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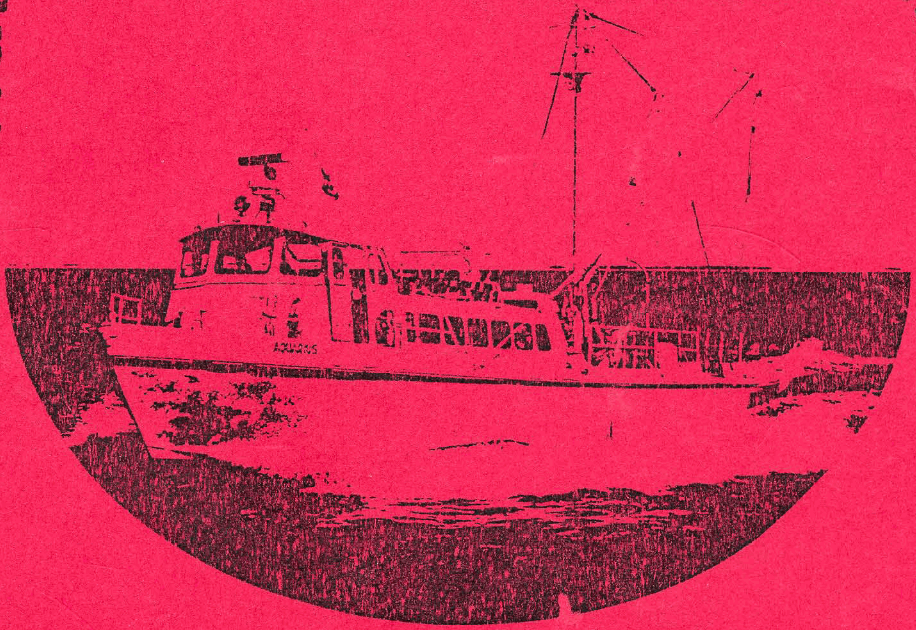
Chesapeake Bay

Water Quality Monitoring Program

ECOSYSTEM PROCESSES COMPONENT



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MARYLAND OFFICE OF ENVIRONMENTAL PROGRAMS

MARYLAND CHESAPEAKE BAY WATER QUALITY MONITORING PROGRAM

ECOSYSTEM PROCESSES COMPONENT (EPC)

LEVEL I DATA REPORT NO. 3

(July 1985 - May 1986)

PREPARED FOR:

Office of Environmental Programs
Dept. Health & Mental Hygiene
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1. ABSTRACT

1.1 Program Objectives

The primary objectives of the Ecosystem Processes Component (EPC) of the Maryland Chesapeake Bay Water Quality Monitoring Program are to:

1) characterize the present state of the bay (including spatial and seasonal variation) relative to sediment-water nutrient exchanges and oxygen consumption and the rate at which organic and inorganic particulate materials reach deep waters and the sediment surface.
2) determine the long-term trends that might develop in sediment-water exchanges and vertical deposition rates in response to pollution control programs.
3) integrate the information collected in this program with other elements of the monitoring program to gain a better understanding of the processes affecting Chesapeake Bay water quality and its impact on living resources.

Measurements of sediment-water nutrient and oxyen exchanges are made on a quarterly basis at four locations in the mainstem Bay, and at two key location in each of three major tributary rivers (Patuxent, Choptank, and Potomac). Vertical deposition rates are monitored at one mainstem Bay location, in the central anoxic region. Measurements are made almost continuously during the spring and summer periods, with a lower frequency during the fall and winter. Activities in this program have been coordinated with other components of the Maryland Chesapeake Bay Water Quality Monitoring Program in terms of station locations, sampling frequency, methodologies, data storage and transmission, reporting schedules and data synthesis.

1.2 Justification

Recently, it has been shown that sediment-water processes and deposition of organic matter to the sediment surface are major features of estuarine nutrient cycles and play an important role in determining water quality and habitat conditions. For example, it has been found that during summer periods, when water quality conditions are typically poorest (i.e. anoxic conditions in deep water, algal blooms), sediment releases of nutrients (e.g. nitrogen, phosphorus) and consumption of oxygen are often highest as is the rate of organic matter deposition to the deep waters of the Bay. To a considerable extent, it is the magnitude of these processes which determines nutrient and oxygen water quality conditions in many zones of the Bay. Ultimately, these processes are driven by inputs of organic matter and nutrients from both natural and anthropogenic sources. If water quality management programs are instituted and loadings decrease, changes in the magnitude of the processes monitored in this program will serve as a guide in determining the effectiveness of strategies aimed at improving Bay water quality and habitat conditions.

2. INTRODUCTION

During the past decade much has been learned about the effects of nutrient inputs (e.g. nitrogen, phosphorus, silica), from both natural and anthropogenic sources, on such important estuarine processes as phytoplankton production and oxygen status (Nixon 1981; D'Elia et al. 1983). While our understanding is not complete, important pathways regulating these processes have also been identified and related to water quality conditions. For example, it has been shown that annual algal primary production and maximum algal biomass levels in many estuaries (including portions of Chesapeake Bay) are related to the magnitude of nutrient loading from all types of sources (Boynton et al. 1982a). It has also been found that high, and at times excessive, algal production is sustained through the summer and fall periods by the recycling of essential nutrients which had entered the estuary previous to periods exhibiting eutrophic characteristics. Similarly, sediment oxygen demand (SOD) has been found to be related to the amount of organic matter reaching the sediment surface and the magnitude of this demand is sufficiently high in many regions to be a major oxygen sink (Hargrave 1969; Kemp and Boynton 1980).

The delay between nutrient additions and the response of algal communities suggests that there are mechanisms whereby nutrients are retained in estuaries, such as the Chesapeake, and can be mobilized for use at later dates. Research conducted in Chesapeake Bay and other estuaries has shown that estuarine sediments can act as both important storages and sources for nutrients as well as important sites of intense oxygen consumption (Kemp and Boynton, 1984). For example, during summer periods in the Choptank and Patuxent estuaries, 40-70% of the total oxygen utilization was associated with sediments and 25-70% of algal nitrogen demand was supplied from estuarine sediments (Boynton et al. 1982b).

Processes of this magnitude have a pronounced effect on estuarine water quality and habitat conditions. In terms of storage, sediments in much of Chesapeake Bay, especially the upper Bay and tributary rivers, contain large amounts of carbon, nitrogen, phosphorus and other compounds. It appears that a large percentage of this material reaches the sediments during the warm periods of the year and that some portion is available to regenerative processes and hence for continued algal utilization. Nutrients, and other materials deposited or buried in sediments, represent the potential "water quality memory" of the Bay.

2.1 Justification

Processes associated with estuarine sediments have a considerable influence on water quality and habitat conditions in the Bay and it's tributaries. In a simplified fashion, nutrients and organic matter enter the Bay from a variety of sources, including sewage treatment plant effluents, fluvial inputs, local non-point drainage and direct rainfall on Bay waters. It appears that dissolved nutrients are rapidly removed from the water column via biological, chemical and physical mechanisms and much of this material then sinks to the bottom where it is remineralized. These essential nutrients are then utilized by algal communities, a portion of which in turn sink to the bottom, contributing to the development of anoxic conditions and loss of habitat for important infaunal, shellfish and demersal fish communities. The regenerative capacities and the potentially large nutrient storages in bottom sediments ensure a large return flux of nutrients from sediments to the water column and sustain continued phytoplankton growth, deposition of organics to deep waters and anoxic conditions typically associated with eutrophying estuarine systems.

It is within the context of this model that a monitoring study of deposition, sediment oxygen demand and sediment nutrient regeneration has been initiated. The rationale is that if nutrient and organic matter loading to the Bay is decreased then the cycle of deposition to sediments, sediment oxygen demand, release of nutrients and continued high algal production will also be decreased. Since these benthic processes are important in influencing water quality conditions, changes in these processes will serve as important indications as to the effectiveness of nutrient control actions.

2.2 Objectives

The primary objectives of the Ecosystem Processes Component (EPC) of the Maryland Chesapeake Bay Water Quality Monitoring Program are to:

1) characterize the present state of the bay (including spatial and seasonal variation) relative to sediment-water nutrient exchanges and oxygen consumption and the rate at which organic and inorganic particulate materials reach deep waters and the sediment surface.
2) determine the long-term trends that might develop in sediment water exchanges and vertical deposition rates in response to pollution control programs.
3) integrate the information collected in this program with other elements of the monitoring program to gain a better understanding of the processes affecting Chesapeake Bay water quality and its impact on living resources.

3. PROJECT DESCRIPTION

3.1 Sampling Locations

3.1.1 General

Sampling locations for both the sediment oxygen and nutrient exchange study (SONE) and the vertical flux study (VFX) are shown in Figure 3-1. Brief descriptions and exact locations of SONE and VFX stations are given in Table 3-1 referenced to OEP station numbers. Four of the 10 stations sampled as part of the SONE study are located along the salinity gradient in the mainstem Bay between Point No Point (north of the mouth of the Potomac River) and Still Pond Neck (20 km south of the Susquehanna River mouth). Two additional stations were located in each of three tributary rivers (Patuxent, Choptank and Potomac), one in the turbidity maximum or transition zone and one in the lower mesohaline region. The station monitored as part of the VFX study was located in the mainstem of the Bay in the central anoxic region (Fig. 3-1).

3.1.2 Justification of Station Locations

Locations of SONE stations (Fig.3-1 and Table 3-1) were selected based on prior knowledge of the general patterns of sediment-water nutrient and oxygen exchanges in Chesapeake Bay. Several earlier studies (Boynton et al. 1980, 1984 and Boynton and Kemp 1985) reported the following: 1) along the mainstem of the Bay fluxes were moderate in the upper Bay, reached a maxima in the mid-Bay and were lower in the higher salinity regions and, 2) fluxes in the transition zone of tributaries were much larger than those observed in the higher salinity downstream portions of tributaries. Hence, a series of stations were located along the mainstem from Still Pond Neck in the upper Bay to Point No Point near the mouth of the Potomac River. A pair of stations were established in three

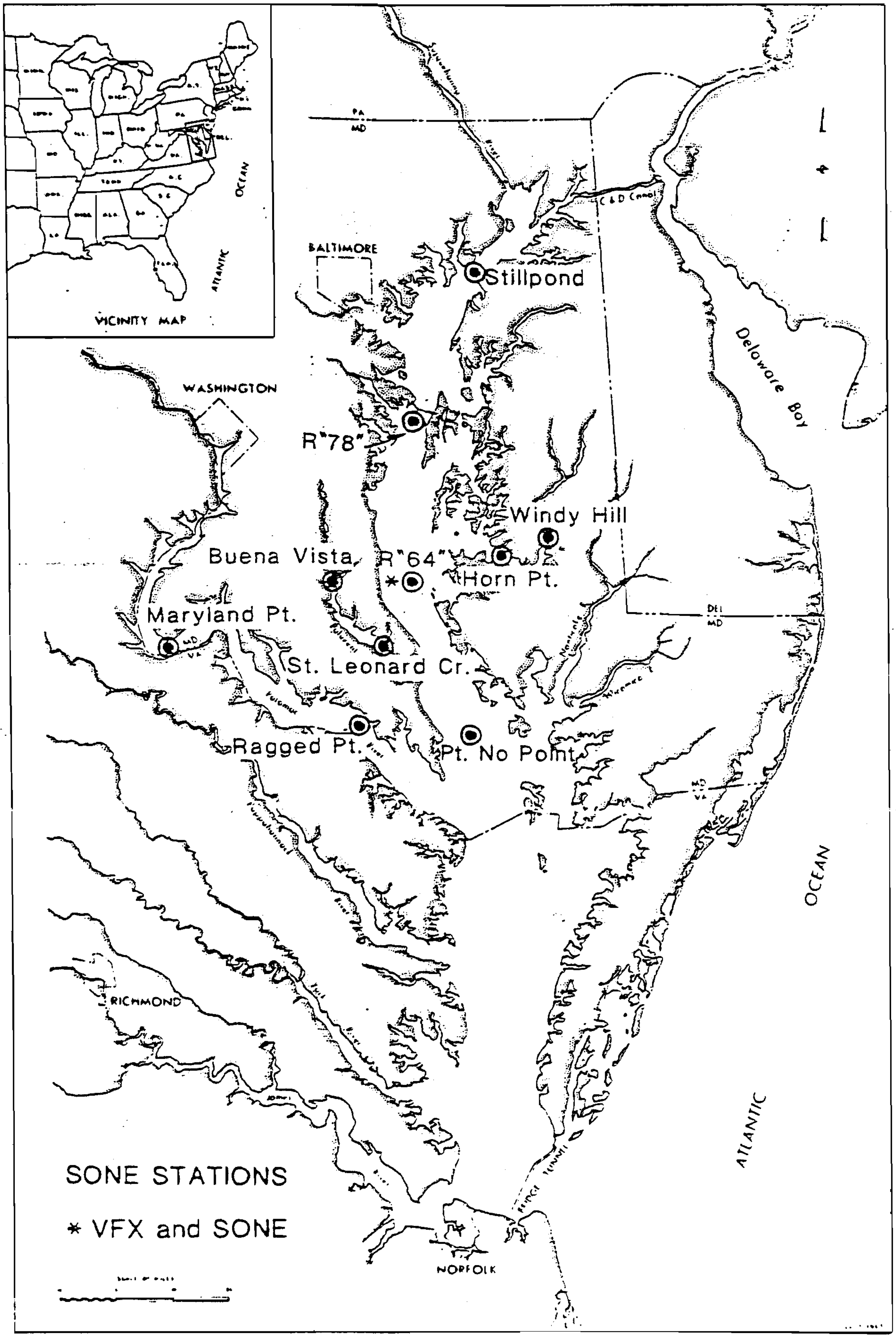


Fig. 3-1. Locations of SONE and VFX monitoring stations in the Maryland portion of Chesapeake Bay.

Table 3. Locations and descriptions of stations sampled as part of the Ecosystem Processes Component of the Monitoring Program.

Bay Sediment	Station Name	Code Name (Nearent OEP Station)	General Location	Latitude & Longitude	Total Depth, m	Salinity Characteristics
Patuxent River	Buena Vista	Bu. Vista (XDE 9401)	0.75 naut. mi N of Rt. 231 Bridge at Benedict, MD 40KM	38°30.96[1] 76°39.85	3-4	Oligohaline
	St. Leonard Creek	St. Leo (XDE 2792)	7.5 naut. mi of upstream of Patuxent River mouth	38°22.74 76°30.08	6-7	Mesohaline
Choptank River	Windy Hill	Wind. HL (NONE)	10.0 naut. mi upstream of Rt. 50 bridge at Cambridge, MD	38°41.43 75°58.42	3-4	Oligohaline
	Horn Point	Horn. Pt. (MET5.2)	4.0 naut. mi downstream Rt. 50 bridge at Cambridge, MD	38°37.07 76°07.80	7-8	Mesohaline
Potomac River	Maryland Point	Md. Pt. (XDA 1177)	1250 yds. SE of buoy R-18	38°21.36 77°11.52	9-10	Oligohaline
	Ragged Point	Rag. Pt. (XBE 9541)	1.5 naut. mi WNW of BW "51B"	38°09.77 76°35.58	13-14	Mesohaline
Chesapeake Mainstem	Still Pond	Stil. Pd. (MCB2.2)	700 yds. W of channel marker "41"	39? yes 37°20.91 ? 76°10.87	9-10	Oligohaline
	Buoy R-78	R-78 (MCB3.3C)	200 yds. NNW of channel buoy "78"	38°57.28 76°23.58	15-16	Oligo-Meso haline
	Buoy[2] R-64	R-64 (MCB4.3C)	300 yds. NE of channel buoy R-64	38°33.60 76°25.64	15-16	Mesohaline
	Point No Point	Pt. No. Pt. (MCB5.2)	3.2 naut. mi E of Pt. No Pt.	38°07.98 76°15.10	13-14	Mesohaline

[1]Seconds of latitude and longitude are expressed as hundreths of a minute.

[2]Also serves as the VFX Station.

tributaries (Potomac, Patuxent, and Choptank), one being in the transition zone and one in the lower estuary. In all cases station locations were selected having depths and sediment characteristics representative of the estuarine zone being monitored.

In a few instances (Patuxent stations and Choptank station at Horn Point) SONE stations are not located exactly at the same site as other Maryland Chesapeake Bay Water Quality Monitoring Program stations, although they are close ($\leq$ 10 km). The prime reason for this is that there is a considerable amount of benthic flux data already available from the SONE sites selected in the Patuxent and Choptank and these data can be used by the monitoring program. In all cases our stations and the OEP stations are in the same estuarine zone. Benthic fluxes have been found to be quite constant over small spatial scales (~10-20 km) given that measurements were taken in the same estuarine zone (similar salinity, sediments and depths) and hence this program retains a high degree of comparability with other program components (Boynton et al. 1982b).

The use of sediment trap methodology to determine the net vertical flux of particulate material is restricted to the deeper portions of the Bay. In shallower areas local resuspension of bottom sediments is sufficiently large to mask the downward flux of "new" material. Hence, sediment traps are not a useful tool in the upper reaches of the mainstem and in many tributary areas. The array (R 64; Fig. 3-1) is positioned near the center of the region experiencing seasonal anoxia to monitor the vertical flux of particulate organics reaching deeper waters. This location is close to, but does not exactly coincide with, OEP stations in this area. Since sediment traps are fixed pieces of gear exposed to damage and/or loss by commercial boat traffic, a location was selected not regularly used by such vessels, but still close to the OEP station.

3.2 Sampling Frequency

The sampling frequency for the SONE portion of this program is based on the seasonal patterns of sediment water exchanges observed in previous studies conducted in the Chesapeake Bay region (Kemp and Boynton 1980; Kemp and Boynton 1981; Boynton et al. 1982b; Boynton and Kemp 1985). These studies indicated that there are several distinct periods over an annual cycle including: 1) a period influenced by the presence of a large macrofaunal community (spring-early summer), 2) a period during which macrofaunal biomass is low but water temperature and water column metabolic activity high and anoxia prevalent in deeper waters (August), 3) a period in the fall when anoxia was not present and macrofaunal community abundance low but re-establishing and 4) an early spring period (April-May) when the spring phytoplankton bloom occurs, and water column nutrient concentrations are high (particularly nitrate). Previous studies also indicate that short-term temporal (day-month) variation in these exchanges is small but that there are considerable differences in the magnitude and characteristics of fluxes among distinctively different estuarine zones (i.e. tidal fresh vs. mesohaline regions). In light of these results, the monitoring design adopted for the SONE study involves quarterly measurements, as described above, distributed in zones characteristic of mainstem Chesapeake Bay and tributary rivers.

The selection of sampling frequency for the VFX (organic deposition) monitoring program is governed by different constraints, although compatible with SONE sampling frequencies. It appears that net depositional rates are largest during the warm seasons of the year (April-October) and considerably lower during winter periods (November-March). Resuspension of near-bottom sediments and organics in one tributary of the Bay (Patuxent) followed a similar pattern (Boynton et al. 1982b; Kemp and

Boynton 1984). However, there is some variability in warm season depositional rates, due probably to algal blooms (of short duration; days-week), variation in zooplankton grazing rates (week-month) and other, less well described, features of the Bay. Given the importance of obtaining inter-annual estimates of organic matter deposition rates to deep waters of the Bay, sampling is designed to be almost continuous during the summer period (July-August), of shorter duration during the generally smaller bloom periods of the spring and fall and only occasional during the low productivity, low depositional period of the winter (December-March). Direct measurements of organic deposition to Bay sediments is monitored 19 or more times per year. Vertical deposition rate measurements are coordinated with SONE measurements in that sediment-water exchanges are monitored at the end of each intensive VFX deployment period and also coincide with other Monitoring Program sampling activities. The sampling schedule for the period July 1985 - June 1986 is shown in Table 3-2 for this component of the Monitoring Program.

3.3 Field Methods

Details concerning methodologies have been described in the Ecosystem Processes Component Study Plan (Boynton et al. 1984). The following section provides an overview of field activities.

3.3.1 SONE Study

3.3.1.1 Water Column Profiles: At each of the 10 SONE stations, vertical water column profiles of temperature, salinity and oxygen are obtained at 2 m intervals from the surface to the bottom immediately prior to obtaining intact sediment cores for incubation. Near-surface (± 1m) and near-bottom (± 1m) water samples were also collected using a high volume submersible pump system. Samples are filtered, where appropriate, using

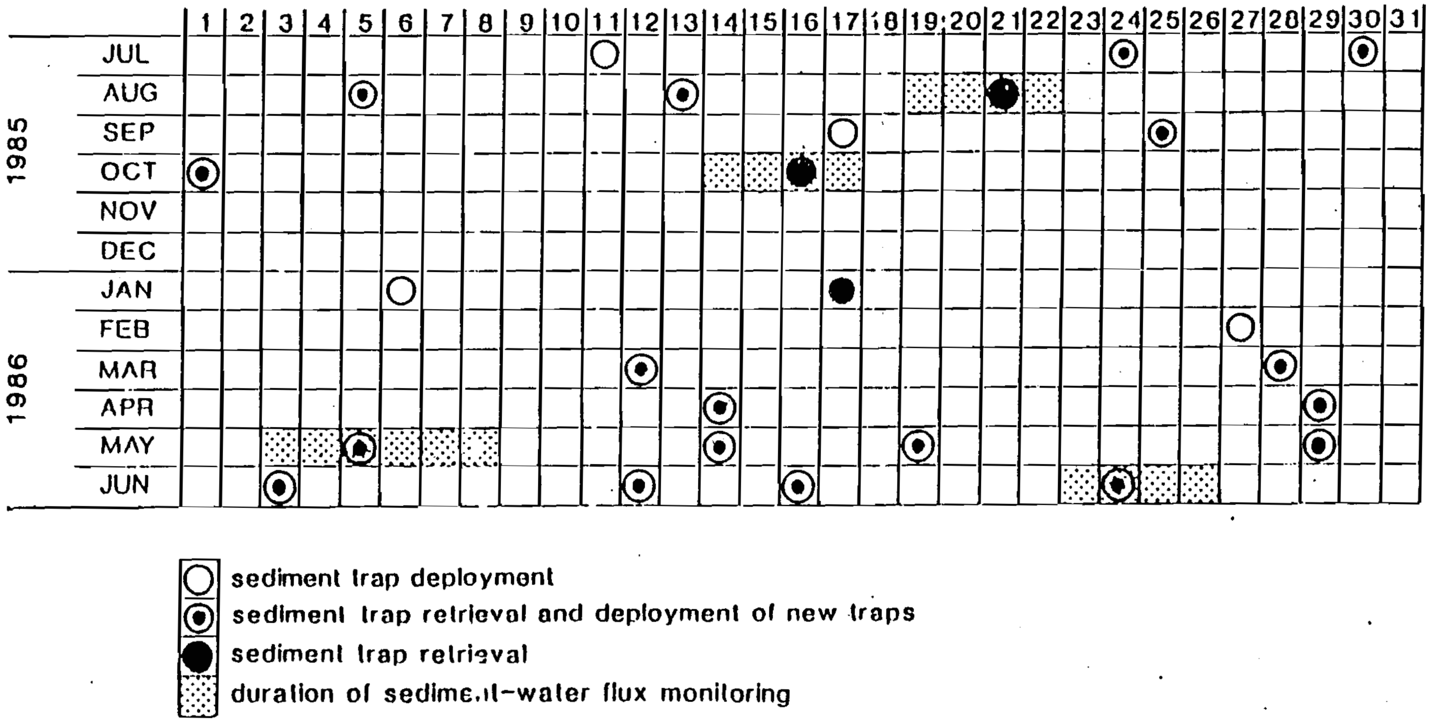


Fig. 3-2. Sampling schedule for VFX and SONE programs from July 1985 - June 1986.

0.7 um GF/F filter pads and immediately frozen. Samples are analyzed for the following dissolved nutrients and particulate materials: ammonium (NH_4^+), nitrate (NO_3^-), nitrite (NO_2^-), total dissolved nitrogen (DON), dissolved inorganic phosphorous (PO_4^{-3}), dissolved organic phosphorus (DOP), silicious acid ($Si(OH)_4$), particulate carbon (PC), particulate nitrogen (PN), particulate phosphorous (PP), chlorophyll-a and seston.

3.3.1.2 Sediment Cores: Intact sediment cores are obtained at each SONE station using a modified Bouma box corer. After deployment and retrieval of the box corer, the plexiglass liner containing the sediment sample is removed and visually inspected for disturbance. If the core appears satisfactory it is placed in a holding stand prior to further processing.

Three intact cores are used to estimate net exchanges of oxygen and dissolved nutrients between sediments and overlying waters (Fig. 3-3). Prior to beginning incubation, the overlying water in a core is replaced by bottom water to insure that water quality conditions in the core closely approximates in-situ conditions. Gentle circulation of water is maintained in the cores during the measurement period via the stirring devices attached to the O_2 probes. The rate of circulation does not induce sediment resuspension. The cores are placed in a darkened water bath to maintain ambient temperature. Oxygen concentrations are recorded every 15 minutes and water samples (30 ml) are extracted from each core every 30 minutes over the 2-5 hour incubation period. As a nutrient sample is extracted from a core, an equal amount of ambient bottom water is added. One additional sample of bottom water is incubated and sampled as described above and serves as a water blank. Water samples are filtered, immediately frozen and later analyzed for NH_4^+, NO_3^-, NO_2^-, PO_4^{-3} and $Si(OH)_4$ concentrations.

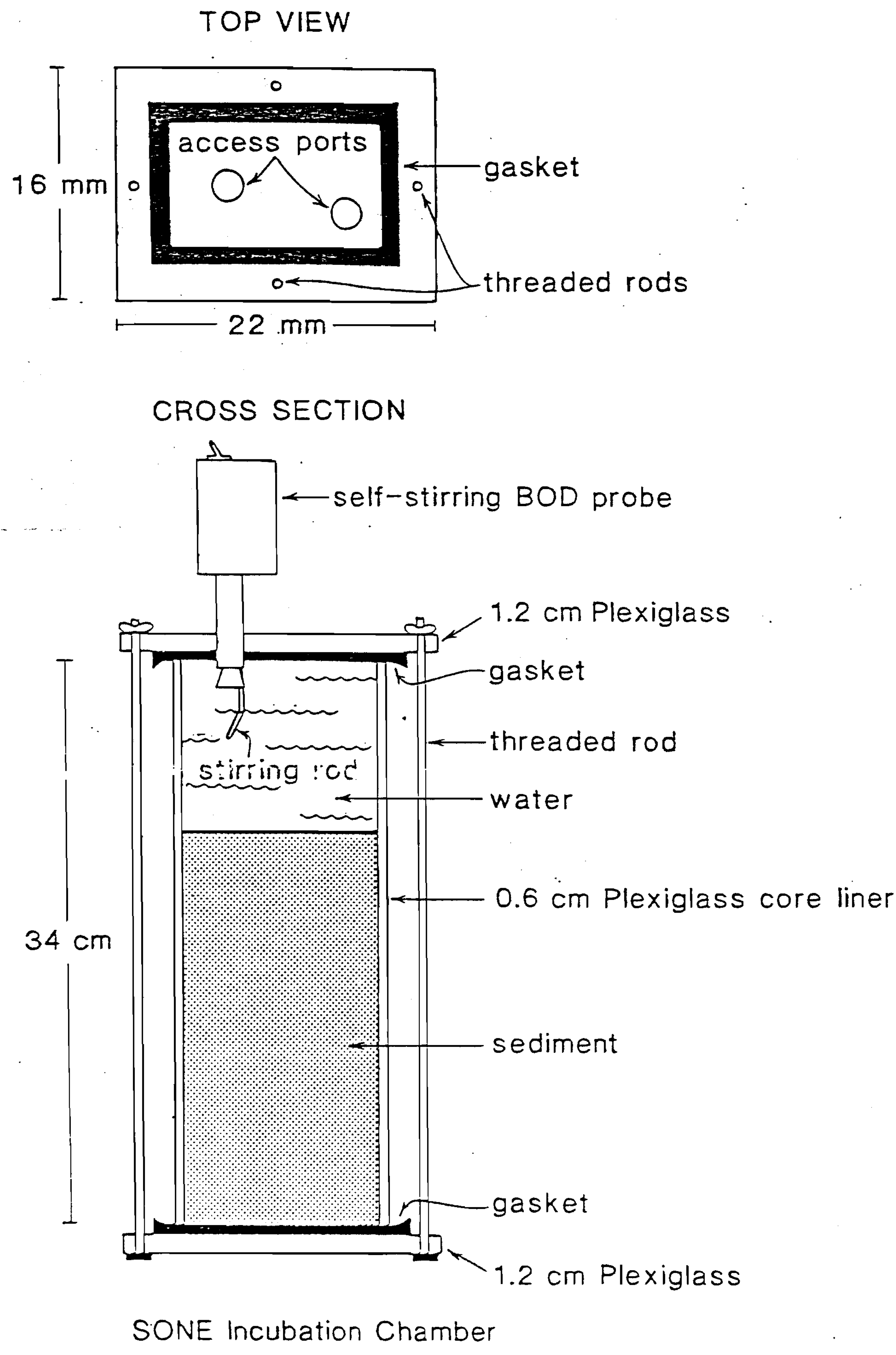
Nutrient and oxygen fluxes are estimated by calculating the mean rate of change in concentration over the incubation period and then converting the volumetric rate to a flux using the volume:area ratio of each core.

3.3.1.3 Sediment Profiles: At each SONE station an intact sediment core is obtained and Eh measurements immediately made at 1 cm intervals to a depth of about 10cm. Once a year sediments are sampled for vertical distribution of both dissolved and particulate nutrient concentrations and water content. For these measuremnts several intact sediment cores are obtained at each station using the Bouma box corer. Sub-cores are taken and sliced at 1cm intervals to a depth of 5cm and a slice at 10 cm is also taken. Samples are analyzed for water content, particulate carbon (PC), nitrogen (PN), phosphorus (PP), NO_4^+, NO_3^-, NO_2^-, PO_4^{-3} and $Si(OH)_4$ concentrations.

3.3.2 SONE Methods Evaluation: In-situ Chambers vs. Shipboard Cores

Many of the previous investigations of oxygen and nutrient fluxes across the sediment-water interface in Chesapeake Bay and other coastal waters were conducted using enclosure chambers deployed in situ (e.g., Boynton et al. 1980; Kemp and Boynton 1984; Boynton and Kemp 1985). While these in situ chambers have the advantage of causing minimal disturbances of sediments, they require the deployment ship to remain on station during the entire incubation (usually 3-6 hours). Such experimental systems would be impractical for use in monitoring program (such as this OEP study) which includes ten stations, the extreme locations which are separated by more than 200 km ship "steaming" distance. Hence, the present program has developed an alternative method which involves shipboard incubation of intact sediment cores, allowing ship transit between stations while flux measurements are being made on previously collected cores.

Figure 3-3. Schematic diagram of the incubation chamber used in SONE Program.



Questions have been raised concerning the relative abilities of the two methods (in situ chambers vs intact cores) to obtain realistic measures of sediment interface fluxes. In addition, it was anticipated that measurements made in the current OEP program with intact cores could be compared with those made previously at the same stations using in situ chambers. Thus, it was decided that (in conjunction with a Maryland Sea Grant Project) simultaneous measurements by the two methods would be made at selected stations and dates. Triplicate measurements were made by each method; SCUBA divers assisted in deployment of chambers. Comparison studies were conducted in May at Dares Beach (CP2) and in August at R64 (CP3) and Dares Beach, and both oxygen and ammonium fluxes were monitored.

No significant differences in measurements with the two methods were detected ($p < 0.05$) for sediment oxygen demand (SOD) in spring and summer at CP2, although mean rates were 5-10% lower with cores (Table 3-2). No SOD was measured at CP3 where bottom waters were anoxic or hypoxic. Rates of ammonium regeneration in spring at CP2 were about 30% lower (significant at $p < 0.05$) with cores compared to chambers. Ammonium fluxes measured in August by the two methods were nearly identical both at CP2 and CP3. From these data we would conclude that there is no consistant pattern of difference between oxygen and ammonium fluxes measured by cores versus chambers. Variances associated with these measurements (10-20% of mean) make it impossible to detect small differences (< 20%) without further studies. Previous reports of similar comparisons between cores and chambers for SOD are somewhat inconsistent, and Pamatmat (1977) concludes that there is no inherent difference in the measurements. Similar method comparisons for ammonium fluxes are not available in the literature.

Table 3-2. Comparison of sediment-water flux measurements of oxygen and ammonium using shipboard incubated cores versus in situ incubated chambers. *

Date (1986)	Station	Oxygen Flux ǂ ($mgO_2\ m^{-2}\ d^{-1}$) Cores	Chambers	Ammonium Flux ($umol\ N\ m^{-2}\ h^{-1}$) Cores	Chambers
22 May	CP2	1.18 ± 0.34	1.32 ± 0.06	163 ± 29	238 ± 34
14 Aug	CP3	0	0	641 ± 57	585~
15 Aug	CP2	1.52 ± 0.25	1.64 ± 0.27	331 ± 56	340 ± 35
25 Aug	CP3	0	0	721~	734 ± 68

* Given are means of three replicates ± one standard deviation.

ǂ Oxygen was not present at bottom waters at Station CP3 on August dates.

~ Only one replicate available.

3.3.3 VFX Study

At the VFX station, a water column profile of temperature, salinity and oxygen is obtained at 2 m intervals from the surface to the bottom to characterize general features of the water column. Water samples are also collected at 5 discrete depths using a submersible pump system. Routinely, a sample is taken from near-bottom and near-surface waters, and the remaining three distributed such that one is just above, one just below and one at the pycnocline. Samples are analyzed for particulate materials including PC, PN, PP, chlorophyll-*a* and seston. These data provide descriptions of the particulate matter field at that moment and are useful in evaluating results developed from sediment trap collections.

3.3.3.1 Sediment Sampling. During each VFX monitoring cruise a surficial sediment sample (surface 1cm) is obtained using either a Van Veen grab or the Bouma box corer. Sediment samples are later analyzed to determine PC, PN and PP concentrations and chlorophyll-*a* content. Subsamples are also examined to determine the composition of surficial sediment particulates (e.g. algal species, zooplankton fecal pellets, etc.)

3.3.3.2 VFX Sampling. The sampling device used to develop estimates of the vertical flux of particulate materials is comprised of a lead or concrete anchor-weight (200 kg) connected to a stainless steel wire (0.8 cm diameter) which is maintained in a vertical position through the water column by a sub-surface buoy (45 cm diameter; 40 kg positive buoyancy). The sub-surface buoy is tethered to a surface marker buoy by wire cable (Fig. 3-4). Collecting arrays are attached at about 5, 9 and 14 m beneath the water surface to obtain estimates of vertical flux of particulates from the surface euphotic zone to the pycnocline, flux across the pycnocline to deep waters and flux of materials associated with the near-bottom which includes local resuspension of sediments as well as net deposition.

The sediment trap string is routinely deployed and retrieved using CEES research vessels. Normal sampling periods last 1-2 weeks. At the end of a sampling period, collecting cups are retrieved either by SCUBA equipped divers or by hoisting the entire array to shipboard. In either case, cups are not capped prior to retrieval. New cups are then attached, fouling organisms removed from the frames and the array lowered back into the water.

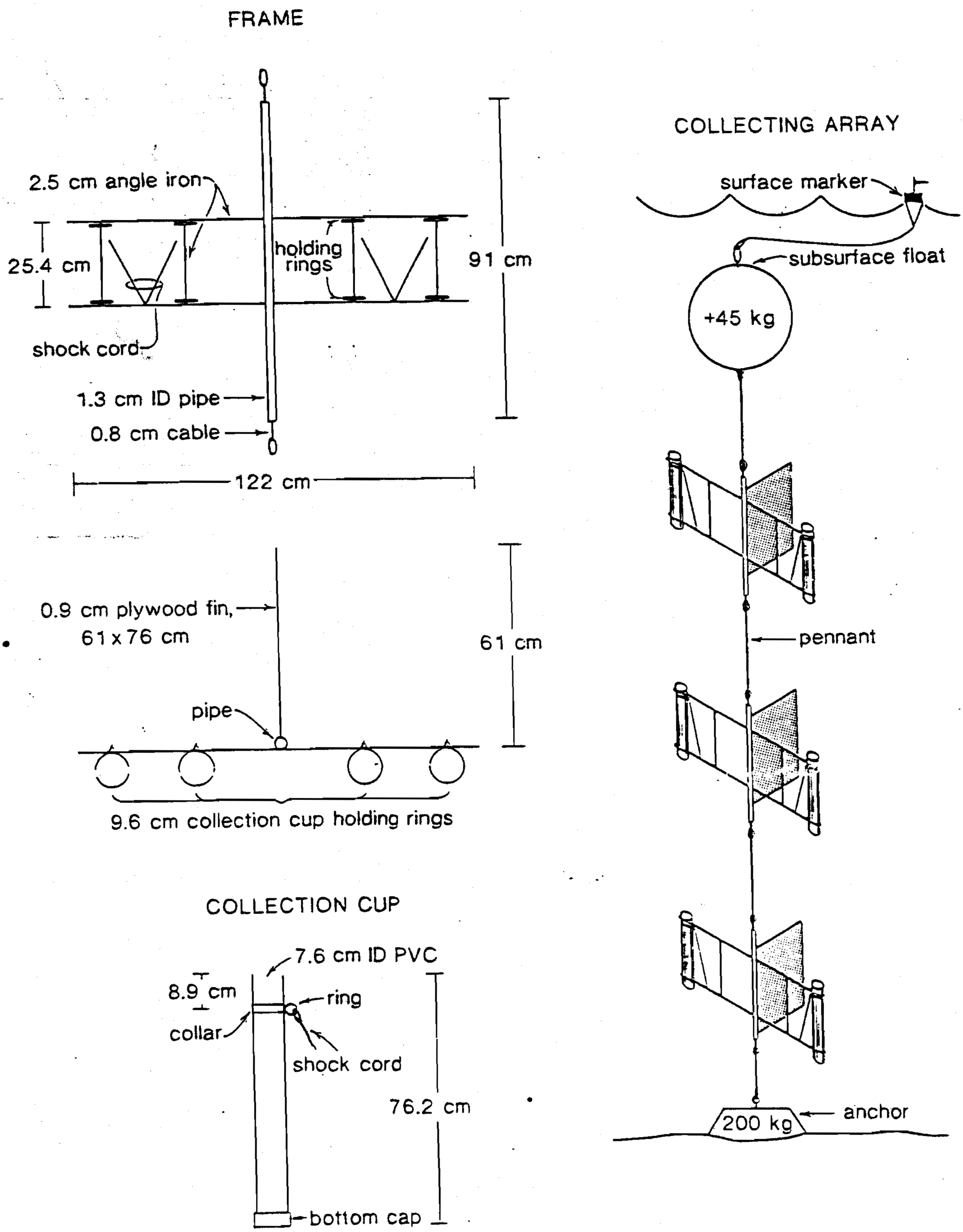
The contents of a collecting cup are removed and aliquots taken for determination of PC, PN, PP, chlorophyll-a and seston concentrations. Additionally, a 10 ml sample is preserved using a modified Lugol's solution, and later examined to determine characteristics of collected particulate material (e.g. algal speciation, zooplankton fecal pellets, etc.).

Particulate material concentrations in sampling cups are converted to vertical flux to the depth at which the collecting cup was suspended by consideration of the cross-sectional area of the collecting cup, deployment time and sample and subsample volumes. Further details concerning this monitoring program are provided in Boynton et al. (1985).

3.3.4 Chemical Analyses

In brief, methods are as follows: NO_3^-, NO_2^-, NH_4^+ and PO_4^{-3} are measured using the automated method of EPA (1979); dissolved organic phosphorus (DOP) analysis uses the digestion and neutralization procedure of D'Elia et al. (1977) followed by DIP analysis (EPA 1979); silicious acid is determined using the Technicon Industrial System (1977) method; dissolved organic nitrogen (DON) analysis follows the method of D'Elia et al. (1977); PP concentrations are obtained by acid digestion of muffled-dry samples (Aspila et al. 1976) while PC and PN samples are analyzed using a model 240B Perkin-Elmer Elemental Analyzer; biogenic silica is measured using the method of Paasche (1973); methods of Strickland and Parsons (1972) and

Figure 3-4 Schematic diagram of sediment trap used in VFX monitoring.



Vertical Flux Array

Shoaf and Lium (1976) are followed for chlorophyll a analysis; total suspended solids determination uses the gravimetric technique of EPA (1979).

3.3.5 Algal Identification

Identification of particulates is accomplished by microscopic examination. Phytoplankton samples are allowed to settle for 3 or more days prior to concentration and subsequent analysis. Net plankton (<40 u on longest axis) and nannoplankton are counted using the random field technique (Lund et al. 1958; Venrick 1978), which requires a minimum of 10 fields to be enumerated with 200 cells or more present. This random field technique is done at 200x magnification, with species identification confirmation at 400x as required. Following the identification of more than 200 cells via random field analysis, a 100X scan is made of the entire settling chamber to identify the large net forms and rare species present. Algae are identified to species where possible. Additionally, non-algal particles are also examined and identified (i.e. zooplankton fecal pellets, cysts, skeletal fragments) to further characterize the composition of depositing materials.

3.4 Level I Analysis:

3.4.1 SONE Study

Level I interim reports include tabular listings of all variables measured. At each SONE station, sediment Eh, net sediment-water nutrient and oxygen flux, surface and bottom water dissolved nutrient concentrations and vertical profiles (2m intervals) of dissolved oxygen, temperature and salinity are reported. Summarly statistics (means, standard deviations) are provided for nutrient and oxygen flux data.

3.4.2 VFX Study

Each Level I report includes tabular listing of all variables measured. Specifically, at each VFX station deposition of particulate materials to collection cup depth, characterization of surficial sediments, particulate material concentration in the water column and vertical profiles (2m intervals) of dissolved oxygen, temperature and salinity are reported.

4. HISTORICAL PATTERNS of SOD and NH_4 FLUX

4.1 Data Availability

Measurement of oxygen and ammonium fluxes across the sediment-water interface were initiated in 1978 at stations in the Patuxent River estuary. This research which was supported by Maryland DNR/PPSP, continued through 1980. Two cruises supported by Sea Grant in 1983 and 1984 puctuated the period between early DNR studies and the current OEP monitoring program which has continued since 1984. Two Patuxent River stations have been sampled during this period: Buena Vista is located in the upper estuary near Chalk Point; St. Leonards Creek is located closer to the estuary's mouth. Measurements at sites in the open Bay and selected tributaries in 1980 and 1981 (supported by US EPA) can also be compared to recent OEP data. In this section, we examine these data for historical trends which may be relevant to the monitoring effort. Although the earlier measurements were made using in situ chambers as opposed to the intact cores used in the OEP monitoring program, direct comparisions of these two methods in 1986 revealed no consistent differences (see Section 3.3.2). Thus, for the present analysis, it is assumed that the two methods are comparable.

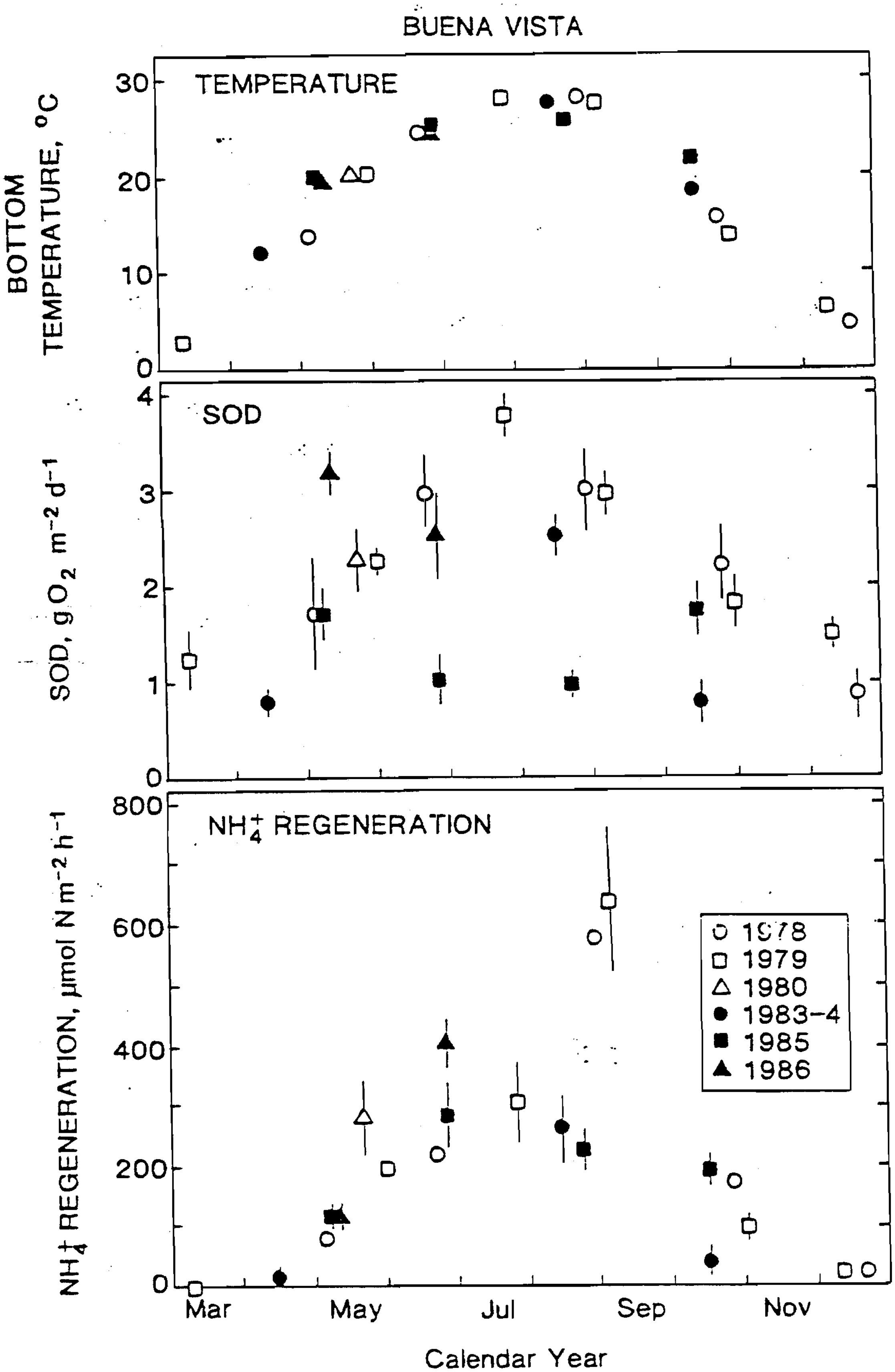


Fig. 4-1. Annual patterns of water temperature, sediment oxygen demand (SOD) and ammonium regeneration from sediments for Buena Vista station in the Patuxent River estuary between 1978 and 1986. Given are mean standard deviations for three replicate rate measurements (only one replicate ammonium flux in 1978).

4.2 Patuxent River Patterns

At the Buena Vista station, patterns of SOD and ammonium regeneration were relatively distinct in the earlier period (1978-1980) with annual maxima occuring in mid July and late August, respectively (Fig. 4.1). In the more recent period (1983-1986), rates appear to be lower with seasonal peaks occuring about two months earlier in late April and mid June, respectively. In addition, the range of rates observed in a given month is much greater for the recent period. It is difficult to statistically compare these data sets because measurements were made on different dates. However, if data are arbitrarily grouped into four periods (Apr.- May; June - July; Aug. - Sept.; Oct. - Nov.), general comparison can be made. In this way, we find that SOD value in the OEP data were significantly lower from June through November, while ammonium fluxes were lower in the Aug. - Sept. period. The overall trend is highlighted in Fig. 4-2 where the ranges of rates in the two time periods are outlined.

There are no striking differences in SOD and ammonium fluxes between the two time periods at the St. Leonards Creek station (Fig. 4-3); however, substantially fewer data are available for comparisons at this station. There is a suggestion of the same trend as noted for Buena Vista here, but it is less pronounced, perhaps, in part, because of insufficient measurements and the absence of data before 1980.

4.3 Potential Factors Regulating Flux Patterns

These changes in magnitudes and seasonalities of sediment-water fluxes in the Patuxent estuary over the decade 1978-1986 may be responses to alternations of both temperature and river flow patterns between the beginning and end of this period. Seasonal temperature differences

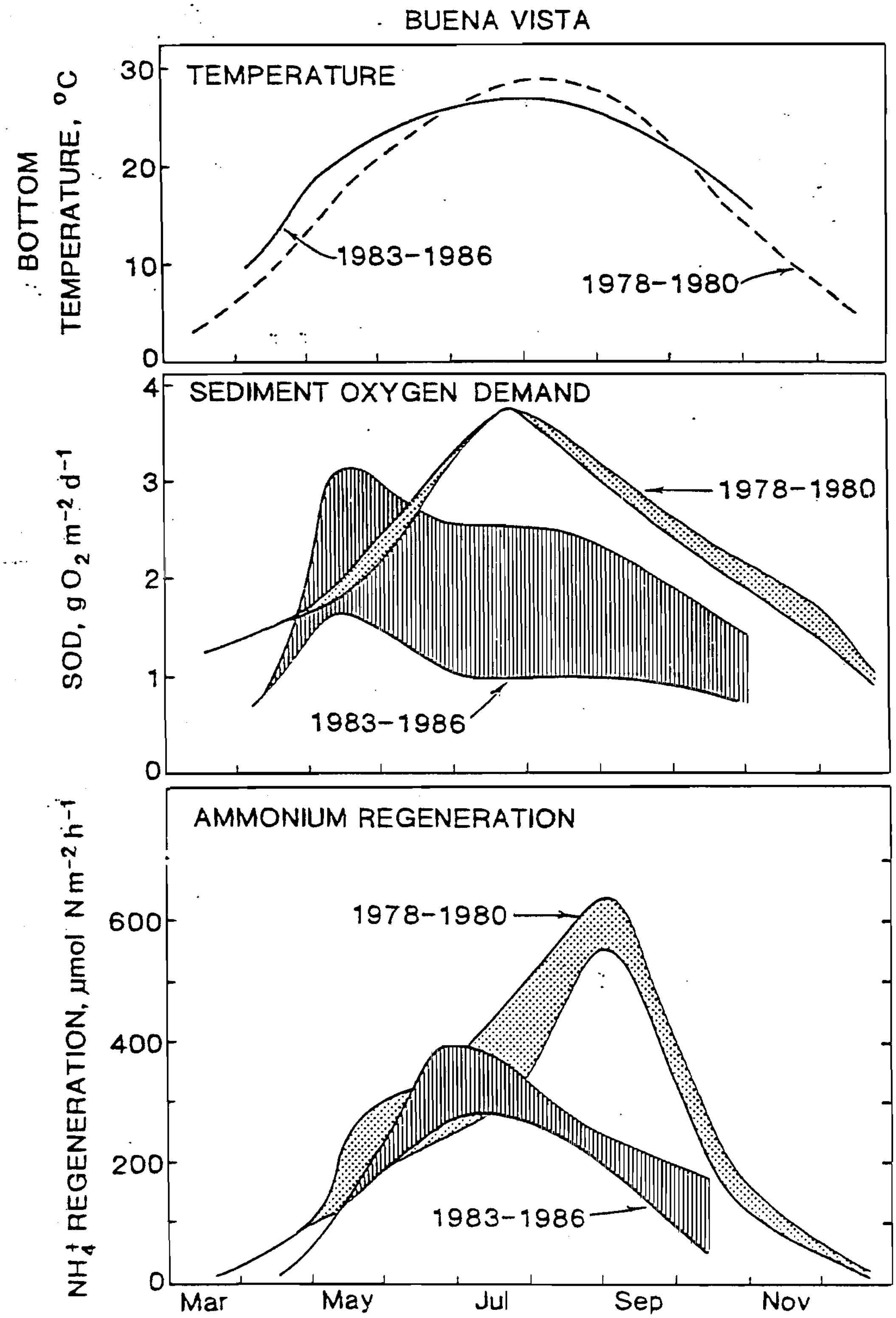


Fig. 4-2. Annual patterns of mean water temperature and ranges in SOD and ammonium regeneration at Buena Vista for the two periods: 1978-1980; and 1983-1986 (see Fig. 4-1).

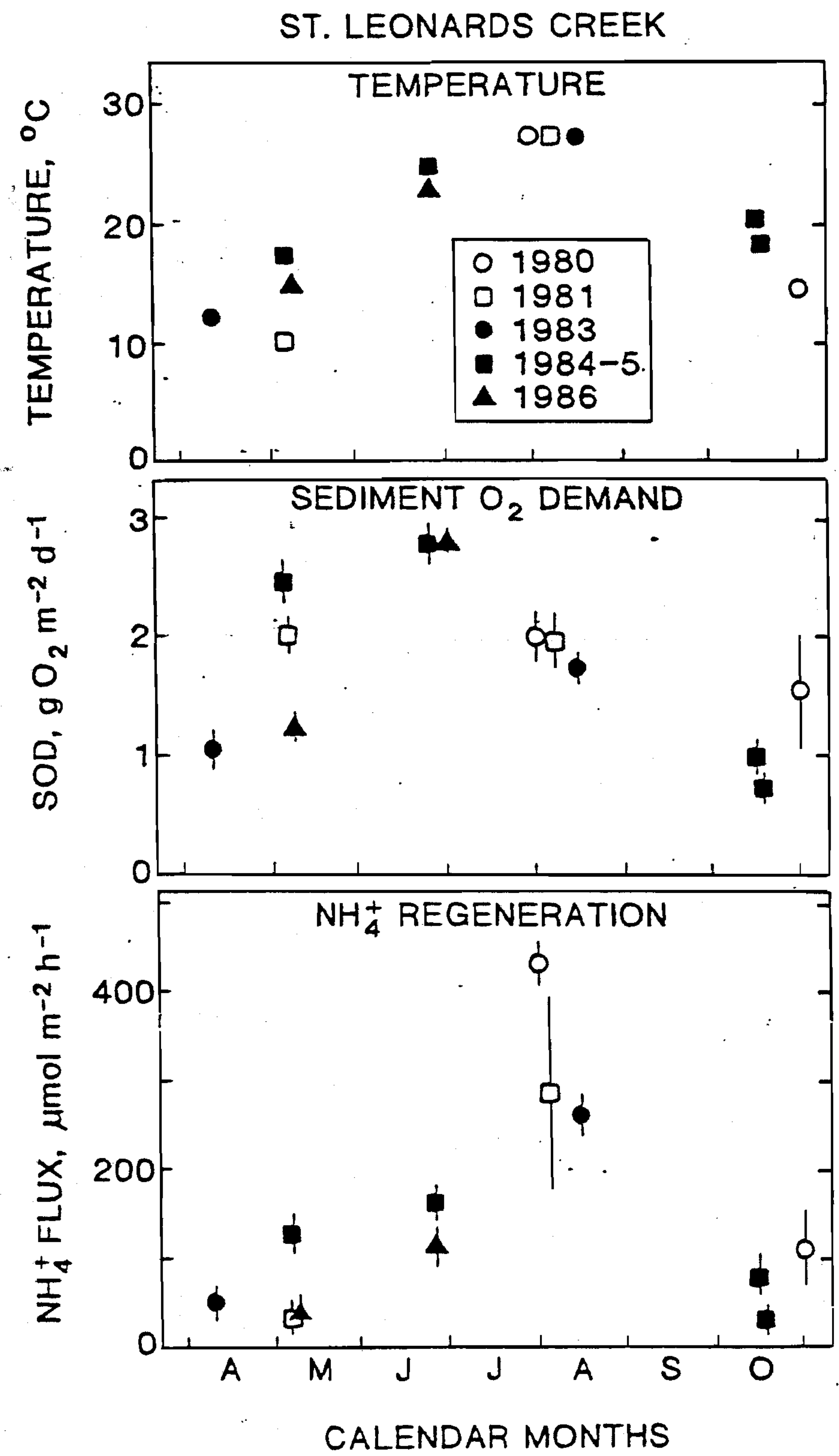


Fig. 4-3. Annual patterns of water temperature, sediment oxygen demand (SOD) and ammonium regeneration from sediments for St. Leonards Creek station in the Patuxent river estuary between 1980 and 1986. Given are mean standard deviations for three replicate rate measurements.

between two periods are consistent with seasonal differences in sediment-water fluxes, where spring temperatures and rates were both higher in more recent periods while summer values were higher in the earlier years (Fig. 4-2). However, these temperature differences (ca. 2°C) are not sufficient, per se, to explain the changes in fluxes at Buena Vista. For instance, assuming a Q10 of 2.0 (Nixon 1981), we would expect a decrease in summer ammonium fluxes of about 20% rather than 60% as observed (Fig. 4-2).

Annual mean flow of the Patuxent was substantially higher from 1978-1980 (ca. 520 cfs) compared to the 1983-1985 period (ca. 380 cfs). This is consistent with the fact that annual mean values of SOD and ammonium regeneration at Buena Vista were also greater in the earlier period (Fig. 4-4). This correlation is consistent with with a simple conceptual model which postulates a direct chain influence, where river flow delivers nutrient inputs which support plankton production, some of which is deposited to the sediment surface, thereby fueling SOD and NH_4^+ regeneration (e.g. Boynton et al. 1982b). The observed seasonal shifts, however, would not necessarily be predicted from this model. In fact, data presented by Cory (1974) for primary production in the Patuxent near Buena Vista indicate the opposite response to increased nutrient loading (from sewage effluents), where the time of maximal rates shifted from spring to summer. River flow, however, also peaked 3 months earlier in the 1978-1980 period compared to 1983-1985 (Fig. 4-4), and in combination with the temperature differences, might account for the seasonal shift in fluxes. This explanation would require a 3-4 month lag between time of peak river flow and peak sediment-water fluxes, which is consistent with the previously described scheme relating nutrient inputs, productivity and sediment-water fluxes (Kemp and Boynton 1984).

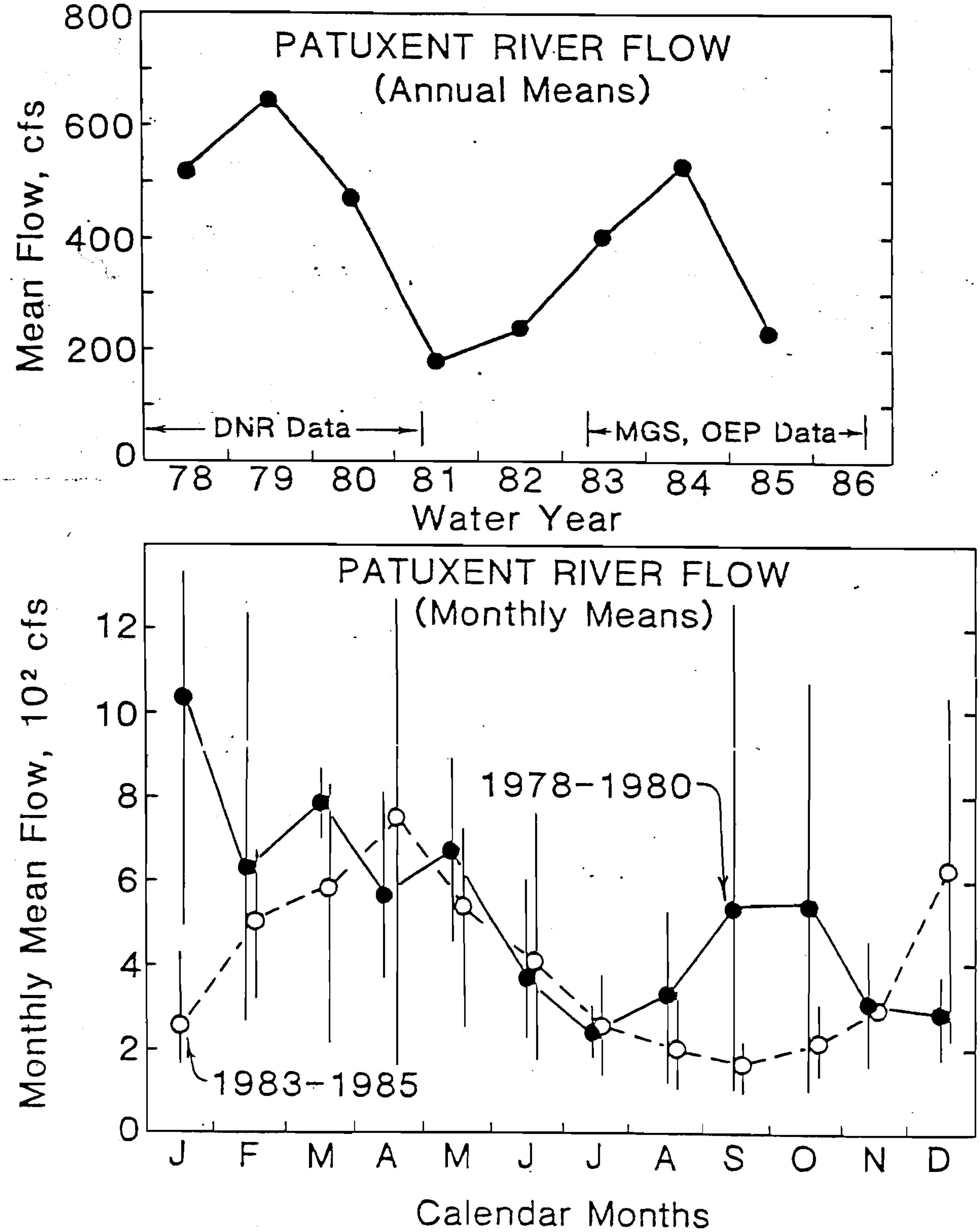


Fig. 4-4. Patuxent River flow (near Bowie, Md.): a) annual means for 1978-1985; b) monthly means and ranges for two periods, 1978-1980 and 1983-1985 (USGS Water Resources Reports 1978-1985).

4.4 Sediment Flux Patterns in the Bay and Lower Tributaries

Comparing summer (Aug) and spring (May) rates of SOD and ammonium regeneration for stations in the open Bay and tributary months between 1980-1981 and 1985-1986, we find differences parallel to those discussed above for the Patuxent (Fig. 4-5). As in the Patuxent, summer ammonium fluxes in 1985 were higher (significantly at 3 of 4 stations) than in 1980, while spring fluxes at the later date (1986) were similar or lower than those in 1981. SOD fluxes were significantly higher in both summer and spring of the earlier period, although the differences were less pronounced in May (Fig. 4-5). Annual peak flows of the Susquehanna River (Fig. 4-6) were almost twice as high in 1980 and 1981 than in 1985 (1986 data not yet available). Once again, this suggests a direct relation between river flow and sediment-water fluxes, as mediated by nutrient inputs and plankton production (Boynton et al. 1982). Effects of river flow other than nutrient delivery may also be operational here. For example, increase stratification assoicated with high river flows may also enhance cross-bay circulation and benthic-pelagic coupling (Malone et al. 1986).

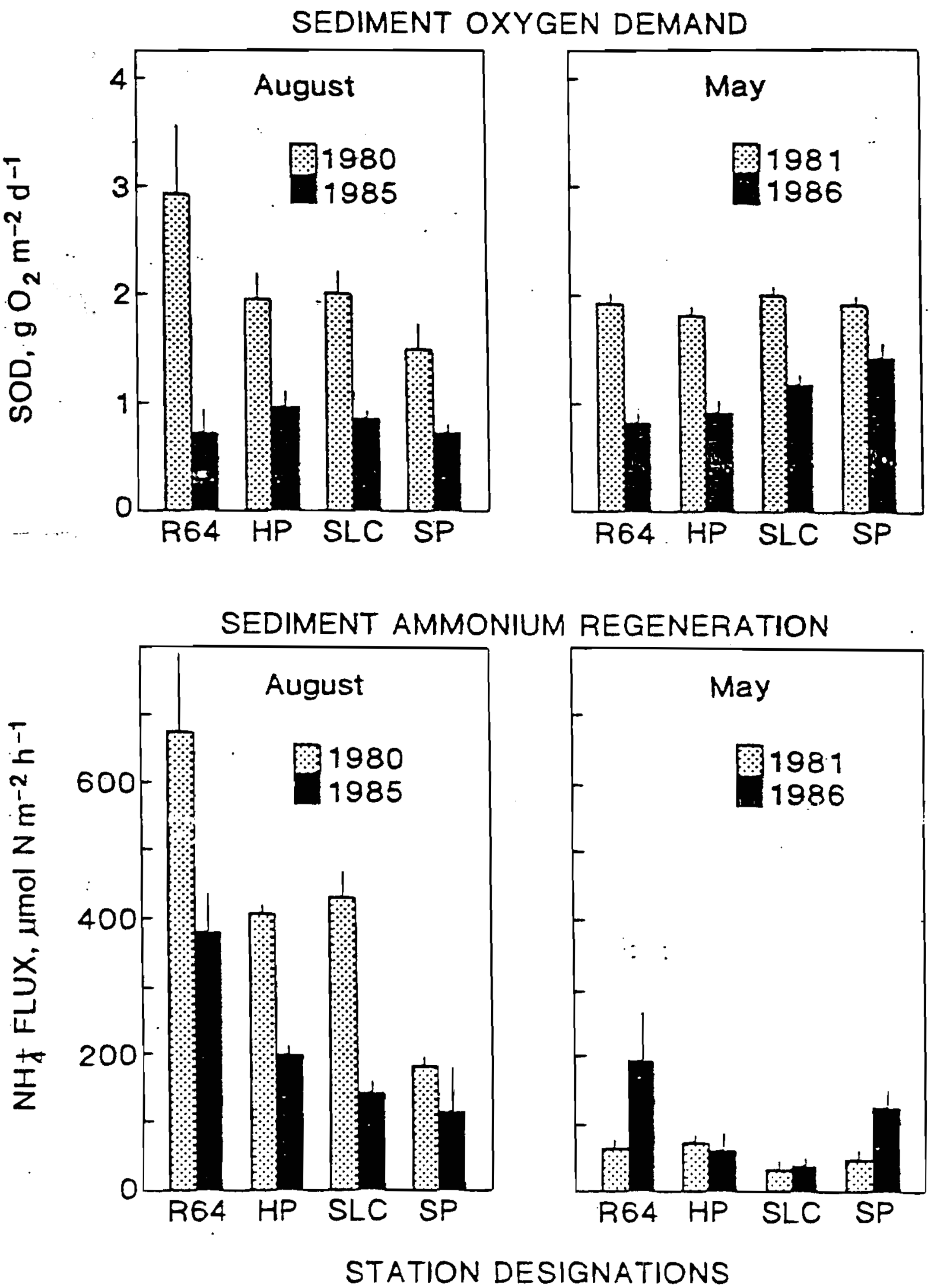


Fig. 4-5. Sediment oxygen demand and ammonium regeneration from sediments at two open Bay stations (R64; Still Pond, SP) and two stations near the mouths of tributaries (St. Leonards Creek, SLC; Horn Point, HP) for the two periods: Aug 1980, May 1981; Aug 1985, May 1986. Given are mean standard deviations for three replicates.

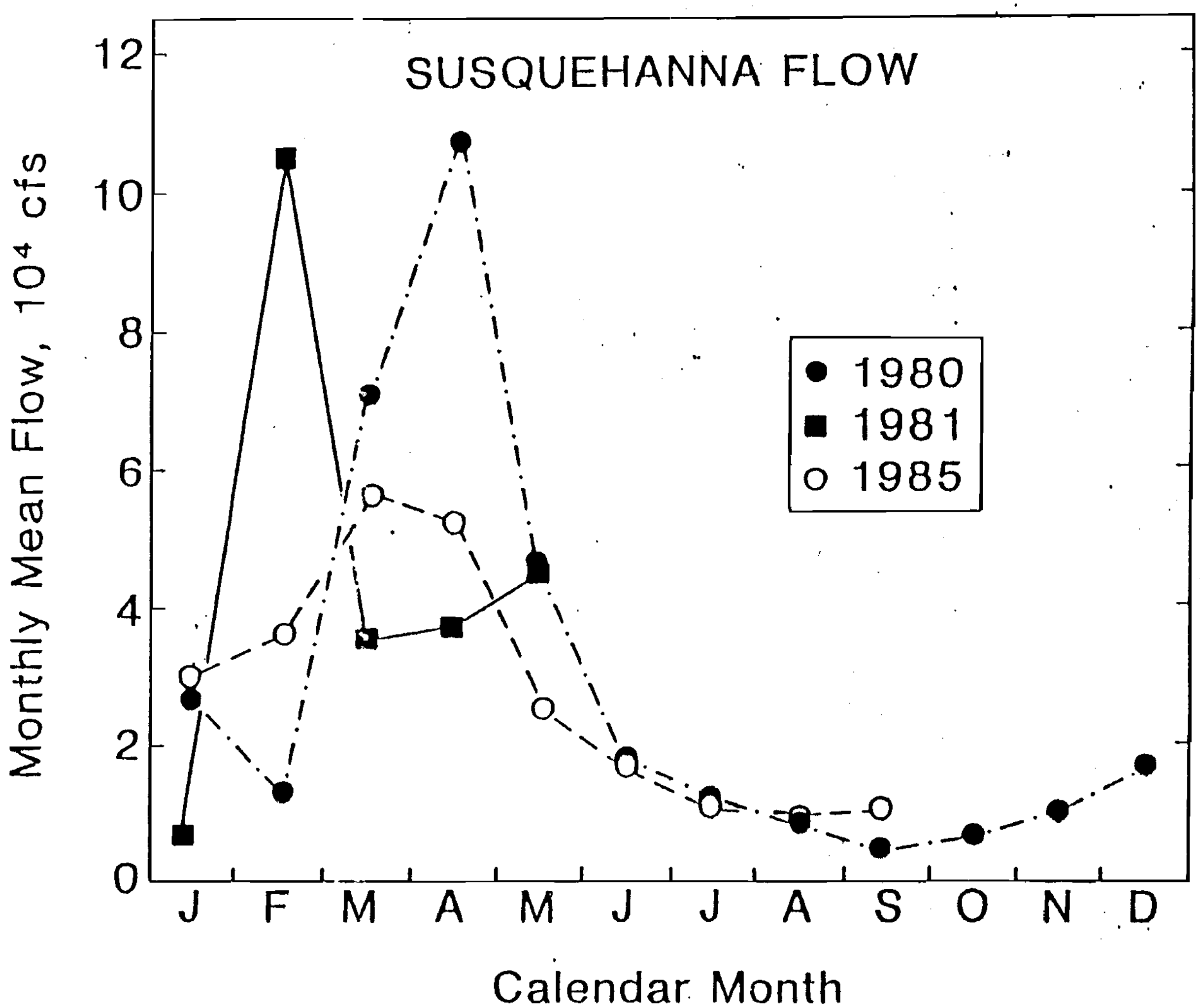


Fig. 4-6. Monthly mean values for Susquehana River flow in 1980, 1981, and 1985 (USGS Water Resources Reports 1978-1985).

5. CHARACTERISTICS OF SEDIMENTS, SESTON AND PARTICLE FLUX AT STATION R-64 (VFX MONITORING)

5.1 Seasonal Patterns of Deposition

Fluxes of particulate organic and inorganic materials to the depth of collecting cups at a mid-Bay station (R-64) are shown in Figure 5-1. In this figure portions of three years of monitoring data are shown and coded as follows: 1 = July-December, 1984; 2 = February-October, 1985; 3 = January - June, 1986. The measured flux (y - axis) is plotted against Julian day (x - axis) for all three years. As a point of reference, Julian days 90, 180 and 270 correspond approximately to 1 April, 1 July and 1 October, respectively. Note also that the y-axis scales differ among panels in some cases.

There were several strong seasonal patterns evident in the depositional data. During 1985 and 1986 there appeared to be a major depositional event over prolonged periods during the spring of both years. For example, in 1985 deposition rates began to increase in early March, reached a peak of about 1.2 $gCm^{-2}d^{-1}$ in early May and then declined rapidly in June. A very similar pattern was evident in 1986, with some shifts in magnitude and timing of the spring event. We suspect that high and sustained spring deposition rates are due to the sinking of the spring phytoplankton bloom, much of which appears to be ungrazed by the zooplankton. This pattern has been repeatedly observed in other coastal and estuarine systems (Smetacek, et al. 1978; Skjoldal and Lannergren, 1978; Peinert et al. 1982; Davies and Payne, 1984).

