# Sediment Sources and Transport in Kings Bay and Vicinity, Georgia and Florida, July 8–16, 1982

U.S. GEOLOGICAL SURVEY PROFESSIONAL PAPER 1347

*Prepared in cooperation with the United States Navy Officer in charge of construction, Trident Naval Submarine Base, Kings Bay, Georgia*

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*By* DEAN B. RADTKE

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# CONVERSION FACTORS

For those readers who may prefer to use inch-pound units rather than SI (metric) units, the conversion factors for the terms used in this report are listed below:

| *Multiply metric unit* | *By* | *To obtain inch-pound unit* |
|---|---|---|
| cubic meter ($m^3$) | 35.31 | cubic foot ($ft^3$) |
| cubic centimeter ($cm^3$) | 6.102 | cubic inch ($in^3$) |
| gram (g) | 0.03527 | ounce (oz) |
| hectare (ha) | 2.471 | acres |
| kilogram (kg) | 2.205 | pound (lb) |
| kilometer (km) | 0.6214 | statute mile (mi) |
| liter (L) | 0.03531 | cubic foot ($ft^3$) |
| meter (m) | 3.281 | feet (ft) |
| metric ton (t) | 1.103 | ton, short |
| millimeter (mm) | 0.03937 | inch (in.) |
| square kilometer ($km^2$) | 0.3861 | square mile ($mi^2$) |

°F = 9/5°C + 32 or °C = 5/9 (°F−32)

*National Geodetic Vertical Datum of 1929 (NGVD of 1929):* A geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called "Mean Sea Level."

# SEDIMENT SOURCES AND TRANSPORT IN KINGS BAY AND VICINITY, GEORGIA AND FLORIDA, JULY 8–16, 1982

By DEAN B. RADTKE

ABSTRACT

Water-quality, bottom-material, suspended-sediment, and current-velocity data were collected in Kings Bay and vicinity to provide information on the sources and transport of estuarine sediments. Kings Bay and Cumberland Sound, the site of the Naval Submarine Base in southeast Georgia, are experiencing high rates of sediment deposition and accumulation, and this is causing serious navigational and operational problems. Data were collected between July 8 and 16, 1982, at cross sections in upper and lower Kings Bay, Cumberland Sound, and St. Marys Entrance. Additional water-quality data were collected at 22 sites during one consecutive ebb and flood slack tide on July 8, 1982, to assess possible suspended-sediment sources and to define salinity variation throughout the study area.

No appreciable vertical or lateral variation in salinity and temperature was detected at the measurement cross sections or at the 22 ebb and flood slack-tide measurement sites. Except for the upper St. Marys River sites, the waterways measured in Kings Bay and vicinity generally were vertically and laterally homogeneous.

Sediments in bottom-material samples collected at the cross sections ranged from coarse-gravel-sized shell fragments to fine silt and clay-sized inorganic particles. Silt- and clay-sized particles and organic detrital material, however, were dominant only in bottom materials at the lower Kings Bay cross section.

Approximately 25 percent of the silt- and clay-sized particles in the bottom material from lower Kings Bay consisted of planktonic and benthic diatom remains. Most diatom remains probably originated outside Kings Bay proper. At the other three cross sections, diatom remains accounted for 15 percent or less of the silt- and clay-sized particles in the bottom sediments.

Velocity, bathymetry, turbidity, and bottom-material data suggest that the area in the vicinity of lower Kings Bay is accumulating deposits of sediment transported in suspension from Cumberland Sound on the floodtide, and from upper Kings Bay and the tidal marsh drained by Marianna Creek on the ebbtide. Suspended-sediment discharges computed for a 13-hour period showed that a net quantity of $87.7 \times 10^3$ kilograms of suspended sediment was transported seaward from upper Kings Bay and Marianna Creek. Similar computations for different tidal cycles showed that a net landward transport of suspended materials occurred at the lower Kings Bay ($92 \times 10^3$ kilograms), St. Marys Entrance ($775 \times 10^3$ kilograms), and Cumberland Sound ($563 \times 10^3$ kilograms) cross sections. This is, in part, a result of the larger floodtide water volume than ebbtide water volume at these three cross sections rather than higher floodtide suspended-sediment concentrations at these cross sections. However, results do indicate that areas seaward of St. Marys Entrance may be supplying sediment to the shoaling areas of the estuary, including lower Kings Bay. The St. Marys River, the single major source of freshwater inflow to the estuary, does not supply significant quantities of suspended sediment to the estuary.

## INTRODUCTION

High rates of sediment deposition and accumulation are causing serious navigational and operational problems in Kings Bay and Cumberland Sound, southeast Georgia. Kings Bay, formerly the site of the Kings Bay Army Terminal, is now the site of the Naval Submarine Base. The existing base is being enlarged to accommodate the larger Trident submarine.

Of particular concern to the U.S. Navy is the impact of sediment shoaling on naval operations in the area. Continued dredging is required to maintain navigational depths in the Kings Bay wharf area and in the access channel to the open sea. Sediment deposition rates have been estimated at $3.8 \times 10^5$ m$^3$/yr ($5 \times 10^5$ yd$^3$/yr) in Kings Bay (Environmental Science and Engineering, Inc., 1977, p. C–210) and $0.83 \times 10^5$m$^3$/yr ($1.08 \times 10^5$ yd$^3$/yr) in the Cumberland Sound access channel (Jenkins and Skelly, 1981, p. 2). To accommodate the Trident submarine, Kings Bay and the access channel will be made deeper and wider. The impact of shoaling on the Trident submarine support base is uncertain. One prediction is that channel alterations will cause current shoaling rates to increase slightly in the access channel and about sixfold in the quiet-water facilities around Kings Bay (Jenkins and Skelly, 1981, p. 2). Even at current shoaling rates, expenditures of millions of dollars will be required to maintain navigational depths.

Alternative systems for the control of sediment are being pursued by the Navy. However, important information needed to design and to evaluate the systems is lacking. Needed is information on shoaling rates for specific reaches, major sediment sources, and rates and characteristics of sediment transport.

In July 1982, the U.S. Geological survey investigated the nature and magnitude of sediment transport in Kings Bay and vicinity for the U.S. Navy, OICC (Officer in Charge of Construction), Trident. The purpose of the investigation was to collect and evaluate basic hydrologic data relevant to the determination of the sources and transport characteristics of sediments in the Kings Bay area.

The objectives of this report are as follows:

1. Review descriptive background information on the Kings Bay area.
2. Report current, water-temperature, salinity, and sediment-concentration data collected nonsynoptically over consecutive floodtides and ebbtides during July 1982 in Kings Bay and vicinity.
3. Use these data to calculate net transport of water, salt, and sediment at four cross sections during consecutive floodtides and ebbtides, and use this information to appraise sediment-transport patterns within the study area.
4. Report salinity, water-temperature, sediment, turbidity, and phytoplankton data collected throughout Kings Bay and vicinity on consecutive slack tides.
5. Use these data to identify possible suspended-sediment sources and to define salinity variation throughout the study area.
6. Report results of analyses of benthic samples for particle size, organic carbon, and algal remains, and use these data to identify possible depositional patterns.

The information presented in this report is based primarily on data collected over a short period of time during unique tidal conditions (neap tide period with an increasing tide range) that were influenced by local weather. The interpretations of the data relevant to the sedimentation problems are limited because the data represent only a short time period. Nevertheless, the data provide important information that is needed to appraise sediment sources, to understand sediment-transport characteristics, and to design meaningful data-collection programs.

### PREVIOUS STUDIES

Review of the literature reveals that numerous studies of water and sediment movement have been conducted in estuaries and tidal embayments of the Atlantic Coastal Plain, including the Georgia coast. However, only a few studies have been conducted in the vicinity of Kings Bay and the St. Marys estuary. Oertel and Howard (1972) considered the associated water circulation and sediment-movement patterns in all major estuary inlets of the Georgia coast, including the St. Marys inlet. Howard and Frey (1975) reported on the characteristics of bottom materials collected from Cumberland Sound and the St. Marys River. Olsen (1977) studied the effects of inlet stabilization at St. Marys Entrance. The most comprehensive investigation in Kings Bay and vicinity was the environmental impact assessment for the Naval Submarine Base conducted for the U.S. Navy in 1976–77 by ES & E (Environmental Science and Engineering, 1977). As part of that investigation, water-quality and tidal-flow data were collected periodically for a year to assess the integrated characteristics of water circulation and patterns of sediment erosion, deposition, and accumulation. In November 1981, the U.S. Geological Survey (McConnell and others, 1983) conducted a preliminary investigation of the nature and magnitude of sediment transport in Kings Bay and vicinity during high spring tide conditions.

### ACKNOWLEDGMENTS

The author wishes to acknowledge Mr. George Carpenter, U.S. Navy, OICC, for his assistance with the logistics of this project and U.S. Navy personnel at the Kings Bay docking facility for recording wind data.

Special thanks go to Wayne York of Tradewind Charter, who was extremely cooperative in providing boat support. Thanks to Kenneth Morgan, the superintendent of Cumberland Island National Seashore, for allowing a tide-stage recorder to be installed at a dock on Cumberland Island.

The author also acknowledges the following U.S. Geological Survey personnel for their assistance: Timothy W. Hale and James B. McConnell for providing helpful suggestions regarding the investigation and the report; Don Block (Atlanta Central Laboratory), who analyzed and interpreted the planktonic and benthic diatom data; Howard A. Perlman and Stephen E. Ryan for their outstanding effort in developing software for computer graphics and data reduction for this report; Howard H. Persinger, who provided assistance in the field operation; and, lastly, the field personnel who, during the process of data collection, had to endure long working hours, strenuous and tedious working conditions, and severe weather conditions.

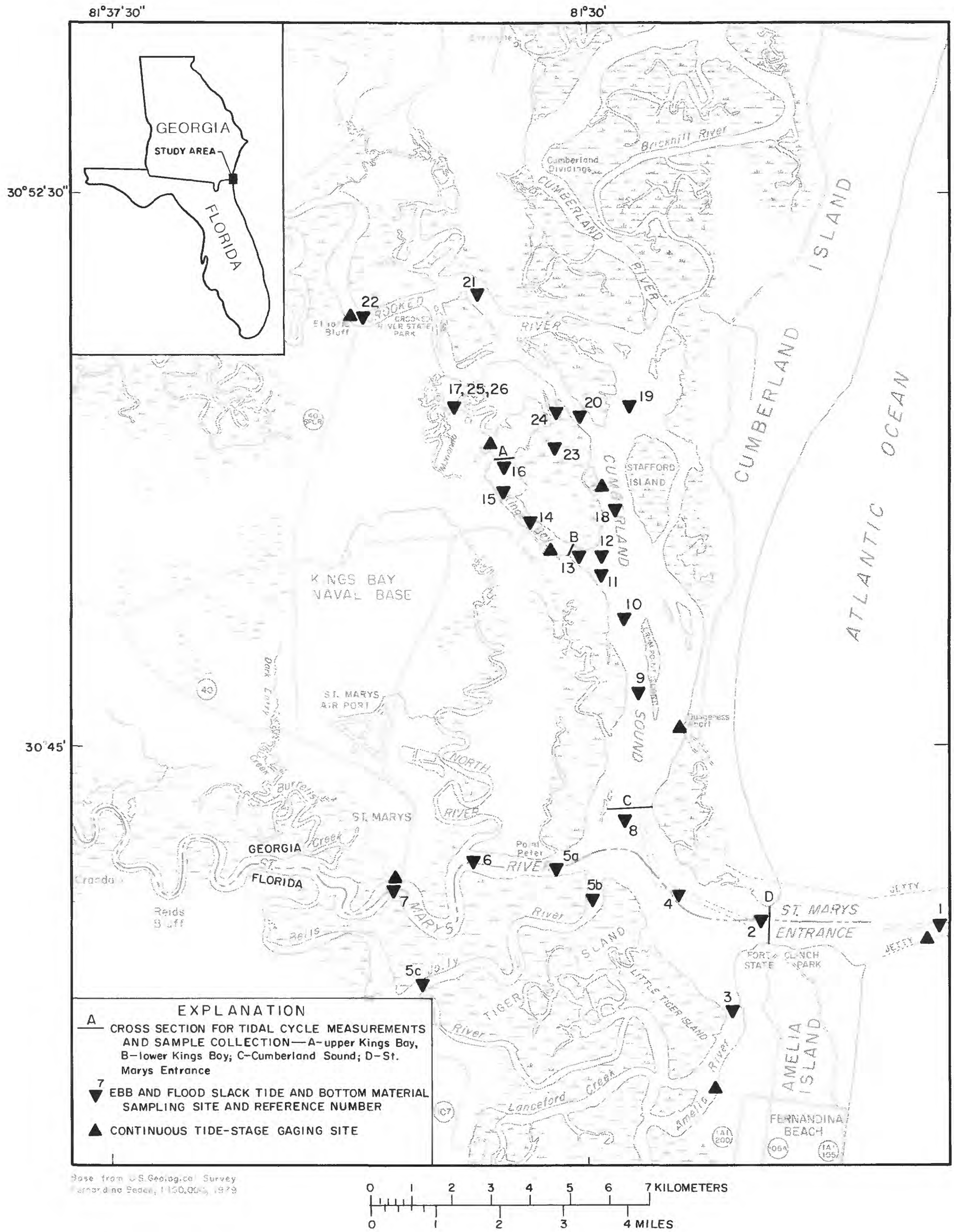
## DESCRIPTION OF THE STUDY AREA

The project study area (fig. 1) included Kings Bay, Cumberland Sound, St. Marys River, Crooked River, Cumberland River, Amelia River, and several smaller tributaries. It did not include any area seaward of St. Marys Entrance or northward of Cumberland Dividings.

### PHYSIOGRAPHY AND TOPOGRAPHY

The estuarine system of Kings Bay and vicinity is a bar-built system in the sea island section of the Coastal Plain physiographic province of Georgia. Bar-built estuaries are shallow basins, often partially exposed at low tide, enclosed by offshore bars or barrier islands, and broken at intervals by tidal inlets (Pritchard, 1967). Cumberland Island and Little Cumberland Island (not shown in fig. 1) are low, sandy islands separated from one another and from the mainland by tidal creeks and inlets that drain an extensive marsh-filled coastal lagoon. The mainland topography is characterized by broad depositional terraces alined in belts parallel to the

FIGURE 1.—Location of study area and data-collection sites. ⟶


81°37'30"
81°30'
30°52'30"
30°45'
GEORGIA
STUDY AREA
FLORIDA
Brickhill River
Cumberland Dividings
CUMBERLAND RIVER
CUMBERLAND ISLAND
ATLANTIC OCEAN
CROOKED RIVER
CROOKED RIVER STATE PARK
Bluff
KINGS BAY NAVAL BASE
STAFFORD ISLAND
CUMBERLAND SOUND
ST. MARYS AIR PORT
NORTH RIVER
ST. MARYS
GEORGIA
FLORIDA
ST. MARYS RIVER
Point Peter
Reids Bluff
Crandall
Bells River
Jolly
TIGER ISLAND
LITTLE TIGER ISLAND
Lanceford Creek
Amelia River
ST. MARYS ENTRANCE
JETTY
FORT CLINCH STATE PARK
AMELIA ISLAND
FERNANDINA BEACH
A
B
C
D
1
2
3
4
5a
5b
5c
6
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17,25,26
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EXPLANATION
A
CROSS SECTION FOR TIDAL CYCLE MEASUREMENTS AND SAMPLE COLLECTION—A-upper Kings Bay, B-lower Kings Bay; C-Cumberland Sound; D-St. Marys Entrance
7
EBB AND FLOOD SLACK TIDE AND BOTTOM MATERIAL SAMPLING SITE AND REFERENCE NUMBER
CONTINUOUS TIDE-STAGE GAGING SITE
Base from U.S. Geological Survey Fernandina Beach, 1:100,000, 1979
0 1 2 3 4 5 6 7 KILOMETERS
0 1 2 3 4 MILES

present coastline. These terraces consist of Pleistocene coastal deposits that have a low gradient and subtle undulations of the surface.

Pleistocene sediments of these terraces are organized into topographically distinct geomorphic units. The two geomorphic units are linear sand ridges (former barrier islands) and broad, clayey sand plains (former back-barrier tidal lagoons or marshes). These coastal terraces were formed during Pleistocene interglacial periods of erosion and deposition associated with transgressions and regressions of the Atlantic Ocean. Geologically, existing islands and marshes are unstable, subject to migration due to natural forces (waves, tides, currents, and winds) and man-induced alterations (dredging, upstream dams, jetties, and other shoreline structures).

## ECOLOGY

The seaward margin of the mainland and the landward side of the barrier islands are bordered by extensive areas of salt marsh and limited areas of freshwater and brackish marsh. The salt marsh extends to the high-tide line and up tidal creeks and rivers, where its upper boundary is generally marked by the black rush (*Juncus roemerianus*) (Wharton, 1978). Basically, the salt marsh is a grassland thet includes zones of single species of salt—tolerant grasses such as cordgrass (*Spartina*), salt grass (*Distichlys*), and rushes (*Juncus*). The marshes are watered and drained by an intricate network of tidal creeks and rivers.

Zones of vegetation in the salt marshes are determined by elevation, which controls the depth and duration of inundation by saline water. The harsh saltwater environment and water-level fluctuations in tidal marshes allow the growth of only a few species tolerant of salt stress and tidal fluctuations. Free from competition, extensive stands of smooth cordgrass (*Spartina alterniflora*) persist. Smooth cordgrass gives way to other species (*Distichlys spicata, Borrichia frutescens, Salicornia virginica,* and *Linomium carolinianum*) at higher marsh elevations where the marsh is flooded for only an hour a day (Warton, 1979).

Productivity in a salt marsh may amount to 200 (g carbon/m$^2$) per yr with carbon production due mostly to *Spartina alterniflora* (Wharton, 1978). Grosselink and others (1973) estimated that 42 percent of net primary production of *Spartina alterniflora* is flushed into the adjacent subtidal environments by tidal action, and Odum and de la Cruz (1967) estimated the net export of organic and mineral matter from 25 ha (hectares) of marsh to be 40 kg on neap tide and 140 kg on a spring tidal cycle. Odum (1961) has shown that the richest Georgia coastal marshes can produce up to 3.7 metric tons of plant material per hectare per year, which is a level of productivity more than six times the average world production of wheat per hectare. Mud algae growing throughout the intertidal sediments also contribute a substantial amount (one-quarter to one-third) of the total primary productivity of the salt marsh ecosystem (Schelske and Odum, 1961). Tidal flushing enhances salt-marsh productivity by replenishing nutrients and detritus and by circulating nutrients in estuarine waters. The highly productive tidal marshes are capable of supporting an extensive shellfish and fish resource important to the commercial seafood industry.

## CLIMATE

Kings Bay and vicinity is characterized by warm, humid summers and short, mild winters. Because the marine environment moderates the climate of the area, the winters are warmer and the summers are cooler than in the inland areas. Rainfall averages 1,270 mm per year, with spring being the driest season. Summer temperatures generally range from the 20's to the low 30's (°C) and winter temperatures range from 4° to 15°C. The average relative humidity ranges from 45 percent in the spring to 60 percent in the fall.

The prevailing winds are generally from the southeast, but during the period September to December the dominant winds are from the northeast. These "northeasters" generally are of high velocity and occasionally increase to moderate gale force. Tropical storms are common in the region; however, storms of hurricane strength have not occurred at Kings Bay as frequently as at most other locations along the Atlantic Coast. The most active hurricane period is from late June through mid-October. Hurricanes that move into the area generally are reduced to moderate winds and heavy rains by passing over land.

## STREAMFLOW

The St. Marys River is the major source of freshwater to the study area. The St. Marys River originates in the Okefenokee Swamp (53 km west of the study area) and empties into Cumberland Sound, about 7 km south of Kings Bay (fig. 1). The drainage area upstream from the mouth includes approximately 3,830 km$^2$ of swampland and coastal plain. Streamflow data have been collected at a station on the St. Marys River near Macclenny, Fla. (67 km southwest of the study area), since October 1926. This station is about 161 river kilometers upstream from the mouth; about half of the drainage area is upstream of this station. A flow-duration curve for the period of record (fig. 2) indicates that a daily flow of 7.0 m$^3$/s was exceeded 50 percent of the time. The mean daily flow for the same period was 19.2 m$^3$/s. Data gathered at this station and from nearby streams indicate that the mean daily flow of the St. Marys River at its mouth is about 41 m$^3$/s.

Crooked River, a much smaller stream, drains into Cumberland Sound about 4 km north of Kings Bay. The drainage area above its mouth is approximately 231 km$^2$, and its estimated mean daily flow is 2.2 m$^3$/s.

Other streams within the project area are the Amelia and North Rivers and Marianna Creek. The surface-water runoff

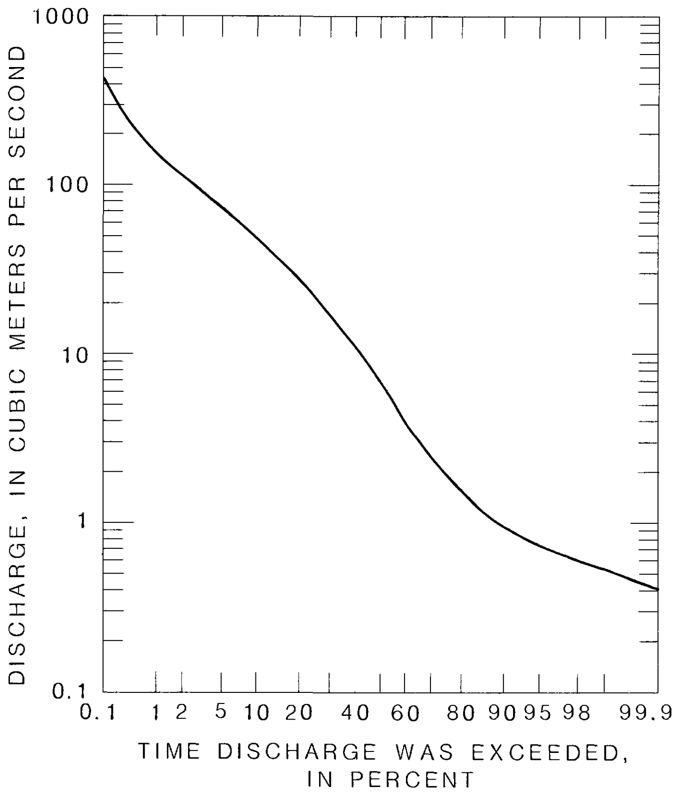


FIGURE 2.—Duration curve of daily flow, St. Marys River near Mcclenny, Fla., 1927–80 water years.

from these lowland streams is estimated to be less than the flow of Crooked River.

## TIDES

Tides in Kings Bay and vicinity are semidiurnal and range from neap tides (minimum tidal range) generally exceeding 1.5 m to spring tides (maximum tidal range) exceeding 2.5 m. In the Cumberland Sound–St. Marys River estuary, high- and low-water elevations follow the Moon's meridian passage by a nearly constant interval. The tide occurs 50 minutes later each day because the Moon crosses the meridian 50 minutes later each day. Over a tidal cycle, ebbtidal current velocities tend to be greater than floodtidal current velocities because of the addition of freshwater to the ebbtide flow.

# DATA COLLECTION

The methods of data collection used in this study are described in this section. When appropriate, reference is made to specific methods that are described in the Techniques of Water-Resources Investigations series published by the U.S. Geological Survey. The field measurement techniques used are presented in table 1, and the sampling and laboratory methods used are presented in table 2 (all tables are at the end of the report). All times given in this report are eastern standard time.

## TIDE STAGE, WINDSPEED, AND WIND DIRECTION

Tide-stage data were collected during the study period at eight continuous-stage recorder sites at Kings Bay and vicinity. (See fig. 1.) The recorders were installed by the U.S. Geological Survey at the beginning of the study. All elevations in the report are arbitrary because of uncertain elevation datums.

Windspeed and direction data were recorded by Navy personnel from an anemometer located at Kings Bay wharf. Readings were recorded hourly during the data-collection period.

## CURRENT VELOCITY

Current velocity was measured at cross sections in upper Kings Bay (A) and lower Kings Bay (B), Cumberland Sound (C), and St. Marys Entrance (D) during separate tidal cycles (fig. 1). The tide heights and the dates and timespans of the measurements are shown in figures 3 and 4. The measurements began near ebb slack tide in the morning and continued until the next ebb slack tide. Measurements were made

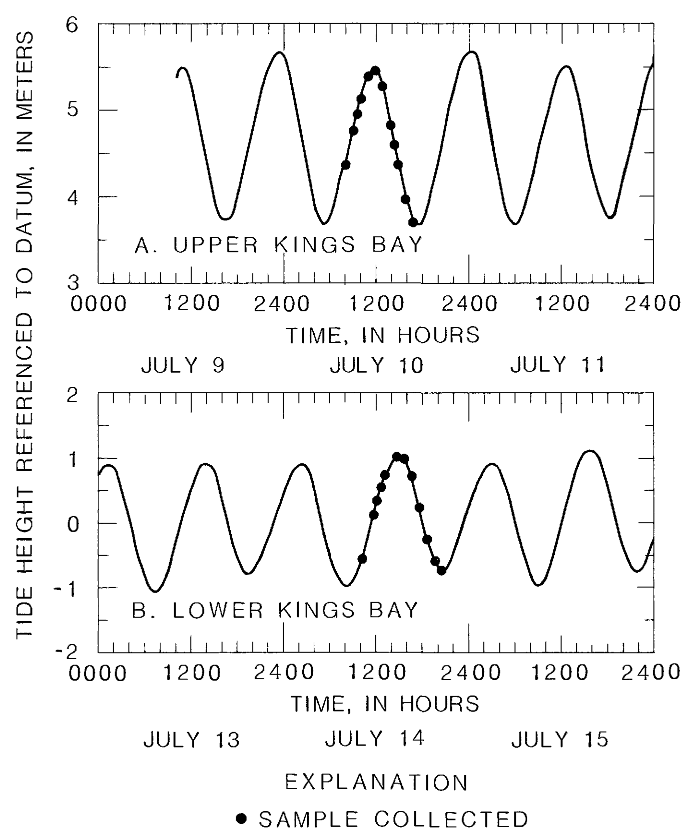


FIGURE 3.—Upper Kings Bay and lower Kings Bay gaging stations and approximate data-collection times at the measurement cross sections, July 9–15, 1982.

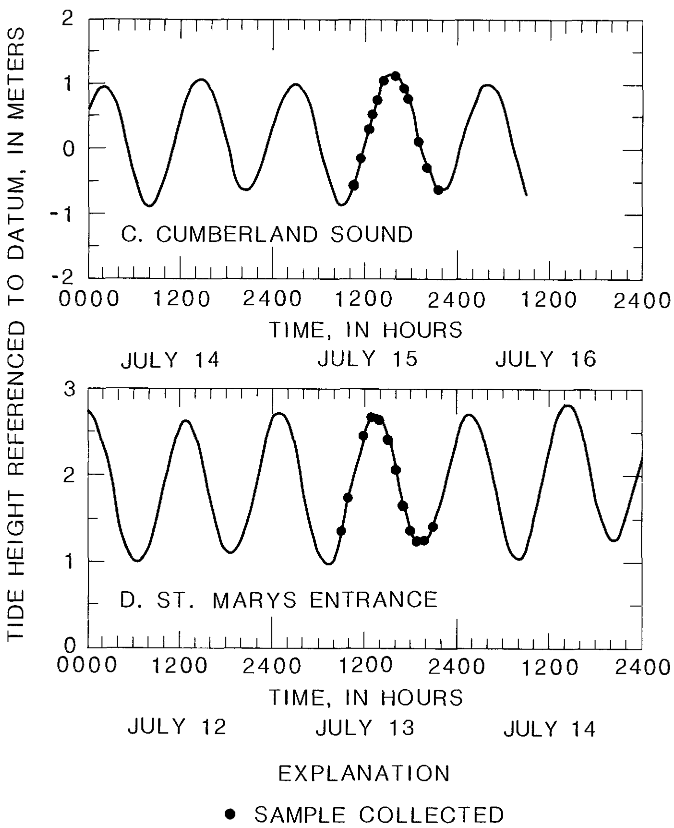


FIGURE 4.—Cumberland Sound and St. Marys Entrance gaging stations and approximate data-collection times at the measurement cross sections, July 12–16, 1982.

at five verticals in each cross section. The cross-sectional geometry and the locations of the verticals are shown in figures 5 and 6.

Current velocity was measured by the anchored-boat method. In accordance with this method, Price AA current meters were used to measure current speed. Direction of flow was measured by a Marsh-McBirney directional current meter. These meters were suspended from depth-sounding reels mounted on boats anchored at five verticals in each cross section. The boats were positioned at the verticals by use of an electronic distance meter located onshore near the cross section. Current velocity was measured at 15-minute intervals at 0.2, 0.4, 0.6, and 0.8 of the water depth and at 0.5 m above the bottom of the channel. The current meters and the depth-sounding equipment were used according to methods described by Buchanan and Somers (1976) and by Smoot and Novak (1968).

## BATHYMETRY

Water depths were measured by a recording fathometer. Cross-sectional widths were determined from fathometer data and from channel widths measured at each cross section by use of an electronic distance meter.

## WATER QUALITY

Suspended-sediment and turbidity samples were collected and water temperature, specific-conductance, and salinity measurements were made at the same four cross sections where current measurements were made. These data were collected 12 times during both the floodtide and the ebbtide from the 5 verticals in each cross section. Times of data collection relative to the tide-stage hydrographs are shown in figures 3 and 4. Water samples and measurements were taken from an anchored boat. Samples for the determination of suspended sediment and turbidity were collected with a variable-speed pumping sampler. Measurements of temperature, specific conductance, and salinity were made onsite with a field meter.

The pump-sampling method of sample collection was chosen over the conventional point-sampling method because pumped samples can be collected much more rapidly. Personnel and equipment constraints required that a few individuals collect many samples quickly in order to define the suspended-sediment conditions with time in the dynamic estuarine-flow system.

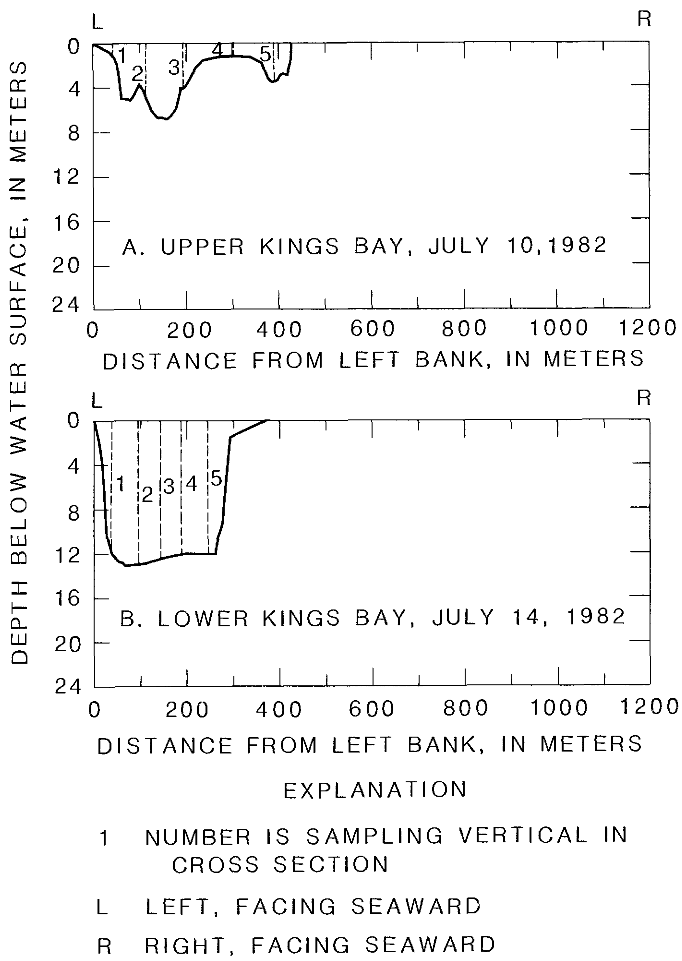


FIGURE 5.—Channel geometry and location of measurement verticals at upper Kings Bay and lower Kings Bay cross sections.

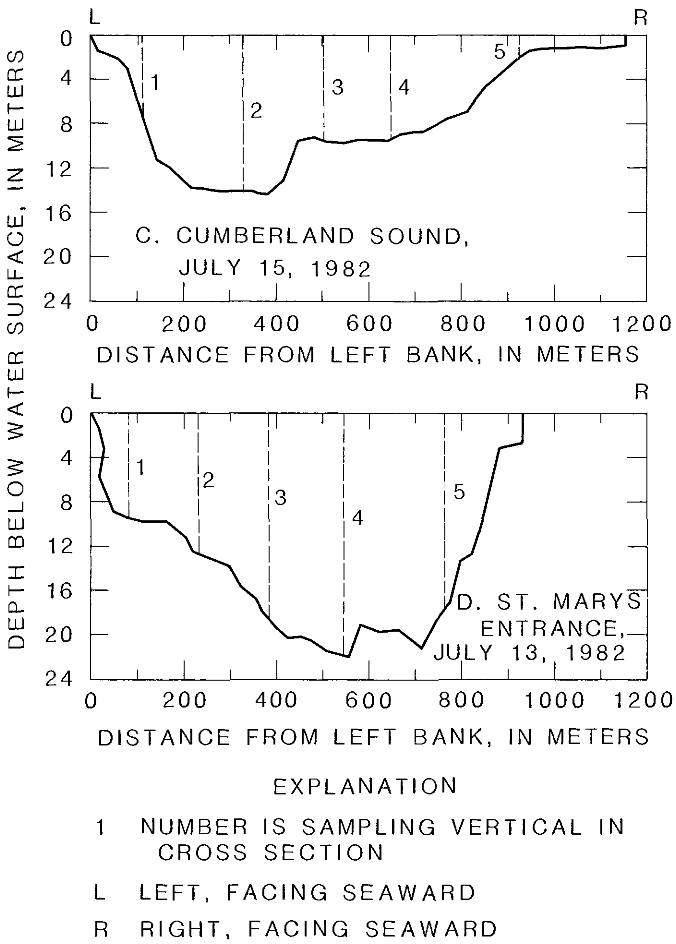


FIGURE 6.—Channel geometry and location of measurement verticals at Cumberland Sound and St. Marys Entrance cross sections.

A variable-speed, self-priming pumping sampler having three nozzles of different diameters (15.9, 22.2, and 30.2 mm) was constructed so that suspended-sediment samples could be pumped at the same flow rate as the tidal velocity. The pumping rate of the sampler ranges from about 0.13 to 0.25 L/s. These pumping rates coupled with the three nozzle dimensions provide a nozzle velocity ranging from about 0.18 to 1.29 m/s. The delivery line was a 9.5-millimeter (ID), 22.5-meter-long, noncollapsible hose.

For quality assurance, conventional samples were taken with a cable-suspended US P-61 (Guy and Norman, 1970) point-integrating sampler fitted with a Teflon nozzle 4.8 mm in diameter. The sampler was operated from an anchored boat and could be opened and closed at prescribed depths to collect about 400 mL of water.

A sample was collected by each method at approximately the same location, depth, and time at each vertical in all four cross sections at least once an hour during a consecutive floodtide and ebbtide. At all cross sections, the total concentrations of suspended sediment in samples collected by the two methods were within 5 percent of each other.

Phytoplankton, turbidity, total organic carbon, and salinity data also were collected on July 8, 1982, at or near a consecutive ebb and flood slack tide. Data collection began near St. Marys Entrance at flood and ebb slack tide (zero velocity) and progressed landward. Measurement crews arrived at each site prior to slack tide and waited until slack tide before sampling and measuring the water. To define the salinity profile, salinity was measured onsite at several points in the vertical with a salinity meter. Turbidity samples were collected 1 m below the surface and 1 m above the bottom with a point water sampler. Total organic carbon and phytoplankton samples were collected 0.5 m below the water surface with a point water sampler.

### BOTTOM MATERIAL

Bottom-material samples were collected at 13 measurement cross sections by using a cable-suspended US BMH-54 grab-type sampler operated by a motor-driven B-series reel. All samples were taken from the bottom surface at three verticals at each site. The three samples were composited to form one sample per site.

## METHODS OF COMPUTATION

The methods used to compute estimates of mean current velocity, water discharge, salt discharge, and suspended-sediment discharge are discussed in this section. The mean-velocity and discharge curves used in the computational procedures were smooth-fitted through the data points.

### MEAN CURRENT VELOCITY IN THE VERTICAL

Mean-velocity estimates at the five verticals in the measurement cross sections were computed for each series of anchored-boat velocity measurements by the equation

$$V_m = (0.5V_S + 1.5V_{0.1} + 2V_{0.3} + 2V_{0.5} + 2V_{0.7} + 1.5V_{0.9} + 0.5V_B)/10,$$

where

$V_m$ is the computed mean velocity in the vertical,

$V_{0.1}$, $V_{0.3}$, $V_{0.5}$, $V_{0.7}$, and $V_{0.9}$ are the velocities measured at 0.1, 0.3, 0.5, 0.7, and 0.9 of the water depth, respectively,

$V_S$ is equal to the velocity at 1.0 m below the surface or to $V_{0.1}$, depending on which was closest to the surface,

and

$V_B$ is the velocity measured 0.5 m above the channel bottom.

$V_S$ and $V_B$ are approximations of the mean velocity in the upper and lower 5 percent of the water column. Mean-velocity estimates computed using the preceding equation were compared with velocities computed graphically from velocity profiles fit through the point velocity data. The estimates from the two procedures were in agreement. Therefore, for computational simplicity, the equation shown above was considered very satisfactory for this study.

Smooth mean-velocity–time curves for the 13-hour tidal cycle were constructed for each vertical in the measurement cross sections from the computed mean-velocity data.

### WATER DISCHARGE

The discharge-measurement method is described by Buchanan and Somers (1976). Smooth discharge-time curves for the 13-hour tidal cycle were constructed for each measurement cross section and for subsections within the cross sections. Adjustments were made in the discharge-time curves for the subsections so that the sum of the areas under the subsection-discharge curves equaled the area under the discharge curve for the entire cross section.

Water discharges defined by the water-discharge–time curves should be considered only approximations of the true tidal discharges. Inaccuracies in the discharge measurement technique and the limited amount of velocity data could result in differences between the true and the measured discharges.

The volume of water exchanged during the ebbtide and floodtide periods at each cross section was determined by computing the area under the water-discharge curves for each subsection of a cross section. The sum of the five subvolumes is the total volume exchanged. Integration of the area at 5-minute intervals was done by computer.

### MEAN CURRENT VELOCITY IN THE CROSS SECTIONS

Mean current velocities for the measurement cross sections were computed by dividing the cross-sectional discharges by the cross-sectional areas. Mean-velocity curves for each cross section were constructed from mean velocities computed at 5-minute intervals. The cross-section discharges and the cross-sectional areas used in the computations were obtained from the cross-sectional discharge-time curves and from tide-stage–area relations, respectively.

### SALT DISCHARGE

Salt discharges were determined at each cross section from the water-discharge and salinity data. Salinity–time curves were constructed from salinity data collected at each of the five measurement verticals. Each point in time used to define the salinity curve was a velocity-weighted average of the vertical measurements. The product of salinity (density adjusted) and the corresponding water discharge was computed at 5-minute increments, which resulted in a salt-discharge–time curve for each subsection. The incremented areas under the salt-discharge curves were summed to give the total salt discharges for the ebbtide and the floodtide.

### SUSPENDED-SEDIMENT DISCHARGE

Total suspended-sediment discharge, sand discharge, and silt-plus-clay discharge were determined at each cross section from the water discharge and the suspended-sediment concentrations. The procedure was similar to the salt-discharge computation. The average suspended-sediment concentrations used in the sediment-discharge computations were velocity-weighted averages of the five concentrations in the verticals.

## STUDY RESULTS

### TIDE AND WIND CONDITIONS

Sampling at Kings Bay and vicinity was conducted during a neap-tide period with an increasing tide range. Tide conditions measured at four of the eight tide-stage recorders at upper and lower Kings Bay, Cumberland Island, and St. Marys Entrance are summarized in table 3. From July 9 to July 12, the tide range generally remained unchanged. From July 14 to July 16, the tide range increased, primarily because of an increasing high tide. On July 16, the tide range reached a maximum of 2.32 m at the upper Kings Bay gage, 2.20 m at the Cumberland Island gage, and 2.08 m at the St. Marys Entrance gage. Tide heights at the four gages and the differences between the tide heights at the gages may be subject to error because of uncertain elevation datums. The times of ebb and flood slack tides at the Kings Bay recorders generally lagged the times at the Cumberland Island gage by about 15 minutes and lagged those at the St. Marys Entrance recorder by 5 to 25 minutes.

Wind-velocity data recorded at Kings Bay are presented in table 4.

### TEMPERATURE AND SALINITY

Water temperatures at the measurement cross sections ranged from 27°to 31°C (figs. 7–10). Slight variations in water temperature occurred with stage changes in lower cross sections (C and D, fig. 1). At any one measurement cross section, the maximum temperature variation from top to bottom or among verticals was less than 2.0°C, which indicates that the cross sections were thermally well mixed (homogeneous).

Salinities ranged from 26.2 to 35.1 g/kg (tables 5–8). Seawater typically has a salinity of 32 to 35 g/kg, whereas freshwater generally has a salinity of less than 0.5 g/kg. Higher salinities that varied only slightly with changes in stage occurred at the lower cross sections (C and D, fig. 1). Salinity did not vary appreciably within and between the measurement verticals. At any one cross section, the maximum salinity variation from top to bottom or between verticals was less than 4.1 g/kg (figs. 7–10).

Generally, the ebbtide and floodtide salinity differences at individual sampling sites throughout the project area were

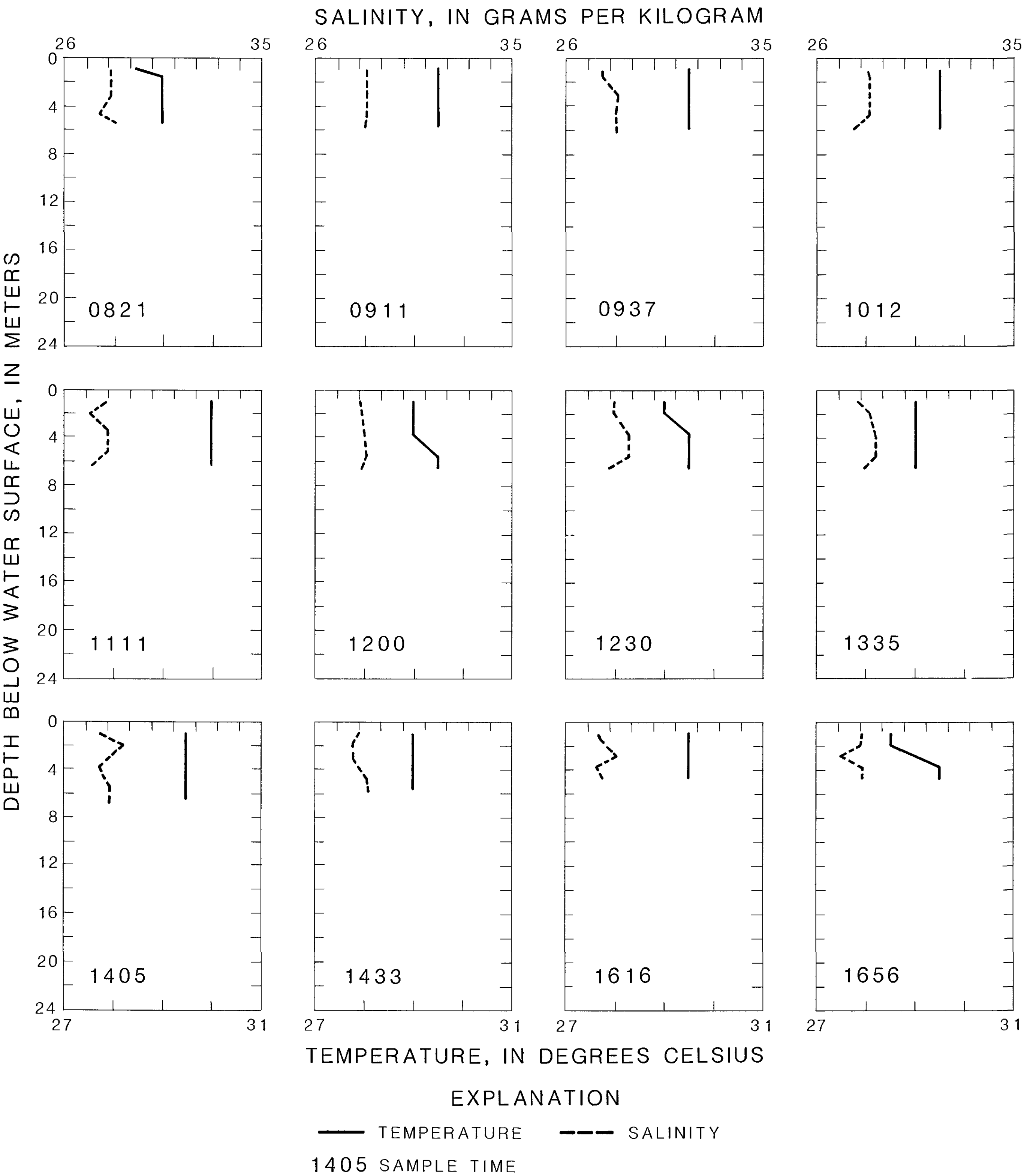


FIGURE 7.—Temperature and salinity profiles at measurement vertical 2, upper Kings Bay cross section, July 10, 1982.

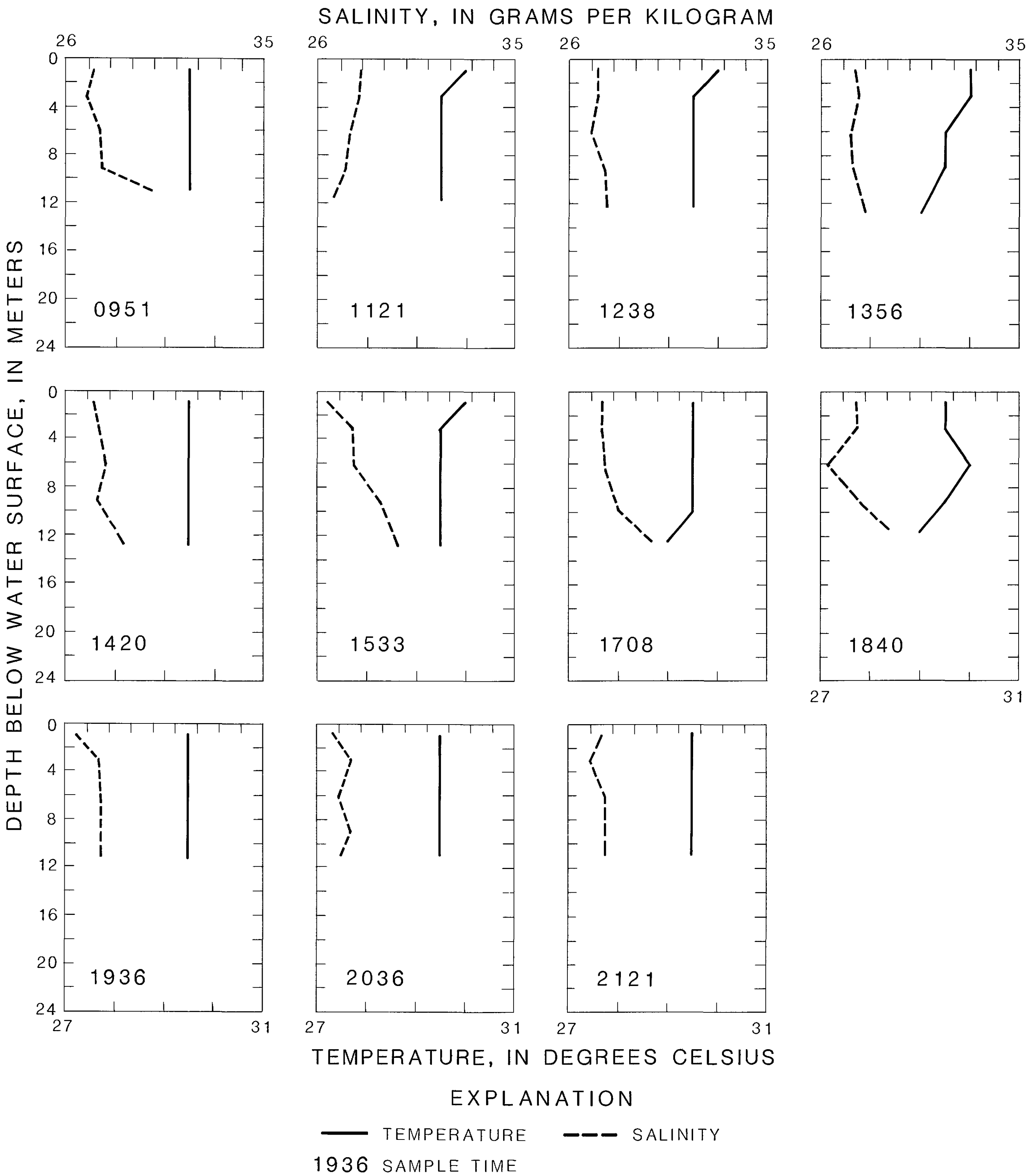


FIGURE 8.—Temperature and salinity profiles at measurement vertical 2, lower Kings Bay cross section, July 14, 1982.

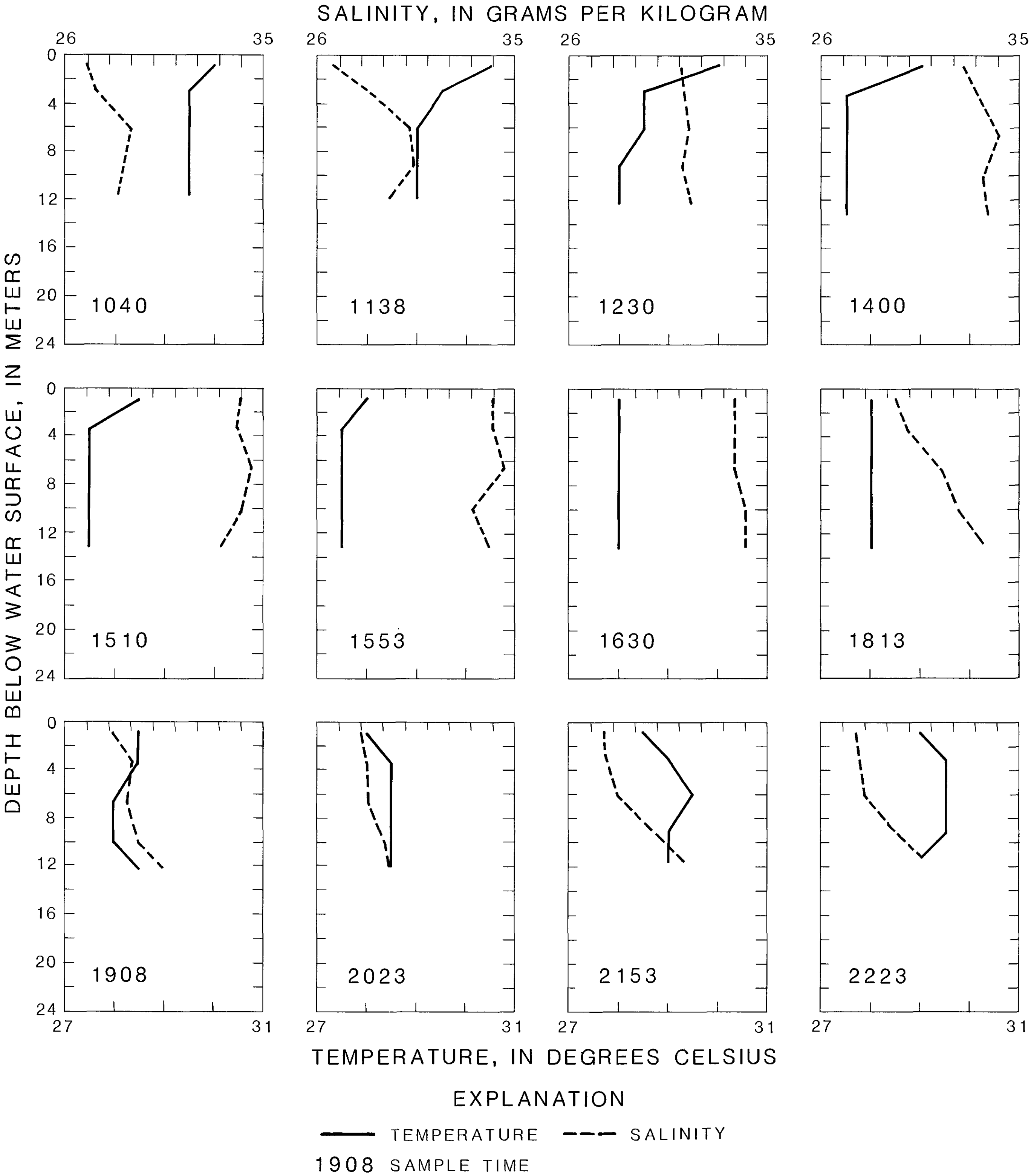


FIGURE 9.—Temperature and salinity profiles at measurement vertical 2, at Cumberland Sound cross section, July 15, 1982.

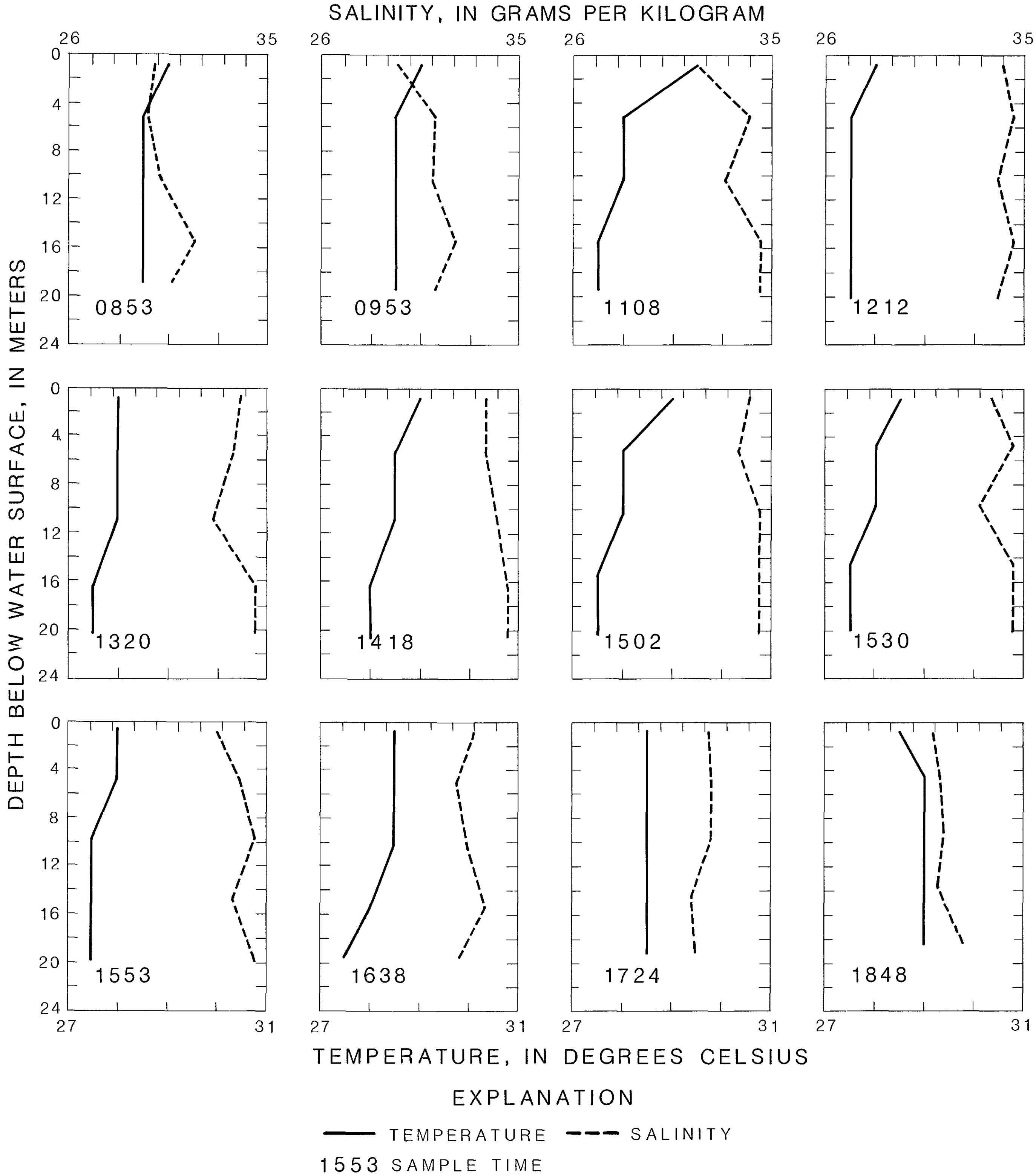


FIGURE 10.—Temperature and salinity profiles at measurement vertical 4, at St. Marys Entrance cross section, July 13, 1982.

small (fig. 11 and table 9). Exceptions are sites 5a, 6, and 7, on the St. Marys River; the greater influx of freshwater from the St. Marys River accounts for a comparatively large spatial and tidal variation in salinity. Salinities ranged from 17.0 g/kg at site 7 to 34.5 g/kg at sites 1 and 2. Salinities at most sites were lower at ebb slack tide than at flood slack tide, owing to the greater dilution of seawater with freshwater from inland sources during ebb slack tide.

