

Technical Report (99-001)

Mobile Bay Data Report

MB-35 to MB-58 Cruises
(July 1993 – August 1995)

Jonathan R. Pennock
William W. Schroeder
John C. Lehrter
Jean L.W. Cowan
Fennel Blythe

The research was funded by the Dauphin Island
Sea Lab, the National Science Foundation-EPSCoR Program (OSR-9108761) and
through a United States Geological Survey grant to the Geological Survey of Alabama
and the University of Alabama (USGS-14-08-0001-A0775UA)

Table of Contents

Table of Contents.....	2
Purpose of Study.....	4
Acknowledgements	4
Station and Field Sampling Procedures.....	4
Laboratory Methods.....	5
References.....	7
Map of Mobile Bay	8
MB-35 (19 July 1993).....	9
MB-36 (11 August 1993).....	12
MB-37 (21 September 1993).....	15
MB-38 (20 October 1993).....	18
MB-39 (10 November 1993).....	21
MB-40 (15 December 1993).....	24
MB-41 (20 January 1994).....	27
MB-42 (4 March 1994)	30
MB-43 (23 March 1994)	33
MB-44 (28 April 1994).....	36
MB-45 (31 May 1994).....	39
MB-46 (21 June 1994).....	42
MB-47 (21 July 1994).....	45
MB-48 (23 August 1994).....	48

MB-49 (26 September 1994).....	51
MB-50 (31 October 1994).....	54
MB-51 (18 & 21 November 1994).....	57
MB-52 (25 January 1995).....	60
MB-53 (2 March 1995).....	63
MB-54 (20 March 1995).....	66
MB-55 (24 & 26 May 1995).....	69
MB-56 (15 & 22 June 1995).....	72
MB-57 (18 July 1995).....	75
MB-58 (17 August 1995).....	78

Purpose of Study

This research was designed to examine the effects of river discharge, suspended sediment dynamics and nutrient inputs on phytoplankton production in the Mobile Bay ecosystem. This report contains physical, chemical, and biological data collected during a three-year series of 23 near-monthly surveys carried out in Mobile Bay between July 1993 and August 1995. Surveys consisted of 8-12 stations in Mobile Bay between the Mobile River delta and the mouth of Mobile Bay including Bon Secour Bay (see page 8 for a general map with all station locations).

Acknowledgements

We would like to acknowledge Pat Griffin, George McManus, and Tina Miller-Way for their efforts on the field surveys. In addition, the efforts of the technical support staff, Alan Gunter and Mike Dardeau, as well as the boat crew, Russell Wilson, Rodney Collier, and Joe Sullivan, are greatly appreciated. We would also like to acknowledge the support of the Dauphin Island Sea Lab, the United States Geological Survey, the Geological Survey of Alabama, the National Science Foundation/EPSCOR, and the University of Alabama in providing funding for this research.

Station and Field Sampling Procedures

Water samples were primarily obtained from the 23' outboard research vessels Sea Ox and Robalo or the R/V Deborah B operated by the Dauphin Island Sea Lab. At each station, local time (CST or CDT), Loran C, and bottom depth were recorded. The measurements made at each station are outlined below.

Hydrographic Sampling

A Hydrolab Surveyor II was used to collect hydrographic profiles of salinity, temperature, dissolved oxygen, and pH. These profiles were taken at discrete sampling depths and stored to memory until being downloaded upon return to the laboratory. In addition to the Hydrolab profiles, the underwater light regime was quantified using a LiCor Quantum Irradiance Meter fitted with a 3π spherical deck and underwater sensors or, on a few occasions, a 20 cm secchi disk. LiCor profiles were carried out at 10 cm increments through the photic zone. The diffuse attenuation coefficient for PAR ($k; m^{-1}$) was calculated for each station via regression of \ln irradiance vs. depth for the entire subsurface profile after correction of irradiance for instantaneous variations in surface irradiance. Secchi measurements were estimated to the nearest 5 cm.

Discrete Water Sampling

5-liter PVC Niskin bottles were deployed to collect water samples at the surface and one meter above the bottom at all stations.

Upon sampling, 1 liter of water was collected into an acid washed, deionized water and sample rinsed 1-liter HDPE bottle. Samples were maintained in the dark on ice until return to

the laboratory. Also, 1 liter of water for phytoplankton production experiments was collected in polycarbonate bottles and held at ambient temperature in the dark until processing. In addition, samples for dissolved inorganic carbon (DIC) were collected in glass scintillation vials, capped without air contamination, and returned to the laboratory for immediate analysis. Finally, 20 ml samples for phytoplankton taxonomy were collected and fixed with 2 drops of Lugol's Solution. Upon completion of water collection, temperature and salinity were measured in all discrete samples using an Orion temperature/conductivity probe with a resolution of 0.1 °C and 0.1 ppt. These latter discrete measurements are reported in this data set.

Laboratory Methods

In the laboratory, samples were split into dissolved and particulate fractions using Whatman GF/C glass fiber filters that had been muffled (450 °C for 2 hours) to remove organic contamination. These filters have a nominal pore size of 1.2 µm. Specific processing, storage and analytical procedures are detailed below.

Dissolved Matter

Dissolved Inorganic Carbon (DIC)

DIC was determined from samples for analysis using a Shimadzu TOC-5000 fitted with a non-dispersive IR detector. This instrument has a precision of ± 10 µM at a concentration of 1500 µM.

Dissolved Inorganic Nutrients

Dissolved nutrients were measured in sample water filtered through a Whatman GF/C filter. Phosphate, ammonium, nitrate, nitrite, and silicate were analyzed by standard colorimetric methods (Strickland and Parsons, 1972) adapted for use on an Alpkem RFA/2 Autoanalyzer. Detection limits are 0.01 µM (NO_3 , NO_2 , PO_4), 0.02 µM (NH_4), and 0.05 µM (SiO_2). Standard error for all measurements ranges from 2-3%.

Dissolved Organic Carbon (DOC)

DOC was determined in filtered (GF/C) sample water which was sealed in muffled glass scintillation vials and frozen until analysis using a Shimadzu TOC-5000. For analysis, the sample was acidified and sparged with zero-grade air to remove inorganic carbon and then analyzed to obtain the total organic carbon concentration. This method has a detection limit of 10 µM and standard error of $\pm 5\%$ at 300 µM.

Dissolved Organic Nitrogen (DON)

Total dissolved nitrogen (TDN) was analyzed on GF/C filtered samples following the persulfate oxidation method of D'Elia (1977). Inorganic N ($\text{NO}_3^- + \text{NO}_2^-$, NH_4^+) was subtracted from TDN to give DON. This method has a detection limit of $0.6 \mu\text{M} \pm 1\%$.

Dissolved Organic Phosphorus (DOP)

Total dissolved phosphate (TDP) was determined by the high temperature combustion method of Solorzano and Sharp (1980). Inorganic PO_4 was subtracted from TDP to give DOP. This method has a standard error of $\pm 5\%$.

Particulate Matter

Suspended Sediments

Total suspended sediments (inorganic sediment plus living and dead organic matter) was determined by passing a known volume of water through a pre-washed and pre-weighed 47 mm GF/C filter. After filtration, each filter was rinsed with deionized water to remove salts, dried at 50°C , cooled and re-weighed following the methods of Strickland and Parsons (1972). This method has a detection limit of 0.1 mg l^{-1} with a standard error of $\pm 5\%$.

Particulate Carbon and Nitrogen (PC/PN)

PC and PN were measured on particulate matter collected on a 25mm GF/C filter via high temperature combustion (Sharp, 1974) using a Carlo-Erba NA 1500 Carbon-Nitrogen-Sulfur (CNS) analyzer fitted with a thermal conductivity detector. This method has a detection limit of $1.0 \mu\text{M}$ with a standard error of $\pm 5\%$.

Particulate Phosphorous (PP)

PP was determined by conversion of particulate phosphorous to dissolved inorganic phosphorous by high temperature combustion according to the method of Solorzano and Sharp (1980). This method has a detection limit of $1.0 \mu\text{M}$ with a standard error of $\pm 1\%$.

Phytoplankton Biomass and Production

Chlorophyll-a

Chlorophyll *a* was extracted on Whatman GF/C filters for 24 hours in cold 90% acetone and measured by fluorometry (Strickland and Parsons, 1972) to account for the presence of phaeopigments. The Turner Designs Model 10 fluorometer was calibrated with spectrophotometric measurements of pure chlorophyll *a* (Sigma Chemical). This method has a detection limit of $0.01 \mu\text{g l}^{-1}$ with a standard error of $\pm 5\%$.

Phytoplankton Production

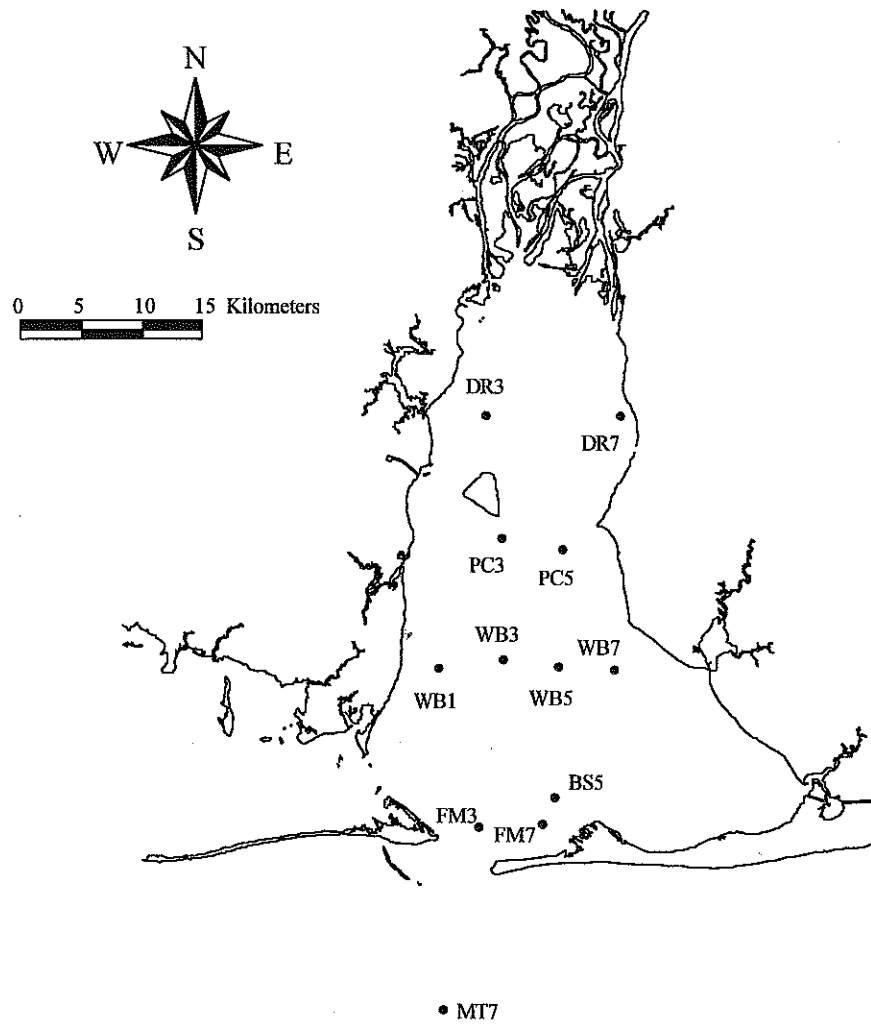
Phytoplankton production was measured by the incorporation of $\text{NaH}^{14}\text{CO}_3$ into particulate matter over 24-hour incubations at six light intensities (100, 57, 26, 9, 5, 1% ambient) using neutral density screen bags in a flow-through deck incubator (Pennock and Sharp, 1986). Incubations were terminated by filtering the particulate matter onto Whatman GF/C filters and rinsing with filtered ambient water. Filters were placed immediately into scintillation vials filled with 5 ml of Beckman Ready-Safe scintillation fluor and counted on a Packard Tri-Carb liquid scintillation counter.

Maximum production per unit volume ($\text{mg C l}^{-1} \text{ d}^{-1}$) was determined using the maximum rate obtained from the 6 point light series. Areal production was determined by integrating the values obtained at each of the light levels by the light profile described by the diffuse attenuation coefficient, following the methods of Pennock and Sharp (1986).

References

- D'Elia, C.F., P.A. Steudler, and N. Corwin. 1977. Determination of total nitrogen in aqueous samples using persulfate digestion. *Limnol. Oceanogr.* 22:760-764.
- Pennock, J. P. and J. H. Sharp. 1986. Phytoplankton production in the Delaware Estuary: temporal and spatial variability. *Marine Ecology Progress Series* 34:143-155.
- Sharp, J.H. 1974. Improved analysis for "particulate" organic carbon and nitrogen from seawater. *Limnol. Oceanogr.* 19:984-989.
- Shimadzu Corp. 1991. Total organic carbon analyzer instrument manual. Columbia, MD.
- Solorzano, L. and J.H. Sharp. 1980. Determination of total phosphorous and particulate phosphorous in natural water. *Limnol. Oceanogr.* 25:754-760.
- Strickland, J.D.H. and T.R. Parsons. 1972. A Practical Handbook for Seawater Analysis. Fisheries Research Board of Canada pp. 121-125; 201-203.

Map of Mobile Bay



Mobile Bay Cruise Report

MB-35
19 July 1993

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter
Alan Gunter
Alan Wright

Supporting Agency: U.S. Geological Survey

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 8 surface and bottom stations (all 8 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 0940 CDT (GMT-7 hours). Deadheaded to station DR3. Began sampling 1039. Stations were continued going downbay through station FM3. Returned to DISL 1615.

Mobile Bay Cruise MB: 35

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LON DEG	LON MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
7/19/93	DR3-S	1.0	13.4	1039	12780.9	47165.4	30	34.0	88	2.0	5.3	30.4	7.5	103	7.9	947
7/19/93	DR3-B	12.4	13.4	1039	12780.9	47165.4	30	34.0	88	2.0	31.9	28.0				2038
7/19/93	DR7-S	1.0	3.0	1139	12840.3	47167.6	30	34.0	87	55.0	4.0	31.3	6.6	90	7.5	894
7/19/93	DR7-B	2.0	3.0	1139	12840.3	47167.6	30	34.0	87	55.0	5.8	30.4	1.8	25	7.0	988
7/19/93	PC3-S	1.0	15.2	1407	12783.6	47146.6	30	29.0	88	1.0	8.1	31.3	8.9	125	8.3	1062
7/19/93	PC3-B	14.2	15.2	1407	12783.6	47146.6	30	29.0	88	1.0	32.7	27.4				2071
7/19/93	PC5-S	1.0	4.0	1302	12815.3	47145.3	30	28.0	87	58.0	6.8	31.2	7.8	109	7.9	1009
7/19/93	PC5-B	3.0	4.0	1302	12815.3	47145.3	30	28.0	87	58.0	15.0	29.7	0.5	7	7.2	1345
7/19/93	WB3-S	1.0	14.3	1442	12777.4	47121.0	30	23.0	88	1.0	12.4	31.1	7.8	112	8.0	1238
7/19/93	WB3-B	13.3	14.3	1442	12777.4	47121.0	30	23.0	88	1.0	32.8	27.2				2075
7/19/93	WB5-S	1.0	4.7	1501	12810.4	47122.4	30	23.0	87	58.0	10.9	31.2	7.6	109	8.0	1177
7/19/93	WB5-B	3.7	4.7	1501	12810.4	47122.4	30	23.0	87	58.0	22.6	29.5	0.5	7	7.3	1657
7/19/93	FM3-S	1.0	14.6	1556	12762.5	47091.6	30	15.5	88	2.3	17.0	32.0	7.6	114	8.0	1427
7/19/93	FM3-B	13.6	14.6	1556	12762.5	47091.6	30	15.5	88	2.3	33.0	27.5				2083
7/19/93	BS5-S	1.0	4.4	1532	12805.0	47098.1	30	15.5	87	58.3	16.0	31.7	7.0	104	8.0	1386
7/19/93	BS5-B	3.4	4.4	1532	12805.0	47098.1	30	15.5	87	58.3	28.9	29.6	6.0	91	8.0	1915

Mobile Bay Cruise MB: 35

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	P04 (uM)	DOP (uM)	SI (uM)	ATTEN -(/m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
7/19/93	DR3-S	1.0	362	75.31	0.00	0.06	0.58	18.40	4.03	0.73	0.05	0.10	40.64	1.04	9.43	0.13	0.732	1.210	
7/19/93	DR3-B	12.4			1.21	0.83	13.54						18.40				0.65		
7/19/93	DR7-S	1.0	442	39.10	0.19	0.01	0.57	18.55	4.34		0.00	0.30	33.75	1.58	14.80	0.05	0.529	0.470	
7/19/93	DR7-B	2.0			0.41	0.10	4.21						59.52			0.03			
7/19/93	PC3-S	1.0	345	93.05	0.03	0.04	0.26	13.94	3.01	0.74	0.00		46.78	1.42	20.40	0.19	0.153	0.190	
7/19/93	PC3-B	14.2			0.26	0.34	6.16						12.16			0.26			
7/19/93	PC5-S	1.0	338	93.15	0.00	0.03	1.37	15.21	2.86		0.03		44.26	2.12	16.00	0.12	0.208	0.200	
7/19/93	PC5-B	3.0			0.00	0.09	1.15						51.09			0.23			
7/19/93	WB3-S	1.0	336		0.00	0.07	0.95	14.26		0.65	0.00		44.81	0.91	24.40	0.14	0.142	0.350	
7/19/93	WB3-B	13.3			0.02	0.17	2.07						9.38			0.22			
7/19/93	WB5-S	1.0	245	164.30	0.00	0.06	0.52	14.86	3.61	0.71	0.00		48.95	0.89	22.80	0.19	0.139	0.290	
7/19/93	WB5-B	3.7			0.00	0.12	2.34						49.13			0.08			
7/19/93	FM3-S	1.0	227	71.45	0.00	0.04	0.53	11.31	8.97	0.73	0.00	0.45	27.79	0.65	36.80	0.18	0.318	0.780	
7/19/93	FM3-B	13.6			0.19	0.27	4.43						9.09			0.22			
7/19/93	BS5-S	1.0	237	93.51	0.00	0.05	1.41	7.09	2.10	0.65	0.00	0.35	11.00	1.96	64.40	0.25	0.110	0.090	
7/19/93	BS5-B	3.4			0.00	0.06	1.24						43.64			0.01			

Mobile Bay Cruise Report

MB-36
11 August 1993

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter

Supporting Agency: U.S. Geological Survey

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 8 surface stations (all 8 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 0730 CDT (GMT-7 hours). Deadheaded to station DR3. Began sampling 0833. Stations were continued going downbay through station BS5. Returned to DISL 1210.

