4.97	0.15	0.10	----	8.2	36.09						
		71	20.9	4.10	0.30	0.15	----	8.1	36.24						

TABLE IV
CRUISE 4 - M/V POMPANO JULY 11-14, 1949

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
1*	7/14	1	31.0	4.08	4.80	2.75	<0.10	8.2	5.25	1	1220	S	1	31.4	1
2*	7/14	2	31.0	2.07	9.60	7.50	0.20	7.8	18.62	1	1415	WSW	2	31.0	1
3	7/11	0	30.6	4.02	0.75	0.20	<0.05	8.2	34.94	2	1705	S	1	31.1	7
4	7/11	0	30.4	3.99	0.40	0.05	<0.05	8.2	35.64	4.5	1400	S	1	31.2	7
		7	30.2	3.88	0.60	0.10	0.05	8.2	35.79						
5	7/12	0	29.4	4.39	1.10	0.05	0.00	8.2	35.59	8.5	0915	SW	2	29.0	8
		10	29.5	4.42	0.20	0.10	0.00	8.2	35.70						
		16	29.4	4.36	0.20	0.10	0.02	8.2	36.06						
6	7/12	0	29.2	4.24	0.20	0.05	0.00	8.2	35.61	22	1348	SW	1	30.8	7
		10	29.0	4.22	0.15	0.05	0.00	8.2	35.50						
		20	27.7	4.58	0.15	0.15	0.00	8.2	35.95						
		35	24.8	4.60	0.20	0.10	0.02	8.2	36.08						
7	7/13	0	28.5	4.30	0.35	0.05	0.00	8.2	33.30	26.5	0845	S	1	27.7	4
		10	28.9	4.27	0.20	0.05	0.00	8.2	33.96						
		20	27.2	4.71	0.15	0.05	0.00	8.2	35.43						
		30	25.8	4.69	0.10	0.05	0.00	8.2	35.90						
		50	22.4	4.75	0.15	0.05	0.00	8.1	35.95						
		72	21.0	3.85	0.15	0.15	0.60	8.1	36.22						

TABLE V

CRUISE 5 - M/V POMPANO AUGUST 1-4, 1949

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi		Wind		Air T.	Sky
										Depth	Time	Dir.	Vel.		
1*	8/4	1	29.5	2.87	2.20	1.20	0.50	7.6	0.21	1.3	1135	E	2	30.0	2
2*	8/4	2	28.5	1.34	6.00	4.80	0.15	8.0	17.30	1	1025	SE	1	30.8	2
3	8/1	2	29.7	3.99	2.20	0.90	0.20	8.2	28.1	3	1620	SW	3	29.2	7
4	8/2	0	28.7	3.97	0.50	0.30	0.00	8.2	34.96	-----	----	S	3	28.1	4
		7	28.7	3.97	0.40	0.15	0.00	8.2	34.92						
5	8/2	0	29.3	4.44	0.10	0.10	0.00	8.3	35.64	6	1120	SSW	4	29.7	5
		10	29.2	4.08	0.10	0.00	<0.05	8.2	35.46						
		16	29.1	3.27	0.10	0.05	0.05	8.2	35.77						

TABLE VI
CRUISE 6 - M/V POMPANO AUGUST 25 - SEPTEMBER 1, 1949

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
1*	8/25	1	30.5	3.02	0.65	0.35	0.30	7.9	0.12	0.7	1115	ENE	2	30.0	4
2*	8/25	2	30.0	0.89	15.20	14.00	0.15	7.3	5.80	1.0	1330	E	3	31.0	4
3	8/30	0	29.2	3.94	4.40	3.20	0.75	8.2	17.00	1.0	1435	W	1	29.4	2
4	8/30	0	29.6	4.77	1.60	1.25	0.30	8.3	25.68	2.0	1605	W	1	29.4	2
		7	28.7	3.02	0.80	0.30	0.15	8.1	34.49						
5	8/31	0	29.1	4.63	0.25	0.05	<0.05	8.2	35.01	7	0755	SE	2	27.2	3
		10	29.0	4.30	0.15	0.05	<0.05	8.2	35.03						
		16	28.9	3.84	0.15	0.10	0.07	8.1	35.10						
6	8/31	0	29.5	4.52	0.15	0.05	<0.05	8.2	35.25	26	1223	SE	1	31.4	5
		10	28.8	4.58	0.10	0.05	<0.05	8.2	35.10						
		20	28.7	4.49	0.10	0.05	<0.05	8.2	35.14						
		36	26.9	4.15	0.15	0.10	0.05	8.1	36.00						
7	9/1	0	29.0	4.60	0.10	0.05	0.00	8.2	34.88	33	0900	E	1	28.3	6
		10	29.0	4.49	0.10	0.10	0.00	8.2	34.90						
		20	29.0	4.52	0.10	0.10	0.00	8.2	34.97						
		25	28.0	----	-----	----	----	---	35.01						
		30	25.7	5.14	0.10	0.10	0.00	8.2	36.15						
		50	22.6	4.71	0.15	0.10	0.00	8.2	36.22						
		73	19.2	3.07	0.45	0.35	0.50	8.0	36.36						
8	9/1	0	29.2	4.55	0.15	0.05	0.00	8.2	33.31	26	1352	NE	2	28.7	4
		10	29.4	4.52	0.10	0.05	0.00	8.2	33.68						
		20	29.8	4.60	0.10	0.05	0.02	8.2	36.31						
		30	27.1	4.80	0.10	0.10	0.00	8.2	36.15						
		50	23.2	4.77	0.15	0.05	0.05	8.2	36.26						
		75	21.0	3.72	0.15	0.10	0.10	8.1	36.53						
		100	18.2	3.02	0.80	0.75	0.05	8.1	36.49						
		150	----	2.85	1.20	1.10	0.02	8.0	35.90						
		182	13.1	2.82	1.20	1.20	0.05	8.0	35.71						

