Prepared in cooperation with the Bureau of Ocean Energy Management and National Oceanic and Atmospheric Administration

Maine Coastal Mapping Initiative 2015-2017 Benthic Infauna Analyses and Habitat Classification – Midcoast Maine

By Ivy Ozmon
Project Benthic Ecologist & Principle Scientist
Contractor to the Maine Coastal Program

Maine Coastal Mapping Initiative, April 2018

TABLE OF CONTENTS

Abstract

From 2015 to 2017 multibeam sonar surveys were completed for a 257 mi^2 area in Midcoast Maine to create high resolution bathymetric maps and to collect backscatter intensity data for the region. Benthic sampling was conducted to ground truth surficial sediment classifications made from interpretations of the bathymetric and backscatter maps, and these data were used in combination with the hydrographic data to inform benthic habitat classification. One hundred and ninety-four sites were sampled in the surveyed area to classify benthic habitat per the Coastal and Marine Ecological Classification Standard (CMECS; FGDC 2012). CMECS aquatic setting and geoformation designations were determined using analyses of hydrographic data, water column characterizations were made from analyses of vertical profiles of temperature and salinity, and seafloor substrate and benthic community classifications were generated from analyses of grab samples and seafloor imagery. Relationships between benthic community types and environmental variables were explored using multivariate statistical analysis methods. Predicted distributions of benthic communities were mapped for the surveyed area based on biotic-abiotic associations defined *a posteriori,* and using an abiotic surrogate, defined by *a priori* combined substrate-depth classification. Biotic and substrate component classification models based on analyses of data collected from 2015-2016 will be assessed using the CMECS classifications for sites sampled in 2017 once complete.

1 Introduction

Conducting hydrographic surveys with multibeam echosounder (MBES) sonar generates high value data with many potential applications. High resolution hydrographic data improve accuracy of navigational charts and help inform a wide range of coastal and resource management decisions, including siting for dredge spoils disposal, offshore development and submerged infrastructure, developing protections for sensitive or high quality habitat areas, and balancing competing interests in multi-use areas (Pickrill & Kostylev 2007). Important associations between benthic communities and their environment are revealed when MBES survey data are combined with direct observations of the biological, physical and chemical conditions at discrete locations over the seafloor. These abiotic-biotic data relationships can be used to predict potential benthic habitat where high resolution MBES data are available, expanding regional knowledge of benthic habitat and geologic resource locations and distributions. Choosing a standard habitat classification and mapping language to report classifications and distributions of abiotic and biotic habitat components improves efficacy of data driven, ecosystem based coastal management.

Much of what is known about benthic macroinvertebrate communities inhabiting the northern Gulf of Maine (GoM) is restricted to small study areas, focused exclusively on communities associated with a single seafloor substrate type, or is related to quantifying community disturbances in response to anthropogenic activities (Babb & DeLuca 1988; Simpson & Watling 2006; Grizzle et al. 2003, 2009; McHenry & Steneck 2013; McHenry 2014; Larsen & Rogers 2015). In offshore subtidal regions of the GoM, comprehensive knowledge of the distribution and diversity of benthic species assemblages is especially lacking. The previously published State marine benthic habitat classification scheme omits details on indicator species or species common to community assemblages associated with 13 of the 22 subtidal habitat types defined based on depth, substrate type and energy level (Brown 1993), underscoring the challenges inherent to researching the biology of subtidal coastal waters for characterization purposes. Thus, building toward a more comprehensive understanding of the distribution of the biology inhabiting Maine's subtidal marine ecosystem is a major goal of the Maine Coastal Program's Mapping Initiative.

In this study, benthic substrate and the biological communities in Midcoast Maine waters were sampled to inform habitat classification and ultimately, potential habitat modeling and mapping for a 257 mi^2 area offshore of Midcoast Maine, from Harpswell Island, east to Muscongus Bay. Data were compiled and benthic habitats were classified at discrete sample sites per the CMECS (FGDC 2012). Classifications of habitat are based on characterization of benthic infauna and epifauna, water column temperature and salinity conditions, and seafloor terrain features including substrate composition and type of seafloor geomorphology. Habitat quality for each site was evaluated using univariate community summary metrics: total infauna density, total Families, Shannon-Wiener biodiversity index, Margalef's species richness index, Pielou's species evenness and species rarefaction. Relationships between benthic species assemblages and environmental variables were explored with multivariate statistical analyses to determine if abiotic factors could explain community distribution patterns across the area surveyed with the multibeam sonar from 2015-2016. Bathymetric and backscatter data explained the greatest proportion of variability in observed community distributions. Benthic community relationships to bathymetric and backscatter data thresholds were used to reclassify bathymetric and backscatter maps to generate bottom-up potential habitat maps for benthos in unconsolidated seafloor sediment habitat across the study area. Additionally, the CMECS substrate component classification map generated with a geostatistical textural model was combined with bathymetric data reclassified into three depth strata to generate an abiotic surrogate based potential habitat map predicting distribution of the biological communities associated with an abiotic surrogate, defined *a priori* by combined substrate and depth strata.

This project was performed as part of the Maine Coastal Program's Mapping Initiative (MCMI) to address information gaps in regional benthic community and submerged sediment inventories offshore of coastal Maine to better inform their management. Collecting the biological, chemical and physical data to complement MCMI MBES data enables classification of many components of benthic habitat that improve knowledge of the distribution of Maine's offshore resources. Additionally, this effort enables regional habitat mapping and ocean planning because the data are reported in a common classification language, the Coastal and Marine Ecological Classification Standard (CMECS; FGDC 2012). This project was funded by the National Oceanic and Atmospheric Administration (NOAA CZM Grants NA15NOS4190208, NA16NOS4190118, NA17NOS4190116 and Project of Special Merit NA15NOS4190210) to support regional ocean planning efforts by expanding regional knowledge of benthic habitat classified according to CMECS. MBES data were collected in support of the Maine Submerged Lands Program, NOAA CZM objectives, and the federal Bureau of Ocean Energy Management's (BOEM) efforts to identify submerged sand and gravel resources suitable for beach nourishment.

2 Study Area

The 2015 through 2017 Midcoast Maine survey region was chosen to coincide with the Kennebec River paleodelta, roughly spanning the Midcoast from Orr's Island in Harpswell, east, to due south of Muscongus Bay, extending nearly 11 nautical miles offshore (Fig. 1). The area is coincident with two of three major focus areas for the Bureau of Ocean Energy Management's (BOEM) sand and gravel resource studies conducted by the MCMI. Seafloor substrate composition and regional surficial geology vary widely over the study area, and are well described by previous geophysical investigations (Belknap et al. 1989; Barnhardt et al. 1995; 1997; 1998; Kelley et al., 1987; 1992; 1997; 1998; 2003; 2007).

