

A Characterization of Benthic Macroinfaunal Resources Within the Proposed Bluewater SPM Pipeline Corridor Located on the Texas Coast, 2019

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INTRODUCTION

Lloyd Engineering, Inc. conducted field surveys in February, September and October 2019 of benthic macroinfaunal assemblages within a potential pipeline corridor located on the Texas Coast for the Bluewater SPM Project (BWSPM). The collection of the benthic macroinvertebrate samples was made by Lloyd Engineering personnel and laboratory and data analysis was performed by Barry A. Vittor & Associates, Inc. (BVA).

METHODS

Sample Collection and Handling

A sleeve within a standard box core (area = 0.06 m²) was used to collect a bottom sample at each of nine station locations along the BWSPM transect (see Appendix I for sampling locations) in February 2019 (samples designated BWSPM-Feb-xx). Half of each bottom sample (0.03 m²) was designated for macroinfauna taxonomic analysis. In September 2019, four stations (designated BWSPM-Sep-xx) were resampled (BWSPM-Sep-15, 16, 17 and 18) using a 0.03 m² ponar-type grab. In October 2019, five stations (designated BWSPM-Oct-xx) were resampled (BWSPM-Oct- 1, 2, 6, 10 and 14) using the same sampling methodology as the February samples. Samples were sieved in the field through 0.5 mm mesh sieves and fixed in 10% buffered formalin with Rose Bengal stain. Due to sea conditions during the February sampling effort, some benthic samples were preserved in the field and then sieved at a land base. The preserved samples were transported to BVA's laboratory in Mobile, Alabama.

Macroinfaunal Sample Analysis

In BVA's laboratory, benthic samples were inventoried, rinsed gently through a 0.5 mm mesh sieve to remove preservatives and sediment, and stored in 70% isopropanol

solution until processing. Sample material (i.e., sediment, detritus, organisms) was placed in white enamel trays for sorting under Wild M-5A dissecting microscopes. All macroinvertebrates were carefully removed with forceps and placed in labeled (inside and outside: sample number, collection date, taxa, number of individuals) glass vials containing 70% isopropanol. Each vial represented a major Phylum (e.g. Annelida, Mollusca, Arthropoda). All sorted macroinvertebrates were identified to the lowest practical identification level (LPIL), which in most cases was to species level unless the specimen was a juvenile, damaged, or otherwise unidentifiable. The number of individuals of each taxon, excluding fragments, was recorded.

Each sample was analyzed for wet-weight biomass (g) for the major taxonomic groups identified. After identification, each taxonomic group was kept in separate vials and preserved in 70% isopropanol. A biomass technician removed the organisms from a vial, placed them on a filter paper pad, gently blotted them with a paper towel to remove moisture, placed them in a tared weighing pan, and weighed the pan to the nearest 0.1 mg using a Mettler Model AG-104 balance

DATA ANALYSIS

All data generated as a result of laboratory analysis of macroinfauna samples were first coded on data sheets. Enumeration data were entered for each species according to station. These data were reduced to a data summary report for each station, which included a taxonomic species list and benthic community parameters information. Archive data files of species identification and enumeration were prepared.

Assemblage Analyses

Several numerical indices were chosen for analysis and interpretation of the macroinfaunal data. Infaunal abundance is reported as the total number of individuals per station and the total number of individuals per square meter (= density). Taxa richness is reported as the number of taxa represented in a given station collection.

Taxa diversity, which is often related to the ecological stability and environmental "quality" of the benthos, was estimated by Shannon's Index (Pielou, 1966). Taxa diversity within a given community is dependent upon the number of taxa present (taxa richness) and the distribution of all individuals among those taxa (equitability or evenness). In order to quantify and compare the equitability in the fauna to the taxa diversity for a given area, Pielou's Index J' was calculated (Pielou, 1966).

BENTHIC COMMUNITY CHARACTERIZATION

Faunal Composition, Abundance, and Community Structure

Microsoft™ Excel spreadsheets are being provided separately which include: raw data on taxa abundance by station, an assemblage parameter table including data on number of taxa (taxa richness), density, taxa diversity and taxa evenness by station, and a table of wet-weight biomass of major taxa by station.

February 2019

A total of 267 individuals were identified from the 9 BWSPM stations in February 2019 (Appendix II). The dominant taxa collected included the polychaetes, *Mediomastus* (LPIL), *Streblospio benedicti* and *Magelona uebelackerae*, the amphipod, *Ampelisca agassizi*, and the tellinid bivalve, *Angulus versicolor*.

Station taxa richness and abundance data are summarized for the 9 stations in Table 1 and Figure 1. Taxa richness at each station ranged from 0 at Station BWSPM-Feb-01 to 26 at Station BWSPM-Feb-18. Station densities ranged from 0 organisms·m² at Station BWSPM-Feb-01 to 4633.3 organisms·m² at Station BWSPM-Feb-18.

Taxa diversity and evenness for the 9 BWSPM stations are given in Table 1 and Figure 2. Taxa diversity (H') ranged from 0 at BWSPM-Feb-01 to 2.69 at BWSPM-Feb-15. Taxa evenness (J') ranged from 0 at BWSPM-Feb-01 to 1.00 at BWSPM-Feb-02.

Wet-weight biomass data for the 9 BWSPM stations in February is given in Table 2 and Figure 3. Total station wet-weight biomass ranged from 0 g/station at Station BWSPM-Feb-01 to 1.1934 g/station at Station BWSPM-Feb-10.

September 2019

A total of 232 individuals were identified from the 4 BWSPM stations (Stations 15, 16, 17 and 18; Appendix III) in September. The dominant taxa collected included the polychaetes, *Mediomastus* (LPIL) and *Streblospio benedicti*, and the chordate, *Branchiostoma* (LPIL).

Station taxa richness and abundance data are summarized for the 4 stations in Table 2 and Figure 1. Taxa richness at a station ranged from 3 at Station BWSPM-Sep-18 to 36 at Station BWSPM-Sep-16. Station densities ranged from 233.3 organisms·m² at Station BWSPM-Sep-18 to 4733.3 organisms·m² at Station BWSPM-Sep-16.

Taxa diversity and evenness for the 4 BWSPM stations are given in Table 2 and Figure 2. Taxa diversity (H') ranged from 1.00 at BWSPM-Sep-18 to 2.84 at BWSPM-Sep-15. Taxa evenness (J') ranged from 0.71 at BWSPM-Sep-16 to 0.97 at BWSPM-Sep-17.

Wet-weight biomass data for the 4 BWSPM stations in September is given in Table 4 and Figure 3. Total station wet-weight biomass ranged from 0.0033 g/station at Station BWSPM-Sep 18 to 1.6520 g/station at Station BWSPM-Sep-15.

October 2019

A total of 281 individuals were identified from the 5 BWSPM stations (Stations 01, 02, 06, 10 and 14; Appendix IV) in September. The dominant taxa collected included the polychaetes, *Magelona uebelackerae* and *Grubeulepis mexicana*, the amphipods, *Ampelisca* (LPIL) and *Monocorophium* (LPIL), gastropods and sipunculids.

Station taxa richness and abundance data are summarized for the 5 stations in Table 2 and Figure 1. Taxa richness at each station ranged from 5 at Station BWSPM-Oct-01 to 38 at Station BWSPM-Oct-14. Station densities ranged from 266.7 organisms·m² at Station BWSPM-Oct-01 to 4800 organisms·m² at Station BWSPM-Oct-14.

Taxa diversity and evenness for the 5 BWSPM stations are given in Table 2 and Figure 2. Taxa diversity (H') ranged from 1.56 at BWSPM-Oct-01 to 3.32 at BWSPM-Oct-14. Taxa evenness (J') ranged from 0.72 at BWSPM-Oct-10 to 0.97 at both BWSPM-Oct-01 and BWSPM-Oct-02.

Wet-weight biomass data for the 5 BWSPM stations in October is given in Table 4 and Figure 3. Total station wet-weight biomass ranged from 0.0612 g/station at Station BWSPM-Oct-01 to 5.4749 g/station at Station BWSPM-Oct-14.

Seasonal Comparison of BWSPM Stations

Stations 01, 02, 06, 10 and 14

One aspect of the benthic survey was to assess seasonal (winter/early fall) differences in the macroinfaunal assemblage at Stations 01, 02, 06, 10 and 14. Taxa richness was higher in October at all stations; Station 01 had no taxa in February, but 5 in October; taxa richness was 4-times higher at Stations 02 and 14, and 2-times higher at Station 10; and taxa richness was similar at Station 06 for both seasons (Tables 1 and 2). Station densities increased at 4 of the 5 stations in October; there were 266.7 organisms/m² at Station 01 in October and there were no organisms collected at the station in February; densities increased by at least a factor of five at Stations 02 and 10; densities increased 8-times at Station 14 in October; and densities decreased marginally at Station 06 in October (Tables 1 and 2). Taxa diversity (H') was higher at four of the five stations in October.

