AECOM Environment

Prepared for:
Massachusetts Office of
Coastal Zone Management
Boston, MA

Prepared by:
AECOM
Woods Hole, MA
60274392.4
May 8, 2013

ENV13 CZM 01 Benthic Infaunal Analysis Report

Final

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Contents

List of Appendices

List of Tables

List of Figures

List of Acronyms

BPI – Benthic Position Index

CZM – Massachusetts Office of Coastal Zone Management

DMF – Division of Marine Fisheries

EMU – Ecological Marine Unit

EPA – U.S. Environmental Protection Agency

ETOH – Ethanol

SOP – Standard Operating Procedure

USGS – U.S. Geological Survey

1.0 Introduction

The 2008 Massachusetts Oceans Act required the development of an integrated ocean management plan. One of the priority tasks being undertaken by the Massachusetts Office of Coastal Zone Management (CZM) is to categorize and map the various marine habitats in Commonwealth waters. CZM and the U.S. Geological Survey (USGS) Woods Hole Coastal and Marine Science Center are working cooperatively to map seafloor habitats in Massachusetts coastal waters. High-resolution bathymetry and surficial geology are merged with sediment data developed by USGS to produce sediment maps. A priority research object outlined in the 2009 Massachusetts Ocean Management Plan is the validation of these maps.

CZM and the Massachusetts Division of Marine Fisheries (DMF) conducted a survey in June 2010 aboard the OSV *Bold*, the U.S. Environmental Protection Agency (EPA)'s monitoring vessel. A total of 100 infaunal and 130 sediment samples were collected from two target areas, Massachusetts Bay and northern Cape Cod Bay, for the purpose of validating sediment maps. The samples were processed for both sediment grain size and infaunal analysis (Normandeau, 2010). In September 2011 three additional target areas were sampled: (1) southern Cape Cod Bay, (2) south of the Islands including Vineyard Sound, and (3) Buzzards Bay. Samples for sediment grain size and infauna were collected and analyzed from 214 stations (AECOM, 2012).

A third sampling cruise was made in August 2012. A total of 2,081 seafloor photos, 219 sediment grabs, and 207 infaunal samples were obtained at 350 stations within state waters between Boston Harbor and the New Hampshire border (Figure 1-1). This report presents the results of the analysis of the 207 benthic infaunal grabs. The relationship of three environmental factors of interest (depth, sediment type, and Ecological Marine Unites [EMUs]) to faunal assemblages was characterized during the analysis.

The first 150 sampling stations were selected by USGS to gather additional samples off the North Shore for their sediment texture interpretive mapping. The remaining sample sites were chosen by prioritizing areas that had no representation in the CZM-DMF surficial sediment database. Specifically, a 1-km grid was overlaid on the region of interest from Boston Harbor to the New Hampshire border. Grid cells that had no surficial sediment grab data and were deeper than 30 ft (the minimum operating depth of the research vessel) were identified. Thus the 2012 sampling regime (Figure 1-1) was a non-random, directed sampling program designed to acquire a surficial sediment grab density of at least one grab per square kilometer. One infaunal sample was attained at each sediment sample site, with the exception of 12 sample sites where the grab was not deep enough for an infaunal sample according to the CZM protocol, but was deep enough for a sediment sample according to USGS protocol (see Standard Operating Procedures in Appendix A for more details).

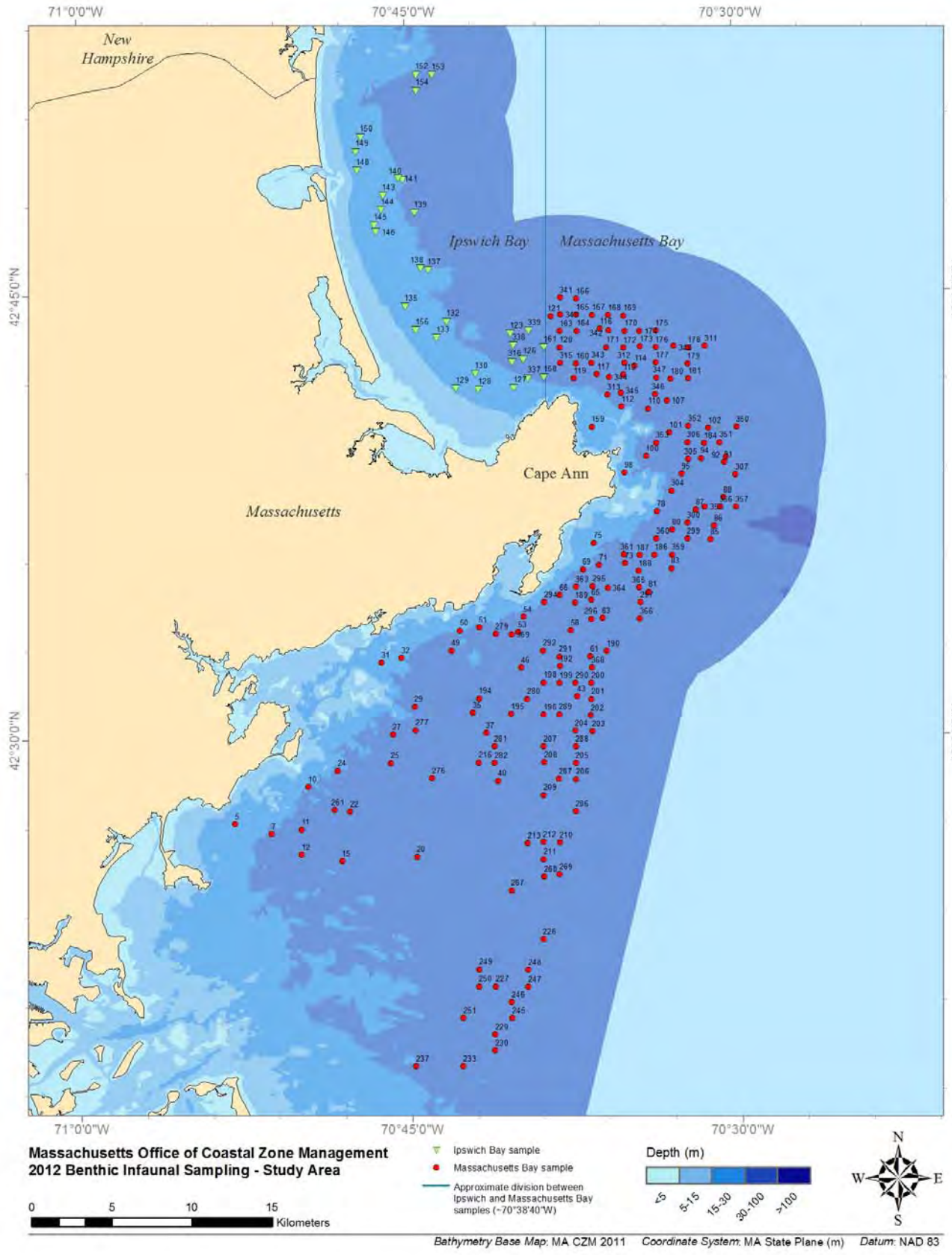

Figure 1-1. Location of the 207 infaunal stations sampled in August 2012.

2.0 Methods

2.1 Field Methods

Samples were collected by CZM aboard the OSV *Bold* on August 21–27, 2012. One sediment sample was collected at each of 207 stations using a.0.1-m^2 modified Van Veen grab attached to USGS's SEABOSS system. Each grab sample collected was divided using a sheet of plexiglass, with approximately 0.06 m^2 designated for grain size analysis to be conducted by USGS. The approximately 0.04 m^2 sediment remaining was designated for benthic infaunal analysis. Infaunal and sediment grain size standard operating procedures for field processing of samples, including the preservation, labeling, and storage of individual samples, are presented in Appendix A.

Any large animals visible on the sediment surface, including sand dollars, clams, and holothurians were noted in the field log, thoroughly rinsed over the sieve, and released. Information from the field log was included in the infaunal database.

Samples were transferred to AECOM on August 27, 2013, for processing. Sample locations, depth, and grain size information are presented in Appendix B.

2.2 Laboratory Methods

Infauna samples were rinsed with filtered seawater by AECOM over a 0.5-mm-mesh sieve and transferred to 80% ETOH for sorting and storage. To facilitate the sorting process, all samples were stained in a saturated alcoholic solution of Rose Bengal at least overnight, but no longer than 48 h. After rinsing with clean alcohol, all organisms, including anterior fragments, were removed and sorted to major taxonomic categories such as polychaetes, arthropods, and mollusks by Cove Corporation and AECOM. During the sorting process, the presence or absence of Copepoda, Nematoda, and Ostracoda was noted. All organisms were then identified by taxonomists to the family level except Anthozoa, Nemertea, Oligochaeta, and Turbellaria, which were identified only to Class or Phylum. All identifications were recorded on customized datasheets. For each batch of 10 samples, one was randomly selected for QA/QC, resorted, and all taxa re-identified. Quality assurance results for both sorting and taxonomy are presented in Appendix C.

2.3 Statistical Analysis

2.3.1 Preliminary Data Treatment

Several modifications were made to the benthic database prior to statistical analysis. The presence or absence of the Copepoda, Nematoda, and Ostracoda were excluded from all calculations. Total abundance for each species was calculated without further modification to the database (total data). For diversity and multivariate analysis (i.e., number of taxa, commonness, diversity, evenness, similarity) taxa that could not be identified to the family level were excluded from the database (analyzed data). This was due either to the specimens contained in the excluded taxa were either in poor condition or were unidentifiable juveniles. The only exceptions were Anthozoa, Nemertea, Oligochaeta, and Turbellaria, which were still treated as valid taxa in all statistical analyses.

2.3.2 Statistical Analysis

Basic descriptive statistics were calculated for each infaunal sample. The number of "common" (occurring in at least 75% of samples), "less common" (occurring in 35–74% of samples), and "rare" (occurring in less than 35% of samples) taxa in each sample was determined. These values are ≥155, 72–154, and <72 stations respectively.

The PRIMER 6 package of statistical routines (Clark & Gorley, 2006) was used for calculations of abundance, number of taxa, diversity index Shannon's H′ (log_e), and Pielou's evenness value J′, as well as several multivariate analyses.

The Bray-Curtis algorithm based on 4^{th}-root transformed data was used to examine similarity among stations. The resulting resemblance matrix was used to generate a dendrogram using a hierarchical agglomerative clustering technique with group average sorting. The SIMPROF routine was used to identify internally consistent groups that were significantly different from other groups of stations. In order to determine the contribution of individual taxa to the similarity among groups as well as the dissimilarity between groups, SIMPER analysis was performed. Non-metric multi-dimensional scaling (MDS) diagrams based on the Bray-Curtis similarity matrix were generated to depict the relationship of stations in two-dimensional space in terms of the major cluster groups and environmental factors.

The ANOSIM routine in PRIMER was used to test three *a priori* null hypotheses concerning infaunal community composition and its relation to three environmental factors of interest:

$H_0$1. There is no difference in infaunal assemblages among depth zones.

$H_0$2. There is no difference in infaunal assemblages among sediment types.

$H_0$3. There is no difference in infaunal assemblages among Ecological Marine Units.

Station water depth was divided into five zones, however, only two occurred in this dataset: 15–30 m (mid) and 30–100 m (deep).

Sediment type was classified by CZM using the Barnhardt et al. (1998) classification of bottom types (Figure 2-1) based upon the USGS grain size results. This differed from 2011 when the modified Shepard classification was used (AECOM, 2012). No hard bottoms were sampled for infauna during this study. A total of eight sediment types were identified using the Barnhardt square classification scheme. The sediment results from the USGS laboratory are presented in Appendix B.

CZM developed the third factor to be tested, the ecological marine unit (EMUs). A four-digit code was assigned to each station with the thousands, tens, and ones place each representing a different type of information. The possible values for the variables sediment type (thousands), Benthic Position Index (BPI)[1], and bathymetry are given in Table 2-1. The code was modified from 2011 to 2012 due to the modification in sediment classification scheme. The code changed from a three-digit code with sediment type in the hundreds place to the thousands place in the four-digit code. A total of 27 EMU types were represented in the 2012 infaunal stations. For example, EMU code 2034 is mud with sand, flat seabed, and 30–100 m depth. A full list of EMUs reported is presented in Table 2-2.

[1] BPI is a second order derivative of bathymetry. The derivation evaluates elevation differences between a focal point and the mean elevation of the surrounding cells within a user defined annulus or circle. A negative value represents a cell that is lower than its neighboring cells (depressions) and a positive value represents a cell that is higher than its neighboring cells (crests). Larger numbers represent more prominent features on the seafloor, which differ greatly from surrounding areas. Flat areas or areas with a constant slope produce near-zero values (Lundblad et al. 2006).

To generate the BPI, the following steps were followed: 1) Created a small BPI at annulus 5/50 (5 being inside and 50 being outside) to capture small scale features, 2) Created a large BPI at 50/500 to capture large scale features, 3) Added the small and large together to create a multiscale raster, 4) Created five bins using Jenks, 5) Due to speckling in the data, smoothed using the Arc Filter tool set to Low Pass.

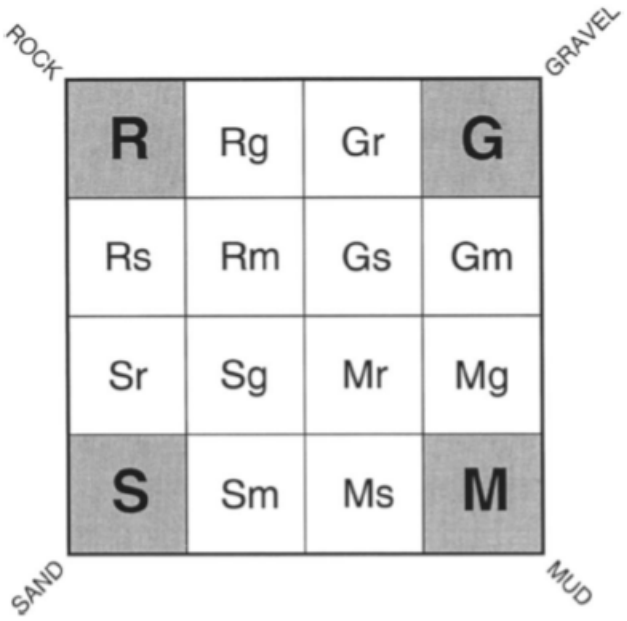

Figure 2-1. Barnhardt square classification scheme for the classification of bottom types as used to classify the 207 infaunal samples (R=rock, G=gravel, S=sand, M=mud).

Table 2-1. Ecological Marine Unit components.

Ones Place	Bathymetry	Depth (m)
	1*	<5
	2*	5–15 (shallow)
	3	15–30 (mid)
	4	30–100 (deep)
	5*	>100
Tens Place	**Benthic Position Index**	
	10	Deep depression
	20	Depression
	30	Flat
	40	Ridge
	50*	High ridge
Thousands Place	**Sediment**	
	1000	Mud
	2000	Mud with sand
	3000	Sand with mud
	4000	Sand
	5000	Mud with gravel
	7000	Sand with gravel
	9000	Gravel with mud
	10000	Gravel with sand

*Not present in 2012 sampling locations.

Table 2-2. Ecological Marine Unit (EMU) types represented in the 2012 infaunal samples. EMU types in bold are considered common, occurring in at least five stations.

EMU Code	Description
1014	Mud, deep depression, deep
1024	Mud, depression, deep
2014	**Mud with sand, deep depression, deep**
2024	**Mud with sand, depression, deep**
2033	Mud with sand, flat, mid-depth
2034	**Mud with sand, flat, deep**
3014	Sand with mud, deep depression, deep
3023	Sand with mud, depression, mid-depth
3024	**Sand with mud, depression, deep**
3033	Sand with mud, flat, mid-depth
3034	**Sand with mud, flat, deep**
3043	Sand with mud, ridge, mid-depth
3044	**Sand with mud, ridge, deep**
4024	Sand, depression, deep
4033	**Sand, flat, mid-depth**
4034	**Sand, flat, deep**
4043	**Sand, ridge, mid-depth**
4044	**Sand, ridge, deep**
5024	Mud with gravel, depression ,deep
7024	Sand with gravel, depression, deep
7033	Sand with gravel, flat, mid-depth
7034	Sand with gravel, flat, deep
9024	Gravel with mud, depression, deep
9034	Gravel with mud, flat, deep
10024	Gravel with sand, depression, deep
10034	Gravel with sand, flat, deep
10044	Gravel with sand, ridge, deep

3.0 Results

3.1 Taxonomic Composition

A total of 119,438 individuals belonging to 164 taxa were identified from the 207 North Shore infaunal samples (Appendix D-1). Of these, 541 organisms belonging to 10 taxa were not considered further for calculations of diversity or similarity. These excluded taxa included Amphipoda spp., Ascidiacea juv., Asteroidea juv., Bivalvia spp., Cumacea spp., Gastropoda spp., Holothuroidea spp., Nudibranchia spp., Ophiuroidea juv., and Sipuncula spp. These 10 taxa were excluded since they contained poorly preserved specimens and juveniles that would otherwise have been identified to a lower taxonomic level.

Due to their large size, a total of 112 individuals were recorded in the field log but were not preserved as part of the infaunal samples (Appendix D-2). Excluded organisms included sea cucumbers (Class Holothuroidea), sand dollars (Family Echinarachniidae), the mud star *Ctenodiscus crispatus* (Family Ctenodiscidae), and the bivalve *Arctica islandica* (Family Arcticidae). These counts were included in the final database, except for Holothuroidea spp. (n=12) which were excluded due to the presence of family level identifications for the Class in the processed infaunal samples. The resulting database used for analysis contained 118,897 individuals in 154 taxa.

The average number of organisms per station was 574.4 (SD ± 344.6) individuals, with 25 stations (12%) exceeding 1,000 individuals per 0.04-m^2 grab. Only one station (Station 338) had fewer than 100 individuals.

The 154 taxa identified from the infaunal samples included 42 polychaete taxa (27.27%), 26 bivalves (16.88%) and 22 amphipods (14.29%) (Table 3-1). Appendix D-3 lists the taxa identified from the 207 samples. Fourteen taxa were considered common, occurring in at least 155 stations. The 29 less common taxa occurred in 72–154 stations (Table 3-2). The remaining 111 taxa were considered rare, occurring in fewer than 72 stations. The 20 most abundant taxa totaled 99,762 individuals (83.6%) and included polychaetes (13 taxa), bivalves (four taxa), amphipods (two taxa) and a single cumacean taxon. The most abundant taxa were the polychaete families Ampharetidae and Spionidae.

Table 3-1. Distribution of the identified taxa according to major taxonomic groups.

Phylum	Subphylum	Class	Order	# of taxa	% Total Fauna
Cnidaria	Anthozoa			1	0.65
Platyhelminthes		Turbellaria		1	0.65
Nemertea				1	0.65
Annelida		Oligochaeta		1	0.65
		Polychaeta		**42**	**27.27**
Arthropoda	Chelicerata	Pycnogonida	Pantopoda	2	1.30
	Crustacea	Malacostraca	**Amphipod**	**22**	**14.29**
			Cumacea	6	3.90
			Decapoda	4	2.60
			Isopoda	9	5.84
			Tanaidacea	2	1.30
		Maxillopoda	Sessillia	1	0.65
		Aplacophora		1	0.65
Mollusca		**Bivalvia**		**26**	**16.88**
		Gastropoda		17	11.04
		Polyplacophora		1	0.65
		Scaphopoda		1	0.65
Sipuncula				3	1.95
Phoronida				1	0.65
Echinodermata		Asteroidea		2	1.30
		Echinoidea		2	1.30
		Holothuroidea		2	1.30
		Ophiuroidea		3	1.95
Hemichordata		Ascidiacea		1	0.65
Chordata	Tunicata			2	1.30
			TOTAL	**154**	**100.00**

Table 3-2. Common (unshaded) and less common (shaded) taxa from the 207 infaunal samples collected in August 2012.

Taxon	Total (All)	# Stations Where Present	Abundance Ranking
Ampharetidae	17,023	207	1
Maldanidae	7,073	202	4
Paraonidae	13,631	202	3
Spionidae	14,399	202	2
Nephtyidae	1,202	196	19
Cirratulidae	6,835	188	6
Lumbrineridae	4,535	184	8
Capitellidae	2,403	178	11
Orbiniidae	1,173	175	22
Phoxocephalidae	834	172	26
Nemertea	865	170	24
Nuculidae	6,142	170	7
Sabellidae	1,544	166	17
Thyasiridae	3,180	166	9
Periplomatidae	1,755	155	15
Trichobranchidae	1,953	151	13
Oweniidae	6,853	147	5
Diastylidae	1,270	140	18
Mytilidae	1,544	137	17
Phyllodocidae	421	131	31
Ampeliscidae	365	128	33
Cardiidae	913	123	23
Rissoidae	1,201	122	20
Anthozoa	320	121	39
Pholoidae	327	116	38
Lysianassidae	331	115	37
Polynoidae	251	115	42
Scalibregmatidae	373	109	32
Arcticidae	586	108	28
Leuconidae	302	108	40
Astartidae	843	105	25
Idoteidae	1,178	99	21
Yoldiidae	334	94	36
Corophiidae	1,616	92	16
Syllidae	2,594	90	10
Apistobranchidae	608	86	27
Goniadidae	122	85	59
Caprellidae	357	83	34
Oligochaeta	259	83	41
Unciolidae	2,347	82	12
Terebellidae	170	78	52
Cossuridae	238	76	43
Nereididae	162	74	53

3.2 Univariate Statistics

Faunal abundance was highly variable, with a low of 79 individuals at Station 338 to a high of 1,972 individuals at Station 54. Average abundance was 574.4 (SD ±344.6). At Station 338, no single taxa had higher than 15 individuals present, with most having well below 10. The high abundance at Station 54 is attributed to large numbers of the tube building polychaete Oweniidae, with 728 individuals present in the sample.

The number of taxa ranged from a low of 15 at Station 348 to a high of 71 at Station 85. The average number of taxa was 38.1 (SD ±11.6). Of the 207 stations sampled, 95 contained 40 taxa or more.

Shannon diversity, H′ ($\log_e$), ranged from a low of 1.49 at Station 98 to a high of 3.37 at Station 210 (Table 3-3). The average Shannon diversity value was 2.54 (SD ± 0.36). Evenness (J') ranged from a low of 0.44 at Station 98 to a high of 0.88 at Station 338 with an average value of 0.71 (SD ± 0.07).

Table 3-3. Summary statistics by station for the 207 infaunal samples collected in August 2012.

Station	Abundance (All data)	Abundance (Analyzed Data)	Number of Taxa	Common	Less Common	Rare	H′ ($\log_e$)	J′
5	860	859	51	14	17	17	2.79	0.71
7	1821	1813	62	12	24	26	2.90	0.70
10	1019	1018	42	14	15	13	2.66	0.71
11	1200	1196	56	14	20	22	2.77	0.69
12	796	781	46	11	21	14	2.95	0.77
15	539	539	44	13	20	11	2.96	0.78
20	762	760	57	14	21	22	2.82	0.70
22	772	766	57	14	19	24	2.95	0.73
24	680	679	43	14	17	12	2.48	0.66
25	1086	1080	64	14	25	25	3.06	0.73
27	487	475	54	13	22	19	3.16	0.79
29	835	835	44	14	20	10	2.77	0.73
31	1161	1158	44	11	17	16	2.39	0.63
32	1392	1389	40	13	11	16	1.61	0.44
35	1042	1033	54	13	23	18	2.82	0.71
37	631	626	55	13	23	19	2.94	0.73
40	759	758	49	13	23	13	2.59	0.67
43	388	388	32	13	13	6	2.39	0.69
46	1025	1020	55	14	24	17	2.93	0.73
49	1344	1336	51	14	18	19	2.48	0.63
50	1003	1003	32	10	11	11	1.82	0.53
51	985	983	58	13	22	23	2.58	0.64
53	360	360	30	8	10	12	2.63	0.77
54	1973	1972	43	14	19	10	2.26	0.60
58	1332	1330	57	14	24	19	2.77	0.69
61	460	459	30	14	12	4	2.43	0.71
63	488	488	31	14	13	4	2.47	0.72
65	621	621	40	14	20	6	2.66	0.72
66	586	585	42	14	19	9	2.55	0.68
69	668	664	49	13	18	18	2.59	0.66
71	705	704	48	13	21	14	2.78	0.72
73	982	979	35	13	16	6	2.69	0.76
75	815	815	50	13	18	19	2.95	0.75
78	381	378	34	10	14	10	2.08	0.59
80	740	740	33	14	14	5	1.93	0.55
81	653	653	28	14	11	3	2.25	0.68

Station	Abundance (All data)	Abundance (Analyzed Data)	Number of Taxa	Common	Less Common	Rare	H′ (log_e)	J′
83	611	610	28	14	12	2	2.19	0.66
85	691	686	71	14	25	32	3.35	0.79
86	696	692	59	13	24	22	2.96	0.73
87	700	700	34	13	15	6	1.89	0.53
88	505	504	39	14	18	7	2.53	0.69
91	565	561	35	13	16	6	1.90	0.54
92	381	372	57	13	27	17	3.22	0.80
94	734	733	36	14	16	6	2.16	0.60
95	1079	1076	44	14	22	8	2.29	0.60
98	1885	1885	30	9	12	9	1.49	0.44
100	497	497	33	11	14	8	2.37	0.68
101	1014	1014	47	14	17	16	2.26	0.59
102	487	486	22	13	7	2	1.93	0.62
107	904	893	41	14	17	10	2.36	0.64
110	1158	1156	55	14	23	18	2.75	0.69
112	1844	1839	59	14	20	25	2.49	0.61
113	1323	1323	52	14	21	17	2.61	0.66
114	812	810	46	14	21	11	2.57	0.67
116	741	734	45	13	17	15	2.55	0.67
117	763	759	49	11	17	21	2.75	0.71
119	442	440	45	12	15	18	2.76	0.72
120	315	312	36	8	15	13	2.66	0.74
121	472	465	49	11	21	17	2.85	0.73
123	366	366	31	7	13	11	2.14	0.62
126	439	432	40	9	14	17	2.74	0.74
127	224	224	22	8	11	3	1.82	0.59
128	270	270	28	12	8	8	2.40	0.72
129	163	160	32	10	10	12	2.96	0.86
130	242	237	20	6	9	5	2.24	0.75
132	453	448	26	12	9	5	2.14	0.66
133	270	270	40	11	13	16	3.13	0.85
135	173	173	27	8	10	9	2.75	0.83
137	614	614	23	9	9	5	2.28	0.73
138	273	262	30	8	9	13	2.30	0.68
139	199	199	25	7	10	8	2.56	0.80
140	308	307	24	6	10	8	2.22	0.70
141	313	313	25	9	8	8	2.36	0.73
143	194	194	24	9	8	7	2.63	0.83
144	751	751	24	10	8	6	1.99	0.63
145	551	550	43	12	17	14	2.59	0.69
146	528	528	24	9	7	8	1.98	0.62
148	996	978	34	10	14	10	2.33	0.66
149	229	229	22	11	8	3	2.22	0.72
150	561	561	29	8	10	11	2.18	0.65
152	644	633	26	8	10	8	2.08	0.64
153	149	149	34	8	14	12	3.01	0.85
154	142	132	29	8	9	12	2.54	0.75
156	230	230	41	10	13	18	3.18	0.86
158	342	342	35	9	14	12	2.71	0.76
159	1335	1335	51	14	21	16	2.19	0.56
160	454	448	53	13	21	19	3.19	0.80
161	413	403	42	7	17	18	2.71	0.72
163	528	525	45	8	15	22	2.63	0.69
164	591	587	58	14	24	20	3.32	0.82

Station	Abundance (All data)	Abundance (Analyzed Data)	Number of Taxa	Common	Less Common	Rare	H′ (log_e)	J′
165	1074	1070	50	14	23	13	2.67	0.68
166	381	378	33	13	16	4	2.48	0.71
167	475	474	38	13	15	10	2.63	0.72
168	277	276	28	11	10	7	2.40	0.72
169	362	362	23	14	9	0	2.07	0.66
170	218	218	23	9	10	4	2.22	0.71
171	1088	1078	49	14	23	12	2.64	0.68
172	522	520	33	14	14	5	2.38	0.68
173	386	385	33	13	14	6	2.43	0.70
174	338	338	26	12	9	5	2.08	0.64
175	323	323	25	14	10	1	2.12	0.66
176	422	421	26	13	12	1	2.15	0.66
177	629	628	28	13	10	5	1.98	0.59
178	481	480	24	12	10	2	1.99	0.63
179	473	473	20	11	7	2	1.79	0.60
180	373	371	23	13	7	3	1.99	0.63
181	419	417	23	11	11	1	2.00	0.64
184	397	397	20	13	5	2	1.81	0.61
186	320	313	32	13	13	6	2.90	0.84
187	562	559	35	14	14	7	2.81	0.79
188	809	808	39	14	15	10	2.58	0.70
189	451	450	30	13	12	5	2.68	0.79
190	323	319	40	14	19	7	2.70	0.73
192	537	535	34	14	16	4	2.29	0.65
194	619	613	46	14	22	10	2.71	0.71
195	120	119	23	12	9	2	2.74	0.87
196	346	346	34	14	14	6	2.69	0.76
198	843	839	48	14	21	13	2.87	0.74
199	361	360	29	14	12	3	2.48	0.74
200	415	415	29	14	12	3	2.47	0.73
201	554	553	39	13	16	10	2.65	0.72
202	460	457	30	13	11	6	2.31	0.68
203	346	344	24	13	8	3	2.32	0.73
204	399	396	29	14	9	6	2.59	0.77
205	251	251	23	12	8	3	2.00	0.64
206	249	248	27	12	9	5	2.16	0.66
207	199	199	22	12	7	3	2.46	0.79
208	335	334	26	14	8	4	2.42	0.74
209	153	153	28	13	11	4	2.71	0.81
210	458	454	57	13	22	22	3.37	0.83
211	486	485	44	14	14	16	2.42	0.64
212	351	347	55	13	22	20	3.36	0.84
213	332	331	58	14	23	21	3.20	0.79
216	743	741	47	13	19	15	2.55	0.66
226	527	525	44	14	18	12	2.52	0.67
227	814	807	54	14	22	18	2.67	0.67
229	452	451	46	13	21	12	3.05	0.80
230	578	575	50	14	23	13	3.05	0.78
233	790	787	47	13	18	16	2.64	0.68
237	729	728	51	14	21	16	2.87	0.73
245	499	498	42	13	19	10	2.76	0.74
246	354	354	42	14	18	10	3.03	0.81
247	313	313	33	13	16	4	2.72	0.78
248	279	278	34	14	14	6	2.68	0.76

Station	Abundance (All data)	Abundance (Analyzed Data)	Number of Taxa	Common	Less Common	Rare	H′ (log_e)	J′
249	427	425	49	14	19	16	2.84	0.73
250	531	524	52	14	20	18	3.13	0.79
251	697	690	57	14	25	18	2.97	0.74
261	582	580	52	14	18	20	2.96	0.75
267	303	302	37	12	16	9	2.92	0.81
268	219	219	29	13	10	6	2.39	0.71
269	137	137	16	11	4	1	2.23	0.80
276	571	569	54	14	27	13	3.09	0.77
277	1084	1082	46	13	22	11	2.78	0.73
279	767	762	46	12	20	14	2.54	0.66
280	686	679	38	14	17	7	2.79	0.77
281	833	830	51	14	18	19	2.81	0.71
282	973	967	55	14	24	17	2.77	0.69
286	154	154	22	11	8	3	2.02	0.65
287	121	121	17	11	6	0	1.94	0.68
288	205	203	22	13	8	1	2.35	0.76
289	433	433	31	14	14	3	2.39	0.70
290	352	352	30	14	13	3	2.42	0.71
291	454	452	39	13	14	12	2.62	0.72
292	764	761	50	14	20	16	2.79	0.71
294	997	996	39	13	14	12	2.54	0.69
295	579	579	32	14	12	6	2.70	0.78
296	821	821	38	14	18	6	2.54	0.70
297	403	401	37	14	17	6	2.62	0.73
299	148	147	23	14	5	4	2.50	0.80
300	358	357	26	14	9	3	2.13	0.65
304	488	487	35	13	18	4	2.66	0.75
305	453	453	33	14	13	6	2.44	0.70
306	460	456	33	14	12	7	2.15	0.62
307	394	390	51	14	19	18	3.25	0.83
311	383	383	28	13	9	6	1.92	0.58
312	776	748	46	14	22	10	2.61	0.68
313	310	308	25	8	10	7	2.28	0.71
315	423	422	47	14	16	17	2.70	0.70
316	342	338	43	9	15	19	2.68	0.71
337	202	202	42	11	13	18	3.22	0.86
338	79	79	25	12	9	4	2.83	0.88
339	238	224	33	7	3	13	2.63	0.75
340	562	561	42	14	18	10	2.96	0.79
341	712	711	50	14	22	14	2.81	0.72
342	438	438	41	14	20	7	2.53	0.68
343	309	308	47	14	19	14	2.95	0.77
344	380	378	28	10	10	8	2.13	0.64
345	212	211	27	4	14	9	2.42	0.73
346	898	890	52	14	25	13	2.53	0.64
347	423	423	32	14	13	5	2.26	0.65
348	168	168	15	10	4	1	1.99	0.73
350	295	294	38	11	20	7	2.62	0.72
351	251	251	24	13	7	4	2.05	0.65
352	293	293	27	14	12	1	2.15	0.65
353	1465	1458	56	14	21	21	2.60	0.65
355	108	108	17	13	4	0	2.38	0.84
356	266	266	26	12	10	4	2.03	0.62
357	520	515	44	14	19	11	2.64	0.70

Station	Abundance (All data)	Abundance (Analyzed Data)	Number of Taxa	Common	Less Common	Rare	H′ (log_e)	J′
359	365	362	30	14	11	5	2.44	0.72
360	831	826	42	14	19	9	2.74	0.73
361	1135	1135	42	14	19	9	2.08	0.56
363	786	785	44	14	17	13	2.70	0.71
364	1001	998	44	14	17	13	2.69	0.71
365	677	674	38	14	17	7	2.56	0.70
366	637	634	41	14	20	7	2.64	0.71
368	289	286	23	14	7	2	2.42	0.77
369	360	357	37	13	10	14	2.49	0.69

3.3 Similarity Analysis

Similarity analysis revealed two major clusters at a similarity level of 39.77% (Figure 3-1 through 3–5). SIMPROF analysis identified 44 internally consistent groups of stations, including several outliers comprised of a single station. For reporting purposes, these small clusters were classified into two main groups and 11 subgroups, with five in the smaller cluster of 40 stations (Group 1) and six in the larger cluster of 167 stations (Group 2). The majority of Group 1 stations were located in Ipswich Bay and north of Cape Ann, with only three located along the southern edge of the study site (Stations 50, 53, and 369) (Figure 3-1). Group 2 stations occurred entirely in Massachusetts Bay with only Station 144 occurring in Ipswich Bay.

SIMPER analysis revealed the taxa that contribute to the similarity within groups as well as the dissimilarity between groups. The internal similarities of the 11 subgroups ranged from 54.12% to 67.16% while dissimilarities between groups ranged from 39.21% to 67.99% (Table 3-4).

The major groups and sub-groups can be characterized as follows (detailed similarity/dissimilarity tables showing the contribution of individual taxa are presented in Appendix Tables E-1 and E-2):

- **Group 1** (n=40) was dominated by Ampharetidae, Maldanidae, Unciolidae, Nephtyidae and Paraonidae (34.25%). The top 10 families also included Cardiidae, Spionidae, Corophiidae, Diastylidae, and Orbiniidae (55.43%). Total within-group similarity was 48.55%.
    - **Group 1A** (n=1) contained a single sample, Station 338. This station had low abundance and diversity, with only 70 organisms in 25 taxa. It differs from Group 1B in that it contained higher numbers of the polychaete families Capitellidae, Flabelligeridae, Scalibregmatidae and the sipunculan family Golfingiidae. This station was classified with the common EMU 3034.
    - **Group 1B** (n=5) was dominated by the amphipod families Unciolidae, Corophiidae, and the cumacean family Diastylidae, which cumulatively comprised 26.33% of the fauna. The polychaete families Ampharetidae, Nephtyidae, and Maldanidae were also relatively abundant at these stations. The overall within-group similarity was 59.84%. Station 154 differed from the other stations in Group 1B in that it contained the highest abundance of Unciolidae. All stations were sandy with both depth ranges represented. Three common EMU types occurred: 4033 (n=2), 4034 (n=2), and 4043 (n=1).

Table 3-4. SIMPER results for the 207 infaunal stations showing percent similarity (shaded cells) and dissimilarity (unshaded cells) within and between the 11 major groups of stations.

.Group	1A	1B	1C	1D	1E	2A	2B	2C	2D	2E	2F
1A	NA[1]	51.75	54.65	57.39	57.46	52.16	55.20	55.93	55.41	58.47	59.41
1B	51.75	59.84	49.32	50.06	53.53	55.13	59.98	65.13	61.17	64.57	61.40
1C	54.65	49.32	60.07	47.98	59.51	62.91	58.59	67.99	53.06	60.75	57.60
1D	57.39	50.06	47.98	57.90	59.75	57.98	56.57	62.65	55.37	57.28	51.24
1E	57.46	53.53	59.51	59.75	60.22	56.89	52.12	60.86	59.75	59.74	57.73
2A	52.16	55.13	62.91	57.98	56.89	54.12	52.00	48.94	56.83	50.56	52.35
2B	55.20	59.98	58.59	56.57	52.12	52.00	57.68	56.49	47.43	48.02	43.85
2C	55.93	65.13	67.99	62.65	60.86	48.94	56.49	65.40	51.66	40.98	51.68
2D	55.41	61.17	53.06	55.37	59.75	56.83	47.43	51.66	63.75	42.27	43.07
2E	58.47	64.57	60.75	57.28	59.74	50.56	48.02	40.98	42.27	67.16	39.21
2F	59.41	61.40	57.60	51.24	57.73	52.35	43.85	51.68	43.07	39.21	66.41

- [1] Only a single station represented in Group 1A.

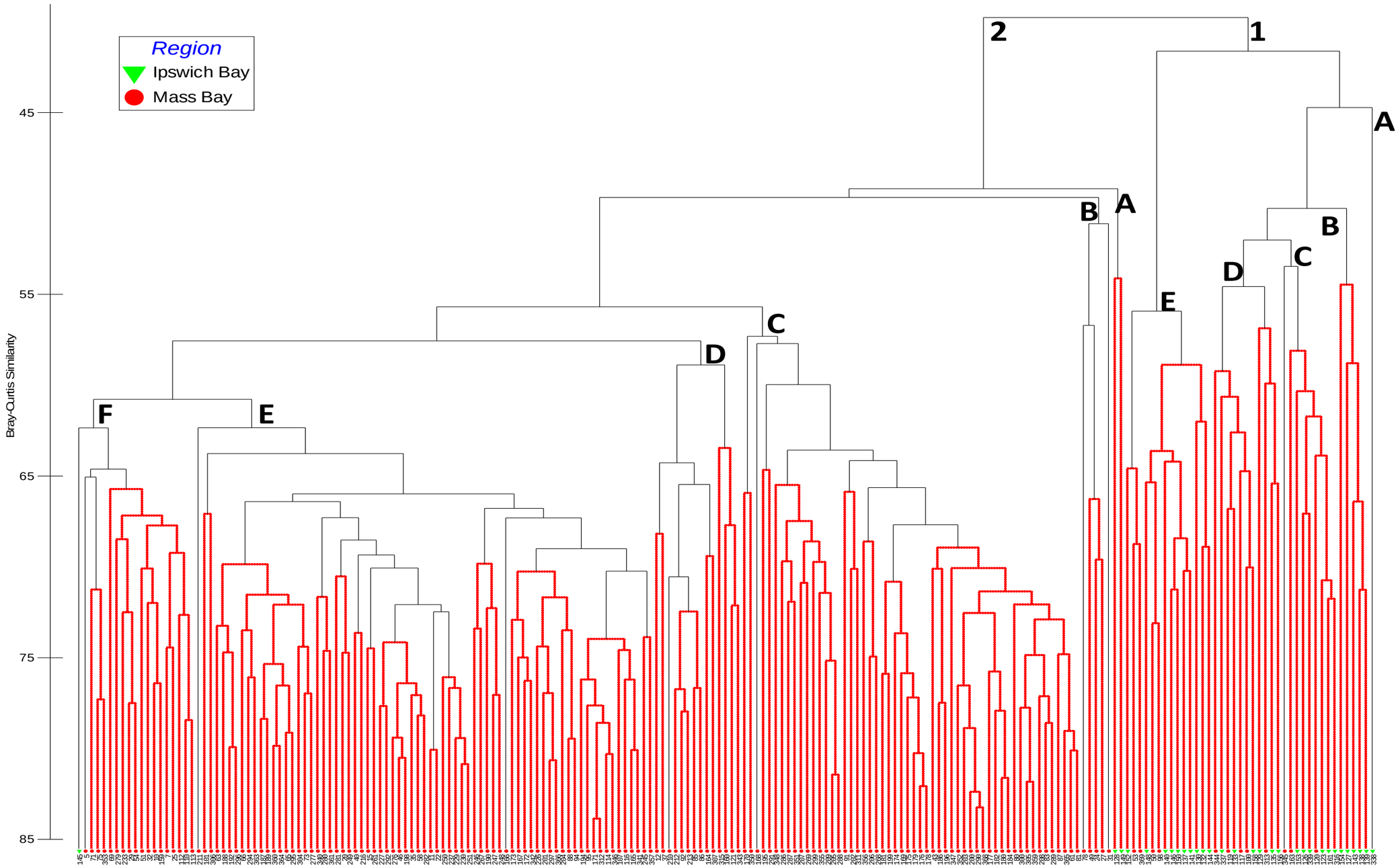

Figure 3-1. Similarity among the 207 stations sampled along the North Shore as determined by the Bray-Curtis algorithm applied to fourth-root-transformed data with group-average clustering. Stations within clusters highlighted in red have infaunal assemblages that are similar to one another (and are dissimilar to sites in adjacent clusters) according to the SIMPROF routine. Stations are coded based on their geographic location.