### CURRENT VELOCITY AND FLOW

Mean current-velocity characteristics at the four cross sections in the study area are presented in figures 12 and 13. The data presented in these figures were not collected during similar tide and wind conditions and, therefore, are not a synoptic representation of current-velocity and flow characteristics.

Peak mean current velocity near midtide was higher during ebbtide than during floodtide. Peak mean current velocity at the upper Kings Bay cross section was 0.45 m/s for the ebbtide and 0.37 m/s for the floodtide (fig. 12). Peak mean current velocity at the lower Kings Bay cross section was 0.28 m/s for the ebbtide and 0.23 m/s for the floodtide (fig. 12).

The decrease in current velocity at the lower Kings Bay cross section relative to the upper Kings Bay cross section was the result of a decrease in the ratio of tidal flow to the cross-section area at the lower Kings Bay cross section. The cross-section area at the lower Kings Bay cross section is about 2.5 times larger than the cross-section area at the upper Kings Bay cross section. The lower Kings Bay channel extends roughly 1.1 km landward (northwest) from the lower Kings Bay cross section. This channel has been dredged to a nearly uniform depth. The channel width increases immediately landward of the lower measurement cross section and then narrows somewhat about midway along this reach where the docking facilities begin. (See fig. 1.)

The upper Kings Bay cross section consists of a left and a right channel. (See fig. 5.) The deeper and wider channel is in the middle-left part of the cross section. This channel becomes shallower and narrower as it extends northeastward and joins Cumberland Sound. On the right side of the cross section, a smaller channel becomes Marianna Creek as it extends into the tidal marsh. On the ebbtide, the current velocity near midtide was greater in the deeper middle-left channel (verticals 2 and 3) than in the right channel (vertical 5). On the floodtide, the current velocity near midtide was greatest in vertical 2.

The profiles of velocity measured at the lower Kings Bay cross section indicate some tendency for higher current velocities to occur on the left side of the channel during floodtide. During ebbtide, the current velocity was evenly distributed through the cross section.

The current-velocity curve for the Cumberland Sound cross section (fig. 13) shows that mean current velocity was higher around mid-ebbtide than during mid-floodtide. Peak mean current velocity was 0.74 m/s for the ebbtide and 0.60 m/s for the floodtide. The current velocities were greatest at verticals 1 and 2 on the ebbtide and were more uniform at each vertical on the floodtide.

The current-velocity curve for the St. Marys Entrance site shows greater mean current velocities on the ebbtide than on the floodtide (fig. 13). Peak mean current velocity was 0.86 m/s for the floodtide and 0.93 m/s for the ebbtide. The highest current velocities were in the center verticals (verticals 3 and 4) during both ebbtide and floodtide.

### SUSPENDED-SEDIMENT CHARACTERISTICS

The concentration of suspended sediment in samples collected during this study showed a relatively low degree of variability among the measurement cross sections. The average concentration was 18.1, 18.4, 18.8, and 18.6 mg/L at upper Kings Bay, lower Kings Bay, Cumberland Sound, and St. Marys Entrance, respectively (table 10). Lower average percentages of silt- and clay-sized particles were contained in the upper and lower Kings Bay samples (70 and 74 percent, respectively) than in the Cumberland Sound (80 percent) and St. Marys Entrance (82 percent) samples. In the measurement verticals, the highest concentrations of suspended sediment commonly occurred in samples collected at the greatest sampling depth. However, these samples did not consistently have the highest percentages of sand-sized particles.

At the lower Kings Bay, Cumberland Sound, and St. Marys Entrance cross sections, the greatest suspended-sediment concentrations and the largest percentages of suspended sand generally occurred around mid-floodtide, when current velocities were greatest (figs. 14–17). At upper Kings Bay, the greatest suspended-sediment concentrations and the largest percentages of suspended sand occurred during ebbtide. During ebbtide at all cross sections, the greatest suspended-sediment concentrations and the larger percentages of suspended sand generally lagged behind the maximum current velocities. Noticeably more sand (11 to 37 percent) was in suspension at the upper Kings Bay cross section than at the other three measurement cross sections.

The differences between the average suspended-sediment concentrations for a consecutive ebbtide and floodtide at the measurement cross sections were statistically different at the 0.95 percent probability level. Average concentrations were 25 percent higher for the ebbtide than for the floodtide at the upper Kings Bay cross section and 18 to 25 percent lower for the ebbtide than for the floodtide at the St. Marys Entrance, Cumberland Sound, and lower Kings Bay cross sections.

Historic riverflow and sediment-concentration data collected by the U.S. Geological Survey at a station on the St. Marys River near Macclenny, Fla., were used to evaluate the importance of the river as a source of sediment to the study area. Because the station is 161 river kilometers upstream from the mouth, the data represent only the suspended sedi-

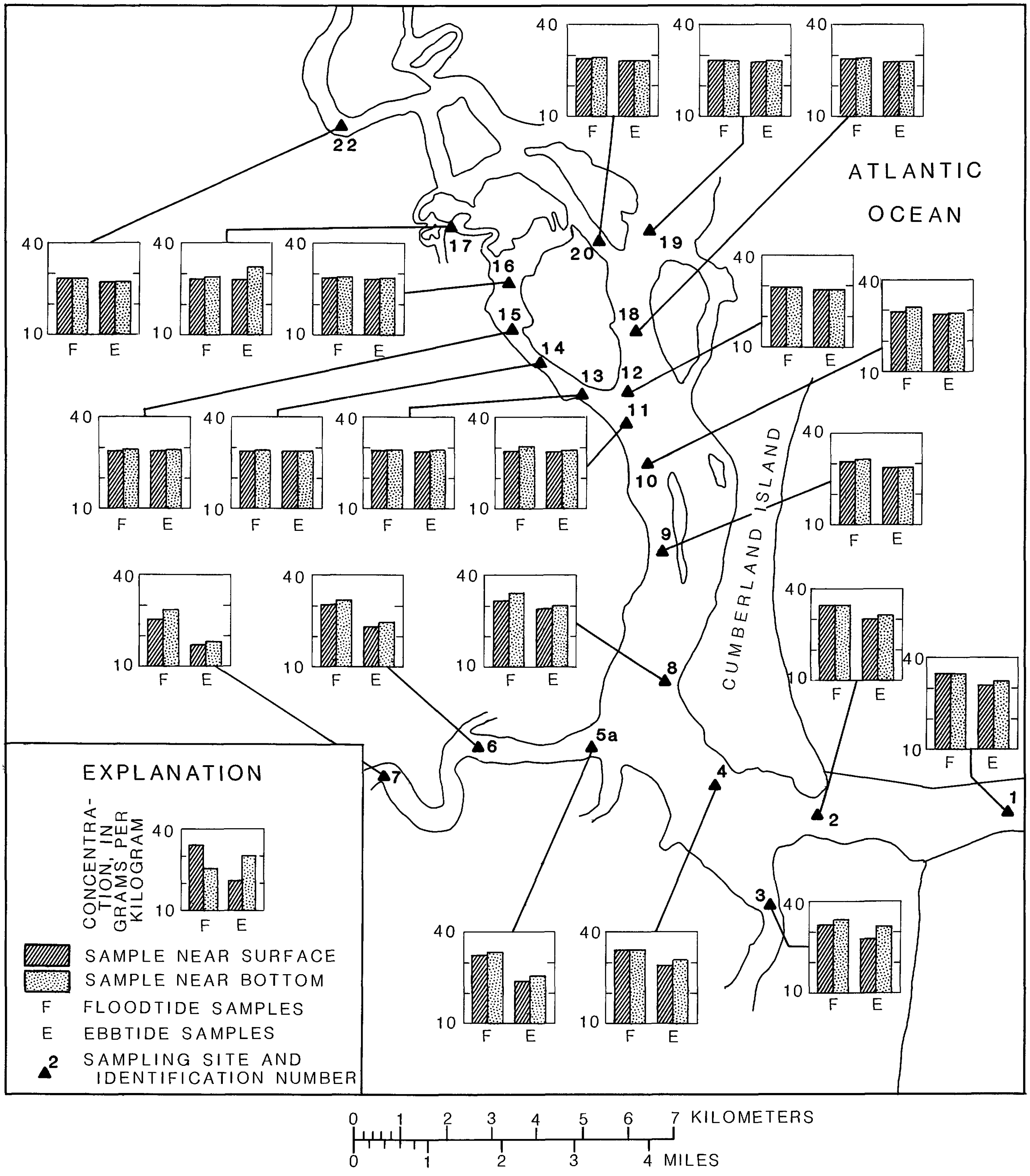


FIGURE 11.—Spatial distribution of salinity at flood and ebb slack tides, Kings Bay and vicinity, July 8, 1982.

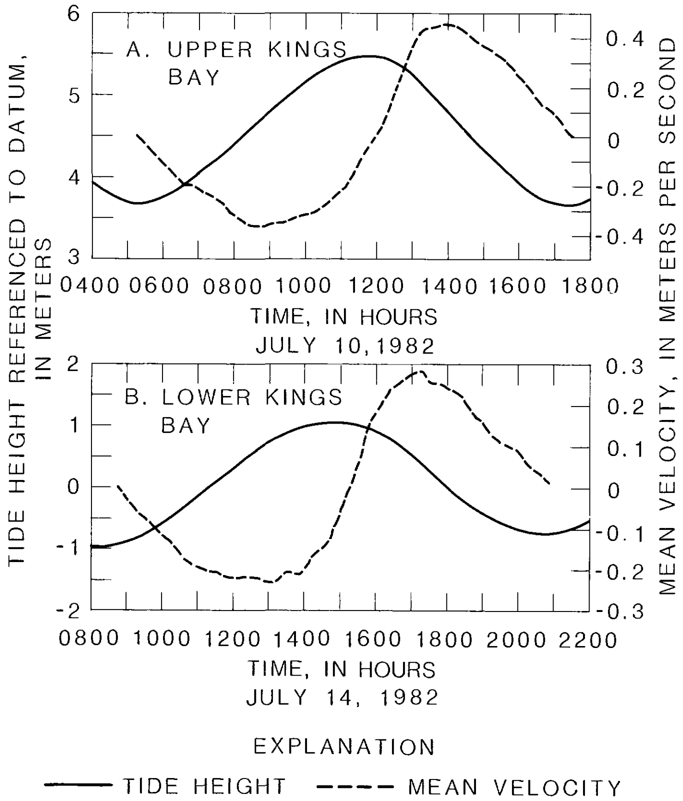


FIGURE 12.—Tide height and mean velocity at upper Kings Bay and lower Kings Bay cross sections.

ment contributed to the estuary from upland sources. Contributions from erosion of the tidal channel and the shoreline or from bedload transport were not investigated in this study.

The total suspended-sediment concentration at the St. Marys River near Macclenny, Fla., station, based on monthly samples collected from 1974 to 1980, ranged from 1 to 15 mg/L and averaged 4 mg/L. Nearly all suspended-sediment particles were less than 0.062 mm in diameter (silt plus clay). The relation between water and suspended-sediment discharges for the St. Marys River near Macclenny is shown in figure 18. By using the flow-duration data for the St. Marys River station and the relation in figure 18, an average annual suspended-sediment discharge of $3.1 \times 10^6$ kg/yr was computed. The average annual sediment yield (computed as in Miller, 1951) for the drainage basin is $1.7 \times 10^3$ (kg/km$^2$)/yr.

The suspended-sediment loads and yields determined for the St. Marys River near Macclenny, Fla., indicate that the amount of suspended sediment transported from the upland to the estuary is small. For the purpose of comparison, table 11 lists the annual suspended-sediment loads and yields of other streams that flow to the Atlantic coast in Georgia. The headwaters of the Altamaha and Ogeechee Rivers are in the Piedmont physiographic province, and the headwaters of the remaining streams are in the Coastal Plain.

## PHYTOPLANKTON

Phytoplankton standing stock data were collected at 12 sites in Kings Bay and vicinity during consecutive ebb and flood slack tides (fig. 19). Phytoplankton standing stock data for ebb and flood slack tide are summarized in table 9. Generic determinations of total phytoplankton standing stock, which includes all the classes of photosynthetic plankton found during sample analysis, are given in table 12. Determinations of diatom species and standing stock made from subsamples of the original plankton samples are listed in table 13.

Some observations can be made concerning the data in tables 12 and 13:

1. Flagellated true plankters (euplanktonic), *Chlamydomonas, Chrysococcus, Kephyriopsis,* and *Trachelomonas,* were the dominant organism in terms of units per milliliter.
2. *Cymatosira belgica, Rhizosolenia fragilissima, Nitzschia palea,* and *Coscinodiscus nitidus* were the dominant diatom species.
3. The highest total phytoplankton standing stock (nearly 18,000 units/mL) occurred during ebbtide at site 18, and the lowest standing stock (just over 3,000 units/mL) occurred during floodtide at site 1.

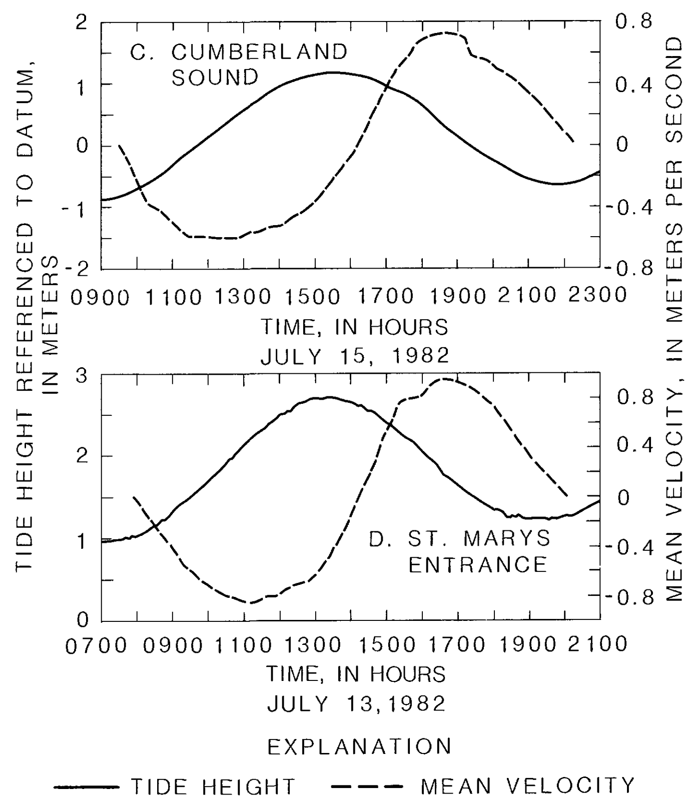


FIGURE 13.—Tide height and mean velocity at Cumberland Sound and St Marys Entrance cross sections.

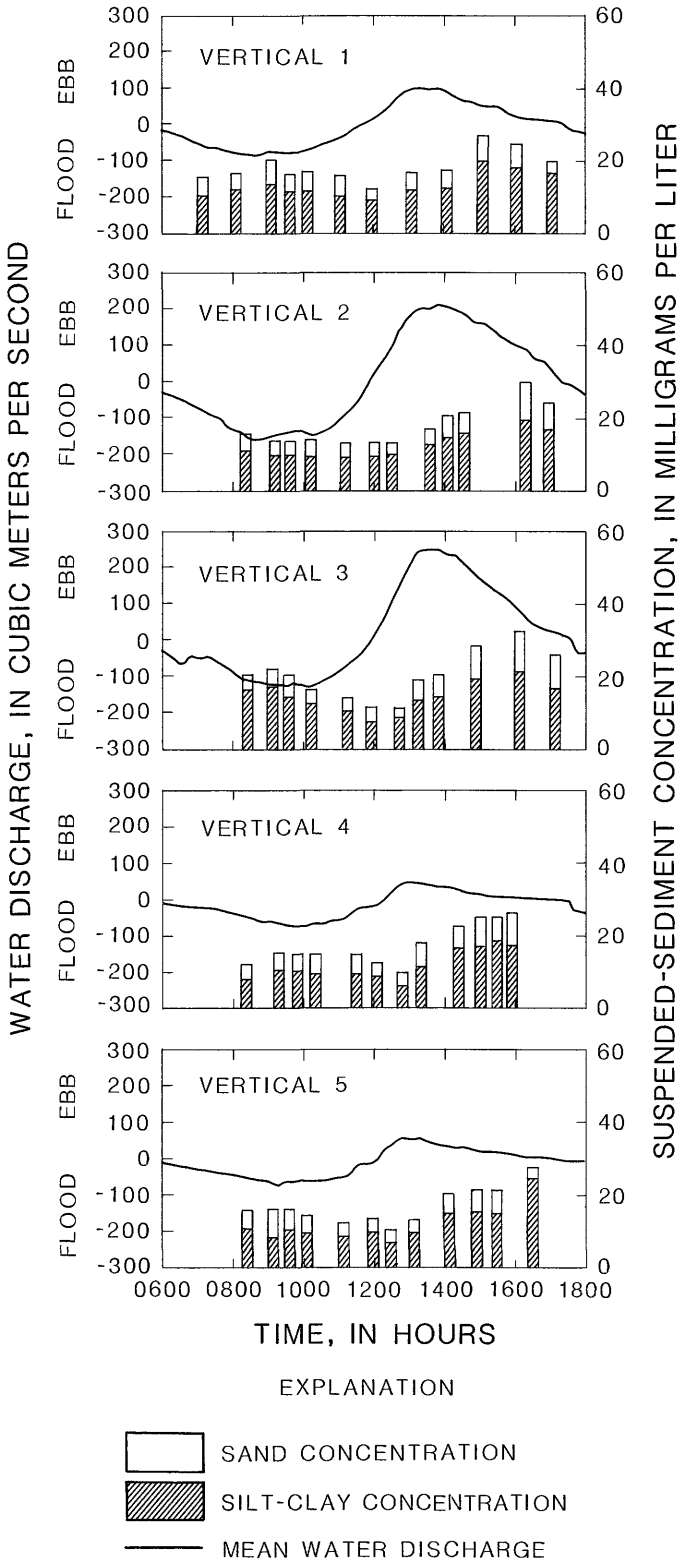


FIGURE 14.—Mean water discharge and mean suspended-sediment concentration at the measurement verticals at the upper Kings Bay cross section, July 10, 1982.

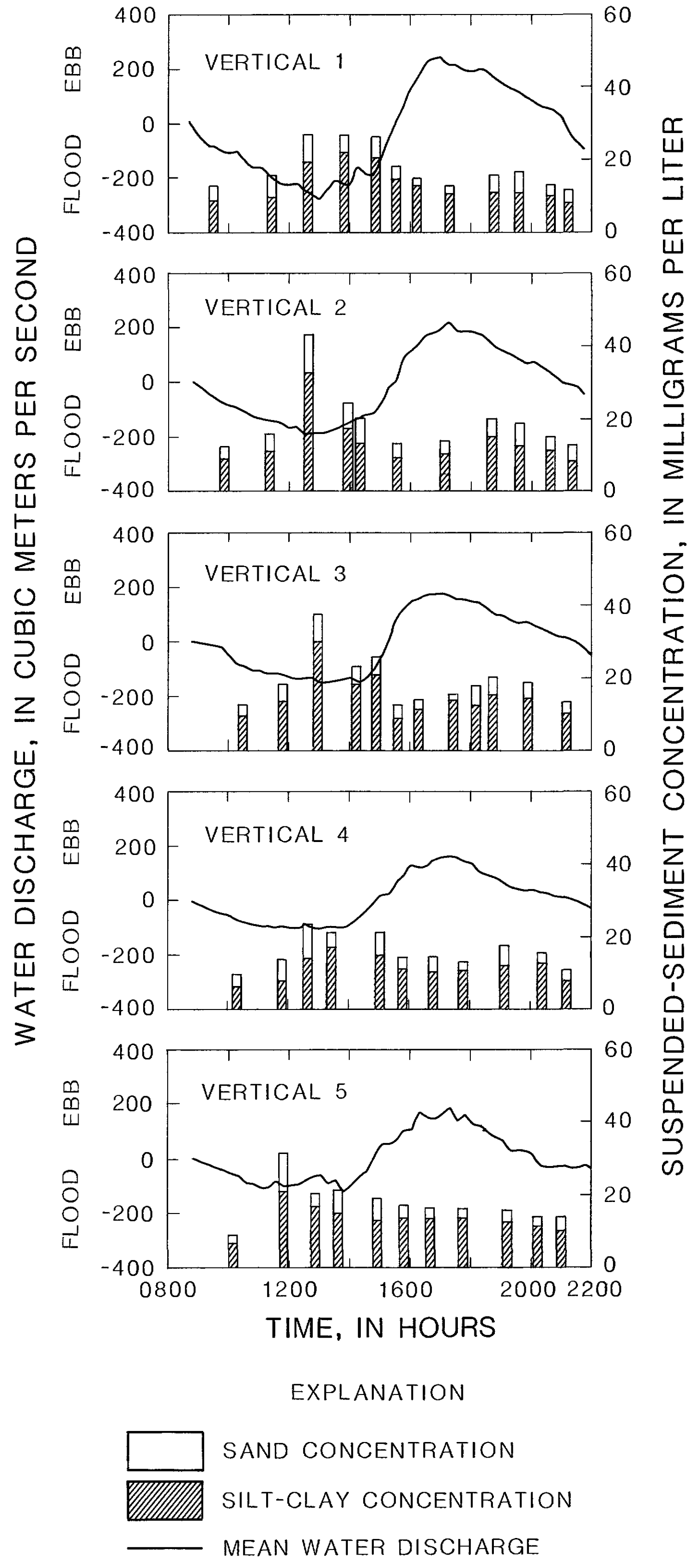


FIGURE 15.—Mean water discharge and mean suspended-sediment concentration at the measurement verticals at the lower Kings Bay cross section, July 14, 1982.

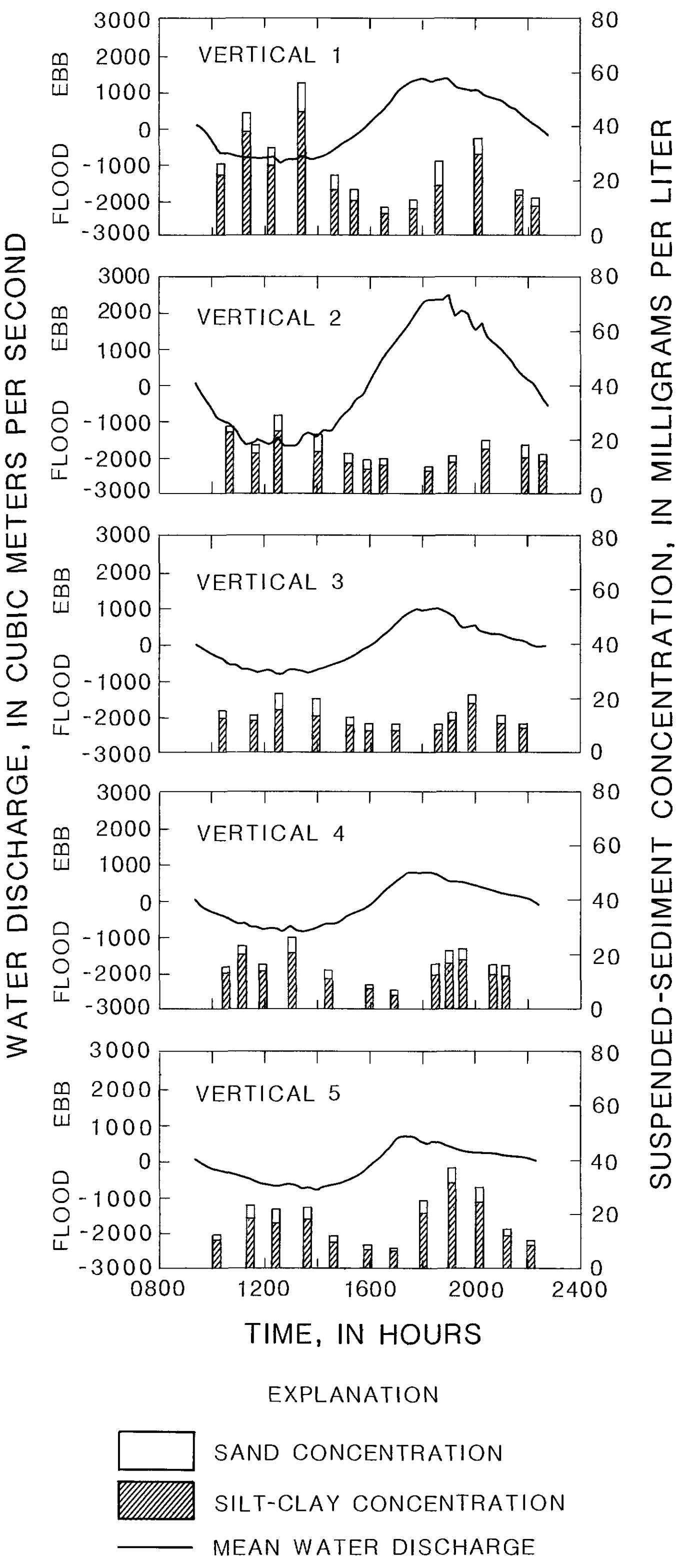


FIGURE 16.—Mean water discharge and mean suspended-sediment concentration at measurement verticals at the Cumberland Sound cross section, July 15, 1982.

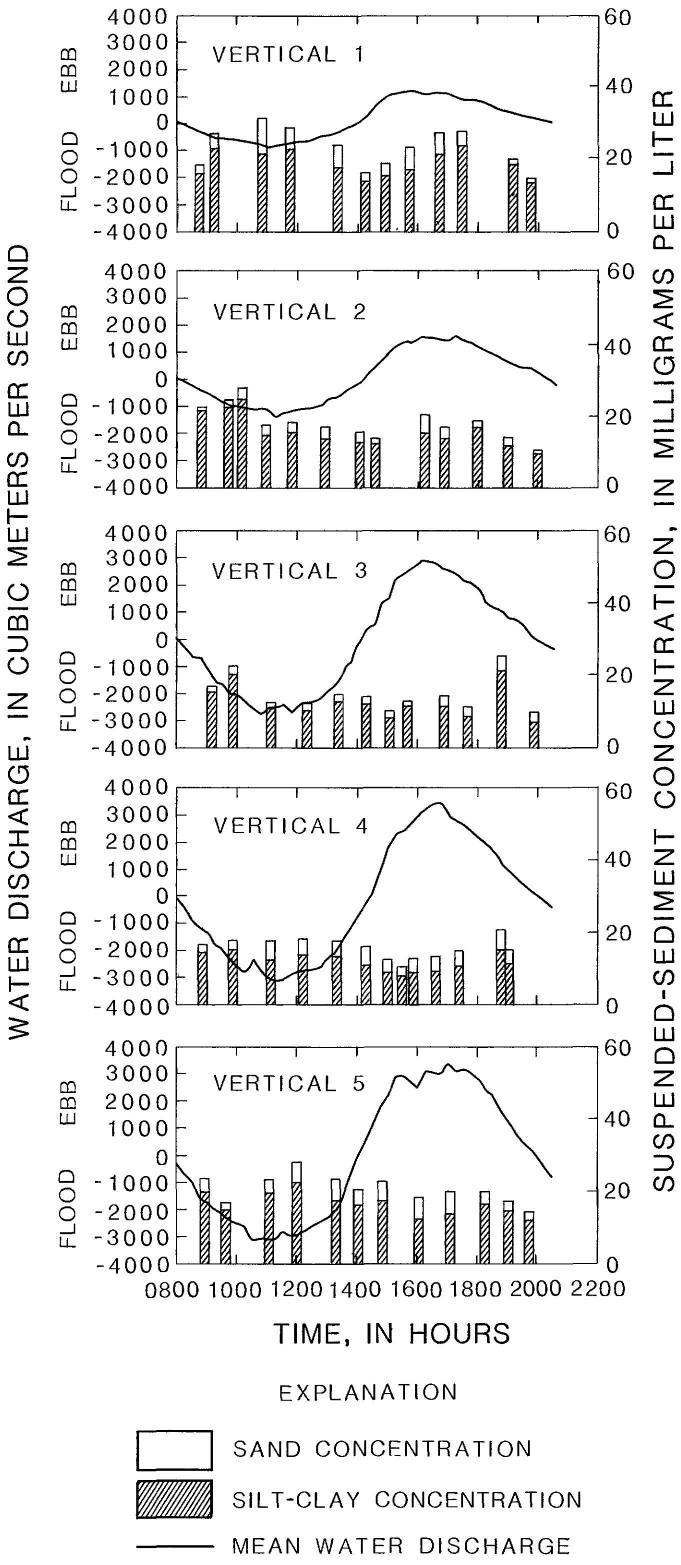


FIGURE 17.—Mean water discharge and mean suspended-sediment concentration at measurement verticals at the St. Marys Entrance cross section, July 13, 1982.

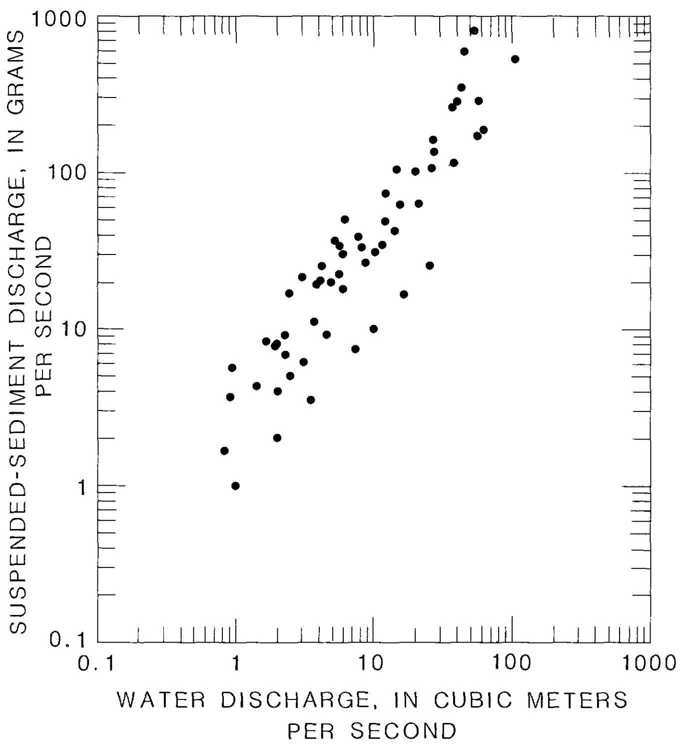


FIGURE 18.—Relation between water and suspended-sediment discharges, St. Marys River near Macclenny, Fla., 1974–80 water years.

4. Within the plankton diatom assemblage, life forms from euplanktonic (truly planktonic), benthic (marsh soils and vegetation), and tychoplanktonic (normally benthic, but often suspended and living in the water column) origins were found.
5. The euplanktonic diatom species comprised only 25 percent of the total diatom assemblage.
6. Ebbtide samples generally had higher diatom species standing stock values than floodtide samples (figs. 20, 21).
7. Ebbtide samples from most sites generally included a greater number of benthic species and individuals derived from the tidal marsh.
8. *Cymatosira belgica,* the dominant diatom in all samples, also had higher standing stock values during ebbtide than floodtide.
9. The highest counts of *Cymatosira belgica* (tychoplanktonic) in plankton generally occurred during ebbtide at stations nearest the marsh (sites 22, 17, 16, and 13).
10. On floodtide, site 1 had the highest percentage of the diatom species standing stock consisting of truly planktonic forms (64 percent), and on ebbtide, site 17 had the lowest percentage of such diatom species standing stock (25 percent) (figs. 20, 21).

## SUSPENDED TOTAL ORGANIC CARBON

Total organic carbon data were collected at 11 locations in the Kings Bay study area at consecutive ebb and flood slack tides (table 9 and fig. 22). The site location numbers correspond to the site locations and numbers in figure 1.

Observations and salient points concerning the ebb and flood slack tide total organic carbon survey are as follows:

1. Total organic carbon concentrations were generally uniform throughout the study area.
2. Generally, organic carbon concentrations were greater during ebb slack tide than during flood slack tide.
3. The highest concentration of total organic carbon (10 μg/L) occurred at site 7 in the St. Marys River at ebb slack tide, and the lowest concentration (1.9 μg/L) occurred at site 2 in St. Marys Entrance at floodtide.

## TURBIDITY

The relation between turbidity and suspended-sediment concentration was investigated in Kings Bay and vicinity to determine if turbidity data could be used to indicate changes in suspended-sediment concentration during the July data-collection period. No universal relation between turbidity and suspended-sediment concentration exists because of the highly variable nature of the suspended material. A good association may exist, however, between these parameters at specific locations and times. A relation between these parameters could provide relatively inexpensive real-time estimates of suspended-sediment concentration to supplement data collected by direct sampling and later laboratory analyses.

The turbidity–suspended-sediment concentration curve for field data collected at the four measurement cross sections is presented in figure 23. A reasonable relation exists between the two parameters, at least for the July measurement period. The rather uniform distribution of ebbtide and floodtide data points illustrates that the relation is similar during ebbtide and floodtide. The possibility of seasonal variability in the composition of the suspended sediment requires that the relation be established for each sampling period.

Turbidity data also were collected at 22 locations in the Kings Bay study area at consecutive ebb and flood slack tides (fig. 24 and table 9).

Observations and salient points concerning the ebb and flood slack tide turbidity survey are as follows:

1. Turbidity, generally, was greater during ebb slack tide than flood slack tide.
2. The highest turbidities occurred in the Crooked River at site 22 during ebb slack tide.
3. Turbidity was generally higher at the bottom than at the top of the water column.
4. Relative to the other sites, higher turbidities occurred in the upper part of Cumberland Sound (site 19).

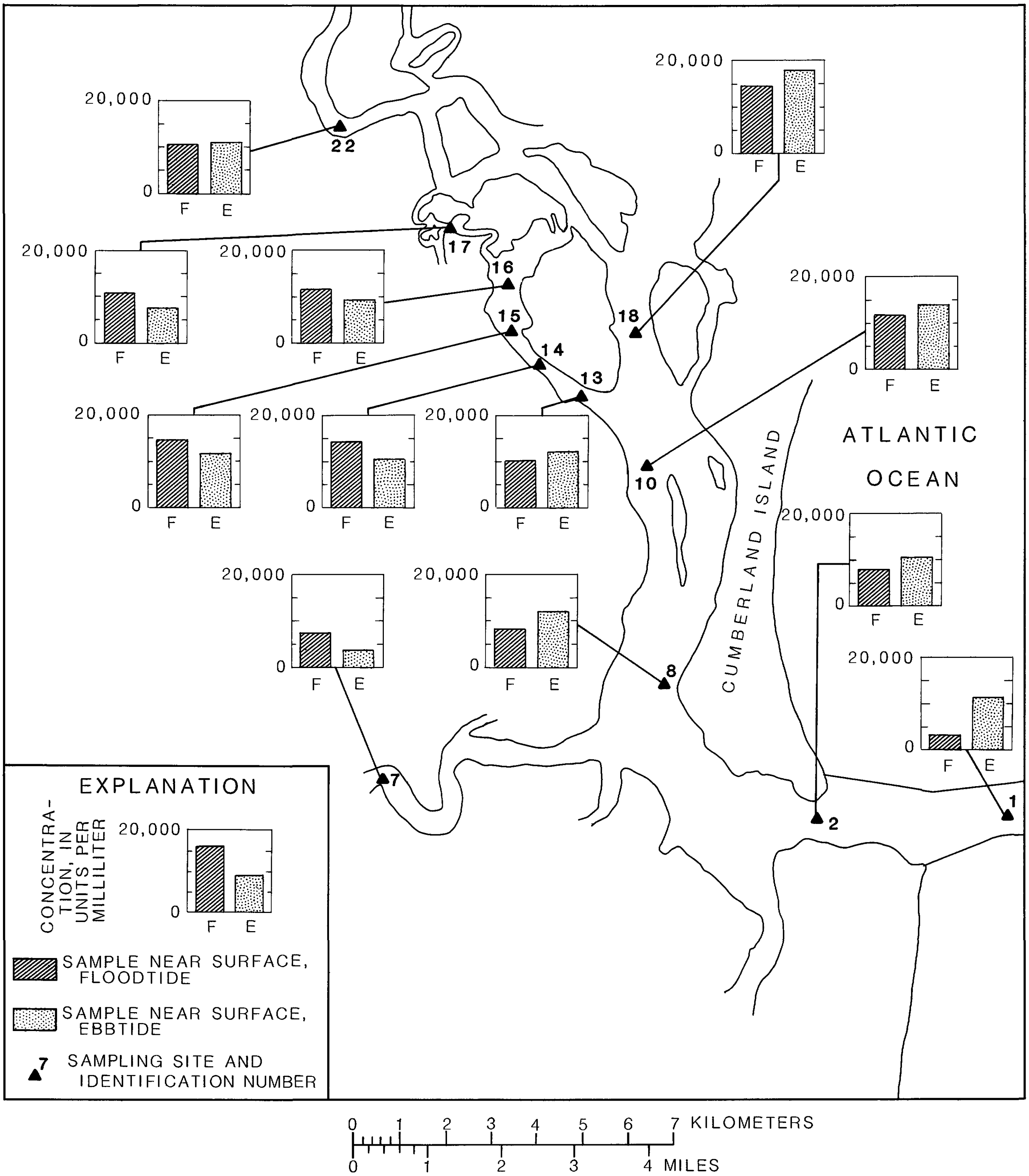


**FIGURE 19.**—Spatial distribution of phytoplankton at flood and ebb slack tides, Kings Bay and vicinity, July 8, 1982.

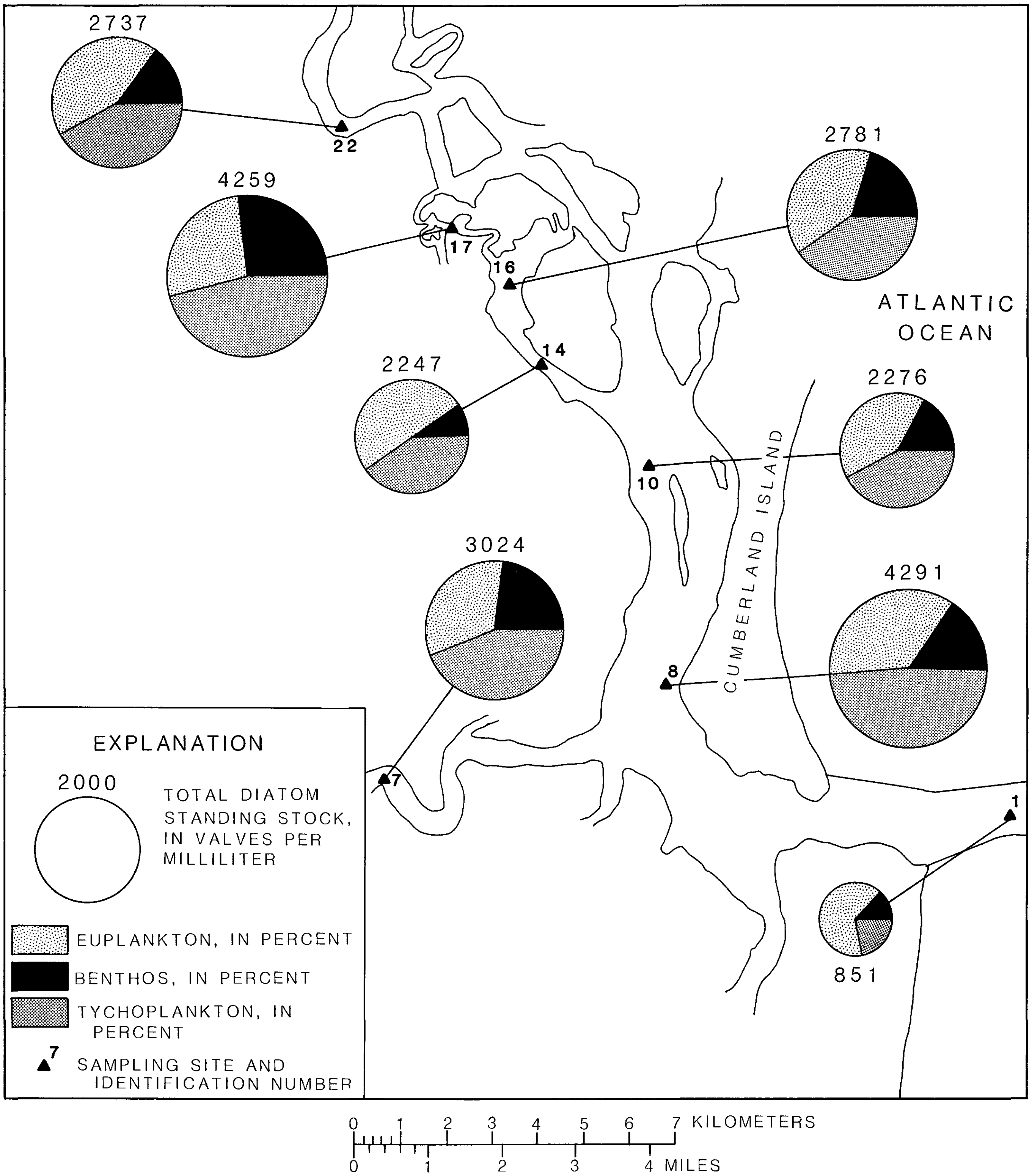


FIGURE 20.—Spatial distribution of total diatom standing stock and percentages of the major diatom life forms in plankton during flood slack tide, Kings Bay and vicinity, July 8, 1982.

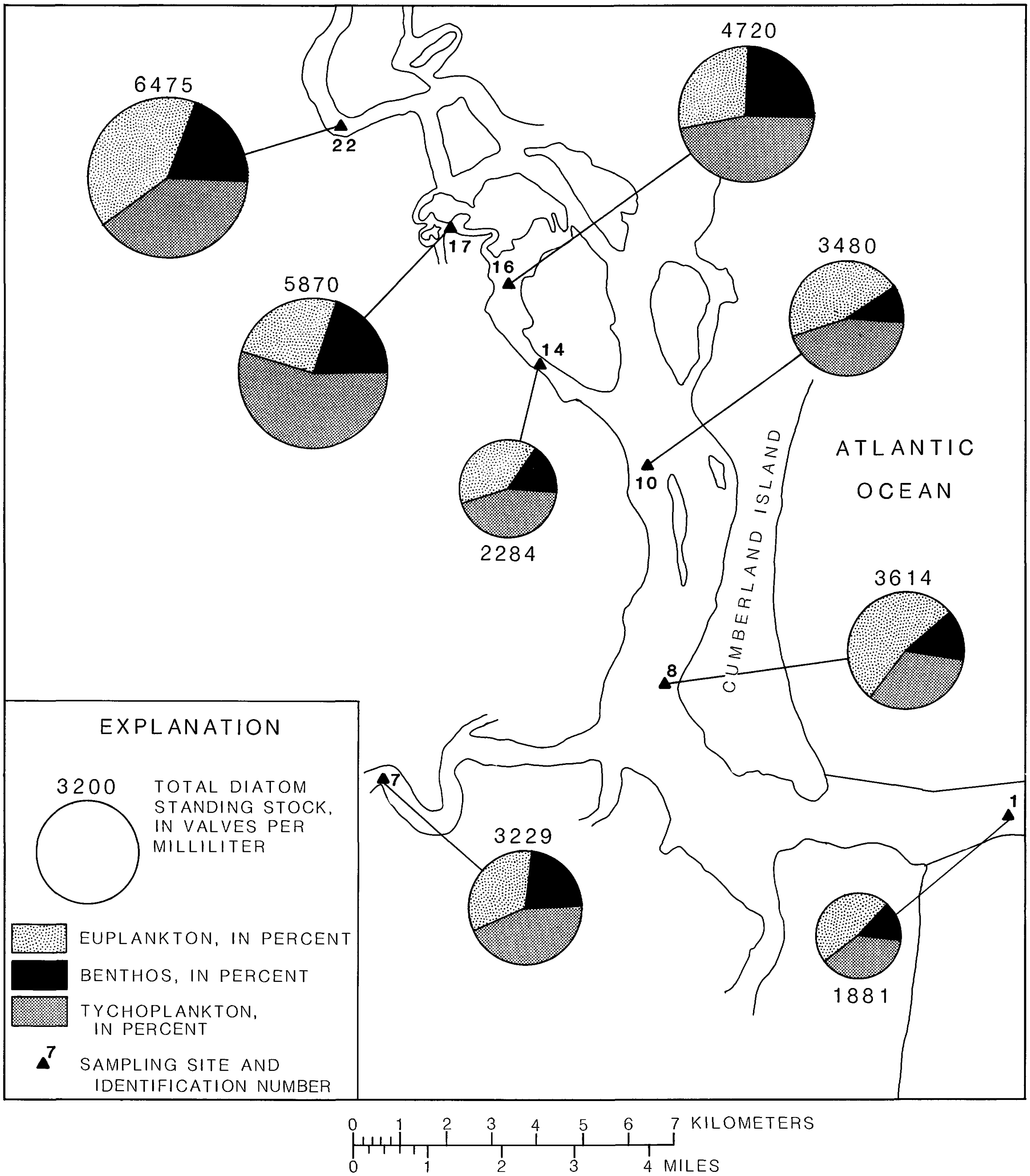


FIGURE 21.—Spatial distribution of total diatom standing stock and percentages of the major diatom life forms in plankton during ebb slack tide, Kings Bay and vicinity, July 8, 1982.

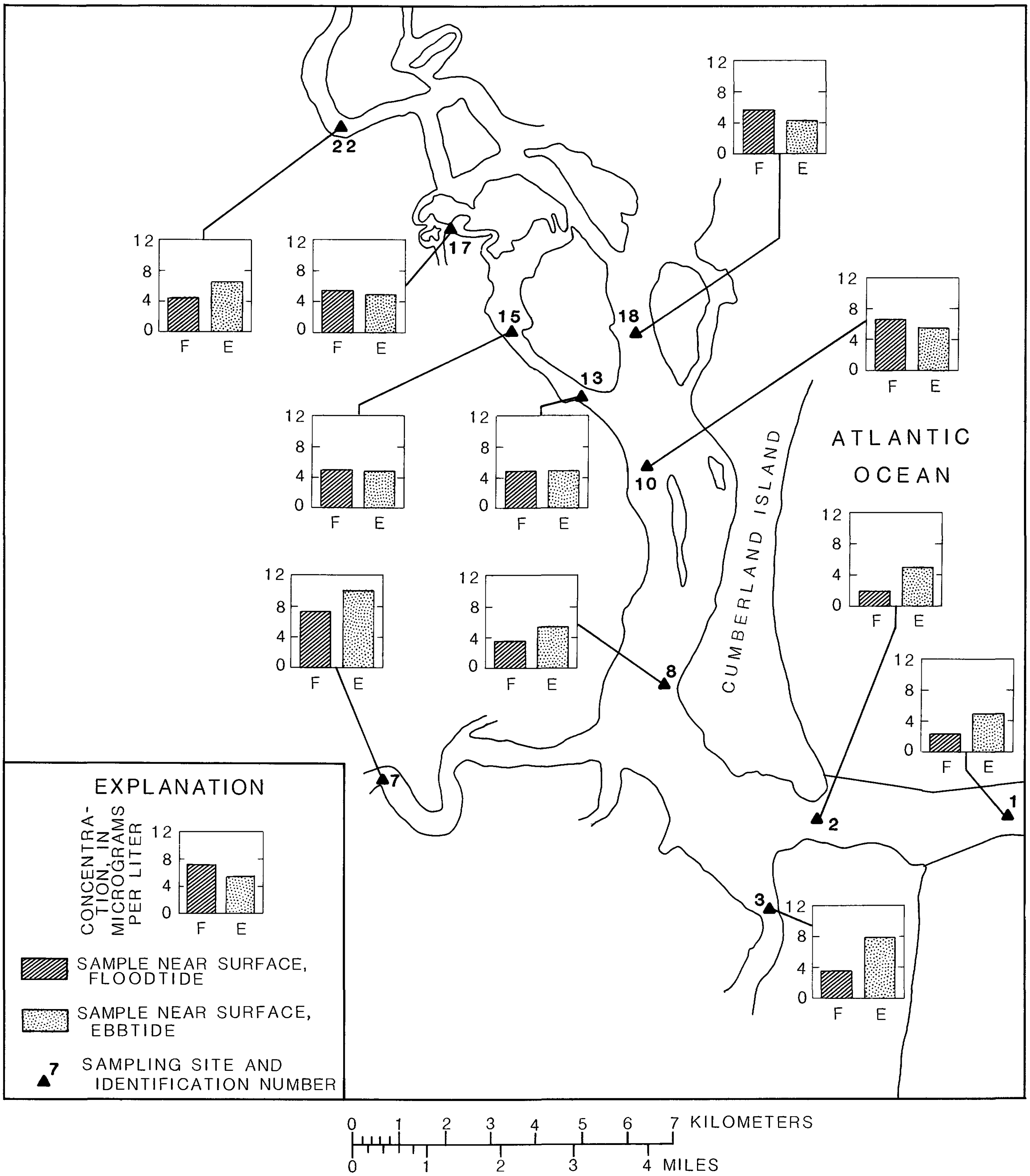


FIGURE 22.—Spatial distribution of organic carbon at flood and ebb slack tides, Kings Bay and vicinity, July 8, 1982.

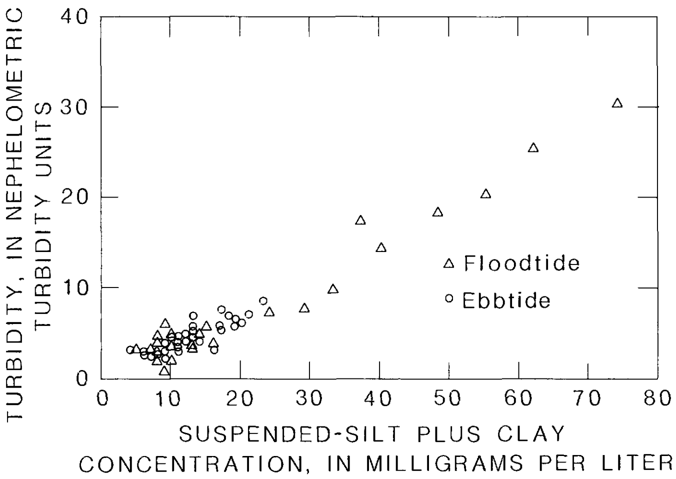


FIGURE 23.—Relation of suspended silt plus clay concentration to turbidity based on samples collected at measurement cross sections, Kings Bay and vicinity, July 10–15, 1982.

## BOTTOM-MATERIAL CHARACTERISTICS

Particle-size distribution, diatom remains, and carbon concentrations of bottom materials from Kings Bay and vicinity provide information on the nature and distribution of bottom materials.

### PARTICLE SIZE

Bottom material was analyzed for particle sizes over a range that included clay (less than 0.004 mm) through very coarse gravel (32 mm). Particle-size distributions at the cross sections are shown in table 14 and are summarized and displayed graphically in figure 25.

Bottom materials in the area ranged from coarse gravel-sized shell fragments to fine silt- and clay-sized inorganic particles. Fine particles were dominant only in bottom materials at the lower Kings Bay sites (13 and 14). At the upper Kings Bay sites (16 and 24), bottom material consisted dominantly of fine and medium sand-sized particles. Bottom materials at the Cumberland Sound sites also were dominantly fine and medium sand particles. Bottom material from the St. Marys Entrance cross section consisted of medium to very coarse sands and very fine to coarse gravel-sized shell fragments. The strong tidal currents at this cross section obviously have retarded the deposition of fine sand and silt-plus-clay particles.

### CARBON

Carbon data (total, organic, and inorganic) are presented in table 15 and figure 26. The highest concentration of total carbon (40.3 and 44.6 g/kg) occurred at the lower Kings Bay sites (13 and 14), where organic carbon accounted for 94 percent of the total carbon. One obvious source of the organic carbon is the highly productive tidal marsh close to these sites. However, significant amounts may also be transported from Cumberland Sound as finely divided particulate organic matter and as organic flotsam, specifically *Spartina.* Unlike the lower Kings Bay sites, the bottom sediments at the upper Kings Bay site contained relatively low levels of organic carbon (1.0 g/kg). Even though upper Kings Bay is close to a tidal marsh, shallower depths and higher velocities relative to lower Kings Bay apparently do not permit the accumulation of finely divided particulate organic matter.

### DIATOM REMAINS

Diatom remains (table 16) were present in substantial amounts in some bottom-material samples. Detrital diatom remains contributed roughly 25 percent (approximately 8,700,000 and 7,900,000 valves/cm$^3$) of silt-plus-clay–sized particles to fine-grained bottom material at the lower Kings Bay sites (13 and 14), and roughly 2 percent (approximately 2,000,000 valves/cm$^3$) to coarse sediments at the upper Kings Bay site (16). At the Cumberland Sound and St. Marys Entrance sites (1, 2, 8, 10, 18, and 19), where bottom sediments were chiefly sand, the detrital diatom remains were generally less than 10 percent (910,000 to 6,400,000 valves/cm$^3$).

Diatom assemblages of euplanktonic, benthic, and tychoplanktonic life forms were represented in all samples at all of the cross sections (fig. 27). *Cymatosira belgica, Cyclotella striata, Rhaponeis surirella,* and *Coscinodiscus nitidus* were the dominant species in bottom materials from the study area. *Cymatosira belgica* (tychoplanktonic) was the dominant diatom in all samples (19.8–62.2 percent). The highest concentrations of *Cymatosira belgica* occurred at stations close to marsh areas (sites 7, 17, and 25). The bottom material sampled in close proximity to the marsh areas had higher percentages of diatom species that are considered exclusively benthic. For example, sites 1, 8, 13, 14, 16, and 25 had percentages of exclusively benthic diatom species of 12, 17, 15, 25, 34, and 37, respectively. All the dominant diatom species found epiphytic on *Spartina alterniflora* (site 26) were also found in both the plankton and bottom-material samples.

## TRANSPORT AND SOURCES OF SUSPENDED SEDIMENT

The amount and rate of suspended material transported on a consecutive ebbtide and floodtide were computed at the four measurement cross sections. Prior to the computation of suspended-sediment discharges, water and salt discharges (based on salinity, a conservative parameter) were computed to evaluate the water and salt discharge balances for the ebbtide and floodtide. The discharges and pertinent tide data are presented in table 17.

