EFFECT OF FRESHWATER INFLOW ON MACROBENTHOS PRODUCTIVITY IN MINOR BAY AND RIVER-DOMINATED ESTUARIES - FY03

Paul A. Montagna, Principal Investigator
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FINAL REPORT

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PREFACE

This final report is written to complete the third of a planned five-year study that has the goal to determine the importance of freshwater inflow in maintaining benthic productivity in minor bays and river dominated systems. Minor bays are defined as those small bays that do not have direct freshwater inflow via a major river, but do have inflow from runoff or other indirect sources. Only a few rivers in Texas flow directly into the Gulf of Mexico, and these are also part of the subject study. The current project follows successful completion of a long-term study of large, or major open bays in Texas.

The focus of the current final report is on Christmas Bay Coastal Preserve. An assessment report for that ecosystem is planned within the current fiscal year. Hydrological and biological data are compiled to assess that system. Sampling was also continued for a long-term study of two river-dominated systems, the Rio Grande and Brazos River. Sampling was begun for a 3-year study of the Cedar Lakes and San Bernard River Estuary. The current report goes into lesser detail for these continuing data sets because they will be subject to a fuller treatment in future.

ACKNOWLEDGMENTS

As with previous studies, the current work has been performed with support, or partial support, by the Texas Water Development Board, Water Research Planning Fund, authorized under the Texas Water Code sections 15.402 and 16.058(e). This support was administered by the Board under interagency cooperative contract number: 2003-483-471.

I must acknowledge the significant contributions of Mr. Rick Kalke, an outstanding field person and taxonomist. The work reported on in this study could not have been performed without him. Carrol Simanek also provided significant help in data management. We obviously are collecting and processing a large amount of data. Mr. Chris Kalke aided in field collections. Dr. Tracy Villareal and Ms. Lynn Tinnin performed nutrient analyses and chlorophyll measurements. Dr. Hudson DeYoe, University of Texas-Pan American, performed sampling in the Rio Grande.

This work has also benefitted by discussions with colleagues at the Texas Water Development Board (TWDB), e.g., David Brock, and Gary Powell who have provided much help and guidance. The study also benefitted by partial support form the University of Texas at Austin, Marine Science Institute.

INTRODUCTION

From the early 1970's to 2000, Texas Water Development Board (TWDB) freshwater inflow studies focused on the major bay systems of the Texas coast. These bay systems, which are influenced primarily by river inflow, are now well understood. In particular, UTMSI researchers have completed several studies on the effect of freshwater inflow on macrobenthos productivity in these open bay systems (Kalke and Montagna, 1991; Montagna, 1989; 1999; 2000; Montagna, and Kalke, 1992; 1995; Montagna, and Li, 1996; Montagna, and Yoon, 1991). These studies have demonstrated that regional scale processes and long-term hydrological cycles regulate benthic abundance, productivity, diversity and community structure. Thus, there are three major causes of changes in estuarine productivity in Texas related to freshwater inflow: 1) year-to-year climatic variability in rain, temperature, and wind, which affects precipitation and evaporation, 2) a latitudinal climatic gradient of decreasing precipitation superimposed on a soils gradient of increasing sand content, which results in reduced inflow from northeast to southwest, and 3) the salinity gradients within estuaries from rivers to the sea. The overall result of these studies is to demonstrate the need for minimum inflow requirements on an estuary-scale or a watershed-level basis.

Attention is now focused on minimum inflows required by minor bays and river-dominated estuaries. Freshwater inflow into minor bays is generally dominated by non-point source runoff or an indirect source via circulation from adjacent systems. The river-dominated estuaries drain directly into the Gulf of Mexico rather than into a bay. These drowned-river valley ecosystems are thus uniquely different from the typical bar-built estuaries of Texas that are characterized by large open bays. Because the minor bay and river-dominated estuaries are different from the typical Texas estuary, new studies are required to elucidate how inflow affects productivity in those systems. The TWDB will be required to complete freshwater inflow assessments on minor bays and river estuaries between the years 2002 and 2006. Until the current series of reports, there was very little information available on the biotic response to inflow in these two types of ecosystems. The first report (Montagna 2001) focused on East Matagorda Bay. The second report (Montagna 2002) focused on the South Bay Coastal Preserve.

The current final report will be for Christmas Bay Coastal Preserve because this system is the focus of the assessment in 2004 (Table 1).

Benthos are excellent indicators of environmental effects of a variety of stressors because they are abundant and diverse, and are sessile and long-lived relative to plankton or nekton. Therefore, benthos integrate changes in temporal dynamics of ecosystem factors over long time scales and large spatial scales. Benthos abundance, biomass, and diversity were measured to assess inflow effects on ecosystem productivity. In addition, relevant water quality variables (i.e., salinity, temperature, dissolved oxygen, nutrients, and chlorophyll) were measured during each sampling period to assess inflow effects on the overlying water, which affects benthos. Sampling was performed to continued a long-term study of two river estuaries (Brazos and Rio Grande), complete a 2-year study of Christmas Bay Coastal Preserve, and initiate a 3-year study of the Cedar Lakes and the San Bernard River Estuary.

Table 1. Long-term schedule for sampling minor bay and river-dominated systems. Table finds number of stations and total number of samples. Total number of samples is the product of the number of stations, three replicates per station, and four seasonal sampling trips per station.

Minor Bay / River Estuary	Fiscal Year (Study Year Number)				
	FY2001(1)	FY2002(2)	FY2003(3)	FY2004(4)	FY2005(5)
East Matagorda Bay	3 (36)				
South Bay Coastal Preserve	2 (24)	2 (24)			
Rio Grande River Estuary	3 (36)	3 (36)	3 (36)	3 (36)	3 (36)
Christmas Bay Coast. Pres.		3 (36)	3 (36)		
Cedar Lakes			2 (24)	2 (24)	2 (24)
San Bernard River Estuary			2 (24)	2 (24)	2 (24)
Brazos River Estuary	3 (36)	3 (36)	3 (36)	3 (36)	3 (36)
TOTAL Stations (samples)	11 (132)	11 (132)	13 (156)	10 (120)	10 (120)

METHODS

Study Area and Sampling Design

This study has one objective (i.e., task): to determine temporal and spatial variability of benthic parameters, as they indicate secondary productivity, related to differences of freshwater inflow in minor bays and river-dominated estuaries. Northern and southern river systems that flow directly to the ocean were studied in the third year of this program (Table 1). The southern system was the Rio Grande and the northern system was the Brazos River. In addition an assessment of a minor bay, the Christmas Bay Coastal Preserve, was completed. The Brazos River and Christmas Bay Coastal Preserve are near one another and connected by the Intracoastal Waterway. Sampling was also initiated in the San Bernard River estuary and Cedar Lakes region. The Brazos River and Rio Grande represent the river estuaries in Texas having the highest and lowest inflow respectively, so comparison of these systems over the long-term is desirable.

Station location in all areas was chosen based on experience, sediment type, depth found on NOAA navigation charts, and constraints of sampling logistics. The locations of stations was recorded from a Garmin 215 differential GPS receiver (Table 2).

Three stations on the lower Rio Grande were chosen between the confluence with the Gulf of Mexico and the Brownsville weir (Figure 1). Station A was furthest upstream (7.8 mi) from the Gulf of Mexico and station B was 0.8 mi downstream. Station C was closest (3.4 miles) to the Gulf of Mexico. In April 2002, it was discovered that station C was not on the main channel fo the river, but in a meander to the north of the main channel. Therefore a new station (D) was occupied in the main channel. The new station is located about 100 meters from station C, but in the main channel. It is likely that under prevailing conditions (mouth of river closed) at that time, the hydrographics of the two sites were about the same. Sampling at station C was resumed in the fall 2002 after having been missed in July 2002. A new station, E (N 25°57'57.2" W 97°10'25.2") 1.1 river miles downstream of station D and 3.16 river miles from the mouth was added during this sampling period.

A sand bar formed and closed the mouth of the Rio Grand to exchange with the Gulf about the first week of February 2001. The mouth was artificially opened with a backhoe on 18 July 2001 by the International Boundary and Water Commission (U.S. State Department). However, it closed again on or about 1 November 2001. One year later, on or about November 2, 2002 a large rain storm event occurred near the river mouth, east of Brownsville. The rain event built enough pressure to breach the berm formed on the beach at the river mouth restoring exchange between the river and the sea. The mouth has been open since that date (Randy Blankenship, personal communication, May 20, 2003). The mouth was open when The Rio Grande was sampled in late November 2002. There was a mild salinity gradient in January 2003. Based on available reports, the river mouth was not blocked during the sampling period (October 2002 to July 2003) and in fact heavy rain occurred in October to November 2002 that delayed sampling of stations C and E for a month.

A new water project is planned for the lower Rio Grande a few miles from Brownsville. The Brownsville Weir and Reservoir is intended to provide additional dependable water supplies for municipal and industrial use by capturing and diverting "excess" flows of the United States waters in the Rio Grande that would otherwise flow past Brownsville and discharge into the Gulf of Mexico. The proposed project consists of a weir structure across the channel of the Rio Grande approximately eight miles downstream of the Gateway Bridge at Brownsville. The Firm Yield would be 20,640 acre-feet. The environmental impacts could include disruption of wetland/riparian habitat including threatened and endangered species and cultural resources, reduced instream flows downstream of the weir, and salinity changes downstream of the project. An article in the Corpus Christi Caller Times, December 13, 2003, indicated the proposed project would receive a permit from the U.S. Army Corps of Engineers in late December.

Three Brazos River stations (A, B and C) were chosen along the estuary gradient (Figure 2). Station C was closest 1.124 km (0.70 miles) to the Gulf of Mexico, and B was 3.428 km (2.13 miles) upstream within the River. Station A was furthest upstream within the River and 5.922 km (3.68 miles) from the Gulf of Mexico. Thus, stations A and B were west of the Intracoastal waterway (ICW), and station C was east of the ICW.

Two stations were sampled in the San Bernard River estuary (Figure 2). Station A was west of the ICW and upstream in the fresher part of the river-estuary, and station B was east of the ICW. Station B was closest 1.090 km (0.68 miles) to the Gulf of Mexico, and station A was 5.921 km (3.68 miles) upstream within the River.

Two stations were sampled in the Cedar Lakes minor bays (Figure 2). Both stations were east of the ICW and south of the San Bernard River. Station A was closest to the San Bernard River and station B was the furthest south and furthest from the Gulf of Mexico as well.

Three stations were sampled in Christmas Bay Coastal Preserve (Figure 3). Christmas Bay lies east of the ICW.

Table 2. Locations are given in degrees and decimal seconds format. Readings were made with a GPS unit using differential signal reception.

Estuary	Station	Latitude (N)	Longitude (W)
Christmas Bay	A	29° 02.717′	95° 12.500′
	B	29° 02.833′	95° 11.000′
	C	29° 04.000′	95° 11.000′
San Bernard	A	28° 52.946′	95° 28.429′
	B	28° 51.713′	95° 26.274′
Cedar Lakes	A	28° 51.493′	95° 27.672′
	B	28° 50.895′	95° 29.599′
Brazos River	A	28° 55.670′	95° 23.050′
	B	28° 54.322′	95° 23.176′
	C	28° 53.103′	95° 22.923′
Rio Grande River	A	25° 57.584′	97° 13.662′
	B	25° 57.796′	97° 12.668′
	C	25° 57.720′	97° 11.105′
	D	25° 57.610′	97° 11.089′
	E	25° 57.953′	97° 10.420′

In previous benthic studies (Montagna, 2000), quarterly sampling has been demonstrated to be effective to capture the temporal benthic dynamics, while economizing on temporal replication. Thus, quarterly sampling took place in October 2002 and January, April, and July 2003. The timing of the sampling is based on experience, and captures the major seasonal inflow events and temperature change in Texas estuaries. Each quarter, three replicates are required for benthos per station. Thus, a typical station yields 12 benthic samples per year.

During each sampling period ancillary environmental data is also collected. Water quality and inflow characteristics are indicated by measuring salinity, nutrient concentrations, and chlorophyll concentrations in the water column overlying sediment. Once each year, sediment characteristics, e.g., grain size, porosity, and elemental content are also measured.

Hydrographic Measurements

Salinity, conductivity, temperature, pH, dissolved oxygen, and redox potential were measured at the surface and bottom at each station during each sampling trip using multiprobe water quality meters. The sonde unit is lowered to just beneath the surface (within 5 - 10 cm) and just above the bottom (within 10 - 20 cm).

Most measurements were made by lowering a YSI 6920 multiprobe sonde. The data are displayed on a YSI 610DM meter. The manufacturer states that the accuracy of each reading as follows: DO % saturation ± 2%, DO ± 0.2 mg/l, conductivity greater of ± 0.5% if reading or ± 0.001 mS/cm, temperature ± 0.15 °C, ph ± 0.2 units, depth ± 0.02 m, and salinity greater of ± 1% of reading or ± 0.1 ppt. Salinities levels are automatically corrected to 25°C. In addition, refractometer readings were made from water samples.

In South Bay and Rio Grande hydrographic measurements are made (by UT Pan Am staff) using a Hydrolab Surveyor 4. The following parameters are read from the digital display unit (accuracy and units): temperature (± 0.15 °C), pH (± 0.1 units), dissolved oxygen (mg/l ± 0.2), specific conductivity (± 0.015 - 1.5 mmhos/cm depending on range), and salinity (ppt). Salinity is automatically corrected to 25 C. Depth is measured with a calibrated PVC pole.

Chlorophyll and Nutrient Measurements

Water samples were collected using a vertically mounted Van Dorn bottle. Bottom water was collected approximately 20 cm from the sediment surface. Water for chlorophyll analysis was filtered onto glass fiber filters and placed on ice (<4.0 °C). Nutrient samples were filtered to remove biological activity (0.45 μm polycarbonate filters) and placed on ice (<0.4 °C). Chlorophyll will be extracted overnight and read fluorometrically on a Turner Model 10-AU using a non-acidification technique (Welschmeyer, 1994; EPA method 445.0). Nutrient analysis was conducted using a LaChat QC 8000 ion analyzer with computer controlled sample selection and peak processing. Chemistries are as specified by the manufacturer and have ranges as follows: nitrate+nitrate (0.03-5.0 μM; Quikchem method 31-107-04-1-A), silicate (0.03-5.0 μM; Quikchem method 31-114-27-1-B), ammonium (0.1-10 μM; Quikchem method 31-107-06-5-A) and phosphate (0.03-2.0 μM; Quikchem method 31-115-01-3-A).

Geological Measurements

Sediment grain size analysis was also performed. Sediment core samples were taken by diver and sectioned at depth intervals 0-3 cm and 3-10 cm. Analysis followed standard geologic procedures (Folk, 1964; E. W. Behrens, personal communication). Percent contribution by weight was measured for four components: rubble (e.g. shell hash), sand, silt, and clay. A 20 cm^3 sediment sample was mixed with 50 ml of hydrogen peroxide and 75 ml of deionized water to digest organic material in the sample. The sample was wet sieved through a 62 μm mesh stainless steel screen using a vacuum pump and a Millipore Hydrosol SST filter holder to separate rubble and sand from silt and clay. After drying, the rubble and sand were separated on a 125 μm screen. The silt and clay fractions were measured using pipette analysis.

Biological Measurements

Sediment was sampled with core tubes held by divers. The macrofauna were sampled with a tube 6.7 cm in diameter, and sectioned at depth intervals of 0-3 cm and 3-10 cm. Three replicates were taken within a 2 m radius. Samples were preserved with 5% buffered formalin,

sieved on 0.5 mm mesh screens, sorted, identified to the lowest taxonomic level possible, and counted.

Each macrofauna sample was also used to measure biomass. Individuals were combined into higher taxa categories, i.e., Crustacea, Mollusca, Polychaeta, Ophiuroidea, and all other taxa were placed together in one remaining sample. Samples were dried for 24 h at 55 °C, and weighed. Before drying, mollusks were placed in 1 N HCl for 1 min to 8 h to dissolve the carbonate shells, and washed with fresh water.

Sediment Nitrogen Measurements

Sediments cores were taken to measure nitrogen changes with respect to sediment depth. Cores are taken to a depth of 1 m and 1-cm sections are taken at a range of depth intervals. The range for vertical sectioning follows a logarithmic pattern, because it is anticipated that nitrogen is buried at the surface and degrades slowly over time. Distance from the surface is indicative of time since burial. The sediment is dried, ground up, and homogenized prior to analysis.

Carbon and nitrogen content, as a percent dry weight of sediment, and carbon and nitrogen isotopic composition were measured. Samples were run using a Finnigan delta plus mass spectrometer linked to a CE instruments NC2500 elemental analyzer. This system uses a Dumas type combustion chemistry to convert nitrogen and carbon in solid samples to nitrogen and carbon dioxide gases. These gases are purified by chemical methods and separated by gas chromatography. The stable isotopic composition of the separated gases is then determined by a mass spectrometer designed for use with the NC2500 elemental analyzer. Standard material of known isotopic composition is run every tenth sample to monitor the system and ensure the quality of the analyses.

Statistical Analyses

Statistical analyses were performed using SAS software (SAS 1991). All data (except when calculating diversity) were log transformed prior to analysis. A two-way ANOVA was

used to test for differences in macrofauna abundance, biomass, and diversity within sampling dates and sites. Because all samples were pooled to calculate diversity, there is no interaction for that test. If a significant interaction was encountered then simple main effects were examined. Analysis of simple main effects is accomplished by converting the treatments into a one-way ANOVA for each date*site cell.

Community structure of macrofauna species was analyzed by multivariate methods. Ordination of samples was performed using the non-metric multidimensional scaling (MDS) procedure described by Clarke and Warwick (2001) and implemented in Primer software (Clarke and Gorley 2001). The software creates a Bray-Curtis similarity matrix among all samples and then an MDS plot of the spatial relationship among the samples. The data set contains two main effects: sampling date and site, so the MDS patterns were plotted twice, once using the site name as the symbol and once using the sample sequence number as the symbol.

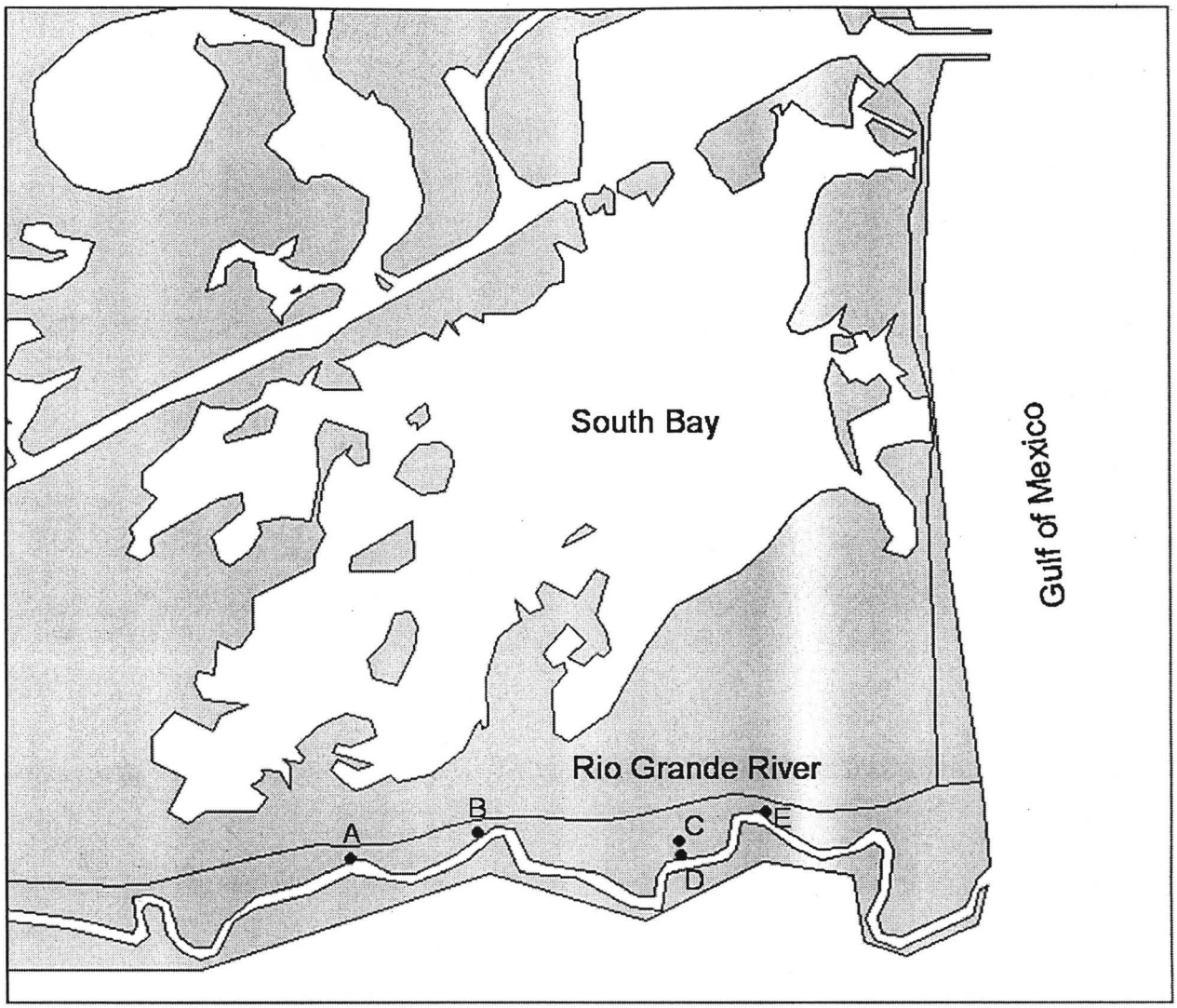

Figure 1. Sampling locations in the Rio Grande River.

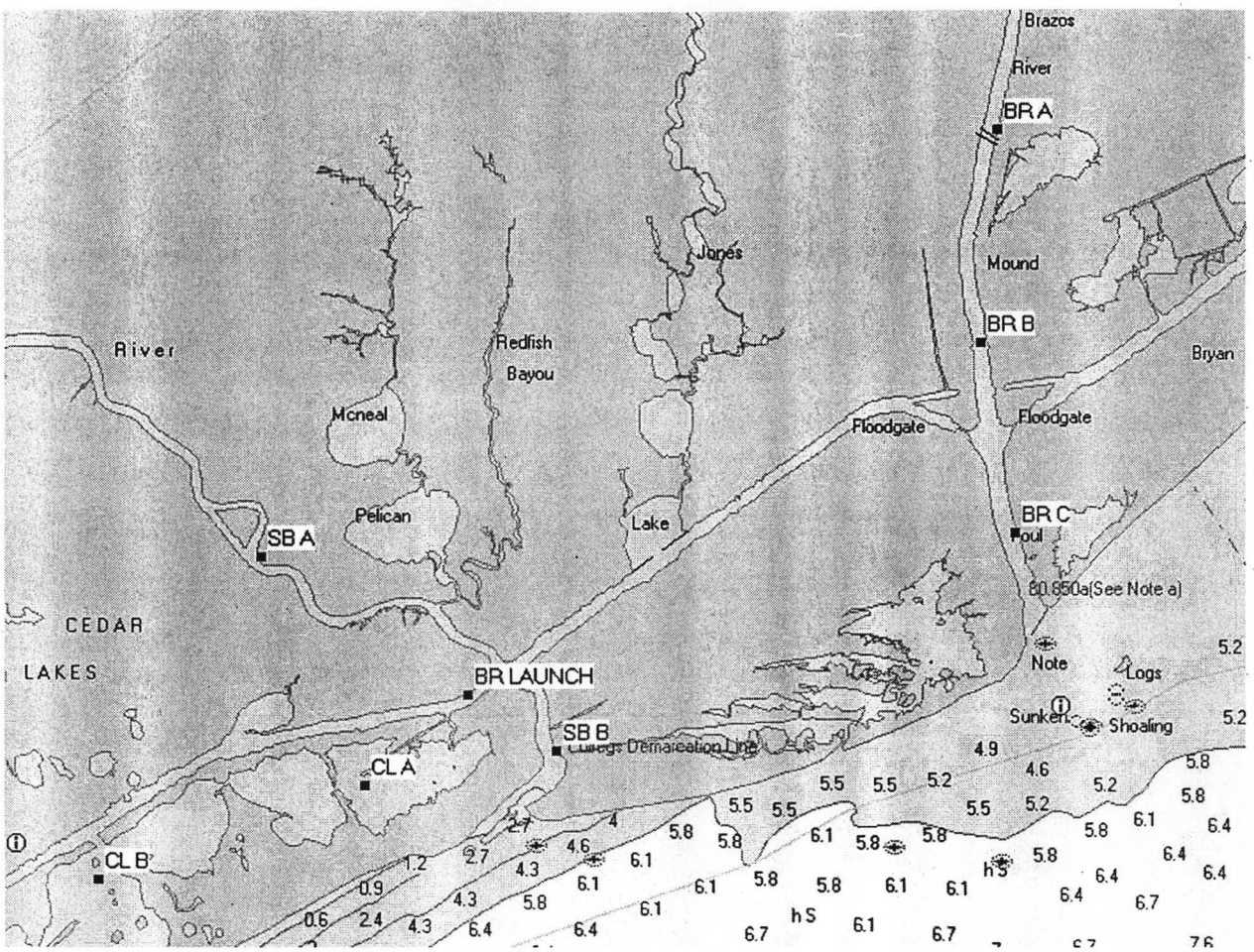

Figure 2. Sampling locations in the Brazos River, San Bernard River, and Cedar Lakes. Abbreviations: BR = Brazos River, SB = San Bernard River, and CL = Cedar Lakes. Water depths (m) listed in Gulf of Mexico. Chart by Blue Chart Mapsource software.

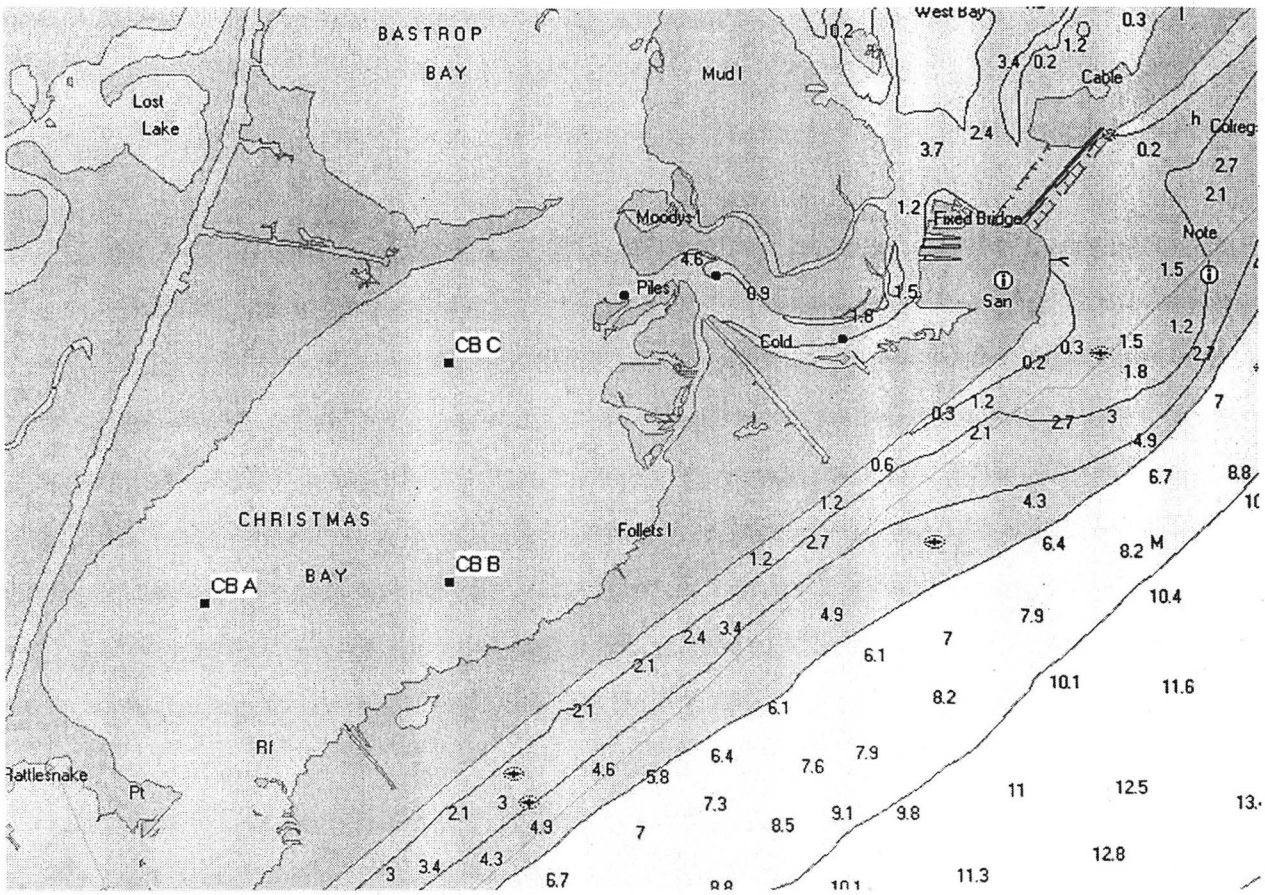

Figure 3. Sampling locations in Christmas Bay. Water depths (m) listed in Gulf of Mexico. Chart by Blue Chart Mapsource software.

RESULTS

Brazos River and Rio Grande

Preliminary analysis indicates the Brazos River and Rio Grande are sometimes similar and sometimes quite different (Figure 4). The Rio Grande is under going severe changes because of reduced inflow to that system. In the first week of February 2001, a sand bar formed at the mouth of the Rio Grande blocking exchange with the Gulf of Mexico. The effect was to transform the Rio Grande into a lake rather than an estuary. The mouth was artificially opened on 18 July 2001 the International Boundary and Water Commission, but closed again on about 1 November 2001. This lake-like effect is evidenced by the lower salinities over the course of the present study in the Rio Grande relative to the Brazos River. The Rio Grande was open to the Gulf in 2003 and consequently salinities returned to estuary-like brackish conditions.

The Brazos has a larger range of salinity than the Rio Grande, alternating from nearly full strength sea water to fresh water (Figure 4). The Brazos River salinity was high in October and July and lower in January and April in all years. Except for October 2000 and July 2002, salinity was similar in both rivers in spite of being in very different climatic zones.

The largest difference between the rivers is in the nutrient-chlorophyll dynamics (Figure 4). The Brazos has much higher dissolved inorganic nitrogen (DIN) concentrations than the Rio Grande, yet much lower chlorophyll (chl) concentrations. The chl values in the Brazos River are quite low, averaging about 9 ug l^{-1} compared to 26 ug l^{-1} in the Rio Grande. In contrast, DIN concentrations in the Brazos River averaged 50 umol l^{-1} compared to 14 umol l^{-1} in the Rio Grande. During sampling it was noted that the Rio Grande has a great deal of cyanobacteria and filamentous green algae, which likely adds to the high productivity of that system.

Biomass is a good indicator of secondary benthic productivity. Biomass was four times higher in the Rio Grande than in the Brazos River (Figure 5). Biomass averaged 3.81 g^{-2} ($\pm$ 1.75 g^{-2} standard deviation) in the Rio Grande compared to 0.83 g^{-2} ($\pm$ 0.45 g^{-2} standard deviation) in the Brazos River. Concordantly, abundance was also four times higher, being 15,900 individuals

m^{-2} (± 11,100 individuals m^{-2}) in the Rio Grande compared to only 5, 300 individuals m^{-2} (± 2,200 individuals m^{-2}) in the Brazos River. Biomass usually had opposite trends over time in the two systems, e.g., from October 2000 through July 2001 and July 2002 through April 2003. However, from August 2001 through July 2002 the biomass trends were the same.

The communities in the two systems are quite different (Figure 6). This was evidenced by the dominance of molluscs in the Rio Grande and dominance of polycheates in the Brazos River. Typically, molluscan dominance indicates the fauna is dominated by species responsive to freshwater inflow (Table 3). Certain bivalve species, particularly *Macoma mitchelli* and *Rangia flexuosa*, are indicator species that are responsive to inflow.

It is too early in the study to make conclusions, but preliminary data indicates that the two systems work quite differently. The Rio Grande appears to be more influenced by freshwater inflow than the Brazos River. However the difference with the connection with the sea is a confounding factor with difference in inflow, so it will take several years of data collection to get a better understanding of the average conditions in these two systems. The lack of strong exchange with the Gulf of Mexico in 2001 caused the Rio Grande to change from an estuarine ecosystem to a freshwater ecosystem, but from late 2002 through 2003 the system returned to brackish conditions typical of an estuary.

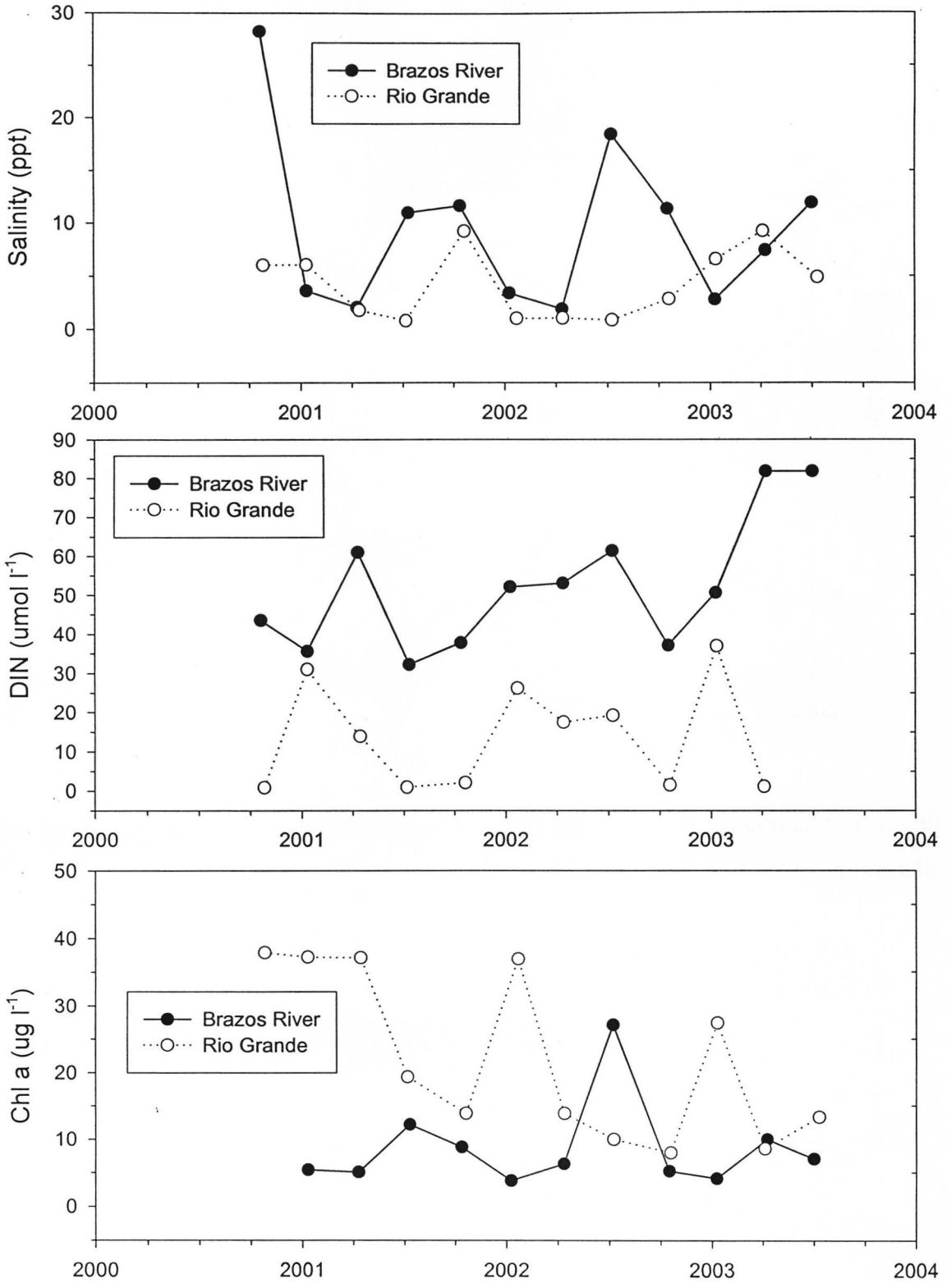

Figure 4. Salinity, dissolved inorganic nitrogen (DIN), and chlorophyll in the Brazos River and Rio Grande. Average over all stations and depths at all sampling periods.

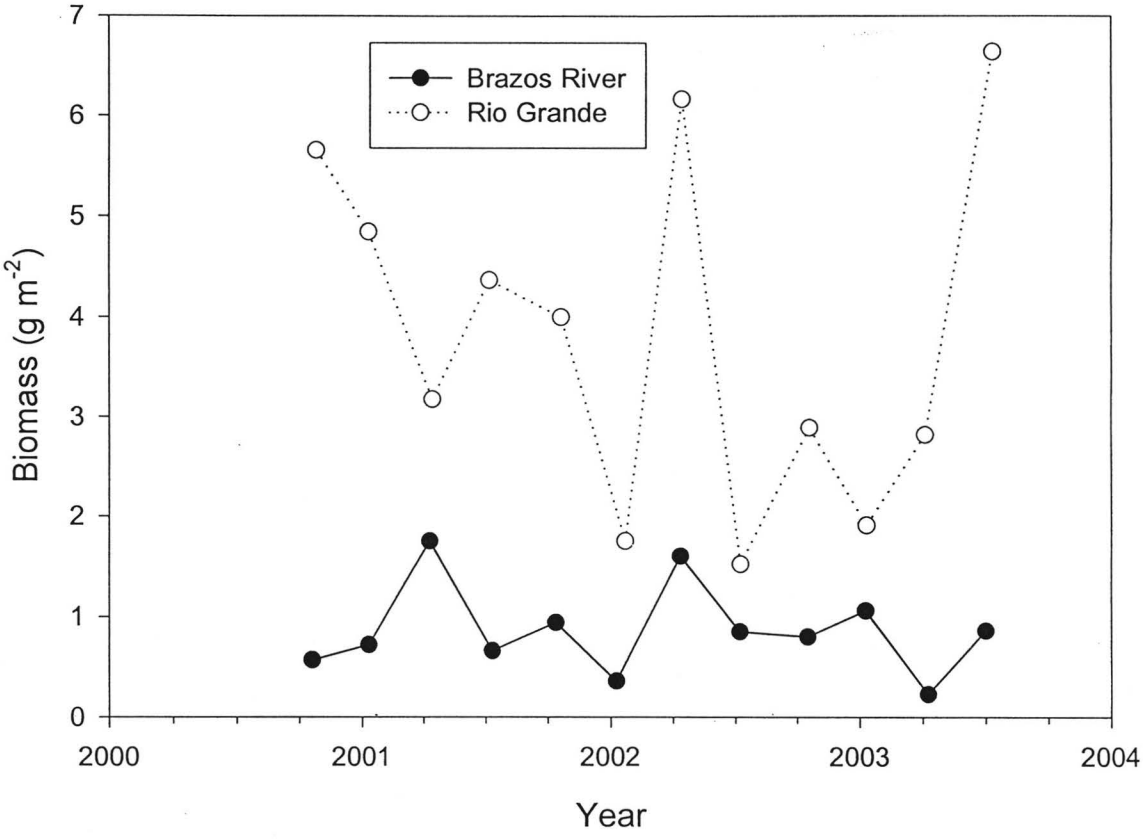

Figure 5. Macrofauna biomass in the Brazos River and Rio Grande. Average over all stations at all sampling periods.

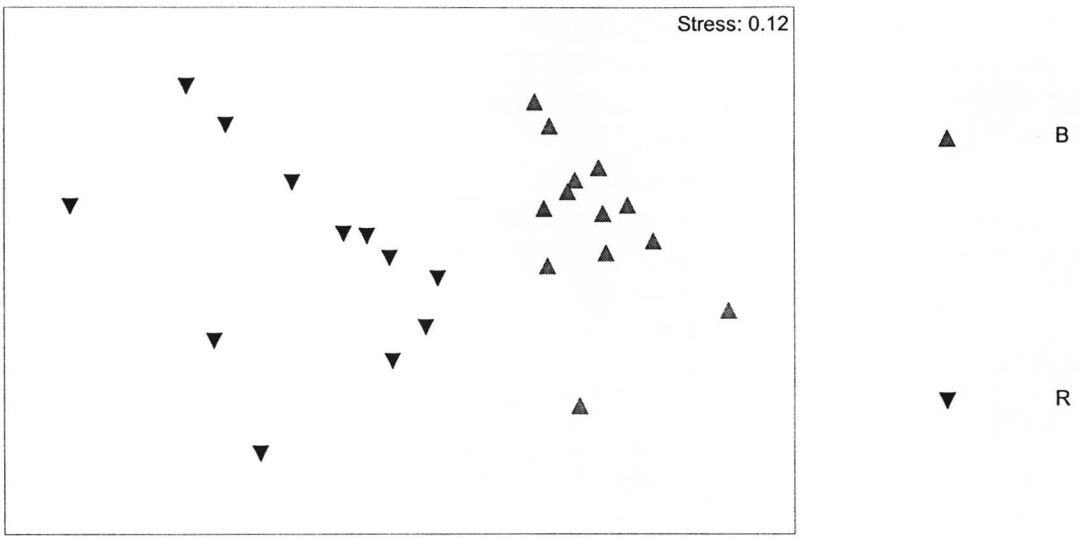

Figure 6. Multidimensional scaling (MDS) plot of community similarity between rivers and dates. Each point is a different sampling date, and the symbols are for the Brazos River (▲B) and the Rio Grande (▼R).

Table 3. Macrofauna species from the Brazos River and Rio Grand. Number individuals m^{-2}.

Phylum	Species	Brazos	Rio Grande
Anthozoa	Anthozoa (unidentified)	4	
Platyhelmintes	Turbellaria (unidentified)	4	
Nemertinea	Rhynchocoela (unidentified)	276	760
Mollusca	Neritina virginea		323
	Texadina sphinctostoma		20
	Nudibranchia (unidentified)		8
	Pelecypoda (unidentified)		39
	Brachidontes exustus		225
	Mulinia lateralis	8	154
	Rangia flexuosa		4
	Macoma tenta		4
	Tellidora cristata		4
	Macoma mitchelli		252
	Abra aequalis		4
	Tagelus plebeius		4
Polychaeta	Phyllodocidae (unidentified)	4	
	Parandalia ocularis	91	
	Gyptis vittata	8	
	Exogone sp.		8
	Neanthes succinea	51	
	Laeonereis culveri		386
	Nereidae (unidentified)	8	4
	Polydora ligni	39	611
	Paraprionospio pinnata	8	
	Polydora socialis	453	8
	Streblospio benedicti	4538	2821
	Polydora caulleryi	16	
	Polydora sp.		71
	Cossura delta	20	
	Haploscoloplos fragilis	4	
	Capitella capitata	35	4
	Heteromastus filiformis		8
	Mediomastus ambiseta	2852	7501
	Capitellidae (unidentified)		4
	Samythella eliasoni		4
	Hobsonia florida	4	
	Sabellidae (unidentified)		4
	Oligochaetes (unidentified)	130	1710
Crustacea	Ilyocryptus spinifer		83
	Ostracoda (unidentified)	4	43
	Cyclopoida (commensal)	4	
	Pseudodiaptomus pelagicus		4
	Penaeus setiferus		4

	Callianassa sp.	24	
	Megalops	12	
	Mysidopsis almyra		12
	Gammarus mucronatus		12
	Corophium louisianum	4	682
	Microprotopus spp.	8	
	Grandidierella bonnieroides	4	4
	Munnidae sp.		4
Insecta	Diptera (unidentified)		4
	Chironomid larvae	39	11732
	Ceratopogonid larvae		311
	Damselfly numphs	4	4
	Potamanthidae (unidentified)		276
Hemichordata	Schizocardium sp.	4	
	Total	8659	28116

San Bernard River and Cedar Lakes

Only one year of data has been collected, but preliminary analysis indicates the Cedar Lakes minor bays and the San Bernard River are at the same time similar in terms of hydrography and total community productivity, but quite different in terms of community structure. The San Bernard River is a tidal estuary with freshwater inflow and connection to the sea. In contrast, the Cedar Lakes are coastal lagoons with neither direct river inflow nor a direct connection with the sea.

The Cedar Lakes minor bays and the San Bernard River have remarkably similar salinities and salinity patterns over time (Figure 7). The salinities range from near fresh water (1.7 psu) to near sea water (23.7). Salinities are lowest in fall and winter and highest in spring and summer. There are slightly higher, about 4 psu, salinities in the Cedar lakes than in San Bernard.