3 Methods

3.1 *Hydrographic Survey Data*

Methods for the hydrographic surveys completed to produce bathymetric and backscatter intensity maps used in the generation of potential benthic habitat maps are detailed in the MCMI hydrographer's reports for 2015 (Dobbs 2016a), 2016 (Dobbs 2017a) and 2017 (Dobbs 2017e) field seasons. Survey data from the three years were combined to generate a bathymetric data (m) mosaic, referenced to MLLW, and a backscatter intensity data (dB) mosaic, both gridded at 4-m resolution.

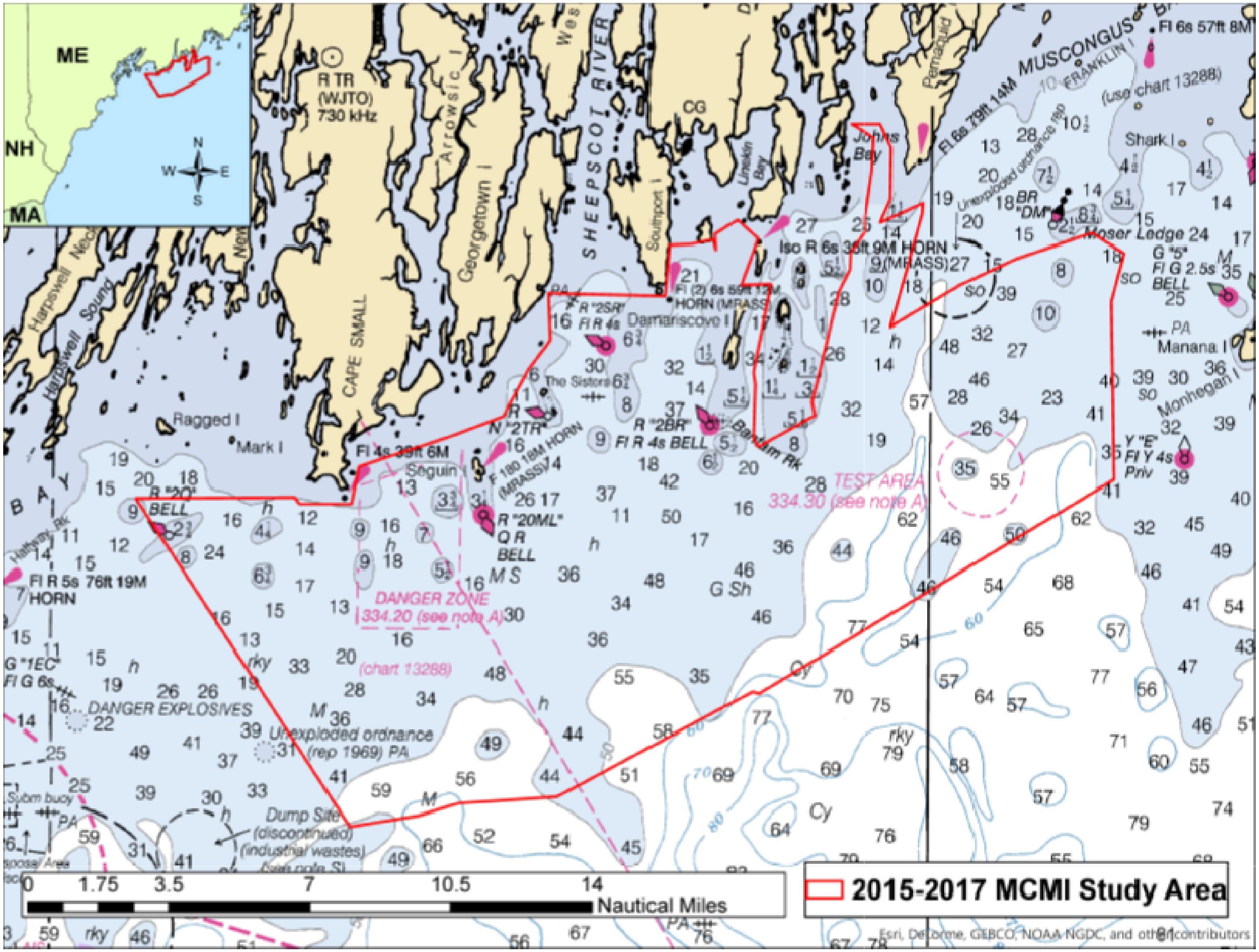


Figure 1. 2015-2017 MCMI Midcoast Maine Study Area plotted over NOAA RNC 13260. Basemap depth soundings in fathoms.

3.2 *Benthic sampling survey*

Benthic sampling was completed in the study area to: 1) groundtruth seafloor sediment textural classifications made from analyses of hydrographic survey data, and 2) to collect information about the benthos and seafloor environment to classify benthic habitat at sample sites per CMECS (FGDC 2012). Sites were visited to collect grab samples, video and water column profiles. Site selection was based on a proportional stratified random sampling study design, with three depth strata, less than 30 m, 30 to 60 m and greater than 60 m, and four predominant substrate levels, rock, gravel, sand and mud. Sample sizes for each depth and substrate level combination were roughly equal to the proportional representation of each combination reported for the greater coastal GoM seafloor (Barnhardt et al. 1998). Sample sites were chosen within relatively expansive, texturally homogenous zones without high vertical relief to limit the error in georeferencing sample sites based on location of the research vessel (i.e. assuming horizontal movement of the sampling platform was not great enough to cause sample collection outside of the seafloor texture and depth targeted).

At each sample site, a sediment and infauna grab sample and water column data were collected (where possible), and video of the seafloor and water column were recorded using a single sampling platform. The platform was equipped with a 9x9 inch (~23x23 cm) Ponar grab sampler, an Exo 1 water quality sonde or Digibar S sound speed probe, and an underwater video system including a Go Pro Hero 3+ in a waterproof dive housing, a Keldan LUNA 4V Video Light, and two dive lasers spaced to show a 10-cm distance on the seafloor to provide scale. The Digibar S measures temperature and sound velocity only, while the Exo 1 was equipped to measure salinity, temperature, pH, dissolved oxygen and chlorophyll. Salinity was calculated from Digibar S temperature and sound velocity measurements (Dakin 1999) for sites M0001-M0030, and measured directly using the Exo 1 at sites M0031- M0197. Accuracy of water column parameter measurements by the Exo 1 and Digibar S are listed with vertical profile results (Appendix C).