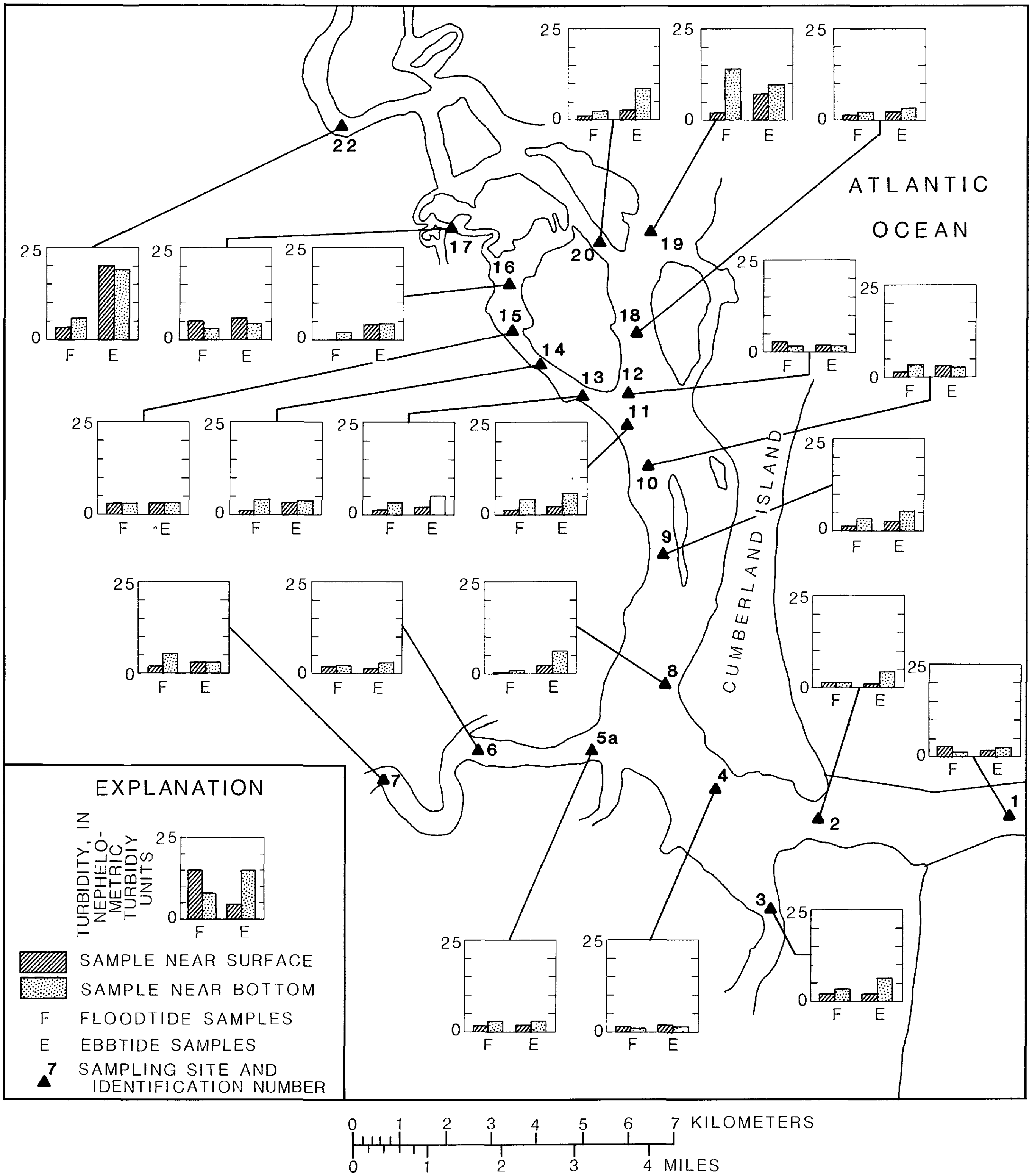


FIGURE 24.—Spatial distribution of turbidity at flood and ebb slack tides, Kings Bay and vicinity, July 8, 1982.

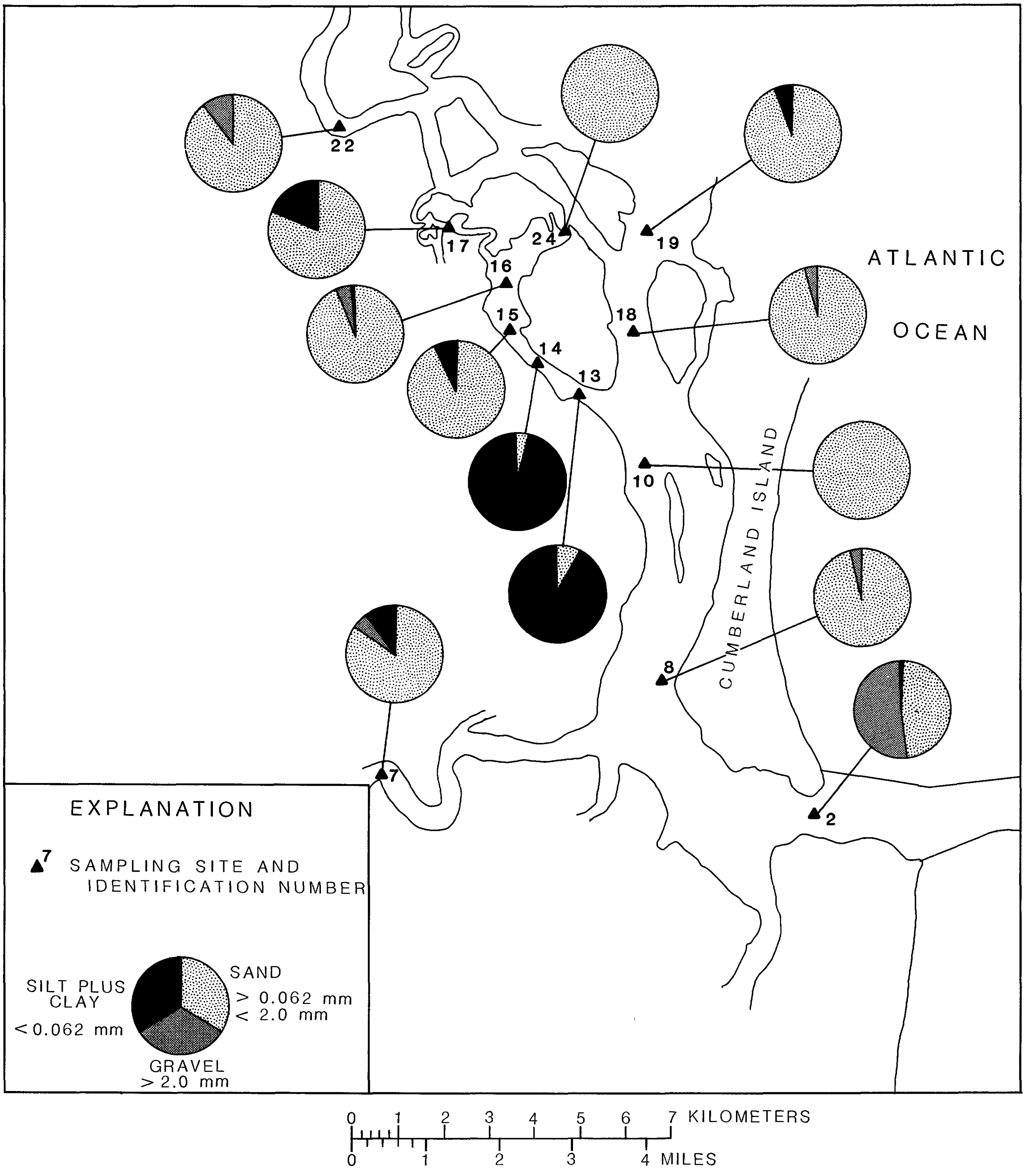


FIGURE 25.—Spatial distribution of the major particle-size classes of bottom material, in percent, at Kings Bay and vicinity, July 1982.

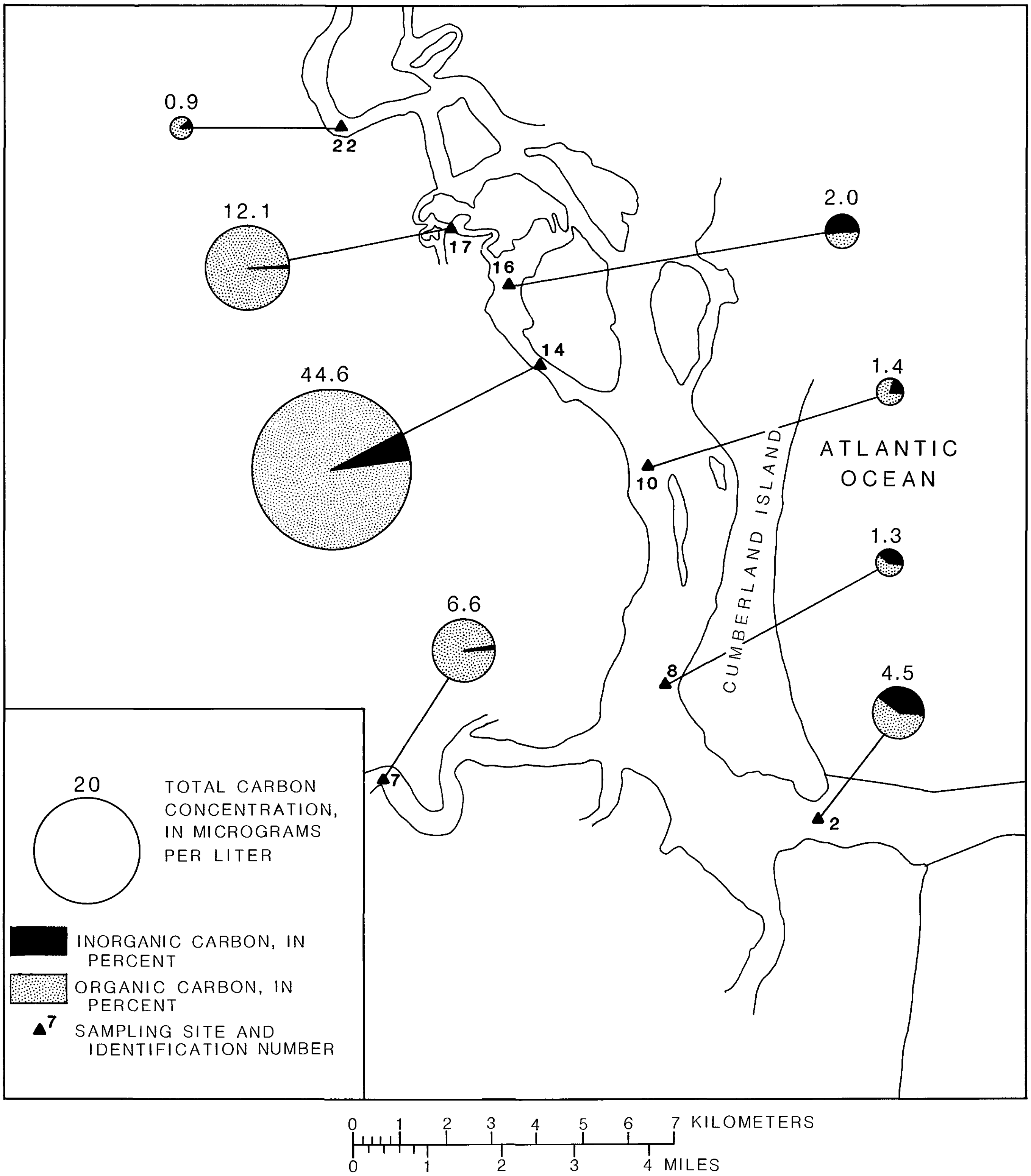


FIGURE 26.—Spatial distribution of total carbon concentrations and the percentages of inorganic and organic carbon in bottom material, Kings Bay and vicinity, July 1982.

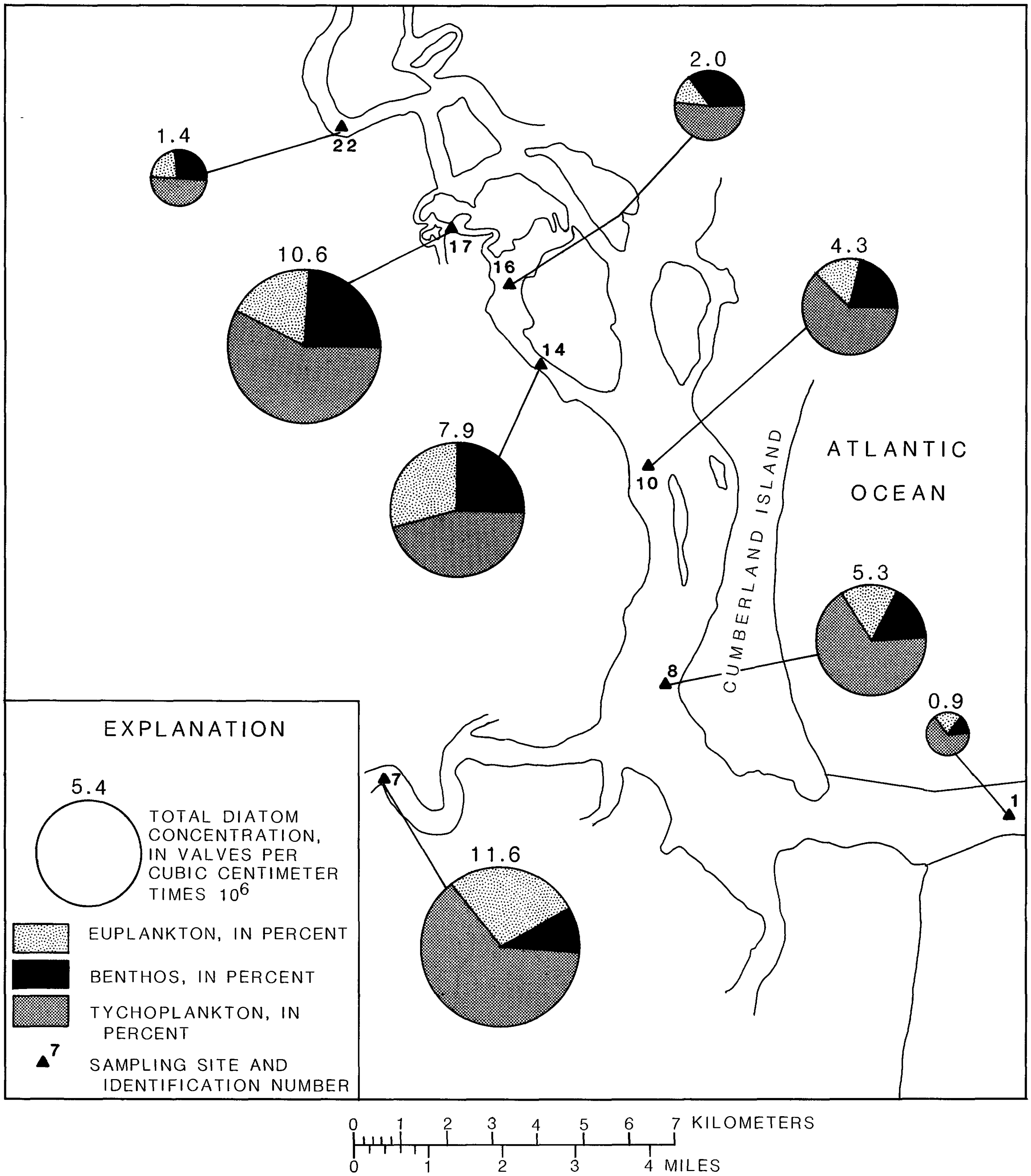


FIGURE 27.—Spatial distribution of diatom remains and percentages of the major diatom life forms in bottom material from Kings Bay and vicinity, July 1982.

At the upper Kings Bay measurement cross section, the tide heights at the start and end of the tidal cycle were equal. The tide heights at the start and end of the tidal cycle at lower Kings Bay, Cumberland Sound, and St. Marys Entrance were reasonably close (approximately 0.25 m). Tide heights and wind conditions should be similar within the estuary at the start and end of the tidal-cycle measurement period in order for the ebbtide and floodtide water discharge and salt discharge to balance.

The ebbtide and floodtide discharges for each cross section balanced reasonably well (1.4 to 1.1 percent). Adjustments due to freshwater inflow were not considered because the volumes of freshwater discharged to the estuary during the measurement periods were insignificant compared with tidal volumes.

The salt-discharge balance between the ebbtide and floodtide at each measurement site was good. Floodtide salt discharges at lower Kings Bay, Cumberland Sound, and St. Marys Entrance were 9.1, 6.8, and 8.9 percent larger, respectively, than ebbtide salt discharges. This coincides with the differences in water discharges at these cross sections, 10.7, 5.7, and 9.8 percent larger, respectively. At upper Kings Bay, the water and salt discharges were 1.4 and 0.9 percent larger during ebbtide than floodtide. A balance of ebbtide and floodtide salt discharges, therefore, suggests that the water-volume computations are reasonably accurate and that the water volumes can be used to compute the loads of suspended sediment, a nonconservative parameter.

Suspended-sediment discharge data for the July measurements suggest that there is a substantial net transport of suspended sediment seaward of the upper Kings Bay cross section and landward of the St. Marys Entrance, Cumberland Sound, and lower Kings Bay cross sections. This is a result, in part, of the larger (5.7 to 10.7 percent) floodtide water volume than ebbtide water volume at these three cross sections rather than higher floodtide suspended-sediment concentrations at these cross sections. However, even after a water volume adjustment is made, there is still a substantial net landward movement of suspended sediment.

At each cross section, silt plus clay made up the largest percentage of the total suspended-sediment discharges (table 17). The percentage of sand in the total discharge was lower at the St. Marys Entrance and Cumberland Sound cross sections than at the upper and lower Kings Bay cross sections.

## DISCUSSION

Water circulation within the project area results from the interaction of numerous factors, including freshwater inflow, tidal conditions, wind regime, and bathymetry. Environmental Science and Engineering, Inc. (1977), found that the water of Cumberland Sound and Kings Bay was generally well mixed vertically because of strong ocean breezes and strong tidal currents. Salinity stratification was detected infrequently by Environmental Science and Engineering, Inc., during measurements conducted seasonally at many sites in Kings Bay and Cumberland Sound. For the July 1982 U.S. Geological Survey study, minimal freshwater inflow, high tides, and strong winds resulted in vertically and laterally mixed water at the measurement cross sections. For these conditions, the water of Kings Bay and Cumberland Sound was classified as vertically and laterally homogeneous (Pritchard, 1955; Cameron and Pritchard, 1963). The water at all sampling sites measured in July 1982, with the exception of the St. Marys River (sites 6 and 7), would be categorized at the high end of the polyhaline to the low end of the euhaline by the Venice System (Remane, 1971) for classifying salinity zones. The euhaline zone is defined as the zone bounded by salinities of 30 to 40 g/kg. This zone is indicative of negligible freshwater discharge. The polyhaline zone is defined as the zone bounded by salinities of 18 to 30 g/kg. At sites in the St. Marys River (sites 6 and 7), where salinities ranged from 17 to 31 g/kg, the waters are categorized as polyhaline, which indicates a small freshwater discharge.

Sedimentary processes in the estuary have resulted in bottom sediments characteristically different in lower Kings Bay (silt, clay, organic material) from those in upper Kings Bay (fine to medium sands), Cumberland Sound (fine to medium sands), Cumberland Sound (fine to medium sands, gravel), and St. Marys Entrance (medium to coarse sands, shell fragments). Some of the fine-grained inorganic and organic bottom sediment in lower Kings Bay may have been transported from upper Kings Bay and Marianna Creek on the ebbtides, as suggested by the net seaward discharge of suspended sediment at the upper Kings Bay cross section. Cumberland Sound also may be supplying fine-grained sediment to lower Kings Bay on the floodtides, as indicated by net landward discharge of suspended sediment at the lower Kings Bay cross section.

The relatively slow velocities in the deep channel of lower Kings Bay apparently permit much of the fine-grained suspended sediment to settle and to remain on the channel bottom, as indicated by the estimated accumulation rate of sediment in Kings Bay. (See p. 1.) It seems likely that part of the material set in motion by the relatively high ebb-current velocities in upper Kings Bay and Marianna Creek may be too heavy to remain in suspension or to be moved as bedload once the material reaches the slower velocity in the dredged lower Kings Bay channel. The same mechanism for the transport of fine-grained sediment may be occurring as the floodtide water moves into Kings Bay from Cumberland Sound. Current-velocity data collected in 1976 (Environmental Science and Engineering, Inc., 1977, p. C–216) indicate that floodtide current velocity decreased appreciably between a measurement site at the north end of Drum Point Island and the entrance to Kings Bay. Apparently, the floodflow is deflected toward the northeast as it enters Kings Bay and a relatively slower velocity occurs on the inside of the arc (toward the southwest shore near the entrance to Kings Bay). Also, an enlargement of the cross-sectional area immediately landward (northwest) of the lower Kings Bay cross section would result in a reach of lower velocity. These areas of slow velocity and low turbulence are conducive to the deposition of fine-grained sediments. Areas seaward of St. Marys Entrance also may be contributing sediment to Kings Bay and to other shoaling areas within the estuary, as indicated by the substantial net landward transport of suspended sediment at the St. Marys Entrance cross section. However, the fate and long-term transport trends of the sediment cannot be defined by only a few data-collection efforts.

Bottom material samples from lower Kings Bay contained a large percentage of diatom remains; diatom remains were much less abundant in the bottom samples collected at the upper Kings Bay, Cumberland Sound, and St. Marys Entrance cross sections. Phytoplankton biomass in the water column at Kings Bay seems to be too low to contribute appreciable quantities of detrital material to the bottom sediments. The low phytoplankton concentrations measured during this study were probably normal for July, and the concentrations may not change greatly throughout the year. Chlorophyll *a* concentration in samples collected by Environmental Science and Engineering, Inc. (1977), at nine cross sections in Cumberland Sound and five cross sections in Kings Bay in 1976 (June, October) and 1977 (January–February, March–April) indicated that phytoplankton concentrations were low and showed no seasonality. However, annual primary production continuously supplies some fine detrital material, including diatom remains, to the estuary. Movement and deposition of the detrital material to areas that are accumulating fine-grained sediments may account for the abundance of diatom remains in the bottom sediments of lower Kings Bay. The diatoms or their remains could have originated in the ocean or within the estuary, or both.

Sediment may be supplied to the shoaling areas in the estuary from places other than the marsh adjacent to upper Kings Bay or from sources seaward of St. Marys Entrance. General areas of shoreline erosion in Kings Bay and Cumberland Sound that are potential sediment sources were delineated by Environmental Science and Engineering, Inc. (1977). Salt marshes in the area, in addition to the marsh area adjacent to Kings Bay, are sources of organic matter and possibly minerals, as pointed out in the "Ecology" section of this paper. Other obvious sediment sources are the tidal channels of Crooked River and St. Marys River, where large cutbanks have been created along meanders by the tidal currents. Several of these cutbanks occur along both tidal channels. One cutbank near Kings Bay is on a reach of Crooked River that borders Crooked River State Park. The Cumberland River (tidal channel) also may contribute sediment to Cumberland Sound and Kings Bay.

One source of sediment that is not a major contributor of suspended sediment to the estuary is the upland drainage of the St. Marys River. The transport rate of suspended sediment at the gaging station near Macclenny, Fla., is small, even at times of high flow. For example, at a floodflow of 70 $m^3/s$, which is exceeded only 5 percent of the time (fig. 2), the suspended-sediment discharge rate is about 0.4 kg/s. (See fig. 18.) The net landward transport of suspended sediment at the St. Marys Entrance cross section for the measurement period was 16.7 kg/s (net total load divided by the duration of time; table 17). Using these data for comparison purposes, the transport rate of the St. Marys River was about 2.4 percent of that at the St. Marys Entrance cross section. Note that the St. Marys River flow and suspended-sediment concentration data were collected at a station 161 river kilometers upstream of the mouth and, therefore, the suspended-sediment discharge is not a measure of the total suspended-sediment discharged to the estuary from the river system.

## CONCLUSIONS

The conclusions that follow are based on the results of this study and, where possible, on other available data. Some statements are more strongly supported by the data base than others. Much of the data presented in this report may represent conditions only at the time of data collection. Obviously, a broader (long-term) data base is needed to confirm many conclusions.

The data indicate the following:

1. Lower Kings Bay and the area in the vicinity of Kings Bay entrance seem to be effective traps for sediment transported by both ebbtide and floodtide currents. Changes in channel geometry and shape probably caused a decrease in current velocities in these areas relative to current velocities in upper Kings Bay and Cumberland Sound. The result was a deposition of fine-grained sediments, including organic detrital material, in areas having slower current velocity.
2. Substantial net quantities of suspended sediment were transported into Cumberland Sound through St. Marys Entrance and possibly into Kings Bay. Suspended-sediment discharges computed for consecutive ebbtides and floodtides showed a large net landward transport of suspended sediment past the St. Marys Entrance, Cumberland Sound, and lower Kings Bay cross sections.
3. Net quantities of suspended sediment are transported from upper Kings Bay and Marianna Creek and are deposited in lower Kings Bay. New sediment may be delivered to upper Kings Bay from Cumberland Sound through a narrow connecting channel or from Crooked River via the intervening marsh.
4. Phytoplankton primary production was low at the time of sampling and phytoplankton biomass in the water column could not have contributed substantial quantities of detrital material to the estuary. However, an-

nual primary production of planktonic and benthic algae over the entire estuary and surrounding environs could contribute significant quantities of detrital material to depositional areas within Kings Bay and vicinity. For example, approximately 25 percent of the silt- and clay-sized particles in the bottom material sampled at lower Kings Bay consisted of a mixture of remains of planktonic and benthic diatoms. Most diatoms originated outside Kings Bay proper.

5. Potential sources of suspended sediment other than upper Kings Bay, the tidal marshes of Marianna Creek, and the area seaward of the St. Marys Entrance cross section are (1) parts of the shoreline surrounding Cumberland Sound, (2) the tidal channels of Crooked River and St. Marys River, (3) the tidal marshes in general, and (4) the Satilla River–St. Andrews Sound by way of the Cumberland River. Data are not available to evaluate the significance of the potential sediment sources as contributors to the sedimentation problems in Kings Bay and vicinity.
6. The upland drainage of the St. Marys River does not supply significant quantities of suspended sediment to the estuary. Long-term flow and sediment-discharge data from the St. Marys River station near Macclenny, Fla., reveal that even during flood periods the suspended-sediment delivery rate is small.

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# TABLES 1–17

TABLE 1.—*Field measurement techniques used at Kings Bay and vicinity, July 1982*

| | Method of measurement | Frequency of measurement |
|---|---|---|
| Tide stage | Fisher-Porter digital recorder | 5 minutes |
| Wind speed and direction | Wind anemometer | Hourly |
| Tidal currents | Price Type AA standard current meter; | 15 minutes |
| | Marsh-McBirney directional current meter | Do. |
| Cross-section bathymetry | Raytheon recording fathometer and electronic distance meter | Do. |
| Water temperature | YSI Model 33 S-C-T meter | 22 vertical profiles during flood slack tide; 22 during ebb slack tide |
| Specific conductance | do. | Do. |
| Salinity | do. | Do. |

1 The use of brand names in this report is for identification purposes only and does not imply endorsement by the U.S. Geological Survey.

TABLE 2.—*Sampling and laboratory methods for samples collected at Kings Bay and vicinity, July 1982*

[SL, left vertical facing seaward; C, center vertical; SR, right vertical facing seaward]

| | Method of sample collection | Sample treatment/ preservation | Container type | Vertical sampled |
|---|---|---|---|---|
| | | Water column sampling | | |
| Turbidity (at 22 sites) | Point (grab-type) sampler | None | 250-mL plastic bottle | -- |
| Turbidity (at 4 cross sections) | Pump samples from stationary boat | do. | do. | C |
| Total suspended-sediment concentration | do. | do. | 1-L glass bottle | Verticals 1,2,3,4,5 |
| Sand and silt plus clay concentrations | do. | do. | do. | do. |
| Phytoplankton standing stock (at 11 sites) | Point (grab-type) sampler | 20 mL. Lugol's solution | 1-L plastic bottle | C |
| Phytoplankton taxonomy | do. | do. | do. | do. |
| Plankton diatom taxonomy | do. | do. | do. | do. |
| | | Bottom material sampling | | |
| Bottom material particle size (at 12 sites) | Grab sample, US BMH-54 | Chill at 4°C | Plastic carton | SL, C, SR |
| Total carbon in bottom material (at 12 sites) | do. | do. | do. | do. |
| Total inorganic carbon in bottom material | do. | do. | do. | do. |
| Total organic carbon in bottom material | Calculated as the difference between total carbon and total inorganic carbon | | | |
| Algal remains in bottom material (at 14 sites) | Grab sample, US BMH-54 | Chill at 4°C | Plastic carton | SL, C, SR |
| Percent of algal remains in bottom material | do. | do. | do. | do. |

TABLE 2.—*Sampling and laboratory methods for samples collected at Kings Bay and vicinity, July 1982*—Continued

| | Collection frequency | Method of analysis | Reference |
|---|---|---|---|
| | | Water column sampling | |
| Turbidity (at 22 sites) | 1 at each site at ebb and flood slack tide | Nephelometric, Hach turbidimeter Model 2100 or 2100A | Skougstad and others, 1979 |
| Turbidity (at 4 cross sections) | 6 samples during floodtide<br>6 samples during ebbtide | do. | Do. |
| Total suspended-sediment concentration | do. | Filtration method, gravimetric | Guy, H. P., 1969 |
| Sand and silt plus clay concentrations | do. | Wet sieve, gravimetric | Do. |
| Phytoplankton standing stock (at 11 sites) | 1 at each site at ebb and flood slack tide | Inverted microscope method | Greeson and others, 1977 |
| Phytoplankton taxonomy | do. | Inverted microscope method to generic level | Do. |
| Plankton diatom taxonomy | do. | Inverted microscope method to species level | Do. |
| | | Bottom material sampling | |
| Bottom material particle size (at 12 sites) | 1 sample at either flood slack or ebb slack tide | Wet sieve, gravimetric | Guy, H. P., 1969 |
| Total carbon in bottom material (at 12 sites) | do. | Carbon dioxide conversion; thermal conductance | Goerlitz, D. F., and Brown, Eugene, 1972 |
| Total inorganic carbon in bottom material | do. | Modified Van Slyke procedure | Do. |
| Total organic carbon in bottom material | | | |
| Algal remains in bottom material (at 14 sites) | 1 sample at either flood slack or ebb slack tide | Hydrogen peroxide digestion; inverted microscope method to species level | Greeson, P. E., 1979 |
| Percent of algal remains in bottom material | do. | Inverted microscope method | Do. |

TABLE 3.—*Tide conditions measured at four tide-stage recorder sites at Kings Bay, Cumberland Island, and St. Marys Entrance for July 8–16, 1982*

[Tide heights and ranges, in meters. Eastern standard time; –, below arbitrary datum]

| | Upper Kings Bay | | | Lower Kings Bay | | | Cumberland Island | | | St. Marys Entrance | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Tide height | Tide range | Time | Tide height | Tide range | Time | Tide height | Tide range | Time | Tide height | Tide range |
| July 8 | -- | -- | | -- | -- | | -- | -- | | -- | -- | |
| | | | -- | | | -- | | | — | | | -- |
| | -- | -- | | -- | -- | | -- | -- | | -- | -- | |
| | | | -- | | | -- | | | -- | | | -- |
| | -- | -- | | -- | -- | | 1540 | -0.86 | | -- | -- | |
| | | | -- | | | -- | | | 1.90 | | | — |
| | -- | -- | | 2355 | 0.80 | | 2215 | 1.04 | | 2150 | 2.83 | |
| | | | -- | | | 1.82 | | | 1.96 | | | 1.84 |
| July 9 | -- | -- | | 0440 | -1.02 | | 0430 | -.92 | | 0420 | .99 | |
| | | | -- | | | 1.77 | | | 1.71 | | | 1.55 |
| | -- | -- | | 1050 | .75 | | 1035 | .79 | | 1010 | 2.54 | |
| | | | -- | | | 1.70 | | | 1.64 | | | 1.51 |
| | -- | -- | | 1630 | -.95 | | 1630 | -.85 | | 1615 | 1.03 | |
| | | | -- | | | 1.87 | | | 1.82 | | | 1.72 |
| | 2330 | 5.64 | | 2320 | .92 | | 2310 | .97 | | 2230 | 2.75 | |
| | | | 1.97 | | | 1.94 | | | 1.88 | | | 1.77 |
| July 10 | | | | 0515 | -1.02 | | 0505 | -.91 | | 0500 | .98 | |
| | | | | | | 1.77 | | | 1.69 | | | 1.55 |
| | 0520 | 3.67 | | 1150 | .75 | | 1130 | .78 | | 1055 | 1.53 | |
| | | | 1.80 | | | 1.77 | | | 1.69 | | | 1.54 |
| | 1155 | 5.47 | | 1715 | -1.02 | | 1710 | -.91 | | 1655 | .99 | |
| | | | 1.80 | | | 1.96 | | | 1.89 | | | 1.78 |
| | 1725 | 3.67 | | 2345 | -.94 | | 2335 | .98 | | 2310 | 2.77 | |
| | | | 1.99 | | | 1.85 | | | 1.88 | | | 1.79 |
| July 11 | 0010 | 5.66 | | 0605 | -1.01 | | 0555 | -.90 | | 0540 | .98 | |
| | | | 1.98 | | | 1.77 | | | 1.70 | | | 1.56 |
| | 0605 | 3.68 | | 1220 | .76 | | 1210 | .80 | | 1150 | 2.54 | |
| | | | 1.81 | | | 1.70 | | | 1.64 | | | 1.48 |
| | 1235 | 5.49 | | 1820 | -.94 | | 1810 | -.84 | | 1745 | 1.06 | |
| | | | 1.74 | | | 1.85 | | | 1.79 | | | 1.67 |
| | 1820 | 3.75 | | | | | | | | | | |
| | | | 1.89 | | | | | | | | | |
| July 12 | 0045 | 5.64 | | 0040 | .91 | | 0015 | .95 | | 0000 | 2.73 | |
| | | | 1.98 | | | 1.95 | | | 1.88 | | | 1.75 |
| | 0645 | 3.66 | | 0645 | -1.04 | | 0635 | -.93 | | 0620 | .98 | |
| | | | 1.89 | | | 1.87 | | | 1.79 | | | 1.63 |
| | 1320 | 5.55 | | 1315 | .83 | | 1305 | .86 | | 1245 | 2.61 | |
| | | | 1.79 | | | 1.77 | | | 1.69 | | | 1.52 |
| | 1850 | 3.76 | | 1850 | -.94 | | 1845 | -.83 | | 1825 | 1.09 | |
| | | | | | | 1.84 | | | | | | 1.62 |

TABLE 3.—*Tide conditions measured at four tide-stage recorder sites at Kings Bay, Cumberland Island, and St. Marys Entrance for July 8–16, 1982*—Continued

| Date | Upper Kings Bay | | | Lower Kings Bay | | | Cumberland Island | | | St. Marys Entrance | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Time | Tide height | Tide range | Time | Tide height | Tide range | Time | Tide height | Tide range | Time | Tide height | Tide range |
| July 13 | 0135 | 5.64 | | 0125 | 0.90 | | 0115 | 0.95 | | 0040 | 2.68 | |
| | | | 1.97 | | | 1.95 | | | 1.87 | | | 1.75 |
| | 0725 | 3.67 | | 0720 | -1.05 | | 0720 | -.93 | | 0705 | .96 | |
| | | | 1.98 | | | 1.96 | | | 1.87 | | | 1.73 |
| | 1504 | 5.65 | | 1355 | .91 | | 1340 | .94 | | 1315 | 2.69 | |
| | | | 1.72 | | | 1.69 | | | 1.61 | | | 1.47 |
| | 1930 | 3.93 | | 1925 | -.78 | | 1920 | -.67 | | 1930 | 1.22 | |
| | | | 1.70 | | | 1.67 | | | 1.60 | | | 1.48 |
| July 14 | 0220 | 5.63 | | 0215 | .89 | | 0220 | .93 | | 0145 | 2.70 | |
| | | | 1.90 | | | 1.87 | | | 180 | | | 1.69 |
| | 0815 | 3.73 | | 0815 | -.98 | | 0805 | -.87 | | 0750 | 1.01 | |
| | | | 2.06 | | | 2.01 | | | 1.93 | | | 1.82 |
| | 1505 | 5.79 | | 1500 | 1.03 | | 1445 | 1.06 | | 1420 | 2.83 | |
| | | | 1.82 | | | 1.78 | | | 1.71 | | | 1.59 |
| | 2045 | 3.97 | | 2045 | -.75 | | 2040 | -.65 | | 2020 | 1.24 | |
| | | | 1.70 | | | 1.69 | | | 1.63 | | | 1.50 |
| July 15 | 0320 | 5.67 | | 0310 | .94 | | 0305 | .98 | | 0240 | 2.74 | |
| | | | 1.95 | | | 1.93 | | | 1.85 | | | 1.72 |
| | 0905 | 3.72 | | 0905 | -.99 | | 0900 | -.87 | | 0850 | 1.02 | |
| | | | 2.14 | | | 2.11 | | | 2.02 | | | 1.92 |
| | 1610 | 5.86 | | 1555 | 1.12 | | 1535 | 1.15 | | 1505 | 2.94 | |
| | | | 1.88 | | | 1.86 | | | 1.79 | | | 1.70 |
| | 2155 | 3.98 | | 2200 | -.74 | | 2155 | -.64 | | 2135 | 1.24 | |
| | | | 1.69 | | | 1.67 | | | 1.61 | | | 1.50 |
| July 16 | 0415 | 5.67 | | 0405 | .93 | | 0355 | .97 | | 0320 | 2.74 | |
| | | | 1.97 | | | 1.94 | | | 1.87 | | | 1.72 |
| | 1000 | 3.70 | | 1005 | -1.01 | | 0955 | -.90 | | 0940 | 1.02 | |
| | | | 2.32 | | | 2.29 | | | 2.20 | | | 2.08 |
| | 1710 | 6.02 | | 1700 | 1.28 | | 1650 | 1.30 | | 1550 | 3.10 | |
| | | | 2.13 | | | 2.01 | | | 2.02 | | | 1.91 |
| | 2310 | 3.89 | | 2305 | -.83 | | 2300 | -.72 | | 2255 | 1.19 | |
| Mean | | | 1.91 | | | 1.86 | | | 1.80 | | | 1.67 |
| Minimum | | | 1.69 | | | 1.67 | | | 1.60 | | | 1.48 |
| Maximum | | | 2.32 | | | 2.29 | | | 2.20 | | | 2.08 |

TABLE 4.—*Windspeed and direction at Kings Bay, July 9–16, 1982*

| Date | Time period | Number of measurements | Minimum Kilometers per hour | Minimum Knots | Maximum Kilometers per hour | Maximum Knots | Mean Kilometers per hour | Mean Knots | Wind direction |
|---|---|---|---|---|---|---|---|---|---|
| 9 July | 0052-0900 | 9 | 0 | 0 | 9.2 | 5 | 4.1 | 2.2 | S |
| | 0900-1600 | 6 | 3.7 | 2 | 33.3 | 18 | 18.1 | 9.8 | SE |
| | 1600-2140 | 4 | 0 | 0 | 27.8 | 15 | 10.7 | 5.8 | S |
| | 2140-2400 | 2 | 0 | 0 | 11.1 | 6 | 5.5 | 3.0 | W |
| 10 July | 0004-1002 | 11 | 0 | 0 | 9.2 | 5 | 4.2 | 2.3 | SW |
| | 1002-1500 | 5 | 5.5 | 3 | 18.5 | 10 | 10.0 | 5.4 | E-SE |
| | 1500-1900 | 4 | 0 | 0 | 7.4 | 4 | 2.8 | 1.5 | SW |
| | 1900-2400 | 4 | 0 | 0 | 7.4 | 4 | 5.2 | 2.8 | S |
| 11 July | 0001-0305 | 4 | 0 | 0 | 7.4 | 4 | 4.07 | 2.2 | SW |
| | 0305-0600 | 3 | 11.1 | 6 | 11.1 | 6 | 11.1 | 6.0 | W |
| | 0600-1205 | 6 | 0 | 0 | 5.5 | 3 | 4.1 | 2.2 | SW |
| | 1205-1500 | 3 | 5.5 | 3 | 16.6 | 9 | 9.8 | 5.3 | SE |
| | 1500-1700 | 1 | 14.8 | 8 | 14.8 | 8 | -- | -- | NW |
| | 1700-1801 | 1 | 31.4 | 17 | 31.4 | 17 | -- | -- | NE |
| | 1801-2400 | 6 | 0 | 0 | 11.1 | 6 | 5.0 | 2.7 | S-SW |
| 12 July | 0001-0110 | 2 | 3.7 | 2 | 7.4 | 4 | 5.5 | 3.0 | S |
| | 0110-1300 | 10 | 0 | 0 | 3.7 | 2 | 2.4 | 1.3 | SW |
| | 1300-1605 | 3 | 5.5 | 3 | 18.5 | 10 | 10.5 | 5.7 | SE |
| | 1605-2400 | 8 | 0 | 0 | 9.2 | 5 | 4.4 | 2.4 | S-SW |
| 13 July | 0001-0600 | 7 | 0 | 0 | 11.1 | 6 | 5.4 | 2.9 | S-SW |
| | 0600-1100 | 5 | 0 | 0 | 5.5 | 3 | 3.0 | 1.6 | SW |
| | 1100-1811 | 5 | 0 | 0 | 29.6 | 16 | 12.6 | 6.8 | SE |
| | 1811-2200 | 4 | 14.8 | 8 | 22.2 | 12 | 17.6 | 9.5 | S |
| | 2200-2400 | 1 | 7.4 | 4 | 7.4 | 4 | -- | -- | SW |
| 14 July | 0005-0208 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | SW |
| | 0208-0910 | 8 | 0 | 0 | 11.1 | 6 | 4.4 | 2.4 | S |
| | 0910-1200 | 3 | 0 | 0 | 3.7 | 2 | 1.3 | 0.7 | SW |
| | 1200-2400 | 11 | 5.5 | 3 | 18.5 | 10 | 12.9 | 7.0 | SE |
| 15 July | 0005-0307 | 4 | 0 | 0 | 11.1 | 6 | 4.6 | 2.5 | S |
| | 0307-0629 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | SW |
| | 0629-0900 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | W |
| | 0900-1200 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | NE |
| | 1200-2023 | 9 | 5.5 | 3 | 22.2 | 12 | 18.7 | 10.1 | E |
| | 2023-2400 | 2 | 14.8 | 8 | 18.5 | 10 | 16.6 | 9.0 | SE |
| 16 July | 0005-0205 | 2 | 0 | 0 | 11.1 | 6 | 5.5 | 3.0 | SE |
| | 0205-0610 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | SW |
| | 0610-0800 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | N-NW |
| | 0800-1100 | 4 | 7.4 | 4 | 18.5 | 10 | 12.9 | 7.0 | E |
| | 1100-1200 | 1 | 9.2 | 5 | 9.2 | 5 | -- | -- | N |
| | 1200-1300 | 1 | 11.1 | 6 | 11.1 | 6 | -- | -- | E |
| | 1300-1400 | 1 | 12.9 | 7 | 12.9 | 7 | --. | -- | NW |
| | 1400-2200 | 8 | 7.4 | 4 | 14.8 | 8 | 12.6 | 6.8 | E |
| | 2200-2400 | 2 | 0 | 0 | 5.5 | 3 | 2.8 | 1.5 | S |

TABLE 5.—*Suspended-sediment and salinity data collected at upper Kings Bay cross section, July 10, 1982*

| Measurement number | Time (EST) | Tide stage (m) | Mean concentration: Total sediment (mg/L) | Mean concentration: Silt plus clay (mg/L) | Salinity (g/kg) | Discharge ($m^3/s$) |
|---|---|---|---|---|---|---|
| | | | Vertical 1 | | | |
| 1 | 0710 | 4.09 | 15.6 | 10.4 | 28.2 | -60.9 |
| 2 | 0807 | 4.44 | 16.5 | 12.0 | 28.5 | -80.8 |
| 3 | 0906 | 4.83 | 20.1 | 13.5 | 28.7 | -78.5 |
| 4 | 0938 | 5.03 | 16.3 | 11.5 | 28.5 | -77.1 |
| 5 | 1008 | 5.20 | 17.0 | 11.7 | 28.7 | -68.2 |
| 6 | 1103 | 5.41 | 16.1 | 10.4 | 28.5 | -39.8 |
| 7 | 1158 | 5.47 | 12.3 | 9.2 | 28.0 | 10.1 |
| 8 | 1305 | 5.21 | 16.9 | 12.0 | 28.1 | 95.8 |
| 9 | 1405 | 4.75 | 17.5 | 12.6 | 28.0 | 90.3 |
| 10 | 1505 | 4.31 | 27.1 | 20.0 | 27.9 | 51.7 |
| 11 | 1603 | 3.91 | 24.8 | 18.3 | 27.7 | 22.9 |
| 12 | 1703 | 3.69 | 20.1 | 16.8 | 27.8 | 7.8 |
| | | | Vertical 2 | | | |
| 1 | 0821 | 4.54 | 15.7 | 11.1 | 27.7 | -148.0 |
| 2 | 0911 | 4.86 | 13.8 | 9.8 | 28.0 | -148.8 |
| 3 | 0937 | 5.03 | 13.7 | 9.9 | 27.7 | -142.9 |
| 4 | 1012 | 5.22 | 14.1 | 9.5 | 27.8 | -144.3 |
| 5 | 1111 | 5.44 | 13.2 | 9.2 | 27.3 | -102.2 |
| 6 | 1200 | 5.47 | 13.5 | 9.6 | 27.8 | 14.0 |
| 7 | 1230 | 5.39 | 13.4 | 10.1 | 28.1 | 91.2 |
| 8 | 1335 | 4.98 | 17.1 | 13.0 | 28.0 | 199.3 |
| 9 | 1405 | 4.75 | 20.8 | 14.9 | 27.7 | 203.8 |
| 10 | 1433 | 4.53 | 21.6 | 16.0 | 27.7 | 183.6 |
| 11 | 1616 | 3.83 | 30.1 | 19.7 | 27.3 | 90.1 |
| 12 | 1656 | 3.71 | 24.4 | 17.2 | 27.5 | 42.5 |
| | | | Vertical 3 | | | |
| 1 | 0825 | 4.57 | 20.5 | 16.3 | 27.7 | -111.7 |
| 2 | 0908 | 4.84 | 22.1 | 17.1 | 28.0 | -123.3 |
| 3 | 0935 | 5.01 | 20.5 | 14.2 | 27.8 | -126.1 |
| 4 | 1013 | 5.23 | 16.4 | 12.5 | 27.8 | -129.2 |
| 5 | 1115 | 5.44 | 14.3 | 10.6 | 27.5 | -65.4 |
| 6 | 1155 | 5.47 | 11.7 | 7.7 | 27.8 | -5.5 |
| 7 | 1243 | 5.34 | 11.3 | 8.7 | 27.9 | 134.9 |
| 8 | 1315 | 5.13 | 19.1 | 13.5 | 27.8 | 239.3 |
| 9 | 1350 | 4.87 | 20.6 | 14.5 | 28.1 | 247.8 |
| 10 | 1453 | 4.38 | 28.6 | 19.5 | 27.6 | 180.9 |
| 11 | 1608 | 3.88 | 32.6 | 21.6 | 27.9 | 83.1 |
| 12 | 1708 | 3.69 | 26.2 | 16.9 | 27.2 | 23.2 |

TABLE 5.—*Suspended-sediment and salinity data collected at upper Kings Bay cross section, July 10, 1982*—Continued

| Measurement number | Time (EST) | Tide stage (m) | Mean concentration Total sediment (mg/L) | Mean concentration Silt plus clay (mg/L) | Salinity (g/kg) | Discharge ($m^3/s$) |
|---|---|---|---|---|---|---|
| | | | Vertical 4 | | | |
| 1 | 0823 | 4.56 | 12.4 | 8.3 | 28.1 | -46.3 |
| 2 | 0918 | 4.91 | 15.7 | 10.8 | 28.1 | -64.8 |
| 3 | 0950 | 5.10 | 15.2 | 10.6 | 27.7 | -70.1 |
| 4 | 1020 | 5.26 | 15.3 | 9.8 | 27.9 | -64.6 |
| 5 | 1130 | 5.46 | 15.2 | 9.8 | 27.8 | -30.0 |
| 6 | 1205 | 5.46 | 12.8 | 9.1 | 27.8 | -13.0 |
| 7 | 1248 | 5.32 | 10.1 | 6.5 | 27.4 | 44.9 |
| 8 | 1320 | 5.10 | 18.3 | 11.7 | 28.1 | 47.6 |
| 9 | 1423 | 4.61 | 22.8 | 16.9 | 27.7 | 28.1 |
| 10 | 1505 | 4.31 | 25.4 | 17.3 | 27.2 | 12.0 |
| 11 | 1528 | 4.15 | 25.4 | 18.9 | 27.5 | 8.3 |
| 12 | 1543 | 4.04 | 26.6 | 17.6 | 27.4 | 7.0 |
| | | | Vertical 5 | | | |
| 1 | 0824 | 4.56 | 16.0 | 10.8 | 28.1 | -49.9 |
| 2 | 0908 | 4.84 | 16.1 | 8.3 | 27.9 | -65.6 |
| 3 | 0936 | 5.02 | 16.2 | 10.6 | 28.1 | -64.1 |
| 4 | 1005 | 5.18 | 14.3 | 9.5 | 28.4 | -61.6 |
| 5 | 1108 | 5.42 | 12.3 | 8.7 | 28.1 | -47.2 |
| 6 | 1158 | 5.47 | 13.5 | 9.8 | 28.3 | -7.6 |
| 7 | 1228 | 5.40 | 10.5 | 6.9 | 27.5 | 34.6 |
| 8 | 1308 | 5.19 | 13.2 | 9.6 | 27.4 | 52.5 |
| 9 | 1406 | 4.74 | 20.5 | 15.0 | 27.4 | 32.2 |
| 10 | 1454 | 4.40 | 21.6 | 15.5 | 27.2 | 23.3 |
| 11 | 1528 | 4.15 | 21.4 | 15.0 | 27.1 | 17.7 |
| 12 | 1630 | 3.77 | 24.8 | 18.4 | 27.2 | 5.1 |

TABLE 6.—*Suspended-sediment and salinity data collected at lower Kings Bay cross section, July 14, 1982*

| Measurement number | Time (EST) | Tide stage (m) | Mean concentration Total sediment (mg/L) | Mean concentration Silt plus clay (mg/L) | Salinity (g/kg) | Discharge ($m^3/s$) |
|---|---|---|---|---|---|---|
| | | | Vertical 1 | | | |
| 1 | 0930 | -0.76 | 12.7 | 8.8 | 27.3 | -84.0 |
| 2 | 1126 | .06 | 15.5 | 9.7 | 27.0 | -196.5 |
| 3 | 1237 | .56 | 26.9 | 19.2 | 27.4 | -249.5 |
| 4 | 1349 | .93 | 26.6 | 21.9 | 27.6 | -220.3 |
| 5 | 1451 | 1.02 | 26.1 | 20.5 | 28.0 | -181.4 |
| 6 | 1532 | .99 | 18.1 | 14.6 | 28.1 | -3.1 |
| 7 | 1614 | .84 | 14.9 | 12.8 | 28.2 | 158.4 |
| 8 | 1718 | .39 | 12.7 | 10.7 | 27.6 | 213.3 |
| 9 | 1846 | -.32 | 15.6 | 10.9 | 27.6 | 170.9 |
| 10 | 1936 | -.58 | 16.6 | 10.9 | 27.6 | 114.6 |
| 11 | 2039 | -.74 | 13.1 | 10.1 | 27.3 | 53.5 |
| 12 | 2114 | -.71 | 11.6 | 8.3 | 27.3 | -18.3 |
| | | | Vertical 2 | | | |
| 1 | 0951 | -0.64 | 12.2 | 9.0 | 27.1 | -76.5 |
| 2 | 1121 | .02 | 15.7 | 11.0 | 27.1 | -144.2 |
| 3 | 1238 | .57 | 43.0 | 32.5 | 27.0 | -189.9 |
| 4 | 1356 | .95 | 24.2 | 17.3 | 27.2 | -151.8 |
| 5 | 1420 | 1.00 | 20.0 | 13.1 | 27.4 | -129.8 |
| 6 | 1533 | .99 | 13.2 | 9.4 | 27.8 | 7.18 |
| 7 | 1708 | .47 | 13.9 | 10.5 | 27.7 | 203.6 |
| 8 | 1840 | -.28 | 19.9 | 15.1 | 27.2 | 147.2 |
| 9 | 1936 | -.58 | 18.9 | 12.7 | 27.1 | 84.9 |
| 10 | 2036 | -.74 | 15.3 | 11.4 | 26.8 | 38.0 |
| 11 | 2121 | -.69 | 12.8 | 8.4 | 27.1 | -10.4 |
| | | | Vertical 3 | | | |
| 1 | 1028 | -0.39 | 12.9 | 10.0 | 26.4 | -88.1 |
| 2 | 1148 | .22 | 18.2 | 13.6 | 26.7 | -126.4 |
| 3 | 1258 | .69 | 38.0 | 30.3 | 26.5 | -145.9 |
| 4 | 1413 | .99 | 23.1 | 18.2 | 27.0 | -145.7 |
| 5 | 1452 | 1.02 | 25.7 | 20.9 | 27.2 | -99.8 |
| 6 | 1536 | .98 | 13.0 | 9.3 | 27.2 | 79.1 |
| 7 | 1617 | .82 | 14.0 | 11.8 | 28.1 | 155.1 |
| 8 | 1725 | .33 | 15.4 | 13.9 | 28.0 | 163.1 |
| 9 | 1810 | -.06 | 17.8 | 12.5 | 27.3 | 142.6 |
| 10 | 1844 | -.31 | 20.3 | 15.4 | 27.9 | 105.5 |
| 11 | 1953 | -.65 | 18.6 | 14.4 | 27.3 | 67.6 |
| 12 | 2110 | -.72 | 13.3 | 10.3 | 27.2 | 11.8 |

TABLE 6.—*Suspended-sediment and salinity data collected at lower Kings Bay cross section, July 14, 1982*—Continued

| Measurement number | Time (EST) | Tide stage (m) | Mean concentration Total sediment (mg/L) | Mean concentration Silt plus clay (mg/L) | Salinity (g/kg) | Discharge ($m^3/s$) |
|---|---|---|---|---|---|---|
| | | | Vertical 4 | | | |
| 1 | 1018 | -0.46 | 10.2 | 6.6 | 25.8 | -65.9 |
| 2 | 1148 | .22 | 14.2 | 8.3 | 26.5 | -98.3 |
| 3 | 1239 | .58 | 23.7 | 14.5 | 27.2 | -89.8 |
| 4 | 1325 | .84 | 21.6 | 17.6 | 27.6 | -96.0 |
| 5 | 1501 | 1.02 | 21.5 | 15.3 | 27.5 | 12.4 |
| 6 | 1546 | .95 | 14.8 | 11.6 | 27.8 | 83.0 |
| 7 | 1647 | .63 | 15.0 | 10.8 | 27.7 | 144.3 |
| 8 | 1746 | .14 | 13.4 | 11.2 | 27.3 | 141.3 |
| 9 | 1908 | -.44 | 18.1 | 12.6 | 26.8 | 62.9 |
| 10 | 2022 | -.73 | 16.2 | 13.4 | 27.2 | 28.2 |
| 11 | 2111 | -.71 | 11.3 | 8.2 | 26.8 | 6.8 |
| 12 | 1543 | 4.04 | 26.6 | 17.6 | 27.4 | 7.0 |
| | | | Vertical 5 | | | |
| 1 | 1010 | -0.52 | 8.9 | 6.6 | 26.2 | -57.6 |
| 2 | 1150 | .23 | 31.1 | 20.8 | 26.4 | -103.1 |
| 3 | 1253 | .67 | 20.3 | 16.7 | 26.2 | -66.0 |
| 4 | 1338 | .90 | 21.3 | 14.9 | 26.4 | -89.3 |
| 5 | 1455 | 1.03 | 18.9 | 12.8 | 26.7 | 23.4 |
| 6 | 1548 | .95 | 17.1 | 13.5 | 27.2 | 99.4 |
| 7 | 1640 | .68 | 16.3 | 13.4 | 28.0 | 149.5 |
| 8 | 1745 | .15 | 16.1 | 13.6 | 27.7 | 149.9 |
| 9 | 1913 | -.47 | 15.8 | 12.3 | 27.1 | 42.5 |
| 10 | 2013 | -.71 | 13.9 | 11.4 | 27.2 | -9.4 |
| 11 | 2100 | -.73 | 13.7 | 10.0 | 27.2 | -30.2 |