The benthic assemblages at the 5 stations exhibited variability between February and October. Station 01 in February had no organisms collected, but five taxa were collected in October and the assemblage was dominated polychaetes (*Magelona*). The assemblage at Station 02 in February had only 2 taxa (a polychaete and a cumacean), while the assemblage in October had 8 taxa and was dominated by an assemblage of polychaetes. The assemblage at Station 06 in February had 9 taxa and was dominated by polychaetes (7 taxa), and the assemblage in October had 12 taxa and was dominated by a mixed assemblage of polychaetes, arthropods, mollusks and nemerteans. The assemblage at Station 10 in February had 15 taxa and was dominated by polychaetes and mollusks, and the assemblage in October had 28 taxa and was dominated by the polychaete,

Magelona uebelackerae, and sipunculids. The assemblage at Station 14 in February had 9 taxa and was dominated by the polychaete, *Magelona uebelackerae*, and the assemblage in October had 38 taxa and was dominated by the polychaetes, *Magelona uebelackerae* and *Grubeulepis mexicana*, the amphipod, *Monocorophium*, the gastropod, *Parvanachis*, and the ophiuroid, *Hemipholis*.

Stations 15, 16, 17 and 18

One aspect of the benthic survey was to assess seasonal (winter, late summer/fall) differences in the macroinfaunal assemblage at Stations 15, 16, 17 and 18. Taxa richness was higher in September at Station 15 (16 taxa in February, 28 taxa in September), Station 16 (8 taxa in February, 36 taxa in September) and Station 17 (7 taxa in February, 15 taxa in September); taxa richness declined at Station 18 from 26 taxa in February to 3 taxa in September (Tables 1 and 2). Station densities increased at Stations 15 (2133.3 organisms·m² in September vs 700 organisms·m² in February) and 16 in September (4733.3 organisms·m² in September vs 800 organisms·m² in February); densities at Station 17 remained equivalent in September (633.3 organisms·m² in September vs 666.7 organisms·m² in February); and densities declined dramatically at Station 18 (233.3 organisms·m² in September vs 4633.3 organisms·m² in February). Taxa diversity (H') in September was higher at Stations 15, 16 and 17, but declined at Station 18 when compared to February data (Tables 1 and 2).

The benthic assemblages exhibited variability at the 4 stations between February and September. Station 15 in February had 16 taxa which represented a mixed assemblage of polychaetes, arthropods and mollusks with no dominant taxon, and Station 15 in September had 28 taxa and the assemblage was dominated by the chordate,

Branchiostoma. The assemblage at Station 16 in February has 8 taxa and was dominated by the polychaetes, *Mediomastus* and *Streblospio*, while the assemblage in September had 36 taxa and was dominated by the capitellid polychaete, *Mediomastus*, and tellinid bivalves. The assemblage at Station 17 in February had 7 taxa and was dominated by a mix of polychaetes, amphipods and bivalves, and the assemblage in September had 15 taxa and was dominated by a mixed assemblage of polychaetes, arthropods and mollusks. The assemblage at Station 18 in February had 26 taxa and was dominated by the polychaetes, *Mediomastus* and *Streblospio*, and the tellinid bivalve, *Angulus versicolor*, and the assemblage in September had only 3 taxa (2 polychaetes and one nauidid worm).

SUMMARY

In 2019, the macroinfauna dominating the benthic assemblages at the BWSPM stations were typically opportunistic taxa adapted to a dynamic benthic environment (e.g. fluctuating salinity regime, changes in benthic sediments) and are typical of those found in estuarine and shallow water benthic habitats (Felder and Kemp, 2009). There were differences in the macroinfaunal assemblage at Stations 01, 02, 06, 10 and 14 between February and October; taxa richness was higher at all stations in October and densities increased at 4 of the 5 stations. Dominant taxa were similar between seasons with polychaete worms, amphipods, and mollusks variously dominating the assemblages.

There were also differences in the macroinfaunal assemblage at Stations 15, 16, 17 and 18 between the winter and fall/summer months: taxa richness was higher at three of the stations and densities were higher at two of the stations in September. Dominant taxonomic groups were similar between seasons except for the dominance of the chordate, *Branchiostoma*, at Station 15 in the summer. The shallow water habitats of

these opportunistic taxa are much more susceptible to short- and long-term climatic variability (e.g. tropical disturbances) than assemblages found in deeper waters. While there was localized variability in macroinfaunal assemblage between stations, this variability is typical of subtropical estuarine habitats.

LITERATURE CITED

- Felder, D.L and D.K Kemp. 2009. Gulf of Mexico Origin, Waters, and Biota. Volume 1, Biodiversity. Texas A&M Press, College Station, Texas.
- Pielou, E.C. 1966. The measurement of diversity in different types of biological collections. *Journal of Theoretical Biology* 13:131-144.

Table 1. Summary of macrobenthic community parameters for the Bluewater SPM stations, February 2019.

Station Name	Density nos/m²	No. of Individuals	Taxa Richness	Diversity H'	Evenness J'
BWSPM-Feb-01	0.0	0	0	–	–
BWSPM-Feb-02	66.7	2	2	0.69	1.00
BWSPM-Feb-06	800.0	24	9	1.79	0.82
BWSPM-Feb-10	633.3	19	15	2.63	0.97
BWSPM-Feb-14	600.0	18	9	1.78	0.81
BWSPM-Feb-15	700.0	21	16	2.69	0.97
BWSPM-Feb-16	800.0	24	8	1.54	0.74
BWSPM-Feb-17	666.7	20	7	1.68	0.86
BWSPM-Feb-18	4633.3	139	26	1.92	0.59

Table 2. Summary of macrobenthic community parameters for the Bluewater SPM stations, September and October 2019.

Station Name	No. of Individuals	Taxa Richness	Density nos/m²	Diversity H'	Evenness J'
BWSPM-Oct-01	8	5	266.7	1.56	0.97
BWSPM-Oct-02	11	8	366.7	2.02	0.97
BWSPM-Oct-06	20	12	666.7	2.22	0.90
BWSPM-Oct-10	98	28	3266.7	2.39	0.72
BWSPM-Oct-14	144	38	4800.0	3.32	0.91
BWSPM-Sep-15	64	28	2133.3	2.84	0.85
BWSPM-Sep-16	142	36	4733.3	2.53	0.71
BWSPM-Sep-17	19	15	633.3	2.63	0.97
BWSPM-Sep-18	7	3	233.3	1.00	0.91

Table 3. Wet-weight biomass data for the Bluewater SPM stations, February 2019.

Sample ID	Annelida g/station	Mollusca g/station	Arthropoda g/station	Echinodermata g/station	Other Taxa g/station	Sample Total g/station
BWSPM-Feb-01	–	–	–	–	–	–
BWSPM-Feb-02	0.0077	0.0000	0.0021	0.0000	0.0000	0.0098
BWSPM-Feb-06	0.1426	0.0000	0.0247	0.0000	0.0000	0.1673
BWSPM-Feb-10	0.4727	0.1602	0.4073	0.1432	0.0000	1.1834
BWSPM-Feb-14	0.0506	0.0138	0.0020	0.4129	0.0145	0.4938
BWSPM-Feb-15	0.0097	0.0376	0.0113	0.0130	0.0000	0.0716
BWSPM-Feb-16	0.0073	0.0039	0.0020	0.0000	0.0067	0.0199
BWSPM-Feb-17	0.0037	0.0409	0.0144	0.0000	0.0050	0.0640
BWSPM-Feb-18	0.0880	0.0512	0.3744	0.0000	0.0408	0.5544

Table 4. Wet-weight biomass data for the Bluewater SPM stations, September and October 2019.

Sample ID	Annelida g	Mollusca g	Arthropoda g	Echinodermata g	Other Taxa g	Total g
BWSPM-Oct-01	0.0034	0	0.0032	0	0.0546	0.0612
BWSPM-Oct-02	0.0450	0	0.0070	0	0.0104	0.0624
BWSPM-Oct-06	0.0498	0.0344	0.0240	0	0.0485	0.1567
BWSPM-Oct-10	0.4887	0.2963	1.0296	0.1572	0.3712	2.3430
BWSPM-Oct-14	0.3654	2.7868	1.1538	1.0773	0.0916	5.4749
BWSPM-Sep-15	0.0057	1.2451	0.1810	0.0003	0.2199	1.6520
BWSPM-Sep-16	0.1040	0.1790	0.0097	0.0693	0.0473	0.4093
BWSPM-Sep-17	0.0112	0.1627	0.0065	0	0.0015	0.1819
BWSPM-Sep-18	0.0033	0	0	0	0	0.0033

Figure 1. Taxa richness and density data for the Bluewater SPM stations, February, September and October 2019.

