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MEASUREMENTS OF NUTRIENT AND OXYGEN FLUXES IN ESTUARINE AND COASTAL MARINE SEDIMENTS:

LITERATURE REVIEW AND DATA REPORT

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Measurements of Nutrient and Oxygen Fluxes in Estuarine and Coastal Marine Sediments: Literature Review and Data Report

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W.R. Boynton and W.M. Kemp

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Measurements of Nutrient and Oxygen Fluxes in Estuarine and Coastal Marine Sediments

Introduction

During the last several decades a great deal has been learned about the importance of exchanges of oxygen and nutrients across the sediment-water interface and the dynamics of these interactions in estuarine and coastal ecosystems. Sediment oxygen consumption can be an important sink for oxygen and sediment nutrient releases can be a large internal source of both nitrogen and phosphorus to the water column (Boynton *et al.* 1991; Kemp and Boynton 1992). Both of the latter compounds are essential for phytoplankton growth, which can become excessive when nutrient supplies are large. Thus, sediment processes can play an important role in determining water quality conditions by lowering oxygen levels and promoting excessive algal growth. Evaluation of exchanges between sediments and the water column, as well as mechanisms influencing these processes, provide some of the important information necessary to analyze water quality status of an estuary or coastal ecosystem. These data can be used in a variety of diagnostic and forecasting tools, including static nutrient budget computations and for calibration and verification of dynamic water quality models.

The purpose of this literature review and data report was to generate a reasonably comprehensive summary of measurements of nutrient and oxygen exchanges in estuarine and coastal marine sediments and to use this data in *Nitrogen in Estuaries* (Boynton and Kemp 2006) a chapter in *Nitrogen in the Marine Environment* (D. Capone and E. Carpenter eds., 2006, in preparation).

Methods

Data Sources

Peer reviewed literature was searched using the *Aquatic Sciences and Fisheries Abstracts* (ASFA) database covering articles published in 1978 to present (2004). This database is the primary indexing and abstracting service for marine science literature. The database includes ASFA Biological Sciences and Living Resources, ASFA Ocean Technology, Policy and Non-living Resources, ASFA Aquatic Pollution and Environmental Quality, ASFA Aquaculture and ASFA Marine Biotechnology (UMCES Libraries: <http://www.cbl.umces.edu/Library/umcesdbs.php3>). The database also includes graduate theses and dissertations and these were included for this review. No grey literature was used due to time constraints. A careful review of grey literature would substantially enlarge the number of observations.

Inclusion Criteria

Data was gathered for sediment oxygen consumption (SOC), ammonium (NH_4^+) flux and dissolved inorganic phosphorus (PO_4^-) flux between sediments and overlying waters. Only flux data generated using direct constituent measurement (rather than estimates

from pore water profiles or modeling) were used for this review. Sediment exchange data were included from measurements made using either shipboard mesocosm experiments (intact sediment cores incubated in a laboratory setting) or benthic chambers (domes or boxes placed on top of areas of sediment *in situ*). Only measurements made in the dark and under ambient conditions (water temperature, salinity, etc.) were used.

Site data included station, month, year, salinity, depth (m) and water temperature (°C). SOC units were converted to $\text{g O}_2 \text{ m}^{-2} \text{ day}^{-1}$ and nutrient fluxes were converted to $\mu\text{moles-N}$ (ammonium) or $-\text{P}$ (phosphate) $\text{m}^{-2} \text{ hour}^{-1}$. Data were arranged according to individual reference and assigned an estuary name and corresponding code. The full data set is located in the Appendix.

Results

This analysis included 48 individual sites from 52 separate references (Table 1).

Table 1. Reference count, estuary, code and published flux units for data set (na = no flux data available, h=hour, d=day, sec=second).

Reference #	Estuary	Code	SOC	Published Flux Units	
				Ammonium	Phosphate
1	Mobile Bay, AL	MOB	$\text{g O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$
2	Fourleague Bay, LA	FLB	$\text{mg O}_2 \text{ m}^{-2} \text{ h}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$
3	South San Francisco Bay, CA	SSF	$\text{mmole O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$
4	Pamlico Sound, NC	PAM	$\text{mmole O}_2 \text{ m}^{-2} \text{ h}^{-1}$	$\text{mmole m}^{-2} \text{ h}^{-1}$	$\text{mmole m}^{-2} \text{ h}^{-1}$
5	Humber Estuary, UK	HUM	na	$\mu\text{mole m}^{-2} \text{ d}^{-1}$	$\mu\text{mole m}^{-2} \text{ d}^{-1}$
6	Buzzards Bay, MA	BUZ	$\text{mmole O}_2 \text{ m}^{-2} \text{ d}^{-1}$	na	na
7	Parker River-Plum Is. Sound, MA	PRP	$\text{mmole O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$
8 a, b	GA Bight Estuarine Plume, GA	GAB	$\text{g O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\mu\text{mole m}^{-2} \text{ d}^{-1}$	$\mu\text{mole m}^{-2} \text{ d}^{-1}$
9	Great Ouse Estuary, UK	GRO	$\text{mmole O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$	na
10	Albufera of Majorca, Spain	AOM	$\text{mmole O}_2 \text{ m}^{-2} \text{ h}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$
11	Loch Thurnaig (Ewe), Scotland	LOT	$\text{mg O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\mu\text{g-at m}^{-2} \text{ d}^{-1}$	na
12	South San Francisco Bay, CA	SSF	$\text{mg O}_2 \text{ m}^{-2} \text{ h}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$
13	Buzzards Bay, MA	BUZ	$\text{ml O}_2 \text{ m}^{-2} \text{ h}^{-1}$	$\mu\text{g-at m}^{-2} \text{ h}^{-1}$	$\mu\text{g-at m}^{-2} \text{ h}^{-1}$
14	Boston Harbor, MA	BOS	$\text{mmole O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$
15	Cape Lookout Bight, NC	CLB	na	$\mu\text{mole m}^{-2} \text{ h}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$
16	Washington State Shelf, WA	WAS	$\text{pmole O}_2 \text{ cm}^{-2} \text{ sec}^{-1}$	$\text{pmole cm}^{-2} \text{ sec}^{-1}$	$\text{pmole cm}^{-2} \text{ sec}^{-1}$
17	California Coast, CA	CAS	$\text{mmole O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$
18	Kiel Bight, Baltic Sea, Europe	KIB	$\text{ml O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\mu\text{mole m}^{-2} \text{ d}^{-1}$	$\mu\text{mole m}^{-2} \text{ d}^{-1}$
19	Gullmar Fjord, Sweden	GUL	$\text{mmole O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$
20	Elkhorn Slough, CA	ELK	$\text{mmole O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$
21	Svalbard Fjords, Norway	NOR	$\text{mmole O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$	na
22	Baltic Sea, Sweden	BAL	$\text{g O}_2 \text{ m}^{-2} \text{ d}^{-1}$	na	na
23	Choptank River, MD	CHB	$\text{g O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$
24	Castle Harbor, Bermuda	BER	$\text{ml O}_2 \text{ m}^{-2} \text{ h}^{-1}$	na	na
25	Neuse River Estuary, NC	NEU	$\text{mg O}_2 \text{ m}^{-2} \text{ h}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$
26	Black Sea, Danube/Dniestr, Europe	BLK	$\text{mmole O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$
27	Cherrystone Inlet, VA	CHY	$\mu\text{mole O}_2 \text{ m}^{-2} \text{ h}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$	$\mu\text{mole m}^{-2} \text{ h}^{-1}$
28	Aarhus Bight, Denmark	DAN	$\text{mmole O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$	$\text{mmole m}^{-2} \text{ d}^{-1}$
29	Hiroshima Bay, Japan	HIR	$\text{g O}_2 \text{ m}^{-2} \text{ d}^{-1}$	$\text{mg m}^{-2} \text{ d}^{-1}$	$\text{mg m}^{-2} \text{ d}^{-1}$

Reference #	Estuary	Code	SOC	Published Flux Units	
				Ammonium	Phosphate
30	Long Island Sound, NY	LIS	na	mmole m ⁻² d ⁻¹	na
31	Tomales Bay, CA	TOM	mmole O ₂ m ⁻² d ⁻¹	mmole m ⁻² d ⁻¹	mmole m ⁻² d ⁻¹
32	Narragansett Bay, RI	NAR	mg O ₂ m ⁻² h ⁻¹	μmole m ⁻² h ⁻¹	na
33	Danish Waters, Denmark	DAN	na	mmole m ⁻² d ⁻¹	mmole m ⁻² d ⁻¹
34	Upper Chesapeake Bay, USA	UPCHES	g O ₂ m ⁻² d ⁻¹	μmole m ⁻² h ⁻¹	μmole m ⁻² h ⁻¹
34	Middle Chesapeake Bay, USA	MIDCHES	g O ₂ m ⁻² d ⁻¹	μmole m ⁻² h ⁻¹	μmole m ⁻² h ⁻¹
34	Lower Chesapeake Bay, USA	LOWCHES	g O ₂ m ⁻² d ⁻¹	μmole m ⁻² h ⁻¹	μmole m ⁻² h ⁻¹
35	Waquoit Bay, MA	WAQ	mmole O ₂ m ⁻² h ⁻¹	μmole m ⁻² h ⁻¹	μmole m ⁻² h ⁻¹
36	Bay of Cadiz, Spain	CADIZ	mmole O ₂ m ⁻² d ⁻¹	mmole m ⁻² d ⁻¹	mmole m ⁻² d ⁻¹
37	Narragansett Bay, RI	NAR	na	μmole cm ⁻² d ⁻¹	μmole cm ⁻² d ⁻¹
38	Ochlockonee Bay, FL	OCH	μg-at O m ⁻² h ⁻¹	μg-at m ⁻² h ⁻¹	na
39	Gulf of Mexico, TX	GULF	ml O ₂ m ⁻² h ⁻¹	μg-at m ⁻² h ⁻¹	na
40	Galveston Bay, TX	GAL	μmole O ₂ m ⁻² h ⁻¹	μmole m ⁻² h ⁻¹	μmole m ⁻² h ⁻¹
41	York River, VA	YRK	g O ₂ m ⁻² d ⁻¹	μmole m ⁻² h ⁻¹	μmole m ⁻² h ⁻¹
42	Nueces Estuary, TX	NUEC	μmole O ₂ m ⁻² h ⁻¹	μg-at m ⁻² h ⁻¹	na
42	Guadalupe Estuary, TX	GUAD	μmole O ₂ m ⁻² h ⁻¹	μg-at m ⁻² h ⁻¹	na
43	La Jolla Bight, CA	LAJ	na	μmole m ⁻² d ⁻¹	μmole m ⁻² d ⁻¹
44	Georgia Bight, GA	GAB	g O ₂ m ⁻² d ⁻¹	μg-at m ⁻² h ⁻¹	μg-at m ⁻² h ⁻¹
45	Potomac River, MD	POT	mmole O ₂ m ⁻² d ⁻¹	mmole m ⁻² d ⁻¹	mmole m ⁻² d ⁻¹
46	Great Bay, NH	GBN	ml O ₂ m ⁻² h ⁻¹	μmole m ⁻² h ⁻¹	μmole m ⁻² h ⁻¹
47	Lagoon, New Caledonia	LNC	mmole O ₂ m ⁻² h ⁻¹	na	na
48	Lendrup Strand, Denmark	LEN	na	μmole m ⁻² h ⁻¹	na
49	Black Sea, Europe	BLK	mmole O ₂ m ⁻² d ⁻¹	na	na
50	Louisiana Shelf, LA	LAS	g O ₂ m ⁻² d ⁻¹	μmole m ⁻² h ⁻¹	μmole m ⁻² h ⁻¹
51	Potter Pond, RI	POP	na	μmole m ⁻² h ⁻¹	μmole m ⁻² h ⁻¹