TABLE 7.—*Suspended-sediment and salinity data collected at Cumberland Sound cross section, July 15, 1982*

| Measurement number | Time (EST) | Tide stage (m) | Mean concentration: Total sediment (mg/L) | Mean concentration: Silt plus clay (mg/L) | Salinity (g/kg) | Discharge ($m^3/s$) |
|---|---|---|---|---|---|---|
| | | | **Vertical 1** | | | |
| 1 | 1018 | -0.63 | 26.7 | 22.5 | 27.1 | -681.6 |
| 2 | 1118 | -.21 | 45.5 | 38.4 | 28.3 | -843.2 |
| 3 | 1213 | .20 | 32.2 | 25.8 | 30.5 | -816.8 |
| 4 | 1323 | .70 | 56.3 | 45.8 | 31.8 | -844.6 |
| 5 | 1438 | 1.07 | 22.3 | 17.0 | 34.4 | -642.6 |
| 6 | 1523 | 1.15 | 16.9 | 12.8 | 34.3 | -252.3 |
| 7 | 1633 | 1.06 | 10.3 | 7.9 | 33.9 | 513.4 |
| 8 | 1737 | .74 | 13.0 | 9.8 | 33.6 | 1,253.2 |
| 9 | 1836 | .32 | 27.1 | 18.3 | 31.6 | 1,290.8 |
| 10 | 2006 | -.32 | 35.6 | 29.6 | 29.8 | 1,030.0 |
| 11 | 2138 | -.63 | 16.8 | 14.6 | 27.9 | 435.4 |
| 12 | 2216 | -.62 | 13.6 | 10.9 | 27.8 | 70.55 |
| | | | **Vertical 2** | | | |
| 1 | 1040 | -0.49 | 24.5 | 22.2 | 27.8 | -1,074.9 |
| 2 | 1138 | -.06 | 17.6 | 14.6 | 28.8 | -1,620.3 |
| 3 | 1230 | .32 | 28.5 | 22.7 | 31.0 | -1,540.0 |
| 4 | 1400 | .94 | 21.2 | 15.0 | 33.4 | -1,430.3 |
| 5 | 1510 | 1.14 | 14.3 | 10.9 | 34.2 | -728.9 |
| 6 | 1553 | 1.15 | 12.2 | 8.7 | 34.1 | -193.7 |
| 7 | 1630 | 1.07 | 12.5 | 10.1 | 33.9 | 584.1 |
| 8 | 1813 | .51 | 9.9 | 8.2 | 31.1 | 2,324.4 |
| 9 | 1908 | .06 | 13.6 | 11.6 | 28.9 | 2,389.1 |
| 10 | 2023 | -.40 | 19.4 | 16.2 | 28.3 | 1,630.5 |
| 11 | 2153 | -.64 | 17.7 | 13.3 | 28.7 | 308.3 |
| 12 | 2233 | -.57 | 14.5 | 11.8 | 28.3 | -245.8 |
| | | | **Vertical 3** | | | |
| 1 | 1024 | -0.59 | 15.5 | 12.7 | 27.4 | -397.7 |
| 2 | 1135 | .09 | 13.7 | 11.7 | 28.6 | -726.7 |
| 3 | 1232 | .34 | 21.8 | 16.0 | 30.4 | -813.9 |
| 4 | 1357 | .92 | 19.8 | 13.3 | 33.3 | -732.9 |
| 5 | 1514 | 1.14 | 13.0 | 10.1 | 34.3 | -444.1 |
| 6 | 1557 | 1.14 | 10.7 | 8.0 | 34.1 | -123.1 |
| 7 | 1659 | .95 | 10.5 | 8.0 | 33.8 | 458.3 |
| 8 | 1836 | .32 | 10.3 | 8.5 | 30.0 | 987.2 |
| 9 | 1907 | .06 | 14.8 | 11.8 | 29.4 | 822.6 |
| 10 | 1952 | -.24 | 21.1 | 18.2 | 28.7 | 487.0 |
| 11 | 2100 | -.56 | 13.6 | 10.8 | 28.0 | 257.3 |
| 12 | 2149 | -.64 | 10.8 | 9.2 | 27.5 | 113.7 |

TABLE 7.—*Suspended-sediment and salinity data collected at Cumberland Sound cross section, July 15, 1982*—Continued

| Measurement number | Time (EST) | Tide stage (m) | Mean concentration Total sediment (mg/L) | Mean concentration Silt plus clay (mg/L) | Salinity (g/kg) | Discharge ($m^3/s$) |
|---|---|---|---|---|---|---|
| | | | **Vertical 4** | | | |
| 1 | 1032 | -0.54 | 15.4 | 13.4 | 27.6 | -410.0 |
| 2 | 1109 | -.28 | 23.1 | 19.9 | 28.4 | -619.3 |
| 3 | 1155 | .07 | 16.4 | 14.0 | 29.0 | -774.7 |
| 4 | 1301 | .55 | 26.5 | 20.6 | 31.2 | -746.4 |
| 5 | 1425 | 1.04 | 14.4 | 11.4 | 33.7 | -673.1 |
| 6 | 1558 | 1.14 | 8.8 | 7.4 | 34.4 | -214.5 |
| 7 | 1655 | .97 | 7.0 | 5.0 | 33.5 | 399.9 |
| 8 | 1829 | .38 | 16.5 | 12.5 | 31.2 | 771.7 |
| 9 | 1901 | .11 | 21.0 | 16.7 | 30.6 | 561.1 |
| 10 | 1932 | -.11 | 22.0 | 18.0 | 29.5 | 491.6 |
| 11 | 2040 | -.48 | 16.2 | 12.7 | 28.5 | 314.4 |
| 12 | 2109 | -.59 | 15.9 | 12.1 | 27.7 | 222.5 |
| | | | **Vertical 5** | | | |
| 1 | 1009 | -0.67 | 12.2 | 10.3 | 26.8 | -240.2 |
| 2 | 1126 | .15 | 23.1 | 18.2 | 29.1 | -492.1 |
| 3 | 1224 | .28 | 21.6 | 16.6 | 30.4 | -724.6 |
| 4 | 1336 | .79 | 22.4 | 18.1 | 32.1 | -790.4 |
| 5 | 1436 | 1.07 | 12.0 | 9.7 | 34.2 | -681.8 |
| 6 | 1554 | 1.15 | 8.6 | 7.2 | 34.3 | -285.7 |
| 7 | 1653 | .98 | 7.1 | 6.4 | 34.2 | 409.0 |
| 8 | 1800 | .60 | 25.0 | 20.2 | 31.8 | 541.9 |
| 9 | 1906 | .07 | 37.0 | 31.3 | 30.3 | 376.2 |
| 10 | 2009 | -.33 | 29.4 | 24.1 | 29.0 | 186.6 |
| 11 | 2112 | -.59 | 14.3 | 11.9 | 28.0 | 147.3 |
| 12 | 2206 | -.63 | 10.2 | 8.5 | 27.7 | 61.7 |

TABLE 8.—*Suspended-sediment and salinity data collected at St. Marys Entrance cross section, July 13, 1982*

| Measurement number | Time (EST) | Tide stage (m) | Mean concentration Total sediment (mg/L) | Mean concentration Silt plus clay (mg/L) | Salinity (g/kg) | Discharge ($m^3/s$) |
|---|---|---|---|---|---|---|
| | | | Vertical 1 | | | |
| 1 | 0845 | 1.22 | 18.4 | 16.0 | 29.7 | -339.1 |
| 2 | 0915 | 1.41 | 27.1 | 22.9 | 29.6 | -560.5 |
| 3 | 1050 | 2.05 | 31.0 | 20.9 | 33.6 | -835.7 |
| 4 | 1145 | 2.40 | 28.3 | 22.1 | 33.9 | -794.4 |
| 5 | 1320 | 2.68 | 23.5 | 17.2 | 34.5 | -368.9 |
| 6 | 1415 | 2.60 | 15.8 | 13.4 | 33.8 | 119.9 |
| 7 | 1455 | 2.41 | 18.3 | 14.9 | 35.0 | 848.0 |
| 8 | 1543 | 2.17 | 22.9 | 16.6 | 35.0 | 1,137.1 |
| 9 | 1643 | 1.72 | 26.8 | 20.7 | 34.8 | 1,043.3 |
| 10 | 1728 | 1.48 | 27.5 | 23.3 | 34.6 | 817.2 |
| 11 | 1910 | 1.23 | 19.5 | 17.8 | 32.6 | 342.2 |
| 12 | 1945 | 1.23 | 14.1 | 12.9 | 32.1 | 150.1 |
| | | | Vertical 2 | | | |
| 1 | 0850 | 1.26 | 22.4 | 21.5 | 30.1 | -462.2 |
| 2 | 0943 | 1.60 | 24.3 | 22.0 | 31.1 | -988.4 |
| 3 | 1010 | 1.77 | 27.7 | 24.5 | 31.6 | -1,053.7 |
| 4 | 1058 | 2.12 | 17.2 | 14.5 | 34.2 | -1,157.5 |
| 5 | 1150 | 2.42 | 18.2 | 15.4 | 34.3 | -1,178.3 |
| 6 | 1255 | 2.68 | 17.2 | 13.6 | 34.6 | 875.6 |
| 7 | 1405 | 2.62 | 15.4 | 12.7 | 34.5 | 154.4 |
| 8 | 1436 | 2.53 | 13.9 | 12.0 | 35.0 | 450.7 |
| 9 | 1615 | 1.93 | 20.4 | 15.3 | 35.0 | 1,519.4 |
| 10 | 1654 | 1.67 | 17.0 | 13.8 | 34.6 | 1,448.6 |
| 11 | 1800 | 1.33 | 18.8 | 17.0 | 32.1 | 1,241.3 |
| 12 | 1900 | 1.23 | 14.4 | 11.9 | 30.2 | 671.6 |
| 13 | 2000 | 1.26 | 10.6 | 9.56 | 30.5 | 279.9 |
| | | | Vertical 3 | | | |
| 1 | 0910 | 1.39 | 17.0 | 15.3 | 29.7 | -1,263.5 |
| 2 | 0953 | 1.65 | 22.5 | 20.1 | 30.6 | -2,124.2 |
| 3 | 1108 | 2.18 | 12.5 | 10.8 | 34.3 | -2,525.0 |
| 4 | 1220 | 2.57 | 12.3 | 10.1 | 33.9 | -2,370.1 |
| 5 | 1323 | 2.69 | 14.8 | 12.6 | 34.2 | -1,521.0 |
| 6 | 1418 | 2.59 | 14.0 | 11.9 | 33.9 | 219.1 |
| 7 | 1505 | 2.39 | 10.2 | 8.3 | 34.6 | 1,468.3 |
| 8 | 1540 | 2.18 | 12.9 | 11.4 | 34.3 | 2,439.1 |
| 9 | 1653 | 1.67 | 14.3 | 11.2 | 33.9 | 2,521.4 |
| 10 | 1740 | 1.42 | 11.3 | 8.5 | 31.9 | 2,042.9 |
| 11 | 1848 | 1.24 | 25.5 | 21.2 | 31.5 | 949.6 |
| 12 | 1953 | 1.25 | 9.8 | 7.0 | 30.7 | 5.3 |

TABLE 8.—*Suspended-sediment and salinity data collected at St. Marys Entrance cross section, July 13, 1982*—Continued

| Measurement number | Time (EST) | Tide stage (m) | Mean concentration Total sediment (mg/L) | Mean concentration Silt plus clay (mg/L) | Salinity (g/kg) | Discharge ($m^3/s$) |
|---|---|---|---|---|---|---|
| | | | Vertical 4 | | | |
| 1 | 0853 | 1.28 | 16.7 | 14.6 | 30.0 | -1,276.0 |
| 2 | 0953 | 1.65 | 17.8 | 15.3 | 30.9 | -2,442.9 |
| 3 | 1108 | 2.18 | 17.6 | 12.4 | 33.6 | -3,134.5 |
| 4 | 1212 | 2.52 | 18.5 | 13.7 | 34.5 | -2,797.0 |
| 5 | 1320 | 2.68 | 17.6 | 13.2 | 33.7 | -2,100.8 |
| 6 | 1418 | 2.59 | 16.1 | 10.9 | 34.2 | -407.2 |
| 7 | 1502 | 2.39 | 12.5 | 8.9 | 34.5 | 1,617.4 |
| 8 | 1530 | 2.22 | 10.8 | 8.1 | 34.2 | 2,310.6 |
| 9 | 1553 | 2.09 | 12.8 | 9.0 | 33.9 | 2,712.9 |
| 10 | 1638 | 1.75 | 13.3 | 9.3 | 32.5 | 3,406.2 |
| 11 | 1724 | 1.50 | 14.9 | 10.7 | 31.8 | 2,691.6 |
| 12 | 1848 | 1.24 | 20.7 | 15.2 | 31.1 | 1,176.9 |
| 13 | 1903 | 1.24 | 15.3 | 11.6 | 30.8 | 909.0 |
| | | | Vertical 5 | | | |
| 1 | 0857 | 1.31 | 23.5 | 19.8 | 31.5 | -1,729.7 |
| 2 | 0939 | 1.58 | 17.0 | 14.8 | 31.9 | -2,343.6 |
| 3 | 1105 | 2.16 | 23.1 | 19.6 | 35.0 | -3,197.8 |
| 4 | 1200 | 2.49 | 28.0 | 22.2 | 35.1 | -2,933.6 |
| 5 | 1318 | 2.68 | 23.4 | 17.4 | 35.1 | -2,033.8 |
| 6 | 1403 | 2.63 | 20.8 | 16.3 | 35.1 | -78.0 |
| 7 | 1452 | 7.97 | 22.9 | 17.4 | 34.5 | 1,851.6 |
| 8 | 1604 | 2.00 | 18.4 | 12.4 | 33.9 | 2,564.0 |
| 9 | 1706 | 1.59 | 20.1 | 13.8 | 32.9 | 3,285.1 |
| 10 | 1815 | 1.30 | 16.3 | 19.9 | 30.7 | 2,417.9 |
| 11 | 1903 | 1.24 | 17.4 | 14.7 | 30.4 | 1,217.4 |
| 12 | 1944 | 1.23 | 14.4 | 12.1 | 30.4 | 241.8 |

TABLE 9.—*Physical, chemical, and biological data collected at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*

| Slack tide site | Time | Bottom depth (m) | Tide | Position in vertical | Salinity (g/kg) | Turbidity (NTU) | Phytoplankton (units per milliliter) | Phytoplankton (number of genera) | Organic carbon (ug/L) | Phytoplankton diatoms (values per milliliter) | Phytoplankton diatoms (number of species) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1034 | | flood | top | 34.5 | 2.8 | 3,000 | 21 | 2.3 | 850 | 32 |
| | 1040 | 15.0 | | bottom | 34.5 | 1.3 | | | | | |
| | 1705 | | ebb | top | 30.9 | 1.8 | 11,000 | 17 | 4.9 | 1,900 | 38 |
| | 1700 | 11.0 | | bottom | 32.2 | 2.5 | | | | | |
| 2 | 1130 | | flood | top | 34.5 | 1.3 | 7,800 | 18 | 1.9 | 1,900 | 28 |
| | 1135 | 20.0 | | bottom | 34.5 | 1.3 | | | | | |
| | 1725 | | ebb | top | 30.0 | 1.0 | 10,400 | 13 | 4.9 | 2,200 | 30 |
| | 1720 | 19.0 | | bottom | 31.4 | 4.3 | | | | | |
| 3 | 1000 | | flood | top | 32.3 | 2.1 | — | — | 3.4 | — | — |
| | 1010 | 12.0 | | bottom | 34.0 | 3.4 | | | | | |
| | 1735 | | ebb | top | 27.7 | 2.0 | — | — | 7.9 | — | — |
| | 1730 | 13.0 | | bottom | 31.9 | 6.4 | | | | | |
| 4 | 1140 | | flood | top | 34.0 | 1.4 | — | — | — | — | — |
| | 1145 | 12.0 | | bottom | 34.0 | 1.0 | | | | | |
| | 1750 | | ebb | top | 29.1 | 1.9 | — | — | — | — | — |
| | 1745 | 14.0 | | bottom | 30.9 | 1.5 | | | | | |
| 5a | 1200 | | flood | top | 32.2 | 1.6 | — | — | — | — | — |
| | 1205 | 6.5 | | bottom | 33.1 | 2.8 | | | | | |
| | 1800 | | ebb | top | 23.8 | 1.7 | — | — | — | — | — |
| | 1755 | 5.0 | | bottom | 25.5 | 2.8 | | | | | |
| 6 | 1210 | | flood | top | 30.3 | 1.9 | — | — | — | — | — |
| | 1215 | 9.0 | | bottom | 31.6 | 2.2 | | | | | |
| | 1805 | | ebb | top | 23.1 | 1.3 | — | — | — | — | — |
| | 1800 | 5.0 | | bottom | 24.5 | 2.9 | | | | | |
| 7 | 1220 | | flood | top | 25.2 | 1.8 | 7,300 | 13 | 7.3 | 3,000 | 38 |
| | 1225 | 8.0 | | bottom | 28.4 | 5.3 | | | | | |
| | 1820 | | ebb | top | 17.0 | 3.0 | 3,700 | 18 | 10.0 | 3,300 | 36 |
| | 1815 | 6.0 | | bottom | 18.1 | 3.0 | | | | | |
| 8 | 1100 | | flood | top | 31.7 | .3 | 8,300 | 15 | 3.5 | 4,300 | 26 |
| | 1105 | 14.0 | | bottom | 34.0 | 1.0 | | | | | |
| | 1710 | | ebb | top | 29.1 | 2.3 | 12,000 | 13 | 5.4 | 3,600 | 31 |
| | 1715 | 12.0 | | bottom | 30.1 | 6.2 | | | | | |
| 9 | 1125 | | flood | top | 30.7 | 1.3 | — | — | — | — | — |
| | 1130 | 12.5 | | bottom | 31.2 | 3.5 | | | | | |
| | 1730 | | ebb | top | 28.6 | 2.5 | — | — | — | — | — |
| | 1735 | 10.5 | | bottom | 28.7 | 5.4 | | | | | |
| 10 | 1120 | | flood | top | 29.4 | 1.4 | 12,000 | 15 | 6.6 | 2,300 | 29 |
| | 1115 | 13.0 | | bottom | 30.9 | 3.4 | | | | | |
| | 1725 | | ebb | top | 28.6 | 3.1 | 14,000 | 17 | 5.5 | 3,500 | 27 |
| | 1730 | 11.0 | | bottom | 28.9 | 2.7 | | | | | |
| 11 | 1130 | | flood | top | 28.9 | 1.4 | — | — | — | — | — |
| | 1125 | 14.0 | | bottom | 30.3 | 4.3 | | | | | |
| | 1745 | | ebb | top | 28.7 | 2.3 | — | — | — | — | — |
| | 1740 | 12.4 | | bottom | 29.1 | 5.8 | | | | | |
| 12 | 1145 | | flood | top | 29.4 | 2.7 | — | — | — | — | — |
| | 1140 | 2.8 | | bottom | 29.4 | 1.8 | | | | | |
| | 1755 | | ebb | top | 28.7 | 2.0 | — | — | — | — | — |
| | 1750 | 2.3 | | bottom | 28.6 | 1.8 | | | | | |
| 13 | 1155 | | flood | top | 29.0 | 1.2 | 10,000 | 14 | 4.8 | 1,800 | 27 |
| | 1150 | 15.9 | | bottom | 29.4 | 3.3 | | | | | |
| | 1805 | | ebb | top | 28.7 | 2.1 | 12,000 | 13 | 4.9 | 4,100 | 32 |
| | 1800 | 11.0 | | bottom | 29.1 | 5.1 | | | | | |

TABLE 9.—*Physical, chemical, and biological data collected at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Slack tide site | Time | Bottom depth (m) | Tide | Position in vertical | Salinity (g/kg) | Turbidity (NTU) | Phytoplankton (units per milliliter) | Phytoplankton (number of genera) | Organic carbon (ug/L) | Phytoplankton diatoms (values per milliliter) | Phytoplankton diatoms (number of species) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 1210 | | flood | top | 28.8 | 1.0 | 14,300 | 17 | — | 2,200 | 21 |
| | 1205 | 9.2 | | bottom | 29.1 | 4.1 | | | | | |
| | 1815 | | ebb | top | 28.7 | 3.2 | 11,000 | 16 | — | 2,300 | 27 |
| | 1810 | 8.8 | | bottom | 28.7 | 3.8 | | | | | |
| 15 | 1220 | | flood | top | 28.9 | 2.9 | 15,000 | 18 | 4.9 | 2,400 | 27 |
| | 1215 | 9.2 | | bottom | 29.3 | 3.0 | | | | | |
| | 1825 | | ebb | top | 28.7 | 3.1 | 12,000 | 13 | 4.8 | 2,600 | 31 |
| | 1820 | 7.3 | | bottom | 29.0 | 3.2 | | | | | |
| 16 | 1235 | | flood | top | 28.7 | — | 12,000 | 11 | — | 2,800 | 29 |
| | 1230 | 6.4 | | bottom | 29.1 | 2.2 | | | | | |
| | 1835 | | ebb | top | 28.3 | 4.2 | 9,300 | 10 | — | 4,700 | 39 |
| | 1830 | 2.7 | | bottom | 28.6 | 4.5 | | | | | |
| 17 | 1245 | | flood | top | 28.4 | 5.2 | 10,700 | 17 | 5.4 | 4,300 | 34 |
| | 1240 | 6.4 | | bottom | 29.0 | 3.1 | | | | | |
| | 1850 | | ebb | top | 28.0 | 5.9 | 7,500 | 14 | 4.9 | 5,900 | 27 |
| | 1845 | 4.6 | | bottom | 32.2 | 4.5 | | | | | |
| 18 | 1142 | | flood | top | 28.8 | 1.4 | 14,000 | 15 | 5.6 | 3,600 | 36 |
| | 1145 | 6.0 | | bottom | 29.1 | 2.1 | | | | | |
| | 1800 | | ebb | top | 27.9 | 2.4 | 18,000 | 19 | 4.3 | 2,200 | 21 |
| | 1810 | 4.0 | | bottom | 28.0 | 3.3 | | | | | |
| 19 | 1200 | | flood | top | 28.0 | 2.1 | — | — | — | — | — |
| | 1203 | 5.5 | | bottom | 28.0 | 14.0 | | | | | |
| | 1815 | | ebb | top | 27.7 | 7.2 | — | — | — | — | — |
| | 1820 | 5.0 | | bottom | 28.0 | 9.6 | | | | | |
| 20 | 1206 | | flood | top | 28.7 | 1.2 | — | — | — | — | — |
| | 1210 | 8.0 | | bottom | 29.0 | 2.5 | | | | | |
| | 1830 | | ebb | top | 28.0 | 2.7 | — | — | — | — | — |
| | 1835 | 5.5 | | bottom | 28.0 | 8.7 | | | | | |
| 21 | 1235 | | flood | top | — | 1.2 | — | — | — | — | — |
| | — | 2.0 | | bottom | — | — | | | | | |
| | — | | ebb | top | — | — | — | — | — | — | — |
| | — | — | | bottom | — | — | | | | | |
| 22 | 1250 | | flood | top | 28.4 | 3.2 | 10,000 | 14 | 4.4 | 2,700 | 23 |
| | 1255 | 5.0 | | bottom | 28.4 | 5.8 | | | | | |
| | 1845 | | ebb | top | 27.2 | 20.0 | 11,000 | 11 | 6.5 | 6,500 | 24 |
| | 1850 | 4.5 | | bottom | 27.2 | 19.0 | | | | | |

TABLE 10.—*Summary of suspended-sediment data collected in Kings Bay and vicinity, July 10–15, 1982*

[T, mean concentration for the cross section; 1–5, verticals in the cross section]

| | | Mean suspended-sediment concentration, in milligrams per liter | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total suspended sediment | | | | | | Silt plus clay | | | | | | Sand | | | | | |
| Tide | Date | 1 | 2 | 3 | 4 | 5 | T | 1 | 2 | 3 | 4 | 5 | T | 1 | 2 | 3 | 4 | 5 | T |
| | | | | | | | | Upper Kings Bay | | | | | | | | | | | |
| Flood | July 10 | 16.9 | 14.1 | 17.6 | 14.4 | 14.7 | 15.5 | 11.5 | 9.9 | 13.1 | 9.7 | 9.6 | 10.8 | 5.3 | 4.2 | 4.5 | 4.7 | 5.1 | 4.8 |
| Ebb | July 10 | 19.8 | 20.1 | 23.1 | 21.6 | 18.7 | 20.7 | 14.8 | 14.3 | 15.8 | 14.8 | 13.4 | 14.6 | 5.0 | 5.8 | 7.3 | 6.8 | 5.3 | 5.0 |
| | | | | | | | | Lower Kings Bay | | | | | | | | | | | |
| Flood | July 14 | 21.0 | 23.0 | 23.6 | 17.4 | 20.4 | 21.1 | 15.8 | 16.6 | 18.6 | 11.8 | 14.8 | 15.5 | 5.2 | 6.4 | 5.0 | 5.6 | 5.6 | 5.6 |
| Ebb | July 14 | 14.1 | 15.7 | 15.1 | 17.1 | 16.0 | 15.8 | 8.5 | 11.2 | 12.5 | 14.4 | 12.4 | 11.8 | 5.6 | 4.5 | 3.6 | 2.7 | 3.6 | 4.0 |
| | | | | | | | | Cumberland Sound | | | | | | | | | | | |
| Flood | July 15 | 33.3 | 19.7 | 15.8 | 17.4 | 16.6 | 20.6 | 27.1 | 15.7 | 12.0 | 14.4 | 13.4 | 16.5 | 6.2 | 4.0 | 3.8 | 3.0 | 3.2 | 4.0 |
| Ebb | July 15 | 19.4 | 14.6 | 13.5 | 16.4 | 20.5 | 16.9 | 15.2 | 11.9 | 11.1 | 12.8 | 17.1 | 13.6 | 4.2 | 2.7 | 2.4 | 3.6 | 3.4 | 3.3 |
| | | | | | | | | St. Marys Entrance | | | | | | | | | | | |
| Flood | July 13 | 25.7 | 22.0 | 15.8 | 17.4 | 22.6 | 20.7 | 19.8 | 19.6 | 13.8 | 13.4 | 18.4 | 17.0 | 5.9 | 2.4 | 2.0 | 4.0 | 4.2 | 3.7 |
| Ebb | July 13 | 20.7 | 16.0 | 14.0 | 14.3 | 18.2 | 16.6 | 17.1 | 13.2 | 11.3 | 10.7 | 15.0 | 13.5 | 3.6 | 2.8 | 2.7 | 3.6 | 3.2 | 3.2 |

TABLE 11.—*Flow and suspended-sediment transport characteristics for selected streams*

| Sample station (USGS station number) | Drainage area ($km^2$) | Median annual flow ($m^3/s$) | Record analyzed flow (yrs) | Record analyzed sediment (yrs) | Average annual suspended-sediment load (kg x $10^6$/yr) | Average annual suspended-sediment yield (kg x $10^3/km^2$/yr) |
|---|---|---|---|---|---|---|
| Altamaha River at Doctortown, Ga. (02226000) | 35,200 | 238 | 49 | 20 | 330 | 9.4 |
| Canoochee River near Claxton, Ga. (02203000) | 1,440 | 4.48 | 42 | 13 | 3.9 | 2.7 |
| Ogeechee River near Eden, Ga. (02202500) | 6,860 | 39.2 | 42 | 23 | 22 | 3.1 |
| Satilla River at Atkinson, Ga. (02228000) | 7,230 | 27.4 | 50 | 22 | 30 | 4.1 |
| St. Marys River near Macclenny, Fla. (02231000) | 1,810 | 6.44 | 53 | 6 | 3.1 | 1.7 |

TABLE 12.—*Phytoplankton standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*

[Standing stock in units per milliliter. Samples taken 0.5 meter below water surface]

| Site location number: / Time: / Tide: | 1 0934 Flood | | 1 1605 Ebb | | 2 1030 Flood | | 2 1625 Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacillariophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| *Achnanthes* Bory | | | | | | | | |
| *Cocconeis* Ehr. | | | | | | | | |
| Bacillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| *Nitzschia* Hass. | | | 408 | 3.6 | 279 | 3.5 | 1,701 | 16.0 |
| Biddulphiales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| *Biddulphia* Gray | | | | | 139 | 1.7 | | |
| *Ceratulina* H.Perag. | 294 | 9.5 | 408 | 3.6 | | | | |
| Chaetoceraceae | | | | | | | | |
| *Chaetoceros* Ehr. | 59 | 1.9 | 204 | 1.8 | 418 | 5.2 | | |
| Eupodiscales | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| *Coscinodiscus* Ehr. | 147 | 4.8 | 204 | 1.8 | 279 | 3.5 | 189 | 1.8 |
| *Cyclotella* Kutz. | | | 102 | .9 | 70 | .9 | | |
| *Melosira* Ag. | | | 306 | 2.7 | | | | |
| *Skeletonema* Grev. | 59 | 1.9 | 408 | 3.6 | 139 | 1.7 | 378 | 3.6 |
| *Stephanopyxis* Ehr. | | | 102 | .9 | | | | |
| *Thalassiosira* Cl. | | | | | | | | |
| Eupodiscaceae | | | | | | | | |
| *Actinocyclus* Ehr. | | | | | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| *Asterionella* Hass. | 29 | .9 | 102 | .9 | 70 | .9 | | 6.2 |
| *Cymatosira* Grun. | | | 102 | .9 | | | 662 | |
| *Fragilaria* Lyng. | | | | | | | | |
| *Licmophora* Ag. | 29 | .9 | | | | | | |
| *Opephora* Petit | | | | | | | | |
| *Synedra* Ehr. | | | | | | | | |
| *Thalassionema* Grun. | | | 408 | 3.6 | | | 95 | .9 |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| *Amphora* Ehr. | 29 | .9 | | | | | | |
| Entomoneidaceae | | | | | | | | |
| *Entomoneis* Ehr. | 59 | 1.9 | | | | | | |
| Naviculaceae | | | | | | | | |
| *Donkinia* Ralfs | | | | | | | | |
| *Navicula* Bory | 29 | .9 | | | 209 | 2.6 | | |
| *Pleurosigma* W.Sm. | | | | | | | | |
| *Scoliopleura* Grun. | 29 | .9 | | | | | | |
| Rhizosoleniales | | | | | | | | |
| Rhizosoleniaceae | | | | | | | | |
| *Rhizosolenia* (Ehr.)Bright. | 265 | 8.6 | | | 139 | 1.7 | 189 | 1.8 |
| Chlorophyta | | | | | | | | |
| Chlorophyceae | | | | | | | | |
| Chlorococcales | | | | | | | | |
| Oocystaceae | | | | | | | | |
| *Eremosphaera* Debary | 29 | .9 | | | | | | |
| *Oocystis* Nageli | | | | | | | | |
| Volvocales | | | | | | | | |
| Chlamydomonadaceae | | | | | | | | |
| *Chlamydomonas* Ehr. | 530 | 17.2 | 1,630 | 14.4 | 1,255 | 15.7 | 1,701 | 16.0 |
| Volvocaceae | | | | | | | | |
| *Pandorina* Bory | | | | | | | | |
| Unknown Flagellated Chlorophyte | 265 | 8.6 | 917 | 8.1 | 628 | 7.9 | 1,607 | 15.2 |

TABLE 12.—*Phytoplankton standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 1 / 0934 / Flood | | 1 / 1605 / Ebb | | 2 / 1030 / Flood | | 2 / 1625 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Chrysophyta | | | | | | | | |
| Chrysophyceae | | | | | | | | |
| Chromulinales | | | | | | | | |
| Chrysococcaceae | | | | | | | | |
| Chrysococcus Krebs | 559 | 18.1 | 2,955 | 26.1 | 2,650 | 33.1 | 662 | 6.2 |
| Ochromonadales | | | | | | | | |
| Dinobryaceae | | | | | | | | |
| Dinobryon Ehr. | | | | | | | | |
| Kephyriopsis (Pseudokephyrion) Schiller | 177 | 5.7 | 1,528 | 13.5 | 1,046 | 13.1 | 2,079 | 19.6 |
| Unknown Flagellated Chrysophyte | 353 | 11.4 | 1,121 | 9.9 | | | 756 | 7.1 |
| Cyanophyta | | | | | | | | |
| Cyanophyceae | | | | | | | | |
| Chroococcales | | | | | | | | |
| Chroococcaceae | | | | | | | | |
| Anacystis Meneghini | | | | | | | | |
| Agmenellum Breb. | | | | | | | | |
| Gomphosphaeria Kutz. | | | | | 95 | 1.2 | | |
| Euglenophyta | | | | | | | | |
| Euglenophyceae | | | | | | | | |
| Euglenales | | | | | | | | |
| Euglenaceae | | | | | | | | |
| Euglena Ehr. | | | | | | | | |
| Trachelomonas Ehr. | | | | | 95 | 1.2 | 392 | 3.7 |
| Pyrrhophyta | | | | | | | | |
| Desmokontae | | | | | | | | |
| Desmomonadales | | | | | | | | |
| Prorocentraceae | | | | | | | | |
| Prorocentrum Ehr. | 59 | 1.9 | 408 | 3.6 | 209 | 2.6 | 189 | 1.8 |
| Dinophyceae | | | | | | | | |
| Dinokontae | | | | | | | | |
| Ceratiaceae | | | | | | | | |
| Ceratium Schrank | 29 | .9 | | | | | | |
| Gymnodiniaceae | | | | | | | | |
| Gymnodinium Stein | | | | | 70 | .9 | | |
| Peridiniaceae | | | | | | | | |
| Peridinium Ehr. | 29 | .9 | | | 209 | 2.6 | | |
| Unknown Zoospores | 29 | .9 | | | | | | |
| Totals, in units per milliliter | 3,087 | 100 | 11,313 | 100 | 7,999 | 100 | 10,600 | 100 |

TABLE 12.—*Phytoplankton standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Taxa | Site location number: 7, Time: 1120, Tide: Flood | | 7, 1720, Ebb | | 8, 1000, Flood | | 8, 1610, Ebb | |
|---|---|---|---|---|---|---|---|---|
| | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacillariophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| Achnanthes Bory | | | | | | | | |
| Cocconeis Ehr. | | | | | | | | |
| Bacillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| Nitzschia Hass. | 327 | 4.7 | 169 | 4.5 | 995 | 10.5 | 511 | 4.5 |
| Biddulphiales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| Biddulphia Gray | | | 34 | .9 | 71 | .8 | | |
| Ceratulina H.Perag. | | | | | | | 102 | .9 |
| Chaetoceraceae | | | | | | | | |
| Chaetoceros Ehr. | 523 | 7.5 | 305 | 8.2 | 497 | 5.4 | | |
| Eupodiscales | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| Coscinodiscus Ehr. | | | | | 426 | 4.7 | | |
| Cyclotella Kutz. | 327 | 4.7 | 68 | 1.8 | | | 818 | 7.2 |
| Melosira Ag. | | | | | | | | |
| Skeletonema Grev. | 1,243 | 17.9 | 406 | 10.9 | 710 | 7.8 | 307 | 2.7 |
| Stephanopyxis Ehr. | | | | | | | | |
| Thalassiosira Cl. | | | | | | | | |
| Eupodiscaceae | | | | | | | | |
| Actinocyclus Ehr. | | | 34 | .9 | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| Asterionella Hass. | | | 34 | .9 | | | | |
| Cymatosira Grun. | 458 | 6.6 | | | | | | |
| Fragilaria Lyng. | | | | | 71 | .8 | | |
| Licmophora Ag. | | | | | | | | |
| Opephora Petit | 65 | .9 | | | | | | |
| Synedra Ehr. | | | 34 | .9 | | | | |
| Thalassionema Grun. | | | | | | | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| Amphora Ehr. | | | | | | | | |
| Entomoneidaceae | | | | | | | | |
| Entomoneis Ehr. | | | | | | | | |
| Naviculaceae | | | | | | | | |
| Donkinia Ralfs | | | | | 71 | .8 | | |
| Navicula Bory | 65 | .9 | 34 | .9 | | | | |
| Pleurosigma W.Sm. | | | | | 71 | .8 | | |
| Scoliopleura Grun. | | | | | | | | |
| Rhizosoleniales | | | | | | | | |
| Rhizosoleniaceae | | | | | | | | |
| Rhizosolenia (Ehr.)Bright. | | | 271 | 7.3 | | | 205 | 1.8 |
| Chlorophyta | | | | | | | | |
| Chlorophyceae | | | | | | | | |
| Chlorococcales | | | | | | | | |
| Oocystaceae | | | | | | | | |
| Eremosphaera Debary | | | | | | | | |
| Oocystis Nageli | | | 34 | .9 | | | | |
| Volvocales | | | | | | | | |
| Chlamydomonadaceae | | | | | | | | |
| Chlamydomonas Ehr. | 1,046 | 15.1 | 575 | 15.4 | 1,705 | 18.7 | 2,455 | 21.6 |
| Volvocaceae | | | | | | | | |
| Pandorina Bory | | | | | | | | |
| Unknown Flagellated Chlorophyte | 327 | 4.7 | 169 | 4.5 | 639 | 7.0 | 1,125 | 9.9 |

TABLE 12.—*Phytoplankton standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 7 / 1120 / Flood | | 7 / 1720 / Ebb | | 8 / 1000 / Flood | | 8 / 1610 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Chrysophyta | | | | | | | | |
| Chrysophyceae | | | | | | | | |
| Chromulinales | | | | | | | | |
| Chrysococcaceae | | | | | | | | |
| Chrysococcus Krebs | 523 | 7.5 | 169 | 4.5 | 497 | 5.4 | 818 | 7.2 |
| Ochromonadales | | | | | | | | |
| Dinobryaceae | | | | | | | | |
| Dinobryon Ehr. | | | 68 | 1.8 | | | | |
| Kephyriopsis (Pseudokephyrion) Schiller | 1,700 | 24.5 | 1,151 | 30.9 | 852 | 9.3 | 2,966 | 26.1 |
| Unknown Flagellated Chrysophyte | 262 | 3.8 | 102 | 2.7 | 1,279 | 14.0 | 1,330 | 11.7 |
| Cyanophyta | | | | | | | | |
| Cyanophyceae | | | | | | | | |
| Chroococcales | | | | | | | | |
| Chroococcaceae | | | | | | | | |
| Anacystis Meneghini | | | | | | | | |
| Agmenellum Breb. | | | | | | | | |
| Gomphosphaeria Kutz. | | | | | | | | |
| Euglenophyta | | | | | | | | |
| Euglenophyceae | | | | | | | | |
| Euglenales | | | | | | | | |
| Euglenaceae | | | | | | | | |
| Euglena Ehr. | | | | | | | | |
| Trachelomonaa Ehr. | | | | | 818 | 9.0 | | |
| Pyrrhophyta | | | | | | | | |
| Desmokontae | | | | | | | | |
| Desmomonadales | | | | | | | | |
| Prorocentraceae | | | | | | | | |
| Prorocentrum Ehr. | 65 | .9 | 68 | 1.8 | 426 | 4.7 | 307 | 2.7 |
| Dinophyceae | | | | | | | | |
| Dinokontae | | | | | | | | |
| Ceratiaceae | | | | | | | | |
| Ceratium Schrank | | | | | | | | |
| Gymnodiniaceae | | | | | | | | |
| Gymnodinium Stein | | | | | | | 307 | 2.7 |
| Peridiniaceae | | | | | | | | |
| Peridinium Ehr. | | | | | | | 102 | .9 |
| Unknown Zoospores | | | | | | | | |
| Totals, in units per milliliter | 6,931 | 100 | 3,725 | 100 | 9,128 | 100 | 11,353 | 100 |

TABLE 12.—*Phytoplankton standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 10 / 1020 / Flood | | 10 / 1625 / Ebb | | 13 / 1055 / Flood | | 13 / 1705 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacillariophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| Achnanthes Bory | | | | | | | | |
| Cocconeis Ehr. | | | | | | | | |
| Bacillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| Nitzschia Hass. | 641 | 5.5 | 717 | 5.1 | 197 | 2.0 | 689 | 5.7 |
| Biddulphiales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| Biddulphia Gray | | | 119 | .9 | | | | |
| Ceratulina H.Perag. | | | | | | | | |
| Chaetoceraceae | | | | | | | | |
| Chaetoceros Ehr. | 107 | .9 | | | | | | |
| Eupodiscales | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| Coscinodiscus Ehr. | 214 | 1.8 | | | | | | |
| Cyclotella Kutz. | 641 | 5.5 | 119 | .9 | 197 | 2.0 | 344 | 2.8 |
| Melosira Ag. | | | | | 197 | | | |
| Skeletonema Grev. | 534 | 4.6 | 836 | 6.0 | 494 | 4.9 | 344 | 2.8 |
| Stephanopyxis Ehr. | | | | | | | | |
| Thalassiosira Cl. | | | | | | | | |
| Eupodiscaceae | | | | | | | | |
| Actinocyclus Ehr. | | | | | | | 115 | .9 |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| Asterionella Hass. | | | | | | | | |
| Cymatosira Grun. | 427 | 3.7 | | | | | | |
| Fragilaria Lyng. | | | | | | | | |
| Licmophora Ag. | | | | | | | | |
| Opephora Petit | | | | | | | | |
| Synedra Ehr. | | | 358 | 2.6 | | | | |
| Thalassionema Grun. | | | 119 | .9 | 99 | 1.0 | 115 | .9 |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| Amphora Ehr. | | | | | | | | |
| Entomoneidaceae | | | | | | | | |
| Entomoneis Ehr. | | | | | | | | |
| Naviculaceae | | | | | | | | |
| Donkinia Ralfs | | | | | | | | |
| Navicula Bory | | | 119 | .9 | | | | |
| Pleurosigma W.Sm. | | | | | | | | |
| Scoliopleura Grun. | | | | | | | | |
| Rhizosoleniales | | | | | | | | |
| Rhizosoleniaceae | | | | | | | | |
| Rhizosolenia (Ehr.)Bright. | 214 | 1.8 | 119 | .9 | 99 | 1.0 | 459 | 3.8 |
| Chlorophyta | | | | | | | | |
| Chlorophyceae | | | | | | | | |
| Chlorococcales | | | | | | | | |
| Oocystaceae | | | | | | | | |
| Eremosphaera Debary | | | | | | | | |
| Oocystis Nageli | | | 239 | 1.7 | | | | |
| Volvocales | | | | | | | | |
| Chlamydomonadaceae | | | | | | | | |
| Chlamydomonas Ehr. | 2,671 | 22.9 | 2,987 | 21.5 | 2,172 | 21.6 | 3,789 | 31.3 |
| Volvocaceae | | | | | | | | |
| Pandorina Bory | | | | | | | | |
| Unknown Flagellated Chlorophyte | 1,602 | 13.8 | 836 | 6.0 | 691 | 6.9 | 804 | 6.6 |

TABLE 12.—*Phytoplankton standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: | 10 | | 10 | | 13 | | 13 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 1020 | | 1625 | | 1055 | | 1705 | |
| Tide: | Flood | | Ebb | | Flood | | Ebb | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Chrysophyta | | | | | | | | |
| Chrysophyceae | | | | | | | | |
| Chromulinales | | | | | | | | |
| Chrysococcaceae | | | | | | | | |
| *Chrysococcus* Krebs | 855 | 7.3 | 1,792 | 12.9 | 790 | 7.8 | 524 | 4.3 |
| Ochromonadales | | | | | | | | |
| Dinobryaceae | | | | | | | | |
| *Dinobryon* Ehr. | | | 68 | .5 | | | | |
| *Kephyriopsis* (Pseudokephyrion) Schiller | 1,602 | 13.8 | 1,792 | 12.9 | 2,863 | 28.4 | 1,493 | 12.3 |
| Unknown Flagellated Chrysophyte | 855 | 7.3 | 1,553 | 11.2 | 592 | 5.9 | 574 | 4.7 |
| Cyanophyta | | | | | | | | |
| Cyanophyceae | | | | | | | | |
| Chroococcales | | | | | | | | |
| Chroococcaceae | | | | | | | | |
| *Anacystis* Meneghini | 107 | .9 | | | | | | |
| *Agmenellum* Breb. | | | | | | | | |
| *Gomphosphaeria* Kutz. | | | | | | | | |
| Euglenophyta | | | | | | | | |
| Euglenophyceae | | | | | | | | |
| Euglenales | | | | | | | | |
| Euglenaceae | | | | | | | | |
| *Euglena* Ehr. | | | | | 99 | 1.0 | | |
| *Trachelomonas* Ehr. | 961 | 8.3 | 1,672 | 12.0 | 1,283 | 12.7 | 2,411 | 19.9 |
| Pyrrhophyta | | | | | | | | |
| Desmokontae | | | | | | | | |
| Desmomonadales | | | | | | | | |
| Prorocentraceae | | | | | | | | |
| *Prorocentrum* Ehr. | 214 | 1.8 | 478 | 3.4 | 296 | 2.9 | 459 | 3.8 |
| Dinophyceae | | | | | | | | |
| Dinokontae | | | | | | | | |
| Ceratiaceae | | | | | | | | |
| *Ceratium* Schrank | | | | | | | | |
| Gymnodiniaceae | | | | | | | | |
| *Gymnodinium* Stein | | | | | | | | |
| Peridiniaceae | | | | | | | | |
| *Peridinium* Ehr. | | | | | | | | |
| Unknown Zoospores | | | | | | | | |
| Totals, in units per milliliter | 11,645 | 100 | 13,923 | 100 | 10,069 | 100 | 12,120 | 100 |

TABLE 12.—*Phytoplankton standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 14 1110 Flood | | 14 1710 Ebb | | 15 1120 Flood | | 15 1725 Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacillariophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| Achnanthes Bory | | | | | | | | |
| Cocconeis Ehr. | | | | | | | | |
| Bacillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| Nitzschia Hass. | 601 | 4.1 | 327 | 3.0 | 611 | 4.1 | 827 | 7.2 |
| Biddulphiales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| Biddulphia Gray | | | | | | | | |
| Ceratulina H.Perag. | | | | | | | | |
| Chaetoceraceae | | | | | | | | |
| Chaetoceros Ehr. | | | | | | | | |
| Eupodiscales | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| Coscinodiscus Ehr. | | | 94 | .8 | 102 | .7 | 207 | 1.8 |
| Cyclotella Kutz. | 361 | 2.5 | 188 | 1.7 | 509 | 3.4 | | |
| Melosira Ag. | | | | | | | | |
| Skeletonema Grev. | 481 | 3.3 | 188 | 1.7 | 306 | 2.1 | 207 | 1.8 |
| Stephanopyxis Ehr. | | | | | | | | |
| Thalassiosira Cl. | | | | | 306 | 2.1 | | |
| Eupodiscaceae | | | | | | | | |
| Actinocyclus Ehr. | | | | | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| Asterionella Hass. | | | | | | | | |
| Cymatosira Grun. | | | | | 102 | .7 | | |
| Fragilaria Lyng. | | | | | | | | |
| Licmophora Ag. | | | | | | | | |
| Opephora Petit | | | 94 | .8 | | | | |
| Synedra Ehr. | 240 | 1.7 | | | | | | |
| Thalassionema Grun. | 361 | 2.5 | | | | | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| Amphora Ehr. | | | | | | | | |
| Entomoneidaceae | | | | | | | | |
| Entomoneis Ehr. | | | | | | | | |
| Naviculaceae | | | | | | | | |
| Donkinia Ralfs | | | | | | | | |
| Navicula Bory | | | 188 | 1.7 | 102 | .7 | | |
| Pleurosigma W.Sm. | | | | | | | | |
| Scoliopleura Grun. | | | | | | | | |
| Rhizosoleniales | | | | | | | | |
| Rhizosoleniaceae | | | | | | | | |
| Rhizosolenia (Ehr.)Bright. | 120 | .8 | 188 | 1.7 | 102 | .7 | | |
| Chlorophyta | | | | | | | | |
| Chlorophyceae | | | | | | | | |
| Chlorococcales | | | | | | | | |
| Oocystaceae | | | | | | | | |
| Eremosphaera Debary | | | | | | | | |
| Oocystis Nageli | 361 | 2.5 | | | | | 103 | .9 |
| Volvocales | | | | | | | | |
| Chlamydomonadaceae | | | | | | | | |
| Chlamydomonas Ehr. | 4,207 | 29.0 | 3,297 | 29.8 | 5,502 | 37.0 | 4,342 | 37.6 |
| Volvocaceae | | | | | | | | |
| Pandorina Bory | | | | | | | | |
| Unknown Flagellated Chlorophyte | 962 | 6.6 | 94 | .8 | 408 | 2.7 | 602 | 5.2 |

TABLE 12.—*Phytoplankton standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 14 / 1110 / Flood | | 14 / 1710 / Ebb | | 15 / 1120 / Flood | | 15 / 1725 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Chrysophyta | | | | | | | | |
| Chrysophyceae | | | | | | | | |
| Chromulinales | | | | | | | | |
| Chrysococcaceae | | | | | | | | |
| Chrysococcus Krebs | 721 | 5.0 | 659 | 6.0 | 306 | 2.1 | 724 | 6.3 |
| Ochromonadales | | | | | | | | |
| Dinobryaceae | | | | | | | | |
| Dinobryon Ehr. | | | | | | | | |
| Kephyriopsis (Pseudokephyrion) Schiller | 1,803 | 12.4 | 1,884 | 17.0 | 2,751 | 18.5 | 1,654 | 14.3 |
| Unknown Flagellated Chrysophyte | 1,202 | 8.3 | 1,130 | 10.2 | 1,426 | 9.6 | 1,034 | 8.9 |
| Cyanophyta | | | | | | | | |
| Cyanophyceae | | | | | | | | |
| Chroococcales | | | | | | | | |
| Chroococcaceae | | | | | | | | |
| Anacystis Meneghini | | | 188 | 1.7 | 102 | .7 | 103 | .9 |
| Agmenellum Breb. | | | | | | | | |
| Gomphosphaeria Kutz. | | | | | | | | |
| Euglenophyta | | | | | | | | |
| Euglenophyceae | | | | | | | | |
| Euglenales | | | | | | | | |
| Euglenaceae | | | | | | | | |
| Euglena Ehr. | 120 | .8 | | | 102 | .7 | | |
| Trachelomonas Ehr. | 2,043 | 14.1 | 1,978 | 17.9 | 1,630 | 11.0 | 1,447 | 12.5 |
| Pyrrhophyta | | | | | | | | |
| Desmokontae | | | | | | | | |
| Desmomonadales | | | | | | | | |
| Prorocentraceae | 601 | 4.1 | 94 | .8 | 204 | 1.4 | | |
| Prorocentrum Ehr. | 214 | 1.5 | 478 | 4.3 | 296 | 2.0 | 103 | .9 |
| Dinophyceae | | | | | | | | |
| Dinokontae | | | | | | | | |
| Ceratiaceae | | | | | | | | |
| Ceratium Schrank | | | | | | | | |
| Gymnodiniaceae | | | | | | | | |
| Gymnodinium Stein | | | | | | | 207 | 1.8 |
| Peridiniaceae | | | | | | | | |
| Peridinium Ehr. | 120 | .8 | | | | | | |
| Unknown Zoospores | | | | | | | | |
| Totals, in units per milliliter | 14,518 | 100 | 11,069 | 100 | 14,867 | 100 | 11,560 | 100 |

TABLE 12.—*Phytoplankton standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 16 1135 Flood | | 16 1735 Ebb | | 17 1145 Flood | | 17 1750 Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacillariophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| *Achnanthes* Bory | | | | | | | | |
| *Cocconeis* Ehr. | | | | | | | | |
| Bacillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| *Nitzschia* Hass. | 572 | 4.9 | 928 | 10 | 696 | 6.3 | 381 | 5.1 |
| Biddulphiales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| *Biddulphia* Gray | | | | | 87 | .8 | | |
| *Ceratulina* H.Perag. | | | | | | | | |
| Chaetoceraceae | | | | | | | | |
| *Chaetoceros* Ehr. | 191 | 1.6 | | | | | 190 | 2.5 |
| Eupodiscales | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| *Coscinodiscus* Ehr. | | | | | 87 | .8 | | |
| *Cyclotella* Kutz. | 95 | .8 | | | | | 127 | 1.7 |
| *Melosira* Ag. | | | | | | | | |
| *Skeletonema* Grev. | 95 | .8 | | | 435 | 3.9 | 254 | 3.4 |
| *Stephanopyxis* Ehr. | | | | | | | | |
| *Thalassiosira* Cl. | | | | | 306 | 2.8 | | |
| Eupodiscaceae | | | | | | | | |
| *Actinocyclus* Ehr. | | | | | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| *Asterionella* Hass. | | | 93 | 1 | | | | |
| *Cymatosira* Grun. | | | | | 102 | .9 | | |
| *Fragilaria* Lyng. | | | | | | | | |
| *Licmophora* Ag. | | | | | | | | |
| *Opephora* Petit | | | | | | | | |
| *Synedra* Ehr. | | | | | | | 63 | .8 |
| *Thalassionema* Grun. | | | | | | | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| *Amphora* Ehr. | | | | | | | | |
| Entomoneidaceae | | | | | | | | |
| *Entomoneis* Ehr. | | | | | | | | |
| Naviculaceae | | | | | | | | |
| *Donkinia* Ralfs | | | | | | | | |
| *Navicula* Bory | | | | | 174 | 1.6 | | |
| *Pleurosigma* W.Sm. | | | | | | | | |
| *Scoliopleura* Grun. | | | | | | | | |
| Rhizosoleniales | | | | | | | | |
| Rhizosoleniaceae | | | | | | | | |
| *Rhizosolenia* (Ehr.)Bright. | | | 371 | 4 | 174 | 1.6 | 317 | 4.2 |
| Chlorophyta | | | | | | | | |
| Chlorophyceae | | | | | | | | |
| Chlorococcales | | | | | | | | |
| Oocystaceae | | | | | | | | |
| *Eremosphaera* Debary | | | | | | | | |
| *Oocystis* Nageli | | | 93 | 1 | 174 | 1.6 | | |
| Volvocales | | | | | | | | |
| Chlamydomonadaceae | | | | | | | | |
| *Chlamydomonas* Ehr. | 4,387 | 37.7 | 3,621 | 39 | 4,001 | 36.0 | 2,285 | 30.5 |
| Volvocaceae | | | | | | | | |
| *Pandorina* Bory | | | | | | | | |
| Unknown Flagellated Chlorophyte | 382 | 3.3 | | | 174 | 1.6 | 127 | 1.7 |

TABLE 12.—*Phytoplankton standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 16 / 1135 / Flood | | 16 / 1735 / Ebb | | 17 / 1145 / Flood | | 17 / 1750 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Chrysophyta | | | | | | | | |
| Chrysophyceae | | | | | | | | |
| Chromulinales | | | | | | | | |
| Chrysococcaceae | | | | | | | | |
| Chrysococcus Krebs | 382 | 3.3 | 836 | 9 | 435 | 4.1 | 127 | 1.7 |
| Ochromonadales | | | | | | | | |
| Dinobryaceae | | | | | | | | |
| Dinobryon Ehr. | | | | | | | | |
| Kephyriopsis (Pseudokephyrion) Schiller | 1,240 | 10.7 | 186 | 2 | 1,131 | 10.2 | 1,079 | 14.4 |
| Unknown Flagellated Chrysophyte | 1,717 | 14.8 | 836 | 9 | 348 | 3.1 | 317 | 4.2 |
| Cyanophyta | | | | | | | | |
| Cyanophyceae | | | | | | | | |
| Chroococcales | | | | | | | | |
| Chroococcaceae | | | | | | | | |
| Anacystis Meneghini | | | | | | | | |
| Agmenellum Breb. | | | | | | | | |
| Gomphosphaeria Kutz. | | | | | | | | |
| Euglenophyta | | | | | | | | |
| Euglenophyceae | | | | | | | | |
| Euglenales | | | | | | | | |
| Euglenaceae | | | | | | | | |
| Euglena Ehr. | | | | | 87 | .8 | 63 | .8 |
| Trachelomonas Ehr. | 2,289 | 19.7 | 2,042 | 22 | 2,522 | 22.7 | 1,904 | 25.4 |
| Pyrrhophyta | | | | | | | | |
| Desmokontae | | | | | | | | |
| Desmomonadales | | | | | | | | |
| Prorocentraceae | | | | | | | | |
| Prorocentrum Ehr. | 286 | 2.5 | 279 | 3 | 174 | 1.6 | 254 | 3.4 |
| Dinophyceae | | | | | | | | |
| Dinokontae | | | | | | | | |
| Ceratiaceae | | | | | | | | |
| Ceratium Schrank | | | | | | | | |
| Gymnodiniaceae | | | | | | | | |
| Gymnodinium Stein | | | | | | | | |
| Peridiniaceae | | | | | | | | |
| Peridinium Ehr. | | | | | | | | |
| Unknown Zoospores | | | | | | | | |
| Totals, in units per milliliter | 11,636 | 100 | 9,285 | 100 | 11,125 | 100 | 7,488 | 100 |