TABLE VII
CRUISE 7 - M/V POMPANO OCTOBER 6-12, 1949

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
1*	10/6	1	28.0	3.30	1.80	0.35	<0.05	7.4	0.6	-----	----	S	1	31.4	2
2*	10/6	2	27.0	2.68	15.50	12.50	<0.05	6.7	0.9	-----	----	S	1	30.3	4
3	10/10	0	28.2	2.85	1.85	1.20	0.05	8.1	28.44	2.3	1428	SE	0	31.1	3
4	10/10	0	28.4	3.69	1.10	0.80	0.02	8.2	30.70	3	1605	SE	3	26.4	8
		7	28.2	1.68	0.90	0.60	0.25	8.1	34.11						
5	10/11	0	27.7	4.63	0.60	0.30	0.02	8.3	31.69	5	0900	E	4	26.7	1
		10	27.9	4.27	0.40	0.10	0.05	8.2	33.64						
		16	28.3	2.68	0.75	0.25	0.30	8.1	34.90						
6	10/11	0	28.2	4.42	0.40	0.05	0.00	8.2	35.21	28.5	1232	E	4	30.0	2
		10	28.2	4.24	0.35	0.05	0.00	8.2	35.21						
		20	28.2	4.47	0.15	0.05	0.02	8.2	35.16						
		34	28.1	4.52	0.30	0.10	0.05	8.2	35.17						
7	10/12	0	27.8	4.63	0.30	0.05	0.00	8.2	35.39	-----	----	E	4	25.4	8
		10	27.8	4.75	0.35	0.05	0.00	8.2	35.43						
		20	27.8	4.58	0.25	0.05	0.02	8.2	35.44						
		30	27.3	4.83	0.35	0.05	0.05	8.2	35.79						
		40	23.2	4.83	0.20	0.10	0.05	8.2	36.22						
		50	20.8	3.88	0.55	0.15	0.07	8.2	36.35						
		74	17.7	2.79	0.90	0.80	0.10	8.0	36.11						
8	10/12	0	27.9	4.58	0.10	0.05	0.00	8.2	35.88	26	1503	E	3	26.4	7
		10	27.9	4.52	0.10	0.05	0.00	8.2	35.90						
		20	27.9	4.55	0.05	0.05	0.00	8.2	35.95						
		30	28.1	4.58	0.20	0.05	0.02	8.2	36.02						
		50	24.1	4.47	0.20	0.10	0.05	8.2	36.35						
		75	20.8	3.58	0.40	0.15	0.07	8.1	36.40						
		100	18.8	3.07	0.60	0.60	0.05	8.1	36.40						
		150	16.6	3.02	1.10	0.80	0.02	8.1	36.18						
		182	15.7	3.02	1.25	1.10	0.05	8.0	36.04						

TABLE VIII
CRUISE 8 - M/V POMPANO NOVEMBER 3-9, 1949

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
1*	11/3	0	24.0	5.05	2.20	0.45	0.10	8.2	00.90	1	1230	N	3	23.3	2
2*	11/3	0	25.2	3.63	7.50	5.40	0.00	8.1	18.70	1.5	1045	N	3	22.5	1
3	11/7	0	21.3	5.14	1.25	0.60	0.05	8.1	32.75	1.3	1555	NE	2	22.8	5
4	11/7	0	22.8	4.92	1.10	0.20	0.02	8.2	34.42	2.5	1350	NE	2	23.6	2
		7	22.7	4.83	0.80	0.30	0.02	8.2	34.29						
5	11/8	0	24.4	4.58	0.30	0.10	0.03	8.2	34.76	9.5	0930	NE	3	23.1	2
		10	24.4	4.75	0.25	0.10	0.03	8.2	34.78						
		16	24.4	4.66	0.25	0.15	0.05	8.2	34.76						
6	11/8	0	25.3	4.55	0.10	0.10	0.02	8.2	35.26	14	1345	NE	2	26.1	7
		10	25.3	4.63	0.10	0.10	0.02	8.2	35.26						
		20	25.3	4.52	0.15	0.10	0.02	8.2	35.26						
		36	22.4	3.38	0.40	0.35	0.40	8.1	36.36						
7	11/9	0	25.3	4.53	0.20	0.05	0.00	8.3	35.82	30	0830	E	2	25.6	3
		10	25.3	4.58	0.20	0.10	0.02	8.3	35.82						
		20	25.3	4.47	0.10	0.10	0.02	8.2	35.84						
		30	25.3	4.47	0.10	0.05	0.02	8.2	35.90						
		50	23.8	4.27	0.10	0.05	0.05	8.2	36.40						
		72	22.4	3.49	0.40	0.20	0.10	8.2	36.56						
8	11/9	0	26.9	4.50	0.05	0.05	0.00	8.2	36.22	28	1535	E	1	26.1	4
		10	26.8	4.44	0.15	0.05	0.00	8.2	36.20						
		20	26.8	4.55	0.05	0.05	0.00	8.2	36.24						
		30	26.6	4.53	0.05	0.05	0.00	8.2	36.22						
		50	26.4	4.47	0.15	0.10	0.00	8.2	36.22						
		75	23.1	4.13	0.20	0.15	0.15	8.2	36.47						
		100	21.0	3.58	0.30	0.30	0.20	8.2	36.71						
		150	17.6	3.13	0.75	0.50	0.03	8.1	36.35						
		182	17.1	3.07	0.80	0.70	0.03	8.0	36.29						