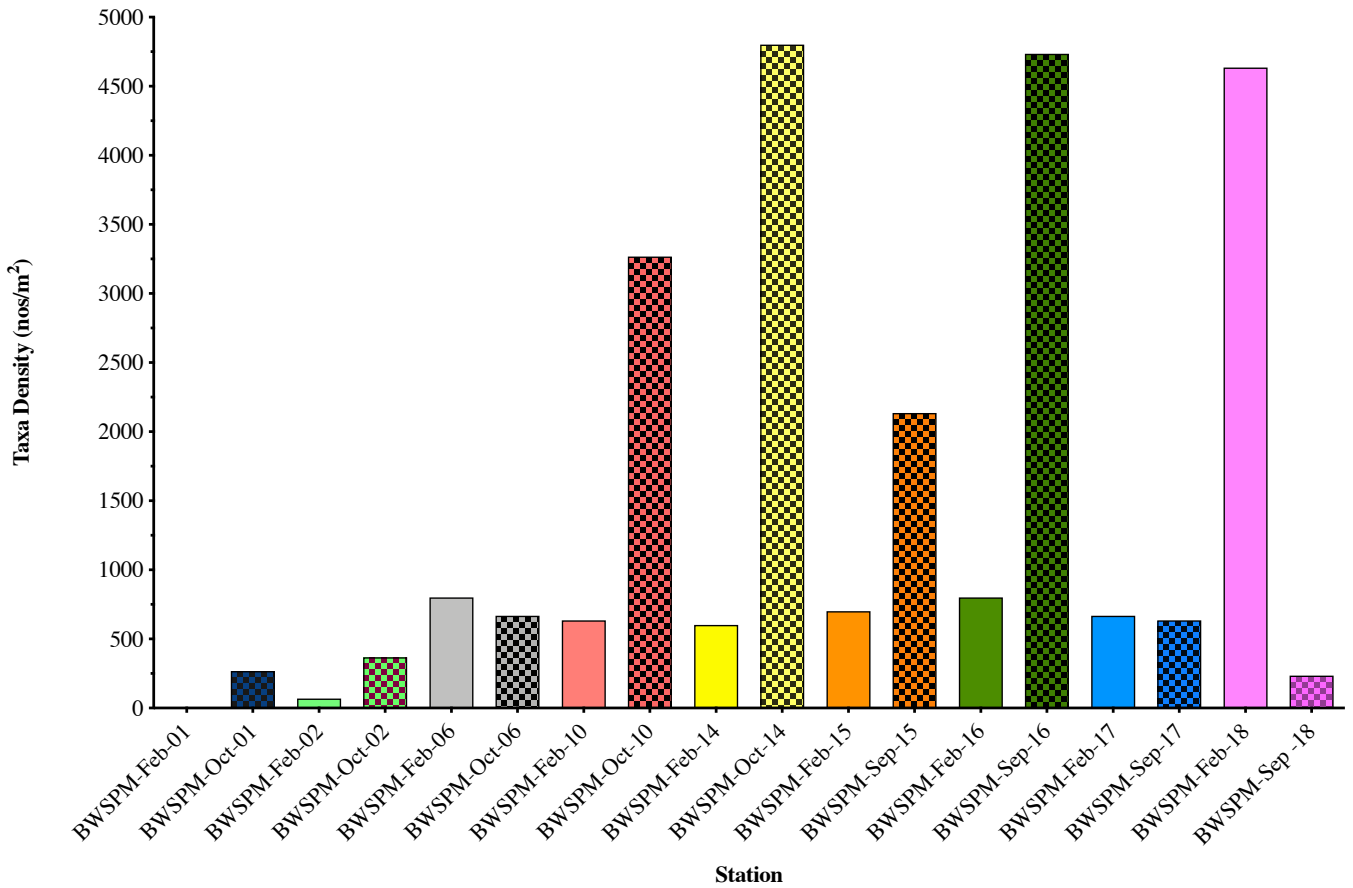
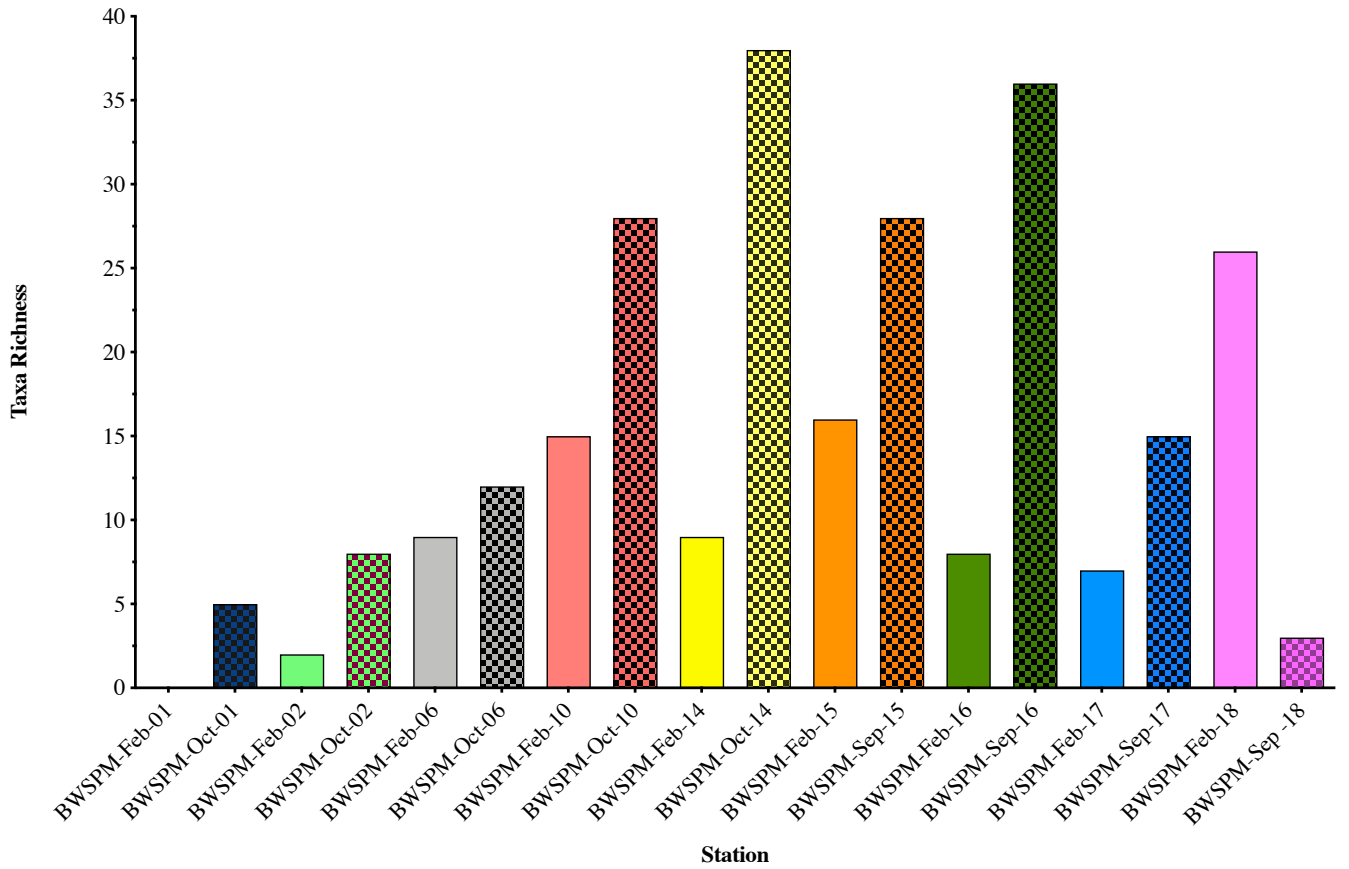


Figure 2. Taxa diversity (H') and evenness (J') data for the Bluewater SPM stations, February, September and October 2019.

