

**EFFECT OF FRESHWATER INFLOW ON  
MACROBENTHOS PRODUCTIVITY IN MINOR  
BAY AND RIVER-DOMINATED ESTUARIES -  
FY02**

Paul A. Montagna, Principal Investigator  
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FINAL REPORT

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MACROBENTHOS PRODUCTIVITY  
IN MINOR BAY AND RIVER-DOMINATED ESTUARIES  
FY02**

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## PREFACE

This final report is written to complete the second 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 South 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 2-year study of Christmas Bay Coastal Preserve. 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: 2002-483-414.

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 and South Bay.

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 from 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 (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. Currently, there is very little information available on the biotic response to inflow in these two types of ecosystems. The TWDB will be required to complete freshwater inflow assessments on minor bays and river estuaries between the years 2002 and 2006. The assessment in 2003 will be for South Bay Coastal Preserve so this system is the focus of the current final report (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), initiate a 2-year study of Christmas Bay Coastal Preserve, and complete a study of South Bay Coastal Preserve.

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)	2 (24)		
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)	12 (144)	10 (120)	10 (120)

## METHODS

### *Study Design and Area*

This study has one objective (i.e., task): to determine temporal and spatial variability of benthic parameters, as they indicate productivity, related to differences of freshwater inflow in minor bays and river-dominated estuaries. Northern and southern systems were studied in the second year of this program (Table 1). The southern system was South Bay Coastal Preserve and the Rio Grande, and the northern system was the Brazos River and Christmas Bay Coastal Preserve. South Bay Coastal Preserve and the Rio Grande are close to one another, near the border with Mexico. The Brazos River and Christmas Bay Coastal Preserve are near one another and connected by the Intracoastal Waterway. 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. South Bay is a minor bay.

Station location in all four 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 Brazos River stations (A, B and C) were chosen on either side of the Intracoastal waterway (ICW), where station C was closest (0.73 miles) to the Gulf of Mexico, and B was 1 mile upstream within the River. Station A was furthest upstream within the River and about 3.7 miles from the Gulf of Mexico.

Three stations on the lower Rio Grande were chosen between the confluence with the Gulf of Mexico and the Brownsville weir. 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 of 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), the

hydrographics of the two sites were about the same. With the mouth open, the main channel site would be more affected by a saltwater wedge.

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.

The two stations in South Bay were chosen to describe variability within the bay (Figure 1). However, because of the shallowness of the bay, the locations are near one another and limited to deeper water within the bay. Station B is closer to the Brownsville ship channel and is most easily accessible by boat. Station A is further into South Bay and further from Gulf of Mexico influence. Neither station is directly influenced by freshwater inflow.

Three stations in Christmas Bay Coastal Preserve were sampled.

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'
Brazos River	A	28° 55.670'	95° 23.050'
	B	28° 54.193'	95° 23.106'
	C	28° 53.103'	95° 22.923'
South Bay	A	26° 01.639'	97° 10.546'
	B	26° 02.351'	97° 10.992'
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'

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 2001, and January, April, and July 2002. 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  $\pm 2\%$ , DO  $\pm 0.2$  mg/l, conductivity greater of  $\pm 0.5\%$  if reading or  $\pm 0.001$  mS/cm, temperature  $\pm 0.15$  °C, pH  $\pm 0.2$  units, depth  $\pm 0.02$  m, and salinity greater of  $\pm 1\%$  of reading or  $\pm 0.1$  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 ( $\pm 0.15$  °C), pH ( $\pm 0.1$  units), dissolved oxygen (mg/l  $\pm 0.2$ ), specific conductivity ( $\pm 0.015$  - 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  $\mu$ m 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+nitrite (0.03-5.0  $\mu$ M; Quikchem method 31-107-04-1-A), silicate (0.03-5.0  $\mu$ M;

Quikchem method 31-114-27-1-B), ammonium (0.1-10  $\mu\text{M}$ ; Quikchem method 31-107-06-5-A) and phosphate (0.03-2.0  $\mu\text{M}$ ; 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  $\text{cm}^3$  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  $\mu\text{m}$  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  $\mu\text{m}$  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  $^{\circ}\text{C}$ , 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.



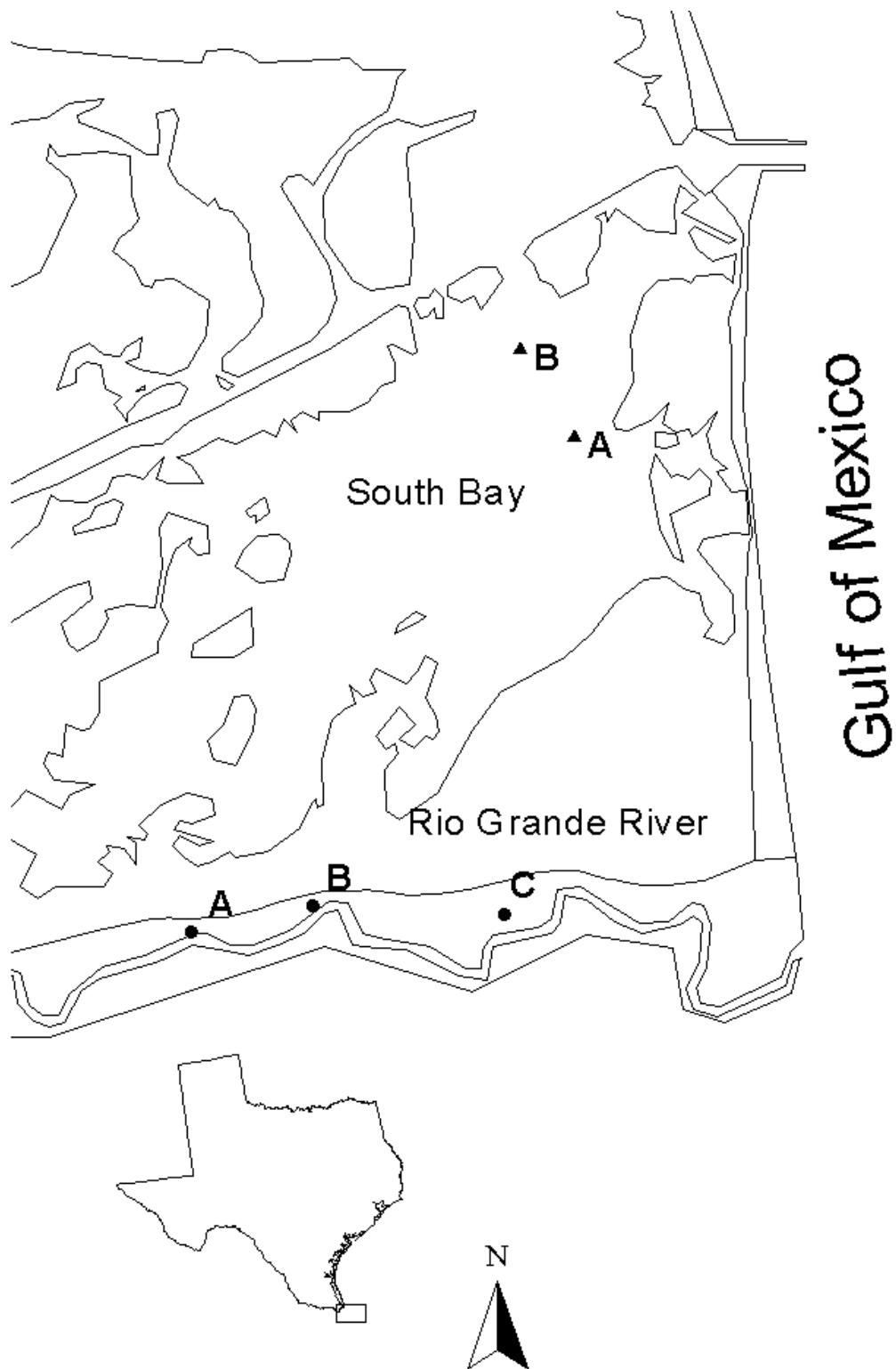


Figure 1. Sampling locations in South Bay and the Rio Grande River. South Bay = ▲, and Rio Grande = ●.

## RESULTS

### *Brazos River, Rio Grande, and Christmas Bay*

Preliminary analysis indicates the Brazos River and Rio Grande are sometimes similar and sometimes quite different (Figure 2). 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 Brazos has a larger range of salinity than the Rio Grande, alternating from nearly full strength sea water to fresh water (Figure 2). The Brazos River salinity was high in October and July in both years and lower in January and April in both 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 2). 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  $9 \text{ ug l}^{-1}$  compared to  $26 \text{ ug l}^{-1}$  in the Rio Grande. In contrast, DIN concentrations in the Brazos River averaged  $46 \text{ umol l}^{-1}$  compared to  $14 \text{ umol l}^{-1}$  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 3). Biomass averaged  $3.93 \text{ g}^{-2}$  in the Rio Grande compared to  $0.93 \text{ g}^{-2}$  in the Brazos River. Concordantly, abundance was also four times higher, being  $17,600 \text{ individuals}^{-2}$  in the Rio Grande compared to only  $5,600 \text{ individuals}^{-2}$  in the Brazos River. Biomass usually had opposite trends over time in the two systems. Most

notably from October 2000 through July 2001 when changes were mirror images. However, from August 2001 through July 2002 the biomass trends were the same.

The communities in the two systems are quite different (Figure 4). This was evidenced by the dominance of molluscs in the Rio Grande and dominance of polychaetes in the Brazos River. Typically, molluscan dominance indicates the fauna is dominated by species responsive to freshwater inflow (Table 3).

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. At the current time, it appears the lack of exchange with the Gulf of Mexico is causing the Rio Grande to change from an estuarine ecosystem to a freshwater ecosystem.

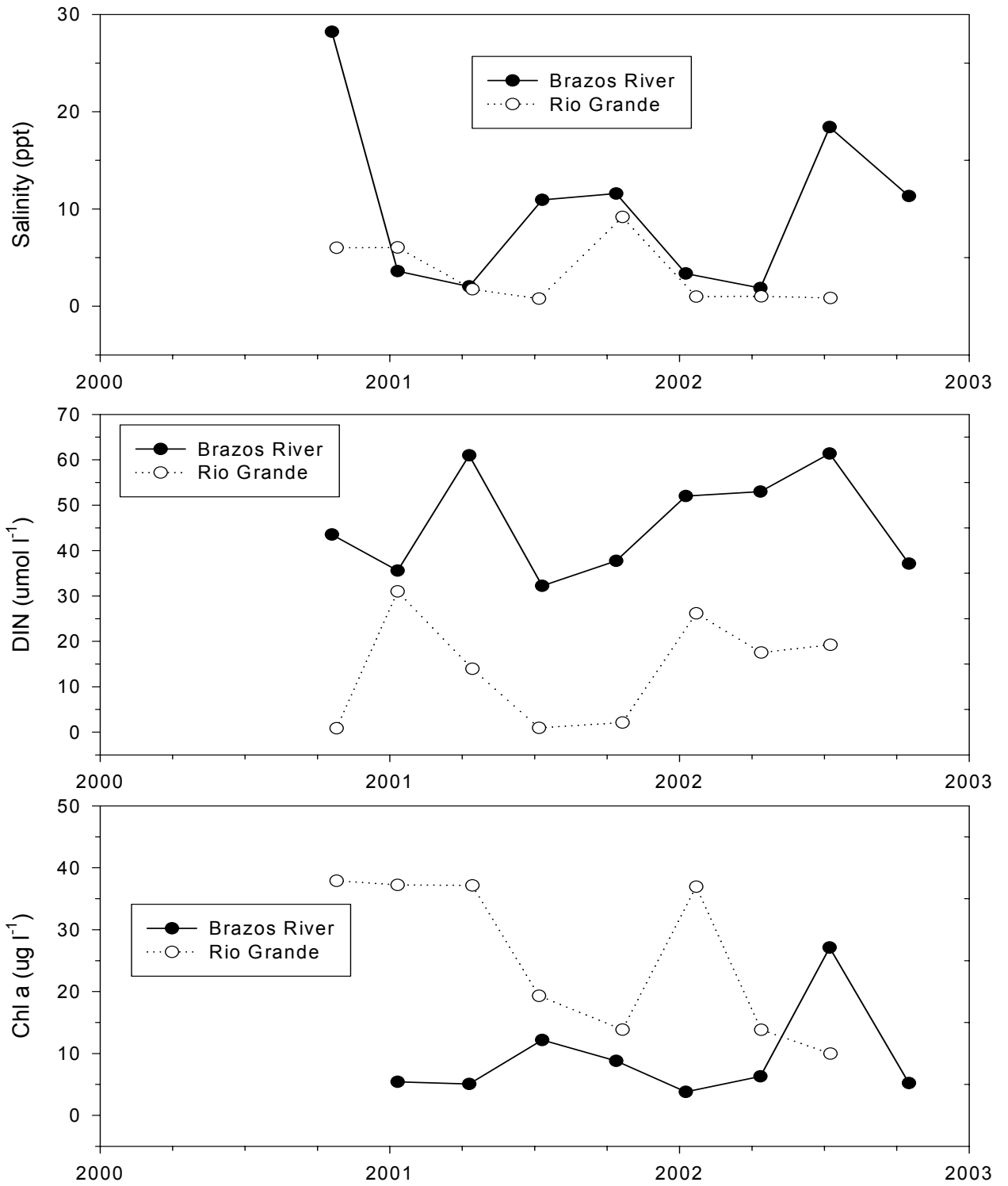


Figure 2. Salinity, dissolved inorganic nitrogen (DIN), and chlorophyll in the Brazos River and Rio Grande. Average over all stations and depths at all sampling periods.

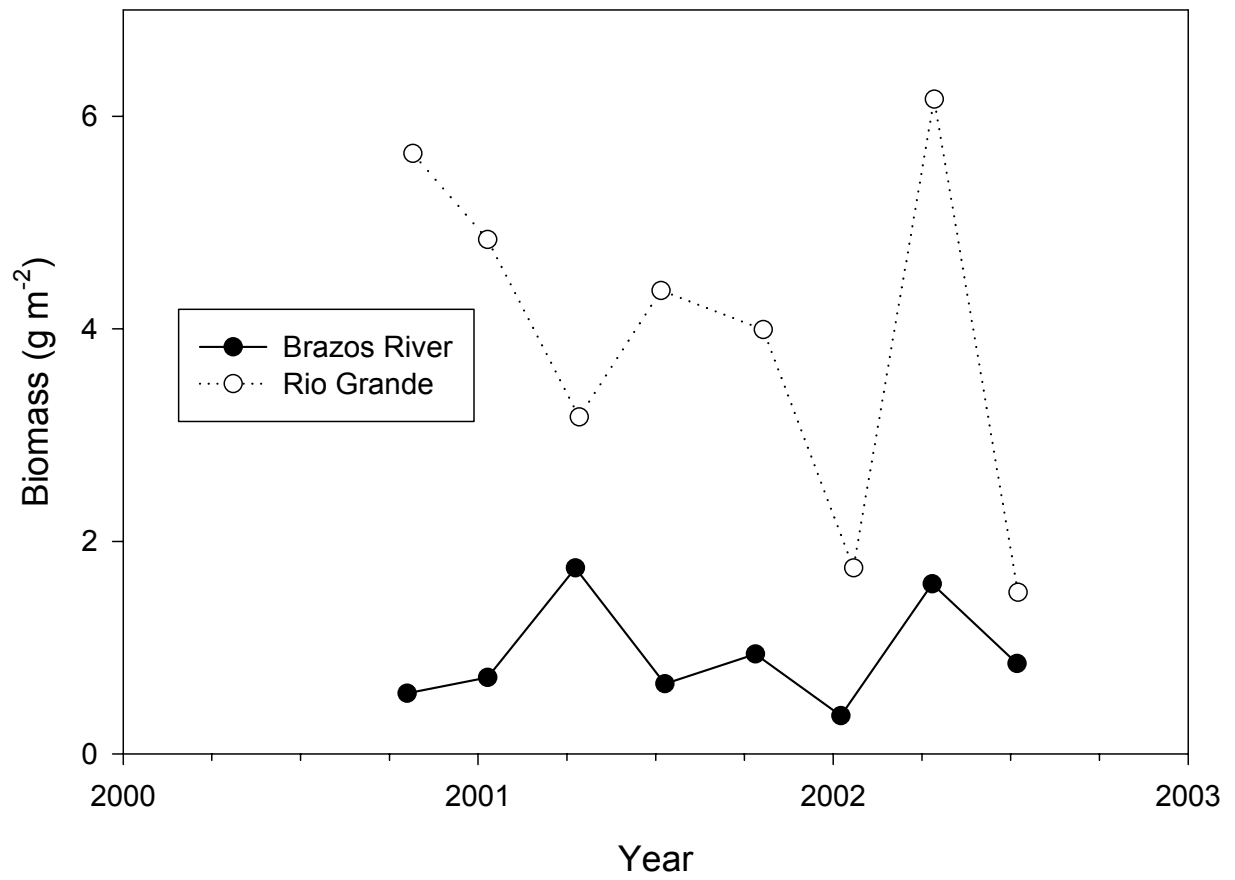


Figure 3. Macrofauna biomass in the Brazos River and Rio Grande. Average over all stations at all sampling periods.