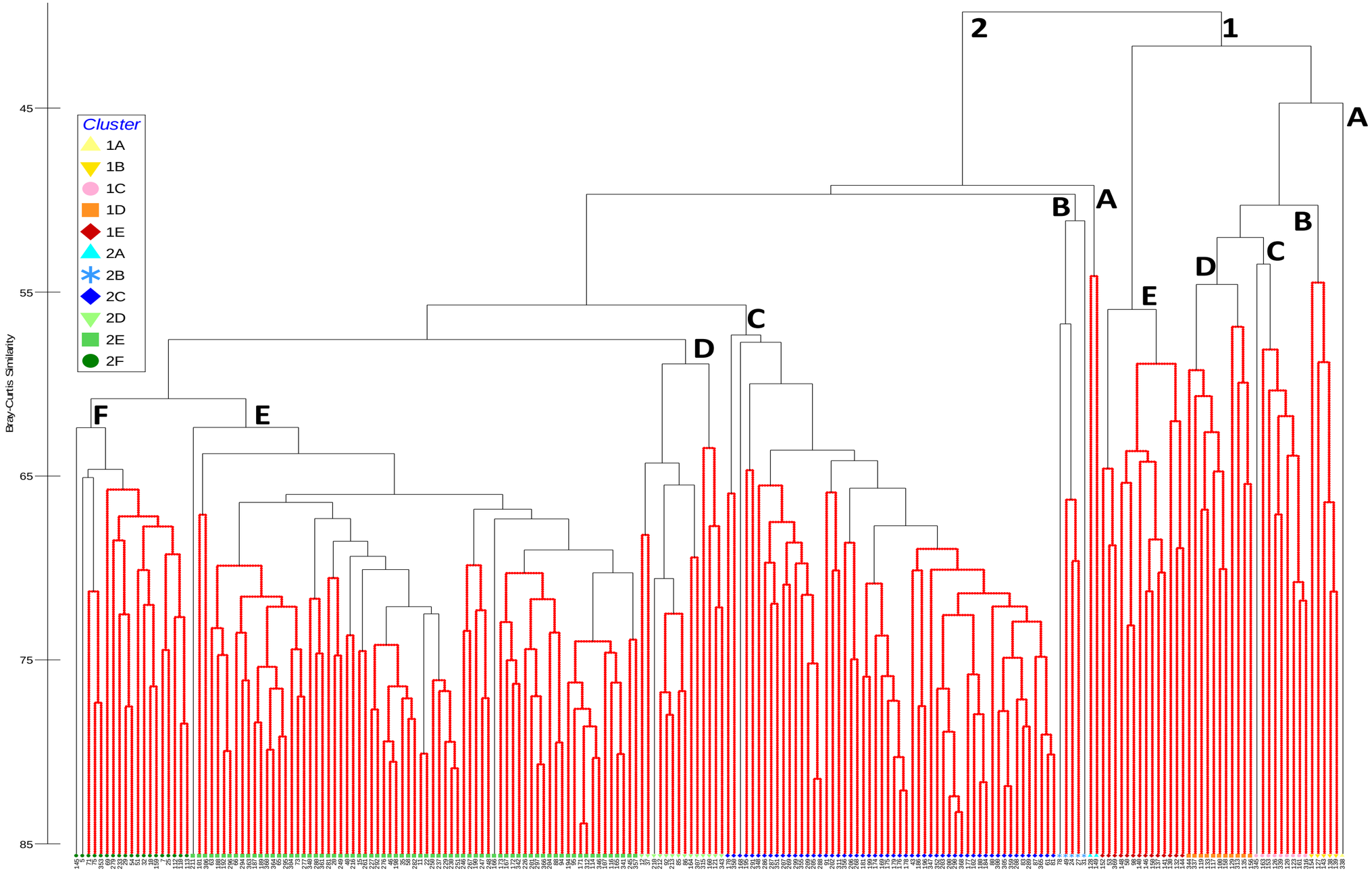

Figure 3-2. Similarity among the 207 stations sampled along the North Shore as determined by the Bray-Curtis algorithm. Stations are coded based upon the 11 major cluster groups.

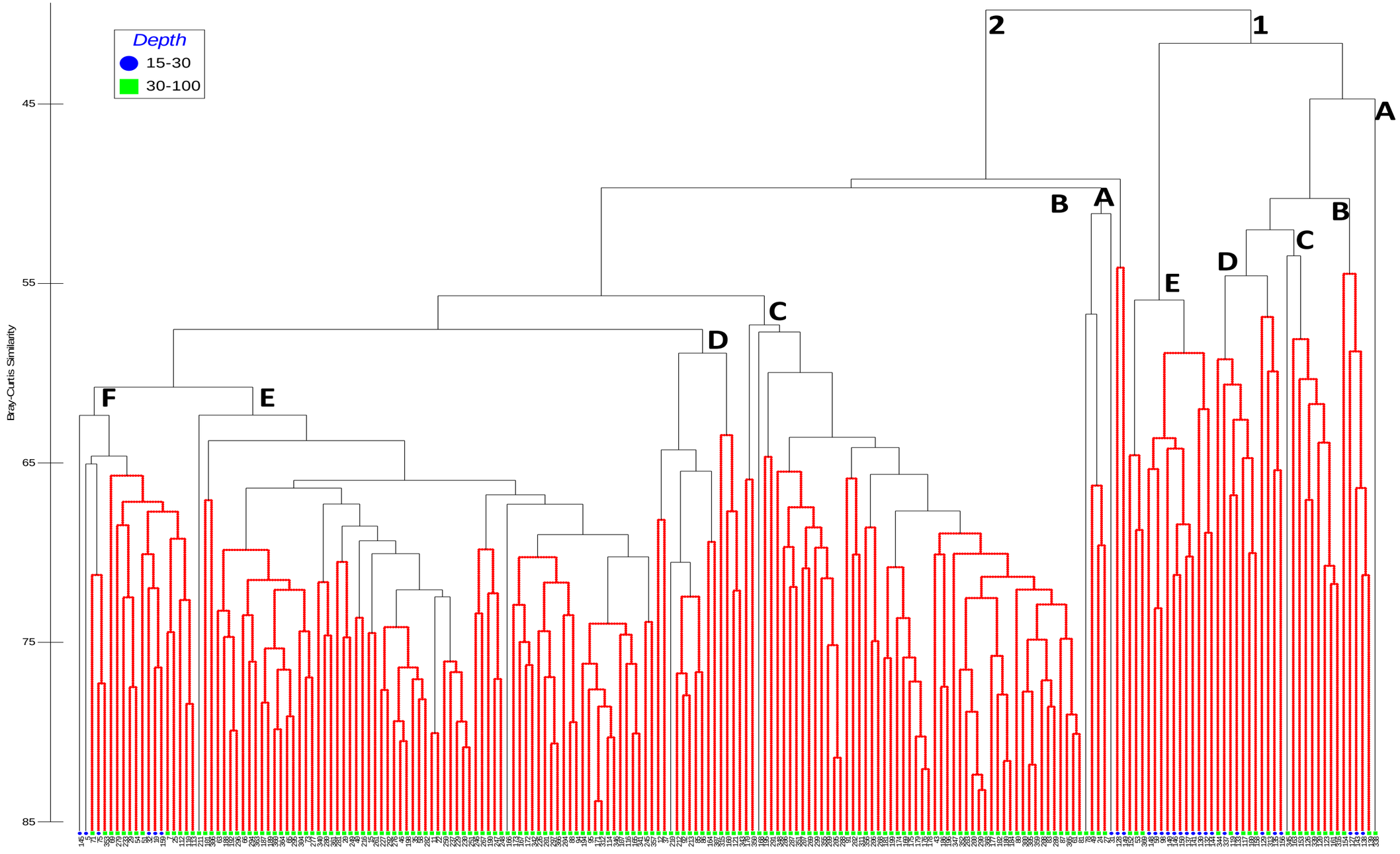

Figure 3-3. Similarity among the 207 stations sampled along the North Shore as determined by the Bray-Curtis algorithm. Stations are coded based upon depth.

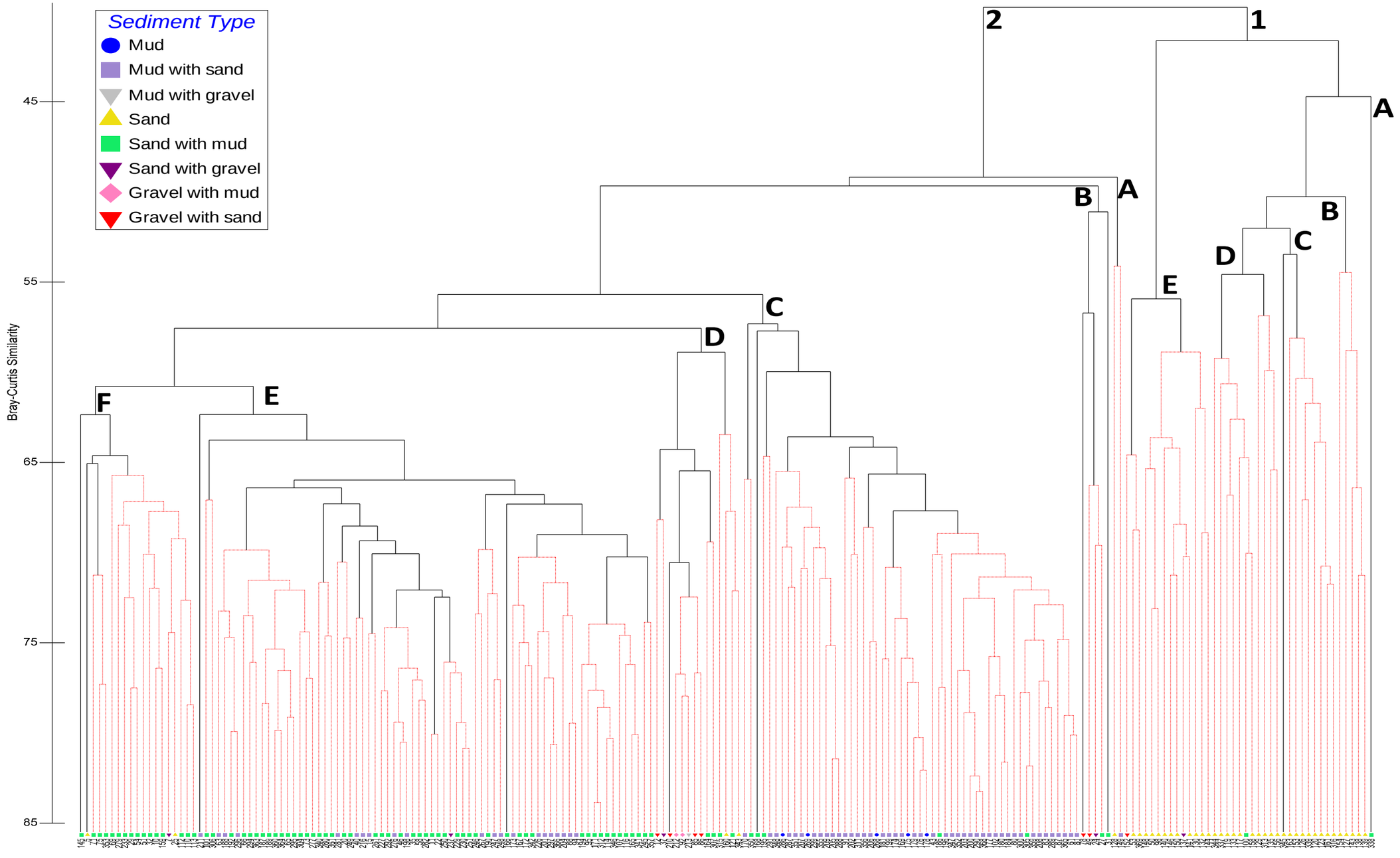

Figure 3-4. Similarity among the 207 stations sampled along the North Shore as determined by the Bray-Curtis algorithm. Stations are coded based upon sediment type.

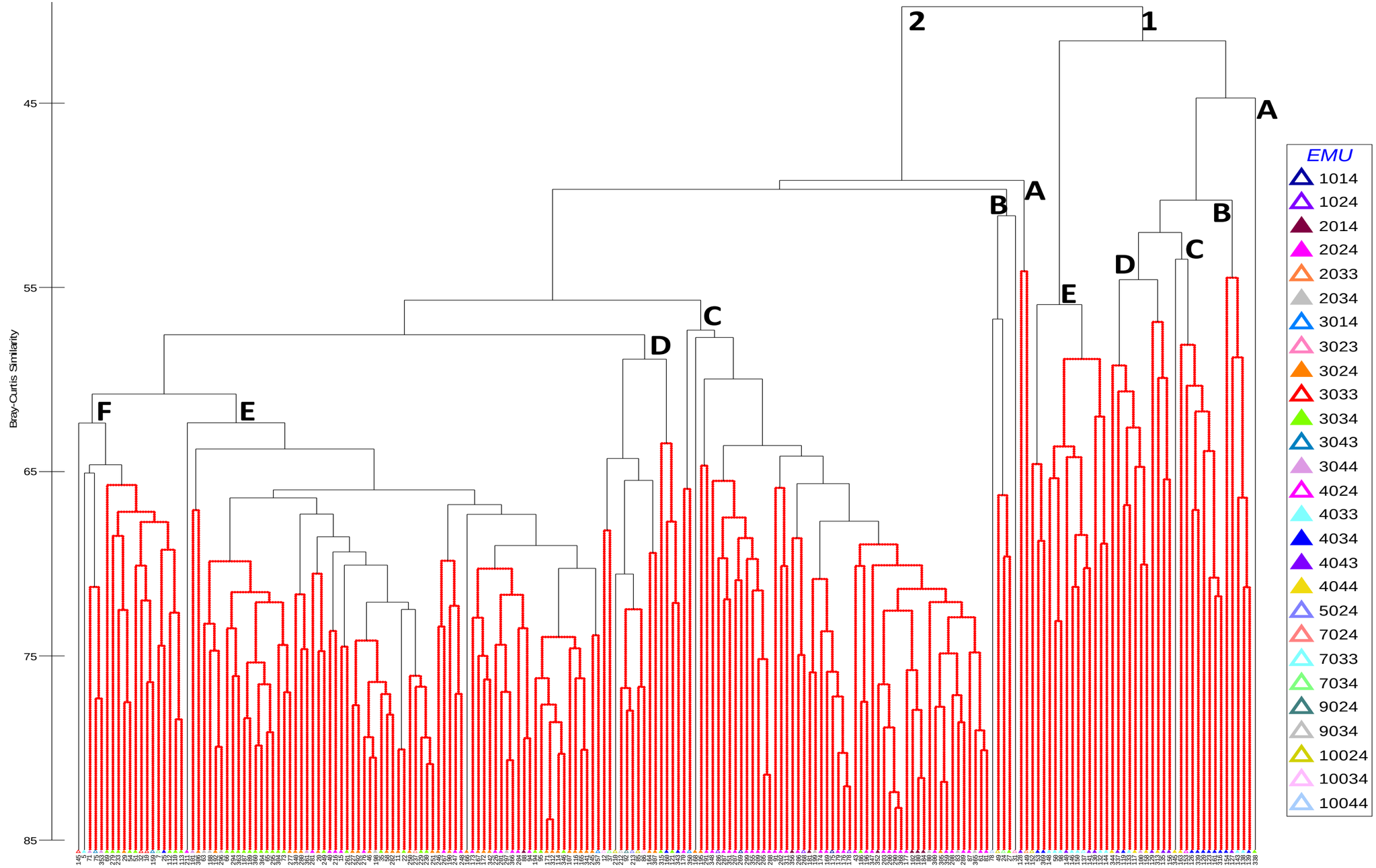

Figure 3-5. Similarity among the 207 stations sampled along the North Shore as determined by the Bray-Curtis algorithm. Stations are coded based upon EMU type.

- **Group 1C** (n=9) had an average within-group similarity of 60.07%. The amphipod family Corophiidae dominated, with 8.76% of the fauna. The polychaete families Ampharetidae, Maldanidae, Oweniidae, and the cumacean family Diastylidae rounded out the top five taxa with a cumulative contribution of 33.18%. Station 345, which is an outlier to the eight other stations in the group, had the highest proportion of the bivalve family Cardiidae relative to the other stations in the group. All stations were sandy and deeper than 30 m, except Stations 316 and 339, which were in the 15–30 m range. Two common EMU types were represented 4034 (n=6) and 4044 (n=2) as well as the only occurrence of rare EMU type 4024 at Station 153.
- **Group 1D** (n=11) was dominated by the cumacean family Diastylidae, the polychaete families Ampharetidae, Paraonidae, Oweniidae, and the sand dollar Echinarachniidae. This group differed from Group 1C in that Group 1C had a higher average abundance of the bivalve family Nuculidae and the isopod family Idoteidae. The average dissimilarity between Group 1C and 1D was 47.98%. Group 1D stations were all in the 30–100 m range except for Station 337, which was in the 15–30 m range. Stations were classified as sand except for Station 100 which was classified as sand with mud. Five common EMU types were represented, 3044 (n=1), 4033 (n=1), 4034 (n=1), 4043 (n=4), and 4044 (n=4).
- **Group 1E** (n=14) was dominated by polychaetes, with the top five taxa belonging to the families Syllidae, Paraonidae, Maldanidae, Polygordiidae, and Ampharetidae. Within-group average similarity was 60.22%. Stations 53, 152, and 369 formed a small cluster within the group due to the dominance of Unciolidae at these stations. Unciolidae was abundant at other stations in this group, but polychaete taxa had higher abundances. Both depth ranges were present in Group 1E. Sand was the dominant sediment type, occurring at 12 of the 14 stations. In addition there were single occurrences of the sediment type sand with gravel (Station 1137) and gravel with sand (Station 152). Three common EMU types were present: 4033 (n=7), 4034 (n=1), and 4043 (n=4). There was a single occurrence of rare EMU type 10024 and the only occurrence of type 7033.

- **Group 2** (n=167) was dominated by polychaetes belonging to the families Ampharetidae, Paraonidae, Spionidae, Lumbrineridae, and Maldanidae (32.09%). Other dominants included Cirratulidae, Thyasiridae, Capitellidae, Nuculidae, and Trichobranchidae (52.95%). Total within-group similarity was 59.24%.Group 2 differed from Group 1 with a lower abundance of Unciolidae, Corophiidae and Syllidae but a higher abundance of Lumbrineridae, Thyasiridae, and Trichobranchidae.
  - **Group 2A** (n=2) includes Stations 128 and 149. Polychaetes dominated with the top seven taxa cumulatively comprising 54.12% of the taxa. The families Paraonidae, Cirratulidae, and Spionidae had the highest average abundances. Both stations were in the 15–30 m depth range. Station 128 was sandy with common EMU type 4043 while Station 149 was mud with sand and was the only occurrence of rare EMU type 2033.
  - **Group 2B** (n=5) was dominated by the polychaete families Cirratulidae, Paraonidae, Spionidae, Capitellidae, and the bivalve family Mytilidae, which cumulatively comprised 26.83% of the fauna. Average within-group similarity was 57.68%. Station 31 was an outlier to the four other stations in the group due in part to having a high abundance of the polychaete family Oweniidae (n=158). Station 78, with the lowest abundance (n=381) and dominance of the polychaete families Phyllodocidae and Spionidae, had low similarity to the remaining stations (Stations 24, 27, and 49). Group 2B stations were all in the 30–100 m depth range except for Station 31 (15-30 m). Three sediment types were present, sand with mud (n=2), sand with gravel (n=1), and gravel with sand (n=2). Each station had a different EMU type, with the only common EMU occurring at Station 27 (EMU=3034). The only occurrence of EMU types 3023 and 10044 occurred at Stations 31 and 78, respectively.

- **Group 2C** (n=54) had an average within-group similarity of 65.40%. The top 10 taxa cumulatively contributed 66.71% of the fauna, with the polychaete families Ampharetidae, Paraonidae, Lumbrineridae, and Spionidae dominated. Additional top 10 taxa included the polychaetes Maldanidae, Trichobranchidae, Cirratulidae, and Capitellidae, the bivalve Thyasiridae, and Nemertea. All stations in the group were in water depths greater than 30 m. Mud with sand dominated, occurring at 44 of the 54 stations. Stations classified as mud (n=5) and sand with mud (n=5) were also present. Five common EMU types were present: 2014 (n=6), 2024 (n=34), 2034 (n=4), 3024 (n=3), and 3034 (n=1). Group 2C included the only occurrences of EMUs 1014 (n=2) and 1024 (n=3) as well as a single occurrence of rare EMU 3014.
- **Group 2D** (n=14) was dominated by polychaetes once again, with eight of the top 10 contributing taxa being polychaetes. The families Ampharetidae, Spionidae, and Paraonidae had the highest contributions. The bivalves Cardiidae and Mytilidae contributed 2.76% and 2.74% respectively. Average within-group similarity was 63.75%. For depth, all stations fell into the 30–100 m range. Sediment types included mud with gravel (n=1), sand (n=2), sand with mud (n=4), sand with gravel (n=1), gravel with mud (n=2), and gravel with sand (n=4). EMUs included common types 3024 (n=2), 3034 (n=2), and 4034 (n=2) as well as rare types 10024 (n=2), 10034 (n=2) and a single station each of types 5024, 7034, 9024, and 9034.
- **Group 2E** (n=73) had an average within-group similarity of 67.16%. The polychaete families Ampharetidae, Spionidae, Paraonidae, and Maldanidae dominated. The bivalve families Thyasiridae, Nuculidae, and Periplomatidae were also in the top 10, contributing 4.63%, 4.43%, and 3.75% of the fauna respectively. All stations occurred in depths greater than 30 m. Sediment types included mud with sand (n=21), sand with mud (n=51), and sand with gravel (n=1). Six common EMU types were present: 2014 (n=1), 2024 (n=15), 2034 (n=5), 3024 (n=28), 3034 (n=20), and 3044 (n=2). A single occurrence of EMU 3014 occurred at Station 357 while the only occurrence of EMU 7024 was at Station 237.
- **Group 2F** (n=19) was dominated by the polychaete Spionidae and the bivalve Nuculidae, which comprised 5.63% and 5.04% of the fauna. Other dominants included the polychaetes Ampharetidae, Paraonidae, Cirratulidae, Oweniidae, Lumbrineridae, Capitellidae, and Orbiniidae as well as the isopod Idoteidae. These 10 taxa comprised 41.26%. The overall within-group similarity was 66.41%. Group 2F stations were all in depths greater than 30 m except for six stations that fell in the 15–30 m range. Sediment type is predominantly sand with mud, occurring at 16 of the stations. Sand (n=2) and sand with sand (n=1) were also present. Five common EMU types occurred: 3024 (n=1), 3034 (n=8), 3044 (n=2), 4033 (n=1), and 4034 (n=1). A single occurrence of rare EMU 7034 occurred at Station 7 as well as the only occurrences of rare EMUs 3033 (Stations 10, 32, and 145) and 3043 (Stations 75 and 159).

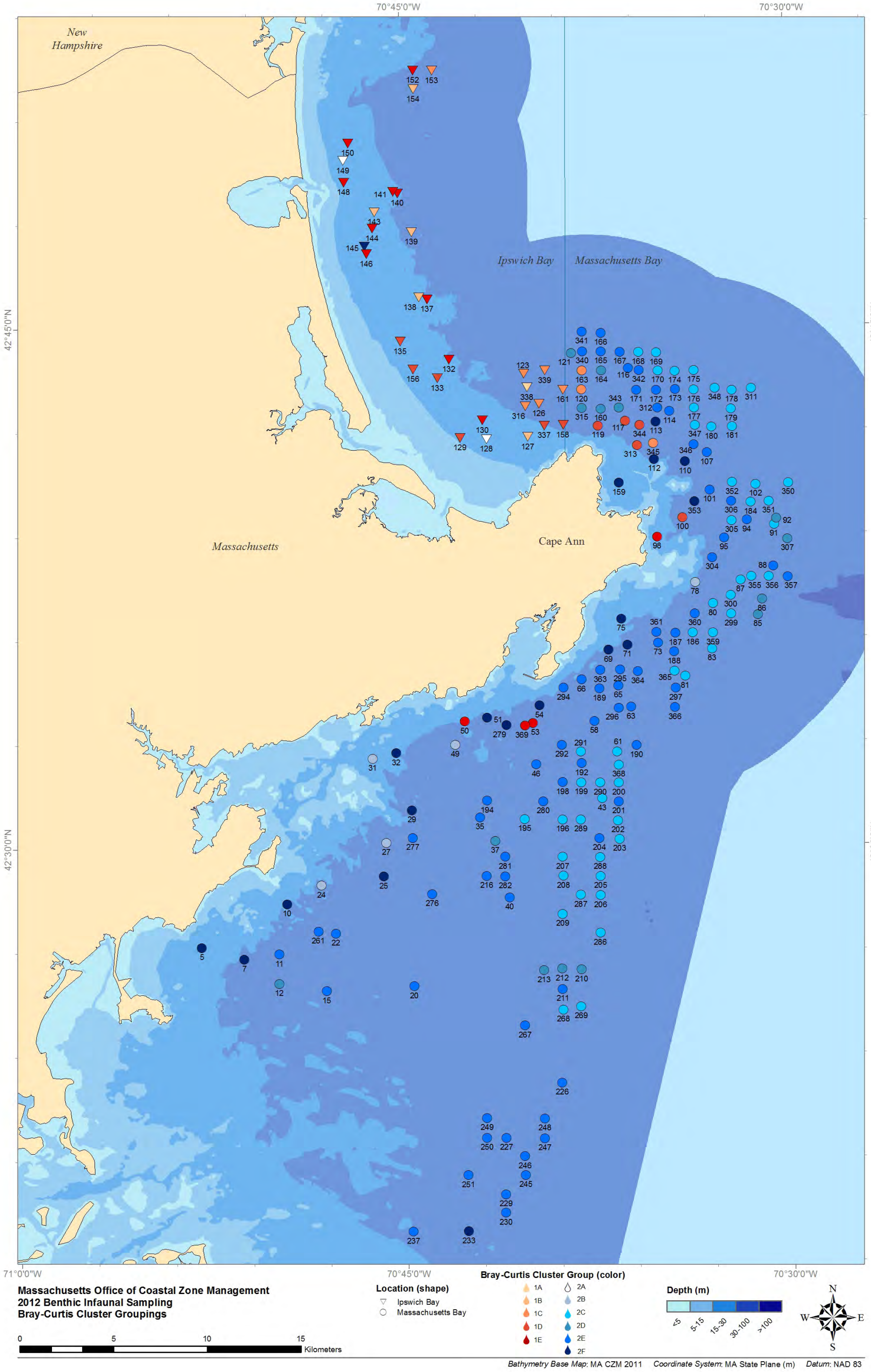

Figure 3-6. Map of Bray-Curtis cluster groups for the 207 stations sampled along the North Shore

3.4 Non-Metric Multidimensional Scaling (MDS) Analysis

The MDS diagrams based on the Bray-Curtis similarity results depict the distribution in two-dimensional space of the cluster groups, depth, sediment type, and EMUs (Figures 3-7 through 3-11). The stress level of 0.17 for each diagram indicates that the plots are reasonable 2-D representations of the multidimensional data. Figure 3-8 depicts the separation of the Group 1 stations (warm colors) from the Group 2 stations (cool colors). For the two depth categories present in the 2012 samples, the 15–30 m stations separate out from a large cluster of stations deeper than 30 m (Figure 3-9). The MDS of sediment type shows clusters of sand, mud with sand, and sand with mud with relatively few stations falling outside these main clusters (Figure 3-10). Sediment types that occurred less frequently were interspersed among the three more dominant sediment types. The three most commonly occurring EMU types were 2024 (n=49), 3024 (n=34), and 3034 (n=33). EMU type 2024 groups together with some overlap with EMU type 3024. EMU type 3034 stations overlap with EMU type 3024 except for station 338 which is separated from this main group of common EMU types (Figure 3-11). Figure 3-6 shows the spatial arrangement of these groupings.

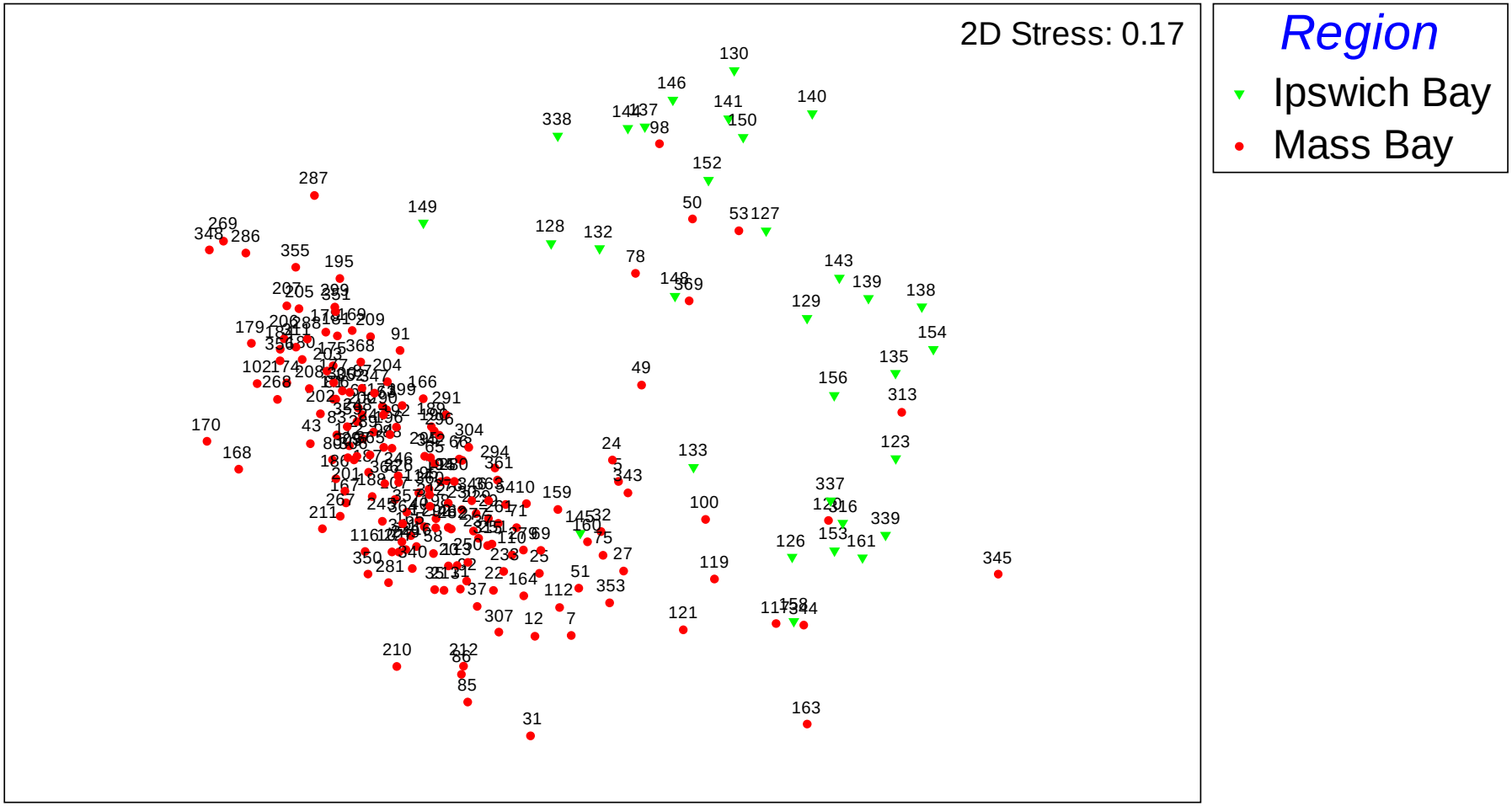

Figure 3-7. Multidimensional scaling diagram of the 207 stations sampled in 2012 based on geographic location.

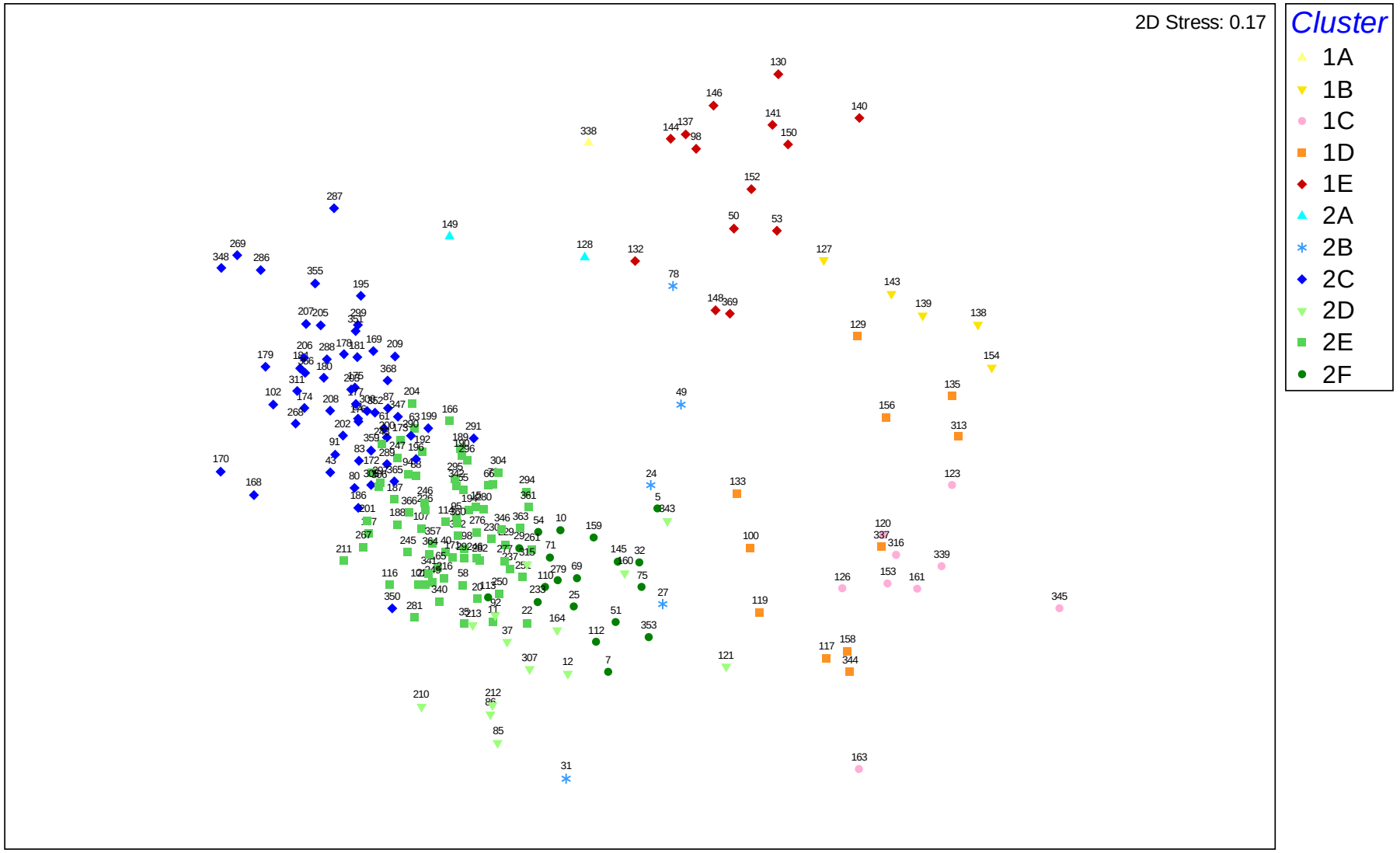

Figure 3-8. Multidimensional scaling diagram of the 207 stations sampled in 2012 based on the 11 major cluster groups.

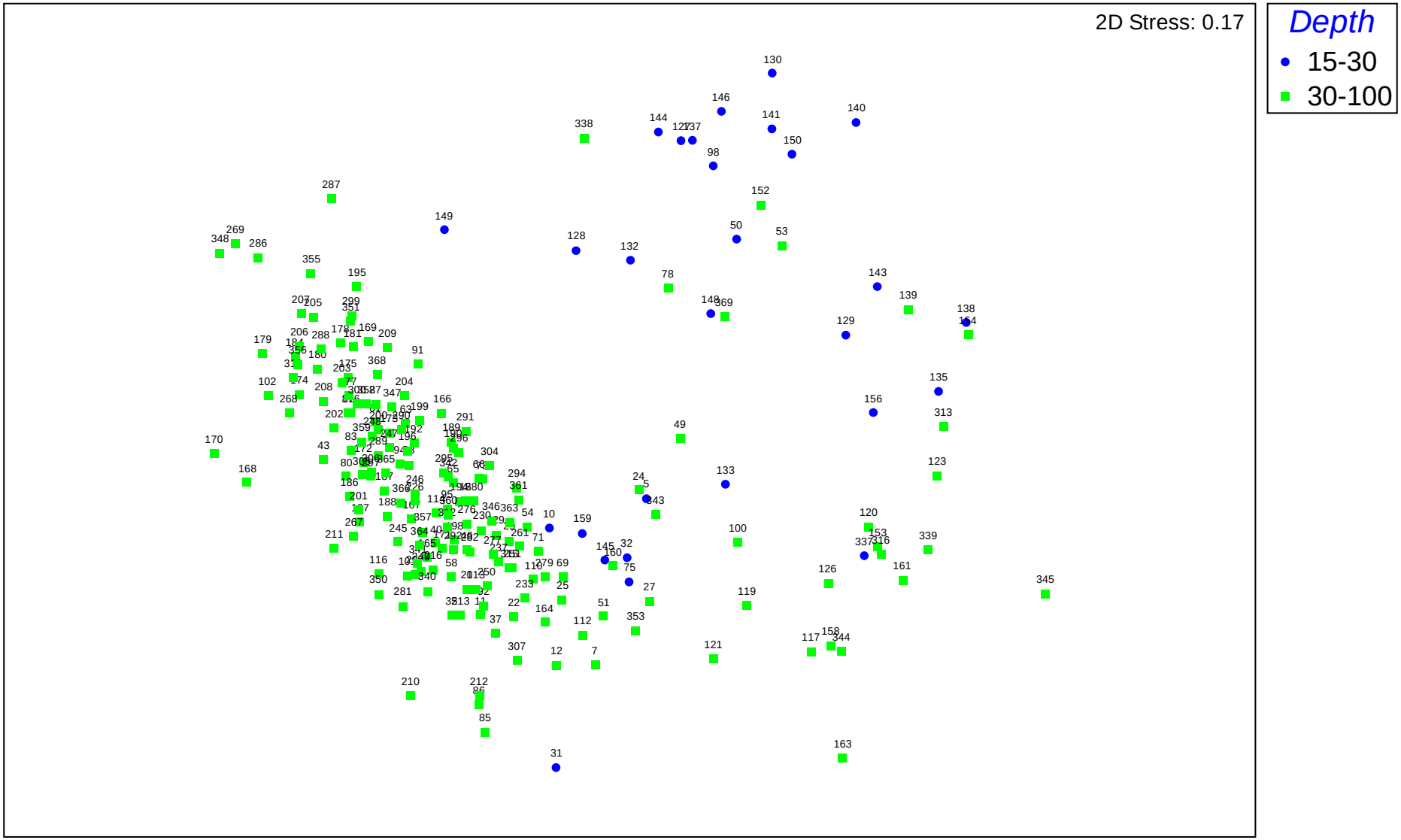

Figure 3-9. Multidimensional scaling diagram of the 207 stations sampled in 2012 based on depth (m).

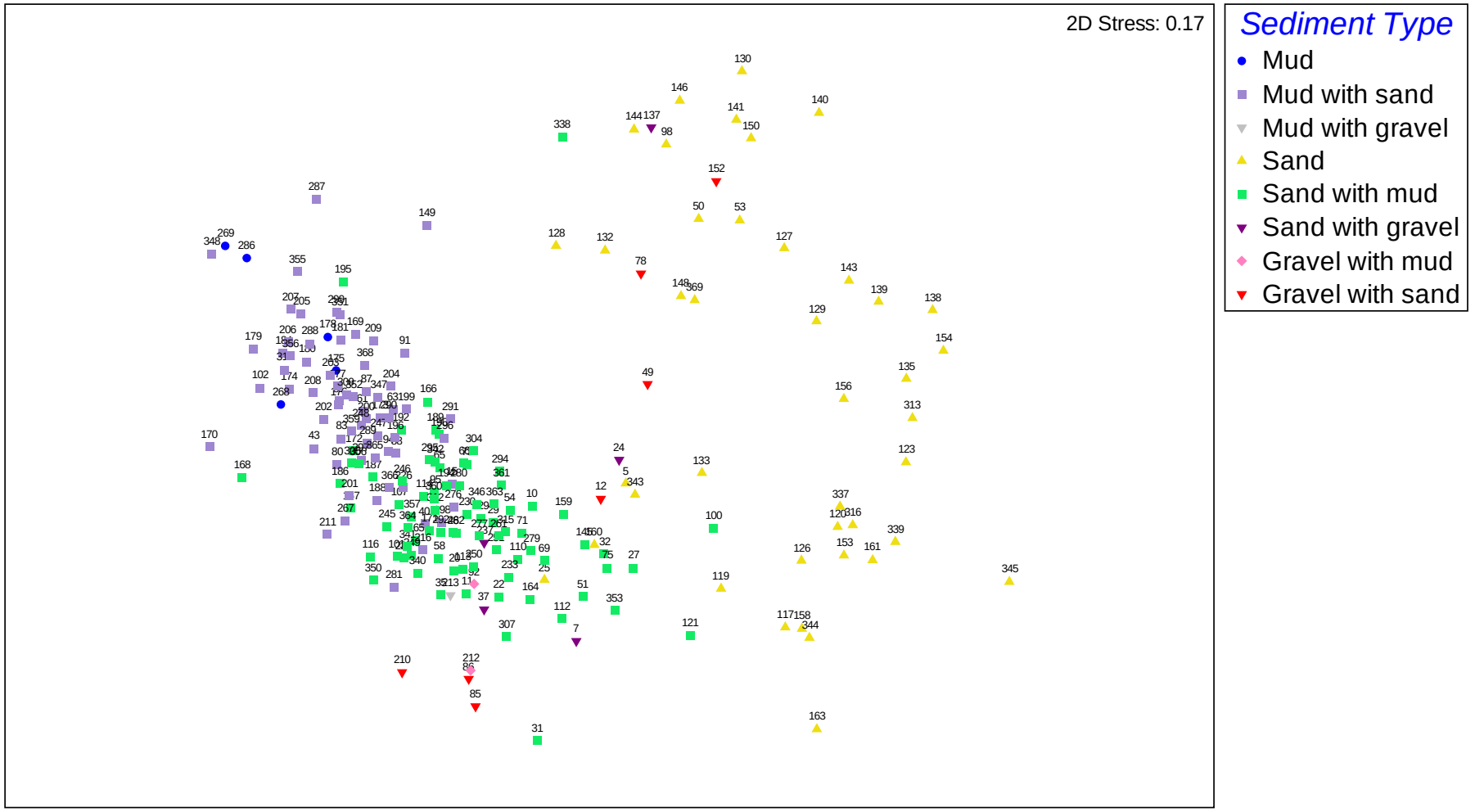

Figure 3-10. Multidimensional scaling diagram of the 207 stations sampled in 2012 based on sediment type.