The Cedar Lakes minor bays and the San Bernard River have Brazos have remarkably similar nutrient-chlorophyll dynamics (Figure 7). There is slightly higher dissolved inorganic nitrogen (DIN) concentrations than the San Bernard River than the Cedar Lakes and the chlorophyll (Chl) concentrations are nearly the same. The Chl values in the Cedar Lakes is averaging about 5.9 ug l^{-1} compared to 8.1 ug l^{-1} in the San Bernard River, but the difference is due entirely to one point in July 2003. The DIN concentrations in the San Bernard River are higher, averaging 21 umol l^{-1} compared to 14 umol l^{-1} in the Cedar Lake.

Biomass was twice as high in the Cedar Lakes minor bays than in the San Bernard River (Figure 8). Biomass averaged 1.15 g $^{-2}$ (± 0.44 g $^{-2}$ standard deviation) in the Cedar Lakes compared to 0.66 g $^{-2}$ (± 0.43 g $^{-2}$ standard deviation) in the San Bernard River. However, abundance was higher, being 5,900 individuals m^{-2} (± 3,500 individuals m^{-2}) in the San Bernard River compared to only 5, 300 individuals m^{-2} (± 1,700 individuals m^{-2}) in the Cedar Lakes. Biomass was fairly constant in the Cedar Lakes, but increased throughout the year in the San Bernard River.

The communities in the two systems are quite different (Figure 9). On one hand both systems had similar numbers of species (15 for Cedar Lakes and 16 for San Bernard River) and both systems were dominated by the same two polycheate species (Table 4). On the other hand, the ranks were not the same. Cedar Lakes were dominated by *Mediomastus ambistea* and the San Bernard River was dominated by *Streblospio benedicti*. More revealing is that the more rare species were very different in the two ecosystems, with each system having six species that did not occur in the other ecosystem. Oligocheates were highly abundant in Cedar Lakes, but the San Bernard River did not have a third dominant species. No filter or suspension feeding mollusks were found in either system.

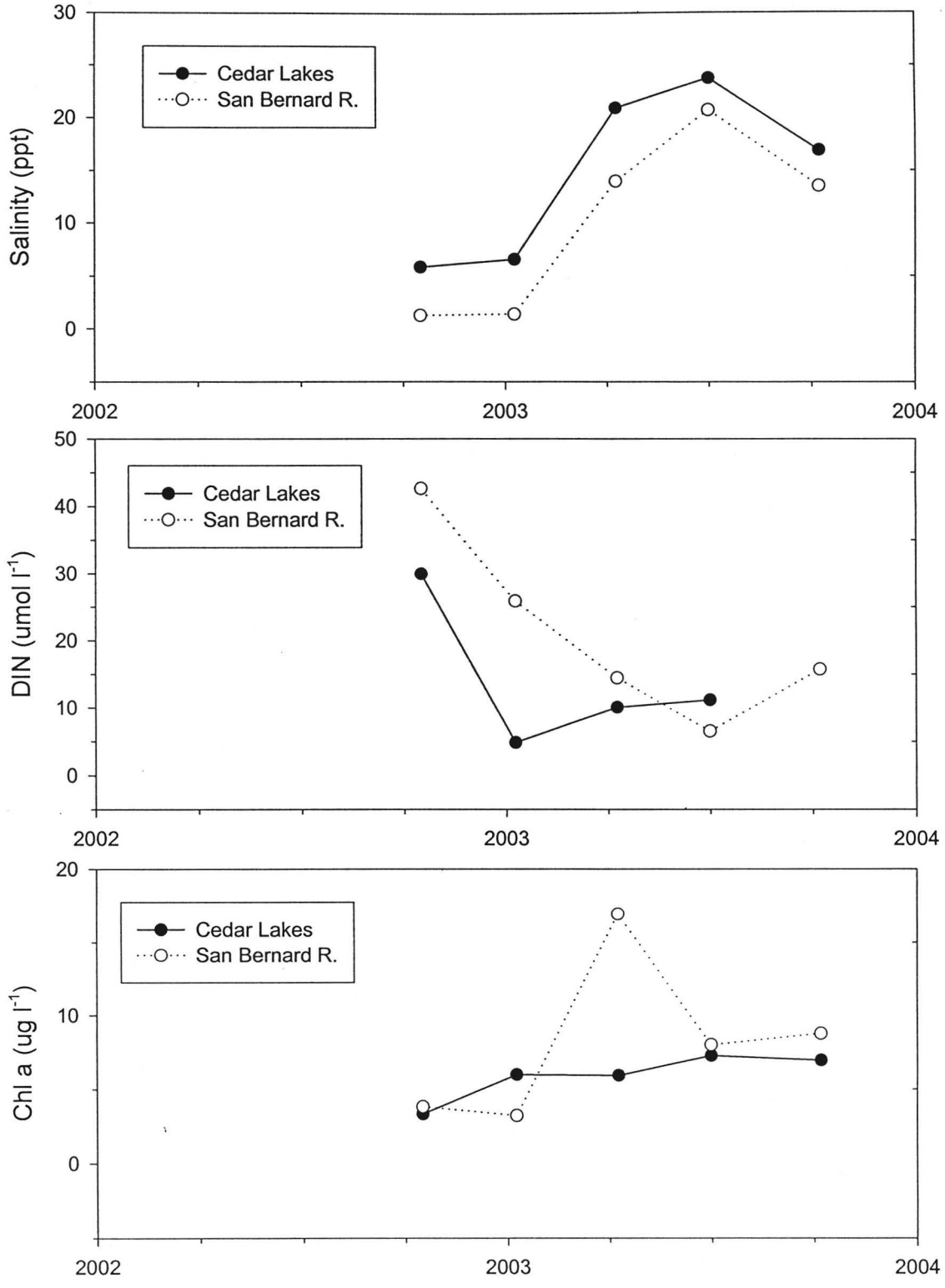

Figure 7. Salinity, dissolved inorganic nitrogen (DIN), and chlorophyll in the Cedar Lakes and San Bernard River. Average over all stations and depths at all sampling periods.

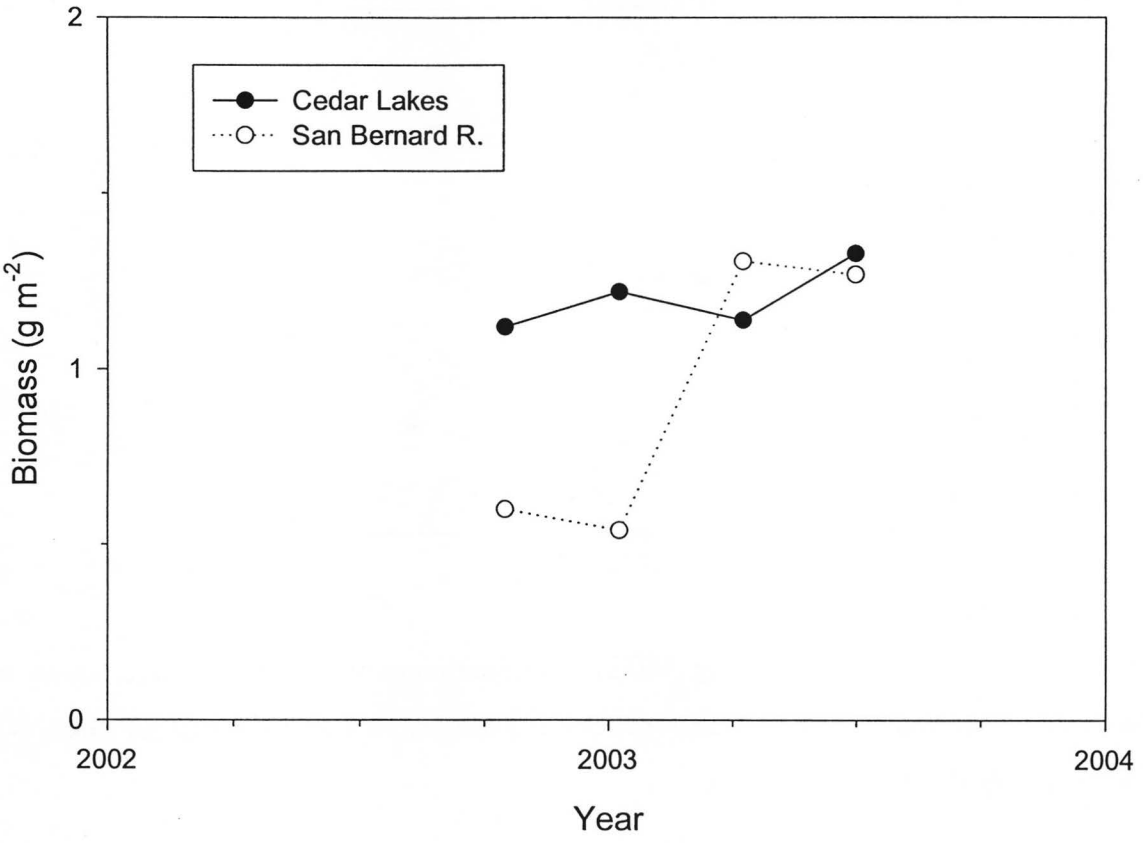

Figure 8. Macrofauna biomass in the Cedar Lakes and San Bernard River. Average over all stations at all sampling periods.

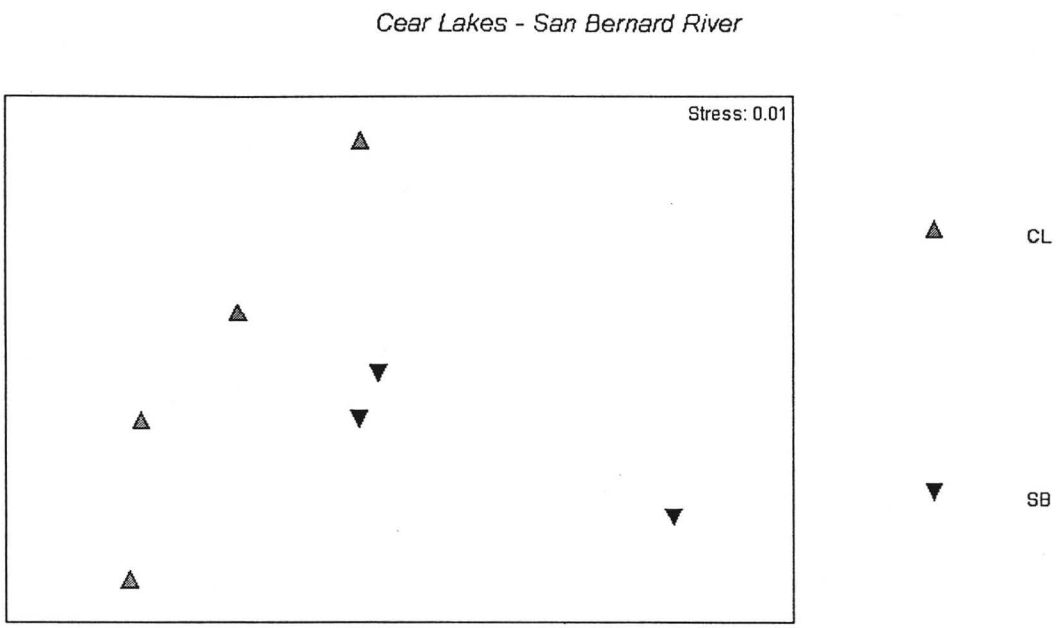

Figure 9. Multidimensional scaling (MDS) plot of community similarity between rivers and dates. Each point is a different sampling date, and the symbols are for the Cedar Lakes (▲C) and the San Bernard (▼S).

Table 4. Macrofauna species from the Cedar Lakes and San Bernard River. Number individuals m^{-2}.

Phylum	Species Name	Cedar Lakes	San BernardRiver
Nemertinea	Rhynchocoela (unidentified)	24	47
Mollusca	Texadina sphinctostoma		12
Polychaeta	Sigambra bassi		47
	Sigambra tentaculata		24
	Parandalia ocularis		24
	Gyptis vittata		24
	Microphthalmus abberrans	83	
	Nereidae (unidentified)	12	
	Polydora ligni	59	12
	Paraprionospio pinnata	12	12
	Malacoceros indicus	12	
	Streblospio benedicti	1146	3723
	Polydora caulleryi		12
	Spionidae (unidentified)		12
	Capitella capitata	83	35
	Heteromastus filiformis	24	
	Mediomastus ambiseta	2718	1016
	Hobsonia florida	12	
Oligochaeta	Oligochaetes (unidentified)	875	71
Crustacea	Ostracoda (unidentified)	24	
	Edotea montosa	12	
Insecta	Chironomid larvae	189	59
Hemichordata	Schizocardium sp.		35
	Total	5283	5165

Christmas Bay Coastal Preserve

Hydrographic parameters were similar at all stations within Christmas Bay throughout the entire sampling period (Figure10). The high salinity values and seasonal pattern indicates that little freshwater inflow is moving into Christmas Bay. However, the bay never had wide range of salinity, nor was it hypersaline. Temperature was the same at all stations and followed a typical seasonal trend with lowest temperatures in winter. However, much colder temperatures were noticed in January 2002 than in January 2003. Dissolved oxygen was never low, the lowest value recorded was 5.1 mg l^{-1}.

The overall average salinity was 25.7 ppt (± 1.9 standard deviation) and ranged from 22.5 to 28.2 ppt. The overall average temperature was 21.2 °C (± 6.5 standard deviation) and ranged from 10.6 to 29.6 °C. The overall average dissolved oxygen (DO) concentration was 7.4 mg l^{-1} (± 1.3 standard deviation) and ranged from 5.6 to10.47 mg l^{-1}. The lowest DO concentrations occurred in July 2002 and July 2003.

Macrofauna

Macrofauna biomass was significantly different among all stations (2-way ANOVA, $P < 0.001$) and sampling dates (2-way ANOVA, $P = 0.0028$) (Figure 11). There was no significant interaction between stations and dates (2-way ANOVA, $P = 0.15$). The average biomass at station C was 16.21 g m^{-2} compared to an average biomass of 8.21 g m^{-2} at station A, and an average biomass of 1.83 g m^{-2} at station B. Macrofauna abundance was significantly different among all stations (2-way ANOVA, $P < 0.001$) and sampling dates (2-way ANOVA, $P = 0.0144$) (Figure 6). There was no significant interaction between stations and dates (2-way ANOVA, $P = 0.0816$). Average abundance was 26,035 individuals m^{-2} at station C, 21,391 individuals m^{-2} at station A, and 6,346 individuals m^{-2} at station B.

Abundance and biomass average over the whole bay followed a similar pattern during both 2002 and 2003 (Figure 12). Abundance and biomass reached peak values in spring (April) of both years, and lowest values in Fall and Winter (October and January) of each year. In July

2002, abundance and biomass were at the lowest value and this correlated to highest values of salinity, temperature and DO recorded over the 2-year period. The highest organismal responses in Spring correlated with the lowest temperatures. Temperatures were lower in April 2003 than in January 2003, but this is more likely due to sampling right after a cold front in April rather than a generally cold spring.

A total of 100 species was found in Christmas Bay (Table 5). Mollusca (50 species) dominated the species list, having more species than Polychaeta (19 species) and Crustacea (17 species) combined. The other 14 species were distributed among eight other phyla.

The top six dominant species were polychaetes (Table 6). These species made up 70% of all individuals found. The co-dominant species were the polychaetes *Mediomastus ambiseta* (25%) and *Cirrophorus lyra* (22%). Both of these species are deposit feeders. *Streblospio benedicti*, an interface dwelling species that can deposit- and suspension feed, was the 10th dominant species comprising only 1.8% of all individuals found. Although Mollusca were very diverse (50 species), they were not very abundant nor dominant. The dominant mollusc was the bivalve *Periploma orbiculare* and it was the seventh most dominant species comprising only 3.6% of all individuals found. The top 20 dominant species comprised 90% of the fauna overall. The remaining 80 species were relatively rare, each comprising less than 0.5% of the individuals found.

A multidimensional scaling (MDS) analysis was performed on species data to determine if community structure was homogenous throughout Christmas Bay and over time. Station differences appeared to be important (Figure 13). For all sampling dates, stations A, B, and C were separate from one another. Stations A and C were slightly more similar to each other and station B was the most distinct. Stations A and C were similar in that several dominant species were abundant there but lacking or not abundant at Station B, e.g., *Tharyx setiger, Polydora caulleryi,* and *Mysella planuata* (Table 6). In contrast, the two most dominant species, *Mediomastus ambiseta* and *Cirrophophorus lyra,* were equally abundant at stations A and C, but had lesser abundance at station B. *Cossura delta* was most abundant species that was found predominantly at station B. Other species that characterized station B were Oligochaeta and

Molgula manhattensis. For the most part the species abundance patterns at stations A and C were very similar. Dominant species that were more common at Station A were *Periploma orbiculare*, *Streblopspio benedicti*, and *Branchioasychis americana*. Dominant species that were more common at station C were *Tharyx setiger, Lumbineris parvapedata, Mysella planulata, Rhynchocoela, Clymenella torquataq,* and *Periploma margaritaceum*. There was no evidence of state shifts in the temporal dynamics of the community structure (Figure 14).

Most individuals were found in the bottom, not the surface samples (Table 7). On average 7,237 m^{-2} (40 %) were found in the top 3 cm of the core (i.e., 0 cm to 3 cm in depth), and 10,676 m^{-2} (60 %) were found in the bottom 7 cm (i.e., 3 cm to 10 cm in depth). Analysis of the 20 dominant species explains the co-dominance by *Mediomastus ambiseta* and *Cirrophophorus lyra*, because *M. ambiseta* is found predominantly in the surface and *C. lyra* is found predominantly in the subsurface.

Species diversity was generally similar at all stations in spite of the densities being nearly four times lower station B (Table 8). On average, during each sampling period, 26 species were found at station A compared to 14 at station B, and 33 at station C. In spite of these difference in species richness, the diversity indices were similar. The Shannon index (H′) was 2.3 at station A, 2.1 at station B, and 2.5 at station C. The number of dominant species (Hill's N1) was also similar, 10 at station A, 9 at station B, and 12 at station C. On average, there appears to be a slight, but non-significant, trend of increasing diversity from C to A to B. There was a seasonal trend. Diversity was typically highest in April and July and lowest in October.

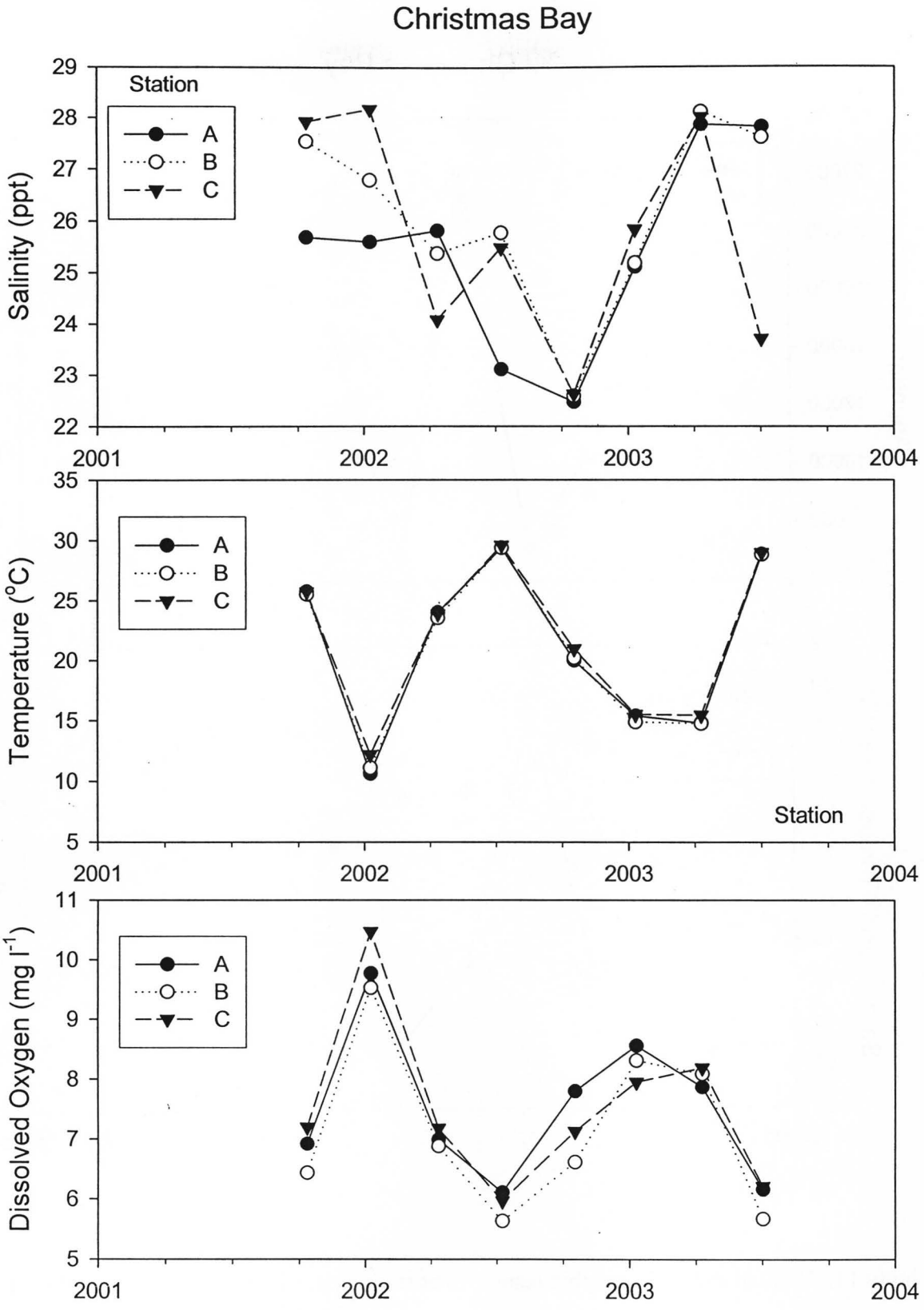

Figure 10. Salinity, temperature and dissolved oxygen at stations in Christmas Bay.

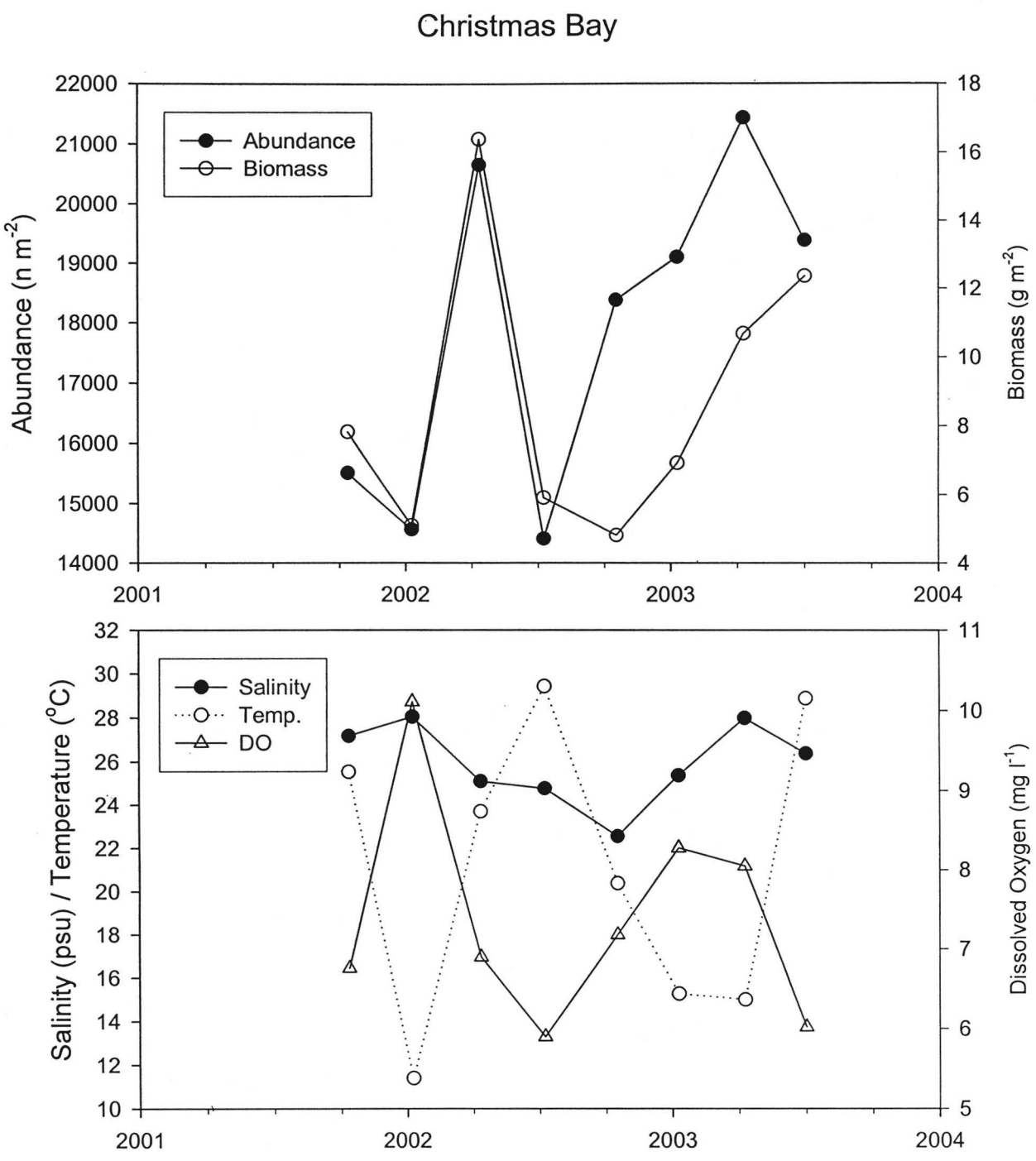

Figure 11. Benthic and hydrographic responses at stations in Christmas Bay. Top) Macrofauna abundance and biomass. Bottom) Salinity, temperature, and dissolved oxygen.

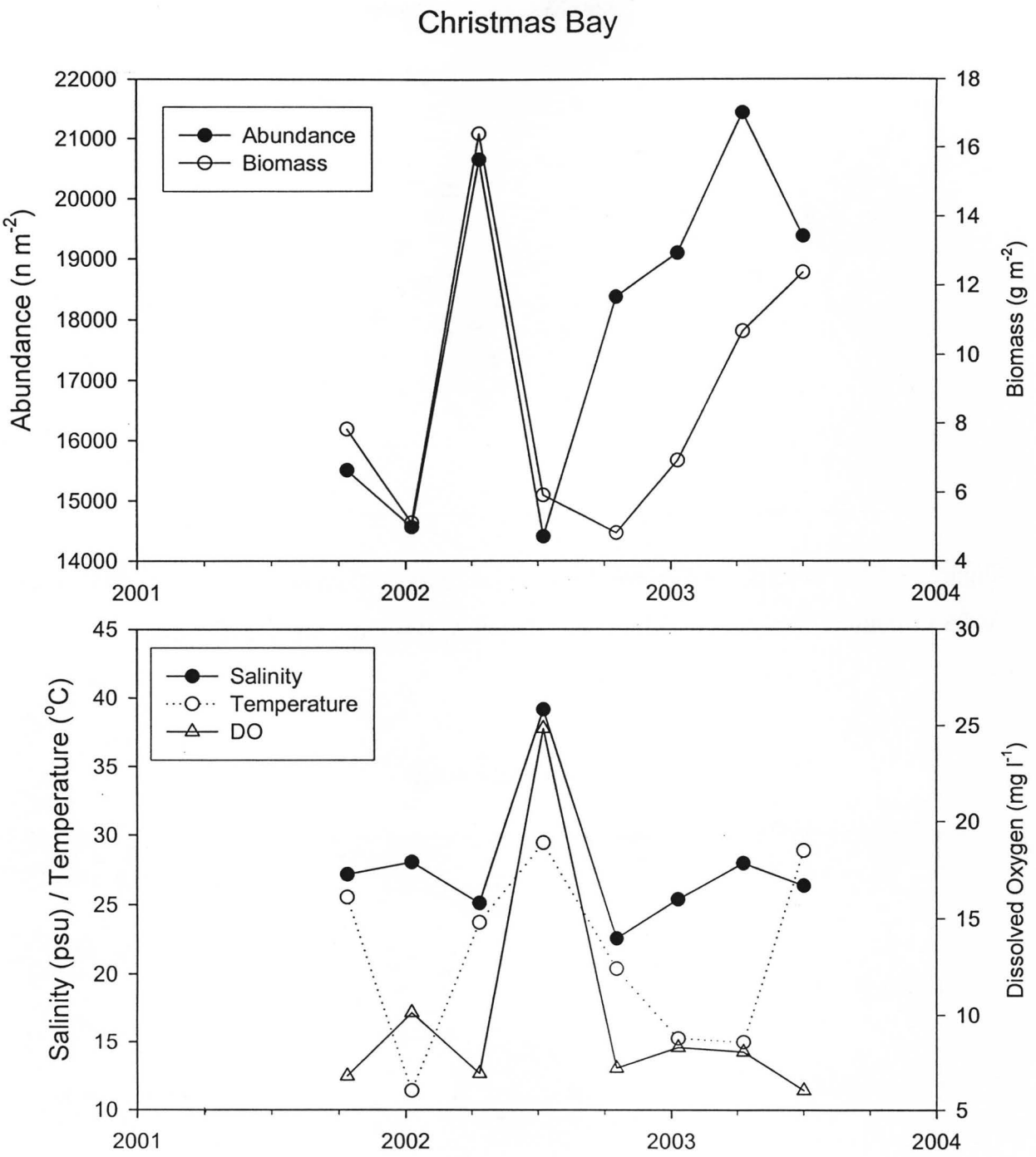

Figure 12. Biotic and abiotic characteristics; averaged overall stations in Christmas Bay. Top) Macrofauna abundance and biomass. Bottom) Salinity, temperature, and dissolved oxygen.

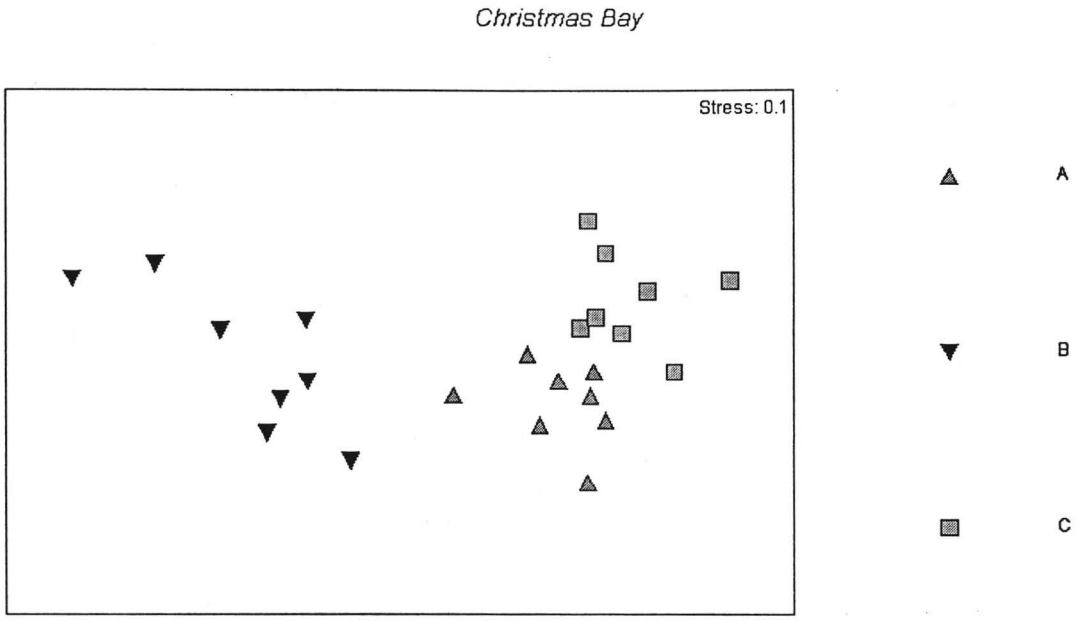

Figure 13. Plot of station differences based on macrofauna community structure computed by MDS Christmas Bay. Abbreviations: A = station A, B = station B, and C = station C.

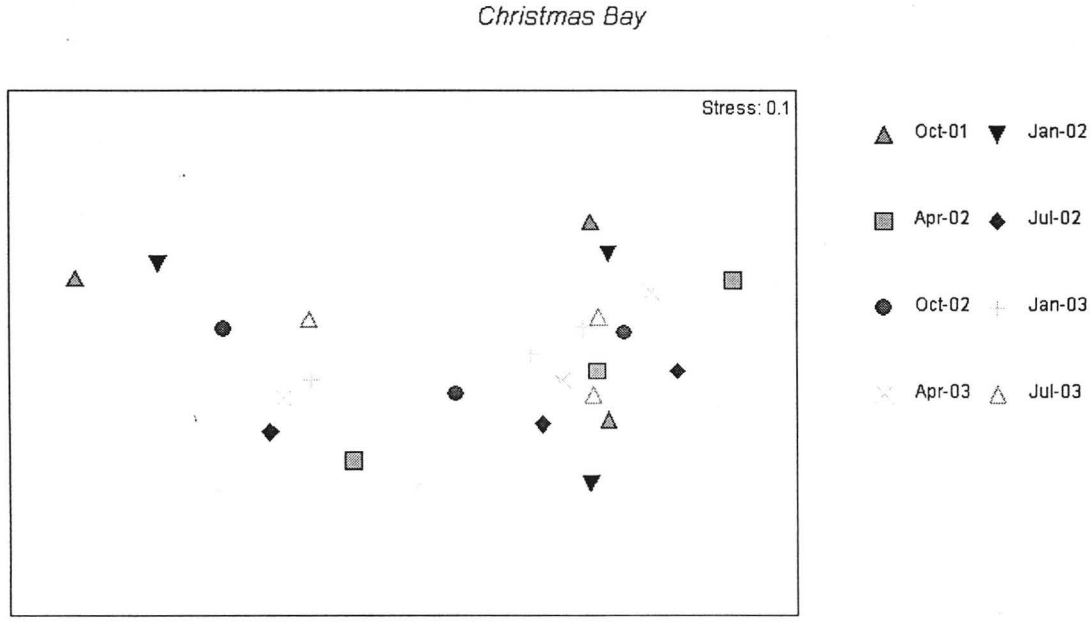

Figure 14. Plot of sampling dates differences based on MDS analysis of macrofauna species in Christmas Bay.

Table 5. Systematic list of species found in Christmas Bay during the study period. Average abundance (n m^{-2}) over all samples and sampling dates (October 2001 through July 2003).

Taxonomic name	Abundance
Cnidaria	
Anthozoa	
Anthozoa (unidentified)	16
Platyhelminthes	
Turbellaria	
Turbellaria (unidentified)	8
Rynchocoela	
Cerebratulus lacteus	16
Rhynchocoela (unidentified)	327
Phoronida	
Phoronis architecta	8
Mollusca	
Gastropoda Cuvier,1797	
Ctenobranchia Schweigger, 1820	
Vitrinellidae	
Vitrinellidae (unidentified)	12
Caecidae Gray, 1850	
Caecum johnsoni	63
Stegaonbranchia VonIhering,1876	
Acteonidae Orbigny, 1835	
Acteon punctostriatus	8
Acteocinidae	
Acteocina canaliculata	12
Entomotaeniata Cossman,1896	
Pyramidellidae	
Pyrgiscus sp.	47
Eulimostoma sp.	4
Pelecypoda	
Nuculoidea Dall, 1889	
Nuculanidae	
Nuculana acuta	47
Nuculana concentrica	20
Veneroidea H. & A. Adams, 1858	
Ungulinidae	
Diplodonta punctata	4
Hippuritoidea Newell, 1965	
Kelliidae Forbes & Hanley,1848	
Aligena texasiana	102
Leptonidae	
Mysella planulata	370
Mactridae	
Mulinia lateralis	63
Cultellidae	

Ensis minor	4
Tellinidae	
Tellina sp.	4
Semelidae	
Abra aequalis	20
Veneridae	
Mercenaria campechiensis	4
Myoidea Stoliczka,1870	
Corbulidae	
Corbula contracta	4
Pholadomyoidea Newell, 1965	
Pandoridae	
Pandora trilineata	8
Lyonsiidae	
Lyonsia hyalina floridana	39
Periplomatidae	
Periploma cf. orbiculare	646
Periploma margaritaceum	205
Annelida	
Polychaeta	
Polynoidae	
Malmgreniella taylori	59
Palmyridae (= Chrysopetalidae)	
Paleanotus heteroseta	4
Phyllodocidae	
Eumida sanguinea	4
Paranaitis speciosa	12
Pilargiidae	
Pilargis berkelyae	12
Sigambra bassi	4
Sigambra tentaculata	4
Ancistrosyllis jonesi	24
Parandalia ocularis	8
Hesionidae	
Gyptis vittata	378
Microphthalmus abberrans	20
Syllidae	
Sphaerosyllis cf. sublaevis	91
Sphaerosyllis sp. A	47
Nereidae	
Ceratonereis irritabilis	28
Nereidae (unidentified)	12
Glyceridae	
Glycera americana	35
Goniadidae	
Glycinde solitaria	98

Onuphidae	
Diopatra cuprea	4
Lumbrineridae	
Lumbrineris parvapedata	717
Arabellidae	
Drilonereis magna	20
Dorvilleidae	
Schistomeringos rudolphi	4
Schistomeringos sp. A	95
Spionidae	
Minuspio cirrifera	8
Paraprionospio pinnata	67
Spiophanes bombyx	4
Streblospio benedicti	327
Polydora caulleryi	1008
Magelonidae	
Magelona phyllisae	4
Chaetopteridae	
Spiochaetopterus costarum	4
Cirratulidae	
Tharyx setigera	1465
Cossuridae	
Cossura delta	307
Paraonidae	
Cirrophorus lyra	3892
Aricidea catharinae	981
Aricidea bryani	16
Capitellidae	
Mediomastus californiensis	4
Notomastus latericeus	47
Mediomastus ambiseta	4463
Maldanidae	
Branchioasychis americana	225
Clymenella torquata	284
Euclymene sp. B	98
Axiothella mucosa	8
Axiothells sp. A	28
Maldanidae (unidentified)	16
Ampharetidae	
Melinna maculata	71
Terebellidae	
Amaenana trilobata	4
Pista palmata	8
Hauchiella sp.	20
Terebellidae (unidentified)	12
Sabellidae	

Chone sp.	4
Megalomma bioculatum	12
Oligochaeta	
Oligochaetes (unidentified)	126
Echiuridea	
Echiuridae (unidentified)	12
Crustacea	
Ostracoda	
Myodocopa	
Sarsiella texana	8
Sarsiella disparalis	8
Malacostraca	
Reptantia	
Portunidae	
Callinectes sapidus	4
Pinnotheridae	
Pinnixa sp.	12
Brachyuran Larvae	
Megalops	4
Brachyuran zoea	12
Mysidacea	
Mysidopsis sp.	4
Cumacea	
Cyclaspis varians	8
Oxyurostylis sp.	8
Leucon sp.	47
Eudorella sp.	24
Amphipoda	
Ampeliscidae	
Ampelisca abdita	47
Ampelisca verrilli	8
Oedicerotidae	
Monoculodes sp.	16
Corophiidae	
Corophium louisianum	4
Microprotopus spp.	28
Liljeborgiidae	
Listriella barnardi	32
Listriella clymenellae	28
Insecta	
Pterygota	
Diptera	
Ceratogonidae	
Ceratopogonid larvae	4
Echinodermata	
Ophiuroidea	

Amphiodia atra	118
Chordata	
Urochordata	
Ascidiaceae	
Molgula manhattensis	67
Hemichordata	
Schizocardium sp.	162

Table 6. Species dominance in Christmas Bay. Mean abundance (n m^{-2}) and per cent composition of species over all samples.

Species	A	B	C	Mean	Percent
Mediomastus ambiseta	5,685	1,737	5,968	4,463	24.91
Cirrophorus lyra	5,082	1,052	5,543	3,892	21.72
Tharyx setigera	1,194	0	3,203	1,465	8.18
Polydora caulleryi	1,442	24	1,560	1,008	5.63
Aricidea catharinae	1,241	449	1,253	981	5.47
Lumbrineris parvapedata	650	307	1,194	717	4.00
Periploma cf. orbiculare	1,395	95	449	646	3.61
Gyptis vittata	567	118	449	378	2.11
Mysella planulata	366	47	697	370	2.07
Streblospio benedicti	414	414	154	327	1.82
Rhynchocoela (unidentified)	189	225	567	327	1.82
Cossura delta	154	697	71	307	1.71
Clymenella torquata	83	0	768	284	1.58
Branchioasychis americana	508	47	118	225	1.25
Periploma margaritaceum	35	0	579	205	1.14
Schizocardium sp.	130	47	307	162	0.90
Oligochaetes (unidentified)	35	295	47	126	0.70
Amphiodia atra	142	0	213	118	0.66
Aligena texasiana	35	0	272	102	0.57
Glycinde solitaria	118	106	71	98	0.55
Euclymene sp. B	106	0	189	98	0.55
Schistomeringos sp. A	95	47	142	95	0.53
Sphaerosyllis cf. sublaevis	177	0	95	91	0.51
Melinna maculata	106	0	106	71	0.40
Molgula manhattensis	0	177	24	67	0.37
Paraprionospio pinnata	24	83	95	67	0.37
Caecum johnsoni	189	0	0	63	0.35
Mulinia lateralis	95	71	24	63	0.35
Malmgreniella taylori	35	0	142	59	0.33
Leucon sp.	142	0	0	47	0.26
Nuculana acuta	95	0	47	47	0.26
Pyrgiscus sp.	59	12	71	47	0.26
Notomastus latericeus	47	24	71	47	0.26
Sphaerosyllis sp. A	24	0	118	47	0.26
Ampelisca abdita	0	24	118	47	0.26
Lyonsia hyalina floridana	71	47	0	39	0.22
Glycera americana	12	12	83	35	0.20
Listriella barnardi	24	0	71	32	0.18
Axiothells sp. A	47	0	35	28	0.15
Ceratonereis irritabilis	35	0	47	28	0.15
Microprotopus spp.	12	0	71	28	0.15
Listriella clymenellae	12	0	71	28	0.15
Ancistrosyllis jonesi	47	0	24	24	0.13

Eudorella sp.	35	35	0	24	0.13
Abra aequalis	12	12	35	20	0.11
Microphthalmus abberrans	12	0	47	20	0.11
Hauchiella sp.	12	0	47	20	0.11
Nuculana concentrica	59	0	0	20	0.11
Drilonereis magna	0	0	59	20	0.11
Cerebratulus lacteus	47	0	0	16	0.09
Anthozoa (unidentified)	24	12	12	16	0.09
Maldanidae (unidentified)	12	24	12	16	0.09
Aricidea bryani	0	0	47	16	0.09
Monoculodes sp.	0	0	47	16	0.09
Vitrinellidae (unidentified)	35	0	0	12	0.07
Pilargis berkelyae	35	0	0	12	0.07
Brachyuran zoea	35	0	0	12	0.07
Nereidae (unidentified)	24	0	12	12	0.07
Acteocina canaliculata	12	0	24	12	0.07
Megalomma bioculatum	12	0	24	12	0.07
Pinnixa sp.	0	12	24	12	0.07
Paranaitis speciosa	0	0	35	12	0.07
Terebellidae (unidentified)	0	0	35	12	0.07
Echiuridae (unidentified)	0	0	35	12	0.07
Parandalia ocularis	12	12	0	8	0.04
Sarsiella texana	12	0	12	8	0.04
Sarsiella disparalis	12	0	12	8	0.04
Minuspio cirrifera	0	12	12	8	0.04
Turbellaria (unidentified)	0	0	24	8	0.04
Phoronis architecta	0	0	24	8	0.04
Acteon punctostriatus	0	0	24	8	0.04
Pandora trilineata	0	0	24	8	0.04
Axiothella mucosa	0	0	24	8	0.04
Pista palmata	0	0	24	8	0.04
Cyclaspis varians	0	0	24	8	0.04
Oxyurostylis sp.	0	0	24	8	0.04
Ampelisca verrilli	0	0	24	8	0.04
Diplodonta punctata	12	0	0	4	0.02
Ensis minor	12	0	0	4	0.02
Corbula contracta	12	0	0	4	0.02
Paleanotus heteroseta	12	0	0	4	0.02
Diopatra cuprea	12	0	0	4	0.02
Megalops	12	0	0	4	0.02
Eulimostoma sp.	0	12	0	4	0.02
Callinectes sapidus	0	12	0	4	0.02
Corophium louisianum	0	12	0	4	0.02
Tellina sp.	0	0	12	4	0.02
Mercenaria campechiensis	0	0	12	4	0.02
Eumida sanguinea	0	0	12	4	0.02

Sigambra bassi	0	0	12	4	0.02
Sigambra tentaculata	0	0	12	4	0.02
Schistomeringos rudolphi	0	0	12	4	0.02
Spiophanes bombyx	0	0	12	4	0.02
Magelona phyllisae	0	0	12	4	0.02
Spiochaetopterus costarum	0	0	12	4	0.02
Mediomastus californiensis	0	0	12	4	0.02
Amaenana trilobata	0	0	12	4	0.02
Chone sp.	0	0	12	4	0.02
Mysidopsis sp.	0	0	12	4	0.02
Ceratopogonid larvae	0	0	12	4	0.02
Total	21,393	6,312	26,036	17,919	100.00

Table 7. Depth distribution of 20 most dominant species Christmas Bay. Mean abundance (individuals m^{-2}) by section depth (cm).