Mobile Bay Cruise MB: 36

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LONG DEG	LONG MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
8/11/93	DR3-S	1.0	13.4	833	12780.9	47165.4	30	34.0	88	2.0	6.8	29.9	6.7	92		1009
8/11/93	DR3-B	12.4	13.4	833	12780.9	47165.4	30	34.0	88	2.0	31.2	26.4	1.6	24		2010
8/11/93	DR7-S	1.0	3.0	910	12840.3	47167.6	30	34.0	87	55.0	12.1	29.6	5.0	71		1226
8/11/93	DR7-B	2.0	3.0	910	12840.3	47167.6	30	34.0	87	55.0	12.5	29.3	0.2	3		1243
8/11/93	PC3-S	1.0	15.2	1019	12783.6	47146.6	30	29.0	88	1.0	9.4	30.2	7.1	100		1115
8/11/93	PC3-B	14.2	15.2	1019	12783.6	47146.6	30	29.0	88	1.0	32.4	26.8	1.9	28		2039
8/11/93	PC5-S	1.0	4.0	1000	12815.3	47145.3	30	28.0	87	58.0	12.2	30.6	7.4	107		1230
8/11/93	PC5-B	3.0	4.0	1000	12815.3	47145.3	30	28.0	87	58.0	20.7	29.4	1.1	16		1579
8/11/93	WB3-S	1.0	14.3	1050	12777.4	47121.0	30	23.0	88	1.0	18.8	31.5	6.3	95		1501
8/11/93	WB3-B	13.3	14.3	1050	12777.4	47121.0	30	23.0	88	1.0	32.6	27.5	2.6	39		2067
8/11/93	WB5-S	1.0	4.7	1120	12810.4	47122.4	30	23.0	87	58.0	15.5	30.5	6.9	101		1366
8/11/93	WB5-B	3.7	4.7	1120	12810.4	47122.4	30	23.0	87	58.0	19.5	31.3	2.6	38		1530
8/11/93	FM3-S	1.0	14.6	1207	12762.5	47091.6	30	15.5	88	2.3	19.2	30.9	7.4	111		1517
8/11/93	FM3-B	13.6	14.6	1207	12762.5	47091.6	30	15.5	88	2.3	20.1	30.0	1.7	26		1554
8/11/93	BS5-S	1.0	4.4	1145	12805.0	47098.1	30	15.5	87	58.3	19.6	31.2	6.6	100		1534
8/11/93	BS5-B	3.4	4.4	1145	12805.0	47098.1	30	15.5	87	58.3	31.1	28.5	4.7	72		2006

Mobile Bay Cruise MB: 36

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (µM)	PC (µM)	NO3 (µM)	NO2 (µM)	NH4 (µM)	DON (µM)	PN (µM)	PP (µM)	PO4 (µM)	DOP (µM)	SI (µM)	ATTEN -(/m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (µg/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
8/11/93	DR3-S	1.0	631	101.56	2.73	0.43	1.45	19.19	4.91		0.70		59.80	1.88	21.00		7.75	1.428	1.211
8/11/93	DR3-B	12.4			0.97	1.00	6.89				1.16		16.65				1.79		
8/11/93	DR7-S	1.0	637	117.59	0.76	0.03	1.04	14.32	7.99	0.84	0.75	0.00	48.21	1.36	42.67		8.85	0.553	0.745
8/11/93	DR7-B	2.0		163.66	0.07	0.07	0.59		3.90		0.91		62.32				20.28		
8/11/93	PC3-S	1.0	528	89.88	0.10	0.07	0.81	15.62	4.19	0.70	0.27	0.00	55.95	1.09	34.67		6.26	0.542	0.956
8/11/93	PC3-B	14.2			1.28	1.18	5.93				0.70		18.70				4.24		
8/11/93	PC5-S	1.0	579	77.37	0.12	0.06	0.97	19.92	2.00	0.67	0.62	0.00	52.70	1.29	39.33		9.69	0.362	0.474
8/11/93	PC5-B	3.0			0.17	0.13	2.62				1.44		35.87				8.13		
8/11/93	WB3-S	1.0		0.00	0.11	0.04	0.53	11.42	0.00	0.33	0.36	0.00	36.75	0.86	46.40		2.01	0.422	0.995
8/11/93	WB3-B	13.3			0.88	0.83	2.94				0.35		15.53				3.30		
8/11/93	WB5-S	1.0	315	1.82	0.09	0.04	0.79	12.30	0.00	0.32	0.30	0.00	16.40	0.63	53.33		2.10	0.387	1.035
8/11/93	WB5-B	3.7			0.21	0.13	0.70				0.74		27.92				15.66		
8/11/93	FM3-S	1.0	313	90.99	0.11	0.05	0.13	10.29	2.39	0.63	0.63	0.15	49.71	0.59	64.67		5.69	0.304	0.710
8/11/93	FM3-B	13.6			0.26	0.17	0.70				0.22		10.84				2.19		
8/11/93	BS5-S	1.0		184.30	0.06	0.06	0.09	13.19	1.36	0.94	0.57	0.00	52.14	0.96	45.50		14.10	0.284	0.859
8/11/93	BS5-B	3.4			0.05	0.07	0.00				0.66		45.85				26.22		

Mobile Bay Cruise Report

MB-37

21 September 1993

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter

Supporting Agency: U.S. Geological Survey

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 8 surface stations (all 8 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 0835 CDT (GMT-7 hours). Deadheaded to station FM3. Began sampling 0847. Stations were continued going upbay to Dog River and ending at Point Clear station PC5. Returned to DISL 1550.

Mobile Bay Cruise MB: 37

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LON DEG	LON MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
9/21/93	DR3-S	1.0	13.4	1230	12780.9	47165.4	30	34.0	88	2.0	11.9	32.0	8.7	127	8.5	1218
9/21/93	DR3-B	12.4	13.4	1230	12780.9	47165.4	30	34.0	88	2.0	28.3	29.8	4.0	61	8.3	1891
9/21/93	DR7-S	1.0	3.0	1320	12840.3	47167.6	30	34.0	87	55.0	11.7	32.5	7.9	116	8.5	1210
9/21/93	DR7-B	2.0	3.0	1320	12840.3	47167.6	30	34.0	87	55.0	15.9	30.1	1.3	18	7.6	1382
9/21/93	PC3-S	1.0	15.2	1205	12783.6	47146.6	30	29.0	88	1.0	13.8	30.6	7.4	108	8.5	1296
9/21/93	PC3-B	14.2	15.2	1205	12783.6	47146.6	30	29.0	88	1.0	28.7	29.8	5.1	78	8.3	1907
9/21/93	PC5-S	1.0	4.0	1450	12815.3	47145.3	30	28.0	87	58.0	16.5	32.8	7.4	113	8.4	1407
9/21/93	PC5-B	3.0	4.0	1450	12815.3	47145.3	30	28.0	87	58.0	20.3	29.8	1.3	19	7.8	1563
9/21/93	WB3-S	1.0	14.3	1055	12777.4	47121.0	30	23.0	88	1.0	16.9	30.2	7.3	106	8.4	1423
9/21/93	WB3-B	13.3	14.3	1055	12777.4	47121.0	30	23.0	88	1.0	29.1	29.6				1923
9/21/93	WB5-S	1.0	4.7	1030	12810.4	47122.4	30	23.0	87	58.0	30.3	18.7	6.7	98	8.3	1973
9/21/93	WB5-B	3.7	4.7	1030	12810.4	47122.4	30	23.0	87	58.0	30.2	22.1	4.1	63	8.1	1969
9/21/93	FM3-S	1.0	14.6	847	12762.5	47091.6	30	15.5	88	2.3	23.2	29.3	6.8	101	8.2	1681
9/21/93	FM3-B	13.6	14.6	847	12762.5	47091.6	30	15.5	88	2.3	29.7	29.3	5.8	90	8.3	1948
9/21/93	BS5-S	1.0	4.4	950	12805.0	47098.1	30	15.5	87	58.3	23.9	29.9	6.5	98	8.2	1710
9/21/93	BS5-B	3.4	4.4	950	12805.0	47098.1	30	15.5	87	58.3	25.8	29.6	5.0	76	8.2	1788

Mobile Bay Cruise MB: 37

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -(/m)	SEXTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
9/21/93	DR3-S	1.0	673	58.67	0.28	0.06	2.38	19.16	9.06	0.70	0.62		46.12	1.21	47.00		1.99	0.613	0.856
9/21/93	DR3-B	12.4			2.10	0.16	9.11				1.25		6.14				0.08		
9/21/93	DR7-S	1.0	644	88.51	0.11	0.04	0.36	12.46	3.08	0.83	0.55	0.00	70.12	1.49	39.60		0.67	0.376	0.448
9/21/93	DR7-B	2.0			1.83	0.12	8.04				2.27		64.13				0.24		
9/21/93	PC3-S	1.0	542	39.84	0.11	0.05	0.65	15.77	5.13	0.47	0.34	0.00	47.02	0.90	47.50		0.30	0.197	0.394
9/21/93	PC3-B	14.2			1.47	0.11	4.97				1.16		2.50				0.17		
9/21/93	PC5-S	1.0	397	31.74	0.15	0.04	0.66	12.02	4.10	0.91	0.38	0.06	34.18	1.39	57.43		0.45	0.307	0.371
9/21/93	PC5-B	3.0			1.86	0.10	8.06				0.51		22.98				0.08		
9/21/93	WB3-S	1.0	564	45.10	0.09	0.05	0.72	9.67	6.48	0.25	0.64	0.27	29.92	0.69	53.50		0.00	0.191	0.493
9/21/93	WB3-B	13.3			0.20	0.06	3.20				0.76		2.68				0.20		
9/21/93	WB5-S	1.0	766	75.57	0.10	0.05	0.13	11.73	9.61	0.22	0.29	0.00	26.80	0.85	50.00		1.49	0.235	0.444
9/21/93	WB5-B	3.7			0.11	0.07	0.92				2.77		10.18				0.00		
9/21/93	FM3-S	1.0	358	37.91	0.21	0.04	0.45	11.66	4.20	0.32	0.49	0.36	6.58	0.59	54.40		2.87	0.206	0.479
9/21/93	FM3-B	13.6			0.61	0.07	1.08				1.55						3.38		
9/21/93	BS5-S	1.0	985	56.80	0.22	0.05	1.67	10.00	8.30	0.55	0.37	0.00	5.81	1.54	62.00		3.14	0.459	0.502
9/21/93	BS5-B	3.4			14.25	0.08	19.92				0.28		8.54				2.46		

Mobile Bay Cruise Report

MB-38

20 October 1993

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter

Supporting Agency: U.S. Geological Survey

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 8 surface stations (all 8 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Conditions were cloudy and rainy. Departed DISL 0725 CDT (GMT-7 hours). Deadheaded to station FM3. Began sampling 0735. Stations were continued going upbay and ending at Dog River. Returned to DISL 1245.

Mobile Bay Cruise MB: 38

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LONG DEG	LONG MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
10/20/93	DR3-S	1.0	13.4	1144	12780.9	47165.4	30	34.0	88	2.0	18.3	26.1				1480
10/20/93	DR3-B	12.4	13.4	1144	12780.9	47165.4	30	34.0	88	2.0	29.6	24.8				1944
10/20/93	DR7-S	1.0	3.0	1115	12840.3	47167.6	30	34.0	87	55.0	16.9	25.4				1423
10/20/93	DR7-B	2.0	3.0	1115	12840.3	47167.6	30	34.0	87	55.0	17.5	25.0				1448
10/20/93	PC3-S	1.0	15.2	1000	12783.6	47146.6	30	29.0	88	1.0	20.0	25.3				1550
10/20/93	PC3-B	14.2	15.2	1000	12783.6	47146.6	30	29.0	88	1.0	30.1	24.6				1965
10/20/93	PC5-S	1.0	4.0	1020	12815.3	47145.3	30	28.0	87	58.0	19.6	25.1				1534
10/20/93	PC5-B	3.0	4.0	1020	12815.3	47145.3	30	28.0	87	58.0	19.6	24.9				1534
10/20/93	WB3-S	1.0	14.3	903	12777.4	47121.0	30	23.0	88	1.0	22.4	25.4				1649
10/20/93	WB3-B	13.3	14.3	903	12777.4	47121.0	30	23.0	88	1.0	31.5	25.4				2022
10/20/93	WB5-S	1.0	4.7	845	12810.4	47122.4	30	23.0	87	58.0	23.8	25.3				1706
10/20/93	WB5-B	3.7	4.7	845	12810.4	47122.4	30	23.0	87	58.0	23.9	25.0				1710
10/20/93	FM3-S	1.0	14.6	735	12762.5	47091.6	30	15.5	88	2.3	26.8	25.3				1829
10/20/93	FM3-B	13.6	14.6	735	12762.5	47091.6	30	15.5	88	2.3	32.9	25.3				2079
10/20/93	BS5-S	1.0	4.4	810	12805.0	47098.1	30	15.5	87	58.3	26.8	25.2				1829
10/20/93	BS5-B	3.4	4.4	810	12805.0	47098.1	30	15.5	87	58.3	28.8	25.1				1911

Mobile Bay Cruise MB: 38

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -(/m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
10/20/93	DR3-S	1.0	1080	166.11	1.26	0.30	1.97	14.56	3.28	0.45	0.53	0.00	22.10	2.57	138.67		19.91	0.030	0.010
10/20/93	DR3-B	12.4			0.43	0.21	1.96			0.58			3.54				0.69		
10/20/93	DR7-S	1.0	995	42.86	0.47	0.13	2.30	11.81	5.15	0.43	0.28	0.27	11.45	1.33	94.47		0.88	0.010	0.010
10/20/93	DR7-B	2.0			1.18	0.12	3.06			0.53			19.64				1.81		
10/20/93	PC3-S	1.0		29.61	0.52	0.14	2.97	12.27	3.57	0.40	0.28	0.22	7.75	1.59	103.00		1.24	0.010	0.010
10/20/93	PC3-B	14.2			0.64	0.27	2.01			0.73			7.04				1.56		
10/20/93	PC5-S	1.0	512	32.23	0.46	0.17	2.34	12.18	3.64	0.59	0.28	0.72	11.74	0.79	12.59		0.85	0.020	0.040
10/20/93	PC5-B	3.0			0.53	0.11	2.33			0.51			2.46				2.81		
10/20/93	WB3-S	1.0	752	49.50	0.75	0.14	1.64	10.58	6.25	0.28	0.41	0.19	35.26	1.10	117.00		0.67	0.210	0.220
10/20/93	WB3-B	13.3			0.39	0.13	1.46			0.33			12.45				2.41		
10/20/93	WB5-S	1.0		48.22	0.44	0.12	1.56	10.34	6.21	0.30	0.26	0.19	24.29	0.91	96.00		0.81	0.240	0.300
10/20/93	WB5-B	3.7			0.37	0.13	1.42			0.28			39.59				0.88		
10/20/93	FM3-S	1.0	523	49.60	0.39	0.13	1.56	9.56	5.98	0.21	0.31	0.04	16.40	1.19	82.33		0.34	0.190	0.160
10/20/93	FM3-B	13.6			0.37	0.14	1.97			0.21			25.40				1.07		
10/20/93	BS5-S	1.0	788	30.53	0.39	0.14	1.49	10.15	3.36	0.43	0.18	0.22	15.81	0.81	85.00		0.40	0.310	0.420
10/20/93	BS5-B	3.4			0.39	0.11	1.69			0.23			12.92				0.82		

Mobile Bay Cruise Report

MB-39

10 November 1993

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter

Supporting Agency: U.S. Geological Survey

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 8 surface stations (all 8 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 1110 CST (GMT-6 hours). Deadheaded to station DR7. Began sampling 1211. Stations were continued across to DR3 then going downbay and ending at station FM3. Returned to DISL 1525.

Mobile Bay Cruise MB: 39

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LON DEG	LON MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
11/10/93	DR3-S	1.0	13.4	1235	12780.9	47165.4	30	34.0	88	2.0	10.1	17.2				1144
11/10/93	DR3-B	12.4	13.4	1235	12780.9	47165.4	30	34.0	88	2.0	32.0	18.0				2042
11/10/93	DR7-S	1.0	3.0	1211	12840.3	47167.6	30	34.0	87	55.0	15.1	16.0				1349
11/10/93	DR7-B	2.0	3.0	1211	12840.3	47167.6	30	34.0	87	55.0	18.1	15.5				1472
11/10/93	PC3-S	1.0	15.2	1306	12783.6	47146.6	30	29.0	88	1.0	8.0	15.9				1058
11/10/93	PC3-B	14.2	15.2	1306	12783.6	47146.6	30	29.0	88	1.0	31.7	17.9				2030
11/10/93	PC5-S	1.0	4.0	1330	12815.3	47145.3	30	28.0	87	58.0	17.9	15.5				1464
11/10/93	PC5-B	3.0	4.0	1330	12815.3	47145.3	30	28.0	87	58.0	20.5	15.1				1571
11/10/93	WB3-S	1.0	14.3	1423	12777.4	47121.0	30	23.0	88	1.0	20.1	15.2				1554
11/10/93	WB3-B	13.3	14.3	1423	12777.4	47121.0	30	23.0	88	1.0	32.6	17.9				2067
11/10/93	WB5-S	1.0	4.7	1358	12810.4	47122.4	30	23.0	87	58.0	20.5	14.4				1571
11/10/93	WB5-B	3.7	4.7	1358	12810.4	47122.4	30	23.0	87	58.0	21.4	14.5				1608
11/10/93	FM3-S	1.0	14.6	1511	12762.5	47091.6	30	15.5	88	2.3	20.4	13.2				1567
11/10/93	FM3-B	13.6	14.6	1511	12762.5	47091.6	30	15.5	88	2.3	33.0	17.7				2083
11/10/93	BS5-S	1.0	4.4	1450	12805.0	47098.1	30	15.5	87	58.3	23.2	15.5				1681
11/10/93	BS5-B	3.4	4.4	1450	12805.0	47098.1	30	15.5	87	58.3	29.5	16.7				1940

Mobile Bay Cruise MB: 39

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -(/m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
11/10/93	DR3-S	1.0	506	49.96	4.39	0.34	6.49	45.30	4.02	0.42	0.78	0.00	53.47	1.30	38.92		1.99	0.180	0.290
11/10/93	DR3-B	12.4			0.00	0.25	1.82				0.30		4.49				2.71		
11/10/93	DR7-S	1.0	441	43.79	5.05	0.33	2.02	6.78	5.42	0.52	0.73	0.00	32.52	1.10	35.71		4.09	0.430	0.860
11/10/93	DR7-B	2.0			0.47	0.18	2.15				0.28		22.51				5.57		
11/10/93	PC3-S	1.0	411	41.53	4.46	0.35	3.80	17.23	4.40	0.38	0.48	0.00	59.38	1.18	34.18		4.39	0.240	0.380
11/10/93	PC3-B	14.2			0.00	0.24	1.99				0.28		2.95				0.35		
11/10/93	PC5-S	1.0	319	58.02	0.00	0.08	7.14	4.38	7.31	0.69	0.07	0.43	15.32	1.21	57.58		5.03	0.270	0.450
11/10/93	PC5-B	3.0			0.76	0.13	1.58				0.38		11.26				10.64		
11/10/93	WB3-S	1.0	319	43.93	0.06	0.08	0.90	8.82	4.06	0.42	0.00	0.35	8.59	1.13	55.34		2.09	0.130	0.270
11/10/93	WB3-B	13.3			0.02	0.18	1.27				0.07		2.59				3.46		
11/10/93	WB5-S	1.0	317	44.84	0.00	0.10	6.27	1.05	4.57	0.67	0.15	0.25	9.76	0.73	51.50		2.31	0.170	0.450
11/10/93	WB5-B	3.7			0.00	0.11	0.83				0.28		9.31				3.56		
11/10/93	FM3-S	1.0	309	45.69	0.00	0.10	1.21	8.32	5.25		0.07	0.23	3.42	1.31	67.17		2.46	0.230	0.380
11/10/93	FM3-B	13.6			0.00	0.14	0.83				0.05		3.96				3.73		
11/10/93	BS5-S	1.0	266	54.51	0.32	0.18	1.04	7.37	5.06	0.43	0.13	0.37	11.65	1.70	73.76		1.94	0.100	0.150
11/10/93	BS5-B	3.4			0.00	0.14	1.07				0.12		4.45				5.11		

Mobile Bay Cruise Report

MB-40

15 December 1993

Vessel: R/V Deborah B.