TABLE IX
CRUISE 9 - M/V PONPANO DECEMBER 1-8, 1949

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
1*	12/1	1	18.0	5.38	3.00	1.80	0.02	8.3	9.00	1.5	1145	NE	4	18.9	0
2*	12/1	2	17.5	5.17	17.00	14.00	0.02	8.2	9.78	1.5	1000	NE	4	15.6	0
3	12/5	0	18.5	5.25	0.85	0.60	0.02	8.1	31.89	2.5	1640	N	1	21.1	1
4	12/5	0	18.9	5.25	0.50	0.20	0.02	8.2	32.77	3.5	1435	NW	2	21.7	1
		6	19.0	4.94	0.30	0.10	0.05	8.2	33.80						
5	12/6	0	20.0	5.05	0.10	0.10	0.02	8.2	34.74	11.5	1340	E	2	23.9	1
		10	20.0	4.97	0.10	0.10	0.02	8.2	34.85						
		16	20.0	5.02	0.10	0.10	0.05	8.2	34.83						
6	12/7	0	21.2	4.75	0.15	0.10	0.02	8.2	35.75	12	0800	SE	3	20.0	1
		10	21.2	4.77	0.15	0.10	0.02	8.2	35.75						
		20	21.2	4.85	0.15	0.10	0.05	8.2	35.77						
		35	21.2	4.83	0.25	0.15	0.05	8.2	35.75						
7	12/7	0	23.9	4.69	0.05	0.05	0.02	8.2	36.11	25	1500	SE	1	22.2	8
		10	23.9	4.58	0.05	0.05	0.02	8.2	36.15						
		20	23.6	4.69	0.10	0.10	0.02	8.2	36.09						
		30	23.2	4.69	0.10	0.10	0.02	8.2	36.00						
		50	23.0	4.63	0.10	0.10	0.02	8.2	35.91						
		72	22.6	4.63	0.18	0.15	0.05	8.2	35.81						
8	12/8	0	23.7	4.58	0.10	0.05	0.00	8.2	36.17	34	1130	NW	1	23.9	6
		10	23.4	4.58	0.10	0.05	0.00	8.2	36.18						
		20	23.4	4.58	0.15	0.05	0.00	8.2	36.18						
		30	23.4	4.66	0.10	0.05	0.02	8.2	36.17						
		50	23.4	4.63	0.10	0.05	0.02	8.2	36.18						
		75	23.4	4.42	0.10	0.05	0.05	8.2	36.38						
		100	20.8	3.38	0.40	0.20	0.02	8.2	36.49						
		150	15.0	3.07	0.80	0.80	0.03	8.1	36.04						
		182	13.1	2.82	1.20	1.20	0.07	8.0	35.68						

TABLE X
CRUISE 10 - M/V POMPANO JANUARY 1-11, 1950

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi		Wind		Air T.	Sky
										Depth	Time	Dir.	Vel.		
1*	1/5	1	21.5	5.36	0.80	0.20	0.07	8.2	9.47	1.5	1140	SSE	4	25.0	2
2*	1/5	2	20.5	4.85	17.00	11.00	0.02	8.1	20.12	1.0	1010	SSE	4	23.3	0
3	1/9	2	20.1	4.85	0.65	0.40	0.10	8.1	33.51	2.0	1630	SSE	5	22.2	6
4	1/10	0	20.1	4.94	0.70	0.20	0.03	8.2	33.93	2.2	0915	SE	3	19.4	2
		7	20.1	4.83	0.80	0.35	0.05	8.2	33.95						
5	1/10	0	20.2	5.14	0.10	0.10	0.02	8.2	35.12	17	1200	SE	3	21.1	1
		10	20.2	5.14	0.10	0.10	0.02	8.2	35.10						
		16	20.1	5.08	0.10	0.10	0.02	8.2	35.12						
6	1/10	0	20.5	4.92	0.15	0.15	0.00	8.2	35.86	12	1700	SE	3	21.1	1
		10	20.4	5.08	0.10	0.05	0.00	8.2	35.88						
		20	20.3	5.02	0.15	0.10	0.02	8.2	35.90						
		34	20.3	4.94	0.30	0.15	0.02	8.2	35.84						
7	1/11	0	23.2	4.85	0.10	0.10	0.00	8.2	36.67	27	1220	SE	4	23.3	1
		10	23.2	4.83	0.10	0.05	0.00	8.2	36.24						
		20	23.2	4.80	0.10	0.05	0.00	8.2	36.22						
		30	23.1	4.69	0.10	0.05	0.00	8.2	36.20						
		50	23.0	4.71	0.05	0.05	0.00	8.2	36.26						
		73	21.7	3.99	0.20	0.20	0.15	8.1	36.31						

TABLE XI
CRUISE 11 - M/V POMPANO FEBRUARY 9-15, 1950

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi		Wind		Air T.	Sky
										Depth	Time	Dir.	Vel.		
1*	2/9	1	22.5	5.45	1.50	0.60	0.02	8.3	19.13	1	1025	E	1	25.8	3
2*	2/9	2	22.0	4.42	11.00	9.00	0.02	8.1	24.25	1.6	1000	E	1	21.7	0
3	2/13	0	23.4	4.80	0.60	0.35	0.03	8.2	36.00	2.5	1555	S	4	23.9	2
4	2/14	0	23.1	4.47	1.05	0.30	0.01	8.2	34.22	1.5	0920	S	4	23.1	1
		7	23.1	4.47	1.05	0.35	0.02	8.2	34.23						
5	2/14	0	22.6	4.77	0.12	0.10	0.01	8.2	35.35	10.5	1205	S	3	24.2	1
		10	22.5	4.85	0.14	0.10	0.01	8.2	35.35						
		17	22.4	4.80	0.12	0.10	0.01	8.2	35.35						
6	2/15	0	21.7	4.88	0.10	0.10	0.02	8.2	35.64	16.5	0840	NW	2.0	21.1	6
		10	21.7	4.97	0.10	0.10	0.02	8.2	35.66						
		20	21.3	4.94	0.10	0.10	0.02	8.2	35.71						
		36	19.9	5.00	0.10	0.10	0.02	8.2	35.81						

* River Stations. Transportation by automobile.