The sampling platform was re-deployed in cases where grab samples comprised only water or where samples exhibited washout from the Ponar sampler bucket closing improperly. The sampler was re-deployed until successful collection of an undisturbed sediment sample with a horizontal surface was achieved. If water was returned on three separate occasions, a rocky bottom was inferred and later confirmed with video collected at the seafloor.

After successfully retrieving a sediment grab sample, estimations on dominant grain size or lithology, sediment color, and depth of the grab sample contained in the Ponar bucket were recorded. Sub-samples for sediment analyses were collected by placing three scoops of sediment (~16 oz.) from the grab sample into a zip close bag, and the remainder of the sample was washed through 1 mm stainless steel mesh box sieves to collect infauna in the sample. Infauna and residues (sediment and other non-living debris retained on 1mm sieve) were stored in separate zip close bags and immediately placed on ice until transport to the laboratory for preservation.

Video provided images that were used to groundtruth seafloor textural classifications and characterize benthic epifauna communities, in addition to qualitative observations of water clarity and light attenuation through the water column. Videos were reviewed to extract a still image that provided the clearest image of the seafloor recorded during the duration spent recording on bottom to perform qualitative image evaluation. Still images were used to characterize and classify rocky substrates and classify biotic component based on epifauna community observations. Presence of zooplankton aggregations, fish, lobster, and other mobile marine fauna were also noted during video review.

3.2.1 *Sample site metadata and sample collection records*

Metadata were recorded at each site and each sample site was assigned a unique, sequential identifier (M- for Midcoast; Table 1; Appendix A). Copies of the field metadata sheets are archived on the state network, and hard copies are stored in Maine Coastal Program (MCP) laboratory at the Department of Marine Resources facility in Boothbay Harbor, ME. Photographs of grab samples and still images extracted from video of the seafloor are provided in Appendix B.

Table 1. Information included in grab sample field metadata sheet for individual samples, each labeled with unique sampling code.

Site information	Grab sample observations	Notes
• Site ID (M####) • Collection date & time • Latitude/ Longitude • Depth of seafloor (m) • Weather & sea conditions	• Depth of sample (cm) • Textural description of sediment • Sediment color • Identifiable taxa and other contents	• Sampling issues encountered • Debris removed from samples • Collector's initials

3.3 ***Sample transport, storage, and initial processing***

Samples were kept on ice no more than 24 hours before transportation to a lab for storage (sediment samples) or preservation (infauna samples). Sediment samples were stored in the refrigerator for up to two months before being transported to the sediment processing laboratory at the University of Maine in Orono or Maine Department of Transportation.

Infauna samples were preserved in either premixed 10% neutral buffered formalin solution (diluted with freshwater) or 95% non-denatured ethanol in a volume of preservative equal to twice that of the infauna sample. Samples were inverted three times after adding preservation solution to ensure thorough mixing of the infauna with the fixative, and labeled directly on the jar with the following information: site ID, date of collection, collector's initials, date of preservation, initials of person performing preservation and the preservative used (10% formalin or 95% ethanol). An internal sample label was placed in each infauna sample jar to uniquely identify each sample and record pertinent metadata. For samples preserved in ethanol, the 95% ethanol solution was replaced with fresh 95% ethanol 24 hours after initial preservation to ensure that dilution of the alcohol solution was kept to a minimum to prevent degradation of organism genetic material.

3.4 ***Benthic sediment and community sample analyses***

Infauna samples were analyzed by Maine Coastal Program contractors and identifications were confirmed by a regional benthic fauna expert. Grain size analysis was performed by University of Maine students and Maine Department of Transportation staff per standard operating procedures for the textural analysis of marine sediments (Poppe et al. 2014).

3.4.1 *Sediment analyses*

Unconsolidated sediment samples were analyzed for percent composition of mud, sand and gravel components (Folk 1954). Sand size distribution and degree of weathering were also measured for samples containing sand (Wentworth 1922). For additional detail on unconsolidated sediment analysis methods and raw sediment data see the associated sediment reports for samples collected in 2015 (Dobbs 2016b), 2016 (Dobbs 2017b) and 2017 (Dobbs 2017f).

3.4.2 *Infauna taxonomy, abundance and biomass measurements*

Infauna samples were sorted systematically under a dissecting microscope by removing dead organic material and sediment residues, and isolating live individuals from the same Phylum into separate sample jars or centrifuge tubes filled with preservation solution (1:2 ratio of volume of organisms to volume of preservation solution). Samples were sorted into the following groups: Cnidaria, Annelida, Mollusca, Arthropoda, Echinodermata, and miscellaneous, which included all individuals from other Phyla. Formalin (10%, neutral buffered) was used to preserve samples M0001- M0009, and 95% non-denatured ethanol was used to preserve all other samples. Fragments of organisms were only included in samples where they appeared to have been recently attached to a live organism (i.e. no signs of degradation such as loss of color or body shape).

Phyla sorted samples were later sorted to the lowest possible taxonomic level under a dissecting microscope. Individuals were identified to Family level at a minimum, species where possible, using at least one taxonomic guide (Gould 1870; Harger 1878; Abbott 1954; Smith 1964; Gosner 1971; Bousfield 1973; Watling 1979; Fauchald 1997; Pollock 1998; Turner & Reinhardt (unpublished) and one online photo database for marine specimens, where possible (WoRMS; Ratnasingham & Hebert 2007; NHMR) to confirm identifications. After checking accuracy of identifications wet weights for taxonomic groups in each sample were measured to ± 0.01g, and populations were enumerated. Identifiable fragments of individuals were included in biomass measurements, but were not counted as separate individuals. Separate taxonomic groups from each sample were retained in separate jars or centrifuge tubes, depending on the volume of preservative required to ensure organisms remained in solution.

Identified species' names were checked for agreement with currently accepted taxonomic nomenclature (WoRMS) to enable determinations of accurate species distributions, diversity and evenness metrics. Preserved specimens have been retained for quality control recounts by a second analyst, expert verification by Dr. Thomas Trott, Suffolk University, and to compile a reference infauna specimen collection for benthic marine infauna of coastal Maine.