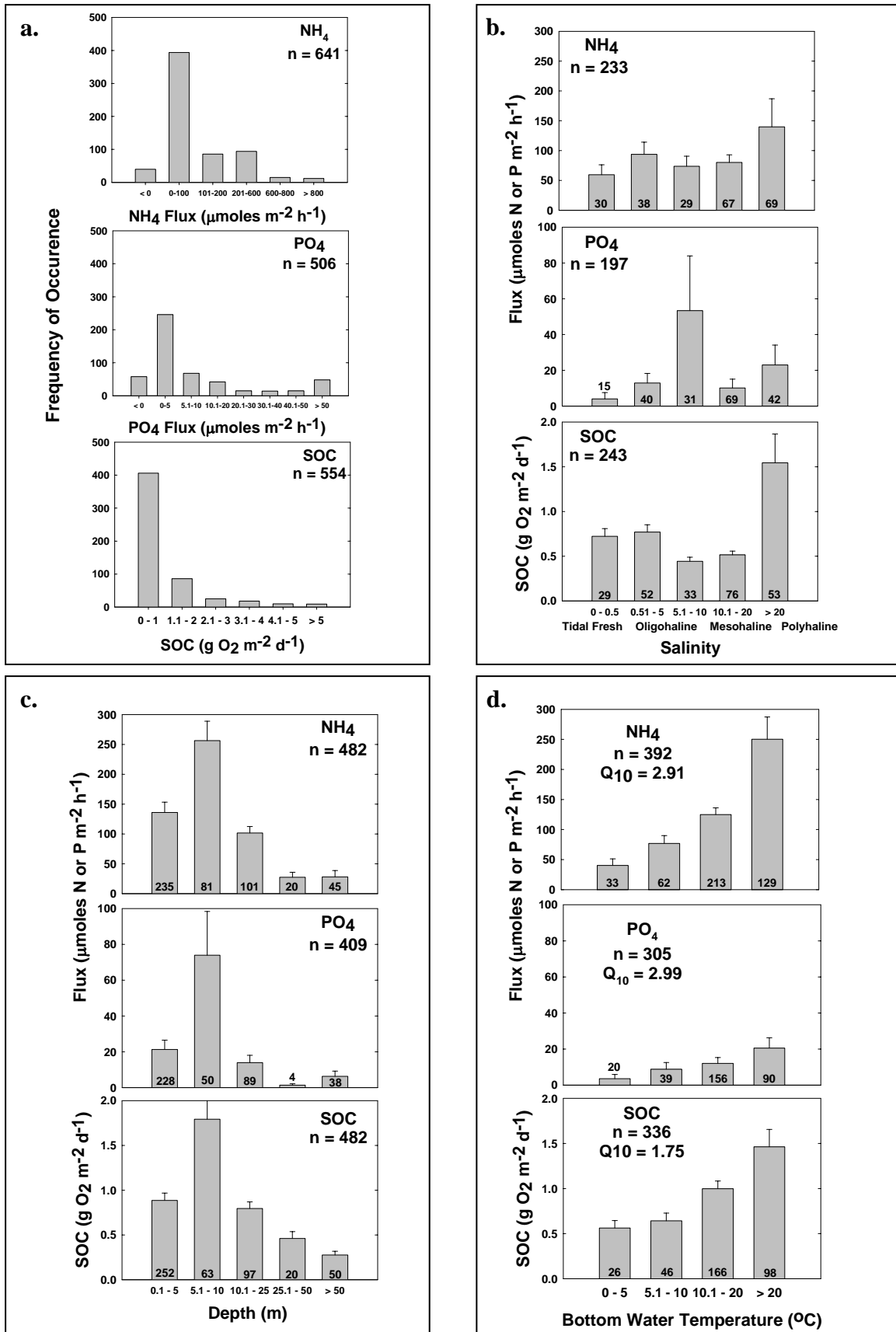
A total of 701 sets of fluxes were collected. Within those sets there were 554 reported SOC rates, 641 ammonium fluxes and 506 phosphate fluxes. SOC rates ranged from around zero to 14 g O₂ m⁻² d⁻¹, ammonium fluxes ranged from about -80 to over 2500 μmoles m⁻² h⁻¹ and phosphate fluxes ranged from -200 to 900 μmoles m⁻² h⁻¹ (Table 2).

Table 2. Data set summary statistics.

Flux (g O ₂ m ⁻² d ⁻¹) or (μmoles-N or -P m ⁻² h ⁻¹)	N	Minimum	Maximum	Mean	Median
SOC	554	-0.64	13.86	0.95	0.58
Ammonium	641	-83.33	2708	125	41.67
Phosphate	506	-231	900	21.64	4.17

Fluxes were arranged into histograms (Figure 1a-c) to examine frequency of occurrence and distributions of fluxes according to ranges of bottom water temperature, salinity and depth. The majority of fluxes were low with most ammonium fluxes less than 100 μmoles m⁻² h⁻¹, most phosphate fluxes less than 5 μmoles m⁻² h⁻¹ and most SOC rates less than 1 g O₂ m⁻² d⁻¹ (Figure 1a).

Figure 1. Data set histograms.



Negative SOC fluxes (indicating production of oxygen in the dark) and negative ammonium fluxes were removed from the data set for the range histograms (Figure 1b-c). Of all the sets of fluxes collected, 272 reported salinity values, 551 reported depth values and 437 reported bottom water temperature values. The highest ammonium fluxes and SOC rates occurred in polyhaline areas (> 20 salinity) and the highest phosphate fluxes occurred in upper mesohaline regions (5-10 salinity). Ammonium fluxes, phosphate fluxes and SOC rates were all highest at depths between 5 and 10 m and at higher water temperatures (> 20 °C).

Discussion and Conclusions

Sediment-water solute fluxes in estuarine ecosystems are discussed in detail in *Nitrogen in Estuaries* (Boynton and Kemp 2006). The authors describe conclusions that can be drawn about sediment-water solute fluxes from this literature and data report. They discuss the relatively shallow nature of estuarine ecosystems compared to many lakes and the coastal ocean. Production processes occurring in these photic waters are often closely connected to organic matter remineralization in sediments. This leads to the potential for strong benthic-pelagic coupling and has been suggested as one of several reasons for high primary and secondary productivity in estuarine systems (Kemp and Boynton 1992).

Examination of the substantial number of sediment-water solute flux measurements made in the past 25 years allowed the authors to gain insight into broader scale conclusions about how these fluxes are regulated by salinity, depth and temperature. All fluxes tended to be higher in the saltier versus fresh waters. The authors had expected the opposite relationship, with ammonium and SOC fluxes highest closest to terrestrial organic matter and nutrient inputs in the lower salinity zones of estuaries. They suggested that the more labile phytoplanktonic debris with lower C: N ratios (characteristic of higher salinity zones) might be a more important substrate for remineralization in these areas. The exception to this pattern was the peak in phosphorus fluxes in the low mesohaline region (salinity 5-10). The authors attributed this to loosely sorbed phosphorus being released from particles as a result of increased salinity (Froelich 1988) and release of phosphate from particulate phosphorus after chemical reduction of iron and precipitation of iron sulfides in anaerobic sediments (Krom and Berner 1980; Jensen et al. 1995).

Data from this review indicated a sharp decrease in SOC rates with increasing depth (Figure 1c). Similar patterns were found for both ammonium and phosphorus fluxes (Figure 1c). Other investigators have found the same trends and suggested that water column respiration causes a smaller fraction of available organic matter to make its way to the sediment surface as water depth increases (Hargrave 1973; Kemp et al. 1992; Kemp and Boynton 1992). SOC, ammonium and phosphorus fluxes were lower at very shallow depths (0.1 - 5 m). These fluxes may be limited in shallow waters by wave action that resuspends lighter labile organic matter and allows it to be transported to deeper waters; benthic communities might be less robust in shallow, turbulent waters also serving to limit sediment-water fluxes.

All fluxes increased with increasing bottom water temperature (Figure 1d). The estimated Q_{10} values for ammonium, phosphate and SOC fluxes were 2.9, 3.0 and 1.8 respectively. These values show the strong influence of temperature on flux rates. It is important to note the bias in the data set with only 8% of the total measurements made at temperatures of 5 °C or less. More measurements at lower temperatures are needed to be able to draw further conclusions about the effect of temperature on ammonium, phosphorus and SOC fluxes.

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Appendix

*Measurements of Nutrient and Oxygen Fluxes in Estuarine and Coastal
Marine Sediments
Literature Review and Data Report*

Data Sets

#	Code	Estuary	Reference	State / Area	Country	Station
1	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
2	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
3	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
4	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
5	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
6	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
7	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
8	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
9	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
10	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
11	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
12	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
13	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
14	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
15	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
16	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
17	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
18	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
19	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
20	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
21	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
22	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
23	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
24	MOB	Mobile Bay	Cowan et al. 1996	AL	USA	DR7
25	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Upper Bay
26	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Upper Bay
27	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Upper Bay
28	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Upper Bay
29	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Upper Bay
30	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Upper Bay
31	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Upper Bay
32	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Upper Bay
33	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Upper Bay
34	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Lower Bay
35	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Lower Bay
36	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Lower Bay
37	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Lower Bay
38	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Lower Bay
39	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Lower Bay
40	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Lower Bay
41	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Lower Bay

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
1	MOB	January	1993	3.0	0.0	11.0	0.30	10.00	
2	MOB	February	1993	3.0	9.0	12.0	0.40	10.00	4.00
3	MOB	March	1993	3.0	7.0	16.0	0.60	70.00	
4	MOB	April	1993	3.0	0.0	19.0	0.30	10.00	3.00
5	MOB	May	1993	3.0	0.0	24.0	0.80	10.00	4.00
6	MOB	June	1993	3.0	2.0	28.0	1.30	170.00	10.00
7	MOB	July	1993	3.0	4.0	29.0	1.30	180.00	9.00
8	MOB	August	1993	3.0	14.0	30.0	0.80	10.00	3.00
9	MOB	September	1993	3.0	20.0	27.0	0.10	210.00	-2.00
10	MOB	October	1993	3.0	17.0	23.0	0.70	80.00	2.00
11	MOB	November	1993	3.0	18.0	14.0	0.20	25.00	2.00
12	MOB	December	1993	3.0	10.0	13.0	0.30	0.00	1.00
13	MOB	January	1994	3.0	14.0	8.0	0.30	10.00	
14	MOB	February	1994	3.0	11.0	12.0	0.40	20.00	1.00
15	MOB	March	1994	3.0	1.0	19.0	0.50	5.00	4.00
16	MOB	April	1994	3.0	0.0	22.0	0.30	0.00	8.00
17	MOB	May	1994	3.0	8.0	23.0	0.70	30.00	3.00
18	MOB	June	1994	3.0	6.0	28.0	0.40	100.00	3.00
19	MOB	July	1994	3.0	0.0	27.0	0.60	5.00	8.00
20	MOB	August	1994	3.0	10.0	28.0	0.40	160.00	8.00
21	MOB	September	1994	3.0	11.0	25.0	1.00	20.00	4.00
22	MOB	October	1994	3.0	9.0	21.0	0.80	60.00	3.00
23	MOB	November	1994	3.0	13.0	20.0	0.70		2.00
24	MOB	December	1994	3.0	12.0	14.0	0.30	25.00	1.00
25	FLB	January	1982				0.01	0.00	
26	FLB	February	1982				0.03	0.00	-25.00
27	FLB	April	1982				0.03	-50.00	0.00
28	FLB	May	1982				0.04	220.00	5.00
29	FLB	August	1981				0.14	100.00	0.00
30	FLB	September	1981				0.12	250.00	10.00
31	FLB	October	1981					200.00	5.00
32	FLB	November	1981				0.02		
33	FLB	December	1981					-45.00	0.00
34	FLB	January	1982					0.00	-25.00
35	FLB	February	1982				0.01	10.00	-10.00
36	FLB	April	1982				0.03	175.00	0.00
37	FLB	May	1982				0.12	450.00	10.00
38	FLB	August	1981				0.04	250.00	-50.00
39	FLB	September	1981				0.06	140.00	-15.00
40	FLB	October	1981					40.00	
41	FLB	November	1981				0.06		-20.00

#	Code	Estuary	Reference	State / Area	Country	Station
42	FLB	Fourleague Bay	Teague et al. 1988	LA	USA	Lower Bay
43	SSF	South San Francisco Bay	Hammond et al. 1985	CA	USA	27.5
44	SSF	South San Francisco Bay	Hammond et al. 1985	CA	USA	27.5
45	SSF	South San Francisco Bay	Hammond et al. 1985	CA	USA	27.5
46	SSF	South San Francisco Bay	Hammond et al. 1985	CA	USA	27.5
47	SSF	South San Francisco Bay	Hammond et al. 1985	CA	USA	28C
48	SSF	South San Francisco Bay	Hammond et al. 1985	CA	USA	28C
49	SSF	South San Francisco Bay	Hammond et al. 1985	CA	USA	28C
50	SSF	South San Francisco Bay	Hammond et al. 1985	CA	USA	28C
51	HUM	Humber	Watson and Frickers 1995	North Sea	UK	HM
52	HUM	Humber	Watson and Frickers 1995	North Sea	UK	SP
53	HUM	Humber	Watson and Frickers 1995	North Sea	UK	NE
54	HUM	Humber	Watson and Frickers 1995	North Sea	UK	W
55	HUM	Humber	Watson and Frickers 1995	North Sea	UK	SE
56	HUM	Humber	Watson and Frickers 1995	North Sea	UK	SEM
57	HUM	Humber	Watson and Frickers 1995	North Sea	UK	HM
58	HUM	Humber	Watson and Frickers 1995	North Sea	UK	SP
59	HUM	Humber	Watson and Frickers 1995	North Sea	UK	NE
60	HUM	Humber	Watson and Frickers 1995	North Sea	UK	W
61	HUM	Humber	Watson and Frickers 1995	North Sea	UK	SE
62	HUM	Humber	Watson and Frickers 1995	North Sea	UK	SEM
63	HUM	Humber	Watson and Frickers 1995	North Sea	UK	HM
64	HUM	Humber	Watson and Frickers 1995	North Sea	UK	SP
65	HUM	Humber	Watson and Frickers 1995	North Sea	UK	NE
66	HUM	Humber	Watson and Frickers 1995	North Sea	UK	W
67	HUM	Humber	Watson and Frickers 1995	North Sea	UK	SE
68	HUM	Humber	Watson and Frickers 1995	North Sea	UK	SEM
69	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P0
70	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P0
71	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P0
72	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P0
73	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P0
74	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P2
75	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P2
76	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P2
77	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P2
78	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P2
79	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P5
80	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P5
81	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P5
82	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P5