TABLE XII
CRUISE 12 M/V POMPANO MARCH 2-8, 1950

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
1*	3/2	1	20.0	4.94	3.00	1.15	0.05	8.2	20.41	1	1155	NE	3	16.7	0
2*	3/2	2	20.0	5.78	9.00	5.75	0.10	8.2	26.74	2	1400	NE	3	18.9	0
3	3/6	0	20.9	5.02	0.60	0.20	0.02	8.1	35.25	4	1510	S	3	23.3	4
4	3/7	0	21.1	4.96	0.20	0.10	0.02	8.2	35.21	4.2	0820	S	2	22.8	5
		7	20.9	5.02	0.30	0.10	0.02	8.1	35.25						
5	3/7	0	21.2	4.96	0.12	0.08	0.01	8.2	35.61	12	1100	S	2	23.3	5
		10	20.2	5.05	0.15	0.08	0.01	8.2	35.48						
		17	20.2	5.08	0.15	0.08	0.01	8.2	35.44						
6	3/7	0	21.8	4.95	0.10	0.05	0.01	8.2	36.20	20	1610	S	2	23.3	8
		10	21.4	4.92	0.12	0.05	0.01	8.2	36.29						
		20	21.0	4.85	0.12	0.05	0.01	8.2	36.15						
		37	21.1	4.85	0.12	0.05	0.01	8.2	36.24						
7	3/8	0	22.7	4.81	0.08	0.05	0.01	8.2	36.17	23	1600	NW	4	21.1	8
		10	22.6	4.86	0.08	0.08	0.01	8.2	36.17						
		20	22.1	4.86	0.08	0.08	0.01	8.2	36.11						
		30	21.5	4.91	0.08	0.05	0.01	8.2	36.22						
		50	21.4	4.77	0.10	0.05	0.01	8.2	36.40						
		73	21.3	4.63	0.11	0.10	0.05	8.1	36.29						

TABLE XIII
CRUISE 13 M/V POMPANO MARCH 30 - April 5, 1950

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
1*	3/30	1	22.2	4.00	8.00	4.40	0.00	7.8	20.48	0.6	1100	NNW	4	19.4	1
2*	3/30	2	23.0	5.20	13.00	12.00	0.00	8.2	26.00	1.2	1320	NNW	4	19.2	1
3	4/3	0	22.1	5.10	0.75	0.25	0.01	8.2	34.78	2.2	1725	S	4	23.3	3
4	4/4	0	21.4	5.06	0.80	0.20	0.00	8.2	35.39	1	0820	SE	3	22.2	2
		7	21.4	5.03	1.12	0.30	0.00	8.2	35.39						
5	4/4	0	21.5	5.06	0.10	0.05	0.00	8.2	35.52	7.5	1120	SE	3	23.3	4
		10	21.2	5.15	0.25	<0.05	0.00	8.2	35.53						
		16	21.2	5.04	0.25	<0.05	0.00	8.2	35.53						
6	4/4	0	21.2	4.86	0.35	0.08	<0.01	8.2	36.26	21	1605	SSE	2	22.2	1
		10	20.9	4.96	0.20	0.05	<0.01	8.2	36.27						
		20	20.5	4.93	0.12	0.08	<0.01	8.2	36.24						
		35	20.6	4.88	0.15	0.08	0.01	8.2	36.22						
7	4/5	0	21.6	4.88	0.10	0.08	<0.01	8.2	36.06	16	1630	WNW	4	20.6	8
		10	21.6	4.86	0.05	0.05	<0.01	8.2	36.06						
		20	21.4	4.93	0.05	0.05	<0.01	8.2	36.13						
		30	21.2	4.88	0.10	0.10	<0.01	8.2	36.15						
		50	20.9	4.93	0.30	0.15	<0.01	8.2	36.06						
		72	18.5	3.05	0.60	0.50	0.05	8.1	36.36						

TABLE XIV
CRUISE 14 M/V POMPANO APRIL 27 to MAY 4, 1950

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
1*	4/27	2	27.2	4.22	2.75	0.90	2.00	8.1	26.00	____	____	WSW	1	30.6	1
2*	4/27	2	25.8	4.22	14.00	7.60	0.00	8.1	28.42	2	1000	---	0	28.9	0
3	5/1	0	26.2	5.28	0.45	0.10	< 0.01	8.3	35.14	-----	----	W	2	26.7	1
4	5/2	0	25.1	4.75	0.35	0.08	< 0.01	8.2	35.30	6.5	0745	SE	2	20.7	1
		7	24.9	4.69	0.40	0.08	< 0.01	8.2	35.28						
5	5/2	0	23.5	5.14	0.05	0.04	0.00	8.2	35.59	13	1010	SE	3	28.4	1
		10	23.0	5.11	0.10	0.04	< 0.01	8.2	35.62						
		16	21.4	5.08	0.15	0.05	< 0.02	8.2	35.48						
6	5/2	0	24.3	4.97	0.15	0.04	0.00	8.2	36.09	13	1530	SE	1	27.0	2
		10	22.9	5.19	0.10	0.04	0.00	8.2	36.09						
		20	20.7	5.25	0.10	0.04	0.00	8.2	35.97						
		36	20.3	4.61	0.20	0.05	0.01	8.2	36.06						
7	5/3	0	24.1	4.97	0.25	0.10	0.00	8.2	35.64	21	1305	SE	1	27.3	2
		10	22.7	5.08	0.15	0.04	0.00	8.2	35.82						
		20	21.8	5.08	0.15	0.05	0.00	8.2	36.00						
		30	21.5	5.08	0.30	0.10	0.00	8.2	36.02						
		50	21.3	4.64	0.15	0.04	0.00	8.2	36.33						
		74	20.0	3.66	0.55	0.10	0.06	8.2	36.18						
8	5/4	0	24.4	4.97	0.10	0.04	0.00	8.3	35.19	30	1030	SE	1	26.8	0
		10	23.5	4.97	0.15	0.04	0.00	8.2	35.43						
		20	22.3	5.00	0.15	0.04	0.00	8.2	35.75						
		30	21.8	5.00	0.20	0.04	0.00	8.2	35.84						
		50	22.1	4.92	0.20	0.04	0.00	8.2	36.22						
		75	22.0	4.83	0.15	0.04	0.00	8.2	36.29						
		100	21.1	4.10	0.15	0.04	0.20	8.2	36.24						
		150	17.4	3.18	0.65	0.35	0.00	8.1	36.33						
		182	14.5	3.10	1.00	1.00	0.03	8.0	35.90						