3.4.3 *Epifauna observations*

Still images captured from video recorded at the seafloor for each sample site (Appendix B) were evaluated qualitatively to classify the biotic component for rocky bottom sites, and to record presence/absence observations for obvious megafauna at sites with unconsolidated sediment substrates. The biotic component for rocky bottom substrates was generally classified at the subclass level as attached fauna or benthic macroalgae, depending on which dominated, except in the case where the seafloor was covered in a community of diverse colonizers, where classification was made to the group level outlined in CMECS (FGDC 2012). Presence of abundant groups of attached taxa in seafloor imagery were noted as co-occurring elements one and two for the biotic component classification of hard bottom habitat, and presence of abundant mega-epifauna at sites with unconsolidated sediment habitat were incorporated to the primary biotic component community description for those sites.

3.5 *Data management, sample management and quality control*

Data from sample analyses were entered into a Microsoft Access database on the State of Maine network, linking sample metadata information with results from sample analyses for all sample sites. All infauna and sediment samples will be retained for quality control checks and expert verification, after which only an infauna specimen reference collection will be retained, including one to five example specimens for each species observed in MCMI studies (Baker 1987).

3.6 *CMECS habitat classification*

Benthic habitat for sample sites was classified per CMECS (FGDC 2012). CMECS classifications for this study describe the aquatic setting, water column, substrate, geoform and biotic components. Classification of habitat at each site was based on the combined evaluation of the hydrographic and benthic sample data collected as described in the sections below. Data formatting and file types follow the proposed CMECS data structure native data format for eventual compilation into a Maine CMECS geodatabase.

3.6.1 *Aquatic Setting*

A classified aquatic setting layer was generated in ArcMap 10.4.1 for the area surveyed by MCMI during 2015-2017 using the raster reclassify spatial analyst tool on the final processed bathymetric data mosaic. Zones deeper than -30 m depths were classified as Marine Offshore Subtidal, and zones shallower than -30 m were classified as Marine Nearshore Subtidal.

3.6.2 *Water column component*

The CMECS water column component classifications are described in a point shapefile containing feature attributes for water column layer, temperature and salinity classifications.

3.6.3 *Geoform component*

The Benthic Terrain Modeler tool developed for ArcMap (BTM, Wright et al. 2012) was used to produce a raster classifying benthic terrain features from an analysis of final processed bathymetric data to inform the geoform component classification. Input parameters for the fine and broad scale bathymetric position indices (BPIs) analysis radii were based on average distance measurements of larger and finer scale bathymetric features (250-500m for larger expansive broad scale features, like flats, and 50-100 m for fine scale features like distance between isolated rocky ridges, as determined by visual interpretation) (Lundblad et al. 2006). A classification dictionary developed for waters offshore of the California coast was used with modifications to slope boundary limits to identify and delineate benthic terrain features, or geoforms, across the surveyed region (Erdey-Heydorn 2008; Table 2). Terrain features, or geoform classes, from the Californian classification dictionary were crosswalked to standard CMECS units by incorporating the addition of geoform type level classification for depressions, slope modifiers for the two types of slopes, and co-occurring element geoform classifications to fully describe more complicated geoforms like ridges or boulder fields coincident with specific categories of bathymetric relief (slopes, flats or depressions).

Table 2. Classification dictionary used to identify geoforms in bathymetric data with the Benthic Terrain Modeler (BTM; Wright et al. 2001).

Geoform	**Geoform Type**	**Slope Modifier**	**Co-occurring element**	**Broad BPI Limits**		**Fine BPI Limits**		**Slope limits**	
				Lower	**Upper**	**Lower**	**Upper**	**Lower**	**Upper**
Flat				-100	100	-100	100		5
Slope		sloping		-100	100	-100	100	5	30
Slope		steeply sloping		-100	100	-100	100	30	
Depression	Scour				-100	-100	100		
Scarp				-100	100		-100	30	
Depression					-100		-100		
Pit				100			-100		
Ledge				100		-100	100		
Rock outcrop				100		100			
Ridges, boulders			Depression		-100	100			
Ridges, boulders			Flat	-100	100	100			5
Ridges, boulders			Slope	-100	100	100		5	
Depression	Local			-100	100		-100		5

3.6.4 *Substrate component*

The CMECS substrate component was classified for each sample site based on results from grain size analyses of unconsolidated sediment from grab samples, and results from image evaluation estimates of mean rock size for sites with hard bottom seafloor. Data were used to generate a point shapefile in ArcMap 10.4.1, containing attributes for all standard units described in the CMECS substrate component, with detailed results from the grain size analyses. For sites with unconsolidated sediments, classifications are based on the proportional representation of gravel, sand and mud (silt +clay) components and dominant size of the sand fraction (where applicable) of the sediment grab sample (Folk 1954). Substrate classifications are made to the group and subgroup level. Rocky seafloor sites are classified to the subgroup level where boulders or cobble dominate seafloor coverage, but are only classified to the subclass level where the rock bottom is comprised of exposed bedrock.

A separate rasterized data layer was generated for the substrate component following completion of a textural model in ArcMap 10.4.1. General methodological details on the supervised classification model used to produce continuous textural classifications for the entire surveyed area are described in separate MCMI reports (Dobbs 2017d; 2017f). Most-likelihoood classification model runs for the mosaic of MBES surveys completed from 2015-2017 included input layers for bathymetric data, backscatter intensity data, and bathymetric derivatives, slope and terrain ruggeddness (VRM with three neighboring cells, calculated in BTM, Wright et al. 2010). Manually delineated substrate training polygons created for the 2015-2016 combined survey area were used to train the model, and results were evaluated by comparing the textural model output to field descriptions or grain size analysis results of sediment collected at grab sample sites. Accuracy evaluations were performed on the raw model output instead of raster data cleaned for illustration purposes (output + boundary clean + majority filter tools) because the cleaning process reduced distribution detail that may lead to misrepresentation of observed substrate distribution.

Substrate component groups were slightly modified from those listed as CMECS standard units to best describe and identify substrates occurring across the 2015-2017 area surveyed by MCMI. Medium to coarse sand substrate subgroups were combined with the gravelly substrate group, and the sand substrate group was reduced to include only very fine to medium sand size substrate subgroups. Substrate groups for gravels and gravel mixes were also combined into a single substrate group.