	Station (Section Depth)							
	A		B		C		Average	
Species Name	0-3	3-10	0-3	3-10	0-3	3-10	0-3	3-10
Mediomastus ambiseta	3,380	2,305	638	1,099	3,463	2,505	2,494	1,970
Cirrophorus lyra	1,442	3,640	35	1,016	1,099	4,444	859	3,033
Aricidea catharinae	1,075	165	154	295	993	260	741	240
Periploma cf. orbiculare	945	449	24	71	319	130	429	217
Lumbrineris parvapedata	307	343	95	213	674	520	358	358
Streblospio benedicti	414	0	355	59	154	0	307	20
Clymenella torquata	71	12	0	0	378	390	150	134
Rhynchocoela (unidentified)	95	95	47	177	284	284	142	185
Periploma margaritaceum	0	35	0	0	390	189	130	75
Gyptis vittata	189	378	0	118	142	307	110	268
Mysella planulata	118	248	24	24	177	520	106	264
Sphaerosyllis cf. sublaevis	177	0	0	0	95	0	91	0
Glycinde solitaria	106	12	59	47	71	0	79	20
Euclymene sp. B	83	24	0	0	154	35	79	20
Branchioasychis americana	118	390	35	12	59	59	71	154
Polydora caulleryi	95	1,347	0	24	95	1,465	63	945
Mulinia lateralis	95	0	71	0	24	0	63	0
Cossura delta	0	154	165	532	0	71	55	252
Tharyx setigera	12	1,182	0	0	154	3,049	55	1,410
Schizocardium sp.	71	59	12	35	83	225	55	106

Table 8. Species diversity characteristics for Christmas Bay. Abbreviations: N = total number of individuals found in all 24 samples (=8 dates × 3 replicates), S = species number, J' = Pielous's evenness index, H' = Shannon diversity index, N1 = Hill's number of dominant species.

Station	Date	N	S	J'	H'(loge)	N1
A	Oct-01	269	29	0.68	2.3	10
A	Jan-02	190	20	0.72	2.1	9
A	Apr-02	235	32	0.71	2.5	12
A	Jul-02	187	26	0.72	2.3	10
A	Oct-02	184	20	0.73	2.2	9
A	Jan-03	253	28	0.69	2.3	10
A	Apr-03	255	25	0.69	2.2	9
A	Jul-03	237	31	0.72	2.5	12
	Average	226	26	0.71	2.3	10
B	Oct-01	32	8	0.81	1.7	5
B	Jan-02	58	11	0.82	2.0	7
B	Apr-02	75	16	0.74	2.1	8
B	Jul-02	53	11	0.93	2.2	9
B	Oct-02	46	12	0.84	2.1	8
B	Jan-03	77	18	0.82	2.4	11
B	Apr-03	99	17	0.77	2.2	9
B	Jul-03	94	16	0.87	2.4	11
	Average	67	14	0.82	2.1	9
C	Oct-01	191	26	0.72	2.3	10
C	Jan-02	214	34	0.72	2.5	13
C	Apr-02	345	37	0.73	2.7	14
C	Jul-02	217	35	0.74	2.6	14
C	Oct-02	350	34	0.67	2.4	11
C	Jan-03	276	37	0.72	2.6	13
C	Apr-03	326	33	0.69	2.4	11
C	Jul-03	284	28	0.74	2.5	12
	Average	275	33	0.72	2.5	12

Sediment Composition

Sediment chemical composition was slightly different among the Christmas Bay stations (Table 9). The overall average porosity in Christmas Bay was 46.1 % for the upper 10 cm of sediment. There was trend of increasing porosity from station C to A, to B. The average nitrogen stable isotope ($\delta\ ^{15}N$) value was 6.4 ‰. Stations A and B were similar, but station C had the lightest nitrogen isotope value. The average carbon stable isotope value for the Christmas Bay was -11.7 ‰. There were striking differences among stations. Station A had the heaviest values (-6.8 ‰), followed by Station C (-13.3 ‰), and Station D was the lightest (-15.0 ‰). These values correlated somewhat with the percent total carbon (C) and total organic carbon (TOC) values. Station C had the lowest carbon content (0.45 %) and the lowest TOC content (0.26%), but Station C had the highest carbon content (1.70 %) and station B had the highest TOC content (0.55 %). There was very little total nitrogen (N) in the sediments averaging only 0.06 % overall. Carbon content was also low averaging 0.98 , and TOC averaged 0.41 %.

The sediments were primarily composed of sandy-silt (50 % plus 28 % respectively) (Table 10). Clay composed 19% overall. There were slight station differences. Station C was the sandiest (71 %). Station B was the silitest (38 %). Station A had the highest rubble (7 %) and clay (24 %) content.

Water Column Composition

There was no difference among Christmas Bay stations or over time for temperature, dissolved oxygen, phosphate, silicate, nitrate+nitrite (NN), ammonia and chlorophyll *a* (Chl) content (2-way ANOVA). Over time, Chl was highest in October and July. Phosphate and total dissolved inorganic nitrogen (DIN), or any nitrogen species was not correlated over time. Salinity and Chl were generally not correlated with any nutrient parameter. Two exceptions were that there was a positive relationship between Chl and SIO_4 ($r = 0.53$, $P = 0.0\ 241$), and there was an inverse relationship between ammonium and salinity ($r = -0.64$, $P = 0.0043$). However, Chl was significantly correlated to temperature ($r = 0.67$, $P = 0.0003$), and inversely correlated to DO ($r = -0.63$, $P = 0.0011$).

Table 9. Sediment chemistry in Christmas Bay. Stable isotope values are δ15N and δ13C, and elemental composition values are percent nitrogen (N), carbon (C), and total organic carbon (TOC). Section depths are: 3 = 0 to 3 cm, 10 = 7 - 10 cm.

Date	Station	Section	Porosity	δ15N	N	δ13C	C	TOC
			(%)	(‰)	(%)	(‰)	(%)	(%)
12-Oct-2001	A	1	49.1	7.6	0.06	-5.1	2.13	0.47
12-Oct-2001	A	3	43.7	7.2	0.06	-3.4	2.79	0.44
17-Oct-2002	A	1	50.0	6.8	0.05	-9.0	0.93	0.34
17-Oct-2002	A	3	44.2	6.3	0.06	-9.8	0.93	0.39
Average			46.7	6.9	0.06	-6.8	1.70	0.41
12-Oct-2001	B	1	55.1	6.7	0.07	-14.8	0.81	0.50
12-Oct-2001	B	3	55.5	6.5	0.09	-15.2	0.93	0.63
17-Oct-2002	B	1	57.4	6.1	0.07	-14.9	0.71	
17-Oct-2002	B	3	56.6	5.9	0.08	-15.1	0.77	0.52
Average			56.1	6.3	0.08	-15.0	0.80	0.55
12-Oct-2001	C	1	34.2	6.0	0.03	-12.2	0.38	0.20
12-Oct-2001	C	3	33.1	6.5	0.04	-14.3	0.49	0.30
17-Oct-2002	C	1	41.2	5.5	0.04	-13.4	0.45	0.25
17-Oct-2002	C	3	33.6	5.6	0.04	-13.3	0.50	0.30
Average			35.5	5.9	0.04	-13.3	0.45	0.26
Grand Average			46.1	6.4	0.06	-11.7	0.98	0.41

Table 10. Sediment grain size in Christmas Bay.

Station	Section (cm)	Rubble	Sand	Silt	Clay
A	0 - 3	7.7%	45.3%	31.0%	16.1%
A	3 - 10	6.1%	32.9%	30.0%	31.0%
Average		6.9%	39.1%	30.5%	23.5%
B	0 - 3	0.2%	39.9%	40.3%	19.6%
B	3 - 10	0.3%	39.8%	36.2%	23.7%
Average		0.3%	39.8%	38.3%	21.6%
C	0 - 3	1.2%	81.0%	12.2%	5.6%
C	3 - 10	1.0%	60.0%	20.2%	18.8%
Average		1.1%	70.5%	16.2%	12.2%
Grand Average		2.8%	49.8%	28.3%	19.1%

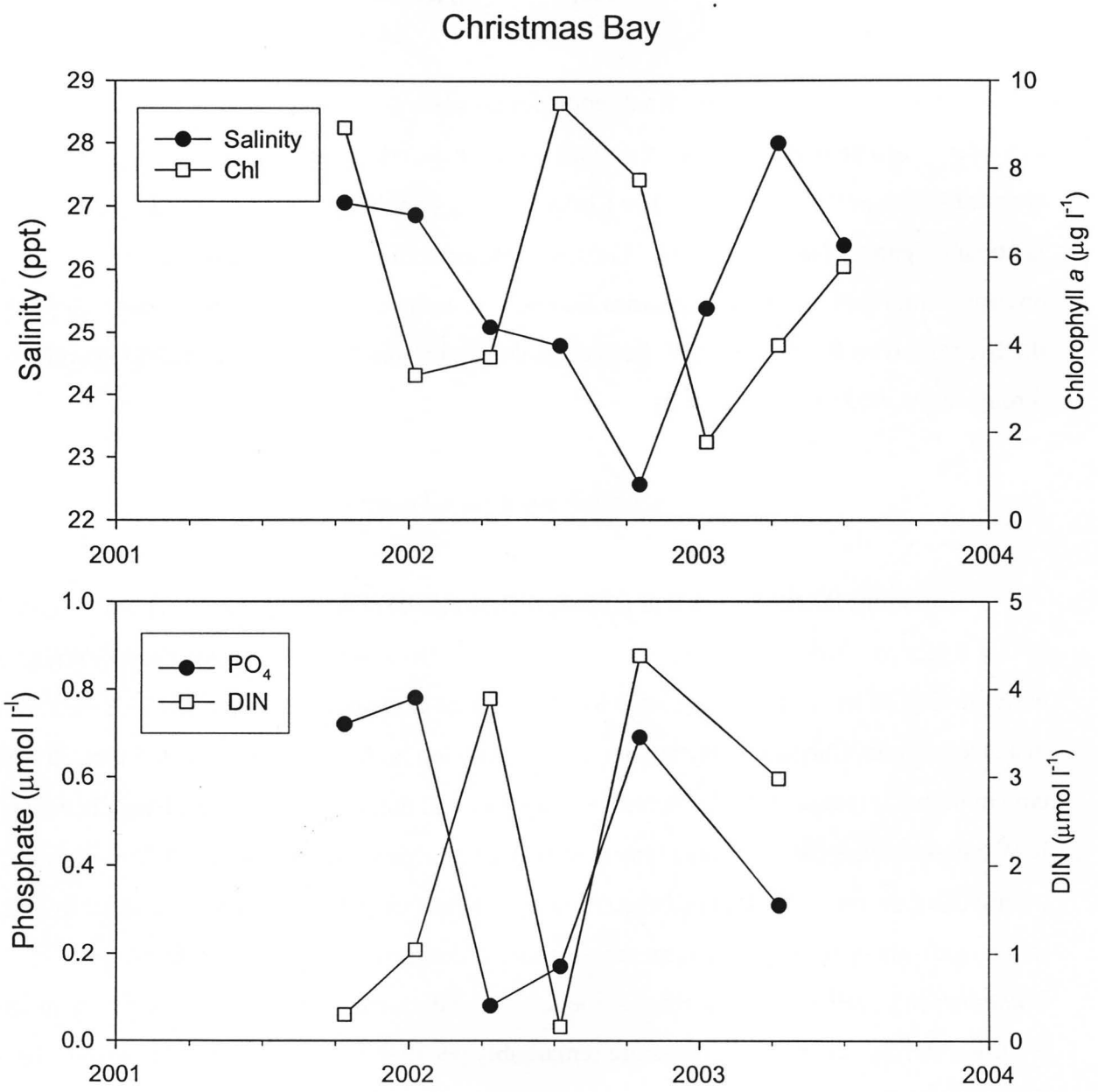

Figure 15. Water column nutrients and chlorophyll content in Christmas Bay.

DISCUSSION

This report is primarily a final report for all work performed in Christmas Bay, and secondarily is a progress report on the work performed in the Brazos River, Rio Grande, San Bernard River, and Cedar Lakes. The Christmas Bay sampling is complete, and further sampling is not anticipated in the near future. Thus, the relationship between macrofauna and environmental factors within Christmas Bay will be discussed in detail. In contrast, sampling in the Brazos River, Rio Grande, San Bernard River, and Cedar Lakes is anticipated to continue through July 2005 (Tables 1 and 2).

Christmas Bay Coastal Preserve

Christmas Bay is at the same time typical and an unusual minor bay in Texas. It is typical in that it receives little to no direct freshwater inflow. However, it does have direct communion with the Gulf of Mexico via Cold Pass which connects Christmas Bay with San Luis Pass. The distance between Christmas Bay and the Gulf of Mexico is about 3 miles (about 5 km). It is also typical in that it is east of the Intracoastal Waterway and that there is some exchange between the ICW and the minor bay. It is also typical in that it has higher salinity and low DO in summer; when higher evaporation rates and rainfall is low. However, Christmas Bay is unusual in four respects: diversity is highest in summer, diversity is dominated by Mollusca, *Steblospio bendedicti* (a polychaete) is not common let alone the dominant species, the community structure is truly a climax community. These are remarkably peculiar characteristics. The reasons for these unique characteristics can not be ascertained without experimentation, but two explanations are readily obvious. First, the results may be a statistical fluke because the data set is small, only 2 years. With a larger data set, these trends could disappear. Second, the habitats are truly unique, rich, and relatively pristine. This later explanation is likely because Christmas Bay is a preserve and the presence of a climax community. A climax community is common in seagrass habitats, like Laguna Madre, but all the stations sampled were open bay bottom, even though Christmas Bay has fringing seagrass beds around the perimeter of the bay.

The average salinity in Christmas Bay is fairly typical, averaging 25.8 ppt overall. Dissolved oxygen concentrations were high (averaging 7.4 mg l^{-1} overall) thus water quality with respect to DO is good. What is unusual is the relatively low variances associated with the hydrographic parameters, thus Christmas Bay has a fairly constant environment throughout the year. The consistent high salinities are likely the reason why the community structure within Christmas Bay is so diverse and consists of predominantly climax species. The community is located in an area with very high water quality and the quality remain good for extended periods of time. The lack of water quality disturbance by low DO means that climax communities can persist.

It is not useful to over-interpret the nutrient and chlorophyll data. On one hand, there was no general relationship between nutrients and chlorophyll. But on the other hand, sampling occurs only every three months. This is much toolong a period of time between samples to adequately interpret relationships among water column parameters that vary on very short time scales, e.g., hourly, daily, or weekly.

Unlike any other bay or estuary in Texas Christmas Bay diversity is dominated by Mollusca, particularly Bivalvia. In terms of abundance, Polychaeta, which were the top six dominant species comprising 70% of the population overall. Dominance by Polychaeta is expected in areas with little freshwater inflow (Montagna and Li, 1996). In contrast, the Mollusca made up only 9.4 % of all individuals found (and 91 % of the mollusks were bivalves). Another surprising result is the virtual co-dominance of two polychaete species: *Mediomastus ambiseta* and *Cirrrophorous lyra*, both of which are deposit feeders. Most Texas bays and estuaries have only one numerically dominant species. In contrast, Christmas Bay has the most even distribution of species ever seen in Texas bays and estuaries.

Of the 20 most dominant species, nine were surface dwellers, eight were subsurface dwellers, and three were equally distributed throughout the sediment. Three dominant polycheates (*Mediomastus ambiseta, Aricidea catharinae, Streblospio benedicti*) were common in surface sediments and are primarily surface deposit feeders. Three dominant polychaete species (*Cirrophourus lyra, Tharyx setiger, and Polydora caulleryi*) are more deeply dwelling

organisms. The abundance of deep-dwelling organisms is characteristic of healthy sediments. In contrast to South Bay coastal preserve, which lacked mollusks and crustaceans, both taxa were common in Christmas Bay. The mollusks were surface dwelling organisms.

There is heterogeneity in Christmas Bay. Station B had much less biomass and abundance than stations A and C. This is primarily due to sediments. Sediments at stations A and C are more firm than station B. The firmness at station C is due to high sand content, but the firmness at station A is due to higher rubble content. Station B has a lot of silt and the highest porosity making it appear more soupy. Station B, in the center of the bay is more of a settling basin environment and this is evidenced by the higher silt content and higher total organic carbon content than in the other stations. Consequently, the abundances are lower, diversity is lower, and community structure is different from stations A and C.

In large open bays of Texas, mollusks are excellent indicator species of inflow effects (Montagna and Kalke, 1995; Montagna and Li, 1996). South Bay is dominated polychaetes and lacked of mollusks, which indicates that South Bay is clearly not being influenced by freshwater inflow, nor does it support many estuarine species found in open bays that are influenced by inflow (Montagna, 2002). Christmas Bay follows the same trend. Although there is a great amount of molluscan diversity, the bay is dominated by polychaetes, and molluscs make up only 9% of the total average abundance.

Compared to other Texas estuaries, both South Bay and Christmas Bay have even species distributions. South Bay had a relatively even species distribution, whereas the dominant species comprised 24% of the fauna (Montagna 2002), in East Matagorda Bay dominant species comprised 49% of the fauna overall (Montagna 2001). Typically, the dominant species comprises around 80% of the fauna in other Texas bays. So, South Bay is more like another minor bay, East Matagorda Bay, than other larger Texas bays.

In the current study, average abundance (17,925 individuals m^{-2}) and biomass (8.75 g m^{-2}) is typical of a Texas bay. It compares favorably with the average abundance (14,629 individuals m^{-2}) and biomass (10.901 g m^{-2}) for East Matagorda Bay (Montagna 2001) and South Bay (20,620

individuals m^{-2}) and biomass (6.90 g m^{-2}) (Montagna 2002). The higher biomass to abundance ratio in Christmas Bay indicates it is dominated by larger individuals. Again, this is typical of climax communities in very healthy environments.

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DATA APPENDICES

Hydrography

Table 11. Hydrographic data for all samples. Abbreviations: Bay (Christmas Bay = CB, Brazos River = BR, Rio Grande = RG, San Bernard River = SB, CL = Cedar Lakes), STA = station, z = depth (m), SAL(R) = salinity by refractometer (ppt), SAL(M) = salinity by meter (psu), COND = conductivity (uS/cm), TEMP = temperature (°C), DO = dissolved oxygen (mg/l).

Bay	Date	STA	z	SAL(R)	SAL(M)	COND	TEMP	pH	DO
CB	12OCT2001	A	0.00	21	25.6	40.20	25.91	8.03	7.04
CB	12OCT2001	A	1.48	.	25.7	40.31	25.61	8.00	6.80
CB	12OCT2001	B	0.00	23	27.5	42.82	25.61	8.01	6.56
CB	12OCT2001	B	1.59	.	27.6	42.89	25.42	7.97	6.30
CB	12OCT2001	C	0.00	22	27.6	42.94	25.89	8.05	7.22
CB	12OCT2001	C	1.40	.	28.3	43.80	25.58	8.03	7.18
CB	08JAN2002	A	0.00	20	25.3	39.81	10.67	8.16	9.78
CB	08JAN2002	A	0.80	.	25.9	42.05	10.57	8.14	9.77
CB	08JAN2002	B	0.00	22	26.8	41.87	11.11	7.95	9.58
CB	08JAN2002	B	0.80	.	26.8	41.86	11.09	7.93	9.49
CB	08JAN2002	C	0.00	20	24.9	39.16	11.90	8.20	9.87
CB	08JAN2002	C	0.82	.	31.5	48.35	12.50	8.27	11.07
CB	12APR2002	A	0.00	24	25.8	40.37	24.10	8.08	7.06
CB	12APR2002	A	1.35	.	25.8	40.39	23.90	8.06	6.92
CB	12APR2002	B	0.00	24	25.3	39.66	23.63	8.11	7.08
CB	12APR2002	B	1.40	.	25.4	39.84	23.45	8.07	6.69
CB	12APR2002	C	0.00	24	24.0	37.87	23.96	8.10	7.29
CB	12APR2002	C	1.20	.	24.1	38.01	23.79	8.08	7.08
CB	09JUL2002	A	0.00	20	22.9	36.45	29.39	8.02	6.21
CB	09JUL2002	A	1.40	.	23.3	36.86	29.37	7.99	6.00
CB	09JUL2002	B	0.00	22	25.8	40.47	29.37	8.15	5.66
CB	09JUL2002	B	1.40	.	25.8	40.50	29.38	8.15	5.60
CB	09JUL2002	C	0.00	23	25.5	40.08	29.59	8.17	6.00
CB	09JUL2002	C	1.50	.	25.5	40.08	29.58	8.17	5.93
CB	17OCT2002	A	0.10	20	22.5	35.56	19.97	8.15	7.81
CB	17OCT2002	A	1.55	.	22.5	35.57	19.99	8.16	7.79
CB	17OCT2002	B	0.10	19	22.5	35.61	20.12	8.04	7.29
CB	17OCT2002	B	1.55	.	22.7	35.86	20.31	8.07	5.94
CB	17OCT2002	C	0.10	20	22.6	35.79	20.95	8.10	7.13
CB	17OCT2002	C	1.50	.	22.6	35.78	20.96	8.12	7.13
CB	09JAN2003	A	0.10	23	25.0	39.14	15.32	8.16	8.60
CB	09JAN2003	A	0.80	.	25.3	39.55	15.44	8.15	8.53
CB	09JAN2003	B	0.10	23	25.1	39.34	14.89	8.10	8.44
CB	09JAN2003	B	0.80	.	25.3	39.56	14.88	8.10	8.18
CB	09JAN2003	C	0.10	24	25.8	40.37	15.50	8.07	7.99
CB	09JAN2003	C	0.90	.	25.8	40.34	15.51	8.07	7.92
CB	10APR2003	A	0.10	24	27.4	42.63	14.71	7.94	8.21
CB	10APR2003	A	0.80	.	28.3	43.80	14.90	7.64	7.53
CB	10APR2003	B	0.10	24	28.1	43.57	14.73	7.77	8.15
CB	10APR2003	B	0.70	.	28.1	43.61	14.76	7.82	8.04
CB	10APR2003	C	0.10	25	28.0	43.40	15.45	7.91	8.25
CB	10APR2003	C	0.80	.	28.0	43.40	15.42	7.90	8.13
CB	02JUL2003	A	0.10	24	27.1	42.37	28.94	8.11	6.43

CB	02JUL2003	A	1.20	.	28.5	44.26	28.78	8.02	5.90
CB	02JUL2003	B	0.10	24	27.6	43.08	28.82	8.00	5.67
CB	02JUL2003	B	1.20	.	27.6	43.03	28.85	8.00	5.67
CB	02JUL2003	C	0.10	24	21.4	34.44	29.26	8.21	6.70
CB	02JUL2003	C	1.20	.	26.0	40.80	28.69	8.07	5.73
BR	18OCT2000	A	0.00	.	24.8	39.04	26.50	8.09	10.00
BR	18OCT2000	A	3.30	.	31.7	48.71	26.71	7.59	5.61
BR	18OCT2000	B	0.00	22	26.0	40.79	26.68	8.04	9.43
BR	18OCT2000	B	2.80	.	29.1	45.10	26.29	7.86	7.86
BR	18OCT2000	C	0.00	25	28.4	43.97	25.42	8.04	7.64
BR	18OCT2000	C	3.00	.	29.2	45.20	25.04	7.99	6.57
BR	10APR2001	A	0.00	0	1.6	3.10	22.60	7.95	7.72
BR	10APR2001	A	2.50	.	1.7	3.26	22.60	7.92	7.69
BR	10APR2001	B	0.00	0	2.1	3.95	22.63	7.92	7.93
BR	10APR2001	B	1.60	.	2.1	3.96	22.57	7.91	7.90
BR	10APR2001	C	0.00	0	2.2	4.22	22.76	7.95	8.06
BR	10APR2001	C	2.60	.	2.4	4.60	22.75	7.91	7.94
BR	11JUL2001	A	0.00	1	3.1	5.86	32.47	7.72	5.78
BR	11JUL2001	A	3.10	.	24.2	38.37	32.34	7.30	2.81
BR	11JUL2001	B	0.00	2	4.6	8.37	32.96	7.88	6.66
BR	11JUL2001	B	1.90	.	7.4	14.41	32.43	7.74	5.60
BR	11JUL2001	C	0.00	5	6.7	11.82	32.87	7.88	6.53
BR	11JUL2001	C	1.60	.	19.6	32.70	31.30	7.80	5.76
BR	12OCT2001	A	0.00	2	5.6	9.88	24.40	7.70	5.64
BR	12OCT2001	A	3.20	.	19.7	31.67	26.05	7.64	3.94
BR	12OCT2001	B	0.00	3	6.1	10.77	24.44	7.71	6.04
BR	12OCT2001	B	1.50	.	8.3	14.05	24.64	7.70	5.58
BR	12OCT2001	C	0.00	5	8.3	14.37	24.86	7.71	6.10
BR	12OCT2001	C	1.96	.	21.7	34.11	25.58	7.87	5.27
BR	08JAN2002	A	0.00	0	3.0	5.52	10.43	7.94	10.12
BR	08JAN2002	A	2.30	.	3.1	5.96	10.47	7.94	10.03
BR	08JAN2002	B	0.00	0	3.4	6.16	10.58	7.95	10.12
BR	08JAN2002	B	2.30	.	3.4	6.16	10.57	7.94	9.83
BR	08JAN2002	C	0.00	0	3.6	6.61	10.80	7.93	9.88
BR	08JAN2002	C	1.85	.	3.7	6.68	10.74	7.91	9.80
BR	12APR2002	A	0.00	0	1.9	3.62	21.53	7.70	5.28
BR	12APR2002	A	2.80	.	1.9	3.37	21.53	7.69	4.95
BR	12APR2002	B	0.00	0	1.9	3.51	21.58	7.68	5.06
BR	12APR2002	B	1.50	.	1.9	3.57	21.54	7.69	5.02
BR	12APR2002	C	0.00	0	1.8	3.51	21.68	7.69	5.11
BR	12APR2002	C	2.50	.	1.9	3.58	21.61	7.69	5.05
BR	08JUL2002	A	0.00	10	12.9	21.80	33.19	8.20	11.04
BR	08JUL2002	A	2.30	.	23.4	37.21	32.16	7.63	2.69
BR	08JUL2002	B	0.00	12	14.4	23.96	33.06	8.22	10.67
BR	08JUL2002	B	2.00	.	22.3	35.57	31.95	7.73	3.32
BR	08JUL2002	C	0.00	12	15.3	25.31	32.76	8.24	10.47
BR	08JUL2002	C	2.50	.	22.2	35.55	31.54	7.86	4.66
BR	16OCT2002	A	0.10	2	5.1	9.10	24.65	7.53	5.61
BR	16OCT2002	A	2.70	.	16.9	27.49	24.62	7.64	3.82
BR	16OCT2002	B	0.10	4	5.8	10.32	24.80	7.72	5.92
BR	16OCT2002	B	1.80	.	14.1	22.70	24.21	7.64	4.03
BR	16OCT2002	C	0.10	6	9.5	16.31	24.41	7.73	5.16
BR	16OCT2002	C	2.10	.	16.5	27.02	24.24	7.77	4.31
BR	08JAN2003	A	0.10	0	2.7	5.08	13.15	7.68	9.52
BR	08JAN2003	A	2.90	.	2.7	5.08	13.14	7.71	9.00

BR	08JAN2003	B	0.10	0	2.8	5.12	13.27	7.76	9.14
BR	08JAN2003	B	1.50	.	2.8	5.12	13.28	7.77	9.03
BR	08JAN2003	C	0.10	0	2.8	5.24	13.10	7.75	8.89
BR	08JAN2003	C	1.40	.	2.8	5.24	13.11	7.75	8.86
BR	09APR2003	A	0.10	2	3.6	6.61	20.99	8.01	9.34
BR	09APR2003	A	2.90	.	16.2	26.66	19.70	7.76	7.47
BR	09APR2003	B	0.10	2	5.1	9.05	20.77	8.02	9.14
BR	09APR2003	B	1.30	.	5.1	9.06	20.75	8.02	9.20
BR	09APR2003	C	0.10	4	6.6	11.40	20.46	8.02	8.85
BR	09APR2003	C	1.50	.	7.8	13.31	20.37	8.00	8.81
BR	01JUL2003	A	0.10	2	5.3	9.52	31.42	7.83	6.76
BR	01JUL2003	A	2.90	.	18.3	29.73	31.39	7.60	4.01
BR	01JUL2003	B	0.10	3	4.8	8.74	31.72	7.97	7.65
BR	01JUL2003	B	2.50	.	16.9	27.67	30.70	7.67	4.44
BR	01JUL2003	C	0.10	6	7.1	12.51	31.90	7.94	6.87
BR	01JUL2003	C	2.40	.	19.0	30.78	30.57	7.89	4.43
BR	07OCT2003	A	0.10	6	9.3	16.02	28.69	7.92	8.29
BR	07OCT2003	A	2.80	.	22.5	35.81	27.58	7.37	3.29
BR	07OCT2003	B	0.10	7	9.6	16.52	28.80	8.06	8.79
BR	07OCT2003	B	2.40	.	20.8	33.23	27.01	7.61	4.43
BR	07OCT2003	C	0.10	8	11.6	19.50	28.34	8.09	9.66
BR	07OCT2003	C	3.20	.	21.5	34.34	27.11	7.98	7.28
RG	24OCT2000	A	0.00	3	4.8	8.59	26.43	8.94	11.87
RG	24OCT2000	A	0.38	.	4.8	8.58	26.46	8.93	11.34
RG	24OCT2000	B	0.00	.	5.5	9.80	26.84	8.90	10.56
RG	24OCT2000	B	0.28	.	5.5	9.89	26.74	8.90	9.79
RG	24OCT2000	C	0.00	6	7.7	13.50	27.48	8.40	9.54
RG	24OCT2000	C	0.32	.	7.8	13.50	27.48	8.38	8.77
RG	10JAN2001	A	0.00	.	4.5	.	15.48	8.45	10.23
RG	10JAN2001	A	0.80	.	4.5	.	15.46	8.57	9.65
RG	10JAN2001	B	0.00	.	5.0	.	15.19	8.20	9.65
RG	10JAN2001	B	0.75	.	5.0	.	15.14	8.38	9.55
RG	10JAN2001	C	0.00	.	8.6	.	18.13	8.75	9.70
RG	10JAN2001	C	0.64	.	8.6	.	18.13	8.80	8.40
RG	14APR2001	A	.	.	1.4	.	27.08	8.69	5.98
RG	14APR2001	A	0.00	.	1.4	.	27.08	8.65	6.62
RG	14APR2001	B	.	.	1.5	.	26.63	8.64	6.41
RG	14APR2001	B	0.00	.	1.5	.	26.66	8.60	6.55
RG	14APR2001	C	.	.	2.3	.	26.19	8.42	4.82
RG	14APR2001	C	0.00	.	2.3	.	26.18	8.36	5.68
RG	07JUL2001	A	0.00	.	0.7	12.96	30.18	8.44	6.99
RG	07JUL2001	A	0.65	.	0.7	12.96	30.17	8.44	6.71
RG	07JUL2001	B	0.00	.	0.7	13.08	29.62	8.45	7.12
RG	07JUL2001	B	0.61	.	0.7	13.07	29.61	8.46	6.74
RG	07JUL2001	C	0.00	.	0.9	1.76	28.46	8.44	5.62
RG	07JUL2001	C	0.60	.	0.9	1.76	28.42	8.41	5.02
RG	20OCT2001	A	0.00	.	8.2	14.11	26.08	8.34	8.67
RG	20OCT2001	A	0.50	.	8.2	14.11	26.09	8.36	8.99
RG	20OCT2001	B	0.00	.	8.7	15.06	26.41	8.32	8.30
RG	20OCT2001	B	0.50	.	8.9	15.35	26.34	8.36	8.00
RG	20OCT2001	C	0.00	.	10.5	17.87	25.79	8.74	9.76
RG	20OCT2001	C	0.35	.	10.6	18.02	25.32	8.23	9.06
RG	21JAN2002	A	0.00	.	0.9	16.13	19.78	8.89	7.53
RG	21JAN2002	A	0.47	.	0.9	16.16	19.76	8.88	6.68
RG	21JAN2002	B	0.00	.	0.9	16.28	19.70	8.98	7.40

RG	21JAN2002	B	0.39	.	0.9	16.28	19.70	8.96	6.80
RG	21JAN2002	C	0.00	.	1.2	22.83	19.72	9.13	5.99
RG	21JAN2002	C	0.35	.	1.2	22.91	19.72	9.14	5.14
RG	13APR2002	A	0.00	.	0.8	15.12	26.08	8.77	5.69
RG	13APR2002	A	0.65	.	0.8	15.13	26.05	8.77	5.25
RG	13APR2002	B	0.00	.	0.8	15.32	25.65	8.79	5.68
RG	13APR2002	B	0.61	.	0.8	15.34	25.64	8.78	5.47
RG	13APR2002	C	0.00	.	1.4	26.77	25.30	8.65	4.31
RG	13APR2002	C	0.59	.	1.4	26.78	25.27	8.63	4.22
RG	09JUL2002	A	0.00	.	0.9	1.67	30.03	8.39	6.45
RG	09JUL2002	A	0.60	.	0.9	1.67	30.03	8.39	6.24
RG	09JUL2002	B	0.00	.	0.9	1.69	29.53	8.46	5.90
RG	09JUL2002	B	0.60	.	0.9	1.68	29.46	8.44	5.41
RG	09JUL2002	D	0.00	.	0.7	1.47	29.86	8.48	5.80
RG	09JUL2002	D	0.50	.	0.7	1.48	29.85	8.47	5.50
RG	19OCT2002	A	0.10	.	1.1	2.22	26.13	8.26	106.6
RG	19OCT2002	A	0.97	.	1.1	2.21	26.14	8.23	101.0
RG	19OCT2002	B	0.10	.	1.9	3.67	26.78	8.29	99.50
RG	19OCT2002	B	0.77	.	1.9	3.68	26.57	8.25	86.70
RG	19OCT2002	C	0.10	.	4.6	8.31	18.99	8.20	102.8
RG	19OCT2002	C	0.14	.	4.8	8.74	19.49	8.31	110.9
RG	19OCT2002	D	0.10	.	3.0	5.57	26.28	8.42	106.0
RG	19OCT2002	D	0.79	.	3.1	5.66	25.99	8.39	105.0
RG	19OCT2002	E	0.10	.	3.3	6.23	20.78	8.16	102.0
RG	19OCT2002	E	0.62	.	3.3	6.09	20.74	8.15	98.90
RG	10JAN2003	A	0.03	.	2.0	3.94	19.19	8.40	93.60
RG	10JAN2003	A	0.60	.	2.2	4.13	19.22	8.40	89.10
RG	10JAN2003	B	0.03	.	4.1	7.52	19.26	8.41	96.30
RG	10JAN2003	B	0.58	.	4.2	7.68	19.30	8.41	86.40
RG	10JAN2003	C	0.03	.	9.2	15.80	19.61	8.42	92.40
RG	10JAN2003	C	0.47	.	9.3	16.10	19.65	8.42	85.00
RG	10JAN2003	D	0.03	.	7.5	13.17	19.72	8.44	94.00
RG	10JAN2003	D	0.71	.	8.3	14.32	20.03	8.41	81.10
RG	10JAN2003	E	0.03	.	9.3	16.00	19.59	8.40	89.90
RG	10JAN2003	E	0.67	.	9.3	16.10	19.55	8.44	86.70
RG	05APR2003	A	0.00	.	24.6	3.91	24.60	8.78	98.30
RG	05APR2003	A	0.68	.	2.1	3.61	24.65	8.77	86.00
RG	05APR2003	B	0.00	.	4.2	7.56	23.57	8.85	98.50
RG	05APR2003	B	0.98	.	4.7	8.38	22.97	8.83	88.10
RG	05APR2003	C	0.00	.	7.5	13.10	23.31	8.83	87.50
RG	05APR2003	C	0.57	.	8.8	15.10	22.81	8.80	79.90
RG	05APR2003	D	0.00	.	8.3	14.49	22.47	8.80	91.20
RG	05APR2003	D	0.70	.	15.3	23.10	22.30	8.67	73.80
RG	05APR2003	E	0.00	.	14.3	23.70	22.19	8.68	85.20
RG	05APR2003	E	0.65	.	15.3	25.30	22.12	8.67	83.00
RG	11JUL2003	A	0.30	.	1.8	3.51	30.22	7.80	6.35
RG	11JUL2003	A	0.61	.	1.9	3.56	30.22	7.80	5.70
RG	11JUL2003	B	0.30	.	3.5	6.47	30.01	7.90	6.59
RG	11JUL2003	B	0.58	.	3.5	6.43	30.02	7.93	6.10
RG	11JUL2003	C	0.30	.	5.5	9.73	28.80	8.00	5.81
RG	11JUL2003	C	0.53	.	5.6	9.92	28.74	8.00	5.08
RG	11JUL2003	D	0.30	.	5.9	10.36	28.97	8.00	5.99
RG	11JUL2003	D	0.60	.	6.2	11.95	28.98	7.97	5.66
RG	11JUL2003	E	0.30	.	7.4	12.70	28.52	7.99	5.70
RG	11JUL2003	E	0.57	.	7.4	12.81	28.51	7.99	5.48

SB	16OCT2002	A	0.10	0	0.2	0.33	23.63	7.77	6.14
SB	16OCT2002	A	1.55	0	0.2	0.35	21.53	7.63	5.64
SB	16OCT2002	B	0.10	0	2.0	3.73	22.45	7.87	6.44
SB	16OCT2002	B	1.10	0	2.6	4.90	21.22	7.71	6.27
SB	08JAN2003	A	0.10	0	0.1	0.25	13.83	7.67	9.10
SB	08JAN2003	A	1.09	.	0.1	0.26	13.85	7.61	8.61
SB	08JAN2003	B	0.10	0	1.6	3.01	14.04	7.74	9.48
SB	08JAN2003	B	1.50	.	3.6	6.50	13.45	7.65	8.87
SB	09APR2003	A	0.10	7	10.6	17.83	18.27	8.28	9.58
SB	09APR2003	A	2.00	.	11.7	19.55	17.86	8.20	9.07
SB	09APR2003	B	0.10	15	16.7	27.14	16.55	8.07	9.32
SB	09APR2003	B	1.70	.	16.7	27.16	16.55	8.08	9.23
SB	01JUL2003	A	0.10	15	17.6	28.71	30.71	7.98	7.21
SB	01JUL2003	A	1.60	.	22.1	35.31	29.97	7.67	5.10
SB	01JUL2003	B	0.10	18	21.5	34.37	29.68	8.13	6.89
SB	01JUL2003	B	1.80	.	21.6	34.59	29.19	8.08	6.17
SB	07OCT2003	A	0.10	5	6.9	12.14	27.18	7.43	7.05
SB	07OCT2003	A	1.40	.	8.5	14.65	26.11	7.21	5.82
SB	07OCT2003	B	0.10	12	14.8	24.55	27.05	7.54	6.75
SB	07OCT2003	B	1.50	.	23.7	37.48	25.87	7.80	6.33
CL	16OCT2002	A	0.35	2	3.6	6.57	18.50	7.71	8.33
CL	16OCT2002	B	0.37	5	8.0	13.99	21.61	7.87	8.33
CL	08JAN2003	A	0.23	4	5.0	8.94	15.33	8.78	11.56
CL	08JAN2003	B	0.22	6	8.1	13.87	16.65	8.47	12.53
CL	09APR2003	A	0.10	16	19.3	31.02	12.79	8.13	10.99
CL	09APR2003	B	0.10	30	22.5	35.65	17.80	7.98	9.40
CL	01JUL2003	A	0.50	20	23.2	36.84	28.99	7.92	5.33
CL	01JUL2003	B	0.50	20	24.3	38.39	30.30	7.93	6.55
CL	07OCT2003	A	0.45	15	17.0	27.77	26.46	7.42	6.06
CL	07OCT2003	B	0.50	15	16.8	27.42	26.95	7.56	6.45

Table 12. Nutrient and chlorophyll data for all samples. Abbreviations: Bay (Christmas Bay = CB, Brazos River = BR, Rio Grande = RG, San Bernard River = SB, CL = Cedar Lakes), STA = station, N+N = nitrate plus nitrite, Chl = chlorophyll *a*. Water depth is in m. Nutrient concentrations are in umol/l. Chlorophyll concentrations in ug/l.

Bay	Date	STA	Depth	PO_4	SIO_4	N+N	NH_4	Chl
CB	12OCT2001	A	.	1.040	87	0.360	11.34	0.210
CB	12OCT2001	A	0	0.000	85	0.250	9.78	0.150
CB	12OCT2001	B	.	0.870	65	0.110	10.54	0.100
CB	12OCT2001	B	0	0.840	66	0.130	6.66	0.000
CB	12OCT2001	C	.	0.790	53	0.280	8.48	0.000
CB	12OCT2001	C	0	0.780	50	0.180	6.70	0.000
CB	08JAN2002	A	0	0.000	48	0.750	1.90	0.000
CB	08JAN2002	A	0.8	1.010	46	0.370	2.26	0.000
CB	08JAN2002	B	0	0.740	35	0.720	3.94	0.000
CB	08JAN2002	B	0.8	0.760	34	0.340	4.66	0.000
CB	08JAN2002	C	0	1.060	52	2.730	3.06	0.000
CB	08JAN2002	C	0.82	1.080	51	1.310	4.00	0.000
CB	12APR2002	A	0.1	0.050	13	0.330	4.38	0.000
CB	12APR2002	A	1.35	0.160	14	20.30	3.98	0.000
CB	12APR2002	B	0.1	0.000	13	0.490	2.42	0.000
CB	12APR2002	B	1.4	0.000	13	0.370	3.20	0.000
CB	12APR2002	C	0.1	0.100	14	0.930	2.94	0.000
CB	12APR2002	C	1.2	0.170	14	0.940	5.32	0.000
CB	09JUL2002	A	0.1	0.320	86	0.330	7.24	0.000
CB	09JUL2002	A	1.4	0.230	88	0.220	7.84	0.000
CB	09JUL2002	B	0.1	0.140	51	0.180	7.87	0.000
CB	09JUL2002	B	1.4	0.140	52	0.170	10.04	0.000
CB	09JUL2002	C	0.1	0.130	29	0.020	12.16	0.000
CB	09JUL2002	C	1.5	0.080	26	0.020	11.70	0.000
CB	17OCT2002	A	0.1	0.650	63	0.830	7.08	3.420
CB	17OCT2002	A	1.55	0.660	67	0.810	6.96	4.270
CB	17OCT2002	B	0.1	0.720	71	0.990	6.51	5.250
CB	17OCT2002	B	1.55	0.710	55	0.890	9.35	0.910
CB	17OCT2002	C	0.1	0.690	67	0.780	7.70	3.860
CB	17OCT2002	C	1.5	0.680	61	0.790	8.77	3.470
CB	09JAN2003	A	0.1	.	.	.	1.44	.
CB	09JAN2003	A	0.8	.	.	.	1.71	.
CB	09JAN2003	B	0.1	.	.	.	1.05	.
CB	09JAN2003	B	0.8	.	.	.	1.03	.
CB	09JAN2003	C	0.1	.	.	.	2.70	.
CB	09JAN2003	C	0.9	.	.	.	2.66	.
CB	10APR2003	A	0.1	0.300	37	2.120	2.47	0.500
CB	10APR2003	A	0.8	0.230	34	1.410	3.64	0.340
CB	10APR2003	B	0.1	0.370	31	3.570	4.90	0.610
CB	10APR2003	B	0.7	0.270	30	4.630	5.74	0.420
CB	10APR2003	C	0.1	0.320	38	1.520	3.90	0.790
CB	10APR2003	C	0.8	0.370	37	1.160	3.28	0.810
CB	02JUL2003	A	0.1	.	.	.	3.41	.
CB	02JUL2003	A	1.2	.	.	.	6.45	.
CB	02JUL2003	B	0.1	.	.	.	6.23	.
CB	02JUL2003	B	1.2	.	.	.	5.11	.