In contrast, summer deposition rates were erratic. For example, in mid-summer (1985) deposition rates to the middle cups ranged from about 0.45 - 1.2 $gCm^{-2}d^{-1}$ within a 25 day period. Similarly variable patterns were observed in the summer of 1984 as well. It appears that this pattern is the result of sinking of phytoplankton blooms, the nutrient requirements of which were probably supported by aperiodic upwelling of nutrient-rich deep waters

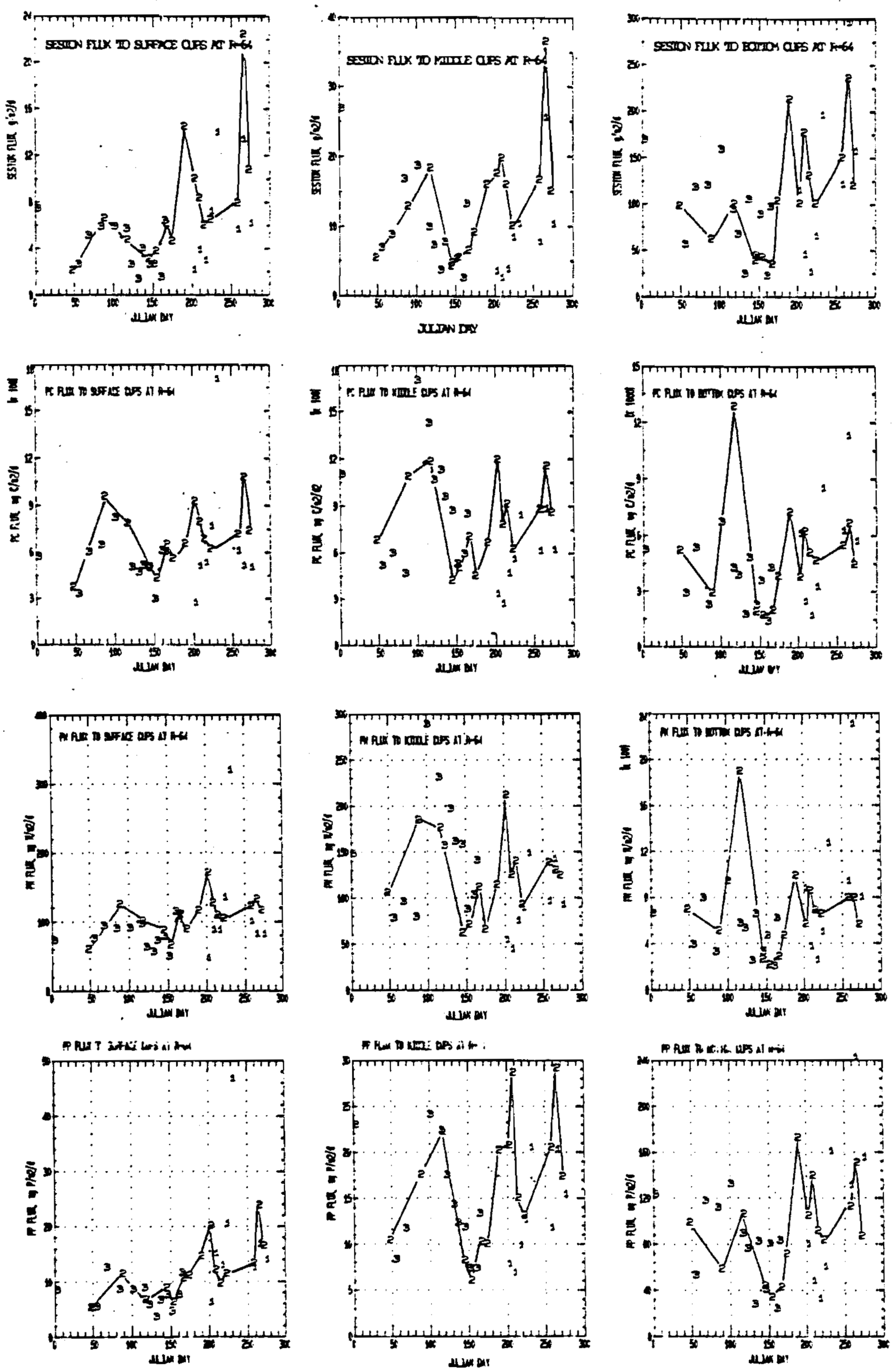


Figure 5-1. Summary of estimates of vertical deposition of particulate materials (Seston, PC, PN and PP) to surface, middle and bottom water collecting cups at Station R-64 (see Fig. 1-1 for station location). Data on the panels are coded by year as follows: 1=1984; 2=1985; 3=1986. Deposition rate data for 1985 are connected by solid lines. Note that y-axis scales differ between depths for some variables. As a point of reference, Julian days 90, 180, and 270 are roughly equivalent to April 1, July 1 and October 1, respectively.

during the summer (Malone, et al. 1986; Tuttle, et al., 1986). Thus, a part of the picture which emerges relative to deposition is one wherein there is a substantial and sustained spring event, largely supported by phytoplankton production based on "new nutrients" (Dugdale and Goering 1967; Kemp and Boynton 1985). The erratic summer deposition pattern reflects aperiodic boom and bust cycles of phytoplankton communities. In summer, nutrient requirements of the phytoplankton are largely supplied by recycled nutrients, a portion of which comes from sediments and a portion from water column recycling. We suggest that blooms occur whenever meteorological events (especially strong winds) cause nutrient enriched deep water to mix upward into the euphotic zone. These blooms then last until nutrient stocks are exhausted. Until the next upwelling event, lower levels of primary production prevail in the upper mixed layer. This production is supported by rapid in-situ nutrient recycling. The rapid bloom-and-crash nature of summer phytoplankton production is therefore responsible for random-looking peaks and dips in the summer record of organic matter deposition.

5.2 Seasonal Patterns In Sediment Characteristics

We have summarized in Fig. 5-2 the 3-year seasonal patterns of particulate carbon (PC), particulate nitrogen (PN), and particulate phosphorus (PP) in the surficial sediments (top 1cm at Station R-64 (Fig. 5-2 a,b,c). While there is a good deal of scatter in these data, several patterns appear to be fairly clear. First, an obvious and strong increase in the percentage of PC and PN at the sediment surface occurred briefly during the summer period of 1984. PC concentrations increased from about 2.9 to almost 3.8 percent of dry weight from July to August and then declined to about 2.5 percent by the beginning of October. A similar pattern was

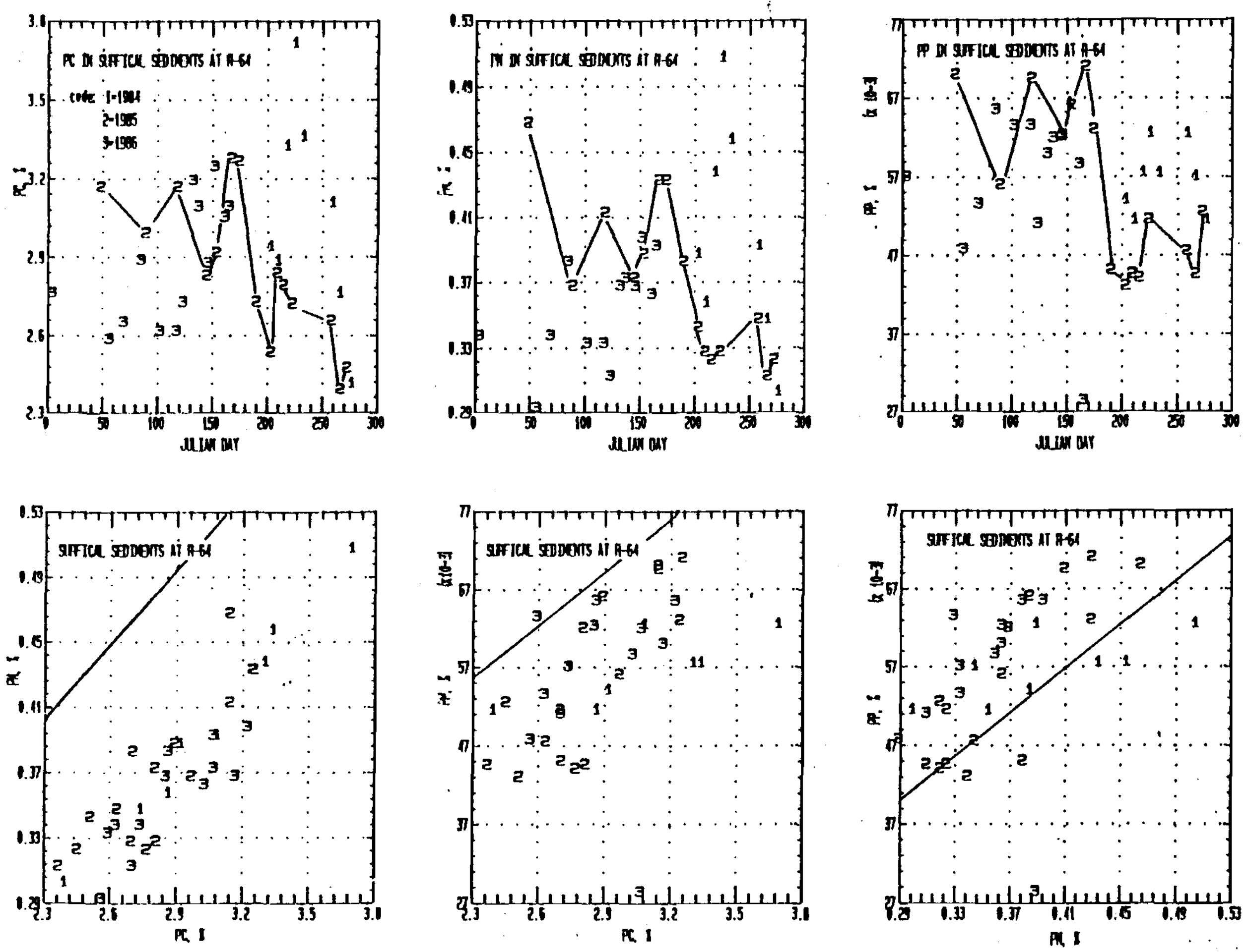


Figure 5-2. Summary of particulate carbon, nitrogen, and phosphorus content, and element ratios of surficial sediments at station R-64 for the period July, 1984 - June, 1986. In the upper three panels data points for 1985 are connected by solid lines. Data coding is as in Fig. 5-1. The diagonal lines in the lower three panels represent Redfield Ratios for PN:PC, PP:PC, and PP:PN respectively. Note these ratios are the inverse of the usual presentation of these ratios.

evident for PN. Peaks in PN and PC content of surficial sediments parallel reasonably well periods of heavy deposition during the summer of 1984. In 1985 and 1986 the signal in PC and PN content in surficial sediments was somewhat different: concentrations were generally fairly low during the early spring, increased dramatically during the late spring and early summer and then declined substantially during the late summer and early fall. These patterns are reasonably similar to the patterns observed in deposition (Fig. 5-1) with some time lag involved. There seems to be little seasonal pattern in the PP content of surficial sediments at station R-64 in contrast to the patterns seen for PC and PN. For example, the lowest value in two and one-half years of monitoring was about 0.047% and the highest was about 0.070%.

Additional insights can be gained with regard to the fate of deposited organic material by examining the composition ratio of organic material in surficial sediments. Ratios of PN:PC, PP:PC and PP:PN for the entire monitoring period are shown in Fig. 5-2 d,e,f. The diagonal solid line in each diagram represents the expected composition ratio for healthy phytoplankton (Redfield Ratio, PC:PN:PP = 106:16:1, atomic). The PN vs. PC plot (Fig. 5-2d) indicates a substantial and consistent loss of PN relative to PC in the sediments at all seasons during all three years examined. A similar, although not as strong, pattern is evident in the PP:PC ratios (Fig. 5-2e). These data suggest that there is preferential loss of both nitrogen and phosphorus relative to carbon in the sediment. Finally, the ratio of PP:PN (Fig. 5-2f) suggests a relative enrichment in PP relative to PN in these surficial sediments, although this relationship over the monitoring period has considerable scatter associated with it. Overall, examination of these data suggest that nitrogen is preferentially lost from these sediments relative to both carbon and phosphorus. These findings are consistent with earlier work by Kemp and Boynton (1985) in this area of the bay. They found good correspondence between the composition ratios of surficial sediments and the magnitude of sediment water exchanges of nitrogen and phosphorus compounds.

5.3 Relations Between Water Column Particulates and Depositing Materials

In examining the characteristics and magnitude of depositing particulates it is of interest to examine and relate the characteristics of deposited material to the characteristics of particulates in the water column. We have summarized composition ratios for water column particulates in the vicinity of the surface, mid and bottom collecting cups for the entire monitoring period in Figure 5-3. In this diagram solid diagonal lines again represent the Redfield Ratio indicating expected composition ratios of phytoplankton communities. In some of the panels there are groupings of data surrounded by dashed lines, these lines serving to indicate data clusters and have no statistical basis. A number of interesting patterns emerged. In brief, PN:PC ratios of particulate material throughout the water column rather closely approximated the Redfield Ratio in all seasons examined and in surface mid and bottom waters. We infer from this that the water column particulate field comprises considerable organic material (either phytodetritus or living phytoplankton) which on an average appears derived from a nitrogen-replete phytoplankton community.

In sharp contrast to these results, composition ratios of PP:PC and PP:PN show rather distinct seasonal or annual departures from the Redfield Ratio. For example, in the surface and middle regions of the water column (and to a lesser extent in deep waters) there are indications that particulate material during the summer of 1984 was either sufficient or rich in PP relative to PC. However, during the spring of 1986 there were indications that particulate materials in mid- waters were deficient in PP

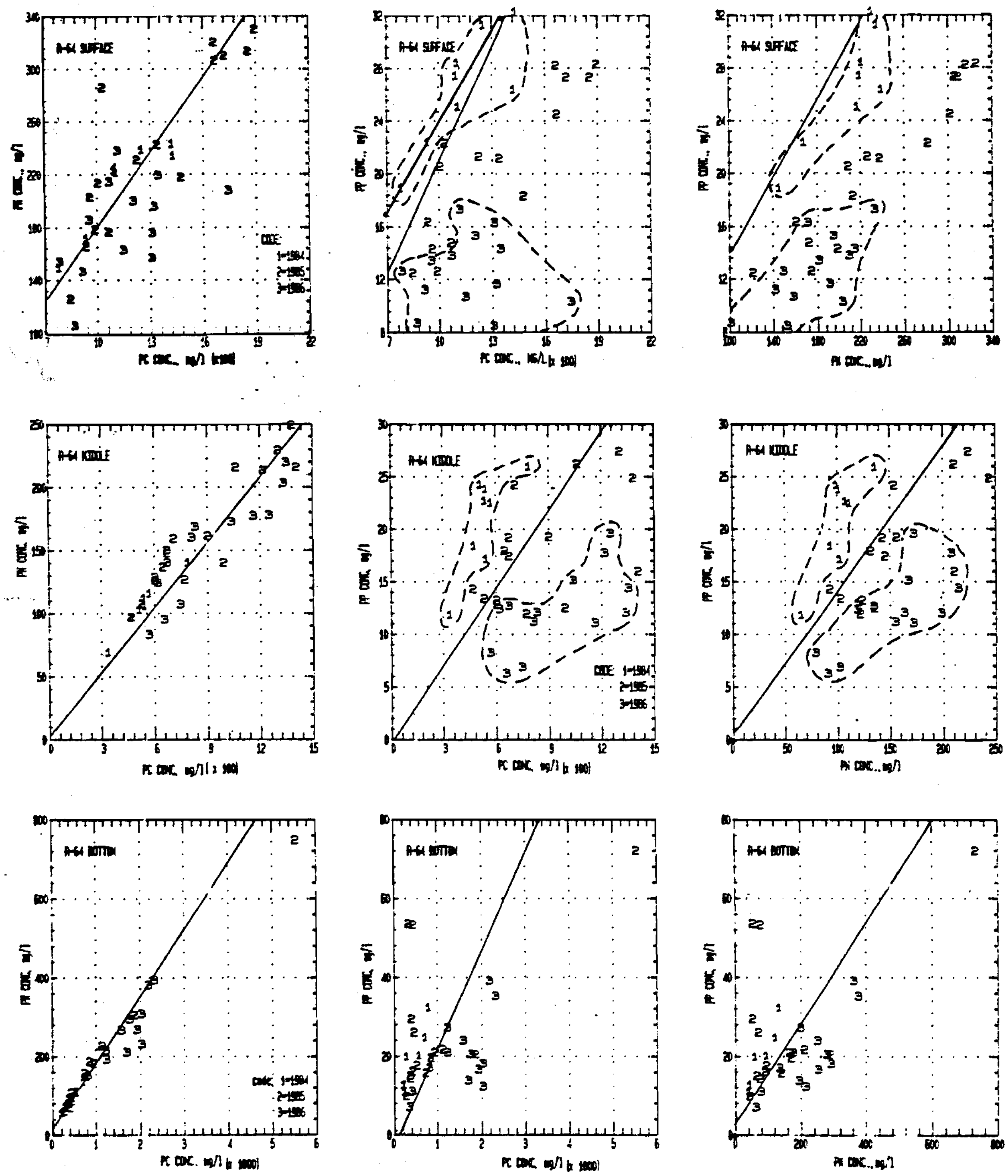


Figure 5-3. Scatter plots showing the ratios of nutrient elements of seston suspended in the water column at surface, mid and bottom depths at station R-64 from July, 1984 - June, 1986. Water column sample depths correspond to the depths of sediment trap collecting cups. Solid diagonal lines and dashed lines represent Redfield Ratios and data clusters, respectively, as in Fig. 5-2.

relative to PC. At times this deficiency was very pronounced. This pattern also occurred in bottom waters but large deviations were damped out.

The pattern for PP:PN ratios is consistent with the PP:PC ratios in that during the summer of 1984 there was an indication of sufficiency or enrichment in PP relative to PN while in the spring of 1986 there were indications (and at times strong indications) of P deficiency in particulates relative to nitrogen. This pattern was observed in surface, mid-depth and bottom waters.

In summary, it appears that changes in the nutrient characteristics of the particulate field were dominated by strong annual or seasonal variability in phosphorus abundance or availability. When the remainder of the 1986 data is analyzed, we may be better able to resolve what appear to be strong departures from the expected Redfield Ratio. Finally, the particulate data reported here should be compared with the dissolved inorganic nitrogen and phosphorus data being collected by the Office of Environmental Programs Water Quality Monitoring Study. When this is done we will be better able to trace changes in nutrient abundance as dissolved compounds are taken up by phytoplankton and transformed into depositing material.

We have further examined the qualitative nature of sinking particles by examining the composition ratios of particulates collected in sediment trap cups (Fig.5-4). Regardless of the year or season, the PC:PN ratio of material collected in surface, mid-water, and bottom sediment trap always closely approximated the Redfield Ratio. In this regard the sinking material appeared similiar to the composition of particulates suspended in the water column. The PC:PP ratio for collected particulates, particularly those collected in bottom cups, consistently resembled the Redfield Ratio in sharp contrast to the considerable scatter observed in the PC:PP

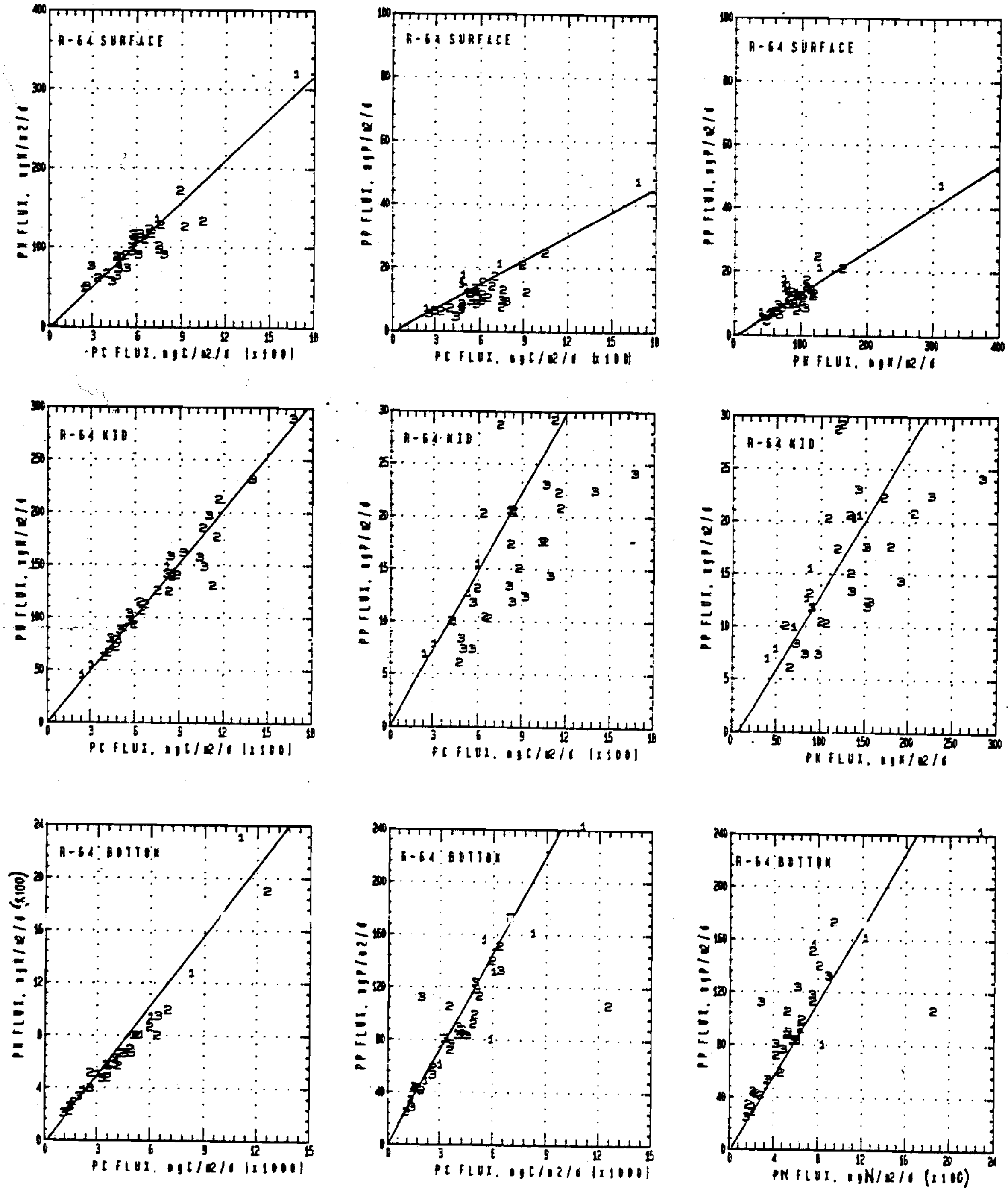


Figure 5-4. Scatter plots showing the ratios of nutrient elements in particulate material collected in sediment traps (surface, mid and bottom) at station R-64 from July, 1984 - June, 1986. Diagonal lines represent Redfield Ratios as in Fig. 5-2.

ratio of particulates in the water column. PP:PN ratios revealed a similar pattern. There was some scatter associated with mid cup collections and some indication of lower concentrations of PP relative to PC.

Thus, the picture that emerges here is that in spite of considerable variability in the concentrations and elemental composition of suspended particulate matter, the material collected in the sediment traps appears to be living phytoplankton or phytoplanktonic debris. The elemental ratios of sedimenting material closely approximates that expected of healthy phytoplankton communities. Similar patterns have been reported for other estuarine systems (e.g. Hargrave and Taguchi 1978), and several explanations for the observed element ratios appear possible. The first involves the sampling schemes used to collect these data. Suspended seston was filtered from discrete water samples while the sediment traps integrate the downward flux of particulates over time (4-14 days) and space. It is known that water column characteristics can change on time scales of hours to days (Malone et al., 1986) and hence considerable variability in particulate material composition ratios might be expected. However, the compositional differences between suspended seston and sedimented materials were rather consistent. Simple variability in the composition of water column particulate material does not provide a very satisfactory explanation. A more satisfactory explanation for the observed differences between the elemental composition of seston and sinking material is that most of the deposited material is not a simple or constant fraction of particulate material in the water column. Rather, it appears that most sedimentating particulates appear to be derived from healthy phytoplankton.

In the middle sections of Chesapeake Bay it appears that phytoplankton production is the prime source of organic materials for heterotrophs in the water column and sediments (Flemer 1970). Given this we would expect that the majority of organic particles collected in the sediment would be composed of phytoplankton. During some periods of the year it seems likely that depositing material is largely composed of living phytoplankton while at other times phytodetritus comprises the bulk of sedimenting material. One approach to this question is to compare PC:Chl ratios of particulate matter in the water column and in sediment trap cups (Figure 5-5). Several reasonably clear patterns are evident in these data. First, in surface waters there were several periods when the PC:Chl ratio was particularly low indicating predominence of living phytoplankton over phytodetritus. For example, in surface waters at R-64 during the spring bloom in 1985 and 1986, PC:Chl ratios were generally less than 100. During the summer of 1984 and the late spring-early summer of 1985, PC:Chl ratios were considerably higher, indicative of algal detritus (e.g., Chervin et al. 1981). The PC:Chl ratios in sediment trap collections followed a similar pattern: early spring deposition seemed to be composed of largely intact phytoplankton cells while at other times of the year, particularly during the summer of 1984, it appears that material sinking from the euphotic zone was largely composed of phytodetritus and zooplankton fecal pellets. Qualitatively similiar patterns of deposition have been reported for other coastal areas (Hargrave and Taguchi, 1978; Smetacek, et al., 1978; Smetacek and Hendrikson, 1979; Smetacek, 1980; Hargrave and Taguchi, 1978).

There were additional spatial and depth-related patterns evident in PC:Chl ratios of suspended seston and sinking particulate matter. For example, in surface waters there were several periods when PC:Chl ratios were a good deal less than 100, indicative of healthy phytoplankton communities. The PC:Chl ratio in mid-waters were never below 60 and frequently in excess of 150. In bottom waters ratios less than 100 were rare and frequently the

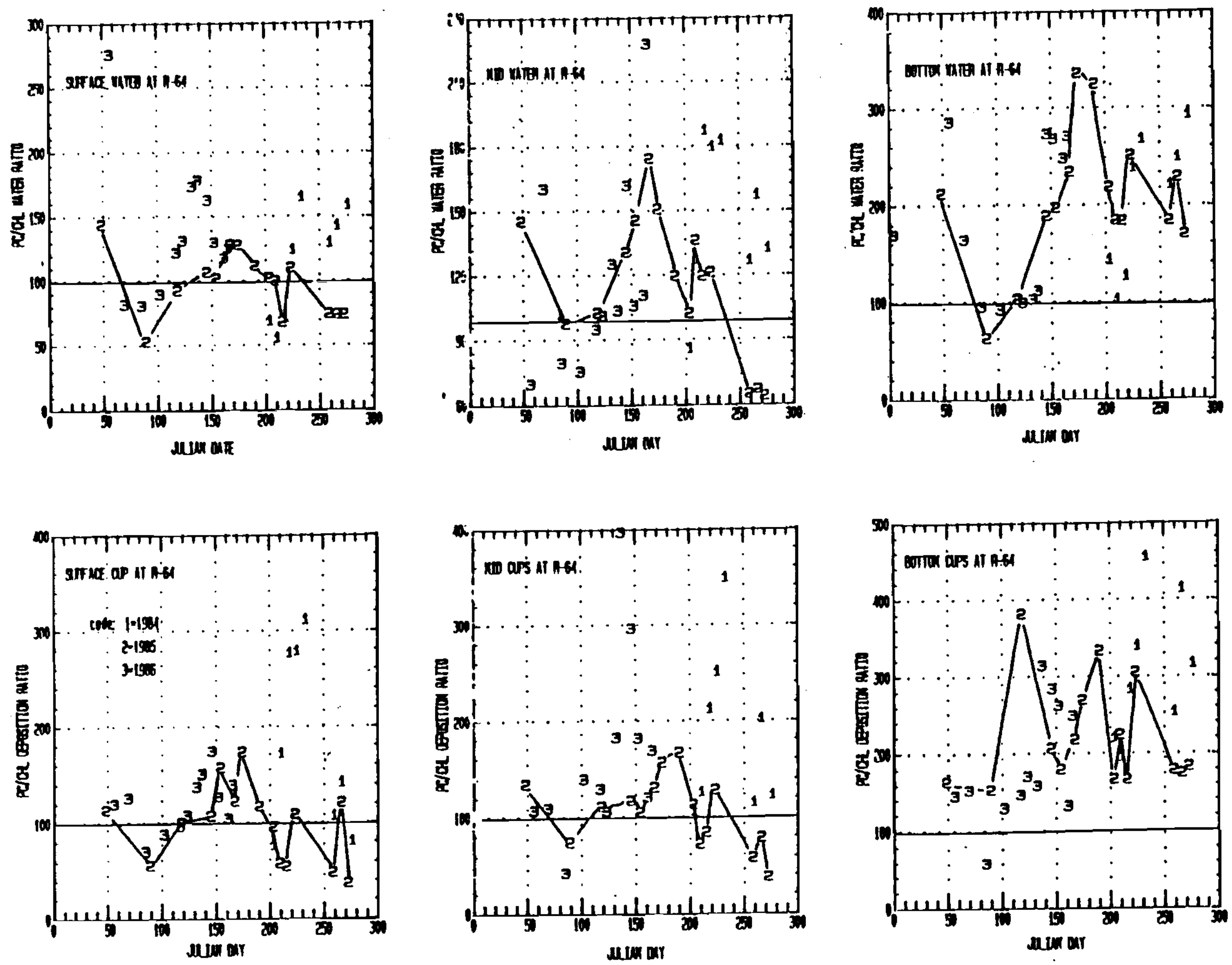


Figure 5-5. Summary of particulate carbon:chlorophyll-a ratios from surface, middle and bottom waters and sediment trap collecting cups at Station R-64 from July, 1984 - June, 1986. Solid horizontal lines represent a C:Chl-a ratio of 100.

ratios were in excess of 200. An even stronger vertical pattern in PC:Chl ratios is evident in collecting cups. These observations indicate considerable processing of algal material as it sinks through the water column towards deeper waters and the sediment surface.

6. SEDIMENT OXYGEN DEMAND AND NUTRIENT FLUXES

Sediment-water exchanges of dissolved oxygen and inorganic nutrients (SONE Monitoring) were determined four times per year (spring- fall) at each of ten stations in the Maryland portion of Chesapeake Bay. Station locations and flux measurement procedures were described earlier (Section 3). As presented here, each flux measurement represents the mean of three replicate determinations. On occasion the results from a sediment core did not meet our quality-control criteria, and these data were excluded from the means. The data collected for all individual benthic fluxes are given in Appendix Table 4 and 5.

The data presented here were collected during the first two years of OEP Monitoring, from August 1984 to June 1986 (SONE Cruises 1-8). We therefore have eight sets of mean flux data for each SONE station. While it is too early in the monitoring effort to discern long-term trends in these data, fairly strong patterns have emerged in: (1) the magnitude of spatial and temporal variability of SOD and nutrient fluxes; (2) environmental factors regulating sediment-water exchange dynamics; (3) stoichiometric relationships (element ratios) in the net fluxes of oxygen and inorganic nutrients. The most significant finding to date, however, is strong evidence supporting our hypothesis concerning the coupling between benthic fluxes and the rate of deposition of organic matter in the mainstem bay.

6.1 Temporal and Spatial Patterns in Benthic Fluxes of Oxygen and Nutrients

Benthic fluxes of oxygen and dissolved inorganic nutrients at SONE stations exhibited considerable within-station and between-station variability (Fig. 6-1, a-f). Variability in fluxes from replicate sediment cores at individual stations was generally small (Table 6-1 and Section 3 on Core vs. Dome Comparisons), and the within-station variability, averaged over

Figure 6-1. Spatial variability in benthic fluxes shown as the two-year mean spring-through-fall sediment-water exchanges of oxygen (as SOD) and nutrients at SONE monitoring stations. Vertical lines give the mean ± 95% confidence intervals for flux determinations made at each of the ten SONE monitoring stations between August 1984 and June 1986. Stations are coded along the y-axis as follows: 1, St. Leonard; 2, Buena Vista; 3, Horn Point; 4, Windy Hill; 5, Ragged Point; 6, Maryland Point; 7, Point No Point; 8, R-64; 9, R-78; 10, Still Pond. See Fig. 3-1 for station locations.

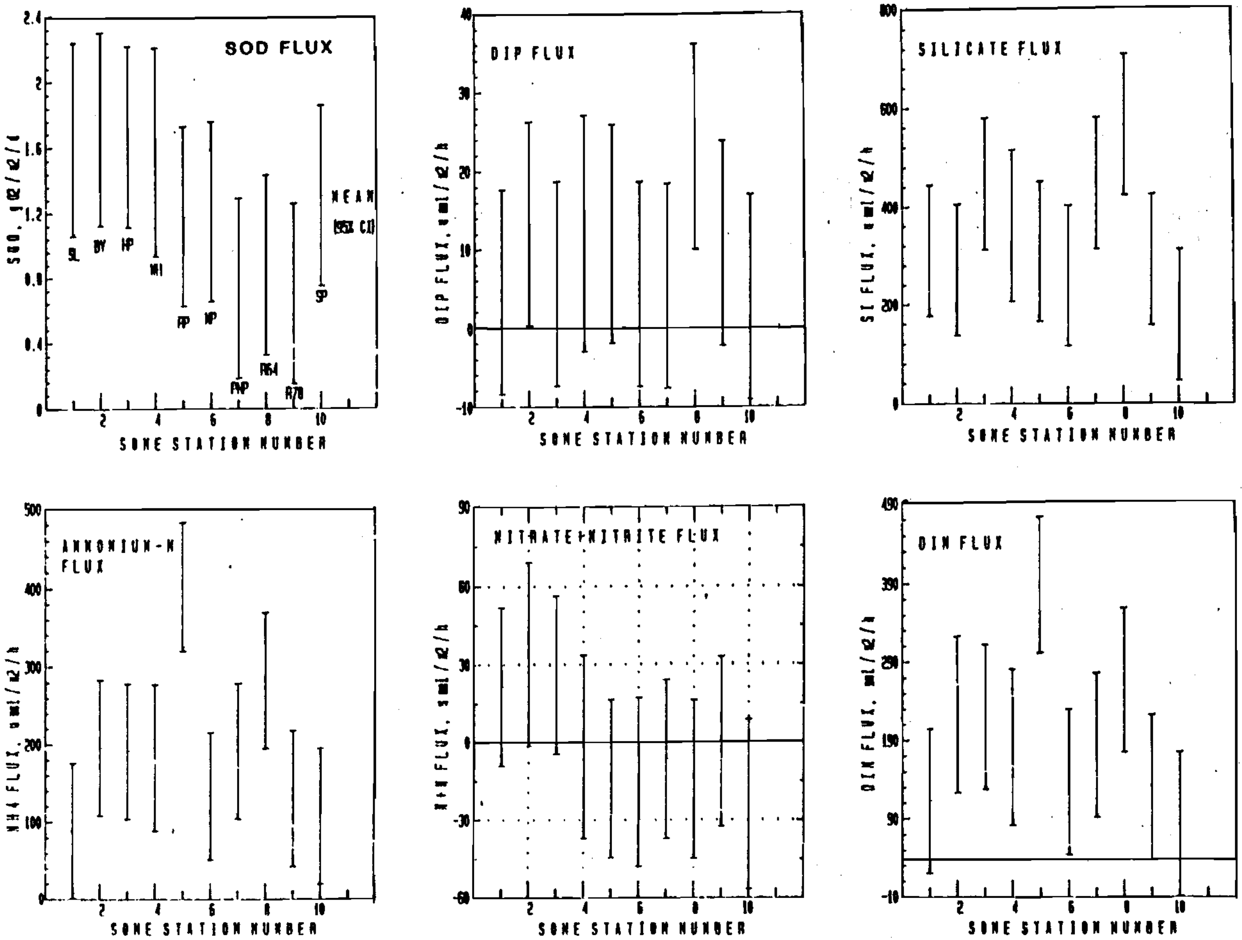


Table 6-1. Representative means and standard deviations (X ± S.D.) from triplicated flux measurements. Data are from SONE 8 (June, 1986).

	Fluxes (X ± S.D.)									
	($g\ O_2 m^{-2} d^{-1}$)		($umol\ m^{-2} h^{-1}$)							
STATIONS	SOD	CV %	NH_4	CV	N+N	CV	PO_4	CV	Si	CV
St. Leonard	−2.95 ± 0.19	6	125.5 ± 38.56	30	21.59 ± 2.22	10	1.15 ± 1.62		382.5 ± 122.59	
Buena Vista	−2.57 ± 0.57	22	413 ± 41.20	10	57.18 ± 5.46	10	36.15 ± 7.49		649.6 ± 24.09	
Horn Point	−2.73 ± 0.32	12	242.84 ± 34.40	14	33.15 ± 4.21		4.02 ± 1.26		781.3 ± 40.57	
Windy Hill	−0.63 ± 2.04	30	361 ± 78.82	22	6.55 ± 53.33		18.79 ± 7.25		467.2 ± 140.23	
Ragged Pt.	−.94 ± .87	93	596.36 ± 231.25	39	−5.16 ± 3.65		27.35 ± 8.40		409.5 ± 68.55	
Maryland Pt.	−1.92 ± .26	14	119.62 ± 12.13	10	−49.4 ± 1.25		2.51 ± 1.90		333.96 ± 19.98	
Point No Point	−.68 ± .15	22	162.36 ± 3.04	2	−.66 ± 3.36		4.23 ± 0.97		458.1 ± 32.71	
R-64	−0.37 ± 0.17	46	445.1 ± 102.47	23	−47.15 ± 7.59		91.14 ± 24.28		704.28 ± 160.99	
R-78	−1.16 ± .24	21	338.8 ± 13.15	4	−66.59 ± 14.03		52.12 ± 11.80		412.6 ± 90.67	
Still Pond	−1.94 ± .48	25	96.38 ± 43.05	45	6.76 ± 1.39		5.54 ± 2.34		158.97 ± 86.53	
		29%		20%						

the two-year period, was remarkably uniform (Table 6-2). These findings suggest that measurement errors were a minor and consistent component of total variability in the measured fluxes. The degree of seasonal and site-related variability encountered during SONE monitoring, although large, is entirely consistent with previous measurements of sediment-water fluxes in Chesapeake Bay (Boynton and Kemp 1985) and other temperate estuaries (Nixon et al. 1976; Callendar and Hammond 1982).

In the following discussion several levels of aggregation are employed to examine spatial and time-dependent patterns in the benthic flux data: "mean station flux" refers to the average of all flux measurements made over the two-year period at an individual station; "mean monthly flux" refers to the baywide flux during a particular month averaged over all ten stations. The most aggregated level ("mean location flux") refers to the average of all fluxes made during the two-year period at one of three groups of stations: (1) Upper Tributary Stations (Buena Vista, Windy Hill, Maryland Pt.); (2) Lower Tributary Stations (St. Leonards Creek, Horn Pt., Ragged Pt.); and (3) Mainstem Bay Stations (Pt. No Pt., R-64, R-78). The upper bay region (Still Pond) was separated from the other mainstem stations and treated as a fourth group (comprising of only one station) because the characteristics of this region, (depth, sediment composition, and redox regime) are quite unlike those found in the deeper mainstem bay.

6.2 Sediment Oxygen Demand (SOD)

Rates of sediment oxygen demand (SOD) at SONE stations ranged from 0.1 - 3.9 g O_2 m^{-2} d^{-1}, with most values falling between 0.5 - 2.5 g O_2 m^{-2} d^{-1} (Fig. 6-2; Table 6-1). These rates of SOD are moderate to large relative to those reported for other temperate estuaries (Table 6-3). It is important to note that SONE monitoring does not include winter measurements when SOD would be expected to be low (Boynton et al. 1980).

The overlapping confidence intervals shown in Fig. 6.1 indicates the two-year mean SOD's at individual stations are not significantly different. However, the data suggest a spatial pattern in which SOD tends to be highest in shallow tributaries and lower in the deeper mainstem Bay. Highest SOD's were always encountered at tributary stations (Fig. 6-3). When the data were even more highly aggregated (Table 6-4), mean SOD at the mainstem stations (excluding Still Pond) was significantly below the mean oxygen fluxes measured in the tributaries. We will show below that SOD is strongly influenced by the concentration of dissolved oxygen in near-bottom waters. Thus, low mean SOD of the mainstem and lower Potomac sediments can in part be attributed to hypoxic or anoxic condition of the near-bottom waters found at these sites in late spring and summer.

Our samplilng schedule of four measurements per year, skewed heavily toward the warmer periods of the year, is not adequate to fully define annual patterns of benthic fluxes. However, some indication of seasonality in SOD is revealed when the data are averaged over all stations and years (Table 6-5; Figure 6-4). Bay-wide monthly mean SOD was highest in May (1.67 g 02 m^{-2} d^{-1}) and appeared to <u>decrease</u> through the summer to a minimum of 0.79 g 02 m^{-2} d^{-1} in August. This suggests that factors other than temperature alone are regulating SOD during the late spring and summer. At this point we can speculate that decreasing organic deposition and low bottom water oxygen concentrations contribute to decreasing SOD observed along the mainstem in late summer. The interactions between SOD and bottom water quality are examined in Section 6-6) We note here that the range in SOD measurements (i.e., between station variability, Figure 6-2) was greatest in

	Station	SOD g02/m2/d Mean ± SE		NH4 umol/m2/h Mean ± SE		NO2+NO3 umol/m2/h Mean ± SE		DIN umol/m2/h Mean ± SE		DIP umol/m2/h Mean ± SE		Si umol/m2/h Mean ± SE	
1	ST. LEO.	1.6	0.3	88	44	21.0	15	112	46	4.6	6.5	310	67
2	BU. VISTA	1.7	0.3	196	44	34.0	18	222	49	13.2	6.5	271	67
3	HORN PT.	1.7	0.3	191	44	26.0	15	220	46	5.7	6.5	446	67
4	WINDY HILL	1.6	0.3	183	47	-1.7	18	181	49	12.1	7.0	360	77
5	RAGGED PT.	1.2	0.3	401	41	-14.0	15	387	43	12.0	6.5	308	72
6	MD. PT.	1.2	0.3	134	41	-15.0	16	137	46	5.6	6.5	259	72
7	PT. NO PT.	0.7	0.3	191	44	-6.0	15	183	46	5.4	6.5	447	67
8	R-64	0.9	0.3	282	44	-14.0	15	267	46	23.1	6.5	567	72
9	R-78	0.7	0.3	130	44	0.2	16	130	46	10.8	6.5	291	67
10	STILL PD.	1.3	0.3	107	44	-24.0	16	83	46	3.9	6.5	179	67

Table 6-2. Mean sediment-water fluxes of oxygen and dissolved nutrients at SONE stations in the Maryland portion of Chesapeake Bay. Entries give means and standard errors for spring through fall seasons, 1984-1986 (SONE Cruises 1-8).

Table 6-3 Comparison of oxygen, DIN, and DIP at SONE monitoring stations with summer rates of oxygen and nutrient fluxes from various near-shore marine systems.

	SOD g/m2/d	NH4 Flux umol/m2/d	DIP Flux umol/m2/d	Ref.
Loch Ewe, Scotland	0.6-1.05	20-80		1
Buzzard's Bay, MA	1.42	125	-15	1
Eel Pond, MA	1.08	85	16	1
Narragansett Bay, RI	1.80	200	30-50	1
Long Island Sound, CN		50-200	5-20	1
New York Bight, NY	0.84	25	2	1
Patuxent River Estuary, MD	3.03	710	48	1
Pamlico River Estuary, NC		45		1
South River Estuary, NC	1.57	250	17	1
Cape Blanc, West Africa		235	50	1
Vostoc Bay, USSR	1.08	150	20	1
Maisuru Bay, Japan		13-32		1
Kaneohe Bay, HA	0.46	54	3	1
La Jolla Bight, CA		40	6	1
Yaquina Bay mudflat, OR	-6.0-6.8	-91-204	-5-19	2
Chesapeake Bay, MD				
Upper tributaries	1.48	168	10	3
Lower tributaries	1.49	235	7	3
Mainstem bay	0.77	201	13	3
Upper bay (Still Pond)	1.30	107	3	3

References: 1, Modified from Table 1 in Nixon 1981
2, Collins 1986
3, Location means from SONE Monitoring, this report

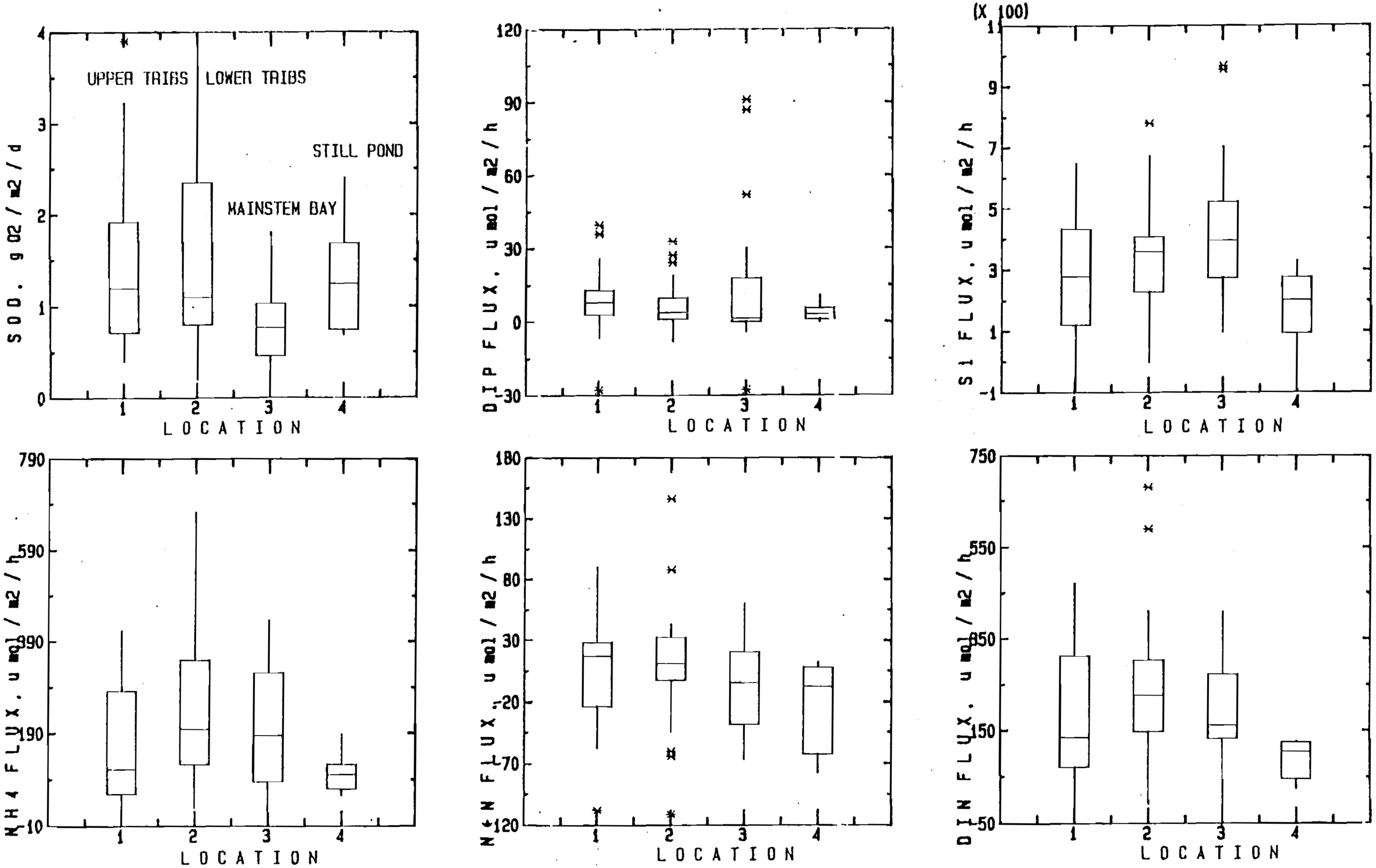


Figure 6-2. Box and whisker plots illustrating spatial patterns in benthic fluxes of oxygen and nutrients at four groups of SONE Monitoring Stations (Locations), August 1984 through June 1986. Data for all years and stations combined by location. The box encloses 50% of the data for each location; the median is given by the horizontal line in the box; whiskers show the total range of values. Values greater than 1.5 times the 25th quartile (upper or lower extent of the box) are shown as asterisks. Locations are coded along the y-axis as follows: 1, upper tributary stations; 2, lower tributary stations; 3, mainstem Bay stations; 4, upper Bay (Still Pond) station.

Figure 6-3. Spatial and temporal patterns in benthic fluxes of oxygen and nutrients at SONE monitoring stations, August 1984 through June 1986. Flux data are plotted against Julian date and coded for stations as in Fig. 6-1 except Still Pond station is coded "A".

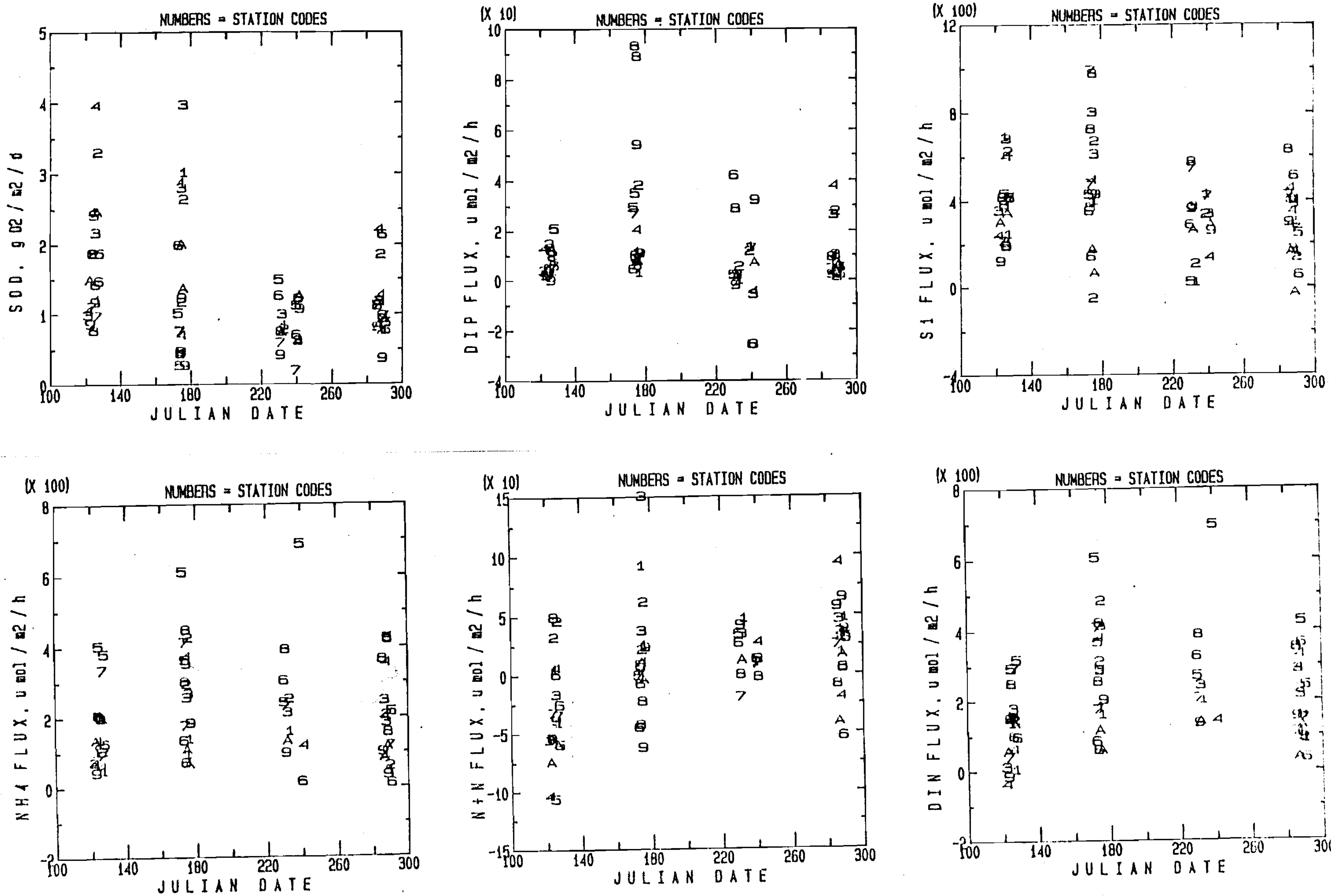


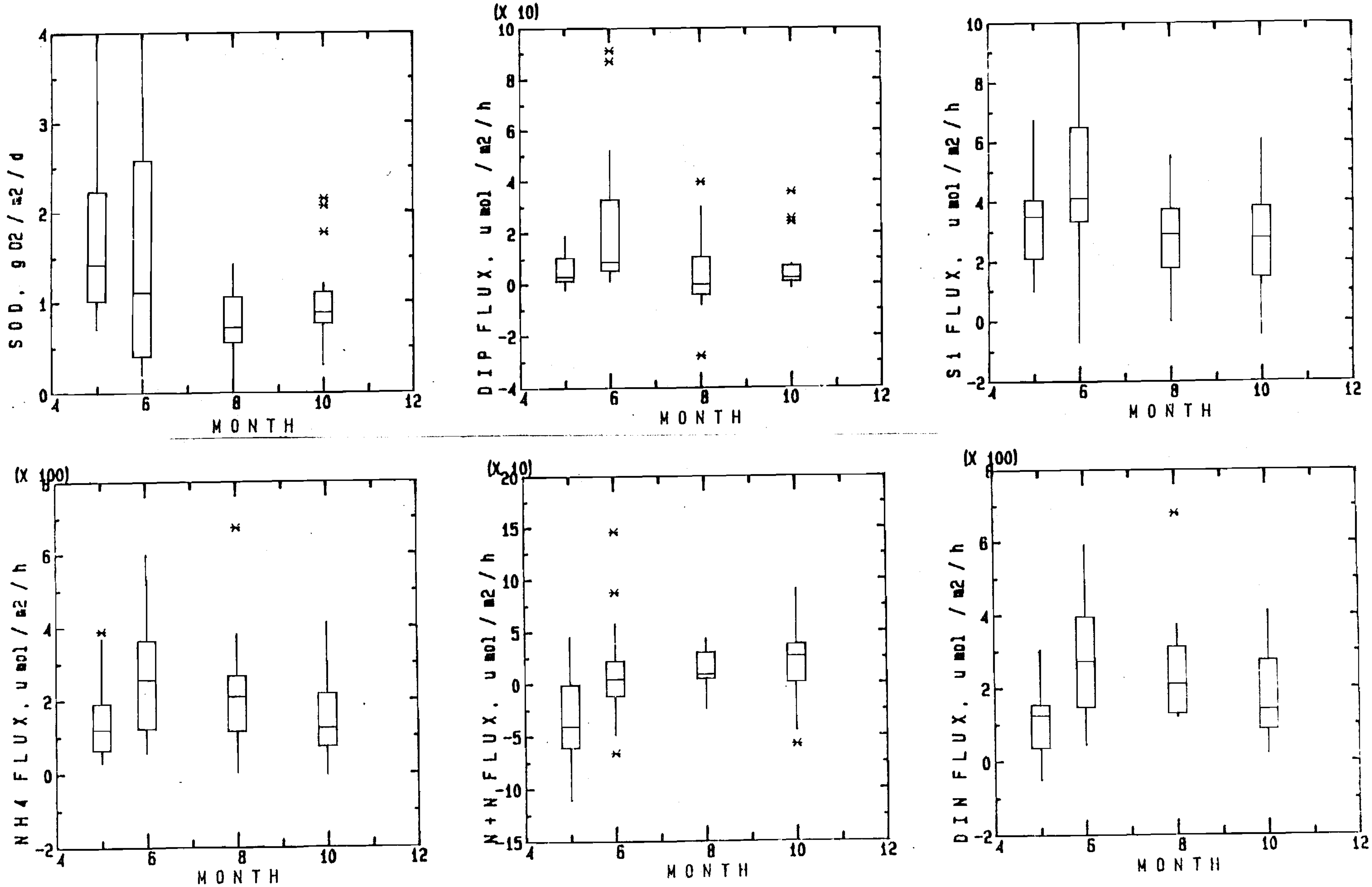
Table 6-4. Mean spring through fall sediment-water fluxes of oxygen and dissolved nutrient at four classes of SONE stations located in the Maryland portion of Chesapeake Bay. Entries give the average fluxes and standard errors for data collected during SONE cruises 1-8, August 1984 through June 1986.

Location	SOD g $O_2 m^{-2} d^{-1}$ Mean	± SE	NH_4 umol $m^{-2} h^{-1}$ Mean	± SE	NO_2+NO_3 umol $m^{-2} h^{-1}$ Mean	± SE	DIN umol $m^{-2} h^{-1}$ Mean	± SE	DIP umol $m^{-2} h^{-1}$ Mean	± SE	Si umol $m^{-2} h^{-1}$ Mean	± SE
1. Upper tributary Stations	1.48	0.17	168	30	4.6	10.1	178	32	10.2	3.9	293	43
2. Lower Tributary Stations	1.49	0.16	235	30	11.2	9.0	246	30	7.2	3.8	357	41
3. Mainstem Bay Stations	0.77	0.16	201	30	-7.0	9.2	193	30	13.1	3.8	429	41
4. Still Pond Station	1.30	0.27	107	53	-24.0	16.6	83	52	3.9	6.5	179	70

Table 6-5. Monthly mean sediment-water fluxes of oxygen and dissolved nutrients at SONE stations in the Maryland portion of Chesapeake Bay. Entries give montly means for combined SONE stations, SONE Cruiese 1-8.

	Month	SOD g02/m2/d Mean ±	SE	NH4 umol/m2/h Mean ±	SE	N02+N03 umol/m2/h Mean ±	SE	DIN umol/m2/h Mean ±	SE	DIP umol/m2/h Mean ±	SE	Si umol/m2/h Mean ±	SE
5	May	1.67	0.17	148	31	-35.0	8.8	113	30	5.4	3.8	356	45
6	June	1.42	0.18	254	40	9.4	9.0	262	30	23.0	3.9	449	50
8	August	0.79	0.18	222	32	12.9	10.5	260	42	3.2	4.0	277	46
10	October	1.02	0.17	160	31	18.3	8.8	179	30	6.6	3.8	280	45

Figure 6-4. Box and whisker plots illustrating temporal patterns in benthic fluxes of oxygen and nutrients at SONE monitoring stations for the period of August 1984 through June 1986. Data for all stations and years combined by month. Interpretation of plot is given in legend of Fig. 6-2.



June and smallest in August, suggesting that the summertime drop in SOD is not restricted only to the mainstem bay. At this highly aggregated level we are certainly obscuring finer scaled seasonal patterns and year-to-year difference at individual stations. Year-to-year differences and spatial trends in SOD should emerge as more data become available.

6.3 Dissolved Inorganic Phosphorus (DIP) Flux

During the first two years of SONE monitoring DIP fluxes ranged from sediment uptakes of nearly -30 ug-at m^{-2} h^{-1} at Maryland Pt. and R-64 in August 1984 to sediment releases of DIP of over 90 ug-at m^{-2} h^{-1} at R-64 in June 1986. In spite of this wide overall range, fluxes of DIP were generally positive, that is, DIP was usually released from the sediment to the overlying water (Fig. 6-1) and most DIP fluxes fell in the range of 0-35 ug-at m^{-2} h^{-1} (Fig. 6-2). Two-year mean DIP fluxes at the ten SONE stations ranged from about 4 ug-at m^{-2} h^{-1} at Still Pond to over 20 ug-at m^{-2} h^{-1} at R-64 (Table 6-2). Highest positive DIP fluxes occurred along the mainstem bay in June with DIP fluxes at R-64 tending to be highest throughout the monitoring period (Fig. 6-1). Least variability in DIP fluxes occurred throughout the bay in May during both 1985 and 1986 (Fig. 6-3, Table 6-5). There was little other indication of seasonality in DIP fluxes during the spring-to-fall period covered by SONE monitoring.

Finding the mechanisms that seem to "turn on" and "turn off" DIP fluxes is clearly crucial to understanding phosphorus dynamics at the sediment-water interface. We will show below that the redox environment of the sediment and overlying water is one such important factor, particularly in the mainstem bay. However, the DIP flux data collected to date suggest that the mechanisms regulating DIP fluxes probably differ at various locations within the bay. For example, DIP fluxes tend to be highest along the deeper reaches of the mainstem bay and the upper tributaries (Table 6-4). The release of DIP from sediments along the deep mainstem bay is most likely assoicated with the drop in redox potential that accompanies the depletion of oxygen in the overlying water. Such release of DIP from sediments during anoxic conditioms is a well known process in lakes and fjords and involves the redox-driven dissolution of iron phosphates and other compounds (Krom and Berner 1980; Klump and Martens 1981). It seems unlikely that a similar mechanism controls the relatively large fluxes of DIP from sediments in the upper tributaries because the overlying water in these regions is always well-oxygenated.

While we are unable at this point to clearly define the processes that regualte DIP fluxes, the magnitude of these fluxes are often sufficient to influence the concentration of DIP in the overlying water (Nixon et al. 1980). Consequently, the benthic flux of DIP could influence the amount of DIP available for phytoplankton production, as well as contributing to the availability of DIP relative to DIN.

6.4 Dissolved Silicate Flux

Dissolved silicate was almost always released from estuarine sediments to the overlying water (Fig. 6-1) as has been reported previously in the Bay (Boynton and Kemp 1985). The majority of fluxes fell within the range of 100 - 500 ug-at m^{-2} h^{-1} (Fig. 6-2). Given the shallowness of the bay it seems likely these benthic fluxes represent a significant source of silica (D'Elia et al. 1983).

Within-station variability in silicate flux tends to mask expected spatial and seasonal patterns (Fig. 6-1, Tables 6-4; 6-5). Highest fluxes were generally found along the deep mainstem bay and lowest generally occured in the low-salinity upper bay (Still Pond) and upper tributaries. This pattern is borne out when the data are highly aggregated into location means (Table 6-4) which parallel increasing salinity; Still Pond < Upper Tribs. < Lower Tribs. < Mainstem Bay. This pattern is consistent with a conceptual model which would predict increasing silicate dissolution as silica deposition from diatom frustules increased along an estuarine salinity gradient (D'Elia et al. 1983).

6.5 Fluxes of Inorganic Nitrogen

6.5.1 Ammonium Flux

The results of SONE monitoring are consistent with earlier studies in Chesapeake Bay (Boynton et al. 1980) and elsewhere (see Zeitzschel 1980) in showing that ammonium dominates benthic flux of fixed inorganic nitrogen in productive temperate estuaries. The release of ammonium from sediments at the SONE stations were generally many times greater than the net exchange of nitrate + nitrite (N + N) and on occasion, ammonium flux exceeded N + N flux by several orders of magnitude. Averaged over all stations and times, ammonium flux accounted for about 80% of the total exchange of fixed inorganic nitrogen across the sediment-water interface. Total DIN flux (sum of ammonium + N + N fluxes) is therefore dominated by ammonium flux. DIN flux plots in Figs. 6-1, 6-2, 6-3 and 6-4 are therefore nearly indistinguishable from the accompanying ammonium plots.

Ammonium fluxes at individual SONE stations ranged from lows of 20 - 30 ug-at m^{-2} h^{-1} (St. Leonard and R-78 in October 1984) to mid-summer highs of over 600 ug-at m^{-2} h^{-1} (Fig. 6-3). Using earlier work in the Patuxent River as a guide, we would have predicted higher fluxes in the lower salinity reaches of the tributaries. Contrary to expectation, the ammonium fluxes revealed no obvious spatial pattern. In fact, fluxes in the lower Potomac at Ragged Pt. were significantly greater than those found at the other SONE monitoring stations (Fig. 6-1, Table 6-2). The reasons for this are not entirely clear, but in the sections that follow we will show that ammonium fluxes can be correlated with the nitrogen content of sediments, redox regime of the sediments and overlying water, activity of the benthic organisms, and the rate of deposition of particulate nitrogen.

6.5.2 Nitrate ± nitrite (N+N) flux.

Unlike ammonium, N+N fluxes exhibited strong seasonal and spatial patterns (Fig. 6-1, 6-4) and shifts in direction of the fluxes across the sediment-water interface. N+N was generally released from the well-oxidized sediments found in the Patuxent and Choptank Rivers, and taken up by sediments found in the Potomac and along the mainstem Bay (Tables 6-2, 6-4). Maximum positive N+N flux (a net release of nearly 150 ug-at m^{-2} h^{-1}) was found in the lower Choptank (Horn Pt.) in June 1985. Greatest N+N uptake (-111 ug-at m^{-2} h^{-1}) occurred in the Lower Potomac (Ragged Pt.) in May 1986. Nearly all N+N fluxes fell between -70 to 70 ug-at m^{-2} h^{-1} (Fig. 6-3). Figure 6-3 shows that N+N uptake by the sediments was most prevalent during spring (May) while N+N fluxes were generally positive and remarkably uniform in late summer (August). Bay sediments taken as a whole appear to shift from N+N uptake in spring to N+N release in late summer and fall (Table 6-5).

The net N+N flux reflects the combined effects of chemical and biological factors that regulate ammonium production, nitrification, denitrification, and the fluxes of solutes across the sediment interface. Nitrate concentration in waters over the sediments can influence the measured rate of N+N uptake by limiting the amount of nitrate available for nitrate metabolism (and denitrification) as well as influencing diffusion-driven fluxes of nitrate at the sediment surface. Oxygen concentration and redox regime also undoubtedly help regulate N+N dynamics. Ammonium oxidation is the first step in the formation of nitrate. We have shown that sediments throughout the bay produce an abundance of ammonium, so it seems unlikely that nitrate formation is limited by ammonium availability. However, nitrification is an obligately aerobic process, while nitrate metabolism occurs under anaerobic conditions. We can speculate that the net releases of N+N observed in the Patuxent and Choptank tributaries reflect predominately oxidized environments both in the surficial sediments and the overlying waters. Such conditions would favor sediment-associated nitrification and the net release of nitrate from the sediments. At other locations in the Bay, the redox environment appears to shift between oxic and anoxic conditions, the former favoring nitrification, the latter nitrate metabolism and denitrification. Nitrate formation and consumption appear at times to be in balance. This results in no net flux of N+N at the sediment surface. Elsewhere, particularly along the mainstem bay where hypoxic and anoxic conditions prevail during the summer, the balance apparently shifts toward nitriate metabolism and in the net removal of N+N from overlying water. The rate of N+N uptake must ultimately be limited by N+N availability, hence the rates of nitrate reduction and nitrification would be expected to be strongly coupled.

6.6 Factors Influencing Benthic Fluxes of Oxygen and Inorganic Nutrients

Relationships between sediment nutrient fluxes and various environmental factors such as water temperature, water depth, sediment characteristics, mixed layer depth, and rates of organic matter input have been reported for nearshore ecosystems (e.g. Hargrave 1969, Nixon et al. 1976, Hammond et al. 1985) In an initial attempt to identify sources of variability in the SONE flux data, and to eventually develop a predictive model of sediment-water exchanges, we examined the benthic flux data for correlations with a suite of relevant ecological factors. At this stage these analyses have been conducted at a fairly high level of aggregation using mean fluxes and searching for simple correlations that hold throughout the bay. This approach undoubtedly glosses over many subtle features of the data, especially station-specific trends, year-to-year variations, and mutivariate responses. Nevertheless, some intriguing features of the data have emerged from this exploratroy approach.

Contrary to expectation, we found no significant single-variable correlations between sediment-water fluxes and any of the following environmental variables: bottom water temperature, salinity, water depth, the concentrations of dissolved nutrients either in the bottom water or initially present in the sediment flux chambers, and the Eh of bottom water or surficial sediments. However, intriguing relationships did emerge from regressions of sediment-water fluxes on (1) surficial sediment ntirogen content, (2) bottom water oxygen concentrations, and (3) rates of particulate nutrient deposition. These findings are discussed below.

6.6.1 Sediment Characteristics and Relationships With SONE Fluxes.

As a first approximation the amounts of particulate carbon (PC), nitrogen (PN), and phosphorus (PP) found in estuarine sediments reflect the long-term net effects of the opposing processes of organic matter deposition and diagenesis (remineralization). We therefore suspected that some relationships might exist between the organic deposition rates, benthic nutrient fluxes, and the resulting organic composition of the sediment. Some substantial support for this concept emerged from the SONE data.

Surficial sediments at SONE tributary stations generally contained 2-3% total particulate carbon (Fig. 6-5). There were two notable exceptions that appear related to areas of sediment accumulation: sediments at Windy Hill in the upper Choptank (about 5% PC) apparently receive considerable detrital organic material from bordering marshes; sediments in the lower Potomac at Ragged Pt. are also fairly carbon rich (about 4% PC) perhaps because the hydrography of that region favors either the sedimentation or preservation of relatively organic rich material. Sediment PC decreased in a regular north-to-south fashion along the mainstem Bay from about 4.5% PC in the upper bay at Still Pond to about 2.5% PC at our southernmost station near Pt. No Point. Sediment PN and PP exhibited significantly different spatial patterns (Fig. 6-5). Although the sediments at Windy Hill and Ragged Pt. were relatively nitrogen rich compared with that found at the other tributaries, sediment PN increased from Still Pond to the mainstem station at R-64. Sediment PP presented an altogether different pattern (Fig. 6-5): upper tributary sediments were consistently enriched in PP relative to the sediments found downstream. Sediment PP appears to remain essentially uniform in the mainstem bay.

The abundances of C, N, and P in sediments at the SONE monitoring stations suggest that the sediments accumulating in the upper tributaries and perhaps the upper mainstem are enriched in carbon and phosphorus relative to nitrogen. These patterns can also be seen in the sediment property plots shown in Fig. 6-5. Sediments from the lower tributaries and lower mainstem bay (Locations 2 & 3) are the most rich in nitrogen relative to carbon. Sediments from the upper tributaries and Still Pond (Locations 1 & 4) form groups of points well below (i.e., depleted in nitrogen) the main group representing the mainstem and lower tributaries.

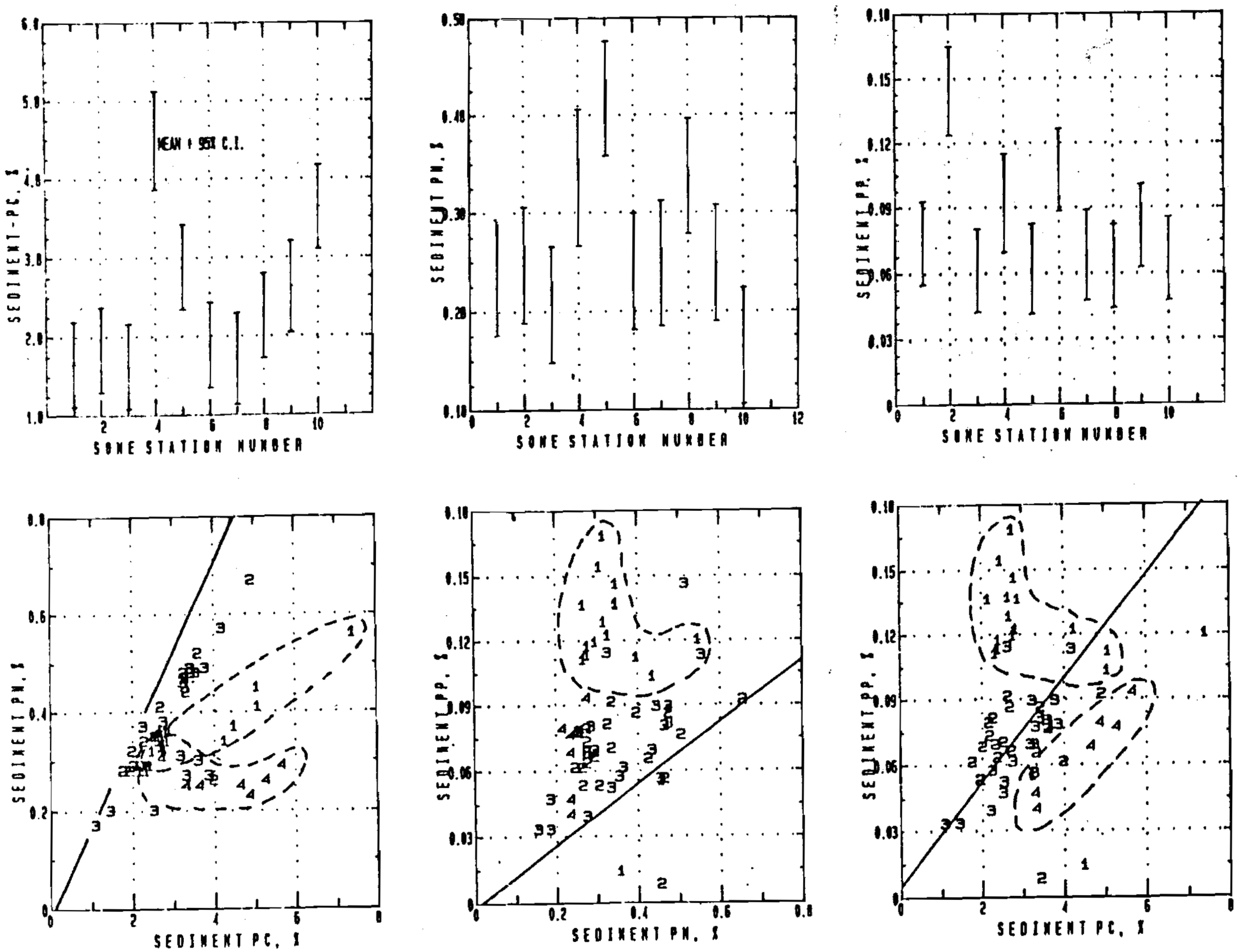


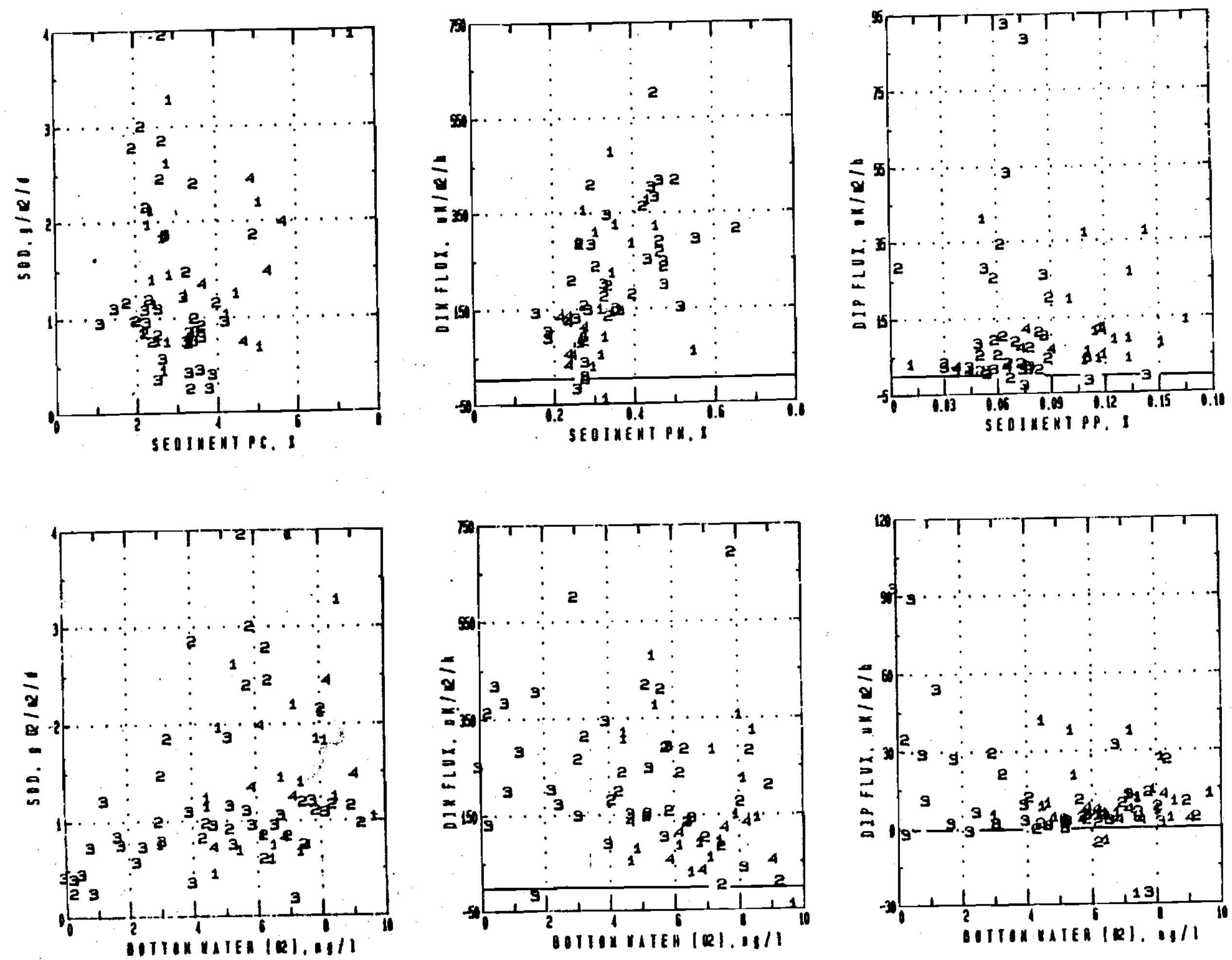
Figure 6-5. Upper panels (a,b,c) show particulate carbon (PC), particulate nitrogen (PN), and particulate phosphorus (PP) content of surficial sediments obtained during SONE flux monitoring, August 1984 through June 1986. SONE stations coded along the x-axis as in Fig. 6-1. Lower panels (d,e,f) show the stoichiometric relationships between sediment PC, PN, and PP. Data are coded for location as in Fig. 6-2. The diagonal lines in the lower series of panels show the appropriate Redfield element ratio. The clusters of points enclosed by dashed lines are meant to assist in observing groupings of data. These clusters have no statistical signicance.