3.6.5 *Biotic component*

Classifications for the biotic component were approached in two ways. First, sites were classified based on the most dominant taxa present, considering both quantitative infauna measurements and qualitative information on epifauna extracted from review of seafloor imagery (see MCMI biotic component classification protocol for detailed methodology). Where epifauna were present and abundant, they were classified as the primary biotic component, classified to community level when possible. Where epifauna were absent, the most abundant taxa in the infauna community for the site was reported as the primary biotic component classification, to the community level, when possible. Broader level classifications to subclass and group level were made when several taxa from a similar biotic group or subclass dominated the abundance at sample sites (i.e. Clam bed for site with >50% cumulative abundance of *Thracia*, *Yoldia*, and *Thyasira* clam Genera). Taxa making a large contribution to overall community assemblages (>25%), but not dominant at sites were reported as co-occurring taxa elements one and two, where present. Larger organisms capable of swimming or crawling outside of the sampled area within a day are recorded as associated taxa in the biotic component. Associated taxa are described as zooplankton aggreagations, crab, lobster or fish with information on the Genera following in parentheses where identifications were possible. A point shapefile was used to visualize these data, containing attributes for all CMECS units described in the biotic component.

A secondary biotic component classification was generated using descriptions of infauna communities based on results from common multivariate community statistical analyses. Communities described in analysis results represent the general groups of distinctly different benthic community types encountered across the study area (bottom-up based methodology), or within abiotic surrogate groups defined *a priori* by combined substrate and depth strata (abiotic surrogate methodology). For the multivariate community methods, the biotic component was classified based on taxa that contribute most to similarity of communities within groups defined by statistical analyses.

3.7 *Benthic community analyses and potential benthic habitat modeling*

Infauna community analyses and potential habitat modeling were explored for unconsolidated sediment habitat in the study area using two approaches. First, the abiotic surrogate approach, where benthic communities were defined *a priori* based on combined abiotic factors, substrate and depth strata, and spatial distributions of substrate and depth were then used to generate potential habitat maps. Second, for the bottom-up approach, similarity of biological communities was determined first, environmental variables associated with those communities were determined thereafter, and community-environmental data associations were used to model spatial distributions of potential habitat.

For the abiotic surrogate modeling approach to mapping potential habitat, infauna community data were analyzed in a single dataset where sample sites were classified based on the modified CMECS substrate classification and one of the depth strata (<30m, 30-60m and >60m) from which infauna samples were collected. These variables were used to assign infauna sample sites to one of six unconsolidated substrate levels, three depth strata levels, and 15 combined substrate-depth levels.

For the bottom-up approach, data were partitioned based on aquatic setting classification to optimize detection of patterns in community distributions that could be explained by environmental variables. Photosynthetically active radiation was not measured as part of this study, but light regimes are known to substantially differ between aquatic settings and have strong implications for determination of benthic habitat type. Because of this all subsequent data analyses were performed separately for sites falling within the two aquatic settings (nearshore, depth < 30m and offshore, depth > 30m).

Univariate and multivariate community analyses are only reported for unconsolidated sediment habitats because qualitative biotic component classifications were the only results available for attached fauna and flora communities observed at rocky bottom sites. Preliminary analyses indicated that the biological sampling resolution between unconsolidated sediment and rocky bottom habitats were too large to enable combination of the two datasets without reducing the biological dataset collected at unconsolidated sediment sites to presence/absence level. This was determined with ANOVA and Tukey pairwise tests comparing univariate community metrics between communities inhabiting unconsolidated sediment and rocky bottom substrate, where fauna density, and species richness (total Families) metrics were significantly lower for communities observed in seafloor imagery of rocky bottom habitat compared to all other unconsolidated substrate habitat classes where a grab sample was collected (mud, sand and gravel; $F_{density}$=20.830, $p_{density}$<<0.0001, $F_{richness}$=32.650, $p_{richness}$<<0.0001).

Community analyses were performed at the Family level because validation of taxonomic identifications to the species level was not yet complete at the time this report was written. Previous work documented that results for benthic communities analyzed at the Family, Genus and species levels do not lead to significantly different conclusions about differences between communities (Somerfield & Clarke 1995). Validation on specimens from Phyla Mollusca, Arthropoda and most Annelida were completed before writing this report, so any species names reported for specimens falling into those groups may be interpreted with confidence. Species identifications for the Echinoderms, Nemerteans and Sipunculids and polychaete Family Nephtyidae are subject to future revision, and interpretations of their distributions should be cautioned until identification validations are completed.

3.7.1 *Univariate community summary statistics*

Raw infauna abundance and biomass measurements were scaled up to report results per square meter, instead of per 0.05 m^2 (area sampled with the Ponar grab sampler).

Total Families (S), infauna density (total individuals, N m^{-2}), Shannon-Wiener diversity (H' $\log_e$), Margalef's species richness (d), Pielou's species evenness (J'), and species rarefaction (from a sample of 50, ES(50)) indices were calculated for communities at sample sites using Primer v7 (Clarke & Gorley 2015). Univariate community summary statistics were analyzed with various ANOVAs testing for differences in univariate community metrics between groups of communities defined by abiotic surrogate classification (i.e. substrate) or based on results from multivariate biotic-abiotic analyses in Primer v7 (Clarke & Gorley 2015). Univariate community metric data are available in the biotic component shapefile to enable comparison of communities sampled across the survey area.

3.7.2 *Multivariate community analyses*

The infauna and epifauna abundance data were analyzed to reduce the Families included in community assemblage matrices for multivariate analyses to those making up 2% or more of the total community abundance measured at any sample site. The data in the resulting matrix of species abundances (m^{-2}) by site was square root transformed to limit the influence of rarely observed species in determinations of similarity of communities across sample sites (Clarke et al. 2014). Zeros for species abundances were considered pseudo-absences because of the inability of the study design to confirm true species absences at sample sites.

Data compiled for the environmental variable matrices for multivariate analyses included benthic data measured at discrete sample sites and data extracted and averaged from continuous raster datasets using 8m radii around sample site locations. All results from sediment grain size analyses and water column data collected at the seafloor with vertical profiling instrumentation were variables directly measured at sample sites. Grain size data included percent of gravel, sand and mud in seafloor sediment samples, sand size (ϕ, graphical mean of sand size distribution), sand sorting (ϕ, the standard deviation of sand size distribution), and skewness, the dimensionless sand distribution metric indicating the degree of asymmetry of the sand size distribution curve. Water column measurements taken at the seafloor included salinity, temperature (°C), dissolved oxygen concentrations (mg L^{-1}) and chlorophyll concentrations (µg L^{-1}).