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
42	FLB	December	1981				0.01		
43	SSF	February	1980	14.0		12.0	0.51	208.33	54.17
44	SSF	June	1980	14.0		17.0	0.70	162.50	-4.17
45	SSF	November	1980	14.0		17.0	0.35	41.67	4.17
46	SSF	February	1981	14.0		12.0	0.35	16.67	0.00
47	SSF	February	1980	1.5		12.0	0.42	4.17	-4.17
48	SSF	June	1980	1.5		17.0	1.47	66.67	4.17
49	SSF	November	1980	1.5		16.0	0.90	58.33	4.17
50	SSF	February	1981	1.5		12.0	0.54	45.83	4.17
51	HUM	May	1990					29.17	3.33
52	HUM	May	1990					20.83	5.00
53	HUM	May	1990					12.50	1.25
54	HUM	May	1990					0.00	2.08
55	HUM	May	1990					54.17	2.08
56	HUM	May	1990					70.83	1.25
57	HUM	July	1990					250.00	9.38
58	HUM	July	1990					4.17	0.83
59	HUM	July	1990					0.00	0.00
60	HUM	July	1990					175.00	6.67
61	HUM	July	1990					58.33	5.21
62	HUM	July	1990					216.67	4.17
63	HUM	December	1988					29.17	1.25
64	HUM	December	1988					29.17	0.00
65	HUM	December	1988					-33.33	0.63
66	HUM	December	1988					-8.33	1.67
67	HUM	December	1988					33.33	1.04
68	HUM	December	1988					0.00	0.00
69	PRP	June	1993	4.0	0.0	23.0	1.44	83.33	-12.50
70	PRP	August	1993	4.0	0.0	19.0	0.96	104.17	0.00
71	PRP	December	1993	4.0	0.0	5.0	0.48	20.83	4.17
72	PRP	April	1994	4.0	0.0	12.0	0.48	4.17	0.00
73	PRP	July	1994	4.0	0.0	23.0	0.96	166.67	0.00
74	PRP	June	1993	0.8	4.0	24.0	1.60	375.00	-8.33
75	PRP	August	1993	0.8	17.0	16.0	0.80	333.33	0.00
76	PRP	December	1993	0.8	0.0	5.0	0.64	83.33	4.17
77	PRP	April	1994	0.8	2.0	14.0	0.48	41.67	0.00
78	PRP	July	1994	0.8	7.0	25.0	0.80	208.33	8.33
79	PRP	June	1993	0.8	12.0	22.0	1.60	416.67	8.33
80	PRP	August	1993	0.8	27.0	17.0	4.48	1083.33	58.33
81	PRP	December	1993	0.8	2.0	5.0	0.80	166.67	4.17
82	PRP	April	1994	0.8	4.0	13.0	0.96	125.00	12.50

#	Code	Estuary	Reference	State / Area	Country	Station
83	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	P5
84	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	Rowley
85	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	Rowley
86	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	Rowley
87	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	Rowley
88	PRP	Parker River-Plum Is. Sound	Hopkinson et al. 1999	MA	USA	Rowley
89	GAB	GA Bight Estuarine Plume	Hopkinson 1985 and 1987	GA	USA	Sapelo Is.
90	GAB	GA Bight Estuarine Plume	Hopkinson 1985 and 1987	GA	USA	Sapelo Is.
91	GAB	GA Bight Estuarine Plume	Hopkinson 1985 and 1987	GA	USA	Sapelo Is.
92	GAB	GA Bight Estuarine Plume	Hopkinson 1985 and 1987	GA	USA	Sapelo Is.
93	GAB	GA Bight Estuarine Plume	Hopkinson 1985 and 1987	GA	USA	Sapelo Is.
94	GAB	GA Bight Estuarine Plume	Hopkinson 1985 and 1987	GA	USA	Sapelo Is.
95	GAB	GA Bight Estuarine Plume	Hopkinson 1985 and 1987	GA	USA	Sapelo Is.
96	GAB	GA Bight Estuarine Plume	Hopkinson 1985 and 1987	GA	USA	Sapelo Is.
97	GAB	GA Bight Estuarine Plume	Hopkinson 1985 and 1987	GA	USA	Sapelo Is.
98	GAB	GA Bight Estuarine Plume	Hopkinson 1985 and 1987	GA	USA	Sapelo Is.
99	GAB	GA Bight Estuarine Plume	Hopkinson 1985 and 1987	GA	USA	Sapelo Is.
100	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	1
101	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	1
102	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	1
103	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	1
104	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	1
105	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	1
106	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	1
107	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	2
108	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	2
109	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	2
110	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	2
111	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	2
112	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	2
113	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	2
114	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	3
115	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	3
116	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	3
117	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	3
118	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	3
119	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	3
120	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	3
121	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	4
122	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	4
123	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	4

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
83	PRP	July	1994	0.8	21.0	25.0	13.86	2708.33	37.50
84	PRP	June	1993	0.8	28.0	19.0	0.80	41.67	31.25
85	PRP	August	1993	0.8	28.0	14.0	0.32	0.00	0.00
86	PRP	December	1993	0.8	22.0	5.0	0.16	-8.33	0.00
87	PRP	April	1994	0.8	23.0	11.0	0.32	0.00	4.17
88	PRP	July	1994	0.8	30.0	21.0	0.64	0.00	29.17
89	GAB	July	1981	4.6	33.0	28.0	3.40	0.10	0.03
90	GAB	August	1981	4.6	33.0	25.0	2.00	0.06	0.05
91	GAB	September	1981	4.6	33.0	24.0	2.20	0.06	0.05
92	GAB	October	1981	4.6	33.5	21.0	2.10	0.06	0.03
93	GAB	November	1981	4.6	33.0	11.0	1.50	0.05	0.00
94	GAB	December	1981	4.6	33.0	10.0	1.70	0.08	0.00
95	GAB	January	1982	4.6	31.0	10.0	1.20	0.03	0.01
96	GAB	February	1982	4.6	31.0	19.0	1.60	0.06	0.01
97	GAB	April	1982	4.6	30.0	20.0	2.00	0.06	0.01
98	GAB	May	1982	4.6	31.5	22.0	1.00	0.03	0.02
99	GAB	June	1982	4.6	31.0	26.0	2.30	0.06	0.04
100	GRO	December	1992		0.0		0.26	-50.00	
101	GRO	January	1993		0.0		1.22	16.67	
102	GRO	March	1993		0.0		1.25	-12.50	
103	GRO	May	1993		0.0		1.54	120.83	
104	GRO	August	1993		0.0		1.63	75.00	
105	GRO	October	1993		0.0		0.90	4.17	
106	GRO	November	1993		0.0		0.32	8.33	
107	GRO	December	1992		0.0			-12.50	
108	GRO	January	1993		0.0			0.00	
109	GRO	March	1993		0.0			20.83	
110	GRO	May	1993		0.0			20.83	
111	GRO	August	1993		0.0			62.50	
112	GRO	October	1993		0.0			-8.33	
113	GRO	November	1993		0.0			-12.50	
114	GRO	December	1992					-12.50	
115	GRO	January	1993					12.50	
116	GRO	March	1993					-12.50	
117	GRO	May	1993					8.33	
118	GRO	August	1993					41.67	
119	GRO	October	1993					-25.00	
120	GRO	November	1993					0.00	
121	GRO	December	1992					45.83	
122	GRO	January	1993				0.70	70.83	
123	GRO	March	1993				3.20	16.67	

#	Code	Estuary	Reference	State / Area	Country	Station
124	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	4
125	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	4
126	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	4
127	GRO	Great Ouse	Nedwell and Trimmer 1996	North Sea	UK	4
128	AOM	Albufera of Majorca	Lopez et al. 1995	Balearic Islands	Spain	CP
129	AOM	Albufera of Majorca	Lopez et al. 1995	Balearic Islands	Spain	CA4
130	AOM	Albufera of Majorca	Lopez et al. 1995	Balearic Islands	Spain	CA3
131	LOT	Loch Thurnaig (Ewe)	Davies 1975	Scottish Highlands	Scotland	1
132	LOT	Loch Thurnaig (Ewe)	Davies 1975	Scottish Highlands	Scotland	1
133	LOT	Loch Thurnaig (Ewe)	Davies 1975	Scottish Highlands	Scotland	1
134	LOT	Loch Thurnaig (Ewe)	Davies 1975	Scottish Highlands	Scotland	1
135	LOT	Loch Thurnaig (Ewe)	Davies 1975	Scottish Highlands	Scotland	1
136	LOT	Loch Thurnaig (Ewe)	Davies 1975	Scottish Highlands	Scotland	1
137	LOT	Loch Thurnaig (Ewe)	Davies 1975	Scottish Highlands	Scotland	1
138	LOT	Loch Thurnaig (Ewe)	Davies 1975	Scottish Highlands	Scotland	1
139	LOT	Loch Thurnaig (Ewe)	Davies 1975	Scottish Highlands	Scotland	1
140	LOT	Loch Thurnaig (Ewe)	Davies 1975	Scottish Highlands	Scotland	1
141	LOT	Loch Thurnaig (Ewe)	Davies 1975	Scottish Highlands	Scotland	1
142	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Channel
143	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Channel
144	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Channel
145	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Channel
146	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Channel
147	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Channel
148	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Channel
149	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Channel
150	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Channel
151	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Channel
152	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Channel
153	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Channel
154	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Channel
155	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Shoal
156	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Shoal
157	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Shoal
158	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Shoal
159	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Shoal
160	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Shoal
161	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Shoal
162	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Shoal
163	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Shoal
164	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Shoal

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
124	GRO	May	1993				1.70	154.17	
125	GRO	August	1993				1.98	91.67	
126	GRO	October	1993				1.63	133.33	
127	GRO	November	1993				1.60	16.67	
128	AOM	July	1993			28.5	3.11	2465.00	58.26
129	AOM	July	1993			31.9	1.67	15.56	
130	AOM	July	1993			30.0	1.04	-5.67	
131	LOT	January	1972	30.0		8.0	0.25	4.17	
132	LOT	February	1972	30.0		7.0	0.15	2.92	
133	LOT	March	1972	30.0		7.0	0.40	2.08	
134	LOT	April	1972	30.0		7.0	0.50	8.33	
135	LOT	May	1972	30.0		8.0	0.60	8.33	
136	LOT	June	1972	30.0		9.0	0.60	12.50	
137	LOT	July	1972	30.0		10.0	0.60	95.83	
138	LOT	September	1972	30.0		12.0	0.30	20.83	
139	LOT	October	1971	30.0		13.0	0.10	4.17	
140	LOT	November	1971	30.0		12.0	0.05	2.08	
141	LOT	December	1971	30.0		10.0	0.10	4.17	
142	SSF	February	1996	15.0	21.0	12.2	0.12	0.00	2.00
143	SSF	February	1996	15.0	20.0		0.43	-25.00	5.00
144	SSF	February	1996	15.0	19.0		0.48	-40.00	6.00
145	SSF	February	1996	15.0	18.0		0.72	-10.00	6.00
146	SSF	March	1996	15.0	14.0		0.50	10.00	5.00
147	SSF	March	1996	15.0	12.7		0.48	0.00	7.00
148	SSF	March	1996	15.0	13.0		0.48	50.00	8.00
149	SSF	April	1996	15.0	15.0		0.48	25.00	9.00
150	SSF	April	1996	15.0	16.0		1.44	50.00	9.00
151	SSF	April	1996	15.0	18.0		1.49	140.00	5.00
152	SSF	April	1996	15.0	20.0		1.08	110.00	13.00
153	SSF	May	1996	15.0	22.0		0.96	10.00	7.00
154	SSF	May	1996	15.0	21.0	18.4	1.08	25.00	7.00
155	SSF	February	1996	2.0	22.0		0.00	0.00	0.00
156	SSF	February	1996	2.0	21.0		0.00	10.00	1.00
157	SSF	February	1996	2.0	18.0		0.24	0.00	1.00
158	SSF	February	1996	2.0	16.0		0.55	0.00	2.00
159	SSF	March	1996	2.0	15.0		0.46	0.00	2.00
160	SSF	March	1996	2.0	15.0		0.50	25.00	4.00
161	SSF	March	1996	2.0	13.0		0.48	0.00	5.00
162	SSF	March	1996	2.0	13.0		0.48	-25.00	6.00
163	SSF	April	1996	2.0	17.0		0.60	-10.00	5.00
164	SSF	April	1996	2.0	18.0		0.55	0.00	4.00