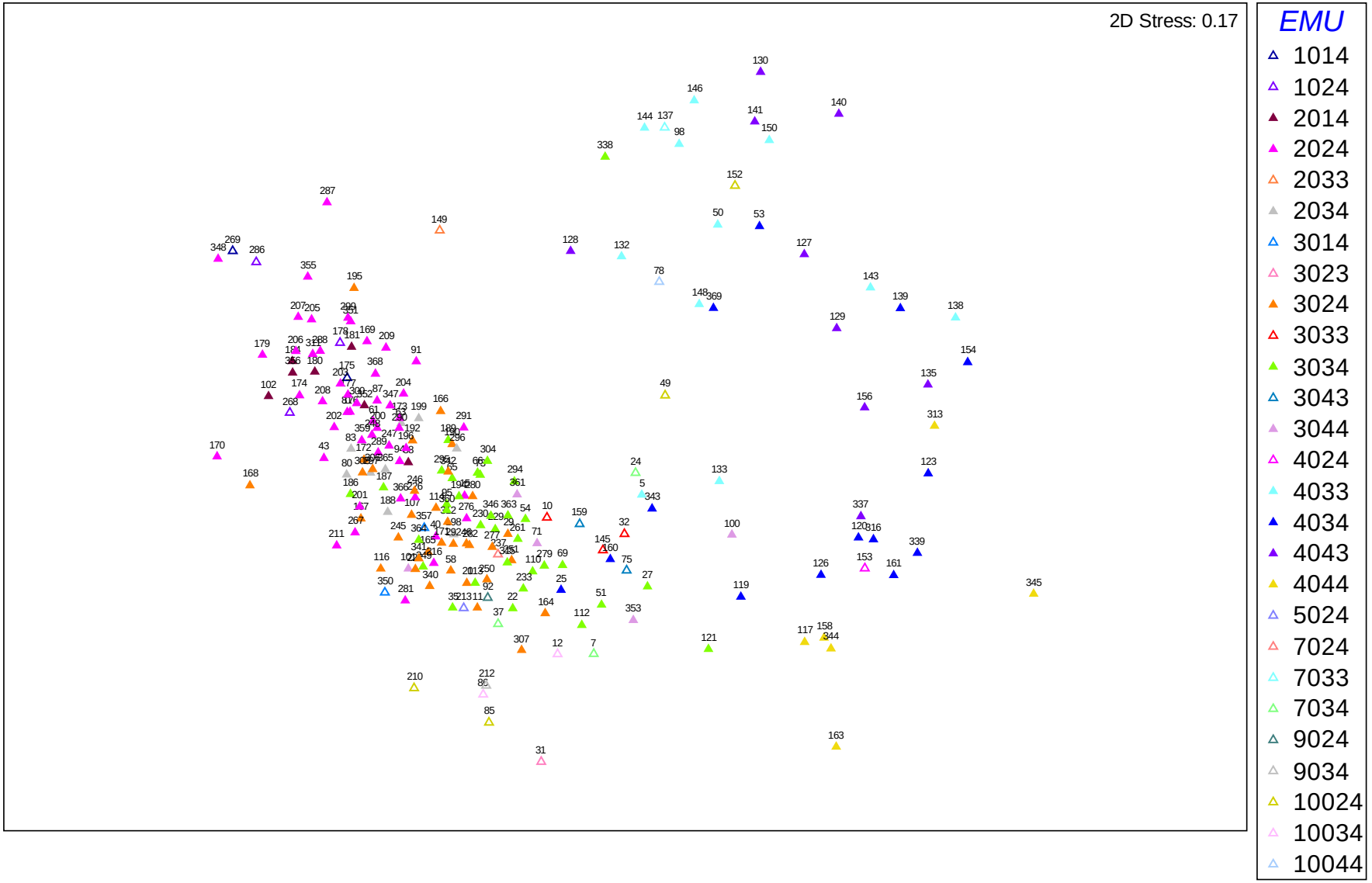

Figure 3-11. Multidimensional scaling diagram of the 207 stations sampled in 2012 based on Ecological Marine Units (EMUs).

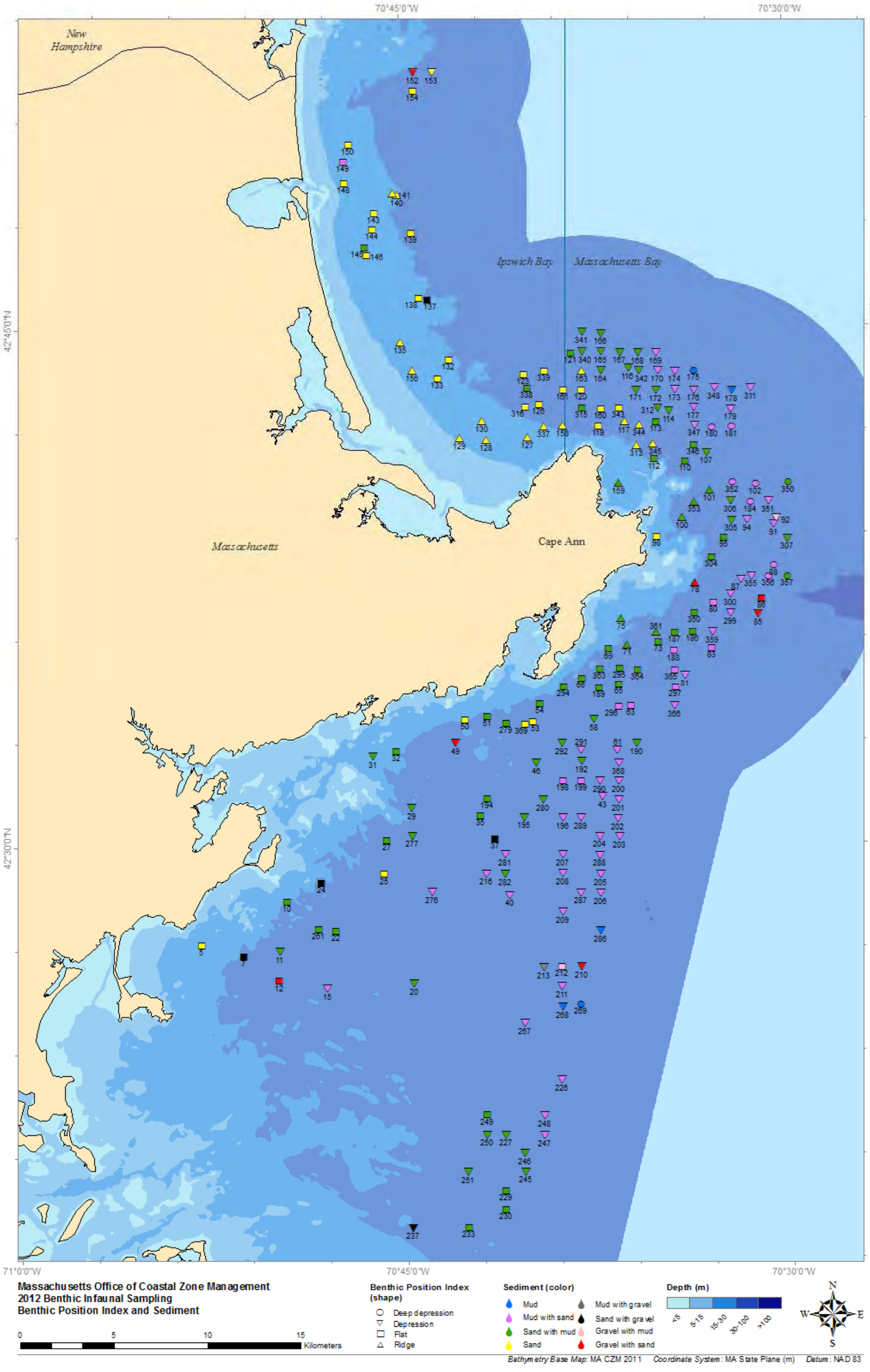

Figure 3-12. Map of Benthic Position Index (BPI), sediment type, and depth for the 207 stations sampled along the North Shore

3.5 Analysis of Similarity (ANOSIM)

The results of the ANOSIM tests of the three null hypotheses lead to the rejection of all three hypotheses (Table 3-5).

The null hypothesis that there is no difference in faunal assemblages based on sediment type was rejected with a global test statistic of R=0.578 ($p<0.1\%$). Of the seven sediment types present in the study area, significant pairwise comparisons were shown for 13 combinations. Among the significant differences shown was between gravel with sand and mud with sand (R=0.915, $p<0.1\%$), gravel with sand and mud (R=0.847, $p<0.1\%$), sand with gravel and mud with sand (R=0.815, $p<0.1\%$), sand and mud with sand (R=0.879, $p<0.1\%$), and sand and sand with mud (R=0.777, $p<0.1\%$).

Differences based on depth were significant with a global test statistic of R=0.553 ($p<0.1\%$). This R value falls within the range of possible values obtained strictly by chance. Only two depth categories were compared: 15-30 and 30-100 m. Therefore, the null hypothesis that there is no difference in assemblages based on depth is rejected.

Differences based on EMUs were found to be significant with a global test statistic of R=0.59 ($p<0.1\%$), leading to a rejection of the null hypothesis that there is no difference in faunal assemblages among EMUs. Pairwise tests ran the full spectrum with R values of 0 (no difference) to 1 (completely different) and significance levels of 0.1 to 100%. There were 43 pairwise tests with significant differences ($p<0.1\%$) (Table 3-5). Examples of significant pairwise tests that include common EMU types are: 4033 vs.2024 (R=0.969), 3024 vs. 4043 (R=0.979), and 3034 vs. 4043 (R=0.933).

Table 3-5. Results of one-way ANOSIM for depth, sediment type, and Ecological Marine Unit (EMU) for the August 2012 infaunal samples.

Factor	Test	Test Statistic	Significance Level (%)
Depth (m)	**Global Test**	**0.553**	**0.1**
Sediment Type	**Global Test**	**0.578**	**0.1**
	Sand, Sand with gravel	0.218	0.4
	Sand, Sand with mud	0.777	0.1
	Sand, Gravel with sand	0.38	0.1
	Sand, Mud with sand	0.879	0.1
	Sand, Gravel with mud	0.355	0.2
	Sand, Mud	0.77	0.1
	Sand, Mud with gravel	0.298	4.8
	Sand with gravel, Sand with mud	0.344	1.9
	Sand with gravel, Gravel with	-0.008	44.6
	Sand with gravel, Mud with sand	0.815	0.1
	Sand with gravel, Gravel with mud	0.127	33.3
	Sand with gravel, Mud	0.74	0.8
	Sand with gravel, Mud with gravel	0.04	33.3
	Sand with mud, Gravel with sand	0.73	0.1
	Sand with mud, Mud with sand	0.374	0.1
	Sand with mud, Gravel with mud	0.428	5.8
	Sand with mud, Mud	0.716	0.1
	Sand with mud, Mud with gravel	0.242	21
	Gravel with sand, Mud with sand	0.915	0.1
	Gravel with sand, Gravel with	-0.188	72.2
	Gravel with sand, Mud	0.847	0.1
	Gravel with sand, Mud with gravel	-0.061	37.5
	Mud with sand, Gravel with mud	0.722	0.1
	Mud with sand, Mud	0.165	8.8
	Mud with sand, Mud with gravel	0.566	4.5
	Gravel with mud, Mud	1	4.8
	Gravel with mud, Mud with gravel	-1	100
	Mud, Mud with gravel	1	16.7
Ecological Marine Unit	**Global Test**	**0.59**	**0.1**
	4033, 7034	0.536	0.3
	4033, 3033	0.555	0.3
	4033, 3024	0.947	0.1
	4033, 10034	0.675	1.3
	4033, 2024	0.969	0.1
	4033, 3034	0.868	0.1
	4033, 4034	0.395	0.2
	4033, 3023	0.722	8.3
	4033, 10024	0.476	1.1
	4033, 2034	0.794	0.1
	4033, 3044	0.649	0.1
	4033, 3043	0.429	2.6
	4033, 10044	0.474	8.3
	4033, 2014	0.871	0.1
	4033, 9024	0.689	8.3
	4033, 4044	0.7	0.1
	4033, 4043	0.091	10.7
	4033, 7033	-0.183	58.3
	4033, 2033	0.765	8.3

Factor	Test	Test Statistic	Significance Level (%)
	4033, 4024	0.567	8.3
	4033, 1014	0.864	1.3
	4033, 1024	0.876	0.3
	4033, 9034	0.788	8.3
	4033, 5024	0.726	8.3
	4033, 7024	0.59	8.3
	4033, 3014	0.758	1.3
	7034, 3033	0.667	10
	7034, 3024	0.616	0.5
	7034, 10034	0	60
	7034, 2024	0.86	0.1
	7034, 3034	0.464	2.1
	7034, 4034	0.29	3.4
	7034, 3023	1	25
	7034, 10024	0	40
	7034, 2034	0.964	0.5
	7034, 3044	0.364	7.1
	7034, 3043	0.167	40
	7034, 10044	1	25
	7034, 2014	0.996	0.8
	7034, 9024	0.111	50
	7034, 4044	0.698	1.2
	7034, 4043	0.563	0.9
	7034, 7033	1	25
	7034, 2033	1	25
	7034, 4024	1	25
	7034, 1014	1	10
	7034, 1024	1	10
	7034, 9034	0.333	25
	7034, 5024	0.333	50
	7034, 7024	-1	100
	7034, 3014	0.75	20
	3033, 3024	0.687	0.3
	3033, 10034	1	10
	3033, 2024	0.861	0.1
	3033, 3034	0.27	9.4
	3033, 4034	0.482	0.1
	3033, 3023	0.556	50
	3033, 10024	0.537	2.9
	3033, 2034	0.958	0.5
	3033, 3044	0.282	12.5
	3033, 3043	0.083	40
	3033, 10044	1	25
	3033, 2014	1	0.8
	3033, 9024	1	25
	3033, 4044	0.728	1.2
	3033, 4043	0.443	1.4
	3033, 7033	1	25
	3033, 2033	1	25
	3033, 4024	1	25
	3033, 1014	1	10
	3033, 1024	1	10
	3033, 9034	1	25
	3033, 5024	1	25

Factor	Test	Test Statistic	Significance Level (%)
	3033, 7024	-0.111	75
	3033, 3014	1	10
	3024, 10034	0.778	0.6
	3024, 2024	0.329	0.1
	3024, 3034	0.134	0.1
	3024, 4034	0.832	0.1
	3024, 3023	0.919	2.9
	3024, 10024	0.852	0.1
	3024, 2034	0.093	13.8
	3024, 3044	0.438	0.6
	3024, 3043	0.602	1.3
	3024, 10044	0.964	2.9
	3024, 2014	0.57	0.1
	3024, 9024	0.379	14.3
	3024, 4044	0.981	0.1
	3024, 4043	0.979	0.1
	3024, 7033	0.999	2.9
	3024, 2033	0.944	2.9
	3024, 4024	0.991	2.9
	3024, 1014	0.742	0.6
	3024, 1024	0.775	0.1
	3024, 9034	0.691	8.6
	3024, 5024	0.291	17.1
	3024, 7024	-0.122	62.9
	3024, 3014	0.145	22.7
	10034, 2024	0.887	0.3
	10034, 3034	0.701	1.3
	10034, 4034	0.441	3.3
	10034, 3023	1	33.3
	10034, 10024	-0.321	93.3
	10034, 2034	0.997	1.8
	10034, 3044	0.836	4.8
	10034, 3043	1	33.3
	10034, 10044	1	33.3
	10034, 2014	1	2.8
	10034, 9024	-1	100
	10034, 4044	0.823	3.6
	10034, 4043	0.844	1.8
	10034, 7033	1	33.3
	10034, 2033	1	33.3
	10034, 4024	1	33.3
	10034, 1014	1	33.3
	10034, 1024	1	10
	10034, 9034	0	66.7
	10034, 5024	0	66.7
	10034, 7024	0	66.7
	10034, 3014	1	33.3
	2024, 3034	0.498	0.1
	2024, 4034	0.952	0.1
	2024, 3023	0.971	2
	2024, 10024	0.918	0.1
	2024, 2034	-0.047	66.1
	2024, 3044	0.723	0.1
	2024, 3043	0.869	0.1

Factor	Test	Test Statistic	Significance Level (%)
	2024, 10044	0.97	2
	2024, 2014	-0.138	90.6
	2024, 9024	0.577	2
	2024, 4044	0.998	0.1
	2024, 4043	0.983	0.1
	2024, 7033	0.99	2
	2024, 2033	0.819	2
	2024, 4024	0.998	2
	2024, 1014	0.057	36.4
	2024, 1024	0.188	12
	2024, 9034	0.84	2
	2024, 5024	0.529	4
	2024, 7024	0.54	2
	2024, 3014	0.377	3.6
	3034, 4034	0.752	0.1
	3034, 3023	0.73	8.8
	3034, 10024	0.782	0.1
	3034, 2034	0.123	11.6
	3034, 3044	0.268	6.7
	3034, 3043	0.223	18
	3034, 10044	0.819	5.9
	3034, 2014	0.645	0.1
	3034, 9024	0.502	11.8
	3034, 4044	0.92	0.1
	3034, 4043	0.933	0.1
	3034, 7033	0.959	2.9
	3034, 2033	0.801	8.8
	3034, 4024	0.914	5.9
	3034, 1014	0.785	0.8
	3034, 1024	0.81	0.1
	3034, 9034	0.712	8.8
	3034, 5024	0.509	11.8
	3034, 7024	-0.424	97.1
	3034, 3014	0.45	6.1
	4034, 3023	0.796	6.7
	4034, 10024	0.508	0.1
	4034, 2034	0.761	0.1
	4034, 3044	0.343	0.6
	4034, 3043	0.292	7.5
	4034, 10044	0.622	6.7
	4034, 2014	0.884	0.1
	4034, 9024	0.257	20
	4034, 4044	0.089	18.5
	4034, 4043	0.34	0.3
	4034, 7033	0.684	6.7
	4034, 2033	0.898	6.7
	4034, 4024	-0.229	86.7
	4034, 1014	0.922	0.8
	4034, 1024	0.927	0.1
	4034, 9034	0.4	13.3
	4034, 5024	0.268	20
	4034, 7024	0.427	13.3
	4034, 3014	0.394	5.8
	3023, 10024	0.25	40

Factor	Test	Test Statistic	Significance Level (%)
	3023, 2034	1	10
	3023, 3044	0.84	16.7
	3023, 3043	1	33.3
	3023, 2014	1	12.5
	3023, 4044	1	14.3
	3023, 4043	0.778	10
	3023, 1014	1	33.3
	3023, 1024	1	25
	3023, 3014	1	33.3
	10024, 2034	0.89	0.1
	10024, 3044	0.638	0.8
	10024, 3043	0.321	26.7
	10024, 10044	0.083	60
	10024, 2014	0.878	0.3
	10024, 9024	-0.417	100
	10024, 4044	0.806	0.5
	10024, 4043	0.624	0.1
	10024, 7033	0.167	40
	10024, 2033	0.5	20
	10024, 4024	0.417	20
	10024, 1014	0.714	6.7
	10024, 1024	0.722	2.9
	10024, 9034	-0.25	80
	10024, 5024	-0.333	100
	10024, 7024	-0.083	80
	10024, 3014	0.286	20
	2034, 3044	0.755	0.3
	2034, 3043	0.967	1.8
	2034, 10044	1	10
	2034, 2014	0.51	0.1
	2034, 9024	0.914	10
	2034, 4044	0.975	0.1
	2034, 4043	0.877	0.1
	2034, 7033	1	10
	2034, 2033	1	10
	2034, 4024	1	10
	2034, 1014	0.733	1.8
	2034, 1024	0.787	0.5
	2034, 9034	0.975	10
	2034, 5024	0.877	10
	2034, 7024	0.679	10
	2034, 3014	0.82	1.8
	3044, 3043	-0.273	81
	3044, 10044	0.96	16.7
	3044, 2014	0.91	0.1
	3044, 9024	0.2	50
	3044, 4044	0.456	0.4
	3044, 4043	0.487	0.5
	3044, 7033	1	16.7
	3044, 2033	0.96	16.7
	3044, 4024	0.92	16.7
	3044, 1014	0.891	4.8
	3044, 1024	0.938	1.8
	3044, 9034	0.76	16.7

Factor	Test	Test Statistic	Significance Level (%)
	3044, 5024	0.52	16.7
	3044, 7024	-0.28	83.3
	3044, 3014	0.382	19
	3043, 10044	1	33.3
	3043, 2014	1	2.8
	3043, 9024	1	33.3
	3043, 4044	0.417	10.7
	3043, 4043	0.219	9.1
	3043, 7033	1	33.3
	3043, 2033	1	33.3
	3043, 4024	1	33.3
	3043, 1014	1	33.3
	3043, 1024	1	10
	3043, 9034	1	33.3
	3043, 5024	1	33.3
	3043, 7024	1	33.3
	3043, 3014	1	33.3
	10044, 2014	1	12.5
	10044, 4044	0.867	14.3
	10044, 4043	0.216	20
	10044, 1014	1	33.3
	10044, 1024	1	25
	10044, 3014	1	33.3
	2014, 9024	0.905	12.5
	2014, 4044	0.978	0.1
	2014, 4043	0.869	0.1
	2014, 7033	1	12.5
	2014, 2033	1	12.5
	2014, 4024	1	12.5
	2014, 1014	0.214	22.2
	2014, 1024	0.246	13.3
	2014, 9034	1	12.5
	2014, 5024	0.878	12.5
	2014, 7024	0.973	12.5
	2014, 3014	0.844	2.8
	9024, 4044	0.689	14.3
	9024, 4043	0.667	10
	9024, 1014	1	33.3
	9024, 1024	1	25
	9024, 3014	1	33.3
	4044, 4043	0.401	0.3
	4044, 7033	0.933	14.3
	4044, 2033	1	14.3
	4044, 4024	0.111	28.6
	4044, 1014	1	3.6
	4044, 1024	0.981	1.2
	4044, 9034	0.689	14.3
	4044, 5024	0.622	28.6
	4044, 7024	0.689	14.3
	4044, 3014	0.677	3.6
	4043, 7033	0.025	50
	4043, 2033	0.685	10
	4043, 4024	0.321	10
	4043, 1014	0.766	1.8

Factor	Test	Test Statistic	Significance Level (%)
	4043, 1024	0.84	0.5
	4043, 9034	0.815	10
	4043, 5024	0.611	10
	4043, 7024	0.63	10
	4043, 3014	0.721	1.8
	7033, 1014	1	33.3
	7033, 1024	1	25
	7033, 3014	1	33.3
	2033, 1014	1	33.3
	2033, 1024	0.556	25
	2033, 3014	1	33.3
	4024, 1014	1	33.3
	4024, 1024	1	25
	4024, 3014	1	33.3
	1014, 1024	-0.583	100
	1014, 9034	1	33.3
	1014, 5024	1	33.3
	1014, 7024	1	33.3
	1014, 3014	1	33.3
	1024, 9034	1	25
	1024, 5024	1	25
	1024, 7024	1	25
	1024, 3014	0.5	20
	9034, 3014	1	33.3
	5024, 3014	1	33.3
	7024, 3014	1	33.3

4.0 Conclusions

Two faunal assemblages were identified for the 207 benthic infaunal samples collected along the North Shore in 2012. Group 1 stations (n=40) were mainly located in Ipswich Bay with nine stations falling slightly further east into Massachusetts Bay. Stations 50, 53, and 369 were outliers falling south of Cape Ann. Group 2 stations (n=167) were located entirely in Massachusetts Bay. With the exception of some overlap between Group 1 and Group 2 stations on the easternmost part of Cape Ann, it appears from these data that there may be two distinct faunal groups; one in Ipswich Bay and another in Massachusetts Bay.

All three of the null hypotheses were rejected based upon ANOSIM tests. The null hypotheses that there is no difference in faunal assemblage based on sediment type and EMU were rejected based on significant global R values of 0.578 and 0.59 respectively. The null hypothesis that there is no difference in faunal assemblages based on depth was rejected based on a significant global R value of 0.553.

5.0 References

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Appendix A

Infauna and Sediment Grain Size Standard Operating Procedures

Sediment Grain Size, Infauna, and Underwater Video Standard Operating Procedures (SOPs)

21–27 August 2012 OSV *Bold* Survey

1.0 Overview

Note: The following SOP assumes that the SEABOSS will be used. If the SEABOSS is not available, only the Van Veen grab will be used.

The USGS SEABOSS (or Van Veen grab) will be deployed at each station. When the SEABOSS is at the appropriate height, a photo will be taken (photos will be taken automatically if GoPro camera attached to Van Veen grab is used instead of SEABOSS). If the site has soft sediment, the SEABOSS's 0.1-m^2, stainless steel, Ted Young-modified Van Veen Grab sampler will be used to collect a sediment grab. When the sample is retrieved, the top 2-3 cm of one half of the grab sample will be collected and bagged for sediment grain size analysis. If infauna will also be collected at the station, a plastic sheet will be inserted vertically in the other half of the grab, and the sediments will be removed, sieved (0.5 mm sieve), and bottled for infaunal analysis. Only two attempts to obtain a successful grab sample will be made.

2.0 SEABOSS Protocol

The type of seafloor (e.g., soft sediments or hard bottom) and the organisms/vegetation associated with these seafloor types will be assessed with an underwater camera and a sediment grab.

2.1 Pre-Deployment

1. Before deployment, the USGS's SEABOSS "handler" will ensure that the clock performing the time stamp on the camera is synchronized with the clock on the SEABOSS GPS.

2. The SEABOSS's Van Veen grab sampler must be thoroughly rinsed with seawater before each deployment, so that there is no residual sediment on or in the device.

3. Cock the grab.

4. The team member responsible for data recording ("data recorder") will enter the appropriate station ID in the data sheet.

5. SEABOSS handler signals when station info has been recorded and frame is ready for deployment (probably with a thumbs up or walkie talkie to winch operator).

2.2 Deployment

1. Winch operator lowers frame overboard.

2. SEABOSS handler turns on lights once frame is in water.

3. SEABOSS is lowered through the water column such that travel through the last five meters is no faster than about 1 m/sec. This minimizes the effects of bow wave disturbance to surficial sediments.

4. Winch operator lowers SEABOSS until it is at the appropriate depth above the seafloor. Handler ensures that winch operator knows that the SEABOSS is at the correct depth.

5. One photo is taken at the station.

6. The data recorder will manually record the latitude and longitude of the photo. The data recorder should also record the site's depth.

7. SEABOSS handler takes a sediment grab if sediments are appropriate.

8. When done, handler turns off lights and tells winch operator to pull up SEABOSS.

9. Photos will be transferred to a Lacie 500 GB external hard drive.

2.3 On Deck

1. Winch operator and A-frame operator bring SEABOSS over the deck.

2. Deck hands (using blue-palm gloves) guide the SEABOSS to the support stand.

3. Open the hinged top and determine whether the sample is successful or not. A successful grab is one having relatively level, intact sediment over the entire area of the grab, and a sediment depth at the center of at least 7 centimeters. Use a plexiglass ruler to ensure that the sediment is at least 7 cm deep. Grabs containing no sediments, partially filled grabs, or grabs with shelly substrates or grossly slumped surfaces are unacceptable. Grabs completely filled to the top, where the sediment is in direct contact with the hinged top, are also unacceptable.

4. Using tubing as a siphon, carefully drain the overlying water from the grab. If the grab is used for infauna analysis, the water must be drained through the sieve or into a bucket to ensure no organisms are lost.

5. Process the grab sample for either sediment grain size or benthic community analysis as described below.

3.0 Field Processing

Stations where soft sediments are collected by Van Veen grab may be processed for grain size and infauna, or just grain size. When a planned infauna analysis station cannot be sampled via Van Veen (e.g., it contains cobble or boulder), infauna should be collected at the next station.

3.1 Processing Sediments for Grain Size

1. Assign a sample number to the sample. Label two Ziploc bags and use clear tape to cover the label (this helps prevent smearing). Fill in the pertinent information in the data sheet.

2. Measure the depth of the sediment at the middle of the sampler. The depth should be >7 cm.

3. Carefully drain off, or siphon, any overlying water, and remove and discard large, non-living surface items such as rocks or pieces of wood. If the grab is used for benthic community analysis, the water must be drained through the sieve or into a bucket to ensure no organisms are lost.

4. Rinse a stainless steel spoon with seawater to ensure that it is clean.

5. Remove the top two cm of sediment using the stainless steel spoon.

6. Place the sediment into one of the labeled Ziploc bags. Add a piece of waterproof paper with the station number written on it in pencil in the bag as a back-up. Double bag the sample.

7. Record the sample number and place the sample in a cooler. Coolers may be used to tote the samples up to the freezer (4 C).

3.2 Field Processing of Samples for Benthic Community Assessment

1. Assign a station number to the sample (this should be the same # as the sediment sample from the same location) and write it on the datasheet.

2. Obtain either a either a 500 ml or a 1000 ml jar. Label the sample jar (top and side) with the station number. Be sure to put clear tape over the jar labels. Fill in the other pertinent information in the data sheet and sample jar.

3. From the half of the Van Veen grab that was not used for the sediment sample, place the supplied plexiglass sheet 13.1 cm from the edge of the grab. Push the plexiglass vertically into the sediment. This will separate this half of the grab into two subsamples: one larger and one much smaller.

4. With a stainless steel spoon, remove all of the sediment from larger subsample.

5. Dump the sediment into the black plastic basin.

6. Use a stainless steel ladle to load sediment from the black basin onto a 0.5 mm mesh sieve. Place the sieve onto a table (sieve box).

7. Use the salt water hose to GENTLY rinse the sediment from the tray. Extreme care must be taken to ASSURE THAT NO SAMPLE IS LOST OVER THE SIDE

OF THE SIEVE. Agitate the tray in the sieve box, thus washing away sediments and leaving organisms, detritus, sand particles, and pebbles larger than 0.5 mm.

8. Let the water drain from the sieve. Using a squirt bottle with its tip snipped and filled with seawater, gently rinse the contents of the sieve to one edge. Remove the nonorganic material, leaving only the organisms in the sieve box. Remove any large organisms (clams, snails, anemones) and note the type and quantity on the data sheet. DO NOT PUT THESE LARGE ORGANISMS IN THE SAMPLE JARS WITH THE OTHER ORGANISMS. Place them in their own labeled (same site #, jar #2) container and tape the two sample containers together.

9. Using a spoon, GENTLY scoop up the bulk of the sample and place it in the plastic screw-top bottle labeled in Step 1 (which should be placed over the sieve or a bucket in case some of the sample spills over). Use the rinse bottle (filled with seawater) to rinse the outside of the sample jar into the sieve, then, using a funnel or the corner of the sieve box, rinse the contents into the jar. The jar should be filled no higher than the 700 ml mark.

10. If the quantity of sample exceeds 700 ml, place the remainder of the sample in a second container. Using a waterproof marker, write the sample number on the second container and tape the two together. Note on the datasheet that the sample consists of more than one container.

11. Carefully inspect the sieve to ensure that all organisms are removed. Use fine forceps (if necessary) to transfer infauna from the sieve to the bottle containing the proper sample number.

12. Once all infaunal organisms are in a sample jar, add100 ml of formalin.

13. Add a paper label to the inside of the jar.

14. FILL THE JAR TO THE RIM WITH SEAWATER TO ELIMINATE ANY AIR SPACE. This eliminates the problem of organisms sticking to the cap because of sloshing during shipment.

15. Use electrical tape to seal the jar top to the bottle.

16. Gently invert the bottle to mix the contents and place sample in one of the coolers. If the sample occupies more than one container, tape all the sample bottles containing material from that grab together. Keep samples in the dark (in the wet lab).

17. Prior to sieving the next sample, use copious amounts of forceful water and a stiff brush to clean the sieve, thereby minimizing cross-contamination of samples.

4.0 QUALITY ASSURANCE QUALITY CONTROL

There are a number of steps that can be taken to ensure the integrity of the samples collected.

4.1 Grab Sample Quality Control/Quality Assurance

1. ASSURE THAT THE PROPER LABELS ARE AFFIXED TO ALL SAMPLES. Do not label a sample's site # until the captain gets the actual location, because there may be deviations due to weather, wind, etc.

2. Excess seawater should be carefully drained from the surface of the grab by opening the top doors of the sampler and siphoning off the water with the siphon tubing.

3. All grabs must meet the criteria for an acceptable grab.

4. It is especially important to make sure that the surface sediments did not wash out of the Ted Young grab sampler.

5. Care should be taken to assure that the sediment saved for physical analysis is collected only from the top two cm of the grab.

6. If the vessel is unable to anchor, the position relative to station should be monitored carefully during benthic collection.

4.2 Infauna Quality Control/Quality Assurance

1. Field crews must assure that all grabs processed are acceptable according to the criteria described above.

2. Ensure that no organisms are lost during any step, including transferring the sample to the sieve, and during sieving.

3. Samples must be properly identified and preserved to assure they are received by the processing laboratory in acceptable condition.

4.3 Grain Size Quality Control/Quality Assurance

1. Grain size samples must NOT be frozen.

2. Samples collected for grain size analysis require no other special QA steps other than carefully following the directions discussed earlier and assuring proper storage.

4.4 Video Quality Control/Quality Assurance

1. The Quality Assurance Officer will ensure that the internal clocks for the video and the handheld GPS are synchronous.

2. The videographer will ensure that the GPS stamp is applied to all recordings.

4.5 Safety and Spill Prevention

1. All preservatives (i.e., formalin solution) must be used in well-ventilated areas. The dive locker may be used because it is open on one side. Alternatively, the pouring of formalin can occur on deck.

2. Formalin should only be handled when wearing gloves and eye protection.

3. Formalin will be poured into sample jars held above one of the orange 5-gallon buckets so that in the event that some preservative is spilled, it can be captured in the container below.

4. Any spills on the deck or other surface will be wiped up immediately with a rag and will be placed in the designated, covered 5-gallon bucket.

5. Preservative should never be poured down any drain or into the ocean.

Appendix B

Station Data

Table B-1. Station locations for the 2012 benthic infaunal samples.

Station	Latitude	Longitude	Water Depth (m)	Sediment	EMU	Infaunal Group
5	42.45253	-70.88269	15-30	Sand	4033	2F
7	42.44683	-70.85519	30-100	Sand with gravel	7034	2F
10	42.47323	-70.827	15-30	Sand with mud	3033	2F
11	42.44916	-70.83226	30-100	Sand with mud	3024	2E
12	42.435	-70.83243	30-100	Gravel with sand	10034	2D
15	42.43134	-70.80177	30-100	Mud with sand	2024	2E
20	42.43335	-70.74494	30-100	Sand with mud	3024	2E
22	42.45896	-70.79552	30-100	Sand with mud	3034	2E
24	42.48214	-70.8047	30-100	Sand with gravel	7034	2B
25	42.48622	-70.76414	30-100	Sand	4034	2F
27	42.50237	-70.76243	30-100	Sand with mud	3034	2B
29	42.51797	-70.7457	30-100	Sand with mud	3024	2F
31	42.54292	-70.77068	15-30	Sand with mud	3023	2B
32	42.54543	-70.75543	15-30	Sand with mud	3033	2F
35	42.51421	-70.70141	30-100	Sand with mud	3034	2E
37	42.50289	-70.69158	30-100	Sand with gravel	7034	2D
40	42.4757	-70.68273	30-100	Mud with sand	2024	2E
43	42.52293	-70.62195	30-100	Mud with sand	2024	2C
46	42.53952	-70.66461	30-100	Sand with mud	3024	2E
49	42.54925	-70.71714	30-100	Gravel with sand	10024	2B
50	42.56045	-70.7107	15-30	Sand	4033	1E
51	42.56215	-70.69625	30-100	Sand with mud	3034	2F
53	42.55939	-70.66641	30-100	Sand	4034	1E
54	42.56783	-70.6622	30-100	Sand with mud	3034	2F
58	42.56009	-70.62664	30-100	Sand with mud	3024	2E
61	42.54536	-70.61188	30-100	Mud with sand	2024	2C
63	42.56678	-70.60248	30-100	Mud with sand	2034	2E
65	42.57705	-70.61065	30-100	Sand with mud	3034	2E
66	42.58007	-70.63466	30-100	Sand with mud	3034	2E
69	42.59427	-70.61684	30-100	Sand with mud	3034	2F
71	42.59659	-70.60443	30-100	Sand with mud	3044	2F
73	42.59751	-70.5846	30-100	Sand with mud	3034	2E
75	42.60919	-70.60828	15-30	Sand with mud	3043	2F
78	42.62641	-70.55997	30-100	Gravel with sand	10044	2B
80	42.61615	-70.54858	30-100	Mud with sand	2034	2C
81	42.58134	-70.56711	30-100	Mud with sand	2024	2C
83	42.5944	-70.54956	30-100	Mud with sand	2034	2C
85	42.61064	-70.51952	30-100	Gravel with sand	10024	2D
86	42.61808	-70.51676	30-100	Gravel with sand	10034	2D
87	42.62737	-70.5305	30-100	Mud with sand	2024	2C
88	42.63393	-70.50912	30-100	Mud with sand	2014	2E

Station	Latitude	Longitude	Water Depth (m)	Sediment	EMU	Infaunal Group
91	42.65398	-70.5083	30-100	Mud with sand	2024	2C
92	42.65681	-70.50704	30-100	Gravel with mud	9024	2D
94	42.6562	-70.52608	30-100	Mud with sand	2024	2E
95	42.64765	-70.54087	30-100	Sand with mud	3034	2E
98	42.64848	-70.58455	15-30	Sand	4033	1E
100	42.65764	-70.5679	30-100	Sand with mud	3044	1D
101	42.67078	-70.54994	30-100	Sand with mud	3044	2E
102	42.67326	-70.52017	30-100	Mud with sand	2014	2C
107	42.68868	-70.55152	30-100	Sand with mud	3024	2E
110	42.68446	-70.5658	30-100	Sand with mud	3034	2F
112	42.68572	-70.58603	30-100	Sand with mud	3034	2F
113	42.70375	-70.58473	30-100	Sand with mud	3034	2F
114	42.70876	-70.57589	30-100	Sand with mud	3024	2E
116	42.72964	-70.60224	30-100	Sand with mud	3024	2E
117	42.70422	-70.60458	30-100	Sand	4044	1D
119	42.70204	-70.62232	30-100	Sand	4034	1D
120	42.71946	-70.6329	30-100	Sand	4034	1C
121	42.73709	-70.63938	30-100	Sand with mud	3034	2D
123	42.72708	-70.67043	30-100	Sand	4034	1C
126	42.71267	-70.6607	30-100	Sand	4034	1C
127	42.69676	-70.66808	15-30	Sand	4043	1B
128	42.69583	-70.69518	15-30	Sand	4043	2A
129	42.69661	-70.71223	15-30	Sand	4043	1D
130	42.70487	-70.69763	15-30	Sand	4043	1E
132	42.73431	-70.71902	15-30	Sand	4033	1E
133	42.72529	-70.72673	15-30	Sand	4033	1D
135	42.74308	-70.75067	15-30	Sand	4043	1D
137	42.76338	-70.73282	15-30	Sand with gravel	7033	1E
138	42.76437	-70.73829	15-30	Sand	4033	1B
139	42.7957	-70.7428	30-100	Sand	4034	1B
140	42.81441	-70.75171	15-30	Sand	4043	1E
141	42.81528	-70.7548	15-30	Sand	4043	1E
143	42.8054	-70.76703	15-30	Sand	4033	1B
144	42.79757	-70.76827	15-30	Sand	4033	1E
145	42.78899	-70.77356	15-30	Sand with mud	3033	2F
146	42.78534	-70.77231	15-30	Sand	4033	1E
148	42.81981	-70.78664	15-30	Sand	4033	1E
149	42.83021	-70.78714	15-30	Mud with sand	2033	2A
150	42.83856	-70.78366	15-30	Sand	4033	1E
152	42.8734	-70.74099	30-100	Gravel with sand	10024	1E
153	42.87326	-70.7286	30-100	Sand	4024	1C
154	42.86445	-70.74092	30-100	Sand	4034	1B
156	42.72964	-70.74254	15-30	Sand	4043	1D