Environmental data for sample sites extracted from MBES derived rasters included depth (m, from MLLW vertically referenced 4-m bathymetric attributed grid) and backscatter intensity (dB, from post-processed backscatter grid, 4-m resolution), and three bathymetric data derivatives generated using the BTM tool in ArcMap 10.4.1: slope (degrees), aspect (degrees) and rugosity (dimensionless index value; Wright et al. 2012). Because these environmental data are measured in a variety of units, they were normalized to create dimensionless values falling within the same range (Clarke et al. 2014). Data were normalized by subtracting the mean values for each variable, then dividing the result by the standard deviation for each variable (i.e., [depth $site_x$ – depth mean across sites] / depth standard deviation across sites). Co-variance of environmental variables was evaluated using draftsman plots (Clarke et al. 2014). Only one of the variables within each group exhibiting significant covariance was chosen for inclusion in further analyses to reduce model error.

Relationships between benthic community assemblages and environmental conditions were defined by a variety of statistical analysis methods performed with Primer v7 software (Clarke & Gorley 2015). For the abiotic surrogate approach to habitat modeling, an analysis of similarities (ANOSIM) procedure was performed to determine if there were significant differences between community groups defined *a priori* based on substrate-depth strata classification. For the bottom-up approach to habitat modeling, results from the similarity of profiles procedure (SIMPROF) were used to determine if significantly different groups of community assemblages were collected through our study area in both aquatic settings. Community assemblages were then plotted based on ordination of their Bray-Curtis similarity metric using different *a priori* site designations (i.e. bathymetric sampling strata, substrate strata, bathymetric x substrate strata, aquatic setting, etc.) for sample site labels to explore apparent relationships between communities and environmental variables.

Subsequent potential habitat modeling and mapping work evaluated the predictive capacity and reliability of two common biotic-abiotic habitat mapping methods: predicting benthic habitat classification based on distributions of an abiotic surrogate, and, for the bottom-up approach, based on multivariate community-environmental relationships.

3.7.3 *Abiotic surrogate modeling of potential habitat*

To test the null hypothesis that infauna community assemblages defined by modified CMECS substrate groups within three different depth strata, <30m, 30-60m and >60m, are not significantly different, an ANOSIM procedure was performed (999 permutations, where possible; Clarke & Gorley 2015). Where the ANOSIM test indicated significantly different community assemblages between substrate-depth abiotic surrogate groups, the similarity of percentages procedure (SIMPER) was used to characterize the community assemblages defined by modified substrate-depth groups, calculating level of within group community similarities, and between group community dissimilarities (Clarke & Gorley 2015). In R (2016), several analysis of variance (ANOVA) tests were performed to determine whether significant differences in univariate community metrics (infauna density m^{-2}, total species, Shannon's diversity, etc.) could be detected between communities defined by the abiotic surrogate. Pairwise comparisons were performed with a Tukey test following all significant results to determine which groups were significantly different from one another (R 2016).

Additionally, an analysis was conducted to determine the environmental variable(s) best explaining observed differences between communities defined by the combined substrate-depth factor (BEST: BIOENV, 999 permutations; Clarke & Gorley 2015). These results were used to determine whether it was appropriate to map infauna community distributions based on the abiotic surrogate, combined substrate and depth strata classification. Environmental variables included in the BIOENV analysis for abiotic surrogate groups were limited to proportions of gravel and mud (used in the CMECS classifications of substrate), and the continuous environmental variables, bathymetric and backscatter intensity data, and bathymetric derivatives, slope, rugosity and aspect (sin and cosine components). The proportion of sand was not included in the analysis because of documented covariance with the proportion of mud in draftsman plots (Clarke & Gorley 2015).

3.7.4 *Bottom-up multivariate community-environmental modeling of potential habitat*

Patterns in observations of measured environmental variables were compared to community assemblage Bray-Curtis similarities to identify environmental variables that best explained distinctions between biotic communities (BEST: BIOENV; Clarke & Gorley 2015). The environmental variables identified as explanatory factors for community assemblage distributions from the BIOENV procedure were used to perform a constrained binary divisive cluster analysis (LINKTREE; Clarke & Gorley 2015) on the community assemblage datasets (nearshore and offshore), subdividing community assemblage groups based on similarities that could be explained by specific breaks in environmental thresholds.

Just as for the groups defined by abiotic surrogate, combined substrate and depth, an ANOSIM procedure was used to test the null hypothesis that community assemblages defined by LINKTREE cluster groups are not significantly different, and results from the SIMPER procedure were used to characterize the community groups (Clarke & Gorley 2015). Follow-up ANOVA and Tukey pairwise comparison tests were performed for the univariate community metrics calculated for communities defined by LINKTREE cluster groups (R 2016).

3.7.5 *Mapping potential habitat based on abiotic surrogate*

CMECS substrate component maps generated in textural modeling efforts (Dobbs 2017d; 2017f) were used in combination with reclassified bathymetric data, delineating the <30m, 30-60m and >60m depth strata, to generate maps of potential benthic habitat based on substrate-depth distributions. A single substrate-depth abiotic surrogate distribution map was generated using the combine spatial analyst tool in ArcMap 10.4.1.

3.7.6 *Mapping potential habitat based on bottom-up community-environmental models*

Statistical relationships between community groups and explanatory breaks in environmental thresholds in LINKTREE results were used to predict community group distributions across the surveyed area from continuous measurements of explanatory environmental parameters (i.e. raster data). Environmental data identified in BIOENV procedures were reclassified using the thresholds explaining divisions between community groups as defined in LINKTREE results. Data were combined in ArcMap 10.4.1 into a single dataset using the combine spatial analyst tool when more than one explanatory environmental variable was identified. The resulting combination raster data was reclassified based on thresholds identified in the LINKTREE analysis to map distributions of community assemblages associated with those environmental conditions.

4 Results & Discussion

4.1 *Hydrographic survey*

Approximately 257 mi^2 of seafloor off Midcoast Maine were surveyed by MCMI from 2015 through 2017. Depths ranged from -0.92 m nearshore to -155 m offshore (Fig. 2). Backscatter intensity ranged from -64 dB to 9.4 dB across the study area (Fig. 3). Additional details on the hydrographic surveys are provided in the associated hydrographic reports (Dobbs 2016a; 2017a; 2017e).

4.2 *Benthic sampling survey*

Sediment and infauna samples and/or video were collected at 194 sites within the Midcoast Maine surveyed area (Fig. 2; Appendices A & B). A total of 129 sites fell within state waters or on the state marine boundary, and 65 sites were in federal waters. Of the grab sampling attempts made at the 194 sample sites, 144 returned a sediment and infauna sample. Sediment and infauna samples could not be collected from 50 sites confirmed to have a hard bottom (bedrock, boulder or cobble), and equipment malfunction prohibited the collection of a sample at site M0008. Sediment and infauna grab samples were not retained for analysis for 12 sites (M0061-M0072) in deeper, federal waters, but field observations of sediment and infauna samples were recorded for habitat classification and sediment groundtruthing purposes at those sites. Details on the data and samples collected at each site are listed in the sample site metadata table in Appendix A. Vertical profile plots for the water column parameters measured with the Digibar S or Exo 1 instruments are provided in Appendix C.