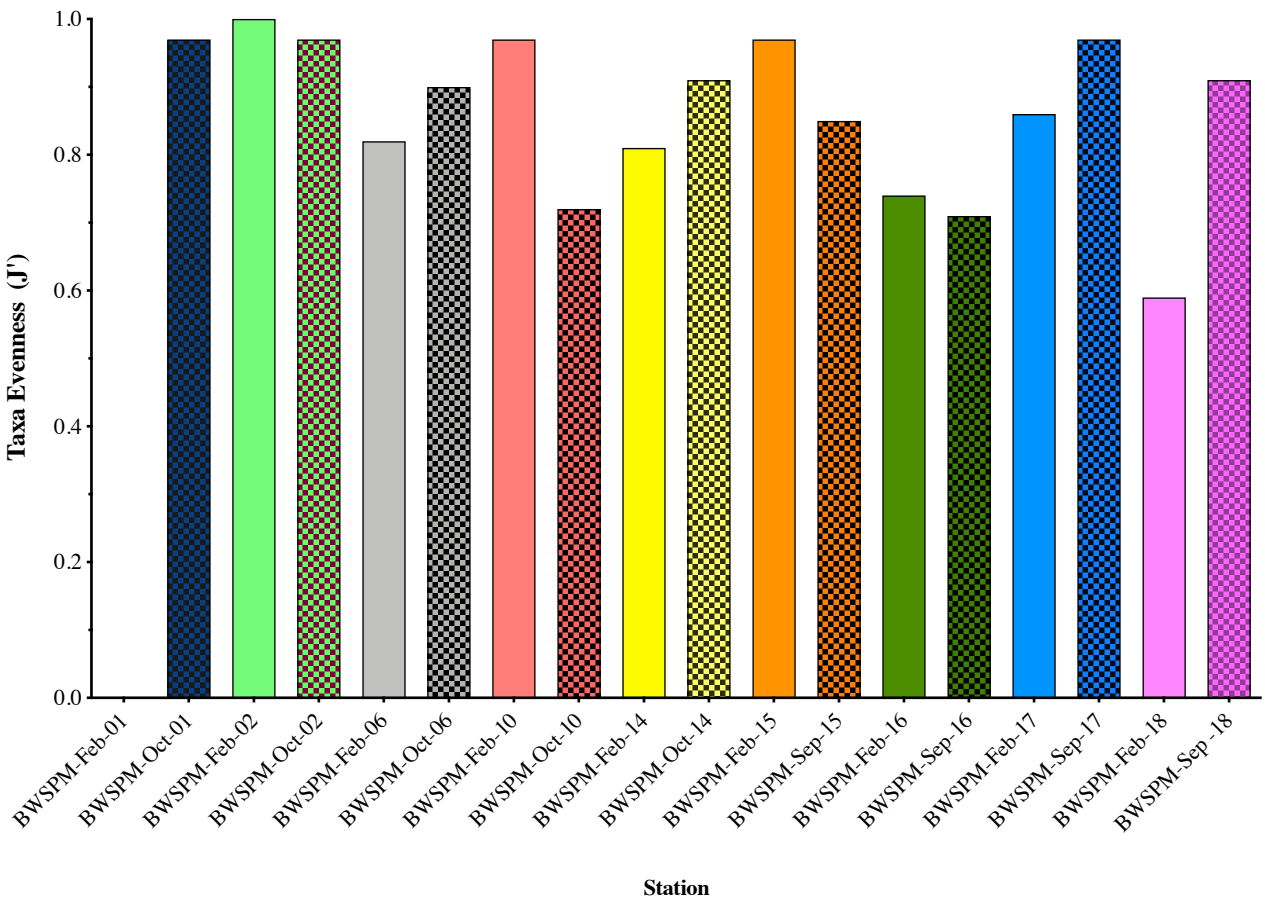
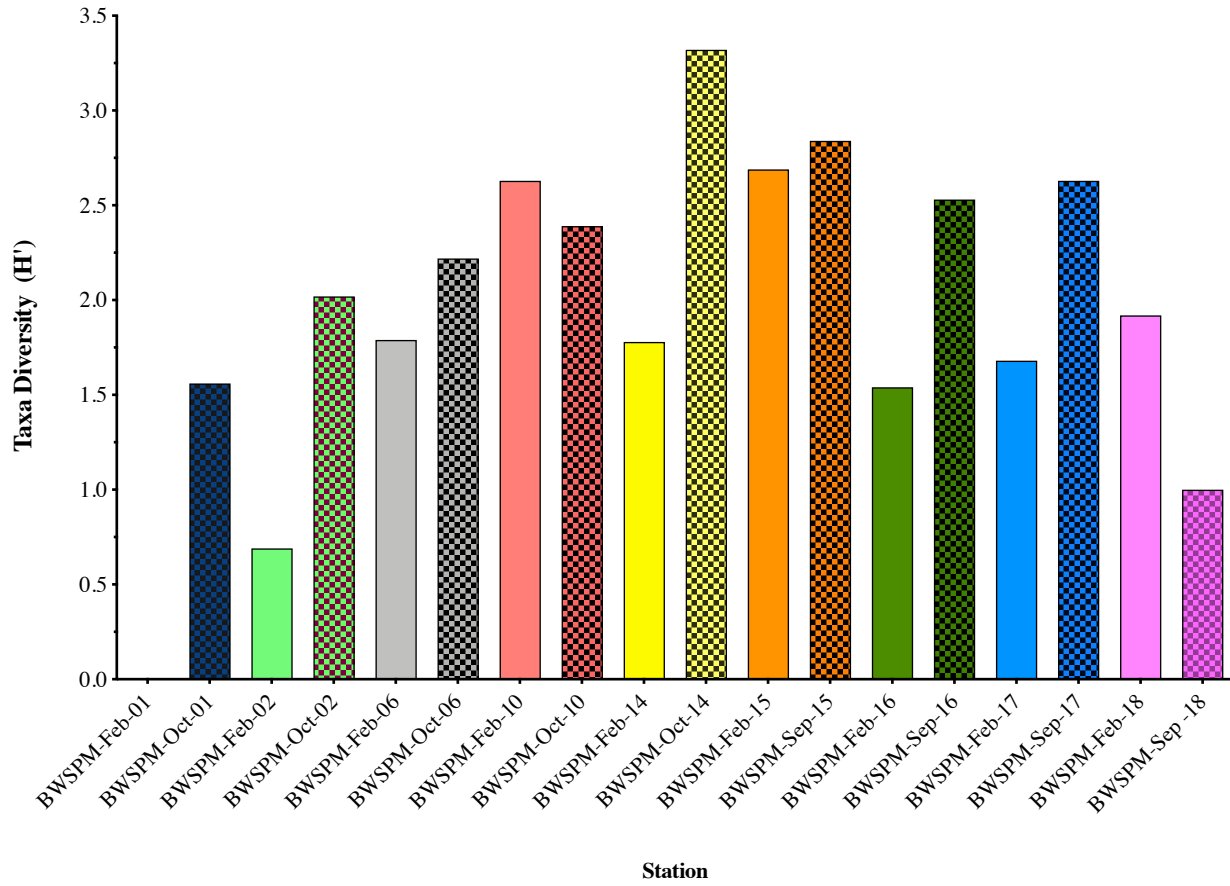
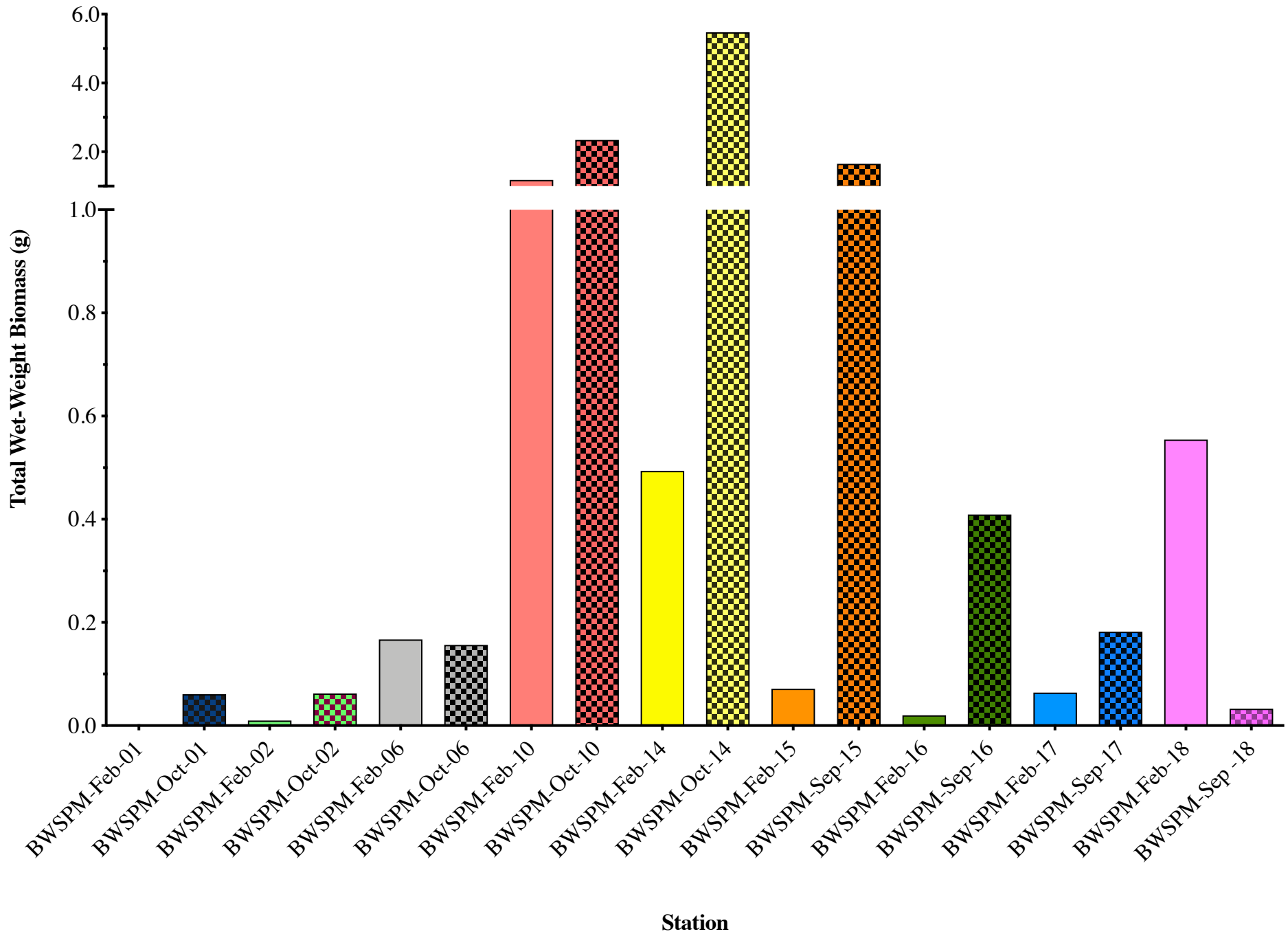
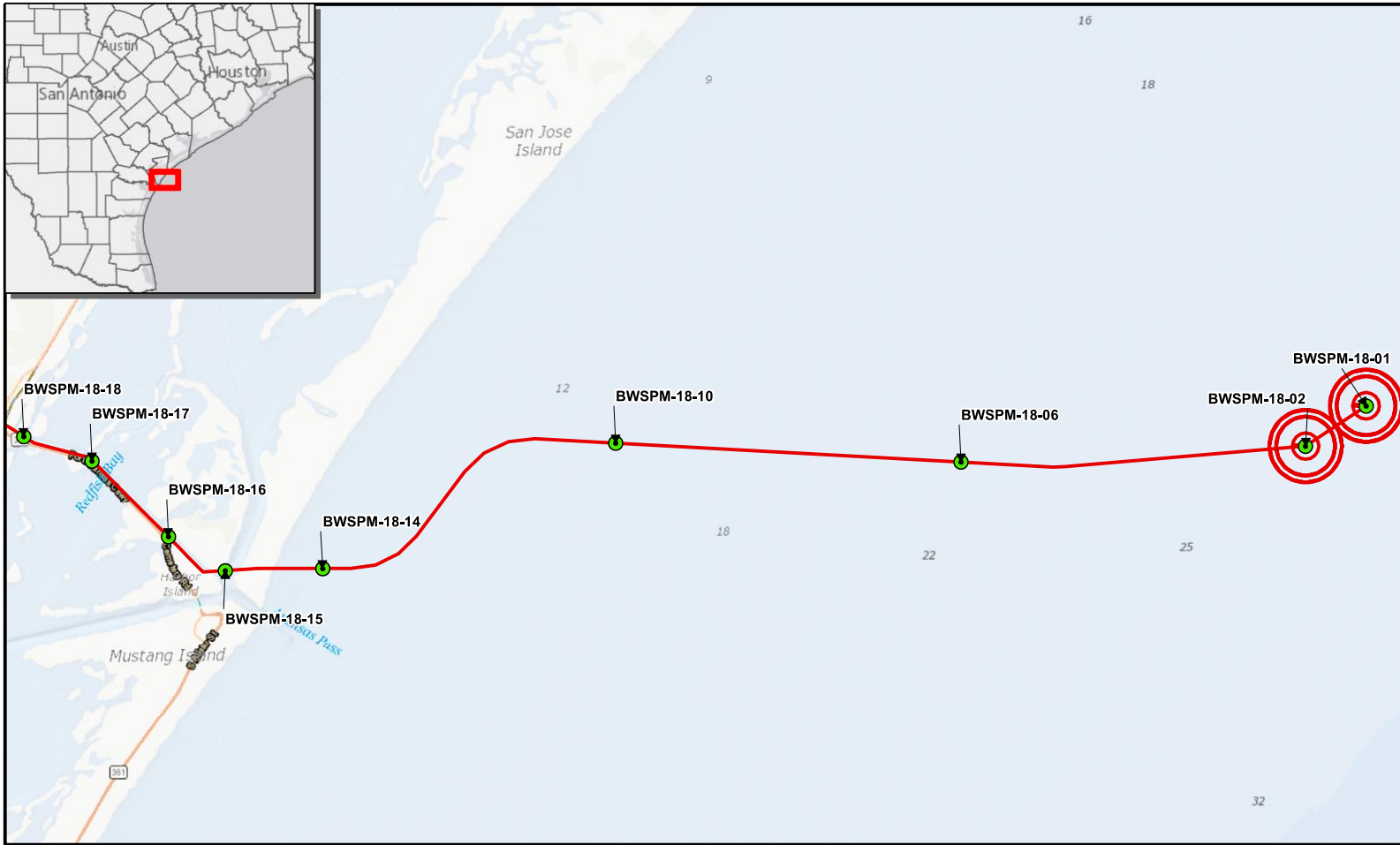