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter

Supporting Agency: U.S. Geological Survey

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 8 surface stations (all 8 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 1000 CST (GMT-6 hours). Deadheaded to station DR7. Began sampling 1102. Stations were continued across to DR3 then going downbay and ending at station FM3. Returned to DISL 1420.

Mobile Bay Cruise MB: 40

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LON DEG	LON MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
12/15/93	DR3-S	1.0	13.4	1135	12780.9	47165.4	30	34.0	88	2.0	14.9	13.2	9.2	98	7.6	1341
12/15/93	DR3-B	12.4	13.4	1135	12780.9	47165.4	30	34.0	88	2.0	31.8	16.4	6.7	84	7.7	2034
12/15/93	DR7-S	1.0	3.0	1102	12840.3	47167.6	30	34.0	87	55.0	3.3	12.1	9.7	94	7.5	865
12/15/93	DR7-B	2.0	3.0	1102	12840.3	47167.6	30	34.0	87	55.0	3.3	12.2	8.7	90	7.5	865
12/15/93	PC3-S	1.0	15.2	1159	12783.6	47146.6	30	29.0	88	1.0	11.9	13.3	10.4	108	7.6	1218
12/15/93	PC3-B	14.2	15.2	1159	12783.6	47146.6	30	29.0	88	1.0	32.2	16.9	6.7	83	7.7	2051
12/15/93	PC5-S	1.0	4.0	1218	12815.3	47145.3	30	28.0	87	58.0	7.0	12.5	11.0	109	7.6	1017
12/15/93	PC5-B	3.0	4.0	1218	12815.3	47145.3	30	28.0	87	58.0	10.5	12.8	6.5	77	7.6	1161
12/15/93	WB3-S	1.0	14.3	1302	12777.4	47121.0	30	23.0	88	1.0	15.5	13.0	10.7	113	7.7	1366
12/15/93	WB3-B	13.3	14.3	1302	12777.4	47121.0	30	23.0	88	1.0	31.7	16.5	6.7	84	7.7	2030
12/15/93	WB5-S	1.0	4.7	1244	12810.4	47122.4	30	23.0	87	58.0	11.9	12.8	10.4	107	7.7	1218
12/15/93	WB5-B	3.7	4.7	1244	12810.4	47122.4	30	23.0	87	58.0	12.1	12.8	8.6	96	7.6	1226
12/15/93	FM3-S	1.0	14.6	1359	12762.5	47091.6	30	15.5	88	2.3	20.8	13.6	10.3	113	7.7	1583
12/15/93	FM3-B	13.6	14.6	1359	12762.5	47091.6	30	15.5	88	2.3	33.1	16.9	7.2	90	7.7	2088
12/15/93	BS5-S	1.0	4.4	1338	12805.0	47098.1	30	15.5	87	58.3	21.5	13.3	10.1	110	7.7	1612
12/15/93	BS5-B	3.4	4.4	1338	12805.0	47098.1	30	15.5	87	58.3	21.5	13.2	8.8	97	7.7	1612

Mobile Bay Cruise MB: 40

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -1/m	SESTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
12/15/93	DR3-S	1.0	438	6.91	3.56	0.46	10.18	37.96	3.17	0.59	0.83	0.00	65.02	1.50	50.99		7.46	0.070	0.100
12/15/93	DR3-B	12.4			0.15	0.51	5.17				1.15		12.01				3.40		
12/15/93	DR7-S	1.0	588	9.20	11.29	0.82	6.61	31.79	2.73	1.08	0.98	0.00	111.50	2.81	51.00		7.34	0.180	0.140
12/15/93	DR7-B	2.0			10.36	0.86	7.86				1.23		107.20				0.36		
12/15/93	PC3-S	1.0	484	13.85	5.10	0.63	6.22	49.01	7.43	0.62	0.73	0.00	76.59	1.60	33.50		6.39	0.320	0.400
12/15/93	PC3-B	14.2			0.16	0.48	2.86				0.48		9.36				1.79		
12/15/93	PC5-S	1.0	573		5.87	0.63	7.84	29.93		0.84	0.58	0.00	91.49	2.17	35.62		7.36	0.290	0.270
12/15/93	PC5-B	3.0			3.80	0.58	3.63				0.60		77.60				6.26		
12/15/93	WB3-S	1.0	1480	9.82	1.87	0.54	3.43	7.10	7.28	0.73	0.53	0.00	44.39	1.16	30.40		12.23	0.400	0.680
12/15/93	WB3-B	13.3			0.14	0.49	2.60				0.73		13.21				4.03		
12/15/93	WB5-S	1.0	396	13.25	2.35	0.43	2.41	29.95	1.92	1.07	0.45	0.35	69.02	1.49	39.11		15.49	0.510	0.700
12/15/93	WB5-B	3.7			2.26	0.47	2.24				0.63		55.15				17.59		
12/15/93	FM3-S	1.0	309	13.44	2.12	0.46	6.75	10.37	9.96	0.87	0.73	0.12	25.57	1.51	80.63		14.11	0.340	0.550
12/15/93	FM3-B	13.6			0.02	0.34	4.20				0.68		32.21				16.86		
12/15/93	BS5-S	1.0	1850	14.99	0.00	0.29	3.07	18.25	5.75	1.58	0.53	0.37	38.88	3.65	225.00		11.06	0.240	0.150
12/15/93	BS5-B	3.4			0.60	0.48	1.86				1.28		11.16				4.74		

Mobile Bay Cruise Report

MB-41

20 January 1994

Vessel:

R/V Sea Ox

Operation Area:

Mobile Bay: From Dog River to the mouth of the bay

Scientific party:

John C. Lehrter

Supporting Agency:

U.S. Geological Survey

Research Objectives:

Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 8 surface stations (all 8 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary:

Departed DISL 1100 CST (GMT-6 hours). Deadheaded to station DR7. Began sampling 1159. Stations were continued across to DR3 then going downbay and ending at station FM3. Returned to DISL 1500.

Mobile Bay Cruise MB: 41

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LON DEG	LON MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
1/20/94	DR3-S	1.0	13.4	1231	12780.9	47165.4	30	34.0	88	2.0	2.7	8.8	11.2	97	7.4	841
1/20/94	DR3-B	12.4	13.4	1231	12780.9	47165.4	30	34.0	88	2.0	11.2	32.1	8.0	89	7.6	1189
1/20/94	DR7-S	1.0	3.0	1159	12840.3	47167.6	30	34.0	87	55.0	4.5	8.6	11.8	102	7.4	914
1/20/94	DR7-B	2.0	3.0	1159	12840.3	47167.6	30	34.0	87	55.0	9.3	7.5	10.1	93	7.4	1111
1/20/94	PC3-S	1.0	15.2	1254	12783.6	47146.6	30	29.0	88	1.0	5.6	8.0	11.4	99	7.5	960
1/20/94	PC3-B	14.2	15.2	1254	12783.6	47146.6	30	29.0	88	1.0	32.7	11.1	7.9	88	7.6	2071
1/20/94	PC5-S	1.0	4.0	1316	12815.3	47145.3	30	28.0	87	58.0	11.4	8.0	11.6	105	7.6	1197
1/20/94	PC5-B	3.0	4.0	1316	12815.3	47145.3	30	28.0	87	58.0	13.9	7.6	9.9	92	7.5	1300
1/20/94	WB3-S	1.0	14.3	1359	12777.4	47121.0	30	23.0	88	1.0	12.0	8.4	11.0	101	7.6	1222
1/20/94	WB3-B	13.3	14.3	1359	12777.4	47121.0	30	23.0	88	1.0	32.5	11.0	7.8	87	7.6	2063
1/20/94	WB5-S	1.0	4.7	1340	12810.4	47122.4	30	23.0	87	58.0	14.2	8.8	11.2	105	7.6	1312
1/20/94	WB5-B	3.7	4.7	1340	12810.4	47122.4	30	23.0	87	58.0	15.3	7.8	10.5	98	7.5	1357
1/20/94	FM3-S	1.0	14.6	1444	12762.5	47091.6	30	15.5	88	2.3	22.3	8.9	9.4	98	7.7	1645
1/20/94	FM3-B	13.6	14.6	1444	12762.5	47091.6	30	15.5	88	2.3	33.8	12.0	7.9	90	7.6	2116
1/20/94	BS5-S	1.0	4.4	1426	12805.0	47098.1	30	15.5	87	58.3	18.2	8.8	10.6	102	7.7	1476
1/20/94	BS5-B	3.4	4.4	1426	12805.0	47098.1	30	15.5	87	58.3	27.8	9.8	8.2	90	7.6	1870

Mobile Bay Cruise MB: 41

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -(/m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
1/20/94	DR3-S	1.0	523	48.79	11.30	0.41	5.86	28.89	4.84	0.68	0.52	0.00	77.84	1.82	6.25		2.37	0.050	0.070
1/20/94	DR3-B	12.4			0.12	0.25	1.53				0.56		4.46				3.78		
1/20/94	DR7-S	1.0	403	61.36	9.08	0.44			6.49	0.88	0.54	0.03	91.64	2.05	14.63		3.48	0.070	0.080
1/20/94	DR7-B	2.0			5.73	0.31	7.16				0.37		72.86				4.87		
1/20/94	PC3-S	1.0	483	69.26	6.11	0.30	4.08	20.84	7.36	1.02	0.42	0.15	87.74	1.57	19.14		2.59	0.100	0.150
1/20/94	PC3-B	14.2			0.60	0.28	2.49				0.37		2.09				11.29		
1/20/94	PC5-S	1.0	746	69.37	2.81	0.23	1.45	28.51	9.08	1.18	0.22	0.65	51.40	1.68	33.89		5.43	0.450	0.540
1/20/94	PC5-B	3.0			1.91	0.23	1.87				1.01		48.99				12.38		
1/20/94	WB3-S	1.0	333	57.86	13.43	0.37	10.20	18.01	7.37	0.74	0.92	0.00	72.86	1.78	32.73		4.51	0.270	0.300
1/20/94	WB3-B	13.3			0.14	0.29	3.44				0.08		6.25				22.15		
1/20/94	WB5-S	1.0	338	71.80	2.02	0.22	1.09	13.65	9.56	1.01	0.11	0.61	44.15	1.81	37.06		4.60	0.410	0.440
1/20/94	WB5-B	3.7			1.53	0.23	1.23				0.04		41.37				10.81		
1/20/94	FM3-S	1.0	295	43.55	0.24	0.24	1.00	8.12	5.59	0.86	0.04	0.58	25.09	1.92	43.00		3.41	0.480	0.680
1/20/94	FM3-B	13.6			0.14	0.16	2.37				0.13		12.16				11.72		
1/20/94	BS5-S	1.0	394	90.75	0.23	0.15	1.43	5.99	2.24	1.27	0.21	0.61	29.65	2.08	45.00		5.96	0.650	0.870
1/20/94	BS5-B	3.4			0.26	0.24	2.45				0.25		5.05				18.45		

Mobile Bay Cruise Report

MB-42
4 March 1994

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: Jonathan R. Pennock
George McManus
John C. Lehrter

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 7 surface stations (all 7 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 1140 CST (GMT-6 hours). Deadheaded to station DR7. Began sampling 1240. Stations were continued across to DR3 then going downbay and ending at station FM3. Returned to DISL 1600.

Mobile Bay Cruise MB: 42

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LONG DEG	LONG MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
3/4/94	DR3-S	1.0	13.4	1307	12780.9	47165.4	30	34.0	88	2.0	1.8	13.6	9.6	93	7.1	804
3/4/94	DR3-B	12.4	13.4	1307	12780.9	47165.4	30	34.0	88	2.0	29.8	15.0	5.8	70	7.7	1952
3/4/94	DR7-S	1.0	3.0	1240	12840.3	47167.6	30	34.0	87	55.0	0.4	13.1	10.0	96	7.2	746
3/4/94	DR7-B	2.0	3.0	1240	12840.3	47167.6	30	34.0	87	55.0	11.1	12.5	8.4	85	7.2	1185
3/4/94	PC3-S	1.0	15.2	1341	12783.6	47146.6	30	29.0	88	1.0	5.5	13.1	9.8	97	7.6	955
3/4/94	PC3-B	14.2	15.2	1341	12783.6	47146.6	30	29.0	88	1.0	31.2	14.9	6.5	79	7.8	2010
3/4/94	PC5-S	1.0	4.0	1405	12815.3	47145.3	30	28.0	87	58.0	1.7	12.8	9.9	95	7.6	800
3/4/94	PC5-B	3.0	4.0	1405	12815.3	47145.3	30	28.0	87	58.0	6.4	12.3	9.1	89	7.4	992
3/4/94	WB3-S	1.0	14.3	1506	12777.4	47121.0	30	23.0	88	1.0	7.8	13.4	9.5	96	7.7	1050
3/4/94	WB3-B	13.3	14.3	1506	12777.4	47121.0	30	23.0	88	1.0	30.3	15.1	4.5	54	7.9	1973
3/4/94	WB5-S	1.0	4.7	1440	12810.4	47122.4	30	23.0	87	58.0	5.1	13.0	9.5	93	7.6	939
3/4/94	WB5-B	3.7	4.7	1440	12810.4	47122.4	30	23.0	87	58.0	5.1	13.0	9.5	93	7.4	939
3/4/94	FM3-S	1.0	14.6	1542	12762.5	47091.6	30	15.5	88	2.3	9.5	14.0	9.3	97	7.8	1119
3/4/94	FM3-B	13.6	14.6	1542	12762.5	47091.6	30	15.5	88	2.3	32.5	15.7	7.3	91	8.0	2063

Mobile Bay Cruise MB: 42

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -(/m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
3/4/94	DR3-S	1.0	409	63.46	35.14	0.75	37.76	0.00	6.49	1.46	4.24	0.00	111.70	4.86	60.38		1.79	0.020	0.010
3/4/94	DR3-B	12.4			1.48	0.55	6.37				0.93		24.63				10.44		
3/4/94	DR7-S	1.0	437	45.56	26.15	0.43	13.04	26.56	5.40	0.75	1.90	0.00	108.40	3.09	30.00		2.61	0.020	0.020
3/4/94	DR7-B	2.0			13.67	0.54	4.20				0.68		103.70				1.16		
3/4/94	PC3-S	1.0	408	81.88	9.22	0.55	29.68	11.41	1.52	0.92	2.38	0.00	86.62	3.40	43.41		3.58	0.120	0.080
3/4/94	PC3-B	14.2			1.96	0.64	37.74				8.48		23.26				2.21		
3/4/94	PC5-S	1.0	436	199.13	14.75	0.68	4.82	20.02	0.66	4.12	0.93	0.00	102.50	11.33	122.62		3.48	0.110	0.010
3/4/94	PC5-B	3.0			12.20	0.81	5.09				1.03		96.02				2.24		
3/4/94	WB3-S	1.0	388	42.59	6.70	0.49	8.80	18.57	5.48	0.63	0.55	0.17	76.89	2.62	39.50		1.92	0.270	0.240
3/4/94	WB3-B	13.3			1.23	0.42	3.34				0.93		16.60				2.59		
3/4/94	WB5-S	1.0	455	41.69	23.55	1.57	28.08	0.00	4.05		2.86	0.00	92.66	6.80	59.87		1.12	0.130	0.040
3/4/94	WB5-B	3.7			10.94	0.26	9.71				2.15		85.63				1.37		
3/4/94	FM3-S	1.0	1330	31.21	20.11	0.52	36.64	0.00	2.99	0.45	5.08	0.00	75.58	2.62	44.00		0.65	0.090	0.080
3/4/94	FM3-B	13.6			1.12	0.20	2.17				0.22		10.87				4.83		

Mobile Bay Cruise Report

MB-43

23 March 1994

Vessel: R/V Robalo

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter
Pat Griffin
Michelle Waters
Laura Beth Gray

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 8 surface stations (all 8 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 1010 CST (GMT-6 hours). Deadheaded to station DR7. Began sampling 1110. Stations were continued across to DR3 then going downbay and ending at station FM3. Returned to DISL 1510.