Station	Latitude	Longitude	Water Depth (m)	Sediment	EMU	Infaunal Group
158	42.70235	-70.64511	30-100	Sand	4044	1D
160	42.71023	-70.62048	30-100	Sand	4034	2F
161	42.71929	-70.645	30-100	Sand	4034	2D
163	42.72865	-70.63256	30-100	Sand	4044	1C
164	42.72864	-70.61977	30-100	Sand with mud	3024	1C
165	42.73778	-70.61999	30-100	Sand with mud	3024	2D
166	42.74667	-70.61998	30-100	Sand with mud	3024	2E
167	42.73748	-70.60777	30-100	Sand with mud	3024	2E
168	42.73723	-70.59555	30-100	Sand with mud	3024	2E
169	42.737	-70.58389	30-100	Mud with sand	2024	2C
170	42.72831	-70.58315	30-100	Mud with sand	2024	2C
171	42.71917	-70.59726	30-100	Sand with mud	3024	2C
172	42.71894	-70.58417	30-100	Sand with mud	3024	2E
173	42.71934	-70.57179	30-100	Mud with sand	2024	2E
174	42.72807	-70.57188	30-100	Mud with sand	2024	2E
175	42.72837	-70.55965	30-100	Mud	1014	2C
176	42.71894	-70.55966	30-100	Mud with sand	2024	2C
177	42.71033	-70.55953	30-100	Mud with sand	2024	2C
178	42.71866	-70.5351	30-100	Mud	1024	2C
179	42.70963	-70.53562	30-100	Mud with sand	2024	2C
180	42.70101	-70.54841	30-100	Mud with sand	2014	2C
181	42.7012	-70.53508	30-100	Mud with sand	2014	2C
184	42.66471	-70.52355	30-100	Mud with sand	2014	2C
186	42.60211	-70.56209	30-100	Sand with mud	3034	2C
187	42.602	-70.57342	30-100	Sand with mud	3034	2C
188	42.59309	-70.57436	30-100	Mud with sand	2034	2E
189	42.57566	-70.62316	30-100	Sand with mud	3034	2E
190	42.5483	-70.59931	30-100	Sand with mud	3024	2E
192	42.53984	-70.63501	30-100	Sand with mud	3024	2E
194	42.52229	-70.6967	30-100	Sand with mud	3034	2E
195	42.51321	-70.67247	30-100	Sand with mud	3024	2E
196	42.51289	-70.64782	30-100	Mud with sand	2024	2C
198	42.53084	-70.64761	30-100	Mud with sand	2034	2C
199	42.53066	-70.63543	30-100	Mud with sand	2034	2E
200	42.53035	-70.61109	30-100	Mud with sand	2024	2C
201	42.52129	-70.6112	30-100	Mud with sand	2024	2C
202	42.51225	-70.61186	30-100	Mud with sand	2024	2E
203	42.50333	-70.611	30-100	Mud with sand	2024	2C
204	42.50374	-70.62397	30-100	Mud with sand	2024	2C
205	42.48551	-70.62362	30-100	Mud with sand	2024	2E
206	42.4763	-70.62353	30-100	Mud with sand	2024	2C
207	42.49494	-70.64797	30-100	Mud with sand	2024	2C
208	42.48584	-70.64768	30-100	Mud with sand	2024	2C

Station	Latitude	Longitude	Water Depth (m)	Sediment	EMU	Infaunal Group
209	42.46747	-70.64847	30-100	Mud with sand	2024	2C
210	42.44074	-70.6365	30-100	Gravel with sand	10024	2C
211	42.43137	-70.64902	30-100	Mud with sand	2024	2D
212	42.44116	-70.649	30-100	Gravel with mud	9034	2E
213	42.44052	-70.66094	30-100	Mud with gravel	5024	2D
216	42.4861	-70.69736	30-100	Mud with sand	2024	2D
226	42.38636	-70.64968	30-100	Mud with sand	2024	2E
227	42.36003	-70.68614	30-100	Sand with mud	3024	2E
229	42.33289	-70.68684	30-100	Sand with mud	3034	2E
230	42.32411	-70.68698	30-100	Sand with mud	3034	2E
233	42.31532	-70.7111	30-100	Sand with mud	3034	2E
237	42.31541	-70.74685	30-100	Sand with gravel	7024	2F
245	42.34214	-70.67384	30-100	Sand with mud	3024	2E
246	42.35119	-70.6742	30-100	Sand with mud	3024	2E
247	42.35973	-70.6615	30-100	Mud with sand	2024	2E
248	42.36918	-70.66132	30-100	Mud with sand	2024	2E
249	42.36967	-70.69856	30-100	Sand with mud	3034	2E
250	42.36012	-70.69871	30-100	Sand with mud	3024	2E
251	42.34233	-70.71093	30-100	Sand with mud	3024	2E
261	42.46002	-70.80694	30-100	Sand with mud	3034	2E
267	42.41402	-70.67353	30-100	Mud with sand	2024	2E
268	42.42148	-70.64859	30-100	Mud	1024	2E
269	42.42292	-70.63694	30-100	Mud	1014	2C
276	42.47755	-70.73293	30-100	Mud with sand	2024	2C
277	42.50463	-70.74522	30-100	Sand with mud	3024	2E
279	42.55849	-70.68378	30-100	Sand with mud	3034	2E
280	42.52166	-70.6603	30-100	Sand with mud	3024	2F
281	42.4952	-70.68537	30-100	Mud with sand	2024	2E
282	42.48578	-70.6854	30-100	Sand with mud	3024	2E
286	42.45825	-70.62404	30-100	Mud	1024	2E
287	42.47663	-70.63652	30-100	Mud with sand	2024	2C
288	42.4947	-70.62366	30-100	Mud with sand	2024	2C
289	42.51284	-70.63589	30-100	Mud with sand	2024	2C
290	42.53041	-70.62324	30-100	Mud with sand	2024	2C
291	42.54538	-70.63545	30-100	Mud with sand	2024	2C
292	42.54873	-70.64782	30-100	Sand with mud	3024	2C
294	42.5762	-70.64637	30-100	Sand with mud	3034	2E
295	42.58475	-70.6096	30-100	Sand with mud	3034	2E
296	42.56638	-70.61062	30-100	Mud with sand	2034	2E
297	42.57563	-70.57341	30-100	Mud with sand	2034	2E
299	42.61104	-70.53702	30-100	Mud with sand	2024	2E
300	42.62013	-70.53701	30-100	Mud with sand	2024	2C
304	42.63823	-70.54882	30-100	Sand with mud	3034	2C

Station	Latitude	Longitude	Water Depth (m)	Sediment	EMU	Infaunal Group
305	42.65593	-70.53598	30-100	Sand with mud	3024	2E
306	42.66527	-70.53621	30-100	Sand with mud	3024	2C
307	42.64692	-70.49992	30-100	Sand with mud	3024	2E
311	42.7195	-70.52241	30-100	Mud with sand	2024	2D
312	42.71036	-70.5835	30-100	Sand with mud	3024	2C
313	42.69255	-70.59687	30-100	Sand	4044	2E
159	42.67446	-70.609	15-30	Sand with mud	3043	1D
315	42.71069	-70.63277	30-100	Sand with mud	3034	2D
316	42.7114	-70.66957	30-100	Sand	4034	1C
337	42.70209	-70.65741	15-30	Sand	4043	1D
338	42.72055	-70.66853	30-100	Sand with mud	3034	1A
339	42.72864	-70.65676	30-100	Sand	4034	1C
340	42.73782	-70.63199	30-100	Sand with mud	3024	2E
341	42.74737	-70.63216	30-100	Sand with mud	3024	2E
342	42.72861	-70.5955	30-100	Sand with mud	3024	2E
343	42.71063	-70.60861	30-100	Sand	4034	2D
344	42.70231	-70.59534	30-100	Sand	4044	1D
345	42.69343	-70.5866	30-100	Sand	4044	1C
346	42.69252	-70.56026	30-100	Sand with mud	3034	2E
347	42.70195	-70.55926	30-100	Mud with sand	2024	2C
348	42.71972	-70.54602	30-100	Mud with sand	2024	2C
350	42.67387	-70.4989	30-100	Sand with mud	3014	2C
351	42.66508	-70.51173	30-100	Mud with sand	2024	2C
352	42.67435	-70.53537	30-100	Mud with sand	2014	2C
353	42.66518	-70.56004	30-100	Sand with mud	3044	2F
355	42.62895	-70.52349	30-100	Mud with sand	2024	2C
356	42.62887	-70.51215	30-100	Mud with sand	2014	2C
357	42.62866	-70.49994	30-100	Sand with mud	3014	2E
359	42.60206	-70.54887	30-100	Mud with sand	2024	2C
360	42.61134	-70.56057	30-100	Sand with mud	3034	2E
361	42.6026	-70.58557	30-100	Sand with mud	3044	2E
363	42.58455	-70.62233	30-100	Sand with mud	3034	2E
364	42.58383	-70.59801	30-100	Sand with mud	3034	2E
365	42.58392	-70.57401	30-100	Mud with sand	2034	2C
366	42.56635	-70.57402	30-100	Mud with sand	2024	2E
368	42.53898	-70.61093	30-100	Mud with sand	2024	2C
369	42.55814	-70.67164	30-100	Sand	4034	1E

Table B-2. Station sediment classifications. At stations marked with an asterisk, an infauna grab was not obtained.

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
5	22.77	0	91.16	6.13	2.69	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
7	29.61	19.55	67.95	9.09	3.41	GRAVELLY SEDIMENT	Coarse Unconsolidated Substrate, Gravelly	Gravelly	Sand with Gravel
10	27.91	0.17	82.72	12.49	4.62	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
11	36.85	0.16	63.9	24.37	11.57	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
12	35.3	63.63	25.69	7.62	3.05	GRAVEL	Coarse Unconsolidated Substrate, Gravel Mixes	Gravel	Gravel with Sand
15	42.18	2.92	39.19	39.31	18.59	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Mud	Mud with Sand
20	48.27	0.78	84.68	9.72	4.83	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
22	40.49	0.06	83.78	11.05	5.1	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
24	31.13	45.23	47.46	4.75	2.56	GRAVELLY SEDIMENT	Coarse Unconsolidated Substrate, Gravel Mixes	Gravelly	Sand with Gravel
25	38.73	0.86	94.19	3.41	1.53	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
27	36.72	10.75	76.25	8.71	4.3	GRAVELLY SEDIMENT	Coarse Unconsolidated Substrate, Gravelly	Gravelly	Sand with Mud
29	40.12	1.13	89.99	7	1.87	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
31	25.32	6.08	68.4	22.01	3.51	SILTY SAND	Coarse Unconsolidated Substrate, Gravelly	Sand	Sand with Mud

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
32	26.99	0.73	78.33	16.91	4.02	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
35	49.69	0	67.69	24.55	7.76	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
37	50.39	18.1	67.44	9.31	5.15	GRAVELLY SEDIMENT	Coarse Unconsolidated Substrate, Gravelly	Gravelly	Sand with Gravel
40	62.32	1.18	26.86	53.16	18.79	SANDY SILT	Fine Unconsolidated Substrate, Slightly Gravelly	Mud	Mud with Sand
43	63.85	0	44.66	35.8	19.54	SILTY SAND	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
46	50.89	0	60.97	28.56	10.47	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
49	36.82	62.39	34.25	2.48	0.88	GRAVEL	Coarse Unconsolidated Substrate, Gravel Mixes	Gravel	Gravel with Sand
50	28.4	0.08	99.52	0.32	0.08	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
51	28.3	2.98	79.97	13.48	3.56	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
53	41.13	4.37	94.82	0.7	0.11	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
54	35.96	3.24	70.29	22.71	3.78	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
58	50.86	0	57.48	32.05	10.46	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
61	61	0	41.08	44.8	14.12	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
63	53.68	0	42.71	42.82	14.47	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
65	46.18	0	52.49	35.21	12.29	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
66	36.63	0.13	78.17	17.69	4	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
69	34.17	3.36	62.6	28.09	5.95	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
71	35.97	0.19	78.27	16.86	4.67	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
73	43.44	0	68.36	22.76	8.89	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
75	25.73	0	85.42	13.25	1.33	SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
78	32.01	51.61	43.17	4.02	1.19	GRAVEL	Coarse Unconsolidated Substrate, Gravel Mixes	Gravel	Gravel with Sand
80	54.34	0	46.52	42.72	10.74	SILTY SAND	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
81	58.21	0	29.57	53.19	17.23	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
83	61.39	5.21	47.25	36.42	11.14	SILTY SAND	Coarse Unconsolidated Substrate, Gravelly	Mud	Mud with Sand
85	73.74	56.26	22.26	15.86	5.63	GRAVEL	Coarse Unconsolidated Substrate, Gravel Mixes	Gravel	Gravel with Sand
86	66.87	74.4	17.95	5.29	2.35	GRAVEL	Coarse Unconsolidated Substrate, Gravel Mixes	Gravel	Gravel with Sand
87	66.52	0	30.73	55.59	13.68	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
88	81.65	0	44.95	41.27	13.8	SILTY SAND	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
91	78.89	0	43.01	43.53	13.48	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
92	77.48	57.03	19.24	14.97	8.76	GRAVEL	Coarse Unconsolidated Substrate, Gravel Mixes	Gravel	Gravel with Mud
94	76.32	0	40.13	45.38	14.48	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
95	50.75	0	73.69	19.93	6.37	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
98	24.18	0	99.2	0.63	0.17	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
100	30.85	0	84.17	14.65	1.17	SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
101	46.73	0	74.7	20.07	5.23	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
102	85.27	0	16.28	63.41	20.29	CLAYEY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
107	62.74	0	64.64	26.8	8.56	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
110	43.43	0	89.29	7.72	2.97	SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
112	32.74	0	84.29	12.06	3.65	SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
113	47.56	0	79.77	15.16	5.07	SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
114	60.86	0	61.93	29.55	8.52	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
116	63.81	0	71.04	21.13	7.84	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
117	37.86	0	95.38	3.57	1.04	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
119	33.78	0	91.36	6.34	2.28	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
120	38.8	0.21	98.12	1.04	0.62	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
121	45.81	5.7	87.65	4.5	2.14	SAND	Coarse Unconsolidated Substrate, Gravelly	Sand	Sand with Mud
122*	34.86	0	98.53	1.04	0.43	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
123	34.57	0	98.32	1.33	0.34	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
124*	33.97	0.03	98.83	0.73	0.4	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
126	32.81	0	95.57	3.46	0.97	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
127	23.35	0	97.01	2.02	0.96	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
128	18.92	0	94.03	4.51	1.45	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
129	14.92	0	95.83	3.39	0.78	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
130	23.68	0.16	99.47	0.29	0.08	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
132	26.66	0	99.64	0.24	0.12	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
133	22.88	0.04	91.99	6.35	1.61	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
135	20.47	0	97.71	1.86	0.43	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
136*	23.95	74.13	24.85	0.84	0.18	GRAVEL	Coarse Unconsolidated Substrate, Gravel Mixes	Gravel	Gravel with Sand
137	27.24	11.2	88.17	0.45	0.17	GRAVELLY SEDIMENT	Coarse Unconsolidated Substrate, Gravelly	Gravelly	Sand with Gravel
138	27.87	0	99.42	0.45	0.13	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
139	29.63	0.03	99.53	0.31	0.12	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
140	27.23	2.86	96.87	0.19	0.08	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
141	26.26	0	99.69	0.2	0.11	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
143	25.67	0	97.91	1.66	0.43	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
144	24.84	0.1	99.26	0.42	0.22	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
145	22.58	0.26	66.65	27.03	6.06	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
146	22.66	1.38	97.66	0.8	0.16	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
148	19.76	0.06	95.48	3.79	0.67	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
149	22.75	0	12.94	67.8	19.26	CLAYEY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
150	24.82	0	99.5	0.37	0.13	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
152	35.52	53.15	46.27	0.37	0.19	GRAVEL	Coarse Unconsolidated Substrate, Gravel Mixes	Gravel	Gravel with Sand
153	37.91	1.2	94.81	2.27	1.7	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
154	34.58	0	99.25	0.47	0.28	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
155*	32.33	8.83	90.91	0.18	0.08	SAND	Coarse Unconsolidated Substrate, Gravelly	Sand	Sand
156	18.04	0	96.27	3.2	0.54	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
157*	28.64	0.32	98.82	0.67	0.19	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
158	31.02	0	96.69	2.77	0.54	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
159	24.99	2.71	81.52	13.35	2.39	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
160	40.42	0	91.35	6.64	1.99	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
161	37.11	2.28	95.95	1.22	0.55	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
162*	38.73	0.07	98.16	1.2	0.57	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
163	41.89	1.25	95.67	2.09	0.98	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
164	51.75	0	89.45	7.46	3.09	SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
165	61.38	0	73.09	18.61	8.3	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
166	66.46	0	65.1	24.56	10.34	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
167	65.92	0	64.65	26.53	8.83	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
168	70.3	0	52.2	34.04	13.76	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
169	74.83	0	32	47.9	20.1	SAND SILT CLAY	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
170	70.97	0	49.43	34.58	15.98	SILTY SAND	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
171	58.53	0	72.41	20.78	6.82	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
172	64.8	0	63.61	26.5	9.88	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
173	73.56	0	38.67	44.51	16.82	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
174	76.66	0	19.33	55.26	25.41	CLAYEY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
175	82.12	0	8.61	70.27	21.12	CLAYEY SILT	Fine Unconsolidated Substrate, Mud	Mud	Mud
176	77.3	0	17.92	59.76	22.31	CLAYEY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
177	73.42	0	40.66	41.44	17.89	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
178	81.39	0	6.76	65.67	27.55	CLAYEY SILT	Fine Unconsolidated Substrate, Mud	Mud	Mud
179	79.04	0	11.42	61.91	26.68	CLAYEY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
180	75.48	0.04	26.7	52.87	20.38	SAND SILT CLAY	Fine Unconsolidated Substrate, Slightly Gravelly	Mud	Mud with Sand
181	79.06	0	17.12	56.23	26.66	CLAYEY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
184	82.47	0	26.6	52.06	21.33	SAND SILT CLAY	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
186	52.28	0.03	52.76	31.89	15.3	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
187	45.4	0.04	66.74	24.62	8.6	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
188	51.08	0	45.88	38.51	15.61	SILTY SAND	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
189	44.47	0	59.55	31.52	8.91	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
190	62.29	2.17	62.68	27.8	7.35	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
192	56.56	0.88	51.4	34.54	13.18	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
194	48.47	0.08	66.49	24.92	8.51	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
195	56.75	0.02	54.89	30.99	14.1	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
196	61.77	0	47.16	40.52	12.31	SILTY SAND	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
198	55.38	0.28	49.83	35.87	14.01	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Mud	Mud with Sand

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
199	58.34	0.67	48.94	37.32	13.05	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Mud	Mud with Sand
200	63.43	0	38.27	49.73	11.99	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
201	66.27	0	36.02	48.18	15.79	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
202	69.79	0	30.12	52.13	17.74	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
203	73.16	0	24.03	50.13	25.83	SAND SILT CLAY	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
204	70.01	0	25.24	56.54	18.21	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
205	75.63	0	12.24	64.04	23.72	CLAYEY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
206	77.94	0	10.37	70.51	19.14	CLAYEY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
207	67.23	0	22.77	52.79	24.43	SAND SILT CLAY	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
208	69.82	0	17.14	64.32	18.55	CLAYEY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
209	71.83	0	14.36	56.53	29.1	CLAYEY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
210	68.52	41.05	38.66	14.05	6.25	GRAVELLY SEDIMENT	Coarse Unconsolidated Substrate, Gravel Mixes	Gravelly	Gravel with Sand
211	74.42	0.26	19.49	60.56	19.68	SANDY SILT	Fine Unconsolidated Substrate, Slightly Gravelly	Mud	Mud with Sand
212	69.99	61.26	15.85	15.16	7.74	GRAVEL	Coarse Unconsolidated Substrate, Gravel Mixes	Gravel	Gravel with Mud
213	68.05	34.84	27.63	21.84	15.72	GRAVELLY	Coarse Unconsolidated Substrate, Gravel Mixes	Gravelly	Mud with Gravel

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
						SEDIMENT			
216	58.13	2.26	39.9	42.53	15.3	SANDY SILT	Fine Unconsolidated Substrate, Slightly Gravelly	Mud	Mud with Sand
226	71.03	2.79	20.09	53.69	23.43	SAND SILT CLAY	Fine Unconsolidated Substrate, Slightly Gravelly	Mud	Mud with Sand
227	56.53	0.52	71.44	21.62	6.41	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
229	44.62	1.47	79.88	10.28	8.38	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
230	44.47	6.97	65.28	18.23	9.51	SILTY SAND	Coarse Unconsolidated Substrate, Gravelly	Sand	Sand with Mud
231*	45.86	4.58	57.23	30.08	8.11	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
233	38.2	4.14	87.39	5.76	2.69	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
237	35.43	30.56	55.06	9.72	4.64	GRAVELLY SEDIMENT	Coarse Unconsolidated Substrate, Gravel Mixes	Gravelly	Sand with Gravel
241*	37.22	16.11	74.53	5.35	4.01	GRAVELLY SEDIMENT	Coarse Unconsolidated Substrate, Gravelly	Gravelly	Sand with Gravel
245	54.6	0.05	69.04	21.34	9.56	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
246	58.99	0.1	57.65	29	13.25	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
247	64.07	8.4	37.35	37.6	16.65	SILTY SAND	Coarse Unconsolidated Substrate, Gravelly	Mud	Mud with Sand
248	65.59	14.71	34.89	33.86	16.53	GRAVELLY SEDIMENT	Coarse Unconsolidated Substrate, Gravelly	Gravelly	Mud with Sand

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
249	51.83	2.73	84.4	7.31	5.55	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
250	50.52	1.41	83.38	10.02	5.18	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
251	42.44	2.99	75.83	12.03	9.16	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
261	40.19	0.89	76.03	16.77	6.3	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
262*	41.01	18.83	21.78	43.25	16.12	GRAVELLY SEDIMENT	Coarse Unconsolidated Substrate, Gravelly	Gravelly	Mud with Sand
267	65.79	4.85	24.71	44.74	25.7	SAND SILT CLAY	Fine Unconsolidated Substrate, Slightly Gravelly	Mud	Mud with Sand
268	75.59	0	7.29	67.06	25.64	CLAYEY SILT	Fine Unconsolidated Substrate, Mud	Mud	Mud
269	80	0	8.83	59.85	31.32	CLAYEY SILT	Fine Unconsolidated Substrate, Mud	Mud	Mud
275*	52.66	74.51	15.07	6.87	3.56	GRAVEL	Coarse Unconsolidated Substrate, Gravel Mixes	Gravel	Gravel with Sand
276	50.94	20.05	38.69	28.56	12.68	GRAVELLY SEDIMENT	Coarse Unconsolidated Substrate, Gravelly	Gravelly	Mud with Sand
277	44.71	4.3	79	11.49	5.21	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
279	37.08	23.85	48.19	26.2	1.75	GRAVELLY SEDIMENT	Coarse Unconsolidated Substrate, Gravelly	Gravelly	Sand with Mud
280	56.69	0.53	60.32	29.19	9.95	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
281	56.35	1.49	41.23	40.2	17.08	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Mud	Mud with Sand

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
282	59.54	0.88	49.73	38.86	10.51	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
286	80.17	0	5.39	67.63	26.97	CLAYEY SILT	Fine Unconsolidated Substrate, Mud	Mud	Mud
287	75.11	0	10.04	69.09	20.86	CLAYEY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
288	73.23	0	16.28	61.28	22.44	CLAYEY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
289	64.01	0	32.97	52.39	14.64	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
290	61.49	0	42.18	41.56	16.26	SILTY SAND	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
291	55.82	5.15	39.96	40.23	14.66	SILTY SAND	Coarse Unconsolidated Substrate, Gravelly	Mud	Mud with Sand
292	51.53	1.61	65.83	23.07	9.5	SILTY SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
294	34.11	1.4	75.84	18.86	3.89	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
295	42.45	0	63.36	32.98	3.65	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
296	51.27	0	49.87	35.76	14.38	SILTY SAND	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
297	57.77	0	41.48	40.45	18.08	SILTY SAND	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
299	64.48	0	38.97	41.09	19.94	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
300	63.08	0	28.19	56.83	14.98	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
304	42.32	0	72.39	23.31	4.31	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
305	62	0	53.47	33.69	12.86	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
306	68.5	0	67.33	23.18	9.47	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
307	79.69	3.65	83.98	8.68	3.69	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
311	82.16	0	14.91	50.59	34.49	CLAYEY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
312	57.25	0	73.78	19.94	6.27	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
313	27.87	0	97.71	1.9	0.39	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
314*	41.86	1.11	94.81	2.93	1.14	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
315	38.65	0.06	87.88	8.94	3.11	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
316	31.08	0	95.8	3.36	0.84	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
337	27.97	0	95.46	3.3	1.23	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
338	33.82	0.02	77.09	16.13	6.75	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
339	36.77	0	98.71	0.76	0.52	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
340	54.13	0.12	87.52	7.79	4.56	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
341	63.25	0	73.91	18.41	7.67	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
342	65.6	0	71.1	20.37	8.53	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
343	41.44	0.28	94.19	3.98	1.54	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand
344	38.21	0	96.19	2.98	0.82	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
345	32.83	0	95.25	3.46	1.29	SAND	Fine Unconsolidated Substrate, Sand	Sand	Sand
346	56.16	0	70	20.02	9.96	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
347	66.57	0	45.65	37.56	16.78	SILTY SAND	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
348	81.74	0	12.52	62.76	24.72	CLAYEY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
349*	47.49	68.21	28.84	1.89	1.05	GRAVEL	Coarse Unconsolidated Substrate, Gravel Mixes	Gravel	Gravel with Sand
350	80.01	0	78.08	14.86	7.07	SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
351	82.85	0.01	20.16	52.58	27.26	SAND SILT CLAY	Fine Unconsolidated Substrate, Slightly Gravelly	Mud	Mud with Sand
352	79.71	0	39.99	42.45	17.56	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
353	32.74	0	89.9	8.97	1.13	SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
355	72.92	0	33.47	50.31	16.22	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
356	83.67	0	24.06	56.2	19.74	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
357	87.06	0.08	75.83	17.82	6.28	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand with Mud
359	59.79	0	29.74	50	20.25	SAND SILT CLAY	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
360	47.6	0	62.57	25.09	12.34	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
361	39.27	0	77.17	17.79	5.05	SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud

Station	Depth (m)	% Gravel	% Sand	% Silt	% Clay	USGS Shepard Class	CMECS	CZM Modified Shepard Class	CZM Barnhardt Class
363	39.26	0	71.62	20.68	7.68	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
364	46.7	0	56.17	30.64	13.18	SILTY SAND	Fine Unconsolidated Substrate, Muddy Sand	Sand	Sand with Mud
365	54.95	0	40.13	45.23	14.63	SANDY SILT	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
366	59.09	0	43.81	39.67	16.53	SILTY SAND	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
368	62.5	0	42.52	42.44	15.03	SILTY SAND	Fine Unconsolidated Substrate, Sandy Mud	Mud	Mud with Sand
369	39.18	1.09	97.27	1.22	0.41	SAND	Fine Unconsolidated Substrate, Slightly Gravelly	Sand	Sand

Appendix C

QA/QC Documentation and Corrective Action Log

Appendix D

Infaunal Data

Table D-1.North Shore infaunal database. Taxa shaded in pink were excluded from the analyzed dataset used for statistical analysis. Taxa shaded in dark grey are common taxa, light grey are less common taxa, and unshaded taxa are rare.

Taxa	5	7	10	11	12	15	20	22	24	25	27	29	31	32	35	37	40	43
Copepoda	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Nematoda	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Ostracoda	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Ampeliscidae	3	1	0	0	0	1	1	1	0	3	0	1	0	0	0	1	3	1
Ampharetidae	21	60	30	37	44	35	54	24	27	170	30	114	4	6	277	115	247	119
Amphilochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Amphinomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphipoda spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anomiidae	0	0	0	0	0	0	0	0	0	2	6	0	0	0	0	0	0	0
Anthozoa	0	2	0	8	4	3	0	2	6	3	4	5	3	1	3	2	3	0
Anthuridae	0	2	0	4	0	4	0	5	1	3	0	0	1	1	0	0	0	0
Aphroditidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apistobranchidae	0	0	23	47	3	1	0	1	0	1	1	2	0	0	0	0	0	2
Arcticidae	2	3	3	1	0	5	3	2	0	42	3	6	1	1	5	5	1	0
Argissidae	3	6	0	1	0	0	1	1	0	2	0	0	0	1	0	1	0	0
Ascidiacea juv.	0	4	0	2	0	0	0	1	0	2	0	0	0	0	3	0	0	0
Astartidae	0	22	3	3	58	1	24	8	26	14	7	8	0	1	4	18	3	0
Asteriidae	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Asteroidea juv.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Axiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bivalvia spp.	0	0	1	0	5	0	0	0	0	0	3	0	0	1	0	0	0	0
Bodotriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buccinidae	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Calyptraeidae	1	15	2	1	1	3	1	7	0	5	0	10	2	6	2	0	0	0
Cancridae	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0
Capitellidae	20	63	70	41	33	13	16	18	13	18	25	4	106	13	25	27	16	7

Taxa	5	7	10	11	12	15	20	22	24	25	27	29	31	32	35	37	40	43
Caprellidae	0	0	0	0	0	1	6	0	0	2	1	0	1	0	12	0	0	0
Cardiidae	6	5	2	3	18	2	2	5	2	24	13	5	4	1	2	15	0	0
Carditidae	0	2	0	0	0	0	0	2	0	7	0	0	0	0	0	3	0	0
Chaetiliidae	9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetodermatidae	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	1
Chaetopteridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cheirocratidae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirolanidae	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
Cirratulidae	113	309	267	127	62	69	14	49	61	33	50	34	334	74	87	17	51	9
Columbellidae	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Corambidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corophiidae	68	8	0	0	12	0	1	0	13	29	13	0	4	0	0	4	0	0
Cossuridae	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	12	6
Crangonidae	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Ctenodiscidae	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cuspidariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cylichnidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
Dentaliidae	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	1
Diaphanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diastylidae	16	4	2	5	3	5	4	7	1	3	4	1	0	7	4	3	1	0
Dorvilleidae	0	1	0	2	0	0	2	0	0	5	1	0	0	1	3	0	0	0
Dulichiidae	9	2	0	0	0	0	0	0	0	6	0	0	0	0	2	1	0	0
Echinarachniidae	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Faceliniidae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Flabelligeridae	0	7	2	1	2	1	0	1	2	1	0	0	2	0	0	0	1	0
Gammaridae	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0
Gastropoda spp.	1	2	0	0	5	0	0	0	0	2	4	0	3	2	1	5	0	0
Glyceridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Taxa	5	7	10	11	12	15	20	22	24	25	27	29	31	32	35	37	40	43
Golfingiidae	0	0	0	0	2	0	6	0	0	3	0	0	0	0	0	1	0	0
Goniadidae	0	1	2	0	1	0	2	0	0	2	1	1	1	0	0	1	2	1
Harrimaniidae	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Haustoriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hesionidae	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	1	0
Hiatellidae	1	6	1	0	0	0	1	0	2	6	5	2	48	4	0	0	0	0
Holothuroidea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Idoteidae	1	1	24	56	0	4	0	36	8	8	2	48	4	25	4	0	5	0
Ischnochitonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ischyroceridae	0	27	0	0	11	0	0	0	22	0	37	0	0	0	0	2	1	0
Janiridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lampropidae	1	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Lasaeidae	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Leptanthuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptocheliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0
Leuconidae	15	3	0	0	1	0	0	1	1	6	6	2	0	2	1	1	1	0
Littorinidae	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0
Lumbrineridae	23	69	47	28	13	43	41	23	12	23	11	33	28	44	39	24	29	34
Lyonsiidae	0	10	0	2	0	0	0	6	0	5	0	4	0	0	0	0	0	0
Lysianassidae	1	0	0	6	0	3	1	1	0	1	1	0	0	0	10	0	2	0
Mactridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Magelonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87	0	0	0
Maldanidae	4	12	22	56	61	74	15	38	3	107	1	33	13	5	0	3	84	18
Melitidae	0	1	0	0	0	0	0	0	1	2	10	4	0	0	0	0	2	1
Melphidippidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molgulidae	0	0	0	1	0	0	0	7	0	0	0	0	0	0	3	0	0	0
Molpadiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montacutidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Munnidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Taxa	5	7	10	11	12	15	20	22	24	25	27	29	31	32	35	37	40	43
Munnopsidae	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Myidae	0	0	0	1	0	1	0	0	0	1	1	0	0	0	3	0	3	0
Mytilidae	1	42	7	15	38	8	6	13	33	5	20	25	149	2	14	32	4	0
Nannastacidae	0	0	0	0	0	0	0	3	0	0	0	5	0	0	11	1	4	0
Nassariidae	4	10	5	1	14	0	2	1	0	2	0	6	14	2	1	0	0	0
Naticidae	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Nemertea	3	3	8	5	5	5	6	10	1	9	1	6	6	2	8	3	7	5
Nephtyidae	25	11	5	1	1	4	4	1	5	8	18	4	0	5	2	3	1	3
Nereididae	0	6	0	1	13	0	0	0	6	1	1	4	0	0	2	6	2	1
Nuculanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nuculidae	101	176	94	70	6	16	107	69	14	37	7	177	118	226	57	4	23	14
Nudibranchia spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nymphonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oedicerotidae	0	2	0	6	3	1	0	1	0	0	11	0	0	0	1	0	1	0
Oenonidae	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Oligochaeta	1	0	0	0	3	0	0	0	0	0	4	0	1	0	0	6	9	0
Onuphidae	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0
Opheliidae	0	1	2	0	0	0	1	0	4	0	1	0	2	3	0	0	0	0
Ophiactidae	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Ophiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuroidea juv.	0	0	0	0	0	0	1	3	1	0	1	0	0	0	4	0	0	0
Orbiniidae	1	12	27	15	0	6	8	10	3	6	5	4	11	11	14	0	9	5
Oweniidae	177	81	72	28	5	8	9	18	0	6	0	76	158	826	3	2	0	3
Paguridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pandoridae	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Paramunnidae	1	1	2	0	6	0	2	0	0	1	4	0	0	1	0	3	0	0
Paraonidae	94	219	37	162	50	27	40	21	19	188	38	12	71	56	82	56	103	78
Pectinariidae	0	0	1	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0
Pectinidae	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0

Taxa	5	7	10	11	12	15	20	22	24	25	27	29	31	32	35	37	40	43
Periplomatidae	3	9	14	24	2	22	4	11	0	2	0	22	2	4	26	3	9	9
Pharidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phascolionidae	0	0	0	0	0	0	4	6	0	3	0	0	0	0	2	4	3	0
Phasianelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Pholoidae	0	1	1	3	4	0	6	0	6	1	2	1	0	0	1	8	4	0
Phoronidae	23	5	5	7	0	0	3	4	0	8	0	0	4	8	2	0	0	3
Photidae	1	4	1	1	0	0	0	1	0	2	0	0	0	2	0	0	0	2
Phoxichilidiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phoxocephalidae	4	22	2	5	0	0	2	3	10	4	12	1	0	8	5	1	0	0
Phyllodocidae	2	20	5	2	2	0	8	2	2	8	3	5	5	0	6	1	7	0
Phyllophoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pilargidae	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Pisionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pleustidae	0	17	1	7	0	0	2	15	1	8	0	0	0	3	5	2	0	0
Podoceridae	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
Polygordiidae	12	112	11	0	0	0	2	1	2	14	1	1	7	3	0	1	1	0
Polynoidae	1	2	0	0	5	2	0	0	4	0	1	0	1	1	3	5	0	0
Pseudocumatidae	0	3	0	2	0	1	0	2	0	0	0	0	0	0	0	1	0	0
Pyramidellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rissoidae	0	0	0	10	4	9	27	61	0	58	2	10	0	0	32	11	7	1
Sabellidae	2	19	16	13	0	8	27	3	1	12	0	8	0	0	24	7	12	3
Scalibregmatidae	3	25	15	5	14	2	2	3	4	1	0	3	1	0	2	0	1	1
Sigalionidae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sipuncula spp.	0	1	0	2	5	0	1	2	0	2	4	0	0	0	1	0	1	0
Sipunculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skeneopsidae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Solemyacidae	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solenidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridae	0	2	0	0	0	0	1	7	0	1	0	0	0	0	0	2	0	0

Taxa	5	7	10	11	12	15	20	22	24	25	27	29	31	32	35	37	40	43
Spionidae	37	299	161	321	17	58	220	214	58	95	84	112	8	21	80	114	28	37
Spirorbidae	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0
Stenothoidae	2	7	0	14	0	0	1	12	0	2	0	2	0	0	1	0	0	0
Sternaspidae	0	0	0	2	0	3	0	1	0	0	0	0	0	0	1	0	0	0
Strongylocentrotidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Styelidae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syllidae	21	15	6	2	117	1	15	4	17	30	4	4	4	0	1	55	8	0
Synopiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Tanaissuidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tellinidae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Terebellidae	0	1	0	2	0	3	3	1	3	1	3	0	2	0	2	4	2	1
Thraciidae	0	27	3	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
Thyasiridae	3	0	6	26	3	53	30	14	5	17	2	25	1	8	43	17	8	7
Trichobranchidae	2	6	9	7	10	20	9	4	1	1	0	3	0	0	22	14	29	10
Trochidae	0	0	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0
Trochochaetidae	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0
Turbellaria	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
Turridae	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0
Unciolidae	8	4	0	0	120	0	0	0	275	9	2	0	0	0	1	4	2	1
Uristidae	0	0	0	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0
Velutinidae	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
Veneridae	0	2	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Yoldiidae	0	2	0	1	0	6	2	0	0	0	0	0	1	0	1	0	2	3
Grand Total	**795**	**1633**	**885**	**1052**	**630**	**470**	**652**	**695**	**603**	**788**	**391**	**679**	**1039**	**1360**	**709**	**443**	**486**	**258**

Taxa	46	49	50	51	53	54	58	61	63	65	66	69	71	73	75	78	80	81
Copepoda	P	P	P	P	P	P	P	A	A	A	P	P	P	P	P	P	P	P
Nematoda	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Ostracoda	P	P	P	P	P	A	P	P	A	P	P	P	P	A	P	A	P	P
Ampeliscidae	4	0	0	3	0	6	4	0	0	1	3	0	1	2	6	0	2	0
Ampharetidae	205	127	67	66	34	182	227	110	84	107	145	41	127	70	42	8	32	146
Amphilochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinomidae	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Amphipoda spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Amphiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
Anomiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anthozoa	0	2	1	1	1	1	3	0	7	4	3	1	6	0	5	3	0	0
Anthuridae	0	0	0	3	0	0	3	0	0	1	2	1	1	0	3	1	0	0
Aphroditidae	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apistobranchidae	5	0	0	0	0	12	23	2	1	5	2	1	17	57	2	0	13	6
Arcticidae	1	1	0	25	0	1	0	0	0	1	0	5	27	1	20	0	0	0
Argissidae	1	0	0	1	1	1	0	0	0	0	3	5	6	0	1	0	0	0
Ascidiacea juv.	0	3	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Astartidae	0	2	0	1	0	3	4	0	0	0	0	1	2	1	1	0	0	0
Asteriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asteroidea juv.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Axiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bivalvia spp.	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0
Bodotriidae	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Buccinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Calyptraeidae	0	6	0	2	5	0	1	0	0	0	0	1	0	0	0	0	0	0
Cancridae	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Capitellidae	24	40	1	0	0	43	40	11	15	16	23	131	6	39	9	7	18	22
Caprellidae	9	1	0	0	0	0	0	0	0	6	1	0	0	0	0	0	0	2

Taxa	46	49	50	51	53	54	58	61	63	65	66	69	71	73	75	78	80	81
Cardiidae	3	36	6	4	2	2	1	0	0	10	1	15	36	0	4	0	0	0
Carditidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetiliidae	0	0	12	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
Chaetodermatidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetopteridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cheirocratidae	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Cirolanidae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirratulidae	48	82	11	52	28	151	121	13	40	72	63	47	22	169	13	19	7	28
Columbellidae	0	7	0	4	2	0	0	0	0	0	0	1	0	0	0	0	0	0
Corambidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corophiidae	0	6	0	1	1	0	1	0	0	0	0	0	3	0	4	0	0	0
Cossuridae	2	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	4	5
Crangonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ctenodiscidae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cuspidariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cylichnidae	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dentaliidae	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Diaphanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diastylidae	6	0	0	1	0	0	2	0	0	1	0	4	3	0	14	1	1	0
Dorvilleidae	1	5	36	0	8	1	3	0	0	0	0	0	0	0	0	1	0	0
Dulichiidae	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Echinarachniidae	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Faceliniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flabelligeridae	2	4	0	1	0	0	7	0	0	3	0	0	0	0	1	1	0	0
Gammaridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Glyceridae	0	15	6	0	11	0	0	0	1	0	0	1	0	0	0	6	0	0
Golfingiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Taxa	46	49	50	51	53	54	58	61	63	65	66	69	71	73	75	78	80	81
Goniadidae	2	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	1	0
Harrimaniidae	0	6	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0
Haustoriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hesionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hiatellidae	0	22	0	32	0	0	0	0	0	0	0	0	3	0	69	0	0	0
Holothuroidea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Idoteidae	15	1	1	40	0	64	23	0	2	1	18	5	10	20	18	1	0	0
Ischnochitonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Ischyroceridae	0	32	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Janiridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lampropidae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lasaeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptanthuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptocheliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leuconidae	0	0	0	1	0	1	2	0	1	2	3	2	5	2	7	0	0	0
Littorinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbrineridae	30	3	0	6	0	108	51	27	24	29	54	31	33	35	11	1	39	23
Lyonsiidae	0	3	1	0	0	2	0	0	0	0	1	0	1	0	0	0	0	0
Lysianassidae	6	1	2	0	0	2	1	3	0	1	1	2	0	4	3	4	0	1
Mactridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Magelonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maldanidae	96	50	115	15	47	16	127	18	50	28	9	11	10	52	18	6	5	25
Melitidae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Melphidippidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molgulidae	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0
Molpadiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montacutidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnidae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Taxa	46	49	50	51	53	54	58	61	63	65	66	69	71	73	75	78	80	81
Myidae	1	1	3	0	0	0	4	0	1	2	1	0	2	1	3	0	1	0
Mytilidae	10	54	1	26	4	5	8	0	0	0	1	1	1	1	1	2	1	0
Nannastacidae	15	0	0	0	0	11	4	1	0	1	1	1	1	0	0	0	0	0
Nassariidae	1	1	3	4	0	0	0	0	0	0	2	0	2	0	3	0	0	0
Naticidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemertea	21	3	0	4	0	4	5	1	3	3	2	6	0	4	1	0	8	14
Nephtyidae	5	4	14	23	13	4	5	4	2	4	3	12	30	5	34	3	4	4
Nereididae	1	1	0	1	0	4	1	0	1	0	1	0	1	0	0	0	0	0
Nuculanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nuculidae	74	6	0	131	1	209	93	11	2	32	3	10	58	51	63	0	11	1
Nudibranchia spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nymphonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oedicerotidae	0	0	1	1	0	0	0	0	0	0	0	0	1	1	7	2	0	0
Oenonidae	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oligochaeta	1	6	0	0	6	0	6	2	4	3	0	1	1	0	0	2	2	11
Onuphidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Opheliidae	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	3	0
Ophiactidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuroidea juv.	3	1	0	0	0	0	1	0	0	0	0	2	0	0	0	1	0	0
Orbiniidae	6	2	5	6	0	4	15	4	1	10	3	22	3	25	15	2	23	8
Oweniidae	10	0	0	331	3	728	34	1	0	8	13	0	10	83	178	1	2	2
Paguridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pandoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramunnidae	0	0	0	1	0	0	0	0	0	0	0	4	2	0	0	0	0	0
Paraonidae	124	63	17	32	38	73	110	80	49	21	42	35	32	72	66	31	356	208
Pectinariidae	0	1	0	4	1	0	0	0	0	0	0	1	3	0	5	2	0	0
Pectinidae	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Periplomatidae	23	0	0	1	0	28	25	4	3	17	26	2	7	15	39	0	2	10