TABLE XV
CRUISE 15 M/V POMPANO JUNE 8-14, 1950

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
1*	6/8	1	29.0	3.21	2.40	2.20	0.00	7.7	25.51	-----	----	SE	3	32.8	6
2*	6/8	2	29.5	3.91	15.00	15.00	0.15	8.0	25.48	1.6	1410	SE	4	32.0	6
3	6/12	0	29.5	4.33	0.75	0.05	0.01	8.3	36.29	3	1505	W	3	28.9	2
4	6/13	0	29.1	4.22	0.35	0.05	0.00	8.3	36.17	4	0735	NE	1	27.8	2
		7	29.1	4.24	0.60	0.10	0.00	8.3	36.09						
5	6/13	0	28.6	4.30	0.15	0.05	0.00	8.2	35.91	16	1030	NW	1	28.0	2
		10	28.5	4.33	0.30	0.05	0.00	8.2	36.06						
		17	27.9	4.36	0.15	0.08	0.01	8.2	36.13						
6	6/13	0	29.7	4.41	0.15	0.05	0.00	8.2	36.27	32	1430	WNW	1	29.4	2
		10	28.0	4.47	0.10	0.05	0.00	8.2	36.18						
		20	27.3	4.55	0.10	0.05	0.00	8.2	36.24						
		36	23.2	5.14	0.10	0.08	0.00	8.2	36.20						
7	6/14	0	27.6	4.55	0.10	0.05	0.01	8.2	35.43	19	0745	SE	3	27.2	2
		10	27.5	4.55	0.10	0.05	0.01	8.2	35.39						
		20	24.3	4.94	0.10	0.05	0.01	8.2	35.82						
		30	23.0	4.92	0.10	0.05	0.01	8.2	36.15						
		50	21.9	4.80	0.10	0.05	0.02	8.2	36.17						
		75	20.4	3.80	0.15	0.15	0.20	8.1	36.18						
8	6/14	0	28.1	4.38	0.45	0.05	0.00	8.2	36.38	26	1300	SE	3	30.3	2
		10	27.8	4.55	0.15	0.05	0.00	8.2	36.35						
		20	26.8	4.61	0.20	0.05	0.00	8.2	36.36						
		30	24.8	4.47	0.20	0.05	0.01	8.2	36.38						
		50	21.9	3.60	0.30	0.20	0.01	8.2	36.67						
		75	20.5	3.43	0.45	0.30	0.02	8.2	34.92						
		100	18.1	2.76	1.00	0.70	0.01	8.1	36.38						
		150	15.7	2.87	0.75	0.75	0.02	8.0	36.04						
		180	13.9	2.68	1.15	1.15	0.05	8.0	35.79						

TABLE XVI
CRUISE 16 M/V POMPANO JULY 11-13, 1950

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Seechi Depth	Seechi Time	Wind Dir.	Wind Vel.	Air T.	Sky
1*	7/11	1	28.5	---	3.80	2.50	0.02	8.1	23.18	2	1130	SE	2	32.2	3
2*	7/11	2	27.2	---	8.10	8.00	0.10	8.1	27.27	3.5	1020	SSE	3	30.0	3
3	7/12	1	28.0	---	0.85	0.20	0.01	8.1	35.73	2	1430	E	3	31.7	2
4	7/12	0	28.8	---	0.60	0.10	0.01	8.2	35.88	2.5	1555	S	3	30.0	2
		7	28.6	---	0.70	0.15	0.00	8.2	-----						
5	7/13	0	28.7	---	0.30	0.05	0.01	8.2	36.13	11.5	0820	S	2	27.2	1
		10	28.7	---	0.25	0.05	0.01	8.2	36.13						
		17	28.6	---	0.30	0.05	0.05	8.2	36.15						
6	7/13	0	28.6	---	0.40	0.05	0.01	8.2	35.59	20	1430	S	2	29.6	2
		10	28.2	---	0.30	0.05	0.01	8.2	35.59						
		20	28.3	---	0.30	0.05	0.01	8.2	35.97						
		37	24.0	---	0.25	0.20	0.01	8.2	36.17						
7	7/13	0	28.3	---	0.10	0.05	0.00	8.2	34.00	22	1845	SE	2	27.8	1
		10	28.2	---	0.20	0.05	0.00	8.2	34.56						
		20	28.4	---	0.20	0.05	0.00	8.2	35.23						
		30	25.1	---	0.15	0.05	0.00	8.2	35.79						
		50	21.7	---	0.15	0.05	0.00	8.1	36.17						
		73	19.0	---	0.45	0.40	0.35	8.0	36.27						