#	Code	Estuary	Reference	State / Area	Country	Station
165	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Shoal
166	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Shoal
167	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Shoal
168	SSF	South San Francisco Bay	Grenz et al. 2000	CA	USA	Shoal
169	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
170	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
171	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
172	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
173	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
174	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
175	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
176	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
177	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
178	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
179	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
180	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
181	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
182	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
183	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH03
184	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH02
185	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH02
186	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH02
187	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH02
188	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH02
189	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH02
190	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH02
191	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH02
192	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH02
193	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH02
194	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH02
195	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH08
196	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH08
197	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH08
198	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH08
199	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH08
200	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH08
201	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH08
202	BOS	Boston Harbor	Giblin et al. 1997	MA	USA	BH08
203	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1
204	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1
205	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
165	SSF	April	1996	2.0	18.0		0.48	0.00	2.00
166	SSF	April	1996	2.0	18.0		0.50	10.00	5.00
167	SSF	May	1996	2.0	20.0		0.48	0.00	1.00
168	SSF	May	1996	2.0	20.0		0.46	0.00	5.00
169	BOS	September	1991	7.0		15.0	0.96	104.17	20.83
170	BOS	April	1992	7.0		10.0	1.28	166.67	4.17
171	BOS	May	1992	7.0		15.0	1.28	125.00	12.50
172	BOS	June	1992	7.0		16.5	1.60	208.33	16.67
173	BOS	August	1992	7.0		17.0	2.24	291.67	37.50
174	BOS	November	1992	7.0		9.0	2.24	0.00	8.33
175	BOS	March	1993	7.0		1.0	0.96	104.17	0.00
176	BOS	May	1993	7.0		14.0	6.08	291.67	45.83
177	BOS	July	1993	7.0		19.0	7.04	250.00	50.00
178	BOS	August	1993	7.0		19.0	5.12	208.33	62.50
179	BOS	October	1993	7.0		13.0	1.60	125.00	8.33
180	BOS	March	1994	7.0		1.0	0.96	41.67	4.17
181	BOS	May	1994	7.0		8.0	0.80	83.33	8.33
182	BOS	July	1994	7.0		16.0	1.28	208.33	16.67
183	BOS	November	1994	7.0		15.5	3.20	166.67	-16.67
184	BOS	September	1991	12.0		16.5	0.80	208.33	4.17
185	BOS	August	1992	12.0		17.0	0.80	208.33	12.50
186	BOS	March	1993	12.0		1.5	0.32	291.67	12.50
187	BOS	May	1993	12.0		12.5	3.52	541.67	325.00
188	BOS	July	1993	12.0		17.0	0.96	208.33	12.50
189	BOS	August	1993	12.0		18.0	1.92	416.67	62.50
190	BOS	October	1993	12.0		13.0	1.28	83.33	12.50
191	BOS	March	1994	12.0		1.0	0.64	83.33	20.83
192	BOS	May	1994	12.0		9.0	0.96	166.67	4.17
193	BOS	July	1994	12.0		16.0	1.92	416.67	41.67
194	BOS	October	1994	12.0		15.0	0.64	41.67	0.00
195	BOS	September	1991	13.0		15.5	0.61	83.33	12.50
196	BOS	April	1992	13.0		10.0	0.64	62.50	4.17
197	BOS	May	1992	13.0		9.5	0.51	41.67	8.33
198	BOS	June	1992	13.0		14.5	0.64	104.17	4.17
199	BOS	August	1992	13.0		16.5	0.61	41.67	41.67
200	BOS	March	1993	13.0		1.0	0.16	20.83	0.00
201	BOS	July	1993	13.0		15.5	0.80	104.17	12.50
202	BOS	July	1994	13.0		15.5	0.64	250.00	16.67
203	CLB	October	1976	6.0		19.6		835.00	
204	CLB	November	1976	6.0		15.5		351.00	
205	CLB	February	1977	6.0		5.5		28.00	-3.80

#	Code	Estuary	Reference	State / Area	Country	Station
206	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1
207	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1
208	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1
209	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1
210	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1
211	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1
212	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1
213	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1
214	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1
215	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1
216	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1
217	CLB	Cape Lookout Bight	Klump and Martens 1981	NC	USA	A-1
218	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	NH01
219	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	NH02
220	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	NH03
221	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	NH06
222	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	NH07
223	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	NH10
224	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	NH12
225	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	NH14
226	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	NH16
227	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	NH17
228	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	NH18
229	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	NH19
230	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	WE101
231	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	WE103
232	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	WE104
233	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	WE105
234	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	WE107
235	WAS	Washington State Shelf	Devol and Christensen 1993	WA	USA	WE108
236	CAS	California Coast	Berelson et al. 1996	CA	USA	CCI-17
237	CAS	California Coast	Berelson et al. 1996	CA	USA	CCI-6
238	CAS	California Coast	Berelson et al. 1996	CA	USA	CCI-5
239	CAS	California Coast	Berelson et al. 1996	CA	USA	CCI-7
240	CAS	California Coast	Berelson et al. 1996	CA	USA	CCI-12
241	CAS	California Coast	Berelson et al. 1996	CA	USA	CCII-1
242	CAS	California Coast	Berelson et al. 1996	CA	USA	CCII-2
243	CAS	California Coast	Berelson et al. 1996	CA	USA	CCII-3
244	CAS	California Coast	Berelson et al. 1996	CA	USA	CCII-6
245	CAS	California Coast	Berelson et al. 1996	CA	USA	CCII-4
246	CAS	California Coast	Berelson et al. 1996	CA	USA	CCII-5

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
206	CLB	March	1977	6.0		12.0		43.00	0.00
207	CLB	May	1977	6.0		19.0		373.00	15.00
208	CLB	June	1977	6.0		25.0		421.00	34.00
209	CLB	July	1977	6.0		22.0		958.00	95.00
210	CLB	August	1977	6.0		26.3		602.00	55.00
211	CLB	September	1977	6.0		26.5		689.00	39.00
212	CLB	November	1977	6.0		17.0		267.00	-1.00
213	CLB	March	1978	6.0		5.8		88.00	-1.00
214	CLB	May	1978	6.0		18.0		537.00	15.00
215	CLB	June	1978	6.0		24.0		748.00	42.00
216	CLB	August	1978	6.0		27.5		748.00	63.00
217	CLB	September	1978	6.0		26.5		771.00	53.00
218	WAS	June	1988	115.0			0.34	29.88	0.00
219	WAS	June	1988	161.0			0.33	8.28	3.38
220	WAS	June	1988	85.0			0.21	22.32	0.00
221	WAS	June	1988	42.0			0.24	25.92	0.00
222	WAS	June	1988	225.0			0.15	0.00	1.55
223	WAS	June	1988	465.0			0.08	0.14	1.58
224	WAS	June	1988	630.0			0.07	2.77	0.76
225	WAS	June	1988	114.0			0.59	20.16	1.15
226	WAS	June	1988	122.0			0.34	22.68	1.69
227	WAS	June	1988	124.0			0.46	33.12	2.56
228	WAS	June	1988	146.0			0.47	14.76	2.45
229	WAS	June	1988	98.0			0.30	1.30	0.79
230	WAS	June	1991	106.0			0.17	5.76	0.76
231	WAS	June	1991	140.0			0.47	21.96	2.38
232	WAS	June	1991	137.0			0.28	55.80	1.98
233	WAS	June	1991	323.0			0.08	5.76	1.55
234	WAS	June	1991	239.0			0.30	28.08	1.40
235	WAS	June	1991	43.0			0.19	0.00	3.28
236	CAS	June	1991	95.0			0.19	13.33	2.08
237	CAS	June	1991	231.0			0.14	22.50	3.50
238	CAS	June	1991	532.0			0.10	8.33	2.83
239	CAS	June	1991	638.0			0.07	5.00	0.79
240	CAS	June	1991	1010.0			0.06	1.25	-0.83
241	CAS	May	1992	97.0			0.35	24.58	3.71
242	CAS	May	1992	670.0			0.02	0.83	-0.46
243	CAS	May	1992	1010.0			0.03	0.00	0.08
244	CAS	May	1992	1358.0			0.05	1.25	0.58
245	CAS	May	1992	2025.0			0.03	0.00	0.58
246	CAS	May	1992	3375.0			0.05	0.00	1.00

#	Code	Estuary	Reference	State / Area	Country	Station
247	CAS	California Coast	Berelson et al. 1996	CA	USA	SP
248	CAS	California Coast	Berelson et al. 1996	CA	USA	SM
249	CAS	California Coast	Berelson et al. 1996	CA	USA	CAT
250	CAS	California Coast	Berelson et al. 1996	CA	USA	TB
251	CAS	California Coast	Berelson et al. 1996	CA	USA	SC1
252	CAS	California Coast	Berelson et al. 1996	CA	USA	PE
253	GUL	Gullmar Fjord	Hall et al. 1990	Skagerrak	Sweden	70 m
254	GUL	Gullmar Fjord	Hall et al. 1990	Skagerrak	Sweden	70 m
255	GUL	Gullmar Fjord	Hall et al. 1990	Skagerrak	Sweden	115 m
256	ELK	Elkhorn Slough	Caffrey et al. 2002	CA	USA	Azevedo Pond
257	ELK	Elkhorn Slough	Caffrey et al. 2002	CA	USA	Azevedo Pond
258	ELK	Elkhorn Slough	Caffrey et al. 2002	CA	USA	Azevedo Pond
259	ELK	Elkhorn Slough	Caffrey et al. 2002	CA	USA	Hudson's Landing
260	ELK	Elkhorn Slough	Caffrey et al. 2002	CA	USA	Hudson's Landing
261	ELK	Elkhorn Slough	Caffrey et al. 2002	CA	USA	Hudson's Landing
262	ELK	Elkhorn Slough	Caffrey et al. 2002	CA	USA	Hudson's Landing
263	ELK	Elkhorn Slough	Caffrey et al. 2002	CA	USA	Hudson's Landing
264	ELK	Elkhorn Slough	Caffrey et al. 2002	CA	USA	Hudson's Landing
265	ELK	Elkhorn Slough	Caffrey et al. 2002	CA	USA	Hudson's Landing
266	ELK	Elkhorn Slough	Caffrey et al. 2002	CA	USA	Vierra Mudflat
267	ELK	Elkhorn Slough	Caffrey et al. 2002	CA	USA	Vierra Mudflat
268	ELK	Elkhorn Slough	Caffrey et al. 2002	CA	USA	Vierra Mudflat
269	NOR	Svalbard Fjords	Glud et al. 1988	Arctic Fjords	Norway	SV-2
270	NOR	Svalbard Fjords	Glud et al. 1988	Arctic Fjords	Norway	SV-3
271	NOR	Svalbard Fjords	Glud et al. 1988	Arctic Fjords	Norway	SV-4
272	NOR	Svalbard Fjords	Glud et al. 1988	Arctic Fjords	Norway	SV-5
273	BAL	Baltic Sea	Edberg and Hofsten 1973	Baltic Sea	Sweden	Asko 1
274	BAL	Baltic Sea	Edberg and Hofsten 1973	Baltic Sea	Sweden	Asko 1
275	BAL	Baltic Sea	Edberg and Hofsten 1973	Baltic Sea	Sweden	Asko 2
276	BAL	Baltic Sea	Edberg and Hofsten 1973	Baltic Sea	Sweden	Edeb 1
277	BAL	Baltic Sea	Edberg and Hofsten 1973	Baltic Sea	Sweden	Edeb 2
278	BAL	Baltic Sea	Edberg and Hofsten 1973	Baltic Sea	Sweden	Karl 1
279	BAL	Baltic Sea	Edberg and Hofsten 1973	Baltic Sea	Sweden	Karl 2
280	BAL	Baltic Sea	Edberg and Hofsten 1973	Baltic Sea	Sweden	Karl 3
281	CHB	Choptank River	Smith and Fisher 1986	Chesapeake Bay	USA	Horn Point
282	CHB	Choptank River	Smith and Fisher 1986	Chesapeake Bay	USA	Horn Point
283	CHB	Choptank River	Smith and Fisher 1986	Chesapeake Bay	USA	Horn Point
284	CHB	Choptank River	Smith and Fisher 1986	Chesapeake Bay	USA	Horn Point
285	CHB	Choptank River	Smith and Fisher 1986	Chesapeake Bay	USA	Horn Point
286	CHB	Choptank River	Smith and Fisher 1986	Chesapeake Bay	USA	Horn Point
287	CHB	Choptank River	Smith and Fisher 1986	Chesapeake Bay	USA	Horn Point