Taxa	46	49	50	51	53	54	58	61	63	65	66	69	71	73	75	78	80	81
Pharidae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phascolionidae	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
Phasianelidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pholoidae	1	1	2	1	0	3	1	0	1	2	1	2	1	4	0	2	5	0
Phoronidae	0	0	0	6	0	0	1	0	1	0	0	2	0	2	2	0	0	0
Photidae	2	0	0	2	0	0	2	0	0	1	0	1	4	0	3	0	0	0
Phoxichilidiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phoxocephalidae	7	0	1	3	0	2	3	3	4	1	9	0	3	0	0	0	1	2
Phyllodocidae	16	3	4	3	2	12	3	2	4	2	1	5	1	6	4	12	1	1
Phyllophoridae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Pilargidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pisionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pleustidae	2	1	12	1	3	0	0	0	0	0	1	6	0	0	0	0	0	1
Podoceridae	0	0	0	0	0	1	0	0	0	0	0	0	0	0	5	0	0	0
Polygordiidae	0	6	59	10	48	4	0	0	0	0	1	0	0	1	9	0	0	0
Polynoidae	3	5	2	0	1	0	3	0	2	3	2	3	0	2	0	3	0	0
Pseudocumatidae	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
Pyramidellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rissoidae	11	0	0	1	0	0	2	0	0	1	1	0	3	0	0	0	4	2
Sabellidae	48	4	2	8	4	39	34	16	12	11	1	11	14	21	14	1	26	18
Scalibregmatidae	2	6	3	3	0	2	3	5	5	4	4	8	0	3	0	2	2	1
Sigalionidae	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2	0	0	0
Sipuncula spp.	2	3	0	0	0	1	1	1	0	0	0	1	0	1	0	0	0	0
Sipunculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skeneopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solemyacidae	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solenidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Sphaerodoridae	2	0	0	0	0	1	1	0	0	0	0	4	1	0	0	1	0	0
Spionidae	89	33	27	85	17	216	244	84	116	151	105	200	161	168	86	106	148	65

Taxa	46	49	50	51	53	54	58	61	63	65	66	69	71	73	75	78	80	81
Spirorbidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stenothoidae	6	0	0	0	0	0	1	0	0	0	2	2	0	0	7	0	0	0
Sternaspidae	2	0	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0
Strongylocentrotidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Styelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syllidae	3	249	556	1	9	1	0	2	0	0	0	0	0	0	0	1	0	0
Synopiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanaissuidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tellinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terebellidae	0	1	0	1	0	0	3	3	0	0	1	5	1	2	1	2	0	0
Thraciidae	0	0	0	1	3	0	1	0	0	0	0	2	1	0	0	0	0	0
Thyasiridae	26	1	0	13	0	19	34	14	19	22	23	7	37	52	4	0	11	4
Trichobranchidae	38	4	0	1	0	1	24	31	31	30	3	0	2	6	0	0	0	40
Trochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trochochaetidae	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4	2
Turbellaria	0	0	0	0	1	1	0	0	1	0	0	1	0	0	1	0	0	0
Turridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unciolidae	2	417	13	1	64	0	0	0	0	0	0	0	1	0	5	140	0	0
Uristidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Velutinidae	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Veneridae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
Yoldiidae	1	0	0	0	0	0	1	2	1	1	0	0	0	0	0	0	1	0
Grand Total	**1025**	**1344**	**1003**	**985**	**360**	**1973**	**1332**	**460**	**488**	**621**	**586**	**668**	**705**	**982**	**815**	**381**	**740**	**653**

Taxa	83	85	86	87	88	91	92	94	95	98	100	101	102	107	110	112	113	114
Copepoda	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Nematoda	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Ostracoda	A	P	P	A	P	P	P	P	A	A	P	P	P	P	P	P	P	P
Ampeliscidae	0	3	4	1	1	5	2	8	1	0	1	0	0	2	4	4	0	6
Ampharetidae	136	76	37	136	119	164	70	186	222	15	15	167	40	94	114	76	238	147
Amphilochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphipoda spp.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphiuridae	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anomiidae	0	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Anthozoa	4	3	1	0	2	0	4	1	2	1	2	0	0	0	2	6	1	1
Anthuridae	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	1	0	0
Aphroditidae	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Apistobranchidae	4	2	0	1	0	0	1	0	10	0	0	2	1	3	7	1	12	11
Arcticidae	0	1	0	0	2	1	2	0	1	0	25	0	0	12	18	4	5	3
Argissidae	0	1	0	0	0	0	1	1	0	0	1	0	0	0	3	3	1	0
Ascidiacea juv.	0	2	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	1
Astartidae	0	2	5	0	0	0	2	0	1	2	1	2	0	0	7	0	19	0
Asteriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asteroidea juv.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Axiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balanidae	0	48	152	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0
Bivalvia spp.	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
Bodotriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buccinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Calyptraeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cancridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capitellidae	8	4	11	6	8	6	13	5	30	0	0	31	10	15	23	40	48	19
Caprellidae	0	53	17	1	8	1	5	3	0	0	0	0	0	3	0	0	0	7

Taxa	83	85	86	87	88	91	92	94	95	98	100	101	102	107	110	112	113	114
Cardiidae	0	2	16	0	1	1	2	0	1	5	5	0	0	0	2	3	2	0
Carditidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Chaetiliidae	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
Chaetodermatidae	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	1	0
Chaetopteridae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cheirocratidae	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Cirolanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirratulidae	19	7	5	11	11	2	10	11	5	111	4	4	15	6	10	42	18	10
Columbellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corambidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Corophiidae	2	2	38	3	0	0	10	0	0	0	1	1	0	2	8	0	0	0
Cossuridae	8	4	1	1	6	17	9	4	0	0	0	0	21	0	0	0	0	1
Crangonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ctenodiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Cuspidariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cylichnidae	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dentaliidae	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
Diaphanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diastylidae	0	22	2	0	2	1	5	3	3	0	48	2	0	2	5	3	6	4
Dorvilleidae	0	2	1	1	0	1	0	0	0	11	0	2	0	3	3	0	3	4
Dulichiidae	0	9	3	0	0	0	2	0	0	0	0	0	0	2	0	0	0	1
Echinarachniidae	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	1	0	0
Faceliniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Flabelligeridae	0	4	0	0	0	0	1	0	0	0	0	1	0	0	3	2	0	1
Gammaridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glyceridae	0	0	0	0	0	0	0	1	0	4	0	0	0	0	0	2	0	0
Golfingiidae	0	9	8	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0

Taxa	83	85	86	87	88	91	92	94	95	98	100	101	102	107	110	112	113	114
Goniadidae	1	2	0	1	1	1	1	0	3	0	2	1	0	1	1	1	0	3
Harrimaniidae	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hesionidae	0	2	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Hiatellidae	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0
Holothuroidea spp.	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
Idoteidae	0	0	0	0	0	1	0	0	0	1	7	1	0	0	42	101	5	0
Ischnochitonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ischyroceridae	0	123	148	0	0	1	6	0	0	0	0	0	0	0	1	0	0	1
Janiridae	0	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lampropidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lasaeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptanthuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptocheliidae	0	7	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
Leuconidae	0	2	0	1	1	0	2	2	0	0	2	1	0	0	7	2	6	2
Littorinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbrineridae	29	24	10	31	18	14	15	27	36	0	2	68	22	22	27	62	65	29
Lyonsiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lysianassidae	0	0	1	2	3	0	1	1	1	1	3	0	0	1	5	4	0	1
Mactridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Magelonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maldanidae	12	5	7	17	51	196	15	34	65	70	7	11	11	49	31	50	24	36
Melitidae	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Melphidippidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molgulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
Molpadiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montacutidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnidae	0	4	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Munnopsidae	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Taxa	83	85	86	87	88	91	92	94	95	98	100	101	102	107	110	112	113	114
Myidae	0	0	0	0	0	0	0	0	0	7	0	0	2	0	0	0	1	1
Mytilidae	1	9	16	0	0	1	8	2	1	1	54	2	0	0	20	60	38	5
Nannastacidae	0	2	0	9	6	0	0	0	0	0	0	0	0	0	0	0	0	0
Nassariidae	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0
Naticidae	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Nemertea	1	13	15	4	3	2	7	12	4	2	0	9	21	2	4	2	9	5
Nephtyidae	3	6	3	5	12	3	4	4	2	14	18	3	0	9	16	3	6	5
Nereididae	0	1	1	0	0	1	1	0	1	0	0	2	0	0	3	0	3	0
Nuculanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nuculidae	17	4	1	0	10	2	1	7	17	0	187	48	2	28	151	221	170	25
Nudibranchia spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nymphonidae	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Oedicerotidae	0	3	2	0	0	0	3	0	1	1	2	2	0	1	1	2	1	2
Oenonidae	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0
Oligochaeta	9	6	3	9	1	6	1	4	7	2	0	1	1	7	0	0	4	7
Onuphidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Opheliidae	1	1	4	0	0	0	0	1	1	0	0	1	0	2	9	1	0	1
Ophiactidae	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuridae	0	4	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuroidea juv.	0	1	4	0	0	0	6	1	1	0	0	0	0	4	1	1	0	0
Orbiniidae	5	1	0	4	1	0	0	4	13	0	4	26	2	5	7	13	33	3
Oweniidae	0	0	2	0	1	0	1	4	8	0	48	0	0	4	87	550	14	1
Paguridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pandoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramunnidae	0	6	13	0	0	0	3	0	0	0	0	0	0	2	3	1	1	0
Paraonidae	193	46	27	339	123	92	62	260	319	368	9	200	218	176	86	44	91	184
Pectinariidae	0	1	0	0	0	0	0	0	0	0	11	1	0	0	1	16	1	0
Pectinidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	4	1	0
Periplomatidae	12	0	3	2	3	2	1	6	11	0	0	9	2	10	3	5	7	6

Taxa	83	85	86	87	88	91	92	94	95	98	100	101	102	107	110	112	113	114
Pharidae	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
Phascolionidae	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	2	0
Phasianelidae	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pholoidae	2	8	2	0	1	3	3	1	4	1	0	5	0	0	12	6	10	3
Phoronidae	0	0	0	1	1	0	0	0	1	0	0	0	0	0	17	18	2	5
Photidae	0	7	1	0	0	0	2	0	0	0	0	0	0	1	0	18	0	1
Phoxichilidiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phoxocephalidae	5	8	6	4	4	1	7	5	3	1	0	6	1	19	9	9	2	19
Phyllodocidae	0	2	3	3	0	0	1	0	14	1	0	2	0	2	6	7	2	1
Phyllophoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pilargidae	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Pisionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pleustidae	0	0	1	0	0	0	3	0	0	0	0	1	0	1	2	13	0	0
Podoceridae	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Polygordiidae	0	0	0	0	0	0	0	0	1	1022	2	1	0	0	2	4	1	0
Polynoidae	0	3	7	0	0	0	2	0	1	1	0	0	0	3	1	2	4	3
Pseudocumatidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pyramidellidae	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Rissoidae	3	7	2	1	11	0	6	7	3	0	2	4	1	18	4	0	8	15
Sabellidae	11	15	16	10	10	1	9	15	32	2	3	20	9	23	13	10	31	15
Scalibregmatidae	0	8	2	0	0	0	0	0	4	0	0	0	0	0	3	7	5	2
Sigalionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
Sipuncula spp.	0	1	0	0	0	3	2	0	1	0	0	0	1	2	1	0	0	1
Sipunculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skeneopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solemyacidae	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0
Solenidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridae	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	2	0	0
Spionidae	101	27	23	60	32	19	8	72	180	9	6	313	90	304	332	367	331	159

Taxa	83	85	86	87	88	91	92	94	95	98	100	101	102	107	110	112	113	114
Spirorbidae	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stenothoidae	0	6	0	1	2	0	2	1	0	0	0	1	0	2	2	0	3	0
Sternaspidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Strongylocentrotidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Styelidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Syllidae	0	2	3	0	0	2	2	1	0	214	0	1	0	0	0	1	0	0
Synopiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanaissuidae	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Tellinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terebellidae	0	3	15	2	0	0	1	0	2	0	0	0	0	1	2	2	2	1
Thraciidae	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	1	0
Thyasiridae	8	7	3	4	11	3	5	11	54	0	9	44	3	39	17	13	71	44
Trichobranchidae	12	11	9	25	30	5	19	26	6	0	0	5	12	10	8	0	6	7
Trochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trochochaetidae	1	0	0	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0
Turbellaria	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
Turridae	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
Unciolidae	0	1	11	1	1	0	3	0	0	1	0	0	0	0	0	0	0	0
Uristidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
Velutinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Veneridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Yoldiidae	2	3	3	0	3	2	2	1	1	0	0	4	1	5	0	2	2	0

Taxa	116	117	119	120	121	123	126	127	128	129	130	132	133	135	137	138	139	140
Copepoda	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
Nematoda	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P
Ostracoda	P	P	P	A	P	A	P	P	A	P	P	P	A	A	A	P	P	A
Ampeliscidae	4	1	6	2	3	0	0	2	0	0	1	1	4	2	0	1	0	0
Ampharetidae	215	39	42	27	40	21	48	2	19	6	19	41	34	6	41	9	11	4
Amphilochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphipoda spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anomiidae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anthozoa	0	7	0	0	10	3	3	0	0	3	0	0	1	1	0	0	0	0
Anthuridae	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0
Aphroditidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apistobranchidae	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Arcticidae	2	21	18	10	1	1	1	2	0	0	0	0	3	4	0	1	4	0
Argissidae	0	3	0	0	1	0	0	0	0	0	0	1	1	0	0	1	1	0
Ascidiacea juv.	1	4	2	0	3	0	6	0	0	3	5	5	0	0	0	11	0	0
Astartidae	2	4	0	1	1	0	12	0	0	0	0	1	0	1	0	0	0	0
Asteriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asteroidea juv.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Axiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balanidae	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Bivalvia spp.	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Bodotriidae	0	0	0	0	0	0	0	0	10	2	0	0	0	2	0	0	0	0
Buccinidae	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Calyptraeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Cancridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capitellidae	3	0	1	0	0	0	1	0	2	4	0	4	3	1	2	0	0	0
Caprellidae	5	0	0	0	2	1	0	0	0	0	1	0	0	0	1	0	0	0

Taxa	116	117	119	120	121	123	126	127	128	129	130	132	133	135	137	138	139	140
Cardiidae	0	51	1	3	2	6	20	0	0	1	1	10	21	24	3	14	19	2
Carditidae	1	1	8	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Chaetiliidae	0	3	3	1	0	2	0	0	0	4	0	0	3	0	1	0	0	18
Chaetodermatidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetopteridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cheirocratidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirolanidae	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	9	1	1
Cirratulidae	15	0	0	0	3	0	0	0	10	16	14	136	7	0	70	2	8	0
Columbellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corambidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corophiidae	0	154	12	79	38	167	59	10	0	1	1	2	17	4	0	31	20	2
Cossuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crangonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ctenodiscidae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cuspidariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cylichnidae	7	2	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
Dentaliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diaphanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diastylidae	5	76	13	33	12	15	43	9	35	7	0	0	17	15	1	83	21	1
Dorvilleidae	1	0	0	0	0	0	0	0	0	0	5	1	0	0	7	0	0	23
Dulichiidae	2	1	2	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
Echinarachniidae	0	15	3	0	4	4	2	4	7	9	6	2	4	2	0	2	2	0
Faceliniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flabelligeridae	4	0	1	0	0	0	1	0	1	0	1	0	2	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Glyceridae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Golfingiidae	0	0	0	1	118	1	0	0	0	0	0	0	0	0	0	0	0	0

Taxa	116	117	119	120	121	123	126	127	128	129	130	132	133	135	137	138	139	140
Goniadidae	2	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Harrimaniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Hesionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hiatellidae	0	0	0	0	0	0	0	0	0	2	0	0	0	6	0	0	0	0
Holothuroidea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Idoteidae	0	65	27	2	6	0	0	1	5	4	0	0	2	0	1	0	2	0
Ischnochitonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ischyroceridae	0	8	4	0	17	3	2	0	0	0	0	0	0	0	0	0	0	0
Janiridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lampropidae	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lasaeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptanthuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptocheliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leuconidae	0	13	11	2	12	3	11	0	1	0	0	0	3	0	0	1	0	0
Littorinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbrineridae	16	3	3	0	2	0	0	4	5	3	0	5	0	0	0	0	1	0
Lyonsiidae	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0
Lysianassidae	0	7	3	9	2	6	6	1	0	1	2	0	5	0	3	10	8	3
Mactridae	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Magelonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maldanidae	54	14	2	26	68	55	53	4	9	0	32	28	7	7	144	8	5	31
Melitidae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Melphidippidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molgulidae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molpadiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montacutidae	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Munnidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnopsidae	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

Taxa	116	117	119	120	121	123	126	127	128	129	130	132	133	135	137	138	139	140
Myidae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mytilidae	5	0	39	1	1	0	0	1	2	27	0	1	0	0	0	0	0	1
Nannastacidae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nassariidae	0	2	0	0	0	1	0	0	3	0	0	0	0	0	0	1	1	0
Naticidae	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemertea	0	0	0	0	5	0	0	1	1	0	0	1	0	0	0	0	0	0
Nephtyidae	1	37	20	14	10	21	8	7	3	5	1	5	7	7	5	4	8	2
Nereididae	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Nuculanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nuculidae	21	11	141	3	0	0	2	0	2	2	0	1	26	0	0	0	0	0
Nudibranchia spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nymphonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oedicerotidae	1	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oenonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	7
Oligochaeta	1	0	0	0	0	0	0	0	0	0	0	2	0	0	14	0	0	2
Onuphidae	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Opheliidae	0	3	2	2	0	0	4	0	0	0	0	0	1	0	0	0	0	0
Ophiactidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuridae	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuroidea juv.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Orbiniidae	4	1	1	1	1	2	3	8	9	4	7	3	3	2	1	9	9	0
Oweniidae	14	142	6	35	13	13	4	0	0	1	0	0	9	13	0	0	0	0
Paguridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pandoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramunnidae	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Paraonidae	112	1	14	1	1	1	0	33	104	17	34	29	16	17	79	1	1	84
Pectinariidae	0	18	9	0	0	5	4	0	0	0	0	0	10	5	0	0	0	0
Pectinidae	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Periplomatidae	13	0	1	0	0	0	0	0	2	0	0	0	8	0	0	0	0	0

Taxa	116	117	119	120	121	123	126	127	128	129	130	132	133	135	137	138	139	140
Pharidae	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Phascolionidae	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
Phasianelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Pholoidae	4	3	0	0	8	0	2	0	0	0	0	0	1	0	0	0	0	0
Phoronidae	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
Photidae	0	0	2	0	2	0	0	0	0	1	0	0	2	0	0	1	0	0
Phoxichilidiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phoxocephalidae	9	1	2	0	1	8	14	0	0	2	0	13	16	7	0	3	2	1
Phyllodocidae	0	3	1	1	3	2	0	0	2	0	0	0	0	0	0	0	0	1
Phyllophoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pilargidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pisionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pleustidae	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Podoceridae	0	0	0	0	0	0	0	0	5	1	0	0	1	4	0	0	0	0
Polygordiidae	0	1	0	0	0	1	2	0	1	1	33	5	1	0	81	2	5	51
Polynoidae	0	4	2	0	4	0	2	2	11	0	0	0	0	0	0	0	0	1
Pseudocumatidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pyramidellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rissoidae	28	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sabellidae	8	7	4	2	10	0	2	0	0	0	0	0	5	0	1	0	0	0
Scalibregmatidae	0	0	0	0	1	0	2	1	0	0	2	9	0	0	9	1	0	0
Sigalionidae	0	1	2	0	0	0	1	0	0	12	0	0	1	1	0	0	1	0
Sipuncula spp.	6	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Sipunculidae	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skeneopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solemyacidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solenidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spionidae	95	4	8	12	24	8	7	9	8	4	0	7	21	3	9	2	10	6

Taxa	116	117	119	120	121	123	126	127	128	129	130	132	133	135	137	138	139	140
Spirorbidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stenothoidae	2	0	1	1	4	1	1	0	2	0	0	0	1	0	0	0	0	0
Sternaspidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Strongylocentrotidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Styelidae	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syllidae	1	0	0	4	10	1	0	0	0	0	65	124	0	1	51	0	3	53
Synopiidae	0	1	0	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0
Tanaissuidae	0	0	0	3	0	5	0	1	0	0	3	0	1	0	0	2	0	1
Tellinidae	0	0	0	0	0	0	0	0	0	12	0	1	1	0	0	0	0	0
Terebellidae	2	0	0	0	4	1	0	0	0	0	1	0	0	0	0	0	0	0
Thraciidae	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
Thyasiridae	42	1	9	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Trichobranchidae	18	0	0	1	0	0	22	0	0	0	0	0	0	0	0	0	0	0
Trochidae	0	2	1	5	0	2	1	0	0	0	0	0	0	0	0	0	0	0
Trochochaetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turbellaria	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0
Turridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unciolidae	0	9	5	19	1	5	78	120	9	2	8	15	1	34	79	57	54	10
Uristidae	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0
Velutinidae	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
Veneridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yoldiidae	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Taxa	141	143	144	145	146	148	149	150	152	153	154	156	158	159	160	161	163	164
Copepoda	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P
Nematoda	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Ostracoda	A	A	A	P	A	P	P	P	A	P	P	P	P	P	P	P	P	P
Ampeliscidae	0	0	0	1	0	0	0	0	0	7	1	0	1	3	3	1	0	9
Ampharetidae	8	11	6	48	34	178	5	47	37	14	23	26	23	22	49	25	28	101
Amphilochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphipoda spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anomiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Anthozoa	0	0	2	0	2	3	2	1	0	0	0	0	0	4	3	4	0	4
Anthuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
Aphroditidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apistobranchidae	0	0	0	0	0	0	0	0	0	0	0	0	0	3	21	0	0	5
Arcticidae	0	2	4	1	1	0	0	0	0	4	1	6	19	3	8	7	2	14
Argissidae	0	0	0	3	0	0	0	0	0	1	2	0	0	0	5	1	0	7
Ascidiacea juv.	0	0	0	0	0	0	0	0	0	0	9	0	0	0	3	10	2	0
Astartidae	0	0	0	1	0	0	0	0	1	1	0	0	2	2	6	0	9	48
Asteriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asteroidea juv.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Axiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8	0
Bivalvia spp.	0	0	0	0	0	17	0	0	10	0	1	0	0	0	0	0	0	1
Bodotriidae	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
Buccinidae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Calyptraeidae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cancridae	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
Capitellidae	0	0	7	29	0	8	39	1	3	0	0	2	0	33	7	0	0	4
Caprellidae	0	0	0	0	0	0	0	0	0	0	0	1	0	0	5	3	3	2

Taxa	141	143	144	145	146	148	149	150	152	153	154	156	158	159	160	161	163	164
Cardiidae	13	45	0	25	15	23	1	25	11	10	3	15	2	1	6	7	5	6
Carditidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Chaetiliidae	2	0	0	0	4	27	0	1	0	0	3	2	5	0	0	3	0	0
Chaetodermatidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetopteridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cheirocratidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirolanidae	0	3	1	0	0	0	0	0	2	0	2	1	1	0	0	1	0	0
Cirratulidae	35	8	208	51	20	89	71	49	25	0	1	1	0	147	11	0	2	11
Columbellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corambidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corophiidae	0	33	6	3	0	2	0	0	0	29	7	1	19	1	2	118	133	13
Cossuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crangonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ctenodiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Cuspidariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cylichnidae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Dentaliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diaphanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diastylidae	0	15	0	2	0	7	1	2	0	10	30	17	39	3	6	36	8	8
Dorvilleidae	0	0	0	0	5	1	0	1	12	0	0	0	0	0	0	0	0	1
Dulichiidae	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	1	3
Echinarachniidae	14	6	2	0	0	0	0	1	0	1	0	5	20	0	3	0	2	0
Faceliniidae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flabelligeridae	0	0	0	1	0	2	8	0	0	0	0	0	0	1	0	0	0	2
Gammaridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Glyceridae	1	0	0	0	0	0	0	0	4	0	1	0	0	0	0	0	1	0
Golfingiidae	0	0	0	0	0	0	0	0	0	0	0	0	3	0	72	26	125	30

Taxa	141	143	144	145	146	148	149	150	152	153	154	156	158	159	160	161	163	164
Goniadidae	0	0	0	4	0	0	0	0	1	0	0	1	3	1	1	0	0	1
Harrimaniidae	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Haustoriidae	0	3	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
Hesionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hiatellidae	0	0	0	0	1	4	0	3	0	0	0	4	1	4	0	0	0	0
Holothuroidea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Idoteidae	3	0	0	1	0	0	0	0	0	0	0	4	11	3	2	0	0	11
Ischnochitonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ischyroceridae	0	0	0	0	0	0	0	0	5	3	1	0	0	0	0	9	12	2
Janiridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lampropidae	0	0	0	1	0	0	0	0	0	0	0	2	0	0	1	0	0	0
Lasaeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptanthuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptocheliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leuconidae	0	0	0	1	0	0	0	0	0	2	0	3	2	0	3	3	6	6
Littorinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbrineridae	0	1	2	46	2	0	29	0	0	2	0	0	2	62	14	0	0	11
Lyonsiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Lysianassidae	3	0	0	0	0	5	0	1	1	10	0	1	9	2	3	7	0	0
Mactridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Magelonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maldanidae	16	4	70	1	185	32	1	23	101	5	3	6	0	14	37	34	33	12
Melitidae	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	0
Melphidippidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molgulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	1	0
Molpadiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montacutidae	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Munnidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Munnopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13

Taxa	141	143	144	145	146	148	149	150	152	153	154	156	158	159	160	161	163	164
Myidae	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mytilidae	0	4	0	2	0	10	1	0	6	2	1	0	1	14	2	1	1	42
Nannastacidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Nassariidae	0	0	0	0	0	2	0	0	3	0	0	1	0	2	0	0	0	0
Naticidae	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Nemertea	0	0	0	2	0	1	16	0	0	0	1	0	0	6	1	0	1	4
Nephtyidae	2	7	2	0	2	3	1	2	5	4	8	4	6	4	10	12	29	12
Nereididae	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2
Nuculanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nuculidae	0	0	0	25	0	0	0	0	0	1	1	1	88	202	24	0	0	40
Nudibranchia spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Nymphonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oedicerotidae	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	1
Oenonidae	4	0	0	0	5	0	0	9	0	0	0	0	0	0	0	0	0	0
Oligochaeta	1	0	1	0	3	3	0	0	0	0	0	0	0	1	0	0	0	0
Onuphidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Opheliidae	0	0	1	5	0	0	0	0	0	1	0	0	0	5	2	1	3	2
Ophiactidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Ophiuroidea juv.	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Orbiniidae	1	11	2	25	2	12	4	1	0	0	0	2	0	14	7	1	2	8
Oweniidae	0	0	0	18	0	0	2	0	2	3	5	7	39	572	8	31	7	18
Paguridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Pandoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramunnidae	0	0	0	3	0	2	0	0	0	1	0	0	0	5	3	1	0	0
Paraonidae	47	15	63	51	130	283	14	49	38	1	1	28	6	39	17	2	0	10
Pectinariidae	0	1	0	1	0	0	0	0	0	0	0	9	7	0	2	0	0	0
Pectinidae	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	2	2	1
Periplomatidae	0	0	3	7	0	0	4	0	0	0	0	0	0	23	1	0	0	0

Taxa	141	143	144	145	146	148	149	150	152	153	154	156	158	159	160	161	163	164
Pharidae	0	6	0	3	1	6	0	1	0	0	0	3	0	0	0	0	0	0
Phascolionidae	0	0	0	0	0	0	0	0	0	1	0	0	0	0	6	0	2	0
Phasianelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pholoidae	0	0	0	2	0	2	0	0	0	0	0	0	1	7	10	3	2	7
Phoronidae	0	0	0	0	0	0	3	1	0	0	0	0	0	2	0	0	0	1
Photidae	0	0	0	1	0	0	0	0	0	0	0	3	0	1	0	0	0	0
Phoxichilidiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phoxocephalidae	0	3	2	7	2	0	0	1	0	5	0	5	5	4	2	2	1	2
Phyllodocidae	1	3	0	0	0	16	1	4	2	1	0	1	0	2	0	1	16	1
Phyllophoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pilargidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pisionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pleustidae	5	0	0	0	1	0	0	0	1	0	2	2	0	13	0	0	1	0
Podoceridae	0	0	0	0	0	12	0	1	0	0	0	0	0	0	0	0	0	0
Polygordiidae	11	4	35	0	9	33	0	115	63	0	2	2	1	1	1	1	0	0
Polynoidae	0	2	0	0	0	2	1	3	0	2	1	0	0	1	4	3	4	2
Pseudocumatidae	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0
Pyramidellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
Rissoidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
Sabellidae	1	0	0	1	1	1	1	0	1	0	0	0	2	5	0	0	0	8
Scalibregmatidae	1	0	7	1	4	3	0	6	10	3	0	0	0	3	3	0	0	2
Sigalionidae	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Sipuncula spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1
Sipunculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skeneopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solemyacidae	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Solenidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0
Spionidae	7	3	5	162	0	29	22	0	8	6	1	8	3	72	48	14	14	32

Taxa	141	143	144	145	146	148	149	150	152	153	154	156	158	159	160	161	163	164
Spirorbidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stenothoidae	0	0	0	3	0	0	0	0	0	0	0	0	8	0	2	0	2	3
Sternaspidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Strongylocentrotidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Styelidae	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Syllidae	98	0	237	1	72	159	0	180	31	0	0	2	0	14	0	3	24	4
Synopiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanaissuidae	10	2	37	0	2	1	0	7	0	0	1	7	0	0	0	1	0	0
Tellinidae	0	0	0	0	0	0	0	1	0	0	0	5	0	0	0	0	0	0
Terebellidae	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	8	2
Thraciidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Thyasiridae	1	0	0	0	0	0	0	0	0	0	0	0	7	3	11	0	0	15
Trichobranchidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Trochidae	0	0	0	0	0	0	0	0	0	7	2	0	0	0	0	4	3	3
Trochochaetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turbellaria	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0
Turridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Unciolidae	27	2	47	3	25	16	0	24	259	7	25	22	2	1	3	24	12	1
Uristidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Velutinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Veneridae	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0
Yoldiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Taxa	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	184
Copepoda	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A
Nematoda	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P
Ostracoda	P	P	P	A	P	P	P	P	P	A	A	P	P	P	P	P	P	A
Ampeliscidae	6	0	4	4	0	1	8	4	2	4	5	9	3	8	6	0	3	2
Ampharetidae	286	89	112	99	61	55	206	118	91	72	55	119	82	92	71	56	57	53
Amphilochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphipoda spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anomiidae	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anthozoa	0	0	1	0	0	1	3	1	1	2	0	0	0	0	0	0	0	0
Anthuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aphroditidae	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
Apistobranchidae	6	2	0	0	0	0	5	4	0	0	1	1	0	0	0	0	0	0
Arcticidae	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Argissidae	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Ascidiacea juv.	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0
Astartidae	14	0	1	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0
Asteriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asteroidea juv.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Axiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bivalvia spp.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Bodotriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buccinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Calyptraeidae	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Cancridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capitellidae	17	3	1	1	4	0	9	10	4	4	4	6	8	6	9	9	9	7
Caprellidae	15	6	2	0	1	0	6	3	0	0	0	0	0	0	0	0	1	0

Taxa	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	184
Cardiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Carditidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetiliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetodermatidae	2	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Chaetopteridae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Cheirocratidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirolanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirratulidae	12	4	10	4	16	0	35	10	8	2	22	11	16	11	7	14	4	10
Columbellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corambidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corophiidae	1	1	0	2	0	0	0	0	1	0	0	0	0	0	0	1	0	0
Cossuridae	6	0	1	1	3	0	0	1	1	3	5	1	12	5	0	1	1	5
Crangonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ctenodiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cuspidariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cylichnidae	9	2	3	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0
Dentaliidae	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diaphanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diastylidae	4	8	5	4	0	0	2	1	2	0	0	0	0	1	0	0	1	0
Dorvilleidae	3	0	0	0	0	0	0	1	1	0	0	0	1	2	0	1	0	0
Dulichiidae	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Echinarachniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Faceliniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flabelligeridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Glyceridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Golfingiidae	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

Taxa	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	184
Goniadidae	2	2	0	0	2	1	1	0	2	0	0	0	0	0	0	0	0	0
Harrimaniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hesionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hiatellidae	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Holothuroidea spp.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Idoteidae	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
Ischnochitonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ischyroceridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Janiridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lampropidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lasaeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptanthuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptocheliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leuconidae	2	3	2	0	1	0	1	0	2	1	1	1	0	1	1	0	0	0
Littorinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbrineridae	9	7	16	12	9	13	30	13	14	14	5	21	15	10	16	17	20	19
Lyonsiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lysianassidae	1	1	0	0	2	0	0	0	0	0	1	4	0	5	1	0	1	0
Mactridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Magelonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maldanidae	61	19	32	25	92	24	63	49	36	65	21	68	40	127	194	16	134	22
Melitidae	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Melphidippidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molgulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molpadiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montacutidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Taxa	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	184
Myidae	1	0	1	2	0	0	2	0	0	0	0	0	1	0	0	0	0	0
Mytilidae	7	1	1	0	0	0	9	1	1	0	0	0	0	0	0	0	0	0
Nannastacidae	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Nassariidae	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Naticidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemertea	25	0	2	0	4	2	8	16	1	1	4	4	2	9	4	3	9	1
Nephtyidae	7	8	8	7	1	0	5	2	3	3	1	1	3	0	0	1	0	0
Nereididae	1	0	1	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0
Nuculanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nuculidae	33	8	14	4	6	6	43	7	8	0	3	3	0	1	2	0	0	1
Nudibranchia spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nymphonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oedicerotidae	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
Oenonidae	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Oligochaeta	0	0	0	0	0	0	4	0	0	0	0	0	2	0	0	0	1	0
Onuphidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Opheliidae	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	1	0
Ophiactidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuridae	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuroidea juv.	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
Orbiniidae	4	5	0	3	0	0	11	2	1	0	3	0	3	0	0	1	0	3
Oweniidae	19	0	17	0	1	1	57	1	3	1	0	1	2	1	0	0	2	1
Paguridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pandoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramunnidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paraonidae	152	98	94	0	111	58	174	131	89	110	137	107	281	152	114	156	111	200
Pectinariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pectinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Periplomatidae	29	5	7	5	3	3	17	8	7	2	6	3	2	4	1	4	2	5

Taxa	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	184
Pharidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phascolionidae	1	0	0	0	0	0	4	0	0	0	0	0	2	0	0	0	0	0
Phasianelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pholoidae	1	1	0	1	0	2	2	0	1	1	0	0	0	0	0	0	0	0
Phoronidae	5	0	1	0	0	4	1	1	9	1	0	0	0	0	0	0	0	0
Photidae	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	1	0	1
Phoxichilidiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phoxocephalidae	20	7	15	13	13	5	5	11	15	4	6	5	8	12	4	1	2	1
Phyllodocidae	4	0	0	0	0	1	4	0	0	0	0	1	1	0	0	2	0	0
Phyllophoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pilargidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pisionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pleustidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Podoceridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polygordiidae	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polynoidae	1	1	0	1	1	0	2	2	0	0	0	1	2	0	0	0	0	0
Pseudocumatidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pyramidellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rissoidae	20	9	22	19	0	1	9	5	4	0	1	2	2	0	1	1	0	0
Sabellidae	24	12	8	0	0	0	36	8	0	3	2	3	20	4	0	4	5	4
Scalibregmatidae	0	1	2	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0
Sigalionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sipuncula spp.	4	2	1	0	0	0	9	0	0	0	0	0	1	0	0	2	1	0
Sipunculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skeneopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solemyacidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solenidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridae	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Spionidae	161	43	36	20	8	6	212	75	42	16	6	24	93	15	17	53	30	37

Taxa	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	184
Spirorbidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stenothoidae	1	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sternaspidae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Strongylocentrotidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Styelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syllidae	1	0	0	0	1	0	2	0	0	0	0	0	1	0	0	0	0	0
Synopiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanaissuidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tellinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terebellidae	1	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0
Thraciidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thyasiridae	65	20	37	31	13	22	60	18	26	12	11	12	12	6	12	16	11	4
Trichobranchidae	15	4	6	5	6	7	16	9	5	11	17	11	12	5	9	10	10	20
Trochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trochochaetidae	1	0	0	0	0	0	0	2	0	2	4	0	1	0	0	0	0	0
Turbellaria	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Turridae	0	2	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Unciolidae	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Uristidae	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Velutinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Veneridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yoldiidae	7	1	3	4	0	2	1	3	0	1	0	1	0	1	1	2	0	0

Taxa	186	187	188	189	190	192	194	195	196	198	199	200	201	202	203	204	205	206
Copepoda	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P
Nematoda	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A
Ostracoda	P	a	P	P	P	P	P	A	A	P	A	A	P	P	P	P	A	A
Ampeliscidae	0	0	0	0	2	0	3	2	0	2	1	0	1	3	0	2	1	1
Ampharetidae	33	87	118	56	80	131	165	19	71	154	88	96	165	150	106	94	99	91
Amphilochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Amphipoda spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anomiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anthozoa	0	0	1	0	2	1	1	1	1	1	2	1	1	0	0	3	0	1
Anthuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aphroditidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apistobranchidae	7	8	32	5	0	0	1	0	0	0	0	1	1	0	0	0	0	0
Arcticidae	2	0	0	0	0	1	3	0	1	0	0	0	0	0	0	1	0	1
Argissidae	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Ascidiacea juv.	6	0	1	0	2	0	4	0	0	1	0	0	0	0	0	0	0	1
Astartidae	0	1	0	0	4	0	1	0	0	11	1	0	0	0	0	0	0	0
Asteriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asteroidea juv.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Axiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bivalvia spp.	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
Bodotriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
Buccinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Calyptraeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cancridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capitellidae	4	13	22	0	1	4	3	7	5	20	4	24	7	5	6	7	2	2
Caprellidae	3	1	0	1	0	0	4	0	4	4	0	0	0	1	4	0	1	1

Taxa	186	187	188	189	190	192	194	195	196	198	199	200	201	202	203	204	205	206
Cardiidae	0	0	0	1	0	0	0	0	1	4	1	0	0	1	0	13	0	0
Carditidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetiliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Chaetodermatidae	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
Chaetopteridae	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Cheirocratidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirolanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirratulidae	18	44	134	44	26	16	43	6	24	33	5	19	17	15	9	23	20	16
Columbellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corambidae	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corophiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cossuridae	0	1	0	0	1	2	0	1	0	0	0	2	4	5	2	0	0	3
Crangonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ctenodiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cuspidariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cylichnidae	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Dentaliidae	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	2	0	0
Diaphanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diastylidae	0	1	0	1	0	0	2	3	0	5	5	0	2	0	0	5	0	0
Dorvilleidae	0	0	1	0	0	0	1	0	0	0	0	0	2	0	0	1	0	0
Dulichiidae	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Echinarachniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Faceliniidae	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Flabelligeridae	0	0	1	0	0	0	1	0	1	1	0	0	1	0	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	0	0
Glyceridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Golfingiidae	2	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0

Taxa	186	187	188	189	190	192	194	195	196	198	199	200	201	202	203	204	205	206
Goniadidae	1	0	0	0	0	0	1	0	2	1	0	1	1	0	0	0	0	0
Harrimaniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hesionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hiatellidae	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Holothuroidea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0
Idoteidae	3	15	2	4	1	2	3	1	0	3	0	1	0	0	0	0	0	0
Ischnochitonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ischyroceridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Janiridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lampropidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lasaeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptanthuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptocheliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leuconidae	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0
Littorinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbrineridae	12	22	22	29	24	36	30	8	23	48	43	44	45	42	40	45	40	35
Lyonsiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lysianassidae	0	0	0	0	1	2	5	0	0	0	1	0	2	2	0	0	2	0
Mactridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Magelonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maldanidae	26	33	45	29	16	154	21	9	30	54	52	14	20	86	33	15	2	4
Melitidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Melphidippidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molgulidae	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
Molpadiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Montacutidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Taxa	186	187	188	189	190	192	194	195	196	198	199	200	201	202	203	204	205	206
Myidae	4	5	0	1	0	0	0	0	3	0	0	2	9	1	1	0	1	2
Mytilidae	0	0	2	17	1	2	8	0	0	10	0	0	1	2	0	0	0	0
Nannastacidae	0	0	0	2	1	0	4	0	0	4	0	0	5	0	1	6	2	1
Nassariidae	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Naticidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemertea	5	5	10	2	3	5	3	3	6	7	3	4	6	4	4	2	4	4
Nephtyidae	2	1	2	4	1	2	6	1	2	2	2	1	5	3	3	3	1	6
Nereididae	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
Nuculanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nuculidae	16	58	16	41	9	25	59	10	10	56	8	11	18	14	2	7	5	1
Nudibranchia spp.	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Nymphonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oedicerotidae	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0
Oenonidae	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Oligochaeta	0	1	1	1	1	1	1	0	0	4	2	0	3	0	0	2	0	1
Onuphidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Opheliidae	2	1	0	1	1	0	0	0	0	0	0	1	0	0	0	1	0	1
Ophiactidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuroidea juv.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0
Orbiniidae	5	14	13	7	1	3	3	0	8	13	3	8	0	0	2	7	2	0
Oweniidae	12	26	19	25	2	1	12	0	1	6	4	4	7	0	4	0	0	0
Paguridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pandoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramunnidae	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
Paraonidae	31	32	97	22	27	12	25	14	54	121	36	58	64	35	40	62	35	37
Pectinariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pectinidae	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Periplomatidae	7	20	9	18	27	12	31	0	8	49	9	6	14	18	8	0	1	1