Similarly, plots of PP vs. PN and PP vs. PC (Fig. 6-5) illustrate that the sediments from the upper tributaries are rich in PP relative to PN and PC compared with sediments from the mainstem bay. Deposition of carbon and phosphorus via sorption, flocculation, and perhaps precipitation reactions in the low-salinity reaches of the tribuataries and bay are probably responsible for the observed sedimentation patterns of these elements. There are two explanations for the apparent discrimination against nitrogen in the sediments of these regions. The sediments may simply reflect the deposition of terrestrial or fluvial sediment. On the other hand, organic nitrogen may be preferentially remineralized in these sediments and returned to the water as some form of dissolved inorganic nitrogen. (Boynton and Kemp 1985).

Returning to the main point of this section, the relationships between sediment composition and benthic fluxes of oxygen, DIN, and DIP are shown in Figs. 6-6. Although some locations tend to separate into groupings of points (for example, SOD along the mainstem bay and DIP in the upper tributaries) these scatterplots reveal no consistent relationships between the carbon content of the sediment and SOD, or the phosphorus content of the sediment and DIP flux. This finding agrees with earlier studies that reported little or no relationship between benthic community metabolism and most sediment characteristics (Pamatmat 1977).

On the other hand, the positive correlation between DIN flux and the sediment PN content was quite good ($< = 0.51$, $P > 0.01$). To our knowledge this is the first time this type of relationship has been found. We suggest that the correlation between DIN flux and sediment PN can best be attributed to the effects of oxygen concentration on the net

Figure 6-6. Scatter plots illustrating the relationships between oxygen, DIN, and DIP fluxes with sediment PC, PN, and PP content (upper panels) and bottom water oxygen concentration (lower panels). Horizontal lines within a plot provide reference to zero flux. Data are coded for location as in Fig. 6-2.



products of microbial nitrogen transformations in the sediment. The layering of aerobic water and sediments over deeper anaerobic sediments favors the loss of fixed nitrogen from the sediment via the following reaction sequence: ammonium formation ---> ammonium oxidation and nitrification ---> nitrate reduction and denitrification. Nitrification ceases when both sediments and overlying water are anoxic. Denitrification also ceases when the supply of nitrate is cut off. Thus, under anoxic conditions the reaction sequence stops at ammonium production. Nitrogen remineralization appears to be less complete under anaerobic conditions. Fixed nitrogen therefore tends to accumulate as sediment conditions become more reducing.

6.6.2 Correlations Between Benthic Fluxes and Other Environmental Variables

Correlation analysis (Table 6-6) revealed some intriguing patterns of possible relationships among benthic fluxes and a number of relevant environmental variables. In general, SOD and ammonium fluxes seemed to correlate best with ambient water and sediment characteristics while N+N and silicate fluxes showed the least overall relationship with simple environmental factors.

For the purposes of OEP monitoring, the relationships between bottom water oxygen concentration and benthic fluxes demands particular attention. Figure 6-6 shows the general form of the relationship between SOD and bottom water oxygen concentration. Low SOD measurements were (with three exceptions) associated with concentrations of oxygen below about 1 mgl^{-1}. Within a wide envelope associated mostly with the high SOD in tributaries sediments (Groups 1 and 2), SOD generally increased as bottom water oxygen increased. This relationship was strongest along the mainstem bay. Sufficient dissolved oxygen in bottom waters therefore

Table 6-6. Matrix of correlation coefficients (r) showing the bi-variate relationships among sediment fluxes and routinely measured environmental parameters. Correlations that were significant at the 95% confidence level are indicated with three asterisks. Inverse relationships are indicated with a minus (-) sign.

	SOD	Ammonium Flux	(N+N) Flux	DIP Flux	Silicate Flux
SOD					
Ammonium flux					
(N+N) flux	***				
DIP flux		***			
Silicate flux		***		***	
Bottom water diss. oxygen	***	-***		-***	
Bottom water ammonium	-***	***		***	
Bottom water (N+N)		-***			***
Bottom water DIP					
Bottom water silicate					
Bottom water temperature			***		
Bottom water salinity	-***	***			
Bottom water Eh					
Surf. sed. Eh	***				
Surf. sed. PC					
Surf. sed. PN		***		***	
Surf. sed. PP					
Surf. sed. Chl a			-***		

appears necessary for high rates of SOD, but other factors clearly contributed to high rates of SOD periodically observed in the tributaries.

The relationship between bottom water oxygen and DIN flux was statistically significant and opposite that of SOD and dissolved oxygen (Table 6-6, Fig. 6-6). In spite of considerable scatter in the data from the tributaries, DIN flux was generally greatest when bottom water oxygen content was low. The inverse relationship between DIN flux and bottom water oxygen was strongest along the mainstem bay. This, we think, offers further evidence for the coupling of inorganic nitrogen remineralization and redox status of sediments discussed above: high ammonium fluxes along the mainstem bay appear related to low oxygen conditions. Conversely, low DIN flux, due to a combination of low ammonium flux from the sediments and negative N+N fluxes (i.e., sediment uptake) occur when oxygen concentration of bottom waters is high.

Several factors appear to contribute to a complex relationship between DIP flux and bottom water oxygen (Fig. 6-6). High DIP fluxes along the mainstem bay occur when hypoxic or anoxic conditions prevail in the overlying water, but low oxygen conditions are not always accompanied by high DIP fluxes. Benthic DIP fluxes in the lower tributaries and along the mainstem bay were generally less than 15 umol $m^{-2}h^{-1}$ when oxygen in the overlying waters exceeded 4 mgl^{-1}. However, significantly higher fluxes occurred occassionally in the upper tributaries. The origin of these spikes in DIP release is not known.

6.7 Relationships Between Benthic Fluxes and Nutrient Deposition at R-64

At the center of the Ecosystems Processes Component of the OEP monitoring program, and in fact the entire concept of benthic-pelagic coupling, is the assumption of a functional relationship between benthic nutrient flux and the deposition of organic matter at the sediment-water interface. Direct evidence supporting this assumption has rarely been demonstrated because both nutrient flux and organic deposition must be determined simultaneously, as we have done with the sediment trap deployments and benthic flux measurements at mid-bay station R-64. The data from R-64 do indeed support the hypothesized coupling of benthic and pelagic components in the bay.

As shown in Fig. 6-7, there are good linear relationships between the amounts of PC and collected in the mid-water sediment traps and the benthic fluxes of oxygen and ammonium. The relationships between PP deposition and DIP flux appear to be more complicated, but here also a general trend is apparent. As predicted, SOD generally increased as the deposition of PC increased. The regresssion of SOD on PC deposition is admittedly influenced by one particularly high measurement, but we have no reason to suspect that measurement is wrong.

The simple linear relationship between PN deposition and ammonium flux is striking both because of how good (with one exception) the relationship appears to be, and also because the trends for both ammonium and DIP fluxes are opposite that of SOD and therefore opposite what we would have predicted. At this point we cannot rule out the possibilities that the observed relationships are fortuitous or due to the co-varience of the two variables with another factor, such as dissolved oxygen. The inverse relationship between ammonium flux and dissolved oxygen was discussed above. We note here that highest ammonium fluxes occurred in

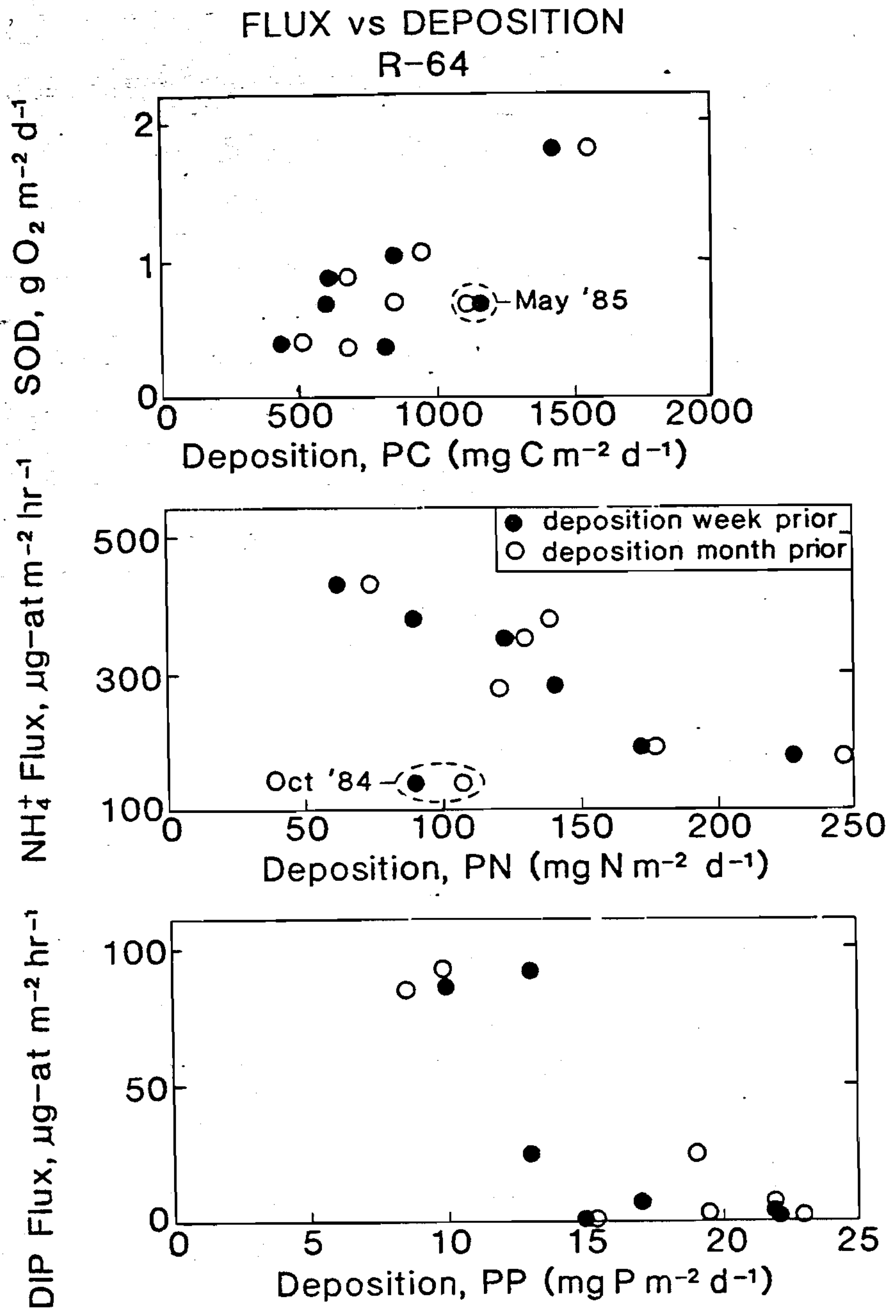


Figure 6-7. Scatter plots showing the relationships between rates of particulate carbon, nitrogen, and phosphorus deposition and benthic fluxes of oxygen, ammonium, and DIP, respectively, at mid-Bay station R-64. Closed circles show the deposition rates to mid-depth sediment trap cups during the week prior to the corresponding benthic flux determination. Open circles give the deposition rate averaged over the month prior to the benthic flux determination.

June when bottom waters at the station were nearly anoxic. Conversely, low ammonium fluxes occurred in May, following the spring diatom bloom, when oxygen in the column was higher. The mechanisms producing the observed patterns are therefore still obscure.

6.8 Nutrient Stoichiometries at Station R-64

Over fifty years ago, Redfield and others discovered that nutrient elements were extracted from and returned to sea water in constant proportions that reflected the average elemental composition of planktonic organisms (Redfield 1934; Redfield et al. 1963). The method of examining stoichiometric relationships between oxygen, carbon, nitrogen, and phosphorus (O:C:N:P ratios) continues to be a useful means of examining the coupling of energy flow and nutrient cycles in various compartments of an aquatic system. Such analysis has been largely responsible for the current focus on estuarine sediments as sites of important nutrient transformations (Nixon and Pilson 1984).

The synoptic sampling strategy adopted for SONE and VFX monitoring at Station R-64 allows us to assemble a rather complete stoichiometric model for the formation, deposition, and remineralization of organic matter in the central meso-haline region of the bay. Nutrient ratios of suspended particulate matter, material collected in sediment trap cups, and surficial sediments have already been described and with few exceptions these plots revealed regular and statistically significant relationships between carbon, nitrogen, and phosphorus. Element-element plots for benthic fluxes throughout the bay exhibit considerably more scatter and, with one important exception (DIN vs. DIP flux) do not reveal statistically significant stoichiometric relationships. The exception was the predictive regression of DIP flux on DIN flux (Fig. 6-

8). This produced a significant correlation (Table 6-6), and a linear regression coefficient for DIN/DIP fluxes equal to 15.7, exactly the Redfield Ratio.

In spite of the lack of linearity, the plots of ammonium and DIN fluxes against SOD (Fig. 6-8) indicate that benthic fluxes throughout the bay tend to be nitrogen-rich relative to Redfield-type organic matter. Most points fall above the line giving Redfield's N:O ratio. This suggests that, in a manner opposite that found in other temperate estuaries (Nixon and Pilson 1984), more ammonium appears to be leaving the sediment than would be predicted based on the simple areobic decomposition of Redfield-type organic matter. A discussed below, this does not appear to be due to the deposition of exceptionally nitrogen-rich organic matter. It more likely suggests that anaerobic metabolic processes, such as sulfate reduction, may be responsible for a significant fraction of nitrogen remineralization in the sediments and that the reduced products of these processes, such as sulfides, are not contributing significantly to SOD. Our SOD measurement may therefore be underestimating total sediment metabolic activity, especially when when the waters over the sediments are hypoxic or anoxic.

The results of the stoichiometric regressions revealed the following features of nutrient biogeochemistry in the mid-bay region (Fig. 6-9). First, particles suspended in the water column have relatively high C/P and N/P ratios, suggestive of detritial material, and organic matter of low overall nutritional "quality". The similarity of the C:N:P ratios of the seston with surficial sediments is notable, and suggests that the suspended sediment load, even in surface waters, may contain a considerable fraction of resuspended sediment. Differences between the

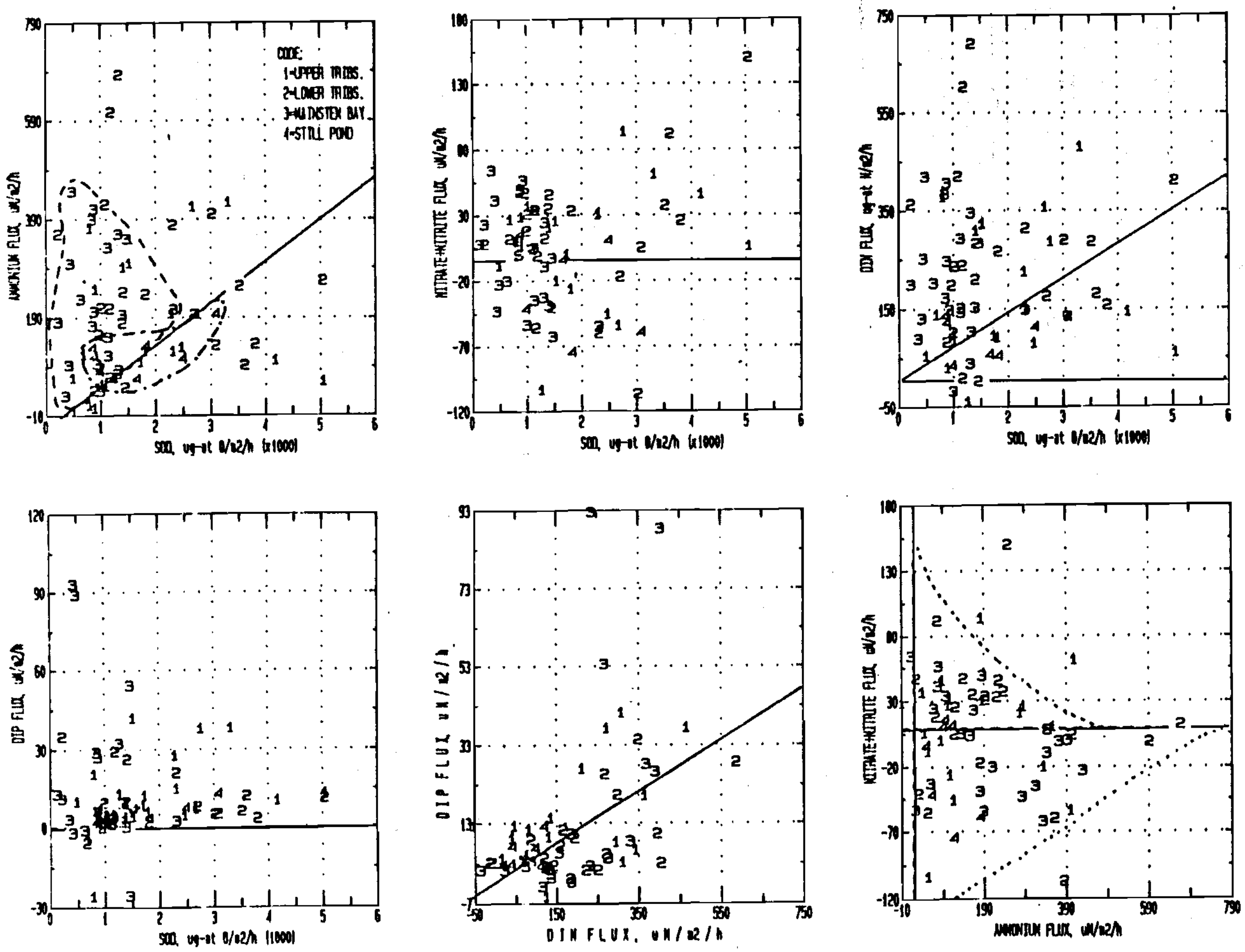


Figure 6-8. Selected scatter plots showing the relationships among the benthic flux of oxygen, various forms of inorganic nitrogen, and inorganic phosphorus. Flux data are coded for location as in Fig. 6-2. Horizontal lines within a plot provide reference to zero flux. Diagonal lines in plots a, c, and e, show the appropriate Redfield ratio. Dashed lines enclose data that appear to cluster by location.

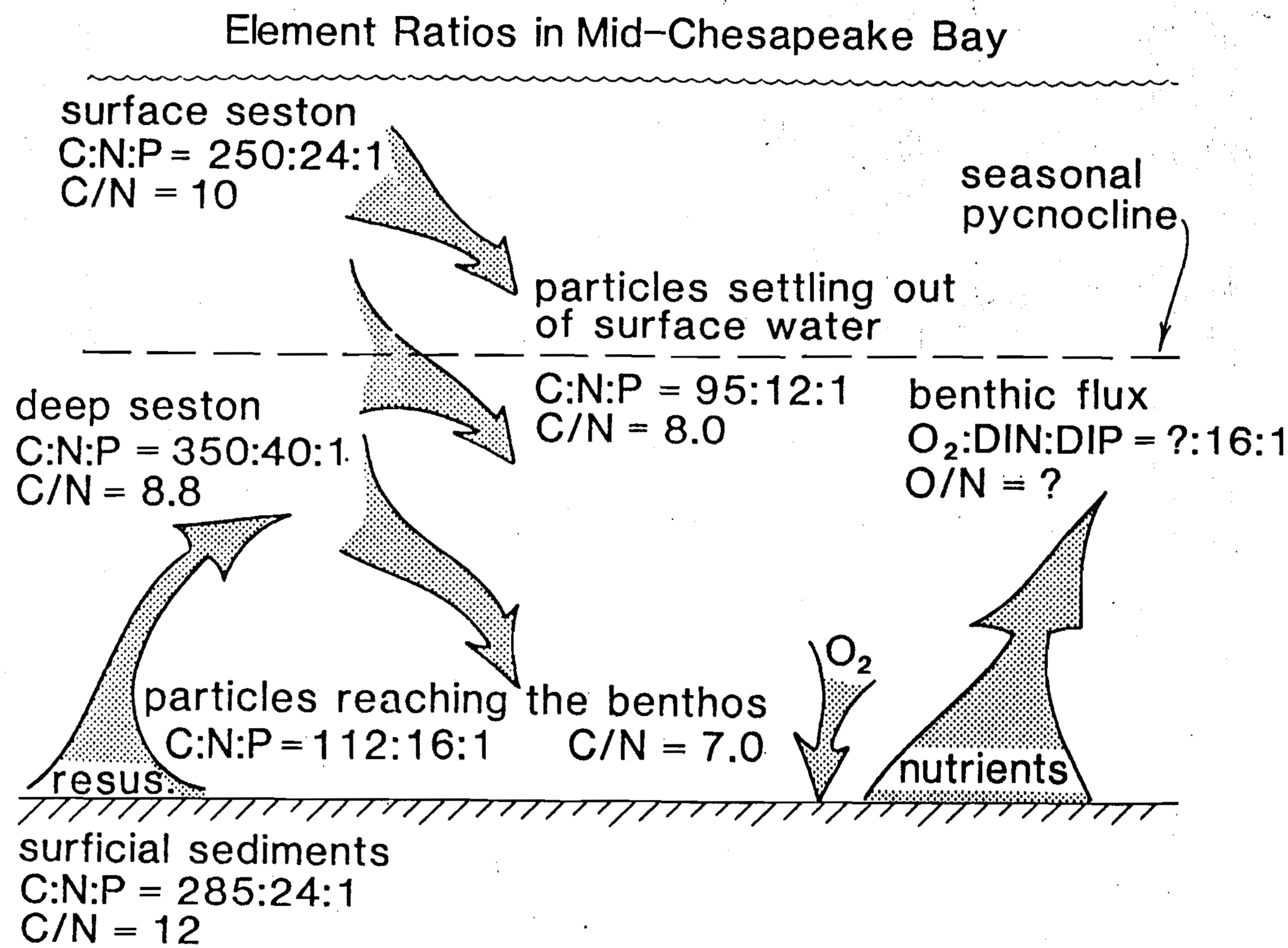


Figure 6-9. Average stoichiometric model of suspended particulate matter, sedimenting particulate matter, surficial sediments, and benthic nutrient fluxes in the mid-Chesapeake Bay region. Element ratios given in the figure are based on the predictive linear regression coefficients of nutrient pairs that provided statistically significant (95% confidence) correlations.

nutrient ratios of suspended seston and the material collected in both the middle and bottom sediment traps are also striking. The material collected in the traps follows Redfield's ratios almost exactly, suggesting the deposition of material that appears to be very much like nutrient-replete planktonic organic matter; material that is far richer in both nitrogen and phosphorus than suspended seston.

Finally, perhaps the most significant result of our stoichiometric analysis is the extraordinary similarity in the ratio of fluxes of nitrogen and phosphorus into and out of bay sediments. Both the deposition and remineralization of these nutrients appear on average to be in relative balance, and to follow the Redfield ratio of 16:1. This finding runs counter to the prevailing view that estuarine benthic fluxes are usually anomalously low in nitrogen relative to the Redfield ratio. Several scenarios could be offered to explain this difference. The simplest, it seems to us, is to suggest that this region of Chesapeake Bay is more nitrogen-rich than expected.

7. Seasonal Evaluations of Sediment and Depositional Processes on Water Quality Conditions

In this section a series of seasonally averaged budgets are presented for purposes of putting into perspective the relative influence of sediment deposition and benthic fluxes on water quality conditions in portions of Chesapeake Bay. The first of these budgets compares the magnitude of deep-water oxygen stocks with sediment oxygen demand (SOD) for several different periods of the year at stations which often experience hypoxic or anoxic conditions. The second summary is similar but focuses on the impact of sediment-water fluxes of NH_4^+ and NO_3^- relative to stocks in the water column and estimated phytoplankton demand. The final summary considers the degree of water column-benthic coupling at a deep station (R-64) in the mainstem of the Bay.

Estimates of the influence of SOD on deep-water oxygen stocks at several monitoring stations are given in Table 7-1. There was considerable variability among stations and seasons in the height of the deep layer (i.e., distance from the sediment surface to the pycnoclcine). The combination of changing deep layer depth and ambient oxygen concentrations in this layer produced large seasonal excursions in the magnitude of deep-water oxygen stocks. For example, the oxygen stock at R-64 ranged from about 75 g m^{-2} in May to 4 g m^{-2} in June (Fig. 7-1). At all deep stations, oxygen stocks were high in fall and early spring and low in summer, paralleling the pattern observed for oxygen concentration.

The relative influence of SOD on oxygen stocks is expressed as the portion of the deep water oxygen stock consumed in SOD per day. As shown in Table 7-1, values range from 2-16% per day. At all stations examined there was a clear seasonal trend in the relative influence of SOD: even when SOD rates were high, SOD influence on dissolved oxygen stocks was

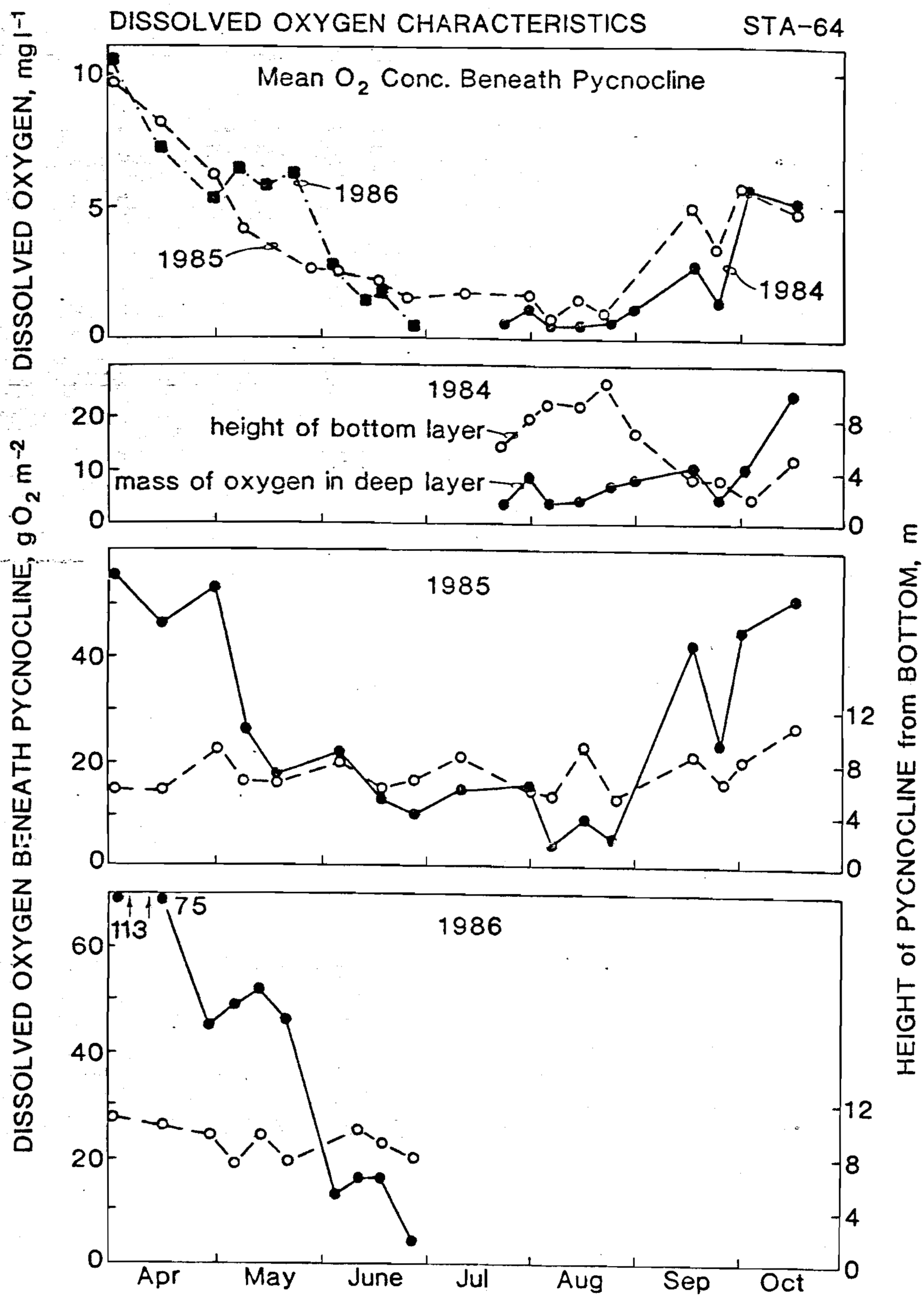


Figure 7-1. Dissolved oxygen characteristics in deep waters at station R-64.

Table 7-1. Potential influence of SOD on deep-water oxygen stocks at SONE stations experiencing significant seasonal stratification of the water column. Deep-water oxygen stock calculated by multiplying the height of water beneath the pycnocline by the mean O_2 concentration in this water mass.

Station	Date	Height of Deep Layer (m)	Deep-Water Oxygen Stock ($gO_2\ m^{-2}$)	Sediment Oxygen Demand ($gO_2\ m^{-2}d^{-1}$)	SOD:Deep-Water Oxygen Stock (d^{-1})
Pt. No. Pt.	Aug 85	4.3	15.5	-0.52	0.03
	Oct 85	4.1	23.8	-1.05	0.04
	May 86	5.4	47.5	-1.03	0.02
	June 86	3.4	9.8	-0.68	0.07
R-64	Aug 85	6.5	8.5 3	-0.68	0.08
	Oct 85	6.8	32.0 4	-1.04	0.03
	May 86	10.5	74.6 1	-1.81	0.02
	June 86	7.0	4.2 2	-0.37	0.09
R-78	Aug 85	5.5	4.4	-0.35	0.08
	Oct 85	8.0	34.4	-0.78	0.02
	May 86	8.0	18.4	-0.79	0.04
	June 86	7.4	13.3	-1.16	0.09
Ragged Pt.	Aug 85	2.5	8.5	-1.42	0.16
	Oct 85	10.3	52.0	-0.86	0.02
	May 85	10.5	75.6	-2.35	0.03
	June 86	3.5	10.9	-0.94	0.09

low if the deep waters were well oxygenated. Conversely, SOD influence was high when the deep water stocks of oxygen were small. The conclusion we draw from these data is that SOD is an important O_2 sink at these stations throughout the year, but it is particularly important during the spring when deep waters are becoming hypoxic and during the summer when hypoxic or anoxic conditions prevail at these locations. Our ability to assess the relative importance of SOD in O_2 dynamics of the deeper areas of the Bay would be enhanced if direct measurements of water column O_2 consumption were also routinely made. Such an addition to the program would also be useful in development of water quality models.

The second evaluation involves a comparison of N and P stocks and selected rate processes in the surface mixed layer and deep waters at station R-64. In this evaluation, N stocks (NH_4^+, NO_3^- and PN) in the deep and surface layers are compared to the phytoplanktonic demand for inorganic nutrients and contrasted to the rate of loss of PN to deep waters (Table 7-2) This analysis shows that the total supply of dissolved inorganic nitrogen is sufficient to supply phytoplanktonic nutrient demand for only short periods of time (hours to days) for all seasons of the year except the early spring when fluvial inputs of nutrients (primarily NO_3^-) dominate. However, the nitrogen stocks in deep waters are much more substantial and satisfy phytoplanktonic demand for periods of time 2-20 times longer than could the supplies in surface waters. One of the more interesting things to come out of these calculations is the observation that during those times of the year that plankton production is highest (i.e., June-August) nutrient stocks in the upper mixed layer are smallest. While nutrient stocks in the deep layer are not huge at these times they represent a substantial nutrient source,

Table 7-2. A comparison of N and P stocks and selected rates in the surface mixed layer and deeper waters at station R-64 in the mainstem of Chesapeake Bay.

	Surface Mixed Layer					Deep-Water Layer				
	Height of Layer	Nutrient Stocks			Phytoplk. N-Demand	Height of Layer	Nutrient Stocks			Deposition of PN
		NH_4	NO_3	PN	$NH_4 + NO_3$		NH_4	NO_3	PN	
Date	(m)	(mg-at m^{-2})			(mg-at m^{-2} d^{-1})[a]	(m)	(mg-at m^{-2})			(mg-at m^{-2} d^{-1})[b]
Aug 85	10.0	22	29	136	26	6.5	138	15	22	8.3
Oct 85	10.0	16	54	136	21	6.8	94	21	45	9.1
May 86	6.0	11	254	299	28	10.5	160	214	251	11.8
June 86	10.0	6	5	209	34	7.0	191	20	55	7.7

(a) Mean of 3 previous measurements; assumes C:N ratio (atomic) of 6.6

(b) Mean of previous 3 measurements.

being of a magnitude capable of supporting demand for periods approaching a week. A major question here concerns the manner in which the nutrient-rich deep waters reach the euphotic zone. Recent work by Malone et al. (1986) suggests that cross-Bay tilting of the pycnocline may be an important mechanism by which deep water nutrients are transported to euphotic waters. Additionally, they found that the frequency of these events were on the order of days to a week in the summer. This is in good agreement with estimated demand for nutrients for phytoplankton production.

These calculations suggest a possible explanation of the seasonal pattern of phytoplankton production generally seen in the mainstem regions of the Bay. In the spring (April-May) there is a bloom which is largely supported by nutrients (especially NO_3^-) from terrestrial sources. Nutrient concentrations are typically high in the surface layer, as are standing stocks of phytoplankton. Additionally, the pattern is of sustained high production rates and stocks — there are few indications of boom and bust cycles. In contrast, during the summer period production is often high but the pattern of production is erratic — there are times of very high and low rates — often separated by only a week or so. This pattern continues for several months. The erratic summer signal suggests that there are strong couplings between the upper mixed layer and deeper waters relative to nutrient supplies for primary productivity. Our model is that during the spring period euphotic waters are nutrient sufficient and hence there is a sustained bloom. During the summer there are only temporary periods of nutrient sufficiency in euphotic waters. These periods are directly related to events which deliver nutrient-rich bottom waters to the euphotic zone — and hence the erratic nature of summer production.

There are several pathways missing from this conceptual model which may have important implications in terms of water quality management and food-web dynamics. First, we have yet to consider the impact of zooplankton grazing. Is the spring bloom sustained because the grazing rates are low? Are the erratic summer patterns the result of differential grazing rates? As we continue to integrate various portions of the monitoring program it is likely that answers to these questions will become available.

The final point related to Table 7-2 concerns the relative amounts of inorganic nitrogen used by primary producers vs. the amount of PN lost from the euphotic zone. This comparison represents the net exchange of dissolved nutrients available to support production and the net loss of nutrients in the particulate form to deeper waters. The seasonal data suggest a substantial loss of PN to deeper waters during all seasons, with losses being somewhat larger in fall and early spring (40%). During summer, losses seem slightly smaller. Again, these observations are consistant with the conceptual model. In the fall and early spring, when metabolic rates are slowed by low temperatures and the lack a of strong pycnocline, there is substantial vertical transport of particulates from the surface layer to deeper waters; during summer periods, when temperatures are higher and the density structure typically stronger, there is less transport of PN to deeper waters. The suggestion here is that there is very substantial reprocessing of organics at or near the stratification depth during the warm portion of the year.

In the final summary we have evaluated several aspects of benthic-pelagic coupling at a central Bay location (Table 7-3). During the seasons considered, there was a considerable percentage of primary production deposited to deeper waters. For example, the percentage of PC

Table 7-3. Summary of measured and calculated benthic-pelagic processes at a central bay location (R-64) for the period Aug. 1985 - June 1986.

Date	Phytoplk. Prod. (C) and Nutrient Demand (N,P)[a] (mg m^{-2} d^{-1})			Organic Deposition[b] (mg m^{-2} d^{-1})			Percent C Deposited (%)	Deposited C Consumed[c] (%)	Deposited N & P Remineralized (%)		Benthic Remineralization: Phytoplankton Demand (%)	
	C	N	P	C	N	P	C	C	N	P	N	P
Aug 85	2100	375	51	756	116	19	36	34	110	105	34	39
Oct 85	1700	304	41	946	128	22	56	41	91	22	38	13
May 86	2190	391	53	1380	222	21	63	49	30	0	17	0
June 86 (ave)	2627	469	64	639	106	9	24	21	92	744	21	106
(early)	3844	686	94	511	84	7	13	27	115	971	14	72
(late)	1410	252	34	704	119	10	50	19	82	680	38	200

a Phytoplankton production data from Selner et al. (CEP Monitoring Program); phytoplankton N and P demand calculated assuming a phytoplankton composition ratio (C:N:P) of 41:7.3:1 (weight).

b See vertical flux section of this report.

c Calculated using SOD data collected in this program; calculation assumes an RQ of 1.0, and hence 1gO_2=0.37gC.

deposited ranged from 24-63% of water column primary production. Again, there were some notable seasonal trends. It appears that deposition was high when the water column was well mixed (May and October) and lower during periods when stratification was well developed (June and August). A probable explanation for these observations involves both biological and physical aspects of the system. We suspect that during well-mixed (and cooler) periods organic matter produced in the euphotic zone is either grazed and transformed into rapidly sinking particles or simply settles quickly because of the generally larger sizes of particles. As a result, a large percentage of production reaches the bottom. However, during the summer the situation is quite different. During this period the water column is well stratified and bacterial metabolism is high. It appears that much of the sedimenting material is utilized in the vicinity of the pycnocline resulting in a smaller percentage of the overall production reaching the bottom. Of the material reaching deep waters or the bottom a rather small percentage (20-50%) appears to be consumed in aerobic metabolism. The question which emerges here concerns the fate of the remaining deposited material. It appears from earlier studies (Boynton and Kemp, 1985) that little of this material is buried in the accreting sediment column. Even with this sink, much of the organic matter reaching deep waters must be involved in other metabolic reactions. The most probable involves the use of this material in SO_4^- reduction under anaerobic conditions in the water column or sediments. In this situation SO_4^- serves as a terminal electron acceptor in the oxidation of organic material by anaerobic bacterial communities. The recent work of Tuttle et al. (1986) in this area of the Bay strongly supports this point of view. Hence, it appears that there are several distinct pathways through which deposited organics can be utilized in the deeper waters of the Bay. Only the former tends to lead to larger organisms of commercial interest — all pathways act to use almost all of the organic matter produced — and these different pathways have an important influence on the way in which particulate nutrients (N and P) are transformed in sediments and interact with overlying waters.

In addition, there was a seasonal pattern in the releases of nutrients from sediments to water column. In the case of NH_4^+, there was almost 100% return relative to deposited materials in the late spring and summer — while in the early spring (May) there was a clear decrease in the flux of NH_4^+ from sediments to water relative to the amount of organic material deposited. In the case of P-remineralization, the pattern was one in which P was generally not released from sediments during the spring and fall. In contrast, P release from the sediment during the summer and late spring equaled or greatly exceeded the amount estimated as having been recently deposited. A possible explanation for these observations involves the oxygen condition of overlying waters and sediments. During periods when O_2 concentrations are high (i.e. May, 1986) and benthic macrofaunal communities are growing rapidly, there are multiple routes for deposited N to be transformed. For example, N compounds can be incorporated into benthic macrofaunal biomass; a portion can be buried in the accreting sediment column and a portion can be nitrified and then denitrified. All of these pathways are very probably operative in the early spring and fall periods and would result in a smaller portion of deposited N being returned from sediments to the water column as NH_4^+.

Phosphorus recycling appears to be strongly influenced at this deep-water site by redox conditions. During the portions of the year when O_2 levels are high, little of the deposited P is returned to the water column. However, when O_2 levels become depressed (and sediments become anoxic) we have observed very large fluxes of P from sediments to the water column, probably as a result of the much higher solubility of reduced Fe-P compounds. Whatever the mechanism, large amounts of P are released from these sediments during the low O_2 periods of the summer.

Finally, there appears to be a strong seasonal pattern in the proportion of nutrients supplied from the sediments for use in phytoplanktonic production. In short, when nutrient supplies in the water column are generally high (i.e. following the spring freshet) the proportion supplied via sediment recycling is low. During other portion of the year the calculated percentage is substantial at this deep station, ranging up to 38% for N and 200% for P. Similar percentages have been recorded for other Chesapeake Bay sites (Boynton and Kemp, 1985) and indicate the importance and seasonal nature of sediment processes on water quality conditions of overlying waters.

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Listing of Appendix Tables

Appendix Table 1

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT(SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	SALINITY (ppt)	DISS.OXY (mg/l)
SONE 1							
ST.LEO	27-AUG-84	940	6.7	0.5	25.3	9.8	7.8
				2	25.4	10.5	7.3
				4	25.3	10.8	5.9
				6	24.7	13.3	2.2
BU.VISTA	27-AUG-84	1335	3.6	0.5	25.8	8.8	7.5
				2	25.9	8.9	7.2
				3	25.8	8.9	7.0
HORN.PT	29-AUG-84	1025	7.2	0.5	25.2	11.2	6.3
				2	25.1	11.5	5.6
				4	24.8	12.0	4.4
				6	24.7	12.6	3.6
				6.7	24.7	12.6	3.4
WIND.HL	29-AUG-84	1255	3.6	0.5	25.6	4.8	6.5
				1	25.6	4.8	6.5
				2	25.2	4.9	6.2
				3	25.4	5.1	6.2
RAG.PT	28-AUG-84	1145	13.2	0.5	25.1	8.5	7.9
				2	24.6	8.5	7.5
				4	24.8	8.5	7.1
				6	24.5	8.6	6.6
				8	24.7	9.1	5.9
				10	24.4	9.4	5.2
				12	24.3	16.5	0.4
				13	24.1	17.0	0.3
MD.PT	28-AUG-84	1720	9.8	0.5	26.2	2.2	7.4
				2	25.9	2.2	7.4
				4	25.8	2.3	7.3
				6	26.0	2.2	7.2
				8	25.6	2.4	6.5
				9	25.7	2.4	6.2
PT.NO.PT	28-AUG-84	900	13	0.5	24.7	11.8	7.2
				2	25.0	11.8	7.1
				4	25.0	11.8	7.1
				6	25.0	11.8	7.1
				8	24.8	13.9	4.2
				10	24.9	16.5	1.5
				12	25.1	19.3	0.4

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT(SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	SALINITY (ppt)	DISS.OXY (mg/l)
R-64	29-AUG-84	745	16	0.5	24.5	13.0	7.8
				2	24.4	12.7	7.7
				4	24.5	12.9	7.6
				6	24.5	12.9	7.3
				8	24.5	13.0	7.0
				10	24.2	15.5	3.7
				12	23.9	17.6	1.4
				14	23.6	18.9	0.5
				16	23.5	19.8	0.4
TOM.PT	30-AUG-84	1010	15.2	0.5	24.3	12.4	6.8
				2	24.3	12.4	6.8
				4	24.4	12.5	6.3
				6	24.2	12.6	5.9
				8	24.1	12.7	5.8
				10	24.1	12.7	5.7
				12	24.2	13.5	4.6
				14	23.2	16.5	3.3
				15.25	23.2	18.4	0.3
STIL.PD	30-AUG-84	730	9.5	0.5	24.7	1.5	7.2
				2	24.8	1.2	6.7
				4	24.6	1.7	6.7
				6	24.6	1.7	6.5
				8	24.9	2.3	6.4
				9	24.9	2.3	6.4

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT(SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	SALINITY (ppt)	DISS.OXY (mg/l)
SONE 2							
ST.LEO	17-OCT-84	1300	7.0	1	18.5	13.0	9.6
				3	18.4	12.9	9.5
				5	18.4	13.8	7.9
				7	18.4	14.2	7.5
BU.VISTA	17-OCT-84	1000	4.0	1	18.4	11.9	6.2
				2	18.3	11.5	6.2
				3	18.4	11.2	6.2
HORN.PT	15-OCT-84	1557	8.0	1	17.4	13.0	10.8
				3	17.5	12.8	9.1
				5	17.2	13.0	9.2
				7	17.1	13.5	9.0
WIND.HIL	15-OCT-84	1050	4.6	1	17.3	5.8	8.7
				3	17.0	8.5	8.7
				5	17.0	8.9	8.5
RAG.PT	18-OCT-84	0820	15.5	1	18.2	12.4	8.6
				3	18.2	13.3	7.4
				5	18.2	13.6	7.0
				7	18.3	14.5	6.1
				9	18.4	14.7	6.0
				11	18.4	15.4	6.0
				13	18.3	15.9	6.2
				15	18.2	15.5	6.2
MD.PT	18-OCT-84	1233	9.5	1	19.1	4.1	8.0
				3	18.8	4.3	7.5
				5	18.7	4.6	7.4
				7	18.7	4.9	7.0
				9	18.7	6.0	6.5
PT.NO.PT	17-OCT-84	1650	13.4	1	18.3	15.3	10.6
				3	18.1	15.3	10.4
				5	18.3	16.2	9.2
				7	18.3	16.1	8.9
				9	18.2	16.4	8.4
				11	18.0	17.2	7.4
				13	18.2	19.1	6.6

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT(SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	SALINITY (ppt)	DISS.OXY (mg/l)
R-64	16-OCT-84	1540	19.0	1	17.7	12.8	10.4
				3	17.8	14.8	9.3
				5	17.4	15.9	8.4
				7	17.3	16.1	8.3
				9	17.8	16.5	8.1
				11	18.0	17.3	6.9
				13	18.1	17.5	6.8
				15	18.3	18.7	5.4
				17	18.4	19.6	5.1
				19	18.7	18.4	4.7
R-78	16-OCT-84	1100	16.4	1	17.7	12.1	8.3
				3	17.8	13.3	8.2
				5	17.9	14.1	8.2
				7	17.9	14.7	7.7
				9	18.0	13.5	7.2
				11	18.3	16.6	5.6
				13	18.5	18.4	4.6
				15	18.6	18.8	4.2
				16	18.8	18.9	4.0
STIL.PD	16-OCT-84	0750	10.0	1	16.9	4.7	9.6
				3	16.9	5.4	9.1
				5	16.9	6.8	8.9
				7	17.1	7.2	8.1
				9	17.1	8.4	7.6

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT(SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	SALINITY (ppt)	DISS.OXY (mg/l)
SONE 3							
ST.LEO	6-MAY-85	0740	6.6	1	18.0	10.5	7.650
				3	18.0	10.5	7.300
				5	18.0	11.5	6.630
				7	17.0	11.4	6.450
BU.VISTA	6-MAY-85	1150	4.0	0.5	21.5	7.8	9.100
				2	20.0	8.0	7.800
				4	19.8	1.0	7.950
HORN.PT	7-MAY-85	900	9.5	0.5	17.5	10.4	8.2
				2	17.5	10.4	8.2
				4	17.5	10.4	8.2
				6	17.5	11.8	8.4
				7	17.5	11.8	8.1
WIND.HIL	7-MAY-85	705	4.2	5	19.5	6.2	7.3
				1	19.1	6.4	7.2
				3	18.9	5.9	7.2
RAG.PT	9-MAY-85	640	17.0	0.5	4.3	11.0	10.09
				2	17.4	11.0	10.02
				4	16.8	12.0	7.65
				6	16.8	12.1	7.31
				8	15.8	14.8	3.28
				10	15.6	15.0	3.00
				12	15.5	15.3	3.25
				14	15.6	15.4	3.40
				15.5	15.6	15.4	3.31
MD.PT	9-MAY-85	1025	10.8	0.5	19.5	3.1	7.77
				2	19.5	3.2	7.26
				4	19.3	3.8	7.05
				6	19.3	3.8	7.00
				8.5	19.4	4.0	6.82
PT.NO.PT	8-MAY-85	1630	14.5	0.5	18.6	13.0	9.61
				2	17.2	12.9	9.30
				4	17.0	12.8	9.08
				6	16.8	12.8	9.03
				8	16.8	13.4	9.03
				10	16.6	13.6	8.20
				12	16.6	13.5	7.35
				13.5	15.8	14.3	5.90

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT(SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	SALINITY (ppt)	DISS.OXY (mg/l)
R-64	6-MAY-85	1720	16.8	1	17.0	9.6	9.8
				3	17.0	9.5	9.8
				6	15.6	10.5	8.8
				9	15.0	11.5	6.9
				12	14.3	12.5	6.3
				15	13.8	13.0	5.3
R-78	7-MAY-85	1655	17.0	0.5	16.4	9.2	12.60
				2	16.4	9.2	12.20
				4	16.4	9.2	12.25
				6	16.4	9.2	11.10
				8	16.0	9.8	10.65
				10	15.8	11.4	8.40
				12	14.0	11.5	6.70
				14	13.8	11.9	5.70
				16	13.8	12.6	5.23
STIL.Pd	8-MAY-85	705	9.5	0.5	17.5	0.8	8.60
				2	17.5	0.3	8.49
				4	17.6	0.3	8.49
				6	17.6	0.2	8.45
				8	17.7	0.3	8.42
				9	17.8	0.7	8.29

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT(SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	SALINITY (ppt)	DISS.OXY (mg/l)
SONE 4							
ST.LEO	25-JUNE-85	1100	7.5	0.5	24.8	12.8	6.12
				2	24.7	13.0	6.05
				4	24.6	13.0	5.80
				6	24.5	13.2	4.12
BU.VISTA	25-JUNE-85	730	4.6	0.5	25.5	11.2	5.5
				2	25.7	11.4	4.9
				3	25.7	11.0	4.5
HORN PT.	26-JUNE-85	700	8.2	0.5	24.5	5.8	6.15
				2	24.6	5.9	6.20
				4	24.6	5.9	6.15
				6	24.8	6.0	5.85
				7	24.8	6.0	5.68
RAG PT	24-JUNE-85	920	16.5	0.5	24.2	11.5	7.4
				2	24.2	11.5	7.2
				4	24.1	11.7	7.2
				6	23.2	14.1	2.2
				8	23.1	14.3	0.4
				10	22.9	16.2	0.4
				12	22.3	16.2	0.3
				14	22.3	16.2	0.3
				15	22.3	16.2	
MD PT	24-JUNE-85	1320	9.6	0.5	25.9	4.2	6.8
				2	25.8	4.8	7.2
				4	25.3	5.5	5.3
				6	24.8	6.2	4.8
				8	24.7	6.2	4.7
PT.NO.PT	24-JUNE-85	1830	14.4	0.5	25.2	14.8	8.7
				2	25.2	14.8	8.7
				4	24.1	14.5	8.4
				6	24.0	14.8	7.6
				8	24.0	14.8	7.4
				10	23.3	15.2	5.0
				12	22.7	16.1	1.8
				13	22.6	16.1	1.8

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT(SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	SALINITY (ppt)	DISS.OXY (mg/l)
R-64	25-JUNE-85	1540	17.5	0.5	25.7	13.8	9.85
				2	24.3	13.0	9.60
				4	24.0	13.2	8.60
				6	23.9	13.2	8.35
				8	23.8	13.2	8.12
				10	23.5	13.3	6.50
				12	22.4	14.0	3.05
				14	21.7	14.8	1.10
				16	21.6	15.5	0.55
R-78	27-JUNE-85	1045	16.8	0.5	22.5	10.8	7.50
				2	22.5	10.8	7.42
				4	22.6	10.9	7.20
				6	22.5	11.1	6.52
				8	22.4	12.5	4.72
				10	22.3	14.0	2.38
				12	21.8	14.5	1.90
				14	21.6	14.7	1.58
				15	21.5		0.92
STIL.PD	26-JUNE-85	1710	10.4	0.5	23.7	1.7	7.02
				2	23.7	1.7	7.05
				4	23.7	1.7	6.95
				6	23.7	2.2	6.82
				8	23.6	3.6	6.10
				9	23.6	3.6	5.90

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT(SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	CONDUCTIVITY (umho)	DISS.OXY (mg/l)
SONE 5							
ST.LEO	22-AUG-85	743	7.9	0.5	25.6	246	5.28
				2	25.7	245	5.28
				4	25.8	246	5.21
				6	26.2	253	4.40
				7	26.3	254	4.36
BU.VISTA	22-AUG-85	940	5.8	0.5	25.7	220	4.23
				2	25.9	219	4.03
				4	26.0	229	3.13
				4.5	26.1	230	3.02
HORN PT	21-AUG-85	1150	8.2	0.5	26.0	230	5.85
				2	26.2	230	5.83
				4	26.2	232	5.65
				6	26.3	237	5.15
				7	26.3	246	4.47
RAG PT	19-AUG-85	901	16.5	0.5	26.0	249	5.0
				2	26.0	249	5.0
				4	26.1	249	4.9
				6	26.1	250	4.9
				8	26.1	250	4.8
				10	26.1	251	4.5
				12	26.0	251	4.3
				14	26.0	255	3.5
				15	26.0	257	3.1
MD PT	19-AUG-85	1300	8.8	0.5	26.8	126	4.76
				2	26.7	128	4.56
				4	26.7	129	4.51
				6	26.7	128	4.51
				8	26.7	129	4.51
PT NO PT	20-AUG-85	700	14.3	0.5	26.0	277	6.83
				2	26.2	277	6.86
				4	26.2	277	6.82
				6	26.3	277	6.67
				8	26.3	279	6.25
				10	26.2	287	5.05
				12	26.1	309	3.40
				13	26.1	320	2.28

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT(SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	CONDUCTIVITY (umho)	DISS.OXY (mg/l)
R-64	20-AUG-85	1020	16.5	0.5	26.2	253	6.74
				2	26.2	253	6.70
				4	26.2	254	6.54
				6	26.1	256	6.01
				8	26.1	265	5.25
				10	26.0	288	2.47
				12	25.9	335	1.12
				14	25.7	369	0.86
				15	25.6	370	0.84
R-78	20-AUG-85	1345	15.5	0.5	26.5	226	7.4
				2	26.4	230	7.1
				4	26.3	236	5.4
				6	26.2	249	4.1
				8	26.1	256	3.4
				10	26.0	281	1.6
				12	25.7	322	0.4
				14	25.7	340	0.3
STIL PD	21-AUG-85	650	10.4	0.5	25.9	82	5.9
				2	26.0	82	5.8
				4	26.1	85	5.8
				6	26.2	102	5.4
				8	26.2	109	5.1
				9	26.2	115	4.7

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT(SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	SALINITY (umho)	DISS.OXY (mg/l)
SONE 6							
ST.LEO	16-OCT-85	1730	7.3	0.5	20.7	16.3	8.74
				2	20.7	16.4	8.62
				4	20.4	17.0	7.17
				6	20.4	17.0	7.01
BU.VISTA	16-OCT-85	1530	6.0	0.5	21.8	12.9	8.7
				2	21.5	13.1	7.7
				4	21.5	13.3	8.2
				5	21.6	13.3	8.2
HORN PT	15-OCT-85	1310	8.2	0.5	20.1	14.8	9.75
				2	19.9	14.8	9.65
				4	19.8	14.8	9.52
				6	19.7	14.8	9.36
				7	19.4	15.3	8.41
WIND HILL	15-OCT-85	1545	3.6	0.5	20.6	7.5	7.54
				2	20.4	7.5	7.29
				2.5	20.4	7.5	7.24
RAG PT	17-OCT-85	830	16.2	0.5	19.7	16.2	8.16
				2	19.8	16.2	8.18
				4	19.8	16.2	8.14
				6	20.2	18.2	4.95
				8	20.2	18.3	5.02
				10	20.2	18.3	5.18
				12	20.2	18.3	5.20
				14	20.2	18.3	5.21
				15	20.2	18.3	5.20
MD PT	17-OCT-85	1250	10.0	0.5	20.0	7.9	7.87
				2	20.0	7.9	7.86
				4	20.0	8.0	7.99
				6	20.0	8.0	8.06
				8	20.0	8.1	8.08
PT.NO.PT	14-OCT-85	745	14.1	0.5	20.0	18.2	10.80
				2	20.0	18.2	10.12
				4	20.0	18.4	10.06
				6	20.1	18.9	9.57
				8	20.0	18.9	9.27
				10	19.9	19.2	8.25
				12	20.3	19.9	5.96
				13	20.4	19.9	5.76

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT(SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	SALINITY (umho)	DISS.OXY (mg/l)
R-64	14-OCT-85	1150	16.8	0.5	19.8	16.8	9.90
				2	19.6	16.8	9.87
				4	19.6	17.4	9.77
				6	19.6	17.5	9.20
				8	19.5	17.8	8.66
				10	20.0	19.0	6.46
				12	20.9	20.8	4.32
				14	21.0	21.0	4.15
				15	21.1	21.2	3.96
R-78	14-OCT-85	1515	15.0	0.5	19.4	13.8	10.26
				2	19.7	14.5	9.95
				4	19.4	15.1	8.08
				6	19.7	15.8	6.58
				8	20.1	17.0	5.18
				10	20.2	17.3	4.56
				12	20.4	17.8	4.20
				14	20.6	18.3	3.09
STILL PD	15-OCT-85	730	10.6	0.5	18.3	5.2	7.5
				2	18.3	5.6	7.3
				4	18.4	6.1	7.2
				6	18.4	6.9	7.0
				8	18.5	7.1	6.9
				9	18.5	7.1	6.9

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT(SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	SALINITY (PPT)	DISS.OXY (mg/l)
SONE 7							
ST.LEO	8-MAY-86	700	7.0	0.5	18.2	10.9	9.9
				2.2	17.5	10.9	9.6
				4.2	14.8	12.1	7.9
				6.3	14.4	12.3	7.5
BU.VISTA	8-MAY-86	1200	5.2	0.5	19.53	8.6	9.01
				2	19.36	8.6	8.80
				4	19.23	8.7	8.74
				4.7	19.05	8.8	8.62
HORN PT	3-MAY-86	1045	7.5	0.5	14.53	10.4	9.8
				2.2	14.51	10.4	9.7
				4	14.47	10.4	9.6
				6	14.42	10.5	9.5
				7.4	14.35	10.5	9.3
WINDY HILL	3-MAY-86	1809	2.8	0.5	16.28	3.4	9.9
				1.1	16.17	3.5	9.9
				2.2	16.13	3.6	9.8
				2.6	16.12	3.7	9.7
RAG PT	6-MAY-86	950	16.5	0.5	15.07	8.7	13.0
				2	14.95	8.7	12.7
				4.2	14.64	9.7	11.3
				6	13.46	12.3	8.0
				8	13.39	12.8	7.8
				9.8	13.28	12.8	7.6
				12.1	13.16	13.0	7.2
				14	13.03	13.2	6.9
				16	12.83	13.3	5.8
MD PT	7-MAY-86	900	10.0	0.5	16.30	3.3	7.67
				2	16.17	3.4	7.56
				4.2	16.16	3.7	7.58
				6.6	16.02	4.4	7.74
				8.2	15.93	4.6	7.61
				9.8	15.74	4.8	7.44
PT NO PT	5-MAY-86	1450	14.4	0.5	14.91	12.4	9.2
				2	14.68	12.5	9.2
				4	13.66	12.7	9.3
				6.1	13.28	12.9	9.3
				8.1	13.09	13.6	9.1
				10.2	13.20	14.4	9.0
				12.3	13.07	14.4	8.9
				13.3	13.09	14.9	8.2

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT(SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	SALINITY (PPT)	DISS.OXY (mg/l)
R-64	5-MAY-86	950	16.5	0.5	13.84	10.4	10.2
				2	13.64	10.4	10.2
				4.1	13.40	10.5	10.1
				6.1	12.78	12.5	8.8
				8.2	12.67	13.4	8.3
				10	12.43	14.6	7.5
				12	12.39	14.6	7.3
				14	11.98	16.5	5.7
				16.2	11.83	17.7	5.2
R-78	4-MAY-86	1030	16.0	0.5	12.22	8.7	9.7
				2.2	12.21	8.7	9.6
				3.9	12.14	8.8	9.3
				6.1	11.86	11.2	6.7
				8	10.94	14.5	3.3
				10	10.68	16.6	2.5
				12	10.51	17.1	2.0
				13.9	10.45	17.4	1.8
				16	10.44	17.5	1.7
STIL PD	4-MAY-86	1400	9.8	0.5	14.84	0.0	9.6
				2.1	14.92	0.0	9.6
				4	14.82	0.0	9.6
				6	14.70	0.0	9.5
				8	14.48	0.0	9.4
				8.5	14.38	2.0	9.1

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT (SONE)
H2OPROF(Vertical profiles of temp.,salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	CONDUCTIVITY (umho)	DISS.OXY (mg/l)
SONE 8							
ST.LEO	26-JUNE-86	740	7.2	0.5	24.4	229	6.7
				2	24.5	228	6.7
				4	24.5	229	6.1
				5.5	24.5	230	5.9
BU.VISTA	26-JUNE-86	950	5.5	0.5	24.9	190	7.8
				2	24.9	192	7.0
				4	24.9	203	5.4
HORN PT	25-JUNE-86	1350	8.0	0.5	24.8	206	7.6
				2	24.9	206	7.3
				4	24.8	206	6.7
				6	24.8	206	6.5
				6.5	24.7	206	6.4
WIND HILL	25-JUNE-86	1500	2.8	0.5	25.6	117	5.7
				1.5	25.7	117	5.5
RAG PT	23-JUNE-86	936	16.5	0.5	23.7	223	8.0
				2	23.7	223	7.2
				4	23.7	225	7.0
				6	23.6	226	6.5
				8	23.5	226	6.3
				10	23.4	226	6.2
				12	23.4	228	5.9
				14	22.7	240	3.3
				16	22.6	242	3.0
MD PT	23-JUNE-86	1246	9.5	0.5	25.5	108	5.5
				2	25.3	110	5.1
				4	25.3	111	5.0
				6	25.2	111	4.9
				8	25.2	111	4.9
PT NO PT	24-JUNE-86	740	14.4	0.5	23.9	258	9.2
				2	23.9	258	9.1
				4	23.9	259	9.1
				6	23.9	261	8.7
				8	23.8	264	8.0
				10	23.5	273	6.6
				12	22.9	291	3.2
				13.5	22.6	304	2.5

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE COMPONENT (SONE)
H2OPROF (Vertical profiles of temp., salinity and oxygen conc. at SONE stations)

STATION LOCATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (oC)	CONDUCTIVITY (umho)	DISS.OXY (mg/l)
R-64	24-JUNE-86	1110	17.0	0.5	24.3	220	9.7
				2	24.3	220	9.3
				4	24.2	222	9.0
				6	24.0	229	8.1
				8	23.3	244	6.1
				10	22.0	274	1.8
				12	21.2	288	0.6
				14	20.5	302	0.1
				15.5	20.4	303	0.0
R-78	24-JUNE-86	1808	17.4	0.5	24.7	153	9.4
				2	24.5	153	9.1
				4	24.4	156	8.5
				6	24.2	162	7.5
				8	22.9	195	4.4
				10	21.8	227	2.4
				12	21.5	231	2.0
				14	21.2	242	1.6
				15	21.0	245	1.3
STIL PD	25-JUNE-86	825	10.0	0.5	24.1	5	6.5
				2	24.2	5	6.3
				4	24.2	5	6.2
				6	24.3	6	6.2
				8	24.2	6	6.2

Appendix Table 2

BIOMONITIORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
H2ONUTS (Surface and bottom water dissolved and particulate nutrient concentrations at SONE stations)

					DISSOLVED NUTRIENTS						PARTICULATES				
STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	NH4 (uM N)	NO3+NO2 (uM N)	TDN (uM N)	DIP (uM P)	TDP (uM P)	SI(OH)4 (uM Si)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
SONE 1															
ST.LEO	27-AUG-84	940	6.7	0.5	1.9	0.12	27.4	0.33	0.38	72.8	2126	439	80	14.8	21.6
				6.0	10.9	0.38	35.5	0.69	0.07	63.5	626	108	31	3.20	19.4
BU.VISTA	27-AUG-84	1335	3.6	0.5	0.7	0.16	25.8	2.89	2.89	93.0	2463	395	110	16.2	54.0
				3.0	0.6	0.15	26.6	3.06	3.63	91.0	2872	439	140	14.5	70.0
PT.NO.PT	28-AUG-84	900	13.0	0.5	0.7	0.06	21.6	0.15	0.14	46.8	1078	194	36	4.80	13.8
				12.0	20.5	0.13	38.9	1.10	0.57	47.6	1182	196	33	2.5	33.2
RAG.PT	28-AUG-84	1145	13.2	0.5	0.3	0.39	21.6	0.83	0.75	62.1	1341	210	40	7.80	10.1
				13.0	19.3	0.75	46.8	2.42	2.72	57.6	824	137	35	2.50	20.6
MD.PT	28-AUG-84	1720	9.8	0.5	0.6	36.3	62.4	1.70	1.85	32.8	3438	564	70	21.8	22.0
				9.0	1.8	35.0	59.7	2.28	1.92	38.8	2607	435	72	16.1	31.8
R-64	29-AUG-84	745	16.0	0.5	3.0	0.92	28.4	0.09	0.07	50.0	947	198	28	5.90	9.4
				16.0	25.2	0.18	44.9	1.29	0.89	48.2	1243	186	38	2.40	45.2
HORN.PT	29-AUG-84	1025	7.2	0.5	0.5	0.19	28.2	0.28	0.95	74.6	2108	409	70	20.3	21.0
				6.7	7.8	0.84	36.7	0.31	0.49	68.7	938	179	38	4.20	28.4
WIND.HIL	29-AUG-84	1255	3.6	0.5	0.4	0.15	29.3	1.00	1.67	37.5	3313	470	85	18.4	37.2
				3.0	0.5	0.20	27.6	1.23	1.76	39.6	13847	1601	375	23.4	272.0
STIL.PD	30-AUG-84	730	9.5	0.5	5.2	48.5	83.0	0.20	1.42	47.9	959	136	32	6.25	16.0
				9.0	5.9	47.5	71.0	0.30	0.44	42.6	1189	162	38	6.40	21.8
TOM.PT	30-AUG-84	1010	15.2	0.5	5.6	6.32	36.2	0.16	0.85	47.1	1287	247	50	10.2	17.2
				15.2	15.8	5.58	54.0	0.28	0.48	47.5	565	110	28	2.20	16.8

BIOMONITIORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
H2ONUTS (Surface and bottom water dissolved and particulate nutrient concentrations at SONE stations)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	DISSOLVED NUTRIENTS NH4 (uM N)	NO3+NO2 (uM N)	TDN (uM N)	DIP (uM P)	TDP (uM P)	SI(OH)4 (uM Si)	PARTICULATES PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
SONE 2															
ST.LEO	17-OCT-84	1300	7.0	1.0	3.0	1.69	24.7	0.27	0.27	32.7	958	190	25	6.8	12.8
				6.5	6.7	3.72	34.2	0.47	0.94	24.3	915	146	33	2.7	40.2
BU.VISTA	17-OCT-84	1000	4.0	1.0	8.4	2.97	29.3	1.41	1.46	47.3	703	154	31	3.1	20.3
				3.0	8.5	2.87	31.4	1.38	1.48	47.2	686	141	39	2.0	29.8
HORN PT.	15-OCT-84	1557	8.0	1.0	2.9	0.17	24.9	0.21	0.39	22.8	1397	222	37	8.0	36.8
				8.0	1.4	2.10	21.8	0.02	0.02	23.9	902	153	29	5.4	35.0
WIND.HIL	15-OCT-84	1050	4.6	1.0	5.5	6.66	30.9	0.85	2.64	32.3	1958	332	63	7.1	35.8
				4.5	1.8	5.94	26.5	0.94	1.52	38.7	2060	282	48	5.8	43.4
RAG.PT	18-OCT-84	820	15.5	1.0	1.7	1.90	23.2	0.21	0.15	31.3	830	176	27	4.2	12.0
				15.0	8.9	2.18	30.0	0.25	0.40	12.9	604	106	24	1.9	20.4
MD.PT	18-OCT-84	1233	9.5	1.0	6.9	36.9	62.6	1.06	2.45	23.4	824	136	36	3.4	11.4
				9.0	8.7	29.8	52.2	1.09	2.51	36.2	1901	252	67	3.0	65.0
PT.NO.PT	17-OCT-84	1650	13.4	1.0	1.6	4.52	26.0	0.17	0.12	2.5	1026	161	20	9.8	16.2
				13.0	8.2	1.37	27.3	0.27	0.22	13.7	525	[illegible]	19	2.9	24.0
R-64	17-OCT-84	1540	19.0	1.0	2.9	11.70	32.4	0.20	0.42	21.5	1271	212	27	9.9	15.3
				19.0	12.6	2.99	32.0	0.40	0.24	19.0	629	101	21	3.6	28.1
R-78	16-OCT-84	1100	16.4	1.0	6.1	8.04	38.4	0.16	0.52	25.1	812	172	28	6.9	13.0
				15.8	14.5	2.02	38.0	0.41	1.22	24.3	581	98	28	2.0	37.0
STIL.PD	16-OCT-84	750	10.0	1.0	0.3	42.3	58.5	0.18	0.18	18.8	931	180	29	7.8	9.4
				9.0	5.3	29.4	49.6	0.27	0.38	25.8	983	158	32	3.5	19.0

BIOMONITIORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
H2ONUTS (Surface and bottom water dissolved and particulate nutrient concentrations at SONE stations)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	DISSOLVED NUTRIENTS NH4 (uM N)	NO3+NO2 (uM N)	TDN (uM N)	DIP (uM P)	TDP (uM P)	SI(OH)4 (uM Si)	PARTICULATES PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
SONE 3															
ST.LEO	6-MAY-85	0740	6.6	0.5	1.4	0.7	27.0	0.20	1.28	7.8	991	255	17	8.90	12.3
				6.5	4.3	6.6	35.5	0.17	1.29	8.0	809	163	17	6.30	10.9
BU.VISTA	6-MAY-85	1150	4.0	0.5	1.1	6.3	29.2	1.20	2.08	34.6	3135	682	74	41.5	34.6
				4.0	0.6	2.4	26.5	0.86	1.86	29.9	2549	398	76	28.7	45.5
HORN PT.	7-MAY-85	920	7.5	0.5	2.6	6.2	29.3	0.11	1.16	3.3	860	257	14	7.90	11.4
				7.0	2.5	6.0	33.0	0.10	0.40	3.0	734	124	12	8.15	8.6
WIND.HIL	7-MAY-85	705	4.2	0.5	1.4	26.2	50.7	0.59	2.63	9.0	3305	439	86	21.9	70.0
				3.0	1.1	24.5	46.5	0.58	2.45	9.4	3714	490	94	25.0	73.0
RAG.PT.	9-MAY-85	640	17.0	0.5	0.5	2.4	27.8	0.12	1.22	7.9	2207	277	23	16.4	12.0
				15.5	8.0	5.5	35.4	0.12	0.43	10.3	1194	205	19	14.7	11.4
MD.PT.	9-MAY-85	1025	10.8	0.5	4.2	50.3	80.3	0.73	2.32	29.5	1964	458	56	28.2	28.0
				8.5	7.0	42.9	68.6	0.73	2.93	29.1	2991	485	130	22.8	85.5
PT.NO PT.	8-MAY-85	1630	14.5	0.5	2.7	[illegible]	41.9	0.07	1.52	2.2	583	[illegible]	10	4.90	[illegible]
				13.5	6.3	7.8	34.7	0.09	0.79	8.1	613	221	11	9.90	8.4
R-64	6-MAY-85	1720	16.8	0.5	2.0	21.5	45.6	0.11	0.45	1.3	984	158	11	9.80	7.4
				15.0	5.2	9.7	34.3	0.10	0.14	4.7	1097	227	18	16.1	19.4
R-78	7-MAY-85	1655	17.0	0.5	0.7	20.3	42.9	0.20	0.16	1.3	2667	362	21	35.4	12.8
				16.0	4.7	14.2	41.3	0.15	0.68	3.1	4324	643	44	68.3	31.6
STIL. PD	8-MAY-85	705	9.5	0.5	4.0	57.7	79.5	0.17	1.81	7.1	1639	222	44	17.7	27.8
				9.0	4.8	57.3	79.4	0.16	1.6	7.8	2640	299	64	18.9	45.8

BIOMONITIORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
H2ONUTS (Surface and bottom water dissolved and particulate nutrient concentrations at SONE stations)

					DISSOLVED NUTRIENTS							PARTICULATES				
STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	NH4 (uM N)	NO3+NO2 (uM N)	TDN (uM N)	DIP (uM P)	TDP (uM P)	SI(OH)4 (uM Si)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
SONE 4															
ST.LEO	25-JUNE-85	1100	7.5	0.5	5.0	1.16	27.7	0.12	0.66	67.9	1508	281	37	12.0	27.4
				7.5	8.5	1.82	32.3	0.13	0.33	59.2	1125	198	34	6.4	29.2
BU.VISTA	25-JUNE-85	730	4.6	0.5	0.6	0.69	26.3	1.36	2.08	91.0	3344	672	75	33.6	45.6
				3.0	0.8	0.62	28.9	1.41	2.03	91.0	2214	344	68	13.6	34.4
HORN PT.	26-JUNE-85	700	8.2	0.5	1.8	1.01	27.4	0.20	1.04	55.3	1144	198	28	8.0	30.2
				7.0	2.9	1.55	34.3	0.27	0.89	54.3	2633	513	55	6.8	31.8
RAG.PT.	24-JUNE-85	920	16.5	0.5	3.1	0.19	38.4	0.20	0.74	41.9	1841	378	49	19.0	19.0
				15.0	18.8	0.36	42.7	1.56	2.34	42.4	1007	155	18	4.4	24.8
MD.PT	24-JUNE-85	1320	9.6	0.5	1.4	38.1	63.4	1.10	1.96	33.3	1239	212	40	11.6	25.8
				8.0	4.6	30.9	57.5	1.27	1.84	40.9	1244	202	48	9.0	23.8
PT.NO.PT	24-JUNE-85	1830	14.4	0.5	0.5	0.37	24.1	0.14	0.96	11.8	998	142	17	4.0	13.2
				13.0	12.6	0.47	36.5	0.32	0.50	39.4	1066	216	24	3.2	12.6
R-64	25-JUNE-85	1540	17.5	0.5	0.3	0.68	21.8	0.27	0.88	28.6	2080	337	30	15.8	24.8
				16.0	22.1	0.65	46.2	0.40	0.51	46.2	513	92	21	2.0	7.9
R-78	27-JUNE-85	1045	16.8	0.5	3.8	8.00	33.8	0.15	0.26	46.5	1690	318	43	18.3	20.6
				15.0	22.9	0.90	52.6	0.43	0.74	47.8	692	128	27	4.0	10.8
STIL.PD	26-JUNE-85	1710	10.4	0.5	3.6	43.6	67.0	0.44	1.09	31.6	1194	96	27	6.6	25.0
				9.0	4.5	38.6	63.5	0.49	0.94	38.5	1941	201	45	4.8	32.8

BIOMONITIORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
H2ONUTS (Surface and bottom water dissolved and particulate nutrient concentrations at SONE stations)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	DISSOLVED NUTRIENTS NH4 (uM)	NO3+NO2 (uM)	NO2 (uM)	TDN (uM)	DIP (uM)	TDP (uM)	SI(OH)4 (uM)	PARTICULATES PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
SONE 5																
ST.LEO	22-AUG-85	800	7.9	0.5	7.6	8.14	6.75	49.2	1.08	1.36	63.3	1130	167	20.8	9.64	16.6
				7.0	11.1	6.43	4.92	44.8	1.00	1.32	54.1	787	144	21.4	5.93	23.6
BU.VISTA	22-AUG-85	1000	5.8	0.5	14.5	9.40	6.82	49.8	3.92	4.76	101.0	1593	226	51	16.9	29.8
				4.5	15.2	10.30	7.86	56.7	3.29	4.36	87.0	1649	213	61	8.16	43.6
HORN PT.	21-AUG-85	1155	8.2	0.5	10.6	7.19	3.57	39.4	0.62	0.92	58.7	1667	234	23.8	9.28	19.2
				7.0	16.1	3.83	2.12	45.8	0.69	0.88	57.0	1121	197	26.7	5.63	33.0
WIND.HIL	NO STATION	CHOPRANK RIVER BRIDGE NOT OPERATING														
RAG.PT	19-AUG-85	914	16.5	0.5	11.2	0.58	0.23	40.9	0.51	3.00	42.5	939	192	21	7.24	10.7
		943		15.0	13.1	0.78	0.21	46.1	0.58	1.03	50.4	1579	291	32.8	7.12	25.7
MD.PT	19-AUG-85	1317	8.8	0.5	7.7	6.55	3.29	39.8	2.04	1.78	71.6	2239	323	49	29.5	31.0
		1340		8.0	6.8	6.48	3.36	39.2	2.26	2.70	62.2	5114	525	191	17.0	142.5
PT.NO.PT	20-AUG-85	730	14.3	0.5	4.2	1.32	1.04	27.0	0.61	1.16	18.3	892	186	20.1	6.69	8.8
		740		13.0	14.5	1.35	0.92	36.2	0.73	0.98	37.0	1599	255	29.9	3.10	45.7
R-64	20-AUG-85	1030	16.5	0.5	2.2	2.88	2.60	32.6	0.24	1.16	39.0	1044	191	22	9.64	9.9
		1045		15.0	21.3	2.31	1.50	43.2	1.14	1.40	35.6	313	47	8	1.00	9.2
R-78	20-AUG-85	1345	15.5	0.5	5.0	6.19	5.73	41.9	0.61	1.59	49.6	2024	396	40	32.9	12.3
				14.0	23.7	0.25	0.19	46.1	1.54	1.35	46.5	1131	173	24	4.98	22.8
STIL.PD	21-AUG-85	700	10.4	0.5	2.7	17.80	4.68	47.0	0.80	1.71	38.2	1621	147	33	7.76	26.0
		720		9.0	2.8	16.80	6.22	37.4	0.86	1.50	37.0	2557	189	60	13.8	53.5

BIOMONITIORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
H2ONUTS (Surface and bottom water dissolved and particulate nutrient concentrations at SONE stations)

					DISSOLVED NUTRIENTS							PARTICULATES					
STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	NH4 (uM)	NO3+NO2 (uM)	NO2 (uM)	TDN (uM)	DIP (uM)	TDP (uM)	SI(OH)4 (uM)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)	ACTIVE CHOLOR (ug/l)
SONE 6																	
ST.LEO	16-OCT-85	1735	7.3	0.5	2.1	2.79	1.21	26.8	0.57	0.93	31.4	1200	172	18	10.3	8.6	7.11
		2010		6.0	5.6	3.46	1.66	31.2	0.64	0.92	23.3	791	102	16	4.43	10.9	2.21
BU.VISTA	16-OCT-85	1415	6.0	0.5	0.7	2.12	0.43	23.6	2.30	3.44	64.8	8629	1316	114	91.9	39.5	64.1
		1515		5.0	0.7	1.94	0.44	25.2	2.43	2.70	62.8	3974	508	131	26.1	76.8	15.2
HORN PT.	15-OCT-85	1315	8.2	0.5	0.5	1.56	0.33	24.6	0.43	0.66	19.5	1631	269	31	16.1	17.7	11.3
		1440		7.0	2.4	1.55	0.44	28.6	0.32	0.60	14.7	1404	187	41	9.39	38.3	4.07
WIND.HIL	15-OCT-85	1615	3.6	0.5	1.5	8.50	0.32	37.2	1.71	2.42	47.8	3128	383	73	27.4	31.6	15.6
		1725		2.5	1.3	7.90	0.31	34.2	1.57	2.86	46.9	8592	949	236	33.9	142.7	13.9
RAG.PT.	17-OCT-85	830	16.2	0.5	2.7	1.78	0.88	29.4	0.11	0.40	20.9	867	156	14	6.43	4.8	4.38
				15.0	8.8	3.05	1.52	42.0	0.19	0.50	8.8	1573	233	27	6.50	24.8	1.56
MD.PT.	17-OCT-85	1250	10.0	0.5	0.7	17.10	1.62	42.8	1.66	2.45	70.8	2153	312	47	19.3	31.1	12.6
				8.0	0.9	16.80	1.62	42.0	1.62	2.30	62.2	6256	797	201	35.2	142.7	18.6
PT.NO.PT	14-OCT-85	800	14.1	0.5	6.4	2.59	1.61	33.2	0.13	0.26	1.7	1088	145	10	12.3	10.0	4.77
				13.0	5.7	1.88	1.12	27.0	0.12	0.29	4.2	1765	225	22	13.7	25.3	6.93
R-64	14-OCT-85	1200	16.8	0.5	1.6	5.41	2.28	32.2	0.16	0.76	15.3	1097	191	15	11.5	5.9	7.93
				15.0	13.8	3.11	1.44	38.4	0.61	0.54	22.1	451	92	10	3.87	10.9	11.6
R-78	14-OCT-85	1500	15.0	0.5	2.7	15.00	1.00	37.8	0.16	0.49	33.9	2547	444	38	29.1	8.5	18.2
				14.0	11.7	10.80	0.56	42.0	0.56	0.84	36.4	1532	220	37	7.73	28.7	7.15
STIL.PD	15-OCT-85	800	10.6	0.5	5.6	40.50	1.38	59.1	0.56	1.15	29.8	961	127	22	6.21	10.0	3.12
		915		9.0	6.8	36.20	1.18	57.4	0.67	0.96	29.7	3625	278	76	8.57	70.6	2.38

BIOMONITIORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
H2ONUTS (Surface and bottom water dissolved and particulate nutrient concentrations at SONE stations)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	DISSOLVED NUTRIENTS NH4 (uM)	NO3+NO2 (uM)	NO2 (uM)	TDN (uM)	DIP (uM)	TDP (uM)	SI(OH)4 (uM)	PARTICULATES PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)	ACTIVE CHLOR (ug/l)
SONE 7																	
ST.LEO	8-MAY-86		7.0	0.5	0.8	6.65	0.37	27.2	0.09	0.26	3.5	1160	146	10	7.2	8.3	7.1
				6.3	2.3	23.60	0.75	50.4	0.09	0.53	2.5	1749	245	18	19.1	10.0	18.1
BU.VISTA	8-MAY-86		5.2	0.5	0.5	0.54	0.15	26.2	0.24	0.61	21.5	3999	542	73	36.1	47.4	33.6
				4.7	0.3	0.33	0.07	24.4	0.22	0.64	18.4	3911	528	125	38.3	55.2	35.7
HORN PT	3-MAY-86	1130	7.5	0.5	8.2	22.50	0.77	64.2	0.18	1.38	4.9	1301	165	12	9.0	14.6	8.0
				7.4	0.6	24.40	0.52	53.4	0.07	0.53	3.2	1256	151	13	9.3	10.9	8.8
WIND HIL	3-MAY-86	1900	2.8	0.5	2.3	77.20	0.35	111.6	0.52	1.03	28.0	4487	566	94	24.4	57.8	17.6
				2.6	1.6	77.70	0.28	111.8	0.46	0.93	23.6	4402	545	101	28.5	71.0	22.5
RAG PT	6-MAY-86	1040	16.5	0.5	1.0	36.20	0.70	58.7	0.10	0.33	4.8	2935	340	49	34.5	12.2	37.0
				16.0	3.5	27.80	1.00	52.9	0.13	0.22	1.8	2873	354	20	46.5	14.2	47.0
MD PT	7-MAY-86		10.0	0.5	6.0	87.30	1.50	115.4	0.38	0.81	16.9	1808	272	67	18.8	42.6	16.8
				9.8	3.8	79.30	1.12	101.7	0.13	0.28	12.2	3665	463	136	26.6	101.2	22.5
PT NO PT	5-MAY-86	1545	14.4	0.5	2.5	32.70	0.81	57.3	0.09	0.31	1.6	623	92	6	3.4	3.3	3.3
				13.3	4.3	26.40	0.82	51.6	0.09	0.33	1.1	928	129	7	7.8	5.0	7.6
R-64	5-MAY-86	1100	16.5	0.5	1.8	42.30	0.74	61.9	0.06	0.21	1.9	5347	697	9	7.1	8.2	7.1
				16.2	15.2	20.40	0.76	49.5	0.09	0.19	3.6	2539	335	17	25.8	10.0	24.4
R-78	4-MAY-86	1030	16.0	0.5		49.60	0.68	79.3	0.09	0.29	25.0	2311	303	22	30.2	12.9	31.9
				16.0	13.2	19.30	0.83	57.0	0.13	0.58	11.3	2194	310	26	22.7	19.0	15.1
STIL PD	4-MAY-86	1440	9.8	0.5	3.5	76.20	0.65	92.1	0.35	0.58	49.0	1655	169	44	8.5	27.6	5.6
				8.5	5.9	74.50	0.75	102.6	0.40	0.76	45.3	2433	256	51	10.9	45.0	

BIOMONITIORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES (SONE)
H2ONUTS (Surface and bottom water dissolved and particulate nutrient concentration at SONE station)

					DISSOLVED NUTRIENTS							PARTICULATES					
STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	NH4 (uM)	NO2 (uM)	NO3+NO2 (uM)	TDN (uM)	DIP (uM)	TDP (uM)	SI(OH)4 (uM)	PC (ug/l)	PN (ug/l)	PP (ug/l)	TOTAL CHLORO (ug/l)	SESTON (mg/l)	ACTIVE CHLORO (ug/l)
SONE 8																	
ST.LEO	26-JUNE-86	730	7.2	0.5	3.5	0.36	1.38	32.3	0.17	0.29	63.6	1269	253	23	16.8	5.8	16.4
				5.5	4.6	0.36	1.50	34.2	0.09	0.31	61.5	1200	223	25	12.3	9.4	10.1
BU.VISTA	26-JUNE-86	950	5.5	0.5	2.3	0.27	0.41	32.3	1.37	1.85	76.5	2411	394	52	28.7	20.2	26.7
				4.0	4.7	0.28	1.21	34.7	1.20	1.29	79.8	2737	389	92	18.4	48.4	13.4
HORN PT	25-JUNE-86	1317	8.0	0.5	1.4	0.14	0.52	32.1	0.24	0.51	61.2	2298	402	34	21.9	12.6	20.2
				6.5	1.3	0.10	0.27	30.5	0.15	0.27	61.4	1762	294	38	11.3	27.2	8.7
WIND HILL	25-JUNE-86		2.8	0.5	2.1	0.31	11.8	47.3	1.53	1.72	65.8	4595	534	10	19.2	63.6	12.6
				1.5	1.8	0.28	11.1	45.5	1.54	1.77	62.8	5919	706	16	22.9	100	14.6
RAG PT	23-JUNE-86	1015	16.5	0.5	2.8	0.10	0.19	35.0	0.14	0.52	39.6	1873	413	37	21.7	11.6	18.5
				16.0	8.9	0.16	0.45	38.0	0.16	0.34	41.2	1619	323	35	10.9	16.8	8.7
MD PT	23-JUNE-86	1300	9.5	0.5	3.9	0.53	24.80	57.0	1.23	1.50	41.3	1892	263	57	11.1	42.8	8.7
				8.0	5.3	0.68	24.30	59.0	1.28	1.49	42.2	6726	848	32	18.3	258	6.0
PT NO PT	24-JUNE-86	715	14.4	0.5	3.9	0.18	0.52	34.4	0.12	0.19	20.6	1350	241	18	7.8	9.8	7.1
				13.5	13.0	0.44	2.24	44.4	0.11	0.19	30.1	729	156	20	3.4	7.0	3.3
R-64	24-JUNE-86		17.0	0.5	0.6	0.14	0.49	30.0	0.16	0.36	29.3	1365	293	25	12.3	4.8	10.9
				15.5	27.3	1.51	2.90	54.1	0.46	0.52	39.9	552	111	14	1.9	9.9	0.7
R-78	24-JUNE-86		17.4	0.5	1.2	0.41	10.60	39.8	0.19	0.49	44.0	1936	335	34	20.5	5.4	16.8
				15.0	19.3	0.64	4.95	55.9	0.26	0.37	41.3	914	174	20	8.3	3.3	7.1
STIL PD	25-JUNE-86	900	10.0	0.5	4.0	0.59	55.30	88.5	0.67	0.92	54.6	2058	211	51	12.2	30.8	6.9
				6.0	4.3	0.52	54.90	82.1	0.82	0.93	53.0	3342	290	75	13.4	53.0	6.0

Appendix Table 3

LONG-TERM BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT (SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H2O and various particulates)
Add +244 mV to all Eh data to correct values to hydrogen electrode
NOTE:Vertical profiles of particulates collected only during October cruise.
NOTE: No surfical particulate samples taken during this cruise.

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)
ST.LEO	27-AUG-84	1035	6.7	0	-272
				-1	-286
				-2	-276
				-3	-233
				-4	-246
				-5	-248
				-6	-248
				-7	-253
				-8	-255
				-9	-264
BU.VISTA	27-AUG-84	1410	3.6	0	-75
				-1	-263
				-2	-270
				-3	-272
				-4	-281
				-5	-298
				-6	-297
				-7	-300
				-8	-303
				-9	-303
HORN.PT	29-AUG-84	1120	7.2	0	-249
				-1	-256
				-2	-278
				-3	-290
				-4	-291
				-5	-282
				-6	-295
				-7	-322
				-8	-345
				-9	-347
				-10	-362
				-11	-381
				-12	-361
WIND.HIL	29-AUG-84	1343	3.6	0	-63
				-1	
				-2	-257
				-3	-277
				-4	-284
				-5	-292
				-6	-290
				-7	-291
				-8	-304
				-9	-297
				-10	-324
				-11	-340
				-12	-359

LONG-TERM BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT (SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H2O and various particulates)
Add +244 mV to all Eh data to correct values to hydrogen electrode
NOTE:Vertical profiles of particulates collected only during October cruise.
NOTE: No surfical particulate samples taken during this cruise.

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)
RAG.PT	28-AUG-84	1248	13.2	0	-386
				-1	-395
				-2	-402
				-3	-413
				-4	-412
				-5	-450
				-6	-472
				-7	-465
				-8	-453
				-9	-425
				-10	-412
MD.PT	28-AUG-84	1715	9.8	0	-65
				-1	-177
				-2	-365
				-3	-438
				-4	-452
				-5	-502
				-6	-483
				-7	-472
				-8	-503
				-9	-462
PT.ND.PT	28-AUG-84	940	13.0	0	-278
				-1	-332
				-2	-318
				-3	-332
				-4	-342
				-5	-362
				-6	
				-7	-364
				-8	-353
				-9	
R-64	29-AUG-84	845	16.0	0	-355
				-1	-400
				-2	-410
				-3	-423
				-4	-424
				-5	-426
				-6	-433
				-7	-430
				-8	-438
				-9	-430
				-10	-436
				-11	-442

LONG-TERM BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT (SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H2O and various particulates)
Add +244 mV to all Eh data to correct values to hydrogen electrode
NOTE:Vertical profiles of particulates collected only during October cruise.
NOTE: No surfical particulate samples taken during this cruise.

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)
TOM.PT	30-AUG-84	1100	15.2	0	-238
				-1	-283
				-2	-284
				-3	-302
				-4	-313
				-5	-313
				-6	-324
				-7	-401
				-8	-353
				-9	-450
				-10	-500
				-11	-522
				-12	-440
				-13	-310
				-14	-335
STIL.PD	30-AUG-84	800	9.5	0	-38
				-1	-230
				-2	-257
				-3	-263
				-4	-285
				-5	-291
				-6	-293
				-7	-304
				-8	-294
				-9	-307
				-10	-320
				-11	-354
				-12	-357
				-13	-369
				-14	-404

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEDIMEN (CM)	%H20 (%)	SEDIMENANALYSIS,% PC	PN	PP	CHLORO (mg/m2)	DISSOLVED NUTRIENT NH4 (uM N)	NO3+NO2 (uM N)
SONE 2													
ST.LEO	17-OCT-84	1419	7.0	0	140								
				-1	100	0.5	81.4	2.42	0.28	0.061		58	5
				-2	-120	1.5	72.5	2.29	0.27	0.057		99	5
				-3	-140	2.5	70.5	2.50	0.31	0.063			
				-4	-155	3.5	70.6	2.74	0.34	0.057			
						4.5	68.8	2.86	0.32	0.075			
				-6	-155	5.5	67.2	2.88	0.31	0.059			
						6.5	65.5	2.53	0.30	0.056			
				-8	-160								
				-10	-150								
BU.VISTA	17-OCT-84	1222	4.0	0	160								
				-0.5	90								
						0.5	82.5	2.19	0.27	0.134		26	10.2
				-1.5	20								
						1.5	72.5	2.34	0.29	0.145		70	9.3
				-2.5	-140								
						2.5	68.7	2.38	0.28	0.147			
				-3.5	-175								
						3.5	65.8	2.24	0.25	0.124			
				-4.5	-170								
						4.5	62.5	2.15	0.24	0.111			
				-5.5									
						5.5	60.9	2.20	0.25	0.115			
				-6.5	-155								
						6.5	59.4	2.20	0.24	0.109			
				-7.5	-155								
						7.5	58.8	2.34	0.22	0.102			

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEDIMENT (CM)	%H20 (%)	PC	PN	PP	CHLORO (mg/m2)	DISSOLVED NUTRIENT NH4 (uM N)	NO3+NO2 (uM N)
SONE 2													
ST.LEO	17-OCT-84	1419	7.0	0	140								
				-1	100	0.5	81.4	2.42	0.28	0.061		58	5
				-2	-120	1.5	72.5	2.29	0.27	0.057		99	5
				-3	-140	2.5	70.5	2.50	0.31	0.063			
				-4	-155	3.5	70.6	2.74	0.34	0.057			
						4.5	68.8	2.86	0.32	0.075			
				-6	-155	5.5	67.2	2.88	0.31	0.059			
						6.5	65.5	2.53	0.30	0.056			
				-8	-160								
				-10	-150								
BU.VISTA	17-OCT-84	1222	4.0	0	160								
				-0.5	90								
						0.5	82.5	2.19	0.27	0.134		26	10.2
				-1.5	20								
						1.5	72.5	2.34	0.29	0.145		70	9.3
				-2.5	-140								
						2.5	68.7	2.38	0.28	0.147			
				-3.5	-175								
						3.5	65.8	2.24	0.25	0.124			
				-4.5	-170								
						4.5	62.5	2.15	0.24	0.111			
				-5.5									
						5.5	60.9	2.20	0.25	0.115			
				-6.5	-155								
						6.5	59.4	2.20	0.24	0.109			
				-7.5	-155								
						7.5	58.8	2.34	0.22	0.102			

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEDIMENT (CM)	%H20 (%)	SEDIMENANALYSIS,% PC	PN	PP	CHLORO (mg/m2)	DISSOLVED NUTRIENT NH4 (uM N)	NO3+NO2 (uM N)
HORN.PT	15-OCT-85	1628	8.0	0	135								
						0.5	83.2	4.03	0.25	0.059		74	7.9
				-1.2	95								
						1.5	71.6	2.19	0.26	0.058		186	4.8
				-2.2	-60								
						2.5	70.8	2.58	0.30	0.071			
				-3.2	-150								
						3.5	68.4	2.31	0.26	0.069			
				-4.2	-90								
						4.5	67.0	2.32	0.28	0.059			
				-5.2	-80								
						5.5	64.7	2.01	0.26	0.051			
				-6.2	-70								
						6.5	63.1	1.89	0.23	0.050			
				-7.2	-90								
						7.5	60.9	1.98	0.23	0.048			
				-8.2	-110								
						8.5	59.6	1.86	0.24	0.045			
				-9.2									
						9.5	58.4	1.96	0.24	0.043			
WIND.HIL	15-OCT-84	1100	4.6	0	130								
				-1	-120	0.5	81.4	4.52	0.36	0.102		117	7.0
				-2	-120	1.5	75.7	7.05	0.52	0.126		240	2.8
				-3	-70	2.5	74.6	7.08	0.52	0.112			
				-4	-110	3.5	74.0	7.08	0.49	0.117			
						4.5	72.5	6.74	0.50	0.113			
				-6	-70	5.5	69.7	5.51	0.40	0.102			
						6.5	71.9	6.16	0.47	0.104			
				-8	-90	7.5	74.3	7.98	0.54	0.120			
						8.5	72.2	6.68	0.49	0.123			
				-10	-180	9.5	70.5	6.80	0.47	0.105			
				-12	-190								
RAG.PT	18-OCT-84	950	15.5	0	120								
				-1	20	0.5	89.3	3.47	0.48	0.084		163	6.9
				-2	-230	1.5	84.0	3.44	0.46	0.069		229	6.0
				-3	-305	2.5	80.7	3.53	0.45	0.066			
				-4	-305	3.5	80.0	3.56	0.47	0.071			
						4.5	79.8	3.51	0.46	0.070			
				-6	-310	5.5	77.1	3.08	0.40	0.061			
						6.5	77.8	2.93	0.35	0.060			
				-8	-340	7.5	75.6	2.72	0.34	0.058			
						8.5	72.9	2.91	0.37	0.058			
				-10	-330	9.5	72.6	2.94	0.36	0.056			

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEDIMENT (CM)	%H20 (%)	SEDIMENANALYSIS,% PC	PN	PP	CHLORO (mg/m2)	DISSOLVED NUTRIENT NH4 (uM N)	NO3+NO2 (uM N)
MD.PT	18-OCT-84	1340	9.5	0	130								
				-1	100	0.5	86.4	2.79	0.30	0.117		97	32.3
				-2	50	1.5	79.4	2.86	0.31	0.108		114	27.6
				-3	-150	2.5	74.9	2.94	0.32	0.121			
				-4	-180	3.5	74.8	3.36	0.38	0.125			
				-5	-210	4.5	69.2	2.82	0.31	0.108			
				-6	-235	5.5	61.4	2.44	0.25	0.094			
				-7	-220	6.5	60.3	2.35	0.26	0.089			
						7.5	59.3	2.48	0.25	0.095			
						8.5	59.8	2.48	0.26	0.093			
PT.NO.PT	17-OCT-84	1810	13.4	0	160								
				-1	100	0.5	70.8	1.14	0.16	0.031		72	11.8
				-2	-110	1.5	57.3	1.56	0.16	0.035		161	4.2
				-3	-220	2.5	45.8	0.97	0.12	0.023			
				-4	-250	3.5	36.4	0.67	0.08	0.021			
				-5	-280	4.5	30.9	0.43	0.05	0.022			
						5.5	31.8	0.75	0.07	0.018			
				-7	-310	6.5	31.7	0.56	0.05	0.022			
						7.5	37.4	0.68	0.07	0.025			
				-9	-300	8.5	42.8	1.09	0.12	0.031			
				-10		9.5	44.5	1.01	0.11	0.032			
				-11	-280								
R-64	16-OCT-84	1810	19.0	0	160								
				-1	100	0.5	89.5	2.30	0.36	0.055		218	5.6
				-2	90	1.5	80.9	3.83	0.30	0.054		303	4.7
				-3	-150	2.5	76.5	2.87	0.35	0.049			
				-4	-220	3.5	74.8	2.90	0.37	0.052			
				-5	-210	4.5	73.9	2.56	0.31	0.049			
				-6	-250	5.5	74.9	2.62	0.31	0.049			
						6.5	75.5	2.62	0.31	0.051			
				-8	-250	7.5	74.1	2.68	0.32	0.048			
				-9	-270	8.5	72.3	2.63	0.32	0.051			
						9.5	74.0	2.69	0.31	0.049			
				-11	-300								
R-78	16-OCT-84	1218	16.4	0	145								
				-1	90	0.5	89.6			0.091		138	6.6
				-2	-190	1.5	65.8			0.069		218	3.1
				-3	-230	2.5	65.9	2.56	0.19	0.045			
				-4	-210	3.5	65.3	2.53	0.19	0.047			
				-5	-220	4.5	64.3	2.53	0.20	0.050			
						5.5	63.1	2.06	0.17	0.044			
				-7	-230	6.5	61.0	2.08	0.17	0.043			
						7.5	62.5	1.66	0.16	0.041			
				-9	-250								

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H2O and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEDIMENT (CM)	%H2O (%)	SEDIMENANALYSIS,% PC	PN	PP	CHLORO (mg/m2)	DISSOLVED NUTRIENT NH4 (uM N)	NO3+NO2 (uM N)
STIL.PD	16-OCT-84	1000	10.0	0	40								
				-1	30	0.5	82.9	4.69	0.24	0.066		27	18.3
				-2	-95	1.5	69.4	4.83	0.25	0.070		103	28.8
				-3	-90	2.5	67.8	4.81	0.26	0.077			
				-4	-105	3.5	67.7	5.06	0.27	0.081			
				-5	-95	4.5	59.0	3.72	0.21	0.051			
				-6	-145	5.5	56.4	2.78	0.19	0.045			
				-7	-105	6.5	56.3	2.84	0.21	0.051			
						7.5	54.8	2.56	0.21	0.036			
						8.5	52.2	2.32	0.20	0.035			
						9.5	53.0	2.44	0.21	0.034			

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEDIMENT (CM)	%H20 (%)	SEDIMENANALYSIS,% PC	PN	PP	CHLORO (mg/m2)
SONE 3											
ST.LEO	6-MAY-85	830	6.6	1	173						
				0	97						
				-1	-77	0.5		2.67	0.34	0.089	30.9
				-2	-150						
				-3	-150						
				-4	-170						
				-5	-200						
				-6	-206						
				-7	-185						
BU.VISTA	6-MAY-85	1200	4.0	1	197						
				0	-5						
				-1	8	0.5		2.78	0.32	0.166	31.8
				-2	53						
				-3	20						
				-4	-135						
				-5	-111						
				-6	-146						
HORN.PT	7-MAY-85		7.5	1	185						
				-1	-155	0.5		2.31	0.33	0.079	31.0
				-2	-200						
				-3	-200						
				-4	-225						
				-5	-210						
				-6	-236						
				-7	-140						
				-8	-210						
WIND.HIL	7-MAY-85	710	4.2	1	200						
				-1	19	0.5		7.45	0.55	0.118	38.2
				-2	135						
				-3	124						
				-4	200						
				-5	100						
				-6	120						
RAG.PT	9-MAY-85	700	17.0	1	195						
				-1	-90	0.5		4.97	0.66	0.09	51.8
				-2	-100						
				-3	-93						
				-4	-110						
				-5	-180						

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEDIMENT (CM)	%H20 (%)	SEDIMENANALYSIS,% PC	PN	PP	CHLORO (mg/m2)
MD.PT	9-MAY-85	1030	10.8	1	195						
				-1	150	0.5		2.86	0.33	0.12	26.0
				-2	125						
				-3	-90						
				-4	-165						
				-5	-180						
				-6	-200						
				-7	-210						
				-8	-190						
PT.ND.PT	8-MAY-85	1800	14.5	1	195						
				0	-260						
				-1	-230	0.5		4.24	0.56	0.111	38.2
				-2	-200						
				-3	-140						
				-4	-100						
				-5	-100						
				-6	-100						
				-7	-70						
				-8	-60						
R-64	6-MAY-85	1830	16.8	1	200						
				-1	-201	0.5		3.45	0.48	0.08	49.5
				-2	-180						
				-3	-155						
				-4	-210						
				-5	-250						
				-6	-270						
				-7	-300						
R-78	7-MAY-85	1655	17.0	1	200						
				0	-110						
				-1	-470	0.5		10.39	0.52	0.144	43.6
				-2	-460						
				-3	-360						
				-4	-330						
				-5	-300						
STIL.Pd	8-MAY-85	710	9.5	1	180						
				0	120						
				-1	-140	0.5		4.92	0.22	0.077	11.4
				-2	-100						
				-3	-195						
				-4	-200						
				-5	-185						
				-6	-200						
				-7	-160						
				-8	-180						

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEDIMENT (CM)	%H20 (%)	SEDIMENANALYSIS,% PC	PN	PP	CHLORO (mg/m2)
SONE 4											
ST.LEO	25-JUNE-85	1100	7.5	1	170						
				0	175						
				-1	147	0.5		2.72	0.40	0.084	24.17
				-2	70						
				-3	-100						
				-4	-80						
				-5	-130						
				-6	-130						
				-7	-165						
				-8	-140						
BU.VISTA	25-JUNE-85	730	4.6	1	160						
				0	150						
				-1	102	0.5		2.49	0.31	0.152	15.81
				-2	-160						
				-3	-225						
				-4	-227						
				-5	-245						
				-6	-211						
				-7	-225						
				-8	-135						
HORN.PT	26-JUNE-85	700	8.2	1	90						
				0	170						
				-1	200	0.5		2.76	0.30	0.064	29.67
				-2	167						
				-3	-110						
				-4	-80						
				-5	-120						
				-6	-202						
				-7	-227						
				-8	-230						
RAG.PT	24-JUNE-85	1030	16.5	1	-75						
				0	-290						
				-1	-320	0.5		3.37	0.43	0.063	22.94
				-2	-340						
				-3	-360						
				-4	-332						
				-5	-362						
				-6	-332						

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Meset DEPTH (CM)	Eh (mV)	MID-POINT SEDIMENT (CM)	%H20 (%)	SEDIMENANALYSIS,% PC	PN	PP	CHLORD (mg/m2)
				0	162						
				-1	130	0.5		2.71	0.32	0.126	20.5
				-2	115						
				-3	105						
				-4	102						
				-5	100						
				-6	103						
				-7	121						
				-8	130						
PT.NO.PT	24-JUNE-85	1910	14.4	1	205						
				0	-160						
				-1	-203	0.5		3.27	0.45	0.087	22.33
				-2	-194						
				-3	-235						
				-4	-250						
				-5	-250						
				-6	-245						
				-7	-328						
				-8	-203						
R-64	25-JUNE-85	1600	17.5	1	160						
				0	-210						
				-1	-235	0.5		3.60	0.46	0.078	32.12
				-2	-240						
				3	-295						
				-4	-332						
				-5	-345						
				-6	-362						
				-7	-396						
				-8	-405						
R-78	27-JUNE-85	1200	16.8	1	110						
				0	-156						
				-1	-245	0.5		3.83	0.48	0.087	26.00
				-2	-166						
				-3	-245						
				-4	-350						
				-5	-232						
				-6	-393						
				-7	-365						
				-8	-365						

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H2O and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEDIMENT (CM)	%H2O (%)	SEDIMENANALYSIS,% PC	PN	PP	CHLORO (mg/m2)
STIL.PD	26-JUNE-85	1600	10.4	1	100						
				0	120						
				-1	100	0.5		3.68	0.24	0.074	19.89
				-2	28						
				-3	-57						
				-4	-43						
				-5	-105						
				-6	-79						

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEDIMENT (CM)	%H20 (%)	SEDIMENANALYSIS,% PC	PN	PP	CHLORO (mg/m2)
SONE 5											
ST.LEO	22-AUG-85	843	7.9	1	110						
				-1	-185	0.5		2.57	0.34	0.068	29.4
				-2	-200						
				-3	-212						
				-4	-230						
				-5	-250						
				-6	-320						
				-7	-260						
				-8	-350						
BU.VISTA	22-AUG-85	1050	5.8	1	-120						
				-1	-200	0.5		2.56	0.34	1.34	24.2
				-2	-230						
				-3	-210						
				-4	-220						
				-5	-220						
				-6	-250						
				-7	-200						
				-8	-240						
HORN PT	21-AUG-85	1300	8.2	1	-110						
				-1	50	0.5		2.02	0.31	0.051	30.9
				-2	-226						
				-3	-264						
				-4	-250						
				-5	-234						
				-6	-240						
				-7	-280						
				-8	-250						
RAG.PT	19-AUG-85	957	16.5	1	140						
				-1	-265	0.5		3.3	0.47	0.054	34
				-2	-300						
				-3	-355						
				-4	-362						
				-5	-378						
				-6	-381						
				-7	-390						
				-8	-400						
				-9	-403						
				-10	-410						

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEDIMENT (CM)	%H20 (%)	SEDIMENANALYSIS,% PC	PN	PP	CHLORO (mg/m2)
MD.PT	19-AUG-85	1330	8.8	1	90						
				0	-135						
				-1	-220	0.5		3.26	0.46	0.053	24.2
				-2	-267						
				-3	-285						
				-4	-278						
				-5	-275						
				-6	-300						
PT.NO.PT	20-AUG-85	800	14.3	1	90						
				-1	-206	0.5		2.68	0.33	0.112	13.6
				-2	-260						
				-3	-295						
				-4	-325						
				-5	-320						
				-6	-305						
				-7	-250						
				-8	-295						
				-9	-295						
				-10	-300						
R-64	20-AUG-85	1212	16.5	1	30						
				-1	-360	0.5		3.33	0.46	0.054	29.7
				-2	-380						
				-3	-404						
				-4	-405						
				-5	-407						
				-6	-412						
R-78	21-AUG-85	1000	15.5	1	130						
				0	-120						
				-1	-250	0.5		3.91	0.26	0.076	12.9
				-2	-270						
				-3	-350						
				-4	-420						
				-5	-430						
				-6	-412						
				-7	-420						
				-8	-423						
				-9	-419						
				-10	-440						

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
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All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEDIMENT (CM)	%H20 (%)	SEDIMENANALYSIS,% PC	PN	PP	CHLORO (mg/m2)
STIL.PD	21-AUG-85	805	10.4	1	100						
				-1	50	0.5		3.34	0.24	0.045	14.1
				-2	-84						
				-3	-180						
				-4	-150						
				-5	-180						
				-6	-180						
				-7	-210						
				-8	-240						
				-9	-230						

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SED.SLICE (cm)	%H20 (%)	SEDIMENT ANALYSIS,% SURF SED PC	SED CORE PC	SURF SED PN	SED CORE PN	SURF SED PP	SED CORE PP
SONE 6													
ST.LEO	16-OCT-85	2000	7.3	1	190								
				-1	180	0.5	81.9		2.23		0.28		0.071
				-2	85	1.5	70.4		2.68		0.31		0.092
				-3	75	2.5	67.9		2.33		0.22		0.066
				-4	-210	3.5	64.2		2.81		0.30		0.060
				-5	-240	4.5	61.1		2.27		0.28		0.057
				-6	-250								
				-7	-220								
				-8	-185								
				-9	-160								
				-10	-200	9.5	61.9		2.62		0.26		0.050
BU.VISTA	16-OCT-85	1610	6.0	1	160								
				-1	160	0.5	81.8	2.27	2.68	0.31	0.35	0.072	0.135
				-2	150	1.5	77.9		2.63		0.27		0.141
				-3	160	2.5	76.1		2.77		0.32		0.143
				-4	145	3.5	74.0		2.67		0.32		0.149
				-5	115	4.5	69.9		2.58		0.28		0.121
				-6	140								
				-7	130								
				-8	-90								
				-9	-160								
				-10	-180	9.5	64.2		2.58		0.31		0.103
HORN PT	15-OCT-85	1525	8.2	1	161								
				-1	-245	0.5	79.1	2.10	1.80	0.33	0.27	0.064	0.059
				-2	-245	1.5	71.9		2.01		0.29		0.066
				-3	-250	2.5	67.6		1.93		0.28		0.053
				-4	-240	3.5	62.0		1.86		0.27		0.047
				-5	-250				1.80		0.25		0.044
				-6	-240								
				-7	-215								
				-8	-245	8.5	57.3		1.72		0.24		0.038

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H2O and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

STATION	DATE	TIME	INTERSTITIAL NUTRIENTS NH4 (uM N)	DIP (uM P)	NO3+NO (uM N)	NO2 (uM N)	SI (uM Si)	CHLORO SURF SED TOTAL (mg/m2)	SURF SED ACTIVE (mg/m2)
SONE 6									
ST.LEO	16-OCT-85	2000							
				10.6	0.96	0.26	232		
				13.7	0.44	0.19	254		
				28.0	0.37	0.32	293		
				8.9	0.26	0.26	236		
				41.0	1.14	0.19	290		
				25.0	3.64	0.24	229		
BU.VISTA	16-OCT-85	1610							
				8.1	0.57	0.22	125	118.0	16.0
				10.2	0.37	0.18	172		
				8.5	0.30	0.15	195		
				6.6	0.37	0.16	216		
				5.5	0.29	0.15	196		
				15.9	1.62	0.13	152		
HORN PT	15-OCT-85	1525							
				27.0	1.10	0.42	213	142.0	16.0
				58.0	0.34	0.31	297		
				22.0	0.47	0.37	301		
				12.3	0.56	0.23	266		
				1.7	0.47	0.25	159		
				18.0	1.55	0.24	171		

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H_2O and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SED.SLICE (cm)	%H_2O (%)	SEDIMENT ANALYSIS,% SURF SED PC	SED CORE PC	SURF SED PN	SED CORE PN	SURF SED PP	SED CORE PP
WIND HILL	15-OCT-85	1750	3.6	1	180								
				-1	130	0.5	81.3	5.26	5.11	0.42	0.40	0.108	0.110
				-2	-120	1.5	77.3		6.47		0.50		0.118
				-3	-150	2.5	76.2		6.38		0.52		0.128
				-4	-215				6.07		0.49		0.095
				-5	-275	4.5	72.9		6.29		0.48		0.090
				-6	-300								
				-7	-320								
				-8	-285								
				-9	-280	9.5	68.6		5.62		0.43		0.100
				-10	-280								
RAG PT	17-OCT-85	1015	16.2	1	35								
				-1	-215	0.5	88.7	3.78	3.65	0.54	0.51	0.092	0.074
				-2	-300	1.5	83.5		4.22		0.59		0.075
				-3	-315	2.5	82.8		3.83		0.49		0.066
				-4	-330	3.5	82.1		3.31		0.44		0.061
				-5	-400	4.5	79.3		2.88		0.38		0.053
				-6	-430								
				-7	-430								
				-8	-440								
				-9	-410								
				-10	-415	9.5	74.9		2.66		0.34		0.050
MD PT	17-OCT-85	1530	10.0	1	160								
				-1	-200	0.5	78.9	2.56	2.43	0.32	0.28	0.128	0.111
				-2	-200	1.5	70.4		2.66		0.31		0.105
				-3	-240	2.5	69.7		2.75		0.31		0.111
				-4	-240	3.5	68.2		2.69		0.31		0.117
				-5	-220	4.5	66.1		2.59		0.29		0.120
				-6	-220								
				-7	-230								
				-8	-235								
				-9	-240								
				-10	-250	9.5	68.1		2.86		0.33		0.120

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

STATION	DATE	TIME	INTERSTITIAL NUTRIENTS NH4 (uM N)	DIP (uM P)	NO3+NO (uM N)	NO2 (uM N)	SI (uM Si)	CHLORO SURF SED TOTAL (mg/m2)	SURF SED ACTIVE (mg/m2)
WIND HILL	15-OCT-85	1750							
				5.9	2.85	0.31	95	135.0	10.6
				28.0	0.78	0.34	313		
				22.0	0.42	0.35	279		
				10.4	0.65	0.27	363		
				6.1	0.55	0.35	372		
				8.7	0.39	0.27	337		
RAG PT	17-OCT-85	1015							
				219.0	1.37	0.23	216	136.0	21.3
				189.0	2.12	0.19	185		
				144.0	0.75	0.19	290		
				177.0	1.76	0.19	329		
				75.0	1.87	0.19	287		
				47.0	1.08	0.19	243		
MD PT	17-OCT-85	1530							
				22.0	1.95	0.27	149	53.9	5.9
				16.0	1.93	0.31	158		
				3.5	0.71	0.31	297		
				2.6	0.26	0.23	178		
				1.9	0.84	0.23	355		
				2.3	0.76	0.27	357		

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H2O and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SED.SLICE (cm)	%H2O (%)	SEDIMENT ANALYSIS,% SURF SED PC	SED CORE PC	SURF SED PN	SED CORE PN	SURF SED PP	SED CORE PP
PT NO PT	14-OCT-85	1005	14.1	1	204								
				-1	-111	0.5	71.2	1.82	1.50	0.26	0.19	0.042	0.031
				-2	-190	1.5	58.2		1.28		0.15		0.032
				-3	-500	2.5	58.4		1.82		0.21		0.033
				-4	-460	3.5	51.2		1.26		0.15		0.024
				-5	-410	4.5	34.6		0.50		0.08		0.015
				-6	-420								
				-7	-450								
				-8	-335								
				-9	-410								
				-10	-425	9.5	43.4		1.06		0.11		0.026
				-11	-355								
R-64	14-OCT-85	1340	16.8	1	-120								
				0	-210								
				-1	-230	0.5	82.8	2.72	2.59	0.35	0.34	0.062	0.050
				-2	-250	1.5	79.2		2.64		0.35		0.048
				-3	-300	2.5	74.5		2.43		0.30		0.041
				-4	-360	3.5	78.8		2.54		0.33		0.045
				-5	-380	4.5	74.9		2.31		0.30		0.045
				-6	-405								
				-7	-420								
				-8	-430								
				-9	-420	8.5	77.9		2.46		0.30		0.048
R-78	14-OCT-85	1645	15.8	1	180								
				-1	-240	0.5	78.5	3.16	3.66	0.28	0.29	0.078	0.074
				-2	-255	1.5	71.7		3.85		0.29		0.059
				-3	-355	2.5	71.2		3.26		0.27		0.059
				-4	-370	3.5	67.7		3.07		0.26		0.057
				-5	-350	4.5	65.9		2.77		0.27		0.054
				-6	-350								
				-7	-365								
				-8	-350								
				-9	-400								
				-10	-370	9.5	63.8		2.88		0.24		0.060

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

STATION	DATE	TIME	INTERSTITIAL NUTRIENTS NH4 (uM N)	DIP (uM P)	NO3+NO (uM N)	NO2 (uM N)	SI (uM Si)	CHLORO SURF SED TOTAL (mg/m2)	SURF SED ACTIVE (mg/m2)
PT NO PT	14-OCT-85	1005							
			7.0	0.55	0.27		313	135.0	21.1
			115.0	2.96			322		
			39.0	2.08			204		
			39.0	1.11			231		
			34.0	2.94			220		
			56.0	2.52			247		
R-64	14-OCT-85	1340							
			81.0	0.76	0.43		530	116.0	15.8
			97.0	1.39	0.27		490		
			109.0	2.13	0.39		561		
			197.0	1.39	0.31		662		
			202.0	1.08	0.47		549		
R-78	14-OCT-85	1645							
			39.0	1.00	0.23		239	110.0	15.8
			30.0	0.73	0.20		218		
			28.0	0.91	0.25		241		
			30.0	0.78	0.23		198		
			32.0	1.11	0.34		222		
			75.0	2.49	0.22		243		

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H2O and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

SEDIMENT PROFILES

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SED.SLICE (cm)	%H2O (%)	SEDIMENT ANALYSIS,% SURF SED PC	SED CORE PC	SURF SED PN	SED CORE PN	SURF SED PP	SED CORE PP
STIL PD	15-OCT-85	930	10.6	1	177								
				-1	55	0.5	71.9	3.34	3.37	0.32	0.24	0.038	0.048
				-2	-59	1.5	59.1		2.96		0.23		0.043
				-3	-86	2.5	58.9		3.19		0.27		0.035
				-4	-87	3.5	38.9		2.77		0.24		0.040
				-5	-108	4.5	59.3		2.81		0.27		0.035
				-6	-96								
				-7	-95								
				-8	-70								
				-9	-70								
				-10	-105	9.5	56.9		2.98		0.26		0.033

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

			INTERSTITIAL NUTRIENTS					CHLORO	
STATION	DATE	TIME	NH4 (uM N)	DIP (uM P)	NO3+NO (uM N)	NO2 (uM N)	SI (uM Si)	SURF SED TOTAL (mg/m2)	SURF SED ACTIVE (mg/m2)
STIL PD	15-OCT-85	930							
				3.1	6.84	0.38	104	42.0	2.1
				5.2	3.33	0.34	250		
				3.8	1.29	0.64	202		
				4.9	2.03	0.35	239		
				12.1	3.49	0.23	320		
				15.6	2.82	0.27	298		

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H2O and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SED.SLICE (cm)	%H2O (%)	SEDIMENT PROFILES ANALYSIS,% SURF SED PC	SURF SED PN	SURF SED PP	CHLORO SURF SED TOTAL (mg/m2)	SURF SED ACTIVE (mg/m2)
SONE 7												
ST.LEO	8-MAY-86	710	7.0	1	110							
				0	35							
				-0.5	18							
				-1.5	-144	0.5		2.36	0.28	0.067	219.0	95.7
				-2.5	-160							
				-3.5	-130							
				-4.5	-117							
				-5.5	-220							
				-6.5	-155							
				-7.5	-230							
				-8.5	-150							
				-9.5	-124							
				10.5	-175							
BU.VISTA	8-MAY-86	945	5.2	1	174							
				-0.5	200							
				-1.5	170	0.5		2.92	0.35	0.134	168.0	47.8
				-2.5	178							
				-3.5	174							
				-4.5	168							
				-5.5	170							
				-6.5	170							
				-7.5	-260							
				-8.5	-360							
				-9.5	-375							
				10.5	-390							
HORN PT	3-MAY-86	1030	7.5	0	190							
				-1	-199	0.5		2.06	0.28	0.066	307.0	152
				-2	-188							
				-3	-185							
				-4	-145							
				-5	-160							
				-6	-145							
				-7	-198							
				-8	-185							
				-9	-150							
				-10	-209							

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	SEDIMENT PROFILES: MID-POINT SED.SLICE (cm)	%H20 (%)	ANALYSIS,%: SURF SED PC	SURF SED PN	SURF SED PP	CHLORO: SURF SED TOTAL (mg/m2)	SURF SED ACTIVE (mg/m2)
WINDY HIL	3-MAY-86	1810	2.8	0	-110							
				-1	-280	0.5		4.28	0.33	0.120	71.6	23.0
				-2	-223							
				-3	-250							
				-4	-257							
				-5	-243							
				-6	-240							
				-7	-251							
				-8	-217							
				-9	-235							
				-10	-227							
RAG PT	6-MAY-86	1000	16.5	-0.5	-95							
				-1.5	-120	0.5		3.5	0.47		268	95.7
				-2.5	-230							
				-3.5	-210							
				-4.5	-245							
				-5.5	-260							
				-6.5	-285							
				-7.5	-290							
				-8.5	-295							
				-9.5	-305							
				10.5	-330							
MD PT	7-MAY-86		10.0	1	158							
				0	-10							
				-1	80	0.5		2.43	0.28	0.115	148	53.8
				-2	75							
				-3	140							
				-4	43							
				-5	-202							
				-6	-248							
				-7	-250							
				-8	-205							
				-9	-185							
				-10	-180							

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

						SEDIMENT PROFILES					CHLORO	
			TOTAL	EH Mesmt		MID-POINT			ANALYSIS,%		SURF SED	SURF SED
STATION	DATE	TIME	DEPTH	DEPTH	Eh	SED.SLICE	%H20	SURF SED	SURF SED	SURF SED	TOTAL	ACTIVE
			(M)	(CM)	(mV)	(cm)	(%)	PC	PN	PP	(mg/m2)	(mg/m2)
PT NO PT	5-MAY-86	1500	14.4	0	55							
				-1	10	0.5		2.26	0.28	0.037	196	89.7
				-2	-15							
				-3	-20							
				-4	-21							
				-5	-50							
				-6	-38							
				-7	-70							
				-8	-50							
				-9	-60							
				-10	-126							
R-64	5-MAY-86	1000	16.6	0	80							
				-1	-160	0.5		2.8	0.37	0.059	315	133
				-2	-160							
				-3	-185							
				-4	-205							
				-5	-252							
				-6	-296							
				-7	-275							
				-8	-305							
				-9	-300							
				-10	-310							
R-78	4-MAY-86	1040	16.0	0	115							
				-1	-80	0.5		3.36	0.26	0.075	119	53.8
				-2	-210							
				-3	-165							
				-4	-165							
				-5	-280							
				-6	-245							
				-7	-190							
				-8	-245							
				-9	-293							
				-10	-330							

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H20 and various particulates)
ADD +244 mV to all Eh data to correct to hydrogen electrode.
All sediment sample slices 1cm thick

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SED.SLICE (cm)	%H2O (%)	SEDIMENT PROFILES SURF SED PC	ANALYSIS,% SURF SED PN	SURF SED PP	CHLORO SURF SED TOTAL (mg/m2)	SURF SED ACTIVE (mg/m2)
STIL PD	4-MAY-86	1410	9.8	0	160							
				-1	140	0.5		5.32	0.25	0.075	166	59.8
				-2	-10							
				-3	-95							
				-4	-140							
				-5	-150							
				-6	-148							
				-7	-40							
				-8	60							
				-9	80							
				-10	90							

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H2O and various particulates)
ADD +244 to all Eh to correct to hydrogen electrode.
All sediment sample slices 1cm tkick

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEd.SLICE (CM)	%H2O (%)	SEDIMENT ANALYSIS,% PC	PN	PP	TOTAL CHLORO (mg/m2)	ACTIVE CHLORO (mg/m2)
SONE 8												
ST.LEO	26-JUNE-86	730	6.7	1	163							
				0	161							
				-1	170	0.5		2.21	0.28	0.077	164	53.8
				-2	160							
				-3	150							
				-4	135							
				-5	-50							
				-6	-155							
				-7	-165							
				-8	-185							
				-9	-195							
				-10	-210							
BU.VISTA	26-JUNE-86	940	3.6	1	150							
				0	138							
				-1	123	0.5		2.83	0.35	0.144	146	47.8
				-2	125							
				-3	142							
				-4	140							
				-5	150							
				-6	120							
				-7	-169							
				-8	-95							
				-9	-205							
				-10	-178							
HORN PT	25-JUNE-86	1215	7.2	1	142							
				0	138							
				-1	139	0.5		1.98	0.27	0.051	168	47.8
				-2	123							
				-3	90							
				-4	-85							
				-5	-120							
				-6	-145							
				-7	-165							
				-8	-130							
				-9	-185							
				-10	-150							

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H2O and various particulates)
ADD +244 to all Eh to correct to hydrogen electrode.
All sediment sample slices 1cm tkick

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEd.SLICE (CM)	%H20 (%)	PC	SEDIMENT ANALYSIS,% PN	PP	TOTAL CHLORO (mg/m2)	ACTIVE CHLORO (mg/m2)
WIND HIL	25-JUNE-86	1450	3.6	1	153							
				-0.5	145							
				-1.5	144	0.5		5.09	0.44	0.101	141	47.8
				-2.5	150							
				-3.5	133							
				-4.5	105							
				-5.5	62							
				-6.5	35							
				-7.5	-190							
				-8.5	-185							
				-9.5	-185							
				-10.5	-165							
RAG PT	23-JUNE-86	850	13.2	1	173							
				0	163							
				-1	90	0.5		3.48	0.46	0.006	230	83.7
				-2								
				-3								
				-4	-30							
				-5	-133							
				-6	-217							
				-7	-285							
				-8	-261							
				-9	-297							
				-10	-292							
MD PT	23-JUNE-86	1220	9.8	1	145							
				0	120							
				-1	150	0.5		2.35	0.27	0.109	152	53.8
				-2	150							
				-3	60							
				-4	-50							
				-5	110							
				-6	-50							
				-7	-45							
				-8	-145							
				-9	-200							
				-10	-200							
PT NO PT	24-JUNE-86											

BIOMONITORING PROGRAM: ECOSYSTEM PROCESSES COMPONENT(SONE STUDY)
SEDPROF (Vertical sediment profiles of Eh,%H2O and various particulates)
ADD +244 to all Eh to correct to hydrogen electrode.
All sediment sample slices 1cm tkick

STATION	DATE	TIME	TOTAL DEPTH (M)	EH Mesmt DEPTH (CM)	Eh (mV)	MID-POINT SEd.SLICE (CM)	%H20 (%)	PC	SEDIMENT ANALYSIS,% PN	PP	TOTAL CHLORO (mg/m2)	ACTIVE CHLORO (mg/m2)
R-64	24-JUNE-86	1030	16	1	156							
				0	-10							
				-1	-130	0.5		3.33	0.44	0.067	224	83.7
				-2	-135							
				-3	-175							
				-4	-210							
				-5	-215							
				-6	-210							
				-7	-261							
				-8	-260							
				-9	-280							
				-10	-305							
R-78	24-JUNE-86	1900	15.2	1	170							
				0	-150							
				-1	-160	0.5		3.22	0.3	0,067	113	47.8
				-2	-155							
				-3	-215							
				-4	-210							
				-5	-222							
				-6	-142							
				-7	-235							
				-8	-185							
				-9	-206							
				-10	-195							
STIL PD	25-JUNE-86	750	9.5	1	156							
				0	164							
				-1	159	0.5		5.71	0.28	0.091	135	35.9
				-2	155							
				-3	155							
				-4	105							
				-5	115							
				-6	95							
				-7	50							
				-8	55							
				-9	30							
				-10	45							

Appendix Table 4

SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

SEDIMENT-WATER FLUXES

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H20 HEIGHT (M)	TIME (SUM) (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA T (min)	DO (MG/l)	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
SONE 1													
BU.VISTA	31-AUG-84	RED	1560	0.11	0	9	26		5.77				
			1560		24	9	50	24	5.40				
			1560		59	10	25	35	4.99				
			1560		99	11	5	40	4.45				
			1560		139	11	45	40	3.77				
			1560		169	12	15	30	3.34				
			1560		202	12	48	33	2.83				
			1560		246	13	32	44	2.11				
		BLUE	1470	0.10	0	9	27		5.37				
			1470		23	9	50	23	4.96				
			1470		58	10	25	35	4.39				
			1470		98	11	5	40	3.67				
			1470		138	11	45	40	3.00				
			1470		168	12	15	30	2.44				
			1470		201	12	48	33	1.89				
			1470		245	13	32	44	1.23				
		GREEN	1610	0.11	0	9	27		5.44				
			1610		23	9	50	23	5.28				
			1610		58	10	25	35	5.05				
			1610		98	11	5	40	4.70				
			1610		138	11	45	40	4.43				
			1610		168	12	15	30	4.11				
			1610		201	12	48	33	3.79				
			1610		245	13	32	44	3.26				

SEDIMENT-WATER FLUXES

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H20 HEIGHT (M)	TIME (SUM) (MIN)	TIME OF SAMPLE HR	MIN	DELTA T (min)	DO (MG/l)	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
ST.LEO	31-AUG-84	1	1080	0.07	0	10	30		4.66				
			1080		30	11	0	30	4.50				
			1080		80	11	50	50	4.30				
			1080		110	12	20	30	4.10				
			1080		140	12	50	30	3.94				
			1080		185	13	35	45	3.62				
		2	880	0.06	0	10	30		4.78				
			880		30	11	0	30	4.73				
			880		80	11	50	50	4.59				
			880		110	12	20	30	4.48				
			880		140	12	50	30	4.40				
			880		185	13	35	45	4.40				
			880		255	14	45	70	3.97				
		3	895	0.06	0	10	30		4.33				
			895		30	11	0	30	3.93				
			895		80	11	50	50	3.23				
			895		110	12	20	30	2.82				
			895		140	12	50	30	2.26				
			895		185	13	35	45	1.52				

SEDIMENT-WATER FLUXES

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H20 HEIGHT (M)	TIME (SUM) (MIN)	TIME OF SAMPLE HR	MIN	DELTA T (min)	DO (MG/1)	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
ST.LEO	27-AUG-84	BLACK		0.05	0	15	30			36.2	2.01	3.74	109.0
					30	16	0	30		37.5	1.97	3.86	108.0
					60	16	30	30		39.9	2.33	4.21	113.0
					96	17	6	36		44.2	2.40	3.92	118.0
					129	17	39	33		43.8	3.48	4.27	121.0
					162	18	12	33		44.7	2.30	4.18	125.0
					416	22	26	254		53.1	2.58	3.50	
		BLUE		0.10	0	15	25			19.5	1.31	1.81	80.0
					30	15	55	30		20.1	0.95	1.81	82.0
					60	16	25	30		22.0	1.18	1.93	86.0
					100	17	5	40		22.1	0.93	1.94	86.0
					134	17	39	34		23.2	1.32	1.98	91.0
					167	18	12	33		24.1	1.64	2.32	93.0
					416	22	21	249		29.4	1.60	2.02	112.0
		GREEN		0.07	0	15	25	0		25.5	1.99	2.73	98.0
					30	15	55	30		25.0	1.70	3.06	101.0
					60	16	25	30		25.9	2.87	3.36	104.0
					100	17	5	40		26.3	1.52	3.26	111.0
					134	17	39	34		28.1	1.57	3.29	111.0
					167	18	12	33		28.4	1.75	3.25	115.0
					415	22	20	248		33.2	2.09	2.67	127.0

SEDIMENT-WATER FLUXES

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM) (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA T (min)	DO (MG/l)	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
BU.VISTA	27-AUG-84	RED		0.07	0	15	38			7.8	1.95	3.66	101.0
					37	16	15	37		9.0	2.87	3.92	108.0
					66	16	44	29		11.2	2.33	4.04	111.0
					102	17	20	36		12.4	4.50	4.26	110.0
					135	17	53	33		14.3	2.89	4.25	116.0
					165	18	23	30		15.5	2.47	4.36	115.0
					416	22	34	251		24.1	3.40	4.86	136.0
		WHITE		0.07	0	15	38			3.8	1.11	3.74	95.0
					37	16	15	37		5.0	1.07	3.88	99.0
					67	16	45	30		6.0	2.37	3.93	101.0
					103	17	21	36		7.8	1.52	4.03	105.0
					137	17	55	34		9.4	1.25	4.23	108.0
					167	18	25	30		10.2	1.54	4.35	107.0
					414	22	32	247		18.6	1.11	4.62	124.0
		SILVER		0.08	0	15	38			9.1	1.55	3.58	99.0
					37	16	15	37		10.5	1.82	3.76	103.0
					68	16	46	31		11.2	2.82	3.96	106.0
					105	17	23	37		11.9	6.72	4.11	108.0
					139	17	57	34		12.1	2.88	4.07	112.0
					169	18	27	30		12.8	2.40	4.11	114.0
					410	22	28	241		17.8	3.53	4.49	130.0
HORN.PT	29-AUG-84	SILVER	1150	0.08	0	12	0		3.95	9.7	0.80	0.89	74.6
			1150		56	12	56	56	3.45	12.1	0.84	0.60	84.8
			1150		116	13	56	60	3.15	2.4	0.94	0.45	82.5
			1150		176	14	56	60	2.51	1.5	0.99	0.46	85.8
			1150		245	16	5	69	2.23	2.5	0.68	0.43	86.7
			1150		305	17	5	60		2.1	0.62	0.37	88.1
HORN.PT	29-AUG-84	WHITE	960	0.07	0	12	0		4.15	16.6	1.42	1.62	81.9
			960		56	12	56	56	2.30	12.7	1.17	1.11	94.5
			960		116	13	56	60	0.66	2.3	1.62	0.83	104.0
			960		178	14	58	62	0.66	0.4	0.47	0.70	111.0
			960		245	16	5	67	0.58	0.7	0.51	0.97	117.0
			960		310	17	10	65		0.4	1.09	1.64	120.0
		RED	940	0.07	0	12	0		5.05	13.9	0.67	1.08	81.0
			940		56	12	56	56	3.70	5.3	0.86	0.77	81.0
			940		116	13	56	60	2.25	5.0	1.17	0.40	91.0
			940		180	15	0	64	1.18	0.4	1.16	0.44	98.0
			940		245	16	5	65	1.53	0.4	0.86	0.47	100.0
			940		314	17	14	69		0.5	0.52	0.38	102.0

SEDIMENT-WATER FLUXES

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM) (MIN)	TIME OF SAMPLE HR	MIN	DELTA T (min)	DO (MG/l)	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
WIND.HL	29-AUG-84	1	1255	0.09	0	14	35		5.74	7.9	0.78	1.59	42.9
			1255		47	15	22	47	6.09	9.7	1.39	1.53	55.6
			1255		117	16	32	70	6.04	12.6	1.35	1.46	53.5
			1255		195	17	50	78	5.90	13.3	2.76	1.44	54.2
			1255		255	18	50	60	5.55	13.0	3.10	1.39	55.9
			1255		315	19	50	60	4.87	12.6	2.53	1.14	62.7
		2	1074	0.08	0	14	35		5.76	10.0	0.82	1.67	44.8
			1074		50	15	25	50	5.96	14.0	1.73	1.83	49.2
			1074		119	16	34	69	5.61	17.8	1.50	1.85	53.2
			1074		195	17	50	76	5.34	19.0	1.40	1.68	60.4
			1074		255	18	50	60	5.02	21.7	2.16	1.56	58.7
			1074		323	19	58	68	4.45	23.8	2.33	1.50	63.3
		3	655	0.05	0	14	35		5.84	49.6	2.78	2.93	72.4
			655		50	15	25	50	5.87	45.4	3.22	2.68	74.2
			655		123	16	38	73	5.33	54.2	2.79	2.40	85.5
			655		195	17	50	72	4.91	54.6	5.25	2.35	95.6
			655		255	18	50	60	4.44	60.7	3.16	2.35	106.0
			655		295	19	30	40	3.57	60.5	3.12	1.90	110.0
			655		315	19	50	20	3.50	59.3	3.48	1.80	113.0
RAG.PT	28-AUG-84	RED	850	0.06	0	13	17		2.91	97.2	1.70	11.20	81.4
			850		62	14	19	62	2.85	128.0	1.42	11.30	94.3
			850		120	15	17	58	2.74	144.0	0.96	11.00	108.0
			850		176	16	13	56	2.56	155.0	0.95	11.80	118.0
			850		250	17	27	74	2.02	173.0	1.22	14.30	126.0
			850		296	18	13	46	1.41	165.0	0.69	13.70	139.0
			850		331	18	48	35	1.41	164.0	1.55	14.10	139.0
			850		369	19	26	38	0.54	157.0	1.10	13.10	142.0
		WHITE	950	0.07	0	13	17		3.56	34.4	1.42	5.10	70.0
			950		65	14	22	65	3.48	52.2	1.12	6.90	81.0
			950		125	15	22	60	2.82	62.8	0.62	7.40	98.0
			950		179	16	16	54	2.30	65.7	0.80	8.50	94.0
			950		252	17	29	73	1.54	65.2	0.67	9.30	104.0
			950		300	18	17	48	1.15	56.8	0.69	9.60	108.0
			950		371	19	28	71		35.6	0.52	7.80	118.0
		SILVER	860	0.06	0	13	18		3.63	30.0	0.92	4.10	72.0
			860		67	14	25	67	2.84	49.7	0.91	6.70	86.0
			860		126	15	24	59	1.79	64.0	0.93	9.20	99.0
			860		185	16	23	59	1.11	69.4	0.69	10.60	108.0
			860		254	17	32	69	0.19	73.5	0.38	11.80	119.0
			860		301	18	19	47	0.12	74.0	0.70	12.50	128.0
			860		372	19	30	71	0.05	70.1	1.08	13.00	135.0

SEDIMENT-WATER FLUXES

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM) (MIN)	TIME OF SAMPLE HR	MIN	DELTA T (min)	DO (MG/l)	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
MD.PT	28-AUG-84	GREEN	960	0.07	0	18	56		6.25	12.8	35.80	2.89	44.3
			960		64	20	0	64	5.40	14.8	35.50	2.52	52.6
			960		120	20	56	56	5.20	12.8	35.10	1.79	79.6
			960		178	21	54	58	4.55	14.1	33.60	1.62	67.3
		BLUE	820	0.06	0	19	0		5.10	34.0	36.10	2.48	51.4
			820		60	20	0	60	4.35	34.0	28.50	1.86	55.5
			820		116	20	56	56	4.00	33.4	31.70	1.42	61.7
			820		174	21	54	58	3.60	32.5	25.20	0.96	64.9
		BLACK	1100	0.08	0	19	0		4.95	9.5	36.00	1.28	49.4
			1100		60	20	0	60	4.35	12.6	35.10	0.87	56.2
			1100		116	20	56	56	3.95	11.3	33.60	0.73	60.5
			1100		174	21	54	58	3.65	9.4	32.00	0.48	64.0
PT.NO.PT	28-AUG-84	GREEN	900	0.06	0	11	25		4.60	19.8	0.71	1.13	64.3
			900		79	12	44	79	4.60	20.0	1.25	0.79	69.2
			900		138	13	43	59	4.80	18.5	1.00	0.59	81.2
			900		197	14	42	59	4.50	18.0	0.76	0.51	87.0
			900		259	15	44	62	4.35	13.2	0.99	0.40	89.7
			900		319	16	44	60	4.40	10.1	1.19	0.39	94.4
		BLUE	980	0.07	0	11	25		4.15	16.4	0.67	1.02	62.8
			980		79	12	44	79	4.00	15.5	0.94	0.75	69.0
			980		138	13	43	59	4.00	14.2	0.97	0.63	75.0
			980		197	14	42	59	3.75	11.4	0.86	0.34	80.6
			980		259	15	44	62	3.45	7.9	0.74	0.30	85.4
			980		319	16	44	60	3.50	5.5	1.36	0.47	92.6
		BLACK	1130	0.08	0	11	25		3.60	23.1	0.84	1.34	66.4
			1130		79	12	44	79	3.50	20.8	1.36	0.86	73.5
			1130		138	13	43	59	3.75	16.6	0.98	0.50	79.7
			1130		197	14	42	59	3.25	12.4	1.18	0.35	84.9
			1130		259	15	44	62	3.30	7.4	1.35	0.30	89.5
			1130		319	16	44	60	3.25	4.4	1.11	0.31	94.5

SEDIMENT-WATER FLUXES

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM) (MIN)	TIME OF SAMPLE HR	MIN	DELTA T (min)	DO (MG/l)	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-64	29-AUG-84	GREEN	900	0.06	0	9	25		4.34	37.5	1.09	1.74	59.8
			900		49	10	14	49	2.82	36.4	2.04	1.85	71.6
			900		122	11	27	73	0.37	29.1	1.21	1.17	98.0
			900		170	12	15	48	0.07	27.4	0.46	1.40	100.0
			900		230	13	15	60	0.03	27.5	0.28	1.84	114.0
			900		290	14	15	60	0.02	22.1	0.21	1.74	123.0
		BLUE	1000	0.07	0	9	25		3.15	38.0	0.93	2.84	67.0
			1000		49	10	14	49	2.94	43.0	1.02	2.80	76.0
			1000		125	11	30	76	2.03	40.0	0.69	2.07	89.0
			1000		172	12	17	47	1.28	31.6	0.93	1.44	96.0
			1000		233	13	18	61	0.10	15.9	0.38	0.72	106.0
			1000		294	14	19	61	0.16	12.4	0.40	0.51	117.0
		BLACK	945	0.07	0	9	25		3.84	28.9	0.76	2.16	67.0
			945		49	10	14	49	3.14	33.2	0.73	2.15	76.0
			945		127	11	32	78	2.37	32.3	0.68	1.77	86.0
			945		174	12	19	47	1.88	28.0	0.60	1.58	93.0
			945		236	13	21	62	1.11	18.1	0.48	1.18	103.0
			945		297	14	22	61	0.57	9.1	0.38	1.01	111.0
TOM.PT	30-AUG-84	RED	1055	0.08	0	11	17		3.61	26.6	4.65	2.22	61.9
			1055		63	12	20	63	3.84	28.7	4.74	1.53	61.9
			1055		123	13	20	60	3.41	24.9	4.41	0.95	64.0
			1055		183	14	20	60	2.36	15.3	4.38	0.39	69.3
			1055		273	15	50	90	1.13	3.2	4.21	0.41	73.0
		WHITE	1000	0.71	0	11	17		3.38	20.4	3.71	1.85	61.6
			1000		63	12	20	63	2.64	10.6	3.92	0.67	61.1
			1000		123	13	20	60	1.54	0.4	2.65	0.32	63.5
			1000		183	14	20	60	0.60	0.4	0.17	0.29	70.0
			1000		278	15	55	95	0.22	0.4	0.83	0.30	74.8
		SILVER	990	0.07	0	11	17		3.51	28.8	4.83	2.67	61.4
			990		66	12	23	66	2.95	24.1	4.42	1.51	66.9
			990		123	13	20	57	2.43	18.8	4.29	0.86	67.9
			990		188	14	25	65	1.67	7.9	8.44	1.00	74.1
			990		283	16	0	95	0.96	0.7	1.13	0.50	80.0