CB	02JUL2003	C	0.1	.	.	.	6.45	.
CB	02JUL2003	C	1.2	.	.	.	7.03	.
BR	18OCT2000	A	0	1.646	62	37.66	.	5.396
BR	18OCT2000	A	3.3	1.917	45	36.56	.	15.744
BR	18OCT2000	B	0	0.688	32	30.79	.	3.668
BR	18OCT2000	B	2.8	2.164	45	35.90	.	15.063
BR	18OCT2000	C	0	1.310	42	26.15	.	15.880
BR	18OCT2000	C	3	1.207	31	22.42	.	16.031
BR	10JAN2001	A	0	1.740	237	32.58	3.24	6.760
BR	10JAN2001	A	2.6	2.030	284	29.57	10.26	7.390
BR	10JAN2001	B	0	1.660	287	25.49	5.71	6.990
BR	10JAN2001	B	2.8	.	.	.	2.81	.
BR	10JAN2001	C	0	1.490	307	21.53	3.53	6.560
BR	10JAN2001	C	2.4	1.740	286	37.24	6.90	6.960
BR	10APR2001	A	0	11.18	233	57.40	5.14	4.050
BR	10APR2001	A	2.5	1.200	318	51.31	5.58	3.890
BR	10APR2001	B	0	0.000	362	54.36	6.03	4.820
BR	10APR2001	B	1.6	1.260	324	56.89	3.62	4.810
BR	10APR2001	C	0	1.330	250	59.46	4.52	4.510
BR	10APR2001	C	2.6	1.550	349	59.46	5.45	4.970
BR	11JUL2001	A	0	3.310	349	9.380	5.84	4.630
BR	11JUL2001	A	3.1	4.340	156	11.15	23.90	25.550
BR	11JUL2001	B	0	3.480	335	4.230	6.46	5.170
BR	11JUL2001	B	1.9	3.150	330	4.180	7.20	2.090
BR	11JUL2001	C	0	3.490	350	66.65	7.94	5.100
BR	11JUL2001	C	1.6	3.930	214	46.83	21.67	8.310
BR	12OCT2001	A	.	3.620	181	32.82	9.10	11.060
BR	12OCT2001	A	0	2.840	170	25.26	9.14	10.010
BR	12OCT2001	B	.	4.260	188	33.19	11.88	13.270
BR	12OCT2001	B	0	2.840	167	23.81	8.74	9.840
BR	12OCT2001	C	.	2.180	118	19.71	6.20	9.700
BR	12OCT2001	C	0	2.550	158	26.53	7.72	11.150
BR	08JAN2002	A	0	2.990	178	50.05	3.98	2.260
BR	08JAN2002	A	2.3	2.940	170	50.44	3.76	2.150
BR	08JAN2002	B	0	2.900	170	50.93	3.68	2.250
BR	08JAN2002	B	2.3	2.810	163	50.80	4.42	2.200
BR	08JAN2002	C	0	2.500	166	49.00	3.26	2.100
BR	08JAN2002	C	1.85	2.500	142	47.70	3.62	2.190
BR	12APR2002	A	0.1	3.490	109	45.45	4.10	6.640
BR	12APR2002	A	2.8	4.250	105	45.98	5.68	6.710
BR	12APR2002	B	0.1	4.310	111	46.36	6.34	7.660
BR	12APR2002	B	1.5	3.820	102	45.16	9.12	8.570
BR	12APR2002	C	0.1	3.900	106	46.34	5.86	6.770
BR	12APR2002	C	2.5	4.380	104	44.78	6.70	7.430
BR	08JUL2002	A	0.1	0.730	185	51.09	36.00	6.030
BR	08JUL2002	A	2.3	1.660	124	51.86	11.68	28.050
BR	08JUL2002	B	0.1	0.460	171	50.95	39.50	0.680
BR	08JUL2002	B	2	1.370	116	48.71	17.36	24.200
BR	08JUL2002	C	0.1	0.310	166	49.21	39.00	0.050
BR	08JUL2002	C	2.5	0.750	123	44.28	19.06	13.110
BR	16OCT2002	A	0.1	2.760	108	26.63	5.92	20.530
BR	16OCT2002	A	2.7	2.290	94	14.29	4.30	8.160
BR	16OCT2002	B	0.1	2.970	123	26.30	6.33	21.270
BR	16OCT2002	B	1.8	1.970	86	17.66	4.68	14.530
BR	16OCT2002	C	0.1	2.210	97	20.50	5.01	17.020

BR	16OCT2002	C	2.1	2.560	93	20.38	5.11	15.300
BR	08JAN2003	A	0.1	1.085	168	49.00	3.90	4.370
BR	08JAN2003	A	2.9	1.265	168	49.08	5.62	4.390
BR	08JAN2003	B	0.1	1.000	168	50.97	3.53	4.115
BR	08JAN2003	B	1.5	1.015	167	26.97	4.08	4.035
BR	08JAN2003	C	0.1	0.810	174	51.92	3.93	3.685
BR	08JAN2003	C	1.4	0.950	187	51.14	3.67	3.820
BR	09APR2003	A	0.1	0.790	175	78.46	12.86	2.210
BR	09APR2003	A	2.9	0.690	171	77.25	11.07	3.200
BR	09APR2003	B	0.1	0.710	172	78.41	10.81	3.370
BR	09APR2003	B	1.3	0.760	153	78.98	9.86	2.980
BR	09APR2003	C	0.1	0.830	167	78.93	7.95	3.660
BR	09APR2003	C	1.5	1.000	166	79.92	7.29	3.340
BR	01JUL2003	A	0.1	0.790	175	78.46	10.42	2.210
BR	01JUL2003	A	2.9	0.690	171	77.25	3.09	3.200
BR	01JUL2003	B	0.1	0.710	172	78.41	12.58	3.370
BR	01JUL2003	B	2.5	0.760	153	78.98	3.02	2.980
BR	01JUL2003	C	0.1	0.830	167	78.93	9.59	3.660
BR	01JUL2003	C	2.4	1.000	166	79.92	3.66	3.340
BR	07OCT2003	A	0.1	3.535	191	22.58	7.91	6.805
BR	07OCT2003	A	2.8	3.020	111	20.07	6.12	34.930
BR	07OCT2003	B	0.1	3.180	200	18.76	9.96	5.335
BR	07OCT2003	B	2.4	2.290	110	11.83	10.26	18.130
BR	07OCT2003	C	0.1	2.855	195	17.22	10.50	3.645
BR	07OCT2003	C	3.2	1.535	89	7.210	9.64	6.850
RG	24OCT2000	A	0	4.432	149	0.000	66.64	0.826
RG	24OCT2000	A	0.377	4.504	145	0.000	58.88	0.802
RG	24OCT2000	B	0	6.486	169	0.000	33.45	0.841
RG	24OCT2000	B	0.282	6.558	156	0.000	33.19	0.817
RG	24OCT2000	C	0	6.630	178	0.000	17.96	0.778
RG	24OCT2000	C	0.324	6.651	181	0.000	17.17	0.960
RG	10JAN2001	A	0	8.820	188	37.24	50.11	0.700
RG	10JAN2001	A	0.8	9.240	198	37.48	55.96	0.480
RG	10JAN2001	B	0	6.480	183	23.58	37.65	1.030
RG	10JAN2001	B	0.75	6.860	178	22.37	38.15	1.060
RG	25JAN2001	C	0	.	.	.	20.35	.
RG	25JAN2001	C	0.64	.	.	.	21.11	.
RG	14APR2001	A	0.1	6.150	44	0.790	40.57	74.840
RG	14APR2001	A	0.8	5.890	38	0.850	36.76	0.660
RG	14APR2001	B	0.1	6.590	41	0.830	37.26	1.030
RG	14APR2001	B	0.75	6.660	48	0.880	33.58	0.790
RG	14APR2001	C	0.1	5.430	112	0.980	37.01	0.610
RG	14APR2001	C	0.64	5.190	111	0.860	37.65	0.560
RG	07JUL2001	A	0.1	5.190	64	0.540	13.56	0.390
RG	07JUL2001	A	0.65	5.420	104	0.560	14.73	0.350
RG	07JUL2001	B	0.1	5.180	99	0.590	17.25	0.560
RG	07JUL2001	B	0.61	5.300	81	0.580	17.32	0.400
RG	07JUL2001	C	0.1	5.100	158	0.640	25.84	0.310
RG	07JUL2001	C	0.6	0.320	0	0.320	27.12	0.320
RG	20OCT2001	A	0.1	8.500	63	0.840	9.77	1.120
RG	20OCT2001	A	0.7	7.900	58	0.870	9.16	1.080
RG	20OCT2001	B	0.1	7.910	47	1.330	3.84	1.410
RG	20OCT2001	B	0.7	8.340	63	1.030	5.62	1.250
RG	20OCT2001	C	0.1	3.630	49	0.850	27.47	0.950
RG	20OCT2001	C	0.57	3.750	52	0.810	27.17	0.980

RG	21JAN2002	A	0.1	10.28	81	32.90	35.48	13.590
RG	21JAN2002	A	0.62	9.790	74	31.59	26.43	5.940
RG	21JAN2002	B	0.1	8.390	75	29.32	32.77	3.970
RG	21JAN2002	B	0.54	8.370	91	30.70	39.00	4.360
RG	21JAN2002	C	0.1	4.130	116	1.750	42.43	0.690
RG	21JAN2002	C	0.5	3.680	114	1.110	45.53	1.100
RG	13APR2002	A	0.1	9.650	65	1.030	13.25	0.470
RG	13APR2002	A	0.65	9.500	64	0.970	16.24	0.410
RG	13APR2002	B	0.1	7.400	79	0.420	10.32	28.370
RG	13APR2002	B	0.61	7.230	72	1.000	13.08	4.980
RG	13APR2002	C	0.1	5.760	181	0.820	14.74	0.390
RG	13APR2002	C	0.59	5.270	162	1.930	15.34	64.340
RG	09JUL2002	A	0.1	13.43	346	0.620	7.58	0.720
RG	09JUL2002	A	0.6	13.20	354	0.670	7.39	0.450
RG	09JUL2002	B	0.1	12.97	354	0.780	10.54	9.470
RG	09JUL2002	B	0.6	13.54	342	0.690	11.42	6.440
RG	09JUL2002	D	0.1	11.53	344	0.750	13.25	83.290
RG	09JUL2002	D	0.5	11.69	320	0.570	9.70	10.980
RG	19OCT2002	A	0.1	7.850	230	0.640	5.55	1.330
RG	19OCT2002	A	0.97	7.770	233	0.360	5.44	0.880
RG	19OCT2002	B	0.1	5.870	176	0.490	5.90	0.940
RG	19OCT2002	B	0.77	5.900	181	0.510	5.15	0.970
RG	19OCT2002	D	0.1	.	.	.	13.68	.
RG	19OCT2002	D	0.79	.	.	.	12.03	.
RG	10JAN2003	A	0.1	10.45	17	43.27	16.41	1.050
RG	10JAN2003	A	0.6	9.610	13	39.05	9.54	1.050
RG	10JAN2003	B	0.1	8.470	8	40.27	12.51	1.580
RG	10JAN2003	B	0.58	9.440	9	40.80	13.35	1.640
RG	10JAN2003	C	0.1	5.690	10	28.18	47.06	0.700
RG	10JAN2003	C	0.47	6.600	14	31.51	49.09	0.880
RG	10JAN2003	D	0.1	7.210	11	35.42	52.73	1.470
RG	10JAN2003	D	0.71	7.350	12	34.66	16.19	1.530
RG	10JAN2003	E	0.1	6.360	12	31.74	36.03	1.100
RG	10JAN2003	E	0.67	6.390	12	32.09	21.20	1.440
RG	03APR2003	A	0.1	10.22	84	0.850	13.23	0.790
RG	03APR2003	A	0.68	10.52	85	1.070	12.59	0.660
RG	03APR2003	B	0.1	9.570	76	0.820	11.24	0.730
RG	03APR2003	B	0.98	8.820	62	0.330	20.60	0.580
RG	03APR2003	C	0.1	8.730	67	0.510	6.64	0.820
RG	03APR2003	C	0.57	6.900	50	0.140	7.22	0.440
RG	03APR2003	D	0.1	6.840	48	0.150	3.28	0.460
RG	03APR2003	D	0.7	7.330	51	0.180	5.67	0.300
RG	03APR2003	E	0.1	5.870	63	0.260	2.85	0.680
RG	03APR2003	E	0.65	5.060	73	0.300	2.49	1.240
RG	11JUL2003	A	0.1	.	.	.	11.70	.
RG	11JUL2003	A	0.61	.	.	.	12.63	.
RG	11JUL2003	B	0.1	.	.	.	14.84	.
RG	11JUL2003	B	0.58	.	.	.	14.88	.
RG	11JUL2003	C	0.1	.	.	.	14.20	.
RG	11JUL2003	C	0.53	.	.	.	17.08	.
RG	11JUL2003	D	0.1	.	.	.	13.99	.
RG	11JUL2003	D	0.6	.	.	.	12.85	.
RG	11JUL2003	E	0.1	.	.	.	9.82	.
RG	11JUL2003	E	0.57	.	.	.	10.91	.
RG	23NOV2003	C	0.1	.	.	.	18.90	.

RG	23NOV2003	C	0.14	.	.	.	14.02	.
RG	23NOV2003	E	0.1	.	.	.	13.02	.
RG	23NOV2003	E	0.62	.	.	.	12.69	.
SB	16OCT2002	A	0.1	7.620	194	14.75	4.63	31.500
SB	16OCT2002	A	1.55	6.790	152	14.41	2.93	29.630
SB	16OCT2002	B	0.1	6.100	156	11.81	4.07	29.860
SB	16OCT2002	B	1.1	5.450	143	9.970	3.66	28.520
SB	08JAN2003	A	0.1	1.365	158	24.43	3.50	6.555
SB	08JAN2003	A	1.5	1.220	122	25.08	3.18	6.900
SB	08JAN2003	B	0.1	1.300	140	14.92	3.14	5.280
SB	08JAN2003	B	1.09	1.265	133	14.72	3.01	5.445
SB	09APR2003	A	0.1	0.540	114	11.99	22.50	0.720
SB	09APR2003	A	2	0.550	107	12.75	17.04	0.700
SB	09APR2003	B	0.1	0.410	82	13.91	13.38	1.640
SB	09APR2003	B	1.7	0.420	82	14.22	14.82	1.820
SB	01JUL2003	A	0.1	0.460	41	1.825	10.93	0.995
SB	01JUL2003	A	1.7	0.500	42	2.545	7.15	3.790
SB	01JUL2003	B	0.1	0.960	79	0.405	6.32	1.340
SB	01JUL2003	B	1.8	1.175	77	7.465	7.65	7.785
SB	07OCT2003	A	0.1	5.290	238	16.98	7.36	4.925
SB	07OCT2003	A	1.4	5.225	240	16.24	6.82	5.375
SB	07OCT2003	B	0.1	2.200	125	6.115	10.20	4.230
SB	07OCT2003	B	1.5	1.560	93	3.500	10.65	5.595
CL	16OCT2002	A	0.35	5.410	147	12.26	3.38	24.190
CL	16OCT2002	B	0.37	4.000	134	9.800	3.25	13.570
CL	08JAN2003	A	0.23	0.695	52	1.395	7.64	2.310
CL	08JAN2003	B	0.22	0.990	86	3.110	4.36	2.840
CL	09APR2003	A	0.1	0.500	33	1.350	6.11	1.450
CL	09APR2003	B	0.1	0.640	64	14.00	5.77	3.360
CL	01JUL2003	A	0.1	0.685	65	6.215	9.11	6.030
CL	01JUL2003	B	0.1	0.530	66	6.080	5.43	4.015
CL	07OCT2003	A	0.45	.	.	.	6.34	.
CL	07OCT2003	B	0.5	.	.	.	7.57	.

Table 13. Taxa abundance and biomass data for all samples. Abbreviations: Bay (Christmas Bay = CB, Brazos River = BR, Rio Grande = RG, San Bernard River = SB, CL = Cedar Lakes), REP = replicate, *n* = number of individuals. Core area is 35.3 cm^2, multiply by 283 to obtain n or mg per m^2.

Bay	Date	Station	REP	Taxa	*n*/core	mg/core
CB	12OCT2001	A	1	Mollusca	2	0.15
CB	12OCT2001	A	1	Rhynchocoela	1	6.86
CB	12OCT2001	A	1	Ophiuroidea	2	25.12
CB	12OCT2001	A	1	Polychaeta	91	25.21
CB	12OCT2001	A	2	Crustacea	1	0.11
CB	12OCT2001	A	2	Hemicordata	1	1.17
CB	12OCT2001	A	2	Mollusca	8	0.92
CB	12OCT2001	A	2	Polychaeta	109	29.43
CB	12OCT2001	A	3	Crustacea	3	0.10
CB	12OCT2001	A	3	Mollusca	1	4.48
CB	12OCT2001	A	3	Polychaeta	50	10.89
CB	12OCT2001	B	1	Rhynchocoela	1	0.06
CB	12OCT2001	B	1	Polychaeta	15	0.85
CB	12OCT2001	B	2	Crustacea	1	0.14
CB	12OCT2001	B	2	Polychaeta	3	0.37
CB	12OCT2001	B	3	Crustacea	1	0.03
CB	12OCT2001	B	3	Polychaeta	11	0.64
CB	12OCT2001	C	1	Mollusca	5	0.52
CB	12OCT2001	C	1	Ophiuroidea	1	3.23
CB	12OCT2001	C	1	Polychaeta	47	4.26
CB	12OCT2001	C	2	Crustacea	4	0.55
CB	12OCT2001	C	2	Mollusca	1	0.24
CB	12OCT2001	C	2	Polychaeta	52	35.33
CB	12OCT2001	C	3	Crustacea	1	0.08
CB	12OCT2001	C	3	Mollusca	6	1.24
CB	12OCT2001	C	3	Ophiuroidea	1	76.07
CB	12OCT2001	C	3	Polychaeta	73	20.18
CB	08JAN2002	A	1	Crustacea	2	0.37
CB	08JAN2002	A	1	Mollusca	9	0.67
CB	08JAN2002	A	1	Polychaeta	52	6.81
CB	08JAN2002	A	2	Mollusca	9	0.72
CB	08JAN2002	A	2	Polychaeta	59	4.19
CB	08JAN2002	A	3	Mollusca	20	2.72
CB	08JAN2002	A	3	Ophiuroidea	1	0.02
CB	08JAN2002	A	3	Polychaeta	38	3.43
CB	08JAN2002	B	1	Mollusca	1	0.50
CB	08JAN2002	B	1	Other	8	0.17
CB	08JAN2002	B	1	Polychaeta	19	1.89
CB	08JAN2002	B	2	Crustacea	1	0.08
CB	08JAN2002	B	2	Rhynchocoela	1	0.08
CB	08JAN2002	B	2	Polychaeta	17	3.50
CB	08JAN2002	B	3	Crustacea	1	0.01
CB	08JAN2002	B	3	Polychaeta	10	1.82
CB	08JAN2002	C	1	Crustacea	1	0.01
CB	08JAN2002	C	1	Hemicordata	1	0.27
CB	08JAN2002	C	1	Mollusca	1	0.01

CB	08JAN2002	C	1	Rhynchocoela	2	0.09
CB	08JAN2002	C	1	Other	1	0.02
CB	08JAN2002	C	1	Ophiuroidea	1	2.33
CB	08JAN2002	C	1	Polychaeta	56	6.99
CB	08JAN2002	C	2	Crustacea	2	0.07
CB	08JAN2002	C	2	Hemicordata	3	26.94
CB	08JAN2002	C	2	Rhynchocoela	2	0.18
CB	08JAN2002	C	2	Ophiuroidea	1	31.24
CB	08JAN2002	C	2	Polychaeta	66	14.41
CB	08JAN2002	C	3	Crustacea	2	0.19
CB	08JAN2002	C	3	Mollusca	4	0.44
CB	08JAN2002	C	3	Rhynchocoela	1	0.03
CB	08JAN2002	C	3	Other	1	0.13
CB	08JAN2002	C	3	Ophiuroidea	1	29.09
CB	08JAN2002	C	3	Polychaeta	68	22.33
CB	12APR2002	A	1	Crustacea	2	0.04
CB	12APR2002	A	1	Mollusca	8	4.67
CB	12APR2002	A	1	Ophiuroidea	1	47.39
CB	12APR2002	A	1	Polychaeta	88	20.50
CB	12APR2002	A	2	Mollusca	2	4.49
CB	12APR2002	A	2	Rhynchocoela	1	0.08
CB	12APR2002	A	2	Ophiuroidea	1	17.30
CB	12APR2002	A	2	Polychaeta	42	13.56
CB	12APR2002	A	3	Crustacea	9	0.17
CB	12APR2002	A	3	Hemicordata	1	0.04
CB	12APR2002	A	3	Mollusca	13	12.93
CB	12APR2002	A	3	Other	1	0.08
CB	12APR2002	A	3	Ophiuroidea	1	13.90
CB	12APR2002	A	3	Polychaeta	65	11.29
CB	12APR2002	B	1	Crustacea	1	0.03
CB	12APR2002	B	1	Rhynchocoela	1	0.68
CB	12APR2002	B	1	Polychaeta	15	1.87
CB	12APR2002	B	2	Crustacea	1	0.07
CB	12APR2002	B	2	Mollusca	2	6.04
CB	12APR2002	B	2	Rhynchocoela	1	0.95
CB	12APR2002	B	2	Polychaeta	34	3.25
CB	12APR2002	B	3	Mollusca	3	0.12
CB	12APR2002	B	3	Other	1	0.19
CB	12APR2002	B	3	Polychaeta	16	1.48
CB	12APR2002	C	1	Crustacea	3	0.13
CB	12APR2002	C	1	Hemicordata	1	16.52
CB	12APR2002	C	1	Mollusca	6	2.84
CB	12APR2002	C	1	Rhynchocoela	7	3.89
CB	12APR2002	C	1	Ophiuroidea	1	86.92
CB	12APR2002	C	1	Polychaeta	130	59.56
CB	12APR2002	C	2	Crustacea	2	0.04
CB	12APR2002	C	2	Hemicordata	4	16.36
CB	12APR2002	C	2	Rhynchocoela	5	10.32
CB	12APR2002	C	2	Other	2	10.06
CB	12APR2002	C	2	Ophiuroidea	1	52.77
CB	12APR2002	C	2	Polychaeta	95	29.91
CB	12APR2002	C	3	Crustacea	4	0.02
CB	12APR2002	C	3	Hemicordata	5	7.00
CB	12APR2002	C	3	Mollusca	9	0.53
CB	12APR2002	C	3	Rhynchocoela	1	0.02

CB	12APR2002	C	3	Ophiuroidea	1	33.89
CB	12APR2002	C	3	Polychaeta	68	27.86
CB	09JUL2002	A	1	Crustacea	1	0.01
CB	09JUL2002	A	1	Mollusca	13	11.76
CB	09JUL2002	A	1	Ophiuroidea	2	0.08
CB	09JUL2002	A	1	Polychaeta	46	10.25
CB	09JUL2002	A	2	Mollusca	6	3.37
CB	09JUL2002	A	2	Polychaeta	50	4.02
CB	09JUL2002	A	3	Crustacea	1	0.08
CB	09JUL2002	A	3	Hemicordata	1	0.07
CB	09JUL2002	A	3	Mollusca	6	4.52
CB	09JUL2002	A	3	Polychaeta	61	12.50
CB	09JUL2002	B	1	Polychaeta	15	2.22
CB	09JUL2002	B	2	Polychaeta	15	15.19
CB	09JUL2002	B	3	Mollusca	2	0.23
CB	09JUL2002	B	3	Rhynchocoela	5	0.23
CB	09JUL2002	B	3	Polychaeta	16	2.83
CB	09JUL2002	C	1	Crustacea	6	0.46
CB	09JUL2002	C	1	Hemicordata	1	6.11
CB	09JUL2002	C	1	Mollusca	7	0.89
CB	09JUL2002	C	1	Rhynchocoela	4	3.92
CB	09JUL2002	C	1	Polychaeta	77	18.32
CB	09JUL2002	C	2	Mollusca	7	32.99
CB	09JUL2002	C	2	Rhynchocoela	1	2.25
CB	09JUL2002	C	2	Ophiuroidea	1	8.31
CB	09JUL2002	C	2	Polychaeta	57	10.76
CB	09JUL2002	C	3	Crustacea	5	0.30
CB	09JUL2002	C	3	Mollusca	3	6.64
CB	09JUL2002	C	3	Rhynchocoela	4	5.53
CB	09JUL2002	C	3	Polychaeta	44	23.71
CB	17OCT2002	A	1	Crustacea	1	0.08
CB	17OCT2002	A	1	Mollusca	6	4.69
CB	17OCT2002	A	1	Rhynchocoela	1	0.74
CB	17OCT2002	A	1	Polychaeta	64	6.74
CB	17OCT2002	A	2	Crustacea	1	0.02
CB	17OCT2002	A	2	Mollusca	2	0.52
CB	17OCT2002	A	2	Rhynchocoela	1	0.15
CB	17OCT2002	A	2	Polychaeta	34	4.24
CB	17OCT2002	A	3	Mollusca	20	7.94
CB	17OCT2002	A	3	Polychaeta	54	4.53
CB	17OCT2002	B	1	Polychaeta	19	2.44
CB	17OCT2002	B	2	Crustacea	1	0.03
CB	17OCT2002	B	2	Rhynchocoela	1	0.45
CB	17OCT2002	B	2	Polychaeta	14	1.44
CB	17OCT2002	B	3	Rhynchocoela	2	0.45
CB	17OCT2002	B	3	Polychaeta	12	4.06
CB	17OCT2002	C	1	Hemicordata	1	0.54
CB	17OCT2002	C	1	Mollusca	12	0.99
CB	17OCT2002	C	1	Rhynchocoela	1	0.16
CB	17OCT2002	C	1	Other	1	0.83
CB	17OCT2002	C	1	Polychaeta	120	13.07
CB	17OCT2002	C	2	Crustacea	2	0.14
CB	17OCT2002	C	2	Hemicordata	1	0.52
CB	17OCT2002	C	2	Mollusca	29	1.80
CB	17OCT2002	C	2	Rhynchocoela	2	0.14

CB	17OCT2002	C	2	Ophiuroidea	1	12.62
CB	17OCT2002	C	2	Polychaeta	70	18.80
CB	17OCT2002	C	3	Mollusca	19	6.93
CB	17OCT2002	C	3	Rhynchocoela	1	0.04
CB	17OCT2002	C	3	Ophiuroidea	1	39.79
CB	17OCT2002	C	3	Polychaeta	89	17.77
CB	09JAN2003	A	1	Crustacea	1	0.04
CB	09JAN2003	A	1	Mollusca	6	2.73
CB	09JAN2003	A	1	Polychaeta	75	6.69
CB	09JAN2003	A	2	Hemicordata	1	2.58
CB	09JAN2003	A	2	Mollusca	5	0.41
CB	09JAN2003	A	2	Rhynchocoela	1	0.13
CB	09JAN2003	A	2	Polychaeta	51	4.47
CB	09JAN2003	A	3	Mollusca	8	2.05
CB	09JAN2003	A	3	Rhynchocoela	1	3.00
CB	09JAN2003	A	3	Ophiuroidea	1	58.45
CB	09JAN2003	A	3	Polychaeta	103	25.25
CB	09JAN2003	B	1	Mollusca	4	0.64
CB	09JAN2003	B	1	Polychaeta	25	17.78
CB	09JAN2003	B	2	Hemicordata	1	1.91
CB	09JAN2003	B	2	Mollusca	1	0.86
CB	09JAN2003	B	2	Polychaeta	23	5.45
CB	09JAN2003	B	3	Mollusca	3	0.26
CB	09JAN2003	B	3	Rhynchocoela	1	0.03
CB	09JAN2003	B	3	Polychaeta	19	7.19
CB	09JAN2003	C	1	Hemicordata	1	0.49
CB	09JAN2003	C	1	Mollusca	11	1.20
CB	09JAN2003	C	1	Rhynchocoela	1	0.04
CB	09JAN2003	C	1	Other	1	0.12
CB	09JAN2003	C	1	Ophiuroidea	1	0.31
CB	09JAN2003	C	1	Polychaeta	43	4.10
CB	09JAN2003	C	2	Crustacea	2	0.14
CB	09JAN2003	C	2	Hemicordata	1	0.84
CB	09JAN2003	C	2	Mollusca	19	2.93
CB	09JAN2003	C	2	Rhynchocoela	3	1.90
CB	09JAN2003	C	2	Other	2	0.02
CB	09JAN2003	C	2	Ophiuroidea	1	25.89
CB	09JAN2003	C	2	Polychaeta	106	31.61
CB	09JAN2003	C	3	Crustacea	1	0.17
CB	09JAN2003	C	3	Mollusca	10	1.52
CB	09JAN2003	C	3	Rhynchocoela	1	0.59
CB	09JAN2003	C	3	Other	1	0.01
CB	09JAN2003	C	3	Ophiuroidea	1	2.29
CB	09JAN2003	C	3	Polychaeta	70	5.56
CB	10APR2003	A	1	Hemicordata	1	0.10
CB	10APR2003	A	1	Mollusca	18	19.91
CB	10APR2003	A	1	Ophiuroidea	1	0.07
CB	10APR2003	A	1	Polychaeta	78	10.24
CB	10APR2003	A	2	Crustacea	1	0.09
CB	10APR2003	A	2	Hemicordata	2	0.18
CB	10APR2003	A	2	Mollusca	8	4.07
CB	10APR2003	A	2	Polychaeta	67	43.66
CB	10APR2003	A	3	Hemicordata	1	0.01
CB	10APR2003	A	3	Mollusca	10	3.88
CB	10APR2003	A	3	Rhynchocoela	2	0.70

CB	10APR2003	A	3	Polychaeta	66	19.98
CB	10APR2003	B	1	Hemicordata	1	0.11
CB	10APR2003	B	1	Mollusca	2	0.74
CB	10APR2003	B	1	Rhynchocoela	1	0.17
CB	10APR2003	B	1	Polychaeta	34	8.65
CB	10APR2003	B	2	Crustacea	1	14.91
CB	10APR2003	B	2	Mollusca	2	0.10
CB	10APR2003	B	2	Polychaeta	33	8.28
CB	10APR2003	B	3	Mollusca	1	0.01
CB	10APR2003	B	3	Rhynchocoela	1	0.33
CB	10APR2003	B	3	Polychaeta	23	4.69
CB	10APR2003	C	1	Crustacea	2	0.23
CB	10APR2003	C	1	Hemicordata	1	0.13
CB	10APR2003	C	1	Mollusca	4	1.19
CB	10APR2003	C	1	Other	1	0.05
CB	10APR2003	C	1	Ophiuroidea	1	27.88
CB	10APR2003	C	1	Polychaeta	104	16.65
CB	10APR2003	C	2	Crustacea	2	0.06
CB	10APR2003	C	2	Hemicordata	2	0.32
CB	10APR2003	C	2	Mollusca	9	1.03
CB	10APR2003	C	2	Rhynchocoela	2	0.85
CB	10APR2003	C	2	Ophiuroidea	1	73.65
CB	10APR2003	C	2	Polychaeta	101	45.87
CB	10APR2003	C	3	Crustacea	1	0.12
CB	10APR2003	C	3	Hemicordata	1	0.43
CB	10APR2003	C	3	Mollusca	6	2.44
CB	10APR2003	C	3	Rhynchocoela	2	0.39
CB	10APR2003	C	3	Polychaeta	86	26.52
CB	02JUL2003	A	1	Mollusca	12	1.72
CB	02JUL2003	A	1	Rhynchocoela	2	0.05
CB	02JUL2003	A	1	Ophiuroidea	1	72.86
CB	02JUL2003	A	1	Polychaeta	67	7.04
CB	02JUL2003	A	2	Crustacea	1	0.03
CB	02JUL2003	A	2	Hemicordata	1	0.70
CB	02JUL2003	A	2	Mollusca	5	0.16
CB	02JUL2003	A	2	Rhynchocoela	4	0.18
CB	02JUL2003	A	2	Other	1	0.17
CB	02JUL2003	A	2	Ophiuroidea	1	11.20
CB	02JUL2003	A	2	Polychaeta	64	17.68
CB	02JUL2003	A	3	Crustacea	3	0.19
CB	02JUL2003	A	3	Hemicordata	1	0.47
CB	02JUL2003	A	3	Mollusca	13	11.78
CB	02JUL2003	A	3	Rhynchocoela	2	0.07
CB	02JUL2003	A	3	Polychaeta	59	15.40
CB	02JUL2003	B	1	Hemicordata	1	1.34
CB	02JUL2003	B	1	Rhynchocoela	2	0.17
CB	02JUL2003	B	1	Polychaeta	25	1.65
CB	02JUL2003	B	2	Hemicordata	1	7.96
CB	02JUL2003	B	2	Mollusca	4	1.21
CB	02JUL2003	B	2	Rhynchocoela	1	0.37
CB	02JUL2003	B	2	Other	7	1.10
CB	02JUL2003	B	2	Polychaeta	20	3.10
CB	02JUL2003	B	3	Rhynchocoela	1	0.30
CB	02JUL2003	B	3	Polychaeta	32	10.76
CB	02JUL2003	C	1	Crustacea	1	0.02

CB	02JUL2003	C	1	Hemicordata	1	2.13
CB	02JUL2003	C	1	Mollusca	11	1.74
CB	02JUL2003	C	1	Rhynchocoela	4	1.77
CB	02JUL2003	C	1	Ophiuroidea	1	40.67
CB	02JUL2003	C	1	Polychaeta	79	16.59
CB	02JUL2003	C	2	Crustacea	2	0.89
CB	02JUL2003	C	2	Hemicordata	1	0.27
CB	02JUL2003	C	2	Mollusca	7	9.24
CB	02JUL2003	C	2	Rhynchocoela	1	0.04
CB	02JUL2003	C	2	Polychaeta	76	21.62
CB	02JUL2003	C	3	Hemicordata	1	0.60
CB	02JUL2003	C	3	Mollusca	6	7.81
CB	02JUL2003	C	3	Rhynchocoela	3	1.22
CB	02JUL2003	C	3	Ophiuroidea	1	101.06
CB	02JUL2003	C	3	Polychaeta	89	18.98
BR	18OCT2000	A	1	Polychaeta	41	2.17
BR	18OCT2000	A	2	Polychaeta	41	3.27
BR	18OCT2000	A	3	Polychaeta	11	1.44
BR	18OCT2000	B	1	Polychaeta	16	6.55
BR	18OCT2000	B	2	Mollusca	1	0.03
BR	18OCT2000	B	2	Polychaeta	16	0.39
BR	18OCT2000	B	3	Polychaeta	14	0.41
BR	18OCT2000	C	1	Polychaeta	6	0.55
BR	18OCT2000	C	2	Polychaeta	5	2.43
BR	18OCT2000	C	3	Polychaeta	4	1.00
BR	10JAN2001	A	1	Polychaeta	13	3.50
BR	10JAN2001	A	2	Other	1	0.10
BR	10JAN2001	A	2	Polychaeta	10	2.50
BR	10JAN2001	A	3	Polychaeta	12	1.10
BR	10JAN2001	B	1	Polychaeta	19	1.40
BR	10JAN2001	B	2	Polychaeta	22	1.73
BR	10JAN2001	B	3	Polychaeta	36	2.00
BR	10JAN2001	C	1	Rhynchocoela	1	0.07
BR	10JAN2001	C	1	Polychaeta	14	3.35
BR	10JAN2001	C	2	Polychaeta	12	4.97
BR	10JAN2001	C	3	Polychaeta	12	2.03
BR	10APR2001	A	1	Crustacea	1	0.03
BR	10APR2001	A	1	Chironomid larvae	1	0.29
BR	10APR2001	A	1	Polychaeta	14	6.49
BR	10APR2001	A	2	Chironomid larvae	1	0.01
BR	10APR2001	A	2	Polychaeta	10	0.52
BR	10APR2001	A	3	Rhynchocoela	2	2.83
BR	10APR2001	A	3	Polychaeta	11	1.71
BR	10APR2001	B	1	Chironomid larvae	2	0.02
BR	10APR2001	B	1	Polychaeta	28	6.39
BR	10APR2001	B	2	Chironomid larvae	1	0.07
BR	10APR2001	B	2	Polychaeta	33	5.50
BR	10APR2001	B	3	Polychaeta	34	4.31
BR	10APR2001	C	1	Polychaeta	12	13.89
BR	10APR2001	C	2	Polychaeta	7	2.73
BR	10APR2001	C	3	Polychaeta	33	10.81
BR	11JUL2001	A	1	Polychaeta	5	0.34
BR	11JUL2001	A	2	Polychaeta	3	0.35
BR	11JUL2001	A	3	Polychaeta	3	0.67
BR	11JUL2001	B	1	Crustacea	1	0.03

BR	11JUL2001	B	1	Rhynchocoela	4	0.18
BR	11JUL2001	B	1	Polychaeta	20	2.13
BR	11JUL2001	B	2	Polychaeta	18	2.85
BR	11JUL2001	B	3	Crustacea	1	0.26
BR	11JUL2001	B	3	Polychaeta	10	2.29
BR	11JUL2001	C	1	Polychaeta	30	1.74
BR	11JUL2001	C	2	Crustacea	1	0.27
BR	11JUL2001	C	2	Polychaeta	13	3.64
BR	11JUL2001	C	3	Polychaeta	24	6.20
BR	12OCT2001	A	1	Polychaeta	12	0.99
BR	12OCT2001	A	2	Crustacea	1	6.12
BR	12OCT2001	A	2	Mollusca	2	0.18
BR	12OCT2001	A	2	Rhynchocoela	3	0.11
BR	12OCT2001	A	2	Polychaeta	9	0.85
BR	12OCT2001	A	3	Crustacea	2	0.32
BR	12OCT2001	A	3	Polychaeta	16	0.42
BR	12OCT2001	B	1	Crustacea	1	4.14
BR	12OCT2001	B	1	Rhynchocoela	1	0.02
BR	12OCT2001	B	1	Polychaeta	15	1.35
BR	12OCT2001	B	2	Rhynchocoela	1	0.01
BR	12OCT2001	B	2	Polychaeta	5	0.88
BR	12OCT2001	B	3	Mollusca	2	0.19
BR	12OCT2001	B	3	Rhynchocoela	1	0.04
BR	12OCT2001	B	3	Polychaeta	9	0.85
BR	12OCT2001	C	1	Rhynchocoela	1	1.04
BR	12OCT2001	C	1	Polychaeta	58	5.24
BR	12OCT2001	C	2	Polychaeta	29	4.52
BR	12OCT2001	C	3	Polychaeta	17	2.66
BR	08JAN2002	A	1	Chironomid larvae	1	0.10
BR	08JAN2002	A	1	Rhynchocoela	1	0.10
BR	08JAN2002	A	1	Polychaeta	0	0.00
BR	08JAN2002	A	2	Other	1	0.01
BR	08JAN2002	A	2	Polychaeta	5	0.20
BR	08JAN2002	A	3	Rhynchocoela	2	0.47
BR	08JAN2002	A	3	Polychaeta	6	0.86
BR	08JAN2002	B	1	Rhynchocoela	1	0.46
BR	08JAN2002	B	1	Polychaeta	2	0.39
BR	08JAN2002	B	2	Rhynchocoela	1	0.51
BR	08JAN2002	B	2	Polychaeta	4	0.58
BR	08JAN2002	B	3	Rhynchocoela	2	0.24
BR	08JAN2002	B	3	Polychaeta	14	0.57
BR	08JAN2002	C	1	Polychaeta	71	3.88
BR	08JAN2002	C	2	Polychaeta	17	2.51
BR	08JAN2002	C	3	Polychaeta	2	0.53
BR	12APR2002	A	1	Polychaeta	14	2.02
BR	12APR2002	A	2	Hemicordata	1	0.01
BR	12APR2002	A	2	Polychaeta	19	1.80
BR	12APR2002	A	3	Chironomid larvae	2	0.18
BR	12APR2002	A	3	Polychaeta	15	1.27
BR	12APR2002	B	1	Rhynchocoela	2	1.05
BR	12APR2002	B	1	Polychaeta	12	0.76
BR	12APR2002	B	2	Crustacea	2	13.82
BR	12APR2002	B	2	Chironomid larvae	1	0.04
BR	12APR2002	B	2	Polychaeta	49	2.62
BR	12APR2002	B	3	Crustacea	1	0.06

BR	12APR2002	B	3	Other	1	0.01
BR	12APR2002	B	3	Polychaeta	110	12.47
BR	12APR2002	C	1	Polychaeta	36	6.11
BR	12APR2002	C	2	Chironomid larvae	1	0.02
BR	12APR2002	C	2	Rhynchocoela	1	0.61
BR	12APR2002	C	2	Polychaeta	33	4.79
BR	12APR2002	C	3	Polychaeta	26	2.98
BR	08JUL2002	A	1	Polychaeta	6	0.72
BR	08JUL2002	A	2	Rhynchocoela	1	0.73
BR	08JUL2002	A	2	Polychaeta	3	0.02
BR	08JUL2002	A	3	Polychaeta	6	0.32
BR	08JUL2002	B	1	Rhynchocoela	2	0.13
BR	08JUL2002	B	1	Polychaeta	20	4.02
BR	08JUL2002	B	2	Rhynchocoela	1	0.15
BR	08JUL2002	B	2	Polychaeta	12	1.90
BR	08JUL2002	B	3	Rhynchocoela	1	0.06
BR	08JUL2002	B	3	Polychaeta	13	3.18
BR	08JUL2002	C	1	Polychaeta	34	5.98
BR	08JUL2002	C	2	Polychaeta	18	4.12
BR	08JUL2002	C	3	Rhynchocoela	1	0.05
BR	08JUL2002	C	3	Polychaeta	25	5.48
BR	16OCT2002	A	1	Crustacea	1	0.26
BR	16OCT2002	A	1	Rhynchocoela	1	0.07
BR	16OCT2002	A	1	Polychaeta	10	0.92
BR	16OCT2002	A	2	Polychaeta	10	1.02
BR	16OCT2002	A	3	Polychaeta	9	1.60
BR	16OCT2002	B	1	Rhynchocoela	1	0.08
BR	16OCT2002	B	1	Polychaeta	19	1.83
BR	16OCT2002	B	2	Rhynchocoela	1	0.11
BR	16OCT2002	B	2	Polychaeta	15	4.66
BR	16OCT2002	B	3	Polychaeta	32	2.39
BR	16OCT2002	C	1	Rhynchocoela	1	0.35
BR	16OCT2002	C	1	Polychaeta	26	4.83
BR	16OCT2002	C	2	Polychaeta	20	1.45
BR	16OCT2002	C	3	Polychaeta	62	5.81
BR	08JAN2003	A	1	Rhynchocoela	1	0.43
BR	08JAN2003	A	1	Polychaeta	10	3.26
BR	08JAN2003	A	2	Polychaeta	12	2.51
BR	08JAN2003	A	3	Rhynchocoela	2	1.74
BR	08JAN2003	A	3	Polychaeta	4	1.58
BR	08JAN2003	B	1	Polychaeta	11	0.60
BR	08JAN2003	B	2	Rhynchocoela	1	0.10
BR	08JAN2003	B	2	Polychaeta	10	1.09
BR	08JAN2003	B	3	Polychaeta	7	0.37
BR	08JAN2003	C	1	Polychaeta	15	2.92
BR	08JAN2003	C	2	Rhynchocoela	3	1.37
BR	08JAN2003	C	2	Polychaeta	17	1.97
BR	08JAN2003	C	3	Rhynchocoela	3	0.90
BR	08JAN2003	C	3	Polychaeta	10	14.80
BR	09APR2003	A	1	Rhynchocoela	1	0.10
BR	09APR2003	A	1	Polychaeta	13	0.58
BR	09APR2003	A	2	Rhynchocoela	1	0.53
BR	09APR2003	A	2	Polychaeta	4	0.43
BR	09APR2003	A	3	Polychaeta	4	0.38
BR	09APR2003	B	1	Polychaeta	6	0.69