TABLE XVII
CRUISE 17 M/V POMPANO AUGUST 21-24, 1950

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
1*	8/21	1	32.0	---	1.60	0.15	0.00	8.2	18.60	1.8	1200	SW	1	31.1	2
2*	8/21	2	31.4	---	7.00	5.00	0.05	8.0	26.46	2.8	1040	SW	1	29.4	2
3	8/22	2	31.3	---	1.25	0.30	0.01	8.2	34.43	2.5	1430	W	2	31.1	4
4	8/22	0	31.2	---	0.45	0.10	0.01	8.2	35.95	3.5	1605	W	1	30.6	2
		7	30.1	---	0.75	0.10	0.01	8.2	36.24						
5	8/22	0	30.9	---	0.15	0.05	0.01	8.1	36.38	16	1800	SE	1	28.9	2
		8	30.1	---	0.15	0.05	0.01	8.1	36.33						
		16	29.9	---	0.20	0.10	0.01	8.2	36.31						
6	8/23	0	29.5	---	0.10	0.05	< 0.01	8.2	34.78	20	1015	SE	1	27.8	8
		10	29.4	---	0.10	0.05	< 0.01	8.2	34.81						
		20	29.3	---	0.20	0.05	< 0.01	8.2	34.97						
		35	24.5	---	0.10	0.10	0.01	8.1	36.06						
7	8/23	0	29.6	---	0.10	0.10	0.01	8.2	32.88	26	1550	SE	2	28.3	3
		10	29.4	---	0.20	0.05	0.01	8.2	33.77						
		20	26.9	---	0.10	0.05	0.01	8.2	35.91						
		30	25.0	---	0.10	0.05	0.01	8.2	35.99						
		50	22.5	---	0.10	0.05	0.01	8.2	36.24						
		73	19.6	---	0.75	0.50	0.30	8.1	36.31						
8	8/24	0	29.3	---	0.10	0.05	0.01	8.2	33.71	18	0750	SE	3	30.0	2
		10	29.6	---	0.10	0.10	0.01	8.2	34.88						
		20	28.9	---	0.15	0.10	0.01	8.2	36.04						
		30	27.5	---	0.20	0.20	0.01	8.2	36.45						
		50	23.5	---	0.25	0.15	0.01	8.2	36.26						
		75	21.4	---	0.40	0.40	0.03	8.2	36.42						
		100	19.1	---	0.65	0.60	0.01	8.1	36.47						
		150	16.6	---	0.70	0.70	0.01	8.1	36.22						
		182	14.7	---	1.60	1.40	0.01	8.0	35.86						

TABLE XVIII
CRUISE 18 M/V POMPANO SEPTEMBER 20-22, 1950

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
5	9/22	0	28.2	4.32	0.20	0.15	0.00	8.3	35.84	12	0710	W	1	27.8	1
		10	28.2	4.32	0.15	0.15	0.00	8.2	35.86						
		16	28.2	4.32	0.35	0.20	0.00	8.2	35.84						
6	9/22	0	28.7	4.32	0.30	0.30	0.00	8.2	35.25	23	1210	---	0	30.9	0
		10	28.1	4.39	0.35	0.35	0.00	8.2	35.25						
		20	27.6	3.74	0.35	0.30	0.00	8.2	35.82						
		36	28.1	4.35	0.20	0.30	0.00	8.2	35.59						
9	9/22	0	28.0	4.32	0.35	0.30	0.01	8.2	35.66	11	1200	E	2	30.3	2
		10	27.9	4.32	0.30	0.30	0.01	8.2	35.61						
		17	27.4	3.39	0.40	0.30	0.25	8.2	36.11						
10	9/20	0	28.2	4.38	0.35	0.15	< 0.01	8.2	35.32	14	1600	N	1	30.0	2
		10	28.0	4.57	0.20	0.20	< 0.01	8.2	35.34						
		20	28.0	4.44	0.20	0.15	< 0.01	8.2	35.37						
		36	27.3	4.23	0.45	0.40	0.25	8.2	35.90						
11	9/21	0	28.3	4.35	0.20	0.15	0.01	8.2	35.81	16	1050	E	1	30.3	1
		10	28.3	4.21	0.40	0.15	0.01	8.2	35.84						
		18	27.6	4.21	0.30	0.10	0.02	8.2	36.26						
12	9/21	0	28.6	4.35	0.15	0.10	0.00	8.2	35.44	17	1535	E	1	30.3	1
		10	28.4	4.35	0.35	0.10	0.00	8.2	35.41						
		20	28.3	4.32	0.20	0.10	0.00	8.2	35.44						
		36	26.0	3.74	0.45	0.20	0.00	8.2	35.99						

TABLE XIX
CRUISE 22 M/V POMPANO OCTOBER 24-26, 1950

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
5	10/25	0	27.0	4.41	-----	0.10	0.01	8.2	36.15	9	0815	NE	3	24.4	2
		10	27.0	4.30	-----	0.10	0.01	8.2	36.15						
		17	27.1	4.24	-----	0.15	0.01	8.2	36.17						
6	10/25	0	27.3	4.30	-----	0.10	0.01	8.2	35.77	20	1330	N	1	28.9	1
		10	27.0	4.30	-----	0.10	0.01	8.2	35.75						
		20	27.0	4.47	-----	0.10	0.01	8.2	35.77						
		36	24.6	3.96	-----	0.15	0.02	8.1	35.77						
9	10/26	0	26.6	4.44	-----	0.10	0.01	8.2	35.03	10	1220	NE	2	25.9	1
		10	26.4	4.50	-----	0.10	0.01	8.2	35.08						
		17	26.5	4.05	-----	0.10	0.02	8.2	35.34						
10	10/26	0	26.5	4.44	-----	0.10	0.01	8.2	35.53	13	0800	NE	3	25.0	1
		10	26.6	4.50	-----	0.10	0.01	8.2	35.52						
		20	26.6	4.38	-----	0.10	0.01	8.2	35.52						
		36	26.5	3.77	-----	0.20	0.15	8.1	35.70						
11	10/24	0	27.6	4.30	-----	0.10	0.01	8.1	36.06	6	0730	WNW	1	26.7	---
		10	27.3	4.10	-----	0.10	0.01	8.2	36.02						
		17	27.4	4.12	-----	0.15	0.01	8.2	36.00						
12	10/24	0	27.8	4.44	-----	0.10	0.01	8.2	35.82	18	1400	WNW	1	29.7	1
		10	27.4	4.44	-----	0.10	0.01	8.2	35.79						
		20	27.4	4.36	-----	0.10	0.01	8.2	35.82						
		37	27.3	3.66	-----	0.25	0.30	8.1	36.17						