Sample sizes achieved for the Midcoast Maine surveyed area depth and substrate categories are reported in Table 3. Currently, substrate and depth group assignment is based on MLLW vertically referenced depth measured at the site and grain size results for sample sites sampled 2015-2016, or grain size estimates for sites sampled in 2017. Updates to sample sizes may be made after reviewing results from the grain size analyses of the 2017 sediment grab samples.

Table 3**.** Number of sites sampled for each depth and predominant seafloor substrate combination used in this study (N=194).

Depth /Substrate	< 30 m	30 – 60 m	> 60 m
Rock	19	26	7
Gravel	3	15	13
Sand	18	30	14
Mud	3	16	30

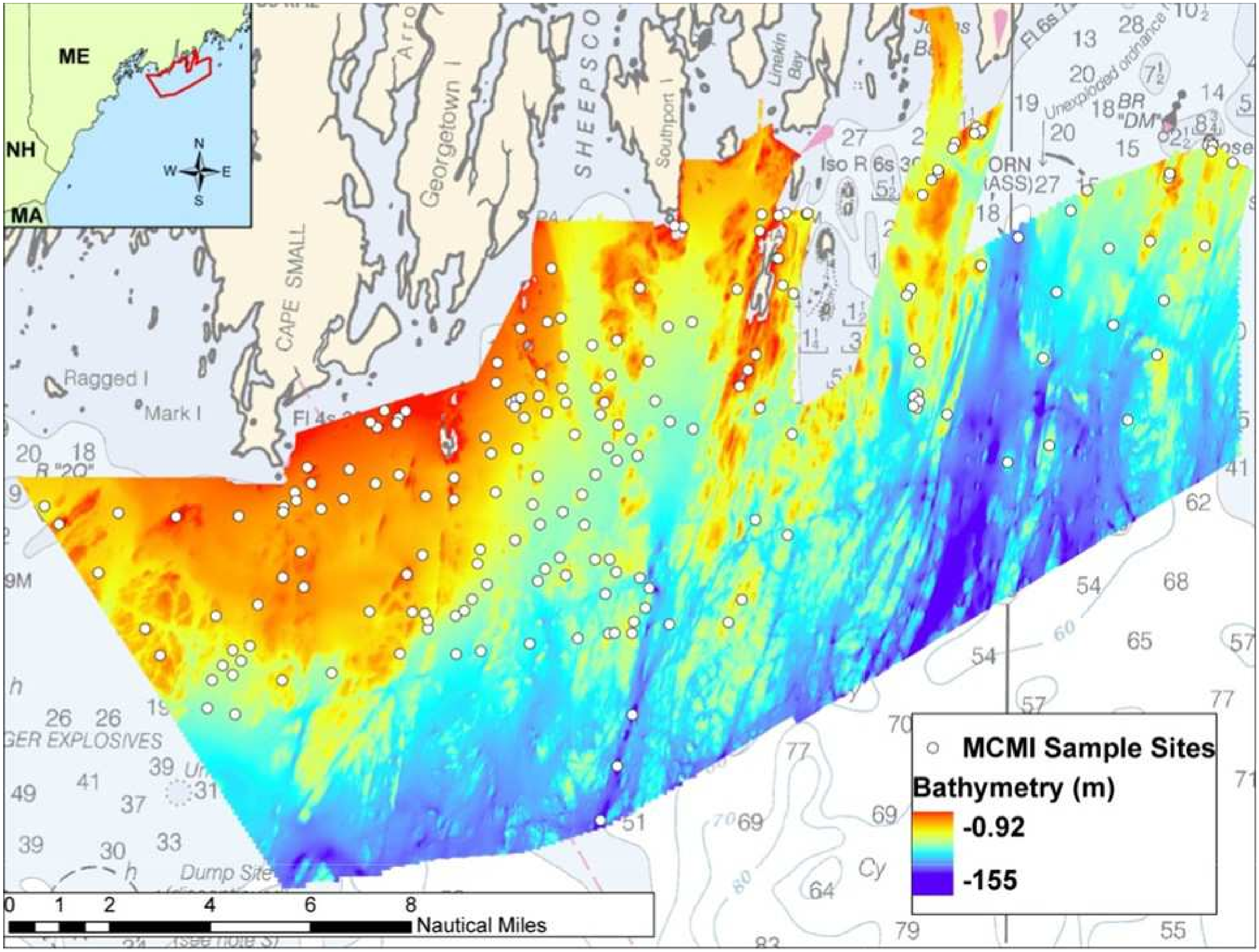


Figure 2. Mosaic of bathymetric data collected offshore of Midcoast Maine by MCMI 2015-2017. Coordinates of 194 benthic sampling sites are plotted with white points. Basemap depth soundings in fathoms.