BR	09APR2003	B	2	Polychaeta	2	0.25
BR	09APR2003	B	3	Rhynchocoela	1	0.10
BR	09APR2003	B	3	Polychaeta	2	0.71
BR	09APR2003	C	1	Polychaeta	5	0.59
BR	09APR2003	C	2	Rhynchocoela	1	0.10
BR	09APR2003	C	2	Polychaeta	17	2.29
BR	09APR2003	C	3	Polychaeta	6	0.59
BR	01JUL2003	A	1	Polychaeta	41	3.22
BR	01JUL2003	A	2	Polychaeta	22	3.27
BR	01JUL2003	A	3	Polychaeta	31	2.62
BR	01JUL2003	B	1	Polychaeta	36	3.58
BR	01JUL2003	B	2	Rhynchocoela	2	1.33
BR	01JUL2003	B	2	Polychaeta	19	2.31
BR	01JUL2003	B	3	Polychaeta	21	1.75
BR	01JUL2003	C	1	Rhynchocoela	1	0.74
BR	01JUL2003	C	1	Polychaeta	17	0.88
BR	01JUL2003	C	2	Crustacea	1	0.34
BR	01JUL2003	C	2	Rhynchocoela	1	0.13
BR	01JUL2003	C	2	Polychaeta	37	3.84
BR	01JUL2003	C	3	Crustacea	1	0.01
BR	01JUL2003	C	3	Rhynchocoela	1	0.15
BR	01JUL2003	C	3	Polychaeta	41	3.26
BR	07OCT2003	A	1	Polychaeta	39	3.00
BR	07OCT2003	A	2	Rhynchocoela	1	0.03
BR	07OCT2003	A	2	Polychaeta	13	1.15
BR	07OCT2003	A	3	Polychaeta	15	0.71
BR	07OCT2003	B	1	Crustacea	1	0.27
BR	07OCT2003	B	1	Rhynchocoela	4	0.11
BR	07OCT2003	B	1	Polychaeta	16	0.38
BR	07OCT2003	B	2	Rhynchocoela	1	0.19
BR	07OCT2003	B	2	Polychaeta	11	1.18
BR	07OCT2003	B	3	Rhynchocoela	2	1.04
BR	07OCT2003	B	3	Polychaeta	11	1.85
BR	07OCT2003	C	1	Mollusca	1	0.03
BR	07OCT2003	C	1	Rhynchocoela	1	0.49
BR	07OCT2003	C	1	Polychaeta	5	0.09
BR	07OCT2003	C	2	Rhynchocoela	3	0.26
BR	07OCT2003	C	2	Polychaeta	4	1.13
BR	07OCT2003	C	3	Rhynchocoela	1	0.01
BR	07OCT2003	C	3	Polychaeta	6	0.24
RG	24OCT2000	A	1	Chironomid larvae	3	0.30
RG	24OCT2000	A	1	Mollusca	5	19.26
RG	24OCT2000	A	1	Rhynchocoela	6	0.64
RG	24OCT2000	A	1	Polychaeta	28	2.79
RG	24OCT2000	A	2	Chironomid larvae	3	0.27
RG	24OCT2000	A	2	Mollusca	5	0.67
RG	24OCT2000	A	2	Rhynchocoela	6	0.71
RG	24OCT2000	A	2	Polychaeta	50	4.02
RG	24OCT2000	A	3	Chironomid larvae	2	0.17
RG	24OCT2000	A	3	Mollusca	5	0.28
RG	24OCT2000	A	3	Rhynchocoela	7	0.43
RG	24OCT2000	A	3	Polychaeta	50	4.18
RG	24OCT2000	B	1	Mollusca	3	49.50
RG	24OCT2000	B	1	Rhynchocoela	1	0.04
RG	24OCT2000	B	1	Polychaeta	16	1.49

RG	24OCT2000	B	2	Chironomid larvae	4	0.18
RG	24OCT2000	B	2	Mollusca	1	13.46
RG	24OCT2000	B	2	Rhynchocoela	1	0.06
RG	24OCT2000	B	2	Polychaeta	27	3.10
RG	24OCT2000	B	3	Mollusca	5	70.37
RG	24OCT2000	B	3	Rhynchocoela	5	0.18
RG	24OCT2000	B	3	Polychaeta	12	1.72
RG	24OCT2000	C	1	Crustacea	1	0.62
RG	24OCT2000	C	1	Rhynchocoela	2	0.97
RG	24OCT2000	C	1	Polychaeta	18	0.28
RG	24OCT2000	C	2	Crustacea	1	0.15
RG	24OCT2000	C	2	Rhynchocoela	2	0.27
RG	24OCT2000	C	2	Polychaeta	114	2.21
RG	24OCT2000	C	3	Mollusca	1	0.64
RG	24OCT2000	C	3	Polychaeta	2	0.20
RG	10JAN2001	A	1	Chironomid larvae	7	0.32
RG	10JAN2001	A	1	Mollusca	6	1.27
RG	10JAN2001	A	1	Rhynchocoela	2	0.14
RG	10JAN2001	A	1	Polychaeta	48	2.44
RG	10JAN2001	A	2	Chironomid larvae	5	0.28
RG	10JAN2001	A	2	Mollusca	6	1.55
RG	10JAN2001	A	2	Rhynchocoela	3	0.81
RG	10JAN2001	A	2	Polychaeta	39	3.34
RG	10JAN2001	A	3	Chironomid larvae	11	0.51
RG	10JAN2001	A	3	Mollusca	5	2.37
RG	10JAN2001	A	3	Rhynchocoela	4	0.56
RG	10JAN2001	A	3	Polychaeta	53	2.61
RG	10JAN2001	B	1	Chironomid larvae	8	0.39
RG	10JAN2001	B	1	Mollusca	1	33.78
RG	10JAN2001	B	1	Rhynchocoela	5	0.52
RG	10JAN2001	B	1	Polychaeta	33	2.36
RG	10JAN2001	B	2	Chironomid larvae	2	0.11
RG	10JAN2001	B	2	Mollusca	4	65.69
RG	10JAN2001	B	2	Rhynchocoela	1	0.01
RG	10JAN2001	B	2	Polychaeta	26	3.18
RG	10JAN2001	B	3	Chironomid larvae	3	0.22
RG	10JAN2001	B	3	Mollusca	3	0.35
RG	10JAN2001	B	3	Rhynchocoela	2	0.38
RG	10JAN2001	B	3	Polychaeta	20	1.44
RG	10JAN2001	C	1	Chironomid larvae	4	0.35
RG	10JAN2001	C	1	Mollusca	7	1.56
RG	10JAN2001	C	1	Rhynchocoela	1	0.16
RG	10JAN2001	C	1	Polychaeta	60	8.04
RG	10JAN2001	C	2	Crustacea	3	0.22
RG	10JAN2001	C	2	Chironomid larvae	2	0.49
RG	10JAN2001	C	2	Mollusca	7	2.80
RG	10JAN2001	C	2	Rhynchocoela	4	0.96
RG	10JAN2001	C	2	Polychaeta	75	8.08
RG	10JAN2001	C	3	Crustacea	1	0.03
RG	10JAN2001	C	3	Chironomid larvae	3	0.40
RG	10JAN2001	C	3	Mollusca	8	1.04
RG	10JAN2001	C	3	Rhynchocoela	3	1.03
RG	10JAN2001	C	3	Polychaeta	56	3.67
RG	14APR2001	A	1	Chironomid larvae	23	1.19
RG	14APR2001	A	1	Mollusca	1	0.06

RG	14APR2001	A	1	Polychaeta	28	2.60
RG	14APR2001	A	2	Crustacea	1	0.06
RG	14APR2001	A	2	Chironomid larvae	34	1.34
RG	14APR2001	A	2	Polychaeta	27	3.02
RG	14APR2001	A	3	Chironomid larvae	31	1.47
RG	14APR2001	A	3	Rhynchocoela	4	1.19
RG	14APR2001	A	3	Polychaeta	44	4.61
RG	14APR2001	B	1	Chironomid larvae	17	4.25
RG	14APR2001	B	1	Mollusca	1	0.78
RG	14APR2001	B	1	Polychaeta	16	1.50
RG	14APR2001	B	2	Chironomid larvae	27	2.42
RG	14APR2001	B	2	Polychaeta	30	2.40
RG	14APR2001	B	3	Chironomid larvae	15	1.13
RG	14APR2001	B	3	Mollusca	1	0.13
RG	14APR2001	B	3	Rhynchocoela	2	0.43
RG	14APR2001	B	3	Polychaeta	20	2.16
RG	14APR2001	C	1	Chironomid larvae	20	4.57
RG	14APR2001	C	1	Mollusca	2	23.91
RG	14APR2001	C	1	Rhynchocoela	2	0.66
RG	14APR2001	C	1	Polychaeta	66	5.38
RG	14APR2001	C	2	Chironomid larvae	12	1.26
RG	14APR2001	C	2	Mollusca	3	2.62
RG	14APR2001	C	2	Rhynchocoela	1	0.31
RG	14APR2001	C	2	Polychaeta	36	1.77
RG	14APR2001	C	3	Chironomid larvae	19	1.47
RG	14APR2001	C	3	Mollusca	2	24.81
RG	14APR2001	C	3	Rhynchocoela	1	0.51
RG	14APR2001	C	3	Polychaeta	30	2.45
RG	07JUL2001	A	1	Chironomid larvae	12	0.23
RG	07JUL2001	A	1	Mollusca	1	0.23
RG	07JUL2001	A	1	Rhynchocoela	2	1.50
RG	07JUL2001	A	1	Polychaeta	37	1.57
RG	07JUL2001	A	2	Chironomid larvae	3	0.49
RG	07JUL2001	A	2	Mollusca	1	0.21
RG	07JUL2001	A	2	Polychaeta	24	1.79
RG	07JUL2001	A	3	Chironomid larvae	2	0.04
RG	07JUL2001	A	3	Mollusca	1	2.48
RG	07JUL2001	A	3	Polychaeta	8	1.60
RG	07JUL2001	B	1	Chironomid larvae	4	0.15
RG	07JUL2001	B	1	Polychaeta	19	1.42
RG	07JUL2001	B	2	Chironomid larvae	4	0.11
RG	07JUL2001	B	2	Mollusca	1	28.73
RG	07JUL2001	B	2	Polychaeta	16	1.20
RG	07JUL2001	B	3	Chironomid larvae	6	0.40
RG	07JUL2001	B	3	Mollusca	3	84.24
RG	07JUL2001	B	3	Polychaeta	14	1.15
RG	07JUL2001	C	1	Chironomid larvae	5	3.04
RG	07JUL2001	C	1	Polychaeta	7	0.34
RG	07JUL2001	C	2	Chironomid larvae	1	2.08
RG	07JUL2001	C	2	Rhynchocoela	1	0.20
RG	07JUL2001	C	2	Polychaeta	1	0.07
RG	07JUL2001	C	3	Chironomid larvae	4	0.36
RG	07JUL2001	C	3	Rhynchocoela	1	1.64
RG	07JUL2001	C	3	Other	1	0.01
RG	07JUL2001	C	3	Polychaeta	3	2.92

RG	20OCT2001	A	1	Chironomid larvae	6	0.13
RG	20OCT2001	A	1	Mollusca	2	29.25
RG	20OCT2001	A	1	Rhynchocoela	1	0.43
RG	20OCT2001	A	1	Polychaeta	26	0.54
RG	20OCT2001	A	2	Chironomid larvae	2	0.13
RG	20OCT2001	A	2	Rhynchocoela	1	0.85
RG	20OCT2001	A	2	Polychaeta	46	3.66
RG	20OCT2001	A	3	Chironomid larvae	4	0.08
RG	20OCT2001	A	3	Rhynchocoela	1	0.02
RG	20OCT2001	A	3	Polychaeta	36	0.59
RG	20OCT2001	B	1	Chironomid larvae	5	0.36
RG	20OCT2001	B	1	Rhynchocoela	1	0.08
RG	20OCT2001	B	1	Polychaeta	15	1.11
RG	20OCT2001	B	2	Chironomid larvae	4	0.14
RG	20OCT2001	B	2	Mollusca	2	40.75
RG	20OCT2001	B	2	Rhynchocoela	3	0.69
RG	20OCT2001	B	2	Polychaeta	16	1.64
RG	20OCT2001	B	3	Chironomid larvae	2	0.23
RG	20OCT2001	B	3	Mollusca	1	32.87
RG	20OCT2001	B	3	Rhynchocoela	1	0.08
RG	20OCT2001	B	3	Polychaeta	17	0.78
RG	20OCT2001	C	1	Chironomid larvae	1	0.01
RG	20OCT2001	C	1	Rhynchocoela	1	0.19
RG	20OCT2001	C	1	Polychaeta	9	1.68
RG	20OCT2001	C	2	Chironomid larvae	1	0.02
RG	20OCT2001	C	2	Polychaeta	9	8.15
RG	20OCT2001	C	3	Chironomid larvae	1	0.20
RG	20OCT2001	C	3	Rhynchocoela	1	0.41
RG	20OCT2001	C	3	Polychaeta	10	1.48
RG	21JAN2002	A	1	Chironomid larvae	5	0.73
RG	21JAN2002	A	1	Mollusca	1	13.30
RG	21JAN2002	A	1	Rhynchocoela	2	2.13
RG	21JAN2002	A	1	Polychaeta	17	0.59
RG	21JAN2002	A	2	Chironomid larvae	5	1.31
RG	21JAN2002	A	2	Polychaeta	10	0.19
RG	21JAN2002	A	3	Rhynchocoela	2	1.74
RG	21JAN2002	A	3	Polychaeta	2	0.02
RG	21JAN2002	B	1	Chironomid larvae	39	2.78
RG	21JAN2002	B	1	Rhynchocoela	1	0.22
RG	21JAN2002	B	1	Polychaeta	89	3.99
RG	21JAN2002	B	2	Chironomid larvae	26	2.49
RG	21JAN2002	B	2	Rhynchocoela	1	0.07
RG	21JAN2002	B	2	Polychaeta	47	4.03
RG	21JAN2002	B	3	Crustacea	1	0.18
RG	21JAN2002	B	3	Chironomid larvae	14	1.05
RG	21JAN2002	B	3	Rhynchocoela	1	0.34
RG	21JAN2002	B	3	Polychaeta	42	1.59
RG	21JAN2002	C	1	Chironomid larvae	61	4.04
RG	21JAN2002	C	1	Rhynchocoela	2	0.22
RG	21JAN2002	C	1	Polychaeta	33	1.85
RG	21JAN2002	C	2	Chironomid larvae	37	2.90
RG	21JAN2002	C	2	Rhynchocoela	3	0.60
RG	21JAN2002	C	2	Polychaeta	26	1.39
RG	21JAN2002	C	3	Crustacea	1	0.17
RG	21JAN2002	C	3	Chironomid larvae	11	1.05

RG	21JAN2002	C	3	Polychaeta	11	6.61
RG	14APR2002	A	1	Chironomid larvae	20	0.55
RG	14APR2002	A	1	Mollusca	3	49.82
RG	14APR2002	A	1	Rhynchocoela	1	0.18
RG	14APR2002	A	1	Polychaeta	8	0.73
RG	14APR2002	A	2	Chironomid larvae	103	4.54
RG	14APR2002	A	2	Mollusca	2	15.43
RG	14APR2002	A	2	Rhynchocoela	1	0.23
RG	14APR2002	A	2	Polychaeta	6	0.34
RG	14APR2002	A	3	Chironomid larvae	57	1.28
RG	14APR2002	A	3	Rhynchocoela	1	0.23
RG	14APR2002	A	3	Polychaeta	9	0.34
RG	14APR2002	B	1	Chironomid larvae	148	7.73
RG	14APR2002	B	1	Rhynchocoela	4	1.31
RG	14APR2002	B	1	Polychaeta	39	1.44
RG	14APR2002	B	2	Chironomid larvae	170	5.62
RG	14APR2002	B	2	Rhynchocoela	2	0.17
RG	14APR2002	B	2	Polychaeta	30	1.01
RG	14APR2002	B	3	Chironomid larvae	102	2.78
RG	14APR2002	B	3	Mollusca	3	55.13
RG	14APR2002	B	3	Rhynchocoela	2	0.44
RG	14APR2002	B	3	Polychaeta	35	21.04
RG	14APR2002	C	1	Crustacea	1	0.27
RG	14APR2002	C	1	Chironomid larvae	10	7.20
RG	14APR2002	C	1	Polychaeta	21	0.77
RG	14APR2002	C	2	Crustacea	2	0.59
RG	14APR2002	C	2	Chironomid larvae	18	7.41
RG	14APR2002	C	2	Rhynchocoela	2	3.53
RG	14APR2002	C	2	Polychaeta	5	0.14
RG	14APR2002	C	3	Chironomid larvae	12	5.04
RG	14APR2002	C	3	Polychaeta	7	0.25
RG	09JUL2002	A	1	Chironomid larvae	93	1.70
RG	09JUL2002	A	1	Polychaeta	21	0.14
RG	09JUL2002	A	2	Crustacea	3	0.05
RG	09JUL2002	A	2	Chironomid larvae	99	2.28
RG	09JUL2002	A	2	Polychaeta	84	1.32
RG	09JUL2002	A	3	Chironomid larvae	104	4.16
RG	09JUL2002	A	3	Mollusca	2	3.11
RG	09JUL2002	A	3	Polychaeta	46	0.85
RG	09JUL2002	B	1	Crustacea	6	0.06
RG	09JUL2002	B	1	Chironomid larvae	146	2.80
RG	09JUL2002	B	1	Rhynchocoela	3	0.53
RG	09JUL2002	B	1	Polychaeta	35	0.53
RG	09JUL2002	B	2	Crustacea	5	0.05
RG	09JUL2002	B	2	Chironomid larvae	175	5.50
RG	09JUL2002	B	2	Mollusca	1	5.46
RG	09JUL2002	B	2	Rhynchocoela	4	1.09
RG	09JUL2002	B	2	Polychaeta	38	0.37
RG	09JUL2002	B	3	Crustacea	3	0.04
RG	09JUL2002	B	3	Chironomid larvae	143	3.05
RG	09JUL2002	B	3	Rhynchocoela	4	1.34
RG	09JUL2002	B	3	Polychaeta	48	0.59
RG	09JUL2002	D	1	Chironomid larvae	81	1.34
RG	09JUL2002	D	1	Rhynchocoela	1	0.10
RG	09JUL2002	D	1	Polychaeta	1	1.39

RG	09JUL2002	D	2	Chironomid larvae	95	2.18
RG	09JUL2002	D	2	Rhynchocoela	1	1.14
RG	09JUL2002	D	2	Polychaeta	2	2.56
RG	09JUL2002	D	3	Chironomid larvae	76	2.03
RG	09JUL2002	D	3	Rhynchocoela	1	2.58
RG	09JUL2002	D	3	Polychaeta	1	0.03
RG	19OCT2002	A	1	Crustacea	4	55.79
RG	19OCT2002	A	1	Chironomid larvae	25	2.51
RG	19OCT2002	A	2	Chironomid larvae	30	0.80
RG	19OCT2002	A	2	Mollusca	1	58.00
RG	19OCT2002	A	2	Rhynchocoela	2	0.94
RG	19OCT2002	A	2	Polychaeta	6	0.09
RG	19OCT2002	A	3	Crustacea	1	0.03
RG	19OCT2002	A	3	Chironomid larvae	31	2.70
RG	19OCT2002	A	3	Rhynchocoela	1	1.54
RG	19OCT2002	A	3	Polychaeta	1	0.01
RG	19OCT2002	B	1	Chironomid larvae	11	2.18
RG	19OCT2002	B	2	Chironomid larvae	7	1.06
RG	19OCT2002	B	3	Chironomid larvae	12	1.28
RG	19OCT2002	C	1	Polychaeta	1	0.19
RG	19OCT2002	C	2	Polychaeta	0	0.00
RG	19OCT2002	C	3	Polychaeta	0	0.00
RG	19OCT2002	D	1	Chironomid larvae	13	3.43
RG	19OCT2002	D	1	Polychaeta	4	0.02
RG	19OCT2002	D	2	Chironomid larvae	12	4.70
RG	19OCT2002	D	2	Polychaeta	4	1.17
RG	19OCT2002	D	3	Chironomid larvae	6	2.92
RG	19OCT2002	D	3	Rhynchocoela	1	0.62
RG	19OCT2002	D	3	Polychaeta	13	11.32
RG	19OCT2002	E	1	Rhynchocoela	2	0.39
RG	19OCT2002	E	1	Polychaeta	2	0.28
RG	19OCT2002	E	2	Rhynchocoela	1	0.96
RG	19OCT2002	E	2	Polychaeta	1	0.07
RG	19OCT2002	E	3	Polychaeta	2	0.03
RG	10JAN2003	A	1	Chironomid larvae	36	0.69
RG	10JAN2003	A	1	Rhynchocoela	1	0.04
RG	10JAN2003	A	1	Polychaeta	0	0.00
RG	10JAN2003	A	2	Chironomid larvae	38	0.89
RG	10JAN2003	A	2	Polychaeta	0	0.00
RG	10JAN2003	A	3	Chironomid larvae	21	0.56
RG	10JAN2003	A	3	Rhynchocoela	1	0.08
RG	10JAN2003	A	3	Polychaeta	0	0.00
RG	10JAN2003	B	1	Chironomid larvae	7	0.15
RG	10JAN2003	B	1	Polychaeta	0	0.00
RG	10JAN2003	B	2	Chironomid larvae	12	0.52
RG	10JAN2003	B	2	Polychaeta	0	0.00
RG	10JAN2003	B	3	Chironomid larvae	3	0.09
RG	10JAN2003	B	3	Polychaeta	1	0.04
RG	10JAN2003	C	1	Polychaeta	5	0.67
RG	10JAN2003	C	2	Mollusca	1	79.13
RG	10JAN2003	C	2	Polychaeta	3	0.16
RG	10JAN2003	C	3	Polychaeta	1	0.07
RG	10JAN2003	D	1	Polychaeta	0	0.00
RG	10JAN2003	D	2	Rhynchocoela	1	0.28
RG	10JAN2003	D	2	Polychaeta	1	0.08

RG	10JAN2003	D	3	Polychaeta	1	0.07
RG	10JAN2003	E	1	Polychaeta	8	0.60
RG	10JAN2003	E	2	Mollusca	1	16.17
RG	10JAN2003	E	2	Polychaeta	7	0.07
RG	10JAN2003	E	3	Rhynchocoela	1	0.50
RG	10JAN2003	E	3	Polychaeta	0	0.00
RG	05APR2003	A	1	Chironomid larvae	105	4.74
RG	05APR2003	A	1	Polychaeta	9	2.88
RG	05APR2003	A	2	Chironomid larvae	103	2.73
RG	05APR2003	A	2	Rhynchocoela	2	0.56
RG	05APR2003	A	2	Polychaeta	4	5.61
RG	05APR2003	A	3	Crustacea	1	0.01
RG	05APR2003	A	3	Chironomid larvae	152	4.90
RG	05APR2003	A	3	Polychaeta	13	1.73
RG	05APR2003	B	1	Chironomid larvae	50	1.14
RG	05APR2003	B	1	Polychaeta	3	0.03
RG	05APR2003	B	2	Crustacea	1	0.01
RG	05APR2003	B	2	Chironomid larvae	36	0.97
RG	05APR2003	B	2	Polychaeta	2	0.05
RG	05APR2003	B	3	Chironomid larvae	46	1.30
RG	05APR2003	B	3	Polychaeta	1	0.12
RG	05APR2003	C	1	Chironomid larvae	7	0.77
RG	05APR2003	C	1	Rhynchocoela	1	0.18
RG	05APR2003	C	1	Polychaeta	16	2.59
RG	05APR2003	C	2	Chironomid larvae	2	0.15
RG	05APR2003	C	2	Rhynchocoela	2	0.07
RG	05APR2003	C	2	Polychaeta	27	2.07
RG	05APR2003	C	3	Chironomid larvae	1	0.06
RG	05APR2003	C	3	Polychaeta	17	1.88
RG	05APR2003	D	1	Crustacea	4	0.26
RG	05APR2003	D	1	Chironomid larvae	14	1.02
RG	05APR2003	D	1	Mollusca	10	3.66
RG	05APR2003	D	1	Rhynchocoela	10	2.58
RG	05APR2003	D	1	Polychaeta	172	10.42
RG	05APR2003	D	2	Crustacea	1	0.09
RG	05APR2003	D	2	Chironomid larvae	9	1.13
RG	05APR2003	D	2	Mollusca	7	2.77
RG	05APR2003	D	2	Rhynchocoela	4	2.90
RG	05APR2003	D	2	Polychaeta	144	9.97
RG	05APR2003	D	3	Crustacea	2	0.23
RG	05APR2003	D	3	Chironomid larvae	9	1.33
RG	05APR2003	D	3	Mollusca	4	1.43
RG	05APR2003	D	3	Rhynchocoela	7	0.65
RG	05APR2003	D	3	Polychaeta	108	8.92
RG	05APR2003	E	1	Mollusca	1	0.58
RG	05APR2003	E	1	Rhynchocoela	2	3.26
RG	05APR2003	E	1	Polychaeta	36	0.51
RG	05APR2003	E	2	Mollusca	2	59.89
RG	05APR2003	E	2	Polychaeta	27	1.20
RG	05APR2003	E	3	Crustacea	1	0.06
RG	05APR2003	E	3	Chironomid larvae	2	0.06
RG	05APR2003	E	3	Mollusca	2	0.48
RG	05APR2003	E	3	Rhynchocoela	3	0.78
RG	05APR2003	E	3	Other	2	0.02
RG	05APR2003	E	3	Polychaeta	19	0.28

RG	11JUL2003	A	1	Crustacea	4	0.06
RG	11JUL2003	A	1	Chironomid larvae	10	0.18
RG	11JUL2003	A	1	Mollusca	14	7.21
RG	11JUL2003	A	1	Rhynchocoela	1	0.44
RG	11JUL2003	A	1	Polychaeta	7	1.86
RG	11JUL2003	A	2	Chironomid larvae	11	0.52
RG	11JUL2003	A	2	Mollusca	7	0.29
RG	11JUL2003	A	2	Polychaeta	0	0.00
RG	11JUL2003	A	3	Crustacea	3	0.01
RG	11JUL2003	A	3	Chironomid larvae	13	0.20
RG	11JUL2003	A	3	Mollusca	14	15.51
RG	11JUL2003	A	3	Rhynchocoela	2	0.62
RG	11JUL2003	A	3	Polychaeta	4	3.05
RG	11JUL2003	B	1	Crustacea	53	2.66
RG	11JUL2003	B	1	Chironomid larvae	17	0.55
RG	11JUL2003	B	1	Mollusca	14	10.02
RG	11JUL2003	B	1	Rhynchocoela	3	0.11
RG	11JUL2003	B	1	Polychaeta	7	9.86
RG	11JUL2003	B	2	Crustacea	26	1.60
RG	11JUL2003	B	2	Chironomid larvae	16	0.46
RG	11JUL2003	B	2	Mollusca	8	1.34
RG	11JUL2003	B	2	Rhynchocoela	2	0.11
RG	11JUL2003	B	2	Polychaeta	7	4.85
RG	11JUL2003	B	3	Crustacea	86	3.41
RG	11JUL2003	B	3	Chironomid larvae	56	1.77
RG	11JUL2003	B	3	Mollusca	20	23.30
RG	11JUL2003	B	3	Rhynchocoela	3	0.13
RG	11JUL2003	B	3	Polychaeta	4	0.53
RG	11JUL2003	C	1	Chironomid larvae	1	0.01
RG	11JUL2003	C	1	Mollusca	2	4.82
RG	11JUL2003	C	1	Rhynchocoela	2	1.15
RG	11JUL2003	C	1	Polychaeta	125	9.56
RG	11JUL2003	C	2	Chironomid larvae	4	0.19
RG	11JUL2003	C	2	Mollusca	6	32.25
RG	11JUL2003	C	2	Rhynchocoela	4	1.06
RG	11JUL2003	C	2	Polychaeta	149	11.93
RG	11JUL2003	C	3	Chironomid larvae	2	0.01
RG	11JUL2003	C	3	Mollusca	1	3.65
RG	11JUL2003	C	3	Rhynchocoela	4	0.95
RG	11JUL2003	C	3	Polychaeta	113	9.34
RG	11JUL2003	D	1	Chironomid larvae	5	0.03
RG	11JUL2003	D	1	Mollusca	12	67.52
RG	11JUL2003	D	1	Rhynchocoela	5	1.29
RG	11JUL2003	D	1	Polychaeta	48	4.41
RG	11JUL2003	D	2	Chironomid larvae	3	0.06
RG	11JUL2003	D	2	Mollusca	9	47.70
RG	11JUL2003	D	2	Rhynchocoela	2	0.39
RG	11JUL2003	D	2	Polychaeta	75	6.13
RG	11JUL2003	D	3	Chironomid larvae	15	0.76
RG	11JUL2003	D	3	Mollusca	8	30.64
RG	11JUL2003	D	3	Rhynchocoela	1	0.28
RG	11JUL2003	D	3	Polychaeta	36	1.96
RG	11JUL2003	E	1	Chironomid larvae	3	0.03
RG	11JUL2003	E	1	Mollusca	5	8.28
RG	11JUL2003	E	1	Rhynchocoela	4	1.27

RG	11JUL2003	E	1	Polychaeta	24	1.61
RG	11JUL2003	E	2	Chironomid larvae	1	0.13
RG	11JUL2003	E	2	Mollusca	2	1.61
RG	11JUL2003	E	2	Polychaeta	19	0.97
RG	11JUL2003	E	3	Mollusca	4	10.17
RG	11JUL2003	E	3	Polychaeta	8	0.42
SB	16OCT2002	A	1	Rhynchocoela	1	0.03
SB	16OCT2002	A	1	Polychaeta	6	0.37
SB	16OCT2002	A	2	Polychaeta	10	0.39
SB	16OCT2002	A	3	Rhynchocoela	1	0.61
SB	16OCT2002	A	3	Polychaeta	9	0.38
SB	16OCT2002	B	1	Polychaeta	81	5.92
SB	16OCT2002	B	2	Chironomid larvae	2	0.01
SB	16OCT2002	B	2	Polychaeta	20	2.89
SB	16OCT2002	B	3	Polychaeta	30	2.11
SB	08JAN2003	A	1	Polychaeta	9	0.62
SB	08JAN2003	A	2	Polychaeta	6	0.53
SB	08JAN2003	A	3	Rhynchocoela	2	0.02
SB	08JAN2003	A	3	Polychaeta	7	0.88
SB	08JAN2003	B	1	Polychaeta	15	4.29
SB	08JAN2003	B	2	Polychaeta	17	2.65
SB	08JAN2003	B	3	Rhynchocoela	1	1.52
SB	08JAN2003	B	3	Polychaeta	8	0.87
SB	01JUL2003	A	1	Chironomid larvae	1	0.05
SB	01JUL2003	A	1	Mollusca	1	0.10
SB	01JUL2003	A	1	Polychaeta	21	2.16
SB	01JUL2003	A	2	Polychaeta	14	1.86
SB	01JUL2003	A	3	Polychaeta	35	2.11
SB	01JUL2003	B	1	Hemicordata	1	3.56
SB	01JUL2003	B	1	Polychaeta	47	6.35
SB	01JUL2003	B	2	Hemicordata	1	1.62
SB	01JUL2003	B	2	Polychaeta	37	2.73
SB	01JUL2003	B	3	Hemicordata	1	0.78
SB	01JUL2003	B	3	Rhynchocoela	1	1.19
SB	01JUL2003	B	3	Polychaeta	52	4.44
SB	07OCT2003	A	1	Polychaeta	13	0.52
SB	07OCT2003	A	2	Polychaeta	7	0.65
SB	07OCT2003	A	3	Polychaeta	11	0.96
SB	07OCT2003	B	1	Rhynchocoela	2	1.82
SB	07OCT2003	B	1	Polychaeta	9	0.38
SB	07OCT2003	B	2	Rhynchocoela	1	0.23
SB	07OCT2003	B	2	Polychaeta	10	0.45
SB	07OCT2003	B	3	Polychaeta	8	0.20
CL	16OCT2002	A	1	Polychaeta	13	3.28
CL	16OCT2002	A	2	Polychaeta	8	3.44
CL	16OCT2002	A	3	Rhynchocoela	1	0.25
CL	16OCT2002	A	3	Polychaeta	6	5.86
CL	16OCT2002	B	1	Polychaeta	16	4.75
CL	16OCT2002	B	2	Polychaeta	8	3.43
CL	16OCT2002	B	3	Polychaeta	8	2.64
CL	08JAN2003	A	1	Polychaeta	17	1.67
CL	08JAN2003	A	2	Chironomid larvae	4	0.40
CL	08JAN2003	A	2	Polychaeta	25	6.51
CL	08JAN2003	A	3	Chironomid larvae	2	0.18
CL	08JAN2003	A	3	Polychaeta	32	3.07

CL	08JAN2003	B	1	Crustacea	1	0.11
CL	08JAN2003	B	1	Chironomid larvae	1	0.10
CL	08JAN2003	B	1	Polychaeta	33	3.60
CL	08JAN2003	B	2	Polychaeta	12	5.47
CL	08JAN2003	B	3	Chironomid larvae	2	0.40
CL	08JAN2003	B	3	Polychaeta	30	4.20
CL	09APR2003	A	1	Chironomid larvae	1	0.05
CL	09APR2003	A	1	Polychaeta	15	4.08
CL	09APR2003	A	2	Crustacea	1	0.10
CL	09APR2003	A	2	Chironomid larvae	1	0.01
CL	09APR2003	A	2	Polychaeta	15	4.79
CL	09APR2003	A	3	Crustacea	1	0.09
CL	09APR2003	A	3	Chironomid larvae	1	0.02
CL	09APR2003	A	3	Polychaeta	20	7.38
CL	09APR2003	B	1	Polychaeta	15	3.23
CL	09APR2003	B	2	Polychaeta	16	1.72
CL	09APR2003	B	3	Polychaeta	15	2.72
CL	01JUL2003	A	1	Polychaeta	20	3.95
CL	01JUL2003	A	2	Chironomid larvae	3	0.13
CL	01JUL2003	A	2	Polychaeta	12	3.72
CL	01JUL2003	A	3	Chironomid larvae	1	0.05
CL	01JUL2003	A	3	Polychaeta	23	5.10
CL	01JUL2003	B	1	Rhynchocoela	1	1.32
CL	01JUL2003	B	1	Polychaeta	35	9.39
CL	01JUL2003	B	2	Polychaeta	10	2.11
CL	01JUL2003	B	3	Polychaeta	22	2.33
CL	14OCT2003	A	1	Polychaeta	23	3.73
CL	14OCT2003	A	2	Polychaeta	14	2.39
CL	14OCT2003	A	3	Polychaeta	13	2.90
CL	14OCT2003	B	1	Polychaeta	13	1.51
CL	14OCT2003	B	2	Other	1	0.11
CL	14OCT2003	B	2	Polychaeta	29	4.05
CL	14OCT2003	B	3	Mollusca	1	3.88
CL	14OCT2003	B	3	Polychaeta	15	1.20

Table 14. Species abundance data for all samples. Abbreviations: Bay (Christmas Bay = CB, Brazos River = BR, Rio Grande = RG, San Bernard River = SB, CL = Cedar Lakes), REP = replicate, *n* = number of individuals. Sample core area is 35.3 cm^2, multiply by 283 to obtain n m^2.

Bay	Date	STA	REP	Species	n/core
CB	12OCT2001	A	1	Aligena texasiana	1
CB	12OCT2001	A	1	Amphiodia atra	2
CB	12OCT2001	A	1	Ancistrosyllis jonesi	3
CB	12OCT2001	A	1	Axiothells sp. A	1
CB	12OCT2001	A	1	Branchioasychis americana	5
CB	12OCT2001	A	1	Ceratonereis irritabilis	2
CB	12OCT2001	A	1	Cirrophorus lyra	19
CB	12OCT2001	A	1	Clymenella torquata	1
CB	12OCT2001	A	1	Glycinde solitaria	1
CB	12OCT2001	A	1	Gyptis vittata	3
CB	12OCT2001	A	1	Lumbrineris parvapedata	3
CB	12OCT2001	A	1	Mediomastus ambiseta	12
CB	12OCT2001	A	1	Melinna maculata	1
CB	12OCT2001	A	1	Notomastus latericeus	2
CB	12OCT2001	A	1	Polydora caulleryi	30
CB	12OCT2001	A	1	Pyrgiscus sp.	1
CB	12OCT2001	A	1	Rhynchocoela (unidentified)	1
CB	12OCT2001	A	1	Tharyx setigera	8
CB	12OCT2001	A	2	Aligena texasiana	1
CB	12OCT2001	A	2	Ancistrosyllis jonesi	1
CB	12OCT2001	A	2	Aricidea catharinae	6
CB	12OCT2001	A	2	Branchioasychis americana	6
CB	12OCT2001	A	2	Caecum johnsoni	3
CB	12OCT2001	A	2	Ceratonereis irritabilis	1
CB	12OCT2001	A	2	Cirrophorus lyra	38
CB	12OCT2001	A	2	Gyptis vittata	5
CB	12OCT2001	A	2	Listriella clymenellae	1
CB	12OCT2001	A	2	Lumbrineris parvapedata	4
CB	12OCT2001	A	2	Mediomastus ambiseta	12
CB	12OCT2001	A	2	Mysella planulata	1
CB	12OCT2001	A	2	Nuculana acuta	1
CB	12OCT2001	A	2	Periploma cf. orbiculare	2
CB	12OCT2001	A	2	Polydora caulleryi	30
CB	12OCT2001	A	2	Schistomeringos sp. A	1
CB	12OCT2001	A	2	Schizocardium sp.	1
CB	12OCT2001	A	2	Tharyx setigera	5
CB	12OCT2001	A	3	Aricidea catharinae	2
CB	12OCT2001	A	3	Brachyuran zoea	3
CB	12OCT2001	A	3	Cirrophorus lyra	22
CB	12OCT2001	A	3	Cossura delta	4
CB	12OCT2001	A	3	Gyptis vittata	3
CB	12OCT2001	A	3	Lumbrineris parvapedata	3
CB	12OCT2001	A	3	Mediomastus ambiseta	12
CB	12OCT2001	A	3	Pilargis berkelyae	2
CB	12OCT2001	A	3	Polydora caulleryi	2
CB	12OCT2001	A	3	Schizocardium sp.	1

CB	12OCT2001	B	1	Cirrophorus lyra	3
CB	12OCT2001	B	1	Cossura delta	2
CB	12OCT2001	B	1	Mediomastus ambiseta	7
CB	12OCT2001	B	1	Oligochaetes (unidentified)	2
CB	12OCT2001	B	1	Rhynchocoela (unidentified)	1
CB	12OCT2001	B	1	Streblospio benedicti	1
CB	12OCT2001	B	2	Cirrophorus lyra	1
CB	12OCT2001	B	2	Cossura delta	1
CB	12OCT2001	B	2	Pinnixa sp.	1
CB	12OCT2001	B	2	Streblospio benedicti	1
CB	12OCT2001	B	3	Cirrophorus lyra	2
CB	12OCT2001	B	3	Cossura delta	2
CB	12OCT2001	B	3	Eudorella sp.	1
CB	12OCT2001	B	3	Mediomastus ambiseta	6
CB	12OCT2001	B	3	Streblospio benedicti	1
CB	12OCT2001	C	1	Aligena texasiana	2
CB	12OCT2001	C	1	Amphiodia atra	1
CB	12OCT2001	C	1	Aricidea catharinae	8
CB	12OCT2001	C	1	Cirrophorus lyra	1
CB	12OCT2001	C	1	Clymenella torquata	1
CB	12OCT2001	C	1	Glycinde solitaria	1
CB	12OCT2001	C	1	Lumbrineris parvapedata	2
CB	12OCT2001	C	1	Mediomastus ambiseta	18
CB	12OCT2001	C	1	Mysella planulata	2
CB	12OCT2001	C	1	Paraprionospio pinnata	2
CB	12OCT2001	C	1	Periploma margaritaceum	1
CB	12OCT2001	C	1	Polydora caulleryi	13
CB	12OCT2001	C	1	Streblospio benedicti	1
CB	12OCT2001	C	2	Aricidea catharinae	3
CB	12OCT2001	C	2	Axiothella mucosa	1
CB	12OCT2001	C	2	Branchioasychis americana	1
CB	12OCT2001	C	2	Ceratonereis irritabilis	1
CB	12OCT2001	C	2	Cirrophorus lyra	11
CB	12OCT2001	C	2	Clymenella torquata	1
CB	12OCT2001	C	2	Listriella barnardi	2
CB	12OCT2001	C	2	Mediomastus ambiseta	19
CB	12OCT2001	C	2	Microphthalmus abberrans	1
CB	12OCT2001	C	2	Microprotopus spp.	1
CB	12OCT2001	C	2	Notomastus latericeus	2
CB	12OCT2001	C	2	Paraprionospio pinnata	1
CB	12OCT2001	C	2	Periploma margaritaceum	1
CB	12OCT2001	C	2	Pinnixa sp.	1
CB	12OCT2001	C	2	Polydora caulleryi	5
CB	12OCT2001	C	2	Sigambra tentaculata	1
CB	12OCT2001	C	2	Tharyx setigera	5
CB	12OCT2001	C	3	Aligena texasiana	1
CB	12OCT2001	C	3	Ampelisca abdita	1
CB	12OCT2001	C	3	Amphiodia atra	1
CB	12OCT2001	C	3	Aricidea catharinae	6
CB	12OCT2001	C	3	Axiothella mucosa	1
CB	12OCT2001	C	3	Branchioasychis americana	1
CB	12OCT2001	C	3	Ceratonereis irritabilis	1
CB	12OCT2001	C	3	Cirrophorus lyra	20
CB	12OCT2001	C	3	Clymenella torquata	1
CB	12OCT2001	C	3	Glycinde solitaria	1

CB	12OCT2001	C	3	Gyptis vittata	2
CB	12OCT2001	C	3	Mediomastus ambiseta	21
CB	12OCT2001	C	3	Minuspio cirrifera	1
CB	12OCT2001	C	3	Periploma margaritaceum	5
CB	12OCT2001	C	3	Polydora caulleryi	1
CB	12OCT2001	C	3	Tharyx setigera	17
CB	08JAN2002	A	1	Aricidea catharinae	1
CB	08JAN2002	A	1	Branchioasychis americana	4
CB	08JAN2002	A	1	Cirrophorus lyra	16
CB	08JAN2002	A	1	Euclymene sp. B	1
CB	08JAN2002	A	1	Gyptis vittata	3
CB	08JAN2002	A	1	Lumbrineris parvapedata	2
CB	08JAN2002	A	1	Mediomastus ambiseta	23
CB	08JAN2002	A	1	Mulinia lateralis	1
CB	08JAN2002	A	1	Mysella planulata	1
CB	08JAN2002	A	1	Nuculana acuta	2
CB	08JAN2002	A	1	Nuculana concentrica	3
CB	08JAN2002	A	1	Periploma cf. orbiculare	4
CB	08JAN2002	A	1	Tharyx setigera	2
CB	08JAN2002	A	2	Aricidea catharinae	1
CB	08JAN2002	A	2	Caecum johnsoni	3
CB	08JAN2002	A	2	Cirrophorus lyra	23
CB	08JAN2002	A	2	Diopatra cuprea	1
CB	08JAN2002	A	2	Euclymene sp. B	1
CB	08JAN2002	A	2	Gyptis vittata	4
CB	08JAN2002	A	2	Lumbrineris parvapedata	4
CB	08JAN2002	A	2	Mediomastus ambiseta	17
CB	08JAN2002	A	2	Periploma cf. orbiculare	6
CB	08JAN2002	A	2	Polydora caulleryi	6
CB	08JAN2002	A	2	Tharyx setigera	2
CB	08JAN2002	A	3	Amphiodia atra	1
CB	08JAN2002	A	3	Aricidea catharinae	2
CB	08JAN2002	A	3	Axiothells sp. A	2
CB	08JAN2002	A	3	Cirrophorus lyra	12
CB	08JAN2002	A	3	Glycinde solitaria	1
CB	08JAN2002	A	3	Gyptis vittata	1
CB	08JAN2002	A	3	Lumbrineris parvapedata	1
CB	08JAN2002	A	3	Mediomastus ambiseta	18
CB	08JAN2002	A	3	Megalomma bioculatum	1
CB	08JAN2002	A	3	Mysella planulata	7
CB	08JAN2002	A	3	Nuculana concentrica	2
CB	08JAN2002	A	3	Periploma cf. orbiculare	11
CB	08JAN2002	B	1	Cirrophorus lyra	10
CB	08JAN2002	B	1	Cossura delta	3
CB	08JAN2002	B	1	Lumbrineris parvapedata	2
CB	08JAN2002	B	1	Mediomastus ambiseta	2
CB	08JAN2002	B	1	Molgula manhattensis	8
CB	08JAN2002	B	1	Polydora caulleryi	1
CB	08JAN2002	B	1	Pyrgiscus sp.	1
CB	08JAN2002	B	1	Streblospio benedicti	1
CB	08JAN2002	B	2	Cossura delta	5
CB	08JAN2002	B	2	Eudorella sp.	1
CB	08JAN2002	B	2	Lumbrineris parvapedata	1
CB	08JAN2002	B	2	Mediomastus ambiseta	9
CB	08JAN2002	B	2	Rhynchocoela (unidentified)	1