*BRRG macrofauna*

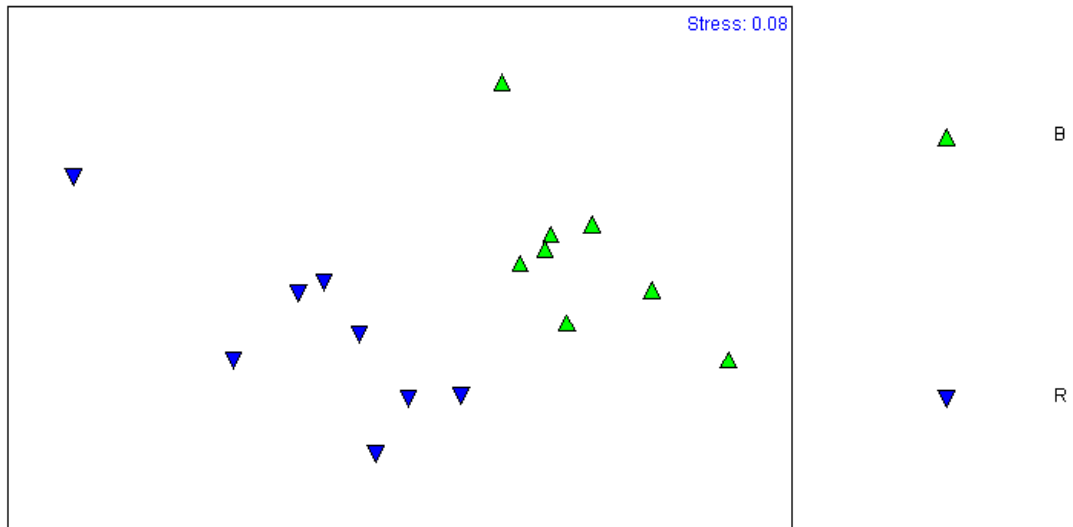


Figure 4. Multidimensional scaling (MDS) plot of community similarity between rivers and dates. Each point is a different sampling date, and the symbols are for the Brazos River (▲B) and the Rio Grande (▼R).

Table 3. Macrofauna species from the Brazos River and Rio Grand. Number m<sup>-2</sup>.

	Species Name	Brazos River	Rio Grande	
Anthozoa	Anthozoa (unidentified)	4		
Turbellaria	Turbellaria (unidentified)	4		
Rhynchocoela	Rhynchocoela (unidentified)	134	465	
Hemicordata	Schizocardium sp.	4		
Mollusca	Neritina virginea		138	
	Pelecypoda (unidentified)		12	
	Mulinia lateralis	4	59	
	Macoma tenta		4	
	Tellidora cristata		4	
	Macoma mitchelli		197	
	Abra aequalis		4	
	Polychaeta	Parandalia ocularis	55	
		Gyptis vittata	8	
		Neanthes succinea	51	
Laeonereis culveri			55	
Nereidae (unidentified)			4	
Polydora ligni		32	35	
Paraprionospio pinnata		4		
Polydora socialis		453	8	
Streblospio benedicti		2675	1532	
Polydora caulleryi		16		
Polydora sp.			43	
Cossura delta		20		
Haploscoloplos fragilis		4		
Capitella capitata		28	4	
Mediomastus ambiseta		1938	5066	
Hobsonia florida		4		
Oligochaetes (unidentified)		47	1328	
Crustacea		Ilyocryptus spinifer		67
		Ostracoda (unidentified)	4	4
		Pelagicus sp.		4
	Callianassa sp.	24		
	Mysidopsis almyra		12	
	Gammarus mucronatus		12	
	Corophium louisianum	4	12	
	Microprotopus sp.	8		
	Grandidierella bonnieroides	4	4	
	Insecta	Diptera (unidentified)		4
Chironomid larvae		39	8486	
Ceratopogonid larvae			67	
Damselfly nymphs		4	4	
Total		5570	17633	

### *South Bay Coastal Preserve*

Salinity was consistently higher at station A than at station B throughout the entire sampling period (Figure 5). Station A was slightly hypersaline throughout the entire study period except in April 2002. The salinity pattern indicates that most freshwater inflow is coming from the northeastern part of the bay. Temperature was similar at both stations and followed a typical seasonal trend with lowest temperatures in winter. However, much colder temperatures were noticed in January 2001 than in January 2002. Dissolved oxygen was never low, the lowest value recorded was 5.1 mg l<sup>-1</sup>.

The overall average salinity was 36.6 ppt ( $\pm$  1.8 standard deviation) and ranged from 32.1 to 40.0 ppt. The overall average temperature was 25.0 °C ( $\pm$  4.4 standard deviation) and ranged from 14.2 to 31.1 °C. The overall average dissolved oxygen concentration was 6.99 mg l<sup>-1</sup> ( $\pm$  1.2 standard deviation) and ranged from 3.2 to 8.8 mg l<sup>-1</sup>.

Macrofauna biomass was always higher in station A than B (Figure 6). The average biomass at station A was 11.41 g m<sup>-2</sup> compared to an average biomass of 2.38 g m<sup>-2</sup> at station B. There was not a significant change in biomass over time ( $P = 0.4164$ ) at either station. Abundance was not significantly different between stations ( $P = 0.7092$ ) nor among sampling dates ( $P = 0.2512$ ). Average abundance was 26,190 individuals m<sup>-2</sup> among all stations and dates.

Abundance and biomass average over the whole bay followed a similar pattern during 2001, but had a different pattern during 2002 (Figure 7). In 2002, biomass was high even though abundance was low. The highest organismal response correlated with the highest dissolved oxygen levels (near 8 mg l<sup>-1</sup>) and lowest temperatures (near 15 °C). The lowest biomass and abundance occurred when dissolved oxygen was lowest (4.1 mg l<sup>-1</sup>) even though this is not a very low dissolved oxygen value.



A total of 108 species was found in South Bay (Table 4). Polychaetes dominated the species list (63 species in all), followed by one-third as many Crustacea (23 species) and Mollusca (18 species).

The dominant species were unidentified oligochaetes. The dominant known species was the polychaete *Streblospio benedicti*, an interface dwelling species that can deposit- and suspension feed (Table 5). The top 10 dominant species comprised 85% of the fauna overall. Except for the oligochaetes, all were polychaetes. The remaining 98 species were relatively rare, comprising less than 2% of the individuals found.

A multidimensional scaling (MDS) analysis was performed on species data to determine which factors were influencing community structure. Station differences (Figure 8) appeared to be a more important factor than sampling date (Figure 9). Except for the sample taken July 2001, All station A data was separate from station B data. The stations were similar in the distributions and abundance of several dominant species, e.g., *Streblospio benedicti*, *Capitella capitata*, and *Mediomastus ambiseta*. However, station had much higher densities of *Tharyx setiger*, *Prionospio heterobranchia*, *Polydora caulleryi*, and *Sphaerosyllis* sp A. In contrast, *Cossura delta* was more abundant at station B than A. Therefore, station had more even distribution of climax species than station B.

There is also a hint of a small state shift in the temporal dynamics (Figure 9). The first three sampling periods (October 2000 - April 2001) all cluster in the top half of the MDS plot, and the last five samples cluster in the lower half. There were higher densities of *Prionospio heterobranchia*, *Capitella capitata*, *Sphaerosyllis* sp A., *Cossura delta* and *Exogone* sp. in the first three sampling periods than at other times. In contrast, only *Tharyx setiger* had a higher density during the latter half of the study period.

Species diversity was generally higher at station A than B, but by a small amount (Table 6). On average, during each sampling period, 26 species were found at station A compared to 20 at station B. A 21 dominant species (N1) were found at station A compared to 16 at station B. There was a seasonal trend. Diversity was typically highest in January and lowest in July.

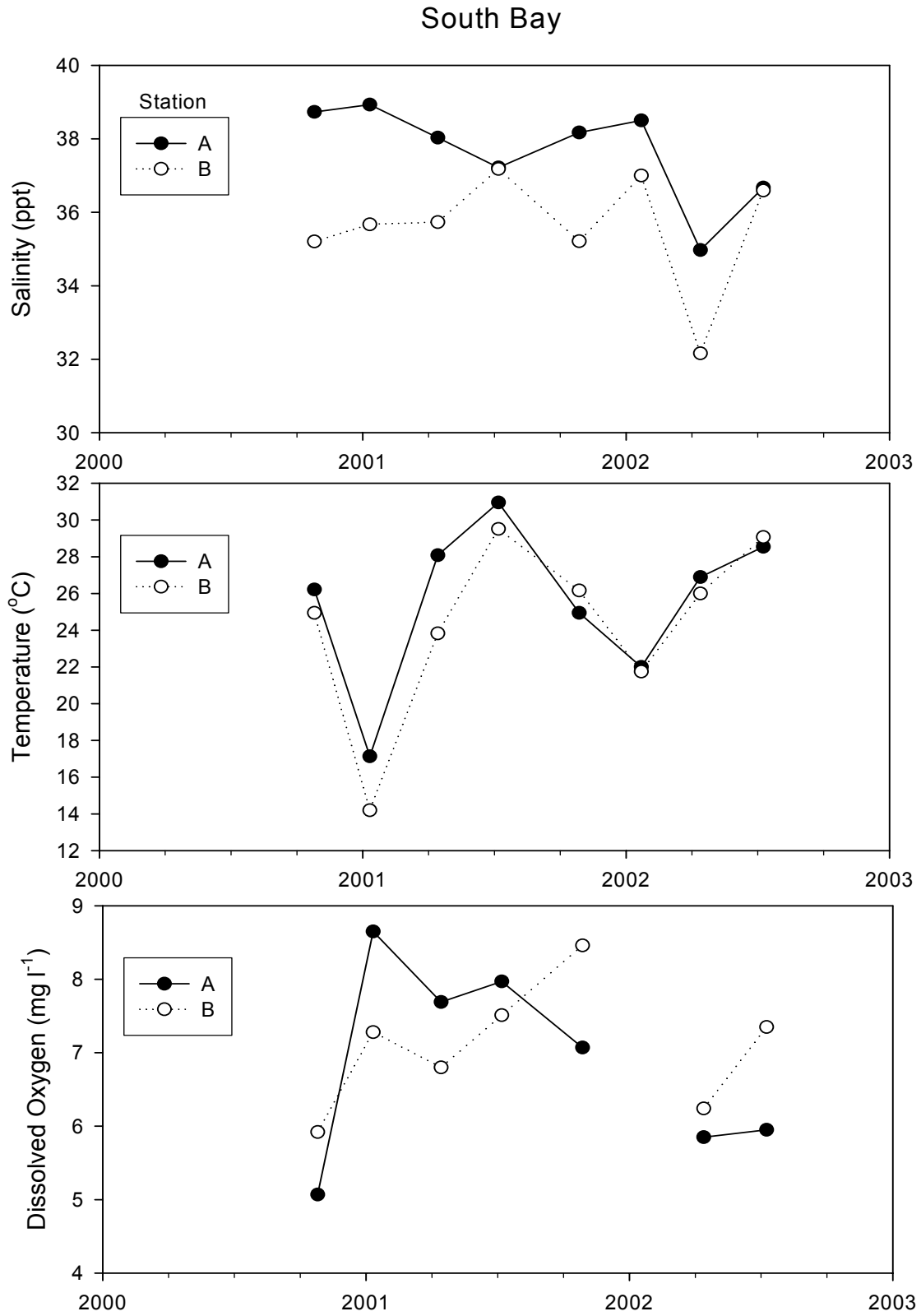


Figure 5. Salinity, temperature and dissolved oxygen at stations in South Bay.

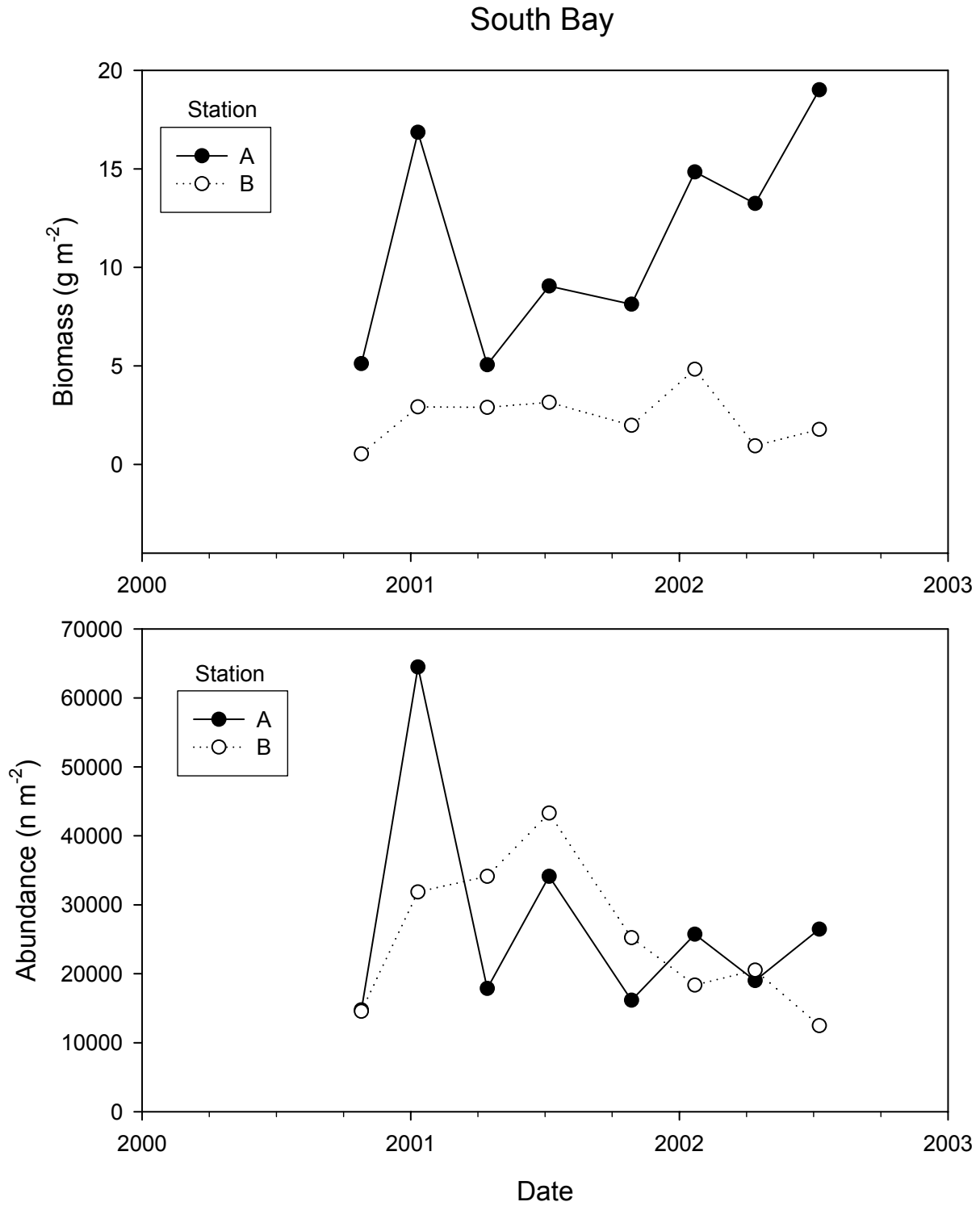


Figure 6. Biomass and abundance of macrofauna at stations in South Bay.

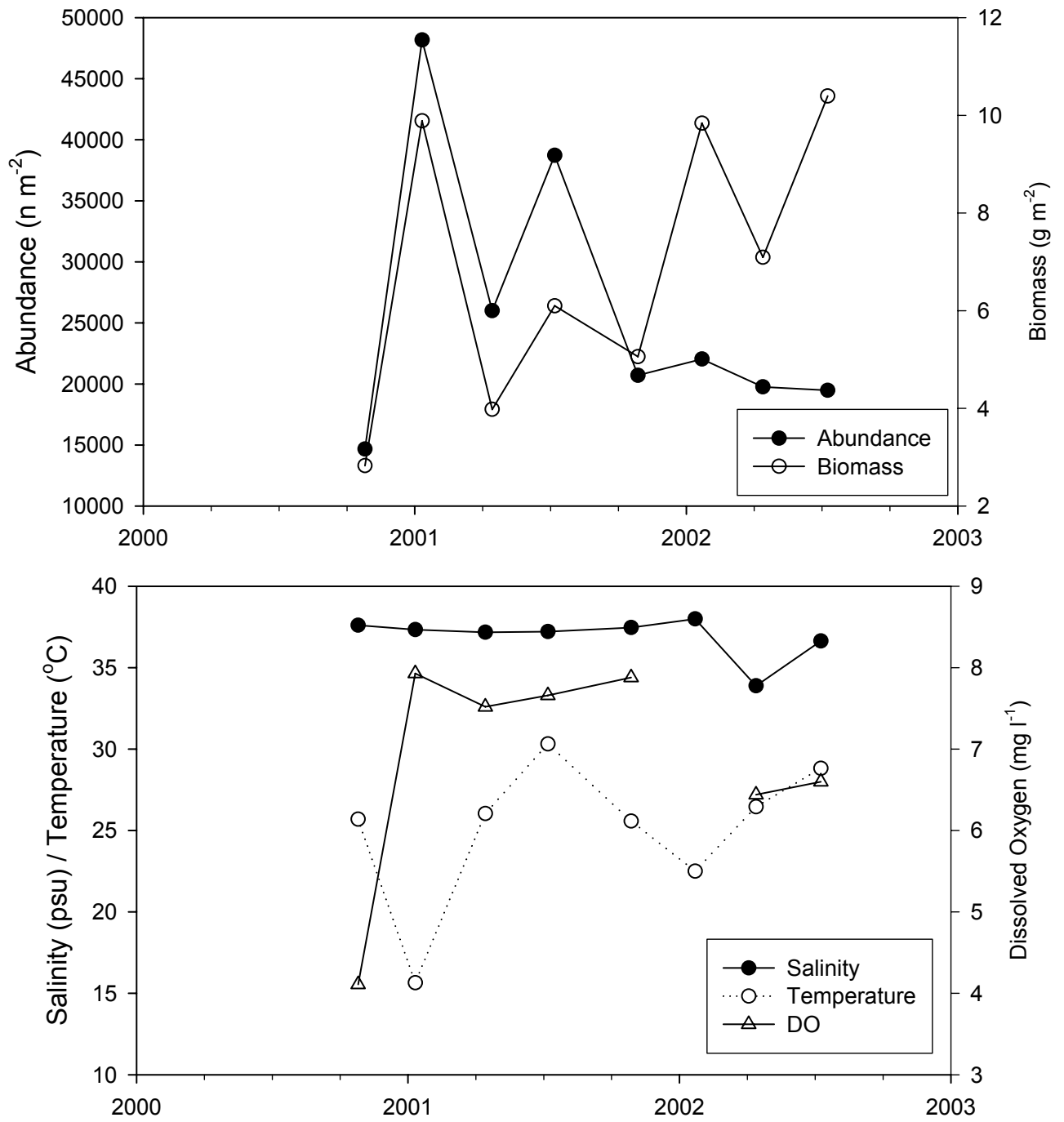


Figure 7. Biotic and abiotic characteristics; average overall stations in South Bay.