Mobile Bay Cruise MB: 43

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LON DEG	LON MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
3/23/94	DR3-S	1.0	13.4	1155	12780.9	47165.4	30	34.0	88	2.0	0.8	18.4	8.7	93	6.8	763
3/23/94	DR3-B	12.4	13.4	1155	12780.9	47165.4	30	34.0	88	2.0	29.2	17.0	5.5	68	7.8	1928
3/23/94	DR7-S	1.0	3.0	1110	12840.3	47167.6	30	34.0	87	55.0	0.4	19.8	8.7	96	7.5	746
3/23/94	DR7-B	2.0	3.0	1110	12840.3	47167.6	30	34.0	87	55.0	0.4	19.7	8.5	93	7.5	746
3/23/94	PC3-S	1.0	15.2	1228	12783.6	47146.6	30	29.0	88	1.0	3.1	19.3	9.0	100	7.5	857
3/23/94	PC3-B	14.2	15.2	1228	12783.6	47146.6	30	29.0	88	1.0	30.6	17.0	6.3	79	7.9	1985
3/23/94	PC5-S	1.0	4.0	1252	12815.3	47145.3	30	28.0	87	58.0	2.7	20.0	8.8	98	8.2	841
3/23/94	PC5-B	3.0	4.0	1252	12815.3	47145.3	30	28.0	87	58.0	9.2	17.3	7.1	78	7.3	1107
3/23/94	WB3-S	1.0	14.3	1331	12777.4	47121.0	30	23.0	88	1.0	4.2	19.2	8.7	97	7.6	902
3/23/94	WB3-B	13.3	14.3	1331	12777.4	47121.0	30	23.0	88	1.0	32.3	17.2	6.6	84	7.9	2055
3/23/94	WB5-S	1.0	4.7	1351	12810.4	47122.4	30	23.0	87	58.0	1.8	18.9	8.9	97	7.7	804
3/23/94	WB5-B	3.7	4.7	1351	12810.4	47122.4	30	23.0	87	58.0	16.3	17.2	6.4	73	7.5	1398
3/23/94	FM3-S	1.0	14.6	1451	12762.5	47091.6	30	15.5	88	2.3	21.0	19.5	8.2	102	8.1	1591
3/23/94	FM3-B	13.6	14.6	1451	12762.5	47091.6	30	15.5	88	2.3	32.5	17.1	6.6	84	8.0	2063
3/23/94	BS5-S	1.0	4.4	1415	12805.0	47098.1	30	15.5	87	58.3	9.8	19.8	8.8	103	8.2	1132
3/23/94	BS5-B	3.4	4.4	1415	12805.0	47098.1	30	15.5	87	58.3	28.8	17.6	7.1	89	7.9	1911

Mobile Bay Cruise MB: 43

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (μ M)	PC (μ M)	NO3 (μ M)	NO2 (μ M)	NH4 (μ M)	DON (μ M)	PN (μ M)	PP (μ M)	PO4 (μ M)	DOP (μ M)	SI (μ M)	ATTEN -(/m)	SEXTON (mg/l)	SECCHI (cm)	CHLORa (μ g/l)	VPROD (mgC/L/d)	APROD (gC/m2/d)
3/23/94	DR3-S	1.0	548	104.35	8.82	0.38	5.58	26.45	8.99	1.05	0.93	0.00	103.10	2.09	26.22		3.62	0.170	0.140
3/23/94	DR3-B	12.4			0.92	0.30	6.34			0.55			19.35				2.11		
3/23/94	DR7-S	1.0	594	103.19	6.48	0.37	1.37	23.12	6.15	0.93	0.78	0.00	102.40	2.17	12.64		6.45	0.380	0.320
3/23/94	DR7-B	2.0			5.82	0.40	1.92			0.70			102.10				6.53		
3/23/94	PC3-S	1.0	524	111.16	10.18	0.46	5.83	10.22	6.22	1.43	0.42	0.20	96.59	1.69	16.32		14.82	0.540	0.600
3/23/94	PC3-B	14.2			0.77	0.22	2.57			0.30			96.39				2.22		
3/23/94	PC5-S	1.0	265	57.41	0.53	0.14	1.01	16.19	4.33	1.36	0.19	0.43	100.60	1.88	20.71		20.14	0.530	0.580
3/23/94	PC5-B	3.0			0.63	0.17	0.87			0.22			14.42				17.76		
3/23/94	WB3-S	1.0	458	133.24	4.91	0.41	0.66	26.89	5.80	1.23	0.30	0.42	81.46	1.41	28.89		16.97	0.730	0.810
3/23/94	WB3-B	13.3			0.58	0.26	2.18			0.50			79.60				3.17		
3/23/94	WB5-S	1.0	512	88.58	5.23	0.30	1.40	19.59	3.90	1.03	0.27	0.35	62.78	1.93	24.46		8.03	0.690	0.580
3/23/94	WB5-B	3.7			5.19	0.35	1.30			0.35			9.69				9.05		
3/23/94	FM3-S	1.0	388	82.85	0.33	0.22	1.11	17.47	3.61	0.33	0.19	0.43	43.50	0.35	52.72		6.55	0.240	1.200
3/23/94	FM3-B	13.6			0.14	0.13	1.36			0.27			30.13				5.77		
3/23/94	BS5-S	1.0	443	46.12	1.54	0.27	0.96	8.10	2.63	0.12	0.50	0.50	89.26	0.84	39.44		4.87	0.450	1.090
3/23/94	BS5-B	3.4			1.16	0.27	0.90			0.14			77.58				1.58		

Mobile Bay Cruise Report

MB-44
28 April 1994

Vessel: R/V Robalo

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter
Pat Griffin

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 9 surface stations (all 9 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 0820 CDT (GMT-7 hours). Deadheaded to station FM3. Began sampling 0833. Stations were continued upbay to Dog River and back down to Point Clear station PC5. Returned to DISL 1315. Note: A large ship passed station PC3 right before sample measurements were taken at this station.

Mobile Bay Cruise MB: 44

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LON DEG	LON MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
4/28/94	DR3-S	1.0	13.4	1113	12780.9	47165.4	30	34.0	88	2.0	1.5	24.8	7.4	88	7.5	791
4/28/94	DR3-B	12.4	13.4	1113	12780.9	47165.4	30	34.0	88	2.0	30.5	23.3	4.7	65	8.0	1981
4/28/94	DR7-S	1.0	3.0	1140	12840.2	47169.0	30	34.0	87	55.0	0.0	25.8	8.1	98	8.1	730
4/28/94	DR7-B	2.0	3.0	1140	12840.2	47169.0	30	34.0	87	55.0	0.0	24.8	8.1	99	8.0	730
4/28/94	PC3-S	1.0	15.2	1046	12783.6	47146.5	30	29.0	88	1.0	1.8	25.3	8.1	99	8.1	804
4/28/94	PC3-B	14.2	15.2	1046	12783.6	47146.5	30	29.0	88	1.0	30.6	23.4	5.0	69	8.0	1985
4/28/94	PC5-S	1.0	4.0	1208	12815.3	47145.5	30	28.0	87	58.0	1.0	26.0	8.2	100	8.1	771
4/28/94	PC5-B	3.0	4.0	1208	12815.3	47145.5	30	28.0	87	58.0	1.0	24.7	7.7	92	7.7	771
4/28/94	WB1-S	1.0	3.5	1016	12745.1	47120.1	30	22.7	88	4.4	3.7	25.9	8.7	109	8.8	882
4/28/94	WB1-B	2.5	3.5	1016	12745.1	47120.1	30	22.7	88	4.4	3.8	25.6	8.5	107	8.7	886
4/28/94	WB3-S	1.0	14.3	955	12777.6	47121.0	30	23.0	88	1.0	1.9	25.0	8.3	102	8.2	808
4/28/94	WB3-B	13.3	14.3	955	12777.6	47121.0	30	23.0	88	1.0	30.4	23.8	5.8	82	8.1	1977
4/28/94	WB5-S	1.0	4.7	936	12810.4	47122.4	30	23.0	87	58.0	1.1	24.5	7.9	95	7.9	775
4/28/94	WB5-B	3.7	4.7	936	12810.4	47122.4	30	23.0	87	58.0	2.1	24.3	6.3	78	7.5	816
4/28/94	FM3-S	1.0	14.6	833	12762.5	47091.6	30	15.5	88	2.3	14.8	24.4	7.6	99	8.3	1337
4/28/94	FM3-B	13.6	14.6	833	12762.5	47091.6	30	15.5	88	2.3	32.1	24.0	6.7	95	8.2	2047
4/28/94	BS5-S	1.0	4.4	910	12805.1	47098.1	30	15.5	87	58.3	5.8	25.0	8.1	102	8.4	968
4/28/94	BS5-B	3.4	4.4	910	12805.1	47098.1	30	15.5	87	58.3	24.9	24.4	6.3	87	8.2	1751

Mobile Bay Cruise MB: 44

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -(/m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
4/28/94	DR3-S	1.0	533	62.81	9.82	0.62	4.42	24.82	3.07	1.48	0.93	0.00	30.08	2.33	15.33		7.52	0.515	0.350
4/28/94	DR3-B	12.4			1.17	0.45	7.96				0.50		9.46				1.98		
4/28/94	DR7-S	1.0	579	54.32	10.56	0.51	3.50	17.96	1.94	1.48	0.68	0.00	104.10	2.67	27.75		14.85	1.799	1.250
4/28/94	DR7-B	2.0			8.94	0.39	0.46				0.70		21.08				9.11		
4/28/94	PC3-S	1.0	453	62.19	7.59	0.66	0.71	22.91	1.10	1.61	0.45	0.17	103.50	2.39	17.20		11.41	1.369	1.150
4/28/94	PC3-B	14.2			1.04	0.40	5.83				0.47		108.30				2.24		
4/28/94	PC5-S	1.0	508	54.51	9.09	0.56	0.97	22.68	0.00		0.63	0.00	100.00	2.38	20.00		9.98	2.509	2.020
4/28/94	PC5-B	3.0			9.06	0.61	0.59				0.68		16.60				9.50		
4/28/94	WB1-S	1.0	448	44.07	1.05	0.19	0.34	19.90	0.00	0.99	0.19	0.53	79.48	1.64	12.33		16.47	1.628	1.710
4/28/94	WB1-B	2.5			1.21	0.25	0.42				0.35		81.03				4.75		
4/28/94	WB3-S	1.0	548	40.65	6.11	0.56	0.64	24.45	0.34	1.54	0.40	0.22	94.09	1.83	18.00		16.47	1.029	1.110
4/28/94	WB3-B	13.3			1.08	0.79	4.49				0.93		16.47				4.75		
4/28/94	WB5-S	1.0	457	39.50	9.63	0.62	0.60	25.05	0.51	1.23	0.68	0.00	76.46	1.97	19.20		12.20	1.092	0.930
4/28/94	WB5-B	3.7			8.42	0.55	1.46				0.50		97.51				2.69		
4/28/94	FM3-S	1.0	343	38.29	0.84	0.24	0.16	23.06	0.14	0.86	0.12	0.50	57.58	0.81	27.00		7.13	0.526	1.540
4/28/94	FM3-B	13.6			1.37	0.15	3.37				0.58		7.83				4.53		
4/28/94	BS5-S	1.0	382	22.46	2.31	0.35	0.14	15.10	0.82	0.88	0.14	0.73	83.96	1.32	9.43		12.83	0.463	0.810
4/28/94	BS5-B	3.4			1.21	0.24	3.41				0.35		27.57				8.87		

Mobile Bay Cruise Report

MB-45
31 May 1994

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter
Lynn Hoffmann

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 9 surface stations (all 9 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 0820 CDT (GMT-7 hours). Deadheaded to station FM3. Began sampling 0832. Stations were continued upbay and ending at Dog River. Returned to DISL 1325.

Mobile Bay Cruise MB: 45

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LONG DEG	LONG MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
5/31/94	DR3-S	1.0	13.4	1154	12780.8	47165.4	30	34.0	88	2.0	5.7	26.7				964
5/31/94	DR3-B	12.4	13.4	1154	12780.8	47165.4	30	34.0	88	2.0	25.7	24.4				1784
5/31/94	DR7-S	1.0	3.0	1224	12840.3	47169.0	30	34.0	87	55.0	6.7	26.6				1005
5/31/94	DR7-B	2.0	3.0	1224	12840.3	47169.0	30	34.0	87	55.0	7.1	25.9				1021
5/31/94	PC3-S	1.0	15.2	1125	12763.6	47146.5	30	29.0	88	1.0	9.8	26.4				1132
5/31/94	PC3-B	14.2	15.2	1125	12763.3	47146.5	30	29.0	88	1.0	25.7	24.9				1784
5/31/94	PC5-S	1.0	4.0	1251	12815.2	47145.3	30	28.0	87	58.0	9.5	26.4				1119
5/31/94	PC5-B	3.0	4.0	1251	12815.2	47145.3	30	28.0	87	58.0	10.8	25.7				1173
5/31/94	WB3-S	1.0	14.3	1052	12777.4	47121.0	30	23.0	88	1.0	13.5	26.0				1284
5/31/94	WB3-B	13.3	14.3	1052	12777.4	47121.0	30	23.0	88	1.0	26.8	24.6				1829
5/31/94	WB5-S	1.0	4.7	1028	12810.4	47122.4	30	23.0	87	58.0	13.3	25.6				1275
5/31/94	WB5-B	3.7	4.7	1028	12810.4	47122.4	30	23.0	87	58.0	14.1	25.1				1308
5/31/94	WB7-S	1.0	3.5	959	12840.2	47122.7	30	22.6	87	55.3	11.4	25.6				1197
5/31/94	WB7-B	2.5	3.5	959	12840.2	47122.7	30	22.6	87	55.3	11.6	25.2				1206
5/31/94	FM3-S	1.0	14.6	832	12762.5	47091.6	30	15.5	88	2.3	21.4	24.6				1608
5/31/94	FM3-B	13.6	14.6	832	12762.5	47091.6	30	15.5	88	2.3	28.9	23.8				1915
5/31/94	BS5-S	1.0	4.4	915	12804.9	47098.1	30	15.5	87	58.3	16.0	24.8				1386
5/31/94	BS5-B	3.4	4.4	915	12804.9	47098.1	30	15.5	87	58.3	19.9	24.8				1546

Mobile Bay Cruise MB: 45

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -(m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
5/31/94	DR3-S	1.0	351	16.08	0.52	0.06	1.11	16.33	0.00	0.65	0.17	0.55	54.14	0.96	20.00		3.44	0.131	0.181
5/31/94	DR3-B	12.4			0.00	0.12	6.54				0.72		23.22				1.19		
5/31/94	DR7-S	1.0	415	15.55	0.41	0.06	1.57	19.13	0.00	0.78	0.31	0.41	58.65	1.10	19.60		4.65	0.161	0.277
5/31/94	DR7-B	2.0			0.56	0.06	2.97				0.22		49.29				7.59		
5/31/94	PC3-S	1.0	372	10.17	0.56	0.06	2.62	7.47	0.00	0.48	0.22	0.50	15.00	1.04	60.40		1.27	0.122	0.195
5/31/94	PC3-B	14.2			0.35	0.06	1.84				0.14		48.82				3.01		
5/31/94	PC5-S	1.0	629	10.30	0.56	0.06	3.46	9.56	0.29	0.45	0.39	0.63	13.95	0.97	72.80		1.90	0.253	0.489
5/31/94	PC5-B	3.0			0.48	0.06	2.09				0.22		43.29				13.59		
5/31/94	WB3-S	1.0	306	5.15	0.50	0.06	2.02	15.41	0.48	0.98	0.17	0.65	39.25	0.88	31.67		5.91	0.170	0.349
5/31/94	WB3-B	13.3			0.42	0.04	0.94				0.17		50.35				2.81		
5/31/94	WB5-S	1.0	428	0.69	0.45	0.04	1.64	14.01	0.00	0.67	0.11	0.66	33.98	0.94	34.80		3.17	0.003	0.007
5/31/94	WB5-B	3.7			0.39	0.04	1.17				0.17		43.58				4.59		
5/31/94	WB7-S	1.0	253	3.67	0.37	0.04	0.90	20.38	0.00	1.31	0.11	0.61	62.35	1.29	42.37		7.76	0.192	0.263
5/31/94	WB7-B	2.5			0.61	0.04	2.82				0.17		52.76				4.83		
5/31/94	FM3-S	1.0	359	4.17	0.43	0.04	1.24	8.49	0.11	0.45	0.17	0.65	20.17	0.64	50.40		3.35	0.219	0.480
5/31/94	FM3-B	13.6			0.59	0.06	2.87				0.14		9.50				1.32		
5/31/94	BS5-S	1.0	318	2.31	0.39	0.06	1.94	10.72	0.12	0.68	0.11	0.91	50.69	1.03	37.60		3.38	0.202	0.247
5/31/94	BS5-B	3.4			0.48	0.06	1.41				0.17		32.79				3.63		

Mobile Bay Cruise Report

MB-46
21 June 1994

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter
Pat Griffin

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 9 surface stations (all 9 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 0825 CDT (GMT-7 hours). Deadheaded to station FM3 and then to a new station called OFFSHORE. Began sampling 0838. Stations were continued upbay to Dog River and back down to Point Clear station PC5. Returned to DISL 1400.