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
247	CAS	March	1994	896.0				0.42	3.00
248	CAS	March	1994	905.0				0.42	0.04
249	CAS	March	1994	1300.0			0.01	0.42	0.42
250	CAS	March	1994	1514.0			0.03	0.00	0.29
251	CAS	March	1994	2053.0			0.02	0.42	0.17
252	CAS	March	1994	3707.0			0.02	0.42	4.04
253	GUL	June	1990	70.0	34.5	6.0	0.34	0.00	66.67
254	GUL	September	1990	70.0	34.5	6.0	0.15	25.00	
255	GUL	September	1990	115.0	34.5	6.0	0.13	0.00	
256	ELK	March	1998	0.3	0.0	10.0	1.08	358.33	11.67
257	ELK	April	1998	0.3	0.0	20.0	1.56	337.50	45.00
258	ELK	May	1998	0.3	5.0	15.0	1.75	-16.67	40.42
259	ELK	March	1998	1.0	0.0	10.0	1.19	129.17	-18.75
260	ELK	April	1998	1.0	5.0	20.0	1.19	575.00	13.33
261	ELK	May	1998	1.0	5.0	19.0	0.77	245.83	-4.17
262	ELK	November	1998	1.0	35.0	8.0	1.85	158.33	-11.67
263	ELK	March	1999	1.0	26.0	16.0	2.12	400.00	50.83
264	ELK	July	1999	1.0	20.0	17.0	1.58	4.17	-231.25
265	ELK	November	1999	1.0	30.0	12.0	3.44	133.33	-28.75
266	ELK	March	1999	0.2	30.0	12.0	0.41	-41.67	2.50
267	ELK	July	1999	0.2	32.0	15.0	0.23	58.33	-4.58
268	ELK	November	1999	0.2	30.0	12.0	0.61	16.67	2.08
269	NOR	September	1995	155.0	35.0	2.6	0.52	24.58	
270	NOR	September	1995	115.0	35.0	0.2	0.42	12.92	
271	NOR	September	1995	138.0	35.0	2.8	0.39		
272	NOR	September	1995	175.0	35.0	-1.7	0.29	4.58	
273	BAL	July	1971		5.0	15.0	2.50		
274	BAL	September	1971		5.0	15.0	1.10		
275	BAL	August	1971		5.0	16.0	1.20		
276	BAL	June	1972		5.0	13.0	3.00		
277	BAL	June	1972		5.0	15.0	0.92		
278	BAL	July	1971		5.0	15.0	0.93		
279	BAL	July	1971		5.0	17.0	1.30		
280	BAL	July	1971		5.0	17.0	1.70		
281	CHB	June	1982	2.5		21.0	3.00	512.00	0.00
282	CHB	June	1982	2.5		24.2	4.10	786.00	
283	CHB	June	1982	2.5		23.0		409.00	52.00
284	CHB	July	1982	2.5		25.1		353.00	0.00
285	CHB	July	1982	2.5		27.8	3.90	618.00	-106.00
286	CHB	September	1982	2.5		20.2	2.30	626.00	
287	CHB	October	1982	2.5		18.1	1.80	458.00	0.00

#	Code	Estuary	Reference	State / Area	Country	Station
288	CHB	Choptank River	Smith and Fisher 1986	Chesapeake Bay	USA	Horn Point
289	CHB	Choptank River	Smith and Fisher 1986	Chesapeake Bay	USA	Horn Point
290	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
291	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
292	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
293	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
294	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
295	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
296	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
297	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
298	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	C
299	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	C
300	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	C
301	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	C
302	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
303	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
304	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
305	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
306	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
307	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
308	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
309	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
310	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
311	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
312	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
313	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
314	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
315	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
316	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
317	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
318	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	A
319	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	B
320	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	B
321	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	B
322	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	B
323	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	B
324	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	B
325	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	B
326	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	B
327	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	B
328	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	B

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
288	CHB	June	1983	2.5		24.8	3.40	708.00	
289	CHB	July	1983	2.5		25.3		806.00	28.00
290	NEU	February	1987	0.7	5.8			-30.00	5.00
291	NEU	March	1987	0.7	5.8		0.72	0.00	5.00
292	NEU	April	1987	0.7	5.8		0.24	125.00	45.00
293	NEU	May	1987	0.7	5.8		0.41	20.00	10.00
294	NEU	June	1987	0.7	5.8		0.26	10.00	10.00
295	NEU	July	1987	0.7	5.8		0.65	25.00	5.00
296	NEU	August	1987	0.7	5.8		0.60	22.00	8.00
297	NEU	October	1987	0.7	5.8		0.31	-15.00	5.00
298	NEU	March	1987	0.6	4.6			25.00	-5.00
299	NEU	April	1987	0.6	4.6		0.24	40.00	-7.00
300	NEU	May	1987	0.6	4.6		1.08	15.00	22.00
301	NEU	June	1987	0.6	4.6		0.84	60.00	-10.00
302	NEU	June	1987	1.0	2.9		0.60	25.00	5.00
303	NEU	July	1987	1.0	2.9		0.48	100.00	10.00
304	NEU	September	1987	1.0	2.9		1.08	55.00	0.00
305	NEU	November	1987	1.0	2.9		0.31	30.00	7.00
306	NEU	January	1988	1.2	17.6		0.12	20.00	0.00
307	NEU	February	1988	1.2	17.6		0.24	40.00	5.00
308	NEU	March	1988	1.2	17.6		0.36	50.00	5.00
309	NEU	April	1988	1.2	17.6		0.22	70.00	0.00
310	NEU	May	1988	1.2	17.6		0.55	70.00	10.00
311	NEU	June	1988	1.2	17.6		0.70	100.00	5.00
312	NEU	June	1988	1.2	17.6		0.26	280.00	0.00
313	NEU	July	1988	1.2	17.6		0.60	70.00	0.00
314	NEU	August	1988	1.2	17.6		0.72	120.00	5.00
315	NEU	September	1988	1.2	17.6		0.24	20.00	10.00
316	NEU	October	1988	1.2	17.6		0.29	30.00	60.00
317	NEU	November	1988	1.2	17.6		0.12	30.00	100.00
318	NEU	December	1988	1.2	17.6		0.00	50.00	100.00
319	NEU	February	1988	1.1	12.6		0.24	50.00	0.00
320	NEU	March	1988	1.1	12.6		0.65	180.00	10.00
321	NEU	April	1988	1.1	12.6		0.12	50.00	20.00
322	NEU	June	1988	1.1	12.6		1.58	190.00	10.00
323	NEU	July	1988	1.1	12.6		0.60	120.00	0.00
324	NEU	August	1988	1.1	12.6		0.84	90.00	0.00
325	NEU	September	1988	1.1	12.6		0.24	30.00	10.00
326	NEU	October	1988	1.1	12.6		0.29	20.00	20.00
327	NEU	November	1988	1.1	12.6		0.22	20.00	100.00
328	NEU	December	1988	1.1	12.6		0.00	10.00	110.00

#	Code	Estuary	Reference	State / Area	Country	Station
329	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
330	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
331	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
332	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
333	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
334	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
335	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
336	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
337	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
338	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
339	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
340	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	D
341	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	E
342	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	E
343	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	E
344	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	E
345	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	E
346	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	E
347	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	E
348	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	E
349	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	E
350	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	E
351	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	E
352	NEU	Neuse River Estuary	Rizzo and Christian 1996	NC	USA	E
353	BLK	Black Sea	Friedl et al. 1998	Danube/Dniestr	Europe	BS3
354	BLK	Black Sea	Friedl et al. 1998	Danube/Dniestr	Europe	BS11
355	BLK	Black Sea	Friedl et al. 1998	Danube/Dniestr	Europe	BS17
356	BLK	Black Sea	Friedl et al. 1998	Danube/Dniestr	Europe	BS22
357	BLK	Black Sea	Friedl et al. 1998	Danube/Dniestr	Europe	BS26
358	BLK	Black Sea	Friedl et al. 1998	Danube/Dniestr	Europe	BS31
359	CHY	Cherrystone Inlet	Reay et al. 1995	VA	USA	EV1-2
360	CHY	Cherrystone Inlet	Reay et al. 1995	VA	USA	EV1-2
361	CHY	Cherrystone Inlet	Reay et al. 1995	VA	USA	EV1-2
362	CHY	Cherrystone Inlet	Reay et al. 1995	VA	USA	EV1-2
363	CHY	Cherrystone Inlet	Reay et al. 1995	VA	USA	EV1-2
364	CHY	Cherrystone Inlet	Reay et al. 1995	VA	USA	SC1-2
365	CHY	Cherrystone Inlet	Reay et al. 1995	VA	USA	SC1-2
366	CHY	Cherrystone Inlet	Reay et al. 1995	VA	USA	SC1-2
367	CHY	Cherrystone Inlet	Reay et al. 1995	VA	USA	SC1-2
368	CHY	Cherrystone Inlet	Reay et al. 1995	VA	USA	SC1-2
369	DAN	Aarhus Bight	Hansen and Blackburn 1992		Denmark	16

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
329	NEU	January	1988	1.4	10.0		0.12	-10.00	0.00
330	NEU	February	1988	1.4	10.0		1.27	-30.00	5.00
331	NEU	March	1988	1.4	10.0		0.60	110.00	0.00
332	NEU	April	1988	1.4	10.0		0.67	150.00	0.00
333	NEU	May	1988	1.4	10.0		0.82	60.00	5.00
334	NEU	June	1988	1.4	10.0		0.22	180.00	0.00
335	NEU	July	1988	1.4	10.0		0.19	0.00	5.00
336	NEU	August	1988	1.4	10.0		0.48	430.00	5.00
337	NEU	September	1988	1.4	10.0		0.38	90.00	900.00
338	NEU	October	1988	1.4	10.0		0.24	50.00	200.00
339	NEU	November	1988	1.4	10.0		0.00	40.00	100.00
340	NEU	December	1988	1.4	10.0		0.12	30.00	310.00
341	NEU	January	1988	1.1	2.7		0.43		0.00
342	NEU	February	1988	1.1	2.7		0.65	5.00	0.00
343	NEU	March	1988	1.1	2.7		0.65	10.00	0.00
344	NEU	April	1988	1.1	2.7		0.31	50.00	0.00
345	NEU	May	1988	1.1	2.7		0.55	110.00	0.00
346	NEU	June	1988	1.1	2.7		1.39	70.00	0.00
347	NEU	July	1988	1.1	2.7		0.36	160.00	10.00
348	NEU	August	1988	1.1	2.7		0.24	200.00	10.00
349	NEU	September	1988	1.1	2.7		0.84	400.00	100.00
350	NEU	October	1988	1.1	2.7		0.38	50.00	150.00
351	NEU	November	1988	1.1	2.7		0.22	30.00	80.00
352	NEU	December	1988	1.1	2.7		0.12	10.00	90.00
353	BLK	August	1995	134.0			0.00	0.00	0.00
354	BLK	August	1995	11.0				245.42	19.38
355	BLK	August	1995	26.0			0.83	115.63	1.46
356	BLK	August	1995	27.0			0.00	5.21	0.83
357	BLK	August	1995	142.0			0.18	3.54	1.88
358	BLK	August	1995	24.0			1.07	7.92	2.92
359	CHY	January	1991	1.0		7.5	-0.14	30.00	-1.10
360	CHY	April	1991	1.0		14.6	0.01	43.00	-1.50
361	CHY	May	1990	1.0		23.8	1.66	103.00	-0.30
362	CHY	Jul	1990	1.0		29.5	1.31	101.00	1.40
363	CHY	September	1990	1.0		26.2	0.73	62.00	9.60
364	CHY	February	1991	1.0		8.3	1.23	76.00	2.20
365	CHY	April	1991	1.0		24.0	1.20	150.00	3.40
366	CHY	May	1990	1.0		21.0	1.93	184.00	13.80
367	CHY	August	1990	1.0		31.0	2.95	377.00	20.70
368	CHY	October	1990	1.0		25.4	1.18	-4.00	1.40
369	DAN	November	1989	15.0	22.0	13.0	0.03	45.83	

#	Code	Estuary	Reference	State / Area	Country	Station
370	HIR	Hiroshima Bay	Seiki et al. 1989	Seto Inland Sea	Japan	1
371	HIR	Hiroshima Bay	Seiki et al. 1989	Seto Inland Sea	Japan	1
372	HIR	Hiroshima Bay	Seiki et al. 1989	Seto Inland Sea	Japan	1
373	HIR	Hiroshima Bay	Seiki et al. 1989	Seto Inland Sea	Japan	1
374	HIR	Hiroshima Bay	Seiki et al. 1989	Seto Inland Sea	Japan	2
375	HIR	Hiroshima Bay	Seiki et al. 1989	Seto Inland Sea	Japan	2
376	HIR	Hiroshima Bay	Seiki et al. 1989	Seto Inland Sea	Japan	2
377	HIR	Hiroshima Bay	Seiki et al. 1989	Seto Inland Sea	Japan	2
378	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	SACHEM
379	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	FOAM
380	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	FOAM
381	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	FOAM
382	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	NWC
383	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	NWC
384	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	NWC
385	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	Deep
386	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	Deep
387	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	Deep
388	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	1
389	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	2
390	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	3
391	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	4
392	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	5
393	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	6
394	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	7
395	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	8
396	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	9
397	LIS	Long Island Sound	Aller and Benninger 1981	NY	USA	10
398	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	6
399	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	6
400	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	6
401	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	6
402	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	6
403	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	6
404	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	6
405	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	6
406	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	6
407	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	6
408	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	6
409	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	6
410	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	10