SEDIMENT-WATER FLUXES

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM) (MIN)	TIME OF SAMPLE HR	MIN	DELTA T (min)	DO (MG/l)	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
STIL.PD	30-AUG-84	GREEN	1115	0.80	0	8	45		5.20	21.1	47.00	0.75	52.2
			1115		40	9	25	40	4.65	22.5	46.40	0.61	55.1
			1115		100	10	25	60	3.90	19.9	43.60	0.32	60.6
			1115		160	11	25	60	3.10	18.3	42.90	0.24	60.5
			1115		235	12	40	75	3.32	18.3	41.60	0.19	63.7
			1115		295	13	40	60	2.95	15.6	41.40	0.13	69.1
		BLUE	910	0.07	0	8	45		5.40	21.5	46.30	0.55	53.2
			910		40	9	25	40	4.35	21.0	45.50	0.27	58.0
			910		100	10	25	60	3.90	18.9	43.00	0.21	62.7
			910		160	11	25	60	1.80	15.6	39.40	0.12	69.7
			910		235	12	40	75	1.40	14.4	35.10	0.09	75.9
			910		295	13	40	60	1.25	13.4	32.00	0.11	81.3
		BLACK	920	0.07	0	8	45		5.95	25.8	47.50	0.46	52.2
			920		40	9	25	40	5.10	24.5	47.60	0.25	55.7
			920		100	10	25	60	4.00	19.6	46.70	0.15	61.0
			920		160	11	25	60	2.65	14.5	45.20	0.11	62.2
			920		235	12	40	75	1.88	10.1	43.20	0.10	63.8
			920		295	13	40	60	1.70	6.1	40.60	0.10	68.5

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
SONE 2														
ST.LEO	17-OCT-84	RED	1795	0.13	0	15	55	0	7.62	156	7.8	4.18	0.63	28
				0.00	30	16	25	30	7.50	160	7.7	4.38	0.65	29
				0.00	60	16	55	30	7.38	164	8.5	4.95	0.71	30
				0.00	121	17	56	61	7.00	168	7.9	5.06	0.70	31
				0.00	155	18	30	34	6.95	172	8.8	5.34	0.68	30
				0.00	185	19	0	30	6.85	176	7.8	5.70	0.74	32
				0.00	235	19	50	50	6.63					
		WHITE	2145	0.15	0	15	55	0	7.55	157	8.0	4.47	0.65	27
				0.00	30	16	25	30	7.42	161	8.3	4.36	0.74	27
				0.00	60	16	55	30	7.34	165	8.5	4.57	0.68	28
				0.00	121	17	56	61	7.10	169	8.8	4.79	0.73	29
				0.00	155	18	30	34	7.00	173	8.7	5.08	0.74	29
				0.00	185	19	0	30	6.92	177	8.9	4.97	0.73	30
				0.00	235	19	50	50	6.80					
		BLUE	1965	0.14	0	15	55	0	7.80	158	8.0	4.15	0.64	28
				0.00	30	16	25	30	7.75	162	8.2	4.36	0.73	29
				0.00	60	16	55	30	7.65	166	8.2	4.47	0.71	30
				0.00	121	17	56	61	7.40	170	8.4	4.62	0.79	31
				0.00	155	18	30	34	7.30	174	8.6	4.95	0.75	32
				0.00	185	19	0	30	7.20	178	8.9	4.96	0.81	31
				0.00	235	19	50	50	6.95					
											7.9	4.27	0.64	28
		BLANK		0.00	0	15	55	0	8.15	155	8.6	4.08	0.52	27
				0.00	30	16	25	30	8.13	159	7.7	3.99	0.59	26
				0.00	60	16	55	30	8.25	163	7.8	4.07	0.54	26
				0.00	121	17	56	61	8.34	167	7.8	4.00	0.57	26
				0.00	175	18	50	54	8.28	171	7.8	4.14	0.69	26
				0.00	185	19	0	10	8.26	175	8.0	4.10	0.53	26

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
BU.VISTA	17-OCT-84	RED	1945	0.14	0	12	8	0	7.62	130	8.7	3.10	1.52	49
				0.00	50	12	58	50	7.45	134	8.9	3.43	1.55	46
				0.00	106	13	54	56	7.15	140	10.7	3.50	1.58	50
				0.00	146	14	34	40	6.93	144	9.3	3.58	1.51	49
				0.00	176	15	4	30	6.80	148	8.8	3.70	1.61	47
				0.00	207	15	35	31	6.68	152	10.2	3.33	1.91	52
		WHITE	1910	0.14	0	12	8	0	7.20	131	8.8	3.08	1.58	47
				0.00	50	12	58	50	7.00	135	8.9	3.33	1.60	49
				0.00	106	13	54	56	6.80	141	8.9	3.00	1.36	49
				0.00	146	14	34	40	6.65	145	9.2	3.73	1.58	52
				0.00	176	15	4	30	6.52	149	9.3	3.90	1.61	50
				0.00	207	15	35	31	6.51	153	9.5	4.12	1.60	53
		BLUE	1905	0.14	0	12	8	0	6.91	132	8.8	3.15	1.48	47
				0.00	50	12	58	50	6.68	136	9.0	3.15	1.50	49
				0.00	106	13	54	56	6.70	142	9.6	3.48	1.60	44
				0.00	146	14	34	40	6.58	146	10.6	3.47	1.57	48
				0.00	176	15	4	30	6.50	150	10.2	3.66	1.57	48
				0.00	207	15	35	31	6.48	154	10.1	4.04	1.64	39
		BLANK	940	0.07	0	12	8	0	7.93	129	9.0	2.98	1.44	47
				0.00	50	12	58	50	7.94	133	8.4	2.97	1.48	46
				0.00	106	13	54	56	7.98	139	7.9	2.05	1.07	44
				0.00	146	14	34	40	7.98	143	8.7	2.72	1.36	30
				0.00	176	15	4	30	8.02	147	9.4	3.10	1.43	46
				0.00	207	15	35	31	8.07	151	9.6	3.02	1.40	43

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H20 HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	MIN	DELTA (min)	DO (MG/1)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
HORN.PT	15-OCT-84	RED	2075	0.15	0	18	20	0						
				0.00	30	18	50	30	8.70	33	3.3	2.24	0.38	27
				0.00	60	19	20	30	8.50	38	4.8	2.27	0.38	20
				0.00	90	19	50	30	8.40	42	5.8	2.31	0.62	25
				0.00	130	20	30	40	8.20	46	6.1	2.62	0.44	26
				0.00	160	21	0	30	8.05	50	7.9	2.33	0.91	22
				0.00	197	21	37	37	7.90					
				0.00	250	22	30	53	7.65					
		WHITE	1950	0.14	0	18	20	0	8.60	30	3.0	2.25	0.23	24.2
				0.00	30	18	50	30	8.43	34	3.9	2.29	0.24	18.2
				0.00	60	19	20	30	8.30	39	5.4	2.45	0.25	24.2
				0.00	90	19	50	30	8.10	43	3.5	1.89	0.32	18.6
				0.00	130	20	30	40	7.90	47	4.4	2.26	0.35	27.3
				0.00	160	21	0	30	7.75	51	5.3	2.90	0.30	15.6
				0.00	197	21	37	37	7.60					
				0.00	250	22	30	53	7.40					
		BLUE	1850	0.13	0	18	20	0	8.70	31	2.7	1.70	0.18	24.0
				0.00	30	18	50	30	8.52	35	3.3	2.49	0.27	26.1
				0.00	60	19	20	30	8.35	40	4.3	2.41	0.29	28.2
				0.00	90	19	50	30	8.30	44	4.0	2.66	0.35	29.1
				0.00	130	20	30	40	7.45	48	5.2	2.92	0.43	26.0
				0.00	160	21	0	30	7.30	52	10.0	3.03	0.41	24.7
				0.00	250	21	57							
				0.00		22	30	90	7.20					
		BLANK	940	0.07	0	18	20	0	9.30	32	1.2	1.75	0.27	24.7
				0.00	30	18	50	30	9.30	36	1.5	1.42	0.13	24.7
				0.00	60	19	20	30	9.30	37	1.3	1.79	0.19	20.4
				0.00	90	19	50	30	9.26	41	1.2	1.46	0.16	22.7
				0.00	130	20	30	40	9.24	45	1.3	1.89	0.17	18.2
				0.00	160	21	0	30	9.20	49	1.5	1.40	0.19	24.7
				0.00	197	21	37	37	9.14					
				0.00	250	22	30	53	9.11					

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
WIND.HIL	15-OCT-84	RED	1515	0.11	0	14	13	0	7.69	8	7.4	6.07	1.18	40.6
				0.00	30	14	43	30	7.38	12	9.8	6.07	1.22	39.4
				0.00	60	15	13	30	7.10	16	10.3	6.05	1.14	44.3
				0.00	90	15	43	30	6.90	20	11.7	6.03	1.16	43.0
				0.00	120	16	13	30	6.70	24	14.2	5.98	1.17	45.3
				0.00	164	16	57	44	6.40					
				0.00	192	17	25	28	6.25					
				0.00	224	17	57	32	6.05					
		WHITE	1460	0.11	0	13	43	0	8.19	4	4.1	6.70	1.22	41.4
				0.00	30	14	13	30	8.00	9	5.7	6.34	1.30	36.1
				0.00	60	14	43	30	7.65	13	7.4	6.38	1.34	37.4
				0.00	90	15	13	30	7.35	17	9.4	6.39	1.39	42.7
				0.00	120	15	43	30	7.12	21	9.8	6.39	1.39	47.1
				0.00	150	16	13	30	6.90	25	11.2	5.96	1.36	38.3
				0.00	194	16	57	44						
				0.00	222	17	25	28	6.46					
				0.00	254	17	57	32	6.36					
		BLUE	1490	0.11	0	13	43	0	8.13	5	9.2	6.10	1.34	43.9
				0.00	30	14	13	30	7.78	10	11.6	6.24	1.41	46.9
				0.00	60	14	43	30	7.41	14	13.7	6.12	1.46	50.3
				0.00	90	15	13	30	7.10	18	16.7	6.12	1.44	53.1
				0.00	120	15	43	30	6.90	22	16.8	5.52	1.38	53.9
				0.00	150	16	13	30	6.65	26	17.9	6.12	1.43	57.8
				0.00	194	16	57	44	6.44					
				0.00	222	17	25	28	6.35					
				0.00	254	17	57	32	5.97					

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
RAG.PT	18-OCT-84	RED	2100	0.15	0	10	48	0	6.65	208	10.3	2.30	0.27	16.0
				0.00	30	11	18	30	6.55	212	11.4	2.34	0.32	16.3
				0.00	60	11	48	30	6.45	216	12.6	2.54	0.96	16.7
				0.00	94	12	22	34	6.30	220	13.0	2.56	0.34	17.0
				0.00	189	13	57	95	5.96	224	15.2	2.78	0.28	20.5
				0.00	222	14	30	33	5.83	228	16.0	2.83	0.26	20.9
		WHITE	2280	0.16	0	10	48	0	6.85	209	10.1	2.19	0.30	14.5
				0.00	30	11	18	30	6.68	213	10.9	2.39	0.35	15.7
				0.00	60	11	48	30	6.58	217	11.5	2.49	0.51	13.6
				0.00	94	12	22	34	6.44	221	13.1	2.40	0.49	16.8
				0.00	189	13	57	95	6.11	225	14.2	2.47	0.26	18.9
				0.00	222	14	30	33	6.00	229	14.4	2.97	0.46	20.4
		BLUE	2300	0.17	0	10	48	0	6.90	210	10.5	2.30	0.27	15.7
				0.00	30	11	18	30	6.80	214	11.2	2.33	0.34	16.4
				0.00	60	11	48	30	6.70	218	11.9	2.39	0.27	16.8
				0.00	94	12	22	34	6.60	222	12.2	2.47	0.33	17.5
				0.00	189	13	57	95	6.24	226	13.9	2.69	0.23	19.5
				0.00	222	14	30	33	6.17	230	14.8	3.22	0.36	20.7
		BLANK		0.00	0	10	48	0	6.93	207	8.8	2.31	0.26	13.0
				0.00	30	11	18	30	7.09	211	7.2	2.43	0.32	12.5
				0.00	60	11	48	30	7.04	215	8.9	2.35	0.82	12.8
				0.00	94	12	22	34	7.14	219	9.8	2.30	0.32	14.3
				0.00	189	13	57	95	7.16	223	9.5	2.30	0.24	13.0
				0.00	222	14	30	33	7.14	227	8.6	2.33	0.25	12.9

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
MD.PT	18-OCT-84	RED	2550	0.18	0	15	42	0	7.20	234	8.0	31.40	1.52	34.8
				0.00	30	16	12	30	7.55	238	8.9	31.10	1.58	31.3
				0.00	60	16	42	30	7.45	242	8.2	31.50	1.51	31.8
				0.00	90	17	12	30	7.38	246	8.2	31.60	1.52	31.0
				0.00	120	17	42	30	7.16	250	8.5	31.40	1.55	31.2
				0.00	150	18	12	30	7.10	254	7.9	31.60	1.55	28.3
		WHITE	2485	0.18	0	15	42	0	7.30	235	7.9	30.70	1.49	30.9
				0.00	30	16	12	30	7.27	239	8.3	31.00	1.54	33.0
				0.00	60	16	42	30	7.20	243	8.0	31.00	1.50	33.0
				0.00	90	17	12	30	7.11	247	8.3	31.30	1.66	33.4
				0.00	120	17	42	30	6.95	251	8.6	31.20	1.58	33.7
				0.00	150	18	12	30	6.90	255	7.7	31.20	1.52	34.0
		BLUE	2525	0.18	0	15	42	0	7.25	236	7.7	30.70	1.47	33.8
				0.00	30	16	12	30	7.34	240	8.1	31.00	1.43	35.0
				0.00	60	16	42	30	7.27	244	7.9	30.90	2.09	34.2
				0.00	90	17	12	30	7.20	248	7.4	31.00	1.48	34.3
				0.00	120	17	42	30	7.16	252	7.5	30.90	1.45	35.2
				0.00	150	18	12	30	7.05	256	8.2	31.10	1.51	30.9
		BLANK		0.00	0	15	42	0	7.56	233	8.6	29.60	1.42	35.3
				0.00	30	16	12	30	7.62	237	8.3	29.60	1.50	34.2
				0.00	60	16	42	30	7.54	241	8.3	29.70	1.67	34.6
				0.00	90	17	12	30	7.55	245	8.3	29.80	1.40	34.1
				0.00	120	17	42	30	7.62	249	7.5	29.60	1.34	35.2
				0.00	150	18	12	30	7.58	253	8.0	29.70	1.26	36.4

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
PT.NO.PT	17-OCT-84	RED	2400	0.17	0	19	15	0	8.00	180	8.5	1.84	0.25	13.7
				0.00	35	19	50	35	7.85	186	9.1	1.78	0.22	14.8
				0.00	95	20	50	60	7.65	190	9.3	1.92	0.23	16.2
				0.00	133	21	28	38	7.50	194	9.8	2.01	0.22	17.1
				0.00	165	22	0	32	7.40	198	9.6	2.45	0.27	17.6
				0.00	195	22	30	30	7.29	202	9.9	2.19	0.21	18.2
		WHITE	1900	0.14	0	19	15	0	7.70	181	9.4	1.49	0.26	15.2
				0.00	35	19	50	35	7.55	187	9.9	1.58	0.27	16.3
				0.00	95	20	50	60	7.30	191	10.7	1.72	0.24	18.1
				0.00	133	21	28	38	7.20	195	11.3	2.04	0.26	18.9
				0.00	165	22	0	32	7.05	199	11.6	1.96	0.25	19.8
				0.00	195	22	30	30	6.97	203	12.5	2.34	0.27	20.6
		BLUE	2210	0.16	0	19	15	0	7.50	182	9.6	1.66	0.24	15.5
				0.00	35	19	50	35	7.40	188	10.2	1.80	0.25	17.0
				0.00	95	20	50	60	7.13	192	10.8	2.07	0.23	18.6
				0.00	133	21	28	38	7.00	196	11.2	2.26	0.24	19.6
				0.00	165	22	0	32	6.85	200	11.6	2.13	0.22	20.6
				0.00	195	22	30	30	6.72	204	12.2	2.25	0.21	21.5
		BLANK		0.00	0	19	15	0	8.20	179	8.4	1.25	0.27	13.2
				0.00	35	19	50	35	8.19	185	8.2	1.34	0.26	13.2
				0.00	95	20	50	60	8.14	189	8.3	1.52	0.28	13.6
				0.00	133	21	28	38	8.20	193	8.6	1.27	0.26	13.3
				0.00	165	22	0	32	8.14	197	8.2	1.28	0.26	13.4
				0.00	195	22	30	30	8.18	201	8.1	1.36	0.28	13.4

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-64	16-OCT-84	RED	1845	0.13	0	18	27	0	7.15	102	13.8	3.13	0.54	22.1
				0.00	31	18	58	31	6.85	106	14.4	3.00	0.48	24.1
				0.00	68	19	35	37	6.64	112	15.2	2.95	0.45	26.7
				0.00	106	20	13	38	6.41	116	17.9	3.07	0.55	27.5
				0.00	148	20	55	42	6.20	120	16.6	2.96	0.46	29.9
				0.00	208	21	55	60	5.92	124	17.6	2.90	0.45	31.6
		WHITE	1800	0.13	0	18	27	0	7.03	103	13.9	2.46	0.66	22.8
				0.00	31	18	58	31	6.82	107	16.4	2.45	0.60	24.2
				0.00	68	19	35	37	6.68	113	15.5	2.68	0.54	27.1
				0.00	106	20	13	38	6.50	117	16.3	2.45	0.52	27.8
				0.00	148	20	55	42	6.30	121	16.6	2.57	0.51	28.2
				0.00	208	21	55	60	6.08	125	18.5	2.53	0.59	34.3
		BLUE	1670	0.12	0	18	27	0	7.15	104	13.6	2.90	0.40	21.3
				0.00	31	18	58	31		108	13.7	2.83	0.42	22.2
				0.00	68	19	35	37	6.80	114	14.1	3.07	0.45	25.3
				0.00	106	20	13	38	6.68	118	15.3	3.03	0.44	27.2
				0.00	148	20	55	42	6.55	122	15.1	2.99	0.40	29.2
				0.00	208	21	55	60	6.39	126	16.9	3.12	0.45	32.9
		BLANK		0.00	0	18	27	0	7.44	101	12.2	2.00	0.51	18.6
				0.00	31	18	58	31	7.88	105	14.2	2.21	0.45	18.6
				0.00	68	19	35	37	7.61	111	12.2	2.44	0.49	19.2
				0.00	106	20	13	38	7.64	115	12.9	2.14	0.46	18.1
				0.00	148	20	55	42	7.89	119	12.4	2.20	0.43	19.1
				0.00	208	21	55	60	7.96	123	12.1	2.27	0.41	18.7

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-78	16-OCT-84	RED	1820	0.13	0	13	53	0	6.35	82	14.5	5.17	0.73	14.2
				0.00	29	14	22	29	6.30	86	14.2	5.63	0.77	26.2
				0.00	63	14	56	34	6.20	90	14.5	6.13	0.80	17.6
				0.00	97	15	30	34	6.18					
				0.00	110	15	43	13	6.15	94	14.3	5.29	0.68	27.2
				0.00	233	17	46	123	6.00	98	14.5	7.42	0.77	29.6
		WHITE	1865	0.13	0	13	53	0	6.65	83	9.6	5.43	0.73	18.9
				0.00	29	14	22	29	6.55	87	15.5	5.44	0.70	17.1
				0.00	63	14	56	34	6.50	91	14.7	5.48	0.71	19.6
				0.00	97	15	30	34	6.52					
				0.00	110	15	43	13	6.50	95	17.6	6.17	0.75	27.1
				0.00	233	17	46	123	6.25	99	15.5	6.85	0.77	27.3
		BLUE	1810	0.13	0	13	53	0	6.43	84	11.3	5.86	0.66	21.5
				0.00	29	14	22	29	6.40	88	14.3	6.13	0.66	25.8
				0.00	63	14	56	34	6.35	92	15.7	6.47	0.65	26.3
				0.00	97	15	30	34	6.35					
				0.00	110	15	43	13	6.35	96	13.7	6.80	0.63	27.0
				0.00	233	17	46	123	6.18	100	14.0	7.67	0.66	28.9
		BLANK	940	0.07	0	13	53	0	7.34	81	14.4	3.60	0.58	23.5
				0.00	29	14	22	29	7.30	85	13.3	4.55	0.70	22.9
				0.00	63	14	56	34	7.32	89	14.0	3.05	0.52	11.6
				0.00	97	15	30	34	7.59					
				0.00	110	15	43	13	7.57	93	12.3	4.41	0.69	19.4
				0.00	233	17	46	123	7.40	97	14.1	4.63	0.69	23.0

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
STIL.PD	16-OCT-84	RED	2025	0.15	0	10	5	0	8.45	56	6.9	29.40	0.31	25.7
				0.00	40	10	45	40	8.40	60	7.3	29.40	0.35	25.6
				0.00	70	11	15	30	8.28	64	7.6	29.50	0.38	25.6
				0.00	143	12	28	73	7.95	69	8.8	29.50	0.47	27.7
				0.00	183	13	8	40	7.82	74	9.2	29.40	0.35	27.6
				0.00	213	13	38	30	7.75	78	9.5	28.90	0.37	23.1
		WHITE	2050	0.15	0	10	5	0	8.00	57	7.7	29.80	0.32	26.2
				0.00	40	10	45	40	7.90	61	7.3	30.20	0.35	23.6
				0.00	70	11	15	30	7.80	65	7.5	29.50	0.36	22.5
				0.00	143	12	28	73	7.55	70	8.5	29.60	0.33	21.9
				0.00	183	13	8	40	7.47	75	8.9	29.70	0.40	23.0
				0.00	213	13	38	30	7.40	79	9.4	24.60	0.36	12.5
		BLUE	2090	0.15	0	10	5	0	8.00	58	7.0	29.80	0.32	26.6
				0.00	40	10	45	40	7.95	62	8.1	29.80	0.32	26.1
				0.00	70	11	15	30	7.86	66	9.1	29.40	0.32	27.2
				0.00	143	12	28	73	7.72	71	8.3	29.70	0.30	25.9
				0.00	183	13	8	40						
				0.00	213	13	38	30	7.40	80	9.3	17.20	0.30	27.2
		BLANK	940	0.07	0	10	5	0	8.85	55	5.3	29.20	0.42	24.7
				0.00	40	10	45	40	8.82	59	5.2	28.50	0.25	25.4
				0.00	70	11	15	30	8.80	63	5.1	29.70	0.37	17.2
				0.00	143	12	28	73	8.79	68	4.8	29.00	0.30	16.7
				0.00	183	13	8	40	8.80	73	5.2	18.00	0.21	23.9
				0.00	213	13	38	30		77	5.3	28.50	0.30	23.6

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/1)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
SONE 3														
ST.LEO	6-MAY-85	BLANK		0.00	0	10	40	0						
				0.00	15	10	55	15		2	5.1	6.60	0.37	8.5
				0.00	50	11	30	35	6.62	6	5.6	6.60	0.27	7.4
				0.00	121	12	41	71	6.75	12	5.1	6.60	0.22	7.4
				0.00	170	13	30	49	6.65	17	5.1	6.50	0.23	7.8
				0.00	200	14	0	30	6.70	21	5.5	6.70	0.61	7.9
				0.00	245	14	45	45	6.96	29	5.4	6.60	0.26	8.3
		GREEN	2750	0.20	0	10	40	0	6.45					
				0.00	22	11	2	22		3	5.8	6.10	0.19	12.2
				0.00	50	11	30	28	6.05	8	6.4	6.20	0.21	15.8
				0.00	121	12	41	71	5.35	13	6.8	6.20	0.23	19.3
				0.00	170	13	30	49	4.90	18	7.3	6.30	0.25	22.0
				0.00	200	14	0	30	4.80	22	7.9	6.40	0.38	24.3
				0.00	245	14	45	45	4.35	30	8.6	6.20	0.28	26.9
		RED	2650	0.19	0	10	40	0	6.32					
				0.00	25	11	5	25		4	5.5	6.40	0.20	13.2
				0.00	50	11	30	25	6.25	9	7.0	6.30	0.24	19.8
				0.00	121	12	41	71	5.69	14	6.4	6.30	0.24	19.6
				0.00	170	13	30	49	5.20	19	7.5	6.30	0.27	22.4
				0.00	200	14	0	30	4.98	23	8.3	6.40	0.27	23.9
				0.00	245	14	45	45	4.60	31	8.3	6.30	0.31	26.5
		BLUE	2590	0.19	0	10	40	0	6.41					
				0.00	29	11	9	29		5	5.9	6.20	0.24	14.1
				0.00	50	11	30	21	5.90	10	5.9	6.20	0.27	15.9
				0.00	121	12	41	71	5.21	15	6.6	6.10	0.25	20.8
				0.00	170	13	30	49	4.72	20	7.0	6.10	0.25	23.9
				0.00	200	14	0	30	4.50	24	7.5	6.20	0.29	25.6
				0.00	245	14	45	45	2.74	32	7.8	6.10	0.27	27.9

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H20 HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
BU.VISTA	6-MAY-85	BLANK		0.00	0	14	25	0	8.30	25	0.5	1.60	0.89	27.2
				0.00	45	15	10	45	8.40	33	0.7	1.50	1.15	26.5
				0.00	75	15	40	30	8.41	37	0.9	1.40	0.94	24.7
				0.00	105	16	10	30	8.32	41	1.3	1.40	1.03	25.8
				0.00	135	16	40	30	8.22	45	0.6	1.50	1.05	22.5
				0.00	205	17	50	70	8.15	50	0.6	1.50	0.83	24.8
		GREEN	3022	0.22	0	14	25	0		26	1.9	1.70	1.95	30.0
				0.00	45	15	10	45	7.65	34	1.1	1.80	1.02	29.0
				0.00	75	15	40	30	7.40	38	1.3	2.10	1.17	33.9
				0.00	105	16	10	30	7.22	42	2.3	1.90	2.37	30.4
				0.00	135	16	40	30	7.14	46	1.8	2.10	1.15	30.7
				0.00	205	17	50	70	6.70	51	2.4	2.10	1.32	31.2
		RED	2510	0.18	0	14	25	0		27	0.9	1.50	0.92	28.4
				0.00	45	15	10	45	7.15	35	1.3	1.70	1.26	30.4
				0.00	75	15	40	30	6.80	39	2.4	2.10	1.06	30.3
				0.00	105	16	10	30	6.70	43	2.0	2.00	1.02	31.2
				0.00	135	16	40	30	6.58	47	2.5	1.80	1.27	31.6
				0.00	205	17	50	70	6.21	52	2.7	2.20	1.21	33.2
		BLUE	2422	0.17	0	14	25	0		28	1.7	2.40	1.38	31.7
				0.00	45	15	10	45	7.60	36	3.2	2.30	2.33	34.1
				0.00	75	15	40	30	7.30	40	6.6	2.50	2.75	36.5
				0.00	105	16	10	30	6.72	44	3.0	2.40	1.46	34.4
				0.00	135	16	40	30	6.80	48	3.9	2.30	1.46	35.1
				0.00	205	17	50	70	6.20	53	4.7	3.00	1.48	43.2

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
HORN PT.	7-MAY-85	BLANK		0.00	0	12	16	0	7.21	107	2.9	6.10	0.34	2.7
				0.00	28	12	44	28	7.58	111	2.5	6.40	0.37	2.7
				0.00	59	13	15	31	7.30	115	2.5	6.10	0.14	2.7
				0.00	89	13	45	30	7.43	119	2.7	6.30	0.28	5.7
				0.00	124	14	20	35	7.56	123	2.7	6.20	0.28	2.6
				0.00	174	15	10	50	7.58	127	2.9	6.40	0.34	4.7
		GREEN	2350	0.17	0	12	16	0	7.58	108	3.4	5.90	0.41	6.9
				0.00	28	12	44	28	7.40	112	3.9	5.80	0.34	9.4
				0.00	59	13	15	31	7.10	116	4.4	5.70	0.33	10.8
				0.00	89	13	45	30	6.75	120	5.1	5.70	0.22	12.6
				0.00	124	14	20	35	6.48	124	6.0	5.70	0.65	18.2
				0.00	174	15	10	50	6.01	128	6.7	5.50	0.32	19.3
		RED	2150	0.15	0	12	16	0	7.19	109	3.5	5.90	0.31	9.7
				0.00	28	12	44	28	6.90	113	4.0	5.90	0.38	10.8
				0.00	59	13	15	31	6.58	117	4.7	5.70	0.36	12.9
				0.00	89	13	45	30	6.30	121	5.1	5.70	0.41	15.6
				0.00	124	14	20	35	5.97	125	5.5	6.00	0.41	17.0
				0.00	174	15	10	50	5.50	129	6.7	5.60	0.58	21.0
		BLUE	2352	0.17	0	12	16	0	7.88	110	3.5	6.10	0.48	8.5
				0.00	28	12	44	28	7.75	114	4.2	6.20	0.49	9.8
				0.00	59	13	15	31	7.50	118	4.9	5.80	0.53	14.1
				0.00	89	13	45	30	7.25	122	5.1	5.80	0.50	15.5
				0.00	124	14	20	35	6.92	126	5.9	5.70	0.58	17.7
				0.00	174	15	10	50	6.50	130	7.0	5.60	0.55	21.1

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
WIND.HIL	7-MAY-85	BLANK		0.00	0	8	40	0	6.86	81	1.7	24.90	0.68	8.1
				0.00	30	9	10	30	6.90	85	1.4	24.80	0.70	8.3
				0.00	70	9	50	40	7.02	90	1.8	24.60	0.72	12.2
				0.00	100	10	20	30	6.99	94	1.3	24.60	0.65	14.1
				0.00	130	10	50	30	7.06	98	1.4	24.60	0.68	8.4
				0.00	185	11	45	55		103	2.2	24.90	0.68	8.0
		GEEEN	2884	0.21	0	8	40	0	7.16	82	1.2	24.00	0.70	9.5
				0.00	30	9	10	30	6.69	86	2.5	23.80	0.64	11.3
				0.00	70	9	50	40	6.15	91	1.6	24.60	0.66	12.1
				0.00	100	10	20	30	5.75	95	1.7	24.20	0.82	13.0
				0.00	130	10	50	30	5.44	99	1.8	24.00	0.79	14.6
				0.00	185	11	45	55	4.90	104	2.1	24.20	0.86	17.7
		RED	2542	0.18	0	8	40	0	7.05	83	1.7	24.00	1.29	10.6
				0.00	30	9	10	30	6.52	87	5.2	23.60	0.73	11.9
				0.00	70	9	50	40	5.88	92	1.5	23.80	0.79	20.4
				0.00	100	10	20	30	5.43	96	1.8	23.70	0.81	16.8
				0.00	130	10	50	30	5.19	100	1.9	23.70	0.83	15.4
				0.00	185	11	45	55	4.32	105	2.1	24.00	0.86	21.9
		BLUE	2800	0.20	0	8	40	0	7.19	84	1.4	26.30	0.77	8.7
				0.00	30	9	10	30	6.58	88	1.6	24.20	0.67	11.6
				0.00	70	9	50	40	5.90	93	3.2	24.70	0.80	14.1
				0.00	100	10	20	30	5.49	97	2.2	24.70	0.76	15.7
				0.00	130	10	50	30	5.21	101	2.5	25.10	0.87	16.2
				0.00	185	11	45	55	4.48	106	3.0	25.40	0.89	18.4

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
RAG.PT	9-MAY-85	BLANK		0.00	0	9	0	0	4.21	211	8.0	5.60	0.19	10.2
				0.00	50	9	50	50	4.40	215	8.1	6.70	0.21	10.2
				0.00	100	10	40	50	4.48	219	7.8	5.50	0.20	12.1
				0.00	160	11	40	60	4.62	223	8.2	5.70	0.27	10.7
				0.00	227	12	47	67	4.40	237	7.5	6.10	0.18	10.9
				0.00	280	13	40	53	3.85	245	8.0	5.80	0.20	14.4
		GREEN	2650	0.19	0	9	0	0	4.65	212	10.0	5.30	0.43	13.1
				0.00	50	9	50	50	4.35	216	12.4	5.40	0.59	21.9
				0.00	100	10	40	50	3.63	220	15.2	4.70	0.60	20.0
				0.00	160	11	40	60	3.37	225	17.3	4.70	0.96	21.1
				0.00	227	12	47	67	2.82	238	19.9	4.00	0.80	23.8
				0.00	280	13	40	53	2.40	246	21.7	3.60	1.07	26.0
		RED	2700	0.19	0	9	0	0	3.80	213	9.0	5.60	0.29	11.9
				0.00	50	9	50	50	3.60	217	9.9	5.60	0.22	15.8
				0.00	100	10	40	50	3.33	221	11.2	5.10	0.27	14.9
				0.00	160	11	40	60	3.06	226	12.4	4.90	0.24	16.0
				0.00	227	12	47	67	2.72	239	14.7	4.50	0.54	18.2
				0.00	280	13	40	53	2.50	247	15.5	4.30	0.41	20.8
		BLUE	2920	0.21	0	9	0	0	3.62	214	10.1	5.30	0.33	12.7
				0.00	50	9	50	50	3.38	218	11.4	5.10	0.48	19.0
				0.00	100	10	40	50	3.04	222	13.4	4.80	0.55	18.2
				0.00	160	11	40	60	2.74	228	14.8	4.60	0.51	21.5
				0.00	227	12	47	67	2.35	240	16.4	4.20	0.77	22.8
				0.00	280	13	40	53	2.08	248	17.7	4.00	0.75	25.2

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
MD.PT	9-MAY-85	BLANK		0.00	0	12	5	0	6.98	229	5.3	42.90	0.85	28.4
				0.00	30	12	35	30	7.04	233	5.1	42.80	0.77	29.1
				0.00	65	13	10	35	6.48	241	5.0	42.70	0.75	29.9
				0.00	115	14	0	50	6.15	249	5.4	43.30	0.86	28.8
				0.00	145	14	30	30	6.30	253	5.7	42.90	2.03	35.5
				0.00	205	15	30	60	6.20	257	6.2	42.50	0.80	30.3
		GREEN	2075	0.15	0	12	5	0	6.90	230	5.3	42.60	0.85	31.3
				0.00	30	12	35	30	6.75	234	5.5	42.70	0.82	29.8
				0.00	65	13	10	35	6.54	242	7.0	42.40	1.14	33.7
				0.00	115	14	0	50	6.32	250	6.4	42.60	0.95	32.5
				0.00	145	14	30	30	6.15	254	7.0	42.50	0.94	40.2
				0.00	205	15	30	60	5.90	258	7.9	41.90	1.57	42.3
		RED	2750	0.20	0	12	5	0	6.40	231	5.4	42.40	0.87	31.1
				0.00	30	12	35	30	6.30	235	6.9	42.30	0.82	31.6
				0.00	65	13	10	35	5.95	243	6.5	42.00	0.92	30.3
				0.00	115	14	0	50	5.75	251	7.0	42.00	0.89	34.7
				0.00	145	14	30	30	5.60	255	10.4	41.90	2.75	42.1
				0.00	205	15	30	60	5.30	259	7.4	41.80	0.89	35.2
		BLUE	2640	0.19	0	12	5	0	6.41	232	6.3	42.70	0.82	32.6
				0.00	30	12	35	30	6.28	236	7.0	42.40	1.57	34.1
				0.00	65	13	10	35	6.10	244	6.9	42.70	0.93	31.4
				0.00	115	14	0	50	5.87	252	7.9	42.60	0.90	33.2
				0.00	145	14	30	30	5.69	256	8.6	42.20	2.13	39.1
				0.00	205	15	30	60	5.41	260	8.7	42.10	0.88	34.8

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
PT.NO.PT	8-MAY-85	BLANK		0.00	0	18	10	0	6.20	185	6.7	8.50	0.19	8.0
				0.00	30	18	40	30	6.20	189	6.6	8.20	0.17	8.3
				0.00	80	19	30	50	6.25	193	6.2	8.70	0.32	7.9
				0.00	130	20	20	50	6.30	197	7.0	8.30	0.16	7.8
				0.00	180	21	10	50	6.40	201	6.6	8.20	0.17	8.2
				0.00	230	22	0	50	6.40	205	6.1	8.40	0.28	8.0
		GREEN	2850	0.21	0	18	10	0	5.85	186	6.9	7.80	0.18	9.1
				0.00	30	18	40	30	5.82	190	7.7	7.50	0.19	10.7
				0.00	80	19	30	50	5.70	194	8.6	7.50	0.24	12.2
				0.00	130	20	20	50	5.52	198	9.8	7.30	0.51	16.2
				0.00	180	21	10	50	5.35	202	9.9	7.10	0.20	16.2
				0.00	230	22	0	50	5.20	206	10.6	7.10	0.56	18.0
		RED	2830	0.20	0	18	10	0	5.88	187	7.8	8.00	0.14	12.5
				0.00	30	18	40	30	5.76	191	7.5	8.20	0.14	10.1
				0.00	80	19	30	50	5.59	195	8.7	7.80	0.18	13.5
				0.00	130	20	20	50	5.40	199	9.1	7.50	0.20	14.3
				0.00	180	21	10	50	5.20	203	9.9	7.50	0.20	16.4
				0.00	230	22	0	50	5.00	207	11.4	7.40	0.20	17.6
		BLUE	2903	0.21	0	18	10	0	6.48	188	7.0	8.40	0.13	9.5
				0.00	30	18	40	30	6.31	192	7.5	7.90	0.15	9.9
				0.00	80	19	30	50	6.21	196	7.6	8.00	0.17	11.7
				0.00	130	20	20	50	6.08	200	7.9	7.80	0.19	15.3
				0.00	180	21	10	50	5.90	204	8.0	7.60	0.16	14.0
				0.00	230	22	0	50	5.80	208	8.5	7.50	0.20	14.8

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-64	6-MAY-85	BLANK		0.00	0	19	10	0	5.50	55	5.4	9.50	0.14	5.4
				0.00	30	19	40	30	5.57	59	5.9	8.40	0.10	4.8
				0.00	60	20	10	30	5.60	63	6.0	9.20	0.10	5.5
				0.00	90	20	40	30	5.68	67	5.6	9.00	0.16	4.1
				0.00	120	21	10	30	4.41	71	5.9	9.40	0.16	4.8
				0.00	130	21	20	10	5.67					
				0.00	180	22	10	50	5.79	75	6.0	9.30	0.12	4.7
		GREEN	2842	0.20	0	19	10	0	5.67	56	6.2	9.10	0.10	7.5
				0.00	30	19	40	30	5.50	60	6.4	9.10	0.12	6.6
				0.00	60	20	10	30	5.50	64	6.9	9.30	0.21	8.6
				0.00	90	20	40	30	5.30	68	6.7	9.30	0.20	8.3
				0.00	120	21	10	30	5.25	72	7.6	8.80	0.10	8.4
				0.00	180	22	10	60	5.02	76	8.3	8.60	0.10	10.3
		RED	2701	0.19	0	19	10	0	7.11	57	8.2	9.60	0.18	9.2
				0.00	30	19	40	30	6.55	61	8.3	9.20	0.17	10.2
				0.00	60	20	10	30	6.50	65	8.2	9.00	0.17	10.3
				0.00	90	20	40	30	6.50	69	9.8	8.80	0.19	24.3
				0.00	120	21	10	30	6.50	73	9.9	9.00	0.25	14.4
				0.00	180	22	10	60	6.40	77	11.1	8.30	0.16	16.9
		BLUE	2134	0.15	0	19	10	0	6.20	58	6.8	9.10	0.11	7.7
				0.00	30	19	40	30	6.10	62	7.8	9.10	0.13	8.9
				0.00	60	20	10	30	5.80	66	8.1	9.10	0.14	13.0
				0.00	90	20	40	30	5.80	70	9.0	8.80	0.16	10.7
				0.00	120	21	10	30	5.80	74	9.5	8.70	0.13	13.0
				0.00	180	22	10	60	5.60	78	11.4	8.70	0.17	15.3

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-78	7-MAY-85	BLANK		0.00	0	18	55	0	5.51	133	4.9	13.60	0.19	6.7
				0.00	30	19	25	30	5.53	137	4.8	13.40	0.16	2.6
				0.00	65	20	0	35	5.48	141	5.9	14.10	0.72	3.5
				0.00	100	20	35	35	5.53	145	5.1	13.60	0.21	2.6
				0.00	130	21	5	30		150	4.8	13.80	0.19	2.9
				0.00	190	22	5	60		153	4.7	13.70	0.17	3.1
		GREEN	2177	0.16	0	18	55	0	6.35	134	6.0	13.20	0.27	4.9
				0.00	30	19	25	30	6.18	138	6.4	13.40	0.24	5.9
				0.00	65	20	0	35	5.59	142	6.9	13.50	0.27	5.7
				0.00	100	20	35	35	5.56	146	7.6	13.10	0.24	5.1
				0.00	130	21	5	30	5.71	149	9.5	13.00	0.27	7.0
				0.00	190	22	5	60	5.30	154	9.3	12.20	0.19	7.7
		RED	2288	0.16	0	18	55	0	6.31	135	5.3	13.50	0.21	8.7
				0.00	30	19	25	30	6.20	139	5.9	13.30	0.19	3.9
				0.00	65	20	0	35	6.08	143	6.8	13.10	0.17	3.9
				0.00	100	20	35	35	5.90	147	6.9	13.20	0.26	4.3
				0.00	130	21	5	30	5.75	151	7.9	12.80	0.22	7.9
				0.00	190	22	5	60	5.51	155	8.0	12.80	0.21	5.4
		BLUE	1987	0.14	0	18	55	0	6.02	136	6.0	13.30	0.23	5.1
				0.00	30	19	25	30	5.88	140	7.0	13.50	0.36	5.3
				0.00	65	20	0	35	5.66	144	8.0	12.90	0.24	8.1
				0.00	100	20	35	35	5.50	148	8.8	12.70	0.22	6.9
				0.00	130	21	5	30	5.38	152	9.7	12.60	0.24	8.0
				0.00	190	22	5	60	5.13	156	10.9	12.60	0.21	10.6

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
STIL.PD	8-MAY-85	BLANK		0.00	0	8	45	0	8.50	159	5.9	51.80	0.20	5.6
				0.00	30	9	15	30	8.40	163	5.8	57.80	0.31	9.9
				0.00	60	9	45	30	8.32	167	5.7	57.10	0.29	7.9
				0.00	90	10	15	30	8.32	171	4.5	57.40	0.25	6.9
				0.00	120	10	45	30	8.40	175	5.4	57.30	0.34	7.0
				0.00	190	11	55	70	8.40	179	4.5	57.40	0.30	7.3
		GREEN	2725	0.20	0	8	45	0	8.20	160	5.4	55.20	0.31	16.0
				0.00	30	9	15	30	8.10	164	6.4	56.00	0.39	8.0
				0.00	60	9	45	30	7.82	168	7.3	49.50	0.41	8.7
				0.00	90	10	15	30	7.42	172	7.2	57.00	0.49	12.6
				0.00	120	10	45	30	6.92	176	9.7	56.00	0.55	10.6
				0.00	190	11	55	70	6.09	180	12.8	55.50	1.14	14.4
		RED	2550	0.18	0	8	45	0	8.55	161	4.7	57.10	0.26	7.9
				0.00	30	9	15	30	8.30	165	4.6	56.00	0.24	9.9
				0.00	60	9	45	30	8.08	169	5.0	56.30	0.26	9.0
				0.00	90	10	15	30	7.65	173	5.1	55.50	0.27	12.1
				0.00	120	10	45	30	7.55	177	5.5	55.40	0.27	11.3
				0.00	190	11	55	70	7.05	181	5.5	55.30	0.29	14.6
		BLUE	2450	0.18	0	8	45	0	8.64	162	4.9	56.60	0.22	8.9
				0.00	30	9	15	30	8.40	166	4.9	55.70	0.27	8.2
				0.00	60	9	45	30	8.21	170	4.9	55.80	0.25	10.8
				0.00	90	10	15	30	8.00	174	5.8	55.10	0.34	10.9
				0.00	120	10	45	30	7.49	178	5.8	55.20	0.28	10.4
				0.00	190	11	55	70	7.39	182	5.5	54.50	0.38	11.7

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
SONE 4														
ST.LEO	25-JUNE-85	BLANK		0.00	0	12	40	0	3.86	103	8.7	1.73	0.19	63.0
				0.00	30	13	10	30	3.98	110	8.8	1.89	0.26	59.3
				0.00	55	13	35	25	4.03	114	8.7	1.87	0.21	58.7
				0.00	90	14	10	35	4.08	121	8.7	1.94	0.25	57.6
				0.00	115	14	35	25	4.16	125	8.8	1.81	0.37	57.0
				0.00	155	15	15	40	4.28	129	9.0	1.91	0.23	57.6
		RED	2725	0.20	0	12	40	0	3.60	104	9.3	2.22	0.25	61.8
				0.00	30	13	10	30	3.25	111	9.6	2.68	0.27	62.5
				0.00	55	13	35	25	2.82	115	9.6	2.45	0.25	63.0
				0.00	90	14	10	35	2.57	122	9.6	2.64	0.39	63.7
				0.00	115	14	35	25	2.27	126	10.6	2.88	0.61	65.2
				0.00	155	15	15	40	1.95	130	10.3	3.42	0.46	67.7
		GREEN	2850	0.21	0	12	40	0	4.00	105	9.1	2.16	0.19	60.6
				0.00	30	13	10	30	3.64	112	9.4	2.52	0.32	61.8
				0.00	55	13	35	25	3.35	116	9.4	2.70	0.35	62.8
				0.00	90	14	10	35	3.07	123	9.5	2.84	0.33	63.3
				0.00	115	14	35	25	2.80	127	9.8	3.30	0.35	65.7
				0.00	155	15	15	40	2.53	131	9.8	3.57	0.32	65.4
		BLUE	2650	0.19	0	12	40	0	3.62	106	9.5	2.23	0.47	63.2
				0.00	30	13	10	30	3.27	113	9.2	2.35	0.32	63.1
				0.00	55	13	35	25	3.04	117	9.3	2.55	0.35	63.6
				0.00	90	14	10	35	2.75	124	9.4	2.89	0.37	63.7
				0.00	115	14	35	25	2.44	128	10.6	2.92	0.83	66.2
				0.00	155	15	15	40	2.12	132	10.6	3.28	0.39	67.0

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
BU.VISTA	25-JUNE-85	BLANK		0.00	0	10	55	0	4.27	85	1.5	0.99	1.41	92.0
				0.00	30	11	25	30	4.33	90	1.4	0.30	1.72	94.0
				0.00	60	11	55	30	4.40	95	1.7	0.31	1.85	89.0
				0.00	90	12	25	30	4.47	99	1.2	0.73	1.45	89.0
		RED	2650	0.19	0	10	55	0	4.65	86	1.1	0.70	1.61	93.0
				0.00	30	11	25	30	4.54	91	2.0	0.32	2.09	92.0
				0.00	60	11	55	30	4.45	96	1.9	0.53	1.59	93.0
				0.00	90	12	25	30	4.40	100	2.4	0.49	1.62	92.0
				0.00	120	12	55	30	4.32	107	4.3	0.46	2.39	94.0
				0.00	175	13	50	55	4.12	118	4.4	1.11	1.73	86.0
		GREEN	2710	0.19	0	10	55	0	4.57	87	1.0	0.23	1.95	91.0
				0.00	30	11	25	30	4.48	92	1.3	0.45	1.76	96.0
				0.00	60	11	55	30	4.38	97	1.7	0.35	1.60	92.0
				0.00	90	12	25	30	4.30	101	2.5	0.70	1.71	94.0
				0.00	120	12	55	30	4.18	108	2.9	0.57	1.70	90.0
				0.00	175	13	50	55	3.92	119	4.5	0.49	1.71	90.0
		BLUE	2700	0.19	0	10	55	0	4.30	88	1.9	0.58	1.67	96.0
				0.00	30	11	25	30	4.17	93	2.8	0.61	1.71	94.0
				0.00	60	11	55	30	4.00	98	3.9	0.65	2.10	94.0
				0.00	90	12	25	30	3.85	102	4.8	0.49	1.92	95.0
				0.00	120	12	55	30	3.70	109	5.9	0.54	1.82	97.0
				0.00	175	13	50	55	3.44	120	7.4	0.72	2.02	93.0

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
HORN PT.	26-JUNE-85	BLANK		0.00	0	9	40	0	5.61	161	3.2	2.04	0.41	52.7
				0.00	30	10	10	30	5.62	165	3.8	1.74	0.40	53.0
				0.00	50	10	30	20	5.67	169	3.2	1.72	0.46	51.5
				0.00	70	10	50	20	5.69	173	3.2	2.16	0.32	51.6
				0.00	90	11	10	20	5.73	177	3.3	1.92	0.36	52.8
				0.00	130	11	50	40	5.75	181	3.2	1.71	0.32	51.2
		RED	2875	0.21	0	9	40	0	4.90	162	3.8	2.29	0.39	57.0
				0.00	30	10	10	30	4.60	166	4.8	2.55	0.44	58.1
				0.00	50	10	30	20	4.35	170	5.0	3.30	0.40	62.2
				0.00	70	10	50	20	4.14	174	5.2	3.12	0.47	61.0
				0.00	90	11	10	20	3.90	178	5.8	3.30	0.39	61.4
				0.00	130	11	50	40	3.47	182	6.6	3.83	0.66	64.3
		GREEN	3035	0.22	0	9	40	0	5.20	163	3.8	2.06	0.61	57.0
				0.00	30	10	10	30	4.78	167	4.6	2.40	0.47	57.5
				0.00	50	10	30	20	4.50	171	4.6	2.46	0.53	58.9
				0.00	70	10	50	20	4.20	175	5.2	2.79	0.60	59.4
				0.00	90	11	10	20	3.95	179	5.8	3.38	0.65	60.8
				0.00	130	11	50	40	3.38	183	6.6	3.85	0.61	62.3
		BLUE	2940	0.21	0	9	40	0	4.92	164	5.1	2.15	0.54	59.5
				0.00	30	10	10	30	4.48	160	5.0	2.70	0.32	59.4
				0.00	50	10	30	20	4.22	172	5.6	2.56	0.31	59.6
				0.00	70	10	50	20	3.98	176	5.9	3.00	0.41	62.7
				0.00	90	11	10	20	3.70	180	6.1	3.11	0.44	62.2
				0.00	130	11	50	40	3.22	184	7.4	3.29	0.42	64.5

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
RAG.PT	24-JUNE-85	BLANK		0.00	0	11	40	0	0.23	3	18.8	0.45	1.49	41.9
				0.00	30	12	10	30	0.42	7	18.4	0.25	1.52	42.2
				0.00	60	12	40	30	0.60	11	18.6	0.32	1.48	42.0
				0.00	100	13	20	40	0.68	15	19.0	0.46	1.66	42.6
				0.00	160	14	20	60	0.81	19	18.4	0.51	1.38	43.8
				0.00	285	16	25	125	1.31	33	17.5	0.26	1.11	41.8
		RED	3215	0.23	0	11	40	0	0.30	4	19.6	0.32	1.73	42.8
				0.00	30	12	10	30	0.34	8	20.5	0.14	1.71	44.2
				0.00	60	12	40	30	0.36	12	21.4	0.17	1.88	45.5
				0.00	100	13	20	40	0.35	16	21.9	0.25	1.99	46.3
				0.00	160	14	20	60	0.29	20	22.9	0.25	2.05	47.1
				0.00	285	16	25	125	0.19	34	25.1	0.52	2.25	50.8
		GREEN	3270	0.24	0	11	40	0	0.38	5	20.1	0.17	1.72	43.5
				0.00	30	12	10	30	0.46	9	21.1	0.25	1.83	44.6
				0.00	60	12	40	30	0.48	13	22.2	0.16	2.02	45.2
				0.00	100	13	20	40	0.46	17	23.1	0.26	2.32	48.6
				0.00	160	14	20	60	0.37	21	24.7	0.58	2.23	48.3
				0.00	285	16	25	125	0.22	35	27.7	0.22	2.55	50.9
		BLUE	3255	0.23	0	11	40	0	0.16	6	20.4	0.33	1.71	43.8
				0.00	30	12	10	30	0.25	10	21.7	0.28	1.95	43.5
				0.00	60	12	40	30	0.26	14	22.9	0.26	1.91	45.6
				0.00	100	13	20	40	0.27	18	24.2	0.35	2.04	47.3
				0.00	160	14	20	60	0.24	22	25.8	0.11	2.15	48.1
				0.00	285	16	25	125	0.07	36	29.1	0.20	2.44	50.8

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
MD.PT	4-JUNE-85	BLANK		0.00	0	15	35	0	5.39	25	6.7	31.20	1.46	41.5
				0.00	30	16	5	30	5.56	29	4.9	31.10	1.38	39.1
				0.00	65	16	40	35	6.05	37	5.3	30.60	1.39	39.6
				0.00	95	17	10	30	6.28	41	5.6	30.60	1.61	42.9
				0.00	125	17	40	30		45	5.1	30.70	1.47	39.2
				0.00	155	18	10	30	5.00	49	5.0	31.10	1.32	38.4
				0.00	235	19	30	80	5.21	55	5.1	31.60	1.37	40.9
		RED	2550	0.18	0	15	35	0	4.35	26	5.3	30.80	1.38	42.1
				0.00	30	16	5	30	4.30	30	5.3	31.00	1.49	43.6
				0.00	65	16	40	35	4.32	38	5.5	30.80	1.43	42.1
				0.00	95	17	10	30	4.30	42	5.7	29.00	1.35	48.5
				0.00	125	17	40	30	4.30	46	6.1	31.20	1.46	42.7
				0.00	155	18	10	30	4.29	50	5.9	30.40	1.49	44.9
				0.00	235	19	30	80	4.22	56	6.3	30.60	1.57	45.7
		GREEN	2780	0.20	0	15	35	0	4.55	27	4.9	30.60	1.27	43.0
				0.00	30	16	5	30	4.45	31	5.5	30.70	1.43	44.4
				0.00	65	16	40	35	4.40	39	5.4	30.80	1.43	44.2
				0.00	95	17	10	30	4.35	43	5.3	28.10	1.30	42.1
				0.00	125	17	40	30	4.35	47	5.6	30.70	1.50	43.8
				0.00	155	18	10	30	4.30	51	6.1	30.50	1.37	45.4
				0.00	235	19	30	80	4.15	57	5.9	30.20	1.51	46.2
		BLUE	2790	0.20	0	15	35	0	4.25	28	5.1	30.70	1.42	44.1
				0.00	30	16	5	30	4.20	32	5.3	30.70	1.54	44.8
				0.00	65	16	40	35	4.12	40	5.6	30.70	1.50	42.2
				0.00	95	17	10	30	4.09	44	6.0	30.70	1.61	40.7
				0.00	125	17	40	30	4.02	48	6.1	30.70	1.54	43.6
				0.00	155	18	10	30	3.98	52	6.2	30.40	1.59	44.2
				0.00	235	19	30	80	3.80	58	6.4	30.70	1.61	45.5

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
PT.NO.PT	24-JUNE-85	BLANK		0.00	0	20	25	0	1.19	59	12.7	1.13	1.48	39.6
				0.00	30	20	55	30	1.94	63	12.7	1.21	1.41	40.1
				0.00	76	21	41	46	2.19	67	13.1	1.86	1.38	40.0
				0.00	120	22	25	44	2.53	71	13.2	1.00	1.41	39.8
				0.00	165	23	10	45	2.70	75	13.8	1.58	1.43	39.7
				0.00	225	24	10	60	2.92	79	13.7	1.61	1.33	40.9
		RED	2900	0.21	0	20	25	0	2.10	60	13.4	1.14	0.47	42.6
				0.00	30	20	55	30	2.07	64	14.5	0.68	0.54	43.8
				0.00	75	21	40	45	1.95	68	16.5	0.78	0.80	53.2
				0.00	120	22	25	45	1.80	72	18.3	0.60	0.87	48.8
				0.00	165	23	10	45	1.60	76	19.9	0.95	1.05	58.4
				0.00	225	24	10	60	1.35	80	21.5	0.84	1.13	63.7
		GREEN	2890	0.21	0	20	25	0	2.60	61	12.9	0.55	0.47	42.6
				0.00	30	20	55	30	2.31	65	13.7	0.94	0.57	44.0
				0.00	75	21	40	45	2.35	69	15.7	0.76	0.64	53.1
				0.00	120	22	25	45	2.34	73	16.7	1.62	0.93	48.8
				0.00	165	23	10	45	2.20	77	18.2	0.96	0.92	51.8
				0.00	225	24	10	60	1.95	81	19.8	0.77	0.96	57.6
		BLUE	3130	0.23	0	20	25	0	2.25	62	12.6	0.54	0.41	41.2
				0.00	30	20	55	30	2.30	66	13.2	0.58	0.47	43.0
				0.00	75	21	40	45	2.24	70	14.6	1.13	0.59	48.4
				0.00	120	22	25	45	2.15	74	16.6	0.83	0.64	49.5
				0.00	165	23	10	45	2.05	78	16.6	0.74	0.65	53.2
				0.00	225	24	10	60	1.97	82	18.3	0.71	0.80	57.1

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H20 HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-64	25-JUNE-85	BLANK		0.00	0	18	5	0	0.43	135	24.0	0.90	0.42	46.0
				0.00	30	18	35	30	0.74	139	22.3	0.94	0.59	45.9
				0.00	60	19	5	30	0.83	143	22.3	1.24	0.61	45.9
				0.00	100	19	45	40	0.95	147	22.3	0.89	0.51	48.6
				0.00	160	20	45	60	1.12	151	23.4	1.27	0.92	46.0
				0.00	220	21	45	60	1.26	155	22.1	0.84	0.42	46.5
		RED	2780	0.20	0	18	5	0	0.82	136	22.5	0.89	0.66	50.7
				0.00	30	18	35	30	0.85	140	22.7	0.89	0.59	48.7
				0.00	60	19	5	30	0.85	144	23.8	1.19	0.66	50.5
				0.00	100	19	45	40	0.77	148	25.2	1.49	0.87	52.2
				0.00	160	20	45	60	0.65	152	27.3	0.76	1.04	58.9
				0.00	220	21	45	60	0.55	156	29.0	0.55	1.27	61.8
		GREEN	2470	0.18	0	18	5	0	0.85	137	21.6	1.26	0.63	47.4
				0.00	30	18	35	30	0.78	141	24.0	0.80	0.92	50.8
				0.00	60	19	5	30	0.74	145	26.3	1.28	1.42	55.7
				0.00	100	19	45	40	0.64	149	28.5	0.99	1.70	58.8
				0.00	160	20	45	60	0.50	153	31.5	0.70	2.53	66.6
				0.00	220	21	45	60	0.47	157	33.8	0.74	3.00	69.3
		BLUE	2645	0.19	0	18	5	0	0.85	138	22.2	1.02	0.55	48.0
				0.00	30	18	35	30	0.78	142	23.6	1.26	1.04	51.2
				0.00	60	19	5	30	0.97	146	25.2	0.65	1.30	54.5
				0.00	100	19	45	40	0.75	150	26.5	0.62	1.70	58.2
				0.00	160	20	45	60	0.80	154	28.1	0.39	2.22	64.4
				0.00	220	21	45	60	0.70	158	28.8	0.49	2.67	67.9

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-78	27-JUNE-85	BLANK		0.00	0	13	55	0	1.14	209	22.0	0.89	0.41	48.4
				0.00	40	14	35	40	1.21	213	21.9	1.01	0.50	47.4
				0.00	100	15	35	60	1.33	217	21.8	1.21	0.59	47.5
				0.00	160	16	35	60	1.51	221	22.2	0.87	0.49	47.4
				0.00	220	17	35	60	1.62	225	21.7	2.06	0.49	48.1
				0.00	280	18	35	60	1.78	229	22.4	0.84	0.54	48.0
		RED	2050	0.15	0	13	55	0	1.23	210	24.3	0.89	0.65	51.4
				0.00	40	14	35	40	1.42	214	25.3	0.83	0.88	53.8
				0.00	100	15	35	60	1.59	218	26.3	0.57	0.76	58.8
				0.00	160	16	35	60	1.60	222	28.1	0.85	0.85	60.8
				0.00	220	17	35	60	1.64	226	28.7	1.45	0.92	63.6
				0.00	280	18	35	60	1.60	230	29.5	1.53	0.93	67.2
		GREEN	2520	0.18	0	13	55	0	0.90	211	24.1	0.94	0.62	50.0
				0.00	40	14	35	40	0.91	215	25.4	0.78	0.73	52.4
				0.00	100	15	35	60	0.86	219	26.7	0.62	0.76	54.7
				0.00	160	16	35	60	0.76	223	28.4	1.00	0.90	57.6
				0.00	220	17	35	60	0.68	227	29.6	1.36	0.95	59.9
				0.00	280	18	35	60	0.60	231	30.4	0.56	0.97	62.2
		BLUE	2500	0.18	0	13	55	0	0.45	212	24.0	0.78	0.51	49.1
				0.00	40	14	35	40	0.49	216	24.5	0.54	0.55	50.5
				0.00	100	15	35	60	0.48	220	24.0	0.69	0.59	51.1
				0.00	160	16	35	60	0.43	224	25.6	1.53	0.63	53.9
				0.00	220	17	35	60	0.40	228	25.9	1.04	0.59	55.0
				0.00	280	18	35	60	0.37	232	26.3	1.40	0.73	56.2

BIOMONINTORIN PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (MIN)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
STIL.PD	26-JUNE-85	BLANK		0.00	0	18	20	0	5.61	187	5.1	38.40	0.51	38.8
				0.00	30	18	50	30	5.68	191	4.7	38.20	0.53	34.3
				0.00	60	19	20	30	5.70	195	4.9	38.60	0.57	39.3
				0.00	100	20	0	40	5.84	199	5.0	38.40	0.55	37.8
				0.00	155	20	55	55	5.90	203	4.9	38.30	0.51	36.7
		RED	2975	0.21	0	18	20	0	5.38	188	5.0	38.40	0.52	40.2
				0.00	30	18	50	30	5.25	192	5.0	38.30	0.56	38.8
				0.00	60	19	20	30	5.10	196	5.0	38.00	0.54	39.7
				0.00	100	20	0	40	4.90	200	5.1	38.00	0.56	41.7
				0.00	155	20	55	55	4.70	204	5.8	38.40	0.59	39.1
		GREEN	2900	0.21	0	18	20	0	5.06	189	5.1	38.30	0.53	40.3
				0.00	30	18	50	30	5.00	193	5.6	38.00	0.55	39.2
				0.00	60	19	20	30	4.85	197	6.0	38.00	0.57	41.3
				0.00	100	20	0	40	4.65	201	6.8	38.20	0.59	41.9
				0.00	155	20	55	55	4.48	205	6.5	38.10	0.55	41.2
		BLUE	3100	0.22	0	18	20	0	4.91	190	5.0	38.50	0.51	40.2
				0.00	30	18	50	30	4.92	194	4.8	38.40	0.53	39.5
				0.00	60	19	20	30	4.88	198	4.9	38.60	0.93	39.4
				0.00	100	20	0	40	4.80	202	4.8	38.20	0.55	41.8
				0.00	155	20	55	55	4.68	206	4.9	32.40	0.58	39.2

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
SONE 5														
ST.LEO	22-AUG-85	BL		0.00	0	9	25	0	4.77	184	11.5	6.41	0.96	54.2
					60	10	25	60	4.81	188	11.1	6.51	0.99	53.5
					120	11	25	60	4.97	194	11.2	6.28	0.93	50.8
					180	12	25	60	4.94	202	11.4	6.91	1.04	54.3
					240	13	25	60	4.95	210	10.6	7.63	0.92	51.7
					300	14	25	60	5.00	218	9.7	6.43	0.97	52.4
		G	3075	0.22	0	9	25	0	4.72	185	11.4	6.13	0.97	54.9
					60	10	25	60	4.60	189	11.9	6.53	1.00	55.9
					120	11	25	60	4.45	195	12.4	6.62	1.00	53.6
					180	12	25	60	4.30	203	12.6	6.58	0.96	54.6
					240	13	25	60	4.10	211	13.2	6.83	0.98	57.1
					300	14	25	60	4.00	219	13.2	6.79	0.94	54.7
		R	2840	0.20	0	9	25	0	5.38	186	11.2	6.23	1.02	56.8
					60	10	25	60	5.20	190	12.3	6.34	1.02	55.2
					120	11	25	60	5.00	196	12.6	7.03	1.04	55.2
					180	12	25	60	4.82	204	13.2	6.76	0.97	54.2
					240	13	25	60	4.55	212	13.6	7.05	0.96	54.0
					300	14	25	60	4.40	220	13.6	6.80	0.94	42.7
		B	2825	0.20	0	9	25	0	5.02	187	11.2	6.47	1.04	56.3
					60	10	25	60	4.98	191	12.5	6.40	0.98	56.7
					120	11	25	60	4.81	197	12.2	6.85	1.01	56.5
					180	12	25	60	4.50	205	13.0	7.28	1.00	55.7
					240	13	25	60	4.60	213	13.3	7.86	1.01	58.7
					300	14	25	60	4.50	221	13.2	6.82	1.00	56.2

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
BU.VISTA	22-AUG-85	BL			0	11	40	0	3.07	198	15.5	10.80	3.30	83.0
					60	12	40	60	3.17	206	16.0	10.80	3.55	85.0
					120	13	40	60	3.20	214	16.5	10.80	3.38	61.0
					180	14	40	60	3.20	222	15.1	10.90	3.32	85.0
					240	15	40	60	3.20	226	14.9	10.90	3.42	85.0
					305	16	45	65	3.21	233	16.2	11.60	3.48	82.0
		G	3060	0.22	0	11	40	0	3.78	199	16.2	10.40	3.49	84.0
					60	12	40	60	3.68	207	16.8	10.70	3.50	88.0
					120	13	40	60	3.58	215	17.8	10.70	3.40	79.0
					180	14	40	60	3.47	223	18.2	10.10	3.44	76.0
					240	15	40	60	3.32	227	19.0	10.00	3.41	86.0
					305	16	45	65	3.20	230	19.9	10.10	3.30	89.0
		R	2870	0.21	0	11	40	0	3.20	200	16.5	10.50	3.44	85.0
					60	12	40	60	3.09	208	18.2	10.50	3.58	80.0
					120	13	40	60	3.00	216	19.7	10.30	3.60	81.0
					180	14	40	60	2.85	224	21.2	9.80	4.35	90.0
					240	15	40	60	2.70	228	21.9	10.80	4.04	91.0
					305	16	45	65	2.59	231	23.7	10.70	4.17	92.0
		B	2870	0.21	0	11	40	0	3.43	201	16.2	10.30	3.39	83.0
					60	12	40	60	3.30	209	16.9	10.70	3.53	83.0
					120	13	40	60	3.10	217	16.7	9.90	3.45	84.0
					180	14	40	60	2.90	225	19.9	10.30	3.50	84.0
					240	15	40	60	2.71	229	21.0	9.80	3.60	89.0
					305	16	45	65	2.59	232	22.6	9.70	3.56	87.0

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
HORN PT	21-AUG-85	BL			0	13	25	0	4.69	154	15.8	3.66	0.85	54.3
					60	14	25	60	4.87	162	14.3	3.28	0.67	56.2
					120	15	25	60	4.99	166	13.9	3.33	0.74	54.9
					180	16	25	60	5.04	170	13.8	3.20	0.72	51.5
					240	17	25	60	5.17	174	13.5	3.36	0.72	55.1
					300	18	25	60	5.27	178	14.6	3.51	0.57	55.3
		G	2910	0.21	0	13	27	0	4.70	155	14.0	3.89	0.76	57.1
					58	14	25	58	4.65	163	15.6	3.69	0.69	57.6
					118	15	25	60	4.50	167	16.4	3.69	0.71	58.6
					178	16	25	60	4.40	171	17.1	3.97	0.73	58.9
					238	17	25	60	4.20	175	17.8	4.20	0.66	60.1
					298	18	25	60	4.02	179	19.0	4.23	0.69	62.4
		R	3005	0.43	0	13	27	0	4.45	156	14.7	3.43	0.75	57.3
					58	14	25	58	4.30	164	15.4	3.42	0.69	57.2
					118	15	25	60	4.12	168	17.5	3.69	0.59	58.6
					178	16	25	60	3.95	172	17.3	3.82	0.73	60.4
					238	17	25	60	3.75	176	18.1	3.93	0.70	63.3
					298	18	25	60	3.60	180	18.9	3.92	0.71	63.7
		B	3010	0.44	0	13	27	0	4.77	157	14.5	3.63	0.77	53.7
					58	14	25	58	4.55	165	15.4	3.70	0.71	60.6
					118	15	25	60	4.35	169	16.4	4.10	0.72	59.9
					178	16	25	60	4.15	173	17.3	4.03	0.69	60.4
					238	17	25	60	3.90	177	18.5	4.18	0.69	63.2
					298	18	25	60	3.68	181	19.1	4.29	0.67	66.1

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
RAG PT	19-AUG-85	BL			0	12	0	0	4.65	3	13.2	0.45	0.70	47.7
					30	12	30	30	4.74	7	15.7	0.51	0.57	47.7
					60	13	0	30	4.80	11	12.0	0.56	0.56	47.2
					90	13	30	30	4.86	16	15.0	0.47	0.78	45.8
					120	14	0	30	4.91	21	14.2	0.47	0.50	49.0
		G	3050	0.22	0	12	0	0	5.65	4	15.9	0.58	0.56	48.4
					30	12	30	30	5.50	8	12.6	0.45	0.53	49.5
					60	13	0	30	5.32	12	14.4	0.54	0.51	48.7
					90	13	30	30	5.25	17	14.0	0.67	0.55	48.7
					120	14	0	30	5.15	22	17.6	0.77	0.51	49.3
					180	15	0	60	4.95	25	16.6	0.62	0.70	50.0
		R	3875	0.28	0	12	0	0	5.55	5	13.9	0.91	0.57	49.8
					30	12	30	30	5.40	9	15.1	0.53	1.29	48.8
					60	13	0	30	5.10	13	15.9	0.60	0.43	47.9
					90	13	30	30	5.02	18	14.3	0.71	0.49	49.8
					120	14	0	30	4.90	23	15.9	0.85	0.47	49.3
					180	15	0	60	4.64	26	17.9	0.86	0.46	50.4
		B	2848	0.20	0	12	0	0	6.29	6	15.0	0.46	0.56	50.1
					30	12	30	30	6.10	10	14.5	0.53	0.63	49.3
					60	13	0	30	5.88	14	17.3	0.66	0.64	49.5
					90	13	30	30	5.70	19	15.0	0.47	0.56	49.8
					120	14	0	30	5.58	24	18.6	0.53	0.57	50.1
					180	15	0	60	5.28	27	16.6	0.52	0.51	51.2

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
MD PT	19-AUG-85	BL			0	15	45	0	5.33	28	7.1	6.98	2.28	63.8
					30	16	15	30	5.42	32	7.3	6.99	2.39	69.5
					60	16	45	30	5.54	36	8.0	7.19	2.27	64.6
					90	17	15	30	5.69	40	8.2	7.06	2.41	66.9
					130	17	55	40	5.84	44	7.6	7.03	2.31	68.3
					195	19	0	65	6.03	48	8.9	7.26	2.56	63.3
		G	3090	0.22	0	15	45	0	5.00	29	13.9	6.85	3.24	67.6
					30	16	15	30	4.80	33	16.3	6.72	5.32	68.9
					60	16	45	30	4.60	37	16.4	6.86	3.79	63.5
					90	17	15	30	4.42	41	16.2	7.05	3.18	76.4
					130	17	55	40	4.23	45	18.9	7.12	3.29	66.6
					195	19	0	65	4.00	49	19.3	7.39	3.31	80.0
		R	3110	0.22	0	15	45	0	4.70	30	10.4	6.72	2.36	70.7
					30	16	15	30	4.58	34	11.4	6.84	2.38	73.1
					60	16	45	30	4.50	38	13.1	6.90	2.62	71.6
					90	17	15	30	4.40	42	13.1	6.97	2.66	72.0
					130	17	55	40	4.30	46	13.8	7.18	2.59	74.1
					195	19	0	65	4.11	50	13.9	7.33	2.88	74.3
		B	3070	0.22	0	15	45	0	4.90	31	11.4	6.69	2.41	69.0
					30	16	15	30	5.09	35	13.3	6.67	2.57	71.4
					60	16	45	30	4.98	39	14.7	6.85	2.48	67.6
					90	17	15	30	4.85	43	16.9	6.83	2.70	74.0
					130	17	55	40	4.72	47	18.7	6.85	3.36	69.8
					195	19	0	65	4.55	51	21.1	7.17	2.91	73.8

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
PT NO PT.	20-AUG-85	BL			0	9	20	0	2.82	54	16.3	2.12	0.74	40.7
					45	10	5	45	2.93	58	14.0	1.57	0.91	38.2
					95	10	55	50	3.04	63	13.7	3.07	0.75	35.3
					155	11	55	60	3.16	68	14.7	2.13	0.74	34.7
					215	12	55	60	3.22	72	14.1	1.49	0.68	35.3
					280	14	0	65	3.30	84	18.2	1.84	0.75	35.8
		G	2925	0.21	0	9	20	0	3.15	55	15.5	1.39	0.68	36.4
					45	10	5	45	3.05	59	14.2	1.69	0.77	38.8
					95	10	55	50	3.04	64	14.8	1.78	0.67	40.1
					155	11	55	60	2.97	69	15.7	1.41	0.66	42.2
					215	12	55	60	2.85	73	17.3	1.49	0.84	43.6
					280	14	0	65	2.75	85	18.0	1.90	0.65	46.1
		R	3260	0.23	0	9	20	0	3.10	56	15.7	2.47	0.72	37.4
					45	10	5	45	3.00	60	16.0	2.07	0.71	38.0
					95	10	55	50	2.94	65	15.2	2.68	0.73	40.0
					155	11	55	60	2.80	70	19.1	1.70	0.69	42.7
					215	12	55	60	2.75	74	18.6	1.20	0.60	45.5
					280	14	0	65	2.63	86	20.1	1.59	0.73	49.4
		B	3290	0.24	0	9	20	0	3.20	57	18.3	1.89	0.82	46.1
					45	10	5	45	3.10	61	16.4	1.66	0.76	37.9
					95	10	55	50	2.99	66	16.8	1.68	0.70	40.7
					155	11	55	60	2.88	71	17.5	2.12	0.73	42.9
					215	12	55	60	2.80	75	17.4	1.66	0.68	44.1
					280	14	0	65	2.70	87	20.7	1.28	0.67	45.7