Mobile Bay Cruise MB: 46

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LONG DEG	LONG MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
6/21/94	DR3-S	1.0	13.4	1200	12780.9	47165.4	30	34.0	88	2.0	5.7	28.4	8.5	113	8.2	964
6/21/94	DR3-B	12.4	13.4	1200	12780.9	47165.4	30	34.0	88	2.0	30.4	24.7	1.8	26	7.5	1977
6/21/94	DR7-S	1.0	3.0	1225	12840.2	47169.0	30	34.0	87	55.0	6.3	28.8	9.1	123	8.3	988
6/21/94	DR7-B	2.0	3.0	1225	12840.2	47169.0	30	34.0	87	55.0	8.0	27.9	5.0	67	7.7	1058
6/21/94	PC3-S	1.0	15.2	1140	12783.6	47146.6	30	29.0	88	1.0	7.0	28.4	9.0	121	8.4	1017
6/21/94	PC3-B	14.2	15.2	1140	12783.6	47146.6	30	29.0	88	1.0	29.9	24.7	1.3	18	7.5	1956
6/21/94	PC5-S	1.0	4.0	1300	12815.3	47145.2	30	28.0	87	58.0	8.7	28.6	7.3	99	8.1	1087
6/21/94	PC5-B	3.0	4.0	1300	12815.3	47145.2	30	28.0	87	58.0	14.1	27.7	5.1	71	7.3	1307
6/21/94	WB3-S	1.0	14.3	1110	12777.3	47121.0	30	23.0	88	1.0	10.3	28.4	7.1	97	8.1	1152
6/21/94	WB3-B	13.3	14.3	1110	12777.3	47121.0	30	23.0	88	1.0	30.4	24.8	1.4	21	7.5	1977
6/21/94	WB5-S	1.0	4.7	1046	12810.4	47122.4	30	23.0	87	58.0	10.9	28.3	7.4	102	8.1	1177
6/21/94	WB5-B	3.7	4.7	1046	12810.4	47122.4	30	23.0	87	58.0	17.6	27.8	1.4	20	7.2	1452
6/21/94	WB7-S	1.0	3.5	1030	12840.2	47122.7	30	22.6	87	55.3	11.7	27.9	7.3	100	8.0	1210
6/21/94	WB7-B	2.5	3.5	1030	12840.2	47122.7	30	22.6	87	55.3	16.9	27.8	2.2	31	7.1	1423
6/21/94	FM3-S	1.0	14.6	838	12762.5	47091.6	30	15.5	88	2.3	19.4	27.9	6.6	95	7.9	1526
6/21/94	FM3-B	13.6	14.6	838	12762.5	47091.6	30	15.5	88	2.3	24.0	27.5	6.0	89	7.9	1714
6/21/94	BS5-S	1.0	4.4	954	12804.9	47098.1	30	15.5	87	58.3	23.2	27.5	6.7	99	8.0	1681
6/21/94	BS5-B	3.4	4.4	954	12804.9	47098.1	30	15.5	87	58.3	23.6	27.4	6.4	93	8.0	1698

Mobile Bay Cruise MB: 46

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (μ M)	PC (μ M)	NO3 (μ M)	NO2 (μ M)	NH4 (μ M)	DON (μ M)	PN (μ M)	PP (μ M)	PO4 (μ M)	DOP (μ M)	SI (μ M)	ATTEN -1/m	SEXTON (mg/l)	SECCHI (cm)	CHLORa (μ g/l)	VPROD (mgC/L/d)	APROD (gC/m2/d)
6/21/94	DR3-S	1.0	416	91.46	1.41	0.13	1.34	17.62	6.82	0.72	0.00	0.72	49.69	1.38	27.33		47.91	0.127	0.157
6/21/94	DR3-B	12.4			4.00	0.40	1.80				0.69		49.31				11.68		
6/21/94	DR7-S	1.0	373	91.38	0.45	0.08	4.22	77.05	6.73	0.92	0.33	0.72	62.49	1.23	32.86		31.11	0.049	0.092
6/21/94	DR7-B	2.0			0.96	0.06	1.04				0.11		64.57				23.69		
6/21/94	PC3-S	1.0	346	129.41	1.20	0.06	2.77	24.19	8.34	1.33	0.22	0.72	52.90	1.21	28.67		57.40	0.083	0.146
6/21/94	PC3-B	14.2			1.24	0.12	3.78				0.17		47.42				13.35		
6/21/94	PC5-S	1.0	380	82.56	0.41	0.04	1.80	11.16	5.00	0.76	0.00	0.62	53.49	1.40	40.67		14.35	0.240	0.344
6/21/94	PC5-B	3.0			0.45	0.06	1.28				0.28		55.93				32.04		
6/21/94	WB3-S	1.0	302	72.16	0.36	0.04	1.48	14.62	1.88	0.64	0.00	0.62	47.77	0.90	38.00		10.01	0.156	0.377
6/21/94	WB3-B	13.3			1.01	0.42	2.53				0.33		13.85				11.01		
6/21/94	WB5-S	1.0	317	63.79	0.44	0.04	2.72	9.15	0.88	0.64	0.03	0.67	45.18	0.97	26.40		11.68	0.108	0.213
6/21/94	WB5-B	3.7			0.44	0.05	1.31				0.11		24.36				18.52		
6/21/94	WB7-S	1.0	293		0.37	0.04	6.38	10.44		0.81	0.00	0.72	43.77	1.04	24.00		22.36	0.150	0.277
6/21/94	WB7-B	2.5			0.40	0.04	0.78				0.11		43.74				33.79		
6/21/94	FM3-S	1.0	403	58.79	0.45	0.04	0.87	13.22	0.89	0.73	0.03	3.19	32.40	0.85	35.20		8.68	0.197	0.400
6/21/94	FM3-B	13.6			0.42	0.04	1.15				0.03		8.84				16.02		
6/21/94	BS5-S	1.0	197	66.87	0.38	0.04	0.70	11.18	1.88	0.60	0.11	1.02	9.93	1.30	53.60		20.02	0.282	0.383
6/21/94	BS5-B	3.4			0.68	0.08	2.83				0.17		8.87				17.35		

Mobile Bay Cruise Report

MB-47
21 July 1994

Vessel: R/V Deborah B

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: Jonathan R. Pennock
Jean L. Cowan
Tina Miller-Way
John C. Lehrter
Alan Gunter
David Chambers

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 10 surface stations (all 10 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Secchi disk and Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 0745 CDT (GMT-7 hours). Deadheaded to station FM3. Began sampling 0756. Stations were continued upbay to Dog River and back down to FM7. Returned to DISL 1420.

Mobile Bay Cruise MB: 47

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LON DEG	LON MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
7/21/94	DR3-S	1.0	13.4	1015	12780.1	47165.6	30	34.0	88	2.0	1.3	28.6	6.2	80	7.3	783
7/21/94	DR3-B	12.4	13.4	1015	12780.1	47165.6	30	34.0	88	2.0	27.6	27.8	2.6	38	7.7	1862
7/21/94	DR7-S	1.0	3.0	1046	12840.1	47169.1	30	34.0	87	55.0	0.0	29.7	7.0	91	7.6	730
7/21/94	DR7-B	2.0	3.0	1046	12840.1	47169.1	30	34.0	87	55.0	0.0	29.0	6.6	85	7.5	730
7/21/94	PC3-S	1.0	15.2	931	12783.0	47146.3	30	29.0	88	1.0	2.5	29.3	7.8	103	8.1	832
7/21/94	PC3-B	14.2	15.2	931	12783.0	47146.3	30	29.0	88	1.0	29.3	27.8	2.7	40	7.7	1932
7/21/94	PC5-S	1.0	4.0	1119	12815.3	47145.2	30	28.0	87	58.0	0.4	29.5	6.9	89	7.5	746
7/21/94	PC5-B	3.0	4.0	1119	12815.3	47145.2	30	28.0	87	58.0	4.0	28.5	1.1	15	6.9	894
7/21/94	WB3-S	1.0	14.3	844	12777.3	47121.1	30	23.0	88	1.0	3.5	28.6	7.8	104	8.2	873
7/21/94	WB3-B	13.3	14.3	844	12777.3	47121.1	30	23.0	88	1.0	27.7	30.1	3.8	56	7.8	1866
7/21/94	WB5-S	1.0	4.7	1149	12810.3	47122.1	30	23.0	87	58.0	1.8	29.0	8.1	108	8.2	804
7/21/94	WB5-B	3.7	4.7	1149	12810.3	47122.1	30	23.0	87	58.0	7.4	28.2	0.5	7	7.0	1033
7/21/94	WB7-S	1.0	3.5	1210	12840.2	47122.7	30	22.6	87	55.3	2.3	30.2	8.6	115	8.4	824
7/21/94	WB7-B	2.5	3.5	1210	12840.2	47122.7	30	22.6	87	55.3	2.4	29.5	6.7	88	7.9	828
7/21/94	FM3-S	1.0	14.6	756	12762.5	47091.6	30	15.5	88	2.3	16.6	28.7	7.2	103	8.1	1411
7/21/94	FM3-B	13.6	14.6	756	12762.5	47091.6	30	15.5	88	2.3	32.3	27.4	4.2	64	7.8	2055
7/21/94	FM7-S	1.0	4.4	1210	12840.2	47122.8	30	15.6	87	58.8	4.1	30.9	10.0	138	8.6	898
7/21/94	FM7-B	3.4	4.4	1210	12840.2	47122.8	30	15.6	87	58.8	26.1	27.9	5.9	88	7.9	1800
7/21/94	BS5-S	1.0		1339	12805.0	47098.1	30	15.5	87	58.3	3.6	30.7	10.2	141	8.7	877
7/21/94	BS5-B	3.4		1339	12805.0	47098.1	30	15.5	87	58.3	20.6	28.6	6.1	91	8.0	1575

Mobile Bay Cruise MB: 47

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -(/m)	SEXTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
7/21/94	DR3-S	1.0	795	105.41	51.07	0.34	94.98	0.00	3.46	1.32	11.08	0.00	106.00	3.17	20.67	45	0.42	0.560	0.240
7/21/94	DR3-B	12.4			2.52	0.82	14.01				1.19		27.95				0.81		
7/21/94	DR7-S	1.0	805	196.13	9.45	0.26	8.69	13.39	1.40	1.87	1.33	0.00	107.10	3.84	18.63	40	7.04	1.480	0.650
7/21/94	DR7-B	2.0			11.23	0.21	10.29				1.56		123.60				6.97		
7/21/94	PC3-S	1.0	646	135.36	2.88	0.15	1.13	20.45	1.86	1.34	0.17	0.55	82.23	1.90	22.00	75	2.11	1.570	1.340
7/21/94	PC3-B	14.2			1.80	0.82	12.44				0.89		22.66				1.09		
7/21/94	PC5-S	1.0	725	114.75	6.41	0.31	1.61	25.54	6.73	1.15	0.72	0.35	103.00	2.63	10.00		3.49	1.820	0.850
7/21/94	PC5-B	3.0			20.85	0.16	35.21				1.33		94.79				3.54		
7/21/94	WB3-S	1.0	436	103.97	2.28	0.13	1.01	63.98	8.40	1.10	0.03	0.84	55.29	1.80	9.50	80	2.85	1.200	1.120
7/21/94	WB3-B	13.3			2.02	0.77	8.11				0.56		18.52				1.45		
7/21/94	WB5-S	1.0	1760	123.38	11.82	0.25	15.84	7.96	4.88	1.31	1.67	0.00	102.10	2.10	13.37	50	5.21	0.960	0.640
7/21/94	WB5-B	3.7			10.34	0.43	29.83				2.19		74.01				2.12		
7/21/94	WB7-S	1.0	488	157.87	2.88	0.08	5.43	13.40	0.92	1.26	0.56	0.31	78.68	2.00	9.00	65	8.15	0.710	0.730
7/21/94	WB7-B	2.5			4.12	0.11	9.11				0.11		68.99				11.09		
7/21/94	FM3-S	1.0	388	103.94	0.63	0.11	1.40	17.95	7.81	0.82	0.00	0.82	10.22	1.23	14.85	90	1.23	1.020	1.720
7/21/94	FM3-B	13.6			1.48	0.68	2.53				0.11		32.17				1.67		
7/21/94	FM7-S	1.0	523	155.76	9.59	0.06	16.77	26.42	1.45	1.49	1.36	0.00	84.72	1.27	9.38	70	11.45	0.620	1.030
7/21/94	FM7-B	3.4			9.42	0.06	23.55				2.56		20.54				9.80		
7/21/94	BS5-S	1.0	540	194.96	18.49	0.06	34.25	0.00	3.83	1.44	3.42	0.00	84.26	1.47	9.41	75	12.90	0.280	0.420
7/21/94	BS5-B	3.4			0.75	0.06	1.67				0.08		31.41				6.55		

Mobile Bay Cruise Report

MB-48

23 August 1994

Vessel: R/V Robalo

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter
Pat Griffin

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 9 surface stations (all 9 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 0730 CDT (GMT-7 hours). Deadheaded to station FM3. Began sampling 0756. Stations were continued upbay to Dog River and back down to station WB5. Returned to DISL 1230.

Mobile Bay Cruise MB: 48

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LON DEG	LON MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
8/23/94	DR3-S	1.0	13.4	1030	12780.9	47165.5	30	34.0	88	2.0	3.3	29.5	8.0	106	8.1	865
8/23/94	DR3-B	12.4	13.4	1030	12780.9	47165.5	30	34.0	88	2.0	27.8	28.9	3.2	49	7.7	1870
8/23/94	DR7-S	1.0	3.0	1055	12840.1	47169.0	30	34.0	87	55.0	9.7	29.7	6.5	90	7.6	1128
8/23/94	DR7-B	2.0	3.0	1055	12840.1	47169.0	30	34.0	87	55.0	10.0	29.0	2.7	38	7.1	1140
8/23/94	PC3-S	1.0	15.2	1002	12783.4	47146.3	30	29.0	88	1.0	13.2	30.4	7.6	103	8.0	1271
8/23/94	PC3-B	14.2	15.2	1002	12783.4	47146.3	30	29.0	88	1.0	30.1	26.8	3.4	52	7.7	1965
8/23/94	PC5-S	1.0	4.0	1121	12815.3	47145.5	30	28.0	87	58.0	10.3	29.8	7.2	99	7.8	1152
8/23/94	PC5-B	3.0	4.0	1121	12815.3	47145.5	30	28.0	87	58.0	12.0	28.8	3.8	53	7.4	1222
8/23/94	WB3-S	1.0	14.3	932	12777.3	47121.1	30	23.0	88	1.0	13.2	28.6	7.2	100	7.9	1271
8/23/94	WB3-B	13.3	14.3	932	12777.3	47121.1	30	23.0	88	1.0	30.8	28.5	3.0	47	7.7	1993
8/23/94	WB5-S	1.0	4.7	1200	12810.1	47122.4	30	23.0	87	58.0	12.9	30.1	8.2	115	8.1	1259
8/23/94	WB5-B	3.7	4.7	1200	12810.1	47122.4	30	23.0	87	58.0	14.2	29.0	3.5	49	7.6	1312
8/23/94	WB7-S	1.0	3.5	1145	12840.2	47122.7	30	22.6	87	55.3	12.3	29.6	7.6	106	8.0	1234
8/23/94	WB7-B	2.5	3.5	1145	12840.2	47122.7	30	22.6	87	55.3	13.3	28.6	3.0	43	7.6	1275
8/23/94	FM3-S	1.0	14.6	825	12762.5	47091.6	30	15.5	88	2.3	16.1	27.6	6.9	97	8.0	1390
8/23/94	FM3-B	13.6	14.6	825	12762.5	47091.6	30	15.5	88	2.3	32.5	28.0	4.5	69	7.8	2063
8/23/94	BS5-S	1.0	4.4	852	12804.9	47098.1	30	15.5	87	58.3	15.0	28.0	8.1	113	8.2	1345
8/23/94	BS5-B	3.4	4.4	852	12804.9	47098.1	30	15.5	87	58.3	16.2	28.1	1.9	28	7.5	1394

Mobile Bay Cruise MB: 48

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -(/m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	YPROD (mgC/l/d)	APROD (gC/m2/d)
8/23/94	DR3-S	1.0	523	103.96	1.02	0.06	4.64	22.84	5.14	1.23	0.17	0.70	75.89	1.25	20.50		9.82	1.480	2.280
8/23/94	DR3-B	12.4			1.10	0.51	8.33				0.89		16.69				5.03		
8/23/94	DR7-S	1.0	272	59.78	0.66	0.08	1.30	18.02	0.12	0.81	0.42	0.85	69.44	1.21	8.67		3.38	1.160	1.930
8/23/94	DR7-B	2.0			0.93	0.11	2.09				0.69		64.62				8.10		
8/23/94	PC3-S	1.0	413	104.27	0.51	0.06	2.01	11.97	8.97	1.04	0.72	0.95	64.07	1.00	8.67		13.31	1.650	3.300
8/23/94	PC3-B	14.2			1.44	0.51	5.07				0.56		15.96				5.28		
8/23/94	PC5-S	1.0	333	70.72	1.95	0.08	8.71	7.32	0.64		0.78	0.54	77.65	1.31	25.50		3.09	0.820	1.220
8/23/94	PC5-B	3.0			1.44	0.18	4.53				1.06		66.87				21.12		
8/23/94	WB3-S	1.0	415	120.57	0.44	0.06	1.11	13.64	5.74	0.89	0.94	0.68	66.18	1.41	40.67		12.36	0.570	0.910
8/23/94	WB3-B	13.3			1.31	0.69	3.08				0.56		15.04				6.07		
8/23/94	WB5-S	1.0	378	128.18	0.46	0.06	1.10	12.79	1.15	0.84	0.64	0.68	66.63	1.47	63.33		6.34	0.570	0.750
8/23/94	WB5-B	3.7			0.68	0.07	1.64				0.67		65.67				12.20		
8/23/94	WB7-S	1.0	378	81.96	0.48	0.06	1.87	12.70	3.33	0.53	0.39	0.78	61.51	1.56	52.00		2.46	0.210	0.312
8/23/94	WB7-B	2.5			16.33	0.06	60.26				4.72		68.44				31.68		
8/23/94	FM3-S	1.0	381	79.02	0.54	0.06	0.95	24.94	2.83	1.02	0.67	0.65	57.01	1.04	69.33		6.04	0.210	0.430
8/23/94	FM3-B	13.6			1.50	0.86	2.24				0.42		17.69				11.05		
8/23/94	BS5-S	1.0	406	103.93	28.30	0.08	35.16	0.00	5.78	0.63	8.36	0.00	53.88	1.49	66.00		19.80	0.480	0.700
8/23/94	BS5-B	3.4			0.73	0.10	1.38				9.61		62.14				19.48		

Mobile Bay Cruise Report

MB-49

26 September 1994

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter
George McManus

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 9 surface stations (all 9 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 0800 CDT (GMT-7 hours). Deadheaded to station WB3. Began sampling 0825. Stations were continued upbay to Dog River and back down to a new station called Sea Buoy and ended at station FM3. Returned to DISL 1345.