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
370	HIR	February	1986	12.0				15.18	0.54
371	HIR	May	1986	12.0			0.25	18.75	2.02
372	HIR	September	1986	12.0			0.40	38.10	5.38
373	HIR	November	1986	12.0			0.51	55.06	3.63
374	HIR	January	1986	14.0			0.23	4.76	0.40
375	HIR	May	1986	14.0			0.31	28.27	2.02
376	HIR	August	1986	14.0			0.45	31.85	3.90
377	HIR	October	1986	14.0			0.43	70.83	1.21
378	LIS	July	1975	3.0	26.0	22.1		216.67	
379	LIS	July	1975	7.0	26.0	22.0		91.67	
380	LIS	November	1975	7.0	26.0	15.0		35.00	
381	LIS	March	1976	7.0	26.0	4.0		10.83	
382	LIS	July	1975	14.0	26.0	22.0		133.33	
383	LIS	October	1975	14.0	26.0	15.0		91.67	
384	LIS	March	1976	14.0	26.0	4.0		11.67	
385	LIS	July	1975	35.0	26.0	22.0		54.17	
386	LIS	November	1975	35.0	26.0	15.0		13.75	
387	LIS	April	1976	35.0	26.0	4.0		7.92	
388	LIS	July	1977	25.0	26.0	21.0		37.50	
389	LIS	July	1977	25.0	26.0	22.0		-41.67	
390	LIS	July	1977	14.6	26.0	19.0		250.00	
391	LIS	July	1977	12.5	26.0	21.0		62.50	
392	LIS	July	1977	24.0	26.0			41.67	
393	LIS	July	1977	7.6	26.0			216.67	
394	LIS	August	1977	30.0	26.0	21.0		91.67	
395	LIS	August	1977	29.0	26.0	21.5		70.83	
396	LIS	August	1977	23.0	26.0	19.3		175.00	
397	LIS	August	1977	24.7	26.0	20.1		18.75	
398	TOM	June	1987	5.0		16.0	0.61	166.67	16.67
399	TOM	August	1987	5.0		17.5	0.48	416.67	8.33
400	TOM	November	1987	5.0		15.0	0.64	250.00	20.83
401	TOM	January	1988	5.0		9.5	0.00	0.00	0.00
402	TOM	March	1988	5.0		11.0	0.32	41.67	4.17
403	TOM	May	1988	5.0		15.0	0.61	125.00	10.42
404	TOM	July	1988	5.0		17.0	0.61	125.00	12.50
405	TOM	September	1988	5.0		19.0	0.64	250.00	8.33
406	TOM	November	1988	5.0		15.5	0.16	83.33	4.17
407	TOM	January	1989	5.0		9.0	0.00	0.00	0.00
408	TOM	March	1989	5.0		11.0	0.00	41.67	0.00
409	TOM	May	1989	5.0		15.0	0.32	208.33	4.17
410	TOM	June	1987	5.0		16.0	0.64	125.00	16.67

#	Code	Estuary	Reference	State / Area	Country	Station
411	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	10
412	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	10
413	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	10
414	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	10
415	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	10
416	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	10
417	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	10
418	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	10
419	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	10
420	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	10
421	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	10
422	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	16
423	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	16
424	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	16
425	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	16
426	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	16
427	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	16
428	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	16
429	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	16
430	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	16
431	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	16
432	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	16
433	TOM	Tomales Bay	Dollar et al. 1991	CA	USA	16
434	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Upper Bay
435	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Upper Bay
436	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Upper Bay
437	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Upper Bay
438	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Upper Bay
439	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Upper Bay
440	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Upper Bay
441	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Upper Bay
442	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Upper Bay
443	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Upper Bay
444	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Mid Bay
445	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Mid Bay
446	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Mid Bay
447	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Mid Bay
448	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Mid Bay
449	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Mid Bay
450	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Mid Bay
451	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Mid Bay

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
411	TOM	August	1987	5.0		17.5	0.48	83.33	41.67
412	TOM	November	1987	5.0		15.0	-0.64	208.33	20.83
413	TOM	January	1988	5.0		9.5	-0.32	41.67	4.17
414	TOM	March	1988	5.0		11.0	0.32	83.33	4.17
415	TOM	May	1988	5.0		15.0	0.00	125.00	4.17
416	TOM	July	1988	5.0		17.0	0.61	125.00	20.83
417	TOM	September	1988	5.0		19.0	0.51	125.00	16.67
418	TOM	November	1988	5.0		15.5	0.32	83.33	8.33
419	TOM	January	1989	5.0		9.0	0.00	0.00	0.00
420	TOM	March	1989	5.0		11.0	0.00	41.67	4.17
421	TOM	May	1989	5.0		15.0	0.48	41.67	20.83
422	TOM	June	1987	5.0		16.0	0.64	166.67	12.50
423	TOM	August	1987	5.0		17.5	0.00	125.00	12.50
424	TOM	November	1987	5.0		15.0	0.00	41.67	8.33
425	TOM	January	1988	5.0		9.5	0.00	41.67	0.00
426	TOM	March	1988	5.0		11.0	0.32	41.67	4.17
427	TOM	May	1988	5.0		15.0	0.16	83.33	0.00
428	TOM	July	1988	5.0		17.0	0.32	83.33	8.33
429	TOM	September	1988	5.0		19.0	0.32	125.00	12.50
430	TOM	November	1988	5.0		15.5	0.16	208.33	16.67
431	TOM	January	1989	5.0		9.0	0.00	0.00	0.00
432	TOM	March	1989	5.0		11.0	0.00	41.67	0.00
433	TOM	May	1989	5.0		15.0	0.00	41.67	0.00
434	NAR	February	1974	5.8		3.0	0.24	20.00	
435	NAR	April	1974	5.8		11.0		10.00	
436	NAR	May	1974	5.8		14.0	0.96	150.00	
437	NAR	June	1974	5.8		21.0	2.40	50.00	
438	NAR	July	1973	5.8		23.0	1.92	250.00	
439	NAR	August	1973	5.8		24.0	2.88	290.00	
440	NAR	September	1973	5.8		17.0	0.96	100.00	
441	NAR	October	1973	5.8		16.0	1.44	110.00	
442	NAR	November	1973	5.8		8.0	0.24	30.00	
443	NAR	December	1973	5.8		6.0	0.48	40.00	
444	NAR	January	1974	7.3		1.0	0.24	0.00	
445	NAR	February	1974	7.3		4.0	0.72	10.00	
446	NAR	April	1974	7.3		10.0	0.48	40.00	
447	NAR	May	1974	7.3		13.0	1.92	130.00	
448	NAR	August	1973	7.3		19.0	4.08	120.00	
449	NAR	September	1973	7.3		17.0	1.20	60.00	
450	NAR	October	1973	7.3		14.0	1.20		
451	NAR	November	1973	7.3		9.0	0.24	40.00	

#	Code	Estuary	Reference	State / Area	Country	Station
452	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Mid Bay
453	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Lower Bay
454	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Lower Bay
455	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Lower Bay
456	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Lower Bay
457	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Lower Bay
458	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Lower Bay
459	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Lower Bay
460	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Lower Bay
461	NAR	Narragansett Bay	Nixon et al. 1976	RI	USA	Lower Bay
462	DAN	Danish Waters	Blackburn and Henriksen 1983	Belt Sea/Kattegat/Skagerrak	Denmark	Belt Sea
463	DAN	Danish Waters	Blackburn and Henriksen 1983	Belt Sea/Kattegat/Skagerrak	Denmark	Belt Sea
464	DAN	Danish Waters	Blackburn and Henriksen 1983	Belt Sea/Kattegat/Skagerrak	Denmark	Western Kattegat
465	DAN	Danish Waters	Blackburn and Henriksen 1983	Belt Sea/Kattegat/Skagerrak	Denmark	Western Kattegat
466	DAN	Danish Waters	Blackburn and Henriksen 1983	Belt Sea/Kattegat/Skagerrak	Denmark	Eastern Kattegat
467	DAN	Danish Waters	Blackburn and Henriksen 1983	Belt Sea/Kattegat/Skagerrak	Denmark	Eastern Kattegat
468	DAN	Danish Waters	Blackburn and Henriksen 1983	Belt Sea/Kattegat/Skagerrak	Denmark	Skagerrak
469	UPCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	NB
470	UPCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	NB
471	UPCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	NB
472	UPCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	NB
473	UPCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	NB
474	UPCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	NB
475	UPCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	NB
476	UPCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	NB
477	UPCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	NB
478	UPCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	NB
479	MIDCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	MB
480	MIDCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	MB
481	MIDCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	MB
482	MIDCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	MB
483	MIDCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	MB
484	MIDCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	MB
485	MIDCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	MB
486	MIDCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	MB
487	MIDCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	MB
488	MIDCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	MB
489	MIDCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	MB
490	LOWCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	SB
491	LOWCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	SB
492	LOWCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	SB

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
452	NAR	December	1973	7.3		3.0	0.48	30.00	
453	NAR	March	1974	6.1		5.0	0.72	10.00	
454	NAR	April	1974	6.1		8.0	0.84	110.00	
455	NAR	June	1974	6.1		18.0	2.40	230.00	
456	NAR	July	1973	6.1		21.0	0.24	100.00	
457	NAR	August	1973	6.1		22.0	1.20	150.00	
458	NAR	September	1973	6.1		19.0	1.44	100.00	
459	NAR	October	1973	6.1		19.0	0.96	40.00	
460	NAR	November	1973	6.1		11.0	1.20	50.00	
461	NAR	December	1973	6.1		7.0	0.48	20.00	
462	DAN	July	1979	20.0		6.8		208.33	83.33
463	DAN	November	1978	20.0		10.0		208.33	
464	DAN	July	1979	19.8		9.3		-83.33	20.83
465	DAN	November	1978	19.8		9.2		291.67	
466	DAN	July	1979	60.3		5.1		333.33	83.33
467	DAN	November	1978	60.3		9.9		333.33	
468	DAN	July	1979	132.5		6.6		145.83	41.67
469	UPCHES	February	1989	9.0	5.0	4.0	0.13	0.00	
470	UPCHES	March	1989	9.0	4.0	8.0	0.29	20.00	-27.00
471	UPCHES	April	1989	9.0	3.0	11.0	0.50	80.00	-5.00
472	UPCHES	May	1989	9.0	1.0	13.0	0.40	10.00	1.00
473	UPCHES	June	1989	9.0	2.0	23.0	0.54	20.00	1.00
474	UPCHES	July	1989	9.0	1.0	25.0	0.63	-10.00	0.00
475	UPCHES	August	1989	9.0	2.0	27.0	0.49	-10.00	5.00
476	UPCHES	September	1989	9.0	7.0	24.0	0.43	20.00	0.00
477	UPCHES	November	1989	9.0	3.0	12.0	0.38	-10.00	0.00
478	UPCHES	December	1988	9.0	6.0	5.0	0.28	0.00	0.00
479	MIDCHES	February	1989	16.0	19.0	4.0	0.33	10.00	0.00
480	MIDCHES	March	1989	16.0	15.0	7.0	0.59	80.00	5.00
481	MIDCHES	April	1989	16.0	18.0	8.0	0.65	140.00	2.00
482	MIDCHES	May	1989	16.0	17.0	14.0	0.68	180.00	1.00
483	MIDCHES	June	1989	16.0	14.0	17.0	0.54	260.00	12.50
484	MIDCHES	July	1989	16.0	14.0	23.0	0.03	450.00	135.00
485	MIDCHES	August	1989	16.0	17.0	24.0	0.10	370.00	45.00
486	MIDCHES	September	1989	16.0	13.0	25.0	0.84	220.00	10.00
487	MIDCHES	October	1989	16.0	15.0	19.0	0.78	80.00	0.00
488	MIDCHES	November	1989	16.0	15.0	15.0	0.68	160.00	8.00
489	MIDCHES	December	1988	16.0	20.0	9.0	0.32	40.00	-5.00
490	LOWCHES	February	1989	11.0	27.0	6.0	0.41	20.00	5.00
491	LOWCHES	April	1989	11.0	26.0	11.0	0.33	40.00	0.00
492	LOWCHES	May	1989	11.0	23.0	16.0	0.60	60.00	1.00

#	Code	Estuary	Reference	State / Area	Country	Station
493	LOWCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	SB
494	LOWCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	SB
495	LOWCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	SB
496	LOWCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	SB
497	LOWCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	SB
498	LOWCHES	Chesapeake Bay	Cowan and Boynton 1996	Mid Atlantic	USA	SB
499	WAQ	Waquoit Bay	LaMontagne 1996	MA	USA	SLP, QR, CR
500	WAQ	Waquoit Bay	LaMontagne 1996	MA	USA	SLP, QR, CR
501	WAQ	Waquoit Bay	LaMontagne 1996	MA	USA	SLP, QR, CR
502	WAQ	Waquoit Bay	LaMontagne 1996	MA	USA	SLP, QR, CR
503	WAQ	Waquoit Bay	LaMontagne 1996	MA	USA	SLP, QR, CR
504	WAQ	Waquoit Bay	LaMontagne 1996	MA	USA	SLP, QR, CR
505	WAQ	Waquoit Bay	LaMontagne 1996	MA	USA	SLP, QR, CR
506	WAQ	Waquoit Bay	LaMontagne 1996	MA	USA	SLP, QR, CR
507	PAM	Pamlico Sound Complex	Fisher et al. 1982	NC	USA	SR, NR, Newport
508	PAM	Pamlico Sound Complex	Fisher et al. 1982	NC	USA	SR, NR, Newport
509	PAM	Pamlico Sound Complex	Fisher et al. 1982	NC	USA	SR, NR, Newport
510	PAM	Pamlico Sound Complex	Fisher et al. 1982	NC	USA	SR, NR, Newport
511	PAM	Pamlico Sound Complex	Fisher et al. 1982	NC	USA	SR, NR, Newport
512	PAM	Pamlico Sound Complex	Fisher et al. 1982	NC	USA	SR, NR, Newport
513	PAM	Pamlico Sound Complex	Fisher et al. 1982	NC	USA	SR, NR, Newport
514	PAM	Pamlico Sound Complex	Fisher et al. 1982	NC	USA	SR, NR, Newport
515	PAM	Pamlico Sound Complex	Fisher et al. 1982	NC	USA	SR, NR, Newport
516	PAM	Pamlico Sound Complex	Fisher et al. 1982	NC	USA	SR, NR, Newport
517	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	LC
518	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	LC
519	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	LC
520	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	LC
521	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	LC
522	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	LC
523	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	LC
524	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	LC
525	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	PR
526	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	PR
527	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	PR
528	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	PR
529	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	PR
530	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	PR
531	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	PR
532	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	PR
533	CADIZ	Bay of Cadiz	Forja et al. 1994	South-west Spain	Spain	PR