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-64	20-AUG-85	BL			0	13	5	0	2.21	76	19.8	1.76	1.16	35.1
					40	13	45	40	2.36	80	20.5	2.07	1.14	35.1
					100	14	45	60	3.00	89	20.2	1.75	1.16	34.7
					165	15	50	65	3.46	94	21.1	2.02	1.16	34.2
					225	16	50	60	3.72	102	20.2	2.01	1.20	35.2
					285	17	50	60	3.88	110	20.9	2.15	1.23	34.9
		G	3000	0.22		13	5	0	2.00	77	22.0	1.65	1.45	39.2
					40	13	45	40	2.00	81	24.0	1.78	1.42	42.0
					100	14	45	60	2.03	90	25.4	1.60	1.54	43.4
					165	15	50	65	2.00	95	26.7	1.52	1.52	46.2
					225	16	50	60	1.85	103	27.8	1.53	1.43	49.5
					285	17	50	60	1.82	111	29.8	1.37	1.57	50.1
		R	2380	0.17	0	13	5	0	2.12	78	28.8	1.66	1.57	41.1
					40	13	45	40	2.05	82	25.6	1.76	1.94	44.3
					100	14	45	60	1.85	91	29.4	1.94	2.24	48.4
					165	15	50	65	1.56	96	30.8	1.32	2.31	53.2
					225	16	50	60	1.30	104	35.1	1.35	2.90	56.8
					285	17	50	60	1.05	112	36.7	2.45	3.30	59.4
		B	2760	0.20	0	13	5	0	2.44	79	21.8	1.68	1.47	38.4
					40	13	45	40	2.45	83	23.5	1.81	1.53	40.8
					100	14	45	60	2.45	92	25.9	1.43	1.76	43.5
					165	15	50	65		97	34.3	1.76	1.80	45.0
					225	16	50	60	2.25	105	29.4	1.49	1.90	47.7
					285	17	50	60	2.20	113	30.5	1.56	2.05	50.4

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-78	20-AUG-85	BL			0	16	10	0	0.48	98	23.0	0.30	1.42	46.3
					50	17	0	50	0.58	106	23.1	0.53	1.45	45.9
					110	18	0	60	0.68	114	23.6	1.69	1.49	45.6
					170	19	0	60	0.80	118	22.1	1.15	1.43	46.8
					230	20	0	60	0.91	122	23.0	0.63	1.37	46.3
					290	21	0	60	1.12	126	23.0	0.64	1.34	46.3
		G	2950	0.21	0	16	10	0	2.23	99	23.6	0.40	1.61	48.4
					50	17	0	50	2.17	107	25.6	0.51	1.58	49.3
					110	18	0	60	2.14	115	25.8	0.49	1.49	50.8
					170	19	0	60	2.05	119	25.2	0.89	1.47	53.3
					230	20	0	60	1.98	123	26.1	0.49	1.33	53.7
					290	21	0	60	1.92	127	26.7	2.03	1.43	54.3
		R	3100	0.22	0	16	10	0	2.40	100	25.8	1.13	1.78	48.9
					50	17	0	50	2.35	108	25.2	0.71	1.67	50.4
					110	18	0	60	2.27	116	27.0		1.60	51.2
					170	19	0	60	2.20	120	26.1	0.83	1.61	53.2
					230	20	0	60	2.15	124	26.8	1.17	1.53	54.6
					290	21	0	60	2.06	128	26.5	1.47	0.70	56.4
		B	3000	0.22	0	16	10	0	2.55	101	30.4	0.72	2.02	48.7
					50	17	0	50	2.06	109	30.3	0.71	2.41	50.3
					110	18	0	60	2.06	117	29.0	0.37	2.33	51.0
					170	19	0	60	2.03	121	30.6	1.41	2.55	54.6
					230	20	0	60	2.05	125	31.5	0.66	2.45	56.1
					290	21	0	60	2.05	129	32.6	1.22	2.50	57.4

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
STIL PD	21-AUG-85	BL			0	8	35	0	5.44	132	3.0	16.70	0.99	36.2
					60	9	35	60	5.65	136	2.5	17.30	0.93	37.1
					120	10	35	60	5.79	140	2.5	17.30	0.90	34.8
					180	11	35	60	5.86	144	3.0	17.60	0.90	37.3
					240	12	35	60	5.87	150	2.9	17.60	0.90	40.0
					300	13	35	60	5.95	158	2.5	17.60	0.84	36.4
		G	3000	0.22	0	8	35	0	4.80	133	3.0	17.30	0.90	32.3
					60	9	35	60	4.67	137	3.7		1.03	41.3
					120	10	35	60	4.52	141	4.1	17.90	1.00	39.5
					180	11	35	60	4.35	145	4.4	18.10	0.94	48.9
					240	12	35	60	4.21	151	4.6	17.50	0.99	45.5
					300	13	35	60	4.06	159	5.3	18.20	0.95	45.8
		R	3160	0.23	0	8	35	0	4.95	134	2.6	17.30	0.90	38.4
					60	9	35	60	4.90	138	3.4		0.94	32.8
					120	10	35	60	4.71	142	3.2	17.60	0.92	32.5
					180	11	35	60	4.65	146	3.5	17.90	0.95	41.4
					240	12	35	60	4.60	152	4.0	18.80	0.90	42.4
					300	13	35	60	4.47	160	4.5	18.40	1.15	36.0
		B	3030	0.22	0	8	35	0	4.65	135	3.3	17.20	0.90	36.3
					60	9	35	60	4.87	139	3.4	17.70	0.95	39.3
					120	10	35	60	4.75	143	4.7	17.50	0.95	40.4
					180	11	35	60	4.60	147	5.4	17.60	0.91	44.2
					240	12	35	60	4.45	153	6.8	17.80	0.94	38.4
					300	13	35	60	4.35	161	7.1	17.70	0.95	37.6

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H20 HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
SONE 6														
ST.LEO	16-OCT-85	B1			0	19	30	0	7.27					
					40	20	10	40	7.14	181	5.6	3.31	0.75	23.6
					70	20	40	30	7.17	191	5.8	3.38	0.72	23.1
					115	21	25	45	7.17	195	5.9	0.55	0.72	23.3
					160	22	10	45	7.17	199	5.8	3.56	0.72	23.5
					220	23	10	60	7.15	203	5.6	3.62	0.73	23.2
		1	2770	0.20	0	19	30	0	7.01	180	6.2	3.58	0.63	21.9
					40	20	10	40	6.90	187	6.2	3.46	0.73	23.2
					70	20	40	30	6.81	192	6.4	3.51	0.69	23.9
					115	21	25	45	6.68	196	6.8	3.65	0.73	25.0
					160	22	10	45	6.58	200	7.1	3.91	0.75	25.8
					220	23	10	60	6.45	204	7.6	4.56	0.74	26.6
		2	2815	0.20	0	19	30	0	7.11	182	5.8	3.35	0.69	22.5
					40	20	10	40	6.95	188	6.4	3.56	0.69	
					70	20	40	30	6.80	193	6.5	3.58	0.75	24.6
					115	21	25	45	6.65	197	7.5	3.46	0.72	25.9
					160	22	10	45	6.50	201	7.4	3.77	0.82	27.1
					220	23	10	60	6.30	205	8.0	3.89	0.82	28.2
		3	2305	0.17	0	19	30	0	7.22	183	6.1	3.43	0.70	22.5
					40	20	10	40	7.09	189	6.5	3.51	0.74	23.6
					70	20	40	30	6.95	194	6.3	3.67	0.81	24.2
					115	21	25	45	6.87	198	6.4	3.80	0.78	26.9
					160	22	10	45	6.72	202	6.9	4.04	0.85	28.6
					220	23	10	60		206	6.8	3.84	0.85	27.0

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES (SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
BU.VISTA	16-OCT-85	B1			0	16	45	0	8.21	157	0.5	1.55	2.49	63.0
					30	17	15	30	8.21	162	0.5	1.79	2.69	60.4
					60	17	45	30	8.16	167	0.5	1.63	2.55	61.3
					90	18	15	30	8.14	172	0.4	1.45	2.60	62.1
					120	18	45	30	8.09	176	0.5	1.53	2.50	61.5
		1	2405	0.17	0	16	45	0	8.49	158	0.7	1.41	2.63	60.0
					30	17	15	30	8.21	163	1.6		2.81	63.0
					60	17	45	30	7.92	168	2.0	1.54	2.68	61.8
					90	18	15	30	7.69	173	2.8	1.77	2.86	63.7
					120	18	45	30	7.40	177	3.2	1.74	2.96	65.9
					190	19	55	70	6.82	184	4.9	1.91	3.12	65.7
		2	2345	0.17	0	16	45	0	7.15	159	1.2	1.88	2.58	59.4
					30	17	15	30	6.98	164	1.4	1.84	2.61	61.9
					60	17	45	30	6.78	169	1.9	1.90	2.66	62.1
					90	18	15	30	6.62	174	2.8	1.96	2.69	62.0
					120	18	45	30	6.40	178	3.0	2.15	2.89	64.6
					190	19	55	70	6.02	185	3.5	2.50	2.83	64.5
		3	2375	0.17	0	16	45	0	7.21	160	1.3	1.83	2.51	62.9
					30	17	15	30	7.01	165	2.1	2.20	2.66	63.8
					60	17	45	30	6.63	170	3.0	1.99		64.0
					90	18	15	30	6.32	175	3.0	2.26	2.85	64.2
					120	18	45	30	6.00	179	4.5	2.01		66.4
					190	19	55	70	5.33	186	5.2	2.28	3.19	68.1

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
HORN PT	15-OCT-85	BI			0	15	25	0	7.96	107	2.8	1.40	0.30	12.2
					35	16	0	35	7.93	111	2.9	1.64	0.31	12.0
					65	16	30	30	7.93	115	2.7	1.31	0.33	12.1
					142	17	47	77	7.90	120	2.8	1.50	0.33	12.0
					195	18	40	53	7.83	124	2.3	1.23	0.31	12.2
					255	19	40	60	7.82	141	2.3	1.81	0.33	11.8
		1	2800	0.20	0	15	25	0	7.80	108	3.8	1.46	0.51	14.6
					35	16	0	35	7.60	112	4.3	1.45	0.64	15.8
					65	16	30	30	7.40	116	4.6	1.56	0.73	
					142	17	47	77	7.20	121	5.3	1.77	0.83	18.3
					195	18	40	53	6.90	125	7.6	2.00	1.00	21.0
					255	19	40	60	6.70	142	8.3	2.56	1.13	22.9
		2	2975	0.21	0	15	25	0	7.76	109	3.8		0.44	13.5
					35	16	0	35	7.54	113	3.2	1.45	0.53	17.2
					65	16	30	30	7.40	117	3.9	1.57	0.58	15.8
					142	17	47	77	7.20	122	4.6	2.14	0.67	17.1
					195	18	40	53	6.90	126	6.2	2.02	0.88	19.5
					255	19	40	60	6.62	143	6.3	2.01	1.03	21.4
		3	2900	0.21	0	15	25	0	7.90	110	4.6	1.61	0.57	14.0
					35	16	0	35	7.69	114	4.8		0.63	13.7
					65	16	35	35	7.50	118	5.1	1.57	0.70	15.8
					142	17	47	77	7.31	123	5.9	1.69	0.80	17.6
					195	18	40	53	7.00	127	7.8	1.85	0.92	19.9
					255	19	40	60	6.70	144	9.1	2.53	1.03	21.7

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
WIND HILL	15-OCT-85	B1			0	18	0	0	6.97	129	1.0	7.50	1.56	46.4
					30	18	30	30	6.99	134	1.0	7.50	1.50	45.7
					60	19	0	30	6.91	137	1.0	7.10	1.55	47.2
					90	19	30	30	6.91	145	0.9	7.80	1.59	46.9
					135	20	15	45	6.91	149	1.2	7.20	1.52	47.5
					195	21	15	60	6.86	153	1.0	7.70	1.45	46.7
		1	2300	0.17	0	18	0	0	6.70	130	1.9	7.60	2.74	48.2
					30	18	30	30	6.41	133	1.9	8.00	1.78	47.6
					60	19	0	30	6.20	138	2.2	8.00	1.87	49.4
					90	19	30	30	5.92	146	2.9	8.50	1.95	50.1
					135	20	15	45	5.60	150	3.4	8.70	2.09	52.3
					195	21	15	60	5.10	154	4.3	9.00	2.40	53.8
		2	2445	0.18	0	18	0	0	6.92	131	1.5	7.50	1.67	48.4
					30	18	30	30	6.70	135	1.8	7.60	1.71	49.5
					60	19	0	30	6.40	139	2.2	7.90	1.77	50.2
					90	19	30	30	6.10	147	2.6	8.00	1.87	51.9
					135	20	15	45	5.70	151	3.6	8.80	1.98	53.8
					195	21	15	60	5.34	155	5.0	8.60	2.13	57.1
		3	2440	0.18	0	18	0	0	6.80	132	1.4	8.00	1.66	49.1
					30	18	30	30	6.58	136	2.2	7.90	1.81	50.6
					60	19	0	30	6.30	140	2.8	8.30	1.91	51.7
					90	19	30	30	5.88	148	3.5	8.70	1.99	53.8
					135	20	15	45	5.35	152	4.8	9.70	2.51	56.2
					195	21	15	60	4.80	156	5.5	9.40	2.23	57.4

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H20 HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
RAG PT	17-OCT-85	B1			0	10	35	0	5.28	209	9.4	3.24	0.29	8.7
					30	11	5	30	5.32	213	9.6	3.07	0.18	8.5
					45	11	50	45	5.36	217	10.1	2.90	0.20	7.4
					100	12	45	55	5.41	221	9.7	2.88	0.20	9.5
					167	13	52	67	5.47	225	9.7	2.90	0.18	8.2
					227	14	52	60	5.49	230	9.0	3.18	0.19	11.7
		1	2900	0.21	0	10	35	0	5.50	210	11.3	2.79	0.31	10.0
					30	11	5	30	5.39	214	13.4	3.06	0.34	
					75	11	50	45	5.30	218	15.0	2.86	0.33	11.6
					130	12	45	55	5.20	222	16.6	3.01	0.35	13.3
					197	13	52	67	5.10	226	18.1	2.90	0.32	15.3
					257	14	52	60	5.00	231	20.2	2.95	0.30	17.9
		2	2700	0.19	0	10	35	0	5.05	211	13.5	3.09	0.50	10.5
					30	11	5	30	4.95	215	14.9	2.80	0.57	11.6
					75	11	50	45	4.86	219	17.2	2.80	0.64	12.9
					130	12	45	55	4.73	223	19.3		0.69	14.3
					197	13	52	67	4.60	227	20.9	2.92	0.65	15.9
					257	14	52	60	4.50	232	22.4	2.93	0.64	19.1
		3	2750	0.20	0	10	35	0	5.21	212	11.8	2.96	0.31	10.2
					30	11	5	30	5.15	216	14.3	2.96	0.33	10.9
					75	11	50	45	5.06	220	15.5	3.02	0.34	11.8
					130	12	45	55	4.91	224	17.8	3.00	0.31	13.8
					197	13	52	67	4.80	228	19.9	2.95	0.31	15.8
					257	14	52	60	4.65	233	21.4	2.97	0.30	17.3

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P	SI(OH)4 (uM-SI)
MD PT	17-OCT-85	Bl			0	15	30	0	7.72	234	0.5	17.30	1.73	66.9
					30	16	0	30	7.70	238	0.6	17.30	1.68	68.6
					60	16	30	30	7.79	242	0.5	17.30	1.67	67.9
					90	17	0	30	7.72	246	0.5	17.10	1.70	67.4
					120	17	30	30	7.76	250	0.6	17.10	1.72	69.0
					175	18	25	55	7.74	254	0.6	17.40	1.67	67.0
		1	3090	0.22	0	15	30	0	7.89	235	1.7	17.00	1.67	66.1
					30	16	0	30	7.68	239	2.5	16.80	1.72	70.7
					60	16	30	30	7.45	243	4.5	16.60	2.23	72.5
					90	17	0	30	7.25	247	5.6	16.50	1.72	72.7
					120	17	30	30	7.10	251	6.5	16.60	1.72	74.3
					175	18	25	55	6.70	255	8.8	16.50	1.72	71.6
		2	3220	0.23	0	15	30	0	7.76	236	1.5	16.80	1.74	69.6
					30	16	0	30	7.64	240	2.2	16.90	1.72	70.7
					60	16	30	30	7.40	244	3.2	16.60	1.97	71.7
					90	17	0	30	7.25	248	3.5	16.50	1.76	71.3
					120	17	30	30	7.10	252	4.0	16.50	1.78	72.7
					175	18	25	55	6.75	256	5.3	16.50	1.82	73.0
		3	3270	0.24	0	15	30	0	7.92	237	1.7	17.00	1.73	69.4
					30	16	0	30	7.74	241	2.3	16.90	1.78	69.5
					60	16	30	30	7.55	245	3.5	17.00	1.75	72.5
					90	17	0	30	7.35	249	4.1	16.60	1.75	71.4
					120	17	30	30	7.15	253	5.0	16.80	1.78	73.3
					175	18	25	55	6.85	257	6.2	16.50	1.79	72.7

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
PT NO PT	14-OCT-85	B1			0	10	40	0	5.95	3	5.0	1.91	0.13	2.6
					45	11	25	45	5.97	7	5.0	1.90	0.12	2.5
					85	12	5	40	5.97	11	5.2	1.95	0.12	2.5
					130	12	50	45	6.02	16	5.1	1.90	0.16	5.4
					175	13	35	45	6.05	20	5.3	2.04	0.13	2.9
					235	14	35	60	6.27	29	7.0	2.63	0.50	2.9
		1	2630	0.19	0	10	40	0	7.90	4	5.5	1.82	0.13	3.9
					45	11	25	45	7.85	8	5.7	2.26	0.16	5.3
					85	12	5	40	7.80	12	6.2	1.75	0.13	
					130	12	50	45	7.70	17	6.7	1.78	0.13	7.7
					175	13	35	45	7.60	21	6.7	1.88	0.16	9.2
					235	14	35	60	7.35	30	7.6	2.07	0.20	11.2
		2	3000	0.22	0	10	40	0	6.45	5	5.2		0.16	4.0
					45	11	25	45	6.31	9	5.6	1.76	0.14	6.0
					85	12	5	40	6.20	13	5.9	1.81	0.15	7.4
					130	12	50	45	6.05	18	6.2	1.94	0.16	8.6
					175	13	35	45	5.95	22	6.6	1.89	0.14	9.7
					235	14	35	60	5.70	31	7.4	1.95	0.16	12.0
		3	3005	0.22	0	10	40	0	6.90	6	6.0		0.10	4.4
					45	11	25	45	6.65	10	6.2	1.73	0.11	5.4
					85	12	5	40	6.51	14	6.8	2.01	0.16	
					130	12	50	45	6.39	19	6.5	1.73	0.13	9.1
					175	13	35	45		23	6.6	1.82	0.14	8.6
					235	14	35	60	6.10	32	7.2	2.08	0.18	12.2

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-64	14-OCT-85	B1			0	14	10	0	4.12	24	13.8	2.73	0.33	20.3
					45	14	55	45	4.14	33	15.5	2.86	0.35	19.8
					90	15	40	45	4.36	37	14.6	2.74	0.34	19.4
					135	16	25	45	4.60	42	14.6	3.09	0.35	22.3
					180	17	10	45	4.76	47	13.9	2.88	0.34	20.2
					245	18	15	65	4.86	59	13.9	2.68	0.33	19.7
		1	2180	0.16	0	14	10	0	4.25	25	16.7	2.53	0.59	22.8
					45	14	55	45	4.15	34	19.4	2.69	0.73	26.4
					90	15	40	45	3.95	38	20.7	2.54	0.72	29.8
					135	16	25	45	3.92	43	22.8	2.44	0.76	33.1
					180	17	10	45	3.94	48	23.8	2.34	0.76	38.2
					245	18	15	65	3.62	60	26.2	2.48	0.80	38.4
		2	2350	0.17	0	14	10	0	4.35	26	16.0	2.74	0.57	23.8
					45	14	55	45	4.20	35	19.2	2.59	0.63	27.9
					90	15	40	45	4.08	39	20.9	2.48	0.65	33.9
					135	16	25	45	3.91	44	22.8		0.70	33.3
					180	17	10	45	3.81	49	23.6	2.33	0.72	37.1
					245	18	15	65	3.60	61	25.8	2.63	0.89	39.5
		3	2630	0.19	0	14	10	0	4.51	27	16.5	2.55	0.41	21.8
					45	14	55	45	4.50	36	18.6	2.48	0.46	23.7
					90	15	40	45	4.50	40	19.6	2.45	0.47	25.8
					135	16	25	45	4.42	45	21.4		0.49	29.1
					180	17	10	45	4.35	50	22.7	2.38	0.51	32.0
					245	18	15	65		62	22.7		0.56	31.8

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-78	14-OCT-85	B1			0	17	20	0	2.88	51	12.4	11.10	0.62	35.6
					40	18	0	40	3.02	55	12.3	11.00	0.65	36.4
					70	18	30	30	3.07	63	12.5	10.90	0.62	35.9
					115	19	15	45	3.16	67	12.7	10.60	0.64	35.1
					175	20	15	60	3.27	71	12.4	10.80	0.66	35.1
					235	21	15	60	3.38	75	13.0	10.10	0.70	35.5
		1	2680	0.19	0	17	20	0	4.25	52	13.0	10.90	0.71	34.8
					40	18	0	40	4.25	56	13.1	10.50	0.64	37.9
					70	18	30	30	4.21	64	14.1	10.50	0.70	38.5
					115	19	15	45	4.21	68	14.0	10.10	0.66	39.9
					175	20	15	60	4.20	72	14.6	10.30	0.71	40.7
					235	21	15	60	4.20	76	15.5	11.00	1.09	43.2
		2	2860	0.21	0	17	20	0		53	12.8	10.90	0.75	36.9
					40	18	0	40	2.90	57	13.9	10.40	0.61	37.8
					70	18	30	30	2.90	65	13.8	10.50	0.62	37.8
					115	19	15	45	2.85	69	14.1	10.70	0.68	39.1
					175	20	15	60	2.80	73	14.8	10.30	0.64	40.1
					235	21	15	60	2.75	77	15.2	10.40	0.70	40.6
		3	2630	0.19	0	17	20	0		54	13.6	10.40	0.63	37.6
					40	18	0	40	3.30	58	14.2	10.20	0.65	38.1
					70	18	30	30	3.19	66	14.2	10.30	0.64	39.0
					115	19	15	45	3.19	70	14.8	10.40	0.65	40.4
					175	20	15	60	3.19	74	15.4	12.30	0.66	41.1
					235	21	15	60	3.19	78	16.3	10.30	0.72	43.0

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
STIL PD	15-OCT-85	B1			0	10	30	0	6.82	81	7.9	36.20	0.66	31.4
					45	11	15	45	6.80	85	6.8	36.70	0.67	31.4
					90	12	0	45	6.80	89	6.4	36.70	0.62	30.9
					137	12	47	47	6.80	93	6.7	37.00	0.71	31.4
					180	13	30	43	6.79	97	6.4	36.50	0.67	31.0
					240	14	30	60	6.77	102	6.2	37.40	0.64	31.6
		1	2515	0.18	0	10	30	0	6.99	82	7.1	36.50	0.72	31.3
					45	11	15	45	6.80	86	7.2	36.40	0.73	31.1
					90	12	0	45	6.65	90		36.30	1.25	31.9
					137	12	47	47	6.50	94	7.8		0.93	32.7
					180	13	30	43	6.35	98	8.0	36.20	0.68	34.0
					240	14	30	60	6.10	103	8.4	36.20	0.75	35.1
		2	2610	0.19	0	10	30	0	6.60	83	7.0	36.30	0.70	31.5
					45	11	15	45	6.50	87		36.30	0.74	32.6
					90	12	0	45	6.38	91	7.2	36.40	0.74	
					137	12	47	47	6.22	95		36.70	0.75	32.8
					180	13	30	43	6.12	99	7.8	35.80	0.77	33.5
					240	14	30	60	6.00	104	7.6	36.60	0.78	34.7
		3	2645	0.19	0	10	30	0	6.70	84	6.9	36.20	0.71	32.3
					45	11	15	45	6.61	88	6.9	36.30	0.68	31.8
					90	12	0	45	6.41	92		36.30	0.72	32.9
					137	12	47	47	6.38	96	7.3	36.30	0.74	33.2
					180	13	30	43	6.15	100	7.3	36.50	0.73	33.5
					240	14	30	60	5.98	105	7.4	35.80	0.71	34.8

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/1)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
SONE 7														
ST.LEO	8-MAY-86	B1			0	8	53	0	7.59	209	2.1	23.90	0.10	2.1
					30	9	23	30	7.56	215	1.9	23.70	0.10	2.2
					88	10	21	58	7.54	221	1.9	23.70	0.09	2.3
					125	10	58	37	7.53	225				
					151	11	24	26	7.63	229	1.9	23.60	0.08	2.2
					211	12	24	60	7.57	237	2.0	23.60	0.07	3.1
		1	2000	0.14	0	8	53	0	7.68	210	2.2	23.60	0.08	3.3
					30	9	23	30	7.50	216	1.9	23.50	0.06	4.2
					88	10	21	58	7.21	222	2.0	22.90	0.08	6.1
					125	10	58	37	7.04 6.83	226	2.0	22.70	0.08	7.0
					151	11	24	26	7.88	230	2.1	22.60	0.08	8.0
					211	12	24	60	6.58	238	2.6	22.30	0.06	10.0
		2	2125	0.15	0	8	53	0	7.64	211	2.0	23.60	0.08	3.1
					30	9	23	30	7.50	217	2.2	23.30	0.08	4.2
					88	10	21	58	7.18	223	2.3	22.90	0.08	5.5
					125	10	58	37	6.98	227	2.7	22.60	0.06	6.5
					151	11	24	26	6.83	231	2.7	22.50	0.09	7.4
					211	12	24	60	6.37	239	3.1	22.00	0.10	10.0
		3	2220	0.16	0	8	53	0	7.65	212	2.0	23.60	0.08	3.1
					30	9	23	30	7.50	218	2.0	23.50	0.08	3.6
					88	10	21	58	7.26	224	2.2	23.20	0.07	5.5
					125	10	58	37	7.11	228	2.1	22.90	0.08	6.0
					151	11	24	26	6.98	232	2.5	22.90	0.09	6.8
					211	12	24	60	6.67	240	2.7	22.70	0.10	8.3

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
BU.VISTA	8-MAY-86	B1			0	11	59	0	9.03	233	0.2	0.15	0.20	16.8
					41	12	40	41	8.95	241	0.2	0.18	0.25	16.9
					107	13	46	66	8.84	245	0.6	0.20	1.29	17.4
					144	14	23	37	8.78	249	0.2	0.21	0.18	17.0
					178	14	57	34	8.71	253	0.5	1.88	0.17	16.5
					276	16	35	98	8.59	257	0.9	0.14	0.20	16.3
		1	1840	0.13	0	11	59	0	8.81	234	0.4	0.33	0.30	19.3
					41	12	40	41	7.63	242	0.7	0.58	0.31	23.0
					107	13	46	66	6.20	246	2.5	0.89	1.70	28.3
					144	14	23	37	5.47	250	2.1	1.06	0.45	30.9
					178	14	57	34	4.88	254	2.8	1.15	0.47	33.0
					276	16	35	98	3.31	258	4.2	1.61	0.52	40.5
		2	2000	0.14	0	11	59	0	8.95	235	0.2	0.23	0.30	18.9
					41	12	40	41	7.81	243	0.5	0.46	0.31	22.9
					107	13	46	66	6.50	247	1.2	0.90	0.40	27.5
					144	14	23	37	5.82	251	1.9	1.23	0.54	30.4
					178	14	57	34	5.30	255	2.4	1.35	0.52	33.0
					276	16	35	98	3.91	259	4.3	1.81	0.55	38.8
		3	1985	0.14	0	11	59	0	8.83	236	0.3	0.18	0.23	18.8
					41	12	40	41	7.86	244	0.4	0.37	0.33	22.2
					107	13	46	66	6.82	248	1.7	0.70	0.40	26.8
					144	14	23	37	6.24	252	1.7	1.05	0.41	29.4
					178	14	57	34	5.76	256	2.1	1.00	0.46	31.1
					276	16	35	98	4.51	260	3.4	1.39	0.53	38.1

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/1)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
HORN PT	3-MAY-86	BL			0	12	11	0	9.90	3	1.1	25.20	0.08	1.8
					63	13	14	63	9.73	7	1.4	25.00	0.09	1.6
					95	13	46	32	9.74	11	1.1	25.00	0.06	1.6
					127	14	18	32	9.66	15	0.7	24.90	0.06	1.7
					162	14	53	35	9.74	19	0.6	24.90	0.06	1.4
					226	15	57	64	9.67	23	0.9	25.30	0.09	1.4
		1	1970	0.14	0	12	11	0		4	0.9	25.10	0.11	2.8
					63	13	14	63	9.57	8	1.3	25.40	0.14	3.6
					95	13	46	32	9.52	12	3.0	25.30	0.36	4.6
					127	14	18	32	9.40	16	7.8	26.20	0.55	5.4
					162	14	53	35	9.25	20	1.5	24.70	0.14	6.5
					226	15	57	64	8.86	24	2.4	24.20	0.18	8.2
		2	1875	0.13	0	12	11	0		5	1.1	24.60	0.10	2.9
					63	13	14	63	9.08	9	1.4	24.30	0.11	5.4
					95	13	46	32	8.85	13	1.2	24.10	0.17	5.9
					127	14	18	32	8.61	17	3.0	23.10	0.21	8.1
					162	14	53	35	8.43	21	2.1	23.40	0.20	9.7
					226	15	57	64	8.02	25	3.3	22.90	0.21	13.4
		3	1930	0.14	0	12	11	0	9.29	6	1.3	25.00	0.13	2.8
					63	13	14	63	9.01	10	2.4	24.80	0.09	4.1
					95	13	46	32	8.74	14	1.3	24.80	0.14	5.4
					127	14	18	32	8.53	18	2.0	24.30	0.10	6.7
					162	14	53	35	8.39	22	3.0	24.30	0.11	8.0
					226	15	57	64	8.07	26	2.2	23.70	0.09	13.2

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H20 HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
WIND HIL	3-MAY-86	BL			0	19	48	0	9.59	29	0.7	78.60	0.53	23.8
					29	20	17	29	9.53	33	0.6	78.70	0.51	25.2
					60	20	48	31	9.48	37	0.5	77.30	0.53	23.9
					89	21	17	29	9.41	41	1.6	78.10	0.49	24.5
					120	21	48	31	9.39	45	0.6	61.40	0.50	20.2
					180	22	48	60	9.32	49	0.5	78.30	0.48	23.9
		1	2000	0.14	0	19	48	0	9.56	30	1.2	77.90	0.53	23.8
					29	20	17	29	9.38	34	1.6	75.80	0.55	26.0
					60	20	48	31	9.15	38	0.9	76.90	0.64	25.7
					89	21	17	29	8.92	42	1.2	75.00	0.67	29.3
					120	21	48	31	8.71	46	1.6	76.30	0.74	29.2
					180	22	48	60	8.21	50	2.7	74.70	0.85	31.3
		2	1940	0.14	0	19	48	0	9.67	31	0.6	77.10	0.49	25.2
					29	20	17	29	9.49	35	0.6	74.70	0.47	25.3
					60	20	48	31	9.32	39	0.6	77.30	0.51	23.5
					89	21	17	29	9.17	43	0.9	76.70	0.97	26.0
					120	21	48	31	9.01	47	0.8	76.10	0.53	26.1
					180	22	48	60	8.77	51	2.7	75.80	0.57	27.1
		3	2160	0.16	0	19	48	0	9.66	32	0.4	77.90	0.49	23.4
					29	20	17	29	9.41	36	0.6	76.70	0.49	24.5
					60	20	48	31	9.22	40	0.5	77.00	0.49	25.0
					89	21	17	29	9.06	44	0.5	77.80	0.55	24.7
					120	21	48	31	8.90	48	0.7	75.10	0.50	25.3
					180	22	48	60	8.55	52	0.9	75.80	0.50	28.4

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES (SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
RAG PT	6-MAY-86	BL			0	12	23	0	7.28	160	3.0	27.50	0.10	1.4
					46	13	9	46	7.31	163	2.7	27.50	0.10	3.5
					86	13	49	40	7.34	167	2.5	27.20	0.09	1.8
					124	14	27	38	7.32	171	3.2	27.30	0.10	0.5
					166	15	9	42	7.35	175	3.5	27.50	0.11	1.3
					250	16	33	84	7.41	179	3.7	27.50	0.11	0.8
		1	1890	0.14	0	12	23	0	7.15	159	5.3	26.80	0.12	2.8
					46	13	9	46	6.61	164	7.6	25.80	0.13	5.8
					86	13	49	40	6.17	168	10.3	25.00	0.16	6.7
					124	14	27	38	5.70	172	12.4	24.40	0.19	8.7
					166	15	9	42	5.26	176	15.8	23.30	0.20	13.5
					250	16	33	84	4.25	180	22.9	21.20	0.27	16.2
		2	1820	0.13	0	12	23	0	6.83	158	6.0	26.80	0.11	4.2
					46	13	9	46	6.25	165	7.9	26.50	0.19	6.6
					86	13	49	40	5.87	169	9.8	26.00	0.14	9.3
					124	14	27	38	5.51	173	11.8	25.70	0.15	9.7
					166	15	9	42	5.13	177	14.0	25.30	0.19	13.9
					250	16	33	84		181	17.2	24.50	0.15	18.7
		3	1880	0.14	0	12	23	0	7.43	157	5.1	27.20	0.14	2.9
					46	13	9	46	6.56	166	7.1	26.30	0.16	5.5
					86	13	49	40	6.05	170	8.4	26.00	0.16	6.8
					124	14	27	38	5.57	174	10.5	25.90	0.16	8.4
					166	15	9	42	5.11	178	11.6	25.40	0.15	9.7
					250	16	33	84	4.06	162	3.5	27.80	0.13	1.8

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
MD PT	7-MAY-86	BL			0	11	16	0	7.31	183	3.3	81.30	0.15	11.3
					68	12	24	68	7.33	189	3.9	80.80	0.25	11.7
					100	12	56	32	7.31	193	3.4	80.80	0.14	11.3
					133	13	29	33	7.39	197	3.7	80.70	1.17	11.9
					173	14	9	40	7.41	201	3.2	80.70	0.15	11.3
					241	15	17	68	7.52	205	3.5	80.40	0.13	13.5
		1	1845	0.13	0	11	16	0	7.51	184	3.6	80.20	0.27	11.7
					68	12	24	68	6.97	190	4.9	79.70	0.18	14.0
					100	12	56	32	6.75	194	4.7	79.60	0.21	14.3
					133	13	29	33	6.56	198	5.7	79.50	1.14	14.9
					173	14	9	40	6.28	202	5.7	79.20	0.25	15.9
					241	15	17	68	5.87	206	6.0	79.00	0.26	17.1
		2	1825	0.13	0	11	16	0	7.40	185	4.2	79.00	0.18	12.2
					68	12	24	68	6.87	191	6.2	79.30	0.21	14.6
					100	12	56	32	6.67	195	6.8	79.80	0.25	15.1
					133	13	29	33	6.52	199	7.3	79.70	0.23	16.3
					173	14	9	40	6.31	203	7.3	79.60	0.24	16.7
					241	15	17	68	5.95	207	7.9	79.30	0.26	19.2
		3	1955	0.14	0	11	16	0	7.58	186	3.7	80.30	0.20	12.1
					68	12	24	68	7.15	192	4.9	79.70	0.20	14.5
					100	12	56	32	6.99	196	4.8	79.70	0.20	14.3
					133	13	29	33	6.81	200	5.2	79.70	0.24	14.6
					173	14	9	40	6.59	204	5.5	79.70	0.22	15.3
					241	15	17	68	6.20	208	6.0	79.30	0.22	17.3

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
PT NO PT	5-MAY-86	BL			0	17	38	0	9.48	125	2.1	26.20	0.08	0.8
					62	18	40	62	9.42	133	2.8	26.40	0.08	0.5
					124	19	42	62	9.44	141	2.4	26.30	0.08	0.5
					171	20	29	47	9.35	145	2.0	26.40	0.06	0.7
					226	21	24	55	9.32	149	2.7	26.30	0.07	1.4
					286	22	24	60	9.28	153	3.5	26.40	0.11	0.8
		1	1820	0.13	0	17	38	0	9.07	126	2.5	26.00	0.10	3.2
					62	18	40	62	8.59	134	3.0	25.60	0.09	5.2
					124	19	42	62	8.23	142	3.5	25.30	0.09	6.7
					171	20	29	47	7.97	146	4.3	25.10	0.09	7.7
					226	21	24	55	7.72	150	3.4	24.90	0.09	9.1
					286	22	24	60	7.47	154	4.8	24.80	0.12	10.5
		2	1730	0.12	0	17	38	0	8.94	127	2.8	25.80	0.09	3.9
					62	18	40	62	8.36	135	4.0	25.50	0.13	5.8
					124	19	42	62	7.91	143	4.1	25.20	0.69	7.8
					171	20	29	47	7.64	147	5.1	25.00	0.11	8.8
					226	21	24	55	7.31	151	5.4	24.70	0.10	9.9
					286	22	24	60	7.04	155	5.4	24.40	0.10	11.4
		3	1810	0.13	0	17	38	0	8.97	128	2.7	25.70	0.12	3.8
					62	18	40	62	8.35	136	3.4	25.30	0.10	5.6
					124	19	42	62	7.93	144	4.5	24.90	0.10	7.7
					171	20	29	47	7.64	148	4.1	24.70	0.11	9.1
					226	21	24	55	7.31	152	4.6	24.40	0.07	10.0
					286	22	24	60	7.00	156	5.0	24.20	0.11	11.1

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/I)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-64	5-MAY-86	BL			0	13	17	0	6.09	107	5.9	19.70	0.08	3.4
					60	14	17	60	6.10	111	5.7	19.90	0.10	3.4
					156	15	53	96	6.17	116	5.7	19.70	0.08	3.2
					216	16	53	60	6.23	121	5.3	19.70	0.09	3.2
					290	18	7	74	6.28	129	5.9	19.70	0.08	3.3
					358	19	15	68	6.31	137	6.0	19.60	0.09	3.2
		1	1880	0.14	0	13	17	0	5.97	108	7.9	19.70	0.19	6.9
					60	14	17	60	5.65	112	9.1	19.00	0.25	11.4
					156	15	53	96	5.17	117	12.7	18.50	0.28	16.8
					216	16	53	60	4.91	122	13.8	18.00	0.27	19.4
					290	18	7	74	4.57	130	15.1	17.50	0.28	22.7
					358	19	15	68	5.32	138	19.1	17.10	0.28	25.4
		2	1655	0.12	0	13	17	0	5.97	109	6.8	19.40	0.11	6.8
					60	14	17	60	5.76	113	8.3	19.00	0.12	10.7
					156	15	53	96	5.42	118	9.6	18.40	0.11	15.5
					216	16	53	60	5.24	123	10.1	17.90	0.14	18.3
					290	18	7	74	4.99	131	11.1	17.30	0.21	21.5
					358	19	15	68	4.84	139	12.3	16.90	0.13	24.1
		3	1960	0.14	0	13	17	0	6.38	110	8.7	19.50	0.36	9.3
					60	14	17	60	6.22	114	11.5	19.10	0.34	13.5
					156	15	53	96	6.10	119	14.4	18.30	0.27	19.3
					216	16	53	60	5.70	124	16.2	17.70	0.23	21.8
					290	18	7	74	5.59	132	18.4	17.10	0.23	25.4
					358	19	15	68	5.59	140	18.7	16.70	0.25	27.7

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-78	4-MAY-86	BL			0	12	36	0	1.89	55	12.4	18.40	0.10	10.0
					60	13	36	60	2.03	59	12.6	18.50	0.10	10.0
					158	15	14	98	2.38	64	12.6	18.30	0.08	9.9
					226	16	22	68	2.56	73	12.8	18.60	0.10	9.5
					283	17	19	57	3.00	85	12.5	18.40	0.09	9.7
					345	18	21	62	3.42	97	12.8	18.50	0.10	9.5
		1	2000	0.14	0	12	36	0	2.16	56	12.3	18.30	0.11	9.9
					60	13	36	60	2.12	60	13.3	17.70	0.11	10.8
					158	15	14	98	1.96	65	13.9	16.90	0.10	13.3
					226	16	22	68	2.07	74	13.0	16.50	0.18	13.1
					283	17	19	57	1.99	86	12.9	15.90	0.09	13.2
					345	18	21	62	1.83	98	13.2	15.50	0.11	13.9
		2	2180	0.16	0	12	36	0	2.25	57	12.9	18.90	0.15	10.6
					60	13	36	60	2.49	61	13.3	18.30	0.19	11.5
					158	15	14	98	2.71	67	13.2	17.80	0.47	13.1
					226	16	22	68	2.77	75	13.6	17.40	0.13	13.3
					283	17	19	57	2.82	87	13.3	17.30	0.14	14.0
					345	18	21	62	2.81	99	14.0	16.90	0.13	14.8
		3	2090	0.15	0	12	36	0	2.45	58	12.6	18.30	0.11	9.9
					60	13	36	60	2.62	62	12.3	18.00	0.09	10.3
					158	15	14	98	2.79	68	12.1	17.40	0.08	10.8
					226	16	22	68	2.87	76	14.4	17.10	0.11	10.9
					283	17	19	57	2.87	88	12.6	16.70	0.10	11.7
					345	18	21	62	2.88	100	12.8	16.30	0.12	11.8

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrient and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME SUM (min)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/l)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
STIL PD	4-MAY-86	BL			0	15	40	0	8.74	69	4.9	75.40	0.38	48.4
					55	16	35	55	8.72	77	5.2	73.70	0.37	43.9
					86	17	6	31	8.72	81	4.8	75.20	0.36	47.9
					116	17	36	30	8.69	89	5.0	75.10	0.36	47.7
					146	18	6	30	8.70	93	5.0	75.30	0.37	46.7
					219	19	19	73	8.68	101	4.8	75.50	0.37	46.3
		1	1810	0.13	0	15	40	0	8.42	70	6.3	72.70	0.36	43.0
					55	16	35	55	7.81	78	8.8	73.30	0.37	46.5
					86	17	6	31	7.55	82	8.4	72.60	0.37	45.9
					116	17	36	30	7.30	90	9.0	72.20	0.40	48.8
					146	18	6	30	7.08	94	9.6	72.60	0.39	43.9
					219	19	19	73	6.55	102	10.8	72.00	0.42	48.5
		2	1935	0.14	0	15	40	0	8.55	71	5.8	73.60	0.37	46.1
					55	16	35	55	7.98	79	7.8	74.20	0.40	48.7
					86	17	6	31	7.70	83	7.5	71.10	0.39	47.1
					116	17	36	30	7.45	91	7.8	72.40	0.42	48.9
					146	18	6	30	7.16	95	8.4	72.80	0.41	48.9
					219	19	19	73	6.69	103	9.1	71.60	0.40	52.8
		3	1880	0.14	0	15	40	0	8.76	72	6.3	74.30	0.37	40.4
					55	16	35	55	8.38	80	6.4	74.30	0.35	48.3
					86	17	6	31	8.17	84	6.8	73.40	0.38	49.1
					116	17	36	30	7.97	92	7.0	73.30	0.35	50.2
					146	18	6	30	7.81	96	7.6	71.90	0.36	49.6
					219	19	19	73	7.44	104	8.4	66.40	0.41	48.2

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrint and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM)	HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/L)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
SONE B														
ST.LEO	26-JUNE-86	B												
					0	8	52	0	5.97	208	6.0	1.66	0.08	61.4
					38	9	30	38	5.98	214	5.7	1.66	0.10	61.9
					68	10	0	30	5.98	218	5.1	1.43	0.07	61.5
					98	10	30	30	6.01	224	5.2	1.43	0.06	61.3
					138	11	10	40	6.09	232	5.0	1.67	0.09	63.5
					198	12	10	60	6.15	244	6.7	1.40	0.08	61.2
		1	2140	0.15	0	8	52	0	6.74	209	4.4	1.34	0.11	67.2
					38	9	30	38	6.12	215	5.9	1.48	0.11	63.0
					68	10	0	30	5.68	219	5.6	1.41	0.10	66.9
					98	10	30	30	5.36	225	6.2	1.52	0.08	67.2
					138	11	10	40	4.93	233	6.7	1.59	0.10	71.5
					198	12	10	60	4.42	245	8.2	1.80	0.10	71.0
		2	1960	0.14	0	8	52	0	6.18	210	5.4	1.43	0.09	64.7
					38	9	30	38	5.56	216	6.3	1.57	0.11	65.3
					68	10	0	30	5.10	220	7.4	1.58	0.24	69.8
					98	10	30	30	4.71	226	7.7	1.64	0.09	68.7
					138	11	10	40	4.21	234	8.5	1.76	0.13	73.8
					198	12	10	60	3.63	246	9.7	1.95		73.4
		3	2190	0.16	0	8	52	0	6.57	211	4.7	1.39	0.10	64.4
					38	9	30	38	5.89	217	6.2	1.59	0.12	66.2
					68	10	0	30	5.45	221	7.4	1.58	0.11	68.3
					98	10	30	30	5.10	227	7.6	1.59	0.18	68.4
					138	11	10	40	4.55	235	8.7	1.82	0.13	74.7
					198	12	10	60	3.97	247	10.0	1.92	0.18	73.7

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrint and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/L)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
BU.VISTA	26-JUNE-86	B												
					0	11	0	0	5.94	228	2.3	0.92	1.17	78.1
					30	11	30	30	5.94	236	2.3	1.00	1.47	80.7
					60	12	0	30	5.94	240	2.4	0.95	1.21	78.3
					90	12	30	30	5.95	248	2.2	0.97	1.23	79.3
					120	13	0	30	5.96	252	2.2	0.97	1.28	79.6
					180	14	0	60	5.98	256	3.0	1.01	1.24	81.5
		1	1950	0.14	0	11	0	0	5.34	229	1.6	0.86	1.33	79.1
					30	11	30	30		237	3.2	0.78	1.28	81.7
					60	12	0	30	5.24	241	5.4	1.34	1.58	85.6
					90	12	30	30	4.81	249	6.1	1.58	1.73	86.9
					120	13	0	30	4.49	253	6.4	1.34	1.58	91.0
					180	14	0	60	3.87	257	9.8	2.09	1.86	92.4
		2	1900	0.14	0	11	0	0	6.05	230	2.9	1.01	1.24	81.5
					30	11	30	30	5.35	238	3.2	1.06	1.28	81.2
					60	12	0	30	4.75	242	5.4	1.50	1.53	87.1
					90	12	30	30	4.65	250	7.4	1.85	1.69	90.2
					120	13	0	30	3.94	254	8.2	1.81	1.80	91.1
					180	14	0	60	3.22	258	12.6	2.32	2.13	94.8
		3	1980	0.14	0	11	0	0	6.12	231	2.6	1.02	1.30	81.8
					30	11	30	30	5.53	239	4.1	1.16	1.40	84.1
					60	12	0	30	5.06	243	5.6	1.39	1.56	84.9
					90	12	30	30	4.30	251	7.4	1.43	1.69	90.9
					120	13	0	30	4.32	255	8.5	1.67	1.87	90.2
					180	14	0	60	3.60	259	11.5	2.12	2.12	94.9

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrint and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/L)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
HORN PT	25-JUNE-86	B												
					0	14	10	0	7.11	156	0.7	0.16	0.13	61.6
					33	14	43	33	7.11	162	0.8	0.23	0.15	61.1
					60	15	10	27	7.10	166	1.1	0.18	0.13	59.7
					90	15	40	30	7.11	170	0.8	0.15	0.14	60.3
					120	16	10	30	7.10	175	0.8	0.19	0.13	59.1
					185	17	15	65	7.11	188	1.0	0.20	0.14	58.8
		1	1830	0.13	0	14	10	0	6.89	157	1.3	0.26	0.14	63.4
					33	14	43	33	6.29	163	2.3	0.42	0.17	64.4
					60	15	10	27	5.86	167	3.1	0.62	0.19	68.7
					90	15	40	30	5.43	171	4.0	0.67	0.20	71.3
					120	16	10	30	5.06	176	4.9	0.76	0.20	70.5
					185	17	15	65	4.23	189	7.0	1.10	0.24	78.8
		2	1770	0.13	0	14	10	0	6.78	158	1.8	0.47	0.19	63.8
					33	14	43	33	6.05	164	3.5	0.42	0.24	66.5
					60	15	10	27	5.51	168	4.4	0.67	0.26	70.5
					90	15	40	30	4.98	172	5.8	0.81	0.29	74.0
					120	16	10	30	4.53	177	6.5	0.91	0.30	73.1
					185	17	15	65	3.62	190	8.7	1.18	0.33	81.5
		3	1740	0.13	0	14	10	0	6.72	159	1.7	0.27	0.16	65.6
					33	14	43	33	6.10	165	3.0	0.53	0.19	65.5
					60	15	10	27	5.67	169	3.8	0.65	0.19	69.6
					90	15	40	30	5.30	173	4.7	0.87	0.21	71.2
					120	16	10	30	5.03	178	4.9	0.92	0.20	72.8
					185	17	15	65	4.29	191	6.7	1.26	0.23	80.2

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrint and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM)	TIME OF SAMPLE HR	MIN	DELTA TIME (min)	DO (MG/L)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
WIND HILL	25-JUNE-86	B			0	16	30	0	6.10	180	1.6	11.30	1.55	62.0
					30	17	0	30	6.10	184	1.2	11.20	1.58	59.7
					60	17	30	30	6.13	192	1.5	11.10	1.55	64.0
					90	18	0	30	6.12	196	1.5	10.50	1.47	63.5
					120	18	30	30	6.12	200	1.4	11.20	1.53	65.3
					180	19	30	60	6.12	204	3.6	11.40	1.74	62.0
		1	1950	0.14	0	16	30	0	5.91	181	3.2	11.10	1.62	67.3
					30	17	0	30	5.46	185	5.4	11.20	1.69	67.5
					60	17	30	30	5.16	193	7.0	11.50	1.76	72.1
					90	18	0	30	4.86	197	8.6	11.60	1.81	72.7
					120	18	30	30	4.60	201	9.1	11.60	1.85	76.7
					150	19	0	30	4.01					
					180	19	30	30	4.09	205	12.6	12.70	2.27	80.8
		2	1790	0.13	0	16	30	0	6.00	182	3.6	11.20	1.72	66.9
					30	17	0	30	5.63	186	5.3	11.30	1.70	67.2
					60	17	30	30	5.01	194	5.9	11.40	1.74	69.3
					90	18	0	30	4.62	198	8.0	11.80	1.88	74.7
					120	18	30	30	4.30	202	8.7	11.80	1.90	77.3
					180	19	30	60	3.72	206	13.6	12.10	2.12	74.6
		3	1860	0.13	0	16	30	0	6.00	183	3.1	11.20	1.63	67.7
					30	17	0	30	5.45	187	4.6	11.30	1.74	68.0
					60	17	30	30	5.12	195	5.9	11.50	1.78	71.0
					90	18	0	30		199	5.5	11.60	1.78	72.2
					120	18	30	30	4.83	203	6.2	11.80	1.79	71.9
					180	19	30	60	4.22	207	9.7	12.30	1.91	77.4

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrint and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM)	HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/L)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
RAG PT	23-JUNE-86	B			0	11	20	0	4.07	3	9.0	0.71	0.21	30.8
					40	12	0	40	4.26	7	8.9	0.69	0.28	39.4
					84	12	44	44	4.27	11	9.6		0.22	39.0
					135	13	35	51	4.16	17	9.5	0.70	0.16	41.3
					170	14	10	35	4.12	21		0.57	0.14	39.3
					220	15	0	50	4.15	25	9.1	0.57	0.13	40.7
		1	2360	0.17	0	11	20	0	4.00	4	14.9	0.79	0.72	41.4
					40	12	0	40	3.95	8	19.9	0.62	0.82	44.8
					84	12	44	44	4.09	12	21.7	0.41	0.70	46.3
					135	13	35	51		18	25.2	0.38	0.76	47.7
					170	14	10	35	4.09	22	27.0	0.50	0.79	48.2
					220	15	0	50	3.91	26	29.2	0.44	0.89	49.5
		2	1800	0.13	0	11	20	0	3.04	5	17.3	0.57	0.54	42.9
					40	12	0	40	2.54	9	22.4	0.46	0.72	47.7
					84	12	44	44	2.01	13	28.6	0.41	0.87	48.5
					135	13	35	51	1.50	19	32.9	0.25	1.09	50.4
					170	14	10	35	1.42	23	37.5	0.27	1.31	52.5
					220	15	0	50	1.30	27	41.4	0.24	1.51	53.2
		3	1740	0.13	0	11	20	0	3.32	6	12.0	0.51	0.53	43.7
					40	12	0	40		10	14.3	0.42	0.67	47.4
					84	12	44	44	3.07	14	16.1	0.41	0.69	49.8
					135	13	35	51	2.89	20	17.3	0.39	0.72	51.5
					170	14	10	35	2.76	24	19.1	0.36	0.91	55.8
					220	15	0	50	2.61	28	20.6	0.34	1.09	58.3

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES (SONE)
SEDFLUX (Nutrint and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM)	HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/L)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
MD PT	23-JUNE-86	B			0	15	25	0	5.29	29	4.7	24.40	1.17	38.4
					45	16	10	45	5.35	33	4.4	24.80	1.29	39.4
					85	16	50	40	5.39	37	4.1	25.00	1.31	40.2
					125	17	30	40	5.41	41	4.6	24.90	1.30	38.8
					170	18	15	45	5.44	45	4.0	25.00	1.31	39.3
					230	19	15	60	5.51	49	4.0	24.70	1.30	37.5
		1	2180	0.16	0	15	25	0	4.92	30	4.7	24.20	1.33	42.4
					45	16	10	45	4.38	34	5.7	23.90	1.35	44.8
					85	16	50	40	3.95	38	6.9	24.20	1.44	47.4
					125	17	30	40	3.62	42	6.2	21.50	1.33	44.6
					170	18	15	45	3.32	46	7.6	23.70	1.43	50.3
					230	19	15	60	2.98	50	7.7	22.90	1.43	49.6
		2	2040	0.15	0	15	25	0	4.73	31	5.6	23.60	1.47	43.4
					45	16	10	45	3.21	35	6.4	23.40	1.42	45.0
					85	16	50	40	3.80	39	7.4	23.20	1.49	47.7
					125	17	30	40	3.45	43	7.9	22.50	1.49	49.1
					170	18	15	45	3.12	47	8.3	22.70	1.46	50.7
					230	19	15	60	2.72	51	8.9	22.30	1.48	52.4
		3	1980	0.14	0	15	25	0	4.85	32	5.4	23.70	1.38	43.3
					45	16	10	45	4.41	36	6.5	23.00	1.38	44.9
					85	16	50	40	4.11	40	6.5	22.90	1.42	46.9
					125	17	30	40	3.82	44	7.4	22.80	1.45	47.9
					170	18	15	45	3.50	48		23.00	1.50	49.9
					230	19	15	60	3.29	52	8.1	22.20	1.42	50.2

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrint and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM)	TIME OF SAMPLE HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/L)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
PT NO PT	24-JUNE-86	B			0	9	15	0	2.73	53	12.3	2.40	0.13	30.6
					45	10	0	45	2.80	59	12.1	2.19	0.12	29.3
					105	11	0	60	2.92	63	12.0	2.24	0.12	29.6
					165	12	0	60	3.02	67		2.26	0.12	29.7
					235	13	10	70	3.12	77	12.2	2.22	0.13	30.1
					300	14	15	65	3.22	85	12.2	2.23	0.12	29.5
		1	2000	0.14	0	9	15	0	2.88	54	13.4	2.31	0.17	31.8
					45	10	0	45	2.88	60	13.6	2.24	0.22	35.3
					105	11	0	60	2.82	64	14.8	2.49	0.26	38.3
					165	12	0	60	2.78	68	15.4	2.34	0.29	39.8
					235	13	10	70	2.65	78	17.4	2.35	0.35	46.6
					300	14	15	65	2.54	86	19.1	2.39	0.37	50.2
		2	2075	0.15	0	9	15	0	2.84	55	13.0	2.24	0.19	32.9
					45	10	0	45	2.73	61	13.4	2.24	0.20	35.6
					105	11	0	60	2.50	65	14.8	2.18	0.24	38.8
					165	12	0	60	2.37	69	16.0	2.14	0.25	41.4
					235	13	10	70	2.22	79	17.6	2.11	0.29	44.4
					300	14	15	65	2.10	87	18.1	2.11	0.29	48.0
		3	2100	0.15	0	9	15	0	2.87	56	13.3	2.17	0.14	32.0
					45	10	0	45	2.86	62	13.3	2.22	0.19	34.6
					105	11	0	60	2.81	66	14.0	2.18	0.21	38.3
					165	12	0	60	2.76	70	15.1	2.14	0.23	41.9
					235	13	10	70	2.68	80	16.2	2.21	0.26	44.8
					300	14	15	65	2.61	88	16.3	2.18	0.26	45.7

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES (SONE)
SEDFLUX (Nutrint and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM)	HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/L)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-64	24-JUNE-86	B			0	12	51	0	0.23	72	23.4	2.70	0.56	39.1
					69	14	0	69	0.37	81	32.1	2.70	0.56	38.7
					119	14	50	50	0.47	89	32.1	2.68	0.55	40.6
					164	15	35	45	0.56	93	23.5	2.78	0.53	38.6
					224	16	35	60	0.99	97	23.8	2.69	0.57	38.9
					309	18	0	85		101	38.6	2.71	0.57	38.0
		1	1815	0.13	0	12	51	0		73	28.5	2.06	1.11	42.9
					69	14	0	69	0.44	82	33.9	1.77	1.62	49.4
					119	14	50	50	0.46	90	37.4	1.11	2.11	54.4
					164	15	35	45	0.44	94	41.0	0.90	2.49	58.4
					224	16	35	60	0.40	98	44.5	0.73	3.14	64.1
					309	18	0	85	0.36	102	49.0	0.49	3.63	67.1
		2	1930	0.14	0	12	51	0		74	37.9	2.33	1.06	45.1
					69	14	0	69	0.63	83	33.1	2.00	1.79	51.9
					119	14	50	50	0.63	91	37.7	1.47	2.45	62.6
					164	15	35	45	0.60	95	51.3	1.29	2.85	63.4
					224	16	35	60	0.55	99	43.4	1.10	3.44	71.9
					309	18	0	85	0.51	103	48.2	0.82	4.09	76.5
		3	1860	0.13	0	12	51	0		75	27.9	2.23	1.39	42.6
					69	14	0	69	0.71	84	23.8	1.59	2.51	47.3
					119	14	50	50	0.86	92	37.1	1.25	3.48	50.7
					164	15	35	45	0.93	96	39.5	1.02	3.92	52.8
					224	16	35	60	0.91	100	31.2			44.7
					309	18	0	85		104	39.3	1.11	3.45	50.6

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrint and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM)	HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/L)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
R-78	24-JUNE-86	B			0	20	0	0	1.28	107	19.8	4.27	0.28	41.0
					60	21	0	60	1.40	111	19.9	4.32	0.27	40.7
					120	22	0	60	1.52	115	19.7	4.21	0.26	41.5
					180	23	0	60	1.65	119	20.8	4.70	0.95	41.3
					240	24	0	60		123	19.8	4.26	0.28	40.6
		1	2080	0.15	0	20	0	0	1.35	108	21.3	4.03	0.47	42.8
					60	21	0	60	1.33	112	23.4	3.55	0.66	46.0
					120	22	0	60	1.23	116	23.9	3.07	0.87	48.3
					180	23	0	60	1.09	120	27.8	2.73	1.34	50.6
					240	24	0	60	0.96	124	29.8	2.46	1.92	53.3
					300	25	0	60	0.86	127	32.1	2.06	2.04	54.1
		2	2340	0.17	0	20	0	0	1.99	109	20.6	4.28	0.40	42.9
					60	21	0	60	1.75	113	23.8	3.47	0.85	48.6
					120	22	0	60	1.53	117	26.2	3.02	1.29	53.0
					180	23	0	60	1.29	121	28.3	2.62	1.90	56.4
					240	24	0	60	1.08	125	28.8	2.02	1.86	58.0
					300	25	0	60	0.93	128	23.5	1.67	2.42	58.9
		3	2200	0.16	0	20	0	0	1.61	110	21.1	4.20	0.42	43.5
					60	21	0	60	1.64	114	23.4	3.85	0.73	45.7
					120	22	0	60	1.61	118	25.3	3.27	0.93	48.0
					180	23	0	60	1.57	122	27.4	2.98	1.14	51.4
					240	24	0	60	1.56	126	29.3	2.74	1.45	53.3
					300	25	0	60	1.52	129	31.4	2.49	1.60	53.8

BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGES(SONE)
SEDFLUX (Nutrint and oxygen concentrations in the sediment microcosms at SONE stations)

STATION	DATE	CORE NO.	CORE VOL (ML)	CORE H2O HEIGHT (M)	TIME (SUM)	HR	TIME OF SAMPLE MIN	DELTA TIME (min)	DO (MG/L)	AA VIAL NO.	NH4 (uM-N)	NO3+NO2 (uM-N)	DIP (uM-P)	SI(OH)4 (uM-SI)
STIL PD	25-JUNE-86	B			0	9	45	0	6.67	130	4.3	54.90	0.66	53.3
					40	10	25	40	6.66	136	4.2	54.90	0.72	52.7
					75	11	0	35	6.66	140	5.1	55.00	0.70	51.7
					105	11	30	30	6.67	144	4.1	55.00	0.69	51.5
					135	12	0	30	6.69	148	4.1	54.70	0.64	53.4
					195	13	0	60	6.71	152	4.0	55.10	0.66	53.1
		1	1840	0.13	0	9	45	0	6.78	131	4.8	54.80	0.71	54.7
					40	10	25	40	6.13	137	5.5	54.60	0.77	54.7
					75	11	0	35	5.55	141	6.8	54.80	0.83	57.1
					105	11	30	30	5.15	145	7.3	55.00	0.83	57.7
					135	12	0	30	4.86	149	7.5	55.00	0.87	58.7
					195	13	0	60	4.24	153	8.3	55.00	0.92	61.2
		2	1900	0.14	0	9	45	0	6.54	132	4.3	54.70	0.70	55.4
					40	10	25	40	5.93	138	4.7	54.60	0.71	56.0
					75	11	0	35	5.47	142	5.0	54.70	0.78	56.6
					105	11	30	30	5.14	146	4.8	54.70	0.73	55.3
					135	12	0	30	4.87	150	4.8	54.90	0.80	57.1
					195	13	0	60	4.28	154	4.7	55.00	0.84	56.8
		3	1300	0.09	0	9	45	0	6.51	133	5.1	54.70	0.74	53.3
					40	10	25	40	5.92	139	5.7	54.40	0.78	55.1
					75	11	0	35	5.49	143	5.7	54.60	0.75	57.3
					105	11	30	30	5.19	147	6.3	54.80	0.79	57.4
					135	12	0	30	4.97	151	6.1	54.90	0.79	57.5
					195	13	0	60	4.50	155	6.6	54.80	0.84	58.7

LONG-TERM BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE(SONE) SUMMARY
SONEFLX(Summary of sediment-water exchanges expressed in units of mass/m2/time.
SONE 5

STATION	DATE	NO	CORE DEPTH (m)	m	O2 FLX flux (gO2/m2/d)	O2 flux mean	m	NH4 FLX flux (ug-atN/m2/h)	NH4 flux mean	m	NO3 FLX flux (ug-atN/m2/h)	NO3 flux mean
ST.LEO	22-AUG-85	1	0.22	-0.00250	-0.79	-0.77	0.00624	147.09	144.81	0.00198	26.15	43.00
		2	0.20	-0.00335	-0.96		0.00785	153.06		0.00247	29.64	
		3	0.20	-0.00193	-0.56		0.00629	134.29		0.00610	73.20	
BU.VISTA	22-AUG-86	1	0.22	-0.00193	-0.61	-0.70	0.01200	158.40	237.01			
		2	0.21	-0.00206	-0.62		0.02286	288.04				
		3	0.21	-0.00291	-0.88		0.02100	264.60				
HORN PT	21-AUG-85	1	0.21	-0.00232	-0.70	-0.92	0.01544	194.54	197.99	0.00265	33.39	29.61
		2	0.22	-0.00290	-0.92		0.01438	189.82		0.00197	25.96	
		3	0.22	-0.00364	-1.15		0.01588	209.62		0.00223	29.48	
WINDY HL		1										
		2										
		3										
RAGGED P	19-AUG-85	1	0.22	-0.00380	-1.21	-1.42	0.01495	197.37	226.54	0.00363	47.91	29.35
		2	0.28	-0.00504	-2.03		0.01908	320.54		0.00239	40.15	
		3	0.20	-0.00360	-1.04		0.01348	161.71		0.00000	.00	
MD PT	19-AUG-85	1	0.22	-0.00506	-1.60	-1.19	0.02600	220.00	289.96	0.00321	25.36	21.73
		2	0.22	-0.00296	-0.94		0.01758	108.86		0.00317	24.88	
		3	0.22	-0.00329	-1.04		0.05032	541.03		0.00242	14.94	
PT.NO PT	20-AUG-85	1	0.21	-0.00136	-0.41	-0.52	0.01710	215.46	213.92	0.00000	0.00	-24.24
		2	0.23	-0.00164	-0.54		0.01568	216.38		-0.00360	-49.68	
		3	0.24	-0.00177	-0.61					-0.00160	-23.04	
R-64	20-AUG-85	1	0.22	-0.00127	-0.40	-0.68	0.02508	331.06	377.57	-0.00112	-14.73	-4.91
		2	0.17	-0.00388	-0.95		0.04531	462.16		0.00000	0.00	
		3	0.20				0.02829	339.48		0.00000	0.00	
R-78	20-AUG-85	1	0.21	-0.00108	-0.33	-0.35	0.00787	99.19	82.65	0.00559	70.48	37.27
		2	0.22	-0.00116	-0.37		0.00419	55.32		0.00313	41.32	
		3	0.22				0.00708	93.44		0.00000	0.00	
STIL PD	21-AUG-85	1	0.22	-0.00250	-0.79	-0.68	0.00690	91.13	118.40			7.69
		2	0.23	-0.00160	-0.53		0.00552	76.22		0.00462	26.26	
		3	0.22	-0.00223	-0.71		0.01423	187.84		0.00189	-10.88	

LONG-TERM BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE(SONE) SUMMARY
SON LX(Summary of sediment-water exchanges expressed in units of mass/m2/time.
SO.. 5

			ug-atP/m2/h			ug-atSi/m2/h		
			PO4 FLX			SI FLX		
STA ON	DATE	NO	m	flux	PO4 flux mean	m	flux	Si flux mean
ST.LEO	22-AUG-85	1	-0.00012	-1.58	-2.16	0.00000	0.0	0.00
		2	-0.00029	-3.44		0.00000	0.0	
		3	-0.00012	-1.46		0.00000	0.0	
BU. STA	22-AUG-86	1	-0.00056	-14.45	3.36			84.00
		2	0.00250	24.74				
		3	0.00052	-0.21		0.00667	84.0	
HOR PT	21-AUG-85	1	0.00020	2.52	-0.05	0.01640	206.6	350.88
		2	0.00008	1.06		0.02437	321.7	
		3	-0.00028	-3.72		0.03972	524.3	
WIN.. HL		1						
		2						
		3						
RAGGED P	19-AUG-85	1	0.00000	0.00	0.00	0.00000	0.0	0.00
		2	0.00000	0.00		0.00000	0.0	
		3	0.00000	0.00		0.00000	0.0	
MD PT	19-AUG-85	1			32.93			267.30
		2	0.00250	33.00		0.02050	270.6	
		3	0.00249	32.87		0.02000	264.0	
PT. PT	20-AUG-85	1	-0.00011	-1.37	-3.07	0.04071	512.9	524.94
		2	0.00000	0.00		v.04366	602.5	
		3	-0.00055	-7.85		0.03190	459.4	
R 4	20-AUG-85	1	0.00050	3.08	26.86	0.03884	512.7	552.81
		2	0.00579	56.31		0.06527	665.8	
		3	0.00203	21.20		0.04000	480.0	
R .S	20-AUG-85	1	-0.00064	-4.16	-4.15	0.02203	277.6	342.45
		2	-0.00285	-33.54		0.02540	335.3	
		3	0.00161	25.26		0.03140	414.5	
STIL PD	21-AUG-85	1	0.00000	0.00	0.00	0.04260	562.3	247.58
		2	0.00000	0.00		0.01224	168.9	
		3	0.00000	0.00		0.00087	11.5	

LONG-TERM BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE(SONE) SUMMARY
SONEFLX(Summary of sediment-water exchanges expressed in units of mass/m2/time.
SONE 6

				gO2/m2/d			ug-atN/m2/h			ug-atN/m2/h		
			CORE	O2 FLX			NH4 FLX			NO3 FLX		
STATION	DATE	NO	DEPTH (m)	m	flux	O2 flux mean	m	flux	NH4 flux mean	m	flux	NO3 flux mean
ST.LEO	16-OCT-85	1	0.20	-0.00257	-0.68	-0.79	0.00679	81.48	77.48	0.00449	32.75	14.15
		2	0.20	-0.00366	-1.00		0.00987	118.39		0.00217	4.92	
		3	0.17	-0.00307	-0.70		0.00319	32.57		0.00223	4.79	
BU.VISTA	16-OCT-85	1	0.17	-0.00877	-1.89	-1.78	0.02138	218.08	188.60	0.00268	27.38	26.26
		2	0.17	-0.00601	-1.22		0.01325	135.15		0.00345	35.19	
		3	0.17	-0.01016	-2.23		0.02084	212.57		0.00159	16.22	
HORN PT	15-OCT-85	1	0.20	-0.00420	-1.05	-1.11	0.01823	248.26	230.74	0.00411	49.30	41.62
		2	0.21	-0.00423	-1.11		0.01238	186.96		0.00277	34.94	
		3	0.21	-0.00446	-1.18		0.01794	257.01		0.00322	40.61	
WINDY HL	15-OCT-85	1	0.17	-0.00810	-1.83	-2.15	0.01319	134.54	186.15	0.00811	82.76	89.79
		2	0.18	-0.00838	-2.01		0.01809	195.37		0.00934	100.92	
		3	0.18	-0.01068	-2.61		0.02116	228.53		0.00793	85.68	
RAGGED P	17-OCT-85	1	0.21	-0.00185	-0.84	-0.86	0.03211	404.59	409.21	0.00000	0.00	0.00
		2	0.19	-0.00214	-0.84		0.03448	393.07		0.00000	0.00	
		3	0.20	-0.00217	-0.89		0.03583	429.96		0.00000	0.00	
MD PT	17-OCT-85	1	0.22	-0.00672	-2.13	-2.07	0.04124	544.37	404.72	-0.00567	-82.96	-58.06
		2	0.23	-0.00582	-1.93		0.02102	290.08		-0.00226	-39.79	
		3	0.24	-0.00620	-2.14		0.02637	379.73		-0.00295	-51.42	
PT.NO PT	14-OCT-85	1	0.19	-0.00227	-0.78	-1.05	0.00874	81.40	72.83	0.00218	24.84	20.21
		2	0.22	-0.00311	-1.17		0.00896	97.09		0.00096	12.68	
		3	0.22	-0.00326	-1.22		0.00463	40.00		0.00175	23.11	
R-64	14-OCT-85	1	0.16	-0.00280	-1.44	-1.40	0.03737	358.75	348.12	-0.00079	-7.62	-13.52
		2	0.17	-0.00304	-1.58		0.03800	387.60		-0.00222	-22.66	
		3	0.19	-0.00089	-1.18		0.02614	298.00		-0.00090	-10.28	
R-78	14-OCT-85	1	0.19	-0.00025	-0.63	-0.74	0.01034	84.47	85.06	0.00000	50.62	52.39
		2	0.21	-0.00082	-0.86		0.00915	78.36		0.00000	55.94	
		3	0.19				0.01103	92.34		0.00000	50.62	
STIL PD	15-OCT-85	1	0.18	-0.00361	-0.89	-0.78	0.00556	87.19	68.83	-0.00126	-63.67	-45.43
		2	0.19	-0.00260	-0.66		0.00308	63.76		0.00158	-34.83	
		3	0.19	-0.00303	-0.78		0.00236	55.55		0.00132	-37.80	

LONG-TERM BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE(SONE) SUMMARY
SONEFLX(Summary of sediment-water exchanges expressed in units of mass/m2/time.
SONE 6

			ug-atP/m2/h			ug-atSi/m2/h		
			PO4 FLX			SI FLX		
STATION	DATE	NO	m	flux	PO4 flux mean	m	flux	Si flux mean
ST.LEO	16-OCT-85	1	0.00077	8.46	7.54	0.02121	254.5	268.28
		2	0.00068	7.44		0.02404	288.5	
		3	0.00072	6.72		0.02567	261.8	
BU.VISTA	16-OCT-85	1	0.00248	25.30	25.70	0.02948	300.7	280.43
		2	0.00159	16.17		0.02537	258.8	
		3	0.00349	35.63		0.02763	281.8	
HORN PT	15-OCT-85	1	0.00231	27.66	24.33	0.03218	386.2	382.44
		2	0.00182	22.92		0.02818	355.1	
		3	0.00178	22.42		0.03223	406.1	
WINDY HL	15-OCT-85	1	0.00368	41.85	35.93	0.03303	336.9	434.57
		2	0.00247	31.24		0.04466	482.3	
		3	0.00279	34.70		0.04486	484.5	
RAGGED P	17-OCT-85	1	0.00000	0.00	1.73	0.03054	384.8	360.86
		2	0.00045	5.18		0.03122	355.9	
		3	0.00000	0.00		0.02849	341.9	
MD PT	17-OCT-85	1	0.00021	2.80	5.01	0.03590	607.2	487.55
		2	0.00051	7.08		0.01880	398.8	
		3	0.00036	5.17		0.02161	456.6	
PT.NO PT	14-OCT-85	1	0.00022	2.55	2.12	0.03076	350.7	399.46
		2	0.00000	0.00		0.03248	428.7	
		3	0.00029	3.79		0.03174	419.0	
R-64	14-OCT-85	1	0.00070	6.68	7.12	0.06865	659.0	606.15
		2	0.00082	8.39		0.06238	636.3	
		3	0.00055	6.28		0.04589	523.1	
R-78	14-OCT-85	1	0.00000	-2.71	0.04	0.03135	357.4	276.00
		2	0.00039	1.92		0.01655	208.5	
		3	0.00032	0.91		0.02299	262.1	
STIL PD	15-OCT-85	1	0.00000	0.00	1.28	0.01733	178.6	141.85
		2	0.00034	3.85		0.01228	130.9	
		3	0.00000	0.00		0.01097	116.0	

LONG-TERM BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE(SONE) SUMMARY
SONEFLX(Summary of sediment-water exchanges expressed in units of mass/m2/time.