Taxa	186	187	188	189	190	192	194	195	196	198	199	200	201	202	203	204	205	206
Pharidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phascolionidae	0	0	0	0	1	1	0	0	0	1	0	0	1	0	0	0	0	0
Phasianelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pholoidae	5	0	3	0	2	4	1	0	1	3	0	0	2	0	0	0	0	0
Phoronidae	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
Photidae	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Phoxichilidiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phoxocephalidae	0	2	5	3	2	1	6	0	4	4	1	2	9	1	4	4	2	1
Phyllodocidae	0	6	0	1	2	2	4	0	1	1	0	3	0	2	4	0	0	0
Phyllophoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pilargidae	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Pisionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pleustidae	0	2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Podoceridae	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0
Polygordiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polynoidae	0	0	1	2	1	2	1	1	2	1	0	1	0	1	2	0	0	0
Pseudocumatidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pyramidellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rissoidae	11	3	11	0	1	3	1	12	3	23	6	0	15	7	0	22	1	2
Sabellidae	7	10	13	7	5	5	13	3	5	22	6	2	10	2	0	2	0	1
Scalibregmatidae	1	2	3	0	3	2	3	1	1	2	1	0	0	0	0	0	1	0
Sigalionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sipuncula spp.	1	3	0	1	2	1	0	0	0	1	0	0	1	1	0	0	0	0
Sipunculidae	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Skeneopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solemyacidae	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solenidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridae	0	1	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0
Spionidae	51	75	162	90	24	60	75	7	32	78	39	64	42	29	40	30	5	15

Taxa	186	187	188	189	190	192	194	195	196	198	199	200	201	202	203	204	205	206
Spirorbidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stenothoidae	1	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0
Sternaspidae	0	6	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Strongylocentrotidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Styelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syllidae	0	0	0	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0
Synopiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanaissuidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tellinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terebellidae	1	0	1	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0
Thraciidae	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Thyasiridae	25	49	34	23	31	23	43	5	23	36	20	23	33	15	5	8	0	0
Trichobranchidae	13	11	16	11	6	16	11	3	13	34	14	19	30	0	22	23	22	17
Trochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trochochaetidae	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0	1	0	0
Turbellaria	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Turridae	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
Unciolidae	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Uristidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Velutinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Veneridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yoldiidae	1	1	0	0	0	0	1	0	0	2	0	1	4	5	0	4	0	0

Taxa	207	208	209	210	211	212	213	216	226	227	229	230	233	237	245	246	247	248
Copepoda	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Nematoda	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Ostracoda	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Ampeliscidae	0	0	1	3	1	3	3	0	1	1	4	4	0	0	1	4	2	1
Ampharetidae	33	91	32	60	175	74	91	239	208	48	71	69	30	26	42	46	68	59
Amphilochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinomidae	0	0	0	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0
Amphipoda spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anomiidae	0	0	0	0	0	8	1	1	0	0	0	0	0	0	0	0	0	0
Anthozoa	0	0	5	2	0	2	1	3	3	10	4	3	2	0	4	2	4	0
Anthuridae	0	0	0	0	0	0	0	0	0	1	0	2	1	0	0	0	0	0
Aphroditidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apistobranchidae	0	0	0	0	0	0	0	0	10	0	0	0	2	1	0	0	0	0
Arcticidae	0	0	1	0	1	0	1	0	0	0	3	7	1	5	1	0	0	0
Argissidae	0	0	0	1	1	3	2	0	0	2	0	1	0	2	0	1	0	0
Ascidiacea juv.	0	0	0	1	0	0	0	0	0	3	0	1	0	0	1	0	0	0
Astartidae	0	0	0	10	0	1	5	8	0	5	17	5	19	59	0	1	1	0
Asteriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asteroidea juv.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Axiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bivalvia spp.	0	0	0	0	0	1	0	0	0	0	0	2	0	1	0	0	0	0
Bodotriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buccinidae	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Calyptraeidae	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0
Cancridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capitellidae	4	7	3	12	4	3	3	17	7	13	4	10	27	12	6	2	4	2
Caprellidae	0	1	1	26	4	15	2	0	0	2	0	0	1	0	2	0	0	0

Taxa	207	208	209	210	211	212	213	216	226	227	229	230	233	237	245	246	247	248
Cardiidae	0	1	0	10	3	10	2	1	1	0	5	1	2	3	0	1	0	0
Carditidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetiliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetodermatidae	0	0	0	1	1	0	3	0	2	1	0	0	0	0	1	0	0	0
Chaetopteridae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cheirocratidae	0	0	0	0	0	0	0	0	0	0	1	2	1	1	1	0	0	1
Cirolanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirratulidae	22	28	15	12	46	11	10	33	43	30	11	37	103	87	10	15	37	29
Columbellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corambidae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Corophiidae	0	0	0	3	0	13	2	1	0	0	2	1	0	1	0	1	0	0
Cossuridae	1	2	1	1	0	1	3	0	3	2	0	0	0	0	0	1	2	1
Crangonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ctenodiscidae	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0	2	1	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cuspidariidae	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Cylichnidae	0	0	0	3	0	1	1	0	1	2	0	0	0	0	0	2	0	0
Dentaliidae	0	0	0	2	1	0	1	1	1	1	0	1	0	2	0	1	1	2
Diaphanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diastylidae	0	0	1	3	2	5	12	1	4	3	3	5	0	6	0	3	1	1
Dorvilleidae	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Dulichiidae	0	0	0	0	0	2	1	0	1	0	0	0	1	0	1	0	0	0
Echinarachniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Faceliniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flabelligeridae	0	0	0	0	2	2	2	6	1	0	2	2	1	2	0	2	0	0
Gammaridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	1	1	0	1	0	0	0	0	0	3	0	0	0	0	0
Glyceridae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Golfingiidae	0	0	0	6	0	1	5	0	0	0	0	0	0	0	0	0	0	0

Taxa	207	208	209	210	211	212	213	216	226	227	229	230	233	237	245	246	247	248
Goniadidae	1	0	0	0	1	1	1	0	0	2	1	2	0	0	1	0	0	0
Harrimaniidae	0	0	1	7	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hesionidae	0	0	0	14	0	6	1	1	0	0	0	0	0	0	0	0	0	0
Hiatellidae	0	0	0	5	0	1	1	0	0	0	0	0	0	0	0	0	0	0
Holothuroidea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Idoteidae	0	0	0	0	0	0	0	3	6	2	6	1	20	13	0	0	1	0
Ischnochitonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ischyroceridae	0	0	0	2	0	3	2	0	0	0	0	0	0	0	0	0	0	0
Janiridae	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Lampropidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lasaeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptanthuridae	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptocheliidae	0	0	0	44	0	10	1	0	0	0	0	0	0	0	0	0	0	0
Leuconidae	0	0	0	1	0	4	1	2	3	1	1	1	2	3	2	0	1	0
Littorinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbrineridae	42	36	18	21	17	15	11	32	17	19	25	34	25	50	16	15	17	17
Lyonsiidae	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Lysianassidae	0	0	2	0	0	0	1	2	1	6	1	10	0	0	2	1	0	0
Mactridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Magelonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maldanidae	10	9	15	7	6	7	12	117	18	47	10	26	3	6	77	20	33	29
Melitidae	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Melphidippidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molgulidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molpadiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montacutidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnidae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnopsidae	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0

Taxa	207	208	209	210	211	212	213	216	226	227	229	230	233	237	245	246	247	248
Myidae	0	4	0	0	0	0	0	0	0	1	0	2	2	2	0	20	0	0
Mytilidae	1	1	0	16	2	7	7	6	1	46	31	19	4	7	27	0	5	6
Nannastacidae	0	0	0	0	0	4	7	1	2	1	8	3	2	2	0	3	0	0
Nassariidae	0	0	0	0	0	0	0	1	0	1	2	0	0	1	0	0	0	0
Naticidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemertea	4	9	3	3	6	1	2	6	10	3	3	8	9	4	0	12	2	2
Nephtyidae	2	3	3	2	2	3	5	2	3	2	0	7	2	5	2	2	7	3
Nereididae	0	0	0	3	3	1	0	3	0	1	5	3	8	1	1	2	0	0
Nuculanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nuculidae	0	3	3	1	5	3	7	36	10	86	46	38	65	83	39	19	12	4
Nudibranchia spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nymphonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oedicerotidae	0	0	1	0	0	3	0	0	0	0	1	0	0	1	0	0	0	0
Oenonidae	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Oligochaeta	0	0	0	2	2	0	0	2	2	0	0	0	0	0	0	0	2	1
Onuphidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Opheliidae	0	0	0	2	0	0	0	0	0	0	1	1	1	0	2	1	0	0
Ophiactidae	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuridae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Ophiuroidea juv.	0	0	0	0	0	3	0	0	1	1	0	0	0	0	0	0	0	0
Orbiniidae	11	6	2	0	6	0	1	5	6	8	3	6	7	16	4	2	4	2
Oweniidae	0	0	0	0	2	0	1	0	2	2	3	1	22	3	19	5	2	5
Paguridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pandoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramunnidae	0	0	0	3	0	5	2	0	0	0	0	0	0	0	0	0	0	0
Paraonidae	17	46	18	40	36	8	31	41	32	41	52	31	85	51	17	15	26	31
Pectinariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pectinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Periplomatidae	4	9	3	2	4	0	8	36	7	30	5	17	0	17	27	48	15	11

Taxa	207	208	209	210	211	212	213	216	226	227	229	230	233	237	245	246	247	248
Pharidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phascolionidae	0	0	0	0	1	0	2	3	1	1	1	2	0	0	1	1	0	1
Phasianelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pholoidae	0	0	0	2	0	10	3	2	0	2	0	2	2	1	3	1	1	0
Phoronidae	0	0	0	0	0	0	0	0	0	4	0	1	4	1	2	0	0	0
Photidae	0	0	1	0	0	1	3	1	1	0	0	1	0	0	0	0	0	0
Phoxichilidiidae	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Phoxocephalidae	2	4	2	1	1	2	3	0	1	1	8	5	0	6	2	4	2	3
Phyllodocidae	0	0	1	0	0	1	0	3	1	1	1	1	2	2	4	1	0	1
Phyllophoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Pilargidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pisionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Pleustidae	0	0	0	0	0	0	5	1	1	0	4	0	0	2	0	0	0	0
Podoceridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polygordiidae	0	0	0	0	0	0	0	0	0	0	0	0	30	1	0	0	0	0
Polynoidae	0	0	0	6	0	4	4	1	2	0	0	1	2	1	1	1	1	2
Pseudocumatidae	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Pyramidellidae	0	0	0	8	0	6	0	1	0	0	0	0	0	0	0	0	0	0
Rissoidae	0	3	3	7	15	19	6	15	28	14	18	17	0	7	6	9	2	1
Sabellidae	0	1	0	15	3	4	8	3	9	5	1	4	44	14	9	2	0	2
Scalibregmatidae	1	0	0	1	0	1	0	0	0	9	2	4	6	12	2	1	0	1
Sigalionidae	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Sipuncula spp.	0	1	0	2	0	0	0	2	1	3	1	0	0	0	0	0	0	1
Sipunculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skeneopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solemyacidae	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Solenidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridae	0	0	0	2	0	0	0	0	0	0	0	0	1	1	0	0	0	1
Spionidae	19	29	7	24	74	21	5	41	42	273	32	107	222	158	116	21	28	35

Taxa	207	208	209	210	211	212	213	216	226	227	229	230	233	237	245	246	247	248
Spirorbidae	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
Stenothoidae	0	0	0	0	1	3	2	1	2	1	1	2	2	2	0	0	0	0
Sternaspidae	1	0	0	0	1	0	0	0	1	3	0	3	0	0	1	0	2	0
Strongylocentrotidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Styelidae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syllidae	0	0	0	6	0	2	1	2	0	1	4	1	5	2	0	0	0	0
Synopiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanaissuidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tellinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terebellidae	0	0	0	7	0	7	5	0	0	3	0	0	2	2	2	0	0	1
Thraciidae	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Thyasiridae	6	5	4	2	8	2	9	30	10	32	28	27	9	18	19	29	7	4
Trichobranchidae	15	32	5	18	30	13	14	24	8	20	7	5	3	10	10	16	14	6
Trochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trochochaetidae	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	1	1	0
Turbellaria	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
Turridae	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
Unciolidae	0	0	0	12	0	4	1	0	0	0	0	0	0	0	0	0	0	0
Uristidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Velutinidae	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	0	0	4
Veneridae	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Yoldiidae	1	1	0	2	6	4	2	1	11	9	10	32	0	12	12	18	7	8

Taxa	249	250	251	261	267	268	269	276	277	279	280	281	282	286	287	288	289	290
Copepoda	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	A
Nematoda	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Ostracoda	P	P	P	P	P	A	A	P	P	P	P	P	P	A	A	A	P	A
Ampeliscidae	1	0	3	0	0	2	1	2	0	1	4	1	4	1	0	3	0	0
Ampharetidae	46	52	44	19	52	78	32	87	173	84	141	254	278	63	53	61	160	93
Amphilochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinomidae	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Amphipoda spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anomiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anthozoa	1	0	2	2	0	2	0	1	0	1	7	3	5	0	0	0	1	1
Anthuridae	0	0	7	1	0	0	0	0	1	0	2	0	0	0	0	0	0	0
Aphroditidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apistobranchidae	0	0	1	1	0	0	0	1	5	3	0	0	0	0	0	0	1	0
Arcticidae	2	12	9	3	0	0	0	3	3	0	0	2	1	0	0	0	0	0
Argissidae	1	3	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
Ascidiacea juv.	0	4	5	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Astartidae	24	15	54	1	2	0	0	7	11	5	9	34	19	0	0	0	1	0
Asteriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asteroidea juv.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Axiidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balanidae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bivalvia spp.	1	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	0	0
Bodotriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buccinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Calyptraeidae	0	1	0	1	0	1	0	0	1	1	0	1	0	0	0	0	0	0
Cancridae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capitellidae	3	4	18	8	0	6	4	20	47	46	6	5	17	2	3	4	15	9
Caprellidae	1	0	0	0	0	0	0	2	2	0	0	11	1	1	0	1	2	0

Taxa	249	250	251	261	267	268	269	276	277	279	280	281	282	286	287	288	289	290
Cardiidae	1	14	1	1	2	0	0	4	4	11	4	3	2	0	0	0	0	0
Carditidae	0	0	2	1	0	0	0	0	0	0	0	9	2	0	0	0	0	0
Chaetiliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetodermatidae	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Chaetopteridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cheirocratidae	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirolanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirratulidae	6	6	48	30	22	26	19	45	79	216	15	18	14	8	7	13	15	9
Columbellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corambidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corophiidae	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Cossuridae	0	0	0	0	3	3	2	1	0	0	0	2	1	1	1	2	5	0
Crangonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ctenodiscidae	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cuspidariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cylichnidae	0	1	0	0	2	0	0	1	0	0	0	2	0	0	0	0	0	0
Dentaliidae	2	1	0	0	2	0	0	0	0	0	0	1	2	0	0	0	0	0
Diaphanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diastylidae	2	8	11	5	1	0	0	9	3	1	3	8	7	0	1	0	0	0
Dorvilleidae	1	0	0	0	0	0	0	1	0	0	0	4	1	0	0	0	0	0
Dulichiidae	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
Echinarachniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Faceliniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flabelligeridae	0	2	1	1	1	0	0	3	0	1	1	4	0	0	0	0	1	0
Gammaridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	1	1	0	1	0	0	0	1	2	0	0	3	0	0	0	0	0
Glyceridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Golfingiidae	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0

Taxa	249	250	251	261	267	268	269	276	277	279	280	281	282	286	287	288	289	290
Goniadidae	0	1	2	0	1	0	0	2	0	2	0	0	2	0	0	0	0	1
Harrimaniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hesionidae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Hiatellidae	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Holothuroidea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
Idoteidae	0	3	8	10	0	0	0	0	8	16	14	0	8	0	0	0	0	0
Ischnochitonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ischyroceridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Janiridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lampropidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lasaeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptanthuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptocheliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leuconidae	0	2	2	4	0	0	0	4	1	0	1	0	1	0	1	0	1	1
Littorinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbrineridae	13	15	42	26	10	22	25	32	61	69	27	38	47	31	22	43	28	32
Lyonsiidae	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lysianassidae	5	2	1	1	2	0	0	2	1	0	2	2	0	1	2	2	1	2
Mactridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Magelonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maldanidae	20	28	5	34	11	4	0	29	25	0	67	15	92	6	2	6	38	16
Melitidae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Melphidippidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molgulidae	0	0	0	1	0	0	0	0	0	0	0	2	1	0	0	0	0	0
Molpadiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montacutidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnopsidae	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

Taxa	249	250	251	261	267	268	269	276	277	279	280	281	282	286	287	288	289	290
Myidae	0	0	1	2	1	2	0	0	0	0	6	0	1	0	0	0	2	1
Mytilidae	13	47	22	23	3	1	0	4	32	6	19	45	7	0	0	0	2	0
Nannastacidae	4	6	2	2	4	0	0	12	5	2	6	17	8	0	0	0	0	1
Nassariidae	1	0	0	1	1	0	0	0	0	0	0	3	0	0	0	0	0	0
Naticidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemertea	4	4	6	6	6	3	13	15	10	6	1	7	4	1	4	7	9	4
Nephtyidae	2	4	4	1	4	1	1	5	3	5	5	2	5	6	2	2	2	4
Nereididae	2	2	5	0	0	0	0	1	2	3	0	0	1	0	0	0	0	0
Nuculanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nuculidae	74	66	89	83	9	4	0	3	96	15	83	41	69	0	0	2	12	10
Nudibranchia spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nymphonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oedicerotidae	0	4	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0
Oenonidae	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Oligochaeta	0	0	0	0	0	1	0	3	1	2	0	2	14	0	0	0	0	0
Onuphidae	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Opheliidae	1	0	1	1	0	1	0	0	0	3	1	1	1	0	0	0	1	0
Ophiactidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuridae	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuroidea juv.	0	0	1	0	0	0	0	1	1	0	4	1	0	0	0	0	0	0
Orbiniidae	4	5	10	6	1	5	3	11	23	31	2	5	15	0	1	3	3	2
Oweniidae	1	14	5	53	1	0	0	1	51	1	30	1	8	0	0	0	0	1
Paguridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pandoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramunnidae	1	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0
Paraonidae	3	13	33	22	27	15	14	84	56	66	28	39	85	12	9	13	38	38
Pectinariidae	0	0	0	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0
Pectinidae	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Periplomatidae	14	19	2	26	9	3	1	14	35	4	45	44	31	1	0	4	10	8

Taxa	249	250	251	261	267	268	269	276	277	279	280	281	282	286	287	288	289	290
Pharidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phascolionidae	1	1	0	0	3	0	0	0	2	1	0	6	8	0	0	0	0	0
Phasianelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pholoidae	0	1	1	0	6	1	0	2	3	3	2	4	2	0	0	0	1	0
Phoronidae	6	1	4	0	2	1	0	2	3	0	3	0	2	0	0	0	0	0
Photidae	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Phoxichilidiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phoxocephalidae	3	11	3	11	3	0	0	5	0	0	1	1	3	1	1	4	1	4
Phyllodocidae	6	1	1	0	2	0	0	1	6	3	1	0	4	0	0	0	3	2
Phyllophoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pilargidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pisionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pleustidae	0	0	1	0	0	0	0	3	1	0	0	3	1	0	0	0	0	0
Podoceridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polygordiidae	0	0	0	1	0	0	0	0	4	12	0	0	0	0	0	0	0	0
Polynoidae	1	2	4	2	0	0	0	1	2	1	0	0	1	1	1	0	0	1
Pseudocumatidae	0	2	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Pyramidellidae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rissoidae	5	13	3	13	45	2	0	31	13	2	11	73	4	0	0	2	1	1
Sabellidae	2	5	4	2	0	1	2	16	20	8	8	6	11	1	0	0	5	3
Scalibregmatidae	2	0	3	6	0	0	0	3	5	2	0	0	2	0	0	1	0	1
Sigalionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sipuncula spp.	1	2	0	0	0	0	0	1	0	1	2	0	2	0	0	0	0	0
Sipunculidae	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skeneopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solemyacidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solenidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridae	3	2	0	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0
Spionidae	99	77	142	102	25	16	7	25	228	105	71	27	83	0	2	11	28	69

Taxa	249	250	251	261	267	268	269	276	277	279	280	281	282	286	287	288	289	290
Spirorbidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stenothoidae	0	1	1	0	0	0	0	1	0	0	0	2	2	0	0	0	0	0
Sternaspidae	1	1	0	4	5	0	0	3	0	0	0	0	1	1	0	1	0	1
Strongylocentrotidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Styelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syllidae	0	1	1	3	1	0	0	1	5	2	0	0	17	0	0	0	0	1
Synopiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanaissuidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tellinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terebellidae	1	0	0	0	1	1	0	3	1	0	0	1	0	1	0	0	0	0
Thraciidae	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0
Thyasiridae	15	16	42	43	12	1	1	22	37	4	32	41	32	2	0	6	19	13
Trichobranchidae	12	19	10	2	11	3	11	33	9	0	15	26	32	11	9	12	24	22
Trochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trochochaetidae	1	0	0	0	0	12	0	1	0	0	0	0	0	0	0	0	0	0
Turbellaria	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Turridae	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Unciolidae	0	0	1	0	0	0	0	0	0	1	2	0	1	0	0	0	0	0
Uristidae	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Velutinidae	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Veneridae	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yoldiidae	8	10	11	3	9	0	0	1	0	0	2	6	0	0	0	0	3	1

Taxa	291	292	294	295	296	297	299	300	304	305	306	307	311	312	313	315	316	337
Copepoda	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Nematoda	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P
Ostracoda	P	P	P	P	A	P	A	P	A	P	P	P	P	P	P	P	P	P
Ampeliscidae	1	0	0	3	2	0	1	1	0	0	0	5	15	5	1	1	0	0
Ampharetidae	123	169	89	72	137	115	39	89	69	92	117	72	97	111	10	37	18	23
Amphilochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphipoda spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anomiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anthozoa	2	5	0	0	1	0	0	1	1	0	0	0	0	1	0	0	1	0
Anthuridae	0	1	0	2	0	0	0	0	0	0	0	0	0	0	3	2	0	0
Aphroditidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apistobranchidae	0	0	0	26	4	9	0	2	7	2	1	0	0	5	0	2	0	0
Arcticidae	0	0	0	0	1	0	0	0	0	3	3	8	0	3	3	2	2	5
Argissidae	1	2	2	1	0	0	0	0	0	0	1	1	0	1	0	1	1	1
Ascidiacea juv.	0	1	0	0	0	0	0	1	0	0	1	2	0	21	0	0	3	0
Astartidae	3	10	0	1	0	1	0	0	0	0	1	38	1	1	3	9	4	1
Asteriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asteroidea juv.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Axiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Bivalvia spp.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bodotriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buccinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Calyptraeidae	0	2	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Cancridae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Capitellidae	11	15	73	14	12	6	2	5	12	6	11	2	3	4	0	19	2	2
Caprellidae	1	1	0	0	0	3	0	0	0	1	0	10	1	4	0	0	1	0

Taxa	291	292	294	295	296	297	299	300	304	305	306	307	311	312	313	315	316	337
Cardiidae	2	1	2	0	0	0	0	0	2	0	0	9	0	0	2	2	7	0
Carditidae	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0
Chaetiliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	2	7
Chaetodermatidae	0	0	0	0	0	1	0	2	0	2	0	1	1	0	0	0	0	0
Chaetopteridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cheirocratidae	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
Cirolanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	16
Cirratulidae	15	38	101	61	81	20	10	10	1	2	6	2	9	12	0	19	0	0
Columbellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corambidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corophiidae	1	0	0	0	0	0	1	0	1	0	1	20	0	1	8	0	102	13
Cossuridae	0	1	0	0	2	2	0	0	0	0	0	0	0	1	0	0	0	0
Crangonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ctenodiscidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cuspidariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cylichnidae	0	1	0	0	0	0	0	0	0	0	0	2	0	2	0	0	2	0
Dentaliidae	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Diaphanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diastylidae	2	11	2	2	0	3	0	0	1	1	0	5	0	3	108	1	42	26
Dorvilleidae	2	1	1	0	1	0	0	0	0	0	2	0	0	0	0	1	0	0
Dulichiidae	0	0	0	0	0	0	0	2	0	0	1	3	0	0	0	0	0	0
Echinarachniidae	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	0	12	6
Faceliniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flabelligeridae	0	0	3	1	0	0	0	0	0	0	1	1	0	2	0	1	1	0
Gammaridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0
Glyceridae	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Golfingiidae	0	0	0	0	0	0	1	0	0	0	0	12	0	0	0	9	0	0

Taxa	291	292	294	295	296	297	299	300	304	305	306	307	311	312	313	315	316	337
Goniadidae	0	0	1	0	0	0	0	0	0	0	0	2	0	1	0	0	0	1
Harrimaniidae	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hesionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hiatellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Holothuroidea spp.	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
Idoteidae	2	11	29	21	3	0	0	0	3	0	0	0	0	0	64	0	0	9
Ischnochitonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ischyroceridae	0	0	0	0	0	0	0	0	0	0	0	25	2	0	0	0	1	2
Janiridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lampropidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
Lasaeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptanthuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptocheliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leuconidae	0	1	1	0	0	0	0	0	1	0	0	1	0	1	0	0	8	10
Littorinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbrineridae	35	34	102	21	51	35	16	14	28	31	15	7	8	11	0	17	1	1
Lyonsiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Lysianassidae	2	2	1	0	1	0	0	0	5	0	0	0	0	0	5	0	4	4
Mactridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Magelonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maldanidae	66	68	9	36	54	17	7	11	50	9	5	7	160	52	5	28	33	1
Melitidae	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Melphidippidae	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Molgulidae	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	1	1	1
Molpadiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montacutidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Taxa	291	292	294	295	296	297	299	300	304	305	306	307	311	312	313	315	316	337
Myidae	0	0	1	0	0	0	1	0	0	1	0	2	0	0	0	1	0	0
Mytilidae	2	3	1	0	3	0	0	2	2	4	3	10	0	21	0	1	0	0
Nannastacidae	4	10	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0
Nassariidae	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Naticidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemertea	11	5	2	1	7	4	3	2	5	6	5	1	2	3	0	4	0	2
Nephtyidae	4	9	6	1	4	5	1	4	2	4	5	6	1	9	19	5	14	8
Nereididae	0	2	0	0	1	1	0	0	1	0	0	8	0	1	0	1	0	0
Nuculanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nuculidae	12	73	80	35	23	5	5	3	40	18	5	28	6	38	0	7	0	2
Nudibranchia spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nymphonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oedicerotidae	0	1	3	1	0	0	0	0	0	1	0	2	0	1	0	0	2	0
Oenonidae	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Oligochaeta	0	0	0	0	2	1	0	1	0	1	4	0	0	3	0	0	0	0
Onuphidae	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Opheliidae	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	2
Ophiactidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuroidea juv.	1	0	0	0	0	0	0	0	0	0	2	1	0	2	0	0	0	0
Orbiniidae	0	6	6	12	14	10	1	4	17	8	15	2	0	5	5	17	1	0
Oweniidae	0	2	134	10	32	1	0	0	5	1	0	8	0	14	2	3	29	5
Paguridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pandoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramunnidae	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
Paraonidae	21	42	71	30	80	45	14	116	65	107	171	4	34	99	7	34	5	6
Pectinariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3
Pectinidae	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Periplomatidae	18	33	27	22	6	12	7	3	16	7	2	6	3	6	0	0	0	0

Taxa	291	292	294	295	296	297	299	300	304	305	306	307	311	312	313	315	316	337
Pharidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phascolionidae	1	0	0	0	0	0	0	0	0	0	0	4	1	3	0	0	1	1
Phasianelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pholoidae	0	0	0	3	2	2	0	0	4	0	0	3	0	2	0	9	3	1
Phoronidae	0	2	0	0	0	0	0	0	1	0	0	0	0	1	0	2	0	0
Photidae	1	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Phoxichilidiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phoxocephalidae	1	1	0	2	2	3	3	2	0	5	9	2	3	8	2	2	9	10
Phyllodocidae	0	4	3	2	2	2	1	5	4	4	0	0	0	2	0	1	1	1
Phyllophoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pilargidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pisionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pleustidae	0	2	2	0	0	0	0	0	5	0	0	2	0	0	0	0	0	0
Podoceridae	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Polygordiidae	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5
Polynoidae	0	0	1	2	1	1	0	0	1	0	3	0	1	4	0	4	2	0
Pseudocumatidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pyramidellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Rissoidae	5	5	0	0	0	1	0	1	0	11	9	9	2	9	0	1	0	0
Sabellidae	2	15	6	10	15	10	5	8	7	5	11	10	1	26	1	9	0	1
Scalibregmatidae	1	1	1	3	5	0	0	0	1	0	0	0	0	2	0	6	0	0
Sigalionidae	0	0	0	0	0	1	0	0	0	0	0	0	0	0	5	0	0	3
Sipuncula spp.	1	1	0	0	0	1	0	0	1	0	1	1	0	5	0	0	0	0
Sipunculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skeneopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solemyacidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1
Solenidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridae	0	1	2	0	1	0	1	0	0	0	1	1	0	0	0	0	0	0
Spionidae	23	110	198	128	196	47	17	53	84	82	36	17	14	193	24	143	1	5

Taxa	291	292	294	295	296	297	299	300	304	305	306	307	311	312	313	315	316	337
Spirorbidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stenothoidae	0	1	0	1	0	0	0	0	0	0	0	2	0	0	0	3	2	0
Sternaspidae	1	0	0	3	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Strongylocentrotidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Styelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syllidae	0	1	0	0	1	1	0	0	0	0	0	2	0	0	0	0	3	1
Synopiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Tanaissuidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
Tellinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terebellidae	0	3	0	0	0	1	0	0	3	1	1	0	0	0	0	1	0	0
Thraciidae	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Thyasiridae	35	33	22	36	38	12	9	7	39	21	4	11	12	64	0	2	0	0
Trichobranchidae	32	14	2	16	30	17	1	8	1	9	3	1	1	9	0	1	0	0
Trochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Trochochaetidae	0	1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0
Turbellaria	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Turridae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unciolidae	0	0	0	0	0	0	0	0	0	0	0	7	1	0	5	0	5	6
Uristidae	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0
Velutinidae	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Veneridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Yoldiidae	0	1	3	0	0	2	0	0	0	5	2	1	1	0	0	0	0	0

Taxa	338	339	340	341	342	343	344	345	346	347	348	350	351	352	353	355	356	357
Copepoda	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Nematoda	A	P	P	P	P	P	P	A	P	P	A	P	P	P	P	P	A	P
Ostracoda	A	P	A	P	P	P	P	P	P	P	A	P	A	P	P	P	A	P
Ampeliscidae	0	2	6	3	2	1	4	1	1	2	0	6	0	1	6	0	0	2
Ampharetidae	10	28	110	142	118	24	25	12	121	58	50	86	55	36	60	18	86	154
Amphilochidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphipoda spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphiuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anomiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Anthozoa	0	1	2	1	1	3	6	2	1	0	0	1	0	0	5	0	0	3
Anthuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aphroditidae	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Apistobranchidae	0	0	6	4	1	1	0	1	10	2	0	0	0	1	2	0	0	0
Arcticidae	15	8	5	5	1	0	0	2	4	2	0	1	0	1	38	0	2	2
Argissidae	0	0	0	0	0	2	0	0	0	0	0	1	0	0	1	0	0	7
Ascidiacea juv.	0	14	0	0	0	0	0	1	0	0	0	0	0	0	4	0	0	3
Astartidae	1	1	50	2	1	2	0	0	1	0	0	6	0	1	3	0	0	2
Asteriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asteroidea juv.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Axiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balanidae	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Bivalvia spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bodotriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buccinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Calyptraeidae	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Cancridae	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Capitellidae	2	0	3	12	3	2	0	0	12	2	3	0	3	5	8	1	1	7
Caprellidae	0	0	0	4	2	1	0	0	11	5	2	0	0	0	0	0	0	4

Taxa	338	339	340	341	342	343	344	345	346	347	348	350	351	352	353	355	356	357
Cardiidae	7	2	0	1	0	13	13	19	2	0	0	1	0	0	41	0	0	0
Carditidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetiliidae	0	1	0	0	0	0	3	0	0	1	0	0	0	0	5	0	0	0
Chaetodermatidae	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Chaetopteridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Cheirocratidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirolanidae	0	0	0	0	0	10	0	1	0	0	0	0	0	0	0	0	0	0
Cirratulidae	1	0	6	17	7	3	0	0	8	10	2	0	6	2	16	4	9	4
Columbellidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corambidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corophiidae	3	41	0	1	5	18	67	58	17	1	0	1	0	0	19	0	0	1
Cossuridae	0	0	0	2	0	0	0	0	0	2	0	2	1	1	0	0	1	1
Crangonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ctenodiscidae	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cuspidariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cylichnidae	0	0	2	10	3	2	0	0	0	0	0	1	0	0	0	0	0	0
Dentaliidae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Diaphanidae	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Diastylidae	0	13	17	2	0	2	7	20	4	0	0	5	1	0	17	0	0	18
Dorvilleidae	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Dulichiidae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	1
Echinarachniidae	0	3	0	0	0	5	5	3	0	0	0	0	0	0	2	0	0	0
Faceliniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flabelligeridae	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1
Gammaridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0
Glyceridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Golfingiidae	3	0	5	0	0	80	0	2	0	0	0	1	1	0	0	0	1	0

Taxa	338	339	340	341	342	343	344	345	346	347	348	350	351	352	353	355	356	357
Goniadidae	0	0	1	2	0	1	0	2	2	1	0	1	1	0	0	0	0	2
Harrimaniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hesionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hiatellidae	0	0	3	0	1	0	1	0	1	0	0	0	0	0	86	0	0	0
Holothuroidea spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Idoteidae	0	0	2	0	1	0	14	5	1	0	0	0	0	0	38	1	0	0
Ischnochitonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ischyroceridae	0	2	0	0	0	1	0	0	1	0	0	0	0	0	3	0	0	2
Janiridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lampropidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lasaeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptanthuridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptocheliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leuconidae	0	0	3	2	3	1	11	0	2	1	0	1	0	0	11	0	0	3
Littorinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbrineridae	3	0	6	7	16	2	1	0	28	18	19	6	13	26	2	18	22	11
Lyonsiidae	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Lysianassidae	3	5	0	0	1	0	0	4	2	0	0	4	1	0	7	0	0	0
Mactridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Magelonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maldanidae	2	16	31	38	28	28	4	1	35	36	34	40	16	6	14	9	11	85
Melitidae	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Melphidippidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molgulidae	0	4	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Molpadiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montacutidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Munnopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Taxa	338	339	340	341	342	343	344	345	346	347	348	350	351	352	353	355	356	357
Myidae	0	0	0	0	0	0	16	0	0	0	0	0	0	1	1	0	2	0
Mytilidae	0	1	37	1	1	1	0	2	2	0	0	1	0	0	46	0	0	0
Nannastacidae	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Nassariidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
Naticidae	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Nemertea	1	1	2	20	3	4	0	0	9	1	6	1	5	7	1	4	0	3
Nephtyidae	3	8	15	3	2	23	0	15	13	4	0	12	1	4	40	1	2	10
Nereididae	0	0	5	0	1	0	0	0	0	0	0	1	0	0	1	0	0	1
Nuculanidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Nuculidae	0	0	50	30	14	3	6	0	18	5	0	26	2	2	105	3	1	20
Nudibranchia spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nymphonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oedicerotidae	0	0	0	1	0	0	0	0	2	1	0	0	0	0	1	0	0	0
Oenonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oligochaeta	0	0	0	2	0	0	0	0	1	2	0	0	0	0	1	0	1	0
Onuphidae	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Opheliidae	0	1	0	0	0	0	1	0	5	0	0	0	1	0	1	0	0	4
Ophiactidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuridae	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophiuroidea juv.	0	0	1	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0
Orbiniidae	3	2	4	4	1	3	2	1	13	6	0	0	1	5	10	1	1	3
Oweniidae	0	49	33	8	4	2	165	37	4	1	0	1	0	1	579	2	0	1
Paguridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pandoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramunnidae	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1
Paraonidae	1	0	18	111	75	10	4	0	118	138	34	28	93	121	8	23	83	46
Pectinariidae	0	0	0	0	0	0	9	14	0	0	0	0	1	0	60	0	0	0
Pectinidae	0	0	0	0	0	5	0	0	0	0	0	0	0	0	2	0	0	0
Periplomatidae	0	0	12	25	6	0	0	0	17	3	3	11	1	4	4	0	3	11

Taxa	338	339	340	341	342	343	344	345	346	347	348	350	351	352	353	355	356	357
Pharidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phascolionidae	0	1	0	5	0	1	0	0	2	0	0	1	0	0	0	0	0	1
Phasianelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pholoidae	1	0	5	4	2	2	2	0	3	1	1	0	0	0	0	0	1	0
Phoronidae	0	0	2	0	1	2	0	0	1	0	0	2	0	0	18	0	0	1
Photidae	0	0	1	1	0	0	2	0	0	1	0	0	0	0	5	0	0	0
Phoxichilidiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phoxocephalidae	0	5	5	7	11	2	1	0	9	9	3	9	0	3	2	2	1	16
Phyllodocidae	0	0	0	3	1	3	4	1	1	0	0	0	0	2	1	0	1	0
Phyllophoridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pilargidae	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Pisionidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pleustidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Podoceridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polygordiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polynoidae	1	2	0	0	0	4	0	0	3	0	0	1	2	2	0	0	1	0
Pseudocumatidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pyramidellidae	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rissoidae	0	0	16	49	5	1	0	0	6	0	0	2	0	0	5	3	3	9
Sabellidae	1	0	8	11	7	3	1	0	25	7	0	3	3	2	14	0	5	7
Scalibregmatidae	6	1	0	0	1	3	0	0	2	0	0	0	0	0	1	0	0	2
Sigalionidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
Sipuncula spp.	0	0	0	1	0	0	0	0	4	0	0	1	0	0	1	0	0	2
Sipunculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skeneopsidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solemyacidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solenidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridae	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0
Spionidae	5	3	31	86	64	19	2	0	306	80	3	3	29	33	63	5	15	34

Taxa	338	339	340	341	342	343	344	345	346	347	348	350	351	352	353	355	356	357
Spirorbidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stenothoidae	0	1	1	3	0	0	0	1	0	0	0	0	0	0	17	0	0	0
Sternaspidae	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Strongylocentrotidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Styelidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syllidae	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
Synopiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanaissuidae	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Tellinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terebellidae	0	0	1	1	0	0	0	0	0	0	0	1	0	1	0	0	0	1
Thraciidae	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
Thyasiridae	1	0	45	58	30	1	1	0	40	17	4	17	3	6	7	5	0	20
Trichobranchidae	0	0	4	6	9	0	0	0	16	2	3	3	10	18	0	8	10	7
Trochidae	2	1	0	0	0	4	1	2	0	0	0	0	0	0	0	0	0	0
Trochochaetidae	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
Turbellaria	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0
Turridae	0	2	2	2	0	0	0	0	0	0	0	2	0	0	0	0	0	1
Unciolidae	1	14	0	0	0	1	0	1	1	0	0	0	0	0	64	0	0	1
Uristidae	0	0	0	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Velutinidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Veneridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Yoldiidae	0	0	2	4	2	0	0	0	1	0	0	4	0	1	1	0	1	3

Taxa	359	360	361	363	364	365	366	368	369
Copepoda	P	P	P	P	P	P	P	A	P
Nematoda	P	P	P	P	P	P	P	P	P
Ostracoda	P	P	P	P	A	P	P	A	P
Ampeliscidae	1	1	6	0	0	0	3	0	0
Ampharetidae	97	94	96	130	136	130	155	58	51
Amphilochidae	0	0	0	0	0	0	0	0	0
Amphinomidae	0	0	0	0	0	0	0	0	0
Amphipoda spp.	0	0	0	0	0	0	0	0	0
Amphiuridae	0	0	0	0	0	0	0	0	0
Anomiidae	0	0	0	0	0	0	0	0	0
Anthozoa	0	0	8	2	0	0	1	1	4
Anthuridae	0	0	2	1	0	0	0	0	0
Aphroditidae	0	0	0	0	0	0	0	0	0
Apistobranchidae	2	37	9	9	33	12	6	0	0
Arcticidae	1	0	20	0	1	0	0	0	0
Argissidae	0	0	1	1	0	0	0	0	0
Ascidiacea juv.	1	0	0	0	1	1	0	0	3
Astartidae	0	1	0	1	0	0	1	0	0
Asteriidae	0	0	0	0	0	0	0	0	0
Asteroidea juv.	0	0	0	0	0	0	0	0	0
Axiidae	0	0	0	0	0	0	0	0	0
Balanidae	0	0	0	0	0	0	0	0	0
Bivalvia spp.	0	0	0	0	0	0	0	0	0
Bodotriidae	0	0	0	0	0	0	0	0	0
Buccinidae	0	0	0	0	0	0	0	0	0
Calyptraeidae	0	0	0	1	0	1	0	0	4
Cancridae	0	0	0	0	0	0	0	0	3
Capitellidae	5	25	3	37	32	18	10	1	1
Caprellidae	0	2	0	0	2	1	4	0	0