Mobile Bay Cruise MB: 49

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LON DEG	LON MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
9/26/94	DR3-S	1.0	13.4	954	12781.2	47165.4	30	34.0	88	2.0	7.5	25.1	6.8	87	7.7	1037
9/26/94	DR3-B	12.4	13.4	954	12781.2	47165.4	30	34.0	88	2.0	29.4	26.5	4.3	64	7.7	1936
9/26/94	DR7-S	1.0	3.0	1010	12403.0	47676.0	30	34.0	87	55.0	6.2	24.8	7.5	94	7.8	984
9/26/94	DR7-B	2.0	3.0	1010	12403.0	47676.0	30	34.0	87	55.0	9.4	24.9	5.1	68	7.6	1175
9/26/94	PC3-S	1.0	15.2	915	12783.1	47146.2	30	29.0	88	1.0	11.2	25.1	7.4	96	7.8	1189
9/26/94	PC3-B	14.2	15.2	915	12783.1	47146.2	30	29.0	88	1.0	29.7	26.5	5.1	76	7.8	1948
9/26/94	PC5-S	1.0	4.0	1038	12815.3	47145.3	30	28.0	87	58.0	12.6	25.5	7.6	101	7.9	1247
9/26/94	PC5-B	3.0	4.0	1038	12815.3	47145.3	30	28.0	87	58.0	13.7	25.4	5.0	67	7.7	1292
9/26/94	WB3-S	1.0	14.3	825	12777.4	47121.0	30	23.0	88	1.0	15.7	24.6	7.0	93	7.9	1374
9/26/94	WB3-B	13.3	14.3	825	12777.4	47121.0	30	23.0	88	1.0	27.9	26.7	4.8	72	7.8	1874
9/26/94	WB5-S	1.0	4.7	1105	12810.4	47124.4	30	23.0	87	58.0	15.4	25.7	7.3	98	8.0	1362
9/26/94	WB5-B	3.7	4.7	1105	12810.4	47124.4	30	23.0	87	58.0	15.9	25.4	5.1	70	7.6	1382
9/26/94	WB7-S	1.0	3.5	1128	12840.2	47122.7	30	22.6	87	55.3	16.1	26.0	7.2	97	7.9	1390
9/26/94	WB7-B	2.5	3.5	1128	12840.2	47122.7	30	22.6	87	55.3	16.2	25.1	2.3	33	7.2	1394
9/26/94	FM3-S	1.0	14.6	1325	12762.5	47091.6	30	15.5	88	2.3	19.1	25.6	6.9	94	7.9	1513
9/26/94	FM3-B	13.6	14.6	1325	12762.5	47091.6	30	15.5	88	2.3	31.1	26.9	5.6	83	7.9	2006
9/26/94	BS5-S	1.0	4.4	1205	12805.0	47098.1	30	15.5	87	58.3	18.8	26.2	6.9	95	7.9	1501
9/26/94	BS5-B	3.4	4.4	1205	12805.0	47098.1	30	15.5	87	58.3	21.6	25.8	5.1	75	7.8	1616

Mobile Bay Cruise MB: 49

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (μ M)	PC (μ M)	NO3 (μ M)	NO2 (μ M)	NH4 (μ M)	DON (μ M)	PN (μ M)	PP (μ M)	PO4 (μ M)	DOP (μ M)	SI (μ M)	ATTEN -/(m)	SEXTON (mg/l)	SECCHI (cm)	CHLORa (μ g/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
9/26/94	DR3-S	1.0	323	100.35	7.54	0.58	2.14	10.84	9.15	0.70	0.47	0.80	72.36	0.71			4.54	0.170	0.410
9/26/94	DR3-B	12.4			0.12	0.12	4.71						16.62				4.86		
9/26/94	DR7-S	1.0	271	124.22	2.19	0.15	0.82	13.01	5.42	1.09	0.42	0.50	81.65	1.03			6.44	0.200	0.370
9/26/94	DR7-B	2.0			0.14	0.47	4.66				1.19		16.07				10.03		
9/26/94	PC3-S	1.0	273	88.94	3.36	0.45	1.19	15.83	6.09	0.87	0.44	0.43	49.05	0.69			8.03	0.340	0.690
9/26/94	PC3-B	14.2			0.14	0.30	4.13						16.19				4.22		
9/26/94	PC5-S	1.0	241	84.11	0.03	0.02	1.11	11.81	1.04	0.79	0.52	0.55	54.30	0.83			6.23	0.300	0.850
9/26/94	PC5-B	3.0			0.06	0.01	1.64				0.59		48.41				15.84		
9/26/94	WB3-S	1.0	198	91.66	0.02	0.00	0.96	11.51	4.11	0.73	0.47	1.00	37.00	0.60			5.17	0.220	0.750
9/26/94	WB3-B	13.3			0.11	0.07	6.27						10.29				6.55		
9/26/94	WB5-S	1.0	228	112.52	0.10	0.01	1.27	13.12	1.78	0.55	0.47	0.80	37.07	0.80			6.34	0.300	0.670
9/26/94	WB5-B	3.7			0.03	0.01	1.25				0.59		46.11				9.82		
9/26/94	WB7-S	1.0	223	94.66	0.04	0.00	0.93	14.66	6.56	0.88	0.47	0.70	43.16	0.87			4.96	0.310	0.790
9/26/94	WB7-B	2.5			0.03	0.00	1.40				0.47		39.09				6.23		
9/26/94	FM3-S	1.0	203	80.14	0.06	0.06	1.30	12.20	8.20	0.57	0.42	0.45	35.61	0.83			3.17	0.180	0.480
9/26/94	FM3-B	13.6			0.00	0.04	5.41						5.23				2.32		
9/26/94	BS5-S	1.0	211	89.21	0.01	0.00	0.50	9.83	7.78	0.60	0.67	0.10	34.75	0.91			2.64	0.070	0.160
9/26/94	BS5-B	3.4			0.04	0.00	0.85				0.32		23.94				9.50		

Mobile Bay Cruise Report

MB-50

31 October 1994

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter
Pat Griffin

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 9 surface stations (all 9 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Overcast conditions. Departed DISL 0750 CST (GMT-6 hours). Deadheaded to station FM3. Began sampling 0806. Stations were continued upbay to Dog River and back down to station WB7. Returned to DISL 1130.

Mobile Bay Cruise MB: 50

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LON DEG	LON MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
10/31/94	DR3-S	1.0	13.4	935	12781.0	47165.5	30	34.0	88	2.0	4.3	20.4	8.0	91	8.2	906
10/31/94	DR3-B	12.4	13.4	935	12781.0	47165.5	30	34.0	88	2.0	31.4	21.9	7.1	98	7.9	2018
10/31/94	DR7-S	1.0	3.0	1000	12840.3	47169.0	30	34.0	87	55.0	6.9	20.3	8.5	98	8.2	1013
10/31/94	DR7-B	2.0	3.0	1000	12840.3	47169.0	30	34.0	87	55.0	14.1	20.4	6.0	74	7.3	1308
10/31/94	PC3-S	1.0	15.2	910	12783.6	47146.6	30	29.0	88	1.0	7.5	19.9	6.1	83	7.9	1037
10/31/94	PC3-B	14.2	15.2	910	12783.6	47146.6	30	29.0	88	1.0	31.6	21.8	8.3	95	8.1	2026
10/31/94	PC5-S	1.0	4.0	1025	12815.3	47145.3	30	28.0	87	58.0	11.3	20.9	8.1	96	8.1	1193
10/31/94	PC5-B	3.0	4.0	1025	12815.3	47145.3	30	28.0	87	58.0	17.2	20.3	6.0	75	7.8	1435
10/31/94	WB3-S	1.0	14.3	845	12777.4	47121.0	30	23.0	88	1.0	9.1	19.9	9.0	104	8.2	1103
10/31/94	WB3-B	13.3	14.3	845	12777.4	47121.0	30	23.0	88	1.0	31.6	21.8	6.0	83	7.9	2026
10/31/94	WB5-S	1.0	4.7	1045	12810.4	47122.4	30	23.0	87	58.0	20.1	20.4	8.6	101	8.2	1554
10/31/94	WB5-B	3.7	4.7	1045	12810.4	47122.4	30	23.0	87	58.0	20.6	20.2	4.9	62	7.8	1575
10/31/94	WB7-S	1.0	3.5	1105	12840.2	47122.7	30	22.6	87	55.3	11.9	20.5	8.6	102	8.1	1218
10/31/94	WB7-B	2.5	3.5	1105	12840.2	47122.7	30	22.6	87	55.3	22.9	20.7	6.0	79	7.6	1669
10/31/94	FM3-S	1.0	14.6	806	12762.5	47091.6	30	15.5	88	2.3	14.9	19.9	7.9	94	8.0	1341
10/31/94	FM3-B	13.6	14.6	806	12762.5	47091.6	30	15.5	88	2.3	32.0	21.9	6.1	85	7.9	2042
10/31/94	BS5-S	1.0	4.4	1130	12805.0	47098.1	30	15.5	87	58.3	13.0	21.3	8.2	100	8.2	1263
10/31/94	BS5-B	3.4	4.4	1130	12805.0	47098.1	30	15.5	87	58.3	28.0	21.3	6.0	82	7.9	1878

Mobile Bay Cruise MB: 50

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -(/m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
10/31/94	DR3-S	1.0	317		10.67	0.27	3.98	12.19		0.88	0.17	0.25	69.37	0.58	4.67		8.98	0.770	2.600
10/31/94	DR3-B	12.4			0.56	0.09	7.40						5.38				1.67		
10/31/94	DR7-S	1.0	320	208.95	3.86	0.18	3.69	13.01	6.05	1.14	0.42	0.20	61.96	1.36	3.33		15.31	1.070	1.520
10/31/94	DR7-B	2.0			2.03	0.21	3.97				0.17		46.17				7.24		
10/31/94	PC3-S	1.0	253	99.18	5.09	0.15	2.98	16.47	3.03	0.89	0.07	0.55	52.02	0.95	3.33		9.90	0.720	1.420
10/31/94	PC3-B	14.2			0.21	0.05	4.49						4.96				0.40		
10/31/94	PC5-S	1.0	305	75.67	0.12	0.01	3.82	12.52	3.95	0.67	0.22	0.40	45.11	1.03	4.00		10.77	0.460	0.920
10/31/94	PC5-B	3.0			1.31	0.20	4.42				0.07		37.12				2.93		
10/31/94	WB3-S	1.0	268	133.15	0.37	0.13	3.26	13.80	7.79	0.78	0.04	0.53	50.41	1.10	1.33		14.78	0.650	1.180
10/31/94	WB3-B	13.3			0.31	0.05	4.40						3.73				0.16		
10/31/94	WB5-S	1.0	269	136.69	0.62	0.19	2.00	14.95	8.97	0.90	0.29	0.33	52.31	1.07	3.33		12.67	0.720	1.330
10/31/94	WB5-B	3.7			0.54	0.24	4.48				0.17		26.89				2.39		
10/31/94	WB7-S	1.0	273	74.85	0.08	0.08	2.25	14.93	1.57	0.79	0.34	0.28	45.86	1.06	4.00		10.14	0.520	1.030
10/31/94	WB7-B	2.5			0.24	0.17	5.24				0.17		20.18				2.28		
10/31/94	FM3-S	1.0	265	81.39	0.06	0.03	3.46	12.32	2.30	0.61	0.17	0.45	32.46	0.56	2.67		2.96	0.220	0.890
10/31/94	FM3-B	13.6			0.48	0.04	5.41						3.21				0.79		
10/31/94	BS5-S	1.0	232	78.43	0.10	0.07	8.42	6.26	2.82	0.59	0.67	0.00	0.00	0.98	1.33		5.81	0.230	0.560
10/31/94	BS5-B	3.4			0.02	0.06	1.59						92.93				2.60		

Mobile Bay Cruise Report

MB-51

18 November 1994

21 November 1994

Vessel: R/V Deborah B. (18 November)
R/V Robalo (21 November)

Operation Area: * 18 November: Mobile Bay: From Point Clear to
the mouth of the bay
* 21 November: Dog River

Scientific party: * 18 November: John C. Lehrter
Alan Gunter
Pat Griffin
* 21 November: Jean L. Cowan

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 8 surface stations (all 8 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: 18 November: Departed DISL 1210 CST (GMT-6 hours). Deadheaded to station PC3. Began sampling 1300. Stations were continued downbay to station FM3. Returned to DISL 1520.

21 November: Departed DISL 0930 CST (GMT-6 hours). Deadheaded to station DR7. Began sampling 1022 and continued to station DR3. Returned to DISL 1240.

Mobile Bay Cruise MB: 51

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LONG DEG	LONG MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
11/18/94	PC3-S	1.0	15.2	1300	12782.9	47146.5	30	29.0	88	1.0	12.1	20.7	9.0	107	8.3	1226
11/18/94	PC3-B	14.2	15.2	1300	12782.9	47146.5	30	29.0	88	1.0	31.7	22.1	5.9	81	8.0	2030
11/18/94	WB3-S	1.0	14.3	1330	12778.3	47121.0	30	23.0	88	1.0	14.8	20.4	8.8	106	8.3	1337
11/18/94	WB3-B	13.3	14.3	1330	12778.3	47121.0	30	23.0	88	1.0	30.5	21.9	5.8	79	8.1	1981
11/18/94	WB5-S	1.0	4.7	1345	12809.8	47122.4	30	23.0	87	58.0	15.8	20.6	8.5	103	8.2	1378
11/18/94	WB5-B	3.7	4.7	1345	12809.8	47122.4	30	23.0	87	58.0	15.8	20.2	7.7	93	8.1	1378
11/18/94	WB7-S	1.0	3.5	1415	12840.2	47122.7	30	22.6	87	55.3	17.1	20.4	8.7	105	8.2	1431
11/18/94	WB7-B	2.5	3.5	1415	12840.2	47122.7	30	22.6	87	55.3	17.3	20.2	7.8	96	8.1	1439
11/18/94	FM3-S	1.0	14.6	1500	12762.5	47091.6	30	15.5	88	2.3	20.1	20.8	7.4	92	8.2	1554
11/18/94	FM3-B	13.6	14.6	1500	12762.5	47091.6	30	15.5	88	2.3	32.2	22.0	6.4	89	8.1	2051
11/18/94	BS5-S	1.0	4.4	1430	12805.0	47098.1	30	15.5	87	58.3	18.6	20.6	8.4	104	8.2	1493
11/18/94	BS5-B	3.4	4.4	1430	12805.0	47098.1	30	15.5	87	58.3	23.4	20.8	6.4	84	8.1	1690
11/21/94	DR3-S	1.0	13.4	1138	12781.0	47165.4	30	34.0	88	2.0	10.3	21.9				1152
11/21/94	DR3-B	12.4	13.4	1138	12781.0	47165.4	30	34.0	88	2.0	31.7	22.4				2030
11/21/94	DR7-S	1.0	3.0	1022	12840.4	47169.0	30	34.0	87	55.0	12.3	22.2				1234
11/21/94	DR7-B	2.0	3.0	1022	12840.4	47169.0	30	34.0	87	55.0						

Mobile Bay Cruise MB: 51

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (μ M)	PC (μ M)	NO3 (μ M)	NO2 (μ M)	NH4 (μ M)	DON (μ M)	PN (μ M)	PP (μ M)	PO4 (μ M)	DOP (μ M)	SI (μ M)	ATTEN -(m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (μ g/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
11/18/94	PC3-S	1.0	330	91.75	4.08	0.38	2.34	14.01	0.68	0.90	0.17	0.65	56.75	1.11	10.00		12.46	0.440	0.890
11/18/94	PC3-B	14.2			0.62	0.18	4.19						12.79				4.82		
11/18/94	WB3-S	1.0	308	56.02	8.33	0.09	8.93	0.00	9.97	1.46			26.60	1.22	9.00		15.52	0.490	0.810
11/18/94	WB3-B	13.3			0.47	0.15	2.57						15.24				9.11		
11/18/94	WB5-S	1.0	303	85.06	0.62	0.08	1.37	9.75	3.18	0.67	0.22	0.50	47.54	1.41	8.00		12.99	0.560	0.850
11/18/94	WB5-B	3.7			0.16	0.10	1.29						45.28				11.41		
11/18/94	WB7-S	1.0	313	72.50	5.03	0.20	20.03	0.00	9.63	1.16	0.17	0.55	41.97	1.61	9.00		15.21	0.450	0.570
11/18/94	WB7-B	2.5			0.46	0.11	2.45				0.19		36.21				17.43		
11/18/94	FM3-S	1.0	268	59.43	0.39	0.07	1.88	11.91	7.05	0.78	0.17	0.55	26.87	0.80	8.00		4.33	0.120	0.370
11/18/94	FM3-B	13.6			0.18	0.06	1.58						22.88				1.83		
11/18/94	BS5-S	1.0	273		0.15	0.06	1.53	10.93		0.57	0.42	0.45	26.35	1.04	6.00		6.86	0.190	0.436
11/18/94	BS5-B	3.4			0.46	0.23	3.74				0.32		12.60				4.44		
11/21/94	DR3-S	1.0	310	62.89	9.76	0.39	6.07	18.61	9.07	0.63	0.24	0.83	64.75	1.20	5.00		5.28	0.080	0.080
11/21/94	DR3-B	12.4			0.10	0.06	1.87						38.89				15.10		
11/21/94	DR7-S	1.0	198	71.75	0.53	0.30	5.68	9.02	8.68	0.76	0.17	0.75	11.49	1.20	18.00		2.43	0.110	0.130
11/21/94	DR7-B	2.0			0.14	0.08	1.77				0.17		47.91				21.97		

Mobile Bay Cruise Report

MB-52

25 January 1995

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: Jonathan R. Pennock
George McManus

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 8 surface stations (all 8 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Secchi disk and Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 0900 CST (GMT-6 hours). Deadheaded to station FM3. Began sampling 0910. Stations were continued upbay to Dog River and back down to station PC5. Returned to DISL 1430.