TABLE 12.—*Phytoplankton standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 18 / 1042 / Flood | | 18 / 1700 / Ebb | | 22 / 1150 / Flood | | 22 / 1745 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacillariophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| Achnanthes Bory | | | 276 | 1.6 | | | | |
| Cocconeis Ehr. | | | | | 88 | .8 | | |
| Bacillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| Nitzschia Hass. | 935 | 6.5 | 689 | 3.9 | 265 | 2.5 | 200 | 1.8 |
| Biddulphiales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| Biddulphia Gray | | | | | | | | |
| Ceratulina H.Perag. | | | | | | | | |
| Chaetoceraceae | | | | | | | | |
| Chaetoceros Ehr. | | | 276 | 1.6 | | | 300 | 2.7 |
| Eupodiscales | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| Coscinodiscus Ehr. | | | 413 | 2.3 | | | 200 | 1.8 |
| Cyclotella Kutz. | | | 138 | .8 | | | | |
| Melosira Ag. | | | | | | | 100 | .9 |
| Skeletonema Grev. | 134 | .9 | 138 | .8 | 970 | 9.2 | 499 | 4.5 |
| Stephanopyxis Ehr. | | | | | | | | |
| Thalassiosira Cl. | 401 | 2.8 | | | | | | |
| Eupodiscaceae | | | | | | | | |
| Actinocyclus Ehr. | | | | | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| Asterionella Hass. | | | | | | | | |
| Cymatosira Grun. | 134 | .9 | | | | | | |
| Fragilaria Lyng. | | | | | | | | |
| Licmophora Ag. | | | | | | | | |
| Opephora Petit | | | | | | | | |
| Synedra Ehr. | 267 | 1.9 | 138 | .8 | | | | |
| Thalassionema Grun. | | | 138 | .8 | 88 | .8 | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| Amphora Ehr. | | | | | | | | |
| Entomoneidaceae | | | | | | | | |
| Entomoneis Ehr. | | | | | | | | |
| Naviculaceae | | | | | | | | |
| Donkinia Ralfs | | | | | | | | |
| Navicula Bory | 134 | .9 | 138 | .8 | | | | |
| Pleurosigma W.Sm. | | | | | | | | |
| Scoliopleura Grun. | | | | | | | | |
| Rhizosoleniales | | | | | | | | |
| Rhizosoleniaceae | | | | | | | | |
| Rhizosolenia (Ehr.)Bright. | 401 | 2.8 | 413 | 2.3 | 441 | 4.2 | | |
| Chlorophyta | | | | | | | | |
| Chlorophyceae | | | | | | | | |
| Chlorococcales | | | | | | | | |
| Oocystaceae | | | | | | | | |
| Eremosphaera Debary | | | | | | | | |
| Oocystis Nageli | | | | | | | | |
| Volvocales | | | | | | | | |
| Chlamydomonadaceae | | | | | | | | |
| Chlamydomonas Ehr. | 5,474 | 38.0 | 6,615 | 37.2 | 2,998 | 28.6 | 3,495 | 31.3 |
| Volvocaceae | | | | | | | | |
| Pandorina Bory | | | | | | | | |
| Unknown Flagellated Chlorophyte | 801 | 5.6 | 551 | 3.1 | 176 | 1.7 | | |

TABLE 12.—*Phytoplankton standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Taxa | Site location number: / Time: / Tide: | 18 / 1042 / Flood | | 18 / 1700 / Ebb | | 22 / 1150 / Flood | | 22 / 1745 / Ebb | |
|---|---|---|---|---|---|---|---|---|---|
| | | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Chrysophyta | | | | | | | | | |
| Chrysophyceae | | | | | | | | | |
| Chromulinales | | | | | | | | | |
| Chrysococcaceae | | | | | | | | | |
| *Chrysococcus* Krebs | | 401 | 2.8 | 1,240 | 7.0 | 617 | 5.9 | 1,598 | 14.3 |
| Ochromonadales | | | | | | | | | |
| Dinobryaceae | | | | | | | | | |
| *Dinobryon* Ehr. | | | | | | | | | |
| *Kephyriopsis* (Pseudokephyrion) Schiller | | 1,469 | 10.2 | 2,343 | 13.2 | 1,764 | 16.8 | 1,897 | 17.0 |
| Unknown Flagellated Chrysophyte | | 1,335 | 9.3 | 1,378 | 7.8 | 1,058 | 10.1 | 799 | 7.2 |
| Cyanophyta | | | | | | | | | |
| Cyanophyceae | | | | | | | | | |
| Chroococcales | | | | | | | | | |
| Chroococcaceae | | | | | | | | | |
| *Anacystis* Meneghini | | | | | | 88 | .8 | | |
| *Agmenellum* Breb. | | | | 138 | .8 | | | | |
| *Gomphosphaeria* Kutz. | | | | | | | | | |
| Euglenophyta | | | | | | | | | |
| Euglenophyceae | | | | | | | | | |
| Euglenales | | | | | | | | | |
| Euglenaceae | | | | | | | | | |
| *Euglena* Ehr. | | 134 | .9 | | | 176 | 1.7 | | |
| *Trachelomonas* Ehr. | | 2,003 | 13.9 | 1,929 | 10.9 | 1,675 | 16.0 | 1,797 | 17.7 |
| Pyrrhophyta | | | | | | | | | |
| Desmokontae | | | | | | | | | |
| Desmomonadales | | | | | | | | | |
| Prorocentraceae | | | | | | | | | |
| *Prorocentrum* Ehr. | | 401 | 2.8 | 551 | 3.1 | | | 100 | .9 |
| Dinophyceae | | | | | | | | | |
| Dinokontae | | | | | | | | | |
| Ceratiaceae | | | | | | | | | |
| *Ceratium* Schrank | | | | | | | | | |
| Gymnodiniaceae | | | | | | | | | |
| *Gymnodinium* Stein | | | | 276 | 1.6 | 88 | .8 | | |
| Peridiniaceae | | | | | | | | | |
| *Peridinium* Ehr. | | | | | | | | | |
| Unknown Zoospores | | | | | | | | | |
| Totals, in units per milliliter | | 14,424 | 100 | 17,778 | 100 | 10,492 | 100 | 11,167 | 100 |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*

[Standing stock in valves per milliliter. Samples taken 0.5 meter below water surface]