Figure 3. Station total wet-weight biomass data for the Bluewater SPM stations, February, September and October 2019.



APPENDIX I
Bluewater SPM Benthic Sampling Station
Map



Map Details

- Benthic Sample Location
- Proposed Project

1 inch = 16,000 feet

0 8,000 16,000 Feet

Coordinate System: NAD 1983 2011
 StatePlane Texas South FIPS 4205
 Ft US
 Projection: Lambert Conformal Conic
 Datum: NAD 1983 2011
 Units: Foot US

**Benthic Sampling
Location Map**

Bluewater SPM Project
Aransas County, TX

SHEET 1 of 1 Date: Apr 05, 2019

APPENDIX II
Bluewater SPM Benthic Sampling February
2019 Raw Data File

Appendix II. BWSPM raw data file, February 2019.

Station Name	Phylum	Class	Order	Family	Taxa	Abundance
BWSPM-Feb-01					No Organisms Found	0
BWSPM-Feb-02	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys incisa	1
BWSPM-Feb-02	Arthropoda	Malacostraca	Cumacea	Leuconidae	Eudorella monodon	1
BWSPM-Feb-06	Annelida	Polychaeta	Eunicida	Onuphidae	Diopatra cuprea	1
BWSPM-Feb-06	Annelida	Polychaeta	Spionida	Magelonidae	Magelona uebelackerae	4
BWSPM-Feb-06	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	3
BWSPM-Feb-06	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma verrilli	2
BWSPM-Feb-06	Annelida	Polychaeta	Terebellida	Cirratulidae	Monticellina dorsobranchialis	1
BWSPM-Feb-06	Annelida	Polychaeta	Scolecida	Paraonidae	Levinsenia gracilis	1
BWSPM-Feb-06	Annelida	Polychaeta	Spionida	Spionidae	Polydora cornuta	1
BWSPM-Feb-06	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca agassizi	10
BWSPM-Feb-06	Arthropoda	Malacostraca	Cumacea	Leuconidae	Eudorella (LPIL)	1
BWSPM-Feb-10	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma verrilli	2
BWSPM-Feb-10	Annelida	Polychaeta	Scolecida	Paraonidae	Levinsenia gracilis	2
BWSPM-Feb-10	Annelida	Polychaeta	Phyllodocida	Goniadidae	Glycinde solitaria	1
BWSPM-Feb-10	Annelida	Polychaeta	Terebellida	Pectinariidae	Pectinaria gouldi	1
BWSPM-Feb-10	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys incisa	1
BWSPM-Feb-10	Annelida	Polychaeta	Scolecida	Maldanidae	Maldanidae (LPIL)	1
BWSPM-Feb-10	Annelida	Polychaeta	Phyllodocida	Polynoidae	Malmgreniella taylori	1
BWSPM-Feb-10	Annelida	Polychaeta	Scolecida	Capitellidae	Notomastus (LPIL)	1
BWSPM-Feb-10	Echinodermata				Echinodermata (LPIL)	1
BWSPM-Feb-10	Mollusca	Gastropoda	Neritopsina	Neritidae	Neritina usnea	1
BWSPM-Feb-10	Mollusca	Bivalvia	Myoida	Corbulidae	Caryocorbula (LPIL)	1
BWSPM-Feb-10	Mollusca	Bivalvia	Veneroida	Tellinidae	Angulus versicolor	1
BWSPM-Feb-10	Mollusca	Bivalvia	Veneroida	Ungulinidae	Diplodonta punctata	3
BWSPM-Feb-10	Arthropoda	Malacostraca	Cumacea	Leuconidae	Eudorella (LPIL)	1
BWSPM-Feb-10	Arthropoda	Malacostraca	Decapoda	Xanthidae	Rhithropanopeus harrisii	1
BWSPM-Feb-14	Annelida	Polychaeta	Phyllodocida	Hesionidae	Podarke obscura	1
BWSPM-Feb-14	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	1
BWSPM-Feb-14	Annelida	Polychaeta	Spionida	Magelonidae	Magelona uebelackerae	8
BWSPM-Feb-14	Annelida	Polychaeta	Spionida	Spionidae	Paraprionospio pinnata	1
BWSPM-Feb-14	Annelida	Polychaeta	Cossurida	Cossuridae	Cossura soyeri	1
BWSPM-Feb-14	Cnidaria	Anthozoa	Actiniaria		Actiniaria (LPIL)	1
BWSPM-Feb-14	Mollusca	Bivalvia	Veneroida	Tellinidae	Angulus versicolor	1
BWSPM-Feb-14	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca vadorum	3
BWSPM-Feb-14	Echinodermata	Holothuroidea	Apodida	Synaptidae	Leptosynapta tenuis	1
BWSPM-Feb-15	Annelida	Polychaeta	Oweniida	Oweniidae	Owenia fusiformis	1
BWSPM-Feb-15	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	1
BWSPM-Feb-15	Annelida	Polychaeta	Eunicida	Onuphidae	Onuphidae (LPIL)	1
BWSPM-Feb-15	Annelida	Polychaeta	Spionida	Spionidae	Streblospio benedicti	1
BWSPM-Feb-15	Annelida	Polychaeta	Spionida	Chaetopteridae	Spiochaetopterus oculatus	1
BWSPM-Feb-15	Annelida	Polychaeta	Spionida	Spionidae	Dipolydora socialis	1
BWSPM-Feb-15	Arthropoda	Malacostraca	Decapoda	Paguridae	Pagurus (LPIL)	1
BWSPM-Feb-15	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca vadorum	2
BWSPM-Feb-15	Arthropoda	Malacostraca	Isopoda	Hyssuridae	Xenanthura brevitelson	2
BWSPM-Feb-15	Arthropoda	Malacostraca	Amphipoda	Haustoriidae	Protohaustorius bousfieldi	1
BWSPM-Feb-15	Echinodermata				Echinodermata (LPIL)	1