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
493	LOWCHES	June	1989	11.0	24.0	20.0	0.77	60.00	6.00
494	LOWCHES	July	1989	11.0	24.0	23.0	0.67	140.00	12.00
495	LOWCHES	August	1989	11.0	23.0	25.0	0.70	120.00	10.00
496	LOWCHES	September	1989	11.0	27.0	23.0	0.68	180.00	12.00
497	LOWCHES	November	1989	11.0		12.0	0.41	20.00	1.00
498	LOWCHES	December	1988	11.0	25.0	7.0	0.43	20.00	2.00
499	WAQ	March	1992-1994			3.0	0.58	45.00	-10.00
500	WAQ	May	1992-1994			14.0	3.38	155.00	40.00
501	WAQ	June	1992-1994			19.0	1.65	500.00	100.00
502	WAQ	July	1992-1994			21.5	2.83	590.00	50.00
503	WAQ	August	1992-1994			21.0	3.49	320.00	40.00
504	WAQ	September	1992-1994			21.0	4.53	160.00	0.00
505	WAQ	October	1992-1994			16.0	3.49	110.00	-10.00
506	WAQ	November	1992-1994			10.5	1.70	150.00	-10.00
507	PAM		1977-1978			2.5	1.54	0.00	-1.00
508	PAM		1977-1978			5.0	1.92	100.00	-5.00
509	PAM		1977-1978			9.0	2.23		9.00
510	PAM		1977-1978			10.0	1.84	90.00	0.00
511	PAM		1977-1978			14.0	2.23	90.00	10.00
512	PAM		1977-1978			17.0	2.42	400.00	10.00
513	PAM		1977-1978			19.0	2.92	100.00	10.00
514	PAM		1977-1978			20.0	1.84	250.00	9.00
515	PAM		1977-1978			21.0	2.92	150.00	10.00
516	PAM		1977-1978			24.0	4.53	260.00	20.00
517	CADIZ	January	1989	8.5			3.20	666.67	41.67
518	CADIZ	March	1989	8.5			4.80	625.00	83.33
519	CADIZ	May	1989	8.5			4.80	750.00	750.00
520	CADIZ	July	1989	8.5			6.40	958.33	875.00
521	CADIZ	July	1988	8.5	37.6	25.9	8.00	958.33	416.67
522	CADIZ	August	1988	8.5			3.84	1041.67	291.67
523	CADIZ	September	1988	8.5			3.20	833.33	208.33
524	CADIZ	November	1988	8.5			4.80	708.33	125.00
525	CADIZ	January	1989	0.5			2.88	375.00	166.67
526	CADIZ	March	1989	2.0			2.56	208.33	250.00
527	CADIZ	May	1989	2.0			3.84	583.33	250.00
528	CADIZ	July	1989	2.0			6.08	1583.33	333.33
529	CADIZ	May	1988	0.5			3.20		
530	CADIZ	June	1988	0.5			4.48		
531	CADIZ	July	1988	0.5	36.2	25.3	7.04	1333.33	208.33
532	CADIZ	August	1988	0.5			4.48	625.00	166.67
533	CADIZ	October	1988	0.5			3.20	500.00	125.00

#	Code	Estuary	Reference	State / Area	Country	Station
534	NAR	Narragansett Bay	Elderfield et al. 1981	RI	USA	Sabin Point
535	NAR	Narragansett Bay	Elderfield et al. 1981	RI	USA	Sabin Point
536	NAR	Narragansett Bay	Elderfield et al. 1981	RI	USA	Sabin Point
537	NAR	Narragansett Bay	Elderfield et al. 1981	RI	USA	Sabin Point
538	NAR	Narragansett Bay	Elderfield et al. 1981	RI	USA	Sabin Point
539	NAR	Narragansett Bay	Elderfield et al. 1981	RI	USA	Rumstick Neck
540	NAR	Narragansett Bay	Elderfield et al. 1981	RI	USA	Jamestown North
541	NAR	Narragansett Bay	Elderfield et al. 1981	RI	USA	Jamestown North
542	NAR	Narragansett Bay	Elderfield et al. 1981	RI	USA	Warwick Neck
543	NAR	Narragansett Bay	Elderfield et al. 1981	RI	USA	Brenton Reef
544	NAR	Narragansett Bay	Elderfield et al. 1981	RI	USA	Brenton Reef
545	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	1
546	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	1
547	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	1
548	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	1
549	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	2
550	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	2
551	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	2
552	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	2
553	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	3
554	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	3
555	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	3
556	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	3
557	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	4
558	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	4
559	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	4
560	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	4
561	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	5
562	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	5
563	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	5
564	OCH	Ochlockonee Bay	Seitzinger 1987	FL	USA	5
565	GULF	Gulf of Mexico	Flint and Kamykowski	TX	USA	2
566	GULF	Gulf of Mexico	Flint and Kamykowski	TX	USA	2
567	GULF	Gulf of Mexico	Flint and Kamykowski	TX	USA	2
568	GULF	Gulf of Mexico	Flint and Kamykowski	TX	USA	2
569	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	1
570	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	1
571	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	1
572	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	2
573	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	2
574	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	2

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
534	NAR	January	1976			5.0		75.00	37.50
535	NAR	July	1976			12.0		191.67	37.50
536	NAR	August	1975			13.0		500.00	233.33
537	NAR	July	1977			12.5		479.17	87.50
538	NAR	August	1977			10.0		408.33	31.25
539	NAR	August	1975					270.83	37.50
540	NAR	January	1976			5.0		11.67	4.17
541	NAR	August	1976			11.0		120.83	20.83
542	NAR	August	1977			10.0		75.00	12.50
543	NAR	September	1977			13.0		120.83	8.33
544	NAR	October	1977			9.0		4.17	0.00
545	OCH	March	1985	1.0	0.0	17.0	0.20	6.00	
546	OCH	April	1984	2.0	0.0	21.0	0.62	2.00	
547	OCH	June	1984	2.0	0.0	25.0	0.20	46.00	
548	OCH	November	1984	1.5	8.0	16.0	0.36	-6.00	
549	OCH	March	1985	1.5	4.0	17.0	0.61	8.00	
550	OCH	April	1984	1.3	0.0	21.0	0.52	16.00	
551	OCH	June	1984	1.5	0.0	25.0	0.47	63.00	
552	OCH	November	1984	1.5	14.0	16.0	0.35	-6.00	
553	OCH	March	1985	2.0	15.0	17.0	0.38	2.00	
554	OCH	April	1984	1.0	0.0	21.0	0.48	4.00	
555	OCH	June	1984	2.0	1.0	25.0	0.47	83.00	
556	OCH	November	1984	2.0	14.0	16.0	0.40	-12.00	
557	OCH	March	1985	2.0	15.0	17.0	0.60	2.00	
558	OCH	April	1984	2.0	2.0	21.0	0.71	-61.00	
559	OCH	June	1984	1.5	14.0	25.0	0.52	78.00	
560	OCH	November	1984	2.0	18.0	16.0	0.24	-2.00	
561	OCH	March	1985	3.3	22.0	17.0	0.78	26.00	
562	OCH	April	1984	3.3	6.0	21.0	0.48	105.00	
563	OCH	June	1984	3.3	27.0	25.0	0.43	15.00	
564	OCH	November	1984	1.3	2.0	16.0	0.15	5.00	
565	GULF	January	1983	14.0			3.01	42.70	
566	GULF	July	1981	14.0	34.5	30.0	2.27	70.70	
567	GULF	August	1982	14.0			5.06	314.60	
568	GULF	October	1981	14.0	29.2	27.0	1.03	42.70	
569	GAL	March	1993	2.1		15.0	0.35	45.20	3.50
570	GAL	May	1993	2.1	0.2	22.4	0.10	0.40	0.60
571	GAL	July	1993	2.1	0.2	29.5	0.18	-0.20	3.10
572	GAL	March	1993	2.9		15.0	0.03	3.10	-0.30
573	GAL	May	1993	2.9	2.9	22.7	0.17	2.70	-1.10
574	GAL	July	1993	2.9	2.5	29.4	0.22	0.60	1.50

#	Code	Estuary	Reference	State / Area	Country	Station
575	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	3
576	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	3
577	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	3
578	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	4
579	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	4
580	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	4
581	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	5
582	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	5
583	GAL	Galveston Bay	Zimmerman and Benner	TX	USA	5
584	BUZ	Buzzards Bay	Banta et al. 1995	MA	USA	WIS
585	BUZ	Buzzards Bay	Banta et al. 1995	MA	USA	WIS
586	BUZ	Buzzards Bay	Banta et al. 1995	MA	USA	WIS
587	BUZ	Buzzards Bay	Banta et al. 1995	MA	USA	WIS
588	BUZ	Buzzards Bay	Banta et al. 1995	MA	USA	WIS
589	BUZ	Buzzards Bay	Banta et al. 1995	MA	USA	WIS
590	BUZ	Buzzards Bay	Banta et al. 1995	MA	USA	WIS
591	BUZ	Buzzards Bay	Banta et al. 1995	MA	USA	WIS
592	BUZ	Buzzards Bay	Banta et al. 1995	MA	USA	WIS
593	BUZ	Buzzards Bay	Banta et al. 1995	MA	USA	WIS
594	BUZ	Buzzards Bay	Banta et al. 1995	MA	USA	WIS
595	BUZ	Buzzards Bay	Rowe et al. 1975	MA	USA	Buzzards Bay
596	BUZ	Buzzards Bay	Rowe et al. 1975	MA	USA	Buzzards Bay
597	BUZ	Buzzards Bay	Rowe et al. 1975	MA	USA	Buzzards Bay
598	BUZ	Buzzards Bay	Rowe et al. 1975	MA	USA	Buzzards Bay
599	BUZ	Buzzards Bay	Rowe et al. 1975	MA	USA	Eel Pond
600	KIB	Kiel Bight	Balzer et al. 1984	Baltic Sea	Europe	Study Site
601	KIB	Kiel Bight	Balzer et al. 1984	Baltic Sea	Europe	Study Site
602	KIB	Kiel Bight	Balzer et al. 1984	Baltic Sea	Europe	Study Site
603	BER	Castle Harbor	Smith et al. 1972	Bermuda	Bermuda	1
604	BER	Castle Harbor	Smith et al. 1972	Bermuda	Bermuda	2
605	BER	Castle Harbor	Smith et al. 1972	Bermuda	Bermuda	1
606	BER	Castle Harbor	Smith et al. 1972	Bermuda	Bermuda	2
607	YRK	York River	Rizzo 1990	VA	USA	Gloucester Point
608	YRK	York River	Rizzo 1990	VA	USA	Gloucester Point
609	YRK	York River	Rizzo 1990	VA	USA	Gloucester Point
610	YRK	York River	Rizzo 1990	VA	USA	Gloucester Point
611	YRK	York River	Rizzo 1990	VA	USA	Gloucester Point
612	YRK	York River	Rizzo 1990	VA	USA	Gloucester Point
613	YRK	York River	Rizzo 1990	VA	USA	Gloucester Point
614	YRK	York River	Rizzo 1990	VA	USA	Gloucester Point
615	NUEC	Nueces Estuary	Yoon and Benner 1992	TX	USA	A, B, C, D