| Site location number: | 1 | | 1 | | 2 | | 2 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 0934 | | 1605 | | 1030 | | 1625 | |
| Tide: | Flood | | Ebb | | Flood | | Ebb | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacillariophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| Achnanthes Borg | | | | | | | | |
| A. baldjickii subsp. lorenziana | | | | | | | | |
| A. cuvirostrum Grun. | | | | | | | | |
| A. hauckiana Grun. | | | 16 | 0.8 | | | 41 | 1.8 |
| A. lanceolata v. dubia Grun. | | | | | | | | |
| A. linearis (W.Sm.)Grun. | | | | | | | | |
| A. minutissima Kutz. | | | | | | | | |
| A. temperei M. Perag. | 12 | 1.4 | | | | | | |
| Cocconeis Ehr. | | | | | | | | |
| C. costata Greg. | | | | | | | | |
| C. diminuta Pant. | | | | | 17 | 0.9 | | |
| C. disculus (Schum.)Cl. | 4 | .5 | 24 | 1.3 | 25 | 1.4 | 10 | .5 |
| C. distans Greg. | | | | | | | | |
| C. scutellum Ehr. | | | | | | | | |
| Bacillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| Bacillaria Gmel. | | | | | | | | |
| B. paradoxa Gmel. | | | | | | | | |
| Cylindrotheca Rabh. | | | | | | | | |
| C. closterium (Ehr.)Reim. and Lew. | | | | | | | | |
| Hantzschia Grun. | | | | | | | | |
| H. amphioxys v. minor Perag. and Perag. | | | | | | | | |
| Nitzschia Hass. | | | | | | | | |
| N. amphibia Grun. | | | | | | | 20 | .9 |
| N. brittoni Hag. | | | | | | | | |
| N. clausii Hantz. | | | | | | | | |
| N. communis Rabh. | | | | | | | | |
| N. compressa (Bail.)Boyer | | | | | | | 20 | .9 |
| N. constricta (Kutz.)Ralfs | | | 16 | .8 | | | | |
| N. dissipata (Kutz.)Grun. | | | | | | | | |
| N. fasciculata (Grun.)Grun. | | | | | | | | |
| N. filiformis (W.Sm.)V.H. | | | 16 | .8 | | | | |
| N. fonticola Grun. | | | 16 | .8 | | | | |
| N. frustulum (Kutz.)Grun. | | | | | | | | |
| N. granulata Grun. | 4 | .5 | | | | | | |
| N. hungarica Grun. | | | | | | | | |
| N. longissima (Breb.)Grun. | | | 16 | .8 | | | 20 | .9 |
| N. lorenziana v. subtilis Grun. | | | | | | | | |
| N. microcephala Grun. | | | | | | | | |
| N. navicularis (Breb.)Grun. | | | | | | | | |
| N. obtusa W.Sm. | | | | | | | | |
| N. obtusa v. scalpelliformis Grun. | | | | | | | | |
| N. palea (Kutz.)W.Sm. | | | 39 | 2.1 | 76 | 4.1 | 132 | 6.0 |
| N. panduriformis Greg. | | | 8 | .4 | | | | |
| N. parvula W.Sm. | | | | | | | | |
| N. romana Grun. | | | | | | | | |
| N. scolaris (Ehr.)W.Sm. | | | | | | | | |
| N. sigma (Kutz.)W.Sm. | | | | | | | | |
| N. stagsorum (Rabh.)Grun. | | | | | | | | |
| N. sublinearis Hust. | | | | | | | | |
| N. thermalis v. minor Hilse | | | | | | | | |
| N. triblionella Hantz. | | | | | | | | |
| Epithemiales | | | | | | | | |
| Epithemiaceae | | | | | | | | |
| Rhopalodea O.Mull. | | | | | | | | |
| R. muscula (Kutz.)O.Mull. | | | | | | | | |
| R. muscula v. constricta (Breb.) Perag. and Perag. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: | 1 | | 1 | | 2 | | 2 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 0934 | | 1605 | | 1030 | | 1625 | |
| Tide: | Flood | | Ebb | | Flood | | Ebb | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Eupodiscales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| Biddulphia Gray | | | | | | | | |
| B. aurita (Lyng.)Breb. and Godey | 8 | 0.9 | 16 | 0.8 | 34 | 1.8 | | |
| B. granulata Roper | 16 | 1.9 | | | 17 | .9 | | |
| B. pulchella Gray | | | | | | | | |
| Eucampia Ehr. | | | | | | | | |
| E. sp.#1 | | | | | | | | |
| Eunotogramma Weisse | | | | | | | | |
| E. laeva Grun. | | | | | | | | |
| E. marinum (W.Sm.)Perag. | | | | | | | | |
| Streptotheca Shrub. | | | | | | | | |
| S. thamensis Shrub. | 16 | 1.9 | 16 | .8 | | | | |
| Terpsinoe Ehr. | | | | | | | | |
| T. musica Ehr. | | | | | | | | |
| Triceratium Ehr. | | | | | | | | |
| T. alternans Bail. | | | | | | | | |
| T. favus Ehr. | | | | | | | | |
| T. reticulum Ehr. | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| Actinoptychus Ehr. and V.H. | | | | | | | | |
| A. undulatus (Bail.)Ralfs | | | | | 17 | .9 | 31 | 1.4 |
| Actinocyclus Ehr. | | | | | | | | |
| A. ehrenbergii v. tenella (Breb.)Hust. | 12 | 1.4 | 16 | .8 | 17 | .9 | | |
| A. sp. #1 | | | | | | | | |
| Chaetoceros Ehr. | | | | | | | | |
| C. sp. #1 | 12 | 1.4 | 24 | 1.3 | 17 | .9 | | |
| Coscinodiscus Ehr. | | | | | | | | |
| C. centralis Ehr. | | | | | 17 | .9 | 10 | .5 |
| C. curvatulus Grun. | 12 | 1.4 | | | | | | |
| C. excentricus Ehr. | 8 | .9 | | | 85 | 4.6 | 20 | .9 |
| C. lineatus Ehr. | 48 | 5.6 | 31 | 1.7 | 59 | 3.2 | 31 | 1.4 |
| C. marginatus Ehr. | 8 | .9 | | | | | | |
| C. nitidus Greg. | 32 | 3.7 | 63 | 3.3 | 76 | 4.1 | 71 | 3.2 |
| C. radiatus Ehr. | 44 | 5.1 | 39 | 2.1 | 17 | .9 | 51 | 2.3 |
| Cyclotella Kutz. | | | | | | | | |
| C. atomus Hust. | | | | | | | | |
| C. meneghiniana Kutz. | 24 | 2.8 | | | 34 | 1.8 | 41 | 1.8 |
| C. striata (Kutz.)Grun. | 55 | 6.5 | 24 | 1.3 | 85 | 4.6 | 51 | 2.3 |
| Cylindropyxis Hendey | | | | | | | | |
| C. tremulas Hendey | 8 | .9 | 24 | 1.3 | | | | |
| Hemidiscus Wall. | | | | | | | | |
| H. weissflogi (Grun.)Hust. | | | | | | | | |
| Melosira Ag. | | | | | | | | |
| M. granulata (Ehr.)Ralfs | | | | | | | | |
| M. nummuloides (Dillw.)Ag. | | | 47 | 2.5 | | | | |
| M. sulcata (Ehr.)Kutz. | 16 | 1.9 | 24 | 1.3 | 8 | .5 | | |
| Podosira Ehr. | | | | | | | | |
| P. stelliger (Bail.)Mann | | | | | | | | |
| Skeletonema Grev. | | | | | | | | |
| S. costatum (Grev.)Cl. | | | | | | | 41 | 1.8 |
| Stephanopyxis (Ehr.) | | | | | | | | |
| S. turris (Grev.)Ralfs | | | | | | | | |
| Thalassiosira Cl. | | | | | | | | |
| T. decipiens (Grun.)Jorg. | | | | | | | | |
| T. fluviatilis Hust. | | | 16 | .8 | 34 | 1.8 | | |
| Eupodiscaceae | | | | | | | | |
| Auliscus Ehr. | | | | | | | | |
| A. caelatus Bail. | | | | | | | | |
| Eupodiscus Ehr. | | | | | | | | |
| E. radiatus Bail. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: | 1 | | 1 | | 2 | | 2 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 0934 | | 1605 | | 1030 | | 1625 | |
| Tide: | Flood | | Ebb | | Flood | | Ebb | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Rhizosoleniaceae | | | | | | | | |
| Rhizosolenia Bright. | | | | | | | | |
| R. delicatula Cl. | 87 | 10.2 | 94 | 5.0 | 85 | 4.6 | 71 | 3.2 |
| R. fragilissima Berg. | 48 | 5.6 | 94 | 5.0 | 119 | 6.4 | 224 | 10.1 |
| R. setigera Bright | 24 | 2.8 | 16 | .8 | | | 20 | .9 |
| R. stolterfothii H. Perag. | 32 | 3.7 | 31 | 1.7 | | | | |
| R. sp. #1 | | | | | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| Asterionella Hass. | | | | | | | | |
| A. japonica Cl. | | | 16 | .8 | | | | |
| Camplosira Grun. | | | | | | | | |
| C. cymbelliformis (A.S.)Grun. | | | 8 | .4 | | | | |
| Cymatosira Grun. | | | | | | | | |
| C. belgica Grun. | 147 | 17.2 | 567 | 30.1 | 711 | 38.4 | 610 | 27.6 |
| C. lorensiana Grun. | | | 16 | .8 | | | 20 | .9 |
| Dimeregramma Ralfs | | | | | | | | |
| D. maculatum (Cl.)Freng. | | | | | | | | |
| Eunotia Ehr. | | | | | | | | |
| E. suecica Cl. | | | | | | | | |
| Fragilaria Lyng. | | | | | | | | |
| F. construens v. venter (Ehr.)Grun. | | | 63 | 3.3 | 68 | 3.7 | | |
| F. lapponica Grun. | | | | | | | | |
| Glyphodesmis Grev. | | | | | | | | |
| G. distans (Greg.)Grun. | | | | | | | | |
| Opephora Petit | | | | | | | | |
| O. martyi Herib. | | | | | | | | |
| O. pacifica (Grun.)Petit | | | | | | | 41 | 1.8 |
| O. swartzii (Grun.)Petit | | | | | | | | |
| Plagiogramma Grev. | | | | | | | | |
| P. pulchellum v. pygmaea (Grev.) Perag. and Perag. | | | | | | | | |
| P. staurophorum (Greg.)Heib. | | | | | | | | |
| P. vanheurckii Grun. | | | | | | | | |
| P. wallichianum Grev. | | | | | | | | |
| Rhaphoneis Ehr. | | | | | | | | |
| R. amphiceros (Ehr.)Ehr. | | | | | | | | |
| R. grossenpunctata Hust. | | | | | | | | |
| R. surirella (Ehr.)Grun. | 16 | 1.9 | | | | | | |
| R. surirella v. australis Petit | | | | | | | | |
| R. sp. #1 | | | | | | | | |
| Synedra Ehr. | | | | | | | | |
| S. amphicephala v. austriaca (Grun.)Hust. | | | | | | | | |
| S. fasiculata v. truncata (Grev.)Patr. | | | | | | | | |
| Tabellaria Ehr. | | | | | | | | |
| T. fenestrata (Lyng.)Kutz. | | | | | | | | |
| Thallasiothrix Cl. and Grun. | | | | | | | | |
| T. frauenfeldii (Grun.)Grun. | 44 | 5.1 | 16 | .8 | | | | |
| T. longissima Cl. and Grun. | | | 79 | 4.2 | 17 | .9 | | |
| Trachysphenia Petit | | | | | | | | |
| T. acuminata Perag. | | | | | | | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| Amphora Ehr. | | | | | | | | |
| A. angusta v. ventricosa (Greg.)Cl. | 4 | .5 | | | | | | |
| A. calumetica (Thom. and Wolle)M.Perag. | | | | | | | | |
| A. acutiuscula Kutz. | | | | | | | 20 | .9 |
| A. ovalis (Kutz.)Kutz. | | | | | | | | |
| A. perpusilla Grun. | | | | | 17 | .9 | | |
| A. proteoides Hust. | | | | | | | | |
| Cymbella Ag. | | | | | | | | |
| C. affinis Kutz. | | | 16 | .8 | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 1 / 0934 / Flood | | 1 / 1605 / Ebb | | 2 / 1030 / Flood | | 2 / 1625 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Gomphonemaceae | | | | | | | | |
| Gomphonema Ehr. | | | | | | | | |
| G. tripunctatum v. elongata (Perag. and Herib.) Patr. | | | | | | | | |
| Entomoneidaceae | | | | | | | | |
| Entomoneis Ehr. | | | | | | | | |
| E. alata (Ehr.)Ehr. | | | | | | | | |
| Plagiotropis Pfitz. | | | | | | | | |
| P. lepidoptera (Cl.)Reim. | | | | | 17 | 0.9 | | |
| Naviculaceae | | | | | | | | |
| Anomoneis Pfitz. | | | | | | | | |
| A. sp. #1 | | | | | | | | |
| Caloneis Cl. | | | | | | | | |
| C. oregonica (Ehr.)Patr. | | | | | | | | |
| Diploneis Ehr. | | | | | | | | |
| D. bombus Ehr. | | | 24 | 1.3 | | | 71 | 3.2 |
| D. didyma (Ehr.)Ehr. | 20 | 2.3 | | | | | 31 | 1.4 |
| D. elliptica (Kutz.)Cl. | | | | | | | | |
| D. gruendleri (A.S.)Cl. | | | | | | | | |
| D. interrupta (Kutz.)Cl. | | | | | | | | |
| D. ovalis v. oblongella (Naeg.)Cl. | | | | | | | | |
| D. puella (Schum.)Cl. | | | | | | | | |
| Donkinia Ralfs | | | | | | | | |
| D. recta Grun. | | | 16 | .8 | | | | |
| Frustulia Rabh. | | | | | | | | |
| F. interposita (Lewis)Cl. | | | | | | | | |
| Gyrosigma Hass. | | | | | | | | |
| G. exilis (Grun.)Reim. | | | | | | | | |
| G. eximium (Thwaites)Boyer | | | | | | | | |
| Mastogloia Thwaites | | | | | | | | |
| M. apiculata W.Sm. | | | | | | | | |
| M. minutissma Voigt | | | | | | | | |
| M. pumila v. papuarum Chol. | | | | | | | | |
| Navicula Bory | | | | | | | | |
| N. ammophila Grun. | | | | | 17 | .9 | | |
| N. anglica v. subsalsa (Grun.)Cl. | | | | | | | | |
| N. capitata Ehr. | | | | | | | | |
| N. cyrptocephala Kutz. | | | 71 | 3.8 | 8 | .5 | | |
| N. formenterae Cl. | | | | | | | | |
| N. gregaria Donk. | | | | | | | | |
| N. hummi Hust. | | | | | | | | |
| N. ilopangoensis Hust. | | | | | | | | |
| N. lancaolata (Ag.)Kutz. | | | | | | | | |
| N. litoricola Grev. | | | | | | | 20 | .9 |
| N. lyra Ehr. | | | | | | | | |
| N. marina Ralfs | | | | | | | | |
| N. menisculus Schum. | | | | | | | | |
| N. microcephala Grun. | | | | | | | | |
| N. minima Grun. | | | | | | | | |
| N. minuscula Grun. | | | | | | | | |
| N. muralis Grun. | | | | | | | | |
| N. mutica Kutz. | | | | | | | 41 | 1.8 |
| N. mutica v. cohnii (Hilse)Grun. | | | | | | | | |
| N. mutica f. undulata (Hilse)Grun. | | | | | | | | |
| N. notha Wall. | | | | | | | | |
| N. pelliculosa Hilse | | | 16 | .8 | | | 20 | .9 |
| N. pupula v. mutata (Krasske)Hust. | | | | | | | | |
| N. pygmaaa Kutz. | | | | | | | | |
| N. radiosa v. tenella (Breb.)Cl. | | | | | | | | |
| N. scopulorum Breb. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 1 / 0934 / Flood | | 1 / 1605 / Ebb | | 2 / 1030 / Flood | | 2 / 1625 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Naviculaceae--Continued | | | | | | | | |
| Navicula Bory--Continued | | | | | | | | |
| N. sovereignae Hust. | | | | | | | | |
| N. tenelloides Hust. | | | 16 | 0.8 | | | 71 | 3.2 |
| N. tripuctata (O.Mull.)Bory | | | | | | | | |
| N. yarrensis Grun. | | | | | | | | |
| N. spp. | 40 | 4.7 | | | 51 | 2.7 | 20 | .9 |
| Pinnularia Ehr. | | | | | | | | |
| P. bogotensis (Grun.)Cl. | | | | | | | | |
| P. quadratacea v. fluminensis (Grun.)Cl. | | | | | | | | |
| P. subcapitata Greg. | | | | | | | | |
| Pleurosigma W.Sm. | | | | | | | | |
| P. angulatum (Quek.)W.Sm. | 8 | .9 | | | | | | |
| P. aestuarii (Breb.)W.Sm. | 8 | .9 | 17 | .9 | | | | |
| P. delicatulum W.Sm. | 8 | .9 | | | 17 | .9 | 31 | 1.4 |
| P. hamuliferum Brun. | | | | | | | | |
| P. naviculaceum Breb. | 8 | .9 | | | | | | |
| P. salinarum (Grun.)Grun. | | | | | | | | |
| P. speciosum W.Sm. | | | | | | | | |
| Scoliopleura Grun. | | | | | | | | |
| S. peisonis Grun. | | | | | | | | |
| Stauroneis Ehr. | | | | | | | | |
| S. amphioxys Greg. | | | | | | | | |
| Trachyneis Cl. | | | | | | | | |
| T. aspera (Ehr.)Cl. | | | | | | | | |
| Surirellalles | | | | | | | | |
| Surirellaceae | | | | | | | | |
| Camplodiscus Ehr. | | | | | | | | |
| C. birostratus Deby. | | | | | | | | |
| Surirella Turpin | | | | | | | | |
| S. gemma Ehr. | | | | | | | | |
| S. ovata Kutz. | | | | | | | | |
| Unknown taxa | | | | | | | | |
| Unknown #8 | | | | | | | | |
| Totals, in valves per milliliter | 851 | 100.0 | 1,881 | 100.0 | 1,885 | 100.0 | 2,207 | 100.0 |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: | 7 | | 7 | | 8 | | 8 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 1120 | | 1720 | | 1000 | | 1610 | |
| Tide: | Flood | | Ebb | | Flood | | Ebb | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacillariophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| Achnanthes Borg | | | | | | | | |
| A. baldjickii subsp. lorenziana | | | | | | | | |
| A. cuvirostrum Grun. | | | | | | | | |
| A. hauckiana Grun. | 65 | 2.2 | 47 | 1.4 | 113 | 2.6 | | |
| A. lanceolata v. dubia Grun. | | | | | | | | |
| A. linearis (W.Sm.)Grun. | | | | | | | | |
| A. minutissima Kutz. | | | 31 | .9 | | | | |
| A. temperei M. Perag. | | | | | | | 47 | 1.3 |
| Cocconeis Ehr. | | | | | | | | |
| C. costata Greg. | | | | | | | | |
| C. diminuta Pant. | | | 31 | .9 | 75 | 1.8 | | |
| C. disculus (Schum.)Cl. | | | | | 38 | .9 | | |
| C. distans Greg. | | | | | | | | |
| C. scutellum Ehr. | | | | | | | | |
| Bacillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| Bacillaria Gmel. | | | | | | | | |
| B. paradoxa Gmel. | | | | | | | | |
| Cylindrotheca Rabh. | | | | | | | | |
| C. closterium (Ehr.)Reim. and Lew. | | | | | | | | |
| Hantzschia Grun. | | | | | | | | |
| H. amphioxys v. minor Perag. and Perag. | | | | | | | | |
| Nitzschia Hass. | | | | | | | | |
| N. amphibia Grun. | 52 | 1.7 | 16 | .5 | | | | |
| N. brittoni Hag. | | | | | | | | |
| N. clausii Hantz. | | | | | | | | |
| N. communis Rabh. | | | | | | | | |
| N. compressa (Bail.)Boyer | 26 | .9 | | | 38 | .9 | | |
| N. constricta (Kutz.)Ralfs | | | 93 | 2.8 | | | | |
| N. dissipata (Kutz.)Grun. | | | | | | | | |
| N. fasciculata (Grun.)Grun. | | | | | | | 32 | .9 |
| N. filiformis (W.Sm.)V.H. | 52 | 1.7 | 31 | .9 | | | 32 | .9 |
| N. fonticola Grun. | 13 | .4 | 31 | .9 | | | 32 | .9 |
| N. frustulum (Kutz.)Grun. | | | | | | | | |
| N. granulata Grun. | 13 | .4 | 31 | .9 | | | | |
| N. hungarica Grun. | | | | | | | | |
| N. longissima (Breb.)Grun. | 79 | 2.6 | | | 38 | .9 | | |
| N. lorenziana v. subtilis Grun. | | | | | | | | |
| N. microcephala Grun. | | | 31 | .9 | | | | |
| N. navicularis (Breb.)Grun. | | | | | | | | |
| N. obtusa W.Sm. | | | | | | | | |
| N. obtusa v. scalpelliformis Grun. | | | | | | | | |
| N. palea (Kutz.)W.Sm. | 209 | 6.9 | 202 | 6.1 | 207 | 4.8 | 252 | 7.0 |
| N. panduriformis Greg. | | | | | | | 32 | .9 |
| N. parvula W.Sm. | | | 31 | .9 | | | | |
| N. romana Grun. | | | | | | | | |
| N. scolaris (Ehr.)W.Sm. | | | | | | | | |
| N. sigma (Kutz.)W.Sm. | | | | | | | | |
| N. stagsorum (Rabh.)Grun. | | | | | | | | |
| N. sublinearis Hust. | | | | | | | | |
| N. thermalis v. minor Hilse | | | | | | | | |
| N. triblionella Hantz. | | | 31 | .9 | | | | |
| Epithemiales | | | | | | | | |
| Epithemiaceae | | | | | | | | |
| Rhopalodea O.Mull. | | | | | | | | |
| R. muscula (Kutz.)O.Mull. | | | | | | | 16 | .4 |
| R. muscula v. constricta (Breb.) Perag. and Perag. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: | 7 | | 7 | | 8 | | 8 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 1120 | | 1720 | | 1000 | | 1610 | |
| Tide: | Flood | | Ebb | | Flood | | Ebb | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Eupodiscales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| *Biddulphia* Gray | | | | | | | | |
| *B. aurita* (Lyng.)Breb. and Godey | | | | | 151 | 3.5 | 32 | 0.9 |
| *B. granulata* Roper | | | | | | | | |
| *B. pulchella* Gray | | | | | | | | |
| *Eucampia* Ehr. | | | | | | | | |
| *E. sp.#1* | | | | | | | | |
| *Eunotogramma* Weisse | | | | | | | | |
| *E. laeva* Grun. | | | | | | | 32 | .9 |
| *E. marinum* (W.Sm.)Perag. | 65 | 2.2 | 265 | 8.0 | | | 63 | 1.7 |
| *Streptotheca* Shrub. | | | | | | | | |
| *S. thamensis* Shrub. | 16 | 1.9 | 16 | .8 | | | | |
| *Terpsinoe* Ehr. | | | | | | | | |
| *T. musica* Ehr. | | | | | | | | |
| *Triceratium* Ehr. | | | | | | | | |
| *T. alternans* Bail. | | | | | | | | |
| *T. favus* Ehr. | | | | | | | | |
| *T. reticulum* Ehr. | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| *Actinoptychus* Ehr. and V.H. | | | | | | | | |
| *A. undulatus* (Bail.)Ralfs | 26 | .9 | | | | | | |
| *Actinocyclus* Ehr. | | | | | | | | |
| *A. ehrenbergii v. tenella* (Breb.)Hust. | | | | | | | | |
| *A. sp. #1* | | | | | | | | |
| *Chaetoceros* Ehr. | | | | | | | | |
| *C. sp. #1* | 79 | 2.6 | 156 | 4.7 | | | | |
| *Coscinodiscus* Ehr. | | | | | | | | |
| *C. centralis* Ehr. | | | | | 17 | .9 | 10 | .5 |
| *C. curvatulus* Grun. | | | | | | | | |
| *C. excentricus* Ehr. | | | 62 | 1.9 | 38 | .9 | 63 | 1.7 |
| *C. lineatus* Ehr. | 26 | .9 | | | 113 | 2.6 | | |
| *C. marginatus* Ehr. | | | | | | | | |
| *C. nitidus* Greg. | 144 | 4.8 | 78 | 2.4 | 113 | 2.6 | 268 | 7.4 |
| *C. radiatus* Ehr. | 26 | .9 | | | | | 63 | 1.7 |
| *Cyclotella* Kutz. | | | | | | | | |
| *C. atomus* Hust. | 170 | 5.6 | 265 | 8.0 | | | 63 | 1.7 |
| *C. meneghiniana* Kutz. | 26 | .9 | 16 | .5 | | | | |
| *C. striata* (Kutz.)Grun. | 39 | 1.3 | 31 | .9 | 38 | .9 | 47 | 1.3 |
| *Cylindropyxis* Hendey | | | | | | | | |
| *C. tremulas* Hendey | 52 | 1.7 | 47 | 1.4 | | | 32 | .9 |
| *Hemidiscus* Wall. | | | | | | | | |
| *H. weissflogi* (Grun.)Hust. | 52 | 1.7 | 47 | 1.4 | | | | |
| *Melosira* Ag. | | | | | | | | |
| *M. granulata* (Ehr.)Ralfs | | | | | | | | |
| *M. nummuloides* (Dillw.)Ag. | | | | | | | | |
| *M. sulcata* (Ehr.)Kutz. | | | 16 | .5 | | | | |
| *Podosira* Ehr. | | | | | | | | |
| *P. stelliger* (Bail.)Mann | 13 | .4 | | | | | | |
| *Skeletonema* Grev. | | | | | | | | |
| *S. costatum* (Grev.)Cl. | | | 265 | 8.0 | 113 | 2.6 | | |
| *Stephanopyxis* (Ehr.) | | | | | | | | |
| *S. turris* (Grev.)Ralfs | | | | | | | | |
| *Thalassiosira* Cl. | | | | | | | | |
| *T. decipiens* (Grun.)Jorg. | | | | | | | | |
| *T. fluviatilis* Hust. | | | | | | | | |
| Eupodiscaceae | | | | | | | | |
| *Auliscus* Ehr. | | | | | | | | |
| *A. caelatus* Bail. | | | | | | | | |
| *Eupodiscus* Ehr. | | | | | | | | |
| *E. radiatus* Bail. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: | 7 | | 7 | | 8 | | 8 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 1120 | | 1720 | | 1000 | | 1610 | |
| Tide: | Flood | | Ebb | | Flood | | Ebb | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Rhizosoleniaceae | | | | | | | | |
| *Rhizosolenia* Bright. | | | | | | | | |
| *R. delicatula* Cl. | 26 | 0.9 | 31 | 0.9 | 75 | 1.8 | 126 | 3.5 |
| *R. fragilissima* Berg. | 52 | 1.7 | 31 | .9 | 113 | 2.6 | 347 | 9.6 |
| *R. setigera* Bright | 26 | .9 | | | | | 32 | .9 |
| *R. stolterfothii* H. Perag. | | | | | | | | |
| *R. sp. #1* | | | 31 | .9 | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| *Asterionella* Hass. | | | | | | | | |
| *A. japonica* Cl. | | | | | 38 | .9 | | |
| *Camplosira* Grun. | | | | | | | | |
| *C. cymbelliformis* (A.S.)Grun. | | | | | | | | |
| *Cymatosira* Grun. | | | | | | | | |
| *C. belgica* Grun. | 628 | 20.8 | 685 | 20.8 | 1,750 | 40.8 | 710 | 19.7 |
| *C. lorensiana* Grun. | 26 | .9 | | | | | 16 | .4 |
| *Dimeregramma* Ralfs | | | | | | | | |
| *D. maculatum* (Cl.)Freng. | | | | | | | | |
| *Eunotia* Ehr. | | | | | | | | |
| *E. suecica* Cl. | | | | | | | | |
| *Fragilaria* Lyng. | | | | | | | | |
| *F. construens v. venter* (Ehr.)Grun. | 144 | 4.8 | 31 | .9 | 301 | 7.0 | 126 | 3.5 |
| *F. lapponica* Grun. | | | | | | | | |
| *Glyphodesmis* Grev. | | | | | | | | |
| *G. distans* (Greg.)Grun. | | | | | | | | |
| *Opephora* Petit | | | | | | | | |
| *O. martyi* Herib. | | | | | | | | |
| *O. pacifica* (Grun.)Petit | | | | | | | | |
| *O. swartzii* (Grun.)Petit | | | | | | | | |
| *Plagiogramma* Grev. | | | | | | | | |
| *P. pulchellum v. pygmaea* (Grev.) Perag. and Perag. | | | | | | | | |
| *P. staurophorum* (Greg.)Heib. | | | | | | | | |
| *P. vanheurckii* Grun. | | | | | | | | |
| *P. wallichianum* Grev. | | | | | | | | |
| *Rhaphoneis* Ehr. | | | | | | | | |
| *R. amphiceros* (Ehr.)Ehr. | | | | | | | | |
| *R. grossenpunctata* Hust. | | | | | | | | |
| *R. surirella* (Ehr.)Grun. | 52 | 1.7 | 47 | 1.4 | 38 | .9 | 16 | .4 |
| *R. surirella v. australis* Petit | | | | | | | | |
| *R. sp. #1* | | | | | | | | |
| *Synedra* Ehr. | | | | | | | | |
| *S. amphicephala v. austriaca* (Grun.)Hust. | | | | | | | | |
| *S. fasiculata v. truncata* (Grev.)Patr. | | | | | | | | |
| *Tabellaria* Ehr. | | | | | | | | |
| *T. fenestrata* (Lyng.)Kutz. | | | | | | | | |
| *Thallasiothrix* Cl. and Grun. | | | | | | | | |
| *T. frauenfeldii* (Grun.)Grun. | | | | | | | | |
| *T. longissima* Cl. and Grun. | | | | | | | | |
| *Trachysphenia* Petit | | | | | | | | |
| *T. acuminata* Perag. | | | | | | | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| *Amphora* Ehr. | | | | | | | | |
| *A. angusta v. ventricosa* (Greg.)Cl. | | | | | | | | |
| *A. calumetica* (Thom. and Wolle)M.Perag. | | | | | | | | |
| *A. acutiuscula* Kutz. | 26 | .9 | | | 38 | .9 | | |
| *A. ovalis* (Kutz.)Kutz. | | | | | | | 32 | .9 |
| *A. perpusilla* Grun. | | | | | | | | |
| *A. proteoides* Hust. | | | | | 19 | .4 | | |
| *Cymbella* Ag. | | | | | | | | |
| *C. affinis* Kutz. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 7 1120 Flood | | 7 1720 Ebb | | 8 1000 Flood | | 8 1610 Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Gomphonemaceae | | | | | | | | |
| Gomphonema Ehr. | | | | | | | | |
| G. tripunctatum v. elongata (Perag. and Herib.)Patr. | | | | | | | | |
| Entomoneidaceae | | | | | | | | |
| Entomoneis Ehr. | | | | | | | | |
| E. alata (Ehr.)Ehr. | | | | | | | | |
| Plagiotropis Pfitz. | | | | | | | | |
| P. lepidoptera (Cl.)Reim. | 52 | 1.7 | | | | | | |
| Naviculaceae | | | | | | | | |
| Anomoneis Pfitz. | | | | | | | | |
| A. sp. #1 | | | | | | | | |
| Caloneis Cl. | | | | | | | | |
| C. oregonica (Ehr.)Patr. | | | | | | | | |
| Diploneis Ehr. | | | | | | | | |
| D. bombus Ehr. | | | | | 38 | 0.9 | 47 | 1.3 |
| D. didyma (Ehr.)Ehr. | | | 31 | 0.9 | | | 47 | 1.3 |
| D. elliptica (Kutz.)Cl. | | | | | | | | |
| D. gruendleri (A.S.)Cl. | | | | | | | 16 | .4 |
| D. interrupta (Kutz.)Cl. | | | | | | | | |
| D. ovalis v. oblongella (Naeg.)Cl. | | | | | | | | |
| D. puella (Schum.)Cl. | | | | | | | | |
| Donkinia Ralfs | | | | | | | | |
| D. recta Grun. | | | | | | | | |
| Frustulia Rabh. | | | | | | | | |
| F. interposita (Lewis)Cl. | | | | | | | | |
| Gyrosigma Hass. | | | | | | | | |
| G. exilis (Grun.)Reim. | | | | | | | | |
| G. eximium (Thwaites)Boyer | | | | | | | | |
| Mastogloia Thwaites | | | | | | | | |
| M. apiculata W.Sm. | | | | | | | | |
| M. minutissma Voigt | | | | | | | | |
| M. pumila v. papuarum Chol. | | | | | | | | |
| Navicula Bory | | | | | | | | |
| N. ammophila Grun. | 26 | .9 | | | | | | |
| N. anglica v. subsalsa (Grun.)Cl. | | | | | | | | |
| N. capitata Ehr. | | | | | | | | |
| N. cyrptocephala Kutz. | 52 | 1.7 | 62 | 1.9 | | | 79 | 2.2 |
| N. formenterae Cl. | | | | | | | | |
| N. gregaria Donk. | | | | | | | | |
| N. hummi Hust. | | | | | | | | |
| N. ilopangoensis Hust. | | | | | | | | |
| N. lanceolata (Ag.)Kutz. | | | 31 | .9 | | | | |
| N. litoricola Grev. | 26 | .9 | | | | | | |
| N. lyra Ehr. | | | | | | | | |
| N. marina Ralfs | | | | | | | | |
| N. menisculus Schum. | | | | | | | | |
| N. microcephala Grun. | | | | | | | | |
| N. minima Grun. | | | | | | | | |
| N. minuscula Grun. | | | 31 | .9 | 38 | .9 | | |
| N. muralis Grun. | | | | | | | | |
| N. mutica Kutz. | 26 | .9 | | | | | | |
| N. mutica v. cohnii (Hilse)Grun. | | | | | | | | |
| N. mutica f. undulata (Hilse)Grun. | | | | | | | | |
| N. notha Wall. | | | | | | | | |
| N. pelliculosa Hilse | 52 | 1.7 | | | | | | |
| N. pupula v. mutata (Krasske)Hust. | | | | | | | | |
| N. pygmaea Kutz. | | | | | | | | |
| N. radiosa v. tenella (Breb.)Cl. | | | 171 | 5.2 | | | | |
| N. scopulorum Breb. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: | 7 | | 7 | | 8 | | 8 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 1120 | | 1720 | | 1000 | | 1610 | |
| Tide: | Flood | | Ebb | | Flood | | Ebb | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Naviculaceae--Continued | | | | | | | | |
| Navicula Bory--Continued | | | | | | | | |
| N. sovereignae Hust. | | | | | | | | |
| N. tenelloides Hust. | | | | | 75 | 1.8 | 32 | 0.9 |
| N. tripuctata (O.Mull.)Bory | | | | | | | | |
| N. yarrensis Grun. | | | | | | | | |
| N. spp. | 79 | 2.6 | 47 | 1.4 | 113 | 2.6 | 63 | 1.7 |
| Pinnularia Ehr. | | | | | | | | |
| P. bogotensis (Grun.)Cl. | | | | | | | | |
| P. quadratacea v. fluminensis (Grun.)Cl. | | | | | | | | |
| P. subcapitata Greg. | | | | | | | | |
| Pleurosigma W.Sm. | | | | | | | | |
| P. angulatum (Quek.)W.Sm. | 26 | .9 | | | | | | |
| P. aestuarii (Breb.)W.Sm. | | | | | | | | |
| P. delicatulum W.Sm. | 26 | .9 | | | 75 | 1.8 | | |
| P. hamuliferum Brun. | | | | | | | | |
| P. naviculaceum Breb. | | | | | | | | |
| P. salinarum (Grun.)Grun. | | | | | | | | |
| P. speciosum W.Sm. | | | | | | | | |
| Scoliopleura Grun. | | | | | | | | |
| S. peisonis Grun. | | | | | | | | |
| Stauroneis Ehr. | | | | | | | | |
| S. amphioxys Greg. | | | | | | | | |
| Trachyneis Cl. | | | | | | | | |
| T. aspera (Ehr.)Cl. | | | | | | | | |
| Surirellalles | | | | | | | | |
| Surirellaceae | | | | | | | | |
| Camplodiscus Ehr. | | | | | | | | |
| C. birostratus Deby. | | | | | | | | |
| Surirella Turpin | | | | | | | | |
| S. gemma Ehr. | | | | | | | | |
| S. ovata Kutz. | | | | | | | | |
| Unknown taxa | | | | | | | | |
| Unknown #8 | | | | | | | | |
| Totals, in valves per milliliter | 3,024 | 100.0 | 3,229 | 100.0 | 4,291 | 100.0 | 3,614 | 100.0 |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Taxa | Site location number: Time: Tide: | 10 1020 Flood | | 10 1625 Ebb | | 13 1055 Flood | | 13 1705 Ebb | |
|---|---|---|---|---|---|---|---|---|---|
| | | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacillariophyta | | | | | | | | | |
| Bacillariophyceae | | | | | | | | | |
| Achnanthales | | | | | | | | | |
| Achnanthaceae | | | | | | | | | |
| Achnanthes Borg | | | | | | | | | |
| A. baldjickii subsp. lorenziana | | | | | | | | | |
| A. cuvirostrum Grun. | | | | | | | | | |
| A. hauckiana Grun. | | 21 | 0.9 | 16 | 0.5 | 17 | 1.0 | 35 | 0.9 |
| A. lanceolata v. dubia Grun. | | | | | | | | | |
| A. linearis (W.Sm.)Grun. | | | | | | | | | |
| A. minutissima Kutz. | | | | | | | | | |
| A. temperei M. Perag. | | | | | | | | 35 | .9 |
| Cocconeis Ehr. | | | | | | | | | |
| C. costata Greg. | | | | | | | | | |
| C. diminuta Pant. | | | | | | | | | |
| C. disculus (Schum.)Cl. | | | | | | | | | |
| C. distans Greg. | | | | | | | | | |
| C. scutellum Ehr. | | | | | | | | | |
| Bacillarialles | | | | | | | | | |
| Nitzschiaceae | | | | | | | | | |
| Bacillaria Gmel. | | | | | | | | | |
| B. paradoxa Gmel. | | | | | | | | | |
| Cylindrotheca Rabh. | | | | | | | | | |
| C. closterium (Ehr.)Reim. and Lew. | | | | | | | | | |
| Hantzschia Grun. | | | | | | | | | |
| H. amphioxys v. minor Perag. and Perag. | | | | | | | | | |
| Nitzschia Hass. | | | | | | | | | |
| N. amphibia Grun. | | | | 81 | 2.3 | | | | |
| N. brittoni Hag. | | | | | | | | | |
| N. clausii Hantz. | | | | | | | | | |
| N. communis Rabh. | | | | | | | | | |
| N. compressa (Bail.)Boyer | | | | | | | | 18 | .4 |
| N. constricta (Kutz.)Ralfs | | 21 | .9 | | | | | 35 | .9 |
| N. dissipata (Kutz.)Grun. | | | | | | | | | |
| N. fasciculata (Grun.)Grun. | | | | | | | | | |
| N. filiformis (W.Sm.)V.H. | | 41 | 1.8 | | | | | 35 | .9 |
| N. fonticola Grun. | | | | 33 | .9 | 17 | 1.0 | | |
| N. frustulum (Kutz.)Grun. | | | | | | | | | |
| N. granulata Grun. | | 21 | .9 | 65 | 1.9 | | | 18 | .4 |
| N. hungarica Grun. | | | | | | | | | |
| N. longissima (Breb.)Grun. | | 21 | .9 | 33 | .9 | 35 | 2.0 | 35 | .9 |
| N. lorenziana v. subtilis Grun. | | | | | | | | | |
| N. microcephala Grun. | | | | | | | | | |
| N. navicularis (Breb.)Grun. | | | | | | | | | |
| N. obtusa W.Sm. | | | | | | | | | |
| N. obtusa v. scalpelliformis Grun. | | | | | | | | | |
| N. palea (Kutz.)W.Sm. | | | | 488 | 14.0 | 157 | 8.8 | 247 | 6.0 |
| N. panduriformis Greg. | | 82 | 3.6 | 33 | .9 | 44 | 2.4 | | |
| N. parvula W.Sm. | | | | | | | | | |
| N. romana Grun. | | | | | | | | | |
| N. scolaris (Ehr.)W.Sm. | | | | | | | | | |
| N. sigma (Kutz.)W.Sm. | | | | | | | | | |
| N. stagsorum (Rabh.)Grun. | | | | | | | | | |
| N. sublinearis Hust. | | | | | | | | | |
| N. thermalis v. minor Hilse | | | | | | | | | |
| N. triblionella Hantz. | | | | | | | | | |
| Epithemiales | | | | | | | | | |
| Epithemiaceae | | | | | | | | | |
| Rhopalodea O.Mull. | | | | | | | | | |
| R. muscula (Kutz.)O.Mull. | | | | | | | | | |
| R. muscula v. constricta (Breb.) Perag. and Perag. | | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Taxa | Site location number: 10 Time: 1020 Tide: Flood | | 10 1625 Ebb | | 13 1055 Flood | | 13 1705 Ebb | |
|---|---|---|---|---|---|---|---|---|
| | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Eupodiscales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| *Biddulphia* Gray | | | | | | | | |
| *B. aurita* (Lyng.)Breb. and Godey | | | | | | | | |
| *B. granulata* Roper | | | | | | | | |
| *B. pulchella* Gray | | | | | | | | |
| *Eucampia* Ehr. | | | | | | | | |
| *E. sp.#1* | | | | | | | | |
| *Eunotogramma* Weisse | | | | | | | | |
| *E. laeva* Grun. | | | 33 | 0.9 | | | | |
| *E. marinum* (W.Sm.)Perag. | 52 | 2.3 | | | 9 | 0.5 | 35 | 0.9 |
| *Streptotheca* Shrub. | | | | | | | | |
| *S. thamensis* Shrub. | 21 | .9 | | | | | | |
| *Terpsinoe* Ehr. | | | | | | | | |
| *T. musica* Ehr. | | | | | | | | |
| *Triceratium* Ehr. | | | | | | | | |
| *T. alternans* Bail. | | | | | | | | |
| *T. favus* Ehr. | | | | | | | | |
| *T. reticulum* Ehr. | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| *Actinoptychus* Ehr. and V.H. | | | | | | | | |
| *A. undulatus* (Bail.)Ralfs | | | | | 17 | 1.0 | 35 | .9 |
| *Actinocyclus* Ehr. | | | | | | | | |
| *A. ehrenbergii v. tenella* (Breb.)Hust. | | | | | | | | |
| *A. sp. #1* | | | | | | | | |
| *Chaetoceros* Ehr. | | | | | | | | |
| *C. sp. #1* | | | | | | | | |
| *Coscinodiscus* Ehr. | | | | | | | | |
| *C. centralis* Ehr. | | | | | 17 | 1.0 | | |
| *C. curvatulus* Grun. | | | | | | | | |
| *C. excentricus* Ehr. | 41 | 1.8 | | | | | | |
| *C. lineatus* Ehr. | 31 | 1.4 | 163 | 4.7 | 17 | 1.0 | | |
| *C. marginatus* Ehr. | | | 65 | 1.9 | | | 35 | .9 |
| *C. nitidus* Greg. | 21 | .9 | 65 | 1.9 | 87 | 4.9 | 212 | 5.2 |
| *C. radiatus* Ehr. | 41 | 1.8 | 49 | 1.4 | 44 | 2.4 | 35 | .9 |
| *Cyclotella* Kutz. | | | | | | | | |
| *C. atomus* Hust. | | | | | 26 | 1.5 | | |
| *C. meneghiniana* Kutz. | 10 | .5 | 33 | .9 | 35 | 2.0 | | |
| *C. striata* (Kutz.)Grun. | 31 | 1.4 | 81 | 2.3 | 44 | 2.4 | 18 | .4 |
| *Cylindropyxis* Hendey | | | | | | | | |
| *C. tremulas* Hendey | 41 | 1.8 | | | | | 35 | .9 |
| *Hemidiscus* Wall. | | | | | | | | |
| *H. weissflogi* (Grun.)Hust. | | | | | | | | |
| *Melosira* Ag. | | | | | | | | |
| *M. granulata* (Ehr.)Ralfs | | | | | | | | |
| *M. nummuloides* (Dillw.)Ag. | 21 | .9 | | | 17 | 1.0 | 71 | 1.7 |
| *M. sulcata* (Ehr.)Kutz. | | | 33 | .9 | 17 | 1.0 | | |
| *Podosira* Ehr. | | | | | | | | |
| *P. stelliger* (Bail.)Mann | | | | | | | | |
| *Skeletonema* Grev. | | | | | | | | |
| *S. costatum* (Grev.)Cl. | | | | | | | | |
| *Stephanopyxis* (Ehr.) | | | | | | | | |
| *S. turris* (Grev.)Ralfs | | | | | | | | |
| *Thalassiosira* Cl. | | | | | | | | |
| *T. decipiens* (Grun.)Jorg. | | | | | | | | |
| *T. fluviatilis* Hust. | | | | | | | | |
| Eupodiscaceae | | | | | | | | |
| *Auliscus* Ehr. | | | | | | | | |
| *A. caelatus* Bail. | | | | | | | | |
| *Eupodiscus* Ehr. | | | | | | | | |
| *E. radiatus* Bail. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Taxa | Site location number: 10<br>Time: 1020<br>Tide: Flood<br>Standing stock | Percent of total | 10<br>1625<br>Ebb<br>Standing stock | Percent of total | 13<br>1055<br>Flood<br>Standing stock | Percent of total | 13<br>1705<br>Ebb<br>Standing stock | Percent of total |
|---|---|---|---|---|---|---|---|---|
| Rhizosoleniaceae | | | | | | | | |
| Rhizosolenia Bright. | | | | | | | | |
| R. delicatula Cl. | 113 | 5.0 | 33 | 0.9 | 52 | 2.9 | | |
| R. fragilissima Berg. | 144 | 6.3 | 374 | 10.7 | 157 | 8.8 | 671 | 16.3 |
| R. setigera Bright | | | | | 17 | 1.0 | 35 | .9 |
| R. stolterfothii H. Perag. | | | | | | | | |
| R. sp. #1 | | | 33 | .9 | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| Asterionella Hass. | | | | | | | | |
| A. japonica Cl. | | | | | | | | |
| Camplosira Grun. | | | | | | | | |
| C. cymbelliformis (A.S.)Grun. | | | | | | | 71 | 1.7 |
| Cymatosira Grun. | | | | | | | | |
| C. belgica Grun. | 525 | 23.1 | 797 | 22.9 | 444 | 24.9 | 1,272 | 30.9 |
| C. lorensiana Grun. | 21 | .9 | 16 | .5 | | | | |
| Dimeregramma Ralfs | | | | | | | | |
| D. maculatum (Cl.)Freng. | | | | | | | | |
| Eunotia Ehr. | | | | | | | | |
| E. suecica Cl. | | | | | | | | |
| Fragilaria Lyng. | | | | | | | | |
| F. construens v. venter (Ehr.)Grun. | 21 | .9 | 130 | 3.7 | 17 | 1.0 | 141 | 3.4 |
| F. lapponica Grun. | | | | | | | | |
| Glyphodesmis Grev. | | | | | | | | |
| G. distans (Greg.)Grun. | | | | | | | | |
| Opephora Petit | | | | | | | | |
| O. martyi Herib. | | | | | | | | |
| O. pacifica (Grun.)Petit | | | 33 | .9 | | | | |
| O. swartzii (Grun.)Petit | | | | | | | | |
| Plagiogramma Grev. | | | | | | | | |
| P. pulchellum v. pygmaea (Grev.) Perag. and Perag. | | | | | | | | |
| P. staurophorum (Greg.)Heib. | | | | | | | | |
| P. vanheurckii Grun. | | | | | | | | |
| P. wallichianum Grev. | | | | | | | | |
| Rhaphoneis Ehr. | | | | | | | | |
| R. amphiceros (Ehr.)Ehr. | | | | | | | 18 | .4 |
| R. grossenpunctata Hust. | | | | | | | | |
| R. surirella (Ehr.)Grun. | | | 33 | .9 | 9 | .5 | 35 | .9 |
| R. surirella v. australis Petit | | | | | | | | |
| R. sp. #1 | | | | | | | | |
| Synedra Ehr. | | | | | | | | |
| S. amphicephala v. austriaca (Grun.)Hust. | | | | | | | | |
| S. fasiculata v. truncata (Grev.)Patr. | | | | | | | | |
| Tabellaria Ehr. | | | | | | | | |
| T. fenestrata (Lyng.)Kutz. | | | | | | | | |
| Thallasiothrix Cl. and Grun. | | | | | | | | |
| T. frauenfeldii (Grun.)Grun. | | | 98 | 2.8 | | | | |
| T. longissima Cl. and Grun. | 62 | 2.7 | | | | | | |
| Trachysphenia Petit | | | | | | | | |
| T. acuminata Perag. | | | | | | | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| Amphora Ehr. | | | | | | | | |
| A. angusta v. ventricosa (Greg.)Cl. | | | | | | | | |
| A. calumetica (Thom. and Wolle)M.Perag. | | | | | | | | |
| A. acutiuscula Kutz. | 21 | .9 | | | | | 35 | .9 |
| A. ovalis (Kutz.)Kutz. | 21 | .9 | | | | | 35 | .9 |
| A. perpusilla Grun. | | | | | | | | |
| A. proteoides Hust. | | | | | | | | |
| Cymbella Ag. | | | | | | | | |
| C. affinis Kutz. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: | 10 | | 10 | | 13 | | 13 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 1020 | | 1625 | | 1055 | | 1705 | |
| Tide: | Flood | | Ebb | | Flood | | Ebb | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Gomphonemaceae | | | | | | | | |
| *Gomphonema* Ehr. | | | | | | | | |
| *G. tripunctatum v. elongata* (Perag. and Herib.)Patr. | | | | | | | | |
| Entomoneidaceae | | | | | | | | |
| *Entomoneis* Ehr. | | | | | | | | |
| *E. alata* (Ehr.)Ehr. | | | | | | | | |
| *Plagiotropis* Pfitz. | | | | | | | | |
| *P. lepidoptera* (Cl.)Reim. | | | | | | | | |
| Naviculaceae | | | | | | | | |
| *Anomoneis* Pfitz. | | | | | | | | |
| *A. sp. #1* | | | | | | | | |
| *Caloneis* Cl. | | | | | | | | |
| *C. oregonica* (Ehr.)Patr. | | | | | | | | |
| *Diploneis* Ehr. | | | | | | | | |
| *D. bombus* Ehr. | | | | | | | 35 | 0.9 |
| *D. didyma* (Ehr.)Ehr. | 41 | 1.8 | 33 | 0.9 | 17 | 1.0 | 141 | 3.4 |
| *D. elliptica* (Kutz.)Cl. | | | | | | | | |
| *D. gruendleri* (A.S.)Cl. | 10 | .5 | | | | | 35 | .9 |
| *D. interrupta* (Kutz.)Cl. | | | | | 17 | 1.0 | 35 | .9 |
| *D. ovalis v. oblongella* (Naeg.)Cl. | | | | | | | | |
| *D. puella* (Schum.)Cl. | | | | | | | 53 | 1.3 |
| *Donkinia* Ralfs | | | | | | | | |
| *D. recta* Grun. | | | | | | | | |
| *Frustulia* Rabh. | | | | | | | | |
| *F. interposita* (Lewis)Cl. | | | | | | | | |
| *Gyrosigma* Hass. | | | | | | | | |
| *G. exilis* (Grun.)Reim. | | | | | | | | |
| *G. eximium* (Thwaites)Boyer | | | | | | | | |
| *Mastogloia* Thwaites | | | | | | | | |
| *M. apiculata* W.Sm. | | | | | | | | |
| *M. minutissma* Voigt | | | | | | | | |
| *M. pumila v. papuarum* Chol. | | | | | | | | |
| *Navicula* Bory | | | | | | | | |
| *N. ammophila* Grun. | | | | | | | | |
| *N. anglica v. subsalsa* (Grun.)Cl. | | | | | | | | |
| *N. capitata* Ehr. | | | | | | | | |
| *N. cyrptocephala* Kutz. | 41 | 1.8 | | | | | | |
| *N. formenterae* Cl. | | | | | | | | |
| *N. gregaria* Donk. | | | | | | | | |
| *N. hummi* Hust. | | | | | | | | |
| *N. ilopangoensis* Hust. | | | | | | | | |
| *N. lanceolata* (Ag.)Kutz. | | | 33 | .9 | | | | |
| *N. litoricola* Grev. | | | | | 17 | 1.0 | | |
| *N. lyra* Ehr. | | | | | | | | |
| *N. marina* Ralfs | | | | | | | | |
| *N. menisculus* Schum. | | | | | | | | |
| *N. microcephala* Grun. | | | | | | | | |
| *N. minima* Grun. | | | | | | | | |
| *N. minuscula* Grun. | 21 | .9 | | | | | | |
| *N. muralis* Grun. | | | | | | | | |
| *N. mutica* Kutz. | | | | | | | | |
| *N. mutica v. cohnii* (Hilse)Grun. | | | | | | | | |
| *N. mutica f. undulata* (Hilse)Grun. | | | | | | | | |
| *N. notha* Wall. | | | | | | | | |
| *N. pelliculosa* Hilse | | | | | | | | |
| *N. pupula v. mutata* (Krasske)Hust. | | | | | | | | |
| *N. pygmaea* Kutz. | | | | | | | | |
| *N. radiosa v. tenella* (Breb.)Cl. | | | | | | | | |
| *N. scopulorum* Breb. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 10 / 1020 / Flood | | 10 / 1625 / Ebb | | 13 / 1055 / Flood | | 13 / 1705 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Naviculaceae--Continued | | | | | | | | |
| *Navicula* Bory--Continued | | | | | | | | |
| *N. sovereignae* Hust. | | | | | | | | |
| *N. tenelloides* Hust. | 41 | 1.8 | 16 | 0.5 | 17 | 1.0 | | |
| *N. tripuctata* (O.Mull.)Bory | | | | | | | | |
| *N. yarrensis* Grun. | | | | | | | | |
| *N. spp.* | | | | | 52 | 2.9 | 35 | 0.9 |
| *Pinnularia* Ehr. | | | | | | | | |
| *P. bogotensis* (Grun.)Cl. | | | | | | | | |
| *P. quadratacea v. fluminensis* (Grun.)Cl. | | | | | | | | |
| *P. subcapitata* Greg. | | | | | | | | |
| *Pleurosigma* W.Sm. | | | | | | | | |
| *P. angulatum* (Quek.)W.Sm. | | | | | | | | |
| *P. aestuarii* (Breb.)W.Sm. | | | | | | | | |
| *P. delicatulum* W.Sm. | | | | | | | | |
| *P. hamuliferum* Brun. | | | | | | | | |
| *P. naviculaceum* Breb. | | | | | | | | |
| *P. salinarum* (Grun.)Grun. | | | | | | | | |
| *P. speciosum* W.Sm. | | | | | | | | |
| *Scoliopleura* Grun. | | | | | | | | |
| *S. peisonis* Grun. | | | | | | | | |
| *Stauroneis* Ehr. | | | | | | | | |
| *S. amphioxys* Greg. | | | | | | | | |
| *Trachyneis* Cl. | | | | | | | | |
| *T. aspera* (Ehr.)Cl. | | | | | | | 35 | .9 |
| Surirellalles | | | | | | | | |
| Surirellaceae | | | | | | | | |
| *Camplodiscus* Ehr. | | | | | | | | |
| *C. birostratus* Deby. | | | | | | | | |
| *Surirella* Turpin | | | | | | | | |
| *S. gemma* Ehr. | | | | | | | | |
| *S. ovata* Kutz. | | | | | | | | |
| Unknown taxa | | | | | | | | |
| Unknown #8 | | | | | | | | |
| Totals, in valves per milliliter | 2,276 | 100.0 | 3,480 | 100.0 | 1,786 | 100.0 | 4,115 | 100.0 |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 14 / 1110 / Flood | | 14 / 1710 / Ebb | | 15 / 1120 / Flood | | 15 / 1725 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacillariophyta | | | | | | | | |
| Bacillariophyceee | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| Achnanthes Borg | | | | | | | | |
| A. baldjickii subsp. lorenziana | | | | | | | | |
| A. cuvirostrum Grun. | | | | | | | | |
| A. hauckiana Grun. | 33 | 1.5 | 93 | 4.1 | | | 25 | 1.0 |
| A. lanceolata v. dubia Grun. | | | | | | | | |
| A. linearis (W.Sm.)Grun. | | | | | | | | |
| A. minutissima Kutz. | | | 21 | .9 | | | 25 | 1.0 |
| A. temperei M. Perag. | | | | | | | | |
| Cocconeis Ehr. | | | | | | | | |
| C. costata Greg. | | | | | | | | |
| C. diminuta Pant. | | | | | 68 | 2.8 | 38 | 1.4 |
| C. disculus (Schum.)Cl. | | | | | 34 | 1.4 | | |
| C. distans Greg. | | | | | | | | |
| C. scutellum Ehr. | | | | | | | | |
| Bacillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| Bacillaria Gmel. | | | | | | | | |
| B. paradoxa Gmel. | | | | | | | | |
| Cylindrotheca Rabh. | | | | | | | | |
| C. closterium (Ehr.)Reim. and Lew. | | | | | | | | |
| Hantzschia Grun. | | | | | | | | |
| H. amphioxys v. minor Perag. and Perag. | | | | | | | | |
| Nitzschia Hass. | | | | | | | | |
| N. amphibia Grun. | | | | | 34 | 1.4 | 25 | 1.0 |
| N. brittoni Hag. | | | | | | | | |
| N. clausii Hantz. | | | | | | | | |
| N. communis Rabh. | | | | | | | | |
| N. compressa (Bail.)Boyer | 22 | 1.0 | 42 | 1.8 | 23 | .9 | | |
| N. constricta (Kutz.)Ralfs | | | | | | | | |
| N. dissipata (Kutz.)Grun. | | | | | | | | |
| N. fasciculata (Grun.)Grun. | | | | | | | 25 | 1.0 |
| N. filiformis (W.Sm.)V.H. | | | | | 11 | .5 | | |
| N. fonticola Grun. | | | 42 | 1.8 | | | | |
| N. frustulum (Kutz.)Grun. | | | | | | | 25 | 1.0 |
| N. granulata Grun. | | | | | 57 | 2.4 | 76 | 2.9 |
| N. hungarica Grun. | | | | | | | | |
| N. longissima (Breb.)Grun. | 44 | 2.0 | | | | | | |
| N. lorenziana v. subtilis Grun. | | | | | | | | |
| N. microcephala Grun. | | | | | | | | |
| N. navicularis (Breb.)Grun. | | | | | | | | |
| N. obtusa W.Sm. | | | | | | | | |
| N. obtusa v. scalpelliformis Grun. | | | | | | | | |
| N. palea (Kutz.)W.Sm. | 351 | 15.6 | 239 | 10.5 | 170 | 7.1 | 315 | 12.0 |
| N. panduriformis Greg. | 22 | 1.0 | | | 45 | 1.9 | 50 | 1.9 |
| N. parvula W.Sm. | | | | | | | | |
| N. romana Grun. | | | | | | | | |
| N. scolaris (Ehr.)W.Sm. | | | | | | | | |
| N. sigma (Kutz.)W.Sm. | | | | | | | | |
| N. stagsorum (Rabh.)Grun. | | | | | | | | |
| N. sublinearis Hust. | | | | | | | | |
| N. thermalis v. minor Hilse | | | | | | | | |
| N. triblionelle Hantz. | | | | | | | | |
| Epithemiales | | | | | | | | |
| Epithemiaceae | | | | | | | | |
| Rhopalodea O.Mull. | | | | | | | | |
| R. muscula (Kutz.)O.Mull. | | | | | | | | |
| R. muscula v. constricta (Breb.) Perag. and Perag. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Taxa | Site location number: 14<br>Time: 1110<br>Tide: Flood | | 14<br>1710<br>Ebb | | 15<br>1120<br>Flood | | 15<br>1725<br>Ebb | |
|---|---|---|---|---|---|---|---|---|
| | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Eupodiscales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| Biddulphia Gray | | | | | | | | |
| B. aurita (Lyng.)Breb. and Godey | | | | | | | | |
| B. granulata Roper | | | | | | | | |
| B. pulchella Gray | | | | | | | | |
| Eucampia Ehr. | | | | | | | | |
| E. sp.#1 | | | | | | | | |
| Eunotogramma Weisse | | | | | | | | |
| E. laeva Grun. | | | | | | | | |
| E. marinum (W.Sm.)Perag. | | | | | 45 | 1.9 | | |
| Streptotheca Shrub. | | | | | | | | |
| S. thamensis Shrub. | | | | | | | | |
| Terpsinoe Ehr. | | | | | | | | |
| T. musica Ehr. | | | | | | | | |
| Triceratium Ehr. | | | | | | | | |
| T. alternans Bail. | | | | | | | | |
| T. favus Ehr. | | | | | | | | |
| T. reticulum Ehr. | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| Actinoptychus Ehr. and V.H. | | | | | | | | |
| A. undulatus (Bail.)Ralfs | | | | | | | | |
| Actinocyclus Ehr. | | | | | | | | |
| A. ehrenbergii v. tenella (Breb.)Hust. | 22 | 1.0 | 31 | 1.4 | | | 25 | 1.0 |
| A. sp. #1 | | | | | | | | |
| Chaetoceros Ehr. | | | | | | | | |
| C. sp. #1 | | | | | | | | |
| Coscinodiscus Ehr. | | | | | | | | |
| C. centralis Ehr. | | | | | 23 | .9 | 50 | 1.9 |
| C. curvatulus Grun. | | | | | | | | |
| C. excentricus Ehr. | | | 10 | .5 | | | | |
| C. lineatus Ehr. | | | | | 11 | .5 | 25 | 1.0 |
| C. marginatus Ehr. | 22 | 1.0 | | | | | | |
| C. nitidus Greg. | 22 | 1.0 | 114 | 5.0 | 193 | 8.0 | 38 | 1.4 |
| C. radiatus Ehr. | 99 | 4.4 | | | 34 | 1.4 | 13 | .5 |
| Cyclotella Kutz. | | | | | | | | |
| C. atomus Hust. | | | | | | | | |
| C. meneghiniana Kutz. | | | | | | | | |
| C. striata (Kutz.)Grun. | | | 21 | .9 | 45 | 1.9 | 50 | 1.9 |
| Cylindropyxis Hendey | | | | | | | | |
| C. tremulas Hendey | | | | | | | | |
| Hemidiscus Wall. | | | | | | | | |
| H. weissflogi (Grun.)Hust. | | | 31 | 1.4 | | | | |
| Melosira Ag. | | | | | | | | |
| M. granulata (Ehr.)Ralfs | | | | | | | | |
| M. nummuloides (Dillw.)Ag. | | | | | | | | |
| M. sulcata (Ehr.)Kutz. | 22 | 1.0 | 93 | 4.1 | | | 38 | 1.4 |
| Podosira Ehr. | | | | | | | | |
| P. stelliger (Bail.)Mann | | | | | | | | |
| Skeletonema Grev. | | | | | | | | |
| S. costatum (Grev.)Cl. | | | | | 45 | 1.9 | | |
| Stephanopyxis (Ehr.) | | | | | | | | |
| S. turris (Grev.)Ralfs | | | | | | | | |
| Thalassiosira Cl. | | | | | | | | |
| T. decipiens (Grun.)Jorg. | | | | | | | | |
| T. fluviatilis Hust. | | | | | 45 | 1.9 | | |
| Eupodiscaceae | | | | | | | | |
| Auliscus Ehr. | | | | | | | | |
| A. caelatus Bail. | | | | | | | | |
| Eupodiscus Ehr. | | | | | | | | |
| E. radiatus Bail. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 14 / 1110 / Flood | | 14 / 1710 / Ebb | | 15 / 1120 / Flood | | 15 / 1725 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Rhizosoleniaceae | | | | | | | | |
| Rhizosolenia Bright. | | | | | | | | |
| R. delicatula Cl. | 44 | 2.0 | 21 | 0.9 | | | 50 | 1.9 |
| R. fragilissima Berg. | 318 | 14.1 | 145 | 6.4 | 91 | 3.8 | 126 | 4.8 |
| R. setigera Bright | 66 | 2.9 | | | | | 38 | 1.4 |
| R. stolterfothii H. Perag. | 66 | 2.9 | | | | | | |
| R. sp. #1 | | | | | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| Asterionella Hass. | | | | | | | | |
| A. japonica Cl. | | | | | | | | |
| Camplosira Grun. | | | | | | | | |
| C. cymbelliformis (A.S.)Grun. | | | | | | | | |
| Cymatosira Grun. | | | | | | | | |
| C. belgica Grun. | 449 | 20.0 | 612 | 26.8 | 612 | 25.5 | 769 | 29.2 |
| C. lorensiana Grun. | | | 21 | .9 | 11 | .5 | 13 | .5 |
| Dimeregramma Ralfs | | | | | | | | |
| D. maculatum (Cl.)Freng. | | | | | | | | |
| Eunotia Ehr. | | | | | | | | |
| E. suecica Cl. | | | | | | | | |
| Fragilaria Lyng. | | | | | | | | |
| F. construens v. venter (Ehr.)Grun. | 44 | 2.0 | 83 | 3.6 | | | 25 | 1.0 |
| F. lapponica Grun. | | | | | | | | |
| Glyphodesmis Grev. | | | | | | | | |
| G. distans (Greg.)Grun. | | | | | | | | |
| Opephora Petit | | | | | | | | |
| O. martyi Herib. | | | | | | | | |
| O. pacifica (Grun.)Petit | | | | | | | | |
| O. swartzii (Grun.)Petit | | | | | | | | |
| Plagiogramma Grev. | | | | | | | | |
| P. pulchellum v. pygmaea (Grev.) Perag. and Perag. | | | | | | | | |
| P. staurophorum (Greg.)Heib. | | | | | | | | |
| P. vanheurckii Grun. | | | | | | | | |
| P. wallichianum Grev. | | | | | | | | |
| Rhaphoneis Ehr. | | | | | | | | |
| R. amphiceros (Ehr.)Ehr. | | | | | 11 | .5 | 13 | .5 |
| R. grossenpunctata Hust. | | | | | | | | |
| R. surirella (Ehr.)Grun. | 22 | 1.0 | 21 | .9 | 34 | 1.4 | 76 | 2.9 |
| R. surirella v. australis Petit | | | | | | | | |
| R. sp. #1 | | | | | | | | |
| Synedra Ehr. | | | | | | | | |
| S. amphicephala v. austriaca (Grun.)Hust. | | | | | | | | |
| S. fasiculata v. truncata (Grev.)Patr. | | | | | | | | |
| Tabellaria Ehr. | | | | | | | | |
| T. fenestrata (Lyng.)Kutz. | | | | | | | | |
| Thallasiothrix Cl. and Grun. | | | | | | | | |
| T. frauenfeldii (Grun.)Grun. | | | 21 | .9 | | | | |
| T. longissima Cl. and Grun. | | | | | | | | |
| Trachysphenia Petit | | | | | | | | |
| T. acuminata Perag. | | | | | | | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| Amphora Ehr. | | | | | | | | |
| A. angusta v. ventricosa (Greg.)Cl. | | | | | | | | |
| A. calumetica (Thom. and Wolle)M.Perag. | | | | | | | | |
| A. acutiuscula Kutz. | | | | | | | | |
| A. ovalis (Kutz.)Kutz. | 11 | .5 | 21 | .9 | 45 | 1.9 | 25 | 1.0 |
| A. perpusilla Grun. | | | | | | | | |
| A. proteoides Hust. | | | | | | | | |
| Cymbella Ag. | | | | | | | | |
| C. affinis Kutz. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: | 14 | | 14 | | 15 | | 15 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 1110 | | 1710 | | 1120 | | 1725 | |
| Tide: | Flood | | Ebb | | Flood | | Ebb | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Gomphonemaceae | | | | | | | | |
| *Gomphonema* Ehr. | | | | | | | | |
| *G. tripunctatum v. elongata* (Perag. and Herib.)Patr. | | | | | | | | |
| Entomoneidaceae | | | | | | | | |
| *Entomoneis* Ehr. | | | | | | | | |
| *E. alata* (Ehr.)Ehr. | | | | | | | | |
| *Plagiotropis* Pfitz. | | | | | | | | |
| *P. lepidoptera* (Cl.)Reim. | | | | | | | | |
| Naviculaceae | | | | | | | | |
| *Anomoneis* Pfitz. | | | | | | | | |
| *A. sp. #1* | | | | | | | | |
| *Caloneis* Cl. | | | | | | | | |
| *C. oregonica* (Ehr.)Patr. | | | | | | | | |
| *Diploneis* Ehr. | | | | | | | | |
| *D. bombus* Ehr. | 11 | 0.5 | 21 | 0.9 | | | 13 | 0.5 |
| *D. didyma* (Ehr.)Ehr. | | | 31 | 1.4 | | | | |
| *D. elliptica* (Kutz.)Cl. | | | 10 | .5 | | | | |
| *D. gruendleri* (A.S.)Cl. | | | 10 | .5 | | | 13 | .5 |
| *D. interrupta* (Kutz.)Cl. | | | | | | | | |
| *D. ovalis v. oblongella* (Naeg.)Cl. | | | | | | | | |
| *D. puella* (Schum.)Cl. | | | | | | | | |
| *Donkinia* Ralfs | | | | | | | | |
| *D. recta* Grun. | | | | | | | | |
| *Frustulia* Rabh. | | | | | | | | |
| *F. interposita* (Lewis)Cl. | | | | | | | | |
| *Gyrosigma* Hass. | | | | | | | | |
| *G. exilis* (Grun.)Reim. | | | | | | | | |
| *G. eximium* (Thwaites)Boyer | | | | | | | | |
| *Mastogloia* Thwaites | | | | | | | | |
| *M. apiculata* W.Sm. | | | | | | | | |
| *M. minutissma* Voigt | | | | | | | | |
| *M. pumila v. papuarum* Chol. | | | | | | | | |
| *Navicula* Bory | | | | | | | | |
| *N. ammophila* Grun. | | | | | 23 | 0.9 | | |
| *N. anglica v. subsalsa* (Grun.)Cl. | | | | | | | | |
| *N. capitata* Ehr. | | | | | | | | |
| *N. cyrptocephala* Kutz. | | | 31 | 1.4 | | | 50 | 1.9 |
| *N. formenterae* Cl. | | | | | | | | |
| *N. gregaria* Donk. | | | | | | | | |
| *N. hummi* Hust. | | | | | | | | |
| *N. ilopangoensis* Hust. | | | | | | | | |
| *N. lanceolata* (Ag.)Kutz. | | | | | | | | |
| *N. litoricola* Grev. | | | | | | | | |
| *N. lyra* Ehr. | | | | | | | | |
| *N. marina* Ralfs | | | | | | | | |
| *N. menisculus* Schum. | | | | | | | | |
| *N. microcephala* Grun. | | | | | | | | |
| *N. minima* Grun. | | | | | | | | |
| *N. minuscula* Grun. | | | | | | | | |
| *N. muralis* Grun. | | | | | | | 50 | 1.9 |
| *N. mutica* Kutz. | | | 21 | .9 | | | | |
| *N. mutica v. cohnii* (Hilse)Grun. | | | | | | | | |
| *N. mutica f. undulata* (Hilse)Grun. | | | | | | | | |
| *N. notha* Wall. | | | 21 | .9 | 11 | .5 | | |
| *N. pelliculosa* Hilse | | | | | | | 25 | 1.0 |
| *N. pupula v. mutata* (Krasske)Hust. | | | | | | | | |
| *N. pygmaea* Kutz. | | | | | | | | |
| *N. radiosa v. tenella* (Breb.)Cl. | | | | | | | | |
| *N. scopulorum* Breb. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: | 14 | | 14 | | 15 | | 15 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 1110 | | 1710 | | 1120 | | 1725 | |
| Tide: | Flood | | Ebb | | Flood | | Ebb | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Naviculaceae--Continued | | | | | | | | |
| Navicula Bory--Continued | | | | | | | | |
| N. sovereignae Hust. | | | | | | | | |
| N. tenelloides Hust. | 22 | 1.0 | | | 23 | 0.9 | | |
| N. tripuctata (O.Mull.)Bory | | | | | | | | |
| N. yarrensis Grun. | | | | | | | | |
| N. spp. | 55 | 2.4 | 21 | 0.9 | 113 | 4.7 | 50 | 1.9 |
| Pinnularia Ehr. | | | | | | | | |
| P. bogotensis (Grun.)Cl. | | | | | | | | |
| P. quadratacea v. fluminensis (Grun.)Cl. | | | | | | | | |
| P. subcapitata Greg. | | | | | | | | |
| Pleurosigma W.Sm. | | | | | | | | |
| P. angulatum (Quek.)W.Sm. | | | | | | | | |
| P. aestuarii (Breb.)W.Sm. | | | | | | | | |
| P. delicatulum W.Sm. | | | | | 23 | .9 | | |
| P. hamuliferum Brun. | | | | | | | | |
| P. naviculaceum Breb. | | | | | | | | |
| P. salinarum (Grun.)Grun. | | | | | | | | |
| P. speciosum W.Sm. | | | | | | | | |
| Scoliopleura Grun. | | | | | | | | |
| S. peisonis Grun. | | | | | | | | |
| Stauroneis Ehr. | | | | | | | | |
| S. amphioxys Greg. | | | | | | | | |
| Trachyneis Cl. | | | | | | | | |
| T. aspere (Ehr.)Cl. | | | | | | | | |
| Surirellalles | | | | | | | | |
| Surirellaceae | | | | | | | | |
| Camplodiscus Ehr. | | | | | | | | |
| C. birostratus Deby. | | | | | | | | |
| Surirella Turpin | | | | | | | | |
| S. gemma Ehr. | | | | | | | | |
| S. ovata Kutz. | | | | | | | | |
| Unknown taxa | | | | | | | | |
| Unknown #8 | | | | | | | | |
| Totals, in valves per milliliter | 2,247 | 100.0 | 2,284 | 100.0 | 2,402 | 100.0 | 2,633 | 100.0 |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Taxa | Site location number: 16 Time: 1135 Tide: Flood Standing stock | Percent of total | 16 1735 Ebb Standing stock | Percent of total | 17 1145 Flood Standing stock | Percent of total | 17 1750 Ebb Standing stock | Percent of total |
|---|---|---|---|---|---|---|---|---|
| Bacillariophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| Achnanthes Borg | | | | | | | | |
| A. baldjickii subsp. lorenziana | | | | | | | | |
| A. cuvirostrum Grun. | | | | | | | | |
| A. hauckiana Grun. | 54 | 1.9 | 92 | 1.9 | 93 | 2.2 | | |
| A. lanceolata v. dubia Grun. | | | | | | | | |
| A. linearis (W.Sm.)Grun. | | | | | | | | |
| A. minutissima Kutz. | | | 37 | .8 | 37 | .9 | | |
| A. temperei M. Perag. | | | | | 56 | 1.3 | | |
| Cocconeis Ehr. | | | | | | | | |
| C. costata Greg. | | | | | | | | |
| C. diminuta Pant. | | | | | | | | |
| C. disculus (Schum.)Cl. | | | 37 | .8 | | | | |
| C. distans Greg. | | | | | | | | |
| C. scutellum Ehr. | | | | | | | | |
| Bacillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| Bacillaria Gmel. | | | | | | | | |
| B. paradoxa Gmel. | | | | | | | | |
| Cylindrotheca Rabh. | | | | | | | | |
| C. closterium (Ehr.)Reim. and Lew. | | | | | | | | |
| Hantzschia Grun. | | | | | | | | |
| H. amphioxys v. minor Perag. and Perag. | | | | | | | | |
| Nitzschia Hass. | | | | | | | | |
| N. amphibia Grun. | 54 | 1.9 | 55 | 1.2 | 75 | 1.8 | 127 | 2.2 |
| N. brittoni Hag. | | | | | 37 | .9 | | |
| N. clausii Hantz. | | | | | | | | |
| N. communis Rabh. | | | | | | | | |
| N. compressa (Bail.)Boyer | 27 | 1.0 | | | 56 | 1.3 | | |
| N. constricta (Kutz.)Ralfs | | | 55 | 1.2 | 37 | .9 | | |
| N. dissipata (Kutz.)Grun. | | | 37 | .8 | 37 | .9 | | |
| N. fasciculata (Grun.)Grun. | | | | | 56 | 1.3 | | |
| N. filiformis (W.Sm.)V.H. | | | | | 149 | 3.5 | 102 | 1.7 |
| N. fonticola Grun. | | | | | 112 | 2.6 | | |
| N. frustulum (Kutz.)Grun. | | | | | | | | |
| N. granulata Grun. | 54 | 1.9 | 18 | .4 | 75 | 1.8 | 51 | .9 |
| N. hungarica Grun. | | | | | | | | |
| N. longissima (Breb.)Grun. | 27 | 1.0 | | | 37 | .9 | 25 | .4 |
| N. lorenziana v. subtilis Grun. | | | | | | | | |
| N. microcephala Grun. | | | | | | | | |
| N. navicularis (Breb.)Grun. | | | | | | | | |
| N. obtusa W.Sm. | | | | | | | | |
| N. obtusa v. scalpelliformis Grun. | | | | | | | | |
| N. palea (Kutz.)W.Sm. | 446 | 16.0 | 735 | 15.6 | 747 | 17.5 | 1,398 | 23.8 |
| N. panduriformis Greg. | 54 | 1.9 | 147 | 3.1 | 37 | .9 | 51 | .9 |
| N. parvula W.Sm. | | | | | | | | |
| N. romana Grun. | | | | | | | | |
| N. scolaris (Ehr.)W.Sm. | | | | | | | | |
| N. sigma (Kutz.)W.Sm. | | | | | 37 | .9 | | |
| N. stagsorum (Rabh.)Grun. | | | | | | | | |
| N. sublinearis Hust. | | | | | | | | |
| N. thermalis v. minor Hilse | | | | | 37 | .9 | | |
| N. triblionella Hantz. | | | | | | | | |
| Epithemiales | | | | | | | | |
| Epithemiaceae | | | | | | | | |
| Rhopalodea O.Mull. | | | | | | | | |
| R. muscula (Kutz.)O.Mull. | | | | | | | | |
| R. muscula v. constricta (Breb.) Perag. and Perag. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 16 / 1135 / Flood | | 16 / 1735 / Ebb | | 17 / 1145 / Flood | | 17 / 1750 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Eupodiscales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| Biddulphia Gray | | | | | | | | |
| B. aurita (Lyng.)Breb. and Godey | | | | | | | | |
| B. granulata Roper | | | | | | | | |
| B. pulchella Gray | | | | | | | | |
| Eucampia Ehr. | | | | | | | | |
| E. sp.#1 | | | | | | | | |
| Eunotogramma Weisse | | | | | | | | |
| E. laeva Grun. | 14 | 0.5 | | | | | | |
| E. marinum (W.Sm.)Perag. | | | 37 | 0.8 | 149 | 3.5 | | |
| Streptotheca Shrub. | | | | | | | | |
| S. thamensis Shrub. | | | | | | | | |
| Terpsinoe Ehr. | | | | | | | | |
| T. musica Ehr. | | | | | | | | |
| Triceratium Ehr. | | | | | | | | |
| T. alternans Bail. | | | | | | | | |
| T. favus Ehr. | | | | | | | | |
| T. reticulum Ehr. | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| Actinoptychus Ehr. and V.H. | | | | | | | | |
| A. undulatus (Bail.)Ralfs | | | | | | | | |
| Actinocyclus Ehr. | | | | | | | | |
| A. ehrenbergii v. tenella (Breb.)Hust. | 27 | 1.0 | 37 | .8 | 37 | .9 | | |
| A. sp. #1 | | | | | | | | |
| Chaetoceros Ehr. | | | | | | | | |
| C. sp. #1 | | | | | | | | |
| Coscinodiscus Ehr. | | | | | | | | |
| C. centralis Ehr. | 27 | 1.0 | | | | | | |
| C. curvatulus Grun. | | | | | | | | |
| C. excentricus Ehr. | | | 18 | .4 | | | 25 | 0.4 |
| C. lineatus Ehr. | 27 | 1.0 | 55 | 1.2 | 19 | .4 | | |
| C. marginatus Ehr. | | | 37 | .8 | | | | |
| C. nitidus Greg. | 81 | 2.9 | 73 | 1.6 | 112 | 2.6 | 280 | 4.8 |
| C. radiatus Ehr. | 81 | 2.9 | 37 | .8 | 37 | .9 | | |
| Cyclotella Kutz. | | | | | | | | |
| C. atomus Hust. | | | | | | | 51 | .9 |
| C. meneghiniana Kutz. | | | 18 | .4 | | | | |
| C. striata (Kutz.)Grun. | 27 | 1.0 | 55 | 1.2 | 149 | 3.5 | 102 | 1.7 |
| Cylindropyxis Hendey | | | | | | | | |
| C. tremulas Hendey | | | | | | | 76 | 1.3 |
| Hemidiscus Wall. | | | | | | | | |
| H. weissflogi (Grun.)Hust. | | | 37 | .8 | | | | |
| Melosira Ag. | | | | | | | | |
| M. granulata (Ehr.)Ralfs | | | | | | | | |
| M. nummuloides (Dillw.)Ag. | | | | | | | 51 | .9 |
| M. sulcata (Ehr.)Kutz. | | | 37 | .8 | | | | |
| Podosira Ehr. | | | | | | | | |
| P. stelliger (Bail.)Mann | | | | | | | | |
| Skeletonema Grev. | | | | | | | | |
| S. costatum (Grev.)Cl. | | | | | | | | |
| Stephanopyxis (Ehr.) | | | | | | | | |
| S. turris (Grev.)Ralfs | 27 | 1.0 | | | | | | |
| Thalassiosira Cl. | | | | | | | | |
| T. decipiens (Grun.)Jorg. | | | | | | | | |
| T. fluviatilis Hust. | | | | | | | | |
| Eupodiscaceae | | | | | | | | |
| Auliscus Ehr. | | | | | | | | |
| A. caelatus Bail. | | | | | | | | |
| Eupodiscus Ehr. | | | | | | | | |
| E. radiatus Bail. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 16 / 1135 / Flood | | 16 / 1735 / Ebb | | 17 / 1145 / Flood | | 17 / 1750 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Rhizosoleniaceae | | | | | | | | |
| *Rhizosolenia* Bright. | | | | | | | | |
| *R. delicatule* Cl. | 81 | 2.9 | 73 | 1.6 | 75 | 1.8 | 102 | 1.7 |
| *R. fragilissima* Berg. | 297 | 10.7 | 257 | 5.4 | 149 | 3.5 | 457 | 7.8 |
| *R. setigera* Bright | 81 | 2.9 | | | 37 | .9 | | |
| *R. stolterfothii* H. Perag. | | | 110 | 2.3 | | | | |
| *R. sp. #1* | | | | | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| *Asterionella* Hass. | | | | | | | | |
| *A. japonica* Cl. | | | | | | | | |
| *Camplosira* Grun. | | | | | | | | |
| *C. cymbelliformis* (A.S.)Grun. | | | | | | | | |
| *Cymatosira* Grun. | | | | | | | | |
| *C. belgice* Grun. | 486 | 17.5 | 1,176 | 24.9 | 1,009 | 23.7 | 1,398 | 23.8 |
| *C. lorensiena* Grun. | | | 37 | .8 | 19 | .4 | 76 | 1.3 |
| *Dimeregramma* Ralfs | | | | | | | | |
| *D. maculatum* (Cl.)Freng. | | | | | | | | |
| *Eunotia* Ehr. | | | | | | | | |
| *E. suecica* Cl. | | | | | | | | |
| *Fragilaria* Lyng. | | | | | | | | |
| *F. construens v. venter* (Ehr.)Grun. | | | 165 | 3.5 | 149 | 3.5 | 78 | 1.3 |
| *F. lapponica* Grun. | | | | | | | | |
| *Glyphodesmis* Grev. | | | | | | | | |
| *G. distans* (Greg.)Grun. | | | | | | | | |
| *Opephora* Petit | | | | | | | | |
| *O. martyi* Herib. | | | | | | | | |
| *O. pacifica* (Grun.)Petit | 14 | .5 | 37 | .8 | | | | |
| *O. swartzii* (Grun.)Petit | | | | | | | | |
| *Plegiogramma* Grev. | | | | | | | | |
| *P. pulchellum v. pygmaea* (Grev.) Perag. and Perag. | | | | | | | | |
| *P. staurophorum* (Greg.)Heib. | | | | | | | | |
| *P. vanheurckii* Grun. | | | | | | | | |
| *P. wellichianum* Grev. | | | | | | | | |
| *Rhaphoneis* Ehr. | | | | | | | | |
| *R. amphiceros* (Ehr.)Ehr. | | | | | | | | |
| *R. grossenpunctate* Hust. | | | | | | | | |
| *R. surirella* (Ehr.)Grun. | 14 | .5 | 18 | .4 | 74 | 1.8 | 51 | .9 |
| *R. surirella v. eustralis* Petit | | | | | | | | |
| *R. sp. #1* | | | | | | | | |
| *Synedra* Ehr. | | | | | | | | |
| *S. amphicephale v. austriaca* (Grun.)Hust. | | | | | | | | |
| *S. fasiculata v. truncata* (Grev.)Patr. | | | | | | | | |
| *Tabellaria* Ehr. | | | | | | | | |
| *T. fenestrata* (Lyng.)Kutz. | | | | | | | | |
| *Thallasiothrix* Cl. and Grun. | | | | | | | | |
| *T. frauenfeldii* (Grun.)Grun. | | | | | | | | |
| *T. longissima* Cl. and Grun. | | | | | 75 | 1.8 | | |
| *Trachysphenia* Petit | | | | | | | | |
| *T. acuminata* Perag. | | | | | | | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| *Amphora* Ehr. | | | | | | | | |
| *A. angusta v. ventricosa* (Greg.)Cl. | | | | | | | | |
| *A. calumetica* (Thom. and Wolle)M.Perag. | | | | | | | | |
| *A. acutiuscula* Kutz. | 14 | .5 | | | 37 | .9 | | |
| *A. ovalis* (Kutz.)Kutz. | 54 | 1.9 | 37 | .8 | | | 229 | 3.9 |
| *A. perpusilla* Grun. | | | | | | | | |
| *A. proteoides* Hust. | | | | | | | | |
| *Cymbella* Ag. | | | | | | | | |
| *C. affinis* Kutz. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Taxa | Site location number: 16 Time: 1135 Tide: Flood | | 16 1735 Ebb | | 17 1145 Flood | | 17 1750 Ebb | |
|---|---|---|---|---|---|---|---|---|
| | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Gomphonemaceae | | | | | | | | |
| Gomphonema Ehr. | | | | | | | | |
| G. tripunctatum v. elongata (Perag. and Herib.)Patr. | | | | | | | | |
| Entomoneidaceae | | | | | | | | |
| Entomoneis Ehr. | | | | | | | | |
| E. alata (Ehr.)Ehr. | | | | | | | | |
| Plagiotropis Pfitz. | | | | | | | | |
| P. lepidoptera (Cl.)Reim. | | | | | | | | |
| Naviculaceae | | | | | | | | |
| Anomoneis Pfitz. | | | | | | | | |
| A. sp. #1 | | | | | | | | |
| Caloneis Cl. | | | | | | | | |
| C. oregonica (Ehr.)Patr. | | | | | | | | |
| Diploneis Ehr. | | | | | | | | |
| D. bombus Ehr. | 14 | 0.5 | 18 | 0.4 | | | 51 | 0.9 |
| D. didyma (Ehr.)Ehr. | | | 92 | 1.9 | | | 51 | .9 |
| D. elliptica (Kutz.)Cl. | | | | | | | | |
| D. gruendleri (A.S.)Cl. | | | | | | | 51 | .9 |
| D. interrupta (Kutz.)Cl. | | | | | | | 51 | .9 |
| D. ovalis v. oblongella (Naeg.)Cl. | | | | | | | | |
| D. puella (Schum.)Cl. | | | | | | | | |
| Donkinia Ralfs | | | | | | | | |
| D. recta Grun. | | | | | | | | |
| Frustulia Rabh. | | | | | | | | |
| F. interposita (Lewis)Cl. | | | | | | | 51 | .9 |
| Gyrosigma Hass. | | | | | | | | |
| G. exilis (Grun.)Reim. | | | | | | | | |
| G. eximium (Thwaites)Boyer | | | | | | | | |
| Mastogloia Thwaites | | | | | | | | |
| M. apiculata W.Sm. | | | | | | | | |
| M. minutissma Voigt | | | 18 | .4 | | | | |
| M. pumila v. papuarum Chol. | | | | | | | | |
| Navicula Bory | | | | | | | | |
| N. ammophila Grun. | | | | | | | | |
| N. anglica v. subsalsa (Grun.)Cl. | | | | | | | | |
| N. capitata Ehr. | | | | | | | | |
| N. cyrptocephala Kutz. | | | 184 | 3.9 | 93 | 2.2 | 51 | .9 |
| N. formenterae Cl. | | | | | | | | |
| N. gregaria Donk. | | | | | | | | |
| N. hummi Hust. | | | | | | | | |
| N. ilopangoensis Hust. | | | | | | | | |
| N. lanceolata (Ag.)Kutz. | | | | | | | | |
| N. litoricola Grev. | | | | | | | | |
| N. lyra Ehr. | | | | | | | | |
| N. marina Ralfs | | | | | | | | |
| N. menisculus Schum. | | | | | | | | |
| N. microcephala Grun. | | | | | | | | |
| N. minima Grun. | | | | | | | | |
| N. minuscula Grun. | 54 | 1.9 | | | | | | |
| N. muralis Grun. | | | 37 | .8 | | | | |
| N. mutica Kutz. | 54 | 1.9 | 18 | .4 | | | 102 | 1.7 |
| N. mutica v. cohnii (Hilse)Grun. | | | | | | | | |
| N. mutica f. undulata (Hilse)Grun. | | | | | | | | |
| N. notha Wall. | | | | | | | | |
| N. pelliculosa Hilse | | | 73 | 1.6 | | | | |
| N. pupula v. mutata (Krasske)Hust. | | | | | | | | |
| N. pygmaea Kutz. | | | | | | | | |
| N. radiosa v. tenella (Breb.)Cl. | 27 | 1.0 | 37 | .8 | | | | |
| N. scopulorum Breb. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: | 16 | | 16 | | 17 | | 17 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 1135 | | 1735 | | 1145 | | 1750 | |
| Tide: | Flood | | Ebb | | Flood | | Ebb | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Naviculaceae--Continued | | | | | | | | |
| Navicula Bory--Continued | | | | | | | | |
| N. sovereignae Hust. | | | | | | | | |
| N. tenelloides Hust. | 41 | 1.5 | 37 | 0.8 | | | | |
| N. tripunctata (O.Mull.)Bory | | | | | | | | |
| N. yarrensis Grun. | | | | | | | | |
| N. spp. | 27 | 1.0 | 129 | 2.7 | 37 | 0.9 | 178 | 3.0 |
| Pinnularia Ehr. | | | | | | | | |
| P. bogotensis (Grun.)Cl. | | | | | | | | |
| P. quadratacea v. fluminensis (Grun.)Cl. | | | | | | | | |
| P. subcapitata Greg. | | | | | | | | |
| Pleurosigma W.Sm. | | | | | | | | |
| P. angulatum (Quek.)W.Sm. | | | | | | | | |
| P. aestuarii (Breb.)W.Sm. | | | | | | | | |
| P. delicatulum W.Sm. | | | | | | | | |
| P. hamuliferum Brun. | | | | | | | | |
| P. naviculaceum Breb. | | | | | | | | |
| P. salinarum (Grun.)Grun. | | | | | | | | |
| P. speciosum W.Sm. | | | | | | | | |
| Scoliopleura Grun. | | | | | | | | |
| S. peisonis Grun. | | | | | | | | |
| Stauroneis Ehr. | | | | | | | | |
| S. amphioxys Greg. | | | | | | | | |
| Trachyneis Cl. | | | | | | | | |
| T. aspera (Ehr.)Cl. | | | | | | | | |
| Surirellalles | | | | | | | | |
| Surirellaceae | | | | | | | | |
| Campylodiscus Ehr. | | | | | | | | |
| C. birostratus Deby. | | | | | | | | |
| Surirella Turpin | | | | | | | | |
| S. gemma Ehr. | | | | | | | | |
| S. ovata Kutz. | | | | | | | | |
| Unknown taxa | | | | | | | | |
| Unknown #8 | | | | | | | | |
| Totals, in valves per milliliter | 2,781 | 100.0 | 4,721 | 100.0 | 4,259 | 100.0 | 5,870 | 100.0 |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: | 18 | | 18 | | 22 | | 22 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 1042 | | 1700 | | 1150 | | 1745 | |
| Tide: | Flood | | Ebb | | Flood | | Ebb | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacilleriophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| Achnanthes Borg | | | | | | | | |
| A. baldjickii subsp. lorenziana | | | | | | | | |
| A. cuvirostrum Grun. | | | | | | | | |
| A. hauckiana Grun. | 39 | 1.1 | 83 | 3.7 | 26 | 0.9 | | |
| A. lanceolata v. dubia Grun. | | | | | | | | |
| A. linearis (W.Sm.)Grun. | | | | | | | | |
| A. minutissima Kutz. | | | | | | | | |
| A. temperei M. Perag. | | | | | | | | |
| Cocconeis Ehr. | | | | | | | | |
| C. costata Greg. | | | | | | | | |
| C. diminuta Pant. | 13 | .4 | 31 | 1.4 | | | | |
| C. disculus (Schum.)Cl. | | | | | | | | |
| C. distans Greg. | | | | | | | | |
| C. scutellum Ehr. | | | | | | | | |
| Bacillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| Bacillaria Gmel. | | | | | | | | |
| B. paradoxa Gmel. | | | | | | | | |
| Cylindrotheca Rabh. | | | | | | | | |
| C. closterium (Ehr.)Reim. and Lew. | | | | | | | | |
| Hantzschia Grun. | | | | | | | | |
| H. amphioxys v. minor Perag. and Perag. | | | | | | | | |
| Nitzschia Hass. | | | | | | | | |
| N. amphibia Grun. | | | 31 | 1.4 | | | 31 | 0.5 |
| N. brittoni Hag. | | | | | | | | |
| N. clausii Hantz. | | | | | | | | |
| N. communis Rabh. | | | | | | | | |
| N. compressa (Bail.)Boyer | 26 | .7 | | | 26 | .9 | | |
| N. constricta (Kutz.)Ralfs | | | | | 26 | .9 | | |
| N. dissipata (Kutz.)Grun. | | | | | | | | |
| N. fasciculata (Grun.)Grun. | | | | | | | | |
| N. filiformis (W.Sm.)V.H. | | | | | 26 | .9 | | |
| N. fonticola Grun. | 52 | 1.5 | | | | | | |
| N. frustulum (Kutz.)Grun. | | | | | | | | |
| N. granulata Grun. | 13 | .4 | 10 | .5 | 129 | 4.7 | 372 | 5.7 |
| N. hungarica Grun. | | | | | | | | |
| N. longissima (Breb.)Grun. | 78 | 2.2 | 31 | 1.4 | | | | |
| N. lorenziana v. subtilis Grun. | | | | | | | | |
| N. microcephala Grun. | | | | | | | | |
| N. navicularis (Breb.)Grun. | | | | | | | | |
| N. obtusa W.Sm. | | | | | | | | |
| N. obtusa v. scalpelliformis Grun. | | | | | | | | |
| N. palea (Kutz.)W.Sm. | 444 | 12.5 | 289 | 13.0 | 386 | 14.1 | 527 | 8.1 |
| N. panduriformis Greg. | 26 | .7 | 21 | .9 | 13 | .5 | 124 | 1.9 |
| N. parvula W.Sm. | | | | | | | | |
| N. romana Grun. | | | | | | | | |
| N. scolaris (Ehr.)W.Sm. | | | | | | | | |
| N. sigma (Kutz.)W.Sm. | | | 21 | .9 | | | | |
| N. stagsorum (Rabh.)Grun. | | | | | | | | |
| N. sublinearis Hust. | | | | | | | | |
| N. thermalis v. minor Hilse | | | | | | | | |
| N. triblionella Hantz. | | | | | | | | |
| Epithemiales | | | | | | | | |
| Epithemiaceae | | | | | | | | |
| Rhopalodea O.Mull. | | | | | | | | |
| R. muscula (Kutz.)O.Mull. | | | | | | | | |
| R. muscula v. constricta (Breb.) Perag. and Perag. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Taxa | Site location number: 18<br>Time: 1042<br>Tide: Flood | | 18<br>1700<br>Ebb | | 22<br>1150<br>Flood | | 22<br>1745<br>Ebb | |
|---|---|---|---|---|---|---|---|---|
| | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Eupodiscales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| Biddulphia Gray | | | | | | | | |
| B. aurita (Lyng.)Breb. and Godey | | | | | | | | |
| B. granulata Roper | 26 | 0.7 | | | | | | |
| B. pulchella Gray | | | | | | | | |
| Eucampia Ehr. | | | | | | | | |
| E. sp.#1 | 104 | 2.9 | | | | | | |
| Eunotogramma Weisse | | | | | | | | |
| E. laeva Grun. | | | | | | | | |
| E. marinum (W.Sm.)Perag. | | | | | | | 124 | 1.9 |
| Streptotheca Shrub. | | | | | | | | |
| S. thamensis Shrub. | 26 | .7 | | | | | | |
| Terpsinoe Ehr. | | | | | | | | |
| T. musica Ehr. | | | | | | | | |
| Triceratium Ehr. | | | | | | | | |
| T. alternans Bail. | | | | | | | | |
| T. favus Ehr. | | | | | | | | |
| T. reticulum Ehr. | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| Actinoptychus Ehr. and V.H. | | | | | | | | |
| A. undulatus (Bail.)Ralfs | 13 | .4 | | | | | | |
| Actinocyclus Ehr. | | | | | | | | |
| A. ehrenbergii v. tenella (Breb.)Hust. | 39 | 1.1 | | | 51 | 1.9 | | |
| A. sp. #1 | | | | | | | | |
| Chaetoceros Ehr. | | | | | | | | |
| C. sp. #1 | 26 | .7 | | | | | | |
| Coscinodiscus Ehr. | | | | | | | | |
| C. centralis Ehr. | | | | | | | | |
| C. curvatulus Grun. | | | | | 26 | .9 | | |
| C. excentricus Ehr. | 13 | .4 | | | 26 | .9 | | |
| C. lineatus Ehr. | 26 | .7 | | | | | | |
| C. marginatus Ehr. | 26 | .7 | | | | | | |
| C. nitidus Greg. | 170 | 4.8 | 134 | 6.0 | 167 | 6.1 | 589 | 9.1 |
| C. radiatus Ehr. | 13 | .4 | | | 51 | 1.9 | 155 | 2.4 |
| Cyclotella Kutz. | | | | | | | | |
| C. atomus Hust. | 26 | .7 | 21 | .9 | 26 | .9 | 93 | 1.4 |
| C. meneghiniana Kutz. | 39 | 1.1 | | | | | 31 | .5 |
| C. striata (Kutz.)Grun. | 39 | 1.1 | 83 | 3.7 | | | 372 | 5.7 |
| Cylindropyxis Hendey | | | | | | | | |
| C. tremulas Hendey | | | | | | | | |
| Hemidiscus Wall. | | | | | | | | |
| H. weissflogi (Grun.)Hust. | 26 | .7 | 21 | .9 | | | | |
| Melosira Ag. | | | | | | | | |
| M. granulata (Ehr.)Ralfs | | | | | | | | |
| M. nummuloides (Dillw.)Ag. | | | | | | | | |
| M. sulcata (Ehr.)Kutz. | 26 | .7 | | | 129 | 4.7 | 62 | 1.0 |
| Podosira Ehr. | | | | | | | | |
| P. stelliger (Bail.)Mann | | | | | | | | |
| Skeletonema Grev. | | | | | | | | |
| S. costatum (Grev.)Cl. | 104 | 2.9 | | | | | 186 | 2.9 |
| Stephanopyxis (Ehr.) | | | | | | | | |
| S. turris (Grev.)Ralfs | | | | | | | | |
| Thalassiosira Cl. | | | | | | | | |
| T. decipiens (Grun.)Jorg. | | | | | | | | |
| T. fluviatilis Hust. | | | | | | | | |
| Eupodiscaceae | | | | | | | | |
| Auliscus Ehr. | | | | | | | | |
| A. caelatus Bail. | | | | | | | | |
| Eupodiscus Ehr. | | | | | | | | |
| E. radiatus Bail. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 18 / 1042 / Flood | | 18 / 1700 / Ebb | | 22 / 1150 / Flood | | 22 / 1745 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Rhizosoleniaceae | | | | | | | | |
| *Rhizosolenia* Bright. | | | | | | | | |
| *R. delicatula* Cl. | | | | | | | 124 | 1.9 |
| *R. fragilissima* Berg. | 261 | 7.3 | 196 | 8.8 | 283 | 10.3 | | |
| *R. setigera* Bright | | | 72 | 3.3 | | | | |
| *R. stolterfothii* H. Perag. | | | | | | | | |
| *R. sp. #1* | | | | | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| *Asterionella* Hass. | | | | | | | | |
| *A. japonica* Cl. | | | | | | | | |
| *Camplosira* Grun. | | | | | | | | |
| *C. cymbelliformis* (A.S.)Grun. | | | | | | | | |
| *Cymatosira* Grun. | | | | | | | | |
| *C. belgica* Grun. | 757 | 21.2 | 485 | 21.9 | 591 | 21.6 | 1,766 | 27.3 |
| *C. lorensiana* Grun. | 13 | .4 | 10 | .5 | | | | |
| *Dimeregramma* Ralfs | | | | | | | | |
| *D. maculatum* (Cl.)Freng. | | | | | | | | |
| *Eunotia* Ehr. | | | | | | | | |
| *E. suecica* Cl. | | | | | | | | |
| *Fragilaria* Lyng. | | | | | | | | |
| *F. construens v. venter* (Ehr.)Grun. | 157 | 4.4 | 52 | 2.3 | 26 | .9 | 124 | 1.9 |
| *F. lapponica* Grun. | | | | | | | | |
| *Glyphodesmis* Grev. | | | | | | | | |
| *G. distans* (Greg.)Grun. | | | | | | | | |
| *Opephora* Petit | | | | | | | | |
| *O. martyi* Herib. | | | | | | | | |
| *O. pacifica* (Grun.)Petit | | | | | | | | |
| *O. swartzii* (Grun.)Petit | | | 10 | .5 | | | | |
| *Plagiogramma* Grev. | | | | | | | | |
| *P. pulchellum v. pygmaea* (Grev.) Perag. and Perag. | | | | | | | | |
| *P. staurophorum* (Greg.)Heib. | | | | | | | | |
| *P. vanheurckii* Grun. | | | | | | | | |
| *P. wallichianum* Grev. | | | | | | | | |
| *Rhaphoneis* Ehr. | | | | | | | | |
| *R. amphiceros* (Ehr.)Ehr. | | | | | | | | |
| *R. grossenpunctata* Hust. | | | | | | | | |
| *R. surirella* (Ehr.)Grun. | | | | | | | 62 | 1.0 |
| *R. surirella v. australis* Petit | | | | | | | | |
| *R. sp. #1* | | | | | | | | |
| *Synedra* Ehr. | | | | | | | | |
| *S. amphicephala v. austriaca* (Grun.)Hust. | | | | | | | | |
| *S. fasiculata v. truncata* (Grev.)Patr. | | | | | | | | |
| *Tabellaria* Ehr. | | | | | | | | |
| *T. fenestrata* (Lyng.)Kutz. | | | | | | | | |
| *Thallasiothrix* Cl. and Grun. | | | | | | | | |
| *T. frauenfeldii* (Grun.)Grun. | | | | | | | | |
| *T. longissima* Cl. and Grun. | | | | | | | | |
| *Trachysphenia* Petit | | | | | | | | |
| *T. acuminata* Perag. | | | | | | | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| *Amphora* Ehr. | | | | | | | | |
| *A. angusta v. ventricosa* (Greg.)Cl. | | | | | | | | |
| *A. calumetica* (Thom. and Wolle)M.Perag. | | | | | | | | |
| *A. acutiuscula* Kutz. | | | | | | | | |
| *A. ovalis* (Kutz.)Kutz. | 26 | .7 | | | 26 | .9 | | |
| *A. perpusilla* Grun. | | | | | | | | |
| *A. proteoides* Hust. | | | | | | | | |
| *Cymbella* Ag. | | | | | | | | |
| *C. affinis* Kutz. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: | 18 | | 18 | | 22 | | 22 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 1042 | | 1700 | | 1150 | | 1745 | |
| Tide: | Flood | | Ebb | | Flood | | Ebb | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Gomphonemaceae | | | | | | | | |
| *Gomphonema* Ehr. | | | | | | | | |
| *G. tripunctatum* v. *elongata* (Perag. and Herib.)Patr. | | | | | | | | |
| Entomoneidaceae | | | | | | | | |
| *Entomoneis* Ehr. | | | | | | | | |
| *E. alata* (Ehr.)Ehr. | | | | | | | | |
| *Plagiotropis* Pfitz. | | | | | | | | |
| *P. lepidoptera* (Cl.)Reim. | | | | | | | | |
| Naviculaceae | | | | | | | | |
| *Anomoneis* Pfitz. | | | | | | | | |
| *A. sp. #1* | | | | | | | | |
| *Caloneis* Cl. | | | | | | | | |
| *C. oregonica* (Ehr.)Patr. | | | | | | | | |
| *Diploneis* Ehr. | | | | | | | | |
| *D. bombus* Ehr. | | | | | | | 62 | 1.0 |
| *D. didyma* (Ehr.)Ehr. | | | | | | | | |
| *D. elliptica* (Kutz.)Cl. | | | | | | | | |
| *D. gruendleri* (A.S.)Cl. | | | | | | | 62 | 1.0 |
| *D. interrupta* (Kutz.)Cl. | | | | | | | | |
| *D. ovalis* v. *oblongella* (Naeg.)Cl. | | | | | | | | |
| *D. puella* (Schum.)Cl. | 13 | 0.4 | | | | | | |
| *Donkinia* Ralfs | | | | | | | | |
| *D. recta* Grun. | | | | | | | | |
| *Frustulia* Rabh. | | | | | | | | |
| *F. interposita* (Lewis)Cl. | | | | | | | | |
| *Gyrosigma* Hass. | | | | | | | | |
| *G. exilis* (Grun.)Reim. | | | | | | | | |
| *G. eximium* (Thwaites)Boyer | | | | | | | | |
| *Mastogloia* Thwaites | | | | | | | | |
| *M. apiculata* W.Sm. | | | | | | | | |
| *M. minutissma* Voigt | | | | | | | | |
| *M. pumila* v. *papuarum* Chol. | | | | | | | | |
| *Navicula* Bory | | | | | | | | |
| *N. ammophila* Grun. | 13 | .4 | | | | | | |
| *N. anglica* v. *subsalsa* (Grun.)Cl. | | | | | | | | |
| *N. capitata* Ehr. | | | | | | | | |
| *N. cyrptocephala* Kutz. | | | | | 51 | 1.9 | 93 | 1.4 |
| *N. formenterae* Cl. | | | | | | | | |
| *N. gregaria* Donk. | | | | | | | | |
| *N. hummi* Hust. | | | | | | | | |
| *N. ilopangoensis* Hust. | | | | | | | | |
| *N. lanceolata* (Ag.)Kutz. | | | | | | | | |
| *N. litoricola* Grev. | | | | | | | | |
| *N. lyra* Ehr. | | | | | | | | |
| *N. marina* Ralfs | | | | | | | | |
| *N. menisculus* Schum. | | | | | | | | |
| *N. microcephala* Grun. | | | | | | | | |
| *N. minima* Grun. | | | | | | | | |
| *N. minuscula* Grun. | 13 | .4 | | | | | | |
| *N. muralis* Grun. | 26 | .7 | | | 13 | .5 | | |
| *N. mutica* Kutz. | | | 21 | .9 | 26 | .9 | | |
| *N. mutica* v. *cohnii* (Hilse)Grun. | | | | | | | | |
| *N. mutica* f. *undulata* (Hilse)Grun. | | | | | | | | |
| *N. notha* Wall. | | | | | | | | |
| *N. pelliculosa* Hilse | | | | | | | 62 | 1.0 |
| *N. pupula* v. *mutata* (Krasske)Hust. | | | | | | | | |
| *N. pygmaea* Kutz. | | | | | | | | |
| *N. radiosa* v. *tenella* (Breb.)Cl. | | | | | | | | |
| *N. scopulorum* Breb. | | | | | | | | |