BWSPM-Feb-15	Mollusca	Bivalvia	Veneroida	Ungulinidae	Diplodonta punctata	1
BWSPM-Feb-15	Mollusca	Bivalvia	Veneroida	Tellinidae	Macoma tenta	2
BWSPM-Feb-15	Mollusca	Bivalvia	Arcoida	Arcidae	Anadara floridana	1
BWSPM-Feb-15	Mollusca	Gastropoda	Neogastropoda	Nassariidae	Nassarius acutus	1
BWSPM-Feb-15	Mollusca	Bivalvia	Veneroida	Semelidae	Abra aequalis	3
BWSPM-Feb-16	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	12
BWSPM-Feb-16	Annelida	Polychaeta	Spionida	Spionidae	Paraprionospio pinnata	2
BWSPM-Feb-16	Annelida	Polychaeta	Phyllodocida	Syllidae	Sphaerosyllis taylori	1
BWSPM-Feb-16	Annelida	Polychaeta	Spionida	Spionidae	Streblospio benedicti	5
BWSPM-Feb-16	Annelida	Polychaeta	Scolecida	Maldanidae	Maldanidae (LPIL)	1
BWSPM-Feb-16	Hemichordata	Enteropneusta		Ptychoderidae	Balanoglossus (LPIL)	1
BWSPM-Feb-16	Mollusca	Bivalvia	Veneroida	Tellinidae	Angulus versicolor	1
BWSPM-Feb-16	Arthropoda	Malacostraca	Cumacea	Diastylidae	Oxyurostylis (LPIL)	1
BWSPM-Feb-17	Annelida	Polychaeta	Spionida	Spionidae	Streblospio benedicti	5
BWSPM-Feb-17	Annelida	Polychaeta	Terebellida	Ampharetidae	Melinna maculata	1
BWSPM-Feb-17	Nemertea	Anopla	Paleonemertea	Tubulanidae	Tubulanus sp. A	1
BWSPM-Feb-17	Mollusca	Bivalvia	Veneroida	Semelidae	Abra aequalis	3
BWSPM-Feb-17	Mollusca	Bivalvia	Veneroida	Mactridae	Mulinia lateralis	2
BWSPM-Feb-17	Mollusca	Bivalvia	Pholadomyoidea	Lyonsiidae	Lyonsia floridana	1
BWSPM-Feb-17	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca vadorum	7
BWSPM-Feb-18	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	77
BWSPM-Feb-18	Annelida	Polychaeta	Phyllodocida	Glyceridae	Glycera americana	1
BWSPM-Feb-18	Annelida	Polychaeta	Spionida	Spionidae	Streblospio benedicti	11
BWSPM-Feb-18	Annelida	Polychaeta	Spionida	Spionidae	Prionospio (LPIL)	1
BWSPM-Feb-18	Annelida	Polychaeta	Terebellida	Cirratulidae	Caulleriella cf. alata	1
BWSPM-Feb-18	Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae (LPIL)	7
BWSPM-Feb-18	Annelida	Polychaeta	Spionida	Chaetoptera	Spiochaetopterus oculatus	2
BWSPM-Feb-18	Annelida	Polychaeta	Spionida	Spionidae	Paraprionospio pinnata	1
BWSPM-Feb-18	Annelida	Polychaeta	Scolecida	Paraonidae	Levinsenia gracilis	1
BWSPM-Feb-18	Annelida	Polychaeta	Terebellida	Cirratulidae	Tharyx acutus	2
BWSPM-Feb-18	Annelida	Polychaeta	Spionida	Spionidae	Apoprionospio pygmaea	2
BWSPM-Feb-18	Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	2
BWSPM-Feb-18	Annelida	Polychaeta	Scolecida	Capitellidae	Capitella capitata	1
BWSPM-Feb-18	Chordata	Leptocardii	Amphioxiformes	Branchiostomatidae	Branchiostoma (LPIL)	2
BWSPM-Feb-18	Nemertea	Anopla	Paleonemertea	Tubulanidae	Tubulanus sp. A	3
BWSPM-Feb-18	Cnidaria	Anthozoa	Actiniaria		Actiniaria (LPIL)	1
BWSPM-Feb-18	Phoronida			Phoronidae	Phoronis (LPIL)	1
BWSPM-Feb-18	Platyhelminthes				Platyhelminthes (LPIL)	1
BWSPM-Feb-18	Mollusca	Bivalvia	Veneroida	Tellinidae	Macoma tenta	1
BWSPM-Feb-18	Mollusca	Bivalvia	Veneroida	Tellinidae	Angulus versicolor	12
BWSPM-Feb-18	Mollusca	Bivalvia	Veneroida	Semelidae	Abra aequalis	2
BWSPM-Feb-18	Mollusca	Gastropoda	Neotaenioglossa	Naticidae	Neverita delessertiana	3
BWSPM-Feb-18	Arthropoda	Malacostraca	Isopoda	Hyssuridae	Xenanthura brevitelson	1
BWSPM-Feb-18	Arthropoda	Malacostraca	Cumacea	Diastylidae	Oxyurostylis (LPIL)	1
BWSPM-Feb-18	Arthropoda	Malacostraca	Cumacea	Bodotriidae	Cyclaspis sp. N	1
BWSPM-Feb-18	Arthropoda	Malacostraca	Decapoda	Diogenidae	Clibanarius vittatus	1

APPENDIX III
Bluewater SPM Benthic Sampling
September 2019 Raw Data File

Appendix III. BWSPM raw data file, September 2019.