South Bay Macrofauna

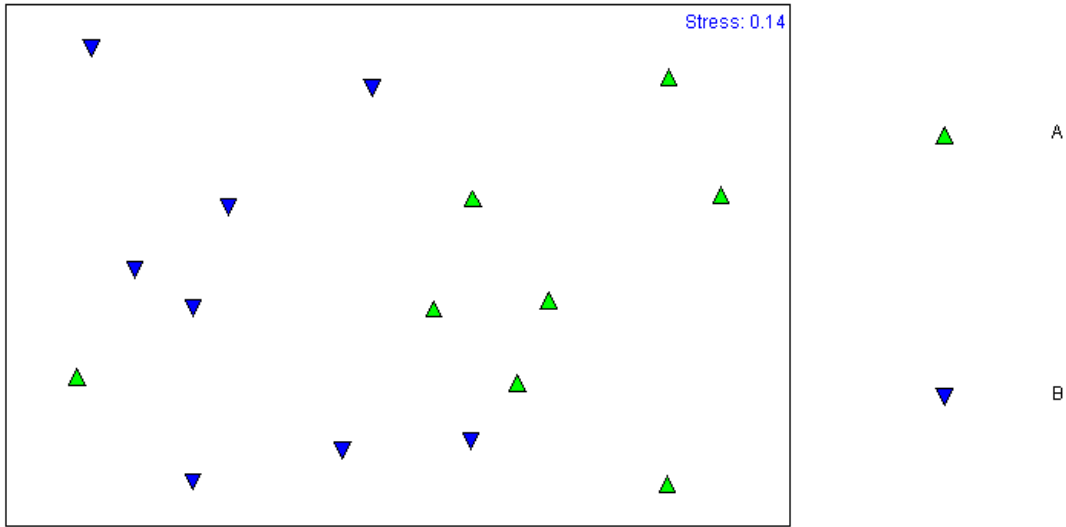


Figure 8. Plot of station differences based on macrofauna community structure computed by MDS South Bay. Abbreviations: A = station A, and B = station B.

South Bay Macrofauna

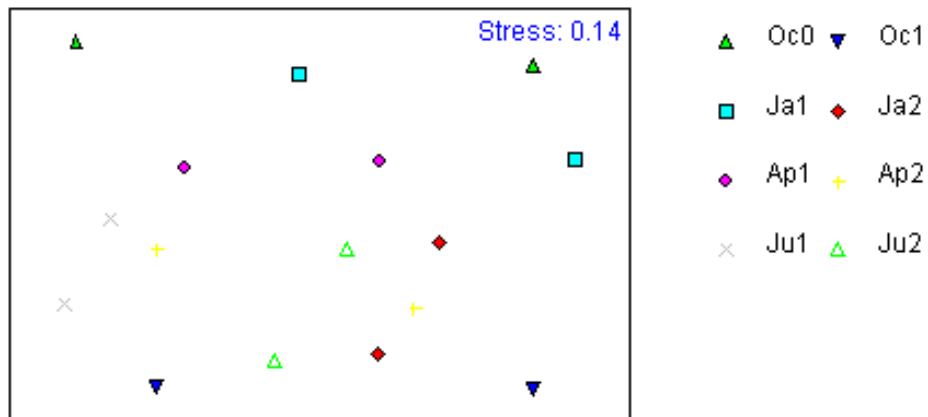


Figure 9. Plot of sampling dates differences based on MDS analysis of macrofauna species in South Bay. Abbreviations: Oc = October, Ja = January, Ap = April, Ju = July, 0 = 2000, 1 = 2001, and 2 = 2002.

Table 4. Systematic list of species found in South Bay during the study period. Average abundance (n m<sup>-2</sup>) over all samples and sampling dates (October 2000 through July 2002).

Taxonomic name	Abundance
Cnidaria	
Anthozoa	
Anthozoa (unidentified)	18
Platyhelminthes	
Turbellaria	
Turbellaria (unidentified)	6
Rynchocoela	
Rynchocoela (unidentified)	248
Phoronida	
<i>Phoronis architecta</i>	142
Mollusca	
Gastropoda Cuvier, 1797	
Ctenobranchia Schweigger, 1820	
Cerithiidae	
<i>Diastoma varium</i>	30
<i>Cerithium lutosum</i>	6
Eulimidae	
<i>Polygireulima jamaicensis</i>	6
Calyptraeidae Blainville, 1824	
<i>Crepidula fornicata</i>	18
Dendronotoidea Odhner, 1936	
Nudibranchia (unidentified)	6
Stegaonbranchia VonIhering, 1876	
Acteocinidae	
<i>Acteocina canaliculata</i>	6
Entomotaeniata Cossman, 1896	
Pyramidellidae	
<i>Pyrgiscus</i> sp.	6
<i>Eulimastoma canaliculata</i>	6
Pelecypoda	
Nuculoidea Dall, 1889	
Nuculidae	
<i>Parvi lucina multilineata</i>	12
<i>Lucina pectinata</i>	24
Hippuritoidea Newell, 1965	
Cardiidae	
Solenidae	
<i>Laevicardium mortoni</i>	12
Mactridae	
<i>Mulinia lateralis</i>	12
Tellinidae	
<i>Macoma tenta</i>	6
<i>Tellina texana</i>	30

Semelidae	
<i>Abra aequalis</i>	313
Veneridae	
<i>Chione grus</i>	6
<i>Chione cancellata</i>	12
Pholadomyoidea Newell, 1965	
Lyonsiidae	
<i>Lyonsia hyalina floridana</i>	6
Annelida	
Polychaeta	
Polynoidae	
<i>Malmgreniella</i> sp.	6
Eulepethidae	
<i>Grubeulepis cf. mexicana</i>	77
Palmyridae (= Chrysopetalidae)	
<i>Paleanotus heteroseta</i>	24
Phyllodocidae	
<i>Eteone heteropoda</i>	6
<i>Anaitides mucosa</i>	18
Pilargiidae	
<i>Sigambra tentaculata</i>	6
<i>Litocorsa stremma</i>	12
Hesionidae	
<i>Gyptis vittata</i>	6
<i>Microphthalmus aberrans</i>	53
Hesionidae (unidentified)	12
Syllidae	
<i>Syllis cornuta</i>	106
<i>Brania furcelligera</i>	71
<i>Exogone</i> sp.	396
<i>Sphaerosyllis</i> sp. A	875
Nereidae	
<i>Ceratonereis irritabilis</i>	30
<i>Platynereis dumerilii</i>	6
Nereidae (unidentified)	6
Glyceridae	
<i>Glycera americana</i>	24
Goniadidae	
<i>Glycinde solitaria</i>	12
Arabellidae	
<i>Drilonereis magna</i>	6
Dorvilleidae	
<i>Schistomeringos</i> sp. A	207
Spionidae	
<i>Apoprionospio pygmaea</i>	18
<i>Prionospio heterobranchia</i>	2033
<i>Scolelepis texana</i>	6

<i>Spiophanes bombyx</i>	12
<i>Malacoceros indicus</i>	6
<i>Polydora socialis</i>	30
<i>Streblospio benedicti</i>	4775
<i>Polydora caulleryi</i>	1058
Cirratulidae	
<i>Tharyx setigera</i>	2996
Cossuridae	
<i>Cossura delta</i>	449
Orbiniidae	
<i>Haploscoloplos fragilis</i>	248
<i>Naineris</i> sp. A	77
Paraonidae	
<i>Cirrophorus lyra</i>	230
<i>Aricidea catharinae</i>	165
Opheliidae	
<i>Armandia maculata</i>	18
Capitellidae	
<i>Capitella capitata</i>	1743
<i>Capitellides jonesi</i>	18
<i>Mediomastus californiensis</i>	136
<i>Heteromastus filiformis</i>	30
<i>Mediomastus ambiseta</i>	1525
Capitellidae (unidentified)	53
Maldanidae	
<i>Branchioasychis americana</i>	142
<i>Asychis</i> sp.	6
<i>Euclymene</i> sp. B	118
<i>Axiothella mucosa</i>	12
<i>Axiothells</i> sp. A	24
Maldanidae (unidentified)	12
Ampharetidae	
<i>Melinna maculata</i>	35
Terebellidae	
<i>Pista cristata</i>	6
<i>Pista palmata</i>	6
<i>Terebellides stroemi</i>	12
Terebellidae (unidentified)	12
Sabellidae	
<i>Chone</i> sp.	47
<i>Fabriciola trilobata</i>	12
Serpulidae	
<i>Pomatoceros americanus</i>	136
Spiorbidae	
<i>Spiorbis</i> sp.	18
Oligochaeta	
Oligochaetes (unidentified)	6370



Sipuncula		
	<i>Sipuncula</i> (unidentified)	6
Crustacea		
Ostracoda		
Myodocopa		
	<i>Sarsiella texana</i>	6
	<i>Sarsiella spinosa</i>	12
	<i>Sarsiella zostericola</i>	6
Malacostraca		
Natantia		
Pasiphaeidae		
	<i>Leptochela serratorbita</i>	6
Reptantia		
Paguridae		
	<i>Pagurus annulipes</i>	6
Portunidae		
	<i>Callinectes similis</i>	6
Xanthidae		
	<i>Micropanope scultites</i>	6
Pinnotheridae		
	<i>Pinnixa</i> sp.	6
Brachyuran Larvae		
	Megalops	6
Mysidacea		
	<i>Mysidopsis bahia</i>	6
	<i>Bowmaniella brasiliensis</i>	6
Cumacea		
	<i>Oxyurostylis</i> sp.	35
Amphipoda		
	Amphipoda (unidentified)	12
Ampeliscidae		
	<i>Ampelisca abdita</i>	112
Corophiidae		
	<i>Erichthonias brasiliensis</i>	6
	<i>Microprotopus</i> sp.	6
	<i>Grandidierella bonnieroides</i>	41
Caprellidae		
	<i>Caprellidae</i> sp.	154
Amphithoidae		
	<i>Cymadusa compta</i>	65
Melitidae		
	<i>Elasmopus</i> sp.	24
Isopoda		
Anthuridae		
	<i>Xenanthura brevitelson</i>	53
Idoteidae		
	<i>Edotea montosa</i>	59

Tanaidacea		
Tanaidae		
<i>Leptochelia rapax</i>		35
Pycnogonida		
Pycnogonida (unidentified)		12
Echinodermata		
Ophiuroidea		
<i>Amphiodia atra</i>		12
Chordata		
Hemichordata		
<i>Schizocardium</i> sp.		12

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Table 5. Species dominance in South Bay. Mean abundance (n m<sup>-2</sup>) and per cent composition of species over all samples.

Species	A	B	Mean	Percent
Oligochaetes (unidentified)	4,125	8,616	6,370	24.31
Streblospio benedicti	3,652	5,897	4,775	18.22
Tharyx setigera	4,160	1,832	2,996	11.43
Prionospio heterobranchia	3,628	437	2,033	7.76
Capitella capitata	1,075	2,411	1,743	6.65
Mediomastus ambiseta	1,335	1,714	1,525	5.82
Polydora caulleryi	2,068	47	1,058	4.04
Sphaerosyllis sp. A	1,513	236	875	3.34
Cossura delta	12	886	449	1.71
Exogone sp.	674	118	396	1.51
Abra aequalis	130	496	313	1.20
Rhynchocoela (unidentified)	284	213	248	0.95
Haploscoloplos fragilis	390	106	248	0.95
Cirrophorus lyra	366	95	230	0.88
Schistomeringos sp. A	390	24	207	0.79
Aricidea catharinae	154	177	165	0.63
Caprellidae sp.	260	47	154	0.59
Branchioasychis americana	272	12	142	0.54
Phoronis architecta	35	248	142	0.54
Pomatoceros americanus	260	12	136	0.52
Mediomastus californiensis	272	0	136	0.52
Euclymene sp. B	201	35	118	0.45
Ampelisca abdita	24	201	112	0.43
Syllis cornuta	177	35	106	0.41
Grubeulepis cf. mexicana	142	12	77	0.29
Naineris sp. A	130	24	77	0.29
Brania furcelligera	95	47	71	0.27
Cymadusa compta	83	47	65	0.25
Edotea montosa	59	59	59	0.23
Capitellidae (unidentified)	0	106	53	0.20
Microphthalmus aberrans	83	24	53	0.20
Xenanthura brevitelson	71	35	53	0.20
Chone sp.	71	24	47	0.18
Grandidierella bonnieroides	83	0	41	0.16
Leptochelia rapax	59	12	35	0.14
Melinna maculata	47	24	35	0.14
Oxyurostylis sp.	47	24	35	0.14
Heteromastus filiformis	47	12	30	0.11
Tellina texana	35	24	30	0.11
Polydora socialis	12	47	30	0.11
Diastoma varium	59	0	30	0.11
Ceratonereis irritabilis	59	0	30	0.11
Axiiothells sp. A	47	0	24	0.09

Lucina pectinata	35	12	24	0.09
Elasmopus sp.	35	12	24	0.09
Glycera americana	24	24	24	0.09
Paleanotus heteroseta	0	47	24	0.09
Crepidula fornicata	35	0	18	0.07
Armandia maculata	24	12	18	0.07
Anthozoa (unidentified)	12	24	18	0.07
Apoprionospio pygmaea	12	24	18	0.07
Sporobis sp.	12	24	18	0.07
Anaitides mucosa	0	35	18	0.07
Capitellides jonesi	0	35	18	0.07
Parvi lucina multilineata	24	0	12	0.05
Chione cancellata	24	0	12	0.05
Maldanidae (unidentified)	24	0	12	0.05
Fabriciola trilobata	24	0	12	0.05
Pycnogonida (unidentified)	24	0	12	0.05
Laevicardium mortoni	12	12	12	0.05
Glycinde solitaria	12	12	12	0.05
Spiophanes bombyx	12	12	12	0.05
Terebellides stroemi	12	12	12	0.05
Sarsiella spinosa	12	12	12	0.05
Amphipoda (unidentified)	12	12	12	0.05
Amphiodia atra	12	12	12	0.05
Schizocardium sp.	12	12	12	0.05
Mulinia lateralis	0	24	12	0.05
Litocorsa stremma	0	24	12	0.05
Hesionidae (unidentified)	0	24	12	0.05
Axiothella mucosa	0	24	12	0.05
Terebellidae (unidentified)	0	24	12	0.05
Cerithium lutosum	12	0	6	0.02
Acteocina canaliculata	12	0	6	0.02
Pyrgiscus sp.	12	0	6	0.02
Eulimastoma canaliculata	12	0	6	0.02
Chione grus	12	0	6	0.02
Lyonsia hyalina floridana	12	0	6	0.02
Malmgreniella sp.	12	0	6	0.02
Eteone heteropoda	12	0	6	0.02
Gyptis vittata	12	0	6	0.02
Platynereis dumerilii	12	0	6	0.02
Drilonereis magna	12	0	6	0.02
Scolecopsis texana	12	0	6	0.02
Asychis sp.	12	0	6	0.02
Pista palmata	12	0	6	0.02
Sarsiella texana	12	0	6	0.02
Sarsiella zostericola	12	0	6	0.02
Leptochela serratorbita	12	0	6	0.02
Micropanope scultites	12	0	6	0.02

Pinnixa sp.	12	0	6	0.02
Microprotopus spp.	12	0	6	0.02
Turbellaria (unidentified)	0	12	6	0.02
Polygireulima jamaicensis	0	12	6	0.02
Nudibranchia (unidentified)	0	12	6	0.02
Macoma tenta	0	12	6	0.02
Sigambra tentaculata	0	12	6	0.02
Nereidae (unidentified)	0	12	6	0.02
Malacoceros indicus	0	12	6	0.02
Pista cristata	0	12	6	0.02
Sipuncula (unidentified)	0	12	6	0.02
Pagurus annulipes	0	12	6	0.02
Callinectes similis	0	12	6	0.02
Megalops	0	12	6	0.02
Mysidopsis bahia	0	12	6	0.02
Bowmaniella brasiliensis	0	12	6	0.02
Erichthonias brasiliensis	0	12	6	0.02
Total	27,332	25,062	26,200	100.00

Table 6. Species diversity characteristics for South Bay. Abbreviations: S = species number, J' = Pielous's evenness index, H' = Shannon diversity index, N1 = Hill's dominant species number.

Station	Date	S	J'	H'	N1
A	Oct00	28	0.94	3.13	22.8
A	Jan01	40	0.95	3.51	33.4
A	Apr01	20	0.93	2.78	16.1
A	Jul01	15	0.90	2.43	11.3
A	Oct01	19	0.94	2.77	15.9
A	Jan02	34	0.94	3.31	27.5
A	Apr02	27	0.94	3.09	22.0
A	Jul02	23	0.92	2.88	17.9
A average		26	0.93	2.99	20.9
B	Oct00	18	0.93	2.69	14.7
B	Jan01	33	0.93	3.25	25.8
B	Apr01	15	0.93	2.51	12.3
B	Jul01	13	0.89	2.28	9.7
B	Oct01	15	0.86	2.34	10.3
B	Jan02	32	0.95	3.30	27.1
B	Apr02	11	0.91	2.19	9.0
B	Jul02	23	0.94	2.94	18.9
B average		20	0.92	2.69	16.0

### *Sediment Elemental Composition in South Bay*

There was no difference between South Bay stations A and B in sediment chemical composition (Table 7). The overall average porosity in South Bay was 37.11 % for the upper 10 cm of sediment. The average nitrogen stable isotope ( $\delta^{15}\text{N}$ ) value was 4.10 ‰. There was one very light carbon stable isotope value for the surface section of station A. This value indicates an unusual flocculent layer, or recent deposition, because the percent total carbon (C) and total organic carbon (TOC) values are also high. Deleting this aberrant value, the average carbon stable isotope ( $\delta^{13}\text{C}$ ) isotope value was -5.74 ‰. There was very little total nitrogen (N) in the sediments averaging only 0.07% overall. Carbon content was more typical averaging 1.86%, and TOC averaged 0.54%.