SONE 7

				gO2/m2/d			ug-atN/m2/h		
			CORE DEPTH	O2 FLX			NH4 FLX		
STATION	DATE	No	(m)	m	flux	mean	m	flux	mean
ST.LEO	8-MAY-86	1	0.14	-0.005160	-1.07	-1.14	0.003600	31.08	36.53
		2	0.15	-0.005910	-1.31		0.005070	46.51	
		3	0.16	-0.004540	-1.05		0.003340	32.01	
BU.VISTA	8-MAY-86	1	0.13	-0.019700	-3.45	-3.23	0.013800	90.86	92.48
		2	0.14	-0.018000	-3.40		0.014900	108.26	
		3	0.14	-0.015400	-2.84		0.011500	78.31	
HORN PT	3-MAY-86	1	0.14	-0.004440	-0.73	-0.92	0.005980	50.85	57.98
		2	0.13	-0.006430	-1.08		0.010300	83.36	
		3	0.14	-0.005550	-0.94		0.004770	39.74	
WIND HIL	3-MAY-86	1	0.14	-0.007520	-1.25	-0.99	0.007120	61.47	58.10
		2	0.14	-0.005010	-0.71		0.010000	83.74	
		3	0.16	-0.005990	-1.00		0.003120	29.09	
RAG PT	6-MAY-86	1	0.14	-0.012000	-2.44	-2.35	0.071000	546.60	389.57
		2	0.13	-0.010000	-1.97		0.046000	329.96	
		3	0.14	-0.013000	-2.62		0.040000	292.14	
MD PT	7-MAY-86	1	0.13	-0.006750	-1.46	-1.35	0.009880	78.68	89.56
		2	0.13	-0.005880	-1.28		0.014500	114.23	
		3	0.14	-0.005660	-1.33		0.008980	75.78	
PT NO PT	5-MAY-86	1	0.13	-0.005530	-0.91	-1.03	0.008420	66.15	64.95
		2	0.12	-0.006580	-1.05		0.009220	68.85	
		3	0.13	-0.006750	-1.13		0.007660	59.85	
R-64	5-MAY-86	1	0.14	-0.004810	-1.07	-0.81	0.029600	240.21	194.78
		2	0.12	-0.003210	-0.67		0.014300	102.16	
		3	0.14	-0.002820	-0.71		0.028600	241.97	
R-78	4-MAY-86	1	0.14	-0.000989	-1.10	-0.79			28.42
		2	0.16	0.001600	-0.61		0.003020	28.42	
		3	0.15	0.001240	-0.66				
STIL PD	4-MAY-86	1	0.13	-0.008410	-1.53	-1.43	0.020600	160.95	122.73
		2	0.14	-0.008520	-1.65		0.015000	125.29	
		3	0.14	-0.006040	-1.12		0.010100	81.96	

LONG-TERM BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE(SONE) SUMMARY
SON LX(Summary of sediment-water exchanges expressed in units of mass/m2/time.

SONE 7

			ug-atN/m2/h			ug-atP/m2/h			ug-atSi/m2/h		
			NO3 FLX			PO4 FLX			SI FLX		
ST ION	DATE	No	m	flux	mean	m	flux	mean	m	flux	mean
ST LEO	8-MAY-86	1	-0.006510	-45.76	-44.72	0.000000	1.29	1.96	0.031600	239.5	229.99
		2	-0.007370	-56.50		0.000095	2.25		0.031200	250.8	
		3	-0.004540	-31.91		0.000093	2.32		0.024700	199.7	
BL ISTA	8-MAY-86	1	0.004530	35.98	41.77	0.000878	6.97	8.29	0.075800	602.0	603.80
		2	0.005890	50.85		0.001060	9.15		0.071700	619.0	
		3	0.004490	38.47		0.001020	8.74		0.068900	590.4	
HO PT	3-MAY-86	1	-0.007670	-65.22	-59.86	0.000260	2.21	1.91	0.024800	227.3	336.20
		2	-0.008150	-65.96		0.000564	4.56		0.046400	391.2	
		3	-0.005810	-48.40		-0.000125	-1.04		0.044900	390.1	
WI HIL	3-MAY-86	1	-0.014000	-120.86	-107.55	0.001840	18.17	11.15	0.041000	354.0	223.28
		2	-0.008510	-71.26		0.000500	6.41		0.011000	92.1	
		3	-0.014000	-130.53		0.000688	8.89		0.024000	223.8	
RAG PT	6-MAY-86	1	-0.022000	-179.48	-110.96	0.000610	4.98	2.83	0.056000	456.9	412.37
		2	-0.009350	-73.45		0.000448	3.52		0.058000	455.7	
		3	-0.009850	-79.93		0.000000	0.00		0.040000	324.6	
MD PT	7-MAY-86	1	-0.004290	-8.04	-3.73	0.000457	3.64	10.23	0.021700	172.8	175.97
		2	-0.003530	-1.97		0.003260	25.68		0.024400	192.2	
		3	-0.003420	-1.18		0.000161	1.36		0.019300	162.9	
PT D PT	5-MAY-86	1	-0.004230	-33.23	-37.00	0.000000	0.00	0.00	0.025000	196.4	197.64
		2	-0.004880	-36.44		0.000000	0.00		0.026000	194.2	
		3	-0.005290	-41.33		0.000000	0.00		0.025900	202.4	
64	5-MAY-86	1	-0.007060	-57.29	-58.95	0.000210	1.70	0.22	0.051000	413.9	397.26
		2	-0.007120	-50.86		0.000291	2.08		0.047900	342.2	
		3	-0.008120	-68.70		-0.000368	-3.11		0.051500	435.7	
78	4-MAY-86	1	-0.008040	-69.41	-57.54	0.000000	0.00	0.00	0.011400	112.2	100.58
		2	-0.005460	-51.38		0.000000	0.00		0.011700	125.2	
		3	-0.005760	-51.84		0.000000	0.00		0.005550	64.4	
STIL PD	4-MAY-86	1	-0.004140	-32.35	-78.43	0.000280	2.19	1.56	0.018200	220.3	285.48
		2	-0.009220	-77.01		0.000138	1.15		0.027200	310.7	
		3	-0.015520	-125.95		0.000165	1.34		0.030100	325.4	

LONG-TERM BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE(SONE) SUMMARY
SONEFLX(Summary of sediment-water exchanges expressed in units of mass/m2/time.

SONE 8

STATION	DATE	FLUX	BLANK SLOPE	BLANK R	CORE 1 SLOPE	CORE 1 R	CORE 1 HT,M	CORE 2 SLOPE	CORE 2 R	CORE 2 HT,M	CORE 3 SLOPE	CORE 3 R	CORE 3 HT,M
ST.LEO	26-JUNE-86	O2	0.00098	0.948	-0.01200	-0.990	0.15	-0.01300	-0.994	0.14	-0.01300	-0.994	0.16
		NH4	0.00750	-0.915	0.01700	0.961	0.15	0.02100	0.992	0.14	0.02600	0.985	0.16
		NO3	0.00000	-0.513	0.00214	0.948	0.15	0.00249	0.986	0.14	0.00256	0.957	0.16
		PO4	0.00000	-0.019	0.00000	-0.405	0.15	0.00000	0.615	0.14	0.00036	0.914	0.16
		SI	-0.00010	-0.900	0.02400	0.800	0.15	0.05000	0.919	0.14	0.05300	0.927	0.16
BU.VISTA	26-JUNE-86	O2	0.00023	0.944	-0.00860	0.964	0.14	-0.01500	-0.988	0.14	-0.01400	-0.975	0.14
		NH4	0.00000	-0.567	0.04300	0.982	0.14	0.05500	0.989	0.14	0.04950	0.999	0.14
		NO3	0.00000	0.648	0.00685	0.920	0.14	0.00758	0.973	0.14	0.00599	0.989	0.14
		PO4	0.00000	0.775	0.00307	0.888	0.14	0.00515	0.992	0.14	0.00469	0.998	0.14
		SI	0.00000	0.048	0.07700	0.972	0.14	0.08100	0.962	0.14	0.07400	0.967	0.14
HORN PT	25-JUNE-86	O2	0.00000	-0.102	-0.01400	-0.997	0.13	-0.01690	-0.994	0.13	-0.01280	-0.991	0.13
		NH4	0.00000	0.453	0.03100	0.999	0.13	0.03660	0.994	0.13	0.02580	0.988	0.13
		NO3	0.00021	0.980	0.00435	0.989	0.13	0.00386	0.999	0.13	0.00517	0.990	0.13
		PO4	0.00000	0.058	0.00049	0.969	0.13	0.00072	0.962	0.13	0.00033	0.927	0.13
		SI	-0.01500	-0.913	0.08200	0.970	0.13	0.09250	0.979	0.13	0.08100	0.978	0.13
WIND HILL	25-JUNE-86	O2	0.00000	-0.102	0.01100	-0.984	0.14	-0.01300	-0.990	0.13	-0.00903	-0.978	0.13
		NH4	0.00000	0.605	0.05000	0.992	0.14	0.05300	0.983	0.13	0.03200	0.950	0.13
		NO3	0.00000	0.068	-0.00819	0.930	0.14	0.00529	0.973	0.13	0.00605	0.937	0.13
		PO4	0.00000	0.539	0.00332	0.939	0.14	0.00235	0.955	0.13	0.00130	0.937	0.13
		SI	0.00000	0.351	0.08000	0.983	0.14	0.04500	0.992	0.13	0.05200	0.964	0.13
RAG PT	23-JUNE-86	O2	0.00000	-0.102	-0.00035	-0.915	0.17	-0.01140	-0.999	0.13	-0.00327	-0.999	0.13
		NH4	0.00000	0.286	0.06230	0.985	0.17	0.11000	0.996	0.13	0.03790	0.993	0.13
		NO3	-0.00065	-0.832	-0.00152	0.852	0.17	-0.00148	0.984	0.13	-0.00068	-0.935	0.13
		PO4	-0.00058	-0.831	0.00136	0.630	0.17	0.00443	0.997	0.13	0.00240	0.986	0.13
		SI	0.00000	0.500	0.03770	0.958	0.17	0.04370	0.957	0.13	0.06450	0.990	0.13
MD PT	23-JUNE-86	O2	0.00089	0.990	-0.00837	-0.987	0.16	-0.00873	-0.992	0.15	-0.00685	-0.988	0.14
		NH4	0.00000	-0.731	0.01330	0.964	0.16	0.01430	0.979	0.15	0.01220	0.961	0.14
		NO3	0.00000	0.424	-0.00502	-0.874	0.16	-0.00568	0.998	0.15	-0.00582	-0.951	0.14
		PO4	0.00000	0.327	0.00048	0.973	0.16	0.00000	-0.018	0.15	0.00035	0.643	0.14
		SI	0.00000	-0.399	0.03290	0.928	0.16	0.04020	0.990	0.15	0.03860	0.997	0.14
PT NO PT	24-JUNE-86	O2	0.00164	0.998	-0.00134	-0.984	0.14	-0.00250	-0.992	0.15	-0.00090	-0.989	0.15
		NH4	0.00000	0.033	0.01920	0.981	0.14	0.01850	0.992	0.15	0.01770	0.975	0.15
		NO3	0.00000	-0.494	0.00037	0.826	0.14	-0.00056	-0.997	0.15	0.00000	-0.036	0.15
		PO4	0.00000	-0.164	0.00066	0.990	0.14	0.00043	0.986	0.15	0.00037	0.998	0.15
		SI	0.00000	-0.029	0.06000	0.990	0.14	0.04890	0.998	0.15	0.04780	0.983	0.15
R-64	24-JUNE-86	O2	0.00201	0.999	-0.00052	-0.996	0.13	-0.00054	-0.976	0.14	0.00128	0.846	0.13
		NH4	0.00000	0.446	0.06700	0.996	0.13	0.06100	0.995	0.14	0.03850	0.652	0.13

LONG-TERM BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE(SONE) SUMMARY
SONEFLX(Summary of sediment-water exchanges expressed in units of mass/m2/time.

SONE 8

STATION	DATE	FLUX	BLANK SLOPE	R	CORE 1 SLOPE	R	HT,M	CORE 2 SLOPE	R	HT,M	CORE 3 SLOPE	R	HT,M
		NO3	0.00000	0.139	-0.00533	-0.958	0.13	-0.00500	0.974	0.14	-0.00742	-0.992	0.13
		PO4	0.00000	0.261	0.00848	0.996	0.13	0.00991	0.996	0.14	0.01590	0.995	0.13
		SI	0.00000	-0.772	0.09470	0.999	0.13	0.10500	0.980	0.14	0.06310	0.997	0.13
R-78	24-JUNE-86	O2	0.00205	0.999	-0.00176	-0.985	0.15	-0.00359	-0.998	0.17	-0.00348	-0.902	0.16
		NH4	0.00000	-0.239	0.03700	0.986	0.15	0.03500	0.973	0.17	0.03400	0.999	0.16
		NO3	0.00000	-0.325	-0.00641	-0.995	0.15	-0.00847	-0.993	0.17	-0.00580	-0.987	0.16
		PO4	0.00000	0.051	0.00576	0.981	0.15	0.00654	0.982	0.17	0.00394	0.996	0.16
		SI	0.00000	-0.083	0.03800	0.991	0.15	0.05300	0.961	0.17	0.03700	0.985	0.16
STIL PD	25-JUNE-86	O2	-0.00024	-0.553	-0.01300	-0.992	0.13	-0.01100	-0.994	0.14	-0.01000	-0.988	0.09
		NH4	-0.00145	-0.982	0.01800	0.971	0.13	0.00935	0.999	0.14	0.00720	0.941	0.09
		NO3	0.00109	0.962	0.00176	0.747	0.13	0.00186	0.858	0.14	0.00268	0.792	0.09
		PO4	0.00000	-0.407	0.00104	0.980	0.13	0.00072	0.901	0.14	0.00045	0.889	0.09
		SI	0.00000	0.061	0.03500	0.980	0.13	0.00756	0.859	0.14	0.02600	0.927	0.09

LONG-TERM BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE(SONE) SUMMARY
SONEFLX(Summary of sediment-water exchanges expressed in units of mass/m2/time.

SONE 8

STATION	DATE	FLUX	CORE 3 R	CORE 3 HT,M	CORE 1	CORE 2	CORE 3	MEAN FLUX	UNITS
					FLUXES, MASS/M2/TIME				
ST.LEO	26-JUNE-86	O2	-0.994	0.16	-2.80	-2.82	-3.22	-2.95	g O2/m2/d
		NH4	0.985	0.16	85.50	113.40	177.60	125.50	ug-at N/m2/h
		NO3	0.957	0.16	19.26	20.92	24.58	21.58	ug-at N/m2/h
		PO4	0.914	0.16	0.00	0.00	3.44	1.15	ug-at P/m2/h
		SI	0.927	0.16	216.90	420.84	509.76	382.50	ug-at Si/m2/h
BU.VISTA	26-JUNE-86	O2	-0.975	0.14	-1.78	-3.07	-2.87	-2.57	g O2/m2/d
		NH4	0.999	0.14	361.20	462.00	415.80	413.00	ug-at N/m2/h
		NO3	0.989	0.14	57.54	63.67	50.32	57.18	ug-at N/m2/h
		PO4	0.998	0.14	25.79	43.26	39.40	36.15	ug-at P/m2/h
		SI	0.967	0.14	646.80	680.40	621.60	649.60	ug-at Si/m2/h
HORN PT	25-JUNE-86	O2	-0.991	0.13	-2.62	-3.16	-2.40	-2.73	g O2/m2/d
		NH4	0.988	0.13	241.80	285.48	201.24	242.84	ug-at N/m2/h
		NO3	0.990	0.13	32.30	28.46	38.68	33.15	ug-at N/m2/h
		PO4	0.927	0.13	3.84	5.65	2.57	4.02	ug-at P/m2/h
		SI	0.978	0.13	756.60	838.50	748.80	781.30	ug-at Si/m2/h
WIND HILL	25-JUNE-86	O2	-0.978	0.13	- 2.22	-2.43	-1.69	-0.64	g O2/m2/d
		NH4	0.950	0.13	420.00	413.40	249.60	361.00	ug-at N/m2/h
		NO3	0.937	0.13	-68.80	41.26	47.19	6.55	ug-at N/m2/h
		PO4	0.937	0.13	27.89	18.33	10.14	18.79	ug-at P/m2/h
		SI	0.964	0.13	672.00	351.00	405.60	476.20	ug-at Si/m2/h
RAG PT	23-JUNE-86	O2	-0.999	0.13	-0.09	-2.13	-0.61	-0.94	g O2/m2/d
		NH4	0.993	0.13	635.46	858.00	295.62	596.36	ug-at N/m2/h
		NO3	-0.935	0.13	-8.84	-6.45	-0.18	-5.16	ug-at N/m2/h
		PO4	0.986	0.13	19.77	39.06	23.23	27.35	ug-at P/m2/h
		SI	0.990	0.13	384.54	340.86	503.10	409.50	ug-at Si/m2/h
MD PT	23-JUNE-86	O2	-0.988	0.14	-2.13	-2.08	-1.56	-1.92	g O2/m2/d
		NH4	0.961	0.14	127.68	128.70	102.48	119.62	ug-at N/m2/h
		NO3	-0.951	0.14	-48.19	-51.12	-48.89	-49.40	ug-at N/m2/h
		PO4	0.643	0.14	4.60	0.00	2.93	2.51	ug-at P/m2/h
		SI	0.997	0.14	315.84	361.80	324.24	333.96	ug-at Si/m2/h
PT NO PT	24-JUNE-86	O2	-0.989	0.15	-0.60	-0.89	-0.55	-0.68	g O2/m2/d
		NH4	0.975	0.15	161.28	166.50	159.30	162.36	ug-at N/m2/h
		NO3	-0.036	0.15	3.08	-5.07	0.00	-0.66	ug-at N/m2/h
		PO4	0.998	0.15	5.57	3.83	3.29	4.23	ug-at P/m2/h
		SI	0.983	0.15	504.00	440.10	430.20	458.10	ug-at Si/m2/h
R-64	24-JUNE-86	O2	0.846	0.13	-0.47	-0.51	-0.14	-0.37	g O2/m2/d
		NH4	0.652	0.13	522.60	512.40	300.30	445.1	ug-at N/m2/h

LONG-TERM BIOMONITORING PROGRAM: SEDIMENT OXYGEN AND NUTRIENT EXCHANGE(SONE) SUMMARY
SONEFLX(Summary of sediment-water exchanges expressed in units of mass/m2/time.

SONE 8

			CORE 3-------		FLUXES, MASS/M2/TIME			MEAN	UNITS
STATION	DATE	FLUX	R	HT,M	CORE 1	CORE 2	CORE 3	FLUX	
		NO3	-0.992	0.13	-41.57	-42.00	-57.88	-47.15	ug-at N/m2/h
		PO4	0.995	0.13	66.14	83.24	124.02	91.14	ug-at P/m2/h
		SI	0.997	0.13	738.66	882.00	492.18	704.28	ug-at Si/m2/h
R-78	24-JUNE-86	O2	-0.902	0.16	-0.82	-1.38	-1.27	-1.16	g O2/m2/d
		NH4	0.999	0.16	333.00	357.00	326.40	338.80	ug-at N/m2/h
		NO3	-0.987	0.16	-57.69	-86.39	-55.68	-66.59	ug-at N/m2/h
		PO4	0.996	0.16	51.84	66.71	37.82	52.12	ug-at P/m2/h
		SI	0.985	0.16	342.00	540.60	355.20	412.60	ug-at Si/m2/h
STIL PD	25-JUNE-86	O2	-0.988	0.09	-2.39	-2.17	-1.27	-1.94	MG O2/M2/D
		NH4	0.941	0.09	151.71	90.72	46.71	96.38	UG-AT N/M2/D
		NO3	0.792	0.09	5.23	6.47	8.59	6.76	UG-AT N/M2/D
		PO4	0.889	0.09	8.11	6.05	2.45	5.54	UG-AT P/M2/D
		SI	0.927	0.09	273.00	63.50	140.40	158.97	UG-AT Si/M2/D

Appendix Table 6

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM
VFXPROF (Vertical water column profiles of temp.,salinity,oxygen and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
TOM.PT	23-JULY-84	1120	15.8	1	28.3	4.8	7.7	1072	199	27.6	22.9	10.8
				3	26.2	4.9	8.1					
				5	25.9	5.0	6.6	674	120	23.4	11.9	8.9
				7	25.5	5.4	6.2					
				9	24.2	8.8	3.8	418	73	16.8	4.5	8.3
				11	23.8	9.7	1.2	300	50	16.3	1.5	8.0
				13	22.7	11.5	0.4					
				15	22.5	12.7	0.2	329	54	17.1	2.1	13.1
TOM.PT	30-JULY-84	1325	15.3	1	24.4	5.6	7.8					
				2				878	166	30.4	22.4	8.8
				3	24.2	5.8	7.2					
				5	24.4	7.7	4.1	498	108	20.4	10.9	6.6
				7	24.2	9.3	1.8					
				8				301	50	21.7	2.2	7.3
				9	23.4	12.2	0.2					
				11	22.9	14.4	0.2	220	43	9.1	9.1	5.8
				13	22.9	14.4	0.4					
				14				722	117	19.7	5.4	17.6
				15	22.7	14.7	0.3					
TOM.PT	07-AUG-84	1020	16.2	1	26.5	5.7	8.9					
				2				1556	277	36.3	24.4	11.4
				3	26.0	6.3	7.8					
				5	25.0	7.7	5.3					
				6				816	150	31.7	11.2	7.8
				7	24.0	12.5	0.4					
				9	23.2	14.6	0.3	356	64	28.1	2.1	9.8
				11	23.0	17.0	0.3	338	59	24.5	2.1	9.3
				13	23.0	17.0	0.3					
				15	23.0	17.0	0.2	426	72	26.7	2.7	6.5
TOM.PT	14-AUG-84	1007	16.8	1	27.0	7.5	7.8					
				2				2073	402	60.3	21.3	11.2
				3	27.0	7.5	7.4					
				5	27.1	7.7	7.2	903	183	31.7	8.6	4.9
				7	25.9	10.0	1.8					
				8				537	92	31.0	1.0	10.6
				9	24.8	13.5	0.8					
				11	24.2	14.8	0.5	439	71	37.0	3.0	7.7
				13	23.8	16.5	0.6					
				15	23.1	17.1	0.6	342	58	21.7	2.1	11.3

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM
VFXPROF (Vertical water column profiles of temp.,salinity,oxygen and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
TOM.PT	22-AUG-84	1146	16.8	1	25.0	8.6	7.1					
				2				1284	250	29.6	9.8	15.2
				3	24.5	8.6	6.6	1174	238	30.1	9.1	15.4
				5	24.0	12.5	3.8					
				6				317	57	16.3	1.0	17.9
				7	24.0	15.5	0.8					
				9	23.0	19.4	0.3	449	68	23.7	1.3	17.2
				11	23.0	19.4	0.3					
				13	23.0	19.4	0.3					
				15	23.0	19.4	0.3	529	80	31.1	1.2	21.1
TOM.PT	30-AUG-84	1010	15.2	0	24.3	12.4	6.8	1287	247	50.2	10.2	17.2
				2	24.3	12.4	6.8					
				4	24.4	12.5	6.3	1002	189	42.3	6.2	17.6
				6	24.2	12.6	5.7					
				8	24.1	12.7	5.8					
				10	24.1	12.7	5.7					
				11				700	128	25.7	4.2	11.2
				12	24.2	13.5	4.6					
				14	23.2	16.5	3.3	711	113	26.8	2.1	10.4
				15	23.2	18.4	0.3	565	110	27.6	2.4	16.8
R-78	17-SEPT-84	2030	15.3	1	21.4	11.8	7.9	687	129	24.4	5.5	14.2
				3	21.6	12.1	7.6					
				5	21.8	12.8	6.8					
				6				572	103	21.7	4.3	12.6
				7	22.2	13.2	6.3					
				9	22.4	13.9	5.6					
				10				466	84	25.5	2.5	11.8
				11	23.2	15.6	2.8					
				13	23.5	16.7	1.2	424	72	17.3	1.1	15.6
				15	23.6	17.5	0.7	1072	165	58.7	3.9	55.2

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM
VFXPROF (Vertical water column profiles of temp.,salinity,oxygen and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
R-78	24-SEPT-84	1300	15.0	1	23.5	11.4	8.6					
				2				1391	241	34.3	19.2	17.0
				3	23.1	11.5	6.9					
				5	22.9	12.1	6.6	1047	186	33.6	12.5	14.4
				7	22.5	12.3	6.7					
				8				1071	181	35.7	11.6	14.0
				9	22.5	12.6	6.6					
				11	22.5	12.6	6.5					
				12				1094	180	36.5	11.2	13.7
				13	22.5	12.8	5.6					
				15	22.7	13.0	3.2	1302	200	57.7	6.8	31.4

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM
VFXPROF (Vertical water column profiles of temp.,salinity,oxygen and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
R-78	04-OCT-84	1330	15.2	1	19.8	12.1	9.3					
				2				519	92	16.3	4.9	10.8
				3	19.0	11.7	8.3					
				5	18.9	11.6	7.9	329	59	12.8	2.6	8.0
				7	18.7	11.5	7.7					
				8				400	67	15.8	2.4	9.6
				9	18.8	11.8	7.5					
				11	18.8	11.9	7.4					
				12				439	73	18.6	2.2	10.8
				13	18.9	12.0	7.1					
				15	19.0	13.[illegible]	6.5	856	135	31.3	2.7	21.7
R-78	16-OCT-84	1100	16.4	1	17.7	12.1	8.3	812	172	28.0	9.9	13.0
				3	17.8	13.3	8.2					
				5	17.9	14.1	8.2	587	110	16.8	4.4	5.4
				7	17.9	14.7	7.7					
				9	18.0		7.2	514	80	15.7	3.0	7.4
				11	18.3	16.6	5.6					
				13	18.5	18.4	4.6	398	70	13.0	1.8	9.0
				15	18.6	18.8	4.2					
				16	18.8	18.9	4.0	581	98	27.7	3.6	37.0

BIOMONITORING; VERTICAL FLUX PROGRAM
VFXPROF (Vertical water column profiles of temp.,salinity,oxygen and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
R-78	30-NOV-84	1200	17.0	1	11.5	13.2	11.2	667	127	17.5	2.7	5.6
				3	10.8	13.0	11.3					
				5	10.8	13.0	11.3	462	84	17.2	4.1	5.3
				7	10.8	13.1	11.2					
				9	10.8	13.2	10.9	373	72	16.4	3.0	5.4
				11	10.9	13.3	10.7					
				13	10.9	13.5	10.6	509	90	16.4	2.8	6.6
				15	11.0	13.9	10.3					
				16	11.1	14.6	9.8	1013	147	35.8	3.6	21.2
R-78	17-DEC-84	1150	15.9	1	7.8	9.7	11.6	577	101	20.7	5.2	4.2
				3	7.0	12.6	11.0					
				5	7.4	15.0	9.9	345	64	15.2	2.3	4.8
				7	7.4	16.7	9.8					
				9	7.6	18.3	9.5	349	66	14.5	2.3	4.0
				11	8.0	20.1	8.6	448	67	16.6	2.5	8.0
				13	8.3	20.8	8.4					
				15	8.4	21.0	8.2	1319	183	47.8	3.4	29.8
R-78	19-FEB-85	1156	17.4	1	2.2	10.0	14.4	1226	205	17.7	8.9	7.6
				3	1.2	10.5	14.4					
				5	1.2	11.2	14.2					
				6				1226	192	21.4	8.6	11.4
				7	1.2	12.5	13.8					
				9	1.0	13.0	13.6	1175	202	18.6	9.7	7.4
				11	1.5	14.0	13.4					
				12				1344	233	31.1	11.8	11.6
				13	1.0	14.8	12.4					
				15	1.0	15.0	12.2	2652	394	94.0	17.7	43.0
R-78	5-MAR-85	1210	17.0	1	7.1	7.9	13.7	941	152	18.2	7.1	6.2
				3	6.3	8.2	13.6					
				5	5.9	8.9	13.6	1380	234	26.2	12.2	9.6
				7	5.4	9.9	13.2					
				9	4.9	11.7	12.6	2105	356	31.2	20.9	9.5
				11	4.9	13.8	11.7					
				13	3.8	14.4	11.5	2806	478	40.5	26.6	18.3
				15	3.7	14.6	11.4					
				16	3.6	14.7	11.4	2998	499	64.0	28.8	30.6

BIOMONITORING; VERTICAL FLUX PROGRAM
VFXPROF (Vertical water column profiles of temp.,salinity,oxygen and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
R-78	1-APR-85	1145	16.8	1	10.9	7.0	11.5	1194	190	20.5	7.9	7.6
				3	10.8	7.0	11.5					
				5	8.7	8.1	10.7	1649	296	25.9	27.4	10.3
				7	8.7	10.3	9.6					
				9	8.3	12.4	8.7	1851	327	23.8	36.3	12.7
				11	7.1	13.8	8.5					
				13	7.2	14.9	8.4	1883	315	26.4	29.2	14.4
				15	7.2	14.9	8.3	2187	354	31.8	41.8	19.2
R-78	15-APR-85	1325	17.0	1	11.3	7.0	11.5	1594	254	31.2	19.6	8.8
				3	10.9	8.5	11.4					
				5	10.0	10.5	10.9	1902	306	29.6	21.0	13.0
				7	9.1	14.8	10.7					
				9	8.8	15.8	10.4	2099	361	25.6	45.0	17.0
				11	8.6	16.1	10.2					
				13	8.5	17.7	8.4	2568	415	33.6	42.9	22.0
				15	8.4	18.9	5.6					
				17	8.0	19.6	5.2	1700	293	28.1	29.7	18.0
R-78	27-MAY-85	1115	16.5	1	20.6	8.6	7.75	1247	218	19.0	14.3	5.7
				2	19.9	9.3	7.15					
				4	19.5	9.9	6.50					
				6	19.0	10.8	6.15	433	67		3.0	6.0
				8	18.0	12.5	4.24					
				9				460	85	14.3	3.6	5.2
				10	17.0	14.0	2.50					
				12	16.4	14.6	1.68	530	101	13.1	6.2	6.0
				14	16.1	14.8	1.51					
				16	16.0	15.1	1.33	500	95	15.0	3.5	6.2
R-78	5-JUN-85	1640	16.0	1	21.9	9.8	6.85	1185	210	26.3	15.4	15.0
				2	21.0	10.2	5.65					
				4	19.8	11.8	4.10	668	122	17.3	4.5	10.6
				6	19.0	13.0	2.60					
				7	18.5	13.5	1.90	504	91	16.5	2.8	7.0
				8	18.4	13.8	1.75					
				10	18.2	14.0	1.60	509	93	15.8	2.9	10.4
				12	18.2	14.2	1.45					
				14	17.9	15.2	0.75	777	109	25.9	4.7	15.6

BIOMONITORING; VERTICAL FLUX PROGRAM

VFXPROF (Vertical water column profiles of temp.,salinity,oxygen and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
R-78	18-JUN-85	1330	15.5	1	22.9	11.0	8.09	2232	413	37.6	24.9	14.4
				2	22.8	11.0	8.09					
				4	22.5	11.5	6.72					
				6	21.9	11.7	5.69					
				8	21.7	11.9	4.99	1235	227	28.6	13.0	13.4
				10	21.4	13.7	2.55	774	131	15.6	4.0	8.8
				12	20.4	14.8	1.75	793	130	21.7	4.3	9.5
				14	20.3	15.0	1.40	1025	157	23.4	4.5	16.1
R-78	27-JUN-85	1045	16.8	1	22.5	10.8	7.48	1690	318	43.1	18.3	20.6
				2	22.5	10.8	7.42					
				4	22.6	10.9	7.20	1388	279	32.3	16.7	15.2
				6	22.5	11.1	6.52					
				8	22.4	12.5	4.72	1012	223	23.2	10.7	9.6
				10	22.3	14.0	2.38					
				12	21.8	14.5	1.90	820	163	22.2	4.9	16.8
				14	21.6	14.7	1.58					
				15	21.5		0.92	692	128	27.2	4.0	17.7

LONG-TERMLONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM
VFXPROF (VFXPROF (Vertical water column profiles of temp.,salinity,oxygen and particulates)

STATION	STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
R-64	R-64	23-JULY-84	1600	16.0	1	26.9	8.4	9.7	1829	276	25.2	22.9	13.2
					3	26.1	8.3	8.8					
					4				1124	190	19.8	15.3	11.5
					5	26.0	8.4	8.1					
					7	25.8	8.4	7.8					
					8				582	108	13.8	8.2	6.7
					9	25.8	8.5	7.3					
					10				641	118	16.1	7.4	16.6
					11	24.5	9.8	0.9					
					13	24.0	10.8	0.8					
					15	23.3	12.6	0.3	286	51	12.8	1.7	10.1
R-64	R-64	30-JULY-84	0900	16.0	1	24.2	7.0	7.8					
					2				1028	205	27.0	20.9	6.9
					3	24.4	7.0	7.8					
					5	24.2	7.0	7.7					
					6				975	202	25.3	19.1	6.6
					7	24.5	7.0	7.6					
					9	24.7	11.7	3.8	514	99	19.8	4.9	6.4
					11	23.9	16.3	0.3					
					12				262	44	9.4	1.9	5.4
					13	23.9	17.0	0.2					
					15	23.9	18.4	0.2	238	40	7.4	2.1	6.0

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM

VFXPROF (Vertical water column profiles of temp.,salinity,oxygen and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
R-64	07-AUG-84	1220	16.8	1	26.0	7.0						
				3	26.0	7.0	8.9	1191	240	29.3	22.0	15.2
				5	25.5	7.9	7.4					
				6				679	141	23.0	5.7	10.2
				7	25.0	8.5	3.5					
				9	24.5	12.1	0.7	572	119	24.9	3.8	12.8
				11	24.0	13.1	0.6					
				12				382	70	14.0	1.6	7.9
				13	23.2	17.3	0.5					
				15	22.5	19.0	0.3	293	54	12.5	3.6	8.6
				16	22.5	19.1	0.3					
R-64	14-AUG-84	1203	16.8	1	28.0	8.1	7.4					
				2				1214	220	25.0	10.4	7.0
				3	27.5	8.0	7.5					
				5	27.5	8.3	5.1	1009	201	25.0	7.7	7.8
				7	26.3	9.4	1.9					
				8				464	81	22.9	1.8	8.0
				9	25.1	12.9	0.5					
				11	23.9	18.0	0.6	268	49	9.8	1.5	6.3
				13	23.1	18.5	0.5					
				15	23.0	18.9	0.5	253	45	11.1	0.9	6.2
R-64	22-AUG-84	0900	16.8	1	25.0	8.6	6.6					
				2				1011	217	24.6	8.0	7.0
				3	25.0	8.6	6.6					
				5	25.0	9.5	4.9					
				6				880	187	24.9	6.3	7.6
				7	25.0	13.0	2.6					
				9	25.0	15.0	0.2	635	124	24.0	4.4	7.4
				11	24.0	19.2	0.2					
				12				248	45	11.5	0.9	8.6
				13	24.0	21.0	0.2					
				15	24.0	21.0	0.2	213	50	12.5	1.1	8.0
R-64	30-AUG-84	1325	16.2	0	25.6	12.9	8.3					
				1				1503	254	37.5	7.5	8.0
				2	24.8	13.0	7.9					
				4	24.8	13.0	7.3					
				6	24.5	13.1	6.6	832	161	25.1	4.7	8.5
				8	24.3	13.1	6.0					
				9				519	102	20.3	2.0	13.8
				10	24.1	15.1	3.1					
				12	23.7	16.4	0.7					
				13				556	103	33.0	1.6	17.4
				14	23.6	17.2	0.4					
				16	23.6	18.7	0.3	417	79	25.5	1.3	18.0

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM
VFXPROF (Vertical water column profiles of temp.,salinity,oxygen and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
R-64	17-SEPT-84	1830	17.7	1	22.5	14.5	9.9					
				2				1922	296	43.7	16.7	42.2
				3	22.7	14.4	9.9					
				5	22.7	14.3	9.6					
				7	22.7	14.5	9.2					
				8				1548	267	34.5	13.9	43.4
				9	22.7	14.4	8.8					
				11	22.6	14.4	8.6					
				13	22.5	14.8	7.9	976	157	27.5	9.9	21.2
				15	23.7	17.3	3.7					
				16				454	79	25.2	2.9	18.8
				17	24.1	18.3	1.9	754	120	32.3	3.8	23.8
R-64	24-SEPT-84	0940	17.6	1	22.1	14.1	8.7					
				2				956	167	20.0	6.0	19.3
				3	22.1	14.1	8.8					
				5	22.3	14.3	8.4					
				6				956	172	18.4	7.2	19.4
				7	22.2	14.6	7.9					
				9	22.3	14.4	7.7	1024	184	22.3	6.8	21.3
				11	22.3	15.1	6.9					
				13	22.5	15.6	5.2	615	118	23.7	2.9	23.4
				15	23.0	17.3	1.9					
				16				905	157	30.5	3.9	28.4
				17	23.3	18.0	0.9					
R-64	04-OCT-84	1000	19.0	1	18.5	12.3	9.1					
				2				615	126	17.2	5.3	14.3
				3	18.5	12.5	9.1					
				5	18.2	12.6	9.0	495	97	17.4	5.1	14.3
				7	18.2	12.6	8.2					
				9	18.5	13.0	7.9	344	70	12.4	3.3	8.2
				11	18.1	13.0	7.8					
				13	18.5	13.7	7.6					
				15	18.5	13.9	6.9	411	79	12.1	2.2	16.0
				17	19.0	14.1	6.0					
				19	19.6	14.8	5.7	581	96	17.2	2.2	15.2
R-64	16-OCT-84	1540	19.0	1	17.7	12.8	10.4	1271	212	27.0	6.9	15.3
				3	17.8	14.8	9.3					
				5	17.4	15.9	8.4	477	90	11.6	2.9	7.1
				7	17.3	16.1	8.3					
				9	17.8	16.5	8.1					
				11	18.0	17.3	6.9	345	62	10.6	2.0	7.4
				13	18.1	17.5	6.8					
				15	18.3	18.7	5.4	313	53	11.2	1.8	7.4
				17	18.4	19.6	5.1					
				19	18.7	18.4	4.7	629	101	21.3	2.0	28.1

BIOMONITORING; VERTICAL FLUX PROGRAM
VFXPROF (Vertical water column profiles of temp.,salinity,oxygen and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
R-64	30-NOV-84	1000	18.0	1	11.0	14.5	10.9	395	65	10.6	2.6	5.2
				3	10.9	14.5	10.9					
				5	10.9	14.5	10.9	375	63	10.4	2.1	4.7
				7	10.9	14.5	10.9					
				9	10.9	14.7	10.8	367	63	10.2	2.3	9.4
				11	11.0	14.8	10.8					
				13	11.0	14.9	10.7	239	43	8.9	1.5	4.4
				15	11.0	15.0	10.7					
				17	11.2	15.2	10.2	847	122	22.2	2.6	22.7
R-64	17-DEC-84	0920	16.5	1	8.1	15.8	12.2	378	70	10.9	3.3	3.2
				3	8.1	17.1	12.2					
				5	8.1	17.4	12.0	378	73	9.5	3.7	2.9
				7	8.2	18.2	11.3					
				9	8.2	18.7	11.2	353	67	10.0	3.5	3.6
				11	8.2	18.9	11.8					
				13	8.4	19.8	10.3	391	76	11.1	3.1	3.8
				15	8.6	20.6	9.6					
				16	9.1	22.1	8.9	417	68	14.5	2.5	7.6

BIOMONITORING; VERTICAL FLUX PROGRAM
VFXPROF (Vertical water column profiles of temp.,salinity,oxygen and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
R-64	19-FEB-85	0940	18.6	1	1.5	13.5	14.2	1011	167	12.9	6.8	6.4
				3	1.2	14.0	14.2					
				4				1002	137	12.1	7.0	5.8
				5	1.2	14.0	14.2					
				7	1.0	14.3	14.1					
				9	1.0	15.0	13.5	1380	216	20.2	12.0	11.6
				11	1.0	15.5	13.0					
				12				1444	224	18.5	11.8	10.2
				13	1.2	16.0	12.6	1444	224			
				15	1.2	16.0	12.6					
				17	1.5	16.5	12.4	1964	300	30.6	16.4	17.5
R-64	5-MAR-85	0918	18.0	1	6.2	11.7	14.1	707	109	12.2	5.1	5.0
				3	5.8	11.6	14.2					
				5	5.5	11.7	14.2					
				7	5.7	13.2	14.0					
				9	5.5	13.2	14.0	968	144	11.5	8.1	8.6
				11	4.9	13.9	13.6	1000	153	13.5	9.0	7.2
				13	4.3	14.8	13.2	1585	235	17.4	14.2	14.3
				15	3.2	17.3	11.9					
				17	3.0	17.9	11.6	9203	1176	110.0	36.7	85.8
R-64	1-APR-85	0940	17.7	1	9.1	10.2	13.0	1349	202	22.7	31.3	7.1
				3	9.0	10.2	13.0					
				5	8.8	10.1	12.8	1322	218	15.0	34.0	5.6
				7	8.8	10.2	12.8					
				9	7.5	12.1	12.1	1299	205	15.0	38.1	10.8
				11	7.5	12.6	10.1	1452	213	17.9	10.0	14.0
				13	7.5	14.0	9.9					
				15	7.5	14.0	9.6	1576	240	18.7	24.6	13.4
R-64	15-APR-85	1015	17.7	1	11.4	13.6	13.2	1622	227	13.3	29.2	13.1
				3	11.1	13.6	13.6					
				5	10.9	14.6	13.5	1520	221	14.4	32.4	12.3
				7	10.9	14.3	13.3					
				9	10.3	14.5	13.2	1387	212	13.3	19.7	11.6
				11	9.1	15.9	10.4					
				13	8.9	18.3	8.4	2448	386	22.8	54.8	20.4
				15	8.6	18.5	8.3					
				17	8.4	18.9	7.9	2210	348	20.1	41.5	16.7

BIOMONITORING; VERTICAL FLUX PROGRAM
VFXPROF (Vertical water column profiles of temp.,salinity,oxygen and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
R-64	30-APR-85	1035	17.7	1	16.7	12.4	11.0	1298	213	17.0	13.1	19.0
				3	16.3	12.6	11.0					
				5	16.1	12.9	10.8					
				6				1755	300	20.3	26.9	17.2
				7	15.2	14.1	9.3					
				9	12.0	20.7	5.9	1984	326	39.0	12.3	
				11	12.2	22.0	6.3					
				12				1033	173	17.3	11.7	24.3
				13	12.4	21.1	6.3					
				15	12.2	21.1	6.3	937	189	17.1	10.5	19.4
				16	12.4	22.2	6.3					
R-64	8-MAY-85	1150	17.5	1	16.8	11.2	9.1	729	116	11.0	10.3	8.2
				2	16.6	11.2	9.1					
				4	16.2	11.2	8.8	852	134	11.9	11.2	7.7
				6	15.4	12.0	7.5					
				8	15.0	12.6	6.5	875	152	14.4	13.9	7.6
				10	14.8	12.7	4.9					
				12	14.4	15.6	3.9	672	144	15.0	8.3	10.0
				14	14.0	16.0	3.7					
				16	13.8	16.2	3.7	855	164	20.0	7.8	15.6
R-64	27-MAY-85	0830	17.5	1	19.8	12.4	7.92	917	162	16.1	5.6	7.6
				2	19.8	12.4	7.91					
				4	19.2	12.6	7.50					
				6	19.1	12.8	7.35					
				8	18.9	13.1	6.30	451	81	9.8	2.8	2.4
				10	18.5	14.3	5.34					
				11				403	74	9.9	1.9	3.9
				12	18.1	15.5	3.99					
				14	17.5	16.2	2.27	339	63	11.0	1.7	4.0
				16	17.4	16.8	1.94	400	62	13.1	2.0	5.4
R-64	5-JUN-85	1745	17.0	1	21.8	12.2		2098	345	34.6	36.5	8.6
				2	21.8	12.2	8.5					
				4	21.5	12.4	7.3	972	163	16.0	12.8	7.1
				6	21.1	13.0	6.8					
				8	20.5	13.0	4.7	627	128	16.2	5.6	5.2
				10	19.5	14.8	3.0					
				12	19.5	17.0	2.8	363	58	70.0	3.0	7.1
				14	19.0	17.9	2.4					
				15	19.0	18.0	2.4	354	58	92.0	2.1	6.6

BIOMONITORING; VERTICAL FLUX PROGRAM
VFXPROF (Vertical water column profiles of temp.,salinity,oxygen and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	PC (ug/l)	PN (ug/l)	PP (ug/l)	CHLORO (ug/l)	SESTON (mg/l)
R-64	18-JUN-85	1100	17.0	1	23.6	13.2	9.1	1731	316	25.7	14.8	20.6
				2	23.1	13.1	9.1					
				4	22.9	13.5	8.3					
				6	22.8	13.8	8.0					
				8	22.5	14.0	7.2					
				10	22.6	14.2	5.0	980	166	15.4	6.8	6.6
				12	21.6	14.8	3.7	692	139	18.9	3.6	9.7
				14	21.8	15.7	1.9	715	133	11.5	3.3	11.0
				16	20.7	16.1	0.9	606	109	12.5	2.9	10.6
R-64	25-JUN-85	1540	17.5	1	25.7	13.8	9.85	2080	337	30.3	15.8	24.8
				2	24.3	13.0	9.60					
				4	24.0	13.2	8.60					
				6	23.9	13.2	8.35					
				8	23.8	13.2	8.12	1196	257	22.9	9.2	7.7
				10	23.5	13.3	6.50					
				12	22.4	14.0	3.05	751	173	28.7	4.8	16.9
				14	21.7	14.8	1.10	650	138	17.8	3.0	7.7
				16	21.6	15.5	0.55	513	92	20.7	2.0	7.7

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXPROF (Vertical water column profiles of temperature,
salinity, oxygen, and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	CONDUCT (umho)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	SECCHI (m)	PC (ug/l)	PN (ug/l)	PP (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)	SESTON (mg/l)
R-64	11-JUL-85	1230	17.5	0.5	25.4	228		8.3	1.5	1649	284	24.3	14.2		17.3
				2	25.2	228		7.8							
				4	25.1	229		7.4							
				6	24.8	234		6.0		1401	252	22.9	9.7		8.4
				8	24.5	245		4.2							
				10	23.7	258		1.4							
				12	23.6	295		1.4		407	56	6.8	1.4		6.6
				14	23.7	316		2.2		346	52	8.0	1.1		5.5
				16	23.7	323		2.1		478	61	28.4	1.0		7.4
R-64	24-JUL-85	1045	17.5	0.5	27.0	241		8.8	1.6	1812	330	30.0	17.9		14.7
				2	26.9	241		7.9							
				4	26.5	242		7.6							
				6	26.4	242				1387	240	26.0	14.1		14.9
				8	26.2	245									
				10	25.5	299				583	108	14.2	3.9		10.3
				12	24.8	323									
				14	24.5	339				435	76	9.9	1.6		9.4
				16	24.2	345				400	57		1.7		11.1
R-64	30-JUL-85	1100	17.0	0.5	26.4	252		8.59	1.2	1593	304	25.8	16.1		9.8
				2	26.1	251		8.50							
				4	26.0	251		7.93							
				6	26.0	252		7.61							
				8	25.9	254		7.25		766	163	18.1	10.4		8.3
				10	25.6	268		4.53							
				12	25.3	283		3.35		434	76	11.7	4.1		7.9
				14	25.0	311		81.50		412	82	12.9	3.8		8.4
				16	24.9	316		1.30							
				17	25.0	317		1.23		420	86	13.6	2.1		6.6
R-64	5-AUG-85	1015	17.5	0.5	25.5	244		8.91	2.0	1758	302	22.6	18.9		11.4
				2	25.4	243		8.68							
				4	25.4	244		8.45							
				6	25.6	251		7.05		1078	193	24.2	20.9		8.9
				8	25.6	259		5.61							
				10	25.6	263		4.88							
				12	25.5	272		3.77		682	118	15.5	10.0		10.5
				14	25.2	310		0.90		518	111	16.1	3.0		9.8
				16	25.1	214		0.71		518	109	16.6	3.1		10.4

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXPROF (Vertical water column profiles of temperature,
salinity, oxygen, and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	CONDUCT (umho)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	SECCHI (m)	PC (ug/l)	PN (ug/l)	PP (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)	SESTON (mg/l)
R-64	13-AUG-85	1100	17.0	0.5	27.1	250		7.26	1.9	1503	264	20.1	13.5		11.3
				2	26.8	250		7.31							
				4	26.8	251		7.07							
				6	26.7	253		6.59							
				8	26.5	261		4.87		852	178	21.5	8.7		12.4
				10	26.2	273		3.60							
				12	26.0	336		1.41		419	78	10.5	2.1		8.2
				14	26.0	341		1.47		330	52	8.3	1.9		9.2
				16	26.0	354		1.84		325	54	9.9	1.6		7.3
R-64	20-AUG-85	1020	16.5	0.5	26.2	253		6.74	1.8	1044	191	21.6	9.6		9.9
				2	26.2	253		6.70							
				4	26.2	254		6.54							
				6	26.1	256		6.01		751	139	16.0	6.6		11.4
				8	26.1	265		5.25							
				10	26.0	288		2.47		513	116	12.6	2.8		11.7
				12	25.9	335		1.12		417	83	11.2	1.4		8.5
				14	25.7	369		0.86							
				15	25.6	370		0.84		313	47	7.7	1.0		9.2
R-64	17-SEPT-85	1000	17.5	0.5	22.7		15.5	8.72	2.0	1184	245	25.5	15.8	17.6	8.4
				2	22.8		15.4	8.53		1115	235	26.6	16.1	13.2	11.1
				4	23.0		16.7	7.92							
				6	23.5		17.6	6.65							
				8	23.5		17.4	7.25		589	122	13.2	11.0	11.5	11.2
				10	23.7		18.0	5.71							
				12	23.8		18.1	5.28		549	116	11.8	8.2	7.3	11.4
				14	23.9		18.1	5.08							
				16	24.1		18.6	3.94		717	135	16.5	6.8	4.8	19.4
R-64	25-SEPT-85	1700	17.5	0.5	22.9		16.5	7.75	2.2	929	143	14.0	11.5	9.8	10.6
				2	22.9		16.5	7.67							
				4	22.9		16.5	7.54		916	186	13.9	12.7	12.5	11.6
				6	22.9		16.5	7.25							
				8	22.9		17.0	6.42		635	129	12.5	8.6	7.3	9.8
				10	23.0		17.0	6.09							
				12	23.4		19.1	3.95		819	127	11.4	4.3	3.3	15.2
				14	23.5		19.7	3.58							
				16	23.6		21.0	2.89		1258	209	23.3	4.3	2.7	54.8

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXPROF (Vertical water column profiles of temperature, salinity, oxygen, and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	CONDUCT (umho)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	SECCHI (m)	PC (ug/l)	PN (ug/l)	PP (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)	SESTON (mg/l)
R-64	1-OCT-85	1030	17.0	0.5	21.6		16.9	9.05	2.1	1148	241	15.9	14.4	10.4	15.9
				2	21.6		17.0	9.09							
				4	21.5		17.0	9.01		1020	214	13.6	14.8	10.8	11.6
				6	21.6		17.1	8.78							
				8	21.8		17.1	7.31		594	117	12.3	10.4	7.2	14.8
				10	22.0		18.2	6.54							
				12	22.0		18.4	6.26		691	122	11.9	5.1	3.4	17.2
				14	22.2		18.7	5.65							
				16	22.4		19.6	4.52		1100	224	18.1	6.3	2.7	22.7
R-64	16-OCT-85	730	17.6	0.5	19.7		16.8	9.16	1.3	973	137	11.0	13.6	8.7	9.2
				2	19.8		16.9	9.19							
				4	19.9		16.0	8.97		969	130	10.8	15.0	10.0	7.0
				6	19.8		16.1	7.31							
				8	19.9		18.2	6.49							
				10	20.0		18.6	5.78		409	62	8.7	5.2	2.3	8.8
				12	20.2		19.2	5.06							
				14	20.5		19.9	4.13		416	50	9.2	3.5	1.3	9.2
				16	20.9		20.3	3.06		464	71	11.3	3.3	1.8	14.0
R-64	6-JAN-86	1155	17.5	0.5	3.3		11.8	14.8	2.7	1293	175	17.3			12.4
				2	3.3		11.9	14.9							
				4	3.3		12.0	14.6		5118	686	22.1			11.8
				6	3.4		12.2	14.2							
				8	3.8		12.0	13.5		1104	151	16.6			11.3
				10	4.1		13.8	12.9		896	138	14.4			10.6
				12	4.2		14.0	12.5							
				14	4.3		13.5	12.3							
				16	4.3		13.5	12.2		914	138	15.2			14.0

No Chlorophyll data:methods problem

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXPROF (Vertical water column profiles of temperature,
salinity, oxygen, and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	CONDUCT (umho)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	SECCHI (m)	PC (ug/l)	PN (ug/l)	PP (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)	SESTON (mg/l)
R-64	17-JAN-86	1200	18.0	0.5	2.5		13.0	14.64	4.1	1104	101	13.2			7.8
				2	2.9		13.0	15.46							
				4	2.3		13.1	15.61							
				6	2.2		13.3	15.35		1349	171	15.1			10.6
				8	2.4		13.6	14.97							
				10	2.5		13.7	14.67		1253	183	15.0			10.8
				12	2.7		13.9	14.38							
				14	2.7		14.0	14.20		1426	198	21.8			10.4
				16	3.0		14.6	13.86							
				16.5	3.0		14.6	13.63		1658	227	24.6			23.4
No Chlorophyll data:methods problem															
R-64	27-FEB-86	1000	18.0	0.5	2.2	174		14.8	3.0	680	107	9.4	3.3	2.9	4.6
				2	2.2	175		13.8		627	101	9.4	3.4	3.0	3.2
				4	2.4	226		13.3							
				6	2.5	237		13.3							
				8	2.7	253		13.2		842	126	10.5	6.5	5.6	7.0
				10	2.7	261		13.0							
				12	2.9	276		12.6							
				14	3.3	331		11.3		1134	158	16.9	10.6	8.8	10.4
				16	3.3	336		11.0		1535	210	16.4	11.6	8.8	13.7
R-64	12-MAR-86	1800	17.0	0.5	4.5	239		12.7		956	158	12.4			6.0
				2	4.3	239		12.5							
				4	4.3	239		12.5		1223	186	13.2			6.6
				6	4.3	241		12.4							
				8	4.6	251		12.0		1232	169	12.5			6.5
				10	4.6	257		11.9							
				12	4.6	268		11.6		1259	213	19.0			9.9
				14	4.2	271		11.4							
				16	3.6	300		10.1		1718	302	29.5			20.4
No Chlorophyll data:samples lost in analysis															
R-64	28-MAR-86	845	18.0	0.5	8.2	177		12.2	1.8	1177	185	15.2	12.0	10.9	9.5
				2	8.1	177		12.1							
				4	8.1	178		12.0		1204	207	15.7	15.6	14.4	9.4
				6	7.8	188		11.6							
				8	6.6	232		10.7		1113	189	15.4	17.7	16.2	11.5
				10	6.1	250		10.3							
				12	6.1	251		10.2		1330	207	21.9	20.9	18.5	18.0
				14	6.0	253		10.2							
				16	5.8	263		10.0							
				17	5.8	267		10.0		2733	439	46.8	28.1	23.2	48.8

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXPROF (Vertical water column profiles of temperature,
salinity, oxygen, and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	CONDUCT (umho)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	SECCHI (m)	PC (ug/l)	PN (ug/l)	PP (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)	SESTON (mg/l)
R-64	14-APR-86	930	17.5	0.5	11.1	155		12.3	2.0	1643	214	10.6	19.6	18.5	8.2
				2	10.5	166		12.1							
				4	10.3	178		11.7		1521	226	12.3	19.8	18.5	11.2
				6	10.1	183		11.0							
				8	9.8	267		8.0		2174	342	19.6	34.3	34.4	14.0
				10	9.9	302		7.2							
				12	9.9	308		7.0		1786	294	15.7	24.2	20.2	15.2
				14	9.8	325		6.6							
				16	9.9	334		6.4		2005	328	21.7	24.8	18.5	27.9
R-64	29-APR-86	935	18.0	0.5	13.5	158		12.3	2.5	1237	166	9.8	11.1	10.5	8.6
				2	13.5	157		12.0							
				4	13.4	130		11.6		1136	160	10.4	11.3		8.1
				6	11.9	210		10.2							
				8	11.5	222		9.4		1173	174	11.0	17.1	19.3	9.3
				10	11.4	264		6.7							
				12	11.4	265		6.5		1438	218	14.1	18.2	16.0	15.7
				14	11.2	281		4.8							
				16	11.2	295		3.9							
				17	11.2	301		3.4		1618	240	17.3	17.2	18.1	18.4
R-64	5-MAY-86	950	16.5	0.5	13.8		10.4	10.2	2.7	5347	697	9.2	7.1	7.1	8.2
				2	13.6		10.4	10.2							
				4	13.4		10.5	10.1				10.4	8.3	8.4	4.2
				6	12.8		12.5	8.8							
				8	12.7		13.4	8.3		1024	135	10.8	10.5	10.3	5.4
				10	12.4		14.6	7.5							
				12	12.4		14.6	7.3		1206	174	11.6	15.0	14.7	5.8
				14	11.9		16.5	5.7							
				16	11.8		17.7	5.2		2539	335	16.9	25.8	24.4	10.0
R-64	14-MAY-86	1545	18.0	0.5	16.8	196		9.4	3.5	879	103	6.4	5.5	5.6	1.2
				2	16.8	195		9.7							
				4	16.8	197		9.5							
				6	16.6	200		9.1		561	76	5.0	4.0	3.8	0.7
				8	15.9	213		8.7							
				10	15.3	226		7.6		578	80	5.3	3.4	3.2	0.6
				12	14.6	241		6.7							
				14	14.0	259		5.5		2615	310	20.3	30.0	30.2	5.9
				16	13.4	278		4.0		1405	180	14.4	16.3	15.6	3.6

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXPROF (Vertical water column profiles of temperature,
salinity, oxygen, and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	CONDUCT (umho)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	SECCHI (m)	PC (ug/l)	PN (ug/l)	PP (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)	SESTON (mg/l)
R-64	19-MAY-86	0925	17.5	0.5	19.5		10.2	11.6	2.6	1755	205	10.0	10.1	10.3	8.8
				2	18.8		10.2	11.8							
				4	18.8		10.3	11.8							
				6	18.5		10.5	11.7		844	118	6.4	8.0	8.0	1.6
				8	19.8		10.5	11.5							
				10	16.2		11.5	8.9		759	104	6.5	7.5	7.2	4.6
				12	15.8		12.3	6.8							
				14	14.2		14.5	5.0		1520	188	11.2	15.9	15.0	9.3
				16	13.9		15.2	4.1		2080	221	11.3	19.6	18.5	4.2
R-64	3-JUNE-86	758	17.0	0.5	20.2	205		6.1	2.0	850	175	12.3	5.0	4.0	3.7
				2	20.3	210		6.1							
				4	20.4	212		6.1		793	151	12.3	5.0	4.2	2.5
				6	20.4	211		6.1							
				8	20.5	213		6.0							
				10	19.6	237		4.8		684	137	12.3	4.3	3.8	2.3
				12	16.6	336		2.5							
				14	16.4	339		2.3		987	141	16.8	3.5	2.3	25.0
				16	16.2	340		2.2		1273	205	26.2	4.8	2.7	22.6
R-64	12-JUNE-86	825	18.5	0.5	23.6	209		7.6	1.5	1136	215	13.9	10.3	8.2	0.8
				2	23.6	207		7.7							
				4	23.4	210		7.5		1002	194	11.1	12.0	10.3	0.6
				6	23.0	213		7.1							
				8	22.1	232		5.2							
				10	19.8	272		2.4		1063	193	10.8	4.4	3.3	0.2
				12	18.9	288		1.7							
				14	18.3	306		1.4		531	86	7.1	2.5	1.9	0.5
				16	18.1	314		1.4							
				17.5	18.1	314		1.3		449	79	5.8	1.8	1.4	1.1
R-64	16-JUNE-86	805	17.0	0.5	24.4	209		7.3	2.7	1086	218	15.0	8.4	6.7	5.4
				2	24.4	210		7.4							
				4	24.4	209		7.4		1023	208	13.1	8.7	7.1	1.1
				6	24.4	210		7.6							
				8	23.7	233		5.6							
				9	21.7	255		3.4		899	181	13.1	9.2	7.6	1.6
				10	21.8	259		2.5							
				12	20.5	283		1.4		644	120	10.5	3.2	2.4	0.9
				14	20.3	287		1.3							
				16	19.6	314		0.6		350	59	5.9	1.5	0.9	1.0

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXPROF (Vertical water column profiles of temperature, salinity, oxygen, and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	CONDUCT (umho)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	SECCHI (m)	PC (ug/l)	PN (ug/l)	PP (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)	SESTON (mg/l)
R-64	24-JUNE-86	1110	17.0	0.5	24.3	220		9.7	1.9	1365	293	25.1	12.3	10.9	4.8
				2	24.3	220		9.3							
				4	24.2	222		9.0		1231	261	20.4	9.9	9.2	6.0
				6	24.0	229		8.1							
				8	23.3	244		6.1		631	144	15.8	3.5	2.5	5.9
				10	22.0	274		1.8		618	122	14.4	2.4	1.5	
				12	21.2	288		0.6							
				14	20.5	302		0.1							
				15.5	20.4	303		0.0		552	111	13.8	1.9	0.7	9.9

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXPROF (Vertical water column profiles of temperature,
salinity, oxygen, and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	CONDUCT (umho)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	SECCHI DISC (m)	PC (ug/l)	PN (ug/l)	PP (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)	SESTON (mg/l)
DARESBCH	11-Jul-85	1400	9.8	0.5	25.9	227		8.4	1.6	1771	263	24.3	13.2		8.4
				2	25.5	227		8.4							
				4	25.1	227		7.7		1837	284	23.6	15.4		10.3
				6	24.9	229		6.9		1661	274	32.4	14.9		12.0
				8	24.9	230		6.3		1380	239	26.4	12.3		11.0
				9	24.7	232		5.3		1281	202	27.6	9.6		12.4
DARESBCH	24-Jul-85	850	10.0	0.5	26.1	239		6.6	1.8	1172	218	29.6	10.7		26.6
				2	26.1	238		6.4		1259	244	30.0	11.8		25.4
				4	26.1	238		6.3		1249	241	27.0	11.6		23.8
				6	26.2	238		6.3		1025	196	33.0	11.1		
				8	26.2	238		6.4		1150	210	31.0	10.5		
DARESBCH	30-Jul-85	1000	9.5	0.5	26.2	251		7.69	1.3	1390	267	27.4	14.4		14.4
				2	26.1	250		7.66		1334	285	30.3	13.8		13.3
				4	26.0	250		7.47		1145	234	29.7	12.5		10.8
				6	26.0	250		7.36		1131	238	30.9	11.7		14.4
				8	26.0	250		7.30		1404	249	30.3	11.9		16.6
DARESBCH	05-Aug-85	830	10.0	0.5	25.6	238		7.42	1.4	1889	360	30.5	23.7		11.5
				2	25.7	238		7.57		1614	323	32.0	25.3		23.8
				4	25.7	238		7.57							
				6	25.7	238		7.48		1489	317	40.0	21.1		
				8	25.6	241		6.54		1013	227	27.9	11.5		13.8
				9	25.6	250		6.21		1090	228	30.3	14.6		18.9
DARESBCH	13-Aug-85	845	10.0	0.5	27.1	246		7.19	1.4	2342	421	40.4	27.5		15.3
				2	27.0	246		6.94		1682	299	27.2	16.7		11.9
				4	26.9	246		6.71		1224	235	25.3	10.6		12.6
				6	26.9	246		6.43		1017	193	24.0	8.8		11.5
				8	26.8	247		6.31							
				9	26.7	249		6.06		752	135	19.4	6.9		10.5
DARESBCH	21-Aug-85	1453	10.0	0.5	25.8	244		7.20	1.2	3720	782	58.4	60.3		23.7
				2	25.9	244		7.20							
				4	26.0	244		7.24		3275	668	57.0	60.6		25.0
				6	26.0	244		7.21		3043	611	49.0	53.8		28.2
				8	26.1	244		7.20		2950	618	45.0	46.2		26.6
				9	26.0	244		7.20		2811	542	55.0	48.4		27.8
DARESBCH	17-Sep-85	850	9.5	0.5	22.4		15.0	7.55	1.6	1028	167	27.1	13.9	14.7	13.1
				2	22.4		15.0	7.52							
				4	22.4		15.0	7.51		973	178	25.5	12.9	11.0	12.3
				6	22.4		15.0	7.44		894	167	22.2	12.6	10.3	12.5
				8	23.0		16.2	4.53		1167	181	29.6	12.6	9.7	17.4
				8.5	23.2		16.3	4.26		1417	220	31.7	13.9	10.3	17.0

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXPROF (Vertical water column profiles of temperature, salinity, oxygen, and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	CONDUCT (umho)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	SECCHI DISC (m)	PC (ug/l)	PN (ug/l)	PP (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)	SESTON (mg/l)
DARESBCH	25-Sep-85	1820	10.2	0.5	22.4		16.0	6.58	1.7	948	202	19.1	9.3	6.4	11.6
				2	22.6		16.0	6.54							
				4	22.6		16.0	6.67		847	132	14.0	7.1	5.3	9.3
				6	22.6		16.0	6.61		657	118	19.5	8.3	5.9	16.6
				8	22.6		16.0	6.78		888	172	29.2	13.6	9.1	20.2
				9	22.4		16.0	6.72		2285	442	34.3	15.6	14.7	23.6
DARESBCH	01-Oct-85	1145	9.5	0.5	21.8		16.9	7.36	1.7	1119	171	18.2	12.8	8.7	17.9
				2	21.7		16.9	7.37		1134	190	16.7	12.8	7.8	24.7
				4	21.8		17.6	7.33		623	88	11.3	6.3	3.9	19.0
				6	22.0		18.2	6.65		319	54	6.8	2.9	1.3	11.2
				8	22.2		18.3	5.72		972	96	15.8	4.6	1.2	21.6
DARESBCH	16-Oct-85	1115	10.4	0.5	19.5		16.8	8.55	2.7	864	128	11.1	8.2	6.1	8.4
				2	19.5		16.8	8.58							
				4	19.6		16.8	8.41		674	115	10.8	7.7	5.1	6.0
				6	19.7		17.2	7.34		559	85	10.0	4.5	1.6	7.4
				8	19.7		17.6	6.43		809	128	16.4	6.3	1.9	17.6
				9	19.7		17.8	6.03		1959	175	26.7	12.3	4.3	27.9
DARESBCH	06-Jan-86	1320	10.0	0.5	3.4		11.6	14.4	2.5	1418	183	19.9			17.3
				2	3.4		11.8	14.4		1341	182	17.8			9.9
				4	3.4		11.8	14.4		975	135	19.5			10.0
				6	3.4		12.0	14.1		1169	170	20.0			8.8
				8	3.8		12.5	13.5		1132	170	19.5			13.5
No Chlorophyll data:methods problem															
DARESBCH	17-Jan-86	1345	10.0	0.5	2.7		12.4	15.3	2.4	1204	156	12.1			9.6
				2	2.3		12.3	15.5							
				4	2.2		12.4	15.4		1496	192	16.1			10.0
				6	2.2		12.4	15.2		1508	198	16.1			12.0
				8	2.3		13.0	14.6		1249	181	15.4			10.6
				9	2.3		13.0	14.5		1478	205	15.4			10.4
No Chlorophyll data:methods problem															
DARESBCH	27-Feb-86	1200	11.0	0.5	1.9		9.4	13.8		714	113	9.4	4.1	3.5	3.20
				2	1.9		9.5	13.8		707	107	10.1	4.3	4.0	4.4
				4	1.9		9.5	13.7		723	101	10.0	4.9	4.3	4.8
				6	2.1		10.2	13.2		878	240	11.2	7.3	6.3	4.0
				8	2.4		14.0	12.4							
				9	2.6		15.4	11.6		2403	312	28.3	20.0	15.5	18.6
DARESBCH	12-Mar-86	1900	10.0	0.5	4.5	237		13.0		937	131	11.5			8.2
				2	4.4	236		12.5		832	131	11.6			5.6
				4	4.3	236		12.5		838	136	12.7	5.9	5.3	7.0
				6	4.3	236		12.4		887	133	11.5	6.2	5.6	5.4
				8	4.6	240		12.0							
				9	4.9	245		11.8		1307	196	15.1	10.7	9.7	7.0

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXPROF (Vertical water column profiles of temperature,
salinity, oxygen, and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	CONDUCT (umho)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	SECCHI DISC (m)	PC (ug/l)	PN (ug/l)	PP (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)	SESTON (mg/l)
DARESBCH	28-MAR-86	1015	10.5	0.5	8.4	175		12.2	2.0	1136	177	13.9	13.7	12.6	6.7
				2	8.2	175		12.1		1168	178	15.0	14.5	15.1	8.2
				4	8.1	178		11.9		1367	218	16.0	15.5	15.1	9.0
				6	8.1	185		11.8		1251	196	18.2	18.0	23.5	11.3
				8	8.0	188		11.6							
				9.5	7.5	201		10.8		1459	250	24.4	21.2	11.4	13.3
DARESBCH	14-APR-86	1130	9.8	0.5	11.2	153		12.4	1.9	1583	217	11.1	18.2	16.8	12.3
				2	10.9	154		12.4		1582	203	12.0	17.8	16.8	10.4
				4	10.4	154		12.5							
				6	10.4	153		12.1		1601	223	11.1	21.3	19.3	13.2
				8	8.5	240		6.3		1840	284	19.0	32.0	29.4	25.2
				9	8.4	245		6.1		2822	471	20.5	36.3	32.8	20.8
DARESBCH	29-APR-86	1030	10.0	0.5	14.2	151		12.7	1.8	1431	182	9.2	12.4	11.8	10.0
				2	13.7	154		12.7							
				4	13.1	169		11.6		1357	196	10.6	14.5	13.9	10.0
				6	12.0	197		9.1		1616	236	15.0	24.4	22.7	12.8
				8	11.2	254		5.3		2937	333	23.2	34.1	31.9	29.4
				9	11.2	259		5.3		2044	265	15.4	26.9	23.5	26.6
DARESBCH	5-MAY-86	1230	10.4	0.5	13.9		10.1	10.7	1.9	1704	205	13.6	14.7	14.7	9.4
				2.0	14.0		10.1	10.7							
				4.3	13.4		10.1	10.8		2202	254	17.8	24.0	25.2	8.6
				6.0	12.9		11.5	9.1		1477	187	12.9	17.0	16.4	6.6
				8.1	12.3		13.9	6.9		2175	276	17.8	30.6	31.1	12.8
				10.0	12.1		15.2	5.4		3968	471	21.4	49.2	48.7	12.4
DARESBCH	14-MAY-86	1345	10.7	0.5	16.8	197		9.6	3.1	1246	136	8.6	8.3	8.5	2.4
				2	16.8	193		9.7		1199	130	8.3	8.0	8.4	2.2
				4	16.8	197		9.6		1225	133	8.7	8.8	9.2	3.0
				6	16.3	206		8.6		1225	137	9.6	11.4	11.4	2.4
				8	15.3	217		8.5							
				9.5	15.0	228		6.9		5368	469	29.5	52.7	56.5	12.4
DARESBCH	19-MAY-86	1020	10.0	0.5	19.0		10.1	11.1	3.1	1005	119	5.3	7.0	7.1	1.0
				2	18.8		10.2	11.2		1031	119	5.6	7.4	7.6	1.4
				4	19.8		10.0	11.6							
				6	16.5		10.7	9.2		1759	213	9.3	19.4	19.3	4.0
				8	15.9		10.9	8.4		1653	188	10.0	16.9	16.8	3.5
				9	15.9		10.8	7.9		3325	323	17.9	34.5		9.0