Mobile Bay Cruise MB: 52

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LONG DEG	LONG MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
1/25/95	DR3-S	1.0	13.4	1210	12780.2	47165.4	30	34.0	88	2.0	1.7	12.2				800
1/25/95	DR3-B	12.4	13.4	1210	12780.2	47165.4	30	34.0	88	2.0	18.6	13.9				1493
1/25/95	DR7-S	1.0	3.0	1250	12840.4	47169.0	30	34.0	87	55.0	0.1	12.8	11.0	102	7.7	734
1/25/95	DR7-B	2.0	3.0	1250	12840.4	47169.0	30	34.0	87	55.0	0.3	10.5	9.2	88	7.7	742
1/25/95	PC3-S	1.0	15.2	1130	12783.4	47146.6	30	29.0	88	1.0	0.9	11.6	10.9	98	7.5	767
1/25/95	PC3-B	14.2	15.2	1130	12783.4	47146.6	30	29.0	88	1.0	29.2	14.9	6.7	80	8.0	1928
1/25/95	PC5-S	1.0	4.0	1330	12815.3	47145.4	30	28.0	87	58.0	1.9	12.1				808
1/25/95	PC5-B	3.0	4.0	1330	12815.3	47145.4	30	28.0	87	58.0	8.3	11.8				1070
1/25/95	WB3-S	1.0	14.3	1050	12777.5	47121.0	30	23.0	88	1.0	4.3	11.9				906
1/25/95	WB3-B	13.3	14.3	1050	12777.5	47121.0	30	23.0	88	1.0	28.3	14.6				1891
1/25/95	WB5-S	1.0	4.7	1020	12810.3	47122.3	30	23.0	87	58.0	3.9	11.2	10.6	97	7.7	890
1/25/95	WB5-B	3.7	4.7	1020	12810.3	47122.3	30	23.0	87	58.0	6.8	11.4	6.9	83	8.0	1009
1/25/95	FM3-S	1.0	14.6	910	12762.5	47091.6	30	15.5	88	2.3	6.7	11.1	10.1	94	7.8	1005
1/25/95	FM3-B	13.6	14.6	910	12762.5	47091.6	30	15.5	88	2.3	29.2	14.8	7.3	85	8.0	1928
1/25/95	BS5-S	1.0	4.4	950	12805.0	47098.1	30	15.5	87	58.3	5.3	10.8	10.7	98	7.7	947
1/25/95	BS5-B	3.4	4.4	950	12805.0	47098.1	30	15.5	87	58.3	8.7	10.8	9.4	91	7.7	1087

Mobile Bay Cruise MB: 52

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (μ M)	PC (μ M)	NO3 (μ M)	NO2 (μ M)	NH4 (μ M)	DON (μ M)	PN (μ M)	PP (μ M)	PO4 (μ M)	DOP (μ M)	SI (μ M)	ATTEN -(/m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (μ g/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
1/25/95	DR3-S	1.0	364	81.25	15.09	0.74	3.79	19.84	8.45	0.52	0.88	0.00	116.70	2.45	13.25	2.11	0.090	0.080	
1/25/95	DR3-B	12.4			4.28	0.51	4.77				0.70		55.49			3.09			
1/25/95	DR7-S	1.0	364	160.38	17.88	0.80	2.27	19.84	7.82	0.85	1.20	0.00	124.50	4.75	34.40	5.09	0.300	0.120	
1/25/95	DR7-B	2.0			17.04	0.76	2.26				1.15		121.20			2.06			
1/25/95	PC3-S	1.0	404	59.40	15.85	0.80	2.66	21.22	4.46		0.95	0.00	118.20	1.87	10.57	3.15	0.190	0.210	
1/25/95	PC3-B	14.2			1.74	0.37	2.85				0.45		23.86			3.70			
1/25/95	PC5-S	1.0	429	209.98	13.91	0.62	3.13	21.17	0.05	1.02	0.95	0.00	115.10	2.45	28.00	9.24	0.550	0.500	
1/25/95	PC5-B	3.0			9.32	0.61	4.76				0.88		89.00			1.69			
1/25/95	WB3-S	1.0	386	107.32	11.80	0.62	4.05	21.64	9.08	0.57	0.75	0.00	105.00	1.65	22.40	3.07	0.130	0.170	
1/25/95	WB3-B	13.3			1.78	0.32	1.72				0.40		24.52			3.88			
1/25/95	WB5-S	1.0	370	107.10	12.18	0.61	3.84	21.71	9.21		0.75	0.00	107.10	2.05	24.40	2.86	0.120	0.130	
1/25/95	WB5-B	3.7			8.26	0.55	2.70				0.55		89.67			4.47			
1/25/95	FM3-S	1.0	338	97.92	9.18	0.56	2.44	20.64	0.40	0.54	0.53	0.00	93.41	1.73	20.67	6.16	0.300	0.390	
1/25/95	FM3-B	13.6			1.62	0.34	1.64				0.40		22.25			6.34			
1/25/95	BS5-S	1.0	351	107.11	10.80	0.60	3.68	21.60	0.31	0.51	0.75	0.00	101.60	2.00	21.60	5.91	0.270	0.270	
1/25/95	BS5-B	3.4			6.70	0.52	2.92				0.50		80.14			7.24			

Mobile Bay Cruise Report

MB-53
2 March 1995

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: Jonathan R. Pennock
Pat Griffin

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 3 surface stations (all 3 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 1120 CST (GMT-6 hours). Deadheaded to station WB3. Began sampling 1142. Stations were continued downbay to station FM3 and out to station MT7. Returned to DISL 1500.

Mobile Bay Cruise MB: 53

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LONG DEG	LONG MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
3/2/95	WB7-S	1.0	3.5	1225	12840.2	47122.7	30	22.6	87	55.3	3.6	13.3				877
3/2/95	WB7-B	2.5	3.5	1225	12840.2	47122.7	30	22.6	87	55.3	4.1	13.4				898
3/2/95	FM3-S	1.0	14.6	1345	12762.5	47091.6	30	15.5	88	2.3	4.7	13.4				923
3/2/95	FM3-B	13.6	14.6	1345	12762.5	47091.6	30	15.5	88	2.3	34.2	15.9				2133
3/2/95	OFFSHORE	1.0	19.0	1440	12737.3	47055.4	30	7.2	88	4.2	20.5	14.7				1571
3/2/95	OFFSHORE	18.0	19.0	1440	12737.3	47055.4	30	7.2	88	4.2	34.8	16.3				2157

Mobile Bay Cruise MB: 53

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (μ M)	PC (μ M)	NO3 (μ M)	NO2 (μ M)	NH4 (μ M)	DON (μ M)	PN (μ M)	PP (μ M)	PO4 (μ M)	DOP (μ M)	SI (μ M)	ATTEN -1/m	SESTON (mg/l)	SECCHI (cm)	CHLORa (μ g/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
3/2/95	WB7-S	1.0	423	357.92	6.04	0.32	3.85	26.39	0.70	1.67	0.28	0.00	92.35	6.06	57.92		16.79	2.100	0.730
3/2/95	WB7-B	2.5			5.08	0.33	1.83				0.57		89.89				20.59		
3/2/95	FM3-S	1.0	349	273.92	7.84	0.41	3.30	18.98	2.52	1.58	0.52	0.00	90.22	4.48	54.23		12.99	1.640	0.650
3/2/95	FM3-B	13.6			0.48	0.21	1.79				0.21		4.09				14.05		
3/2/95	OFFSHORE	1.0	438	100.25	2.25	0.27	2.12	13.09	8.98	0.44	0.18	0.00	40.83	1.08	19.00		8.84	0.630	1.180
3/2/95	OFFSHORE	18.0			1.34	0.37	2.47				0.28		8.43				2.39		

Mobile Bay Cruise Report

MB-54
20 March 1995

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: George McManus
Pat Griffin

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 8 surface stations (all 8 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 0830 CST (GMT-6 hours). Deadheaded to station WB3. Began sampling 0855. Stations were continued upbay to Dog River and back down to station FM3. Returned to DISL 1250.

Mobile Bay Cruise MB: 54

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LON DEG	LON MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
3/20/95	DR3-S	1.0	13.4	1000	12781.2	47164.6	30	34.0	88	2.0	0.7	16.9	8.1	84	7.1	759
3/20/95	DR3-B	12.4	13.4	1000	12781.2	47164.6	30	34.0	88	2.0	22.9	16.9	6.5	77	7.8	1669
3/20/95	DR7-S	1.0	3.0	1030	12840.6	47169.3	30	34.0	87	55.0	0.0	17.0	8.6	88	7.4	730
3/20/95	DR7-B	2.0	3.0	1030	12840.6	47169.3	30	34.0	87	55.0	0.0	16.7	8.3	83	7.1	730
3/20/95	PC3-S	1.0	15.2	930	12783.4	47146.0	30	29.0	88	1.0	0.8	17.5	8.7	90	7.1	763
3/20/95	PC3-B	14.2	15.2	930	12783.4	47146.0	30	29.0	88	1.0	30.4	17.6	6.3	78	7.8	1977
3/20/95	PC5-S	1.0	4.0	1105	12815.0	47145.7	30	28.0	87	58.0	0.0	17.2	8.8	91	7.1	730
3/20/95	PC5-B	3.0	4.0	1105	12815.0	47145.7	30	28.0	87	58.0	0.0	16.5	8.4	85	7.0	730
3/20/95	WB3-S	1.0	14.3	855	12778.2	47121.1	30	23.0	88	1.0	1.2	17.4	8.3	86	7.1	779
3/20/95	WB3-B	13.3	14.3	855	12778.2	47121.1	30	23.0	88	1.0	26.9	17.2	6.4	80	7.8	1833
3/20/95	WB5-S	1.0	4.7	1135	12810.2	47122.6	30	23.0	87	58.0	0.5	18.7	8.7	92	7.1	750
3/20/95	WB5-B	3.7	4.7	1135	12810.2	47122.6	30	23.0	87	58.0	0.6	17.2	6.7	70	7.0	754
3/20/95	FM3-S	1.0	14.6	1230	12762.5	47091.6	30	15.5	88	2.3	1.5	18.8	8.9	95	7.3	791
3/20/95	FM3-B	13.6	14.6	1230	12762.5	47091.6	30	15.5	88	2.3	33.4	17.6	6.6	83	7.9	2100
3/20/95	BS5-S	1.0	4.4	1200	12804.8	47098.1	30	15.5	87	58.3	0.6	18.0	8.8	92	7.2	754
3/20/95	BS5-B	3.4	4.4	1200	12804.8	47098.1	30	15.5	87	58.3	3.7	17.4	4.9	54	7.2	862

Mobile Bay Cruise MB: 54

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -/(m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
3/20/95	DR3-S	1.0	448	114.38	4.44	0.42	2.40	26.92	1.80	1.81	0.50	0.00	108.70	2.66	30.67		3.84	0.310	0.180
3/20/95	DR3-B	12.4			0.98	0.30	5.37				0.65		31.03				1.86		
3/20/95	DR7-S	1.0	443	98.20	5.41	0.28	1.22	25.09	0.74	1.00	0.45	0.00	116.20	2.79	26.67		5.93	0.520	0.290
3/20/95	DR7-B	2.0			5.22	0.29	1.32				0.48		105.90				5.59		
3/20/95	PC3-S	1.0	440	93.17	4.38	0.38	2.72	27.01	7.97	1.33	0.50	0.00	104.50	3.04	26.67		3.39	0.350	0.170
3/20/95	PC3-B	14.2			0.35	0.33	4.08				0.48		11.96				4.58		
3/20/95	PC5-S	1.0	415	86.41	5.66	0.30	0.96	25.05	7.89	1.03	0.43	0.00	115.60	2.71	22.78		6.95	0.560	0.340
3/20/95	PC5-B	3.0			5.36	0.32	1.05				0.43		114.60				6.10		
3/20/95	WB3-S	1.0	414	97.24	4.93	0.41	2.86	23.76	8.82	0.84	0.48	0.00	103.00	2.36	18.33		3.22	0.380	0.280
3/20/95	WB3-B	13.3			0.61	0.33	3.53				0.60		21.16				3.39		
3/20/95	WB5-S	1.0	379	104.89	5.37	0.33	1.68	23.96	9.53	1.30	0.50	0.00	108.30	2.67	26.25		5.76	0.530	0.360
3/20/95	WB5-B	3.7			5.02	0.38	2.07				0.55		113.90				3.22		
3/20/95	FM3-S	1.0	382	91.03	4.54	0.41	1.72	25.63	7.86	1.01	0.50	0.00	105.70	2.22	17.50		6.36	0.700	0.520
3/20/95	FM3-B	13.6			0.23	0.35	2.09				0.25		7.43				2.71		
3/20/95	BS5-S	1.0	372	81.42	5.32	0.41	1.30	24.82	7.13	1.02	0.48	0.00	100.00	2.19	20.50		5.15	0.510	0.420
3/20/95	BS5-B	3.4			3.17	0.37	3.86				0.48		94.23				4.75		

Mobile Bay Cruise Report

MB-55

24 May 1995

26 May 1995

Vessel:

R/V A.E. Verrill (24 May)

R/V Sea Ox (26 May)

Operation Area:

- * 24 May: Mobile Bay: Stations WB7 and FM3
- * 26 May: Mobile Bay: From Dog River to the mouth of the bay

Scientific party:

- * 24 May: Jonathan R. Pennock
Tina Miller-Way
Biological Oceanography Class
- * 26 May: John C. Lehrter
Pat Griffin

Supporting Agency:

NSF-EPSCoR

Research Objectives:

Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 9 surface stations (all 9 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary:

24 May: Departed DISL 1020 CDT (GMT-7 hours). Deadheaded to station WB7. Began sampling 1046. Sampled station FM3 as well and continued with Biological Oceanography Cruise.

26 May: Departed DISL 0820 CDT (GMT-7 hours). Deadheaded to station WB3. Began sampling 0840. Stations were continued upbay to Dog River and back down to station BS5. Returned to DISL 1150.

Mobile Bay Cruise MB: 55

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LON DEG	LON MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
5/24/95	WB7-S	1.0	3.5	1046	12840.2	47122.7	30	22.6	87	55.3	7.9	26.5				1054
5/24/95	WB7-B	2.5	3.5	1046	12840.2	47122.7	30	22.6	87	55.3						
5/24/95	FM3-S	1.0	14.6	1350	12762.5	47091.6	30	15.5	88	2.3	20.3	27.6				1563
5/24/95	FM3-B	13.6	14.6	1350	12762.5	47091.6	30	15.5	88	2.3	33.7	25.0				2112
5/24/95	BS5-S	1.0	4.4	1128	12805.0	47098.1	30	15.5	87	58.3	10.8	28.1	8.1	110	8.2	1173
5/24/95	BS5-B	3.4	4.4	1128	12805.0	47098.1	30	15.5	87	58.3	29.9	26.3	5.3	77	7.8	1956
5/26/95	DR3-S	1.0	13.4	940	12780.2	47165.4	30	34.0	88	2.0	4.9	27.8	8.2	107	8.1	931
5/26/95	DR3-B	12.4	13.4	940	12780.2	47165.4	30	34.0	88	2.0	31.5	24.3	3.1	44	7.6	2022
5/26/95	DR7-S	1.0	3.0	1006	12840.4	47169.0	30	34.0	87	55.0	3.6	28.3	9.2	121	8.5	877
5/26/95	DR7-B	2.0	3.0	1006	12840.4	47169.0	30	34.0	87	55.0	5.1	27.8	6.9	90	7.5	939
5/26/95	PC3-S	1.0	15.2	914	12783.4	47146.6	30	29.0	88	1.0	6.5	27.8	8.0	106	8.4	996
5/26/95	PC3-B	14.2	15.2	914	12783.4	47146.6	30	29.0	88	1.0	31.9	24.5	4.2	60	7.6	2038
5/26/95	PC5-S	1.0	4.0	1031	12815.3	47145.4	30	28.0	87	58.0	5.8	27.6	9.4	123	8.4	968
5/26/95	PC5-B	3.0	4.0	1031	12815.3	47145.4	30	28.0	87	58.0	6.7	26.6	0.2	3	6.9	1005
5/26/95	WB3-S	1.0	14.3	840	12777.5	47121.0	30	23.0	88	1.0	10.0	27.4	7.7	103	8.2	1140
5/26/95	WB3-B	13.3	14.3	840	12777.5	47121.0	30	23.0	88	1.0	31.9	25.1	4.4	63	7.6	2038
5/26/95	WB5-S	1.0	4.7	1100	12810.3	47122.3	30	23.0	87	58.0	7.3	27.8	8.3	111	8.3	1029
5/26/95	WB5-B	3.7	4.7	1100	12810.3	47122.3	30	23.0	87	58.0	17.1	26.6	1.8	24	7.2	1431

Mobile Bay Cruise MB: 55

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -/(m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	YPROD (mgC/l/d)	APROD (gC/m2/d)
5/24/95	WB7-S	1.0	518	15.60	0.01	0.09	1.02	17.70	6.45	0.66	0.13	0.19	45.22	1.52	6.20		5.99	0.510	0.690
5/24/95	WB7-B	2.5			0.15	0.20	3.50				0.20		38.88				7.46		
5/24/95	FM3-S	1.0	362	10.65	0.02	0.15	1.26	11.10	7.48	0.43	0.43	0.29	24.93	0.62	5.00		0.96	0.200	0.670
5/24/95	FM3-B	13.6			0.05	0.18	3.43				0.35		5.04				4.84		
5/24/95	BS5-S	1.0	418	21.39	0.00	0.09	0.91	16.90	8.35	0.52	0.23	0.43	39.63	0.83	5.00		5.76	0.410	0.900
5/24/95	BS5-B	3.4			0.09	0.22	1.75				0.20		14.47				19.84		
5/26/95	DR3-S	1.0	467	9.01	0.01	0.08	6.90	17.28	9.13		0.15	0.06	46.09	1.21	11.40		5.87	0.400	0.690
5/26/95	DR3-B	12.4			0.17	0.50	12.54				0.68		18.88				0.68		
5/26/95	DR7-S	1.0	480	13.33	0.04	0.08	0.91	18.78	2.36	0.78	0.15	0.11	56.81	1.19	7.80		9.92	0.540	0.990
5/26/95	DR7-B	2.0			0.56	0.28	5.30				0.25		68.59				15.25		
5/26/95	PC3-S	1.0	478	14.30	0.09	0.10	1.55	16.87	8.77	0.64	0.20	0.00	53.03	1.19	6.60		5.42	0.480	0.760
5/26/95	PC3-B	14.2			0.12	0.30	9.38				0.58		15.22				2.71		
5/26/95	PC5-S	1.0	475	18.24	0.05	0.08	1.21	17.12	7.60	0.73	0.20	0.00	57.66	1.41	6.20		4.07	0.500	0.630
5/26/95	PC5-B	3.0			0.45	0.45	2.80				0.20		51.92				7.57		
5/26/95	WB3-S	1.0	433	13.61	0.04	0.10	1.21	16.97	8.17	0.53	0.15	0.06	48.52	1.08	5.40		3.16	0.300	0.570
5/26/95	WB3-B	13.3			0.10	0.26	8.32				0.50		13.56				1.47		
5/26/95	WB5-S	1.0	446	14.47	0.05	0.07	1.37	17.22	9.10	0.54	0.15	0.11	52.48	0.82	3.80		4.07	0.350	0.800
5/26/95	WB5-B	3.7			0.11	0.19	2.61				0.38		43.24				6.47		

Mobile Bay Cruise Report

MB-56

15 June 1995

22 June 1995

Vessel:

R/V Sea Ox (15 June)

R/V Sea Ox (22 June)

Operation Area:

- * 15 June: Mobile Bay: From Dog River to the mouth of the bay
- * 22 June: Mobile Bay: Stations WB7 and FM3

Scientific party:

- * 15 June: John C. Lehrter
Pat Griffin
- * 22 June: John C. Lehrter
Pat Griffin

Supporting Agency:

NSF-EPSCoR

Research Objectives:

Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 9 surface stations (all 9 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary:

15 June: Departed DISL 0830 CDT (GMT-7 hours). Deadheaded to station WB3. Began sampling 0853. Stations were continued upbay to Dog River and back down to station BS5. Returned to DISL 1215.

22 June: Departed DISL 0905 CDT (GMT-7 hours). Deadheaded to station FM3. Began sampling 0914 and continued to station WB7. Returned to DISL 1020.