Taxa	359	360	361	363	364	365	366	368	369
Cardiidae	0	1	5	1	1	0	0	0	10
Carditidae	0	0	0	0	0	0	0	0	0
Chaetiliidae	0	0	0	0	0	0	0	0	0
Chaetodermatidae	0	0	0	0	0	0	2	0	0
Chaetopteridae	0	0	0	0	0	0	0	1	0
Cheirocratidae	0	0	0	0	0	0	0	0	0
Cirolanidae	0	0	0	1	0	0	0	0	0
Cirratulidae	17	86	25	57	138	55	20	11	4
Columbellidae	0	0	0	0	0	0	0	0	0
Corambidae	0	0	0	0	0	0	0	0	0
Corophiidae	0	0	0	1	0	0	0	0	2
Cossuridae	0	0	0	0	0	2	7	0	0
Crangonidae	0	0	0	0	0	0	0	0	0
Ctenodiscidae	0	0	0	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0
Cuspidariidae	0	0	0	0	0	0	0	0	0
Cylichnidae	0	0	0	0	0	0	1	0	0
Dentaliidae	0	0	0	0	1	0	0	0	0
Diaphanidae	0	0	0	0	0	0	0	0	0
Diastylidae	0	2	5	6	0	0	2	0	0
Dorvilleidae	0	0	0	0	0	2	1	0	2
Dulichiidae	0	0	0	1	0	0	1	0	0
Echinarachniidae	0	0	0	0	0	0	0	0	0
Faceliniidae	0	0	0	0	0	0	0	0	0
Flabelligeridae	0	1	0	1	1	0	0	0	0
Gammaridae	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	1	0
Glyceridae	0	0	0	0	0	0	0	0	1
Golfingiidae	0	1	0	0	4	5	0	0	0

Taxa	359	360	361	363	364	365	366	368	369
Goniadidae	0	1	1	1	1	0	0	1	0
Harrimaniidae	0	0	0	0	0	0	0	0	0
Haustoriidae	0	0	0	0	0	0	0	0	0
Hesionidae	0	0	0	0	0	0	0	0	0
Hiatellidae	0	0	3	0	2	0	0	0	0
Holothuroidea spp.	1	0	0	0	0	0	0	0	0
Idoteidae	0	9	18	30	7	0	1	0	0
Ischnochitonidae	0	0	0	0	0	0	0	0	0
Ischyroceridae	0	0	0	0	0	0	0	0	0
Janiridae	0	0	0	0	0	0	0	0	0
Lampropidae	0	0	0	0	0	0	0	0	0
Lasaeidae	0	0	0	0	0	0	0	0	0
Leptanthuridae	0	0	0	0	0	0	0	0	0
Leptocheliidae	0	0	0	0	0	0	0	0	0
Leuconidae	0	0	0	1	1	1	0	0	0
Littorinidae	0	0	0	0	0	0	0	0	0
Lumbrineridae	28	26	25	68	31	28	29	32	2
Lyonsiidae	0	0	1	0	0	0	0	0	0
Lysianassidae	0	2	1	0	0	5	0	0	0
Mactridae	0	0	0	0	0	0	0	0	0
Magelonidae	0	0	0	0	0	0	0	0	0
Maldanidae	14	50	52	12	66	39	108	13	24
Melitidae	0	0	1	0	0	0	0	0	0
Melphidippidae	0	0	0	0	0	0	0	0	0
Molgulidae	2	0	0	0	0	0	1	0	0
Molpadiidae	0	0	0	0	0	1	0	0	0
Montacutidae	0	0	0	0	0	0	0	0	0
Munnidae	0	0	0	0	0	0	0	0	0
Munnopsidae	0	0	0	0	0	0	0	0	0

Taxa	359	360	361	363	364	365	366	368	369
Myidae	1	3	0	1	1	0	0	0	0
Mytilidae	1	1	4	0	1	3	1	0	3
Nannastacidae	0	1	0	1	2	0	1	1	0
Nassariidae	0	0	0	0	1	0	0	0	3
Naticidae	0	0	0	0	1	0	0	0	0
Nemertea	7	7	1	5	5	2	5	1	2
Nephtyidae	1	3	14	7	5	4	4	2	21
Nereididae	0	1	1	2	2	0	3	0	0
Nuculanidae	0	0	0	0	0	0	0	0	0
Nuculidae	11	52	78	66	56	13	21	4	1
Nudibranchia spp.	0	0	0	0	0	0	0	0	0
Nymphonidae	0	0	0	0	0	0	0	0	0
Oedicerotidae	0	0	0	2	0	0	0	0	1
Oenonidae	0	0	0	0	0	0	0	0	0
Oligochaeta	2	0	0	0	3	3	8	0	0
Onuphidae	0	0	0	0	0	0	0	0	0
Opheliidae	0	2	5	0	1	0	1	0	0
Ophiactidae	0	0	0	0	0	0	0	0	1
Ophiuridae	0	0	0	0	0	0	0	0	0
Ophiuroidea juv.	0	0	0	0	1	1	1	2	0
Orbiniidae	5	20	2	8	10	10	1	7	1
Oweniidae	0	14	589	53	25	2	6	7	2
Paguridae	0	0	0	0	0	0	0	0	0
Pandoridae	0	0	0	0	0	0	0	0	0
Paramunnidae	0	0	0	1	0	0	0	0	0
Paraonidae	72	93	20	43	76	100	58	31	8
Pectinariidae	0	1	0	0	0	0	0	0	1
Pectinidae	0	0	0	1	0	0	0	0	0
Periplomatidae	4	23	14	22	20	6	12	10	0

Taxa	359	360	361	363	364	365	366	368	369
Pharidae	0	0	0	0	0	0	0	0	0
Phascolionidae	0	0	0	1	0	0	0	0	0
Phasianelidae	0	0	0	0	0	0	0	0	0
Pholoidae	1	3	0	1	1	3	2	0	2
Phoronidae	0	0	1	0	0	0	0	0	0
Photidae	0	0	1	0	0	0	0	0	0
Phoxichilidiidae	0	0	0	0	0	0	0	0	0
Phoxocephalidae	6	6	6	5	2	4	6	4	2
Phyllodocidae	1	2	7	0	0	2	4	2	0
Phyllophoridae	0	0	0	0	0	0	0	0	0
Pilargidae	0	0	0	0	0	0	0	0	0
Pisionidae	0	0	0	0	0	0	0	0	0
Pleustidae	1	0	11	0	1	0	0	0	27
Podoceridae	0	0	0	0	1	1	0	0	0
Polygordiidae	0	0	0	1	0	0	0	0	3
Polynoidae	0	4	1	2	5	1	0	0	1
Pseudocumatidae	0	0	0	0	0	0	0	0	0
Pyramidellidae	0	0	0	0	0	0	0	0	0
Rissoidae	8	0	2	0	22	4	5	0	0
Sabellidae	6	14	2	10	30	19	14	1	1
Scalibregmatidae	0	0	0	4	3	2	0	0	3
Sigalionidae	0	0	0	0	0	0	0	0	0
Sipuncula spp.	1	5	0	1	1	1	2	0	0
Sipunculidae	0	0	0	0	0	0	0	0	0
Skeneopsidae	0	0	0	0	0	0	0	0	0
Solemyacidae	0	0	0	0	0	0	0	0	0
Solenidae	0	0	0	0	0	0	0	0	0
Sphaerodoridae	0	1	0	0	0	0	0	0	0
Spionidae	41	164	47	152	214	140	70	55	12

Taxa	359	360	361	363	364	365	366	368	369
Spirorbidae	0	0	0	0	0	0	0	0	0
Stenothoidae	1	2	0	0	1	0	0	0	0
Sternaspidae	0	1	0	0	5	1	0	0	0
Strongylocentrotidae	0	0	0	0	0	0	0	0	0
Styelidae	0	0	0	0	0	0	0	0	1
Syllidae	0	0	0	1	0	0	1	1	23
Synopiidae	0	0	0	0	0	0	0	0	1
Tanaissuidae	0	0	0	0	0	0	0	0	0
Tellinidae	0	0	0	0	0	0	0	0	0
Terebellidae	1	1	0	0	0	2	3	0	0
Thraciidae	0	0	0	0	0	0	0	0	7
Thyasiridae	5	46	42	28	32	12	29	24	0
Trichobranchidae	19	21	3	6	15	38	25	18	0
Trochidae	0	0	0	0	0	0	0	0	0
Trochochaetidae	1	0	0	0	0	1	0	0	0
Turbellaria	0	0	0	0	0	0	0	0	1
Turridae	0	0	0	0	0	0	0	0	0
Unciolidae	0	0	1	0	0	0	0	0	121
Uristidae	0	0	0	0	0	0	0	0	0
Velutinidae	0	0	0	0	0	0	0	0	0
Veneridae	0	0	0	0	0	0	0	0	0
Yoldiidae	0	1	1	0	0	1	1	0	0

Table D-2. Organisms removed from infaunal samples in the field.

Station	GMT Date	GMT	Removed from infauna sample
027	8/22/2012	05:08	1 *Arctica islandica*
050	8/22/2012	13:59	3 sand dollars
065	8/22/2012	18:55	1 *Arctica islandica*
088	8/23/2012	02:41	1 sea cucumber
107	8/23/2012	13:16	1 sea cucumber
113	8/23/2012	14:56	3 *Arctica islandica*
116	8/23/2012	16:08	1 *Arctica islandica*
117	8/23/2012	16:33	3 sand dollars
119	8/23/2012	17:05	2 sand dollars
121	8/23/2012	17:44	4 sand dollars
126	8/23/2012	19:09	2 sand dollars
127	8/23/2012	19:30	4 sand dollars
128	8/23/2012	19:53	6 sand dollars
129	8/23/2012	20:11	8 sand dollars
130	8/23/2012	20:28	5 sand dollars
132	8/23/2012	21:15	2 sand dollars
133	8/23/2012	21:34	4 sand dollars
135	8/23/2012	22:14	2 sand dollars
139	8/23/2012	23:33	1 sand dollar
143	8/24/2012	00:38	4 sand dollars
144	8/24/2012	00:52	2 sand dollars
150	8/24/2012	02:52	1 sand dollar
156	8/24/2012	05:50	3 sand dollars
158	8/24/2012	06:44	1 *Arctica islandica* and 5 sand dollars
163	8/24/2012	08:08	2 sand dollars
165	8/24/2012	09:01	1 *Arctica islandica*
166	8/24/2012	09:16	1 sea cucumber
169	8/24/2012	10:06	1 *Arctica islandica*
202	8/24/2012	22:24	2 sea cucumbers
203	8/24/2012	22:39	2 sea cucumbers
269	8/26/2012	00:08	1 mud sea star (*Ctenodiscus crispatus*)
288	8/26/2012	12:00	2 sea cucumbers
297	8/26/2012	15:31	1 sea cucumber
299	8/26/2012	16:40	1 sea cucumber
306	8/26/2012	18:42	2 *Arctica islandica*
313	8/26/2012	21:43	5 sand dollars
337	8/26/2012	23:47	1 *Arctica islandica* and 6 sand dollars
338	8/27/2012	00:08	1 *Arctica islandica*
339	8/27/2012	00:25	1 *Arctica islandica* and 3 sand dollars
343	8/27/2012	02:07	5 sand dollars
345	8/27/2012	02:46	3 sand dollars
359	8/27/2012	07:36	1 sea cucumber

D-3. Families identified as part of the 2012 CZM infaunal analysis.

CNIDARIA
- Anthozoa

PLATYHELMINTHES
- Turbellaria

NEMERTEA
- Nemertea

ANNELIDA

Clitellata

Oligochaeta
- Oligochaeta

Polychaeta
- Ampharetidae
- Amphinomidae
- Aphroditidae
- Apistobranchidae
- Capitellidae
- Chaetopteridae
- Cirratulidae
- Cossuridae
- Dorvilleidae
- Flabelligeridae
- Glyceridae
- Goniadidae
- Hesionidae
- Lumbrineridae
- Magelonidae
- Maldanidae
- Nephtyidae
- Nereididae
- Oenonidae
- Onuphidae
- Opheliidae
- Orbiniidae
- Oweniidae
- Paraonidae
- Pectinariidae
- Pholoidae
- Phyllodocidae
- Pilargidae
- Pisionidae
- Polygordiidae
- Polynoidae
- Sabellidae
- Scalibregmatidae
- Sigalionidae
- Sphaerodoridae
- Spionidae
- Spirorbidae
- Sternaspidae
- Syllidae
- Terebellidae
- Trichobranchidae
- Trochochaetidae

ARTHROPODA

CHELICERATA

Pycnogonida

Pantopoda
- Nymphonidae
- Phoxichilidiidae

CRUSTACEA

Malacostraca

Amphipoda
- Ampeliscidae
- Amphilochidae
- Argissidae
- Caprellidae
- Cheirocratidae
- Corophiidae
- Dulichiidae
- Gammaridae
- Haustoriidae
- Ischyroceridae
- Lysianassidae
- Melitidae
- Melphidippidae
- Oedicerotidae
- Photidae
- Phoxocephalidae
- Pleustidae
- Podoceridae
- Stenothoidae
- Synopiidae
- Unciolidae
- Uristidae

Cumacea
- Bodotriidae
- Diastylidae
- Lampropidae

Leuconidae
Nannastacidae
Pseudocumatidae
Decapoda
Anomura
Paguridae
Axiidea
Axiidae
Brachyura
Cancridae
Caridea
Crangonidae
Isopoda
Anthuridae
Chaetiliidae
Cirolanidae
Idoteidae
Janiridae
Leptanthuridae
Munnidae
Munnopsidae
Paramunnidae
Tanaidacea
Leptocheliidae
Tannaissuidae
Maxillopoda
Sessilia
Balanidae
MOLLUSCA
Aplacophora
Chaetodermatidae
Bivalvia
Anomiidae
Arcticidae
Astartidae
Cardiidae
Carditidae
Cuspidariidae
Hiatellidae
Lasaeidae
Lyonsiidae
Mactridae
Montacutidae
Myidae
Mytilidae
Nuculanidae
Nuculidae
Pandoridae
Pectinidae
Periplomatidae
Pharidae
Solemyidae
Solenidae
Tellinidae
Thraciidae
Thyasiridae
Veneridae
Yoldiidae
Gastropoda
Buccinidae
Calyptraeidae
Columbellidae
Corambidae
Cylichnidae
Diaphanidae
Facelinidae
Littorinidae
Nassariidae
Naticidae
Phasianellidae
Pyramidellidae
Rissoidae
Skeneopsidae
Trochidae
Turridae
Velutinidae
Polyplacophora
Ischnochitonidae
Scaphopoda
Dentaliidae
SIPUNCULA
Golfingiidae
Phascolionidae
Sipunculidae
PHORONIDA
Phoronidae
ECHINODERMATA
Asteroidea
Asteriidae
Ctenodiscidae
Echinoidea
Echinarachniidae

Strongylocentrotidae
Holothuroidea
Caudinidae
Molpadiidae
Phyllophoridae
Sclerodactylidae
Synaptidae
Ophiuroidea
Amphiuridae
Ophiactidae
Ophiuridae
HEMICHORDATA
Harrimaniidae
CHORDATA
Molgulidae
Styelidae

Appendix E

SIMPER analysis of Bray-Curtis cluster groups

Table E-1. SIMPER (Similarity) analysis of Bray-Curtis cluster groups identified by the SIMPROF routine for the 207 North Shore infaunal stations.

Group	Stations			Ave. Similarity	
Group 1A	**Stations included: 338**				
Group 1B	**Stations included: 127, 138, 139, 143, 154**			**Ave. Similarity: 59.84%**	
Species	**Av.Abund**	**Av.Sim**	**Sim/SD**	**Contrib%**	**Cum.%**
Unciolidae	2.44	5.39	2.77	9.01	9.01
Diastylidae	2.24	5.32	13.96	8.89	17.9
Corophiidae	2.06	5.04	8.36	8.43	26.33
Nephtyidae	1.61	4.26	8.22	7.12	33.45
Ampharetidae	1.75	4.2	6.08	7.02	40.47
Maldanidae	1.46	3.8	14.95	6.35	46.82
Spionidae	1.4	3.29	4.38	5.5	52.32
Paraonidae	1.47	3.03	3.08	5.07	57.38
Arcticidae	1.16	2.91	7.73	4.86	62.25
Orbiniidae	1.39	2.81	1.16	4.7	66.94
Cardiidae	1.59	2.62	1.11	4.37	71.31
Echinarachniidae	1.07	2.03	1.14	3.39	74.7
Group 1C	**Stations included: 120, 123, 126, 153, 161, 163, 316, 339, 345**			**Ave. Similarity: 60.07%**	
Species	**Av.Abund**	**Av.Sim**	**Sim/SD**	**Contrib%**	**Cum.%**
Corophiidae	2.98	5.26	8.54	8.76	8.76
Ampharetidae	2.19	3.98	10.64	6.63	15.38
Diastylidae	2.15	3.78	6.31	6.3	21.68
Maldanidae	2.15	3.47	3.98	5.78	27.47
Oweniidae	2.05	3.44	3.41	5.72	33.18
Nephtyidae	1.88	3.34	6.64	5.56	38.75
Unciolidae	1.85	2.93	5.23	4.88	43.63
Cardiidae	1.64	2.83	5.27	4.72	48.34
Lysianassidae	1.4	2.33	1.8	3.87	52.22
Arcticidae	1.34	2.27	4.8	3.78	56
Trochidae	1.27	2.22	6.08	3.69	59.68
Spionidae	1.44	2.07	1.68	3.45	63.13
Orbiniidae	0.99	1.54	1.78	2.57	65.7
Phoxocephalidae	1.17	1.44	1.08	2.39	68.09
Leuconidae	1.12	1.37	1.16	2.27	70.36
Echinarachniidae	1.03	1.36	1.13	2.27	72.63
Ischyroceridae	1.07	1.29	1.13	2.15	74.78

Group 1D	Stations included: 100, 117, 119, 129, 133, 135, 156, 158, 313, 337, 344			Ave. Similarity: 57.90%	
Species	**Av.Abund**	**Av.Sim**	**Sim/SD**	**Contrib%**	**Cum.%**
Diastylidae	2.25	3.72	5.58	6.43	6.43
Ampharetidae	2.11	3.62	8.24	6.25	12.68
Paraonidae	1.75	2.99	3.67	5.17	17.85
Oweniidae	2.06	2.97	3.24	5.13	22.98
Echinarachniidae	1.57	2.73	6.47	4.71	27.68
Spionidae	1.58	2.68	6.08	4.64	32.32
Corophiidae	1.85	2.67	3.23	4.61	36.93
Nephtyidae	1.65	2.49	1.96	4.3	41.23
Idoteidae	1.73	2.4	1.84	4.15	45.38
Pectinariidae	1.5	2.3	1.99	3.98	49.36
Cardiidae	1.52	2.11	1.71	3.64	52.99
Chaetiliidae	1.33	2.05	1.93	3.54	56.54
Phoxocephalidae	1.27	1.9	1.85	3.27	59.81
Arcticidae	1.42	1.81	1.32	3.13	62.94
Nuculidae	1.75	1.79	1.13	3.09	66.03
Maldanidae	1.23	1.67	1.26	2.88	68.9
Unciolidae	1.3	1.62	1.26	2.8	71.7
Orbiniidae	1.02	1.47	1.26	2.54	74.24
Group 1E	**Stations included: 50, 53, 78, 130, 132, 137, 140, 141, 144, 146, 148, 150, 152, 369**			**Ave. Similarity: 60.22%**	
Species	**Av.Abund**	**Av.Sim**	**Sim/SD**	**Contrib%**	**Cum.%**
Syllidae	3.12	5.95	4.31	9.89	9.89
Paraonidae	2.81	5.42	4.48	8.99	18.88
Maldanidae	2.7	5.37	5.9	8.92	27.8
Polygordiidae	2.6	4.64	3.61	7.71	35.51
Ampharetidae	2.35	4.5	5.11	7.47	42.98
Unciolidae	2.34	4.3	3.63	7.15	50.13
Cirratulidae	2.38	4.09	2.04	6.79	56.92
Nephtyidae	1.48	2.82	7.34	4.69	61.61
Cardiidae	1.53	2.69	2.16	4.46	66.07
Spionidae	1.43	2.15	1.22	3.57	69.64
Dorvilleidae	1.34	2.09	1.41	3.47	73.11
Group 2A	**Stations included: 128, 149**			**Ave. Similarity: 54.12%**	
Species	**Av.Abund**	**Av.Sim**	**Sim/SD**	**Contrib%**	**Cum.%**
Paraonidae	2.56	5.19	----------	9.59	9.59
Cirratulidae	2.34	4.77	----------	8.81	18.4
Spionidae	1.92	4.51	----------	8.33	26.73
Ampharetidae	1.79	4.01	----------	7.41	34.15
Lumbrineridae	1.91	4.01	----------	7.41	41.56
Orbiniidae	1.57	3.79	----------	7.01	48.57
Capitellidae	1.84	3.19	----------	5.89	54.46
Periplomatidae	1.3	3.19	----------	5.89	60.35
Diastylidae	1.72	2.68	----------	4.96	65.31
Flabelligeridae	1.34	2.68	----------	4.96	70.26

Group 2B	Stations included: 24, 27, 31, 49, 78			Ave. Similarity: 57.68%	
Species	**Av.Abund**	**Av.Sim**	**Sim/SD**	**Contrib%**	**Cum.%**
Cirratulidae	2.97	3.55	13.64	6.15	6.15
Paraonidae	2.53	3.34	8.06	5.78	11.93
Spionidae	2.61	3.26	3.36	5.66	17.59
Capitellidae	2.3	2.73	12.08	4.73	22.32
Mytilidae	2.38	2.6	4.09	4.51	26.83
Ampharetidae	2.21	2.51	5.23	4.36	31.19
Unciolidae	2.64	2.15	0.88	3.72	34.91
Lumbrineridae	1.66	1.91	4.42	3.31	38.22
Maldanidae	1.69	1.88	3.68	3.26	41.48
Phyllodocidae	1.44	1.85	6.22	3.22	44.69
Syllidae	1.97	1.85	5.72	3.21	47.9
Anthozoa	1.36	1.84	6.43	3.2	51.1
Orbiniidae	1.4	1.79	8.4	3.11	54.21
Terebellidae	1.2	1.63	5.39	2.83	57.04
Polynoidae	1.25	1.6	4.57	2.77	59.81
Idoteidae	1.26	1.55	6.46	2.69	62.5
Nuculidae	1.68	1.31	1.14	2.27	64.77
Corophiidae	1.36	1.23	1.14	2.12	66.9
Nephtyidae	1.26	1.2	1.15	2.08	68.98
Hiatellidae	1.5	1.14	1.1	1.98	70.96
Cardiidae	1.39	1.09	1.14	1.89	72.85
Scalibregmatidae	1.03	1.01	1.13	1.75	74.6

Group 2C	Stations included: 43, 61, 80, 81, 83, 87, 91, 102, 168–170, 174–181, 184, 186, 195, 196, 199, 200, 202, 203, 205–209, 268, 269, 286–291, 299, 300, 305, 311, 347, 348, 350, 351, 352, 355, 356, 359, 365, 368			Ave. Similarity: 65.40%	
Species	**Av.Abund**	**Av.Sim**	**Sim/SD**	**Contrib%**	**Cum.%**
Ampharetidae	2.93	6.77	7.09	10.35	10.35
Paraonidae	2.79	5.88	3.55	8.99	19.33
Lumbrineridae	2.16	5.03	5.26	7.7	27.03
Spionidae	2.24	4.62	3.69	7.07	34.1
Maldanidae	2.17	4.41	3.35	6.75	40.84
Trichobranchidae	1.76	3.81	2.76	5.82	46.66
Cirratulidae	1.75	3.8	2.83	5.81	52.48
Thyasiridae	1.61	3.23	2.2	4.94	57.42
Capitellidae	1.46	3.14	3.01	4.8	62.22
Nemertea	1.36	2.94	2.68	4.49	66.71
Periplomatidae	1.36	2.77	2.57	4.24	70.95
Phoxocephalidae	1.17	2.29	1.77	3.5	74.45

Group 2D	Stations included: 12, 37, 85, 86, 92, 121, 160, 164, 210, 212, 213, 307, 315, 343			Ave. Similarity: 63.75%	
Species	**Av.Abund**	**Av.Sim**	**Sim/SD**	**Contrib%**	**Cum.%**
Ampharetidae	2.78	3.27	11.47	5.12	5.12
Spionidae	2.29	2.53	5.7	3.97	9.1
Paraonidae	2.15	2.29	3.84	3.6	12.69
Maldanidae	1.98	2.16	4.15	3.4	16.09
Lumbrineridae	1.84	2.09	5.83	3.27	19.36
Cirratulidae	1.77	1.95	5.81	3.06	22.42
Cardiidae	1.59	1.76	4.72	2.76	25.19
Mytilidae	1.72	1.75	4.04	2.74	27.93
Pholoidae	1.49	1.71	6.33	2.68	30.61
Nephtyidae	1.52	1.7	5.33	2.67	33.28
Astartidae	1.68	1.69	3.66	2.65	35.93
Diastylidae	1.5	1.65	6.84	2.59	38.52
Golfingiidae	1.77	1.6	1.79	2.51	41.04
Corophiidae	1.63	1.6	1.98	2.51	43.54
Nemertea	1.4	1.54	5.69	2.42	45.96
Capitellidae	1.56	1.54	2.15	2.41	48.37
Sabellidae	1.48	1.46	1.58	2.29	50.66
Polynoidae	1.31	1.45	2.29	2.27	52.93
Thyasiridae	1.41	1.4	2.22	2.2	55.13
Nuculidae	1.45	1.38	2.01	2.16	57.29
Ampeliscidae	1.19	1.26	2.32	1.98	59.26
Unciolidae	1.36	1.23	2.13	1.94	61.2
Phoxocephalidae	1.17	1.22	2.31	1.91	63.11
Rissoidae	1.35	1.21	1.52	1.9	65
Ischyroceridae	1.54	1.2	1.45	1.88	66.88
Syllidae	1.38	1.14	1.48	1.78	68.66
Paramunnidae	1.18	1.12	1.57	1.76	70.42
Trichobranchidae	1.35	1.11	1.15	1.74	72.16
Anthozoa	1.11	1.06	1.55	1.66	73.83

Group 2E	Stations included: 11, 15, 20 22, 35, 40, 46 ,58, 63, 65, 66, 73, 88, 94, 95, 101, 107, 114, 116, 165 –167, 171–173, 187–190, 192, 194, 198, 201, 204, 211, 216, 226, 227, 229, 230, 237, 245–251, 261, 267, 276, 277, 280–282, 292, 294–297, 304, 306, 312, 340, 341, 342, 346, 357, 360, 361, 363, 364, 366			Ave. Similarity: 67.16%	
Species	**Av.Abund**	**Av.Sim**	**Sim/SD**	**Contrib%**	**Cum.%**
Ampharetidae	3.23	4.4	5.43	6.55	6.55
Spionidae	3.09	4.07	6.36	6.06	12.61
Paraonidae	2.78	3.65	4.87	5.43	18.04
Maldanidae	2.41	3.15	3.79	4.7	22.74
Thyasiridae	2.29	3.11	6.58	4.63	27.36
Lumbrineridae	2.27	3.1	6.57	4.61	31.97
Nuculidae	2.34	2.97	5.29	4.43	36.4
Cirratulidae	2.28	2.89	4.28	4.3	40.7
Periplomatidae	1.93	2.52	4.09	3.75	44.44
Trichobranchidae	1.86	2.47	4.86	3.67	48.12
Capitellidae	1.77	2.19	3.25	3.26	51.38
Sabellidae	1.7	2.11	2.73	3.14	54.51
Orbiniidae	1.54	1.93	3.25	2.88	57.39
Nemertea	1.43	1.82	2.97	2.71	60.1
Nephtyidae	1.37	1.82	3.89	2.7	62.8
Rissoidae	1.54	1.68	1.63	2.49	65.3
Oweniidae	1.59	1.66	1.76	2.47	67.77
Phoxocephalidae	1.33	1.58	1.88	2.36	70.13
Mytilidae	1.31	1.31	1.47	1.95	72.08
Diastylidae	1.15	1.26	1.54	1.88	73.95

Group 2F	Stations included: 5, 7, 10, 25, 29, 32, 51, 54, 69, 71, 75, 110, 112, 113, 145, 159, 233, 279, 353			Ave. Similarity: 66.41%	
Species	**Av.Abund**	**Av.Sim**	**Sim/SD**	**Contrib%**	**Cum.%**
Spionidae	3.43	3.74	5.53	5.63	5.63
Nuculidae	3.13	3.34	4.63	5.04	10.66
Ampharetidae	2.83	3.01	5.52	4.53	15.2
Paraonidae	2.74	2.99	5.26	4.5	19.7
Cirratulidae	2.82	2.94	3.91	4.43	24.13
Oweniidae	3.11	2.68	1.77	4.04	28.17
Lumbrineridae	2.41	2.63	3.84	3.96	32.13
Capitellidae	2.16	2.18	2.42	3.28	35.41
Idoteidae	1.98	1.96	3	2.95	38.35
Orbiniidae	1.8	1.93	4.29	2.91	41.26
Maldanidae	1.87	1.81	2.5	2.73	43.99
Sabellidae	1.76	1.75	2.48	2.64	46.63
Mytilidae	1.73	1.66	3.8	2.49	49.13
Nephtyidae	1.68	1.64	2.54	2.48	51.6
Cardiidae	1.57	1.58	4.15	2.39	53.99
Thyasiridae	1.64	1.55	1.85	2.34	56.33
Periplomatidae	1.55	1.52	2.35	2.29	58.62
Nemertea	1.35	1.4	2.48	2.1	60.72
Arcticidae	1.52	1.39	2.36	2.09	62.81
Diastylidae	1.27	1.18	1.83	1.78	64.59
Phyllodocidae	1.27	1.18	1.85	1.77	66.37
Astartidae	1.28	1.16	1.81	1.75	68.12
Scalibregmatidae	1.19	1.02	1.45	1.54	69.66
Leuconidae	1.15	1.01	1.47	1.52	71.18
Polygordiidae	1.31	0.98	1.16	1.48	72.65
Anthozoa	1.05	0.93	1.47	1.4	74.06

Table E-2. SIMPER (Dissimilarity) analysis of Bray-Curtis cluster groups identified by the SIMPROF routine for the 207 North Shore infaunal stations.

Groups 2F and 2E			Average dissimilarity: 39.21%			
Species	**Group 2F Av.Abund**	**Group 2E Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Oweniidae	3.11	1.59	1.27	1.38	3.24	3.24
Idoteidae	1.98	0.98	0.8	1.4	2.05	5.28
Polygordiidae	1.31	0.19	0.8	1.48	2.03	7.32
Rissoidae	0.66	1.54	0.79	1.51	2.02	9.34
Trichobranchidae	0.77	1.86	0.76	1.49	1.94	11.28
Hiatellidae	1.15	0.11	0.73	1.21	1.86	13.14
Cardiidae	1.57	0.67	0.67	1.33	1.7	14.84
Arcticidae	1.52	0.72	0.66	1.35	1.67	16.51
Nuculidae	3.13	2.34	0.66	1.46	1.67	18.18
Yoldiidae	0.24	1.03	0.62	1.39	1.58	19.77
Phoronidae	1.18	0.58	0.62	1.34	1.57	21.34
Apistobranchidae	1.05	0.93	0.59	1.28	1.52	22.85
Cirratulidae	2.82	2.28	0.57	1.3	1.47	24.32
Syllidae	0.95	0.5	0.57	1.21	1.46	25.78
Corophiidae	0.88	0.34	0.57	1.07	1.45	27.22
Pectinariidae	0.86	0.05	0.57	1.14	1.45	28.67
Groups 2F and 2D			**Average dissimilarity: 43.07%**			
Species	**Group 2F Av.Abund**	**Group 2D Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Oweniidae	3.11	1.12	1.33	1.53	3.08	3.08
Golfingiidae	0.07	1.77	1.08	1.82	2.51	5.59
Idoteidae	1.98	0.33	1.05	2.12	2.45	8.04
Nuculidae	3.13	1.45	1.05	1.98	2.44	10.48
Ischyroceridae	0.29	1.54	0.85	1.48	1.98	12.46
Caprellidae	0.12	1.31	0.76	1.58	1.76	14.22
Polygordiidae	1.31	0.14	0.75	1.51	1.74	15.96
Spionidae	3.43	2.29	0.75	1.81	1.73	17.69
Corophiidae	0.88	1.63	0.71	1.45	1.66	19.35
Cirratulidae	2.82	1.77	0.69	1.47	1.61	20.96
Orbiniidae	1.8	0.77	0.68	1.52	1.58	22.54
Rissoidae	0.66	1.35	0.65	1.48	1.51	24.04
Phoronidae	1.18	0.24	0.64	1.45	1.5	25.54
Hiatellidae	1.15	0.44	0.62	1.19	1.45	26.99
Syllidae	0.95	1.38	0.61	1.24	1.41	28.39
Unciolidae	0.76	1.36	0.61	1.25	1.41	29.8

Groups 2E and 2D			Average dissimilarity: 42.27%			
Species	**Group 2E. Av.Abund**	**Group 2D Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Golfingiidae	0.15	1.77	1.14	1.72	2.7	2.7
Ischyroceridae	0.06	1.54	1	1.61	2.36	5.07
Corophiidae	0.34	1.63	0.93	1.82	2.2	7.26
Periplomatidae	1.93	0.73	0.84	1.66	1.98	9.24
Unciolidae	0.17	1.36	0.83	1.58	1.97	11.21
Syllidae	0.5	1.38	0.74	1.23	1.75	12.96
Paramunnidae	0.15	1.18	0.73	1.87	1.73	14.69
Astartidae	0.96	1.68	0.69	1.31	1.63	16.32
Cardiidae	0.67	1.59	0.68	1.43	1.61	17.92
Nuculidae	2.34	1.45	0.67	1.5	1.59	19.51
Caprellidae	0.71	1.31	0.66	1.34	1.57	21.08
Idoteidae	0.98	0.33	0.64	1.2	1.51	22.59
Spionidae	3.09	2.29	0.62	1.57	1.47	24.07
Orbiniidae	1.54	0.77	0.62	1.45	1.47	25.54
Thyasiridae	2.29	1.41	0.62	1.53	1.47	27
Oweniidae	1.59	1.12	0.59	1.17	1.39	28.4
Apistobranchidae	0.93	0.74	0.59	1.24	1.39	29.79

Groups 2F and 2B			Average dissimilarity: 43.85%			
Species	**Group 2F Av. Abund**	**Group 2B Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Oweniidae	3.11	0.91	1.69	1.67	3.85	3.85
Unciolidae	0.76	2.64	1.51	1.49	3.45	7.3
Nuculidae	3.13	1.68	1.08	1.35	2.47	9.77
Periplomatidae	1.55	0.24	0.89	1.9	2.04	11.81
Ischyroceridae	0.29	1.4	0.86	1.25	1.96	13.77
Syllidae	0.95	1.97	0.82	1.23	1.86	15.63
Sabellidae	1.76	0.68	0.76	1.75	1.73	17.36
Hiatellidae	1.15	1.5	0.73	1.31	1.65	19.02
Phoronidae	1.18	0.28	0.69	1.38	1.58	20.59
Corophiidae	0.88	1.36	0.68	1.35	1.56	22.15
Arcticidae	1.52	0.66	0.64	1.28	1.46	23.62
Phoxocephalidae	1.14	0.73	0.64	1.44	1.46	25.08
Apistobranchidae	1.05	0.2	0.64	1.32	1.46	26.54
Argissidae	0.96	0	0.63	1.75	1.44	27.97
Mytilidae	1.73	2.38	0.63	1.38	1.43	29.41

Groups 2E and 2B			Average dissimilarity: 48.02%			
Species	**Group 2E Av.Abund**	**Group 2B Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Unciolidae	0.17	2.64	1.89	1.48	3.93	3.93
Periplomatidae	1.93	0.24	1.24	2.64	2.59	6.52
Syllidae	0.5	1.97	1.08	1.38	2.25	8.77
Oweniidae	1.59	0.91	1.08	1.73	2.24	11.02
Trichobranchidae	1.86	0.48	1.04	1.88	2.16	13.17
Thyasiridae	2.29	0.94	1.01	1.85	2.11	15.28
Hiatellidae	0.11	1.5	1	1.58	2.09	17.37
Rissoidae	1.54	0.24	1	1.77	2.09	19.46
Ischyroceridae	0.06	1.4	0.97	1.23	2.01	21.47
Mytilidae	1.31	2.38	0.89	1.4	1.86	23.33
Ampharetidae	3.23	2.21	0.84	1.62	1.75	25.08
Nuculidae	2.34	1.68	0.83	1.21	1.73	26.81
Corophiidae	0.34	1.36	0.83	1.69	1.72	28.53

Groups 2D and 2B			Average dissimilarity: 47.43%			
Species	**Group 2D Av.Abund**	**Group 2B Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Unciolidae	1.36	2.64	1.33	1.65	2.8	2.8
Golfingiidae	1.77	0	1.21	1.88	2.54	5.34
Ischyroceridae	1.54	1.4	0.86	1.54	1.82	7.16
Oweniidae	1.12	0.91	0.84	1.49	1.77	8.93
Hiatellidae	0.44	1.5	0.82	1.44	1.74	10.67
Cirratulidae	1.77	2.97	0.81	1.55	1.7	12.37
Ampeliscidae	1.19	0	0.8	3.05	1.69	14.06
Rissoidae	1.35	0.24	0.8	1.71	1.68	15.74
Trichobranchidae	1.35	0.48	0.74	1.48	1.55	17.29
Idoteidae	0.33	1.26	0.72	2.33	1.52	18.81
Astartidae	1.68	1.01	0.71	1.31	1.51	20.31
Syllidae	1.38	1.97	0.7	1.09	1.48	21.79
Paramunnidae	1.18	0.28	0.69	1.65	1.45	23.25
Nuculidae	1.45	1.68	0.68	1.23	1.44	24.68
Argissidae	0.99	0	0.67	2.14	1.41	26.09
Sabellidae	1.48	0.68	0.66	1.69	1.39	27.48
Phoxocephalidae	1.17	0.73	0.65	2.02	1.37	28.86

Groups 2F and 2C			Average dissimilarity: 51.68%			
Species	**Group 2F Av.Abund**	**Group 2C Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Oweniidae	3.11	0.54	2.17	1.68	4.19	4.19
Nuculidae	3.13	1.24	1.57	1.94	3.03	7.22
Idoteidae	1.98	0.14	1.51	2.53	2.93	10.15
Mytilidae	1.73	0.29	1.18	2.05	2.29	12.44
Cardiidae	1.57	0.15	1.18	2.24	2.27	14.71
Arcticidae	1.52	0.24	1.06	1.89	2.05	16.76
Polygordiidae	1.31	0.02	1.04	1.58	2.02	18.78
Spionidae	3.43	2.24	1.04	1.53	2.01	20.79
Astartidae	1.28	0.15	0.97	1.93	1.87	22.66
Cirratulidae	2.82	1.75	0.92	1.36	1.79	24.45
Hiatellidae	1.15	0.02	0.91	1.23	1.76	26.21
Trichobranchidae	0.77	1.76	0.9	1.45	1.74	27.95
Phoronidae	1.18	0.17	0.88	1.47	1.71	29.66
Groups 2E and 2C			**Average dissimilarity: 40.98%**			
Species	**Group 2E Av.Abund**	**Group 2C Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Oweniidae	1.59	0.54	1.11	1.35	2.7	2.7
Nuculidae	2.34	1.24	1.07	1.44	2.62	5.31
Mytilidae	1.31	0.29	1.03	1.55	2.52	7.84
Rissoidae	1.54	0.84	0.92	1.35	2.23	10.07
Spionidae	3.09	2.24	0.91	1.33	2.22	12.29
Diastylidae	1.15	0.28	0.9	1.64	2.2	14.49
Idoteidae	0.98	0.14	0.86	1.19	2.11	16.6
Astartidae	0.96	0.15	0.82	1.2	2.01	18.61
Apistobranchidae	0.93	0.42	0.82	1.14	2	20.6
Sabellidae	1.7	1.12	0.75	1.17	1.83	22.43
Yoldiidae	1.03	0.54	0.73	1.23	1.79	24.22
Pholoidae	0.89	0.31	0.71	1.34	1.74	25.96
Cossuridae	0.5	0.9	0.7	1.24	1.7	27.66
Anthozoa	0.86	0.33	0.7	1.27	1.7	29.36
Groups 2D and 2C			**Average dissimilarity: 51.66%**			
Species	**Group 2D Av.Abund**	**Group 2C Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Golfingiidae	1.77	0.18	1.38	1.66	2.67	2.67
Astartidae	1.68	0.15	1.3	2.25	2.52	5.19
Corophiidae	1.63	0.18	1.25	2.01	2.42	7.61
Ischyroceridae	1.54	0.04	1.23	1.64	2.38	9.99
Cardiidae	1.59	0.15	1.22	2.73	2.36	12.35
Mytilidae	1.72	0.29	1.21	2.11	2.33	14.69
Unciolidae	1.36	0.07	1.08	1.73	2.1	16.79
Syllidae	1.38	0.14	1.07	1.46	2.07	18.86
Diastylidae	1.5	0.28	1.03	2.25	1.99	20.86
Pholoidae	1.49	0.31	1.01	2.1	1.95	22.8
Paramunnidae	1.18	0.02	0.97	2.18	1.89	24.69
Caprellidae	1.31	0.45	0.87	1.44	1.69	26.38
Polynoidae	1.31	0.35	0.85	1.81	1.64	28.02
Argissidae	0.99	0.04	0.81	2.03	1.57	29.59