TABLE XX
CRUISE 35 M/V POMPANO FEBRUARY 15-17, 1951

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
5	2/16	0	18.1	5.39	0.15	0.10	0.01	8.2	34.51	13	1530	NW	1	21.7	1
		10	16.6	5.52	0.20	0.10	0.01	8.2	35.53						
		17	16.6	5.36	0.15	0.10	0.01	8.2	35.57						
6	2/16	0	18.6	5.07	0.20	0.05	0.00	8.2	36.24	18	1015	E	3	20.0	0
		10	18.6	5.05	0.30	0.05	0.00	8.2	36.18						
		20	18.5	5.16	0.20	0.05	0.00	8.2	36.18						
		35	18.1	5.00	0.20	0.05	0.01	8.1	36.13						
9	2/15	0	16.3	5.50	0.20	0.10	0.01	8.2	34.40	16	1210	NE	1	21.7	1
		10	15.9	5.37	0.20	0.05	0.01	8.2	35.50						
		17	15.8	5.35	0.20	0.10	0.01	8.2	35.52						
10	2/15	0	18.9	5.21	0.25	0.10	0.01	8.2	36.06	17	1645	NE	1	21.1	2
		10	16.4	5.41	0.25	0.10	0.01	8.2	35.73						
		20	16.4	5.28	0.20	0.10	0.01	8.2	35.71						
		35	16.2	5.29	0.20	0.10	0.01	8.2	35.75						
11	2/17	0	17.3	5.29	0.20	0.10	0.01	8.2	34.81	13	0800	NE	1	18.3	0
		10	16.5	5.36	0.25	0.10	0.01	8.2	34.74						
		17	16.3	5.17	0.30	0.10	0.01	8.1	34.94						
12	2/17	0	19.3	5.11	0.20	0.10	0.01	8.2	36.11	19	1345	NE	1	20.6	0
		10	18.4	5.15	0.20	0.10	0.01	8.2	36.08						
		20	18.3	5.17	0.10	0.10	0.01	8.2	36.08						
		35	18.1	5.19	0.35	0.10	0.01	8.2	36.06						

TABLE XXI
CRUISE 36 M/V POMPANO MARCH 27, 1951

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi		Wind		Air T.	Sky
										Depth	Time	Dir.	Vel.		
11	3/27	0	20.7	4.67	-----	0.05	0.01	8.2	-----	8	0822	SE	3	20.0	3
		10	20.6	4.46	-----	0.10	0.01	8.2	-----						
		17	-----	4.33	-----	0.20	-----	8.2	-----						

TABLE XXII
CRUISE 37 M/V POMPANO APRIL 5-9, 1951

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
5	4/6	0	20.2	5.08	0.20	0.05	0.00	8.1	----	9.5	0920	SE	2	20.6	9
		10	20.2	5.01	0.20	0.05	0.00	8.2	----						
		17	19.9	5.01	0.20	0.15	0.00	8.2	----						
6	4/6	0	19.4	5.06	0.20	0.05	0.00	8.2	----	14	1410	ESE	2	20.6	9
		10	19.4	5.11	0.15	0.05	0.00	8.2	----						
		20	19.4	5.14	0.25	0.05	0.00	8.2	----						
		36	19.2	5.08	0.25	0.10	0.00	8.2	----						
9	4/9	0	19.9	4.88	0.25	0.10	0.01	8.2	----	9	1100	N	1	20.0	7
		10	19.6	5.01	0.35	0.10	0.01	8.2	----						
		18	19.7	4.95	0.35	0.35	0.01	8.1	----						
10	4/9	0	19.4	5.01	0.20	0.10	0.00	8.2	----	16	1517	NNE	1	20.6	7
		10	19.1	5.06	0.15	0.05	0.00	8.2	----						
		20	19.0	5.08	0.15	0.05	0.00	8.2	----						
		37	18.7	5.06	0.20	0.15	0.00	8.2	----						
11	4/5	0	20.6	4.93	0.20	0.05	0.01	8.2	----	10.5	0955	NE	3	19.4	0
		10	20.6	4.93	0.20	0.05	0.01	8.2	----						
		18	20.5	4.93	-----	0.10	0.01	8.2	----						
12	4/5	0	20.3	5.11	-----	0.10	0.00	8.2	----	18	1420	E	2	22.8	0
		10	20.2	5.14	-----	0.05	0.00	8.2	----						
		20	20.0	5.11	-----	0.10	0.00	8.2	----						
		35	19.6	5.14	-----	0.20	0.00	8.2	----						

TABLE XXIII
CRUISE 39 M/V POMPANO MAY 16, 1951

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi		Wind		Air T.	Sky
										Depth	Time	Dir.	Vel.		
11	5/16	0	25.4	---	------	0.10	0.02	8.2	-----	13	1400	NW	2	25.6	1
		10	25.2	---	------	0.10	0.01	8.2	-----						
		17	25.2	---	------	0.10	0.01	8.2	-----						