Mobile Bay Cruise MB: 56

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LONG DEG	LONG MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
6/15/95	DR3-S	1.0	13.4	954	12780.2	47165.4	30	34.0	88	2.0	5.4	25.4	8.3	104	8.1	951
6/15/95	DR3-B	12.4	13.4	954	12780.2	47165.4	30	34.0	88	2.0	31.4	24.8	4.8	69	7.7	2018
6/15/95	DR7-S	1.0	3.0	1022	12840.4	47169.0	30	34.0	87	55.0	5.0	26.0	7.9	101	8.0	935
6/15/95	DR7-B	2.0	3.0	1022	12840.4	47169.0	30	34.0	87	55.0	11.2	25.8	3.0	40	7.1	1189
6/15/95	PC3-S	1.0	15.2	926	12783.4	47146.6	30	29.0	88	1.0	8.8	25.7	7.4	95	7.9	1091
6/15/95	PC3-B	14.2	15.2	926	12783.4	47146.6	30	29.0	88	1.0	31.5	24.7	4.8	68	7.7	2022
6/15/95	PC5-S	1.0	4.0	1048	12815.3	47145.4	30	28.0	87	58.0	9.6	25.7	8.2	106	8.0	1124
6/15/95	PC5-B	3.0	4.0	1048	12815.3	47145.4	30	28.0	87	58.0	14.6	26.0	2.5	35	7.3	1329
6/15/95	WB3-S	1.0	14.3	853	12777.5	47121.0	30	23.0	88	1.0	13.9	25.1	7.3	96	7.9	1300
6/15/95	WB3-B	13.3	14.3	853	12777.5	47121.0	30	23.0	88	1.0	29.4	24.8	5.8	83	7.7	1936
6/15/95	WB5-S	1.0	4.7	1115	12810.3	47122.3	30	23.0	87	58.0	12.3	26.2	8.3	111	7.9	1234
6/15/95	WB5-B	3.7	4.7	1115	12810.3	47122.3	30	23.0	87	58.0	18.5	25.9	3.5	50	7.5	1489
6/15/95	BS5-S	1.0	4.4	1141	12805.0	47098.1	30	15.5	87	58.3	23.8	26.4	7.4	106	7.9	1706
6/15/95	BS5-B	3.4	4.4	1141	12805.0	47098.1	30	15.5	87	58.3	28.3	26.1	6.5	94	7.9	1891
6/22/95	WB7-S	1.0	3.5	958	12840.2	47122.7	30	22.6	87	55.3	13.2	27.6	8.1	110	8.0	1271
6/22/95	WB7-B	2.5	3.5	958	12840.2	47122.7	30	22.6	87	55.3	19.3	27.4	1.7	25	7.2	1521
6/22/95	FM3-S	1.0	14.6	914	12762.5	47091.6	30	15.5	88	2.3	16.4	27.4	7.5	105	8.1	1403
6/22/95	FM3-B	13.6	14.6	914	12762.5	47091.6	30	15.5	88	2.3	33.2	26.7	5.3	80	7.8	2092

Mobile Bay Cruise MB: 56

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (μ M)	PC (μ M)	NO3 (μ M)	NO2 (μ M)	NH4 (μ M)	DON (μ M)	PN (μ M)	PP (μ M)	PO4 (μ M)	DOP (μ M)	SI (μ M)	ATTEN - (m)	SEXTON (mg/l)	SECCHI (cm)	CHLORa (μ g/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
6/15/95	DR3-S	1.0	412	12.99	0.09	0.09	2.26	16.80	9.46	0.96	0.18	0.31	51.24	1.76	13.16		9.85	0.940	1.090
6/15/95	DR3-B	12.4			0.00	0.83	2.24				0.53		16.78				2.60		
6/15/95	DR7-S	1.0	400	14.63	0.03	0.11	0.62	16.70	6.32	0.89	0.30	0.08	50.60	1.64	9.33		5.59	0.360	0.500
6/15/95	DR7-B	2.0			0.54	0.30	1.30				0.35		50.27				8.58		
6/15/95	PC3-S	1.0	443	21.05	0.05	0.09	0.81	14.90	6.49	0.94	0.33	0.00	49.19	1.43	10.34		9.04	0.400	0.610
6/15/95	PC3-B	14.2			0.28	0.81	8.77				0.43		24.94				3.53		
6/15/95	PC5-S	1.0	373	24.07	0.00	0.09	0.86		7.00	1.09	0.25	0.18	51.64	0.44	10.00		9.03	0.540	2.490
6/15/95	PC5-B	3.0			0.15	0.31	4.74				0.40		43.61				15.85		
6/15/95	WB3-S	1.0	365	15.34	0.02	0.08	0.69	13.65	9.04	0.74	0.30	0.02	45.33	1.41	7.60		4.29	0.310	0.460
6/15/95	WB3-B	13.3			0.05	0.21	1.09				0.50		24.76				5.16		
6/15/95	WB5-S	1.0	351	16.82	0.00	0.07	0.63	10.18	7.57	0.77	0.18	0.20	47.49	1.34	8.00		5.13	0.320	0.500
6/15/95	WB5-B	3.7			0.01	0.11	1.68				0.70		38.55				9.43		
6/15/95	BS5-S	1.0	236	9.45	0.00	0.08	1.01	11.10	9.15	0.43	0.38	0.28	25.29	0.70	5.60		1.58	0.190	0.550
6/15/95	BS5-B	3.4			0.05	0.21	1.43				0.50		16.91				2.94		
6/22/95	WB7-S	1.0	354	14.09	0.00	0.07	1.10	12.92	9.16	0.48	0.23	0.09	48.21	0.93	18.80		1.11	0.190	0.440
6/22/95	WB7-B	2.5			0.03	0.26	3.08				0.43		41.66				7.67		
6/22/95	FM3-S	1.0	338	10.40	0.01	0.09	1.14	14.35	9.46	0.47	0.20	0.12	41.33	0.53	4.00		0.56	0.220	0.980
6/22/95	FM3-B	13.6			0.00	0.12	0.86				0.18		7.61				0.59		

Mobile Bay Cruise Report

MB-57
18 July 1995

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter
Pat Griffin

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 9 surface stations (all 9 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 0825 CDT (GMT-7 hours). Deadheaded to station WB3. Began sampling 0841. Stations were continued upbay to Dog River and back down to station MT7. Returned to DISL 1320.

Mobile Bay Cruise MB: 57

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LONG DEG	LONG MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
7/18/95	DR3-S	1.0	13.4	945	12780.2	47165.4	30	34.0	88	2.0	9.4	29.3	6.3	86	7.6	1115
7/18/95	DR3-B	12.4	13.4	945	12780.2	47165.4	30	34.0	88	2.0	29.4	28.3	2.2	34	7.6	1936
7/18/95	DR7-S	1.0	3.0	1023	12840.4	47169.0	30	34.0	87	55.0	6.2	29.9	7.7	106	7.8	984
7/18/95	DR7-B	2.0	3.0	1023	12840.4	47169.0	30	34.0	87	55.0	9.0	29.8	4.9	69	7.5	1099
7/18/95	PC3-S	1.0	15.2	922	12783.4	47146.6	30	29.0	88	1.0	11.3	29.4	7.1	100	8.0	1193
7/18/95	PC3-B	14.2	15.2	922	12783.4	47146.6	30	29.0	88	1.0	30.4	28.9	3.2	49	7.7	1977
7/18/95	PC5-S	1.0	4.0	1046	12815.3	47145.4	30	28.0	87	58.0	10.0	30.0	7.3	103	7.9	1140
7/18/95	PC5-B	3.0	4.0	1046	12815.3	47145.4	30	28.0	87	58.0	18.5	30.1	2.5	37	7.4	1489
7/18/95	WB3-S	1.0	14.3	841	12777.5	47121.0	30	23.0	88	1.0	16.1	29.5	6.5	93	7.9	1390
7/18/95	WB3-B	13.3	14.3	841	12777.5	47121.0	30	23.0	88	1.0	32.4	27.8	3.7	57	7.7	2059
7/18/95	WB5-S	1.0	4.7	1112	12810.3	47122.3	30	23.0	87	58.0	15.9	30.0	7.3	105	8.0	1382
7/18/95	WB5-B	3.7	4.7	1112	12810.3	47122.3	30	23.0	87	58.0	19.4	30.5	2.5	38	7.5	1526
7/18/95	WB7-S	1.0	3.5	1131	12840.2	47122.7	30	22.6	87	55.3	16.6	30.1	6.9	101	7.8	1411
7/18/95	WB7-B	2.5	3.5	1131	12840.2	47122.7	30	22.6	87	55.3	16.6	30.0	6.0	87	7.8	1411
7/18/95	FM3-S	1.0	14.6	1236	12762.5	47091.6	30	15.5	88	2.3	19.1	30.5	7.5	112	8.1	1513
7/18/95	FM3-B	13.6	14.6	1236	12762.5	47091.6	30	15.5	88	2.3	31.0	19.3	4.9	75	7.8	2001
7/18/95	BS5-S	1.0	4.4	1204	12805.0	47098.1	30	15.5	87	58.3	19.5	30.7	6.1	91	7.9	1530
7/18/95	BS5-B	3.4	4.4	1204	12805.0	47098.1	30	15.5	87	58.3	19.9	30.4	1.8	27	7.7	1546

Mobile Bay Cruise MB: 57

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -(/m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	YPROD (mgC/l/d)	APROD (gC/m2/d)
7/18/95	DR3-S	1.0	403	11.69	0.54	0.49	5.67	11.13	7.32	0.81	0.48	0.63	43.91	1.86	17.80		9.04	1.010	0.740
7/18/95	DR3-B	12.4			0.26	1.20	5.80				1.08		17.39				4.42		
7/18/95	DR7-S	1.0	361	15.67	0.34	0.15	10.34	9.18	0.08	0.89	4.25	0.00	57.73	2.80	5.00		8.13	0.450	0.340
7/18/95	DR7-B	2.0			0.08	0.15	1.69				0.35		36.12				6.55		
7/18/95	PC3-S	1.0	362	12.79	0.13	0.13	3.96	17.80	5.71	0.63	0.63	0.09	40.47	1.65	3.80		3.62	0.380	0.430
7/18/95	PC3-B	14.2			0.07	0.42	3.05				0.75		10.65				3.39		
7/18/95	PC5-S	1.0	348	14.49	0.08	0.14	1.80	14.99	0.80	0.82	0.75	0.08	51.68	1.48	3.00		7.57	0.300	0.380
7/18/95	PC5-B	3.0			0.07	0.17	1.19				0.80		29.90				12.88		
7/18/95	WB3-S	1.0	314	9.96	0.08	0.17	2.25	17.30	9.58	0.42	1.05	0.00	31.20	1.31	4.20		3.12	0.280	0.360
7/18/95	WB3-B	13.3			0.35	0.79	6.76				4.98		11.82				6.86		
7/18/95	WB5-S	1.0	319	13.19	0.23	0.09	4.59	12.41	4.61	0.69	2.05	0.00	30.46	1.43	2.20		5.87	0.300	0.370
7/18/95	WB5-B	3.7			0.20	0.15	3.32				1.65		28.37				13.90		
7/18/95	WB7-S	1.0	318	19.71	0.11	0.11	2.90	23.25	0.51	1.44	1.68	0.00	24.95	2.71	22.20		11.62	0.510	0.380
7/18/95	WB7-B	2.5			0.11	0.10	1.55				3.23		27.88				12.22		
7/18/95	FM3-S	1.0	303	13.72	0.32	0.10	8.44	14.90	3.86	0.54	2.35	0.00	19.98	0.49	11.00		8.36	0.190	0.780
7/18/95	FM3-B	13.6			0.30	0.26	5.54				2.55		5.80				9.04		
7/18/95	BS5-S	1.0	293	9.55	0.13	0.09	1.87	13.37	4.10	0.78	1.48	0.00	20.57	2.17	3.00		9.77	0.340	0.320
7/18/95	BS5-B	3.4			0.13	0.13	1.40				0.70		23.21				5.65		

Mobile Bay Cruise Report

MB-58

17 August 1995

Vessel: R/V Sea Ox

Operation Area: Mobile Bay: From Dog River to the mouth of the bay

Scientific party: John C. Lehrter
Pat Griffin

Supporting Agency: NSF-EPSCoR

Research Objectives: Niskin bottle hydrocast samples were obtained for nutrients, chlorophyll and suspended sediments at 8 surface stations (all 8 of those including bottom water casts). Samples were taken for TCO₂, DOC, DON, DOP, PP, PC/PN, and ¹⁴C productivity studies at all surface stations. Surface and bottom salinity and temperature were obtained using a conductivity meter at all stations. Licor light attenuation measurements were made at each station. Hydrographic profiles (sal, temp, DO, and pH) were obtained with a Hydrolab at all stations.

Cruise Summary: Departed DISL 0820 CDT (GMT-7 hours). Deadheaded to station WB3. Began sampling 0832. Stations were continued upbay to Dog River and back down to station FM3. Returned to DISL 1135.

Mobile Bay Cruise MB: 58

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	BOTTOM DEPTH (m)	LOCAL TIME	LORAN X	LORAN Y	LAT DEG	LAT MIN	LON DEG	LON MIN	SALINITY (ppt)	TEMP (C)	O2 (ppm)	OSAT (%)	pH	TCO2 (uM)
8/17/95	DR3-S	1.0	13.4	930	12780.2	47165.4	30	34.0	88	2.0	9.6	30.6	5.8	82	7.4	1124
8/17/95	DR3-B	12.4	13.4	930	12780.2	47165.4	30	34.0	88	2.0	30.7	29.3	1.8	27	7.5	1989
8/17/95	DR7-S	1.0	3.0	953	12840.4	47169.0	30	34.0	87	55.0	7.4	30.6	5.7	79	7.2	1033
8/17/95	DR7-B	2.0	3.0	953	12840.4	47169.0	30	34.0	87	55.0	14.8	30.3	0.2	3	6.8	1337
8/17/95	PC3-S	1.0	15.2	903	12783.4	47146.6	30	29.0	88	1.0	11.2	30.8	6.3	90	7.6	1189
8/17/95	PC3-B	14.2	15.2	903	12783.4	47146.6	30	29.0	88	1.0	31.2	29.1	1.8	28	7.5	2010
8/17/95	PC5-S	1.0	4.0	1017	12815.3	47145.4	30	28.0	87	58.0	10.1	31.0	6.6	94	7.6	1144
8/17/95	PC5-B	3.0	4.0	1017	12815.3	47145.4	30	28.0	87	58.0	18.7	30.1	1.0	16	7.0	1497
8/17/95	WB3-S	1.0	14.3	832	12777.5	47121.0	30	23.0	88	1.0	13.6	30.8	6.5	94	7.7	1288
8/17/95	WB3-B	13.3	14.3	832	12777.5	47121.0	30	23.0	88	1.0	32.2	29.1	2.3	35	7.5	2051
8/17/95	WB5-S	1.0	4.7	1039	12810.3	47122.3	30	23.0	87	58.0	12.4	31.2	6.2	90	7.7	1238
8/17/95	WB5-B	3.7	4.7	1039	12810.3	47122.3	30	23.0	87	58.0	19.6	30.1	0.7	11	7.0	1534
8/17/95	FM3-S	1.0	14.6	1123	12762.5	47091.6	30	15.5	88	2.3	17.0	31.3	6.9	103	7.9	1427
8/17/95	FM3-B	13.6	14.6	1123	12762.5	47091.6	30	15.5	88	2.3	32.6	29.4	3.6	57	7.7	2067
8/17/95	BS5-S	1.0	4.4	1105	12805.0	47098.1	30	15.5	87	58.3	15.5	32.1	6.7	100	7.9	1366
8/17/95	BS5-B	3.4	4.4	1105	12805.0	47098.1	30	15.5	87	58.3	24.9	30.2	2.6	41	7.5	1751

Mobile Bay Cruise MB: 58

DATE (mm/dd/yy)	STATION	SAMPLE DEPTH (m)	DOC (uM)	PC (uM)	NO3 (uM)	NO2 (uM)	NH4 (uM)	DON (uM)	PN (uM)	PP (uM)	PO4 (uM)	DOP (uM)	SI (uM)	ATTEN -(/m)	SESTON (mg/l)	SECCHI (cm)	CHLORa (ug/l)	VPROD (mgC/l/d)	APROD (gC/m2/d)
8/17/95	DR3-S	1.0	439	13.04	0.62	0.56	2.88	18.74	9.71	0.98	0.48	0.12	63.79	0.64	8.20	3.43	0.780	2.300	
8/17/95	DR3-B	12.4			3.02	3.08	4.40				0.98		19.50			0.90			
8/17/95	DR7-S	1.0	422	13.35	0.23	0.17	2.11	25.66	7.35	0.90	0.20	0.12	64.88	1.11	4.60	2.47	0.590	1.100	
8/17/95	DR7-B	2.0			0.26	0.16	5.60				0.78		47.76			6.13			
8/17/95	PC3-S	1.0	332	14.32	0.10	0.08	0.74	17.25	8.21	0.79	0.23	0.00	52.35	0.55	4.20	7.30	0.610	2.250	
8/17/95	PC3-B	14.2			1.87	3.08	2.35				0.75		16.39			0.16			
8/17/95	PC5-S	1.0	388	12.76	0.07	0.11	0.94	19.75	9.35	0.84	0.20	0.00	52.61	0.56	5.00	1.93	0.410	1.540	
8/17/95	PC5-B	3.0			0.13	0.18	4.67				0.73		40.53			0.75			
8/17/95	WB3-S	1.0	359	12.72	0.11	0.07	0.91	11.69	5.08	0.65	0.20	0.18	35.94	0.32	4.60	1.72	0.530	3.080	
8/17/95	WB3-B	13.3			0.79	2.94	2.47				0.70		14.68			2.93			
8/17/95	WB5-S	1.0	368	12.95	0.09	0.10	1.21	16.63	0.74	0.81	0.25	0.00	42.92	0.88	5.40	2.79	0.380	0.830	
8/17/95	WB5-B	3.7			0.13	0.18	3.62				0.70		40.77			5.80			
8/17/95	FM3-S	1.0	309	11.18	0.08	0.07	1.38	14.73	1.88	0.53	0.23	0.37	24.63	0.56	5.40	0.80	0.220	0.750	
8/17/95	FM3-B	13.6			0.11	0.46	0.84				0.25		7.68			1.72			
8/17/95	BS5-S	1.0	336	15.63	0.03	0.06	0.98	18.93	6.42	1.11	0.48	0.00	27.77	1.32	18.60	2.01	0.440	0.740	
8/17/95	BS5-B	3.4			0.28	1.31	2.57				0.60		21.44			3.14			