CB	08JAN2002	B	2	Streblospio benedicti	2
CB	08JAN2002	B	3	Cirrophorus lyra	5
CB	08JAN2002	B	3	Eudorella sp.	1
CB	08JAN2002	B	3	Mediomastus ambiseta	3
CB	08JAN2002	B	3	Oligochaetes (unidentified)	1
CB	08JAN2002	B	3	Streblospio benedicti	1
CB	08JAN2002	C	1	Aligena texasiana	1
CB	08JAN2002	C	1	Amaenana trilobata	1
CB	08JAN2002	C	1	Ampelisca abdita	1
CB	08JAN2002	C	1	Amphiodia atra	1
CB	08JAN2002	C	1	Ancistrosyllis jonesi	1
CB	08JAN2002	C	1	Aricidea catharinae	8
CB	08JAN2002	C	1	Branchioasychis americana	2
CB	08JAN2002	C	1	Cirrophorus lyra	9
CB	08JAN2002	C	1	Clymenella torquata	2
CB	08JAN2002	C	1	Euclymene sp. B	1
CB	08JAN2002	C	1	Gyptis vittata	1
CB	08JAN2002	C	1	Lumbrineris parvapedata	4
CB	08JAN2002	C	1	Mediomastus ambiseta	20
CB	08JAN2002	C	1	Paraprionospio pinnata	1
CB	08JAN2002	C	1	Polydora caulleryi	5
CB	08JAN2002	C	1	Rhynchocoela (unidentified)	2
CB	08JAN2002	C	1	Schizocardium sp.	1
CB	08JAN2002	C	1	Tharyx setigera	1
CB	08JAN2002	C	1	Turbellaria (unidentified)	1
CB	08JAN2002	C	2	Ampelisca verrilli	1
CB	08JAN2002	C	2	Amphiodia atra	1
CB	08JAN2002	C	2	Aricidea catharinae	6
CB	08JAN2002	C	2	Branchioasychis americana	1
CB	08JAN2002	C	2	Cirrophorus lyra	13
CB	08JAN2002	C	2	Clymenella torquata	5
CB	08JAN2002	C	2	Euclymene sp. B	3
CB	08JAN2002	C	2	Lumbrineris parvapedata	1
CB	08JAN2002	C	2	Malmgreniella taylori	1
CB	08JAN2002	C	2	Mediomastus ambiseta	20
CB	08JAN2002	C	2	Paranaitis speciosa	2
CB	08JAN2002	C	2	Paraprionospio pinnata	1
CB	08JAN2002	C	2	Polydora caulleryi	1
CB	08JAN2002	C	2	Rhynchocoela (unidentified)	2
CB	08JAN2002	C	2	Sarsiella texana	1
CB	08JAN2002	C	2	Schizocardium sp.	3
CB	08JAN2002	C	2	Sphaerosyllis sp. A	2
CB	08JAN2002	C	2	Tharyx setigera	10
CB	08JAN2002	C	3	Acteon punctostriatus	1
CB	08JAN2002	C	3	Ampelisca abdita	1
CB	08JAN2002	C	3	Amphiodia atra	1
CB	08JAN2002	C	3	Aricidea catharinae	3
CB	08JAN2002	C	3	Axiothells sp. A	2
CB	08JAN2002	C	3	Branchioasychis americana	2
CB	08JAN2002	C	3	Cirrophorus lyra	26
CB	08JAN2002	C	3	Clymenella torquata	1
CB	08JAN2002	C	3	Cossura delta	1
CB	08JAN2002	C	3	Euclymene sp. B	6
CB	08JAN2002	C	3	Listriella barnardi	1
CB	08JAN2002	C	3	Lumbrineris parvapedata	1

CB	08JAN2002	C	3	Mediomastus ambiseta	17
CB	08JAN2002	C	3	Melinna maculata	1
CB	08JAN2002	C	3	Molgula manhattensis	1
CB	08JAN2002	C	3	Paraprionospio pinnata	1
CB	08JAN2002	C	3	Periploma cf. orbiculare	1
CB	08JAN2002	C	3	Periploma margaritaceum	1
CB	08JAN2002	C	3	Pyrgiscus sp.	1
CB	08JAN2002	C	3	Rhynchocoela (unidentified)	1
CB	08JAN2002	C	3	Streblospio benedicti	1
CB	08JAN2002	C	3	Tharyx setigera	6
CB	12APR2002	A	1	Amphiodia atra	1
CB	12APR2002	A	1	Aricidea catharinae	4
CB	12APR2002	A	1	Branchioasychis americana	2
CB	12APR2002	A	1	Cirrophorus lyra	18
CB	12APR2002	A	1	Cossura delta	2
CB	12APR2002	A	1	Ensis minor	1
CB	12APR2002	A	1	Euclymene sp. B	3
CB	12APR2002	A	1	Gyptis vittata	1
CB	12APR2002	A	1	Leucon sp.	2
CB	12APR2002	A	1	Lumbrineris parvapedata	2
CB	12APR2002	A	1	Malmgreniella taylori	1
CB	12APR2002	A	1	Mediomastus ambiseta	27
CB	12APR2002	A	1	Melinna maculata	2
CB	12APR2002	A	1	Mysella planulata	1
CB	12APR2002	A	1	Oligochaetes (unidentified)	1
CB	12APR2002	A	1	Periploma cf. orbiculare	6
CB	12APR2002	A	1	Pilargis berkelyae	1
CB	12APR2002	A	1	Polydora caulleryi	4
CB	12APR2002	A	1	Tharyx setigera	20
CB	12APR2002	A	2	Amphiodia atra	1
CB	12APR2002	A	2	Aricidea catharinae	1
CB	12APR2002	A	2	Branchioasychis americana	1
CB	12APR2002	A	2	Caecum johnsoni	1
CB	12APR2002	A	2	Cirrophorus lyra	14
CB	12APR2002	A	2	Clymenella torquata	1
CB	12APR2002	A	2	Cossura delta	1
CB	12APR2002	A	2	Euclymene sp. B	1
CB	12APR2002	A	2	Lumbrineris parvapedata	3
CB	12APR2002	A	2	Mediomastus ambiseta	14
CB	12APR2002	A	2	Melinna maculata	1
CB	12APR2002	A	2	Periploma cf. orbiculare	1
CB	12APR2002	A	2	Polydora caulleryi	2
CB	12APR2002	A	2	Rhynchocoela (unidentified)	1
CB	12APR2002	A	2	Sphaerosyllis sp. A	1
CB	12APR2002	A	2	Tharyx setigera	2
CB	12APR2002	A	3	Aligena texasiana	1
CB	12APR2002	A	3	Amphiodia atra	1
CB	12APR2002	A	3	Anthozoa (unidentified)	1
CB	12APR2002	A	3	Aricidea catharinae	8
CB	12APR2002	A	3	Cirrophorus lyra	13
CB	12APR2002	A	3	Clymenella torquata	1
CB	12APR2002	A	3	Euclymene sp. B	1
CB	12APR2002	A	3	Eudorella sp.	1
CB	12APR2002	A	3	Glycera americana	1
CB	12APR2002	A	3	Gyptis vittata	2

CB	12APR2002	A	3	Leucon sp.	7
CB	12APR2002	A	3	Listriella barnardi	1
CB	12APR2002	A	3	Lumbrineris parvapedata	2
CB	12APR2002	A	3	Malmgreniella taylori	1
CB	12APR2002	A	3	Mediomastus ambiseta	29
CB	12APR2002	A	3	Melinna maculata	1
CB	12APR2002	A	3	Mysella planulata	2
CB	12APR2002	A	3	Paleanotus heteroseta	1
CB	12APR2002	A	3	Parandalia ocularis	1
CB	12APR2002	A	3	Periploma cf. orbiculare	9
CB	12APR2002	A	3	Polydora caulleryi	2
CB	12APR2002	A	3	Schizocardium sp.	1
CB	12APR2002	A	3	Sphaerosyllis sp. A	1
CB	12APR2002	A	3	Tharyx setigera	1
CB	12APR2002	A	3	Vitrinellidae (unidentified)	1
CB	12APR2002	B	1	Ampelisca abdita	1
CB	12APR2002	B	1	Aricidea catharinae	1
CB	12APR2002	B	1	Cirrophorus lyra	3
CB	12APR2002	B	1	Cossura delta	2
CB	12APR2002	B	1	Glycera americana	1
CB	12APR2002	B	1	Glycinde solitaria	1
CB	12APR2002	B	1	Mediomastus ambiseta	7
CB	12APR2002	B	1	Rhynchocoela (unidentified)	1
CB	12APR2002	B	2	Aricidea catharinae	3
CB	12APR2002	B	2	Branchioasychis americana	2
CB	12APR2002	B	2	Cirrophorus lyra	15
CB	12APR2002	B	2	Corophium louisianum	1
CB	12APR2002	B	2	Lumbrineris parvapedata	3
CB	12APR2002	B	2	Mediomastus ambiseta	11
CB	12APR2002	B	2	Mulinia lateralis	1
CB	12APR2002	B	2	Periploma cf. orbiculare	1
CB	12APR2002	B	2	Rhynchocoela (unidentified)	1
CB	12APR2002	B	3	Anthozoa (unidentified)	1
CB	12APR2002	B	3	Aricidea catharinae	1
CB	12APR2002	B	3	Cirrophorus lyra	5
CB	12APR2002	B	3	Glycinde solitaria	2
CB	12APR2002	B	3	Gyptis vittata	1
CB	12APR2002	B	3	Lumbrineris parvapedata	1
CB	12APR2002	B	3	Mediomastus ambiseta	5
CB	12APR2002	B	3	Mulinia lateralis	1
CB	12APR2002	B	3	Periploma cf. orbiculare	2
CB	12APR2002	B	3	Schistomeringos sp. A	1
CB	12APR2002	C	1	Aligena texasiana	5
CB	12APR2002	C	1	Ampelisca abdita	1
CB	12APR2002	C	1	Amphiodia atra	1
CB	12APR2002	C	1	Aricidea catharinae	14
CB	12APR2002	C	1	Ceratonereis irritabilis	1
CB	12APR2002	C	1	Cirrophorus lyra	56
CB	12APR2002	C	1	Clymenella torquata	7
CB	12APR2002	C	1	Euclymene sp. B	1
CB	12APR2002	C	1	Eumida sanguinea	1
CB	12APR2002	C	1	Glycera americana	1
CB	12APR2002	C	1	Gyptis vittata	2
CB	12APR2002	C	1	Hauchiella sp.	1
CB	12APR2002	C	1	Listriella clymenellae	2

CB	12APR2002	C	1	Lumbrineris parvapedata	8
CB	12APR2002	C	1	Malmgreniella taylori	1
CB	12APR2002	C	1	Mediomastus ambiseta	26
CB	12APR2002	C	1	Melinna maculata	1
CB	12APR2002	C	1	Paranaitis speciosa	1
CB	12APR2002	C	1	Periploma cf. orbiculare	1
CB	12APR2002	C	1	Polydora caulleryi	3
CB	12APR2002	C	1	Rhynchocoela (unidentified)	7
CB	12APR2002	C	1	Schizocardium sp.	1
CB	12APR2002	C	1	Sigambra bassi	1
CB	12APR2002	C	1	Sphaerosyllis sp. A	2
CB	12APR2002	C	1	Tharyx setigera	3
CB	12APR2002	C	2	Amphiodia atra	1
CB	12APR2002	C	2	Aricidea catharinae	6
CB	12APR2002	C	2	Cirrophorus lyra	12
CB	12APR2002	C	2	Clymenella torquata	2
CB	12APR2002	C	2	Echiuridae (unidentified)	1
CB	12APR2002	C	2	Euclymene sp. B	2
CB	12APR2002	C	2	Glycera americana	1
CB	12APR2002	C	2	Gyptis vittata	2
CB	12APR2002	C	2	Lumbrineris parvapedata	9
CB	12APR2002	C	2	Malmgreniella taylori	1
CB	12APR2002	C	2	Mediomastus ambiseta	18
CB	12APR2002	C	2	Microprotopus spp.	2
CB	12APR2002	C	2	Notomastus latericeus	1
CB	12APR2002	C	2	Phoronis architecta	1
CB	12APR2002	C	2	Pista palmata	1
CB	12APR2002	C	2	Polydora caulleryi	14
CB	12APR2002	C	2	Rhynchocoela (unidentified)	5
CB	12APR2002	C	2	Schizocardium sp.	4
CB	12APR2002	C	2	Sphaerosyllis sp. A	4
CB	12APR2002	C	2	Spiochaetopterus costarum	1
CB	12APR2002	C	2	Tharyx setigera	21
CB	12APR2002	C	3	Acteocina canaliculata	2
CB	12APR2002	C	3	Aligena texasiana	5
CB	12APR2002	C	3	Ampelisca abdita	1
CB	12APR2002	C	3	Amphiodia atra	1
CB	12APR2002	C	3	Aricidea catharinae	10
CB	12APR2002	C	3	Axiothells sp. A	1
CB	12APR2002	C	3	Cirrophorus lyra	13
CB	12APR2002	C	3	Clymenella torquata	6
CB	12APR2002	C	3	Cyclaspis varians	1
CB	12APR2002	C	3	Drilonereis magna	1
CB	12APR2002	C	3	Glycera americana	2
CB	12APR2002	C	3	Gyptis vittata	4
CB	12APR2002	C	3	Lumbrineris parvapedata	7
CB	12APR2002	C	3	Mediomastus ambiseta	14
CB	12APR2002	C	3	Melinna maculata	1
CB	12APR2002	C	3	Microprotopus spp.	2
CB	12APR2002	C	3	Mysella planulata	1
CB	12APR2002	C	3	Notomastus latericeus	1
CB	12APR2002	C	3	Nuculana acuta	1
CB	12APR2002	C	3	Polydora caulleryi	3
CB	12APR2002	C	3	Rhynchocoela (unidentified)	1
CB	12APR2002	C	3	Schizocardium sp.	5

CB	12APR2002	C	3	Tharyx setigera	5
CB	09JUL2002	A	1	Amphiodia atra	2
CB	09JUL2002	A	1	Aricidea catharinae	5
CB	09JUL2002	A	1	Axiothells sp. A	1
CB	09JUL2002	A	1	Branchioasychis americana	1
CB	09JUL2002	A	1	Cerebratulus lacteus	2
CB	09JUL2002	A	1	Cirrophorus lyra	20
CB	09JUL2002	A	1	Cossura delta	1
CB	09JUL2002	A	1	Euclymene sp. B	1
CB	09JUL2002	A	1	Gyptis vittata	1
CB	09JUL2002	A	1	Lyonsia hyalina floridana	1
CB	09JUL2002	A	1	Mediomastus ambiseta	7
CB	09JUL2002	A	1	Microprotopus spp.	1
CB	09JUL2002	A	1	Mulinia lateralis	1
CB	09JUL2002	A	1	Mysella planulata	6
CB	09JUL2002	A	1	Paraprionospio pinnata	1
CB	09JUL2002	A	1	Periploma cf. orbiculare	5
CB	09JUL2002	A	1	Polydora caulleryi	3
CB	09JUL2002	A	1	Schistomeringos sp. A	1
CB	09JUL2002	A	1	Tharyx setigera	2
CB	09JUL2002	A	2	Aricidea catharinae	11
CB	09JUL2002	A	2	Branchioasychis americana	1
CB	09JUL2002	A	2	Cerebratulus lacteus	1
CB	09JUL2002	A	2	Cirrophorus lyra	15
CB	09JUL2002	A	2	Cossura delta	1
CB	09JUL2002	A	2	Glycinde solitaria	2
CB	09JUL2002	A	2	Gyptis vittata	2
CB	09JUL2002	A	2	Mediomastus ambiseta	13
CB	09JUL2002	A	2	Mysella planulata	1
CB	09JUL2002	A	2	Nereidae (unidentified)	1
CB	09JUL2002	A	2	Periploma cf. orbiculare	5
CB	09JUL2002	A	2	Tharyx setigera	3
CB	09JUL2002	A	3	Aricidea catharinae	8
CB	09JUL2002	A	3	Branchioasychis americana	2
CB	09JUL2002	A	3	Cerebratulus lacteus	1
CB	09JUL2002	A	3	Cirrophorus lyra	15
CB	09JUL2002	A	3	Cossura delta	1
CB	09JUL2002	A	3	Gyptis vittata	1
CB	09JUL2002	A	3	Listriella barnardi	1
CB	09JUL2002	A	3	Lumbrineris parvapedata	3
CB	09JUL2002	A	3	Lyonsia hyalina floridana	1
CB	09JUL2002	A	3	Mediomastus ambiseta	25
CB	09JUL2002	A	3	Mysella planulata	1
CB	09JUL2002	A	3	Periploma cf. orbiculare	2
CB	09JUL2002	A	3	Polydora caulleryi	1
CB	09JUL2002	A	3	Pyrgiscus sp.	1
CB	09JUL2002	A	3	Schizocardium sp.	1
CB	09JUL2002	A	3	Tharyx setigera	4
CB	09JUL2002	A	3	Vitrinellidae (unidentified)	1
CB	09JUL2002	B	1	Aricidea catharinae	3
CB	09JUL2002	B	1	Cirrophorus lyra	2
CB	09JUL2002	B	1	Cossura delta	1
CB	09JUL2002	B	1	Gyptis vittata	1
CB	09JUL2002	B	1	Mediomastus ambiseta	2
CB	09JUL2002	B	1	Oligochaetes (unidentified)	6

CB	09JUL2002	B	2	Aricidea catharinae	1
CB	09JUL2002	B	2	Branchioasychis americana	1
CB	09JUL2002	B	2	Cirrophorus lyra	2
CB	09JUL2002	B	2	Cossura delta	1
CB	09JUL2002	B	2	Gyptis vittata	1
CB	09JUL2002	B	2	Lumbrineris parvapedata	2
CB	09JUL2002	B	2	Mediomastus ambiseta	4
CB	09JUL2002	B	2	Oligochaetes (unidentified)	2
CB	09JUL2002	B	2	Paraprionospio pinnata	1
CB	09JUL2002	B	3	Aricidea catharinae	2
CB	09JUL2002	B	3	Cirrophorus lyra	3
CB	09JUL2002	B	3	Cossura delta	2
CB	09JUL2002	B	3	Lumbrineris parvapedata	2
CB	09JUL2002	B	3	Mediomastus ambiseta	5
CB	09JUL2002	B	3	Paraprionospio pinnata	2
CB	09JUL2002	B	3	Periploma cf. orbiculare	2
CB	09JUL2002	B	3	Rhynchocoela (unidentified)	5
CB	09JUL2002	C	1	Ampelisca abdita	3
CB	09JUL2002	C	1	Aricidea catharinae	5
CB	09JUL2002	C	1	Cirrophorus lyra	30
CB	09JUL2002	C	1	Euclymene sp. B	1
CB	09JUL2002	C	1	Glycinde solitaria	1
CB	09JUL2002	C	1	Gyptis vittata	4
CB	09JUL2002	C	1	Lumbrineris parvapedata	1
CB	09JUL2002	C	1	Mediomastus ambiseta	17
CB	09JUL2002	C	1	Megalomma bioculatum	1
CB	09JUL2002	C	1	Microprotopus spp.	1
CB	09JUL2002	C	1	Mysella planulata	2
CB	09JUL2002	C	1	Mysidopsis sp.	1
CB	09JUL2002	C	1	Nuculana acuta	1
CB	09JUL2002	C	1	Pandora trilineata	1
CB	09JUL2002	C	1	Paraprionospio pinnata	1
CB	09JUL2002	C	1	Periploma cf. orbiculare	1
CB	09JUL2002	C	1	Pinnixa sp.	1
CB	09JUL2002	C	1	Polydora caulleryi	5
CB	09JUL2002	C	1	Pyrgiscus sp.	2
CB	09JUL2002	C	1	Rhynchocoela (unidentified)	4
CB	09JUL2002	C	1	Schizocardium sp.	1
CB	09JUL2002	C	1	Sphaerosyllis sp. A	1
CB	09JUL2002	C	1	Tharyx setigera	10
CB	09JUL2002	C	2	Acteon punctostriatus	1
CB	09JUL2002	C	2	Aligena texasiana	2
CB	09JUL2002	C	2	Amphiodia atra	1
CB	09JUL2002	C	2	Aricidea catharinae	1
CB	09JUL2002	C	2	Ceratonereis irritabilis	1
CB	09JUL2002	C	2	Ceratopogonid larvae	1
CB	09JUL2002	C	2	Cirrophorus lyra	10
CB	09JUL2002	C	2	Gyptis vittata	1
CB	09JUL2002	C	2	Lumbrineris parvapedata	2
CB	09JUL2002	C	2	Mediomastus ambiseta	6
CB	09JUL2002	C	2	Nuculana acuta	1
CB	09JUL2002	C	2	Periploma cf. orbiculare	3
CB	09JUL2002	C	2	Polydora caulleryi	9
CB	09JUL2002	C	2	Rhynchocoela (unidentified)	1
CB	09JUL2002	C	2	Sphaerosyllis sp. A	1

CB	09JUL2002	C	2	Tharyx setigera	25
CB	09JUL2002	C	3	Ampelisca abdita	1
CB	09JUL2002	C	3	Aricidea bryani	1
CB	09JUL2002	C	3	Aricidea catharinae	5
CB	09JUL2002	C	3	Cirrophorus lyra	6
CB	09JUL2002	C	3	Gyptis vittata	3
CB	09JUL2002	C	3	Listriella clymenellae	1
CB	09JUL2002	C	3	Lumbrineris parvapedata	4
CB	09JUL2002	C	3	Mediomastus ambiseta	13
CB	09JUL2002	C	3	Microphthalmus abberrans	2
CB	09JUL2002	C	3	Monoculodes sp.	3
CB	09JUL2002	C	3	Notomastus latericeus	2
CB	09JUL2002	C	3	Periploma cf. orbiculare	2
CB	09JUL2002	C	3	Periploma margaritaceum	1
CB	09JUL2002	C	3	Polydora caulleryi	6
CB	09JUL2002	C	3	Rhynchocoela (unidentified)	4
CB	09JUL2002	C	3	Terebellidae (unidentified)	1
CB	09JUL2002	C	3	Tharyx setigera	1
CB	17OCT2002	A	1	Aricidea catharinae	7
CB	17OCT2002	A	1	Branchioasychis americana	2
CB	17OCT2002	A	1	Cirrophorus lyra	17
CB	17OCT2002	A	1	Clymenella torquata	1
CB	17OCT2002	A	1	Glycinde solitaria	1
CB	17OCT2002	A	1	Gyptis vittata	1
CB	17OCT2002	A	1	Leucon sp.	1
CB	17OCT2002	A	1	Lumbrineris parvapedata	2
CB	17OCT2002	A	1	Mediomastus ambiseta	24
CB	17OCT2002	A	1	Mysella planulata	1
CB	17OCT2002	A	1	Paraprionospio pinnata	1
CB	17OCT2002	A	1	Periploma cf. orbiculare	5
CB	17OCT2002	A	1	Polydora caulleryi	1
CB	17OCT2002	A	1	Rhynchocoela (unidentified)	1
CB	17OCT2002	A	1	Streblospio benedicti	7
CB	17OCT2002	A	2	Aricidea catharinae	4
CB	17OCT2002	A	2	Cirrophorus lyra	4
CB	17OCT2002	A	2	Cossura delta	1
CB	17OCT2002	A	2	Leucon sp.	1
CB	17OCT2002	A	2	Lumbrineris parvapedata	2
CB	17OCT2002	A	2	Mediomastus ambiseta	9
CB	17OCT2002	A	2	Mulinia lateralis	1
CB	17OCT2002	A	2	Periploma cf. orbiculare	1
CB	17OCT2002	A	2	Polydora caulleryi	9
CB	17OCT2002	A	2	Rhynchocoela (unidentified)	1
CB	17OCT2002	A	2	Streblospio benedicti	5
CB	17OCT2002	A	3	Aricidea catharinae	1
CB	17OCT2002	A	3	Branchioasychis americana	1
CB	17OCT2002	A	3	Caecum johnsoni	9
CB	17OCT2002	A	3	Cirrophorus lyra	10
CB	17OCT2002	A	3	Gyptis vittata	1
CB	17OCT2002	A	3	Lumbrineris parvapedata	1
CB	17OCT2002	A	3	Mediomastus ambiseta	27
CB	17OCT2002	A	3	Mysella planulata	2
CB	17OCT2002	A	3	Oligochaetes (unidentified)	1
CB	17OCT2002	A	3	Periploma cf. orbiculare	9
CB	17OCT2002	A	3	Schistomeringos sp. A	1

CB	17OCT2002	A	3	Streblospio benedicti	11
CB	17OCT2002	B	1	Aricidea catharinae	1
CB	17OCT2002	B	1	Cirrophorus lyra	4
CB	17OCT2002	B	1	Lumbrineris parvapedata	2
CB	17OCT2002	B	1	Mediomastus ambiseta	4
CB	17OCT2002	B	1	Schistomeringos sp. A	1
CB	17OCT2002	B	1	Streblospio benedicti	4
CB	17OCT2002	B	2	Ampelisca abdita	1
CB	17OCT2002	B	2	Aricidea catharinae	2
CB	17OCT2002	B	2	Cirrophorus lyra	1
CB	17OCT2002	B	2	Cossura delta	2
CB	17OCT2002	B	2	Lumbrineris parvapedata	1
CB	17OCT2002	B	2	Mediomastus ambiseta	7
CB	17OCT2002	B	2	Parandalia ocularis	1
CB	17OCT2002	B	2	Rhynchocoela (unidentified)	1
CB	17OCT2002	B	3	Aricidea catharinae	3
CB	17OCT2002	B	3	Cirrophorus lyra	5
CB	17OCT2002	B	3	Mediomastus ambiseta	2
CB	17OCT2002	B	3	No species observed	0
CB	17OCT2002	B	3	Notomastus latericeus	1
CB	17OCT2002	B	3	Oligochaetes (unidentified)	1
CB	17OCT2002	B	3	Rhynchocoela (unidentified)	2
CB	17OCT2002	C	1	Aricidea catharinae	3
CB	17OCT2002	C	1	Cirrophorus lyra	51
CB	17OCT2002	C	1	Cossura delta	1
CB	17OCT2002	C	1	Drilonereis magna	2
CB	17OCT2002	C	1	Gyptis vittata	2
CB	17OCT2002	C	1	Lumbrineris parvapedata	1
CB	17OCT2002	C	1	Mediomastus ambiseta	32
CB	17OCT2002	C	1	Microphthalmus abberrans	1
CB	17OCT2002	C	1	Mulinia lateralis	1
CB	17OCT2002	C	1	Mysella planulata	1
CB	17OCT2002	C	1	Periploma margaritaceum	10
CB	17OCT2002	C	1	Phoronis architecta	1
CB	17OCT2002	C	1	Polydora caulleryi	9
CB	17OCT2002	C	1	Rhynchocoela (unidentified)	1
CB	17OCT2002	C	1	Schistomeringos sp. A	3
CB	17OCT2002	C	1	Schizocardium sp.	1
CB	17OCT2002	C	1	Streblospio benedicti	2
CB	17OCT2002	C	1	Terebellidae (unidentified)	1
CB	17OCT2002	C	1	Tharyx setigera	12
CB	17OCT2002	C	2	Aligena texasiana	1
CB	17OCT2002	C	2	Amphiodia atra	1
CB	17OCT2002	C	2	Aricidea catharinae	1
CB	17OCT2002	C	2	Branchioasychis americana	1
CB	17OCT2002	C	2	Cirrophorus lyra	36
CB	17OCT2002	C	2	Clymenella torquata	1
CB	17OCT2002	C	2	Gyptis vittata	2
CB	17OCT2002	C	2	Listriella clymenellae	1
CB	17OCT2002	C	2	Lumbrineris parvapedata	5
CB	17OCT2002	C	2	Malmgreniella taylori	1
CB	17OCT2002	C	2	Mediomastus ambiseta	9
CB	17OCT2002	C	2	Megalomma bioculatum	1
CB	17OCT2002	C	2	Monoculodes sp.	1
CB	17OCT2002	C	2	Mysella planulata	20

CB	17OCT2002	C	2	Nuculana acuta	1
CB	17OCT2002	C	2	Periploma cf. orbiculare	1
CB	17OCT2002	C	2	Periploma margaritaceum	3
CB	17OCT2002	C	2	Polydora caulleryi	4
CB	17OCT2002	C	2	Pyrgiscus sp.	3
CB	17OCT2002	C	2	Rhynchocoela (unidentified)	2
CB	17OCT2002	C	2	Schizocardium sp.	1
CB	17OCT2002	C	2	Streblospio benedicti	2
CB	17OCT2002	C	2	Terebellidae (unidentified)	1
CB	17OCT2002	C	2	Tharyx setigera	6
CB	17OCT2002	C	3	Amphiodia atra	1
CB	17OCT2002	C	3	Aricidea bryani	3
CB	17OCT2002	C	3	Aricidea catharinae	2
CB	17OCT2002	C	3	Cirrophorus lyra	19
CB	17OCT2002	C	3	Drilonereis magna	1
CB	17OCT2002	C	3	Glycera americana	1
CB	17OCT2002	C	3	Lumbrineris parvapedata	2
CB	17OCT2002	C	3	Malmgreniella taylori	1
CB	17OCT2002	C	3	Mediomastus ambiseta	33
CB	17OCT2002	C	3	Mysella planulata	1
CB	17OCT2002	C	3	Paraprionospio pinnata	1
CB	17OCT2002	C	3	Periploma cf. orbiculare	6
CB	17OCT2002	C	3	Periploma margaritaceum	11
CB	17OCT2002	C	3	Polydora caulleryi	3
CB	17OCT2002	C	3	Rhynchocoela (unidentified)	1
CB	17OCT2002	C	3	Schistomeringos sp. A	1
CB	17OCT2002	C	3	Streblospio benedicti	2
CB	17OCT2002	C	3	Tellina sp.	1
CB	17OCT2002	C	3	Tharyx setigera	20
CB	09JAN2003	A	1	Aricidea catharinae	2
CB	09JAN2003	A	1	Branchioasychis americana	1
CB	09JAN2003	A	1	Cirrophorus lyra	22
CB	09JAN2003	A	1	Corbula contracta	1
CB	09JAN2003	A	1	Gyptis vittata	2
CB	09JAN2003	A	1	Lumbrineris parvapedata	1
CB	09JAN2003	A	1	Lyonsia hyalina floridana	1
CB	09JAN2003	A	1	Mediomastus ambiseta	24
CB	09JAN2003	A	1	Mulinia lateralis	1
CB	09JAN2003	A	1	Mysella planulata	1
CB	09JAN2003	A	1	Periploma cf. orbiculare	1
CB	09JAN2003	A	1	Polydora caulleryi	7
CB	09JAN2003	A	1	Pyrgiscus sp.	1
CB	09JAN2003	A	1	Sarsiella disparalis	1
CB	09JAN2003	A	1	Sphaerosyllis cf. sublaevis	2
CB	09JAN2003	A	1	Streblospio benedicti	5
CB	09JAN2003	A	1	Tharyx setigera	9
CB	09JAN2003	A	2	Aricidea catharinae	3
CB	09JAN2003	A	2	Cirrophorus lyra	17
CB	09JAN2003	A	2	Cossura delta	1
CB	09JAN2003	A	2	Gyptis vittata	3
CB	09JAN2003	A	2	Lumbrineris parvapedata	2
CB	09JAN2003	A	2	Mediomastus ambiseta	16
CB	09JAN2003	A	2	Mulinia lateralis	1
CB	09JAN2003	A	2	Periploma cf. orbiculare	3
CB	09JAN2003	A	2	Polydora caulleryi	2

CB	09JAN2003	A	2	Rhynchocoela (unidentified)	1
CB	09JAN2003	A	2	Schistomeringos sp. A	1
CB	09JAN2003	A	2	Schizocardium sp.	1
CB	09JAN2003	A	2	Sphaerosyllis cf. sublaevis	3
CB	09JAN2003	A	2	Streblospio benedicti	1
CB	09JAN2003	A	2	Tharyx setigera	2
CB	09JAN2003	A	2	Vitrinellidae (unidentified)	1
CB	09JAN2003	A	3	Amphiodia atra	1
CB	09JAN2003	A	3	Aricidea catharinae	1
CB	09JAN2003	A	3	Branchioasychis americana	3
CB	09JAN2003	A	3	Cirrophorus lyra	26
CB	09JAN2003	A	3	Clymenella torquata	2
CB	09JAN2003	A	3	Gyptis vittata	3
CB	09JAN2003	A	3	Lumbrineris parvapedata	3
CB	09JAN2003	A	3	Lyonsia hyalina floridana	1
CB	09JAN2003	A	3	Malmgreniella taylori	1
CB	09JAN2003	A	3	Mediomastus ambiseta	25
CB	09JAN2003	A	3	Mulinia lateralis	2
CB	09JAN2003	A	3	Mysella planulata	1
CB	09JAN2003	A	3	Nereidae (unidentified)	1
CB	09JAN2003	A	3	Notomastus latericeus	1
CB	09JAN2003	A	3	Oligochaetes (unidentified)	1
CB	09JAN2003	A	3	Periploma cf. orbiculare	4
CB	09JAN2003	A	3	Polydora caulleryi	2
CB	09JAN2003	A	3	Rhynchocoela (unidentified)	1
CB	09JAN2003	A	3	Schistomeringos sp. A	1
CB	09JAN2003	A	3	Sphaerosyllis cf. sublaevis	3
CB	09JAN2003	A	3	Streblospio benedicti	4
CB	09JAN2003	A	3	Tharyx setigera	26
CB	09JAN2003	B	1	Branchioasychis americana	1
CB	09JAN2003	B	1	Cirrophorus lyra	1
CB	09JAN2003	B	1	Cossura delta	7
CB	09JAN2003	B	1	Eulimostoma sp.	1
CB	09JAN2003	B	1	Mediomastus ambiseta	8
CB	09JAN2003	B	1	Mulinia lateralis	2
CB	09JAN2003	B	1	Mysella planulata	1
CB	09JAN2003	B	1	Notomastus latericeus	1
CB	09JAN2003	B	1	Streblospio benedicti	7
CB	09JAN2003	B	2	Aricidea catharinae	3
CB	09JAN2003	B	2	Cirrophorus lyra	3
CB	09JAN2003	B	2	Cossura delta	2
CB	09JAN2003	B	2	Gyptis vittata	1
CB	09JAN2003	B	2	Mediomastus ambiseta	6
CB	09JAN2003	B	2	Paraprionospio pinnata	3
CB	09JAN2003	B	2	Periploma cf. orbiculare	1
CB	09JAN2003	B	2	Schizocardium sp.	1
CB	09JAN2003	B	2	Streblospio benedicti	5
CB	09JAN2003	B	3	Aricidea catharinae	1
CB	09JAN2003	B	3	Cirrophorus lyra	1
CB	09JAN2003	B	3	Cossura delta	2
CB	09JAN2003	B	3	Gyptis vittata	1
CB	09JAN2003	B	3	Lumbrineris parvapedata	5
CB	09JAN2003	B	3	Mediomastus ambiseta	7
CB	09JAN2003	B	3	Mulinia lateralis	1
CB	09JAN2003	B	3	Mysella planulata	2

CB	09JAN2003	B	3	Oligochaetes (unidentified)	1
CB	09JAN2003	B	3	Rhynchocoela (unidentified)	1
CB	09JAN2003	B	3	Schistomeringos sp. A	1
CB	09JAN2003	C	1	Abra aequalis	1
CB	09JAN2003	C	1	Amphiodia atra	1
CB	09JAN2003	C	1	Ancistrosyllis jonesi	1
CB	09JAN2003	C	1	Anthozoa (unidentified)	1
CB	09JAN2003	C	1	Aricidea catharinae	2
CB	09JAN2003	C	1	Branchioasychis americana	1
CB	09JAN2003	C	1	Cirrophorus lyra	7
CB	09JAN2003	C	1	Clymenella torquata	2
CB	09JAN2003	C	1	Cossura delta	2
CB	09JAN2003	C	1	Glycinde solitaria	1
CB	09JAN2003	C	1	Gyptis vittata	1
CB	09JAN2003	C	1	Lumbrineris parvapedata	1
CB	09JAN2003	C	1	Mediomastus ambiseta	13
CB	09JAN2003	C	1	Melinna maculata	1
CB	09JAN2003	C	1	Mysella planulata	2
CB	09JAN2003	C	1	Pandora trilineata	1
CB	09JAN2003	C	1	Periploma cf. orbiculare	5
CB	09JAN2003	C	1	Periploma margaritaceum	2
CB	09JAN2003	C	1	Polydora caulleryi	8
CB	09JAN2003	C	1	Rhynchocoela (unidentified)	1
CB	09JAN2003	C	1	Schizocardium sp.	1
CB	09JAN2003	C	1	Sphaerosyllis cf. sublaevis	3
CB	09JAN2003	C	2	Aligena texasiana	1
CB	09JAN2003	C	2	Amphiodia atra	1
CB	09JAN2003	C	2	Aricidea catharinae	2
CB	09JAN2003	C	2	Branchioasychis americana	1
CB	09JAN2003	C	2	Cirrophorus lyra	34
CB	09JAN2003	C	2	Clymenella torquata	6
CB	09JAN2003	C	2	Echiuridae (unidentified)	2
CB	09JAN2003	C	2	Glycera americana	1
CB	09JAN2003	C	2	Gyptis vittata	3
CB	09JAN2003	C	2	Listriella clymenellae	2
CB	09JAN2003	C	2	Lumbrineris parvapedata	2
CB	09JAN2003	C	2	Magelona phyllisae	1
CB	09JAN2003	C	2	Malmgreniella taylori	1
CB	09JAN2003	C	2	Mediomastus ambiseta	31
CB	09JAN2003	C	2	Melinna maculata	1
CB	09JAN2003	C	2	Mysella planulata	9
CB	09JAN2003	C	2	Nereidae (unidentified)	1
CB	09JAN2003	C	2	Oligochaetes (unidentified)	1
CB	09JAN2003	C	2	Periploma cf. orbiculare	5
CB	09JAN2003	C	2	Periploma margaritaceum	4
CB	09JAN2003	C	2	Polydora caulleryi	3
CB	09JAN2003	C	2	Rhynchocoela (unidentified)	3
CB	09JAN2003	C	2	Schistomeringos rudolphi	1
CB	09JAN2003	C	2	Schistomeringos sp. A	2
CB	09JAN2003	C	2	Schizocardium sp.	1
CB	09JAN2003	C	2	Sphaerosyllis cf. sublaevis	2
CB	09JAN2003	C	2	Streblospio benedicti	2
CB	09JAN2003	C	2	Tharyx setigera	11
CB	09JAN2003	C	3	Ampelisca verrilli	1
CB	09JAN2003	C	3	Amphiodia atra	1

CB	09JAN2003	C	3	Cirrophorus lyra	21
CB	09JAN2003	C	3	Clymenella torquata	4
CB	09JAN2003	C	3	Gyptis vittata	2
CB	09JAN2003	C	3	Lumbrineris parvapedata	3
CB	09JAN2003	C	3	Mediomastus ambiseta	27
CB	09JAN2003	C	3	Molgula manhattensis	1
CB	09JAN2003	C	3	Mulinia lateralis	1
CB	09JAN2003	C	3	Mysella planulata	2
CB	09JAN2003	C	3	Periploma cf. orbiculare	4
CB	09JAN2003	C	3	Periploma margaritaceum	3
CB	09JAN2003	C	3	Rhynchocoela (unidentified)	1
CB	09JAN2003	C	3	Sphaerosyllis cf. sublaevis	1
CB	09JAN2003	C	3	Streblospio benedicti	1
CB	09JAN2003	C	3	Tharyx setigera	11
CB	10APR2003	A	1	Abra aequalis	1
CB	10APR2003	A	1	Acteocina canaliculata	1
CB	10APR2003	A	1	Amphiodia atra	1
CB	10APR2003	A	1	Aricidea catharinae	3
CB	10APR2003	A	1	Cirrophorus lyra	17
CB	10APR2003	A	1	Clymenella torquata	1
CB	10APR2003	A	1	Glycinde solitaria	1
CB	10APR2003	A	1	Gyptis vittata	2
CB	10APR2003	A	1	Lumbrineris parvapedata	5
CB	10APR2003	A	1	Mediomastus ambiseta	27
CB	10APR2003	A	1	Melinna maculata	2
CB	10APR2003	A	1	Mulinia lateralis	1
CB	10APR2003	A	1	Mysella planulata	1
CB	10APR2003	A	1	Periploma cf. orbiculare	14
CB	10APR2003	A	1	Polydora caulleryi	7
CB	10APR2003	A	1	Schizocardium sp.	1
CB	10APR2003	A	1	Sphaerosyllis cf. sublaevis	3
CB	10APR2003	A	1	Tharyx setigera	10
CB	10APR2003	A	2	Aricidea catharinae	8
CB	10APR2003	A	2	Branchioasychis americana	6
CB	10APR2003	A	2	Cirrophorus lyra	8
CB	10APR2003	A	2	Lumbrineris parvapedata	1
CB	10APR2003	A	2	Mediomastus ambiseta	42
CB	10APR2003	A	2	Mysella planulata	1
CB	10APR2003	A	2	Periploma cf. orbiculare	7
CB	10APR2003	A	2	Polydora caulleryi	1
CB	10APR2003	A	2	Sarsiella texana	1
CB	10APR2003	A	2	Schizocardium sp.	2
CB	10APR2003	A	2	Sphaerosyllis cf. sublaevis	1
CB	10APR2003	A	3	Branchioasychis americana	5
CB	10APR2003	A	3	Cirrophorus lyra	22
CB	10APR2003	A	3	Glycinde solitaria	1
CB	10APR2003	A	3	Gyptis vittata	1
CB	10APR2003	A	3	Lumbrineris parvapedata	3
CB	10APR2003	A	3	Maldanidae (unidentified)	1
CB	10APR2003	A	3	Mediomastus ambiseta	25
CB	10APR2003	A	3	Melinna maculata	1
CB	10APR2003	A	3	Mysella planulata	2
CB	10APR2003	A	3	Nuculana acuta	3
CB	10APR2003	A	3	Periploma cf. orbiculare	5
CB	10APR2003	A	3	Polydora caulleryi	3

CB	10APR2003	A	3	Rhynchocoela (unidentified)	2
CB	10APR2003	A	3	Schistomeringos sp. A	1
CB	10APR2003	A	3	Schizocardium sp.	1
CB	10APR2003	A	3	Streblospio benedicti	2
CB	10APR2003	A	3	Tharyx setigera	1
CB	10APR2003	B	1	Abra aequalis	1
CB	10APR2003	B	1	Aricidea catharinae	2
CB	10APR2003	B	1	Cirrophorus lyra	2
CB	10APR2003	B	1	Cossura delta	5
CB	10APR2003	B	1	Glycinde solitaria	3
CB	10APR2003	B	1	Lumbrineris parvapedata	3
CB	10APR2003	B	1	Maldanidae (unidentified)	1
CB	10APR2003	B	1	Mediomastus ambiseta	10
CB	10APR2003	B	1	Oligochaetes (unidentified)	4
CB	10APR2003	B	1	Paraprionospio pinnata	1
CB	10APR2003	B	1	Periploma cf. orbiculare	1
CB	10APR2003	B	1	Rhynchocoela (unidentified)	1
CB	10APR2003	B	1	Schizocardium sp.	1
CB	10APR2003	B	1	Streblospio benedicti	3
CB	10APR2003	B	2	Aricidea catharinae	4
CB	10APR2003	B	2	Callinectes sapidus	1
CB	10APR2003	B	2	Cirrophorus lyra	2
CB	10APR2003	B	2	Cossura delta	9
CB	10APR2003	B	2	Glycinde solitaria	1
CB	10APR2003	B	2	Lumbrineris parvapedata	1
CB	10APR2003	B	2	Maldanidae (unidentified)	1
CB	10APR2003	B	2	Mediomastus ambiseta	11
CB	10APR2003	B	2	Mysella planulata	1
CB	10APR2003	B	2	Oligochaetes (unidentified)	1
CB	10APR2003	B	2	Periploma cf. orbiculare	1
CB	10APR2003	B	2	Streblospio benedicti	3
CB	10APR2003	B	3	Aricidea catharinae	3
CB	10APR2003	B	3	Cossura delta	6
CB	10APR2003	B	3	Mediomastus ambiseta	11
CB	10APR2003	B	3	Mulinia lateralis	1
CB	10APR2003	B	3	Oligochaetes (unidentified)	1
CB	10APR2003	B	3	Rhynchocoela (unidentified)	1
CB	10APR2003	B	3	Streblospio benedicti	2
CB	10APR2003	C	1	Amphiodia atra	1
CB	10APR2003	C	1	Aricidea catharinae	4
CB	10APR2003	C	1	Cirrophorus lyra	19
CB	10APR2003	C	1	Clymenella torquata	3
CB	10APR2003	C	1	Hauchiella sp.	1
CB	10APR2003	C	1	Listriella barnardi	1
CB	10APR2003	C	1	Lumbrineris parvapedata	15
CB	10APR2003	C	1	Mediomastus ambiseta	29
CB	10APR2003	C	1	Melinna maculata	1
CB	10APR2003	C	1	Oxyurostylis sp.	1
CB	10APR2003	C	1	Periploma cf. orbiculare	1
CB	10APR2003	C	1	Periploma margaritaceum	3
CB	10APR2003	C	1	Polydora caulleryi	12
CB	10APR2003	C	1	Schizocardium sp.	1
CB	10APR2003	C	1	Sphaerosyllis cf. sublaevis	1
CB	10APR2003	C	1	Streblospio benedicti	1
CB	10APR2003	C	1	Tharyx setigera	18