TABLE XXIV
CRUISE 41 M/V POMPANO MAY 28 - JUNE 1, 1951

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
5	5/31	0	26.2	---	------	0.05	0.01	8.2	-----	16	1145	----	----	------	---
		10	25.5	---	------	0.05	0.01	8.2	-----						
		17	----	---	------	0.10	0.01	8.2	-----						
6	5/31	0	26.5	---	------	0.05	0.01	8.2	-----	19	1630	----	----	-----	---
		10	25.5	---	------	0.05	0.01	8.2	-----						
		20	24.6	---	------	0.10	0.01	8.2	-----						
		36	21.0	---	------	0.10	0.01	8.2	-----						
9	5/28	0	25.2	---	------	0.05	0.01	8.2	-----	15	1110	NW	2	27.2	1
		10	24.9	---	------	0.05	0.01	8.2	-----						
		17	22.6	---	------	0.05	0.01	8.2	-----						
10	5/28	0	25.5	---	------	0.05	0.00	8.2	-----	24	1545	W	2	25.0	1
		10	24.8	---	------	0.05	0.00	8.2	-----						
		20	24.5	---	------	0.05	0.01	8.2	-----						
		36	20.7	---	------	0.10	0.01	8.2	-----						
11	6/1	0	26.7	---	------	0.05	0.01	8.2	-----	13	1105	NE	3	26.1	3
		10	25.9	---	------	0.05	0.01	8.2	-----						
		17	23.7	---	------	0.05	0.01	8.2	-----						
12	6/1	0	25.9	---	------	0.05	0.01	8.2	-----	17	0630	E	3	25.6	2
		10	25.4	---	------	0.05	0.01	8.2	-----						
		20	25.1	---	------	0.05	0.01	8.2	-----						
		36	21.5	---	------	0.10	0.01	8.2	-----						

TABLE XXV
CRUISE 42 M/V POMPANO JUNE 19-21, 1951

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
5	6/19	0	29.1	4.34	------	0.15	0.01	8.2	-----	16	1410	SW	2	28.9	3
		10	28.6	4.36	------	0.10	0.01	8.2	-----						
		17	26.1	4.87	------	0.10	0.01	8.2	-----						
6	6/19	0	28.4	4.38	------	0.10	0.01	8.2	-----	-----	----	NW	2	25.0	8
		10	28.2	4.41	------	0.05	0.01	8.2	-----						
		20	27.0	4.68	------	0.10	0.01	8.2	-----						
		37	23.4	5.34	------	0.05	0.01	8.2	-----						
9	6/21	0	27.8	4.50	------	0.10	0.01	8.2	-----	13	0830	NW	2	27.8	2
		10	27.7	4.50	------	0.05	0.01	8.2	-----						
		17	24.3	4.33	------	0.10	0.01	8.2	-----						
10	6/21	0	28.2	4.36	------	0.05	0.00	8.2	-----	22	1205	NW	2	28.9	3
		10	27.9	4.37	------	0.05	0.00	8.2	-----						
		20	26.2	4.57	------	0.05	0.00	8.2	-----						
		36	22.9	5.14	------	0.10	0.01	8.2	-----						
11	6/20	0	28.4	4.52	------	0.10	0.01	8.2	-----	15	0800	S	1	28.3	2
		10	28.4	4.50	------	0.10	0.01	8.2	-----						
		17	26.7	4.47	------	0.10	0.01	8.2	-----						
12	6/20	0	29.6	4.39	------	0.10	0.01	8.2	-----	22	1320	NW	1	31.1	8
		10	28.1	4.36	------	0.05	0.01	8.2	-----						
		20	26.6	4.61	------	0.05	0.01	8.2	-----						
		36	23.3	5.13	------	0.10	0.01	8.2	-----						

TABLE XXVI
CRUISE 43 M/V POMPANO JULY 18, 1951

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
9	7/18	0	30.4	4.16	------	0.05	0.00	8.2	-----	15	1150	SW	2	29.4	3
		10	30.4	4.16	------	0.05	0.00	8.2	-----						
		16	30.3	4.16	------	0.05	0.00	8.2	-----						
10	7/18	0	30.5	4.09	------	0.05	0.00	8.2	-----	20	1530	W	1	30.0	7
		10	30.2	4.19	------	0.05	0.00	8.2	-----						
		20	29.0	4.16	------	0.05	0.00	8.2	-----						
		36	24.8	4.58	------	0.05	0.00	8.2	-----						

TABLE XXVII
CRUISE 44 M/V POMPANO JULY 23-24, 1951

Sta.	Date	Depth	Temp	O_2	T. PO_4	I. PO_4	NO_2	pH	Sal.	Secchi Depth	Secchi Time	Wind Dir.	Wind Vel.	Air T.	Sky
5	7/23	0	30.9	3.90	------	0.05	0.00	8.2	-----	7	1335	SSE	2	30.0	4
		10	30.4	----	------	------	----	---	-----						
		17	30.2	----	------	------	----	---	-----						
6	7/23	0	30.3	4.10	------	0.10	0.00	8.2	-----	28	1745	SE	1	30.0	5
		10	29.8	4.12	------	0.05	0.00	8.2	-----						
		20	28.9	4.22	------	0.05	0.00	8.2	-----						
		36	24.9	4.32	------	0.05	0.01	8.2	-----						
11	7/24	0	30.0	3.79	------	0.05	0.01	8.2	-----	14	0920	SE	2	28.3	7
		10	30.1	3.90	------	0.05	0.01	8.2	-----						
		17	30.0	3.81	------	0.05	0.01	8.2	-----						