Groups 2B and 2C			Average dissimilarity: 56.49%			
Species	**Group 2B Av.Abund**	**Group 2C Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Unciolidae	2.64	0.07	2.43	1.48	4.3	4.3
Mytilidae	2.38	0.29	1.89	2.39	3.34	7.64
Syllidae	1.97	0.14	1.61	1.88	2.86	10.49
Hiatellidae	1.5	0.02	1.28	1.63	2.26	12.76
Trichobranchidae	0.48	1.76	1.24	1.77	2.2	14.96
Ischyroceridae	1.4	0.04	1.19	1.23	2.11	17.07
Cardiidae	1.39	0.15	1.12	1.67	1.98	19.05
Corophiidae	1.36	0.18	1.09	1.75	1.94	20.98
Cirratulidae	2.97	1.75	1.09	1.45	1.93	22.92
Periplomatidae	0.24	1.36	1.05	1.96	1.87	24.78
Idoteidae	1.26	0.14	1.04	2.52	1.83	26.61
Nuculidae	1.68	1.24	0.97	1.18	1.71	28.33

Groups 2F and 1E			Average dissimilarity: 57.73%			
Species	**Group 2F Av.Abund**	**Group 1E Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Nuculidae	3.13	0.21	2.3	3.66	3.98	3.98
Oweniidae	3.11	0.26	2.28	1.83	3.94	7.93
Syllidae	0.95	3.12	1.73	1.97	3	10.93
Lumbrineridae	2.41	0.36	1.64	2.58	2.83	13.76
Spionidae	3.43	1.43	1.6	1.93	2.78	16.54
Unciolidae	0.76	2.34	1.34	1.68	2.31	18.85
Idoteidae	1.98	0.31	1.33	2.11	2.3	21.15
Thyasiridae	1.64	0.07	1.25	2.25	2.17	23.33
Capitellidae	2.16	0.73	1.21	1.71	2.1	25.43
Periplomatidae	1.55	0.09	1.17	2.28	2.02	27.45
Polygordiidae	1.31	2.6	1.15	1.25	1.99	29.43

Groups 2E and 1E			Average dissimilarity: 59.74%			
Species	**Group 2E Av.Abund**	**Group 1E Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Syllidae	0.5	3.12	2.37	2.49	3.96	3.96
Polygordiidae	0.19	2.6	2.16	2.23	3.62	7.58
Thyasiridae	2.29	0.07	1.97	5.22	3.3	10.88
Unciolidae	0.17	2.34	1.95	2.51	3.27	14.15
Nuculidae	2.34	0.21	1.88	3.37	3.14	17.29
Lumbrineridae	2.27	0.36	1.7	2.8	2.84	20.13
Trichobranchidae	1.86	0	1.67	4.66	2.79	22.92
Periplomatidae	1.93	0.09	1.63	3.46	2.73	25.65
Spionidae	3.09	1.43	1.5	1.66	2.51	28.16

Groups 2D and 1E			Average dissimilarity: 59.75%			
Species	**Group 2D Av.Abund**	**Group 1E Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Polygordiidae	0.14	2.6	1.98	2.36	3.31	3.31
Syllidae	1.38	3.12	1.47	1.78	2.47	5.78
Golfingiidae	1.77	0	1.45	1.89	2.42	8.2
Lumbrineridae	1.84	0.36	1.19	2.32	1.99	10.19
Astartidae	1.68	0.23	1.18	2.01	1.98	12.17
Ischyroceridae	1.54	0.18	1.12	1.55	1.88	14.05
Thyasiridae	1.41	0.07	1.07	2.52	1.8	15.85
Rissoidae	1.35	0	1.07	2.11	1.79	17.64
Trichobranchidae	1.35	0	1.06	1.74	1.78	19.42
Nuculidae	1.45	0.21	1.02	1.81	1.72	21.13
Pholoidae	1.49	0.33	0.96	1.96	1.61	22.75
Caprellidae	1.31	0.14	0.96	1.61	1.61	24.35
Unciolidae	1.36	2.34	0.95	1.43	1.6	25.95
Diastylidae	1.5	0.34	0.95	2.08	1.59	27.54
Corophiidae	1.63	0.59	0.93	1.52	1.55	29.09

Groups 2B and 1E			Average dissimilarity: 52.12%			
Species	**Group 2B Av.Abund**	**Group 1E Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Unciolidae	2.64	2.34	1.49	2.1	2.87	2.87
Mytilidae	2.38	0.72	1.47	1.79	2.82	5.69
Polygordiidae	1.08	2.6	1.41	1.27	2.7	8.39
Syllidae	1.97	3.12	1.37	1.69	2.63	11.02
Capitellidae	2.3	0.73	1.37	1.79	2.62	13.64
Nuculidae	1.68	0.21	1.32	1.5	2.53	16.18
Lumbrineridae	1.66	0.36	1.16	2.03	2.22	18.4
Spionidae	2.61	1.43	1.15	1.26	2.21	20.61
Ischyroceridae	1.4	0.18	1.13	1.27	2.18	22.78
Hiatellidae	1.5	0.27	1.13	1.51	2.17	24.95
Maldanidae	1.69	2.7	0.98	1.65	1.87	26.82
Terebellidae	1.2	0.14	0.94	2.63	1.8	28.62

Groups 2C and 1E			Average dissimilarity: 60.86%			
Species	**Group 2C Av.Abund**	**Group 1E Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Syllidae	0.14	3.12	3.53	3.42	5.8	5.8
Polygordiidae	0.02	2.6	3.04	2.62	5	10.8
Unciolidae	0.07	2.34	2.7	2.79	4.43	15.22
Lumbrineridae	2.16	0.36	2.13	2.64	3.5	18.73
Trichobranchidae	1.76	0	2.09	3.5	3.43	22.15
Thyasiridae	1.61	0.07	1.81	2.65	2.97	25.12
Cardiidae	0.15	1.53	1.66	2.2	2.72	27.84

Groups 2F and 1D			Average dissimilarity: 51.24%			
Species	**Group 2F Av.Abund**	**Group 1D Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Cirratulidae	2.82	0.55	1.71	2.08	3.34	3.34
Spionidae	3.43	1.58	1.37	2.68	2.68	6.02
Lumbrineridae	2.41	0.76	1.26	2.03	2.47	8.48
Nuculidae	3.13	1.75	1.24	1.41	2.42	10.9
Oweniidae	3.11	2.06	1.24	1.38	2.42	13.32
Capitellidae	2.16	0.65	1.19	1.88	2.32	15.63
Echinarachniidae	0.18	1.57	1.05	2.71	2.04	17.68
Periplomatidae	1.55	0.24	1.03	1.96	2.02	19.69
Mytilidae	1.73	0.77	1.03	2	2.01	21.71
Corophiidae	0.88	1.85	0.95	1.46	1.86	23.57
Nemertea	1.35	0.11	0.94	2.44	1.83	25.4
Thyasiridae	1.64	0.64	0.89	1.44	1.75	27.15
Scalibregmatidae	1.19	0	0.87	1.97	1.7	28.85

Groups 2E and 1D			Average dissimilarity: 57.28%			
Species	**Group 2E Av.Abund**	**Group 1D Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Trichobranchidae	1.86	0	1.56	4.54	2.73	2.73
Cirratulidae	2.28	0.55	1.46	1.91	2.56	5.28
Periplomatidae	1.93	0.24	1.43	2.53	2.5	7.78
Thyasiridae	2.29	0.64	1.39	1.94	2.44	10.22
Echinarachniidae	0.01	1.57	1.3	4.88	2.27	12.49
Lumbrineridae	2.27	0.76	1.28	2.1	2.23	14.72
Corophiidae	0.34	1.85	1.27	1.77	2.21	16.93
Spionidae	3.09	1.58	1.24	2.36	2.17	19.1
Pectinariidae	0.05	1.5	1.2	2.62	2.1	21.21
Rissoidae	1.54	0.2	1.16	1.84	2.03	23.24
Nemertea	1.43	0.11	1.11	2.64	1.94	25.18
Chaetiliidae	0	1.33	1.11	2.49	1.94	27.13
Nuculidae	2.34	1.75	1.04	1.47	1.82	28.95

Groups 2D and 1D			Average dissimilarity: 55.37%			
Species	**Group 2D Av.Abund**	**Group 1D Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Golfingiidae	1.77	0.12	1.29	1.74	2.34	2.34
Idoteidae	0.33	1.73	1.13	1.74	2.04	4.38
Mytilidae	1.72	0.77	1.04	2.03	1.89	6.26
Chaetiliidae	0	1.33	1.01	2.55	1.83	8.09
Trichobranchidae	1.35	0	1	1.73	1.81	9.9
Ischyroceridae	1.54	0.39	1	1.4	1.8	11.7
Cirratulidae	1.77	0.55	0.99	1.71	1.78	13.48
Nemertea	1.4	0.11	0.98	3.05	1.78	15.26
Echinarachniidae	0.3	1.57	0.96	2.11	1.73	16.99
Pectinariidae	0.3	1.5	0.94	2.07	1.71	18.7
Caprellidae	1.31	0.09	0.93	1.61	1.69	20.38
Rissoidae	1.35	0.2	0.92	1.78	1.66	22.04
Syllidae	1.38	0.29	0.89	1.34	1.61	23.64
Polynoidae	1.31	0.24	0.87	1.92	1.57	25.21
Nuculidae	1.45	1.75	0.86	1.33	1.54	26.76
Paramunnidae	1.18	0.09	0.85	1.98	1.54	28.3
Lumbrineridae	1.84	0.76	0.84	1.63	1.52	29.81
Groups 2B and 1D			**Average dissimilarity: 56.57%**			
Species	**Group 2B Av.Abund**	**Group 1D Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Cirratulidae	2.97	0.55	1.96	2.28	3.47	3.47
Unciolidae	2.64	1.3	1.67	1.65	2.95	6.42
Mytilidae	2.38	0.77	1.47	1.77	2.61	9.03
Oweniidae	0.91	2.06	1.4	1.92	2.48	11.51
Capitellidae	2.3	0.65	1.34	2.03	2.36	13.87
Syllidae	1.97	0.29	1.33	1.6	2.35	16.22
Echinarachniidae	0	1.57	1.3	5.01	2.29	18.51
Diastylidae	0.68	2.25	1.27	2.1	2.25	20.76
Chaetiliidae	0	1.33	1.1	2.44	1.94	22.7
Nuculidae	1.68	1.75	1.09	1.23	1.93	24.63
Ischyroceridae	1.4	0.39	1.05	1.28	1.85	26.48
Terebellidae	1.2	0	1	5.43	1.77	28.25
Spionidae	2.61	1.58	0.91	1.63	1.61	29.86
Groups 2C and 1D			**Average dissimilarity: 62.65%**			
Species	**Group 2C Av.Abund**	**Group 1D Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Diastylidae	0.28	2.25	2.15	2.53	3.44	3.44
Trichobranchidae	1.76	0	1.92	3.39	3.06	6.5
Corophiidae	0.18	1.85	1.8	2.08	2.88	9.38
Idoteidae	0.14	1.73	1.74	1.96	2.78	12.15
Echinarachniidae	0	1.57	1.71	5.18	2.72	14.88
Oweniidae	0.54	2.06	1.68	1.52	2.68	17.56
Pectinariidae	0.02	1.5	1.59	2.77	2.53	20.09
Lumbrineridae	2.16	0.76	1.56	1.94	2.49	22.58
Cardiidae	0.15	1.52	1.53	1.85	2.44	25.02
Cirratulidae	1.75	0.55	1.41	1.67	2.25	27.28
Chaetiliidae	0.04	1.33	1.41	2.28	2.25	29.53

Groups 1E and 1D			Average dissimilarity: 59.75%			
Species	**Group 1E Av.Abund**	**Group 1D Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Syllidae	3.12	0.29	2.92	3.12	4.89	4.89
Cirratulidae	2.38	0.55	1.98	1.78	3.32	8.21
Diastylidae	0.34	2.25	1.98	2.38	3.32	11.53
Polygordiidae	2.6	0.72	1.97	1.62	3.3	14.83
Oweniidae	0.26	2.06	1.87	1.86	3.12	17.95
Nuculidae	0.21	1.75	1.61	1.37	2.7	20.65
Maldanidae	2.7	1.23	1.55	1.72	2.59	23.24
Idoteidae	0.31	1.73	1.52	1.77	2.54	25.78
Pectinariidae	0.14	1.5	1.41	2.38	2.37	28.15

Groups 2F and 1C			Average dissimilarity: 57.60%			
Species	**Group 2F Av.Abund**	**Group 1C Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Nuculidae	3.13	0.39	2.05	3.13	3.55	3.55
Cirratulidae	2.82	0.13	2.04	2.97	3.54	7.09
Lumbrineridae	2.41	0.24	1.64	2.99	2.84	9.94
Corophiidae	0.88	2.98	1.61	2.03	2.8	12.73
Paraonidae	2.74	0.63	1.58	2.73	2.74	15.47
Spionidae	3.43	1.44	1.51	2.18	2.61	18.09
Capitellidae	2.16	0.24	1.47	2.32	2.55	20.64
Idoteidae	1.98	0.3	1.26	2.19	2.19	22.83
Thyasiridae	1.64	0	1.23	2.35	2.14	24.98
Periplomatidae	1.55	0	1.17	2.63	2.02	27
Oweniidae	3.11	2.05	1.16	1.4	2.02	29.02

Groups 2E and 1C			Average dissimilarity: 60.75%			
Species	**Group 2E Av.Abund**	**Group 1C Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Corophiidae	0.34	2.98	2.22	3.69	3.66	3.66
Thyasiridae	2.29	0	1.92	6.4	3.15	6.81
Cirratulidae	2.28	0.13	1.81	3.01	2.99	9.8
Paraonidae	2.78	0.63	1.81	2.51	2.98	12.78
Lumbrineridae	2.27	0.24	1.7	3.44	2.79	15.57
Nuculidae	2.34	0.39	1.62	2.64	2.66	18.23
Periplomatidae	1.93	0	1.62	4.51	2.66	20.89
Unciolidae	0.17	1.85	1.41	2.64	2.31	23.2
Spionidae	3.09	1.44	1.4	1.89	2.3	25.5
Trichobranchidae	1.86	0.35	1.34	2.39	2.21	27.72
Capitellidae	1.77	0.24	1.29	2.35	2.12	29.84

Groups 2D and 1C			Average dissimilarity: 53.06%			
Species	**Group 2D Av.Abund**	**Group 1C Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Cirratulidae	1.77	0.13	1.26	2.81	2.38	2.38
Lumbrineridae	1.84	0.24	1.21	2.88	2.29	4.67
Paraonidae	2.15	0.63	1.16	1.97	2.19	6.86
Thyasiridae	1.41	0	1.06	2.81	2.01	8.86
Capitellidae	1.56	0.24	1.04	1.91	1.96	10.82
Golfingiidae	1.77	0.98	1.04	1.45	1.95	12.77
Corophiidae	1.63	2.98	1.03	1.75	1.94	14.71
Rissoidae	1.35	0	1.02	2.1	1.91	16.63
Sabellidae	1.48	0.26	0.98	1.88	1.85	18.48
Trichobranchidae	1.35	0.35	0.92	1.57	1.74	20.22
Nemertea	1.4	0.22	0.9	2.32	1.69	21.9
Nuculidae	1.45	0.39	0.87	1.57	1.64	23.55
Lysianassidae	0.39	1.4	0.84	1.77	1.59	25.14
Trochidae	0.3	1.27	0.79	2.13	1.49	26.63
Caprellidae	1.31	0.51	0.78	1.39	1.47	28.1
Paramunnidae	1.18	0.22	0.78	1.77	1.46	29.56

Groups 2B and 1C			Average dissimilarity: 58.59%			
Species	**Group 2B Av.Abund**	**Group 1C Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Cirratulidae	2.97	0.13	2.33	3.49	3.98	3.98
Capitellidae	2.3	0.24	1.69	2.9	2.88	6.86
Paraonidae	2.53	0.63	1.57	2.75	2.68	9.55
Unciolidae	2.64	1.85	1.5	2.09	2.56	12.1
Oweniidae	0.91	2.05	1.42	2.84	2.42	14.53
Corophiidae	1.36	2.98	1.4	1.59	2.39	16.92
Mytilidae	2.38	0.71	1.33	1.87	2.27	19.19
Diastylidae	0.68	2.15	1.2	2.43	2.05	21.23
Hiatellidae	1.5	0	1.17	1.63	2	23.23
Nuculidae	1.68	0.39	1.17	1.43	2	25.23
Lumbrineridae	1.66	0.24	1.16	2.29	1.99	27.22
Syllidae	1.97	0.81	1.08	1.24	1.85	29.06

Groups 2C and 1C			Average dissimilarity: 67.99%			
Species	**Group 2C Av.Abund**	**Group 1C Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Corophiidae	0.18	2.98	3.06	4.33	4.5	4.5
Paraonidae	2.79	0.63	2.37	2.36	3.49	8
Lumbrineridae	2.16	0.24	2.1	3.25	3.09	11.08
Diastylidae	0.28	2.15	2.06	3.01	3.03	14.11
Unciolidae	0.07	1.85	1.92	3.21	2.83	16.94
Cirratulidae	1.75	0.13	1.8	2.67	2.65	19.58
Thyasiridae	1.61	0	1.74	2.85	2.56	22.15
Oweniidae	0.54	2.05	1.7	1.83	2.5	24.65
Trichobranchidae	1.76	0.35	1.67	2.2	2.45	27.1
Cardiidae	0.15	1.64	1.65	2.71	2.43	29.54

Groups 1E and 1C			Average dissimilarity: 59.51%			
Species	**Group 1E Av.Abund**	**Group 1C Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Corophiidae	0.59	2.98	2.47	3.27	4.15	4.15
Syllidae	3.12	0.81	2.46	2.03	4.13	8.28
Cirratulidae	2.38	0.13	2.37	2.25	3.97	12.25
Paraonidae	2.81	0.63	2.27	2.36	3.82	16.07
Polygordiidae	2.6	0.49	2.21	1.84	3.72	19.79
Oweniidae	0.26	2.05	1.89	2.31	3.18	22.97
Diastylidae	0.34	2.15	1.89	2.75	3.18	26.15
Dorvilleidae	1.34	0	1.4	1.88	2.35	28.49

Groups 1D and 1C			Average dissimilarity: 47.98%			
Species	**Group 1D Av.Abund**	**Group 1C Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Nuculidae	1.75	0.39	1.42	1.32	2.96	2.96
Idoteidae	1.73	0.3	1.41	1.77	2.94	5.9
Corophiidae	1.85	2.98	1.22	1.82	2.53	8.44
Paraonidae	1.75	0.63	1.11	1.65	2.31	10.75
Pectinariidae	1.5	0.54	1.07	1.6	2.23	12.98
Maldanidae	1.23	2.15	1	1.48	2.08	15.06
Trochidae	0.29	1.27	0.98	1.85	2.04	17.09
Mytilidae	0.77	0.71	0.94	1.35	1.96	19.06
Golfingiidae	0.12	0.98	0.91	0.96	1.9	20.95
Ischyroceridae	0.39	1.07	0.89	1.42	1.85	22.81
Chaetiliidae	1.33	0.63	0.8	1.28	1.67	24.48
Unciolidae	1.3	1.85	0.79	1.2	1.65	26.13
Sigalionidae	0.9	0.22	0.78	1.25	1.62	27.75
Sabellidae	0.91	0.26	0.77	1.38	1.6	29.36

Groups 2F and 1B			Average dissimilarity: 61.40%			
Species	**Group 2F Av.Abund**	**Group 1B Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Nuculidae	3.13	0.2	2.47	3.8	4.02	4.02
Oweniidae	3.11	0.3	2.41	1.81	3.92	7.94
Capitellidae	2.16	0	1.84	2.88	2.99	10.93
Spionidae	3.43	1.4	1.7	3.12	2.77	13.7
Unciolidae	0.76	2.44	1.52	1.77	2.48	16.18
Cirratulidae	2.82	1.11	1.47	1.72	2.4	18.58
Sabellidae	1.76	0	1.47	3.03	2.4	20.98
Lumbrineridae	2.41	0.68	1.47	2.3	2.4	23.37
Periplomatidae	1.55	0	1.32	2.64	2.14	25.52
Idoteidae	1.98	0.44	1.3	1.95	2.12	27.64
Thyasiridae	1.64	0.2	1.25	2.1	2.04	29.68

Groups 2E and 1B			Average dissimilarity: 64.57%			
Species	**Group 2E Av.Abund**	**Group 1B Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Unciolidae	0.17	2.44	2.21	2.53	3.42	3.42
Nuculidae	2.34	0.2	2.03	3.58	3.15	6.57
Thyasiridae	2.29	0.2	1.99	4.29	3.09	9.65
Periplomatidae	1.93	0	1.85	4.69	2.87	12.52
Trichobranchidae	1.86	0	1.8	4.78	2.78	15.3
Capitellidae	1.77	0	1.68	3.74	2.61	17.91
Corophiidae	0.34	2.06	1.67	2.72	2.58	20.49
Sabellidae	1.7	0	1.62	3.49	2.51	23
Spionidae	3.09	1.4	1.6	2.87	2.47	25.47
Lumbrineridae	2.27	0.68	1.51	2.47	2.34	27.81

Groups 2D and 1B			Average dissimilarity: 61.17%			
Species	**Group 2D Av.Abund**	**Group 1B Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Golfingiidae	1.77	0	1.55	1.88	2.54	2.54
Astartidae	1.68	0	1.46	2.89	2.38	4.92
Capitellidae	1.56	0	1.34	2.58	2.2	7.11
Pholoidae	1.49	0	1.29	5.71	2.11	9.23
Sabellidae	1.48	0	1.27	2.35	2.08	11.3
Ischyroceridae	1.54	0.2	1.17	1.52	1.92	13.22
Rissoidae	1.35	0	1.15	2.12	1.87	15.09
Trichobranchidae	1.35	0	1.13	1.74	1.86	16.95
Unciolidae	1.36	2.44	1.12	1.59	1.82	18.77
Nuculidae	1.45	0.2	1.11	1.85	1.81	20.58
Caprellidae	1.31	0	1.1	1.68	1.8	22.38
Thyasiridae	1.41	0.2	1.05	2.16	1.72	24.09
Syllidae	1.38	0.26	1.05	1.37	1.71	25.8
Paramunnidae	1.18	0	1.02	2.25	1.66	27.46
Lumbrineridae	1.84	0.68	0.99	1.9	1.63	29.09

Groups 2B and 1B			Average dissimilarity: 59.98%			
Species	**Group 2B Av.Abund**	**Group 1B Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Capitellidae	2.3	0	2.15	5.05	3.58	3.58
Cirratulidae	2.97	1.11	1.73	1.9	2.89	6.47
Syllidae	1.97	0.26	1.57	1.69	2.62	9.08
Mytilidae	2.38	0.68	1.56	1.93	2.6	11.69
Unciolidae	2.64	2.44	1.56	1.89	2.6	14.29
Diastylidae	0.68	2.24	1.45	2.34	2.41	16.7
Nuculidae	1.68	0.2	1.42	1.49	2.37	19.07
Hiatellidae	1.5	0	1.33	1.62	2.22	21.29
Anthozoa	1.36	0	1.3	5.83	2.16	23.46
Ischyroceridae	1.4	0.2	1.21	1.31	2.03	25.48
Spionidae	2.61	1.4	1.19	1.75	1.99	27.47
Phyllodocidae	1.44	0.26	1.15	1.8	1.92	29.39

Groups 2C and 1B			Average dissimilarity: 65.13%			
Species	**Group 2C Av.Abund**	**Group 1B Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Unciolidae	0.07	2.44	3.13	2.73	4.8	4.8
Diastylidae	0.28	2.24	2.57	2.94	3.94	8.74
Corophiidae	0.18	2.06	2.47	3.4	3.79	12.53
Trichobranchidae	1.76	0	2.31	3.62	3.54	16.07
Cardiidae	0.15	1.59	1.94	1.65	2.98	19.05
Lumbrineridae	2.16	0.68	1.91	2.37	2.94	21.99
Capitellidae	1.46	0	1.9	3.89	2.92	24.91
Thyasiridae	1.61	0.2	1.84	2.43	2.83	27.74

Groups 1E and 1B			Average dissimilarity: 53.53%			
Species	**Group 1E Av.Abund**	**Group 1B Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Syllidae	3.12	0.26	3.51	3.17	6.57	6.57
Diastylidae	0.34	2.24	2.34	2.7	4.37	10.94
Polygordiidae	2.6	1.06	1.91	1.39	3.57	14.51
Cirratulidae	2.38	1.11	1.8	1.58	3.36	17.87
Corophiidae	0.59	2.06	1.8	2.15	3.35	21.22
Paraonidae	2.81	1.47	1.67	1.68	3.11	24.34
Dorvilleidae	1.34	0	1.66	1.89	3.09	27.43

Groups 1D and 1B			Average dissimilarity: 50.06%			
Species	**Group 1D Av.Abund**	**Group 1B Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Oweniidae	2.06	0.3	2.01	1.83	4.02	4.02
Nuculidae	1.75	0.2	1.76	1.38	3.52	7.54
Idoteidae	1.73	0.44	1.53	1.69	3.05	10.59
Pectinariidae	1.5	0.2	1.48	2.31	2.96	13.55
Unciolidae	1.3	2.44	1.48	1.43	2.96	16.51
Chaetiliidae	1.33	0.26	1.27	1.69	2.54	19.04
Leuconidae	1.12	0.2	1.12	1.46	2.23	21.27
Mytilidae	0.77	0.68	1.1	1.27	2.2	23.47
Cirratulidae	0.55	1.11	1.06	1.39	2.11	25.59
Cardiidae	1.52	1.59	1.04	1.29	2.07	27.66
Sabellidae	0.91	0	0.99	1.58	1.98	29.64

Groups 1C and 1B			Average dissimilarity: 49.32%			
Species	**Group 1C Av.Abund**	**Group 1B Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Oweniidae	2.05	0.3	2.03	2.21	4.12	4.12
Trochidae	1.27	0.24	1.2	2.07	2.42	6.54
Cirratulidae	0.13	1.11	1.18	1.58	2.4	8.94
Leuconidae	1.12	0.2	1.11	1.62	2.25	11.19
Paraonidae	0.63	1.47	1.08	1.19	2.2	13.39
Unciolidae	1.85	2.44	1.07	1.5	2.17	15.56
Golfingiidae	0.98	0	1.06	0.94	2.15	17.71
Ischyroceridae	1.07	0.2	1.06	1.55	2.14	19.85
Corophiidae	2.98	2.06	1.05	1.85	2.12	21.98
Astartidae	0.89	0	0.97	1.32	1.96	23.94
Phyllodocidae	0.91	0.26	0.94	1.54	1.91	25.85
Lysianassidae	1.4	0.89	0.94	1.23	1.91	27.76
Stenothoidae	0.82	0	0.93	1.82	1.89	29.65

Groups 2F and 2A			Average dissimilarity: 52.35%			
Species	**Group 2F Av.Abund**	**Group 2A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Oweniidae	3.11	0.59	2.15	1.71	4.12	4.12
Nuculidae	3.13	0.59	2.14	2.66	4.09	8.21
Arcticidae	1.52	0	1.25	2.6	2.39	10.6
Spionidae	3.43	1.92	1.25	2.43	2.39	12.98
Idoteidae	1.98	0.75	1.13	1.48	2.16	15.14
Sabellidae	1.76	0.5	1.08	2.04	2.06	17.2
Astartidae	1.28	0	1.08	2.28	2.06	19.26
Thyasiridae	1.64	0.5	1.06	1.72	2.03	21.29
Scalibregmatidae	1.19	0	0.98	1.97	1.88	23.16
Hiatellidae	1.15	0	0.94	1.22	1.79	24.96
Phoxocephalidae	1.14	0	0.94	1.75	1.79	26.75
Ampharetidae	2.83	1.79	0.89	1.71	1.7	28.45

Groups 2E and 2A			Average dissimilarity: 50.56%			
Species	**Group 2E Av.Abund**	**Group 2A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Trichobranchidae	1.86	0	1.79	4.72	3.53	3.53
Thyasiridae	2.29	0.5	1.72	2.72	3.41	6.94
Nuculidae	2.34	0.59	1.66	2.16	3.29	10.23
Rissoidae	1.54	0	1.46	2.16	2.88	13.12
Ampharetidae	3.23	1.79	1.39	2.51	2.74	15.86
Phoxocephalidae	1.33	0	1.28	2.44	2.53	18.39
Sabellidae	1.7	0.5	1.16	2.12	2.29	20.68
Spionidae	3.09	1.92	1.08	2.03	2.14	22.82
Oweniidae	1.59	0.59	1.06	1.35	2.1	24.91
Maldanidae	2.41	1.37	1.05	1.84	2.08	26.99
Yoldiidae	1.03	0	0.98	1.57	1.95	28.94

Groups 2D and 2A			Average dissimilarity: 56.83%			
Species	**Group 2D Av.Abund**	**Group 2A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Golfingiidae	1.77	0	1.54	1.86	2.72	2.72
Astartidae	1.68	0	1.45	2.85	2.55	5.26
Corophiidae	1.63	0	1.41	2.39	2.47	7.74
Pholoidae	1.49	0	1.28	5.58	2.26	10
Ischyroceridae	1.54	0	1.28	1.67	2.26	12.26
Syllidae	1.38	0	1.18	1.58	2.07	14.33
Rissoidae	1.35	0	1.14	2.09	2.01	16.33
Trichobranchidae	1.35	0	1.13	1.72	1.99	18.32
Caprellidae	1.31	0	1.09	1.66	1.92	20.24
Ampeliscidae	1.19	0	1.02	3.13	1.8	22.04
Paramunnidae	1.18	0	1.01	2.22	1.78	23.82
Phoxocephalidae	1.17	0	1	3.08	1.75	25.57
Sabellidae	1.48	0.5	0.94	1.99	1.66	27.23
Cardiidae	1.59	0.5	0.92	1.84	1.63	28.86

Groups 2B and 2A			Average dissimilarity: 52.00%			
Species	**Group 2B Av.Abund**	**Group 2A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Unciolidae	2.64	0.87	2.15	1.43	4.13	4.13
Syllidae	1.97	0	1.78	2.13	3.42	7.55
Hiatellidae	1.5	0	1.32	1.57	2.54	10.09
Nuculidae	1.68	0.59	1.24	1.31	2.38	12.47
Ischyroceridae	1.4	0	1.23	1.16	2.36	14.84
Corophiidae	1.36	0	1.21	1.79	2.32	17.15
Mytilidae	2.38	1.09	1.15	1.59	2.22	19.37
Terebellidae	1.2	0	1.14	5.37	2.19	21.57
Periplomatidae	0.24	1.3	1.02	1.9	1.96	23.53
Diastylidae	0.68	1.72	1	1.34	1.92	25.45
Oweniidae	0.91	0.59	1	0.96	1.92	27.37
Scalibregmatidae	1.03	0	0.99	1.78	1.91	29.27

Groups 2C and 2A			Average dissimilarity: 48.94%			
Species	**Group 2C Av.Abund**	**Group 2A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Trichobranchidae	1.76	0	2.29	3.57	4.67	4.67
Diastylidae	0.28	1.72	1.88	1.88	3.83	8.51
Flabelligeridae	0.04	1.34	1.73	2.68	3.54	12.04
Thyasiridae	1.61	0.5	1.55	1.79	3.17	15.21
Phoxocephalidae	1.17	0	1.51	2.37	3.09	18.3
Ampharetidae	2.93	1.79	1.47	2.38	3	21.3
Polynoidae	0.35	1.41	1.38	1.77	2.81	24.11
Maldanidae	2.17	1.37	1.18	1.32	2.41	26.52
Cossuridae	0.9	0	1.16	1.42	2.37	28.89

Groups 1E and 2A			Average dissimilarity: 56.89%			
Species	**Group 1E Av.Abund**	**Group 2A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Syllidae	3.12	0	3.81	4.2	6.7	6.7
Polygordiidae	2.6	0.5	2.59	1.86	4.55	11.25
Unciolidae	2.34	0.87	1.93	1.37	3.39	14.64
Lumbrineridae	0.36	1.91	1.93	1.97	3.39	18.02
Diastylidae	0.34	1.72	1.72	1.78	3.01	21.04
Maldanidae	2.7	1.37	1.66	1.93	2.92	23.96
Dorvilleidae	1.34	0	1.64	1.87	2.89	26.85
Nemertea	0.31	1.5	1.55	1.64	2.73	29.58

Groups 1D and 2A			Average dissimilarity: 57.98%			
Species	**Group 1D Av.Abund**	**Group 2A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Cirratulidae	0.55	2.34	2.07	1.78	3.58	3.58
Corophiidae	1.85	0	2.05	2.65	3.53	7.1
Pectinariidae	1.5	0	1.65	2.85	2.85	9.96
Nemertea	0.11	1.5	1.62	2.11	2.8	12.76
Oweniidae	2.06	0.59	1.61	1.49	2.78	15.54
Arcticidae	1.42	0	1.54	1.9	2.66	18.2
Nuculidae	1.75	0.59	1.53	1.22	2.64	20.84
Chaetiliidae	1.33	0	1.49	2.42	2.57	23.4
Phoxocephalidae	1.27	0	1.43	2.36	2.47	25.88
Capitellidae	0.65	1.84	1.43	1.34	2.46	28.34

Groups 1C and 2A			Average dissimilarity: 62.91%			
Species	**Group 1C Av.Abund**	**Group 2A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Corophiidae	2.98	0	3.35	6.97	5.33	5.33
Cirratulidae	0.13	2.34	2.56	2.6	4.06	9.39
Paraonidae	0.63	2.56	2.16	2.23	3.44	12.83
Lumbrineridae	0.24	1.91	1.91	2.32	3.03	15.86
Capitellidae	0.24	1.84	1.87	1.75	2.98	18.84
Oweniidae	2.05	0.59	1.63	1.88	2.59	21.44
Lysianassidae	1.4	0	1.61	2.57	2.56	24
Arcticidae	1.34	0	1.52	4.04	2.42	26.42
Nemertea	0.22	1.5	1.49	1.75	2.36	28.78

Groups 1B and 2A			Average dissimilarity: 55.13%			
Species	**Group 1B Av.Abund**	**Group 2A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Corophiidae	2.06	0	2.79	6.67	5.06	5.06
Capitellidae	0	1.84	2.57	2.31	4.66	9.72
Unciolidae	2.44	0.87	2.37	1.53	4.3	14.02
Flabelligeridae	0	1.34	1.86	3.01	3.37	17.38
Periplomatidae	0	1.3	1.78	6.13	3.24	20.62
Cirratulidae	1.11	2.34	1.75	1.29	3.17	23.79
Cardiidae	1.59	0.5	1.71	1.72	3.1	26.89
Lumbrineridae	0.68	1.91	1.68	1.61	3.04	29.94

Groups 2F and 1A			Average dissimilarity: 59.41%			
Species	**Group 2F Av.Abund**	**Group 1A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Nuculidae	3.13	0	2.76	4.67	4.65	4.65
Oweniidae	3.11	0	2.75	1.97	4.62	9.28
Idoteidae	1.98	0	1.75	3.08	2.95	12.23
Spionidae	3.43	1.5	1.7	3.24	2.87	15.1
Cirratulidae	2.82	1	1.63	2.38	2.75	17.85
Paraonidae	2.74	1	1.53	3.77	2.58	20.43
Mytilidae	1.73	0	1.5	3.45	2.53	22.96
Periplomatidae	1.55	0	1.38	2.58	2.32	25.29
Polygordiidae	1.31	0	1.14	1.57	1.91	27.2
Golfingiidae	0.07	1.32	1.12	3.77	1.88	29.08

Groups 2E and 1A			Average dissimilarity: 58.47%			
Species	**Group 2E Av.Abund**	**Group 1A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Nuculidae	2.34	0	2.35	5.59	4.01	4.01
Periplomatidae	1.93	0	1.95	4.69	3.34	7.35
Trichobranchidae	1.86	0	1.9	4.75	3.24	10.59
Paraonidae	2.78	1	1.81	3.06	3.09	13.68
Spionidae	3.09	1.5	1.6	3.11	2.73	16.41
Oweniidae	1.59	0	1.59	1.91	2.73	19.14
Rissoidae	1.54	0	1.54	2.17	2.64	21.78
Ampharetidae	3.23	1.78	1.47	3.23	2.52	24.3
Phoxocephalidae	1.33	0	1.36	2.43	2.32	26.62
Arcticidae	0.72	1.97	1.32	1.72	2.26	28.88

Groups 2D and 1A			Average dissimilarity: 55.41%			
Species	**Group 2D Av.Abund**	**Group 1A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Mytilidae	1.72	0	1.54	3.58	2.77	2.77
Ischyroceridae	1.54	0	1.35	1.65	2.44	5.22
Diastylidae	1.5	0	1.35	5.59	2.43	7.65
Nuculidae	1.45	0	1.31	2.24	2.37	10.02
Syllidae	1.38	0	1.24	1.55	2.24	12.26
Rissoidae	1.35	0	1.2	2.06	2.17	14.43
Trichobranchidae	1.35	0	1.19	1.69	2.15	16.57
Caprellidae	1.31	0	1.15	1.64	2.08	18.65
Ampeliscidae	1.19	0	1.08	3.1	1.94	20.59
Paramunnidae	1.18	0	1.06	2.19	1.92	22.51
Phoxocephalidae	1.17	0	1.05	3.04	1.9	24.41
Oweniidae	1.12	0	1.04	1.64	1.88	26.29
Paraonidae	2.15	1	1.03	2.12	1.85	28.14
Arcticidae	0.87	1.97	1	1.48	1.81	29.95

Groups 2B and 1A			Average dissimilarity: 55.20%			
Species	**Group 2B Av.Abund**	**Group 1A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Mytilidae	2.38	0	2.32	3.32	4.2	4.2
Unciolidae	2.64	1	2.08	1.48	3.77	7.96
Cirratulidae	2.97	1	1.92	2.68	3.48	11.45
Syllidae	1.97	0	1.88	2.04	3.41	14.86
Nuculidae	1.68	0	1.6	1.39	2.89	17.75
Paraonidae	2.53	1	1.52	5.1	2.75	20.5
Phyllodocidae	1.44	0	1.47	2.85	2.66	23.16
Hiatellidae	1.5	0	1.4	1.48	2.53	25.69
Arcticidae	0.66	1.97	1.37	1.65	2.49	28.18

Groups 2C and 1A			Average dissimilarity: 55.93%			
Species	**Group 2C Av.Abund**	**Group 1A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Paraonidae	2.79	1	2.54	2.91	4.53	4.53
Trichobranchidae	1.76	0	2.48	3.62	4.44	8.97
Arcticidae	0.24	1.97	2.46	3.16	4.39	13.36
Cardiidae	0.15	1.63	2.11	3.39	3.77	17.13
Periplomatidae	1.36	0	1.87	3.37	3.35	20.47
Scalibregmatidae	0.29	1.57	1.82	2.41	3.26	23.73
Nuculidae	1.24	0	1.68	1.92	3.01	26.74
Trochidae	0	1.19	1.68	8.03	3.01	29.75

Groups 1E and 1A			Average dissimilarity: 57.46%			
Species	**Group 1E Av.Abund**	**Group 1A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Syllidae	3.12	0	4.11	4.26	7.15	7.15
Polygordiidae	2.6	0	3.42	2.71	5.95	13.1
Paraonidae	2.81	1	2.38	2.73	4.15	17.25
Arcticidae	0.17	1.97	2.37	3.78	4.13	21.38
Cirratulidae	2.38	1	2.01	2.27	3.5	24.88
Maldanidae	2.7	1.19	2	2.75	3.48	28.37

Groups 1D and 1A			Average dissimilarity: 57.39%			
Species	**Group 1D Av.Abund**	**Group 1A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Diastylidae	2.25	0	2.71	3.76	4.72	4.72
Oweniidae	2.06	0	2.46	2.37	4.29	9.01
Idoteidae	1.73	0	2.05	2.1	3.58	12.59
Nuculidae	1.75	0	2.01	1.39	3.5	16.09
Scalibregmatidae	0	1.57	1.89	7.54	3.3	19.39
Echinarachniidae	1.57	0	1.89	5.6	3.29	22.68
Pectinariidae	1.5	0	1.77	2.8	3.09	25.77
Chaetiliidae	1.33	0	1.6	2.36	2.78	28.55

Groups 1C and 1A			Average dissimilarity: 54.65%			
Species	**Group 1C Av.Abund**	**Group 1A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Diastylidae	2.15	0	2.61	6.53	4.77	4.77
Oweniidae	2.05	0	2.51	3.35	4.6	9.37
Corophiidae	2.98	1.32	2	4.25	3.66	13.02
Scalibregmatidae	0.39	1.57	1.42	1.95	2.59	15.61
Phoxocephalidae	1.17	0	1.39	1.58	2.55	18.16
Lumbrineridae	0.24	1.32	1.3	2.11	2.38	20.54
Leuconidae	1.12	0	1.29	1.71	2.37	22.91
Echinarachniidae	1.03	0	1.27	1.63	2.32	25.23
Ischyroceridae	1.07	0	1.25	1.66	2.29	27.52
Thyasiridae	0	1	1.22	8.59	2.22	29.74

Groups 1B and 1A			Average dissimilarity: 51.75%			
Species	**Group 1B Av.Abund**	**Group 1A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Diastylidae	2.24	0	3.29	6.01	6.36	6.36
Unciolidae	2.44	1	2.15	1.72	4.15	10.51
Golfingiidae	0	1.32	1.95	18.33	3.77	14.28
Capitellidae	0	1.19	1.76	18.33	3.41	17.69
Flabelligeridae	0	1.19	1.76	18.33	3.41	21.1
Scalibregmatidae	0.4	1.57	1.72	2.14	3.33	24.43
Echinarachniidae	1.07	0	1.59	1.69	3.08	27.51

Groups 2A and 1A			Average dissimilarity: 52.16%			
Species	**Group 2A Av.Abund**	**Group 1A Av.Abund**	**Av.Diss**	**Diss/SD**	**Contrib%**	**Cum.%**
Arcticidae	0	1.97	2.89	10.58	5.54	5.54
Diastylidae	1.72	0	2.45	1.96	4.7	10.24
Scalibregmatidae	0	1.57	2.3	10.58	4.41	14.65
Paraonidae	2.56	1	2.24	2.05	4.29	18.94
Cirratulidae	2.34	1	2.02	1.49	3.88	22.82
Corophiidae	0	1.32	1.93	10.58	3.71	26.53