### *Water Column Composition in South Bay*

There was no difference between South Bay stations A and B over time for temperature, dissolved oxygen, phosphate, silicate, nitrate+nitrite (NN), ammonia and chlorophyll *a* (Chl) content. However, there were differences due to salinity ( $P = 0.0136$ ), with station A being on average 2.06 ppt greater than station B.

Over time, Chl increased from October 2000 through April 2001, and then decreased thereafter (Figure 10). Phosphate and total dissolved inorganic nitrogen (DIN) were correlated over time, except for the first sampling period, October 2000, when phosphate was high and DIN was low. Salinity and Chl were not correlated with any nutrient parameter. However, NN was inversely correlated with temperature ( $r = -.079$ ,  $P = 0.0184$ ).

Table 7. Sediment chemistry in South Bay. Stable isotope values are  $\delta^{15}\text{N}$  and  $\delta^{13}\text{C}$ , and elemental composition values are percent nitrogen (N), carbon (C), and total organic carbon (TOC).

Date	Station	Section	Porosity (%)	$\delta^{15}\text{N}$ (‰)	N (%)	$\delta^{13}\text{C}$ (‰)	C (%)	TOC (%)
24-Oct-2000	A	0-1	52.05	3.08	0.12	-28.94	2.54	0.95
24-Oct-2000	A	3-10	35.16	3.57	0.07	-5.50	2.00	0.61
27-Oct-2001	A	0-1	25.75	3.89	0.04	-5.69	1.22	0.29
27-Oct-2001	A	3-10	27.97	4.41	0.05	-6.34	1.66	0.50
<b>Average</b>			<b>35.23</b>	<b>3.74</b>	<b>0.07</b>	<b>-11.62</b>	<b>1.85</b>	<b>0.59</b>
24-Oct-2000	B	0-1	46.12	4.24	0.08	-5.49	1.93	0.61
24-Oct-2000	B	3-10	40.78	4.43	0.06	-5.20	1.85	0.46
27-Oct-2001	B	0-1	35.61	4.51	0.04	-5.76	1.72	0.38
27-Oct-2001	B	3-10	33.42	4.68	0.06	-6.08	1.98	0.53
<b>Average</b>			<b>38.98</b>	<b>4.47</b>	<b>0.06</b>	<b>-5.63</b>	<b>1.87</b>	<b>0.49</b>

Table 8. Sediment grain size in South Bay.

Station	Section	Rubble	Sand	Silt	Clay
A	0-3	0.0600	0.7073	0.0226	0.2101
A	3-10	0.0233	0.5928	0.0955	0.2884
B	0-3	0.0282	0.6827	0.1823	0.1069
B	3-10	0.0264	0.7846	0.0529	0.1361
<b>Average</b>		<b>0.0345</b>	<b>0.6918</b>	<b>0.0883</b>	<b>0.1853</b>

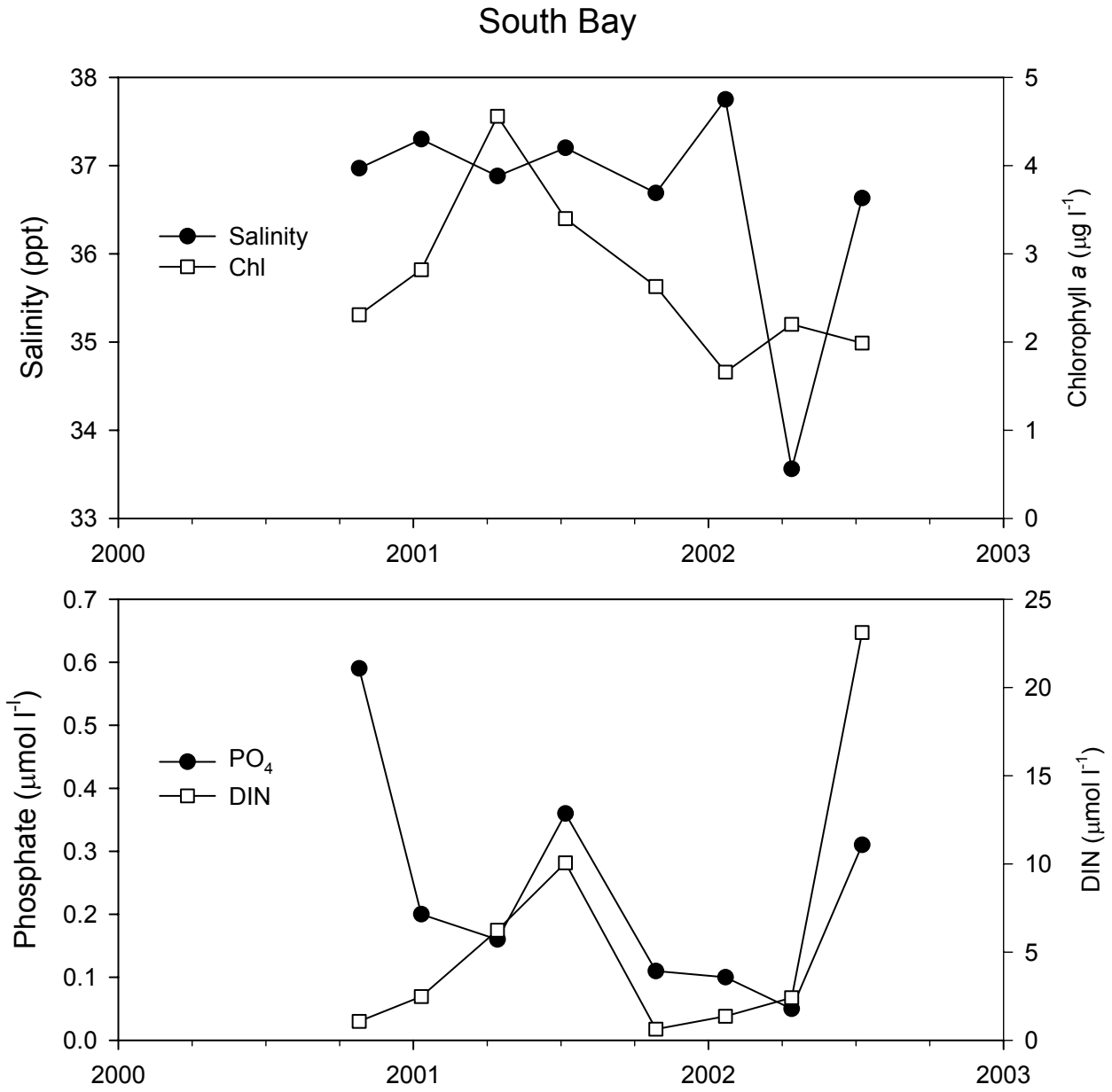


Figure 10. Water column nutrients and chlorophyll content.



## DISCUSSION

This report is primarily a final report for all work performed in South Bay, and secondarily a progress report on the work performed in the Brazos River and the Rio Grande. The South Bay sampling is complete, and further sampling is not anticipated in the near future. Thus, the relationship between macrofauna and environmental factors within South Bay will be discussed in detail. In contrast, work in the Brazos River and Rio Grande will continue through 2005.

### *South Bay Coastal Preserve*

It is surprising that there is a significant difference in salinity between the two stations in South Bay. Station A is further from the Brownsville Ship Channel and consistently had a slightly higher salinity than Station B (Figure 1). The most likely explanation for the salinity gradient is simple. Higher rates of evaporation at station B away from the Ship Channel, and lower saline waters in Laguna Madre, which has a source of inflow at the Laguna Atascosta. However, because salinities at Station A were slightly hypersaline, higher evaporation rates are a more likely explanation.

The salinity is relatively high in South Bay, averaging 36.6 ppt overall. In spite of the high salinities, DO concentrations were relatively high (averaging 7.0 mg l<sup>-1</sup> overall) thus water quality with respect to DO is good. The high salinities are likely the drivers for the community structure within South Bay and the differences found for community structure between station A and station B.

It is not useful to over-interpret the nutrient and chlorophyll data. On one hand, there was no relationship between nutrients, chlorophyll and salinity. But on the other hand, sampling occurs only every three months. There is much too large 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.

South Bay is dominated by Annelida, which were the top 10 dominant species comprising 85% of the population overall. Dominance by Annelida is expected in areas with little freshwater inflow (Montagna and Li, 1996). The high salinities indicate inflow to South Bay is small relative to the volume of the bay. The dominant organisms were unidentified Oligochaete species comprising 24% of all individuals found. The next nine dominant species were all polychaetes. The five most dominant polychaetes (*Streblospio benedicti*, *Tharyx setigera*, *Prionospio heterobranchia*, *Capitella capitata*, *Mediomastus ambiseta*) are common in all Texas bays and estuaries and are primarily surface deposit feeders. The sixth dominant species, *Polydora caulleryi*, is a more deeply dwelling organism characteristic of healthy sediments. The 11<sup>th</sup> dominant species was the bivalve, *Abra aequalis*, but it only comprised 1.2% of all organisms found. Whereas the annelid species found are common in Texas estuaries, the lack of mollusks and crustaceans is unusual.

In large open bays of Texas, mollusks are excellent indicator species of inflow effects (Montagna and Kalke, 1995; Montagna and Li, 1996). The dominance of polychaetes and lack of mollusks 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.

Compared to other Texas estuaries, South Bay had a relatively even species distribution, whereas the dominant species comprised 24% of the fauna, in East Matagorda Bay, it comprised 49% of the fauna overall. 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 density (20,620 individuals m<sup>-2</sup>) and biomass (6.90 g m<sup>-2</sup>) is typical of a Texas bay. It compares favorably with the average density (14,629 individuals m<sup>-2</sup>) and biomass (10.901 g m<sup>-2</sup>) for East Matagorda Bay (Montagna 2001). However, the lower biomass to abundance ratio in South Bay indicates it is dominated by smaller individuals. Again, this is typical of highly saline and hypersaline environments.

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DATA APPENDICES

*Hydrography*

Table 9. Hydrographic data. Abbreviations: Bay (Christmas Bay = CB, Brazos River = BR, Rio Grande = RG, South Bay = SO), 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	36.4	92.20	29.39	8.02	22.92
CB	09JUL2002	A	1.40	.	36.9	89.60	29.37	7.99	23.29
CB	09JUL2002	B	0.00	22	40.5	85.30	29.37	8.15	25.75
CB	09JUL2002	B	1.40	.	40.5	84.50	29.38	8.15	25.77
CB	09JUL2002	C	0.00	23	40.1	90.70	29.59	8.17	25.47
CB	09JUL2002	C	1.50	.	40.1	89.60	29.58	8.17	25.47
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
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
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
SO	24OCT2000	A	0.00	35	37.4	56.36	25.98	8.13	6.90
SO	24OCT2000	A	0.98	.	40.0	59.61	26.45	8.14	3.24
SO	24OCT2000	B	0.00	32	35.2	53.33	24.94	8.04	6.85
SO	24OCT2000	B	0.80	.	35.2	53.33	24.95	8.04	4.99
SO	10JAN2001	A	0.00	.	38.9	.	17.14	8.14	8.72
SO	10JAN2001	A	0.85	.	39.0	.	17.12	8.20	8.59
SO	10JAN2001	B	0.00	.	35.7	.	14.22	8.05	7.30
SO	10JAN2001	B	0.60	.	35.7	.	14.19	8.06	7.27
SO	14APR2001	A	0.00	.	37.4	.	27.90	7.89	7.12
SO	14APR2001	A	1.00	.	38.6	.	28.26	7.94	8.26
SO	14APR2001	B	0.00	.	35.7	.	23.83	7.96	6.81
SO	14APR2001	B	0.80	.	35.8	.	23.82	7.97	6.79
SO	07JUL2001	A	0.00	.	37.2	.	30.78	8.24	8.12
SO	07JUL2001	A	0.50	.	37.3	.	31.12	8.29	7.82
SO	07JUL2001	B	0.00	.	37.2	.	29.50	8.16	7.52
SO	07JUL2001	B	0.70	.	37.2	.	29.52	8.18	7.50
SO	27OCT2001	A	0.00	.	36.7	55.15	24.88	8.19	6.49
SO	27OCT2001	A	1.35	.	39.7	59.14	25.00	8.31	7.66



SO	27OCT2001	B	0.00	.	35.1	53.16	26.16	8.38	8.81
SO	27OCT2001	B	0.69	.	35.3	53.32	26.17	8.38	8.11
SO	21JAN2002	A	0.00	.	38.0	.	21.00	.	.
SO	21JAN2002	A	0.90	.	39.0	.	23.00	.	.
SO	21JAN2002	B	0.00	.	37.0	.	21.50	.	.
SO	21JAN2002	B	0.95	.	37.0	.	22.00	.	.
SO	13APR2002	A	0.00	.	34.4	.	26.74	8.46	4.88
SO	13APR2002	A	1.15	.	35.5	.	27.05	8.57	6.83
SO	13APR2002	B	0.00	.	32.1	.	26.13	8.43	6.43
SO	13APR2002	B	1.10	.	32.3	.	25.88	8.42	6.06
SO	09JUL2002	A	0.00	.	36.6	55.11	28.55	8.12	5.90
SO	09JUL2002	A	1.31	.	36.8	55.37	28.54	8.22	6.00
SO	09JUL2002	B	0.00	.	36.6	55.16	29.05	8.18	7.50
SO	09JUL2002	B	1.55	.	36.5	55.06	29.10	8.22	7.20

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*Nutrients*

Table 10. Nutrient and chlorophyll data. Abbreviations: Bay (Christmas Bay = CB, Brazos River = BR, Rio Grande = RG, South Bay = SO), 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 <sub>4</sub>	SIO <sub>4</sub>	N+N	NH <sub>4</sub>	Chl
CB	12OCT2001	A	.	1.040	.	0.360	11.34	0.210
CB	12OCT2001	A	0	0.000	.	0.250	9.78	0.150
CB	12OCT2001	B	.	0.870	.	0.110	10.54	0.100
CB	12OCT2001	B	0	0.840	.	0.130	6.66	0.000
CB	12OCT2001	C	.	0.790	.	0.280	8.48	0.000
CB	12OCT2001	C	0	0.780	.	0.180	6.70	0.000
CB	08JAN2002	A	0	0.000	.	0.750	1.90	0.000
CB	08JAN2002	A	0.8	1.010	.	0.370	2.26	0.000
CB	08JAN2002	B	0	0.740	.	0.720	3.94	0.000
CB	08JAN2002	B	0.8	0.760	.	0.340	4.66	0.000
CB	08JAN2002	C	0	1.060	.	2.730	3.06	0.000
CB	08JAN2002	C	0.82	1.080	.	1.310	4.00	0.000
CB	12APR2002	A	0.1	0.050	.	0.330	4.38	0.000
CB	12APR2002	A	1.35	0.160	.	20.30	3.98	0.000
CB	12APR2002	B	0.1	0.000	.	0.490	2.42	0.000
CB	12APR2002	B	1.4	0.000	.	0.370	3.20	0.000
CB	12APR2002	C	0.1	0.100	.	0.930	2.94	0.000
CB	12APR2002	C	1.2	0.170	.	0.940	5.32	0.000
CB	09JUL2002	A	0.1	0.320	.	0.330	7.24	0.000
CB	09JUL2002	A	1.4	0.230	.	0.220	7.84	0.000
CB	09JUL2002	B	0.1	0.140	.	0.180	7.87	0.000
CB	09JUL2002	B	1.4	0.140	.	0.170	10.04	0.000
CB	09JUL2002	C	0.1	0.130	.	0.020	12.16	0.000
CB	09JUL2002	C	1.5	0.080	.	0.020	11.70	0.000
CB	17OCT2002	A	0.1	0.650	.	0.830	7.08	3.420
CB	17OCT2002	A	1.55	0.660	.	0.810	6.96	4.270
CB	17OCT2002	B	0.1	0.720	.	0.990	6.51	5.250
CB	17OCT2002	B	1.55	0.710	.	0.890	9.35	0.910
CB	17OCT2002	C	0.1	0.690	.	0.780	7.70	3.860
CB	17OCT2002	C	1.5	0.680	.	0.790	8.77	3.470
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
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
SO	24OCT2000	A	0.1	0.433	6	0.000	1.08	0.668
SO	24OCT2000	A	0.98	0.555	13	0.000	2.93	1.453
SO	24OCT2000	B	0.1	0.631	7	0.000	2.63	1.033
SO	24OCT2000	B	0.8	0.760	9	0.000	2.59	1.152
SO	10JAN2001	A	0.1	0.140	8	2.260	1.59	0.460
SO	10JAN2001	A	0.85	0.140	6	1.940	2.35	0.190
SO	10JAN2001	B	0.1	0.240	31	1.910	3.12	0.670
SO	10JAN2001	B	0.6	0.280	26	1.860	4.20	0.650
SO	14APR2001	A	0.1	0.230	1	1.030	1.40	0.510
SO	14APR2001	A	1	0.210	1	1.150	2.07	6.650
SO	14APR2001	B	0.1	0.060	8	1.010	8.62	0.220
SO	14APR2001	B	0.8	0.130	8	0.960	6.14	13.470
SO	07JUL2001	A	0.1	0.380	19	0.370	1.69	32.410
SO	07JUL2001	A	0.5	0.380	18	0.410	4.90	2.180
SO	07JUL2001	B	0.1	0.360	13	0.450	3.42	1.800
SO	07JUL2001	B	0.7	0.310	13	0.390	3.57	2.270
SO	27OCT2001	A	0.1	0.040	8	0.600	1.70	0.050
SO	27OCT2001	A	1.35	0.130	8	0.550	2.85	0.100
SO	27OCT2001	B	0.1	0.150	2	0.530	2.48	0.160
SO	27OCT2001	B	0.69	0.110	2	0.470	3.50	0.080
SO	21JAN2002	A	0.1	0.140	2	0.910	1.64	0.320
SO	21JAN2002	A	0.9	0.100	3	1.150	2.45	0.140
SO	21JAN2002	B	0.1	0.060	3	1.110	1.10	0.420
SO	21JAN2002	B	0.95	0.110	2	1.050	1.45	0.390
SO	13APR2002	A	0.1	0.120	4	1.140	0.71	4.150
SO	13APR2002	A	1.15	0.030	7	1.080	4.58	0.580
SO	13APR2002	B	0.1	0.030	2	1.080	1.34	0.320

SO	13APR2002	B	1.1	0.020	1	1.050	2.15	0.290
SO	09JUL2002	A	0.1	0.310	19	0.430	1.66	1.650
SO	09JUL2002	A	1.31	0.260	18	0.410	2.45	2.700
SO	09JUL2002	B	0.1	0.380	14	0.460	1.97	34.850
SO	09JUL2002	B	1.55	0.270	14	0.430	1.86	51.540

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*Macrofaunal Abundance and Biomass*

Table 11. Taxa abundance and biomass data. Abbreviations: Bay (Christmas Bay = CB, Brazos River = BR, Rio Grande = RG, South Bay = SO), REP = replicate, *n* = number of individuals. Core area is 35.3 cm<sup>2</sup>, multiply by 283 to obtain *n* or mg per m<sup>2</sup>.