CB	10APR2003	C	1	Turbellaria (unidentified)	1
CB	10APR2003	C	2	Abra aequalis	1
CB	10APR2003	C	2	Amphiodia atra	1
CB	10APR2003	C	2	Aricidea catharinae	2
CB	10APR2003	C	2	Cirrophorus lyra	16
CB	10APR2003	C	2	Clymenella torquata	6
CB	10APR2003	C	2	Drilonereis magna	1
CB	10APR2003	C	2	Euclymene sp. B	1
CB	10APR2003	C	2	Glycinde solitaria	1
CB	10APR2003	C	2	Gyptis vittata	2
CB	10APR2003	C	2	Lumbrineris parvapedata	10
CB	10APR2003	C	2	Maldanidae (unidentified)	1
CB	10APR2003	C	2	Malmgreniella taylori	1
CB	10APR2003	C	2	Mediomastus ambiseta	34
CB	10APR2003	C	2	Melinna maculata	1
CB	10APR2003	C	2	Mysella planulata	7
CB	10APR2003	C	2	Oxyurostylis sp.	1
CB	10APR2003	C	2	Periploma cf. orbiculare	1
CB	10APR2003	C	2	Polydora caulleryi	2
CB	10APR2003	C	2	Rhynchocoela (unidentified)	2
CB	10APR2003	C	2	Sarsiella disparalis	1
CB	10APR2003	C	2	Schistomeringos sp. A	3
CB	10APR2003	C	2	Schizocardium sp.	2
CB	10APR2003	C	2	Tharyx setigera	20
CB	10APR2003	C	3	Ampelisca abdita	1
CB	10APR2003	C	3	Aricidea catharinae	4
CB	10APR2003	C	3	Chone sp.	1
CB	10APR2003	C	3	Cirrophorus lyra	11
CB	10APR2003	C	3	Clymenella torquata	1
CB	10APR2003	C	3	Euclymene sp. B	1
CB	10APR2003	C	3	Glycera americana	1
CB	10APR2003	C	3	Hauchiella sp.	1
CB	10APR2003	C	3	Lumbrineris parvapedata	12
CB	10APR2003	C	3	Mediomastus ambiseta	33
CB	10APR2003	C	3	Melinna maculata	1
CB	10APR2003	C	3	Mysella planulata	2
CB	10APR2003	C	3	Periploma cf. orbiculare	1
CB	10APR2003	C	3	Periploma margaritaceum	3
CB	10APR2003	C	3	Pista palmata	1
CB	10APR2003	C	3	Polydora caulleryi	15
CB	10APR2003	C	3	Rhynchocoela (unidentified)	2
CB	10APR2003	C	3	Schizocardium sp.	1
CB	10APR2003	C	3	Sphaerosyllis cf. sublaevis	1
CB	10APR2003	C	3	Streblospio benedicti	1
CB	10APR2003	C	3	Tharyx setigera	2
CB	02JUL2003	A	1	Amphiodia atra	1
CB	02JUL2003	A	1	Aricidea catharinae	6
CB	02JUL2003	A	1	Cirrophorus lyra	19
CB	02JUL2003	A	1	Diplodonta punctata	1
CB	02JUL2003	A	1	Gyptis vittata	2
CB	02JUL2003	A	1	Lumbrineris parvapedata	4
CB	02JUL2003	A	1	Mediomastus ambiseta	20
CB	02JUL2003	A	1	Microphthalmus abberrans	1
CB	02JUL2003	A	1	Mysella planulata	1
CB	02JUL2003	A	1	Notomastus latericeus	1

CB	02JUL2003	A	1	Nuculana acuta	1
CB	02JUL2003	A	1	Periploma cf. orbiculare	6
CB	02JUL2003	A	1	Periploma margaritaceum	3
CB	02JUL2003	A	1	Polydora caulleryi	10
CB	02JUL2003	A	1	Rhynchocoela (unidentified)	2
CB	02JUL2003	A	1	Schistomeringos sp. A	1
CB	02JUL2003	A	1	Sphaerosyllis cf. sublaevis	1
CB	02JUL2003	A	1	Tharyx setigera	2
CB	02JUL2003	A	2	Amphiodia atra	1
CB	02JUL2003	A	2	Anthozoa (unidentified)	1
CB	02JUL2003	A	2	Aricidea catharinae	14
CB	02JUL2003	A	2	Cirrophorus lyra	19
CB	02JUL2003	A	2	Euclymene sp. B	1
CB	02JUL2003	A	2	Glycinde solitaria	3
CB	02JUL2003	A	2	Gyptis vittata	3
CB	02JUL2003	A	2	Hauchiella sp.	1
CB	02JUL2003	A	2	Lumbrineris parvapedata	2
CB	02JUL2003	A	2	Lyonsia hyalina floridana	2
CB	02JUL2003	A	2	Mediomastus ambiseta	16
CB	02JUL2003	A	2	Megalops	1
CB	02JUL2003	A	2	Melinna maculata	1
CB	02JUL2003	A	2	Nuculana acuta	1
CB	02JUL2003	A	2	Periploma cf. orbiculare	2
CB	02JUL2003	A	2	Rhynchocoela (unidentified)	4
CB	02JUL2003	A	2	Schizocardium sp.	1
CB	02JUL2003	A	2	Sphaerosyllis cf. sublaevis	2
CB	02JUL2003	A	2	Tharyx setigera	2
CB	02JUL2003	A	3	Aricidea catharinae	7
CB	02JUL2003	A	3	Branchioasychis americana	3
CB	02JUL2003	A	3	Cirrophorus lyra	24
CB	02JUL2003	A	3	Cossura delta	1
CB	02JUL2003	A	3	Eudorella sp.	2
CB	02JUL2003	A	3	Gyptis vittata	4
CB	02JUL2003	A	3	Leucon sp.	1
CB	02JUL2003	A	3	Lumbrineris parvapedata	2
CB	02JUL2003	A	3	Mediomastus ambiseta	17
CB	02JUL2003	A	3	Mysella planulata	1
CB	02JUL2003	A	3	Periploma cf. orbiculare	10
CB	02JUL2003	A	3	Pyrgiscus sp.	2
CB	02JUL2003	A	3	Rhynchocoela (unidentified)	2
CB	02JUL2003	A	3	Schistomeringos sp. A	1
CB	02JUL2003	A	3	Schizocardium sp.	1
CB	02JUL2003	B	1	Aricidea catharinae	4
CB	02JUL2003	B	1	Cirrophorus lyra	7
CB	02JUL2003	B	1	Cossura delta	3
CB	02JUL2003	B	1	Glycinde solitaria	2
CB	02JUL2003	B	1	Gyptis vittata	2
CB	02JUL2003	B	1	Mediomastus ambiseta	2
CB	02JUL2003	B	1	Oligochaetes (unidentified)	3
CB	02JUL2003	B	1	Rhynchocoela (unidentified)	2
CB	02JUL2003	B	1	Schistomeringos sp. A	1
CB	02JUL2003	B	1	Schizocardium sp.	1
CB	02JUL2003	B	1	Streblospio benedicti	1
CB	02JUL2003	B	2	Aricidea catharinae	2
CB	02JUL2003	B	2	Cirrophorus lyra	7

CB	02JUL2003	B	2	Cossura delta	2
CB	02JUL2003	B	2	Gyptis vittata	1
CB	02JUL2003	B	2	Lumbrineris parvapedata	1
CB	02JUL2003	B	2	Lyonsia hyalina floridana	4
CB	02JUL2003	B	2	Mediomastus ambiseta	5
CB	02JUL2003	B	2	Molgula manhattensis	7
CB	02JUL2003	B	2	Polydora caulleryi	1
CB	02JUL2003	B	2	Rhynchocoela (unidentified)	1
CB	02JUL2003	B	2	Schizocardium sp.	1
CB	02JUL2003	B	2	Streblospio benedicti	1
CB	02JUL2003	B	3	Aricidea catharinae	2
CB	02JUL2003	B	3	Cirrophorus lyra	5
CB	02JUL2003	B	3	Cossura delta	2
CB	02JUL2003	B	3	Gyptis vittata	2
CB	02JUL2003	B	3	Lumbrineris parvapedata	2
CB	02JUL2003	B	3	Mediomastus ambiseta	13
CB	02JUL2003	B	3	Minuspio cirrifera	1
CB	02JUL2003	B	3	Oligochaetes (unidentified)	3
CB	02JUL2003	B	3	Rhynchocoela (unidentified)	1
CB	02JUL2003	B	3	Streblospio benedicti	2
CB	02JUL2003	C	1	Aligena texasiana	2
CB	02JUL2003	C	1	Amphiodia atra	1
CB	02JUL2003	C	1	Aricidea catharinae	2
CB	02JUL2003	C	1	Cirrophorus lyra	10
CB	02JUL2003	C	1	Clymenella torquata	7
CB	02JUL2003	C	1	Cossura delta	1
CB	02JUL2003	C	1	Cyclaspis varians	1
CB	02JUL2003	C	1	Gyptis vittata	3
CB	02JUL2003	C	1	Lumbrineris parvapedata	3
CB	02JUL2003	C	1	Malmgreniella taylori	3
CB	02JUL2003	C	1	Mediomastus ambiseta	23
CB	02JUL2003	C	1	Mediomastus californiensis	1
CB	02JUL2003	C	1	Mysella planulata	7
CB	02JUL2003	C	1	Periploma cf. orbiculare	2
CB	02JUL2003	C	1	Rhynchocoela (unidentified)	4
CB	02JUL2003	C	1	Schizocardium sp.	1
CB	02JUL2003	C	1	Tharyx setigera	26
CB	02JUL2003	C	2	Aligena texasiana	2
CB	02JUL2003	C	2	Aricidea catharinae	6
CB	02JUL2003	C	2	Cirrophorus lyra	22
CB	02JUL2003	C	2	Clymenella torquata	4
CB	02JUL2003	C	2	Cossura delta	1
CB	02JUL2003	C	2	Glycinde solitaria	1
CB	02JUL2003	C	2	Gyptis vittata	2
CB	02JUL2003	C	2	Hauchiella sp.	1
CB	02JUL2003	C	2	Listriella barnardi	2
CB	02JUL2003	C	2	Lumbrineris parvapedata	5
CB	02JUL2003	C	2	Mediomastus ambiseta	19
CB	02JUL2003	C	2	Mercenaria campechiensis	1
CB	02JUL2003	C	2	Mysella planulata	1
CB	02JUL2003	C	2	Oligochaetes (unidentified)	2
CB	02JUL2003	C	2	Periploma cf. orbiculare	3
CB	02JUL2003	C	2	Polydora caulleryi	2
CB	02JUL2003	C	2	Rhynchocoela (unidentified)	1
CB	02JUL2003	C	2	Schistomeringos sp. A	3

CB	02JUL2003	C	2	Schizocardium sp.	1
CB	02JUL2003	C	2	Tharyx setigera	8
CB	02JUL2003	C	3	Abra aequalis	1
CB	02JUL2003	C	3	Aligena texasiana	1
CB	02JUL2003	C	3	Amphiodia atra	1
CB	02JUL2003	C	3	Aricidea catharinae	3
CB	02JUL2003	C	3	Cirrophorus lyra	16
CB	02JUL2003	C	3	Clymenella torquata	5
CB	02JUL2003	C	3	Gyptis vittata	2
CB	02JUL2003	C	3	Lumbrineris parvapedata	3
CB	02JUL2003	C	3	Malmgreniella taylori	2
CB	02JUL2003	C	3	Mediomastus ambiseta	13
CB	02JUL2003	C	3	Melinna maculata	1
CB	02JUL2003	C	3	Mysella planulata	2
CB	02JUL2003	C	3	Oligochaetes (unidentified)	1
CB	02JUL2003	C	3	Periploma cf. orbiculare	1
CB	02JUL2003	C	3	Periploma margaritaceum	1
CB	02JUL2003	C	3	Polydora caulleryi	9
CB	02JUL2003	C	3	Rhynchocoela (unidentified)	3
CB	02JUL2003	C	3	Schizocardium sp.	1
CB	02JUL2003	C	3	Spiophanes bombyx	1
CB	02JUL2003	C	3	Tharyx setigera	33
BR	18OCT2000	A	1	Mediomastus ambiseta	4
BR	18OCT2000	A	1	Streblospio benedicti	37
BR	18OCT2000	A	2	Cossura delta	1
BR	18OCT2000	A	2	Mediomastus ambiseta	6
BR	18OCT2000	A	2	Streblospio benedicti	34
BR	18OCT2000	A	3	Cossura delta	1
BR	18OCT2000	A	3	Mediomastus ambiseta	6
BR	18OCT2000	A	3	Streblospio benedicti	4
BR	18OCT2000	B	1	Haploscoloplos fragilis	1
BR	18OCT2000	B	1	Mediomastus ambiseta	4
BR	18OCT2000	B	1	Polydora caulleryi	2
BR	18OCT2000	B	1	Streblospio benedicti	9
BR	18OCT2000	B	2	Mediomastus ambiseta	1
BR	18OCT2000	B	2	Mulinia lateralis	1
BR	18OCT2000	B	2	Streblospio benedicti	15
BR	18OCT2000	B	3	Mediomastus ambiseta	1
BR	18OCT2000	B	3	Polydora caulleryi	2
BR	18OCT2000	B	3	Polydora socialis	1
BR	18OCT2000	B	3	Streblospio benedicti	10
BR	18OCT2000	C	1	Mediomastus ambiseta	6
BR	18OCT2000	C	2	Cossura delta	2
BR	18OCT2000	C	2	Mediomastus ambiseta	2
BR	18OCT2000	C	2	Streblospio benedicti	1
BR	18OCT2000	C	3	Cossura delta	1
BR	18OCT2000	C	3	Mediomastus ambiseta	3
BR	10JAN2001	A	1	Mediomastus ambiseta	5
BR	10JAN2001	A	1	Streblospio benedicti	8
BR	10JAN2001	A	2	Mediomastus ambiseta	5
BR	10JAN2001	A	2	Streblospio benedicti	5
BR	10JAN2001	A	2	Turbellaria (unidentified)	1
BR	10JAN2001	A	3	Mediomastus ambiseta	4
BR	10JAN2001	A	3	No species observed	0
BR	10JAN2001	A	3	Streblospio benedicti	8

BR	10JAN2001	B	1	Mediomastus ambiseta	3
BR	10JAN2001	B	1	Streblospio benedicti	16
BR	10JAN2001	B	2	Mediomastus ambiseta	2
BR	10JAN2001	B	2	Streblospio benedicti	20
BR	10JAN2001	B	3	Mediomastus ambiseta	6
BR	10JAN2001	B	3	Streblospio benedicti	30
BR	10JAN2001	C	1	Mediomastus ambiseta	5
BR	10JAN2001	C	1	Rhynchocoela (unidentified)	1
BR	10JAN2001	C	1	Streblospio benedicti	9
BR	10JAN2001	C	2	Mediomastus ambiseta	7
BR	10JAN2001	C	2	Streblospio benedicti	5
BR	10JAN2001	C	3	Mediomastus ambiseta	2
BR	10JAN2001	C	3	Streblospio benedicti	10
BR	10APR2001	A	1	Chironomid larvae	1
BR	10APR2001	A	1	Mediomastus ambiseta	2
BR	10APR2001	A	1	Ostracoda (unidentified)	1
BR	10APR2001	A	1	Parandalia ocularis	2
BR	10APR2001	A	1	Polydora ligni	7
BR	10APR2001	A	1	Streblospio benedicti	3
BR	10APR2001	A	2	Chironomid larvae	1
BR	10APR2001	A	2	Mediomastus ambiseta	10
BR	10APR2001	A	3	Mediomastus ambiseta	9
BR	10APR2001	A	3	Rhynchocoela (unidentified)	2
BR	10APR2001	A	3	Streblospio benedicti	2
BR	10APR2001	B	1	Chironomid larvae	2
BR	10APR2001	B	1	Mediomastus ambiseta	14
BR	10APR2001	B	1	Streblospio benedicti	14
BR	10APR2001	B	2	Chironomid larvae	1
BR	10APR2001	B	2	Hobsonia florida	1
BR	10APR2001	B	2	Mediomastus ambiseta	13
BR	10APR2001	B	2	Streblospio benedicti	19
BR	10APR2001	B	3	Capitella capitata	1
BR	10APR2001	B	3	Mediomastus ambiseta	12
BR	10APR2001	B	3	Streblospio benedicti	21
BR	10APR2001	C	1	Mediomastus ambiseta	10
BR	10APR2001	C	1	Streblospio benedicti	2
BR	10APR2001	C	2	Mediomastus ambiseta	4
BR	10APR2001	C	2	Streblospio benedicti	3
BR	10APR2001	C	3	Mediomastus ambiseta	6
BR	10APR2001	C	3	Streblospio benedicti	27
BR	11JUL2001	A	1	Mediomastus ambiseta	1
BR	11JUL2001	A	1	No species observed	0
BR	11JUL2001	A	1	Streblospio benedicti	4
BR	11JUL2001	A	2	Mediomastus ambiseta	1
BR	11JUL2001	A	2	No species observed	0
BR	11JUL2001	A	2	Streblospio benedicti	2
BR	11JUL2001	A	3	Mediomastus ambiseta	1
BR	11JUL2001	A	3	No species observed	0
BR	11JUL2001	A	3	Streblospio benedicti	2
BR	11JUL2001	B	1	Callianassa sp.	1
BR	11JUL2001	B	1	Gyptis vittata	1
BR	11JUL2001	B	1	Mediomastus ambiseta	17
BR	11JUL2001	B	1	Parandalia ocularis	1
BR	11JUL2001	B	1	Polydora ligni	1
BR	11JUL2001	B	1	Rhynchocoela (unidentified)	4

BR	11JUL2001	B	2	Mediomastus ambiseta	16
BR	11JUL2001	B	2	Oligochaetes (unidentified)	1
BR	11JUL2001	B	2	Streblospio benedicti	1
BR	11JUL2001	B	3	Callianassa sp.	1
BR	11JUL2001	B	3	Gyptis vittata	1
BR	11JUL2001	B	3	Mediomastus ambiseta	5
BR	11JUL2001	B	3	Parandalia ocularis	1
BR	11JUL2001	B	3	Streblospio benedicti	3
BR	11JUL2001	C	1	Mediomastus ambiseta	1
BR	11JUL2001	C	1	Streblospio benedicti	29
BR	11JUL2001	C	2	Callianassa sp.	1
BR	11JUL2001	C	2	Mediomastus ambiseta	9
BR	11JUL2001	C	2	Streblospio benedicti	4
BR	11JUL2001	C	3	Mediomastus ambiseta	10
BR	11JUL2001	C	3	Parandalia ocularis	1
BR	11JUL2001	C	3	Streblospio benedicti	13
BR	12OCT2001	A	1	Mediomastus ambiseta	6
BR	12OCT2001	A	1	Streblospio benedicti	6
BR	12OCT2001	A	2	Callianassa sp.	1
BR	12OCT2001	A	2	Mediomastus ambiseta	5
BR	12OCT2001	A	2	Oligochaetes (unidentified)	1
BR	12OCT2001	A	2	Parandalia ocularis	2
BR	12OCT2001	A	2	Rhynchocoela (unidentified)	5
BR	12OCT2001	A	2	Streblospio benedicti	1
BR	12OCT2001	A	3	Mediomastus ambiseta	6
BR	12OCT2001	A	3	Microprotopus spp.	2
BR	12OCT2001	A	3	Oligochaetes (unidentified)	3
BR	12OCT2001	A	3	Streblospio benedicti	7
BR	12OCT2001	B	1	Callianassa sp.	1
BR	12OCT2001	B	1	Mediomastus ambiseta	11
BR	12OCT2001	B	1	Parandalia ocularis	3
BR	12OCT2001	B	1	Rhynchocoela (unidentified)	1
BR	12OCT2001	B	1	Streblospio benedicti	1
BR	12OCT2001	B	2	Mediomastus ambiseta	3
BR	12OCT2001	B	2	Rhynchocoela (unidentified)	1
BR	12OCT2001	B	2	Streblospio benedicti	2
BR	12OCT2001	B	3	Mediomastus ambiseta	7
BR	12OCT2001	B	3	Parandalia ocularis	1
BR	12OCT2001	B	3	Rhynchocoela (unidentified)	3
BR	12OCT2001	B	3	Streblospio benedicti	1
BR	12OCT2001	C	1	Mediomastus ambiseta	12
BR	12OCT2001	C	1	Rhynchocoela (unidentified)	1
BR	12OCT2001	C	1	Streblospio benedicti	46
BR	12OCT2001	C	2	Mediomastus ambiseta	13
BR	12OCT2001	C	2	Streblospio benedicti	16
BR	12OCT2001	C	3	Mediomastus ambiseta	5
BR	12OCT2001	C	3	Streblospio benedicti	12
BR	08JAN2002	A	1	Chironomid larvae	1
BR	08JAN2002	A	1	No species observed	0
BR	08JAN2002	A	1	Rhynchocoela (unidentified)	1
BR	08JAN2002	A	2	Damselfly numphs	1
BR	08JAN2002	A	2	Mediomastus ambiseta	3
BR	08JAN2002	A	2	Streblospio benedicti	2
BR	08JAN2002	A	3	Mediomastus ambiseta	6
BR	08JAN2002	A	3	Rhynchocoela (unidentified)	2

BR	08JAN2002	B	1	Mediomastus ambiseta	2
BR	08JAN2002	B	1	Rhynchocoela (unidentified)	1
BR	08JAN2002	B	2	Mediomastus ambiseta	1
BR	08JAN2002	B	2	Rhynchocoela (unidentified)	1
BR	08JAN2002	B	2	Streblospio benedicti	3
BR	08JAN2002	B	3	Mediomastus ambiseta	12
BR	08JAN2002	B	3	Oligochaetes (unidentified)	2
BR	08JAN2002	B	3	Rhynchocoela (unidentified)	2
BR	08JAN2002	C	1	Mediomastus ambiseta	27
BR	08JAN2002	C	1	Streblospio benedicti	44
BR	08JAN2002	C	2	Mediomastus ambiseta	16
BR	08JAN2002	C	2	Streblospio benedicti	1
BR	08JAN2002	C	3	Mediomastus ambiseta	2
BR	08JAN2002	C	3	No species observed	0
BR	12APR2002	A	1	Mediomastus ambiseta	3
BR	12APR2002	A	1	Streblospio benedicti	11
BR	12APR2002	A	2	Mediomastus ambiseta	6
BR	12APR2002	A	2	Schizocardium sp.	1
BR	12APR2002	A	2	Streblospio benedicti	13
BR	12APR2002	A	3	Capitella capitata	2
BR	12APR2002	A	3	Chironomid larvae	2
BR	12APR2002	A	3	Mediomastus ambiseta	2
BR	12APR2002	A	3	Streblospio benedicti	11
BR	12APR2002	B	1	Capitella capitata	1
BR	12APR2002	B	1	Mediomastus ambiseta	4
BR	12APR2002	B	1	Neanthes succinea	1
BR	12APR2002	B	1	Polydora socialis	3
BR	12APR2002	B	1	Rhynchocoela (unidentified)	2
BR	12APR2002	B	1	Streblospio benedicti	3
BR	12APR2002	B	2	Callianassa sp.	1
BR	12APR2002	B	2	Chironomid larvae	1
BR	12APR2002	B	2	Grandidierella bonnieroides	1
BR	12APR2002	B	2	Mediomastus ambiseta	4
BR	12APR2002	B	2	Polydora socialis	35
BR	12APR2002	B	2	Streblospio benedicti	10
BR	12APR2002	B	3	Anthozoa (unidentified)	1
BR	12APR2002	B	3	Corophium louisianum	1
BR	12APR2002	B	3	Mediomastus ambiseta	2
BR	12APR2002	B	3	Neanthes succinea	12
BR	12APR2002	B	3	Polydora socialis	76
BR	12APR2002	B	3	Streblospio benedicti	20
BR	12APR2002	C	1	Mediomastus ambiseta	11
BR	12APR2002	C	1	Oligochaetes (unidentified)	2
BR	12APR2002	C	1	Streblospio benedicti	23
BR	12APR2002	C	2	Capitella capitata	2
BR	12APR2002	C	2	Chironomid larvae	1
BR	12APR2002	C	2	Mediomastus ambiseta	13
BR	12APR2002	C	2	Oligochaetes (unidentified)	1
BR	12APR2002	C	2	Parandalia ocularis	1
BR	12APR2002	C	2	Rhynchocoela (unidentified)	1
BR	12APR2002	C	2	Streblospio benedicti	16
BR	12APR2002	C	3	Capitella capitata	1
BR	12APR2002	C	3	Mediomastus ambiseta	11
BR	12APR2002	C	3	Streblospio benedicti	14
BR	08JUL2002	A	1	Mediomastus ambiseta	6

BR	08JUL2002	A	2	Mediomastus ambiseta	1
BR	08JUL2002	A	2	Rhynchocoela (unidentified)	1
BR	08JUL2002	A	2	Streblospio benedicti	2
BR	08JUL2002	A	3	Mediomastus ambiseta	1
BR	08JUL2002	A	3	Streblospio benedicti	5
BR	08JUL2002	B	1	Mediomastus ambiseta	12
BR	08JUL2002	B	1	Parandalia ocularis	1
BR	08JUL2002	B	1	Rhynchocoela (unidentified)	2
BR	08JUL2002	B	1	Streblospio benedicti	7
BR	08JUL2002	B	2	Mediomastus ambiseta	5
BR	08JUL2002	B	2	Rhynchocoela (unidentified)	1
BR	08JUL2002	B	2	Streblospio benedicti	7
BR	08JUL2002	B	3	Mediomastus ambiseta	5
BR	08JUL2002	B	3	Parandalia ocularis	1
BR	08JUL2002	B	3	Rhynchocoela (unidentified)	1
BR	08JUL2002	B	3	Streblospio benedicti	7
BR	08JUL2002	C	1	Mediomastus ambiseta	24
BR	08JUL2002	C	1	Oligochaetes (unidentified)	2
BR	08JUL2002	C	1	Streblospio benedicti	8
BR	08JUL2002	C	2	Mediomastus ambiseta	14
BR	08JUL2002	C	2	Streblospio benedicti	4
BR	08JUL2002	C	3	Mediomastus ambiseta	18
BR	08JUL2002	C	3	Paraprionospio pinnata	1
BR	08JUL2002	C	3	Rhynchocoela (unidentified)	1
BR	08JUL2002	C	3	Streblospio benedicti	6
BR	16OCT2002	A	1	Mediomastus ambiseta	4
BR	16OCT2002	A	1	Megalops	1
BR	16OCT2002	A	1	Rhynchocoela (unidentified)	1
BR	16OCT2002	A	1	Streblospio benedicti	6
BR	16OCT2002	A	2	Mediomastus ambiseta	1
BR	16OCT2002	A	2	Streblospio benedicti	9
BR	16OCT2002	A	3	Mediomastus ambiseta	6
BR	16OCT2002	A	3	Streblospio benedicti	3
BR	16OCT2002	B	1	Mediomastus ambiseta	2
BR	16OCT2002	B	1	Rhynchocoela (unidentified)	1
BR	16OCT2002	B	1	Streblospio benedicti	17
BR	16OCT2002	B	2	Mediomastus ambiseta	7
BR	16OCT2002	B	2	Nereidae (unidentified)	1
BR	16OCT2002	B	2	Paraprionospio pinnata	1
BR	16OCT2002	B	2	Rhynchocoela (unidentified)	1
BR	16OCT2002	B	2	Streblospio benedicti	6
BR	16OCT2002	B	3	Mediomastus ambiseta	4
BR	16OCT2002	B	3	Nereidae (unidentified)	1
BR	16OCT2002	B	3	Streblospio benedicti	27
BR	16OCT2002	C	1	Mediomastus ambiseta	13
BR	16OCT2002	C	1	Parandalia ocularis	1
BR	16OCT2002	C	1	Rhynchocoela (unidentified)	1
BR	16OCT2002	C	1	Streblospio benedicti	12
BR	16OCT2002	C	2	Capitella capitata	1
BR	16OCT2002	C	2	Mediomastus ambiseta	3
BR	16OCT2002	C	2	Streblospio benedicti	16
BR	16OCT2002	C	3	Mediomastus ambiseta	16
BR	16OCT2002	C	3	Parandalia ocularis	1
BR	16OCT2002	C	3	Streblospio benedicti	45
BR	08JAN2003	A	1	Mediomastus ambiseta	8

BR	08JAN2003	A	1	Parandalia ocularis	1
BR	08JAN2003	A	1	Rhynchocoela (unidentified)	1
BR	08JAN2003	A	1	Streblospio benedicti	1
BR	08JAN2003	A	2	Mediomastus ambiseta	10
BR	08JAN2003	A	2	Streblospio benedicti	2
BR	08JAN2003	A	3	Mediomastus ambiseta	4
BR	08JAN2003	A	3	Rhynchocoela (unidentified)	2
BR	08JAN2003	B	1	Mediomastus ambiseta	10
BR	08JAN2003	B	1	Oligochaetes (unidentified)	1
BR	08JAN2003	B	2	Mediomastus ambiseta	9
BR	08JAN2003	B	2	Parandalia ocularis	1
BR	08JAN2003	B	2	Rhynchocoela (unidentified)	1
BR	08JAN2003	B	3	Mediomastus ambiseta	5
BR	08JAN2003	B	3	Oligochaetes (unidentified)	2
BR	08JAN2003	C	1	Mediomastus ambiseta	13
BR	08JAN2003	C	1	Oligochaetes (unidentified)	1
BR	08JAN2003	C	1	Parandalia ocularis	1
BR	08JAN2003	C	2	Mediomastus ambiseta	13
BR	08JAN2003	C	2	Oligochaetes (unidentified)	1
BR	08JAN2003	C	2	Parandalia ocularis	1
BR	08JAN2003	C	2	Rhynchocoela (unidentified)	3
BR	08JAN2003	C	2	Streblospio benedicti	2
BR	08JAN2003	C	3	Mediomastus ambiseta	7
BR	08JAN2003	C	3	Parandalia ocularis	2
BR	08JAN2003	C	3	Rhynchocoela (unidentified)	3
BR	08JAN2003	C	3	Streblospio benedicti	1
BR	09APR2003	A	1	Mediomastus ambiseta	8
BR	09APR2003	A	1	Oligochaetes (unidentified)	5
BR	09APR2003	A	1	Rhynchocoela (unidentified)	1
BR	09APR2003	A	2	Mediomastus ambiseta	1
BR	09APR2003	A	2	Oligochaetes (unidentified)	1
BR	09APR2003	A	2	Parandalia ocularis	1
BR	09APR2003	A	2	Rhynchocoela (unidentified)	1
BR	09APR2003	A	2	Streblospio benedicti	1
BR	09APR2003	A	3	Mediomastus ambiseta	1
BR	09APR2003	A	3	No species observed	0
BR	09APR2003	A	3	Oligochaetes (unidentified)	3
BR	09APR2003	B	1	Mediomastus ambiseta	3
BR	09APR2003	B	1	Polydora ligni	2
BR	09APR2003	B	1	Streblospio benedicti	1
BR	09APR2003	B	2	Mediomastus ambiseta	1
BR	09APR2003	B	2	No species observed	0
BR	09APR2003	B	2	Streblospio benedicti	1
BR	09APR2003	B	3	Mediomastus ambiseta	1
BR	09APR2003	B	3	No species observed	0
BR	09APR2003	B	3	Rhynchocoela (unidentified)	1
BR	09APR2003	B	3	Streblospio benedicti	1
BR	09APR2003	C	1	Mediomastus ambiseta	3
BR	09APR2003	C	1	No species observed	0
BR	09APR2003	C	1	Oligochaetes (unidentified)	2
BR	09APR2003	C	2	Mediomastus ambiseta	13
BR	09APR2003	C	2	No species observed	0
BR	09APR2003	C	2	Oligochaetes (unidentified)	1
BR	09APR2003	C	2	Rhynchocoela (unidentified)	1
BR	09APR2003	C	2	Streblospio benedicti	3

BR	09APR2003	C	3	Capitella capitata	1
BR	09APR2003	C	3	Mediomastus ambiseta	3
BR	09APR2003	C	3	No species observed	0
BR	09APR2003	C	3	Oligochaetes (unidentified)	2
BR	01JUL2003	A	1	Mediomastus ambiseta	3
BR	01JUL2003	A	1	Streblospio benedicti	38
BR	01JUL2003	A	2	Mediomastus ambiseta	3
BR	01JUL2003	A	2	Streblospio benedicti	19
BR	01JUL2003	A	3	Mediomastus ambiseta	4
BR	01JUL2003	A	3	Oligochaetes (unidentified)	2
BR	01JUL2003	A	3	Streblospio benedicti	25
BR	01JUL2003	B	1	Mediomastus ambiseta	3
BR	01JUL2003	B	1	Streblospio benedicti	33
BR	01JUL2003	B	2	Mediomastus ambiseta	2
BR	01JUL2003	B	2	Rhynchocoela (unidentified)	2
BR	01JUL2003	B	2	Streblospio benedicti	17
BR	01JUL2003	B	3	Mediomastus ambiseta	1
BR	01JUL2003	B	3	Streblospio benedicti	20
BR	01JUL2003	C	1	Mediomastus ambiseta	4
BR	01JUL2003	C	1	Rhynchocoela (unidentified)	1
BR	01JUL2003	C	1	Streblospio benedicti	13
BR	01JUL2003	C	2	Mediomastus ambiseta	10
BR	01JUL2003	C	2	Megalops	1
BR	01JUL2003	C	2	Rhynchocoela (unidentified)	1
BR	01JUL2003	C	2	Streblospio benedicti	27
BR	01JUL2003	C	3	Cyclopoida (commensal)	1
BR	01JUL2003	C	3	Mediomastus ambiseta	4
BR	01JUL2003	C	3	Rhynchocoela (unidentified)	1
BR	01JUL2003	C	3	Streblospio benedicti	37
BR	07OCT2003	A	1	Mediomastus ambiseta	11
BR	07OCT2003	A	1	Streblospio benedicti	28
BR	07OCT2003	A	2	Mediomastus ambiseta	3
BR	07OCT2003	A	2	Rhynchocoela (unidentified)	1
BR	07OCT2003	A	2	Streblospio benedicti	10
BR	07OCT2003	A	3	Mediomastus ambiseta	2
BR	07OCT2003	A	3	Streblospio benedicti	13
BR	07OCT2003	B	1	Mediomastus ambiseta	1
BR	07OCT2003	B	1	Megalops	1
BR	07OCT2003	B	1	Rhynchocoela (unidentified)	4
BR	07OCT2003	B	1	Streblospio benedicti	15
BR	07OCT2003	B	2	Mediomastus ambiseta	6
BR	07OCT2003	B	2	Phyllodocidae (unidentified)	1
BR	07OCT2003	B	2	Rhynchocoela (unidentified)	1
BR	07OCT2003	B	2	Streblospio benedicti	4
BR	07OCT2003	B	3	Mediomastus ambiseta	4
BR	07OCT2003	B	3	Rhynchocoela (unidentified)	2
BR	07OCT2003	B	3	Streblospio benedicti	7
BR	07OCT2003	C	1	Mulinia lateralis	1
BR	07OCT2003	C	1	Rhynchocoela (unidentified)	1
BR	07OCT2003	C	1	Streblospio benedicti	5
BR	07OCT2003	C	2	Mediomastus ambiseta	1
BR	07OCT2003	C	2	Rhynchocoela (unidentified)	3
BR	07OCT2003	C	2	Streblospio benedicti	3
BR	07OCT2003	C	3	Mediomastus ambiseta	1
BR	07OCT2003	C	3	Rhynchocoela (unidentified)	1

BR	07OCT2003	C	3	Streblospio benedicti	5
RG	24OCT2000	A	1	Chironomid larvae	3
RG	24OCT2000	A	1	Macoma mitchelli	1
RG	24OCT2000	A	1	Mediomastus ambiseta	28
RG	24OCT2000	A	1	Neritina virginea	4
RG	24OCT2000	A	1	Rhynchocoela (unidentified)	6
RG	24OCT2000	A	2	Chironomid larvae	3
RG	24OCT2000	A	2	Macoma mitchelli	3
RG	24OCT2000	A	2	Mediomastus ambiseta	49
RG	24OCT2000	A	2	Mulinia lateralis	2
RG	24OCT2000	A	2	Rhynchocoela (unidentified)	6
RG	24OCT2000	A	2	Streblospio benedicti	1
RG	24OCT2000	A	3	Chironomid larvae	2
RG	24OCT2000	A	3	Macoma mitchelli	2
RG	24OCT2000	A	3	Mediomastus ambiseta	49
RG	24OCT2000	A	3	Mulinia lateralis	2
RG	24OCT2000	A	3	Rhynchocoela (unidentified)	7
RG	24OCT2000	A	3	Streblospio benedicti	1
RG	24OCT2000	A	3	Tellidora cristata	1
RG	24OCT2000	B	1	Laeonereis culveri	1
RG	24OCT2000	B	1	Macoma mitchelli	1
RG	24OCT2000	B	1	Mediomastus ambiseta	14
RG	24OCT2000	B	1	Neritina virginea	2
RG	24OCT2000	B	1	Rhynchocoela (unidentified)	1
RG	24OCT2000	B	1	Streblospio benedicti	1
RG	24OCT2000	B	2	Chironomid larvae	4
RG	24OCT2000	B	2	Laeonereis culveri	1
RG	24OCT2000	B	2	Mediomastus ambiseta	25
RG	24OCT2000	B	2	Neritina virginea	1
RG	24OCT2000	B	2	Rhynchocoela (unidentified)	1
RG	24OCT2000	B	2	Streblospio benedicti	1
RG	24OCT2000	B	3	Macoma mitchelli	1
RG	24OCT2000	B	3	Mediomastus ambiseta	10
RG	24OCT2000	B	3	Mulinia lateralis	2
RG	24OCT2000	B	3	Neritina virginea	2
RG	24OCT2000	B	3	Rhynchocoela (unidentified)	5
RG	24OCT2000	B	3	Streblospio benedicti	2
RG	24OCT2000	C	1	Capitella capitata	1
RG	24OCT2000	C	1	Gammarus mucronatus	1
RG	24OCT2000	C	1	Oligochaetes (unidentified)	1
RG	24OCT2000	C	1	Rhynchocoela (unidentified)	2
RG	24OCT2000	C	1	Streblospio benedicti	16
RG	24OCT2000	C	2	Mediomastus ambiseta	7
RG	24OCT2000	C	2	Oligochaetes (unidentified)	1
RG	24OCT2000	C	2	Pseudodiaptomus pelagicus	1
RG	24OCT2000	C	2	Rhynchocoela (unidentified)	2
RG	24OCT2000	C	2	Streblospio benedicti	106
RG	24OCT2000	C	3	Neritina virginea	1
RG	24OCT2000	C	3	No species observed	0
RG	24OCT2000	C	3	Oligochaetes (unidentified)	1
RG	24OCT2000	C	3	Streblospio benedicti	1
RG	10JAN2001	A	1	Chironomid larvae	7
RG	10JAN2001	A	1	Macoma mitchelli	6
RG	10JAN2001	A	1	Mediomastus ambiseta	48
RG	10JAN2001	A	1	Rhynchocoela (unidentified)	2

RG	10JAN2001	A	2	Chironomid larvae	5
RG	10JAN2001	A	2	Macoma mitchelli	5
RG	10JAN2001	A	2	Macoma tenta	1
RG	10JAN2001	A	2	Mediomastus ambiseta	39
RG	10JAN2001	A	2	Rhynchocoela (unidentified)	3
RG	10JAN2001	A	3	Chironomid larvae	11
RG	10JAN2001	A	3	Macoma mitchelli	5
RG	10JAN2001	A	3	Mediomastus ambiseta	53
RG	10JAN2001	A	3	No species observed	0
RG	10JAN2001	A	3	Rhynchocoela (unidentified)	4
RG	10JAN2001	B	1	Chironomid larvae	8
RG	10JAN2001	B	1	Mediomastus ambiseta	32
RG	10JAN2001	B	1	Neritina virginea	1
RG	10JAN2001	B	1	Rhynchocoela (unidentified)	5
RG	10JAN2001	B	1	Streblospio benedicti	1
RG	10JAN2001	B	2	Chironomid larvae	2
RG	10JAN2001	B	2	Macoma mitchelli	2
RG	10JAN2001	B	2	Mediomastus ambiseta	24
RG	10JAN2001	B	2	Neritina virginea	2
RG	10JAN2001	B	2	Polydora ligni	1
RG	10JAN2001	B	2	Rhynchocoela (unidentified)	1
RG	10JAN2001	B	2	Streblospio benedicti	1
RG	10JAN2001	B	3	Chironomid larvae	3
RG	10JAN2001	B	3	Macoma mitchelli	1
RG	10JAN2001	B	3	Mediomastus ambiseta	17
RG	10JAN2001	B	3	Mulinia lateralis	2
RG	10JAN2001	B	3	No species observed	0
RG	10JAN2001	B	3	Rhynchocoela (unidentified)	2
RG	10JAN2001	B	3	Streblospio benedicti	3
RG	10JAN2001	C	1	Chironomid larvae	4
RG	10JAN2001	C	1	Macoma mitchelli	7
RG	10JAN2001	C	1	Mediomastus ambiseta	54
RG	10JAN2001	C	1	Rhynchocoela (unidentified)	1
RG	10JAN2001	C	1	Streblospio benedicti	6
RG	10JAN2001	C	2	Chironomid larvae	2
RG	10JAN2001	C	2	Gammarus mucronatus	2
RG	10JAN2001	C	2	Grandidierella bonnieroides	1
RG	10JAN2001	C	2	Macoma mitchelli	7
RG	10JAN2001	C	2	Mediomastus ambiseta	66
RG	10JAN2001	C	2	Rhynchocoela (unidentified)	4
RG	10JAN2001	C	2	Streblospio benedicti	9
RG	10JAN2001	C	3	Chironomid larvae	3
RG	10JAN2001	C	3	Corophium louisianum	1
RG	10JAN2001	C	3	Macoma mitchelli	6
RG	10JAN2001	C	3	Mediomastus ambiseta	51
RG	10JAN2001	C	3	Neritina virginea	2
RG	10JAN2001	C	3	Rhynchocoela (unidentified)	3
RG	10JAN2001	C	3	Streblospio benedicti	5
RG	14APR2001	A	1	Chironomid larvae	23
RG	14APR2001	A	1	Mediomastus ambiseta	25
RG	14APR2001	A	1	Mulinia lateralis	1
RG	14APR2001	A	1	Streblospio benedicti	3
RG	14APR2001	A	2	Chironomid larvae	34
RG	14APR2001	A	2	Mediomastus ambiseta	24
RG	14APR2001	A	2	Oligochaetes (unidentified)	3