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
575	GAL	March	1993	2.8		17.5	0.07	18.20	2.40
576	GAL	May	1993	2.8	5.8	22.7	0.18	3.50	-1.00
577	GAL	July	1993	2.8	4.8	29.4	0.27	-3.90	-2.60
578	GAL	March	1993	2.4		17.0	0.05	45.10	-0.60
579	GAL	May	1993	2.4	13.5	23.9	0.05	13.80	0.30
580	GAL	July	1993	2.4	24.0	29.6	0.18	7.60	2.40
581	GAL	March	1993	1.8		17.5	0.05	5.60	-0.60
582	GAL	May	1993	1.8	11.7	24.1	0.09	4.10	0.00
583	GAL	July	1993	1.8	7.7	30.3	0.19	29.80	1.90
584	BUZ	May	1988	15.0		15.0	0.61		
585	BUZ	August	1988	15.0		22.0	0.64		
586	BUZ	September	1988	15.0		20.0	0.54		
587	BUZ	January	1989	15.0		6.0	0.22		
588	BUZ	March	1989	15.0		6.0	0.26		
589	BUZ	April	1989	15.0		12.0	0.70		
590	BUZ	May	1989	15.0		17.0	0.61		
591	BUZ	June	1989	15.0		19.0	0.58		
592	BUZ	July	1989	15.0		20.0	0.61		
593	BUZ	August	1989	15.0		23.0	0.74		
594	BUZ	September	1989	15.0		20.0	0.64		
595	BUZ	November	1973	17.0		7.7	0.75	68.80	
596	BUZ	January	1974	17.0		1.5	0.37	2.56	4.28
597	BUZ	February	1974	17.0		1.6	0.35	18.70	5.17
598	BUZ	June	1974	17.0		16.0	1.42	124.00	-14.87
599	BUZ	July	1973	2.0		20.0	1.05	84.69	15.88
600	KIB	May	1982	20.0			0.33	19.83	2.63
601	KIB	August	1982	20.0			0.23	27.79	3.04
602	KIB	January	1982	20.0			0.13	5.58	0.67
603	BER	April	1971	1.5		19.0	0.70		
604	BER	May	1971	1.5		23.1	0.65		
605	BER	April	1971	1.5		19.0	0.78		
606	BER	May	1971	1.5		23.1	0.83		
607	YRK	March	1983				0.50	70.00	5.00
608	YRK	April	1983				0.10	10.00	2.00
609	YRK	May	1983				0.60	10.00	1.50
610	YRK	June	1983			25.0	1.85	205.00	41.50
611	YRK	August	1983				1.45	295.00	10.50
612	YRK	October	1983				1.05	210.00	7.00
613	YRK	November	1983				0.95	-10.00	-1.50
614	YRK	December	1983				0.20	-20.00	-1.00
615	NUEC	January	1989			16.0	0.15		

#	Code	Estuary	Reference	State / Area	Country	Station
616	NUEC	Nueces Estuary	Yoon and Benner 1992	TX	USA	A, B, C, D
617	NUEC	Nueces Estuary	Yoon and Benner 1992	TX	USA	A, B, C, D
618	GUAD	Guadalupe Estuary	Yoon and Benner 1992	TX	USA	A, B, C
619	GUAD	Guadalupe Estuary	Yoon and Benner 1992	TX	USA	A, B, C
620	GUAD	Guadalupe Estuary	Yoon and Benner 1992	TX	USA	A, B, C
621	LAJ	La Jolla Bight-Pacific Ocean	Hartwig 1974	CA	USA	SIO
622	LAJ	La Jolla Bight-Pacific Ocean	Hartwig 1974	CA	USA	SIO
623	LAJ	La Jolla Bight-Pacific Ocean	Hartwig 1974	CA	USA	SIO
624	LAJ	La Jolla Bight-Pacific Ocean	Hartwig 1974	CA	USA	SIO
625	LAJ	La Jolla Bight-Pacific Ocean	Hartwig 1974	CA	USA	SIO
626	LAJ	La Jolla Bight-Pacific Ocean	Hartwig 1974	CA	USA	SIO
627	LAJ	La Jolla Bight-Pacific Ocean	Hartwig 1974	CA	USA	SIO
628	LAJ	La Jolla Bight-Pacific Ocean	Hartwig 1974	CA	USA	SIO
629	LAJ	La Jolla Bight-Pacific Ocean	Hartwig 1974	CA	USA	SIO
630	LAJ	La Jolla Bight-Pacific Ocean	Hartwig 1974	CA	USA	SIO
631	LAJ	La Jolla Bight-Pacific Ocean	Hartwig 1974	CA	USA	SIO
632	LAJ	La Jolla Bight-Pacific Ocean	Hartwig 1974	CA	USA	SIO
633	GAB	Georgia Bight	Hopkinson and Wetzel 1982	GA	USA	Sappelo Island
634	POT	Potomac River	Callender and Hammond 1982	VA-MD	USA	V-SM
635	POT	Potomac River	Callender and Hammond 1982	VA-MD	USA	V-3
636	POT	Potomac River	Callender and Hammond 1982	VA-MD	USA	V-PP
637	POT	Potomac River	Callender and Hammond 1982	VA-MD	USA	V-BB
638	POT	Potomac River	Callender and Hammond 1982	VA-MD	USA	V-PT
639	POT	Potomac River	Callender and Hammond 1982	VA-MD	USA	V-16
640	POT	Potomac River	Callender and Hammond 1982	VA-MD	USA	V-PC
641	POT	Potomac River	Callender and Hammond 1982	VA-MD	USA	V-Q
642	POT	Potomac River	Callender and Hammond 1982	VA-MD	USA	V-26
643	GBN	Great Bay	Lyons et al. 1982	NH	USA	JEL Cove
644	GBN	Great Bay	Lyons et al. 1982	NH	USA	Squamscott River
645	LNC	Lagoon of New Caledonia	Boucher et al. 1994	South-west Lagoon	New Caledonia	MD
646	LNC	Lagoon of New Caledonia	Boucher et al. 1994	South-west Lagoon	New Caledonia	GSB
647	LNC	Lagoon of New Caledonia	Boucher et al. 1994	South-west Lagoon	New Caledonia	WSB
648	LEN	Lendrup Strand	Henriksen et al. 1980	Limfjorden	Denmark	Dark Control
649	LEN	Lendrup Strand	Henriksen et al. 1980	Limfjorden	Denmark	Dark Control
650	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	1
651	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	3
652	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	4
653	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	5
654	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	6
655	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	11
656	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	12

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
616	NUEC	May	1989			23.0	0.20	41.10	
617	NUEC	August	1988			30.0	0.33		
618	GUAD	January	1989			16.0	0.18		
619	GUAD	May	1989			23.0	0.36	37.70	
620	GUAD	October	1988			24.0	0.37	68.60	
621	LAJ	January	1972	18.5		13.0		35.42	3.33
622	LAJ	February	1972	18.5		13.3		41.67	2.08
623	LAJ	March	1972	18.5		14.0		33.33	2.92
624	LAJ	April	1972	18.5		12.8		29.17	6.25
625	LAJ	May	1972	18.5		11.0		45.83	1.04
626	LAJ	June	1972	18.5		13.8		79.17	9.79
627	LAJ	July	1972	18.5		15.8		16.67	-0.63
628	LAJ	August	1972	18.5		15.5		20.83	0.96
629	LAJ	September	1972	18.5		14.0		0.00	3.13
630	LAJ	October	1972	18.5		17.0		32.29	7.29
631	LAJ	November	1972	18.5		14.0		60.42	0.31
632	LAJ	December	1972	18.5		16.0		18.75	6.25
633	GAB	July		3.7	33.0	28.0	2.90	165.00	36.67
634	POT	August	1979	7.0				458.33	91.67
635	POT	August	1979	10.0			0.61	0.00	66.67
636	POT	August	1979	12.0				37.50	29.17
637	POT	August	1979	10.0			0.12	666.67	
638	POT	August	1979	3.0			1.70	229.17	23.75
639	POT	August	1979	7.0			0.86	291.67	8.33
640	POT	August	1979	3.0			0.75	541.67	30.00
641	POT	August	1979	5.0			1.34	166.67	19.58
642	POT	August	1979	9.0				183.33	4.17
643	GBN	July		1.0		22.0	0.01	97.00	11.60
644	GBN	July		1.0		22.0	0.02	67.00	-7.50
645	LNC	Dec. and Jan.	1991-92	14.0			1.12		
646	LNC	Dec. and Jan.	1991-92	13.0			2.28		
647	LNC	Dec. and Jan.	1991-92	13.0			1.38		
648	LEN	July	1978			18.0		190.00	
649	LEN	October	1978			11.0		30.00	
650	BLK	August	1995	57.0			0.80		
651	BLK	August	1995	134.0			0.32		
652	BLK	August	1995	69.0			0.32		
653	BLK	August	1995	58.0			0.16		
654	BLK	August	1995	20.0			1.28		
655	BLK	August	1995	12.0			0.96		
656	BLK	August	1995	53.0			1.60		

#	Code	Estuary	Reference	State / Area	Country	Station
657	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	14
658	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	16
659	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	17
660	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	18
661	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	19
662	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	20
663	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	22
664	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	23
665	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	24
666	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	25
667	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	26
668	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	28
669	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	29
670	BLK	Black Sea	Wijsman et al. 1999	Black Sea	Europe	30
671	LAS	Louisiana Shelf	Miller-Way et al. 1994	LA	USA	Shelf
672	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Segar Cove
673	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Segar Cove
674	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Segar Cove
675	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Segar Cove
676	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Segar Cove
677	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Segar Cove
678	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Segar Cove
679	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Segar Cove
680	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Segar Cove
681	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Segar Cove
682	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Whaleboat Point
683	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Whaleboat Point
684	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Whaleboat Point
685	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Whaleboat Point
686	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Whaleboat Point
687	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Whaleboat Point
688	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Whaleboat Point
689	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Whaleboat Point
690	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Whaleboat Point
691	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Whaleboat Point
692	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Wakamo
693	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Wakamo
694	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Wakamo
695	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Wakamo
696	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Wakamo
697	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Wakamo

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
657	BLK	August	1995	63.0			0.80		
658	BLK	August	1995	16.0			0.80		
659	BLK	August	1995	26.0			1.28		
660	BLK	August	1995	45.0			0.80		
661	BLK	August	1995	21.0			0.96		
662	BLK	August	1995	25.0			1.28		
663	BLK	August	1995	27.0			0.96		
664	BLK	August	1995	49.0			0.64		
665	BLK	August	1995	27.0			0.64		
666	BLK	August	1995	56.0			0.96		
667	BLK	August	1995	141.0			0.16		
668	BLK	August	1995	123.0			0.16		
669	BLK	August	1995	51.0			0.32		
670	BLK	August	1995	20.0			0.80		
671	LAS	April	1992	20.0		22.0	1.00	98.30	-9.30
672	POP	Oct. - Oct.	1979-1981			7.0		20.00	-2.00
673	POP	Oct. - Oct.	1979-1981			7.0		30.00	-4.00
674	POP	Oct. - Oct.	1979-1981			11.0		50.00	-9.00
675	POP	Oct. - Oct.	1979-1981			11.0		100.00	-10.00
676	POP	Oct. - Oct.	1979-1981			14.0		100.00	0.00
677	POP	Oct. - Oct.	1979-1981			14.0		60.00	0.00
678	POP	Oct. - Oct.	1979-1981			24.0		420.00	20.00
679	POP	Oct. - Oct.	1979-1981			24.0		370.00	12.00
680	POP	Oct. - Oct.	1979-1981			26.0		150.00	10.00
681	POP	Oct. - Oct.	1979-1981			26.0		200.00	8.00
682	POP	Oct. - Oct.	1979-1981			15.0		20.00	1.00
683	POP	Oct. - Oct.	1979-1981			15.0		40.00	2.00
684	POP	Oct. - Oct.	1979-1981			15.0		50.00	3.00
685	POP	Oct. - Oct.	1979-1981			15.0		60.00	10.00
686	POP	Oct. - Oct.	1979-1981			15.0		70.00	19.00
687	POP	Oct. - Oct.	1979-1981			25.0		70.00	10.00
688	POP	Oct. - Oct.	1979-1981			26.0		440.00	9.00
689	POP	Oct. - Oct.	1979-1981			26.0		220.00	33.00
690	POP	Oct. - Oct.	1979-1981			27.0		300.00	40.00
691	POP	Oct. - Oct.	1979-1981			27.0		310.00	42.00
692	POP	Oct. - Oct.	1979-1981			4.0		0.00	-8.00
693	POP	Oct. - Oct.	1979-1981			4.0		30.00	-6.00
694	POP	Oct. - Oct.	1979-1981			17.0		0.00	-10.00
695	POP	Oct. - Oct.	1979-1981			17.0		40.00	-5.00
696	POP	Oct. - Oct.	1979-1981			18.0		0.00	0.00
697	POP	Oct. - Oct.	1979-1981			18.0		10.00	2.00

#	Code	Estuary	Reference	State / Area	Country	Station
698	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Wakamo
699	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Wakamo
700	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Wakamo
701	POP	Potter Pond	Nowicki and Nixon 1985	RI	USA	Wakamo

				(m)		(°C)	(gO ₂ m ⁻² day ⁻¹)	(μmole m ⁻² hour ⁻¹)	(μmole m ⁻² hour ⁻¹)
#	Code	Month	Year	Depth	Salinity	Temp.	SOC	Ammonium Flux	Phosphate Flux
698	POP	Oct. - Oct.	1979-1981			20.0		10.00	9.00
699	POP	Oct. - Oct.	1979-1981			20.0		10.00	11.00
700	POP	Oct. - Oct.	1979-1981			23.0		0.00	0.00
701	POP	Oct. - Oct.	1979-1981			23.0		60.00	2.00