Bay	Date	Station	REP	Taxa	<i>n</i> /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	Rhynchozoela	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	Rhynchozoela	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	Rhynchozoela	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	Rhynchozoela	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	Rhynchozoela	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	Rhynchozoela	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	Rhynchozoela	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	Rhynchozoela	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
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
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
SO	24OCT2000	A	1	Crustacea	5	28.00
SO	24OCT2000	A	1	Mollusca	3	0.85
SO	24OCT2000	A	1	Rhynchocoela	1	0.02
SO	24OCT2000	A	1	Polychaeta	77	4.21
SO	24OCT2000	A	2	Rhynchocoela	1	2.26
SO	24OCT2000	A	2	Polychaeta	17	5.84
SO	24OCT2000	A	3	Crustacea	1	0.02
SO	24OCT2000	A	3	Polychaeta	51	12.90

SO	24OCT2000	B	1	Polychaeta	54	1.21
SO	24OCT2000	B	2	Crustacea	5	0.08
SO	24OCT2000	B	2	Rhynchocoela	1	0.12
SO	24OCT2000	B	2	Polychaeta	36	1.23
SO	24OCT2000	B	3	Crustacea	4	0.47
SO	24OCT2000	B	3	Polychaeta	54	2.56
SO	10JAN2001	A	1	Crustacea	13	0.48
SO	10JAN2001	A	1	Rhynchocoela	1	0.01
SO	10JAN2001	A	1	Polychaeta	221	55.05
SO	10JAN2001	A	2	Crustacea	20	1.53
SO	10JAN2001	A	2	Mollusca	3	1.92
SO	10JAN2001	A	2	Rhynchocoela	4	0.15
SO	10JAN2001	A	2	Other	1	0.27
SO	10JAN2001	A	2	Polychaeta	231	21.42
SO	10JAN2001	A	3	Crustacea	9	0.46
SO	10JAN2001	A	3	Mollusca	1	0.59
SO	10JAN2001	A	3	Rhynchocoela	2	0.03
SO	10JAN2001	A	3	Polychaeta	176	96.32
SO	10JAN2001	B	1	Crustacea	2	0.03
SO	10JAN2001	B	1	Mollusca	12	4.57
SO	10JAN2001	B	1	Polychaeta	60	3.28
SO	10JAN2001	B	2	Crustacea	2	0.46
SO	10JAN2001	B	2	Mollusca	13	0.55
SO	10JAN2001	B	2	Other	2	0.07
SO	10JAN2001	B	2	Polychaeta	95	7.71
SO	10JAN2001	B	3	Crustacea	7	0.44
SO	10JAN2001	B	3	Mollusca	16	2.03
SO	10JAN2001	B	3	Polychaeta	128	11.73
SO	14APR2001	A	1	Crustacea	1	0.01
SO	14APR2001	A	1	Rhynchocoela	4	4.87
SO	14APR2001	A	1	Polychaeta	83	7.92
SO	14APR2001	A	2	Rhynchocoela	1	0.85
SO	14APR2001	A	2	Polychaeta	54	30.58
SO	14APR2001	A	3	Crustacea	1	0.19
SO	14APR2001	A	3	Rhynchocoela	1	0.03
SO	14APR2001	A	3	Polychaeta	44	9.10
SO	14APR2001	B	1	Crustacea	1	0.07
SO	14APR2001	B	1	Rhynchocoela	2	0.78
SO	14APR2001	B	1	Polychaeta	127	7.74
SO	14APR2001	B	2	Rhynchocoela	2	0.53
SO	14APR2001	B	2	Polychaeta	79	4.61
SO	14APR2001	B	3	Crustacea	3	0.06
SO	14APR2001	B	3	Polychaeta	147	16.86
SO	07JUL2001	A	1	Crustacea	1	0.02
SO	07JUL2001	A	1	Mollusca	1	56.61
SO	07JUL2001	A	1	Polychaeta	100	4.59
SO	07JUL2001	A	2	Rhynchocoela	1	0.05
SO	07JUL2001	A	2	Polychaeta	153	30.97
SO	07JUL2001	A	3	Crustacea	1	0.02
SO	07JUL2001	A	3	Mollusca	3	1.54
SO	07JUL2001	A	3	Polychaeta	101	1.94
SO	07JUL2001	B	1	Crustacea	1	0.02
SO	07JUL2001	B	1	Rhynchocoela	1	0.10
SO	07JUL2001	B	1	Polychaeta	241	10.10
SO	07JUL2001	B	2	Crustacea	1	0.01
SO	07JUL2001	B	2	Polychaeta	126	6.40

SO	07JUL2001	B	3	Crustacea	2	11.09
SO	07JUL2001	B	3	Rhynchozoa	2	0.31
SO	07JUL2001	B	3	Polychaeta	84	5.23
SO	27OCT2001	A	1	Crustacea	2	0.05
SO	27OCT2001	A	1	Mollusca	1	0.22
SO	27OCT2001	A	1	Polychaeta	93	40.01
SO	27OCT2001	A	2	Other	1	0.24
SO	27OCT2001	A	2	Polychaeta	39	12.73
SO	27OCT2001	A	3	Crustacea	2	0.05
SO	27OCT2001	A	3	Polychaeta	33	32.73
SO	27OCT2001	B	1	Crustacea	1	0.04
SO	27OCT2001	B	1	Polychaeta	97	3.18
SO	27OCT2001	B	2	Crustacea	1	3.12
SO	27OCT2001	B	2	Mollusca	1	0.02
SO	27OCT2001	B	2	Polychaeta	74	11.57
SO	27OCT2001	B	3	Mollusca	1	0.05
SO	27OCT2001	B	3	Polychaeta	92	2.99
SO	21JAN2002	A	1	Hemicordata	1	0.07
SO	21JAN2002	A	1	Rhynchozoa	1	2.34
SO	21JAN2002	A	1	Polychaeta	60	49.31
SO	21JAN2002	A	2	Mollusca	4	15.01
SO	21JAN2002	A	2	Other	1	0.05
SO	21JAN2002	A	2	Polychaeta	90	50.68
SO	21JAN2002	A	3	Crustacea	3	0.57
SO	21JAN2002	A	3	Mollusca	16	1.50
SO	21JAN2002	A	3	Rhynchozoa	3	1.46
SO	21JAN2002	A	3	Polychaeta	93	35.98
SO	21JAN2002	B	1	Crustacea	2	0.67
SO	21JAN2002	B	1	Mollusca	4	3.62
SO	21JAN2002	B	1	Rhynchozoa	1	0.04
SO	21JAN2002	B	1	Other	19	1.04
SO	21JAN2002	B	1	Polychaeta	42	21.29
SO	21JAN2002	B	2	Crustacea	5	0.95
SO	21JAN2002	B	2	Hemicordata	1	0.03
SO	21JAN2002	B	2	Mollusca	4	0.23
SO	21JAN2002	B	2	Rhynchozoa	2	1.42
SO	21JAN2002	B	2	Other	1	0.10
SO	21JAN2002	B	2	Polychaeta	30	8.05
SO	21JAN2002	B	3	Crustacea	2	0.07
SO	21JAN2002	B	3	Rhynchozoa	1	0.04
SO	21JAN2002	B	3	Ophiurozoa	1	4.55
SO	21JAN2002	B	3	Polychaeta	79	9.01
SO	13APR2002	A	1	Mollusca	2	0.20
SO	13APR2002	A	1	Polychaeta	71	22.80
SO	13APR2002	A	2	Crustacea	2	0.02
SO	13APR2002	A	2	Polychaeta	43	48.18
SO	13APR2002	A	3	Crustacea	3	0.08
SO	13APR2002	A	3	Other	1	0.17
SO	13APR2002	A	3	Polychaeta	79	68.59
SO	13APR2002	B	1	Crustacea	3	0.37
SO	13APR2002	B	1	Polychaeta	109	4.86
SO	13APR2002	B	2	Rhynchozoa	1	2.43
SO	13APR2002	B	2	Polychaeta	31	0.94
SO	13APR2002	B	3	Crustacea	2	0.05
SO	13APR2002	B	3	Polychaeta	71	1.35
SO	09JUL2002	A	1	Crustacea	2	0.98



SO	09JUL2002	A	1	Rhynchocoela	2	0.48
SO	09JUL2002	A	1	Polychaeta	86	7.85
SO	09JUL2002	A	2	Ophiuroidea	1	28.89
SO	09JUL2002	A	2	Polychaeta	82	6.03
SO	09JUL2002	A	3	Crustacea	3	0.06
SO	09JUL2002	A	3	Mollusca	2	142.00
SO	09JUL2002	A	3	Rhynchocoela	2	1.17
SO	09JUL2002	A	3	Other	1	0.72
SO	09JUL2002	A	3	Polychaeta	99	12.89
SO	09JUL2002	B	1	Crustacea	1	0.09
SO	09JUL2002	B	1	Rhynchocoela	2	1.37
SO	09JUL2002	B	1	Other	3	0.33
SO	09JUL2002	B	1	Polychaeta	25	1.61
SO	09JUL2002	B	2	Rhynchocoela	1	0.34
SO	09JUL2002	B	2	Polychaeta	58	3.19
SO	09JUL2002	B	3	Rhynchocoela	1	0.91
SO	09JUL2002	B	3	Other	1	0.10
SO	09JUL2002	B	3	Polychaeta	40	1.95

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*Macrofaunal Community Structure*

Table 12. Species abundance data. Abbreviations: Bay (Christmas Bay = CB, Brazos River = BR, Rio Grande = RG, South Bay = SO), REP = replicate, *n* = number of individuals. Sample core area is 35.3 cm<sup>2</sup>, multiply by 283 to obtain n m<sup>2</sup>.