RG	14APR2001	A	2	Ostracoda (unidentified)	1
RG	14APR2001	A	3	Chironomid larvae	31
RG	14APR2001	A	3	Mediomastus ambiseta	41
RG	14APR2001	A	3	Oligochaetes (unidentified)	1
RG	14APR2001	A	3	Rhynchocoela (unidentified)	4
RG	14APR2001	A	3	Streblospio benedicti	2
RG	14APR2001	B	1	Chironomid larvae	17
RG	14APR2001	B	1	Macoma mitchelli	1
RG	14APR2001	B	1	Mediomastus ambiseta	12
RG	14APR2001	B	1	Oligochaetes (unidentified)	1
RG	14APR2001	B	1	Streblospio benedicti	3
RG	14APR2001	B	2	Chironomid larvae	27
RG	14APR2001	B	2	Mediomastus ambiseta	24
RG	14APR2001	B	2	Oligochaetes (unidentified)	3
RG	14APR2001	B	2	Streblospio benedicti	3
RG	14APR2001	B	3	Chironomid larvae	15
RG	14APR2001	B	3	Mediomastus ambiseta	20
RG	14APR2001	B	3	Mulinia lateralis	1
RG	14APR2001	B	3	Rhynchocoela (unidentified)	2
RG	14APR2001	C	1	Chironomid larvae	20
RG	14APR2001	C	1	Macoma mitchelli	1
RG	14APR2001	C	1	Mediomastus ambiseta	45
RG	14APR2001	C	1	Neritina virginea	1
RG	14APR2001	C	1	Oligochaetes (unidentified)	4
RG	14APR2001	C	1	Rhynchocoela (unidentified)	2
RG	14APR2001	C	1	Streblospio benedicti	17
RG	14APR2001	C	2	Chironomid larvae	12
RG	14APR2001	C	2	Mediomastus ambiseta	24
RG	14APR2001	C	2	Neritina virginea	3
RG	14APR2001	C	2	Oligochaetes (unidentified)	3
RG	14APR2001	C	2	Rhynchocoela (unidentified)	1
RG	14APR2001	C	2	Streblospio benedicti	9
RG	14APR2001	C	3	Chironomid larvae	19
RG	14APR2001	C	3	Macoma mitchelli	1
RG	14APR2001	C	3	Mediomastus ambiseta	26
RG	14APR2001	C	3	Neritina virginea	1
RG	14APR2001	C	3	Rhynchocoela (unidentified)	1
RG	14APR2001	C	3	Streblospio benedicti	4
RG	07JUL2001	A	1	Chironomid larvae	12
RG	07JUL2001	A	1	Mediomastus ambiseta	35
RG	07JUL2001	A	1	Mulinia lateralis	1
RG	07JUL2001	A	1	Oligochaetes (unidentified)	2
RG	07JUL2001	A	1	Rhynchocoela (unidentified)	2
RG	07JUL2001	A	2	Chironomid larvae	3
RG	07JUL2001	A	2	Mediomastus ambiseta	8
RG	07JUL2001	A	2	Mulinia lateralis	1
RG	07JUL2001	A	2	Oligochaetes (unidentified)	12
RG	07JUL2001	A	2	Polydora sp.	4
RG	07JUL2001	A	3	Chironomid larvae	2
RG	07JUL2001	A	3	Mulinia lateralis	1
RG	07JUL2001	A	3	No species observed	0
RG	07JUL2001	A	3	Oligochaetes (unidentified)	1
RG	07JUL2001	A	3	Polydora sp.	7
RG	07JUL2001	B	1	Chironomid larvae	4
RG	07JUL2001	B	1	Mediomastus ambiseta	18

RG	07JUL2001	B	1	Oligochaetes (unidentified)	1
RG	07JUL2001	B	2	Chironomid larvae	4
RG	07JUL2001	B	2	Mediomastus ambiseta	14
RG	07JUL2001	B	2	Neritina virginea	1
RG	07JUL2001	B	2	Oligochaetes (unidentified)	2
RG	07JUL2001	B	3	Chironomid larvae	6
RG	07JUL2001	B	3	Mediomastus ambiseta	14
RG	07JUL2001	B	3	Neritina virginea	3
RG	07JUL2001	C	1	Chironomid larvae	5
RG	07JUL2001	C	1	Mediomastus ambiseta	5
RG	07JUL2001	C	1	Oligochaetes (unidentified)	2
RG	07JUL2001	C	2	Chironomid larvae	1
RG	07JUL2001	C	2	Mediomastus ambiseta	1
RG	07JUL2001	C	2	Rhynchocoela (unidentified)	1
RG	07JUL2001	C	3	Ceratopogonid larvae	1
RG	07JUL2001	C	3	Chironomid larvae	4
RG	07JUL2001	C	3	Laeonereis culveri	1
RG	07JUL2001	C	3	Mediomastus ambiseta	2
RG	07JUL2001	C	3	Rhynchocoela (unidentified)	1
RG	20OCT2001	A	1	Chironomid larvae	6
RG	20OCT2001	A	1	Mediomastus ambiseta	1
RG	20OCT2001	A	1	Mulinia lateralis	1
RG	20OCT2001	A	1	Neritina virginea	1
RG	20OCT2001	A	1	No species observed	0
RG	20OCT2001	A	1	Polydora ligni	1
RG	20OCT2001	A	1	Rhynchocoela (unidentified)	1
RG	20OCT2001	A	1	Streblospio benedicti	24
RG	20OCT2001	A	2	Chironomid larvae	2
RG	20OCT2001	A	2	Polydora ligni	5
RG	20OCT2001	A	2	Rhynchocoela (unidentified)	1
RG	20OCT2001	A	2	Streblospio benedicti	41
RG	20OCT2001	A	3	Chironomid larvae	4
RG	20OCT2001	A	3	No species observed	0
RG	20OCT2001	A	3	Polydora ligni	2
RG	20OCT2001	A	3	Rhynchocoela (unidentified)	1
RG	20OCT2001	A	3	Streblospio benedicti	34
RG	20OCT2001	B	1	Chironomid larvae	5
RG	20OCT2001	B	1	No species observed	0
RG	20OCT2001	B	1	Rhynchocoela (unidentified)	1
RG	20OCT2001	B	1	Streblospio benedicti	15
RG	20OCT2001	B	2	Chironomid larvae	4
RG	20OCT2001	B	2	Mediomastus ambiseta	5
RG	20OCT2001	B	2	Mulinia lateralis	1
RG	20OCT2001	B	2	Neritina virginea	1
RG	20OCT2001	B	2	No species observed	0
RG	20OCT2001	B	2	Rhynchocoela (unidentified)	3
RG	20OCT2001	B	2	Streblospio benedicti	11
RG	20OCT2001	B	3	Chironomid larvae	2
RG	20OCT2001	B	3	Mediomastus ambiseta	1
RG	20OCT2001	B	3	Neritina virginea	1
RG	20OCT2001	B	3	No species observed	0
RG	20OCT2001	B	3	Rhynchocoela (unidentified)	1
RG	20OCT2001	B	3	Streblospio benedicti	16
RG	20OCT2001	C	1	Chironomid larvae	1
RG	20OCT2001	C	1	Mediomastus ambiseta	5

RG	20OCT2001	C	1	Rhynchocoela (unidentified)	1
RG	20OCT2001	C	1	Streblospio benedicti	4
RG	20OCT2001	C	2	Chironomid larvae	1
RG	20OCT2001	C	2	Laeonereis culveri	2
RG	20OCT2001	C	2	Mediomastus ambiseta	5
RG	20OCT2001	C	2	Streblospio benedicti	2
RG	20OCT2001	C	3	Chironomid larvae	1
RG	20OCT2001	C	3	Mediomastus ambiseta	6
RG	20OCT2001	C	3	Rhynchocoela (unidentified)	1
RG	20OCT2001	C	3	Streblospio benedicti	4
RG	21JAN2002	A	1	Chironomid larvae	5
RG	21JAN2002	A	1	Mediomastus ambiseta	1
RG	21JAN2002	A	1	Neritina virginea	1
RG	21JAN2002	A	1	Oligochaetes (unidentified)	4
RG	21JAN2002	A	1	Rhynchocoela (unidentified)	2
RG	21JAN2002	A	1	Streblospio benedicti	12
RG	21JAN2002	A	2	Chironomid larvae	5
RG	21JAN2002	A	2	Laeonereis culveri	1
RG	21JAN2002	A	2	Oligochaetes (unidentified)	5
RG	21JAN2002	A	2	Streblospio benedicti	4
RG	21JAN2002	A	3	No species observed	0
RG	21JAN2002	A	3	Rhynchocoela (unidentified)	2
RG	21JAN2002	A	3	Streblospio benedicti	2
RG	21JAN2002	B	1	Chironomid larvae	39
RG	21JAN2002	B	1	Mediomastus ambiseta	85
RG	21JAN2002	B	1	No species observed	0
RG	21JAN2002	B	1	Oligochaetes (unidentified)	3
RG	21JAN2002	B	1	Rhynchocoela (unidentified)	1
RG	21JAN2002	B	1	Streblospio benedicti	1
RG	21JAN2002	B	2	Chironomid larvae	25
RG	21JAN2002	B	2	Diptera (unidentified)	1
RG	21JAN2002	B	2	Mediomastus ambiseta	44
RG	21JAN2002	B	2	Oligochaetes (unidentified)	2
RG	21JAN2002	B	2	Rhynchocoela (unidentified)	1
RG	21JAN2002	B	2	Streblospio benedicti	1
RG	21JAN2002	B	3	Chironomid larvae	14
RG	21JAN2002	B	3	Corophium louisianum	1
RG	21JAN2002	B	3	Laeonereis culveri	1
RG	21JAN2002	B	3	Mediomastus ambiseta	40
RG	21JAN2002	B	3	Rhynchocoela (unidentified)	1
RG	21JAN2002	B	3	Streblospio benedicti	1
RG	21JAN2002	C	1	Chironomid larvae	61
RG	21JAN2002	C	1	Laeonereis culveri	2
RG	21JAN2002	C	1	Mediomastus ambiseta	26
RG	21JAN2002	C	1	Oligochaetes (unidentified)	4
RG	21JAN2002	C	1	Rhynchocoela (unidentified)	2
RG	21JAN2002	C	1	Streblospio benedicti	1
RG	21JAN2002	C	2	Ceratopogonid larvae	1
RG	21JAN2002	C	2	Chironomid larvae	36
RG	21JAN2002	C	2	Mediomastus ambiseta	24
RG	21JAN2002	C	2	Rhynchocoela (unidentified)	3
RG	21JAN2002	C	2	Streblospio benedicti	2
RG	21JAN2002	C	3	Chironomid larvae	11
RG	21JAN2002	C	3	Corophium louisianum	1
RG	21JAN2002	C	3	Laeonereis culveri	3

RG	21JAN2002	C	3	Mediomastus ambiseta	8
RG	14APR2002	A	1	Chironomid larvae	20
RG	14APR2002	A	1	Mediomastus ambiseta	8
RG	14APR2002	A	1	Neritina virginea	3
RG	14APR2002	A	1	Rhynchocoela (unidentified)	1
RG	14APR2002	A	2	Abra aequalis	1
RG	14APR2002	A	2	Ceratopogonid larvae	3
RG	14APR2002	A	2	Chironomid larvae	100
RG	14APR2002	A	2	Mediomastus ambiseta	6
RG	14APR2002	A	2	Neritina virginea	1
RG	14APR2002	A	2	Rhynchocoela (unidentified)	1
RG	14APR2002	A	3	Ceratopogonid larvae	1
RG	14APR2002	A	3	Chironomid larvae	56
RG	14APR2002	A	3	Mediomastus ambiseta	9
RG	14APR2002	A	3	No species observed	0
RG	14APR2002	A	3	Rhynchocoela (unidentified)	1
RG	14APR2002	B	1	Chironomid larvae	148
RG	14APR2002	B	1	Mediomastus ambiseta	37
RG	14APR2002	B	1	Rhynchocoela (unidentified)	4
RG	14APR2002	B	1	Streblospio benedicti	2
RG	14APR2002	B	2	Chironomid larvae	170
RG	14APR2002	B	2	Mediomastus ambiseta	30
RG	14APR2002	B	2	Rhynchocoela (unidentified)	2
RG	14APR2002	B	3	Ceratopogonid larvae	1
RG	14APR2002	B	3	Chironomid larvae	101
RG	14APR2002	B	3	Laeonereis culveri	1
RG	14APR2002	B	3	Mediomastus ambiseta	31
RG	14APR2002	B	3	Neritina virginea	3
RG	14APR2002	B	3	Oligochaetes (unidentified)	2
RG	14APR2002	B	3	Rhynchocoela (unidentified)	2
RG	14APR2002	B	3	Streblospio benedicti	1
RG	14APR2002	C	1	Chironomid larvae	10
RG	14APR2002	C	1	Mediomastus ambiseta	6
RG	14APR2002	C	1	Mysidopsis almyra	1
RG	14APR2002	C	1	Oligochaetes (unidentified)	5
RG	14APR2002	C	1	Streblospio benedicti	10
RG	14APR2002	C	2	Ceratopogonid larvae	1
RG	14APR2002	C	2	Chironomid larvae	17
RG	14APR2002	C	2	Mediomastus ambiseta	2
RG	14APR2002	C	2	Mysidopsis almyra	2
RG	14APR2002	C	2	Oligochaetes (unidentified)	2
RG	14APR2002	C	2	Rhynchocoela (unidentified)	2
RG	14APR2002	C	2	Streblospio benedicti	1
RG	14APR2002	C	3	Chironomid larvae	12
RG	14APR2002	C	3	Oligochaetes (unidentified)	2
RG	14APR2002	C	3	Streblospio benedicti	5
RG	09JUL2002	A	1	Ceratopogonid larvae	4
RG	09JUL2002	A	1	Chironomid larvae	88
RG	09JUL2002	A	1	Damselfly numphs	1
RG	09JUL2002	A	1	No species observed	0
RG	09JUL2002	A	1	Oligochaetes (unidentified)	21
RG	09JUL2002	A	2	Ceratopogonid larvae	2
RG	09JUL2002	A	2	Chironomid larvae	97
RG	09JUL2002	A	2	Ilyocryptus spinifer	3
RG	09JUL2002	A	2	Mediomastus ambiseta	1

RG	09JUL2002	A	2	Oligochaetes (unidentified)	82
RG	09JUL2002	A	2	Polydora socialis	1
RG	09JUL2002	A	3	Chironomid larvae	104
RG	09JUL2002	A	3	Oligochaetes (unidentified)	45
RG	09JUL2002	A	3	Pelecypoda (unidentified)	2
RG	09JUL2002	A	3	Polydora socialis	1
RG	09JUL2002	B	1	Chironomid larvae	146
RG	09JUL2002	B	1	Ilyocryptus spinifer	6
RG	09JUL2002	B	1	Oligochaetes (unidentified)	35
RG	09JUL2002	B	1	Rhynchocoela (unidentified)	3
RG	09JUL2002	B	2	Ceratopogonid larvae	1
RG	09JUL2002	B	2	Chironomid larvae	174
RG	09JUL2002	B	2	Ilyocryptus spinifer	5
RG	09JUL2002	B	2	No species observed	0
RG	09JUL2002	B	2	Oligochaetes (unidentified)	38
RG	09JUL2002	B	2	Pelecypoda (unidentified)	1
RG	09JUL2002	B	2	Rhynchocoela (unidentified)	4
RG	09JUL2002	B	3	Ceratopogonid larvae	1
RG	09JUL2002	B	3	Chironomid larvae	142
RG	09JUL2002	B	3	Ilyocryptus spinifer	3
RG	09JUL2002	B	3	Oligochaetes (unidentified)	48
RG	09JUL2002	B	3	Rhynchocoela (unidentified)	4
RG	09JUL2002	D	1	Ceratopogonid larvae	1
RG	09JUL2002	D	1	Chironomid larvae	80
RG	09JUL2002	D	1	Laeonereis culveri	1
RG	09JUL2002	D	1	Rhynchocoela (unidentified)	1
RG	09JUL2002	D	2	Chironomid larvae	95
RG	09JUL2002	D	2	Mediomastus ambiseta	1
RG	09JUL2002	D	2	Nereidae (unidentified)	1
RG	09JUL2002	D	2	Rhynchocoela (unidentified)	1
RG	09JUL2002	D	3	Chironomid larvae	76
RG	09JUL2002	D	3	Oligochaetes (unidentified)	1
RG	09JUL2002	D	3	Rhynchocoela (unidentified)	1
RG	19OCT2002	A	1	Chironomid larvae	6
RG	19OCT2002	A	1	Ilyocryptus spinifer	3
RG	19OCT2002	A	1	Penaeus setiferus	1
RG	19OCT2002	A	1	Potamanthidae (unidentified)	19
RG	19OCT2002	A	2	Ceratopogonid larvae	1
RG	19OCT2002	A	2	Chironomid larvae	9
RG	19OCT2002	A	2	Mulinia lateralis	1
RG	19OCT2002	A	2	Oligochaetes (unidentified)	6
RG	19OCT2002	A	2	Potamanthidae (unidentified)	20
RG	19OCT2002	A	2	Rhynchocoela (unidentified)	2
RG	19OCT2002	A	3	Ceratopogonid larvae	1
RG	19OCT2002	A	3	Chironomid larvae	11
RG	19OCT2002	A	3	Munnidae sp.	1
RG	19OCT2002	A	3	Oligochaetes (unidentified)	1
RG	19OCT2002	A	3	Potamanthidae (unidentified)	19
RG	19OCT2002	A	3	Rhynchocoela (unidentified)	1
RG	19OCT2002	B	1	Chironomid larvae	7
RG	19OCT2002	B	1	Potamanthidae (unidentified)	4
RG	19OCT2002	B	2	Ceratopogonid larvae	2
RG	19OCT2002	B	2	Chironomid larvae	3
RG	19OCT2002	B	2	Potamanthidae (unidentified)	2
RG	19OCT2002	B	3	Chironomid larvae	8

RG	19OCT2002	B	3	Potamanthidae (unidentified)	4
RG	19OCT2002	C	1	Mediomastus ambiseta	1
RG	19OCT2002	C	1	No species observed	0
RG	19OCT2002	C	2	No species observed	0
RG	19OCT2002	C	3	No species observed	0
RG	19OCT2002	D	1	Ceratopogonid larvae	2
RG	19OCT2002	D	1	Chironomid larvae	11
RG	19OCT2002	D	1	Laeonereis culveri	4
RG	19OCT2002	D	2	Ceratopogonid larvae	5
RG	19OCT2002	D	2	Chironomid larvae	7
RG	19OCT2002	D	2	Laeonereis culveri	4
RG	19OCT2002	D	3	Ceratopogonid larvae	2
RG	19OCT2002	D	3	Chironomid larvae	4
RG	19OCT2002	D	3	Laeonereis culveri	8
RG	19OCT2002	D	3	Polydora ligni	5
RG	19OCT2002	D	3	Rhynchocoela (unidentified)	1
RG	19OCT2002	E	1	Mediomastus ambiseta	1
RG	19OCT2002	E	1	Rhynchocoela (unidentified)	2
RG	19OCT2002	E	1	Streblospio benedicti	1
RG	19OCT2002	E	2	No species observed	0
RG	19OCT2002	E	2	Rhynchocoela (unidentified)	1
RG	19OCT2002	E	2	Streblospio benedicti	1
RG	19OCT2002	E	3	No species observed	0
RG	19OCT2002	E	3	Streblospio benedicti	2
RG	10JAN2003	A	1	Ceratopogonid larvae	1
RG	10JAN2003	A	1	Chironomid larvae	35
RG	10JAN2003	A	1	No species observed	0
RG	10JAN2003	A	1	Rhynchocoela (unidentified)	1
RG	10JAN2003	A	2	Chironomid larvae	38
RG	10JAN2003	A	2	No species observed	0
RG	10JAN2003	A	3	Ceratopogonid larvae	5
RG	10JAN2003	A	3	Chironomid larvae	16
RG	10JAN2003	A	3	No species observed	0
RG	10JAN2003	A	3	Rhynchocoela (unidentified)	1
RG	10JAN2003	B	1	Ceratopogonid larvae	1
RG	10JAN2003	B	1	Chironomid larvae	6
RG	10JAN2003	B	1	No species observed	0
RG	10JAN2003	B	2	Chironomid larvae	12
RG	10JAN2003	B	2	No species observed	0
RG	10JAN2003	B	3	Chironomid larvae	3
RG	10JAN2003	B	3	No species observed	0
RG	10JAN2003	B	3	Streblospio benedicti	1
RG	10JAN2003	C	1	Mediomastus ambiseta	1
RG	10JAN2003	C	1	No species observed	0
RG	10JAN2003	C	1	Polydora sp.	3
RG	10JAN2003	C	1	Streblospio benedicti	1
RG	10JAN2003	C	2	Polydora sp.	3
RG	10JAN2003	C	2	Rangia flexuosa	1
RG	10JAN2003	C	3	No species observed	0
RG	10JAN2003	C	3	Polydora sp.	1
RG	10JAN2003	D	1	No species observed	0
RG	10JAN2003	D	2	Laeonereis culveri	1
RG	10JAN2003	D	2	Rhynchocoela (unidentified)	1
RG	10JAN2003	D	3	No species observed	0
RG	10JAN2003	D	3	Streblospio benedicti	1

RG	10JAN2003	E	1	Mediomastus ambiseta	1
RG	10JAN2003	E	1	Polydora ligni	5
RG	10JAN2003	E	1	Streblospio benedicti	2
RG	10JAN2003	E	2	Neritina virginea	1
RG	10JAN2003	E	2	No species observed	0
RG	10JAN2003	E	2	Polydora ligni	4
RG	10JAN2003	E	2	Streblospio benedicti	3
RG	10JAN2003	E	3	No species observed	0
RG	10JAN2003	E	3	Rhynchocoela (unidentified)	1
RG	05APR2003	A	1	Ceratopogonid larvae	1
RG	05APR2003	A	1	Chironomid larvae	104
RG	05APR2003	A	1	No species observed	0
RG	05APR2003	A	1	Polydora ligni	9
RG	05APR2003	A	2	Chironomid larvae	103
RG	05APR2003	A	2	Laeonereis culveri	1
RG	05APR2003	A	2	Oligochaetes (unidentified)	1
RG	05APR2003	A	2	Polydora ligni	2
RG	05APR2003	A	2	Rhynchocoela (unidentified)	2
RG	05APR2003	A	3	Ceratopogonid larvae	2
RG	05APR2003	A	3	Chironomid larvae	150
RG	05APR2003	A	3	No species observed	0
RG	05APR2003	A	3	Oligochaetes (unidentified)	2
RG	05APR2003	A	3	Ostracoda (unidentified)	1
RG	05APR2003	A	3	Polydora ligni	10
RG	05APR2003	A	3	Streblospio benedicti	1
RG	05APR2003	B	1	Ceratopogonid larvae	1
RG	05APR2003	B	1	Chironomid larvae	46
RG	05APR2003	B	1	No species observed	0
RG	05APR2003	B	1	Streblospio benedicti	3
RG	05APR2003	B	2	Chironomid larvae	36
RG	05APR2003	B	2	No species observed	0
RG	05APR2003	B	2	Ostracoda (unidentified)	1
RG	05APR2003	B	2	Streblospio benedicti	2
RG	05APR2003	B	3	Chironomid larvae	46
RG	05APR2003	B	3	Polydora ligni	1
RG	05APR2003	C	1	Ceratopogonid larvae	1
RG	05APR2003	C	1	Chironomid larvae	6
RG	05APR2003	C	1	Heteromastus filiformis	1
RG	05APR2003	C	1	Laeonereis culveri	1
RG	05APR2003	C	1	Mediomastus ambiseta	2
RG	05APR2003	C	1	Oligochaetes (unidentified)	1
RG	05APR2003	C	1	Polydora ligni	2
RG	05APR2003	C	1	Rhynchocoela (unidentified)	1
RG	05APR2003	C	1	Streblospio benedicti	9
RG	05APR2003	C	2	Chironomid larvae	2
RG	05APR2003	C	2	Heteromastus filiformis	1
RG	05APR2003	C	2	Mediomastus ambiseta	3
RG	05APR2003	C	2	Oligochaetes (unidentified)	2
RG	05APR2003	C	2	Polydora ligni	2
RG	05APR2003	C	2	Rhynchocoela (unidentified)	2
RG	05APR2003	C	2	Streblospio benedicti	19
RG	05APR2003	C	3	Chironomid larvae	1
RG	05APR2003	C	3	Laeonereis culveri	1
RG	05APR2003	C	3	Mediomastus ambiseta	2
RG	05APR2003	C	3	Oligochaetes (unidentified)	1

RG	05APR2003	C	3	Polydora ligni	1
RG	05APR2003	C	3	Streblospio benedicti	12
RG	05APR2003	D	1	Ceratopogonid larvae	4
RG	05APR2003	D	1	Chironomid larvae	10
RG	05APR2003	D	1	Corophium louisianum	4
RG	05APR2003	D	1	Exogone sp.	2
RG	05APR2003	D	1	Laeonereis culveri	12
RG	05APR2003	D	1	Mediomastus ambiseta	1
RG	05APR2003	D	1	Neritina virginea	10
RG	05APR2003	D	1	Oligochaetes (unidentified)	29
RG	05APR2003	D	1	Polydora ligni	55
RG	05APR2003	D	1	Rhynchocoela (unidentified)	10
RG	05APR2003	D	1	Sabellidae (unidentified)	1
RG	05APR2003	D	1	Streblospio benedicti	72
RG	05APR2003	D	2	Chironomid larvae	9
RG	05APR2003	D	2	Ilyocryptus spinifer	1
RG	05APR2003	D	2	Laeonereis culveri	22
RG	05APR2003	D	2	Littoridina sphinctostoma	1
RG	05APR2003	D	2	Mediomastus ambiseta	3
RG	05APR2003	D	2	Neritina virginea	6
RG	05APR2003	D	2	Oligochaetes (unidentified)	34
RG	05APR2003	D	2	Polydora ligni	26
RG	05APR2003	D	2	Rhynchocoela (unidentified)	4
RG	05APR2003	D	2	Streblospio benedicti	59
RG	05APR2003	D	3	Capitellidae (unidentified)	1
RG	05APR2003	D	3	Ceratopogonid larvae	2
RG	05APR2003	D	3	Chironomid larvae	7
RG	05APR2003	D	3	Corophium louisianum	2
RG	05APR2003	D	3	Laeonereis culveri	17
RG	05APR2003	D	3	Mediomastus ambiseta	4
RG	05APR2003	D	3	Mulinia lateralis	1
RG	05APR2003	D	3	Neritina virginea	1
RG	05APR2003	D	3	Nudibranchia (unidentified)	2
RG	05APR2003	D	3	Oligochaetes (unidentified)	15
RG	05APR2003	D	3	Polydora ligni	24
RG	05APR2003	D	3	Rhynchocoela (unidentified)	7
RG	05APR2003	D	3	Streblospio benedicti	47
RG	05APR2003	E	1	Laeonereis culveri	2
RG	05APR2003	E	1	Littoridina sphinctostoma	1
RG	05APR2003	E	1	Mediomastus ambiseta	1
RG	05APR2003	E	1	Oligochaetes (unidentified)	5
RG	05APR2003	E	1	Rhynchocoela (unidentified)	2
RG	05APR2003	E	1	Streblospio benedicti	28
RG	05APR2003	E	2	Laeonereis culveri	1
RG	05APR2003	E	2	Mediomastus ambiseta	3
RG	05APR2003	E	2	Mulinia lateralis	1
RG	05APR2003	E	2	Streblospio benedicti	23
RG	05APR2003	E	2	Tagelus plebeius	1
RG	05APR2003	E	3	Ceratopogonid larvae	2
RG	05APR2003	E	3	Laeonereis culveri	1
RG	05APR2003	E	3	Mediomastus ambiseta	1
RG	05APR2003	E	3	Neritina virginea	2
RG	05APR2003	E	3	Potamanthidae (unidentified)	2
RG	05APR2003	E	3	Rhynchocoela (unidentified)	3
RG	05APR2003	E	3	Samythella eliasoni	1

RG	05APR2003	E	3	Streblospio benedicti	17
RG	11JUL2003	A	1	Brachidontes exustus	8
RG	11JUL2003	A	1	Ceratopogonid larvae	6
RG	11JUL2003	A	1	Chironomid larvae	4
RG	11JUL2003	A	1	Laeonereis culveri	2
RG	11JUL2003	A	1	Mediomastus ambiseta	1
RG	11JUL2003	A	1	Mulinia lateralis	4
RG	11JUL2003	A	1	Ostracoda (unidentified)	4
RG	11JUL2003	A	1	Pelecypoda (unidentified)	2
RG	11JUL2003	A	1	Rhynchocoela (unidentified)	1
RG	11JUL2003	A	1	Streblospio benedicti	4
RG	11JUL2003	A	2	Brachidontes exustus	5
RG	11JUL2003	A	2	Ceratopogonid larvae	7
RG	11JUL2003	A	2	Chironomid larvae	4
RG	11JUL2003	A	2	Mulinia lateralis	2
RG	11JUL2003	A	2	No species observed	0
RG	11JUL2003	A	3	Brachidontes exustus	12
RG	11JUL2003	A	3	Ceratopogonid larvae	11
RG	11JUL2003	A	3	Chironomid larvae	2
RG	11JUL2003	A	3	Laeonereis culveri	2
RG	11JUL2003	A	3	Mediomastus ambiseta	1
RG	11JUL2003	A	3	No species observed	0
RG	11JUL2003	A	3	Ostracoda (unidentified)	3
RG	11JUL2003	A	3	Pelecypoda (unidentified)	2
RG	11JUL2003	A	3	Rhynchocoela (unidentified)	2
RG	11JUL2003	A	3	Streblospio benedicti	1
RG	11JUL2003	B	1	Brachidontes exustus	10
RG	11JUL2003	B	1	Ceratopogonid larvae	2
RG	11JUL2003	B	1	Chironomid larvae	15
RG	11JUL2003	B	1	Corophium louisianum	53
RG	11JUL2003	B	1	Mediomastus ambiseta	5
RG	11JUL2003	B	1	Mulinia lateralis	2
RG	11JUL2003	B	1	Neritina virginea	1
RG	11JUL2003	B	1	Pelecypoda (unidentified)	1
RG	11JUL2003	B	1	Rhynchocoela (unidentified)	3
RG	11JUL2003	B	1	Streblospio benedicti	2
RG	11JUL2003	B	2	Brachidontes exustus	5
RG	11JUL2003	B	2	Ceratopogonid larvae	1
RG	11JUL2003	B	2	Chironomid larvae	15
RG	11JUL2003	B	2	Corophium louisianum	25
RG	11JUL2003	B	2	Laeonereis culveri	1
RG	11JUL2003	B	2	Littoridina sphinctostoma	1
RG	11JUL2003	B	2	Mediomastus ambiseta	6
RG	11JUL2003	B	2	Mulinia lateralis	1
RG	11JUL2003	B	2	Ostracoda (unidentified)	1
RG	11JUL2003	B	2	Pelecypoda (unidentified)	1
RG	11JUL2003	B	2	Rhynchocoela (unidentified)	2
RG	11JUL2003	B	3	Brachidontes exustus	17
RG	11JUL2003	B	3	Ceratopogonid larvae	2
RG	11JUL2003	B	3	Chironomid larvae	54
RG	11JUL2003	B	3	Corophium louisianum	86
RG	11JUL2003	B	3	Macoma mitchelli	3
RG	11JUL2003	B	3	Mediomastus ambiseta	4
RG	11JUL2003	B	3	Mulinia lateralis	2
RG	11JUL2003	B	3	Pelecypoda (unidentified)	1

RG	11JUL2003	B	3	Rhynchocoela (unidentified)	3
RG	11JUL2003	C	1	Chironomid larvae	1
RG	11JUL2003	C	1	Macoma mitchelli	1
RG	11JUL2003	C	1	Mediomastus ambiseta	123
RG	11JUL2003	C	1	Mulinia lateralis	1
RG	11JUL2003	C	1	Rhynchocoela (unidentified)	2
RG	11JUL2003	C	1	Streblospio benedicti	2
RG	11JUL2003	C	2	Chironomid larvae	4
RG	11JUL2003	C	2	Laeonereis culveri	1
RG	11JUL2003	C	2	Littoridina sphinctostoma	2
RG	11JUL2003	C	2	Macoma mitchelli	1
RG	11JUL2003	C	2	Mediomastus ambiseta	145
RG	11JUL2003	C	2	Mulinia lateralis	3
RG	11JUL2003	C	2	Rhynchocoela (unidentified)	4
RG	11JUL2003	C	2	Streblospio benedicti	3
RG	11JUL2003	C	3	Chironomid larvae	2
RG	11JUL2003	C	3	Macoma mitchelli	1
RG	11JUL2003	C	3	Mediomastus ambiseta	112
RG	11JUL2003	C	3	Rhynchocoela (unidentified)	4
RG	11JUL2003	C	3	Streblospio benedicti	1
RG	11JUL2003	D	1	Chironomid larvae	5
RG	11JUL2003	D	1	Laeonereis culveri	2
RG	11JUL2003	D	1	Macoma mitchelli	5
RG	11JUL2003	D	1	Mediomastus ambiseta	45
RG	11JUL2003	D	1	Mulinia lateralis	2
RG	11JUL2003	D	1	Neritina virginea	5
RG	11JUL2003	D	1	Rhynchocoela (unidentified)	5
RG	11JUL2003	D	1	Streblospio benedicti	1
RG	11JUL2003	D	2	Chironomid larvae	3
RG	11JUL2003	D	2	Laeonereis culveri	1
RG	11JUL2003	D	2	Macoma mitchelli	2
RG	11JUL2003	D	2	Mediomastus ambiseta	74
RG	11JUL2003	D	2	Neritina virginea	7
RG	11JUL2003	D	2	Rhynchocoela (unidentified)	2
RG	11JUL2003	D	3	Chironomid larvae	15
RG	11JUL2003	D	3	Macoma mitchelli	1
RG	11JUL2003	D	3	Mediomastus ambiseta	34
RG	11JUL2003	D	3	Mulinia lateralis	4
RG	11JUL2003	D	3	Neritina virginea	3
RG	11JUL2003	D	3	Rhynchocoela (unidentified)	1
RG	11JUL2003	D	3	Streblospio benedicti	2
RG	11JUL2003	E	1	Chironomid larvae	3
RG	11JUL2003	E	1	Mediomastus ambiseta	21
RG	11JUL2003	E	1	Neritina virginea	5
RG	11JUL2003	E	1	Rhynchocoela (unidentified)	4
RG	11JUL2003	E	1	Streblospio benedicti	3
RG	11JUL2003	E	2	Chironomid larvae	1
RG	11JUL2003	E	2	Mediomastus ambiseta	16
RG	11JUL2003	E	2	Neritina virginea	2
RG	11JUL2003	E	2	Streblospio benedicti	3
RG	11JUL2003	E	3	Mediomastus ambiseta	7
RG	11JUL2003	E	3	Neritina virginea	4
RG	11JUL2003	E	3	No species observed	0
RG	11JUL2003	E	3	Streblospio benedicti	1
SB	16OCT2002	A	1	Mediomastus ambiseta	7

SB	16OCT2002	A	1	Nereidae (unidentified)	1
SB	16OCT2002	A	1	Paraprionospio pinnata	1
SB	16OCT2002	A	1	Streblospio benedicti	4
SB	16OCT2002	A	2	Mediomastus ambiseta	5
SB	16OCT2002	A	2	Streblospio benedicti	3
SB	16OCT2002	A	3	Mediomastus ambiseta	4
SB	16OCT2002	A	3	Rhynchocoela (unidentified)	1
SB	16OCT2002	A	3	Streblospio benedicti	2
SB	16OCT2002	B	1	Mediomastus ambiseta	11
SB	16OCT2002	B	1	Microphthalmus abberrans	1
SB	16OCT2002	B	1	Streblospio benedicti	4
SB	16OCT2002	B	2	Mediomastus ambiseta	6
SB	16OCT2002	B	2	Streblospio benedicti	2
SB	16OCT2002	B	3	Mediomastus ambiseta	7
SB	16OCT2002	B	3	Streblospio benedicti	1
SB	08JAN2003	A	1	Mediomastus ambiseta	6
SB	08JAN2003	A	1	Oligochaetes (unidentified)	7
SB	08JAN2003	A	1	Streblospio benedicti	4
SB	08JAN2003	A	2	Chironomid larvae	4
SB	08JAN2003	A	2	Mediomastus ambiseta	11
SB	08JAN2003	A	2	Oligochaetes (unidentified)	11
SB	08JAN2003	A	2	Streblospio benedicti	3
SB	08JAN2003	A	3	Chironomid larvae	2
SB	08JAN2003	A	3	Mediomastus ambiseta	13
SB	08JAN2003	A	3	Oligochaetes (unidentified)	13
SB	08JAN2003	A	3	Polydora ligni	1
SB	08JAN2003	A	3	Streblospio benedicti	5
SB	08JAN2003	B	1	Chironomid larvae	1
SB	08JAN2003	B	1	Edotea montosa	1
SB	08JAN2003	B	1	Mediomastus ambiseta	9
SB	08JAN2003	B	1	Oligochaetes (unidentified)	22
SB	08JAN2003	B	1	Streblospio benedicti	2
SB	08JAN2003	B	2	Heteromastus filiformis	1
SB	08JAN2003	B	2	Mediomastus ambiseta	6
SB	08JAN2003	B	2	Oligochaetes (unidentified)	3
SB	08JAN2003	B	2	Polydora ligni	1
SB	08JAN2003	B	2	Streblospio benedicti	1
SB	08JAN2003	B	3	Capitella capitata	1
SB	08JAN2003	B	3	Chironomid larvae	2
SB	08JAN2003	B	3	Mediomastus ambiseta	9
SB	08JAN2003	B	3	Microphthalmus abberrans	1
SB	08JAN2003	B	3	Oligochaetes (unidentified)	17
SB	08JAN2003	B	3	Streblospio benedicti	2
SB	09APR2003	A	1	Chironomid larvae	1
SB	09APR2003	A	1	Mediomastus ambiseta	8
SB	09APR2003	A	1	Oligochaetes (unidentified)	1
SB	09APR2003	A	1	Streblospio benedicti	6
SB	09APR2003	A	2	Chironomid larvae	1
SB	09APR2003	A	2	Heteromastus filiformis	1
SB	09APR2003	A	2	Hobsonia florida	1
SB	09APR2003	A	2	Mediomastus ambiseta	10
SB	09APR2003	A	2	Ostracoda (unidentified)	1
SB	09APR2003	A	2	Streblospio benedicti	3
SB	09APR2003	A	3	Chironomid larvae	1
SB	09APR2003	A	3	Mediomastus ambiseta	11

SB	09APR2003	A	3	Ostracoda (unidentified)	1
SB	09APR2003	A	3	Polydora ligni	2
SB	09APR2003	A	3	Streblospio benedicti	7
SB	09APR2003	B	1	Capitella capitata	1
SB	09APR2003	B	1	Mediomastus ambiseta	12
SB	09APR2003	B	1	Streblospio benedicti	2
SB	09APR2003	B	2	Capitella capitata	1
SB	09APR2003	B	2	Mediomastus ambiseta	12
SB	09APR2003	B	2	Microphthalmus abberrans	1
SB	09APR2003	B	2	Streblospio benedicti	2
SB	09APR2003	B	3	Capitella capitata	1
SB	09APR2003	B	3	Mediomastus ambiseta	11
SB	09APR2003	B	3	Microphthalmus abberrans	1
SB	09APR2003	B	3	Polydora ligni	1
SB	09APR2003	B	3	Streblospio benedicti	1
SB	01JUL2003	A	1	Mediomastus ambiseta	12
SB	01JUL2003	A	1	Streblospio benedicti	8
SB	01JUL2003	A	2	Chironomid larvae	3
SB	01JUL2003	A	2	Mediomastus ambiseta	9
SB	01JUL2003	A	2	Streblospio benedicti	3
SB	01JUL2003	A	3	Chironomid larvae	1
SB	01JUL2003	A	3	Mediomastus ambiseta	17
SB	01JUL2003	A	3	Streblospio benedicti	6
SB	01JUL2003	B	1	Capitella capitata	2
SB	01JUL2003	B	1	Malacoceros indicus	1
SB	01JUL2003	B	1	Mediomastus ambiseta	17
SB	01JUL2003	B	1	Microphthalmus abberrans	2
SB	01JUL2003	B	1	Rhynchocoela (unidentified)	1
SB	01JUL2003	B	1	Streblospio benedicti	13
SB	01JUL2003	B	2	Mediomastus ambiseta	8
SB	01JUL2003	B	2	Streblospio benedicti	2
SB	01JUL2003	B	3	Capitella capitata	1
SB	01JUL2003	B	3	Mediomastus ambiseta	9
SB	01JUL2003	B	3	Microphthalmus abberrans	1
SB	01JUL2003	B	3	Streblospio benedicti	11
SB	14OCT2003	A	1	Mediomastus ambiseta	13
SB	14OCT2003	A	1	Streblospio benedicti	10
SB	14OCT2003	A	2	Mediomastus ambiseta	12
SB	14OCT2003	A	2	Streblospio benedicti	2
SB	14OCT2003	A	3	Mediomastus ambiseta	9
SB	14OCT2003	A	3	Oligochaetes (unidentified)	1
SB	14OCT2003	A	3	Streblospio benedicti	3
SB	14OCT2003	B	1	Mediomastus ambiseta	11
SB	14OCT2003	B	1	Parandalia ocularis	1
SB	14OCT2003	B	1	Streblospio benedicti	1
SB	14OCT2003	B	2	Hirudinea (unidentified)	1
SB	14OCT2003	B	2	Laeonereis culveri	1
SB	14OCT2003	B	2	Mediomastus ambiseta	24
SB	14OCT2003	B	2	Streblospio benedicti	4
SB	14OCT2003	B	3	Mediomastus ambiseta	13
SB	14OCT2003	B	3	Mulinia lateralis	1
SB	14OCT2003	B	3	Streblospio benedicti	2

TWDB REVIEW

As required by contract, the Texas Water Development Board review is attached to the following pages.

Paul Montagna

TEXAS WATER DEVELOPMENT BOARD

January 13, 2004

RECEIVED
JAN 2 6 '04
Office of Sponsored Projects

Mr. Bobby McQuiston, Director
Office of Sponsored Projects
The University of Texas at Austin
Austin, Texas 78713-7726

Re: Research Grant Contract between the University of Texas at Austin, Marine Science Institute (UTMSI) and the Texas Water Development Board (Board), Contract No. 2003-483-471, Draft Report Entitled "Effect of Freshwater Inflow on Macrobenthos Productivity in Minor Bay and River-Dominated Estuaries – FY03"

Dear Mr. McQuiston:

Staff members of the Texas Water Development Board have completed a review of the draft report under TWDB Contract No. 2003-483-471. As stated in the above referenced contract, UTMSI will consider incorporating comments from the EXECUTIVE ADMINISTRATOR shown in Attachment 1 and other commentors on the draft final report into a final report. UTMSI must include a copy of the EXECUTIVE ADMINISTRATOR's comments in the final report.

The Board looks forward to receiving one (1) electronic copy, one (1) unbound single-sided camera-ready original, and nine (9) bound double-sided copies of the final report on this planning project.

If you have any questions about this contract, please contact Dr. David Brock, the Board's Contract Manager, at (512) 936-0819.

Sincerely,

[redacted]

William F. Mullican, III
Deputy Executive Administrator
Office of Planning

c: David Brock, TWDB

ATTACHMENT 1

Contract Number 2003-483-471
Texas Water Development Board Comments on
Draft Final Report entitled
"Effect of Freshwater Inflow on Macrobenthos Productivity
in Minor Bay and River-Dominated Estuaries – FY03"

Paul Montagna and UTMSI conducted the third year of a five-year study as anticipated. Samples were taken as required. The data represents an enormous effort and is of excellent quality. The report certainly better helps understand the effects of freshwater inflows on these types of systems.

The following comments suggest where editorial corrections or clarifications could improve the document:

Page 5, top line - The second Station "B" listed, should probably be station "A".

Page 10, Figure 1 - Show Station "D" on the Rio Grande. Although Station D is apparently close to (within 100 meters) Station "C," showing both stations indicates there are actually four stations in the river.

Brazos and Rio Grande

Page 14 - It might be pertinent to note that both molluscan dominance and at least some of the molluscan species present in the benthic community in the Rio Grande, such as *Macoma mitchelli* and *Rangia flexuosa*, indicate the fauna contains species responsive to inflow.

Page 14, last sentence - Salinity data taken in the Rio Grande prior to 2001 would help support the statement that the Rio Grande is "changing from an estuarine ecosystem to a freshwater ecosystem." The statement is probably true; however, salinity data collected since 2001 doesn't show "a change" but rather shows consistently fresh to brackish conditions.

Page 18 - *Littoridina sphinctostoma* should be *Texadina sphinctostoma* (Abbott and Ladd, 1951).

San Bernard River and Cedar Lakes

Page 20, second paragraph, first sentence - remove "have Brazos".

Page 21, first sentence - change "on hand" to "on the one hand".

Page 21 - *Mediomastus filiformis* should be *M. ambiseta*

Page 21 - The text makes it sound like the polychaete faunas were completely different, whereas both of the dominant polychaetes are relatively abundant in both systems.

Christmas Bay

Page 27, top paragraph - reference is made to lower than expected temperatures in April. A check of TCEQ data (to be forwarded to the PI separately) does not show that this is true for all April monitoring data. It is possible that a northerly wind event could have reduced temperatures on the day of data collection. The text should be modified so it doesn't imply we had a cold April.

Page 30, Fig. 11 - The figure is mislabeled. Only the top graph is "Biomass and Abundance." The bottom graph is of the hydrographic parameters in the bay, also shown on Page 31 in Figure 12 and on Page 29 in Figure 10.

Page 43 - Sediment Composition. Station "A" rather than Station "C" had the highest rubble and clay content.