Station ID	Phylum	Class	Order	Family	Taxa	Total Abundance
BWSPM-Sep-15	Annelida	Polychaeta	Opheliida	Opheliidae	Armandia maculata	3
BWSPM-Sep-15	Annelida	Polychaeta	Phyllodocida	Syllidae	Syllis gracilis	1
BWSPM-Sep-15	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	7
BWSPM-Sep-15	Annelida	Polychaeta	Spionida	Spionidae	Apoprionospio pygmaea	1
BWSPM-Sep-15	Annelida	Polychaeta	Spionida	Spionidae	Prionospio (LPIL)	1
BWSPM-Sep-15	Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	1
BWSPM-Sep-15	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae	Hartmanodes nyei	1
BWSPM-Sep-15	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Eobrolgus spinosus	1
BWSPM-Sep-15	Arthropoda	Malacostraca	Decapoda	Ogyrididae	Ogyrides hayi	1
BWSPM-Sep-15	Arthropoda	Malacostraca	Decapoda	Paguridae	Pagurus (LPIL)	2
BWSPM-Sep-15	Arthropoda	Malacostraca	Isopoda	Hyssuridae	Xenanthura brevitelson	1
BWSPM-Sep-15	Arthropoda	Malacostraca	Mysida		Mysida (LPIL)	1
BWSPM-Sep-15	Arthropoda	Malacostraca	Decapoda	Portunidae	Callinectes sapidus	6
BWSPM-Sep-15	Chordata	Ascidiacea			Ascidiacea (LPIL)	1
BWSPM-Sep-15	Chordata	Leptocardii	Amphioxiformes	Branchiostomatidae	Branchiostoma (LPIL)	15
BWSPM-Sep-15	Cnidaria	Anthozoa	Actiniaria		Actiniaria (LPIL)	1
BWSPM-Sep-15	Echinodermata				Echinodermata (LPIL)	1
BWSPM-Sep-15	Mollusca	Bivalvia	Myoida	Corbulidae	Corbulidae (LPIL)	1
BWSPM-Sep-15	Mollusca	Bivalvia	Ostreoida	Ostreidae	Ostreidae (LPIL)	1
BWSPM-Sep-15	Mollusca	Bivalvia	Veneroida	Mactridae	Mulinia lateralis	1
BWSPM-Sep-15	Mollusca	Bivalvia	Veneroida	Psammobiidae	Tagelus (LPIL)	1
BWSPM-Sep-15	Mollusca	Bivalvia	Veneroida	Tellinidae	Scissula iris	2
BWSPM-Sep-15	Mollusca	Bivalvia			Bivalvia (LPIL)	2
BWSPM-Sep-15	Mollusca	Gastropoda	Neogastropoda	Columbellidae	Costoanachis (LPIL)	1
BWSPM-Sep-15	Mollusca	Gastropoda	Neogastropoda	Muricidae	Urosalpinx cinerea	1
BWSPM-Sep-15	Nemertea	Anopla	Paleonemertea	Tubulanidae	Tubulanus sp. A	6
BWSPM-Sep-15	Nemertea				Nemertea (LPIL)	2
BWSPM-Sep-15	Platyhelminthes				Platyhelminthes (LPIL)	1
BWSPM-Sep-16	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	1
BWSPM-Sep-16	Annelida	Polychaeta	Orbiniida	Orbiniidae	Scoloplos rubra	5
BWSPM-Sep-16	Annelida	Polychaeta	Phyllodocida	Goniadidae	Glycinde solitaria	2
BWSPM-Sep-16	Annelida	Polychaeta	Phyllodocida	Hesionidae	Podarkeopsis levifusca	1
BWSPM-Sep-16	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereididae (LPIL)	1
BWSPM-Sep-16	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Phyllodoce arenae	1
BWSPM-Sep-16	Annelida	Polychaeta	Phyllodocida	Polynoidae	Harmothoe imbricata	1
BWSPM-Sep-16	Annelida	Polychaeta	Scolecida	Capitellidae	Capitella capitata	4
BWSPM-Sep-16	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	60
BWSPM-Sep-16	Annelida	Polychaeta	Scolecida	Capitellidae	Notomastus (LPIL)	3
BWSPM-Sep-16	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea (LPIL)	1
BWSPM-Sep-16	Annelida	Polychaeta	Spionida	Magelonidae	Magelona uebelackerae	1
BWSPM-Sep-16	Annelida	Polychaeta	Spionida	Spionidae	Paraprionospio pinnata	3
BWSPM-Sep-16	Annelida	Polychaeta	Spionida	Spionidae	Prionospio steenstrupi	3
BWSPM-Sep-16	Annelida	Polychaeta	Spionida	Spionidae	Spiophanes bombyx	1

BWSPM-Sep-16	Annelida	Polychaeta	Spionida	Spionidae	Streblospio benedicti	8
BWSPM-Sep-16	Annelida	Polychaeta	Terebellida	Pectinariidae	Pectinaria gouldi	1
BWSPM-Sep-16	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca (LPIL)	1
BWSPM-Sep-16	Arthropoda	Malacostraca	Decapoda	Hippidae	Emerita (LPIL)	1
BWSPM-Sep-16	Arthropoda	Malacostraca	Decapoda		Decapoda (LPIL)	2
BWSPM-Sep-16	Arthropoda	Malacostraca	Isopoda	Hyssuridae	Xenanthura brevitelson	2
BWSPM-Sep-16	Arthropoda	Malacostraca	Mysida	Mysidae	Bowmaniella dissimilis	1
BWSPM-Sep-16	Chordata	Leptocardii	Amphioxiformes	Branchiostomatidae	Branchiostoma (LPIL)	2
BWSPM-Sep-16	Echinodermata	Ophiuroidea	Ophiurida	Amphiuridae	Amphiuridae (LPIL)	1
BWSPM-Sep-16	Echinodermata				Echinodermata (LPIL)	1
BWSPM-Sep-16	Mollusca	Bivalvia	Pholadomyoidea	Periplomatidae	Periploma margaritaceum	2
BWSPM-Sep-16	Mollusca	Bivalvia	Veneroidea	Mactridae	Mulinia lateralis	1
BWSPM-Sep-16	Mollusca	Bivalvia	Veneroidea	Semelidae	Semelidae (LPIL)	4
BWSPM-Sep-16	Mollusca	Bivalvia	Veneroidea	Tellinidae	Scissula iris	1
BWSPM-Sep-16	Mollusca	Bivalvia	Veneroidea	Tellinidae	Tellinidae (LPIL)	10
BWSPM-Sep-16	Mollusca	Bivalvia			Bivalvia (LPIL)	1
BWSPM-Sep-16	Mollusca	Gastropoda	Cephalaspidea	Scaphandridae	Acteocina (LPIL)	1
BWSPM-Sep-16	Mollusca	Gastropoda	Neogastropoda	Columbellidae	Costoanachis (LPIL)	1
BWSPM-Sep-16	Mollusca	Gastropoda			Gastropoda (LPIL)	1
BWSPM-Sep-16	Nemertea	Anopla	Paleonemertea	Tubulanidae	Tubulanus sp. A	9
BWSPM-Sep-16	Nemertea				Nemertea (LPIL)	3
BWSPM-Sep-17	Annelida	Polychaeta	Phyllodocida	Goniadidae	Glycinde solitaria	2
BWSPM-Sep-17	Annelida	Polychaeta	Scolecida	Capitellidae	Capitella capitata	1
BWSPM-Sep-17	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	1
BWSPM-Sep-17	Annelida	Polychaeta	Spionida	Spionidae	Streblospio benedicti	1
BWSPM-Sep-17	Annelida	Polychaeta	Terebellida	Terebellidae	Terebellidae (LPIL)	1
BWSPM-Sep-17	Arthropoda	Malacostraca	Amphipoda	Aeginellidae	Deutella incerta	1
BWSPM-Sep-17	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca (LPIL)	1
BWSPM-Sep-17	Arthropoda	Malacostraca	Mysida	Mysidae	Americamysis bahia	1
BWSPM-Sep-17	Arthropoda	Malacostraca	Decapoda	Portunidae	Callinectes sapidus	1
BWSPM-Sep-17	Mollusca	Bivalvia	Veneroidea	Cardiidae	Laevicardium mortoni	1
BWSPM-Sep-17	Mollusca	Bivalvia	Veneroidea	Mactridae	Mulinia lateralis	3
BWSPM-Sep-17	Mollusca	Bivalvia	Veneroidea	Tellinidae	Angulus versicolor	2
BWSPM-Sep-17	Mollusca	Gastropoda	Cephalaspidea	Scaphandridae	Acteocina (LPIL)	1
BWSPM-Sep-17	Mollusca	Gastropoda	Neotaenioglossa	Cerithiidae	Bittium varium	1
BWSPM-Sep-17	Nemertea	Anopla	Paleonemertea	Tubulanidae	Tubulanus sp. A	1
BWSPM-Sep-18	Annelida	Oligochaeta	Tubificida	Naididae	Naididae (LPIL)	3
BWSPM-Sep-18	Annelida	Polychaeta	Scolecida	Capitellidae	Capitella capitata	1
BWSPM-Sep-18	Annelida	Polychaeta	Spionida	Spionidae	Streblospio benedicti	3

APPENDIX IV
Bluewater SPM Benthic Sampling
October 2019 Raw Data File

Appendix IV. BWSPM raw data file, October 2019.