Bay	Date	STA	REP	Species	n/core
CB	12OCT2001	A	1	<i>Aligena texasiana</i>	1
CB	12OCT2001	A	1	<i>Amphiodia atra</i>	2
CB	12OCT2001	A	1	<i>Ancistrosyllis jonesi</i>	3
CB	12OCT2001	A	1	<i>Axiothells</i> sp. A	1
CB	12OCT2001	A	1	<i>Branchioasychis americana</i>	5
CB	12OCT2001	A	1	<i>Ceratonereis irritabilis</i>	2
CB	12OCT2001	A	1	<i>Cirrophorus lyra</i>	19
CB	12OCT2001	A	1	<i>Clymenella torquata</i>	1
CB	12OCT2001	A	1	<i>Glycinde solitaria</i>	1
CB	12OCT2001	A	1	<i>Gyptis vittata</i>	3
CB	12OCT2001	A	1	<i>Lumbrineris parvapedata</i>	3
CB	12OCT2001	A	1	<i>Mediomastus ambiseta</i>	12
CB	12OCT2001	A	1	<i>Melinna maculata</i>	1
CB	12OCT2001	A	1	<i>Notomastus latericeus</i>	2
CB	12OCT2001	A	1	<i>Polydora caulleryi</i>	30
CB	12OCT2001	A	1	<i>Pyrgiscus</i> sp.	1
CB	12OCT2001	A	1	<i>Rhynchocoela</i> (unidentified)	1
CB	12OCT2001	A	1	<i>Tharyx setigera</i>	8
CB	12OCT2001	A	2	<i>Aligena texasiana</i>	1
CB	12OCT2001	A	2	<i>Ancistrosyllis jonesi</i>	1
CB	12OCT2001	A	2	<i>Aricidea catharinae</i>	6
CB	12OCT2001	A	2	<i>Branchioasychis americana</i>	6
CB	12OCT2001	A	2	<i>Caecum johnsoni</i>	3
CB	12OCT2001	A	2	<i>Ceratonereis irritabilis</i>	1
CB	12OCT2001	A	2	<i>Cirrophorus lyra</i>	38
CB	12OCT2001	A	2	<i>Gyptis vittata</i>	5
CB	12OCT2001	A	2	<i>Listriella clymenellae</i>	1
CB	12OCT2001	A	2	<i>Lumbrineris parvapedata</i>	4
CB	12OCT2001	A	2	<i>Mediomastus ambiseta</i>	12
CB	12OCT2001	A	2	<i>Mysella planulata</i>	1
CB	12OCT2001	A	2	<i>Nuculana acuta</i>	1
CB	12OCT2001	A	2	<i>Periploma</i> cf. <i>orbiculare</i>	2
CB	12OCT2001	A	2	<i>Polydora caulleryi</i>	30
CB	12OCT2001	A	2	<i>Schistomeringos</i> sp. A	1
CB	12OCT2001	A	2	<i>Schizocardium</i> sp.	1
CB	12OCT2001	A	2	<i>Tharyx setigera</i>	5
CB	12OCT2001	A	3	<i>Aricidea catharinae</i>	2
CB	12OCT2001	A	3	<i>Brachyuran zoea</i>	3
CB	12OCT2001	A	3	<i>Cirrophorus lyra</i>	22
CB	12OCT2001	A	3	<i>Cossura delta</i>	4
CB	12OCT2001	A	3	<i>Gyptis vittata</i>	3
CB	12OCT2001	A	3	<i>Lumbrineris parvapedata</i>	3
CB	12OCT2001	A	3	<i>Mediomastus ambiseta</i>	12
CB	12OCT2001	A	3	<i>Pilargis berkelyae</i>	2
CB	12OCT2001	A	3	<i>Polydora caulleryi</i>	2
CB	12OCT2001	A	3	<i>Schizocardium</i> sp.	1
CB	12OCT2001	B	1	<i>Cirrophorus lyra</i>	3
CB	12OCT2001	B	1	<i>Cossura delta</i>	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	Microtopopus 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	<i>Periploma margaritaceum</i>	5
CB	12OCT2001	C	3	<i>Polydora caulleryi</i>	1
CB	12OCT2001	C	3	<i>Tharyx setigera</i>	17
CB	08JAN2002	A	1	<i>Aricidea catharinae</i>	1
CB	08JAN2002	A	1	<i>Branchioasychis americana</i>	4
CB	08JAN2002	A	1	<i>Cirrophorus lyra</i>	16
CB	08JAN2002	A	1	<i>Euclymene</i> sp. B	1
CB	08JAN2002	A	1	<i>Gyptis vittata</i>	3
CB	08JAN2002	A	1	<i>Lumbrineris parvapedata</i>	2
CB	08JAN2002	A	1	<i>Mediomastus ambiseta</i>	23
CB	08JAN2002	A	1	<i>Mulinia lateralis</i>	1
CB	08JAN2002	A	1	<i>Mysella planulata</i>	1
CB	08JAN2002	A	1	<i>Nuculana acuta</i>	2
CB	08JAN2002	A	1	<i>Nuculana concentrica</i>	3
CB	08JAN2002	A	1	<i>Periploma</i> cf. orbiculare	4
CB	08JAN2002	A	1	<i>Tharyx setigera</i>	2
CB	08JAN2002	A	2	<i>Aricidea catharinae</i>	1
CB	08JAN2002	A	2	<i>Caecum johnsoni</i>	3
CB	08JAN2002	A	2	<i>Cirrophorus lyra</i>	23
CB	08JAN2002	A	2	<i>Diopatra cuprea</i>	1
CB	08JAN2002	A	2	<i>Euclymene</i> sp. B	1
CB	08JAN2002	A	2	<i>Gyptis vittata</i>	4
CB	08JAN2002	A	2	<i>Lumbrineris parvapedata</i>	4
CB	08JAN2002	A	2	<i>Mediomastus ambiseta</i>	17
CB	08JAN2002	A	2	<i>Periploma</i> cf. orbiculare	6
CB	08JAN2002	A	2	<i>Polydora caulleryi</i>	6
CB	08JAN2002	A	2	<i>Tharyx setigera</i>	2
CB	08JAN2002	A	3	<i>Amphiodia atra</i>	1
CB	08JAN2002	A	3	<i>Aricidea catharinae</i>	2
CB	08JAN2002	A	3	<i>Axiothells</i> sp. A	2
CB	08JAN2002	A	3	<i>Cirrophorus lyra</i>	12
CB	08JAN2002	A	3	<i>Glycinde solitaria</i>	1
CB	08JAN2002	A	3	<i>Gyptis vittata</i>	1
CB	08JAN2002	A	3	<i>Lumbrineris parvapedata</i>	1
CB	08JAN2002	A	3	<i>Mediomastus ambiseta</i>	18
CB	08JAN2002	A	3	<i>Megalomma bioculatum</i>	1
CB	08JAN2002	A	3	<i>Mysella planulata</i>	7
CB	08JAN2002	A	3	<i>Nuculana concentrica</i>	2
CB	08JAN2002	A	3	<i>Periploma</i> cf. orbiculare	11
CB	08JAN2002	B	1	<i>Cirrophorus lyra</i>	10
CB	08JAN2002	B	1	<i>Cossura delta</i>	3
CB	08JAN2002	B	1	<i>Lumbrineris parvapedata</i>	2
CB	08JAN2002	B	1	<i>Mediomastus ambiseta</i>	2
CB	08JAN2002	B	1	<i>Molgula manhattensis</i>	8
CB	08JAN2002	B	1	<i>Polydora caulleryi</i>	1
CB	08JAN2002	B	1	<i>Pyrgiscus</i> sp.	1
CB	08JAN2002	B	1	<i>Streblospio benedicti</i>	1
CB	08JAN2002	B	2	<i>Cossura delta</i>	5
CB	08JAN2002	B	2	<i>Eudorella</i> sp.	1
CB	08JAN2002	B	2	<i>Lumbrineris parvapedata</i>	1
CB	08JAN2002	B	2	<i>Mediomastus ambiseta</i>	9
CB	08JAN2002	B	2	<i>Rhynchocoela</i> (unidentified)	1
CB	08JAN2002	B	2	<i>Streblospio benedicti</i>	2
CB	08JAN2002	B	3	<i>Cirrophorus lyra</i>	5
CB	08JAN2002	B	3	<i>Eudorella</i> sp.	1
CB	08JAN2002	B	3	<i>Mediomastus ambiseta</i>	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	<i>Mysella planulata</i>	2
CB	12APR2002	A	3	<i>Paleanotus heteroseta</i>	1
CB	12APR2002	A	3	<i>Parandalia ocularis</i>	1
CB	12APR2002	A	3	<i>Periploma cf. orbiculare</i>	9
CB	12APR2002	A	3	<i>Polydora caulleryi</i>	2
CB	12APR2002	A	3	<i>Schizocardium sp.</i>	1
CB	12APR2002	A	3	<i>Sphaerosyllis sp. A</i>	1
CB	12APR2002	A	3	<i>Tharyx setigera</i>	1
CB	12APR2002	A	3	Vitrinellidae (unidentified)	1
CB	12APR2002	B	1	<i>Ampelisca abdita</i>	1
CB	12APR2002	B	1	<i>Aricidea catharinae</i>	1
CB	12APR2002	B	1	<i>Cirrophorus lyra</i>	3
CB	12APR2002	B	1	<i>Cossura delta</i>	2
CB	12APR2002	B	1	<i>Glycera americana</i>	1
CB	12APR2002	B	1	<i>Glycinde solitaria</i>	1
CB	12APR2002	B	1	<i>Mediomastus ambiseta</i>	7
CB	12APR2002	B	1	<i>Rhynchocoela (unidentified)</i>	1
CB	12APR2002	B	2	<i>Aricidea catharinae</i>	3
CB	12APR2002	B	2	<i>Branchioasychis americana</i>	2
CB	12APR2002	B	2	<i>Cirrophorus lyra</i>	15
CB	12APR2002	B	2	<i>Corophium louisianum</i>	1
CB	12APR2002	B	2	<i>Lumbrineris parvapedata</i>	3
CB	12APR2002	B	2	<i>Mediomastus ambiseta</i>	11
CB	12APR2002	B	2	<i>Mulinia lateralis</i>	1
CB	12APR2002	B	2	<i>Periploma cf. orbiculare</i>	1
CB	12APR2002	B	2	<i>Rhynchocoela (unidentified)</i>	1
CB	12APR2002	B	3	Anthozoa (unidentified)	1
CB	12APR2002	B	3	<i>Aricidea catharinae</i>	1
CB	12APR2002	B	3	<i>Cirrophorus lyra</i>	5
CB	12APR2002	B	3	<i>Glycinde solitaria</i>	2
CB	12APR2002	B	3	<i>Gyptis vittata</i>	1
CB	12APR2002	B	3	<i>Lumbrineris parvapedata</i>	1
CB	12APR2002	B	3	<i>Mediomastus ambiseta</i>	5
CB	12APR2002	B	3	<i>Mulinia lateralis</i>	1
CB	12APR2002	B	3	<i>Periploma cf. orbiculare</i>	2
CB	12APR2002	B	3	<i>Schistomeringos sp. A</i>	1
CB	12APR2002	C	1	<i>Aligena texasiana</i>	5
CB	12APR2002	C	1	<i>Ampelisca abdita</i>	1
CB	12APR2002	C	1	<i>Amphiodia atra</i>	1
CB	12APR2002	C	1	<i>Aricidea catharinae</i>	14
CB	12APR2002	C	1	<i>Ceratonereis irritabilis</i>	1
CB	12APR2002	C	1	<i>Cirrophorus lyra</i>	56
CB	12APR2002	C	1	<i>Clymenella torquata</i>	7
CB	12APR2002	C	1	<i>Euclymene sp. B</i>	1
CB	12APR2002	C	1	<i>Eumida sanguinea</i>	1
CB	12APR2002	C	1	<i>Glycera americana</i>	1
CB	12APR2002	C	1	<i>Gyptis vittata</i>	2
CB	12APR2002	C	1	<i>Hauchiella sp.</i>	1
CB	12APR2002	C	1	<i>Listriella clymenellae</i>	2
CB	12APR2002	C	1	<i>Lumbrineris parvapedata</i>	8
CB	12APR2002	C	1	<i>Malmgreniella taylori</i>	1
CB	12APR2002	C	1	<i>Mediomastus ambiseta</i>	26
CB	12APR2002	C	1	<i>Melinna maculata</i>	1
CB	12APR2002	C	1	<i>Paranaitis speciosa</i>	1
CB	12APR2002	C	1	<i>Periploma cf. orbiculare</i>	1
CB	12APR2002	C	1	<i>Polydora caulleryi</i>	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 aberrans	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
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
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	Laonereis 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
SO	24OCT2000	A	1	Aricidea catharinae	2
SO	24OCT2000	A	1	Cerithium lutosum	1
SO	24OCT2000	A	1	Cymadusa compta	1
SO	24OCT2000	A	1	Diastoma varium	1
SO	24OCT2000	A	1	Elasmopus sp.	1
SO	24OCT2000	A	1	Exogone sp.	27
SO	24OCT2000	A	1	Fabriciella trilobata	1
SO	24OCT2000	A	1	Leptochelia rapax	1
SO	24OCT2000	A	1	Micropanope scultites	1
SO	24OCT2000	A	1	Oligochaetes (unidentified)	4
SO	24OCT2000	A	1	Pinnixa sp.	1
SO	24OCT2000	A	1	Platynereis dumerilii	1
SO	24OCT2000	A	1	Polydora caulleryi	6
SO	24OCT2000	A	1	Prionospio heterobranchia	14
SO	24OCT2000	A	1	Pyrgiscus sp.	1
SO	24OCT2000	A	1	Rhynchocoela (unidentified)	1
SO	24OCT2000	A	1	Schistomeringos sp. A	2
SO	24OCT2000	A	1	Sphaerosyllis sp. A	4
SO	24OCT2000	A	1	Streblospio benedicti	3
SO	24OCT2000	A	1	Syllis cornuta	6
SO	24OCT2000	A	1	Tharyx setigera	7
SO	24OCT2000	A	2	Aricidea catharinae	1
SO	24OCT2000	A	2	Capitella capitata	1

SO	24OCT2000	A	2	Maldanidae (unidentified)	1
SO	24OCT2000	A	2	Mediomastus californiensis	2
SO	24OCT2000	A	2	Oligochaetes (unidentified)	1
SO	24OCT2000	A	2	Polydora caulleryi	2
SO	24OCT2000	A	2	Prionospio heterobranchia	2
SO	24OCT2000	A	2	Rhynchocoela (unidentified)	1
SO	24OCT2000	A	2	Sphaerosyllis sp. A	1
SO	24OCT2000	A	2	Tharyx setigera	6
SO	24OCT2000	A	3	Ceratonereis irritabilis	1
SO	24OCT2000	A	3	Cirrophorus lyra	1
SO	24OCT2000	A	3	Grandidierella bonnieroides	1
SO	24OCT2000	A	3	Mediomastus ambiseta	1
SO	24OCT2000	A	3	Mediomastus californiensis	9
SO	24OCT2000	A	3	Oligochaetes (unidentified)	3
SO	24OCT2000	A	3	Polydora caulleryi	10
SO	24OCT2000	A	3	Prionospio heterobranchia	3
SO	24OCT2000	A	3	Sphaerosyllis sp. A	4
SO	24OCT2000	A	3	Tharyx setigera	19
SO	24OCT2000	B	1	Capitella capitata	1
SO	24OCT2000	B	1	Cossura delta	26
SO	24OCT2000	B	1	Mediomastus ambiseta	6
SO	24OCT2000	B	1	Oligochaetes (unidentified)	15
SO	24OCT2000	B	1	Tharyx setigera	6
SO	24OCT2000	B	2	Aricidea catharinae	2
SO	24OCT2000	B	2	Brania furcelligera	1
SO	24OCT2000	B	2	Caprellidae sp.	2
SO	24OCT2000	B	2	Cymadusa compta	3
SO	24OCT2000	B	2	Hesionidae (unidentified)	1
SO	24OCT2000	B	2	Mediomastus ambiseta	9
SO	24OCT2000	B	2	Oligochaetes (unidentified)	18
SO	24OCT2000	B	2	Rhynchocoela (unidentified)	1
SO	24OCT2000	B	2	Sphaerosyllis sp. A	2
SO	24OCT2000	B	2	Sporbis sp.	1
SO	24OCT2000	B	2	Terebellidae (unidentified)	1
SO	24OCT2000	B	2	Tharyx setigera	1
SO	24OCT2000	B	3	Amphipoda (unidentified)	1
SO	24OCT2000	B	3	Aricidea catharinae	1
SO	24OCT2000	B	3	Caprellidae sp.	2
SO	24OCT2000	B	3	Cossura delta	6
SO	24OCT2000	B	3	Cymadusa compta	1
SO	24OCT2000	B	3	Hesionidae (unidentified)	1
SO	24OCT2000	B	3	Mediomastus ambiseta	1
SO	24OCT2000	B	3	Oligochaetes (unidentified)	40
SO	24OCT2000	B	3	Prionospio heterobranchia	1
SO	24OCT2000	B	3	Sporbis sp.	1
SO	24OCT2000	B	3	Syllis cornuta	2
SO	24OCT2000	B	3	Terebellidae (unidentified)	1
SO	10JAN2001	A	1	Axiotehells sp. A	3
SO	10JAN2001	A	1	Brania furcelligera	1
SO	10JAN2001	A	1	Capitella capitata	7
SO	10JAN2001	A	1	Caprellidae sp.	2
SO	10JAN2001	A	1	Ceratonereis irritabilis	2
SO	10JAN2001	A	1	Chone sp.	1
SO	10JAN2001	A	1	Cirrophorus lyra	7
SO	10JAN2001	A	1	Edotea montosa	4
SO	10JAN2001	A	1	Elasmopus sp.	1

SO	10JAN2001	A	1	Exogone sp.	6
SO	10JAN2001	A	1	Grandidierella bonnieroides	2
SO	10JAN2001	A	1	Haploscoloplos fragilis	16
SO	10JAN2001	A	1	Leptochelia rapax	1
SO	10JAN2001	A	1	Maldanidae (unidentified)	1
SO	10JAN2001	A	1	Mediomastus ambiseta	5
SO	10JAN2001	A	1	Mediomastus californiensis	2
SO	10JAN2001	A	1	Oligochaetes (unidentified)	8
SO	10JAN2001	A	1	Oxyurostylis sp.	1
SO	10JAN2001	A	1	Polydora caulleryi	38
SO	10JAN2001	A	1	Polydora socialis	1
SO	10JAN2001	A	1	Pomatoceros americanus	4
SO	10JAN2001	A	1	Prionospio heterobranchia	49
SO	10JAN2001	A	1	Rhynchocoela (unidentified)	1
SO	10JAN2001	A	1	Schistomeringos sp. A	1
SO	10JAN2001	A	1	Sphaerosyllis sp. A	22
SO	10JAN2001	A	1	Streblospio benedicti	24
SO	10JAN2001	A	1	Syllis cornuta	4
SO	10JAN2001	A	1	Tharyx setigera	19
SO	10JAN2001	A	1	Xenanthura brevitelson	2
SO	10JAN2001	A	2	Armandia maculata	2
SO	10JAN2001	A	2	Brania furcelligera	3
SO	10JAN2001	A	2	Capitella capitata	12
SO	10JAN2001	A	2	Caprellidae sp.	13
SO	10JAN2001	A	2	Chione grus	1
SO	10JAN2001	A	2	Chone sp.	2
SO	10JAN2001	A	2	Cirrophorus lyra	2
SO	10JAN2001	A	2	Cymadusa compta	2
SO	10JAN2001	A	2	Diastoma varium	1
SO	10JAN2001	A	2	Drilonereis magna	1
SO	10JAN2001	A	2	Elasmopus sp.	1
SO	10JAN2001	A	2	Exogone sp.	11
SO	10JAN2001	A	2	Grandidierella bonnieroides	1
SO	10JAN2001	A	2	Haploscoloplos fragilis	5
SO	10JAN2001	A	2	Leptochelia rapax	2
SO	10JAN2001	A	2	Mediomastus ambiseta	11
SO	10JAN2001	A	2	Mediomastus californiensis	1
SO	10JAN2001	A	2	Oligochaetes (unidentified)	9
SO	10JAN2001	A	2	Oxyurostylis sp.	1
SO	10JAN2001	A	2	Parvi lucina multilineata	1
SO	10JAN2001	A	2	Phoronis architecta	1
SO	10JAN2001	A	2	Pista palmata	1
SO	10JAN2001	A	2	Polydora caulleryi	28
SO	10JAN2001	A	2	Pomatoceros americanus	11
SO	10JAN2001	A	2	Prionospio heterobranchia	63
SO	10JAN2001	A	2	Rhynchocoela (unidentified)	4
SO	10JAN2001	A	2	Schistomeringos sp. A	9
SO	10JAN2001	A	2	Sphaerosyllis sp. A	26
SO	10JAN2001	A	2	Streblospio benedicti	22
SO	10JAN2001	A	2	Syllis cornuta	2
SO	10JAN2001	A	2	Tharyx setigera	10
SO	10JAN2001	A	3	Branchioasychis americana	3
SO	10JAN2001	A	3	Brania furcelligera	4
SO	10JAN2001	A	3	Capitella capitata	3
SO	10JAN2001	A	3	Caprellidae sp.	5
SO	10JAN2001	A	3	Ceratonereis irritabilis	1

SO	10JAN2001	A	3	Chone sp.	2
SO	10JAN2001	A	3	Cymadusa compta	2
SO	10JAN2001	A	3	Diastoma varium	1
SO	10JAN2001	A	3	Exogone sp.	12
SO	10JAN2001	A	3	Glycinde solitaria	1
SO	10JAN2001	A	3	Haploscoloplos fragilis	5
SO	10JAN2001	A	3	Mediomastus ambiseta	19
SO	10JAN2001	A	3	Oligochaetes (unidentified)	1
SO	10JAN2001	A	3	Polydora caulleryi	20
SO	10JAN2001	A	3	Pomatoceros americanus	7
SO	10JAN2001	A	3	Prionospio heterobranchia	40
SO	10JAN2001	A	3	Rhynchocoela (unidentified)	2
SO	10JAN2001	A	3	Sarsiella spinosa	1
SO	10JAN2001	A	3	Schistomeringos sp. A	1
SO	10JAN2001	A	3	Sphaerosyllis sp. A	36
SO	10JAN2001	A	3	Streblospio benedicti	17
SO	10JAN2001	A	3	Syllis cornuta	1
SO	10JAN2001	A	3	Tharyx setigera	3
SO	10JAN2001	A	3	Xenanthura brevitelson	1
SO	10JAN2001	B	1	Abra aequalis	8
SO	10JAN2001	B	1	Branchioasychis americana	1
SO	10JAN2001	B	1	Brania furcelligera	1
SO	10JAN2001	B	1	Capitella capitata	2
SO	10JAN2001	B	1	Exogone sp.	10
SO	10JAN2001	B	1	Haploscoloplos fragilis	6
SO	10JAN2001	B	1	Leptochelia rapax	1
SO	10JAN2001	B	1	Macoma tenta	1
SO	10JAN2001	B	1	Mediomastus ambiseta	7
SO	10JAN2001	B	1	Mulinia lateralis	2
SO	10JAN2001	B	1	Oligochaetes (unidentified)	17
SO	10JAN2001	B	1	Pomatoceros americanus	1
SO	10JAN2001	B	1	Prionospio heterobranchia	4
SO	10JAN2001	B	1	Rhynchocoela (unidentified)	1
SO	10JAN2001	B	1	Sarsiella spinosa	1
SO	10JAN2001	B	1	Sphaerosyllis sp. A	5
SO	10JAN2001	B	1	Streblospio benedicti	6
SO	10JAN2001	B	2	Abra aequalis	13
SO	10JAN2001	B	2	Ampelisca abdita	1
SO	10JAN2001	B	2	Anthozoa (unidentified)	2
SO	10JAN2001	B	2	Aricidea catharinae	3
SO	10JAN2001	B	2	Armandia maculata	1
SO	10JAN2001	B	2	Brania furcelligera	1
SO	10JAN2001	B	2	Capitella capitata	9
SO	10JAN2001	B	2	Cirrophorus lyra	1
SO	10JAN2001	B	2	Cossura delta	13
SO	10JAN2001	B	2	Glycera americana	1
SO	10JAN2001	B	2	Mediomastus ambiseta	21
SO	10JAN2001	B	2	Megalops	1
SO	10JAN2001	B	2	Oligochaetes (unidentified)	22
SO	10JAN2001	B	2	Prionospio heterobranchia	6
SO	10JAN2001	B	2	Sigambra tentaculata	1
SO	10JAN2001	B	2	Sphaerosyllis sp. A	2
SO	10JAN2001	B	2	Spiophanes bombyx	1
SO	10JAN2001	B	2	Streblospio benedicti	12
SO	10JAN2001	B	2	Tharyx setigera	1
SO	10JAN2001	B	3	Abra aequalis	16