TABLE 13.—*Plankton diatom species standing stock at selected sites in Kings Bay and vicinity during flood and ebb slack tides, July 8, 1982*—Continued

| Site location number: / Time: / Tide: | 18 / 1042 / Flood | | 18 / 1700 / Ebb | | 22 / 1150 / Flood | | 22 / 1745 / Ebb | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Naviculaceae--Continued | | | | | | | | |
| Navicula Bory--Continued | | | | | | | | |
| N. sovereignae Hust. | | | | | | | | |
| N. tenelloides Hust. | 26 | 0.7 | 52 | 2.3 | | | 186 | 2.9 |
| N. tripuctata (O.Mull.)Bory | | | | | | | | |
| N. yarrensis Grun. | | | | | 26 | 0.9 | | |
| N. spp. | 52 | 1.5 | 103 | 4.7 | 26 | .9 | 186 | 2.9 |
| Pinnularia Ehr. | | | | | | | | |
| P. bogotensis (Grun.)Cl. | | | | | | | | |
| P. quadratacea v. fluminensis (Grun.)Cl. | | | | | | | | |
| P. subcapitata Greg. | | | | | | | | |
| Pleurosigma W.Sm. | | | | | | | | |
| P. angulatum (Quek.)W.Sm. | | | | | | | | |
| P. aestuarii (Breb.)W.Sm. | | | | | | | | |
| P. delicatulum W.Sm. | | | | | | | 62 | 1.0 |
| P. hamuliferum Brun. | | | | | | | | |
| P. naviculaceum Breb. | | | | | | | | |
| P. salinarum (Grun.)Grun. | | | | | | | 62 | 1.0 |
| P. speciosum W.Sm. | | | | | | | | |
| Scoliopleura Grun. | | | | | | | | |
| S. peisonis Grun. | | | | | | | | |
| Stauroneis Ehr. | | | | | | | | |
| S. amphioxys Greg. | | | | | | | | |
| Trachyneis Cl. | | | | | | | | |
| T. aspera (Ehr.)Cl. | | | | | | | | |
| Surirellalles | | | | | | | | |
| Surirellaceae | | | | | | | | |
| Camplodiscus Ehr. | | | | | | | | |
| C. birostratus Deby. | | | | | | | | |
| Surirella Turpin | | | | | | | | |
| S. gemma Ehr. | | | | | | | | |
| S. ovata Kutz. | | | | | | | | |
| Unknown taxa | | | | | | | | |
| Unknown #8 | | | | | | | | |
| Totals, in valves per milliliter | 3,564 | 100.0 | 2,219 | 100.0 | 2,737 | 100.0 | 6,475 | 100.0 |

TABLE 14.—*Particle-size distribution of bottom material at selected sites in Kings Bay and vicinity, July 1982*

[<, less than]

| Bottom material site number | Location within the cross section | Percentage by weight of bottom material in each particle-size class | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Coarse gravel 16.0–8.0 mm | Medium gravel 8.0–4.0 mm | Fine gravel 4.0–2.0 mm | Very fine gravel 2.0–1.0 mm | Coarse sand 1.0–0.5 mm | Medium sand 0.5–0.25 mm | Fine sand 0.25–0.125 mm | Very fine sand 0.125–0.062 mm | Coarse silt 0.062–0.031 mm | Medium silt 0.031–0.016 mm | Fine silt 0.016–0.008 mm | Very fine silt 0.008–0.004 mm | Clay <0.004 mm |
| BM 2 | Seaward left | 0.8 | 2.6 | 3.4 | 5.1 | 12.0 | 56.4 | 18.8 | 0.9 | — | — | — | — | — |
| BM 2 | Center | 9.9 | 11.8 | 13.9 | 16.0 | 27.4 | 5.9 | 13.9 | .8 | 0.4 | — | — | — | — |
| BM 2 | Seaward right | 2.1 | 8.5 | 14.9 | 31.9 | 36.2 | 4.3 | 2.1 | — | — | — | — | — | — |
| BM 7 | Seaward left | — | — | 1.0 | 4.8 | 6.1 | 8.7 | 52.6 | 17.3 | 1.7 | 1.1 | 0.2 | 0.3 | 6.2 |
| BM 8 | Center | — | — | .9 | 2.7 | 6.4 | 50.9 | 38.2 | .9 | — | — | — | — | — |
| BM 8 | Seaward right | — | — | — | .2 | .3 | 2.3 | 72.9 | 13.5 | 1.0 | .3 | 1.0 | .6 | 7.9 |
| BM 10 | Seaward left | — | 1.0 | 7.2 | 16.2 | 27.9 | 36.0 | 11.7 | — | — | — | — | — | — |
| BM 10 | Center | — | — | — | — | 1.9 | 11.1 | 72.2 | 14.8 | — | — | — | — | — |
| BM 10 | Seaward right | — | — | — | .4 | 2.5 | 11.4 | 69.4 | 7.8 | 8.5 | — | — | — | — |
| BM 13 | Composite | — | — | — | — | — | — | 2.1 | 6.3 | 3.1 | 3.3 | 6.0 | 6.4 | 72.8 |
| BM 14 | Composite | — | — | — | — | — | — | 2.2 | 2.2 | 1.8 | 5.8 | 3.9 | 4.1 | 80.0 |
| BM 15 | Composite | — | — | — | — | .1 | 1.6 | 82.7 | 8.7 | 6.9 | — | — | — | — |
| BM 16 | Seaward left | .6 | 2.8 | .7 | 1.4 | 7.6 | 31.0 | 52.4 | 2.8 | .7 | — | — | — | — |
| BM 17 | Center | — | — | .1 | .2 | .1 | .1 | 53.1 | 27.8 | 1.6 | .6 | 1.0 | 1.9 | 13.5 |
| BM 18 | Seaward left | — | 1.3 | 2.5 | 6.2 | 21.2 | 48.8 | 20.0 | — | — | — | — | — | — |
| BM 18 | Center | — | — | 1.0 | 3.1 | 13.4 | 48.5 | 33.0 | 1.0 | — | — | — | — | — |
| BM 18 | Seaward right | — | — | 1.1 | 1.1 | 2.2 | 18.9 | 75.6 | 1.1 | — | — | — | — | — |
| BM 19 | Center | — | — | — | — | .1 | .3 | 67.3 | 27.2 | 5.1 | — | — | — | — |
| BM 22 | Composite | 1.0 | 2.4 | 3.6 | 3.6 | 4.8 | 42.9 | 38.1 | 3.6 | — | — | — | — | — |
| BM 24 | Center | — | — | — | — | 1.0 | 5.0 | 83.0 | 11.0 | — | — | — | — | — |

TABLE 15.—*Carbon concentrations in bottom material from selected sites in Kings Bay and vicinity, July 1982*

| | Inorganic carbon | | Organic carbon | | Total carbon |
|---|---|---|---|---|---|
| Bottom material site number | Grams per kilogram | Percent of total carbon | Grams per kilogram | Percent of total carbon | Grams per kilogram |
| BM 2 | 1.8 | 40 | 2.7 | 60 | 4.5 |
| BM 7 | .1 | 1.5 | 6.5 | 98.5 | 6.6 |
| BM 8 | .5 | 38.5 | .8 | 61.5 | 1.3 |
| BM 10 | .3 | 21.4 | 1.1 | 78.6 | 1.4 |
| BM 13 | 2.3 | 5.7 | 38.0 | 94.3 | 40.3 |
| BM 14 | 2.6 | 5.8 | 42.0 | 94.2 | 44.6 |
| BM 15 | .9 | 11.4 | 7.0 | 88.6 | 7.9 |
| BM 16 | 1.0 | 50.0 | 1.0 | 50.0 | 2.0 |
| BM 17 | .1 | .8 | 12.0 | 99.2 | 12.1 |
| BM 18 | .3 | 25.0 | .9 | 75.0 | 1.2 |
| BM 19 | .1 | 2.7 | 3.6 | 97.3 | 3.7 |
| BM 22 | .1 | 11.1 | .8 | 88.9 | .9 |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*

[Diatom remains in valves per cubic centimeter]