Station Name	Phylum	Class	Order	Family	Taxa	Abundance
BWSPM-Oct-01	Annelida	Polychaeta	Phyllodocida	Pilargidae	Sigambra tentaculata	1
BWSPM-Oct-01	Annelida	Polychaeta	Scolecida	Capitellidae	Notomastus latericeus	1
BWSPM-Oct-01	Annelida	Polychaeta	Spionida	Magelonidae	Magelona uebelackerae	2
BWSPM-Oct-01	Nemertea	Anopla	Heteronemertea	Lineidae	Lineidae (LPIL)	2
BWSPM-Oct-01	Arthropoda	Malacostraca	Amphipoda		Ampelisca (LPIL)	2
BWSPM-Oct-02	Annelida	Polychaeta	Eunicida	Lumbrineridae	Ninoe nigripes	2
BWSPM-Oct-02	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma verrilli	1
BWSPM-Oct-02	Annelida	Polychaeta	Scolecida	Capitellidae	Notomastus latericeus	1
BWSPM-Oct-02	Annelida	Polychaeta	Scolecida	Maldanidae	Sabaco elongatus	1
BWSPM-Oct-02	Annelida	Polychaeta	Spionida	Magelonidae	Magelona uebelackerae	2
BWSPM-Oct-02	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca (LPIL)	1
BWSPM-Oct-02	Arthropoda	Malacostraca	Decapoda	Pinnotheridae	Dissodactylus (LPIL)	1
BWSPM-Oct-02	Annelida	Polychaeta	Phyllodocida	Pilargidae	Sigambra tentaculata	2
BWSPM-Oct-06	Annelida	Polychaeta	Cossurida	Cossuridae	Cossura soyeri	1
BWSPM-Oct-06	Annelida	Polychaeta	Eunicida	Lumbrineridae	Ninoe nigripes	1
BWSPM-Oct-06	Annelida	Polychaeta	Opheliida	Opheliidae	Armandia maculata	1
BWSPM-Oct-06	Annelida	Polychaeta	Phyllodocida	Nephtyidae	Nephtys incisa	1
BWSPM-Oct-06	Annelida	Polychaeta	Spionida	Magelonidae	Magelona uebelackerae	1
BWSPM-Oct-06	Annelida	Polychaeta	Spionida	Spionidae	Paraprionospio pinnata	6
BWSPM-Oct-06	Annelida	Polychaeta	Spionida	Spionidae	Prionospio (LPIL)	1
BWSPM-Oct-06	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca (LPIL)	2
BWSPM-Oct-06	Arthropoda	Malacostraca	Decapoda	Pinnotheridae	Dissodactylus (LPIL)	1
BWSPM-Oct-06	Mollusca	Bivalvia	Nuculanida	Nuculanidae	Nuculana concentrica	1
BWSPM-Oct-06	Nemertea	Anopla	Heteronemertea	Lineidae	Lineidae (LPIL)	3
BWSPM-Oct-06	Nemertea				Nemertea (LPIL)	1
BWSPM-Oct-10	Annelida	Polychaeta	Cossurida	Cossuridae	Cossura soyeri	1
BWSPM-Oct-10	Annelida	Polychaeta	Eunicida	Lumbrineridae	Scoletoma verrilli	4
BWSPM-Oct-10	Annelida	Polychaeta	Eunicida	Onuphidae	Diopatra cuprea	1
BWSPM-Oct-10	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereis micromma	2
BWSPM-Oct-10	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	Phyllodoce arenae	1
BWSPM-Oct-10	Annelida	Polychaeta	Phyllodocida	Pilargidae	Sigambra tentaculata	1
BWSPM-Oct-10	Annelida	Polychaeta	Phyllodocida	Sigalionidae	Sthenelais sp. A	3
BWSPM-Oct-10	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	1
BWSPM-Oct-10	Annelida	Polychaeta	Scolecida	Capitellidae	Notomastus latericeus	1
BWSPM-Oct-10	Annelida	Polychaeta	Scolecida	Maldanidae	Maldanidae (LPIL)	1
BWSPM-Oct-10	Annelida	Polychaeta	Scolecida	Maldanidae	Sabaco elongatus	1
BWSPM-Oct-10	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea (LPIL)	3
BWSPM-Oct-10	Annelida	Polychaeta	Spionida	Magelonidae	Magelona uebelackerae	11
BWSPM-Oct-10	Annelida	Polychaeta	Spionida	Spionidae	Paraprionospio pinnata	2
BWSPM-Oct-10	Annelida	Polychaeta	Spionida	Spionidae	Polydora cornuta	1
BWSPM-Oct-10	Annelida	Polychaeta	Terebellida	Cirratulidae	Cirratulidae (LPIL)	1
BWSPM-Oct-10	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	Ampelisca (LPIL)	2
BWSPM-Oct-10	Arthropoda	Malacostraca	Decapoda	Alpheidae	Automate (LPIL)	2
BWSPM-Oct-10	Arthropoda	Malacostraca	Decapoda	Upogebiidae	Upogebia affinis	2
BWSPM-Oct-10	Arthropoda	Malacostraca	Decapoda	Xanthidae	Xanthidae (LPIL)	1
BWSPM-Oct-10	Echinodermata	Ophiuroidea	Ophiurida	Amphiuridae	Amphiuridae (LPIL)	2
BWSPM-Oct-10	Echinodermata	Ophiuroidea	Ophiurida	Ophiactidae	Hemipholis elongata	1

BWSPM-Oct-10	Mollusca	Bivalvia	Nuculida	Nuculidae	Nucula proxima	4
BWSPM-Oct-10	Mollusca	Bivalvia	Veneroida	Solenidae	Solen viridis	1
BWSPM-Oct-10	Mollusca	Gastropoda	Heterostropha	Pyramidellidae	Turbonilla portoricana	1
BWSPM-Oct-10	Nemertea	Anopla	Heteronemertea	Lineidae	Lineidae (LPIL)	4
BWSPM-Oct-10	Platyhelminthes				Platyhelminthes (LPIL)	1
BWSPM-Oct-10	Sipuncula				Sipuncula (LPIL)	42
BWSPM-Oct-14	Annelida	Polychaeta	Eunicida	Onuphidae	Diopatra cuprea	3
BWSPM-Oct-14	Annelida	Polychaeta	Opheliida	Opheliidae	Armandia agilis	1
BWSPM-Oct-14	Annelida	Polychaeta	Orbiniida	Orbiniidae	Scoloplos rubra	2
BWSPM-Oct-14	Annelida	Polychaeta	Oweniida	Oweniidae	Owenia fusiformis	2
BWSPM-Oct-14	Annelida	Polychaeta	Phyllodocida	Eulepethidae	Grubeulepis mexicana	10
BWSPM-Oct-14	Annelida	Polychaeta	Phyllodocida	Goniadidae	Glycinde solitaria	3
BWSPM-Oct-14	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereididae (LPIL)	4
BWSPM-Oct-14	Annelida	Polychaeta	Phyllodocida	Nereididae	Nereis succinea	3
BWSPM-Oct-14	Annelida	Polychaeta	Phyllodocida	Pilargidae	Sigambra tentaculata	3
BWSPM-Oct-14	Annelida	Polychaeta	Phyllodocida	Polynoidae	Malmgreniella taylori	1
BWSPM-Oct-14	Annelida	Polychaeta	Sabellida	Sabellidae	Chone (LPIL)	7
BWSPM-Oct-14	Annelida	Polychaeta	Scolecida	Capitellidae	Mediomastus (LPIL)	5
BWSPM-Oct-14	Annelida	Polychaeta	Scolecida	Paraonidae	Aricidea (LPIL)	4
BWSPM-Oct-14	Annelida	Polychaeta	Spionida	Magelonidae	Magelona uebelackerae	9
BWSPM-Oct-14	Annelida	Polychaeta	Spionida	Spionidae	Paraprionospio pinnata	2
BWSPM-Oct-14	Annelida	Polychaeta	Terebellida	Terebellidae	Loimia medusa	7
BWSPM-Oct-14	Arthropoda	Malacostraca	Amphipoda	Bateidae	Batea catharinensis	2
BWSPM-Oct-14	Arthropoda	Malacostraca	Amphipoda	Corophiidae	Monocorophium (LPIL)	13
BWSPM-Oct-14	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	Rhepoxynius (LPIL)	6
BWSPM-Oct-14	Arthropoda	Malacostraca	Decapoda	Albunidae	Albunea paretii	4
BWSPM-Oct-14	Arthropoda	Malacostraca	Decapoda	Hepatidae	Hepatus (LPIL)	5
BWSPM-Oct-14	Arthropoda	Malacostraca	Decapoda	Paguridae	Pagurus (LPIL)	7
BWSPM-Oct-14	Arthropoda	Malacostraca	Decapoda	Pasiphaeidae	Leptocheila (LPIL)	1
BWSPM-Oct-14	Arthropoda	Malacostraca	Decapoda	Porcellanidae	Euceramus praelongus	1
BWSPM-Oct-14	Arthropoda	Malacostraca	Decapoda		Decapoda (LPIL)	1
BWSPM-Oct-14	Arthropoda	Malacostraca	Isopoda	Sphaeromatidae	Ancinus depressus	2
BWSPM-Oct-14	Echinodermata	Ophiuroidea	Ophiurida	Amphiuridae	Amphiuridae (LPIL)	3
BWSPM-Oct-14	Echinodermata	Ophiuroidea	Ophiurida	Ophiactidae	Hemipholis elongata	9
BWSPM-Oct-14	Mollusca	Bivalvia	Arcoidea	Arcidae	Anadara (LPIL)	2
BWSPM-Oct-14	Mollusca	Bivalvia	Arcoidea	Arcidae	Lunarca ovalis	1
BWSPM-Oct-14	Mollusca	Bivalvia	Pholadomyoidea	Periplomatidae	Periploma (LPIL)	1
BWSPM-Oct-14	Mollusca	Bivalvia	Veneroida	Cardiidae	Dinocardium robustum	1
BWSPM-Oct-14	Mollusca	Bivalvia	Veneroida	Lucinidae	Parvilucina crenella	1
BWSPM-Oct-14	Mollusca	Bivalvia	Veneroida	Tellinidae	Scissula iris	1
BWSPM-Oct-14	Mollusca	Bivalvia	Veneroida	Tellinidae	Tellinidae (LPIL)	4
BWSPM-Oct-14	Mollusca	Bivalvia	Veneroida	Ungulinidae	Diplodonta punctata	1
BWSPM-Oct-14	Mollusca	Gastropoda	Neogastropoda	Columbellidae	Parvanachis (LPIL)	11
BWSPM-Oct-14	Nemertea	Anopla	Heteronemertea	Lineidae	Lineidae (LPIL)	1