SO	10JAN2001	B	3	<i>Ampelisca abdita</i>	4
SO	10JAN2001	B	3	<i>Apoprionospio pygmaea</i>	1
SO	10JAN2001	B	3	<i>Bowmaniella brasiliensis</i>	1
SO	10JAN2001	B	3	<i>Capitella capitata</i>	22
SO	10JAN2001	B	3	<i>Cossura delta</i>	4
SO	10JAN2001	B	3	<i>Elasmopus</i> sp.	1
SO	10JAN2001	B	3	<i>Erichthonias brasiliensis</i>	1
SO	10JAN2001	B	3	<i>Haploscoloplos fragilis</i>	2
SO	10JAN2001	B	3	<i>Mediomastus ambiseta</i>	18
SO	10JAN2001	B	3	<i>Oligochaetes</i> (unidentified)	50
SO	10JAN2001	B	3	<i>Prionospio heterobranchia</i>	10
SO	10JAN2001	B	3	<i>Sphaerosyllis</i> sp. A	5
SO	10JAN2001	B	3	<i>Streblospio benedicti</i>	10
SO	10JAN2001	B	3	<i>Syllis cornuta</i>	1
SO	10JAN2001	B	3	<i>Tharyx setigera</i>	5
SO	14APR2001	A	1	<i>Capitella capitata</i>	20
SO	14APR2001	A	1	<i>Chone</i> sp.	1
SO	14APR2001	A	1	<i>Cirrophorus lyra</i>	2
SO	14APR2001	A	1	<i>Fabriciola trilobata</i>	1
SO	14APR2001	A	1	<i>Oligochaetes</i> (unidentified)	1
SO	14APR2001	A	1	<i>Polydora caulleryi</i>	2
SO	14APR2001	A	1	<i>Prionospio heterobranchia</i>	22
SO	14APR2001	A	1	<i>Rhynchocoela</i> (unidentified)	4
SO	14APR2001	A	1	<i>Sarsiella zostericola</i>	1
SO	14APR2001	A	1	<i>Schistomeringos</i> sp. A	1
SO	14APR2001	A	1	<i>Sphaerosyllis</i> sp. A	16
SO	14APR2001	A	1	<i>Streblospio benedicti</i>	9
SO	14APR2001	A	1	<i>Tharyx setigera</i>	8
SO	14APR2001	A	2	<i>Branchioasychis americana</i>	1
SO	14APR2001	A	2	<i>Capitella capitata</i>	1
SO	14APR2001	A	2	<i>Euclymene</i> sp. B	1
SO	14APR2001	A	2	<i>Grubeulepis</i> cf. <i>mexicana</i>	12
SO	14APR2001	A	2	<i>Mediomastus ambiseta</i>	1
SO	14APR2001	A	2	<i>Melinna maculata</i>	1
SO	14APR2001	A	2	<i>Oligochaetes</i> (unidentified)	7
SO	14APR2001	A	2	<i>Prionospio heterobranchia</i>	21
SO	14APR2001	A	2	<i>Rhynchocoela</i> (unidentified)	1
SO	14APR2001	A	2	<i>Streblospio benedicti</i>	8
SO	14APR2001	A	2	<i>Syllis cornuta</i>	1
SO	14APR2001	A	3	<i>Capitella capitata</i>	11
SO	14APR2001	A	3	<i>Edotea montosa</i>	1
SO	14APR2001	A	3	<i>Melinna maculata</i>	1
SO	14APR2001	A	3	<i>Oligochaetes</i> (unidentified)	5
SO	14APR2001	A	3	<i>Prionospio heterobranchia</i>	17
SO	14APR2001	A	3	<i>Rhynchocoela</i> (unidentified)	1
SO	14APR2001	A	3	<i>Streblospio benedicti</i>	4
SO	14APR2001	A	3	<i>Tharyx setigera</i>	6
SO	14APR2001	B	1	<i>Ampelisca abdita</i>	1
SO	14APR2001	B	1	<i>Capitella capitata</i>	17
SO	14APR2001	B	1	<i>Capitellides jonesi</i>	3
SO	14APR2001	B	1	<i>Mediomastus ambiseta</i>	1
SO	14APR2001	B	1	<i>Oligochaetes</i> (unidentified)	97
SO	14APR2001	B	1	<i>Prionospio heterobranchia</i>	5
SO	14APR2001	B	1	<i>Rhynchocoela</i> (unidentified)	2
SO	14APR2001	B	1	<i>Streblospio benedicti</i>	2
SO	14APR2001	B	1	<i>Tharyx setigera</i>	2

SO	14APR2001	B	2	Aricidea catharinae	1
SO	14APR2001	B	2	Capitella capitata	15
SO	14APR2001	B	2	Grubeulepis cf. mexicana	1
SO	14APR2001	B	2	Mediomastus ambiseta	1
SO	14APR2001	B	2	Oligochaetes (unidentified)	59
SO	14APR2001	B	2	Prionospio heterobranchia	1
SO	14APR2001	B	2	Rhynchocoela (unidentified)	2
SO	14APR2001	B	2	Streblospio benedicti	1
SO	14APR2001	B	3	Ampelisca abdita	1
SO	14APR2001	B	3	Capitella capitata	64
SO	14APR2001	B	3	Cossura delta	16
SO	14APR2001	B	3	Edotea montosa	2
SO	14APR2001	B	3	Mediomastus ambiseta	14
SO	14APR2001	B	3	Melinna maculata	1
SO	14APR2001	B	3	Microphthalmus abberrans	2
SO	14APR2001	B	3	Oligochaetes (unidentified)	40
SO	14APR2001	B	3	Prionospio heterobranchia	3
SO	14APR2001	B	3	Streblospio benedicti	1
SO	14APR2001	B	3	Tharyx setigera	6
SO	07JUL2001	A	1	Amphipoda (unidentified)	1
SO	07JUL2001	A	1	Capitella capitata	1
SO	07JUL2001	A	1	Chione cancellata	1
SO	07JUL2001	A	1	Heteromastus filiformis	2
SO	07JUL2001	A	1	Mediomastus ambiseta	2
SO	07JUL2001	A	1	Oligochaetes (unidentified)	65
SO	07JUL2001	A	1	Streblospio benedicti	29
SO	07JUL2001	A	1	Tharyx setigera	1
SO	07JUL2001	A	2	Cossura delta	1
SO	07JUL2001	A	2	Mediomastus ambiseta	1
SO	07JUL2001	A	2	Naineris sp. A	11
SO	07JUL2001	A	2	Oligochaetes (unidentified)	102
SO	07JUL2001	A	2	Rhynchocoela (unidentified)	1
SO	07JUL2001	A	2	Streblospio benedicti	32
SO	07JUL2001	A	2	Tharyx setigera	6
SO	07JUL2001	A	3	Capitella capitata	2
SO	07JUL2001	A	3	Crepidula fornicata	2
SO	07JUL2001	A	3	Cymadusa compta	1
SO	07JUL2001	A	3	Oligochaetes (unidentified)	92
SO	07JUL2001	A	3	Parvi lucina multilineata	1
SO	07JUL2001	A	3	Sphaerosyllis sp. A	2
SO	07JUL2001	A	3	Streblospio benedicti	5
SO	07JUL2001	B	1	Capitella capitata	14
SO	07JUL2001	B	1	Capitellidae (unidentified)	5
SO	07JUL2001	B	1	Cossura delta	2
SO	07JUL2001	B	1	Edotea montosa	1
SO	07JUL2001	B	1	Mediomastus ambiseta	2
SO	07JUL2001	B	1	Oligochaetes (unidentified)	78
SO	07JUL2001	B	1	Prionospio heterobranchia	1
SO	07JUL2001	B	1	Rhynchocoela (unidentified)	1
SO	07JUL2001	B	1	Streblospio benedicti	136
SO	07JUL2001	B	1	Tharyx setigera	3
SO	07JUL2001	B	2	Capitella capitata	21
SO	07JUL2001	B	2	Edotea montosa	1
SO	07JUL2001	B	2	Oligochaetes (unidentified)	36
SO	07JUL2001	B	2	Streblospio benedicti	67
SO	07JUL2001	B	2	Tharyx setigera	2

SO	07JUL2001	B	3	<i>Ampelisca abdita</i>	1
SO	07JUL2001	B	3	<i>Callinectes similis</i>	1
SO	07JUL2001	B	3	<i>Capitella capitata</i>	16
SO	07JUL2001	B	3	Capitellidae (unidentified)	4
SO	07JUL2001	B	3	Oligochaetes (unidentified)	20
SO	07JUL2001	B	3	Rhynchocoela (unidentified)	2
SO	07JUL2001	B	3	<i>Sphaerosyllis</i> sp. A	1
SO	07JUL2001	B	3	<i>Streblospio benedicti</i>	43
SO	27OCT2001	A	1	<i>Aricidea catharinae</i>	1
SO	27OCT2001	A	1	<i>Branchioasychis americana</i>	2
SO	27OCT2001	A	1	<i>Ceratonereis irritabilis</i>	1
SO	27OCT2001	A	1	<i>Cirrophorus lyra</i>	11
SO	27OCT2001	A	1	<i>Euclymene</i> sp. B	2
SO	27OCT2001	A	1	<i>Heteromastus filiformis</i>	1
SO	27OCT2001	A	1	<i>Lucina pectinata</i>	1
SO	27OCT2001	A	1	<i>Mediomastus ambiseta</i>	5
SO	27OCT2001	A	1	<i>Mediomastus californiensis</i>	3
SO	27OCT2001	A	1	Oligochaetes (unidentified)	1
SO	27OCT2001	A	1	<i>Polydora caulleryi</i>	2
SO	27OCT2001	A	1	<i>Prionospio heterobranchia</i>	8
SO	27OCT2001	A	1	<i>Schistomeringos</i> sp. A	6
SO	27OCT2001	A	1	<i>Streblospio benedicti</i>	4
SO	27OCT2001	A	1	<i>Tharyx setigera</i>	46
SO	27OCT2001	A	1	<i>Xenanthura brevitelson</i>	2
SO	27OCT2001	A	2	<i>Branchioasychis americana</i>	1
SO	27OCT2001	A	2	<i>Euclymene</i> sp. B	1
SO	27OCT2001	A	2	<i>Mediomastus ambiseta</i>	2
SO	27OCT2001	A	2	<i>Phoronis architecta</i>	1
SO	27OCT2001	A	2	<i>Prionospio heterobranchia</i>	4
SO	27OCT2001	A	2	<i>Schistomeringos</i> sp. A	2
SO	27OCT2001	A	2	<i>Streblospio benedicti</i>	7
SO	27OCT2001	A	2	<i>Tharyx setigera</i>	22
SO	27OCT2001	A	3	<i>Branchioasychis americana</i>	7
SO	27OCT2001	A	3	<i>Cirrophorus lyra</i>	1
SO	27OCT2001	A	3	<i>Exogone</i> sp.	1
SO	27OCT2001	A	3	<i>Heteromastus filiformis</i>	1
SO	27OCT2001	A	3	<i>Leptocheilia rapax</i>	1
SO	27OCT2001	A	3	<i>Mediomastus ambiseta</i>	1
SO	27OCT2001	A	3	<i>Mediomastus californiensis</i>	5
SO	27OCT2001	A	3	<i>Prionospio heterobranchia</i>	5
SO	27OCT2001	A	3	<i>Schistomeringos</i> sp. A	1
SO	27OCT2001	A	3	<i>Streblospio benedicti</i>	9
SO	27OCT2001	A	3	<i>Tharyx setigera</i>	2
SO	27OCT2001	A	3	<i>Xenanthura brevitelson</i>	1
SO	27OCT2001	B	1	<i>Heteromastus filiformis</i>	1
SO	27OCT2001	B	1	<i>Mediomastus ambiseta</i>	3
SO	27OCT2001	B	1	Oligochaetes (unidentified)	54
SO	27OCT2001	B	1	<i>Streblospio benedicti</i>	31
SO	27OCT2001	B	1	<i>Tharyx setigera</i>	8
SO	27OCT2001	B	1	<i>Xenanthura brevitelson</i>	1
SO	27OCT2001	B	2	<i>Cirrophorus lyra</i>	1
SO	27OCT2001	B	2	<i>Mediomastus ambiseta</i>	6
SO	27OCT2001	B	2	Nereidae (unidentified)	1
SO	27OCT2001	B	2	Oligochaetes (unidentified)	20
SO	27OCT2001	B	2	<i>Pagurus annulipes</i>	1
SO	27OCT2001	B	2	<i>Paleanotus heteroseta</i>	1

SO	27OCT2001	B	2	<i>Polygireulima jamaicensis</i>	1
SO	27OCT2001	B	2	<i>Streblospio benedicti</i>	29
SO	27OCT2001	B	2	<i>Terebellides stroemi</i>	1
SO	27OCT2001	B	2	<i>Tharyx setigera</i>	15
SO	27OCT2001	B	3	<i>Capitella capitata</i>	1
SO	27OCT2001	B	3	<i>Litocorsa stremma</i>	1
SO	27OCT2001	B	3	<i>Lucina pectinata</i>	1
SO	27OCT2001	B	3	<i>Mediomastus ambiseta</i>	6
SO	27OCT2001	B	3	<i>Oligochaetes (unidentified)</i>	44
SO	27OCT2001	B	3	<i>Streblospio benedicti</i>	26
SO	27OCT2001	B	3	<i>Tharyx setigera</i>	14
SO	21JAN2002	A	1	<i>Branchioasychis americana</i>	1
SO	21JAN2002	A	1	<i>Capitella capitata</i>	2
SO	21JAN2002	A	1	<i>Euclymene sp. B</i>	3
SO	21JAN2002	A	1	<i>Glycera americana</i>	1
SO	21JAN2002	A	1	<i>Haploscoloplos fragilis</i>	3
SO	21JAN2002	A	1	<i>Mediomastus ambiseta</i>	5
SO	21JAN2002	A	1	<i>Oligochaetes (unidentified)</i>	2
SO	21JAN2002	A	1	<i>Polydora caulleryi</i>	3
SO	21JAN2002	A	1	<i>Prionospio heterobranchia</i>	1
SO	21JAN2002	A	1	<i>Rhynchozoela (unidentified)</i>	1
SO	21JAN2002	A	1	<i>Schizocardium sp.</i>	1
SO	21JAN2002	A	1	<i>Sphaerosyllis sp. A</i>	1
SO	21JAN2002	A	1	<i>Streblospio benedicti</i>	29
SO	21JAN2002	A	1	<i>Tharyx setigera</i>	9
SO	21JAN2002	A	2	<i>Aricidea catharinae</i>	1
SO	21JAN2002	A	2	<i>Asychis sp.</i>	1
SO	21JAN2002	A	2	<i>Branchioasychis americana</i>	2
SO	21JAN2002	A	2	<i>Capitella capitata</i>	6
SO	21JAN2002	A	2	<i>Cirrophorus lyra</i>	1
SO	21JAN2002	A	2	<i>Diastoma varium</i>	2
SO	21JAN2002	A	2	<i>Eteone heteropoda</i>	1
SO	21JAN2002	A	2	<i>Haploscoloplos fragilis</i>	4
SO	21JAN2002	A	2	<i>Lucina pectinata</i>	1
SO	21JAN2002	A	2	<i>Mediomastus ambiseta</i>	11
SO	21JAN2002	A	2	<i>Melinna maculata</i>	1
SO	21JAN2002	A	2	<i>Microphthalmus aberrans</i>	1
SO	21JAN2002	A	2	<i>Oligochaetes (unidentified)</i>	2
SO	21JAN2002	A	2	<i>Polydora caulleryi</i>	2
SO	21JAN2002	A	2	<i>Prionospio heterobranchia</i>	6
SO	21JAN2002	A	2	<i>Pycnogonida (unidentified)</i>	1
SO	21JAN2002	A	2	<i>Sphaerosyllis sp. A</i>	4
SO	21JAN2002	A	2	<i>Streblospio benedicti</i>	38
SO	21JAN2002	A	2	<i>Tellina texana</i>	1
SO	21JAN2002	A	2	<i>Tharyx setigera</i>	9
SO	21JAN2002	A	3	<i>Abra aequalis</i>	11
SO	21JAN2002	A	3	<i>Ampelisca abdita</i>	1
SO	21JAN2002	A	3	<i>Anthozoa (unidentified)</i>	1
SO	21JAN2002	A	3	<i>Aricidea catharinae</i>	2
SO	21JAN2002	A	3	<i>Capitella capitata</i>	7
SO	21JAN2002	A	3	<i>Caprellidae sp.</i>	2
SO	21JAN2002	A	3	<i>Euclymene sp. B</i>	3
SO	21JAN2002	A	3	<i>Eulimastoma canaliculata</i>	1
SO	21JAN2002	A	3	<i>Laevicardium mortoni</i>	1
SO	21JAN2002	A	3	<i>Lyonsia hyalina floridana</i>	1
SO	21JAN2002	A	3	<i>Malmgreniella sp.</i>	1