| Site location number: Time: | 1 1120 | | 2 1200 | | 4 0930 | | 5C 1000 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacillariophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| Achnanthes Borg | | | | | | | | |
| A. baldjickii subsp. lorenziana | | | | | | | | |
| A. cuvirostrum Grun. | | | | | | | | |
| A. hauckiana Grun. | | | 32,010 | 0.5 | 47,279 | 0.7 | 21,167 | 1.0 |
| A. lanceolata v. dubia Grun. | | | | | | | | |
| A. linearis (W.Sm.)Grun. | | | | | | | | |
| A. minutissima Kutz. | | | | | | | | |
| A. temperei M. Perag. | 9,308 | 1.0 | 32,010 | .5 | | | | |
| Cocconeis Ehr. | | | | | | | | |
| C. costata Greg. | | | | | | | | |
| C. diminuta Pant. | 12,411 | 1.4 | 64,019 | 1.0 | 70,919 | 1.0 | 21,167 | 1.0 |
| C. disculus (Schum.)Cl. | | | | | 23,640 | .3 | | |
| C. distans Greg. | | | | | | | | |
| C. scutellum Ehr. | | | | | | | | |
| Bacillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| Bacillaria Gmel. | | | | | | | | |
| B. paradoxa Gmel. | | | | | | | | |
| Cylindrotheca Rabh. | | | | | | | | |
| C. closterium (Ehr.)Reim. and Lew. | | | | | | | | |
| Hantzschia Grun. | | | | | | | | |
| H. amphioxys v. minor Perag. and Perag. | | | | | | | | |
| Nitzschia Hass. | | | | | | | | |
| N. amphibia Grun. | | | 16,005 | .3 | | | 14,112 | .7 |
| N. brittoni Hag. | | | | | | | | |
| N. clausii Hantz. | | | | | | | | |
| N. communis Rabh. | 6,205 | .7 | | | 47,279 | .7 | | |
| N. compressa (Bail.)Boyer | | | 32,010 | .5 | | | | |
| N. constricta (Kutz.)Ralfs | 3,103 | .3 | | | 118,199 | 1.7 | | |
| N. dissipata (Kutz.)Grun. | | | | | | | | |
| N. fasciculata (Grun.)Grun. | | | | | | | 14,112 | .7 |
| N. filiformis (W.Sm.)V.H. | | | | | | | | |
| N. fonticola Grun. | 6,205 | .7 | 48,014 | .7 | 260,037 | 3.7 | 35,279 | 1.7 |
| N. frustulum (Kutz.)Grun. | | | | | | | 7,056 | .3 |
| N. granulata Grun. | | | 64,019 | 1.0 | 23,640 | .3 | 21,167 | 1.0 |
| N. hungarica Grun. | | | | | | | | |
| N. longissima (Breb.)Grun. | | | | | | | | |
| N. lorenziana v. subtilis Grun. | | | | | | | 14,112 | .7 |
| N. microcephala Grun. | | | | | | | | |
| N. navicularis (Breb.)Grun. | | | | | | | | |
| N. obtusa W.Sm. | | | | | | | | |
| N. obtusa v. scalpelliformis Grun. | | | | | | | | |
| N. palea (Kutz.)W.Sm. | 9,308 | 1.0 | | | | | 14,112 | .7 |
| N. panduriformis Greg. | 24,822 | 2.7 | | | 94,559 | 1.3 | 35,279 | 1.7 |
| N. parvula W.Sm. | | | 32,010 | .5 | | | | |
| N. romana Grun. | | | | | | | 21,167 | 1.0 |
| N. scolaris (Ehr.)W.Sm. | | | 32,010 | .5 | | | | |
| N. sigma (Kutz.)W.Sm. | | | | | | | | |
| N. stagsorum (Rabh.)Grun. | | | | | | | | |
| N. sublinearis Hust. | | | | | | | | |
| N. thermalis v. minor Hilse | | | | | | | | |
| N. triblionella Hantz. | | | | | | | | |
| Epithemiales | | | | | | | | |
| Epithemiaceae | | | | | | | | |
| Rhopalodea O.Mull. | | | | | | | | |
| R. muscula (Kutz.)O.Mull. | | | | | | | | |
| R. muscula v. constricta (Breb.) Perag. and Perag. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: / Time: | 1 / 1120 | | 2 / 1200 | | 4 / 0930 | | 5C / 1000 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Eupodiscales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| Biddulphia Gray | | | | | | | | |
| B. aurita (Lyng.)Breb. and Godey | 15,514 | 1.7 | 48,014 | 0.7 | 23,640 | 0.3 | | |
| B. granulata Roper | 3,103 | .3 | | | | | | |
| B. pulchella Gray | | | | | | | | |
| Eucampia Ehr. | | | | | | | | |
| E. sp.#1 | | | | | | | | |
| Eunotogramma Weisse | | | | | | | | |
| E. laeva Grun. | 3,103 | .3 | 32,010 | .5 | 118,199 | 1.7 | 7,056 | 0.3 |
| E. marinum (W.Sm.)Perag. | | | 16,005 | .3 | | | 21,167 | 1.0 |
| Streptotheca Shrub. | | | | | | | | |
| S. thamensis Shrub. | | | | | | | | |
| Terpsinoe Ehr. | | | | | | | | |
| T. musica Ehr. | | | | | | | | |
| Triceratium Ehr. | | | | | | | | |
| T. alternans Bail. | | | | | | | 7,056 | .3 |
| T. favus Ehr. | 3,103 | .3 | | | | | | |
| T. reticulum Ehr. | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| Actinoptychus Ehr. and V.H. | | | | | | | | |
| A. undulatus (Bail.)Ralfs | 3,103 | .3 | 80,024 | 1.2 | | | | |
| Actinocyclus Ehr. | | | | | | | | |
| A. ehrenbergii v. tenella (Breb.)Hust. | | | | | 23,640 | .3 | 7,056 | .3 |
| A. sp. #1 | | | | | | | | |
| Chaetoceros Ehr. | | | | | | | | |
| C. sp. #1 | 6,205 | .7 | | | | | | |
| Coscinodiscus Ehr. | | | | | | | | |
| C. centralis Ehr. | | | | | | | | |
| C. curvatulus Grun. | | | | | | | | |
| C. excentricus Ehr. | 27,924 | 3.1 | 224,067 | 3.5 | 236,397 | 3.3 | 7,056 | .3 |
| C. lineatus Ehr. | 15,514 | 1.7 | 176,053 | 2.7 | 70,919 | 1.0 | | |
| C. marginatus Ehr. | 9,308 | 1.0 | | | 118,199 | 1.7 | | |
| C. nitidus Greg. | 37,233 | 4.1 | 272,081 | 4.2 | 94,559 | 1.3 | 70,558 | 3.4 |
| C. radiatus Ehr. | 6,205 | .7 | 128,038 | 2.0 | 70,919 | 1.0 | 42,335 | 2.1 |
| Cyclotella Kutz. | | | | | | | | |
| C. atomus Hust. | 3,103 | .3 | | | | | 28,223 | 1.4 |
| C. meneghiniana Kutz. | | | 16,005 | .3 | 94,559 | 1.3 | 14,112 | .7 |
| C. striata (Kutz.)Grun. | 9,308 | 1.0 | 176,053 | 2.7 | 94,559 | 1.3 | 70,558 | 3.4 |
| Cylindropyxis Hendey | | | | | | | | |
| C. tremulas Hendey | | | | | 94,559 | 1.3 | | |
| Hemidiscus Wall. | | | | | | | | |
| H. weissflogi (Grun.)Hust. | | | | | | | | |
| Melosira Ag. | | | | | | | | |
| M. granulata (Ehr.)Ralfs | | | | | | | | |
| M. nummuloides (Dillw.)Ag. | | | | | | | | |
| M. sulcata (Ehr.)Kutz. | 27,924 | 3.1 | 224,067 | 3.5 | 330,956 | 4.7 | 84,670 | 4.1 |
| Podosira Ehr. | | | | | | | | |
| P. stelliger (Bail.)Mann | | | | | 47,279 | .7 | | |
| Skeletonema Grev. | | | | | | | | |
| S. costatum (Grev.)Cl. | 3,103 | .3 | | | | | | |
| Stephanopyxis (Ehr.) | | | | | | | | |
| S. turris (Grev.)Ralfs | | | | | 47,279 | .7 | | |
| Thalassiosira Cl. | | | | | | | | |
| T. decipiens (Grun.)Jorg. | | | | | | | | |
| T. fluviatilis Hust. | | | | | | | | |
| Eupodiscaceae | | | | | | | | |
| Auliscus Ehr. | | | | | | | | |
| A. caelatus Bail. | | | | | | | | |
| Eupodiscus Ehr. | | | | | | | | |
| E. radiatus Bail. | 6,205 | .7 | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Taxa | Site location number: 1 Time: 1120 Standing stock | Percent of total | 2 1200 Standing stock | Percent of total | 4 0930 Standing stock | Percent of total | 5C 1000 Standing stock | Percent of total |
|---|---|---|---|---|---|---|---|---|
| Rhizosoleniaceae | | | | | | | | |
| Rhizosolenia Bright. | | | | | | | | |
| R. delicatula Cl. | | | | | | | | |
| R. fragilissima Berg. | | | | | | | | |
| R. setigera Bright | | | | | | | | |
| R. stolterfothii H. Perag. | | | | | | | | |
| R. sp. #1 | | | | | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| Asterionella Hass. | | | | | | | | |
| A. japonica Cl. | | | | | | | | |
| Camplosira Grun. | | | | | | | | |
| C. cymbelliformis (A.S.)Grun. | | | 32,010 | 0.5 | 94,559 | 1.3 | | |
| Cymatosira Grun. | | | | | | | | |
| C. belgica Grun. | 508,845 | 55.8 | 3,184,950 | 49.7 | 3,380,480 | 47.8 | 881,975 | 43.1 |
| C. lorensiana Grun. | 12,411 | 1.4 | 96,029 | 1.5 | 70,919 | 1.0 | 28,223 | 1.4 |
| Dimeregramma Ralfs | | | | | | | | |
| D. maculatum (Cl.)Freng. | | | | | | | | |
| Eunotia Ehr. | | | | | | | | |
| E. suecica Cl. | | | | | | | | |
| Fragilaria Lyng. | | | | | | | | |
| F. construens v. venter (Ehr.)Grun. | | | | | | | 42,335 | 2.1 |
| F. lapponica Grun. | | | | | | | | |
| Glyphodesmis Grev. | | | | | | | | |
| G. distans (Greg.)Grun. | | | | | 141,838 | 2.0 | | |
| Opephora Petit | | | | | | | | |
| O. martyi Herib. | | | | | | | | |
| O. pacifica (Grun.)Petit | 6,205 | .7 | | | | | | |
| O. swartzii (Grun.)Petit | | | | | | | | |
| Plagiogramma Grev. | | | | | | | | |
| P. pulchellum v. pygmaea (Grev.) Perag. and Perag. | | | | | | | | |
| P. staurophorum (Greg.)Heib. | | | | | | | | |
| P. vanheurckii Grun. | | | | | | | | |
| P. wallichianum Grev. | | | | | | | | |
| Rhaphoneis Ehr. | | | | | | | | |
| R. amphiceros (Ehr.)Ehr. | 3,103 | .3 | 16,005 | .3 | | | 28,223 | 1.4 |
| R. grossenpunctata Hust. | | | | | | | | |
| R. surirella (Ehr.)Grun. | 49,643 | 5.4 | 224,067 | 3.5 | 354,596 | 5.0 | 49,391 | 2.4 |
| R. surirella v. australis Petit | | | | | | | | |
| R. sp. #1 | | | | | | | | |
| Synedra Ehr. | | | | | | | | |
| S. amphicephala v. austriaca (Grun.)Hust. | 3,103 | .3 | | | | | | |
| S. fasiculata v. truncata (Grev.)Patr. | | | | | | | | |
| Tabellaria Ehr. | | | | | | | | |
| T. fenestrata (Lyng.)Kutz. | | | | | | | | |
| Thallasiothrix Cl. and Grun. | | | | | | | | |
| T. frauenfeldii (Grun.)Grun. | | | | | | | | |
| T. longissima Cl. and Grun. | | | | | | | | |
| Trachysphenia Petit | | | | | | | | |
| T. acuminata Perag. | | | | | | | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| Amphora Ehr. | | | | | | | | |
| A. angusta v. ventricosa (Greg.)Cl. | | | | | | | | |
| A. calumetica (Thom. and Wolle)M.Perag. | | | | | | | | |
| A. acutiuscula Kutz. | | | 48,014 | .7 | | | | |
| A. ovalis (Kutz.)Kutz. | | | | | | | | |
| A. perpusilla Grun. | | | | | | | | |
| A. proteoides Hust. | | | | | | | | |
| Cymbella Ag. | | | | | | | | |
| C. affinis Kutz. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: Time: | 1 1120 | | 2 1200 | | 4 0930 | | 5C 1000 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| **Gomphonemaceae** | | | | | | | | |
| *Gomphonema* Ehr. | | | | | | | | |
| *G. tripunctatum v. elongata* (Perag. and Herib.) Patr. | | | | | | | | |
| **Entomoneidaceae** | | | | | | | | |
| *Entomoneis* Ehr. | | | | | | | | |
| *E. alata* (Ehr.)Ehr. | | | | | | | | |
| *Plagiotropis* Pfitz. | | | | | | | | |
| *P. lepidoptera* (Cl.)Reim. | | | | | | | | |
| **Naviculaceae** | | | | | | | | |
| *Anomoneis* Pfitz. | | | | | | | | |
| *A. sp. #1* | | | | | | | | |
| *Caloneis* Cl. | | | | | | | | |
| *C. oregonica* (Ehr.)Patr. | | | | | | | | |
| *Diploneis* Ehr. | | | | | | | | |
| *D. bombus* Ehr. | 6,205 | 0.7 | 112,033 | 1.7 | 23,640 | 0.3 | 14,112 | 0.7 |
| *D. didyma* (Ehr.)Ehr. | 6,205 | .7 | 160,048 | 2.5 | 23,640 | .3 | 28,223 | 1.4 |
| *D. elliptica* (Kutz.)Cl. | | | | | | | | |
| *D. gruendleri* (A.S.)Cl. | 6,205 | .7 | 16,005 | .3 | | | | |
| *D. interrupta* (Kutz.)Cl. | | | | | | | | |
| *D. ovalis v. oblongella* (Naeg.)Cl. | | | | | | | | |
| *D. puella* (Schum.)Cl. | 3,103 | .3 | 16,005 | .3 | | | 7,056 | .3 |
| *Donkinia* Ralfs | | | | | | | | |
| *D. recta* Grun. | | | | | | | | |
| *Frustulia* Rabh. | | | | | | | | |
| *F. interposita* (Lewis)Cl. | | | | | | | | |
| *Gyrosigma* Hass. | | | | | | | | |
| *G. exilis* (Grun.)Reim. | | | 32,010 | .5 | | | | |
| *G. eximium* (Thwaites)Boyer | | | | | | | | |
| *Mastogloia* Thwaites | | | | | | | | |
| *M. apiculata* W.Sm. | | | | | | | | |
| *M. minutissma* Voigt | | | | | | | | |
| *M. pumila v. papuarum* Chol. | | | | | | | | |
| *Navicula* Bory | | | | | | | | |
| *N. ammophila* Grun. | 12,411 | 1.4 | 32,010 | .5 | | | 28,223 | 1.4 |
| *N. anglica v. subsalsa* (Grun.)Cl. | | | | | | | 14,112 | .7 |
| *N. capitata* Ehr. | | | | | | | 7,056 | .3 |
| *N. cyrptocephala* Kutz. | | | 16,005 | .3 | 47,279 | .7 | | |
| *N. formenterae* Cl. | | | | | | | | |
| *N. gregaria* Donk. | | | | | 70,919 | 1.0 | | |
| *N. hummi* Hust. | | | | | | | | |
| *N. ilopangoensis* Hust. | | | | | | | | |
| *N. lanceolata* (Ag.)Kutz. | | | | | | | | |
| *N. litoricola* Grev. | | | | | | | | |
| *N. lyra* Ehr. | | | | | | | | |
| *N. marina* Ralfs | | | | | | | | |
| *N. menisculus* Schum. | | | | | | | | |
| *N. microcephala* Grun. | | | | | | | | |
| *N. minima* Grun. | | | | | | | | |
| *N. minuscula* Grun. | | | | | 70,919 | 1.0 | 14,112 | .7 |
| *N. muralis* Grun. | | | | | | | | |
| *N. mutica* Kutz. | | | 32,010 | .5 | | | 21,167 | 1.0 |
| *N. mutica v. cohnii* (Hilse)Grun. | | | | | | | | |
| *N. mutica f. undulata* (Hilse)Grun. | | | | | | | | |
| *N. notha* Wall. | 6,205 | .7 | 64,019 | 1.0 | 23,640 | .3 | 7,056 | .3 |
| *N. pelliculosa* Hilse | | | | | | | | |
| *N. pupula v. mutata* (Krasske)Hust. | | | | | | | | |
| *N. pygmaea* Kutz. | | | | | | | | |
| *N. radiosa v. tenella* (Breb.)Cl. | | | | | | | | |
| *N. scopulorum* Breb. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Taxa | Site location number: Time: | 1 1120 | | 2 1200 | | 4 0930 | | 5C 1000 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Naviculaceae—Continued | | | | | | | | | |
| Navicula Bory—Continued | | | | | | | | | |
| N. sovereignae Hust. | | | | | | | | | |
| N. tenelloides Hust. | | | | 48,014 | 0.7 | | | 35,279 | 1.7 |
| N. tripuctata (O.Mull.)Bory | | | | | | | | | |
| N. yarrensis Grun. | | | | | | | | | |
| N. spp. | | | | | | | | | |
| Pinnularia Ehr. | | | | | | | | | |
| P. bogotensis (Grun.)Cl. | | | | | | | | | |
| P. quadratacea v. fluminensis (Grun.)Cl. | | | | | | | | | |
| P. subcapitata Greg. | | | | | | | | | |
| Pleurosigma W.Sm. | | | | | | | | | |
| P. angulatum (Quek.)W.Sm. | | 3,103 | 0.3 | | | | | | |
| P. aestuarii (Breb.)W.Sm. | | | | | | | | | |
| P. delicatulum W.Sm. | | | | | | | | | |
| P. hamuliferum Brun. | | | | | | | | | |
| P. naviculaceum Breb. | | | | | | | | | |
| P. salinarum (Grun.)Grun. | | | | | | | | | |
| P. speciosum W.Sm. | | | | | | | | | |
| Scoliopleura Grun. | | | | | | | | | |
| S. peisonis Grun. | | | | | | | | | |
| Stauroneis Ehr. | | | | | | | | | |
| S. amphioxys Greg. | | | | | | | | | |
| Trachyneis Cl. | | | | | | | | | |
| T. aspera (Ehr.)Cl. | | | | | | | | | |
| Surirellalles | | | | | | | | | |
| Surirellaceae | | | | | | | | | |
| Camplodiscus Ehr. | | | | | | | | | |
| C. birostratus Deby. | | | | | | | | | |
| Surirella Turpin | | | | | | | | | |
| S. gemma Ehr. | | | | | | | | | |
| S. ovata Kutz. | | | | | | | | | |
| Unknown taxa | | | | | | | | | |
| Unknown #8 | | | | | | | | | |
| Totals, in valves per cubic centimeter | | 912,197 | 100.0 | 6,401,950 | 100.0 | 7,068,300 | 100.0 | 2,046,190 | 100.0 |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Taxa | Site location number: 6, Time: 1020 | | 7, 1100 | | 8, 1158 | | 10, 1230 | |
|---|---|---|---|---|---|---|---|---|
| | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacilleriophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| Achnanthes Borg | | | | | | | | |
| A. baldjickii subsp. lorenziana | | | | | | | | |
| A. cuvirostrum Grun. | | | | | | | | |
| A. hauckiana Grun. | | | | | 54,528 | 1.0 | 180,193 | 4.2 |
| A. lanceolata v. dubia Grun. | | | | | | | 13,861 | .3 |
| A. linearis (W.Sm.)Grun. | | | | | 27,264 | .5 | | |
| A. minutissima Kutz. | | | | | | | | |
| A. temperei M. Perag. | | | 58,907 | 0.5 | | | | |
| Cocconeis Ehr. | | | | | | | | |
| C. costata Greg. | | | | | 13,632 | .3 | | |
| C. diminute Pant. | 21,971 | 0.7 | 117,815 | 1.0 | 109,055 | 2.0 | 69,305 | 1.6 |
| C. disculus (Schum.)Cl. | | | | | 54,528 | 1.0 | | |
| C. distans Greg. | | | | | | | | |
| C. scutellum Ehr. | | | | | | | | |
| Becillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| Bacillaria Gmel. | | | | | | | | |
| B. paradoxa Gmel. | | | | | | | | |
| Cylindrotheca Rabh. | | | | | | | | |
| C. closterium (Ehr.)Reim. and Lew. | | | | | | | | |
| Hantzschia Grun. | | | | | | | | |
| H. amphioxys v. minor Perag. and Perag. | | | | | | | | |
| Nitzschia Hass. | | | | | | | | |
| N. amphibia Grun. | 21,971 | .7 | 29,454 | .3 | | | | |
| N. brittoni Hag. | | | | | 27,264 | .5 | | |
| N. clausii Hantz. | | | | | | | | |
| N. communis Rabh. | | | | | | | | |
| N. compressa (Bail.)Boyer | | | 29,454 | .3 | | | | |
| N. constricta (Kutz.)Ralfs | 54,928 | 1.7 | | | 168,160 | 1.3 | 27,722 | .6 |
| N. dissipata (Kutz.)Grun. | | | | | 13,632 | .3 | | |
| N. fasciculata (Grun.)Grun. | 21,971 | .7 | | | | | | |
| N. filiformis (W.Sm.)V.H. | | | | | | | | |
| N. fonticola Grun. | | | 117,815 | 1.0 | 13,632 | .3 | 69,305 | 1.6 |
| N. frustulum (Kutz.)Grun. | | | | | | | | |
| N. granulata Grun. | 21,971 | .7 | 58,907 | .5 | 27,264 | .5 | 97,027 | 2.3 |
| N. hungarica Grun. | | | | | | | | |
| N. longissima (Breb.)Grun. | | | | | | | | |
| N. lorenziana v. subtilis Grun. | 10,986 | .3 | | | | | | |
| N. microcephala Grun. | | | | | | | | |
| N. navicularis (Breb.)Grun. | | | | | | | | |
| N. obtusa W.Sm. | | | | | | | | |
| N. obtusa v. scalpelliformis Grun. | | | | | | | | |
| N. palea (Kutz.)W.Sm. | 21,971 | .7 | | | | | 55,444 | 1.3 |
| N. panduriformis Greg. | | | | | 40,896 | .8 | 41,583 | 1.0 |
| N. parvula W.Sm. | | | 58,907 | .5 | | | | |
| N. romana Grun. | | | | | | | 27,722 | .6 |
| N. scolaris (Ehr.)W.Sm. | | | | | | | | |
| N. sigma (Kutz.)W.Sm. | | | | | | | | |
| N. stagsorum (Rabh.)Grun. | | | | | | | | |
| N. sublinearis Hust. | | | | | | | | |
| N. thermalis v. minor Hilse | | | | | | | | |
| N. triblionella Hantz. | | | | | | | | |
| Epithemiales | | | | | | | | |
| Epithemiaceae | | | | | | | | |
| Rhopalodea O.Mull. | | | | | | | | |
| R. muscula (Kutz.)O.Mull. | | | | | | | | |
| R. muscula v. constricta (Breb.) Perag. and Perag. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Taxa | Site location number: 6, Time: 1020 Standing stock | Percent of total | Site 7, Time: 1100 Standing stock | Percent of total | Site 8, Time: 1158 Standing stock | Percent of total | Site 10, Time: 1230 Standing stock | Percent of total |
|---|---|---|---|---|---|---|---|---|
| Eupodiscales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| Biddulphia Gray | | | | | | | | |
| B. aurita (Lyng.)Breb. and Godey | 10,986 | 0.3 | | | | | | |
| B. granulate Roper | | | | | | | | |
| B. pulchella Gray | | | | | | | | |
| Eucampia Ehr. | | | | | | | | |
| E. sp.#1 | | | | | | | | |
| Eunotogremma Weisse | | | | | | | | |
| E. laeva Grun. | 21,971 | .7 | 29,454 | 0.3 | 149,951 | 2.8 | 83,166 | 1.9 |
| E. marinum (W.Sm.)Perag. | | | 147,269 | 1.3 | 27,264 | .5 | 27,722 | .6 |
| Streptotheca Shrub. | | | | | | | | |
| S. thamensis Shrub. | | | | | | | | |
| Terpsinoe Ehr. | | | | | | | | |
| T. musica Ehr. | | | | | | | | |
| Triceratium Ehr. | | | | | | | | |
| T. elternans Bail. | | | | | | | | |
| T. favus Ehr. | | | | | | | | |
| T. reticulum Ehr. | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| Actinoptychus Ehr. and V.H. | | | | | | | | |
| A. undulatus (Bail.)Ralfs | | | | | 13,632 | .3 | | |
| Actinocyclus Ehr. | | | | | | | | |
| A. ehrenbergii v. tenella (Breb.)Hust. | | | | | 13,632 | .3 | | |
| A. sp. #1 | | | | | | | | |
| Chaetoceros Ehr. | | | | | | | | |
| C. sp. #1 | | | | | | | | |
| Coscinodiscus Ehr. | | | | | | | | |
| C. centralis Ehr. | | | | | | | | |
| C. curvatulus Grun. | | | | | | | | |
| C. excentricus Ehr. | 65,913 | 2.0 | 294,537 | 2.5 | 40,896 | .8 | 138,610 | 3.2 |
| C. lineatus Ehr. | 32,957 | 1.0 | 618,528 | 5.3 | 54,528 | 1.0 | 55,444 | 1.3 |
| C. marginatus Ehr. | 10,986 | .3 | | | 13,632 | .3 | | |
| C. nitidus Greg. | 54,928 | 1.7 | 176,722 | 1.5 | 81,791 | 1.5 | 110,888 | 2.6 |
| C. radiatus Ehr. | 54,928 | 1.7 | 265,083 | 2.3 | 54,528 | 1.0 | 27,722 | .6 |
| Cyclotella Kutz. | | | | | | | | |
| C. atomus Hust. | | | | | | | | |
| C. meneghiniana Kutz. | 21,971 | .7 | 176,722 | 1.5 | 13,632 | .3 | | |
| C. strieta (Kutz.)Grun. | 76,899 | 2.4 | 323,991 | 2.8 | 163,583 | 3.1 | 83,166 | 1.9 |
| Cylindropyxis Hendey | | | | | | | | |
| C. tremulas Hendey | | | 117,815 | 1.0 | | | | |
| Hemidiscus Well. | | | | | | | | |
| H. weissflogi (Grun.)Hust. | | | | | | | | |
| Melosira Ag. | | | | | | | | |
| M. granulata (Ehr.)Ralfs | | | 58,907 | .5 | | | | |
| M. nummuloides (Dillw.)Ag. | | | | | | | | |
| M. sulcata (Ehr.)Kutz. | 54,928 | 1.7 | 382,898 | 3.3 | 204,479 | 3.8 | 83,166 | 1.9 |
| Podosira Ehr. | | | | | | | | |
| P. stelliger (Bail.)Mann | | | 29,454 | .3 | | | | |
| Skeletonema Grev. | | | | | | | | |
| S. costatum (Grev.)Cl. | | | 176,722 | 1.5 | | | | |
| Stephanopyxis (Ehr.) | | | | | | | | |
| S. turris (Grev.)Ralfs | | | | | | | | |
| Thalassiosira Cl. | | | | | | | | |
| T. decipiens (Grun.)Jorg. | | | | | | | | |
| T. fluviatilis Hust. | | | | | | | | |
| Eupodiscaceae | | | | | | | | |
| Auliscus Ehr. | | | | | | | | |
| A. caelatus Bail. | | | | | | | | |
| Eupodiscus Ehr. | | | | | | | | |
| E. radiatus Bail. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: / Time: | 6 | | 7 | | 8 | | 10 | |
|---|---|---|---|---|---|---|---|---|
| | 1020 | | 1100 | | 1158 | | 1230 | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Rhizosoleniaceae | | | | | | | | |
| Rhizosolenia Bright. | | | | | | | | |
| R. delicatula Cl. | | | | | | | | |
| R. fragilissima Berg. | | | | | | | | |
| R. setigera Bright | | | | | | | | |
| R. stolterfothii H. Perag. | | | | | | | | |
| R. sp. #1 | | | | | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| Asterionella Hass. | | | | | | | | |
| A. japonica Cl. | | | | | | | | |
| Camplosira Grun. | | | | | | | | |
| C. cymbelliformis (A.S.)Grun. | 10,986 | 0.3 | | | 13,632 | 0.3 | 27,722 | 0.6 |
| Cymatosira Grun. | | | | | | | | |
| C. belgica Grun. | 2,010,350 | 62.2 | 5,772,930 | 49.9 | 2,999,020 | 56.3 | 2,273,200 | 53.1 |
| C. lorensiana Grun. | 21,971 | .7 | 58,907 | .5 | 68,160 | 1.3 | 13,861 | .3 |
| Dimeregramma Ralfs | | | | | | | | |
| D. maculatum (Cl.)Freng. | | | | | | | | |
| Eunotia Ehr. | | | | | | | | |
| E. suecica Cl. | | | | | | | | |
| Fragilaria Lyng. | | | | | | | | |
| F. construens v. venter (Ehr.)Grun. | 32,957 | 1.0 | 353,445 | 3.1 | 40,896 | .8 | | |
| F. lapponica Grun. | | | | | | | | |
| Glyphodesmis Grev. | | | | | | | | |
| G. distans (Greg.)Grun. | | | 88,361 | .8 | 113,632 | .3 | | |
| Opephora Petit | | | | | | | | |
| O. martyi Herib. | | | | | | | | |
| O. pacifica (Grun.)Petit | | | | | 40,896 | .8 | 97,027 | 2.3 |
| O. swartzii (Grun.)Petit | | | | | | | | |
| Plagiogramma Grev. | | | | | | | | |
| P. pulchellum v. pygmaea (Grev.) Perag. and Perag. | | | | | | | | |
| P. staurophorum (Greg.)Heib. | | | | | | | 27,722 | .6 |
| P. vanheurckii Grun. | | | | | | | | |
| P. wallichianum Grev. | | | | | | | | |
| Rhaphoneis Ehr. | | | | | | | | |
| R. amphiceros (Ehr.)Ehr. | 54,928 | 1.7 | 206,176 | 1.8 | 68,160 | 1.3 | | |
| R. grossenpunctata Hust. | | | | | | | | |
| R. surirella (Ehr.)Grun. | 98,870 | 3.1 | 530,167 | 4.6 | 395,423 | 1.8 | 83,166 | 1.9 |
| R. surirella v. australis Petit | | | | | | | | |
| R. sp. #1 | | | | | | | | |
| Synedra Ehr. | | | | | | | | |
| S. amphicephala v. austriaca (Grun.)Hust. | | | | | | | | |
| S. fasiculata v. truncata (Grev.)Patr. | | | | | | | | |
| Tabellaria Ehr. | | | | | | | | |
| T. fenestrata (Lyng.)Kutz. | | | | | | | | |
| Thallasiothrix Cl. and Grun. | | | | | | | | |
| T. frauenfeldii (Grun.)Grun. | | | | | | | | |
| T. longissima Cl. and Grun. | | | | | | | | |
| Trachysphenia Petit | | | | | | | | |
| T. acuminata Perag. | | | | | | | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| Amphora Ehr. | | | | | | | | |
| A. angusta v. ventricosa (Greg.)Cl. | | | | | | | | |
| A. calumetica (Thom. and Wolle)M.Perag. | | | | | | | | |
| A. acutiuscula Kutz. | | | 29,454 | .3 | 13,632 | .3 | 27,722 | .6 |
| A. ovalis (Kutz.)Kutz. | | | | | 27,264 | .5 | 27,722 | .6 |
| A. perpusilla Grun. | 21,971 | .7 | | | | | | |
| A. proteoides Hust. | | | | | | | | |
| Cymbella Ag. | | | | | | | | |
| C. affinis Kutz. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Taxa | Site location number: 6, Time: 1020 Standing stock | Percent of total | Site 7, Time: 1100 Standing stock | Percent of total | Site 8, Time: 1158 Standing stock | Percent of total | Site 10, Time: 1230 Standing stock | Percent of total |
|---|---|---|---|---|---|---|---|---|
| Gomphonemaceae | | | | | | | | |
| Gomphonema Ehr. | | | | | | | | |
| G. tripunctatum v. elongata (Perag. and Herib.) Patr. | | | | | | | | |
| Entomoneidaceae | | | | | | | | |
| Entomoneis Ehr. | | | | | | | | |
| E. alata (Ehr.)Ehr. | | | | | | | | |
| Plagiotropis Pfitz. | | | | | | | | |
| P. lepidoptera (Cl.)Reim. | | | | | | | | |
| Naviculaceae | | | | | | | | |
| Anomoneis Pfitz. | | | | | | | | |
| A. sp. #1 | | | | | | | | |
| Caloneis Cl. | | | | | | | | |
| C. oregonica (Ehr.)Patr. | | | | | | | | |
| Diploneis Ehr. | | | | | | | | |
| D. bombus Ehr. | | | | | 68,160 | 1.3 | 27,722 | 0.6 |
| D. didyma (Ehr.)Ehr. | 87,884 | 2.7 | | | 95,423 | 1.8 | 41,583 | 1.0 |
| D. elliptica (Kutz.)Cl. | | | | | | | | |
| D. gruendleri (A.S.)Cl. | 10,986 | .3 | 58,907 | 0.5 | | | | |
| D. interrupta (Kutz.)Cl. | | | | | | | 13,861 | .3 |
| D. ovalis v. oblongella (Naeg.)Cl. | | | 29,454 | .3 | | | | |
| D. puella (Schum.)Cl. | | | 117,815 | 1.0 | | | | |
| Donkinia Ralfs | | | | | | | | |
| D. recta Grun. | | | | | | | | |
| Frustulia Rabh. | | | | | | | | |
| F. interposita (Lewis)Cl. | | | | | | | | |
| Gyrosigma Hass. | | | | | | | | |
| G. exilis (Grun.)Reim. | | | | | | | | |
| G. eximium (Thwaites)Boyer | | | | | | | | |
| Mastogloia Thwaites | | | | | | | | |
| M. apiculata W.Sm. | | | | | | | | |
| M. minutissma Voigt | | | | | | | | |
| M. pumila v. papuarum Chol. | | | | | | | | |
| Navicula Bory | | | | | | | | |
| N. ammophila Grun. | | | | | 13,632 | .3 | | |
| N. anglica v. subsalsa (Grun.)Cl. | | | | | | | | |
| N. capitata Ehr. | | | | | | | | |
| N. cyrptocephala Kutz. | 32,957 | 1.0 | 88,361 | .8 | 81,791 | 1.4 | 27,722 | .6 |
| N. formenterae Cl. | | | | | | | | |
| N. gregaria Donk. | | | | | | | | |
| N. hummi Hust. | | | | | | | | |
| N. ilopangoensis Hust. | | | | | | | | |
| N. lanceolata (Ag.)Kutz. | | | | | | | | |
| N. litoricola Grev. | | | | | | | 13,861 | .3 |
| N. lyra Ehr. | | | | | | | | |
| N. marina Ralfs | | | | | | | | |
| N. menisculus Schum. | | | | | | | 27,722 | .6 |
| N. microcephala Grun. | | | | | | | | |
| N. minima Grun. | | | | | | | | |
| N. minuscula Grun. | 21,971 | .7 | 29,454 | .3 | | | | |
| N. muralis Grun. | | | | | | | | |
| N. mutica Kutz. | 10,986 | .3 | 58,907 | .5 | | | 13,861 | .3 |
| N. mutica v. cohnii (Hilse)Grun. | | | | | | | | |
| N. mutica f. undulata (Hilse)Grun. | | | | | | | | |
| N. notha Well. | | | 88,361 | .8 | 13,632 | .3 | | |
| N. pelliculosa Hilse | | | | | 27,264 | .5 | 13,861 | .3 |
| N. pupula v. mutata (Krasske)Hust. | | | | | | | | |
| N. pygmaea Kutz. | | | | | | | | |
| N. radiosa v. tenella (Breb.)Cl. | | | | | 13,632 | .3 | | |
| N. scopulorum Breb. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: | 6 | | 7 | | 8 | | 10 | |
|---|---|---|---|---|---|---|---|---|
| Time: | 1020 | | 1100 | | 1158 | | 1230 | |
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Naviculaceae--Continued | | | | | | | | |
| Navicula Bory--Continued | | | | | | | | |
| N. sovereignae Hust. | | | | | | | | |
| N. tenelloides Hust. | | | 58,907 | 0.5 | 13,632 | 0.3 | 55,444 | 1.3 |
| N. tripuctata (O.Mull.)Bory | | | | | | | | |
| N. yarrensis Grun. | | | | | | | | |
| N. spp. | | | | | | | | |
| Pinnularia Ehr. | | | | | | | | |
| P. bogotensis (Grun.)Cl. | | | | | | | | |
| P. quadratacea v. fluminensis (Grun.)Cl. | 32,957 | 1.0 | | | | | | |
| P. subcapitata Greg. | | | | | | | | |
| Pleurosigma W.Sm. | | | | | | | | |
| P. angulatum (Quek.)W.Sm. | | | | | | | | |
| P. aestuarii (Breb.)W.Sm. | | | | | | | | |
| P. delicatulum W.Sm. | | | | | | | | |
| P. hamuliferum Brun. | | | 29,454 | .3 | | | | |
| P. naviculaceum Breb. | | | | | | | | |
| P. salinarum (Grun.)Grun. | | | | | | | | |
| P. speciosum W.Sm. | | | | | | | | |
| Scoliopleura Grun. | | | | | | | | |
| S. peisonis Grun. | | | | | 13,632 | .3 | | |
| Stauroneis Ehr. | | | | | | | | |
| S. amphioxys Greg. | | | | | | | | |
| Trachyneis Cl. | | | | | | | | |
| T. aspera (Ehr.)Cl. | | | | | | | 13,861 | .3 |
| Surirellalles | | | | | | | | |
| Surirellaceae | | | | | | | | |
| Camplodiscus Ehr. | | | | | | | | |
| C. birostratus Deby. | | | | | | | | |
| Surirella Turpin | | | | | | | | |
| S. gemma Ehr. | | | | | | | | |
| S. ovata Kutz. | | | | | | | | |
| Unknown taxa | | | | | | | | |
| Unknown #8 | | | | | | | | |
| Totals, in valves per cubic centimeter | 3,229,750 | 100.0 | 11,575,300 | 100.0 | 5,330,060 | 100.0 | 4,283,040 | 100.0 |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: Time: | 13 1340 | | 14 1355 | | 15 1415 | | 16 1430 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacillariophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| Achnanthes Borg | | | | | | | | |
| A. baldjickii subsp. lorenziana | | | | | | | | |
| A. cuvirostrum Grun. | | | | | | | | |
| A. hauckiana Grun. | | | 23,555 | 0.3 | 62,029 | 1.0 | 101,380 | 5.1 |
| A. lanceolata v. dubia Grun. | | | | | | | | |
| A. linearis (W.Sm.)Grun. | | | | | | | | |
| A. minutissima Kutz. | | | 23,555 | .3 | | | | |
| A. temperei M. Perag. | 78,119 | 0.9 | 23,555 | .3 | 20,676 | .3 | | |
| Cocconeis Ehr. | | | | | | | | |
| C. costata Greg. | | | | | | | | |
| C. diminuta Pant. | 39,060 | .4 | | | 41,353 | .6 | | |
| C. disculus (Schum.)Cl. | | | | | | | | |
| C. distans Greg. | | | | | | | | |
| C. scutellum Ehr. | | | | | | | 6,336 | .3 |
| Bacillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| Bacillaria Gmel. | | | | | | | | |
| B. paradoxa Gmel. | | | | | 20,676 | .3 | | |
| Cylindrotheca Rabh. | | | | | | | | |
| C. closterium (Ehr.)Reim. and Lew. | | | | | | | | |
| Hantzschia Grun. | | | | | | | | |
| H. amphioxys v. minor Perag. and Perag. | | | | | | | | |
| Nitzschia Hass. | | | | | | | | |
| N. amphibia Grun. | | | 47,110 | .6 | | | 12,673 | .6 |
| N. brittoni Hag. | 39,060 | .4 | 23,555 | .3 | | | | |
| N. clausii Hantz. | | | | | | | | |
| N. communis Rabh. | | | | | | | | |
| N. compressa (Bail.)Boyer | 156,238 | 1.8 | 70,665 | .9 | 82,705 | 1.3 | | |
| N. constricta (Kutz.)Ralfs | 78,119 | .9 | 23,555 | .3 | 41,353 | .6 | 44,354 | 2.2 |
| N. dissipata (Kutz.)Grun. | 156,238 | 1.8 | 70,665 | .9 | | | 12,673 | .6 |
| N. fasciculata (Grun.)Grun. | | | | | | | | |
| N. filiformis (W.Sm.)V.H. | | | | | | | 6,336 | .3 |
| N. fonticola Grun. | | | 94,220 | 1.2 | 20,676 | .3 | 19,009 | .9 |
| N. frustulum (Kutz.)Grun. | | | | | 41,353 | .6 | | |
| N. granulata Grun. | 195,298 | 2.2 | 235,551 | 3.0 | 268,792 | 4.1 | 88,708 | 4.4 |
| N. hungarica Grun. | | | | | | | | |
| N. longissima (Breb.)Grun. | | | | | | | | |
| N. lorenziana v. subtilis Grun. | | | | | 20,676 | .3 | 12,673 | .6 |
| N. microcephala Grun. | | | | | | | | |
| N. navicularis (Brab.)Grun. | 39,060 | .4 | | | | | | |
| N. obtusa W.Sm. | | | 23,555 | .3 | | | | |
| N. obtusa v. scalpelliformis Grun. | | | 47,110 | .6 | | | | |
| N. palea (Kutz.)W.Sm. | 78,119 | .9 | 70,665 | .9 | 62,029 | 1.0 | 19,009 | .9 |
| N. panduriformis Greg. | 117,179 | 1.3 | 47,110 | .6 | | | | |
| N. parvula W.Sm. | | | | | | | | |
| N. romana Grun. | 39,060 | .4 | 70,665 | .9 | 20,676 | .3 | | |
| N. scolaris (Ehr.)W.Sm. | | | | | | | | |
| N. sigma (Kutz.)W.Sm. | | | | | 20,676 | .3 | 6,336 | .3 |
| N. stagsorum (Rabh.)Grun. | | | | | | | | |
| N. sublinearis Hust. | | | 23,555 | .3 | | | | |
| N. thermalis v. minor Hilse | 39,060 | .4 | 23,555 | .3 | 62,029 | 1.0 | | |
| N. triblionella Hantz. | | | | | | | | |
| Epithemiales | | | | | | | | |
| Epithemiaceae | | | | | | | | |
| Rhopalodea O.Mull. | | | | | | | | |
| R. muscula (Kutz.)O.Mull. | | | | | 62,029 | 1.0 | | |
| R. muscula v. constricta (Breb.) Perag. and Perag. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: Time: | 13 1340 | | 14 1355 | | 15 1415 | | 16 1430 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Eupodiscales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| Biddulphia Gray | | | | | | | | |
| B. aurita (Lyng.)Breb. and Godey | | | 47,110 | 0.6 | | | | |
| B. granulata Roper | 39,060 | 0.4 | | | | | | |
| B. pulchella Gray | | | | | 20,676 | 0.3 | | |
| Eucampia Ehr. | | | | | | | | |
| E. sp.#1 | | | | | | | | |
| Eunotogramma Weisse | | | | | | | | |
| E. laeva Grun. | 156,238 | 1.8 | 47,110 | .6 | 41,353 | .6 | 6,336 | 0.3 |
| E. marinum (W.Sm.)Perag. | 39,060 | .4 | 94,220 | 1.2 | | | 12,673 | .6 |
| Streptotheca Shrub. | | | | | | | | |
| S. thamensis Shrub. | | | | | | | | |
| Terpainoe Ehr. | | | | | | | | |
| T. musica Ehr. | | | | | | | | |
| Triceratium Ehr. | | | | | | | | |
| T. alternans Bail. | | | | | | | | |
| T. favus Ehr. | | | | | | | | |
| T. reticulum Ehr. | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| Actinoptychus Ehr. and V.H. | | | | | | | | |
| A. undulatus (Bail.)Ralfs | 39,060 | .4 | | | | | 12,673 | .6 |
| Actinocyclus Ehr. | | | | | | | | |
| A. ehrenbergii v. tenella (Breb.)Hust. | | | | | 20,676 | .3 | | |
| A. sp. #1 | | | | | | | | |
| Chaetoceros Ehr. | | | | | | | | |
| C. sp. #1 | | | 23,555 | .3 | | | | |
| Coscinodiscus Ehr. | | | | | | | | |
| C. centralis Ehr. | | | | | | | | |
| C. curvatulus Grun. | | | | | | | | |
| C. excentricus Ehr. | 78,119 | .9 | 47,110 | .6 | 41,353 | .6 | 25,345 | 1.3 |
| C. lineatus Ehr. | 156,238 | 1.8 | 47,110 | .6 | 82,705 | 1.3 | 38,018 | 1.9 |
| C. marginatus Ehr. | | | | | | | | |
| C. nitidus Greg. | 312,477 | 3.6 | 306,216 | 3.9 | 124,058 | 1.9 | 38,018 | 1.9 |
| C. radiatus Ehr. | 312,477 | 3.6 | 117,775 | 1.5 | 124,058 | 1.9 | 38,018 | 1.9 |
| Cyclotella Kutz. | | | | | | | | |
| C. atomus Hust. | 78,119 | .9 | | | | | | |
| C. meneghiniana Kutz. | 78,119 | .9 | 70,665 | .9 | 124,058 | 1.9 | | |
| C. striata (Kutz.)Grun. | 429,655 | 4.9 | 423,991 | 5.4 | 186,087 | 2.9 | 19,009 | .9 |
| Cylindropyxis Hendey | | | | | | | | |
| C. tremulas Hendey | 390,596 | 4.5 | 47,110 | .6 | 41,353 | .6 | | |
| Hemidiscus Wall. | | | | | | | | |
| H. weissflogi (Grun.)Hust. | | | | | | | | |
| Melosira Ag. | | | | | | | | |
| M. granulata (Ehr.)Ralfs | | | | | | | | |
| M. nummuloides (Dillw.)Ag. | | | | | | | | |
| M. sulcata (Ehr.)Kutz. | 156,238 | 1.8 | 47,110 | .6 | 82,705 | 1.3 | 76,035 | 3.8 |
| Podosira Ehr. | | | | | | | | |
| P. stelliger (Bail.)Mann | | | | | | | | |
| Skeletonema Grev. | | | | | | | | |
| S. costatum (Grev.)Cl. | 39,060 | .4 | | | | | | |
| Stephanopyxis (Ehr.) | | | | | | | | |
| S. turris (Grev.)Ralfs | | | | | | | | |
| Thalassiosira Cl. | | | | | | | | |
| T. decipiens (Grun.)Jorg. | | | | | | | | |
| T. fluviatilis Hust. | | | | | | | | |
| Eupodiscaceae | | | | | | | | |
| Auliscus Ehr. | | | | | | | | |
| A. caelatus Bail. | | | | | | | | |
| Eupodiscus Ehr. | | | | | | | | |
| E. radiatus Bail. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: / Time: | 13 / 1340 | | 14 / 1355 | | 15 / 1415 | | 16 / 1430 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Rhizosoleniaceae | | | | | | | | |
| Rhizosolenia Bright. | | | | | | | | |
| R. delicatula Cl. | | | | | | | | |
| R. fragilissima Berg. | | | | | | | | |
| R. setigera Bright | | | | | | | | |
| R. stolterfothii H. Perag. | | | | | | | | |
| R. sp. #1 | | | | | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| Asterionella Hass. | | | | | | | | |
| A. japonica Cl. | | | | | | | | |
| Camplosira Grun. | | | | | | | | |
| C. cymbelliformis (A.S.)Grun. | 78,119 | 0.9 | 47,110 | 0.6 | 20,676 | 0.3 | | |
| Cymatosira Grun. | | | | | | | | |
| C. belgica Grun. | 3,241,950 | 37.2 | 3,038,610 | 38.4 | 2,501,830 | 38.5 | 861,734 | 43.0 |
| C. lorensiana Grun. | 117,179 | 1.3 | 94,220 | 1.2 | 82,705 | 1.3 | | |
| Dimeregramma Ralfs | | | | | | | | |
| D. maculatum (Cl.)Freng. | | | | | | | | |
| Eunotia Ehr. | | | | | | | | |
| E. suecice Cl. | | | | | | | | |
| Fragilaria Lyng. | | | | | | | | |
| F. construens v. venter (Ehr.)Grun. | 312,477 | 3.6 | 471,101 | 6.0 | 227,439 | 3.5 | 12,673 | .6 |
| F. lapponica Grun. | | | | | | | | |
| Glyphodesmie Grev. | | | | | | | | |
| G. distans (Greg.)Grun. | 39,060 | .4 | | | | | | |
| Opephora Petit | | | | | | | | |
| O. martyi Herib. | | | | | | | | |
| O. pacifica (Grun.)Petit | 78,119 | .9 | 117,775 | 1.5 | 20,676 | .3 | 107,717 | 5.4 |
| O. swartzii (Grun.)Petit | | | | | | | | |
| Plagiogramma Grev. | | | | | | | | |
| P. pulchellum v. pygmaea (Grev.) Perag. and Pereg. | | | | | | | | |
| P. staurophorum (Greg.)Heib. | | | | | | | | |
| P. vanheurckii Grun. | | | | | | | | |
| P. wallichianum Grev. | | | | | | | | |
| Rhaphoneis Ehr. | | | | | | | | |
| R. amphiceroe (Ehr.)Ehr. | 39,060 | .4 | | | 20,676 | .3 | 12,673 | .6 |
| R. grossenpunctata Hust. | | | | | | | | |
| R. surirelle (Ehr.)Grun. | 351,536 | 4.0 | 188,440 | 2.4 | 248,115 | 3.8 | 44,354 | 2.2 |
| R. eurirella v. auetralis Petit | | | | | | | | |
| R. sp. #1 | | | | | | | | |
| Synedra Ehr. | | | | | | | | |
| S. amphicephala v. austriaca (Grun.)Huet. | | | | | | | | |
| S. fasiculata v. truncata (Grev.)Patr. | | | | | | | | |
| Tabellaria Ehr. | | | | | | | | |
| T. fenestrata (Lyng.)Kutz. | | | | | | | | |
| Thallasiothrix Cl. and Grun. | | | | | | | | |
| T. freuenfeldii (Grun.)Grun. | | | | | | | | |
| T. longissima Cl. and Grun. | | | | | | | | |
| Trachyephenia Petit | | | | | | | | |
| T. acuminate Perag. | | | | | | | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| Amphora Ehr. | | | | | | | | |
| A. angusta v. ventricosa (Greg.)Cl. | 39,060 | .4 | | | | | 6,336 | .3 |
| A. calumetica (Thom. and Wolle)M.Perag. | | | | | | | | |
| A. acutiuscula Kutz. | | | 47,110 | .6 | 41,353 | .6 | 25,345 | 1.3 |
| A. ovalis (Kutz.)Kutz. | | | 23,555 | .3 | 41,353 | .6 | | |
| A. perpusilla Grun. | | | | | | | | |
| A. proteoides Hust. | | | | | | | 6,336 | .3 |
| Cymbella Ag. | | | | | | | | |
| C. affinis Kutz. | | | 23,555 | .3 | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: Time: | 13 1340 | | 14 1355 | | 15 1415 | | 16 1430 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Gomphonemaceae | | | | | | | | |
| Gomphonema Ehr. | | | | | | | | |
| G. tripunctatum v. elongata (Perag. and Herib.) Patr. | | | | | | | | |
| Entomoneidaceae | | | | | | | | |
| Entomoneis Ehr. | | | | | | | | |
| E. alata (Ehr.)Ehr. | | | | | | | | |
| Plagiotropis Pfitz. | | | | | | | | |
| P. lepidoptera (Cl.)Reim. | | | | | | | | |
| Naviculaceae | | | | | | | | |
| Anomoneis Pfitz. | | | | | | | | |
| A. sp. #1 | | | | | | | | |
| Caloneis Cl. | | | | | | | | |
| C. oregonica (Ehr.)Patr. | | | | | | | | |
| Diploneis Ehr. | | | | | | | | |
| D. bombus Ehr. | | | 70,665 | 0.9 | 62,029 | 1.0 | | |
| D. didyma (Ehr.)Ehr. | | | 47,110 | .6 | 82,705 | 1.3 | 31,681 | 1.6 |
| D. elliptica (Kutz.)Cl. | | | 23,555 | .3 | | | | |
| D. gruendleri (A.S.)Cl. | 39,060 | 0.4 | 23,555 | .3 | | | 6,336 | .3 |
| D. interrupta (Kutz.)Cl. | | | 70,665 | .9 | | | | |
| D. ovalis v. oblongella (Naeg.)Cl. | | | | | | | 6,336 | .3 |
| D. puella (Schum.)Cl. | | | | | 41,353 | .6 | 12,673 | .6 |
| Donkinia Ralfs | | | | | | | | |
| D. recta Grun. | | | | | | | | |
| Frustulia Rabh. | | | | | | | | |
| F. interposita (Lewis)Cl. | | | | | | | | |
| Gyrosigma Hass. | | | | | | | | |
| G. exilis (Grun.)Reim. | | | 23,555 | .3 | 41,353 | .6 | 6,336 | .3 |
| G. eximium (Thwaites)Boyer | | | 23,555 | .3 | 20,676 | .3 | | |
| Mastogloia Thwaites | | | | | | | | |
| M. apiculata W.Sm. | | | | | | | | |
| M. minutissma Voigt | | | | | | | | |
| M. pumila v. papuarum Chol. | | | | | | | | |
| Navicula Bory | | | | | | | | |
| N. ammophila Grun. | | | 117,775 | 1.5 | 62,029 | 1.0 | | |
| N. anglica v. subsalsa (Grun.)Cl. | | | | | | | | |
| N. capitata Ehr. | | | | | | | | |
| N. cyrptocephala Kutz. | 39,060 | .4 | 117,775 | 1.5 | 103,381 | 1.6 | 63,363 | 3.2 |
| N. formenterae Cl. | | | | | | | | |
| N. gregaria Donk. | | | | | 41,353 | .6 | | |
| N. hummi Hust. | | | | | | | | |
| N. ilopangoensis Hust. | | | | | | | | |
| N. lanceolata (Ag.)Kutz. | 39,060 | .4 | | | 144,734 | 2.2 | | |
| N. litoricola Grev. | | | | | | | 12,673 | .6 |
| N. lyra Ehr. | | | | | | | 6,336 | .3 |
| N. marina Ralfs | | | | | | | | |
| N. menisculus Schum. | | | | | | | | |
| N. microcephala Grun. | | | | | | | | |
| N. minima Grun. | | | | | | | | |
| N. minuscula Grun. | 39,060 | .4 | | | | | 19,009 | .9 |
| N. muralis Grun. | | | | | | | | |
| N. mutica Kutz. | | | 47,110 | .6 | | | 12,673 | .6 |
| N. mutica v. cohnii (Hilse)Grun. | | | | | | | | |
| N. mutica f. undulata (Hilse)Grun. | | | | | 20,676 | .3 | | |
| N. notha Wall. | | | 70,665 | .9 | | | 44,354 | 2.2 |
| N. pelliculosa Hilse | | | 70,665 | .9 | | | | |
| N. pupula v. mutata (Krasske)Hust. | | | | | 41,353 | .6 | | |
| N. pygmaea Kutz. | | | | | | | | |
| N. radiosa v. tenella (Breb.)Cl. | 39,060 | .4 | 47,110 | .6 | | | 12,673 | .6 |
| N. scopulorum Breb. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: / Time: | 13 / 1340 | | 14 / 1355 | | 15 / 1415 | | 16 / 1430 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Naviculaceae--Continued | | | | | | | | |
| Navicula Bory--Continued | | | | | | | | |
| N. sovereignae Hust. | | | 23,555 | 0.3 | | | | |
| N. tenelloides Hust. | 39,060 | 0.4 | 117,775 | 1.5 | 62,029 | 1.0 | | |
| N. tripuctata (O.Mull.)Bory | | | | | | | | |
| N. yarrensis Grun. | | | | | | | | |
| N. spp. | | | | | | | | |
| Pinnularia Ehr. | | | | | | | | |
| P. bogotensis (Grun.)Cl. | | | | | | | | |
| P. quadratacea v. fluminensis (Grun.)Cl. | | | | | | | | |
| P. subcapitata Greg. | | | | | | | | |
| Pleurosigma W.Sm. | | | | | | | | |
| P. angulatum (Quek.)W.Sm. | | | | | | | | |
| P. aestuarii (Breb.)W.Sm. | | | | | | | | |
| P. delicatulum W.Sm. | | | | | | | | |
| P. hamuliferum Brun. | | | | | | | | |
| P. naviculaceum Breb. | | | | | | | | |
| P. salinarum (Grun.)Grun. | | | | | | | | |
| P. speciosum W.Sm. | | | | | | | | |
| Scoliopleura Grun. | | | | | | | | |
| S. peisonis Grun. | | | | | | | | |
| Stauroneis Ehr. | | | | | | | | |
| S. amphioxys Greg. | | | | | | | | |
| Trachyneis Cl. | | | | | | | | |
| T. aspera (Ehr.)Cl. | | | | | | | 6,336 | 0.3 |
| Surirellalles | | | | | | | | |
| Surirellaceae | | | | | | | | |
| Campylodiscus Ehr. | | | | | | | | |
| C. birostratus Deby. | | | | | | | | |
| Surirella Turpin | | | | | | | | |
| S. gemma Ehr. | | | | | 20,676 | .3 | | |
| S. ovata Kutz. | | | | | | | | |
| Unknown taxa | | | | | | | | |
| Unknown #8 | | | | | | | | |
| Totals, in valves per cubic centimeter | 8,710,330 | 100.0 | 7,914,620 | 100.0 | 6,492,400 | 100.0 | 2,002,280 | 100.0 |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: Time: | 17 1720 | | 18 1450 | | 19 1914 | | 22 1930 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Bacillariophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| Achnanthes Borg | | | | | | | | |
| A. baldjickii subsp. lorenziana | 45,132 | 1.0 | | | | | | |
| A. cuvirostrum Grun. | | | | | | | | |
| A. hauckiana Grun. | 226,658 | 2.1 | 214,378 | 4.9 | 190,392 | 3.1 | 49,669 | 3.6 |
| A. lanceolata v. dubia Grun. | 169,994 | 1.6 | | | | | | |
| A. linearis (W.Sm.)Grun. | | | | | | | | |
| A. minutissima Kutz. | | | | | | | | |
| A. temperei M. Perag. | | | 11,283 | .3 | | | | |
| Cocconeis Ehr. | | | | | | | | |
| C. costata Greg. | | | | | | | | |
| C. diminuta Pant. | 84,997 | .8 | 11,283 | .3 | 81,596 | 1.3 | 9,934 | .7 |
| C. disculus (Schum.)Cl. | | | 33,849 | .8 | | | | |
| C. distans Greg. | | | | | | | | |
| C. scutellum Ehr. | | | | | | | | |
| Bacillariallas | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| Bacillaria Gmel. | | | | | | | | |
| B. paradoxa Gmel. | 28,332 | .3 | | | 27,199 | .4 | | |
| Cylindrotheca Rabh. | | | | | | | | |
| C. closterium (Ehr.)Reim. and Lew. | | | | | | | | |
| Hantzschia Grun. | | | | | | | | |
| H. amphioxys v. minor Perag. and Perag. | | | | | | | | |
| Nitzschia Hass. | | | | | | | | |
| N. amphibia Grun. | 28,332 | .3 | | | 27,199 | .4 | | |
| N. brittoni Hag. | | | | | | | | |
| N. clausii Hantz. | | | | | | | | |
| N. communis Rabh. | | | | | 13,599 | .2 | 9,934 | .7 |
| N. compressa (Bail.)Boyer | 28,332 | .3 | | | 54,398 | .9 | 14,901 | 1.1 |
| N. constricta (Kutz.)Ralfs | 113,329 | 1.1 | | | | | 19,867 | 1.4 |
| N. dissipata (Kutz.)Grun. | 56,665 | .5 | | | | | 4,967 | .4 |
| N. fasciculata (Grun.)Grun. | 28,332 | .3 | | | | | | |
| N. filiformis (W.Sm.)V.H. | 56,665 | .5 | 11,283 | .3 | | | | |
| N. fonticola Grun. | 56665 | .5 | 22,566 | .5 | 27,199 | .4 | | |
| N. frustulum (Kutz.)Grun. | | | | | | | | |
| N. granulata Grun. | 283,323 | 2.7 | 45,132 | 1.0 | 67,997 | 1.1 | 19,867 | 1.4 |
| N. hungarica Grun. | | | | | | | | |
| N. longissima (Breb.)Grun. | | | | | | | | |
| N. lorenziana v. subtilis Grun. | 56,665 | .5 | | | | | 9,934 | .7 |
| N. microcephala Grun. | | | | | | | 9,934 | .7 |
| N. navicularis (Breb.)Grun. | | | | | | | | |
| N. obtusa W.Sm. | | | | | | | | |
| N. obtusa v. scalpelliformis Grun. | 113,329 | 1.1 | | | 27,199 | .4 | | |
| N. palea (Kutz.)W.Sm. | 254,991 | 2.4 | | | 176,792 | 2.9 | 14,901 | 1.1 |
| N. panduriformis Greg. | 198,326 | 1.9 | | | 13,599 | .2 | 44,702 | 3.2 |
| N. parvula W.Sm. | | | | | | | | |
| N. romana Grun. | 84,997 | .8 | | | 108,795 | 1.8 | | |
| N. scolaris (Ehr.)W.Sm. | | | | | | | | |
| N. sigma (Kutz.)W.Sm. | | | | | | | | |
| N. stagsorum (Rabh.)Grun. | | | | | | | | |
| N. sublinaaris Hust. | | | | | | | | |
| N. thermalis v. minor Hilse | 56,665 | .5 | | | | | | |
| N. triblionella Hantz. | | | | | | | 9,934 | .7 |
| Epithemiales | | | | | | | | |
| Epithemiaceae | | | | | | | | |
| Rhopalodea O.Mull. | | | | | | | | |
| R. muscula (Kutz.)O.Mull. | | | | | | | | |
| R. muscula v. constricta (Breb.) Perag. and Perag. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: Time: | 17 1720 | | 18 1450 | | 19 1914 | | 22 1930 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Eupodiscales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| Biddulphia Gray | | | | | | | | |
| B. aurita (Lyng.)Breb. and Godey | | | | | | | | |
| B. granulata Roper | | | | | | | | |
| B. pulchella Gray | | | | | | | | |
| Eucampia Ehr. | | | | | | | | |
| E. sp.#1 | | | | | | | | |
| Eunotogramma Weisse | | | | | | | | |
| E. laeva Grun. | 113,329 | 1.1 | 135,396 | 3.1 | 27,199 | .4 | 69,536 | 5.1 |
| E. marinum (W.Sm.)Perag. | 28,332 | .3 | | | 67,997 | 1.1 | | |
| Streptotheca Shrub. | | | | | | | | |
| S. thamensis Shrub. | | | | | | | | |
| Terpsinoe Ehr. | | | | | | | | |
| T. musica Ehr. | | | | | | | | |
| Triceratium Ehr. | | | | | | | | |
| T. alternans Bail. | | | | | | | | |
| T. favus Ehr. | | | | | | | | |
| T. reticulum Ehr. | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| Actinoptychus Ehr. and V.H. | | | | | | | | |
| A. undulatus (Bail.)Ralfs | 56,665 | .5 | 33,849 | .8 | | | 14,901 | 1.1 |
| Actinocyclus Ehr. | | | | | | | | |
| A. ehrenbergii v. tenella (Breb.)Hust. | | | | | | | | |
| A. sp. #1 | | | | | | | | |
| Chaetoceros Ehr. | | | | | | | | |
| C. sp. #1 | | | | | | | | |
| Coscinodiscus Ehr. | | | | | | | | |
| C. centralis Ehr. | | | | | | | | |
| C. curvatulus Grun. | 28,332 | .3 | 11,283 | .3 | | | 4,967 | .4 |
| C. excentricus Ehr. | 84,997 | .8 | 11,283 | .3 | 190,392 | 3.1 | 14,901 | 1.1 |
| C. lineatus Ehr. | 84,997 | .8 | 33,849 | .8 | 67,997 | 1.1 | 24,834 | 1.8 |
| C. marginatus Ehr. | 84,997 | .8 | 22,566 | .5 | | | | |
| C. nitidus Greg. | 169,994 | 1.6 | 112,830 | 2.6 | 95,196 | 1.6 | 64,569 | 4.7 |
| C. radiatus Ehr. | 198,326 | 1.9 | 90,264 | 2.1 | 40,798 | .7 | 24,834 | 1.8 |
| Cyclotella Kutz. | | | | | | | | |
| C. atomus Hust. | 84,997 | .8 | | | | | | |
| C. meneghiniana Kutz. | 28,332 | .3 | 33,849 | .8 | 190,392 | 3.1 | 39,735 | 2.9 |
| C. striata (Kutz.)Grun. | 311,655 | 2.9 | 45,132 | 1.0 | 67,997 | 1.1 | 4,967 | .4 |
| Cylindropyxis Hendey | | | | | | | | |
| C. tremulas Hendey | 113,329 | 1.1 | 45,132 | 1.0 | | | | |
| Hemidiscus Wall. | | | | | | | | |
| H. weissflogi (Grun.)Hust. | | | | | | | | |
| Melosira Ag. | | | | | | | | |
| M. granulata (Ehr.)Ralfs | | | | | | | | |
| M. nummuloides (Dillw.)Ag. | | | | | | | | |
| M. sulcata (Ehr.)Kutz. | 226,658 | 2.1 | 112,830 | 2.6 | 217,591 | 3.6 | 24,834 | 1.8 |
| Podosira Ehr. | | | | | | | | |
| P. stelliger (Bail.)Mann | 28,332 | .3 | | | | | | |
| Skeletonema Grev. | | | | | | | | |
| S. costatum (Grev.)Cl. | | | | | | | | |
| Stephanopyxis (Ehr.) | | | | | | | | |
| S. turris (Grev.)Ralfs | | | | | | | | |
| Thalassiosira Cl. | | | | | | | | |
| T. decipiens (Grun.)Jorg. | | | | | | | | |
| T. fluviatilis Hust. | | | | | | | | |
| Eupodiscaceae | | | | | | | | |
| Auliscus Ehr. | | | | | | | | |
| A. caelatus Bail. | | | | | | | | |
| Eupodiscus Ehr. | | | | | | | | |
| E. radiatus Bail. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: Time: | 17 1720 | | 18 1450 | | 19 1914 | | 22 1930 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Rhizosoleniaceae | | | | | | | | |
| Rhizosolenia Bright. | | | | | | | | |
| R. delicatula Cl. | | | | | | | | |
| R. fragilissima Berg. | | | | | | | | |
| R. setigera Bright | | | | | | | | |
| R. stolterfothii H. Perag. | | | | | | | | |
| R. sp. #1 | | | | | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| Asterionella Hass. | | | | | | | | |
| A. japonica Cl. | | | | | | | | |
| Camplosira Grun. | | | | | | | | |
| C. cymbelliformis (A.S.)Grun. | | | | | | | | |
| Cymatosira Grun. | | | | | | | | |
| C. belgica Grun. | 4,986,480 | 47.2 | 2,042,230 | 46.9 | 2,760,680 | 45.3 | 526,486 | 38.3 |
| C. lorensiana Grun. | 84,997 | .8 | 33,849 | .8 | 108,795 | 1.8 | 9,934 | .7 |
| Dimeregramma Ralfs | | | | | | | | |
| D. maculatum (Cl.)Freng. | | | | | | | 4,967 | .4 |
| Eunotia Ehr. | | | | | | | | |
| E. suecica Cl. | | | | | | | | |
| Fragilaria Lyng. | | | | | | | | |
| F. construens v. venter (Ehr.)Grun. | 28,332 | .3 | | | 27,199 | .4 | 14,901 | 1.1 |
| F. lapponica Grun. | | | | | | | | |
| Glyphodesmis Grev. | | | | | | | | |
| G. distans (Greg.)Grun. | | | | | | | | |
| Opephora Petit | | | | | | | | |
| O. martyi Herib. | | | | | | | | |
| O. pacifica (Grun.)Petit | | | 361,057 | 8.3 | 81,596 | 1.3 | 44,702 | 3.2 |
| O. swartzii (Grun.)Petit | | | 11,283 | .3 | | | | |
| Plagiogramma Grev. | | | | | | | | |
| P. pulchellum v. pygmaea (Grev.) Perag. and Perag. | | | | | | | | |
| P. staurophorum (Greg.)Heib. | | | | | | | | |
| P. vanheurckii Grun. | | | | | | | | |
| P. wallichianum Grev. | | | | | | | | |
| Rhaphoneis Ehr. | | | | | | | | |
| R. amphiceros (Ehr.)Ehr. | 198,326 | 1.9 | | | 27,199 | .4 | 4,967 | .4 |
| R. grossenpunctata Hust. | | | | | | | | |
| R. surirella (Ehr.)Grun. | 113,329 | 1.1 | 157,962 | 3.6 | 95,196 | 1.6 | 19,867 | 1.4 |
| R. surirella v. australis Petit | | | | | | | | |
| R. sp. #1 | | | | | | | | |
| Synedra Ehr. | | | | | | | | |
| S. amphicephala v. austriaca (Grun.)Hust. | | | | | | | | |
| S. fasiculata v. truncata (Grev.)Patr. | | | | | | | | |
| Tabellaria Ehr. | | | | | | | | |
| T. fenestrata (Lyng.)Kutz. | | | | | | | | |
| Thallasiothrix Cl. and Grun. | | | | | | | | |
| T. frauenfeldii (Grun.)Grun. | | | | | | | | |
| T. longissima Cl. and Grun. | | | | | | | | |
| Trachyephenia Petit | | | | | | | | |
| T. acuminata Perag. | | | 101,547 | 2.3 | | | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| Amphora Ehr. | | | | | | | | |
| A. angusta v. ventricosa (Greg.)Cl. | 28,332 | .3 | | | 13,599 | .2 | | |
| A. calumetica (Thom. and Wolle)M.Perag. | 28,332 | .3 | | | | | | |
| A. acutiuscula Kutz. | | | 33,849 | .8 | 95,196 | 1.6 | 14,901 | 1.1 |
| A. ovalis (Kutz.)Kutz. | | | 90,264 | 2.1 | | | 9,934 | .7 |
| A. perpusilla Grun. | | | 11,283 | .3 | | | | |
| A. proteoidas Hust. | | | | | | | | |
| Cymbella Ag. | | | | | | | | |
| C. affinis Kutz. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: Time: | 17 1720 | | 18 1450 | | 19 1914 | | 22 1930 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Gomphonemaceae | | | | | | | | |
| Gomphonema Ehr. | | | | | | | | |
| G. tripunctatum v. elongata (Perag. and Herib.) Patr. | | | | | | | | |
| Entomoneidaceae | | | | | | | | |
| Entomoneis Ehr. | | | | | | | | |
| E. alata (Ehr.)Ehr. | | | | | 27,199 | 0.4 | | |
| Plagiotropis Pfitz. | | | | | | | | |
| P. lepidoptera (Cl.)Reim. | | | | | | | | |
| Naviculaceae | | | | | | | | |
| Anomoneis Pfitz. | | | | | | | | |
| A. sp. #1 | | | | | | | | |
| Caloneis Cl. | | | | | | | | |
| C. oregonica (Ehr.)Patr. | | | | | | | | |
| Diploneis Ehr. | | | | | | | | |
| D. bombus Ehr. | 84,997 | 0.8 | 45,132 | 1.0 | 13,599 | .2 | | |
| D. didyma (Ehr.)Ehr. | 169,994 | 1.6 | | | 67,997 | 1.1 | 4,967 | 0.4 |
| D. elliptica (Kutz.)Cl. | | | | | | | | |
| D. gruendleri (A.S.)Cl. | | | | | 13,599 | .2 | 4,967 | .4 |
| D. interrupta (Kutz.)Cl. | | | | | 27,199 | .4 | | |
| D. ovalis v. oblongella (Naeg.)Cl. | | | 11,283 | .3 | | | 9,934 | .7 |
| D. puella (Schum.)Cl. | | | 56,415 | 1.3 | 13,599 | .2 | | |
| Donkinia Ralfs | | | | | | | | |
| D. recta Grun. | | | | | | | | |
| Frustulia Rabh. | | | | | | | | |
| F. interposita (Lewis)Cl. | | | | | | | | |
| Gyrosigma Hass. | | | | | | | | |
| G. exilis (Grun.)Reim. | 56,665 | .5 | | | | | 4,967 | .4 |
| G. eximium (Thwaites)Boyer | | | | | | | | |
| Mastogloia Thwaites | | | | | | | | |
| M. apiculata W.Sm. | | | | | | | | |
| M. minutissma Voigt | | | | | | | 4,967 | .4 |
| M. pumila v. papuarum Chol. | | | | | | | | |
| Navicula Bory | | | | | | | | |
| N. ammophila Grun. | | | | | | | 9,934 | .7 |
| N. anglica v. subsalsa (Grun.)Cl. | | | | | | | | |
| N. capitata Ehr. | | | | | | | | |
| N. cyrptocephala Kutz. | 198,326 | 1.9 | | | 190,392 | 3.1 | 24,834 | 1.8 |
| N. formenterae Cl. | | | | | | | | |
| N. gregaria Donk. | | | | | | | | |
| N. hummi Hust. | | | | | | | | |
| N. ilopangoensis Hust. | | | | | | | | |
| N. lanceolata (Ag.)Kutz. | | | | | | | | |
| N. litoricola Grev. | | | 11,283 | .3 | 13,599 | .2 | | |
| N. lyra Ehr. | | | | | | | | |
| N. marina Ralfs | | | 22,566 | .5 | | | 4,967 | .4 |
| N. menisculus Schum. | | | | | | | | |
| N. microcephala Grun. | | | | | | | | |
| N. minima Grun. | 56,665 | .5 | | | | | | |
| N. minuscula Grun. | | | 22,566 | .5 | | | 9,934 | .7 |
| N. muralis Grun. | | | | | 13,599 | .2 | 9,934 | .7 |
| N. mutica Kutz. | 56,665 | .5 | 45,132 | 1.0 | 67,997 | 1.1 | | |
| N. mutica v. cohnii (Hilse)Grun. | | | | | | | | |
| N. mutica f. undulata (Hilse)Grun. | | | | | | | | |
| N. notha Wall. | 113,329 | 1.1 | 11,283 | .3 | 13,599 | .2 | 24,834 | 1.8 |
| N. pelliculosa Hilse | 56,665 | .5 | 45,132 | 1.0 | 13,599 | .2 | | |
| N. pupula v. mutata (Krasske)Hust. | | | | | | | | |
| N. pygmaea Kutz. | | | | | | | | |
| N. radiosa v. tenella (Breb.)Cl. | | | | | | | | |
| N. scopulorum Breb. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: / Time: | 17 / 1720 | | 18 / 1450 | | 19 / 1914 | | 22 / 1930 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Naviculaceae--Continued | | | | | | | | |
| Navicula Bory--Continued | | | | | | | | |
| N. sovereignae Hust. | | | | | | | | |
| N. tenelloides Hust. | 56,665 | 0.5 | | | | | 9,934 | 0.7 |
| N. tripuctata (O.Mull.)Bory | | | | | | | | |
| N. yarrensis Grun. | | | | | | | | |
| N. spp. | | | | | | | | |
| Pinnularia Ehr. | | | | | | | | |
| P. bogotensis (Grun.)Cl. | | | | | | | | |
| P. quadratacea v. fluminensis (Grun.)Cl. | | | | | | | | |
| P. subcapitata Greg. | | | | | | | | |
| Pleurosigma W.Sm. | | | | | | | | |
| P. angulatum (Quek.)W.Sm. | | | | | | | | |
| P. aestuarii (Breb.)W.Sm. | | | | | | | | |
| P. delicatulum W.Sm. | | | | | | | | |
| P. hamuliferum Brun. | | | | | | | | |
| P. naviculaceum Breb. | | | | | | | | |
| P. salinarum (Grun.)Grun. | | | | | | | | |
| P. speciosum W.Sm. | | | | | | | | |
| Scoliopleura Grun. | | | | | | | | |
| S. peisonis Grun. | | | | | | | | |
| Stauroneis Ehr. | | | | | | | | |
| S. amphioxys Greg. | | | | | | | | |
| Trachyneis Cl. | | | | | | | | |
| T. aspera (Ehr.)Cl. | | | | | 13,599 | 0.2 | | |
| Surirellalles | | | | | | | | |
| Surirellaceae | | | | | | | | |
| Camplodiscus Ehr. | | | | | | | | |
| C. birostratus Deby. | | | | | | | | |
| Surirella Turpin | | | | | | | | |
| S. gemma Ehr. | | | | | | | | |
| S. oveta Kutz. | | | | | | | | |
| Unknown taxa | | | | | | | | |
| Unknown #8 | | | | | | | | |
| Totals, in valves per cubic centimeter | 10,568,000 | 100.0 | 4,355,250 | 100.0 | 6,092,570 | 100.0 | 1,375,820 | 100.0 |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Taxa | Site location number: Time: 23 1745 Standing stock | 23 1745 Percent of total | 24 1800 Standing stock | 24 1800 Percent of total | 25 1725 Standing stock | 25 1725 Percent of total | 26 1730 Standing stock | 26 1730 Percent of total |
|---|---|---|---|---|---|---|---|---|
| Bacillariophyta | | | | | | | | |
| Bacillariophyceae | | | | | | | | |
| Achnanthales | | | | | | | | |
| Achnanthaceae | | | | | | | | |
| Achnanthes Borg | | | | | | | | |
| A. baldjickii subsp. lorenziana | | | | | | | | |
| A. cuvirostrum Grun. | | | | | | | | |
| A. hauckiana Grun. | 61,937 | 2.1 | 691,953 | 9.9 | 155,786 | 1.5 | | |
| A. lanceolata v. dubia Grun. | | | | | | | | |
| A. linearis (W.Sm.)Grun. | | | | | | | | |
| A. minutissima Kutz. | | | | | | | 28 | 10.9 |
| A. temperei M. Perag. | | | | | 62,315 | .6 | 3 | 1.2 |
| Cocconeis Ehr. | | | | | | | | |
| C. costata Greg. | | | | | | | | |
| C. diminuta Pant. | | | 74,806 | 1.1 | | | | |
| C. disculus (Schum.)Cl. | | | | | | | | |
| C. distans Greg. | | | | | | | | |
| C. scutellum Ehr. | | | | | | | | |
| Bacillarialles | | | | | | | | |
| Nitzschiaceae | | | | | | | | |
| Bacillaria Gmel. | | | | | | | | |
| B. paradoxa Gmel. | 7,742 | .3 | | | 124,629 | 1.2 | | |
| Cylindrotheca Rabh. | | | | | | | | |
| C. closterium (Ehr.)Reim. and Lew. | | | | | | | | |
| Hantzschia Grun. | | | | | | | | |
| H. amphioxys v. minor Perag. and Perag. | | | | | | | 9 | 3.5 |
| Nitzschia Hass. | | | | | | | | |
| N. amphibia Grun. | 30,969 | 1.0 | | | | | 5 | 1.9 |
| N. brittoni Hag. | 15,484 | .5 | | | | | 14 | 5.4 |
| N. clausii Hantz. | | | | | | | | |
| N. communis Rabh. | | | | | 93,472 | .9 | | |
| N. compressa (Bail.)Boyer | 30,969 | 1.0 | 18,701 | .3 | 31,157 | .3 | | |
| N. constricta (Kutz.)Ralfs | | | | | | | | |
| N. dissipata (Kutz.)Grun. | 30,969 | 1.0 | 37,403 | .5 | | | 10 | 3.9 |
| N. fasciculata (Grun.)Grun. | | | | | 31,157 | .3 | 4 | 1.6 |
| N. filiformis (W.Sm.)V.H. | 15,484 | .5 | | | 186,944 | 1.8 | 20 | 7.8 |
| N. fonticola Grun. | 15,484 | .5 | 56,104 | .8 | 62,315 | .6 | 4 | 1.6 |
| N. frustulum (Kutz.)Grun. | 46,453 | 1.6 | | | 186,944 | 1.8 | 1 | .4 |
| N. granulata Grun. | 123,875 | 4.2 | 74,806 | 1.1 | 342,730 | 3.3 | 4 | 1.6 |
| N. hungarica Grun. | | | | | | | | |
| N. longissime (Breb.)Grun. | | | | | | | | |
| N. lorenziana v. subtilis Grun. | | | 18,701 | .3 | 124,629 | 1.2 | 3 | 1.2 |
| N. microcephala Grun. | | | | | | | | |
| N. navicularis (Breb.)Grun. | | | | | | | | |
| N. obtusa W.Sm. | | | | | | | | |
| N. obtusa v. scalpelliformis Grun. | 23,227 | .8 | | | | | | |
| N. palea (Kutz.)W.Sm. | | | 149,612 | 2.1 | 155,786 | 1.5 | | |
| N. panduriformis Greg. | 77,422 | 2.6 | 74,806 | 1.1 | 124,629 | 1.2 | | |
| N. parvula W.Sm. | | | | | | | | |
| N. romana Grun. | | | | | 62,315 | .6 | | |
| N. scolaris (Ehr.)W.Sm. | | | | | | | | |
| N. sigma (Kutz.)W.Sm. | 7,742 | .3 | | | | | 1 | .4 |
| N. stagsorum (Rabh.)Grun. | | | | | 31,157 | .3 | | |
| N. sublinearis Hust. | | | | | | | | |
| N. thermalis v. minor Hilse | | | | | 62,315 | .6 | | |
| N. triblionella Hantz. | | | | | | | | |
| Epithemiales | | | | | | | | |
| Epithemiaceae | | | | | | | | |
| Rhopalodea O.Mull. | | | | | | | | |
| R. muscula (Kutz.)O.Mull. | | | | | | | 4 | 1.6 |
| R. muscula v. constricta (Breb.) Perag. and Perag. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: Time: | 23 1745 | | 24 1800 | | 25 1725 | | 26 1730 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Eupodiscales | | | | | | | | |
| Biddulphiaceae | | | | | | | | |
| Biddulphia Gray | | | | | | | | |
| B. aurita (Lyng.)Breb. and Godey | | | | | | | | |
| B. granulata Roper | | | | | | | | |
| B. pulchella Gray | | | | | | | | |
| Eucampia Ehr. | | | | | | | | |
| E. sp.#1 | | | | | | | | |
| Eunotogramma Weisse | | | | | | | | |
| E. laeva Grun. | | | 523,640 | 7.5 | 93,472 | 0.9 | 1 | 0.4 |
| E. marinum (W.Sm.)Perag. | 7,742 | 0.3 | 18,701 | .3 | | | 26 | 10.1 |
| Streptotheca Shrub. | | | | | | | | |
| S. thamensis Shrub. | | | | | | | | |
| Terpsinoe Ehr. | | | | | | | | |
| T. musica Ehr. | | | 56,104 | .8 | | | | |
| Triceratium Ehr. | | | | | | | | |
| T. alternans Bail. | | | | | | | | |
| T. favus Ehr. | | | | | | | | |
| T. reticulum Ehr. | | | | | | | | |
| Coscinodiscaceae | | | | | | | | |
| Actinoptychus Ehr. and V.H. | | | | | | | | |
| A. undulatus (Bail.)Ralfs | 23,227 | .8 | | | 62,315 | .6 | 2 | .8 |
| Actinocyclus Ehr. | | | | | | | | |
| A. ehrenbergii v. tenella (Breb.)Hust. | | | | | | | | |
| A. sp. #1 | | | | | | | | |
| Chaetoceros Ehr. | | | | | | | | |
| C. sp. #1 | | | | | | | | |
| Coscinodiscus Ehr. | | | | | | | | |
| C. centralis Ehr. | | | | | | | | |
| C. curvatulus Grun. | | | | | | | | |
| C. excentricus Ehr. | 54,195 | 1.8 | 18,701 | .3 | | | | |
| C. lineatus Ehr. | 23,227 | .8 | 74,806 | 1.1 | | | | |
| C. marginatus Ehr. | | | | | 31,157 | .3 | 1 | .4 |
| C. nitidus Greg. | 46,453 | 1.6 | 74,806 | 1.1 | 280,415 | 2.7 | | |
| C. radiatus Ehr. | 30,969 | 1.0 | 37,403 | .5 | 93,472 | .9 | | |
| Cyclotella Kutz. | | | | | | | | |
| C. atomus Hust. | | | | | | | 1 | .4 |
| C. meneghiniana Kutz. | 15,484 | .5 | | | 31,157 | .3 | 1 | .4 |
| C. striata (Kutz.)Grun. | 108,390 | 3.7 | 74,806 | 1.1 | 186,944 | 1.8 | 2 | .8 |
| Cylindropyxis Hendey | | | | | | | | |
| C. tremulas Hendey | | | | | | | | |
| Hemidiscus Wall. | | | | | | | | |
| H. weissflogi (Grun.)Hust. | | | | | | | | |
| Melosira Ag. | | | | | | | | |
| M. granulata (Ehr.)Ralfs | | | | | | | | |
| M. nummuloides (Dillw.)Ag. | | | | | 62,315 | .6 | 1 | .4 |
| M. sulcata (Ehr.)Kutz. | 108,390 | 3.7 | 112,209 | 1.6 | 342,730 | 3.3 | 2 | .8 |
| Podosira Ehr. | | | | | | | | |
| P. stelliger (Bail.)Mann | | | | | | | | |
| Skeletonema Grev. | | | | | | | | |
| S. costatum (Grev.)Cl. | | | | | | | | |
| Stephanopyxis (Ehr.) | | | | | | | | |
| S. turris (Grev.)Ralfs | | | | | | | | |
| Thalassiosira Cl. | | | | | | | | |
| T. decipiens (Grun.)Jorg. | | | | | | | | |
| T. fluviatilis Hust. | | | | | | | | |
| Eupodiscaceae | | | | | | | | |
| Auliscus Ehr. | | | | | | | | |
| A. caelatus Bail. | | | | | | | | |
| Eupodiscus Ehr. | | | | | | | | |
| E. radiatus Bail. | | | | | | | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: Time: | 23 1745 | | 24 1800 | | 25 1725 | | 26 1730 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Rhizosoleniaceae | | | | | | | | |
| Rhizosolenia Bright. | | | | | | | | |
| R. delicatula Cl. | | | | | | | | |
| R. fragilissima Berg. | | | | | | | | |
| R. setigera Bright | | | | | | | | |
| R. stolterfothii H. Perag. | | | | | | | | |
| R. sp. #1 | | | | | | | | |
| Fragilariales | | | | | | | | |
| Fragilariaceae | | | | | | | | |
| Asterionella Hass. | | | | | | | | |
| A. japonica Cl. | | | | | | | | |
| Camplosira Grun. | | | | | | | | |
| C. cymbelliformis (A.S.)Grun. | | | | | | | 1 | 0.4 |
| Cymatosira Grun. | | | | | | | | |
| C. belgica Grun. | 1,169,060 | 39.6 | 1,383,900 | 19.8 | 3,614,240 | 35.2 | 36 | 14.0 |
| C. lorensiana Grun. | 54,195 | 1.8 | | | 31,157 | .3 | | |
| Dimeregramma Ralfs | | | | | | | | |
| D. maculatum (Cl.)Freng. | | | | | | | | |
| Eunotia Ehr. | | | | | | | | |
| E. suecica Cl. | | | | | | | | |
| Fragilaria Lyng. | | | | | | | | |
| F. construens v. venter (Ehr.)Grun. | 7,742 | .3 | 74,806 | 1.1 | 218,101 | 2.1 | | |
| F. lapponica Grun. | | | | | | | | |
| Glyphodesmis Grev. | | | | | | | | |
| G. distans (Greg.)Grun. | | | 205,716 | 2.9 | 93,472 | .9 | | |
| Opephora Petit | | | | | | | | |
| O. martyi Herib. | | | | | | | | |
| O. pacifica (Grun.)Petit | 61,937 | 2.1 | 1,234,300 | 17.7 | | | | |
| O. swartzii (Grun.)Petit | | | | | | | | |
| Plagiogramma Grev. | | | | | | | | |
| P. pulchellum v. pygmaea (Grev.) Perag. and Perag. | | | | | 62,315 | .6 | | |
| P. staurophorum (Greg.)Heib. | | | | | | | | |
| P. vanheurckii Grun. | | | | | | | | |
| P. wallichianum Grev. | 15,484 | .5 | | | | | | |
| Rhaphoneis Ehr. | | | | | | | | |
| R. amphiceros (Ehr.)Ehr. | 38,711 | 1.3 | 18,701 | .3 | 62,315 | .6 | | |
| R. grossenpunctata Hust. | | | | | | | | |
| R. surirella (Ehr.)Grun. | 69,680 | 2.4 | 56,104 | .8 | 186,944 | 1.8 | 1 | .4 |
| R. surirella v. australis Petit | | | | | | | | |
| R. sp. #1 | | | | | | | | |
| Synedra Ehr. | | | | | | | | |
| S. amphicephala v. austriaca (Grun.)Hust. | | | | | | | | |
| S. fasiculata v. truncata (Grev.)Patr. | | | | | | | | |
| Tabellaria Ehr. | | | | | | | | |
| T. fenestrata (Lyng.)Kutz. | | | | | | | | |
| Thallasiothrix Cl. and Grun. | | | | | | | | |
| T. frauenfeldii (Grun.)Grun. | | | | | | | | |
| T. longissima Cl. and Grun. | | | | | | | | |
| Trachysphenia Petit | | | | | | | | |
| T. acuminata Perag. | | | | | | | | |
| Naviculales | | | | | | | | |
| Cymbellaceae | | | | | | | | |
| Amphora Ehr. | | | | | | | | |
| A. angusta v. ventricosa (Greg.)Cl. | | | | | | | | |
| A. calumetica (Thom. and Wolle)M.Perag. | | | | | | | | |
| A. acutiuscula Kutz. | | | 149,612 | 2.1 | 124,629 | 1.2 | 6 | 2.3 |
| A. ovalis (Kutz.)Kutz. | 30,969 | 1.0 | 654,550 | 9.4 | 93,472 | .9 | 4 | 1.6 |
| A. perpusilla Grun. | | | | | | | | |
| A. proteoides Hust. | | | 18,701 | .3 | | | | |
| Cymbella Ag. | | | | | | | | |
| C. affinis Kutz. | | | | | 62,315 | .6 | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Site location number: / Time: | 23 / 1745 | | 24 / 1800 | | 25 / 1725 | | 26 / 1730 | |
|---|---|---|---|---|---|---|---|---|
| Taxa | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total | Standing stock | Percent of total |
| Gomphonemaceae | | | | | | | | |
| Gomphonema Ehr. | | | | | | | | |
| G. tripunctatum v. elongata (Perag. and Herib.) Patr. | | | | | | | 1 | 0.4 |
| Entomoneidaceae | | | | | | | | |
| Entomoneis Ehr. | | | | | | | | |
| E. alata (Ehr.)Ehr. | | | | | 155,786 | 1.5 | | |
| Plagiotropis Pfitz. | | | | | | | | |
| P. lepidoptera (Cl.)Reim. | | | | | | | | |
| Naviculaceae | | | | | | | | |
| Anomoneis Pfitz. | | | | | | | | |
| A. sp. #1 | | | | | | | | |
| Caloneis Cl. | | | | | | | | |
| C. oregonica (Ehr.)Patr. | | | | | | | | |
| Diploneis Ehr. | | | | | | | | |
| D. bombus Ehr. | 7,742 | 0.3 | | | 62,315 | .6 | 1 | .4 |
| D. didyma (Ehr.)Ehr. | | | | | | | | |
| D. elliptica (Kutz.)Cl. | 30,969 | 1.0 | | | | | | |
| D. gruendleri (A.S.)Cl. | 15,484 | .5 | | | 93,472 | .9 | 1 | .4 |
| D. interrupta (Kutz.)Cl. | 23,227 | .8 | | | 62,315 | .6 | | |
| D. ovalis v. oblongella (Naeg.)Cl. | 30,969 | 1.0 | 18,701 | .3 | | | | |
| D. puella (Schum.)Cl. | 23,227 | .8 | 56,104 | .8 | | | | |
| Donkinia Ralfs | | | | | | | | |
| D. recta Grun. | | | | | | | | |
| Frustulia Rabh. | | | | | | | | |
| F. interposita (Lewis)Cl. | | | | | | | | |
| Gyrosigma Hass. | | | | | | | | |
| G. exilis (Grun.)Reim. | | | 37,403 | .5 | 124,629 | 1.2 | | |
| G. eximium (Thwaites)Boyer | | | | | | | | |
| Mastogloia Thwaites | | | | | | | | |
| M. apiculata W.Sm. | | | | | | | | |
| M. minutissma Voigt | | | | | | | 2 | .8 |
| M. pumila v. papuarum Chol. | | | | | 186,944 | 1.8 | | |
| Navicula Bory | | | | | | | | |
| N. ammophila Grun. | 15,484 | .5 | 37,403 | .5 | 124,629 | 1.2 | | |
| N. anglica v. subsalsa (Grun.)Cl. | | | | | | | | |
| N. capitata Ehr. | | | | | | | | |
| N. cyrptocephala Kutz. | 54,195 | 1.8 | 112,209 | 1.6 | 218,101 | 2.1 | 4 | 1.6 |
| N. formenterae Cl. | | | | | | | | |
| N. gregaria Donk. | | | | | | | | |
| N. hummi Hust. | | | 37,403 | .5 | | | | |
| N. ilopangoensis Hust. | | | | | | | | |
| N. lanceolata (Ag.)Kutz. | | | | | 62,315 | .6 | | |
| N. litoricola Grev. | 7,742 | .3 | | | 62,315 | .6 | | |
| N. lyra Ehr. | | | 18,701 | .3 | | | | |
| N. marina Ralfs | | | | | | | | |
| N. menisculus Schum. | | | | | | | | |
| N. microcephala Grun. | | | | | 31,157 | .3 | | |
| N. minima Grun. | | | | | 249,258 | 2.4 | 3 | 1.2 |
| N. minuecula Grun. | | | 18,701 | .3 | 93,472 | .9 | | |
| N. muralis Grun. | | | 374,029 | 5.4 | 31,157 | .3 | | |
| N. mutica Kutz. | 38,711 | 1.3 | | | 31,157 | .3 | 38 | 14.8 |
| N. mutica v. cohnii (Hilse)Grun. | | | | | | | | |
| N. mutica f. undulata (Hilse)Grun. | | | | | | | | |
| N. notha Wall. | 15,484 | .5 | 37,403 | .5 | 186,944 | 1.8 | 7 | 2.7 |
| N. pelliculosa Hilse | | | 112,209 | 1.6 | 31,157 | .3 | | |
| N. pupula v. mutata (Krasske)Hust. | | | | | | | | |
| N. pygmaea Kutz. | | | | | | | | |
| N. radioea v. tenella (Breb.)Cl. | | | | | 280,415 | 2.7 | 3 | 1.2 |
| N. scopulorum Breb. | | | | | 31,157 | .3 | | |

TABLE 16.—*Diatom remains in bottom material from selected sites in Kings Bay and vicinity, July 1982*—Continued

| Taxa | Site location number: 23 Time: 1745 Standing stock | Percent of total | 24 1800 Standing stock | Percent of total | 25 1725 Standing stock | Percent of total | 26 1730 Standing stock | Percent of total |
|---|---|---|---|---|---|---|---|---|
| Naviculaceae--Continued | | | | | | | | |
| Navicula Bory--Continued | | | | | | | | |
| N. sovereignae Hust. | | | | | | | | |
| N. tenelloides Hust. | 15,484 | 0.5 | | | 155,786 | 1.5 | | |
| N. tripuctata (O.Mull.)Bory | | | | | | | 1 | 0.4 |
| N. yarrensis Grun. | | | | | | | | |
| N. spp. | | | | | | | | |
| Pinnularia Ehr. | | | | | | | | |
| P. bogotensis (Grun.)Cl. | | | | | | | | |
| P. quadratacea v. fluminensis (Grun.)Cl. | | | | | | | | |
| P. subcapitata Greg. | 15,484 | .5 | | | | | | |
| Pleurosigma W.Sm. | | | | | | | | |
| P. angulatum (Quek.)W.Sm. | | | | | | | | |
| P. aestuarii (Breb.)W.Sm. | | | | | | | | |
| P. delicatulum W.Sm. | | | | | | | | |
| P. hamuliferum Brun. | | | | | | | | |
| P. naviculaceum Breb. | | | | | | | | |
| P. salinarum (Grun.)Grun. | | | | | | | | |
| P. speciosum W.Sm. | | | | | | | | |
| Scoliopleura Grun. | | | | | | | | |
| S. peisonis Grun. | | | | | | | | |
| Stauroneis Ehr. | | | | | | | | |
| S. amphioxys Greg. | | | | | | | | |
| Trachyneis Cl. | | | | | | | | |
| T. aspera (Ehr.)Cl. | | | | | | | | |
| Surirellalles | | | | | | | | |
| Surirellaceae | | | | | | | | |
| Campylodiscus Ehr. | | | | | | | | |
| C. birostratus Deby. | | | | | | | | |
| Surirella Turpin | | | | | | | | |
| S. gemma Ehr. | | | | | | | 1 | .4 |
| S. ovata Kutz. | | | | | | | | |
| Unknown taxa | | | | | | | | |
| Unknown #8 | | | | | | | | |
| Totals, in valves per cubic centimeter | 2,949,770 | 100.0 | 6,975,630 | 100.0 | 10,282,000 | 100.0 | 257 | 100.0 |

TABLE 17.—*Water, salt, and suspended-sediment discharges for consecutive ebbtides and floodtides at the measurement cross sections at Kings Bay and vicinity, July 1982*

[Start and end tides are based on the time of zero velocity, which may differ from the time of maximum and minimum tide heights; –, below arbitrary datum]

| Cross section | Date | Tide | Tide height at start and end of measurement period (m) | Duration of tide (hrs) | Water discharge ($m^3 \times 10^6$) | Salt discharge ($kg \times 10^6$) | Suspended-sediment discharge: Silt plus clay, $kg \times 10^3$ | Silt plus clay, Percent of total | Sand, $kg \times 10^3$ | Sand, Percent of total | Total, $kg \times 10^3$ | Total, $kg \times 10^3$ per tidal cycle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Upper Kings Bay | July 10 | Flood | 3.67 (start) | 6.8 | 7.1 | 203.4 | 81.1 | 69 | 36.5 | 31 | 117.6 | 87.7 (seaward) |
| | | Ebb | 3.67 (end) | 5.4 | 7.2 | 205.3 | 145.8 | 71 | 59.5 | 29 | 205.3 | |
| Lower Kings Bay | July 14 | Flood | -.98 (start) | 6.5 | 12.4 | 350.4 | 184.5 | 72 | 71.7 | 28 | 256.2 | 92.0 (landward) |
| | | Ebb | -.75 (end) | 6.4 | 11.2 | 321.2 | 126.4 | 77 | 37.8 | 23 | 164.2 | |
| Cumberland Sound | July 15 | Flood | -.87 (start) | 6.3 | 83.3 | 2,645 | 1,476 | 80 | 369 | 20 | 1,845 | 563 (landward) |
| | | Ebb | -.64 (end) | 6.5 | 78.8 | 2,476 | 1,026 | 80 | 256 | 20 | 1,282 | |
| St. Marys Entrance | July 13 | Flood | .96 (start) | 6.2 | 165.0 | 5,584 | 2,635 | 82 | 578 | 18 | 3,213 | 775 (landward) |
| | | Ebb | 1.22 (end) | 6.3 | 150.3 | 5,128 | 1,926 | 79 | 512 | 21 | 2,438 | |

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