DARESBCH 28-MAY-86 DATA NOT YET AVAILABLE

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXPROF (Vertical water column profiles of temperature,
salinity, oxygen, and particulates)

STATION	DATE	TIME	TOTAL DEPTH (m)	SAMPLE DEPTH (m)	TEMP (C)	CONDUCT (umho)	SALINITY (ppt)	DISSOLVED OXYGEN (mg/l)	SECCHI DISC (m)	PC (ug/l)	PN (ug/l)	PP (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)	SESTON (mg/l)
DARESBCH	3-JUNE-86	930	10.0	0.5	20.80	193		7.0	1.5	1196	234	20.7	8.2	7.1	5.6
				2	21.00	192		6.7		1242	236	18.7			4.7
				4	21.00	192		6.7		1262	246	18.6	8.1	6.6	4.8
				6	21.00	192		6.8							
				8	21.00	192		6.7		1159	217	20.9	7.9	6.9	5.3
				9	21.00	192		6.6		1192	216	21.6	8.0	6.1	7.1
DARESBCH	12-JUNE-86	1055	9.0	0.5	24.2	212		8.4	2.0	1173	205	11.6	9.8	7.9	0.7
				2	23.7	209		7.8		1302	235	12.6	11.4	9.2	1.2
				4	23.2	217		7.1		1064	206	13.4	11.0	7.9	0.7
				6	22.8	220		5.6		893	179	11.6	8.5	6.4	1.2
				8	21.4	245		3.3		648	116	11.7	4.3	2.6	2.3
DARESBCH	16-JUNE-86	1015	10.0	1	24.5	214		6.9	1.9	1470	282	15.2	13.2	10.5	1.8
				2	24.4	213		6.9							
				4	24.4	214		6.7		1351	270	15.3	12.8	10.5	2.0
				6	23.5	230		4.4		1164	254	16.4	7.5	6.8	1.5
				8	21.6	260		1.6		1185	244	17.1	5.2	3.8	3.1
				9	20.9	266		0.8		1021	192	11.9	4.3	3.0	2.9
DARESBCH	24-JUNE-86	1414	10.4	0.5	24.4	217		8.5	1.4	2316	456	36.9	22.1	20.2	9.00
				2	24.2	217		8.3							
				4	24.2	216		7.8		1263	261	21.9	11.1	9.7	8.00
				6	23.7	230		5.3		969	203	19.1	6.8	5.0	10.80
				8	23.1	243		3.1		980	194	21.8	5.7	4.1	11.50
				8.5	23.0	244		3.0		1053	192	22.6	5.5	4.0	11.10
DARESBHC	1-JULY-86	900	10.8	0.5	24.1	204		8.5	1.2				8.5	4.7	
				2	24.2	203		8.0					11.4	9.6	
				4	24.3	203		7.9					11.6	9.6	
				6	24.3	203		7.9							
				8	24.3	203		7.7					11.5	10.8	
				9.5	24.1	211		4.7					7.5	4.7	

Appendix Table 7

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX
VFXSEDS (description of particles in the surface 1 cm of the sediment column)

STATION	DATE	PC (%)	PN (%)	PP (%)	TOTAL CHLORO (mg/m2)
TOM PT	23-JULY-84	3.39	0.43	0.090	78.4
	30-JULY-84	3.67	0.47	0.083	67.8
	07-AUG-84	3.53	0.44	0.078	76.8
	14-AUG-84	3.43	0.40	0.073	70.8
	22-AUG-84	3.83	0.49	0.089	73.8
	30-AUG-84	3.28	0.41	0.077	52.7
R-78	17-SEPT-84				
	24-SEPT-84	3.05	0.32	0.087	22.6
	04-OCT-84	3.33	0.37	0.078	24.2
	16-OCT-84				
	30-NOV-84	1.83	0.14	0.053	21.5
	17-DEC-84	3.49	0.39	0.122	34.5
	19-FEB-85	3.65	0.38	0.085	48.5
	5-MAR-85	3.28	0.43	0.101	47.7
	1-APR-85	3.63	0.42	0.101	228.4
	15-APR-85	2.75	0.25	0.061	84.0
	7-MAY-85				
	27-MAY-85	5.65	0.32	0.061	44.9
	5-JUNE-85	4.12	0.47	0.136	153.0
	18-JUNE-85	4.11	0.42	0.100	164.0
	27-JUNE-85	3.83	0.48	0.087	104.0
R-64	23-JULY-84	3.11	0.43	0.059	78.4
	30-JULY-84	2.74	0.34	0.048	49.7
	7-AUG-84	3.00	0.37	0.054	76.8
	14-AUG-84	3.62	0.50	0.060	53.5
	22-AUG-84	3.78	0.51	0.064	64.0
	30-AUG-84	2.91	0.40	0.050	51.2
	17-SEPT-84				
	24-SEPT-84	3.09	0.39	0.062	22.4
	4-OCT-84	2.40	0.30	0.051	23.3
	30-NOV-84	2.52	0.31	0.055	30.5
	17-DEC-84	3.89	0.39	0.059	29.6
	19-FEB-85	2.88	0.44	0.066	41.8
	5-MAR-85	3.42	0.49	0.073	49.3
	1-APR-85	3.29	0.39	0.055	134.8
	15-APR-85	2.66	0.34	0.056	216.8
	30-APR-85	2.66	0.34	0.057	275.6
	8-MAY-85	3.64	0.48	0.081	198.0
	27-MAY-85	2.74	0.36	0.055	138.3
	5-JUN-85	2.88	0.38	0.068	166.4
	18-JUN-85	2.92	0.39	0.063	171.3
	25-JUN-85	3.60	0.47	0.078	128.5

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX
VFXSEDS (Description of particles in the surface 1 cm
of the sediment column)

STATION	DATE	PC (%)	PN (%)	PP (%)	TOTAL CHLORO (mg/m2)	ACTIVE CHLORO (mg/m2)
R-64	11-JULY-85	2.90	0.39	0.047	159	
R-64	24-JULY-85	2.52	0.36	0.042	115	
R-64	30-JULY-85	2.52	0.32	0.043	159	
R-64	5-AUG-85	3.12	0.33	0.045	131	
R-64	13-AUG-85	2.43	0.31	0.042	114	
R-64	20-AUG-85	2.98	0.34	0.060	143	
R-64	17-SEPT-85	2.73	0.36	0.048	129	58.2
R-64	25-SEPT-85	2.55	0.33	0.046	115	47.8
R-64	1-OCT-85	2.20	0.29	0.042	115	47.8
R-64	16-OCT-85	2.72	0.35	0.062	116	15.8
R-64	6-JAN-86	2.78	0.34	0.061		
R-64	17-JAN-86	2.71	0.33	0.052		
R-64	27-FEB-86	2.56	0.26	0.046	244	187
R-64	12-MAR-86	2.58	0.32	0.049	210	87.2
R-64	28-MAR-86	2.69	0.35	0.058	224	112
R-64	14-APR-86	3.05	0.41	0.071		
R-64	29-APR-86	2.60	0.33	0.049	153	62.8
R-64	14-MAY-86	2.71	0.31	0.051	158	67.3
R-64	19-MAY-86	3.64	0.42	0.068	309	128
R-64	28-MAY-86	2.51	0.32	0.055	224	102
R-64	3-JUNE-86	3.21	0.41	0.069	233	108
R-64	12-JUNE-86	3.25	0.38	0.061	139	65.8
R-64	16-JUNE-86	2.82	0.34	0.056	218	89.7
R-64	24-JUNE-86	3.33	0.44		244	83.7

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX
VFXSEDS (description of particles in the surface 1 cm of the sediment column)

STATION	DATE	PC (%)	PN (%)	PP (%)	TOTAL CHLORO (mg/m2)	ACTIVE CHLORO (mg/m2)
DARESBCH	11-JUL-85	3.52	0.43	0.054	119	
DARESBCH	23-JUL-85	3.65	0.46	0.062	104	
DARESBCH	30-JUL-85	3.26	0.38	0.056	130	
DARESBCH	05-AUG-85	4.01	0.53	0.070	121	
DARESBCH	13-AUG-85	3.78	0.45	0.059	130	
DARESBCH	21-AUG-85	3.79	0.57	0.060	110	
DARESBCH	17-SEP-85	3.63	0.48	0.068	118	42.5
DARESBCH	25-SEP-85	3.27	0.28	0.064	131	42.3
DARESBCH	01-OCT-85	3.72	0.54	0.063	131	37.1
DARESBCH	16-OCT-85	4.02	0.50	0.071	125	5.4
DARESBCH	06-JAN-86	3.50	0.44	0.085		
DARESBCH	17-JAN-86	3.69	0.45	0.071		
DARESBCH	27-FEB-86	3.83	0.47	0.072	193	87.2
DARESBCH	12-MAR-86	3.18	0.40	0.075	259	112
DARESBCH	28-MAR-86	3.59	0.44	0.074	236	100
DARESBCH	14-APR-86	3.68	0.46	0.070		
DARESBCH	29-APR-86	3.50	0.45	0.063	189	71.8
DARESBCH	14-MAY-86	3.77	0.46	0.086		
DARESBCH	19-MAY-86	3.80	0.46	0.066	256	114
DARESBCH	28-MAY-86	3.83	0.47	0.077	233	89.7
DARESBCH	3-JUNE-86	3.67	0.44	0.077	222	138
DARESBCH	12-JUNE-86	3.20	0.39	0.066	206	102
DARESBCH	16-JUNE-86	3.85	0.48	0.086	233	114
DARESBCH	24-JUNE-86	3.48	0.41		174	59.8

Appendix Table 8

LONG-TERM BIOMONITORING PROGRAM;VERLONG-TERM BIOMONITORING PROGRAM;VERTICAL FLUX PROGRAM
VFXDEPO (deposition rate of particuVFXDEPO (deposition rate of particulate to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRVE	TIME RETRVE	STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRVE	TIME RETRVE	TOTAL TIME (days)	TOTAL DEPTH (m)	CUP DEPTH (m)	SESTON (g/m2/d)	PC (mg/m2/d)	PN (mg/m2/d)	PP (mg/m2/d)	CHLORO (mg/m2/d)
TOM.PT	23-JULY-	1315	30JULY-8	1455	TOM.PT	23-JULY-	1315	30JULY-8	1455	7.1	15.5	4.2	16.4	836	125	29	6.9
										7.1	15.5	4.2	18.5	941	130	28	7.7
										7.1	15.5	4.2	11.0	469	68	16	3.3
										7.1	15.5	4.2	12.5	655	94	17	5.2
										7.1	15.5	4.2	23.1	1064	147	39	10.4
										7.1	15.5	4.2	26.4	1185	158	40	11.1
										7.1	15.5	4.2	25.1	1164	158	39	9.5
										7.1	15.5	4.2	28.3	1145	143	40	8.4
										7.1	15.5	4.2	352.0	17668	2366	368	82.6
										7.1	15.5	4.2	427.0	20802	2792	461	98.5
										7.1	15.5	4.2	376.9	18673	2556	412	95.2
TOM.PT	30-JULY-	1510	7-AUG-84	1100	TOM.PT	30-JULY-	1510	7-AUG-84	1100	7.9	16.0	4.7	8.4	865	82	13	2.7
										7.9	16.0	4.7	8.7	494	71	16	3.3
										7.9	16.0	9.7	17.9	988	140	30	3.1
										7.9	16.0	9.7	21.0	903	121	31	8.7
										7.9	16.0	14.8	312.9	14210	1899	326	58.1
										7.9	16.0	14.8	285.6	14150	1895	321	61.8
TOM.PT	7-AUG-84	1100	14-AUG-8	1030	TOM.PT	7-AUG-84	1100	14-AUG-8	1030	7.0	16.2	4.9	8.7	689	106	19	2.2
										7.0	16.2	4.9	10.5	714	104	21	2.6
										7.0	16.2	9.9	13.8	756	107	21	3.2
										7.0	16.2	9.9	13.0	725	95	21	3.1
										7.0	16.2	15.0	209.7	10390	1402	220	26.7
										7.0	16.2	15.0	192.1	9871	1328	212	23.9
TOM.PT	14-AUG-8	1045	22-AUG-8	1200	TOM.PT	14-AUG-8	1045	22-AUG-8	1200	8.1	16.2	4.9	15.5	1012	154	33	4.2
										8.1	16.2	4.9	15.6	1025	144	31	3.6
										8.1	16.2	9.9	17.8	692	99	35	3.2
										8.1	16.2	9.9	16.3	687	97	20	3.0
										8.1	16.2	15.0	253.7	12829	1791	282	31.6
										8.1	16.2	15.0	271.7	12759	1785	261	31.0
TOM.PT	22-AUG-8	1200	30-AUG-8	1113	TOM.PT	22-AUG-8	1200	30-AUG-8	1113	8.0	15.4	2.5	10.7	949	163	25	3.6
										8.0	15.4	2.5	10.5	923	156	29	2.8
										8.0	15.4	7.8	19.9	1018	153	28	2.7
										8.0	15.4	7.8	22.0	1031	155	27	2.7
										8.0	15.4	13.5	310.2	15981	2097	346	27.0
										8.0	15.4	13.5	344.9	16139	2111	343	28.6

LONG-TERM BIOMONITORING PROGRAM;VERTICAL FLUX PROGRAM
VFXDEPO (deposition rate of particulate to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRVE	TIME RETRVE	TRAP VOL (l)	SESTON CONC (mg/l)	PC CONC (ug/l)	PN CONC (ug/l)	PP CONC (ug/l)	CHLORO CONC (ug/l)
TOM.PT	23-JULY-	1315	30JULY-8	1455	4.0	131	6679	1000	231	55.5
					3.9	154	7848	1082	236	64.5
					2.0	175	7474	1079	249	52.2
					2.0	206	10755	1543	275	85.1
					4.0	187	8583	1190	314	83.8
					3.8	223	10009	1338	338	94.2
					2.1	394	18279	2475	616	149.7
					2.1	442	17890	2237	629	130.8
					4.5	2518	126398	16923	2631	591.2
					4.5	3055	150492	20196	3338	712.5
					2.8	4380	217025	29710	4790	1106.7
TOM.PT	30-JULY-	1510	7-AUG-84	1100	2.2	138	14233	1348	212	43.9
					2.2	141	8045	1163	258	54.6
					2.2	292	16111	2282	490	50.0
					2.7	284	12231	1636	419	118.0
					3.2	3490	158478	21174	3640	648.1
					3.2	3225	159793	21398	3620	697.4
TOM.PT	7-AUG-84	1100	14-AUG-8	1030	2.4	115	9131	1409	256	28.6
					2.4	142	9695	1409	291	35.6
					2.0	216	11828	1672	329	50.7
					2.3	182	10144	1329	292	44.0
					2.8	2365	117186	15813	2477	300.8
					2.4	2555	131282	17665	2819	317.7
TOM.PT	14-AUG-8	1045	22-AUG-8	1200	4.8	119	7769	1184	256	32.5
					4.3	134	8826	1239	269	30.7
					4.0	164	6378	913	322	29.2
					4.4	138	5821	818	166	25.1
					4.4	2110	106702	14895	2346	263.2
					4.4	2275	106841	14947	2188	259.4
TOM.PT	22-AUG-8	1200	30-AUG-8	1113	4.0	97	8613	1476	231	32.5
					4.0	95	8379	1416	263	25.4
					4.0	181	9236	1389	256	24.4
					4.0	200	9356	1402	244	24.3
					4.0	2815	145014	19026	3144	244.9
					4.0	3130	146452	19158	3108	259.4

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRVE	TIME RETRVE	TOTAL TIME (days)	TOTAL DEPTH (m)	CUP DEPTH (m)	SESTON (g/m2/d)	PC (mg/m2/d)	PN (mg/m2/d)	PP (mg/m2/d)	CHLORO (mg/m2/d)
R-78	17-SEPT-84	21:00	24-SEPT-84	12:30	6.7	15.2	3.7	10.1	786	130	29	7.3
					6.7		3.7	10.0	717	115	25	7.1
					6.7		8.5	16.3	1067	150	40	8.8
					6.7		8.5	17.7	1185	175	39	8.2
					6.7		13.4	289.4	13440	1849	506	29.6
					6.7		13.4	319.7	12838	1929	591	35.0
R-78	24-SEPT-84	12:30	4-OCT-84	14:00	10.1	15.2	3.7	26.6	986	129	37	3.7
					10.1		3.7	24.2	1052	140	40	1.6
					10.1		8.5	35.9	1577	208	61	5.3
					10.1		8.5	41.7	1619	219	63	5.7
					10.1		13.4	445.8	17972	2399	647	31.3
					10.1		13.4	401.6	13730	2011	597	25.4
R-78	4-OCT-84	1400	16-OCT-84	12:30	11.9	15.8	4.4	10.1	424	66	16	2.3
					11.9		4.4	9.9	515	71	19	2.3
					11.9		9.1	22.8	909	148	36	3.8
					11.9		9.1	20.8	946	145	33	4.0
					11.9		14.0	280.6	11774	1425	403	20.3
					11.9		14.0	293.5	11469	1490	391	21.2
R-78	30-NOV-84	12.30	17-DEC-84	12:30	17.0	16.3	4.8	8.6	506	75	10	1.7
					17.0		4.8	8.2	442	64	16	1.6
					17.0		9.5	20.4	881	114	33	2.1
					17.0		9.5	20.3	879	115	34	2.3
					17.0		14.4	244.1	16526	3850	327	9.4
					17.0		14.4	250.5	9852	1243	341	17.4
R-78	19-FEB-85	1345	5-MAR-85	1200	14.0	17.4	5.9	5.3	841	122	12	8.6
					14.0		5.9	5.3	696	128	12	7.7
					14.0		10.7	10.4	882	130	19	7.1
					14.0		10.7	10.2	828	122	18	6.2
					14.0		15.6	226.7	11896	1561	300	44.5
					14.0		15.6	223.2	11251	1464	296	43.8

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRVE	TIME RETRVE	TRAP VOL (l)	SESTON CONC (mg/l)	PC CONC (ug/l)	PN CONC (ug/l)	PP CONC (ug/l)	CHLORO CONC (ug/l)
R-78	17-SEPT-84	21:00	24-SEPT-84	12:30	4.0	77	5962	982	220	55.6
					4.0	76	5436	875	191	53.8
					4.0	124	8086	1139	300	66.9
					4.0	134	8985	1329	297	62.4
					4.0	2194	101891	14016	3837	224.5
					4.0	2424	97327	14623	4478	265.3
R-78	24-SEPT-84	12:30	4-OCT-84	14:00	4.0	305	11309	1483	421	42.5
					4.0	277	12061	1604	460	17.9
					4.0	412	18087	2391	704	60.9
					4.0	478	18570	2507	718	65.4
					4.0	5112	206110	27517	7418	358.5
					4.0	4606	157456	23060	6845	291.5
R-78	4-OCT-84	1400	16-OCT-84	12:30	4.0	137	5765	893	214	31.6
					4.1	132	6842	947	253	31.0
					4.0	310	12378	2019	487	52.3
					4.0	283	12881	1971	450	54.5
					4.0	3820	160256	19392	5489	276.9
					4.0	3995	156107	20278	5319	288.6
R-78	30-NOV-84	12.30	17-DEC-84	12:30	4.0	167	9812	1448	187	33.8
					4.0	158	8560	1240	317	31.2
					4.0	396	17066	2212	649	41.4
					4.0	394	17029	2232	653	44.9
					4.0	4730	320266	74610	6342	162.0
					4.0	4855	190922	24087	6617	338.0
R-78	19-FEB-85	1345	5-MAR-85	1200	4.0	84	13367	1940	194	137.0
					4.0	84	11072	2039	196	122.0
					4.0	165	14030	2060	308	113.0
					4.0	163	13161	1935	284	98.2
					4.0	3605	189187	24824	4770	708.0
					4.0	3550	178928	23286	4710	697.0

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRVE	TIME RETRVE	TOTAL TIME (days)	TOTAL DEPTH (m)	CUP DEPTH (m)	SESTON (g/m2/d)	PC (mg/m2/d)	PN (mg/m2/d)	PP (mg/m2/d)	CHLORO (mg/m2/d)
R-78	1-APR-85	1220	LOST TRAP NOT RESET UNTIL 27-MAY-85									
R-78	27-MAY-85	1215	5-JUNE-85	1520	9.1	15.7	4.2	5.9	421	56	93	3.4
					9.1		4.2	5.5	445	50	95	2.8
					9.1		9.0	14.2	738	85	19	5.6
					9.1		9.0	16.9	843	90	18	5.6
					9.1		13.9	249.3	11162	1439	382	66.3
					9.1		13.9	236.5	14427	1779	348	40.6
R-78	5-JUNE-85	1520	18-JUNE-85	1450	13.0	15.8	4.3	5.1	493	66	11	3.2
					13.0		4.3	5.6	489	60	10	3.6
					13.0		9.0	9.3	637	74	18	3.7
					13.0		9.0	9.4	604	71	14	3.9
					13.0		13.9	110.7	5423	650	176	16.6
					13.0		13.9	117.6	5735	696	203	16.6
R-78	18-JUNE-85	1450	27-JUNE-85	1130	8.9	15.8	4.3	8.4	618	107	14	5.2
					8.9		4.3	7.3	608	106	13	4.9
					8.9		9.1	10.3	783	123	17	5.1
					8.9		9.1	11.0	738	112	17	5.8
					8.9		14.0	96.1	4495	594	15	13.4
					8.9		14.0	96.2	4948	620	15	14.9

R-78 VFK PROGRAM DISCONTINUED AT THIS LOCATION AS OF 27-JUNE-85

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRVE	TIME RETRVE	TRAP VOL (l)	SESTON CONC (mg/l)	PC CONC (ug/l)	PN CONC (ug/l)	PP CONC (ug/l)	CHLORO CONC (ug/l)
R-78	1-APR-85	1220	LOST TRAP NOT RESET UNTIL 27-MAY-85							
R-78	27-MAY-85	1215	5-JUNE-85	1520	4.0	61	4384	586	970	35.6
					4.1	56	4521	508	960	28.2
					4.0	148	7678	886	202	58.6
					4.0	176	8769	938	192	57.9
					4.0	2595	116174	14974	3980	690.3
					4.0	2462	150160	18516	3620	422.2
R-78	5-JUNE-85	1520	18-JUNE-85	1450	4.0	76	7293	971	162	47.0
					4.0	83	7237	888	141	53.3
					4.0	138	9422	1097	270	55.4
					4.0	139	8940	1044	207	58.1
					4.0	1638	80241	9621	2610	245.0
					4.0	1740	84868	10300	3000	245.0
R-78	18-JUNE-85	1450	27-JUNE-85	1130	4.0	85	6239	1085	137	52.8
					4.0	74	6138	1068	131	49.0
					4.0	104	7910	1241	168	51.7
					4.0	112	7452	1128	175	58.6
					4.0	971	45396	5999	153	135.4
					4.0	972	49977	6263	151	150.0

R-78 VFK PROGRAM DISCONTINUED AT THIS LOCATION AS OF 27-JUNE-85

LONG-TERM BIOMONITORING PROGRAM;VERTICAL FLUX PROGRAM
VFXDEPO (deposition rate of particulate to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRVE	TIME RETRVE	TOTAL TIME (days)	TOTAL DEPTH (m)	CUP DEPTH (m)	SESTON (g/m2/d)	PC (mg/m2/d)	PN (mg/m2/d)	PP (mg/m2/d)	CHLORO (mg/m2/d)
R-64	23-JULY-84	1745	30-JULY-	1010	6.7	16.0	3.8	2.7	424	71	9	6.6
					6.7	16.0	3.8	2.7	336	58	7	4.5
					6.7	16.0	3.8	1.2	145	24	4	1.8
					6.7	16.0	3.8	1.0	114	20	3	1.4
					6.7	16.0	7.8	4.0	389	62	8	3.8
					6.7	16.0	7.8	4.1	414	68	9	4.3
					6.7	16.0	7.8	2.5	235	36	7	2.0
					6.7	16.0	7.8	2.1	234	40	6	2.4
					6.7	16.0	13.7	128.1	6507	950	110	31.6
					6.7	16.0	13.7	105.8	5784	829	96	27.8
					6.7	16.0	13.7	108.3	5726	811	43	25.9
					6.7	16.0	13.7	106.2	5897	837	101	26.8
R-64	30-JULY-84	1045	7-AUG-84	1250	8.1	16.1	3.9	3.5	429	72	16	2.8
					8.1	16.1	3.9	3.8	554	96	13	3.2
					8.1	16.1	7.9	2.0	270	45	7	2.3
					8.1	16.1	7.9	2.4	239	38	6	1.9
					8.1	16.1	13.8	42.4	2351	353	46	12.4
					8.1	16.1	13.8	42.8	2289	346	46	12.0
R-64	7-AUG-84	1230	14-AUG-8	1230	7.0	16.5	4.3	2.7	531	86	13	2.0
					7.0	16.5	4.3	2.7	500	81	11	1.8
					7.0	16.5	8.3	3.4	438	70	10	2.1
					7.0	16.5	8.3	3.5	468	74	10	2.3
					7.0	16.5	14.2	20.8	1523	227	29	5.5
					7.0	16.5	14.2	26.8	1625	240	32	5.8
R-64	14-AUG-84	1230	22-AUG-8	910	6.9	16.8	4.6	7.0	746	130	20	2.7
					6.9	16.8	4.6	7.0	756	132	20	2.8
					6.9	16.8	8.6	8.1	550	87	13	2.4
					6.9	16.8	8.6	7.9	541	85	12	2.0
					6.9	16.8	14.5	62.6	3330	497	61	9.9
					6.9	16.8	14.5	63.3	2914	460	55	8.8
R-64	22-AUG-84	910	30-AUG-8	1400	8.2	16.8	4.6	16.8	1929	373	57	6.7
					8.2	16.8	4.6	10.7	1449	258	35	4.3
					8.2	16.8	8.6	10.2	844	151	20	2.3
					8.2	16.8	8.6	9.7	812	140	20	2.6
					8.2	16.8	14.5	193.5	8416	1260	160	18.7
					8.2	16.8	14.5	192.7	8334	1236	157	18.7

LONG-TERM BIOMONITORING PROGRAM;VERTICAL FLUX PROGRAM
VFXDEPO (deposition rate of particulate to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRVE	TIME RETRVE	TRAP VOL (l)	SESTON CONC (mg/l)	PC CONC (ug/l)	PN CONC (ug/l)	PP CONC (ug/l)	CHLORO CONC (ug/l)
R-64	23-JULY-84	1745	30-JULY-	1010	3.8	22	3399	567	72	52.7
					3.7	22	2804	484	58	37.9
					2.1	17	2131	350	55	26.2
					2.3	13	1497	265	43	18.0
					3.9	31	3080	487	66	29.9
					3.7	34	3441	564	74	36.0
					2.3	33	3167	480	88	26.5
					2.1	30	3411	586	92	35.6
					3.9	1006	51104	7462	867	248.2
					3.7	864	47250	6768	787	227.4
					2.2	1490	78797	11162	586	356.3
					2.2	1502	83405	11836	1427	379.0
R-64	30-JULY-84	1045	7-AUG-84	1250	2.6	50	6132	1034	228	39.5
					2.4	58	8504	1477	202	48.5
					2.9	25	3392	561	90	28.4
					2.1	41	4182	668	105	33.4
					2.4	648	35942	5404	696	189.5
					2.7	580	31000	4686	624	163.0
R-64	7-AUG-84	1230	14-AUG-8	1230	2.4	36	7035	1140	178	26.0
					2.0	42	7858	1277	180	29.0
					2.1	53	6821	1094	148	32.7
					2.3	48	6467	1023	133	31.2
					2.4	279	20423	3048	395	74.3
					2.3	365	22172	3277	430	79.0
R-64	14-AUG-84	1230	22-AUG-8	910	4.1	54	5795	1011	154	21.3
					4.0	55	5949	1038	159	21.7
					4.0	64	4325	686	103	18.9
					4.0	63	4256	670	91	16.0
					4.1	486	25872	3863	473	77.1
					4.0	498	22918	3619	435	69.6
R-64	22-AUG-84	910	30-AUG-8	1400	4.1	153	17610	3407	520	61.1
					4.1	99	13395	2382	328	40.2
					4.1	93	7707	1376	185	20.7
					4.1	89	7415	1281	185	23.3
					4.3	1685	73275	10972	1393	162.6
					4.4	1640	70912	10518	1337	158.9

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRVE	TIME RETRVE	TOTAL TIME (days)	TOTAL DEPTH (m)	CUP DEPTH (m)	SESTON (g/m2/d)	PC (mg/m2/d)	PN (mg/m2/d)	PP (mg/m2/d)	CHLORO (mg/m2/d)
R-64	17-SEPT-84	1813	24-SEPT-84	0921	6.6	17.7	4.3	5.4	600	99	13	5.7
					6.6		4.3	5.4	585	94	11	5.9
					6.6		8.5	7.9	587	96	11	5.4
					6.6		8.5	6.9	608	91	12	5.5
					6.6		15.4	116.7	5955	873	127	20.7
					6.6		15.4	121.4	6294	962	131	28.9
R-64	24-SEPT-84	0930	4-OCT-84	1030	10.0	17.5	4.2	10.6	499	79	16	3.5
					10.0		4.2	15.7	491	77	16	3.7
					10.0		8.4	22.7	992	152	19	3.9
					10.0		8.4	27.8	742	126	20	4.5
					10.0		15.3	270.7	10519	1462	220	25.0
					10.0		15.3	314.5	11813	1641	259	29.8
R-64	4-OCT-84	1030	16-OCT-84	2115	12.5	17.6	4.6	6.1	483	79	13	6.1
					12.5		4.6	5.7	485	77	14	6.7
					12.5		9.7	9.4	611	91	15	4.9
					12.5		9.7	10.4	598	87	15	5.4
					12.5		15.1	153.7	5649	799	161	18.9
					12.5		15.1	154.7	5500	759	145	17.0
R-64	30-NOV-84	0945	17-DEC-84	LOST								
R-64	19-FEB-85	0930	5-MAR-85	0900	14.0	18.6	5.6	1.6	325	58	4	3.2
					14.0		5.6	2.0	378	54	6	3.3
					14.0		10.7	5.0	676	98	12	5.1
					14.0		10.7	5.0	649	107	8	5.1
					14.0		16.1	96.5	5126	666	95	35.3
					14.0		16.1	92.4	4947	672	97	28.5
R-64	1-APR-85	0915	15-APR-85	1000	14.0	17.7	4.7	5.6	880	112	11	17.0
					14.0		4.7	7.0	994	130	11	19.8
					14.0		9.8	13.2	1060	199	20	12.1
					14.0		9.8	11.8	1074	164	15	18.7
					14.0		15.2	57.5	2909	525	58	22.0
					14.0		15.2	59.6	2557	443	53	15.3
R-64	15-APR-85	1015	30-APR-85	TRAP LOST		17.7						

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRVE	TIME RETRVE	TRAP VOL (l)	SESTON CONC (mg/l)	PC CONC (ug/l)	PN CONC (ug/l)	PP CONC (ug/l)	CHLORO CONC (ug/l)
R-64	17-SEPT-84	1813	24-SEPT-84	0921	4.0	41	4537	747	96	43.1
					4.0	41	4421	712	85	44.6
					4.0	59	4440	724	85	40.5
					4.0	52	4594	686	89	41.4
					4.0	882	45012	6597	957	156.2
					4.1	906	46987	7179	978	215.7
R-64	24-SEPT-84	0930	4-OCT-84	1030	4.0	121	5715	906	187	40.2
					4.0	180	5622	878	187	42.6
					4.0	260	11356	1743	222	44.3
					4.0	318	8496	1444	232	51.9
					4.0	3098	120390	16730	2523	285.7
					4.5	3200	120186	16698	2635	303.2
R-64	4-OCT-84	1030	16-OCT-84	2115	4.0	87	6856	1116	179	86.3
					4.0	81	6888	1091	202	95.6
					4.0	134	8678	1296	216	69.4
					4.5	132	7550	1103	190	67.6
					4.1	2155	79184	11204	2257	265.3
					4.0	2195	78065	10767	2061	241.9
R-64	30-NOV-84	0945	17-DEC-84	LOST						
R-64	19-FEB-85	0930	5-MAR-85	0900	4.0	26	5176	918	61	51.1
					4.0	31	6017	858	89	52.0
					4.0	79	10767	1560	191	81.8
					4.0	80	10336	1708	130	80.8
					4.0	1538	81701	10613	1510	563.0
					4.0	1472	78836	10717	1550	454.0
R-64	1-APR-85	0915	15-APR-85	1000	4.0	90	14074	1787	177	271.6
					4.0	112	15893	2082	170	317.2
					4.0	211	16956	3184	320	194.0
					4.0	188	17185	2619	232	298.9
					4.0	920	46527	8395	930	351.4
					4.0	954	40892	7086	850	244.0

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRVE	TIME RETRVE	TOTAL TIME (days)	TOTAL DEPTH (m)	CUP DEPTH (m)	SESTON (g/m2/d)	PC (mg/m2/d)	PN (mg/m2/d)	PP (mg/m2/d)	CHLORO (mg/m2/d)
R-64	30-APR-85	1020	8-MAY-85	1130	8.1	17.6	4.6	3.9	761	94	3	8.0
					8.1		4.6	5.0	769	99	9	8.1
					8.1		9.7	17.9	1229	183	23	11.9
					8.1		9.7	18.0	1098	163	21	9.9
					8.1		15.1	93.7	11031	1651	102	32.6
					8.1		15.1	99.6	14295	2090	104	35.0
R-64	27-MAY-85	0900	5-JUNE-85	1730	9.4	17.1	4.1	3.5	463	76	8	4.4
					9.4		4.1	2.1	490	90	8	4.9
					9.4		9.1	3.7	373	56	7	3.3
					9.4		9.1	3.9	432	62	7	3.9
					9.4		14.5	34.7	1660	222	41	7.6
					9.4		14.5	35.8	1784	248	41	9.6
R-64	5-JUNE-85	1740	18-JUNE-85	1015	12.7	17.0	4.0	3.0	328	45	5	2.7
					12.7		4.0	3.9	491	78	7	2.7
					12.7		9.1	5.3	461	61	6	4.7
					12.7		9.1	4.9	508	75	7	5.0
					12.7		14.5	39.7	1542	185	32	9.0
					12.7		14.5	38.6	1555	190	30	8.8
R-64	18-JUNE-85	1025	25-JUNE-85	1630	7.3	17.3	4.3	6.8	528	84	9	4.4
					7.3		4.3	5.0	734	129	11	6.3
					7.3		9.3	6.0	617	100	10	5.0
					7.3		9.3	6.2	756	117	10	5.8
					7.3		14.7	30.9	1596	232	40	8.8
					7.3		14.7	32.1	2032	287		8.4

ONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
.FXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

TATION	DATE DEPLOY	TIME DEPLOY	DATE RETRVE	TIME RETRVE	TRAP VOL (l)	SESTON CONC (mg/l)	PC CONC (ug/l)	PN CONC (ug/l)	PP CONC (ug/l)	CHLORO CONC (ug/l)
R-64	30-APR-85	1020	8-MAY-85	1130	4.0	36	6984	863	28	73.5
					4.0	46	7057	911	85	74.4
					4.0	164	11280	1679	207	109.5
					4.0	166	10073	1499	195	91.3
					4.0	860	101234	15148	940	298.9
					4.3	850	122029	17843	890	298.9
R-64	27-MAY-85	0900	5-JUNE-85	1730	4.0	37	4934	812	89	47.4
					4.2	22	4970	911	83	49.6
					4.0	39	3971	594	74	35.2
					4.0	42	4607	656	79	41.1
					4.0	370	17697	2370	440	81.0
					4.0	382	19014	2643	440	102.7
R-64	5-JUNE-85	1740	18-JUNE-85	1015	4.0	43	4738	648	65	39.6
					4.0	57	7108	1123	96	38.5
					4.0	76	6664	877	93	68.1
					4.0	71	7348	1086	108	71.8
					4.0	574	22304	2676	460	130.0
					4.0	558	22501	2754	440	127.8
R-64	18-JUNE-85	1025	25-JUNE-85	1630	4.0	56	4361	693	73	36.4
					4.0	41	6065	1068	93	52.3
					4.0	50	5103	828	80	41.7
					4.0	51	6251	964	84	48.0
					4.0	256	13193	1918	330	72.9
					4.0	266	16796	2370		69.2

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRIEVE	TIME RETRIEVE	TOTAL TIME (days)	TOTAL DEPTH (m)	CUP DEPTH (m)	SESTON (g/m2/d)	PC (mg/m2/d)	PN (mg/m2/d)	PP (mg/m2/d)	CHLORO (mg/m2/d)
R-64	25-JUNE-85	1700	11-JULY-85	1130	15.8	17.5	4.5	4.2	563	91	12	2.8
					15.8		4.5	4.4	514	78	9	3.6
					15.8		9.6	9.1	415	62	7	2.9
					15.8		9.6	8.3	449	63	13	2.8
					15.8		15.0	100.1	3656	444	69	13.9
R-64	11-JULY-85	1210	24-JULY-85	1105	13.0	17.5	4.5	9.5	637	106	13	5.5
					13.0		4.5	18.9	634	117	15	5.8
					13.0		9.6	16.4	634	105	17	4.3
					13.0		9.6	14.7	663	116	23	3.8
					13.0		15.0	215.2	7718	1044	171	21.9
					13.0		15.0	203.4	6437	882	169	21.5
R-64	24-JULY-85	1130	30-JULY-85	1140	6.0	17.2	4.2	8.5	997	184	19	10.2
					6.0		4.2	10.9	814	149	20	9.9
					6.0		9.2	18.1	1244	225	20	10.9
					6.0		9.2	16.2	1110	192	21	10.8
					6.0		14.6	102.2	3737	564	108	21.9
					6.0		14.6	92.5	3489	522	96	23.1
R-64	30-JULY-85	1157	5-AUG-85	0945	5.9	17.3	4.3	7.0	753	114	11	13.8
					5.9		4.3	9.1	799	131	12	15.6
					5.9		9.3	21.2	837	141	38	12.1
					5.9		9.3	17.5	693	103	18	10.5
					5.9		14.7	187.0	6992	853	148	27.0
					5.9		14.7	160.3	6052	812	126	29.0
R-64	5-AUG-85	0950	13-AUG-85	1230	8.1	17.3	4.3	5.6	724	114	9	13.4
					8.1		4.3	6.0	628	98	9	13.7
					8.1		9.3	15.8	885	134	15	11.0
					8.1		9.3	15.4	905	139	14	11.9
					8.1		14.7	128.7	5026	661	85	30.2
					8.1		14.7	127.2	4848	664	93	31.0
R-64	13-AUG-85	1230	20-AUG-85	1400	8.0	16.8	3.8	5.5	593	98	10	6.1
					8.0		3.8	7.0	623	104	12	5.6
					8.0		8.8	9.1	621	82	16	4.6
					8.0		8.8	10.2	593	97	10	5.2
					8.0		14.2	99.1	3789	511	77	14.3
					8.0		14.2	95.6	5184	748	86	15.8

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRIEVE	TIME RETRIEVE	TRAP VOL (l)	SESTON CONC (mg/l)	PC CONC (ug/l)	PN CONC (ug/l)	PP CONC (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)
R-64	25-JUNE-85	1700	11-JULY-85	1130	4.0	76	10114	1637	208	50.8	
					4.0	80	9245	1405	170	64.6	
					4.0	163	7460	1108	121	52.0	
					4.1	146	7872	1108	221	49.1	
					4.5	1600	58429	7088	1100	222.0	
R-64	11-JULY-85	1210	24-JULY-85	1105	4.0	140	9418	1569	188	81.8	
					4.0	279	9372	1729	226	86.0	
					4.0	243	9372	1556	249	63.2	
					4.0	217	9788	1715	338	55.6	
					4.0	3180	114035	15425	2520	323.0	
					4.0	3005	95105	13030	2490	318.0	
R-64	24-JULY-85	1130	30-JULY-85	1140	4.0	59	6834	1261	130	70.2	
					4.0	75	5578	1024	138	67.6	
					4.0	124	8520	1544	139	75.0	
					4.0	111	7605	1313	141	74.3	
					4.0	700	25605	3861	740	150.0	
					4.0	634	23901	3578	660	158.0	
R-64	30-JULY-85	1157	5-AUG-85	0945	4.0	47	5080	771	75	92.9	
					4.0	62	5391	886	81	105.0	
					4.0	143	5646	949	258	81.6	
					4.0	118	4678	692	123	70.7	
					4.0	1262	41115	5754	1000	182.0	
					4.0	1082	40841	5478	850	196.0	
R-64	5-AUG-85	0950	13-AUG-85	1230	4.0	51	6691	1055	85	124.0	
					4.1	54	5665	882	82	124.0	
					4.0	146	8181	1240	142	115.0	
					4.0	142	8364	1286	130	110.0	
					4.0	1190	46471	6115	790	279.0	
					4.0	1176	44821	6142	860	287.0	
R-64	13-AUG-85	1230	20-AUG-85	1400	4.1	49	5276	873	89	54.2	
					4.0	64	5685	952	109	51.4	
					4.0	83	5666	746	146	42.1	
					4.0	93	5406	884	87	47.3	
					4.0	904	34556	4656	700	130.0	
					4.0	872	47282	6826	780	144.0	

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRIEVE	TIME RETRIEVE	TOTAL TIME (days)	TOTAL DEPTH (m)	CUP DEPTH (m)	SESTON (g/m2/d)	PC (mg/m2/d)	PN (mg/m2/d)	PP (mg/m2/d)	CHLORO (mg/m2/d)
R-64	17-SEPT-85	0945	25-SEPT-85	1740	7.8	17.6	4.6	6.4	692	114	14	13.7
					7.8		4.6	8.9	703	122	12	18.4
					7.8		9.6	18.0	892	138	21	16.1
					7.8		9.6	14.5	832	132	20	16.2
					7.8		15.0	140.5	5359	764	112	19.6
					7.8		15.0	153.5	5266	788	108	42.1
R-64	25-SEPT-85	1745	1-OCT-85	1024	5.7	17.3	4.3	20.0	1093	142	22	8.8
					5.7		4.3	24.3	1025	114	24	9.5
					5.7		9.4	39.0	1104	114	30	12.8
					5.7		9.4	33.2	1168	139	28	18.1
					5.7		14.8	221.5	6552	781	147	39.9
					5.7		14.8	243.8	6453	757	149	37.2
R-64	1-OCT-85	1024	16-OCT-85	0950	15.0	16.5	3.5	10.4	692	107	10	20.8
					15.0		3.5	10.6	744	116	22	24.0
					15.0		8.6	14.4	792	114	17	19.1
					15.0		8.6	14.8	890	128	17	32.6
					15.0		14.0	117.9	4464	552	85	23.3
					15.0		14.0	116.5	4125	524	83	25.2
R-64	6-JAN-86	1120	17-JAN-86	1200	11.0	18.0	5.0	6.8	545	65	8	0.0
					11.0		5.0	7.5	552	72	8	0.0
					11.0		10.0	25.7	1050	127	22	0.0
					11.0		10.0	27.1	1109	162	23	0.0
					11.0		15.4	171.1	5299	658	125	0.0
					11.0		15.4	159.9	4829	613	116	0.0
R-64	27-FEB-86	1000	12-MAR-86	1730	12.8	18.0	5.5	1.8	216	79	4	1.5
					12.8		5.5	2.9	401	63	6	3.9
					12.8		10.5	6.7	551	83	9	5.5
					12.8		10.5	6.1	443	66	7	4.2
					12.8		15.4	49.2	2759	349	49	18.7
					12.8		15.4	56.6	2690	382	51	20.6
R-64	12-MAR-86	1740	28-MAR-86	840	15.6	18.3	5.3	2.1	664	107	14	7.3
					15.6		5.3	7.6	498	72	10	2.3
					15.6		10.4	7.1	511	82	10	4.7
					15.6		10.4	9.7	646	103	13	6.4
					15.6		15.8	110.9	4745	689	113	31.7
					15.6		15.8	118.5	5600	849	117	39.0

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRIEVE	TIME RETRIEVE	TRAP VOL (l)	SESTON CONC (mg/l)	PC CONC (ug/l)	PN CONC (ug/l)	PP CONC (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)
R-64	13-AUG-85	1230	20-AUG-85	1400	4.1	49	5276	873	89	54.2	
					4.0	64	5685	952	109	51.4	
					4.0	83	5666	746	146	42.1	
					4.0	93	5406	884	87	47.3	
					4.0	904	34556	4656	700	130.0	
					4.0	872	47282	6826	780	144.0	
R-64	17-SEPT-85	0945	25-SEPT-85	1740	4.0	57	6180	1014	122	122.0	64.1
					4.0	79	6272	1088	105	164.0	82.3
					4.0	161	7963	1234	183	144.0	78.2
					4.0	129	7429	1177	178	145.0	82.1
					4.0	1254	47834	6823	1000	175.0	101.0
					4.0	1370	47004	7031	965	376.0	183.0
R-64	25-SEPT-85	1745	1-OCT-85	1024	4.0	130	7112	924	144	57.0	32.5
					4.0	159	6670	742	159	61.7	37.3
					4.0	254	7186	739	193	83.0	43.8
					4.0	216	7600	908	182	118.0	52.0
					4.0	1442	42652	5084	955	260.0	108.0
					4.0	1587	42008	4928	973	242.0	113.0
R-64	1-OCT-85	1024	16-OCT-85	0950	4.2	169	11237	1746	163	338.0	108.0
					4.0	181	12690	1971	371	410.0	71.0
					4.1	243	13333	1924	282	321.0	91.0
					4.0	252	15172	2181	295	556.0	95.5
					4.0	2010	76138	9410	1454	397.0	95.3
					4.0	1986	70344	8938	1424	430.0	95.3
R-64	6-JAN-86	1120	17-JAN-86	1200	4.0	85	6836	821	97		
					4.0	94	6928	899	102		
					4.0	322	13164	1597	282		
					4.0	340	13902	2031	286		
					4.0	2145	66450	8256	1572		
					4.0	2005	60550	7683	1452		
R-64	27-FEB-86	1000	12-MAR-86	1730	4.0	26	3157	410	53	21.3	17.6
					4.0	42	5854	917	89	57.4	50.4
					4.0	98	8041	1217	131	80.1	64.4
					4.0	90	6462	965	102	62.0	47.6
					4.0	718	40296	5094	719	273.0	185.0
					4.0	826	39276	5576	745	301.0	205.0

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)

VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRIEVE	TIME RETRIEVE	TOTAL TIME (days)	TOTAL DEPTH (m)	CUP DEPTH (m)	SESTON (g/m2/d)	PC (mg/m2/d)	PN (mg/m2/d)	PP (mg/m2/d)	CHLORO (mg/m2/d)
R-64	28-MAR-86	840	14-APR-86	1015	17.1	18.3	5.3	5.5	560	76	7	9.1
					17.1		5.3	5.6	692	95	8	10.2
					17.1		10.4	12.4	469	78	19	11.7
					17.1		10.4	20.3	424	74	32	12.2
					17.1		15.8	118.6	2827	393	112	39.8
					17.1		15.8	115.3	2563	352	105	42.1
R-64	14-APR-86	1025	29-APR-86	845	14.9	18.0	5.0	7.5	815	108	9	9.1
					14.9		5.0	9.0	786	105	9	12.0
					14.9		10.1	16.9	1343	221	18	13.6
					14.9		10.1	19.6	2022	350	30	11.4
					14.9		15.4	152.0	6482	908	128	52.4
					14.9		15.4	158.2	6626	924	131	54.7
R-64	29-APR-86	922	5-MAY-86	1146	6.1	18.1	5.1	6.3	726	86	8	8.2
					6.1		5.1	4.5	813	98	9	8.7
					6.1		10.2	9.3	1381	220	20	10.9
					6.1		10.2	9.7	1438	236	24	11.7
					6.1		15.6	85.7	3963	530	85	27.6
					6.1		15.6	96.1	4235	571	88	31.0
R-64	5-MAY-86	1156	14-MAY-86	1515	8.7	18.3	5.3	2.1	426	49	5	4.7
					8.7		5.3	2.5	539	68	5	0.0
					8.7		10.4	6.0	1000	145	17	10.7
					8.7		10.4	7.6	1095	162	17	10.0
					8.7		15.8	63.1	3632	475	74	22.7
					8.7		15.8	65.0	3773	517	73	22.4
R-64	14-MAY-86	1515	19-MAY-86	900	5.7	17.8	4.8	1.1	453	51	3	3.4
					5.7		4.8	1.0	444	52	3	3.4
					5.7		9.8	4.0	1484	272	21	6.3
					5.7		9.8	2.5	735	115	7	6.4
					5.7		15.2	21.3	1650	231	25	10.4
					5.7		15.2	20.7	1530	219	26	10.5

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)

VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRIEVE	TIME RETRIEVE	TRAP VOL (l)	SESTON CONC (mg/l)	PC CONC (ug/l)	PN CONC (ug/l)	PP CONC (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)
R-64	12-MAR-86	1740	28-MAR-86	840	4.0	37	11819	1912	244	130.0	109.0
					4.0	135	8864	1279	183	40.9	31.8
					4.0	126	9095	1460	179	83.7	71.4
					4.0	172	11496	1835	226	114.0	84.7
					4.0	1975	84488	12274	2013	565.0	364.0
					4.0	2110	99723	15116	2081	695.0	563.0
R-64	28-MAR-86	840	14-APR-86	1015	4.0	107	10912	1486	130	178.0	151.0
					4.0	110	13475	1842	151	199.0	176.0
					4.0	242	9126	1518	376	227.0	176.0
					4.0	396	8249	1440	627	237.0	168.0
					4.0	2310	55037	7660	2172	775.0	546.0
					4.0	2245	49910	6852	2039	819.0	714.0
R-64	14-APR-86	1025	29-APR-86	845	4.0	128	13856	1840	155	155.0	139.0
					4.0	153	13377	1791	160	204.0	176.0
					4.0	287	22840	3763	298	231.0	205.0
					4.0	334	34399	5947	511	194.0	126.0
					4.0	2585	110256	15437	2181	892.0	504.0
					4.0	2690	112695	15712	2231	931.0	504.0
R-64	29-APR-86	922	5-MAY-86	1146	4.0	43	5031	599	53	56.7	56.7
					4.0	31	5632	676	62	60.1	56.7
					4.0	65	9571	1523	141	75.6	
					4.0	67	9966	1633	165	81.4	75.6
					4.0	594	27469	3671	590	191.0	99.2
					4.0	666	29352	3960	611	215.0	132.0
R-64	5-MAY-86	1156	14-MAY-86	1515	4.0	21	4210	485	52	46.5	39.7
					4.0	25	5326	674	51		
					4.0	60	9886	1434	169	106.0	109.0
					4.0	76	10820	1601	171	98.9	88.2
					4.0	624	35895	4892	731	224.0	152.0
					4.0	642	37292	5107	721	221.0	139.0
R-64	14-MAY-86	1515	19-MAY-86	900	4.0	7	2953	334	20	22.3	19.6
					4.0	7	2895	340	21	22.1	18.9
					4.1	25	9440	1730	133	40.2	35.7
					4.0	16	4791	749	46	41.7	37.8
					4.0	139	10761	1509	160	67.8	42.3
					4.0	135	9980	1428	168	68.4	42.3

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRIEVE	TIME RETRIEVE	TOTAL TIME (days)	TOTAL DEPTH (m)	CUP DEPTH (m)	SESTON (g/m2/d)	PC (mg/m2/d)	PN (mg/m2/d)	PP (mg/m2/d)	CHLORO (mg/m2/d)
R-64	19-MAY-86	920	28-MAY-86	1545	8.8	17.5	4.5	3.7	493	68	6	3.4
					8.8		9.6	7.3	939	158	12	2.4
					8.8		15.0	101.3	4649	630	80	15.1
R-64	28-MAY-86	1550	3-JUNE-86	730	5.7	17.5	4.5	2.0	465	69	6	2.6
					5.7		4.5	2.5	511	80	7	3.2
					5.7		9.6	4.2	666	118	10	2.2
					5.7		9.6	4.5	1037	191	13	3.9
					5.7		15.0	39.7	2225	320	35	7.5
					5.7		15.0	42.5	1993	284	41	7.4
R-64	3-JUNE-86	734	12-JUNE-86	911	9.0	17.3	4.3	2.8	261	41	4	2.0
					9.0		4.3	1.9	289	49	4	2.5
					9.0		9.3	4.7	549	91	8	2.7
					9.0		9.3	4.9	472	77	6	3.1
					9.0		14.7	88.0	3265	429	69	13.4
					9.0		14.7	82.7	3561	451	86	13.4
R-64	12-JUNE-86	922	16-JUNE-86	900	4.0	17.4	4.4	1.5	660	122	7	6.5
					4.0		4.4	0.9	522	99	7	5.4
					4.0		9.5	2.4	601	99	6	4.8
					4.0		9.5	1.9	549	101	8	5.2
					4.0		14.8	18.4	1226	178	21	9.9
					4.0		14.8	19.6	1223	175	22	9.7
R-64	16-JUNE-86	920	24-JUNE-86	1230	8.1	17.4	4.4	6.6	734	133	10	4.8
					8.1		4.4	5.6	433	74	11	3.9
					8.1		9.5	13.1	842	140	14	5.2
					8.1		9.5	12.5	822	135	12	5.0
					8.1		14.8	95.5	4202	607	81	16.9
					8.1		14.8	92.1	3995	579	80	17.0

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)

VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRIEVE	TIME RETRIEVE	TRAP VOL (l)	SESTON CONC (mg/l)	PC CONC (ug/l)	PN CONC (ug/l)	PP CONC (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)
R-64	19-MAY-86	920	28-MAY-86	1545	4.0	37	4913	683	61	33.9	25.2
					4.1	71	9137	1537	118	23.5	9.2
					4.0	1010	46378	6284	797	151.0	75.6
R-64	28-MAY-86	1550	3-JUNE-86	730	4.0	13	3012	449	36	17.1	11.2
					4.0	16	3310	517	45	20.9	15.9
					4.0	27	4315	763	64	14.3	9.3
					4.0	29	6715	1236	85	25.5	17.9
					4.0	257	14405	2070	224	48.8	23.8
					4.0	275	12902	1840	267	48.2	21.2
R-64	3-JUNE-86	734	12-JUNE-86	911	4.0	29	2679	423	44	20.4	9.7
					4.0	19	2957	499	40	26.0	15.9
					4.0	49	5624	934	85	27.9	15.3
					4.0	50	4842	792	66	31.7	19.3
					4.0	902	33465	4397	706	137.0	46.3
					4.0	848	36495	4627	881	137.0	39.7
R-64	12-JUNE-86	922	16-JUNE-86	900	4.0	7	2985	550	33	29.6	22.5
					4.0	4	2363	447	31	24.4	17.2
					4.0	11	2720	449	29	21.6	10.2
					4.0	8	2485	455	37	23.4	14.2
					4.0	84	5548	806	97	44.6	23.1
					4.0	89	5536	790	99	44.1	21.0
R-64	16-JUNE-86	920	24-JUNE-86	1230	4.0	61	6781	1226	94	44.0	26.5
					4.0	52	3997	687	105	36.0	7.9
					4.0	121	7774	1292	132	48.2	26.3
					4.0	115	7591	1250	113	46.4	26.5
					4.0	882	38799	5606	750	156.0	66.1
					4.0	850	36889	5345	740	157.0	66.1

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRIEVE	TIME RETRIEVE	TOTAL TIME (days)	TOTAL DEPTH (m)	CUP DEPTH (m)	SESTON (g/m2/d)	PC (mg/m2/d)	PN (mg/m2/d)	PP (mg/m2/d)	CHLORO (mg/m2/d)
DARESBCH	11-JUL-85	1530	24-JUL-85	913	12.8	9.9	2.9	26.6	1385	210	32	7.2
					12.8		2.9	19.0	1277	221	37	6.9
					12.8		5.9	39.1	1703	264	39	8.9
					12.8		5.9	34.5	2109	350	48	8.8
					12.8		8.4	109.0	4939	686	142	17.6
					12.8		8.4	103.9	5273	755	164	17.5
DARESBCH	24-JUL-85	937	30-JUL-85	1035	6.0	9.8	2.8	20.6	1584	259	32	10.1
					6.0		2.8	20.2	1217	241	32	8.7
					6.0		5.8	39.8	2261	337	50	12.8
					6.0		5.8	37.5	2832	367	46	12.6
					6.0		8.2	163.7	7752	1077	181	28.9
					6.0		8.2	155.3	6442	908	174	26.6
DARESBCH	30-JUL-85	1035	05-AUG-85	900	5.9	9.8	2.8	50.2	2630	389	66	18.6
					5.9		2.8	51.6	2567	363	67	18.2
					5.9		5.8	80.9	4368	601	87	19.8
					5.9		5.8	91.0	4014	559	95	23.3
					5.9		8.2	202.9	9229	1293	196	44.3
					5.9		8.2	197.3	9229	1246	195	46.1
DARESBCH	05-AUG-85	915	13-AUG-85	900	8.0	10.0	3.0	20.5	1545	235	26	10.4
					8.0		3.0	33.7	1453	229	32	12.8
					8.0		6.0	41.8	2089	303	45	18.2
					8.0		6.0	46.5	2311	337	47	30.6
					8.0		8.5	97.4	6323	895	540	25.3
					8.0		8.5	145.9	6373	907	716	34.5
DARESBCH	13-AUG-85	900	21-AUG-85	1430	7.5	10.0	3.0	46.3	2339	280	51	11.6
					7.5		3.0	44.4	2391	326	44	12.4
					7.5		6.0	80.0	2310	288	83	18.1
					7.5		6.0	80.0	3290	363	103	16.3
					7.5		8.5	182.4	7174	1078	169	30.7
					7.5		8.5	215.8	8431	1177	188	35.1
DARESBCH	17-SEP-85	825	25-SEP-85	1805	7.9	10.0	3.0	35.9	1702	262	36	16.0
					7.9		3.0	32.6	1430	224	32	16.7
					7.9		6.0	59.4	2489	398	52	28.7
					7.9		6.0	62.7	2510	404	53	29.7
					7.9		8.5	176.8	7147	1028	154	52.3
					7.9		8.5	171.8	6686	984	152	48.7
DARESBCH	25-SEP-85	1810	01-OCT-85	1200	5.8	9.9	2.9	148.9	5369	645	134	24.3
					5.8		2.9	200.2	5101	613	127	23.3
					5.8		5.9	228.4	8685	1076	189	34.2
					5.8		5.9	243.5	8109	1001	205	35.7
					5.8		8.3	482.8	19395	2305	424	74.8
					5.8		8.3	472.2	19005	2156	537	72.3

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRIEVE	TIME RETRIEVE	TRAP VOL (l)	SESTON CONC (mg/l)	PC CONC (ug/l)	PN CONC (ug/l)	PP CONC (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)
DARESBCH	11-JUL-85	1530	24-JUL-85	913	4.0	386	20129	3058	464	104.0	
					4.0	276	18560	3205	537	101.0	
					4.0	568	24746	3830	570	129.0	
					4.0	502	30656	5080	700	128.0	
					4.0	1585	71790	9975	2060	256.0	
					4.0	1510	76640	10970	2390	255.0	
DARESBCH	24-JUL-85	937	30-JUL-85	1035	4.0	142	10906	1786	219	69.2	
					4.0	139	8377	1359	222	59.7	
					4.0	274	15570	2317	342	88.4	
					4.0	258	19498	2528	314	86.6	
					4.5	1002	47444	6589	1110	177.0	
					4.1	1043	43274	6100	1170	179.0	
DARESBCH	30-JUL-85	1035	05-AUG-85	900	4.2	324	16958	2506	428	120.0	
					4.1	341	16958	2396	440	120.0	
					4.0	548	29572	4072	590	134.0	
					4.0	616	27181	3788	640	158.0	
					4.0	1374	62494	8755	1330	300.0	
					4.0	1336	62494	8440	1320	312.0	
DARESBCH	05-AUG-85	915	13-AUG-85	900	4.0	186	14016	2134	237	94.0	
					4.0	306	13187	2080	291	116.0	
					4.0	379	18958	2752	405	165.0	
					4.0	422	20968	3054	430	167.0	
					4.0	884	57378	8126	980	231.0	
					4.0	1324	57835	8231	1300	313.0	
DARESBCH	13-AUG-85	900	21-AUG-85	1430	4.0	395	19941	2390	437	98.9	
					4.0	379	20390	2778	378	106.0	
					4.0	682	19694	2460	710	154.0	
					4.0	682	28054	3096	880	139.0	
					4.0	1555	61775	9195	1440	262.0	
					4.1	1795	70135	9790	1560	292.0	
DARESBCH	17-SEP-85	825	25-SEP-85	1805	4.0	323	15310	2353	328	144.0	104.0
					4.0	293	12858	2013	290	150.0	52.2
					4.0	534	22387	3582	469	258.0	113.0
					4.0	564	22572	3634	475	267.0	131.0
					4.0	1590	64286	9245	1387	470.0	160.0
					4.0	1545	60138	8854	1365	438.0	160.0
DARESBCH	25-SEP-85	1810	01-OCT-85	1200	4.0	976	35192	4228	879	159.0	47.7
					4.0	920	33440	4020	831	153.0	52.0
					4.0	1497	56932	7056	1240	224.0	82.3
					4.0	1596	53156	6562	1341	234.0	95.3
					4.0	3165	127130	15110	2780	490.0	147.0
					4.0	3095	124595	14135	3518	474.0	156.0

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRIEVE	TIME RETRIEVE	TOTAL TIME (days)	TOTAL DEPTH (m)	CUP DEPTH (m)	SESTON (g/m2/d)	PC (mg/m2/d)	PN (mg/m2/d)	PP (mg/m2/d)	CHLORO (mg/m2/d)
DARESBCH	01-OCT-85	1200	16-OCT-85	1045	15.0	10.0	3.0	48.2	2579	329	43	17.6
					15.0		3.0	54.0	2563	298	47	17.9
					15.0		6.0	87.4	3863	488	76	33.4
					15.0		6.0	114.5	3838	493	79	37.8
					15.0		8.4	169.6	8904	1009	154	86.8
					15.0		8.4	166.3	8053	980	151	58.3
DARESBCH	06-JAN-86	1400	17-JAN-86	1415	11.5	10.0	3.0	15.8	690	74	15	4.0
					11.5		3.0	15.4	852	107	14	4.1
					11.5		6.0	22.3	1066	137	23	8.8
					11.5		6.0	22.1	1140	139	23	6.8
					11.5		8.5	36.6	1610	198	36	8.6
					11.5		8.5	39.5	1660	200	45	8.8
DARESBCH	27-FEB-86	1145	12-MAR-86	1930	13.4	10.5	4.0	3.7	346	47	5	3.0
					13.4		4.0	3.8	344	44	5	3.1
					13.4		7.0	9.0	709	113	14	5.8
					13.4		7.0	7.9	584	76	11	5.7
					13.4		9.0	37.3	2415	293	46	16.0
					13.4		9.0	36.8	2184	283	42	15.0
DARESBCH	12-MAR-86	800	28-MAR-86	1040	16.1	10.2	3.2	9.1	535	72	13	4.5
					16.1		3.2	9.3	651	94	15	5.4
					16.1		6.2	144.3	825	114	20	6.3
					16.1		6.2	15.1	794	108	21	4.4
					16.1		8.7	30.6	1725	231	36	11.9
					16.1		8.7	32.6	1795	243	41	12.0
DARESBCH	28-MAR-86	1050	14-APR-86	1055	17.0	10.1	3.1	6.1	615	83	8	7.3
					17.0		3.1	5.7	557	77	8	7.8
					17.0		6.1	8.2	612	84	9	10.7
					17.0		6.1	8.9	665	85	9	11.3
					17.0		8.6	34.9	1930	248	38	20.4
					17.0		8.6	33.6	1845	242	38	20.4
DARESBCH	14-APR-86	1105	29-APR-86	1100	14.5	9.9	2.9	15.6	1024	131	16	10.8
					14.5		2.9	14.1	981	129	14	10.5
					14.5		5.9	22.0	1413	188	23	13.3
					14.5		5.9	20.9	1366	185	21	12.6
					14.5		8.4	52.2	2679	366	53	23.4
					14.5		8.4	53.1	3114	378	53	22.8
DARESBCH	29-APR-86	1130	5-MAY-86	1215	6.0	10.0	3.0	25.5	1886	202	29	16.4
					6.0		3.0	21.5	1572	187	27	12.3
					6.0		6.0	31.9	2501	305	38	19.5
					6.0		6.0	26.3	2185	268	33	22.5
					6.0		8.5	64.9	3323	406	69	25.3
					6.0		8.5	69.2	3478	432	68	27.1

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRIEVE	TIME RETRIEVE	TRAP VOL (l)	SESTON CONC (mg/l)	PC CONC (ug/l)	PN CONC (ug/l)	PP CONC (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)
					4.0	3095	124595	14135	3518	474.0	156.0
DARESBCH	01-OCT-85	1200	16-OCT-85	1045	4.0	822	43954	5610	733	300.0	113.0
					4.0	920	43678	5084	795	305.0	56.3
					4.0	1490	65840	8310	1292	570.0	121.0
					4.1	1904	63816	8204	1316	628.0	108.0
					4.1	2820	148045	16775	2565	1444.0	156.0
					4.0	2835	137240	16710	2568	993.0	195.0
DARESBCH	06-JAN-86	1400	17-JAN-86	1415	4.0	207	9053	974	198		
					4.0	202	11178	1402	188		
					4.0	293	13988	1800	296		
					4.0	290	14961	1823	303		
					4.0	480	21130	2604	477		
					4.0	518	21780	2630	590		
DARESBCH	27-FEB-86	1145	12-MAR-86	1930	4.0	57	5285	713	82	45.5	37.0
					4.0	58	5247	665	81	47.6	39.7
					4.0	138	10826	1721	214	88.5	68.8
					4.0	121	8914	1158	174	87.2	68.0
					4.0	570	36862	4478	709	244.0	175.0
					4.0	562	33334	4316	645	229.0	151.0
DARESBCH	12-MAR-86	800	28-MAR-86	1040	4.0	168	9834	1331	236	82.4	52.9
					4.0	170	11958	1731	274	98.9	82.0
					4.0	266	15143	2093	360	116.0	79.4
					4.0	278	14589	1790	381	80.4	52.9
					4.0	562	31671	4238	657	218.0	165.0
					4.0	602	32964	4470	746	220.0	172.0
DARESBCH	28-MAR-86	1050	14-APR-86	1055	4.0	119	11932	1621	165	142.0	130.0
					4.0	110	10821	1492	162	151.0	139.0
					4.0	159	11887	1629	172	207.0	193.0
					4.0	172	12910	1656	181	219.0	185.0
					4.0	678	37460	4819	739	397.0	315.0
					4.0	652	35823	4698	740	397.0	273.0
DARESBCH	14-APR-86	1105	29-APR-86	1100	4.0	258	16973	2177	267	179.0	158.0
					4.0	234	16255	2136	238	174.0	147.0
					4.0	365	23425	3118	379	221.0	179.0
					4.0	347	22644	3063	353	209.0	168.0
					4.0	866	44411	6016	885	388.0	294.0
					4.0	880	51616	6263	876	378.0	294.0
DARESBCH	29-APR-86	1130	5-MAY-86	1215	4.0	175	12965	1391	199	113.0	95.9
					4.0	148	10805	1287	186	84.7	69.5
					4.0	219	17193	2097	260	134.0	119.0
					4.0	181	15017	1842	227	155.0	185.0
					4.0	446	22846	2791	472	174.0	132.0
					4.0	476	23908	2970	466	186.0	139.0

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPD (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRIEVE	TIME RETRIEVE	TOTAL TIME (days)	TOTAL DEPTH (m)	CUP DEPTH (m)	SESTON (g/m2/d)	PC (mg/m2/d)	PN (mg/m2/d)	PP (mg/m2/d)	CHLORO (mg/m2/d)
DARESBCH	5-MAY-86	1230	14-MAY-86	1428	8.6	10.6	3.6	4.3	584	68	8	4.8
					8.6		3.6	4.2	569	68	8	4.1
					8.6		6.6	7.0	924	106	12	9.7
					8.6		6.6	7.3	975	112	12	11.1
					8.6		9.0	26.6	2410	279	34	21.6
					8.6		9.0	21.8	2206	253	33	21.8
DARESBCH	14-MAY-86	1430	19-MAY-86	1100	4.9	10.4	3.4	1.1	453	54	3	3.2
					4.9		3.4	1.6	543	61	5	4.4
					4.9		6.4	3.7	1143	132	8	10.8
					4.9		6.4	4.0	669	83	6	3.8
					4.9		8.8	11.4	1751	224	19	17.4
					4.9		8.8	9.8	1348	183	19	11.0
DARESBCH	19-MAY-86	1115	28-MAY-86	1635	8.7	10.4	3.4	5.4	724	107	9	4.2
					8.7		6.4	17.3	1323	178	22	7.1
					8.7		8.9	109.9	5898	766	66	23.9
DARESBCH	28-MAY-86	1650	3-JUNE-86	1015	4.8	10.4	3.4	42.0	2274	289	55	8.9
					4.8		3.4	37.6	2146	295	49	8.8
					4.8		6.4	52.1	2702	356	71	9.9
					4.8		6.4	59.0	3431	438	82	14.1
					4.8		8.9	118.4	6448	826	164	21.7
					4.8		8.9	121.0	5810	747	166	22.5
DARESBCH	3-JUNE-86	1020	12-JUNE-86	1015	9.0	9.8	2.8	4.4	512	79	8	3.4
					9.0		2.8	4.0	505	81	8	0.0
					9.0		5.8	7.8	678	97	11	4.0
					9.0		5.8	9.3	823	122	15	3.9
					9.0		8.2	44.9	2436	318	53	11.3
					9.0		8.2	43.8	2262	294	51	9.6
DARESBCH	12-JUNE-86	1035	16-JUNE-86	950	4.0	9.8	2.8	3.1	749	136	12	5.3
					4.0		2.8	3.6	738	131	11	5.7
					4.0		5.8	5.4	838	149	14	9.0
					4.0		5.8	3.5	583	101	8	4.8
					4.0		8.2	2.5	450	85	6	3.0
					4.0		8.2	2.9	481	84	7	3.7
DARESBCH	16-JUNE-86	1000	24-JUNE-86	1430	8.2	10.2	3.2	12.2	1599	248	16	7.9
					8.2		3.2	10.9	1083	172	23	6.7
					8.2		6.2	21.4	1644	232	26	9.4
					8.2		6.2	24.0	1555	223	26	8.8
					8.2		8.7	108.5	5988	785	120	21.5
					8.2		8.7	145.3	6589	841	137	22.4

LONG-TERM BIOMONITORING PROGRAM: VERTICAL FLUX PROGRAM (VFX)
VFXDEPO (Deposition rate of particulates to the top of the sediment trap cup at deployment depth)

STATION	DATE DEPLOY	TIME DEPLOY	DATE RETRIEVE	TIME RETRIEVE	TRAP VOL (l)	SESTON CONC (mg/l)	PC CONC (ug/l)	PN CONC (ug/l)	PP CONC (ug/l)	TOTAL CHLORO (ug/l)	ACTIVE CHLORO (ug/l)
DARESBCH	5-MAY-86	1230	14-MAY-86	1428	4.0	42	5710	663	74	47.2	39.2
					4.0	41	5570	666	74	40.5	32.6
					4.0	68	9041	1040	116	95.0	84.0
					4.0	71	9538	1100	120	109.0	101.0
					4.0	260	23573	2727	329	211.0	185.0
					4.0	213	21582	2479	319	213.0	202.0
DARESBCH	14-MAY-86	1430	19-MAY-86	1100	4.0	6	2545	302	17	18.2	17.9
					4.0	9	3051	343	26	24.5	23.1
					4.0	21	6424	744	46	60.8	59.5
					4.0	22	3762	464	33	32.1	24.1
					4.0	64	9842	1261	109	97.7	90.0
					4.0	55	7574	1029	107	61.7	52.9
DARESBCH	19-MAY-86	1115	28-MAY-86	1635	4.0	54	7176	1066	89	41.2	38.4
					4.0	172	13124	1770	219	70.2	50.3
					4.0	1090	58498	7596	659	237.0	112.0
DARESBCH	28-MAY-86	1650	3-JUNE-86	1015	4.0	230	12441	1580	300	48.5	26.5
					4.0	206	11743	1612	269	48.2	43.7
					4.0	285	14787	1948	388	54.3	21.2
					4.0	323	18773	2397	446	76.9	37.0
					4.0	648	35283	4518	899	119.0	45.0
					4.0	662	31791	4090	910	123.0	55.6
DARESBCH	3-JUNE-86	1020	12-JUNE-86	1015	4.0	46	5254	814	79	34.8	19.3
					4.0	41	5194	836	86	-	-
					4.0	80	6976	999	114	41.6	22.4
					4.0	96	8462	1254	155	40.6	22.4
					4.0	462	25046	3270	547	116.0	48.3
					4.0	450	23260	3026	523	98.6	43.2
DARESBCH	12-JUNE-86	1035	16-JUNE-86	950	4.0	14	3431	621	55	24.4	17.2
					4.0	16	3381	602	51	26.0	17.2
					4.0	25	3839	681	64	41.3	22.4
					4.0	16	2674	463	39	22.1	12.2
					4.1	11	2010	381	29	13.4	8.6
					4.0	14	2206	387	32	16.9	12.2
DARESBCH	16-JUNE-86	1000	24-JUNE-86	1430	4.0	114	14950	2315	148	73.9	50.3
					4.0	102	10126	1608	216	62.3	34.4
					4.0	200	15370	2171	244	87.5	48.3
					4.0	224	14535	2082	245	82.2	43.2
					4.0	1014	55976	7337	1120	201.0	79.4
					4.0	1358	61581	7859	1280	209.0	79.4