SO	21JAN2002	A	3	Mediomastus ambiseta	8
SO	21JAN2002	A	3	Oligochaetes (unidentified)	1
SO	21JAN2002	A	3	Polydora caulleryi	35
SO	21JAN2002	A	3	Prionospio heterobranchia	3
SO	21JAN2002	A	3	Rhynchocoela (unidentified)	3
SO	21JAN2002	A	3	Scolecopsis texana	1
SO	21JAN2002	A	3	Sphaerosyllis sp. A	4
SO	21JAN2002	A	3	Spiophanes bombyx	1
SO	21JAN2002	A	3	Streblospio benedicti	15
SO	21JAN2002	A	3	Tellina texana	2
SO	21JAN2002	A	3	Tharyx setigera	11
SO	21JAN2002	B	1	Abra aequalis	2
SO	21JAN2002	B	1	Ampelisca abdita	1
SO	21JAN2002	B	1	Aricidea catharinae	2
SO	21JAN2002	B	1	Brania furcelligera	1
SO	21JAN2002	B	1	Capitella capitata	1
SO	21JAN2002	B	1	Cirrophorus lyra	4
SO	21JAN2002	B	1	Euclymene sp. B	2
SO	21JAN2002	B	1	Laevicardium mortoni	1
SO	21JAN2002	B	1	Malacoceros indicus	1
SO	21JAN2002	B	1	Mediomastus ambiseta	12
SO	21JAN2002	B	1	Oligochaetes (unidentified)	1
SO	21JAN2002	B	1	Phoronis architecta	19
SO	21JAN2002	B	1	Prionospio heterobranchia	1
SO	21JAN2002	B	1	Rhynchocoela (unidentified)	1
SO	21JAN2002	B	1	Streblospio benedicti	14
SO	21JAN2002	B	1	Tellina texana	1
SO	21JAN2002	B	1	Tharyx setigera	3
SO	21JAN2002	B	1	Xenanthura brevitelson	1
SO	21JAN2002	B	2	Abra aequalis	3
SO	21JAN2002	B	2	Ampelisca abdita	3
SO	21JAN2002	B	2	Anaitides mucosa	2
SO	21JAN2002	B	2	Aricidea catharinae	1
SO	21JAN2002	B	2	Capitella capitata	2
SO	21JAN2002	B	2	Chone sp.	1
SO	21JAN2002	B	2	Cossura delta	1
SO	21JAN2002	B	2	Euclymene sp. B	1
SO	21JAN2002	B	2	Glycera americana	1
SO	21JAN2002	B	2	Mediomastus ambiseta	7
SO	21JAN2002	B	2	Mysidopsis bahia	1
SO	21JAN2002	B	2	Oligochaetes (unidentified)	5
SO	21JAN2002	B	2	Oxyurostylis sp.	1
SO	21JAN2002	B	2	Phoronis architecta	1
SO	21JAN2002	B	2	Rhynchocoela (unidentified)	2
SO	21JAN2002	B	2	Schizocardium sp.	1
SO	21JAN2002	B	2	Streblospio benedicti	4
SO	21JAN2002	B	2	Tellina texana	1
SO	21JAN2002	B	2	Tharyx setigera	5
SO	21JAN2002	B	3	Amphiodia atra	1
SO	21JAN2002	B	3	Anaitides mucosa	1
SO	21JAN2002	B	3	Aricidea catharinae	1
SO	21JAN2002	B	3	Capitella capitata	1
SO	21JAN2002	B	3	Cirrophorus lyra	1
SO	21JAN2002	B	3	Mediomastus ambiseta	5
SO	21JAN2002	B	3	Melinna maculata	1
SO	21JAN2002	B	3	Naineris sp. A	1

SO	21JAN2002	B	3	Oligochaetes (unidentified)	1
SO	21JAN2002	B	3	Oxyurostylis sp.	1
SO	21JAN2002	B	3	Pista cristata	1
SO	21JAN2002	B	3	Polydora caulleryi	4
SO	21JAN2002	B	3	Prionospio heterobranchia	1
SO	21JAN2002	B	3	Rhynchocoela (unidentified)	1
SO	21JAN2002	B	3	Schistomeringos sp. A	1
SO	21JAN2002	B	3	Sphaerosyllis sp. A	4
SO	21JAN2002	B	3	Streblospio benedicti	30
SO	21JAN2002	B	3	Tharyx setigera	26
SO	21JAN2002	B	3	Xenanthura brevitelson	1
SO	13APR2002	A	1	Acteocina canaliculata	1
SO	13APR2002	A	1	Capitella capitata	4
SO	13APR2002	A	1	Cirrophorus lyra	3
SO	13APR2002	A	1	Crepidula fornicata	1
SO	13APR2002	A	1	Euclymene sp. B	2
SO	13APR2002	A	1	Mediomastus ambiseta	7
SO	13APR2002	A	1	Microphthalmus abberrans	1
SO	13APR2002	A	1	Oligochaetes (unidentified)	12
SO	13APR2002	A	1	Prionospio heterobranchia	5
SO	13APR2002	A	1	Schistomeringos sp. A	4
SO	13APR2002	A	1	Sphaerosyllis sp. A	1
SO	13APR2002	A	1	Streblospio benedicti	4
SO	13APR2002	A	1	Tharyx setigera	28
SO	13APR2002	A	2	Apoprionospio pygmaea	1
SO	13APR2002	A	2	Branchioasychis americana	1
SO	13APR2002	A	2	Capitella capitata	1
SO	13APR2002	A	2	Euclymene sp. B	2
SO	13APR2002	A	2	Glycera americana	1
SO	13APR2002	A	2	Mediomastus ambiseta	4
SO	13APR2002	A	2	Microphthalmus abberrans	4
SO	13APR2002	A	2	Oligochaetes (unidentified)	3
SO	13APR2002	A	2	Oxyurostylis sp.	1
SO	13APR2002	A	2	Sarsiella texana	1
SO	13APR2002	A	2	Sphaerosyllis sp. A	5
SO	13APR2002	A	2	Streblospio benedicti	11
SO	13APR2002	A	2	Tharyx setigera	10
SO	13APR2002	A	3	Ampelisca abdita	1
SO	13APR2002	A	3	Aricidea catharinae	1
SO	13APR2002	A	3	Branchioasychis americana	5
SO	13APR2002	A	3	Capitella capitata	4
SO	13APR2002	A	3	Cirrophorus lyra	2
SO	13APR2002	A	3	Euclymene sp. B	3
SO	13APR2002	A	3	Grandidierella bonnieroides	1
SO	13APR2002	A	3	Gyptis vittata	1
SO	13APR2002	A	3	Mediomastus ambiseta	13
SO	13APR2002	A	3	Mediomastus californiensis	1
SO	13APR2002	A	3	Melinna maculata	1
SO	13APR2002	A	3	Oxyurostylis sp.	1
SO	13APR2002	A	3	Prionospio heterobranchia	2
SO	13APR2002	A	3	Pycnogonida (unidentified)	1
SO	13APR2002	A	3	Sphaerosyllis sp. A	1
SO	13APR2002	A	3	Spiorbis sp.	1
SO	13APR2002	A	3	Streblospio benedicti	14
SO	13APR2002	A	3	Syllis cornuta	1
SO	13APR2002	A	3	Tharyx setigera	29

SO	13APR2002	B	1	<i>Ampelisca abdita</i>	3
SO	13APR2002	B	1	<i>Capitella capitata</i>	5
SO	13APR2002	B	1	<i>Cossura delta</i>	4
SO	13APR2002	B	1	<i>Glycinde solitaria</i>	1
SO	13APR2002	B	1	<i>Haploscoloplos fragilis</i>	1
SO	13APR2002	B	1	<i>Mediomastus ambiseta</i>	12
SO	13APR2002	B	1	<i>Oligochaetes (unidentified)</i>	27
SO	13APR2002	B	1	<i>Streblospio benedicti</i>	45
SO	13APR2002	B	1	<i>Tharyx setigera</i>	14
SO	13APR2002	B	2	<i>Capitella capitata</i>	1
SO	13APR2002	B	2	<i>Mediomastus ambiseta</i>	4
SO	13APR2002	B	2	<i>Oligochaetes (unidentified)</i>	23
SO	13APR2002	B	2	<i>Rhynchocoela (unidentified)</i>	1
SO	13APR2002	B	2	<i>Streblospio benedicti</i>	2
SO	13APR2002	B	2	<i>Tharyx setigera</i>	1
SO	13APR2002	B	3	<i>Ampelisca abdita</i>	1
SO	13APR2002	B	3	<i>Capitella capitata</i>	12
SO	13APR2002	B	3	<i>Cossura delta</i>	1
SO	13APR2002	B	3	<i>Edotea montosa</i>	1
SO	13APR2002	B	3	<i>Oligochaetes (unidentified)</i>	47
SO	13APR2002	B	3	<i>Streblospio benedicti</i>	6
SO	13APR2002	B	3	<i>Tharyx setigera</i>	5
SO	09JUL2002	A	1	<i>Axiothells sp. A</i>	1
SO	09JUL2002	A	1	<i>Capitella capitata</i>	1
SO	09JUL2002	A	1	<i>Grandidierella bonnieroides</i>	1
SO	09JUL2002	A	1	<i>Leptochela serratorbita</i>	1
SO	09JUL2002	A	1	<i>Mediomastus ambiseta</i>	1
SO	09JUL2002	A	1	<i>Oligochaetes (unidentified)</i>	7
SO	09JUL2002	A	1	<i>Polydora caulleryi</i>	5
SO	09JUL2002	A	1	<i>Prionospio heterobranchia</i>	15
SO	09JUL2002	A	1	<i>Rhynchocoela (unidentified)</i>	2
SO	09JUL2002	A	1	<i>Schistomeringos sp. A</i>	2
SO	09JUL2002	A	1	<i>Sphaerosyllis sp. A</i>	1
SO	09JUL2002	A	1	<i>Streblospio benedicti</i>	8
SO	09JUL2002	A	1	<i>Tharyx setigera</i>	45
SO	09JUL2002	A	2	<i>Amphiodia atra</i>	1
SO	09JUL2002	A	2	<i>Aricidea catharinae</i>	3
SO	09JUL2002	A	2	<i>Capitella capitata</i>	3
SO	09JUL2002	A	2	<i>Mediomastus ambiseta</i>	8
SO	09JUL2002	A	2	<i>Microphthalmus aberrans</i>	1
SO	09JUL2002	A	2	<i>Oligochaetes (unidentified)</i>	14
SO	09JUL2002	A	2	<i>Polydora caulleryi</i>	4
SO	09JUL2002	A	2	<i>Prionospio heterobranchia</i>	15
SO	09JUL2002	A	2	<i>Streblospio benedicti</i>	2
SO	09JUL2002	A	2	<i>Terebellides stroemi</i>	1
SO	09JUL2002	A	2	<i>Tharyx setigera</i>	31
SO	09JUL2002	A	3	<i>Aricidea catharinae</i>	2
SO	09JUL2002	A	3	<i>Capitella capitata</i>	5
SO	09JUL2002	A	3	<i>Chione cancellata</i>	1
SO	09JUL2002	A	3	<i>Cirrophorus lyra</i>	1
SO	09JUL2002	A	3	<i>Cymadusa compta</i>	1
SO	09JUL2002	A	3	<i>Grandidierella bonnieroides</i>	1
SO	09JUL2002	A	3	<i>Lucina pectinata</i>	1
SO	09JUL2002	A	3	<i>Mediomastus ambiseta</i>	8
SO	09JUL2002	A	3	<i>Microprotopus spp.</i>	1
SO	09JUL2002	A	3	<i>Oligochaetes (unidentified)</i>	9

SO	09JUL2002	A	3	Phoronis architecta	1
SO	09JUL2002	A	3	Polydora caulleryi	18
SO	09JUL2002	A	3	Prionospio heterobranchia	12
SO	09JUL2002	A	3	Rhynchocoela (unidentified)	2
SO	09JUL2002	A	3	Schistomeringos sp. A	4
SO	09JUL2002	A	3	Streblospio benedicti	15
SO	09JUL2002	A	3	Tharyx setigera	25
SO	09JUL2002	B	1	Ampelisca abdita	1
SO	09JUL2002	B	1	Cirrophorus lyra	1
SO	09JUL2002	B	1	Cossura delta	2
SO	09JUL2002	B	1	Mediomastus ambiseta	3
SO	09JUL2002	B	1	Nudibranchia (unidentified)	1
SO	09JUL2002	B	1	Oligochaetes (unidentified)	3
SO	09JUL2002	B	1	Phoronis architecta	1
SO	09JUL2002	B	1	Polydora socialis	1
SO	09JUL2002	B	1	Rhynchocoela (unidentified)	2
SO	09JUL2002	B	1	Sipuncula (unidentified)	1
SO	09JUL2002	B	1	Sphaerosyllis sp. A	1
SO	09JUL2002	B	1	Streblospio benedicti	10
SO	09JUL2002	B	1	Tharyx setigera	4
SO	09JUL2002	B	2	Aricidea catharinae	2
SO	09JUL2002	B	2	Axiiothella mucosa	2
SO	09JUL2002	B	2	Litocorsa stremma	1
SO	09JUL2002	B	2	Mediomastus ambiseta	2
SO	09JUL2002	B	2	Naineris sp. A	1
SO	09JUL2002	B	2	Oligochaetes (unidentified)	4
SO	09JUL2002	B	2	Paleanotus heteroseta	2
SO	09JUL2002	B	2	Polydora socialis	2
SO	09JUL2002	B	2	Prionospio heterobranchia	4
SO	09JUL2002	B	2	Rhynchocoela (unidentified)	1
SO	09JUL2002	B	2	Streblospio benedicti	15
SO	09JUL2002	B	2	Tharyx setigera	23
SO	09JUL2002	B	3	Apoprionospio pygmaea	1
SO	09JUL2002	B	3	Aricidea catharinae	2
SO	09JUL2002	B	3	Chone sp.	1
SO	09JUL2002	B	3	Mediomastus ambiseta	5
SO	09JUL2002	B	3	Oligochaetes (unidentified)	8
SO	09JUL2002	B	3	Paleanotus heteroseta	1
SO	09JUL2002	B	3	Polydora socialis	1
SO	09JUL2002	B	3	Rhynchocoela (unidentified)	1
SO	09JUL2002	B	3	Schistomeringos sp. A	1
SO	09JUL2002	B	3	Streblospio benedicti	9
SO	09JUL2002	B	3	Tharyx setigera	11
SO	09JUL2002	B	3	Turbellaria (unidentified)	1



## **TWDB REVIEW**

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



**Texas Water Development Board**  
 1700 North Congress Avenue  
 PO Box 13231  
 Austin, TX 78711-3231  
 FAX: (512) 463-9893

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FACSIMILE TRANSMITTAL SHEET

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Date:	5/16/03	Contract No.:	2002-483-414
To:	Dr. Montagna	Fax Number:	(512) 471-6564
From:	Angela Wallace <i>AW</i>	Phone Number:	(512) 463-7979
No. of pages (including cover):	3	Email:	angela.wallace@twdb.state.tx.us

Regarding: Comments on the Draft Final Report

- Urgent   
  For Review   
  Please Comment   
  Please Reply

Notes/comments:

Attached are the Board's comments on the Draft Final Report. Thank you.

*sent to MSI on 5/19/03 via email*



# TEXAS WATER DEVELOPMENT BOARD



E. G. Rod Pittman, *Chairman*  
 Wales H. Madden, Jr., *Member*  
 Thomas Weir Labatt III, *Member*

J. Kevin Ward  
*Executive Administrator*

Jack Hunt, *Vice Chairman*  
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 Dario Vidal Guerra, Jr., *Member*

May 6, 2003

Mr. Wayne Kuenstler, Director  
 University of Texas at Austin  
 Office of Sponsored Projects  
 Austin, TX 78713-7726

Re: Water Research Contract Between the University of Texas Marine Science Institute (UTMSI) and the Texas Water Development Board (Board), TWDB Contract No. 2002-483-414, Draft Report Entitled "Effect of Freshwater Inflow on Macrobenthos Productivity in Minor Bay and River-Dominated Estuaries - FY02"

Dear Mr. Kuenstler:

The Staff members of the Texas Water Development Board have completed a review of the draft reports under TWDB Contract No. 2002-483-414. As stated in the above referenced contract, the UTMSI will consider incorporating comments from the EXECUTIVE ADMINISTRATOR shown in Attachment 1 and other commentors on the draft final report into the final report. A written explanation on comments not incorporated into the Final Report must be submitted to the Board for approval.

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 each of the final reports on this planning project.

Please contact Dr. David Brock at (512) 936-0819 if you have any questions about this contract.

Sincerely,

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

~~CONFIDENTIAL~~

#### Our Mission

*Provide leadership, technical services and financial assistance to support planning, conservation, and responsible development of water for Texas.*

P.O. Box 13231 • 1700 N. Congress Avenue • Austin, Texas 78711-3231

Telephone (512) 463-7847 • Fax (512) 475-2053

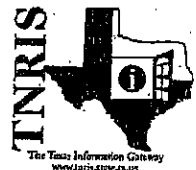
1-800-RELAYTX (for the hearing impaired)

URL Address: <http://www.twdb.state.tx.us>

E-Mail Address: [info@twdb.state.tx.us](mailto:info@twdb.state.tx.us)

TNRIS - The Texas Information Gateway • [www.tnris.state.tx.us](http://www.tnris.state.tx.us)

A Member of the Texas Geographic Information Council (TGIC)



**ATTACHMENT 1**

**Texas Water Development Board Comments on  
Draft Final Report entitled "Effect of Freshwater Inflow on Macrobenthos  
Productivity in Minor Bay and River-Dominated Estuaries – FY02"  
Contract Number 2002-483-414**

The draft report is a complete presentation of the data collected and includes a good analysis of the featured system, South Bay. There are a few suggestions for clarification purposes:

1. In the Methods section, page 4: please obtain a definitive statement on whether the Rio Grande was open at the time of sampling. You may get that information by trying to contact Randy Blankenship of TPWD (956-350-4490) or someone from the IBWC.
2. In the Methods section, page 8: add a short paragraph on Data Analyses Methods to present multi-dimensional scaling, with a reference. Somewhere it would be good to mention what to look for in an MDS plot that would indicate relationships.
3. On page 16, first sentence of last paragraph, a word is missing after "similar".
4. On page 34, there is an apparent contradiction that may be avoided by a few more words of explanation. The first paragraph appears to say that South Bay has a number of species, which are common in all Texas estuaries, but that it doesn't have typical estuarine species. Please clarify.