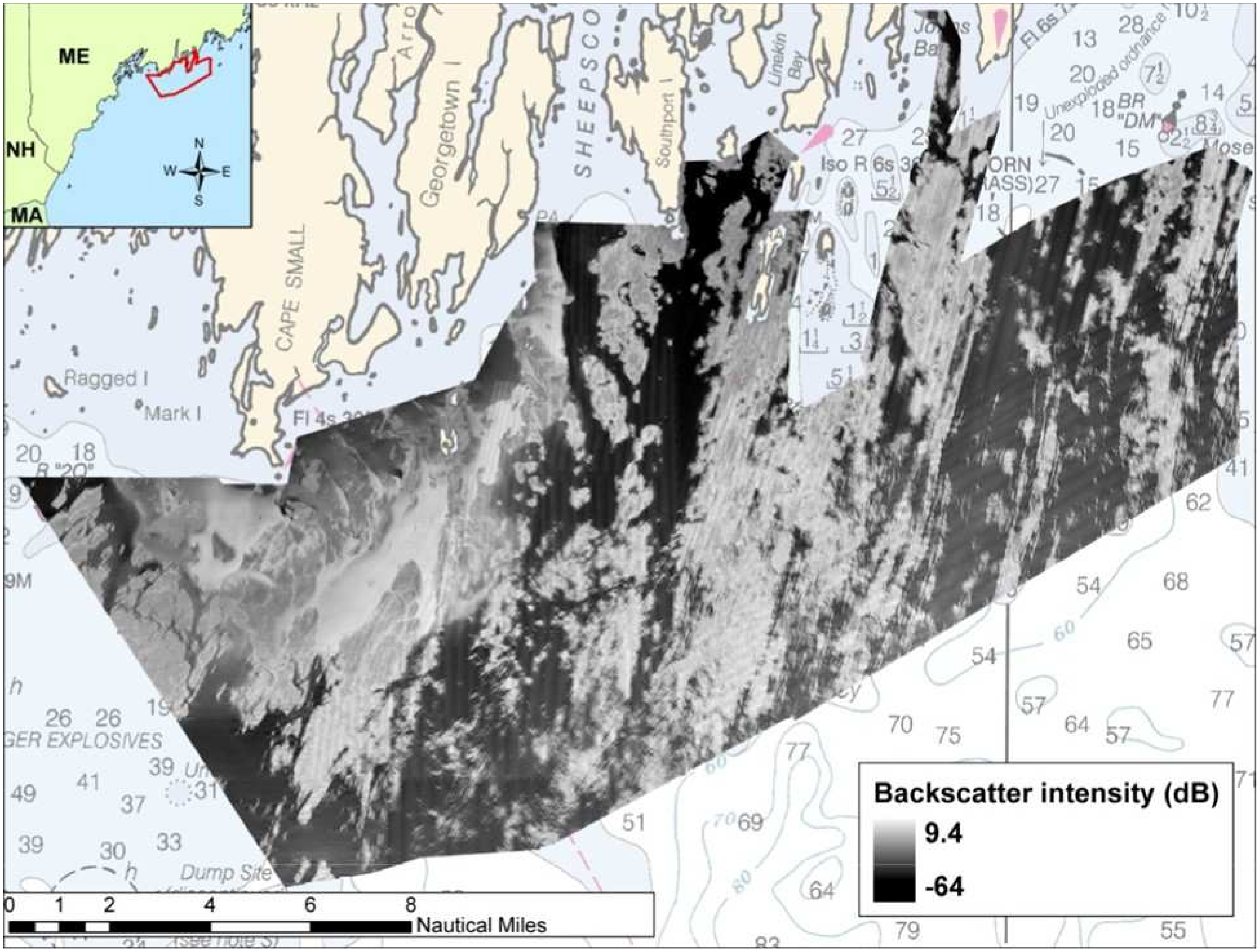


Figure 3. Backscatter intensity data for the area surveyed in Midcoast Maine, 2015-2017. Backscatter intensity ranged from -68 dB (muddy substrate) to 9.4 dB (hard substrate). Basemap depth soundings in fathoms.

4.2.1 *Sediment analyses*

Unconsolidated substrates dominated at 142 of the 194 sample sites. Grab samples were not collected at 52 sites where rock or boulder dominated substrate prohibited collection of a grab sample. For sites sampled 2015-2016, for which grain size analysis data are currently available, up to 30 samples were collected for each of the different substrate groups (Table 4). Detailed results from grain size analyses, including complete details on modifications to the CMECS substrate component group classifications used, grain size distributions and statistical parameters associated with sand size particle distributions, are in the associated sediment reports for samples collected 2015-2016 (Dobbs 2016b; 2017b). Final grain size results were not yet available for samples collected in 2017 at the time this report was written, but may be included as a report addendum or as a separate memo report focused on evaluation of the predictive textural model applied to the three-year survey mosaics of bathymetric, backscatter and bathymetric derivative data.

Table 4. Number of samples (n) representing the modified CMECS substrate component group level classification of grab samples collected 2015-2016 for this study (N=126). Grain size analysis results were not yet available for the 2017 grab samples.

Substrate component group	n
Bedrock/rocky	29
Gravel/gravel mixes	16
Gravelly/med-coarse sand	22
Slightly gravelly	15
Fine sand	6
Muddy sand	9
Mud	29

4.2.2 *Infauna taxonomy, abundance and biomass measurements*

One hundred and eighty-four (184) infauna species were identified in grab samples collected in 2015 and 2016. Phyla Annelida, Mollusca, Arthropoda and Echinodermata were represented by 87, 52, 28, and 8 species, respectively (Table 5; Appendix D). Two Nemerteans and two Sipunculids were also observed in the Miscellaneous Phyla category.

Molluscs, most which were bivalves, accounted for 73% of the overall biomass and 48% of the overall abundance measured in infauna samples. Species *Astarte crenata, Arctica islandica, Astarte castanea, Astarte undata*, *Cyclocardia borealis, Thracia myopsis, Nucula proxima* and *Yoldia sapotilla* comprised 95% of Mollusca biomass. Regarding species abundance, 18 species accounted for 95% of all molluscs: *N. proxima, Ennucula tenuis, Thyasira sp., T. myopsis, Y. sapotilla, A. islandica, A. crenata, P.pinnulatum, C. decussata, Frigidoalvania janmayeni, Buccinum polare, Megayoldia thraciaeformis, A. undata, Nuculana tenuisulcata, A. castanea, Crenella glandula, Gemma gemma,* and *Cyclocardia borealis* (species listed in order of decreasing biomass and abundance, respectively).

Annelids accounted for 16% of overall biomass and 36% of overall abundance measured for infauna samples, with most specimens from Class Polychaeta. The top ten most abundant taxa made up 53% of the total number of specimens counted from Phylum Annelida. These most abundant taxa, listed in order of decreasing abundance, were polychaetes *Clymenella spp., Ninoe nigripes, Chaetozone setosa, Scalibregma inflatum, Nephtys incisa, Ampharete arctica,* *Sternaspis scutata, Drilonereis spp.,* and Families Spionidae and Terebellidae. Regarding biomass, 73% could be attributed to the top ten ranked taxa, *Clymenella spp.,* Family Nephtyidae*, N. nigripes, S. inflatum, S. scutata, Drilonereis spp.,* Family Spionidae, *C. setosa* and *A. arctica* (in descending order).

Arthropods made up only three percent of overall biomass and 11% of overall abundance measured in infauna samples. Five species accounted for 91% of the overall Arthropoda biomass: *Semibalanus balanoides* (barnacle), *Unciola dissimilis* (amphipod), *Politolana polita* (isopod), *Casco bigelowi* (amphipod) and *Leptocheirus pinguis* (amphipod), listed in order of decreasing biomass. Regarding abundance, 11 species accounted for 95% of all arthropods identified, and included amphipods, *U. dissimilis, Ampelisca abdita, L. pinguis, Eolbrogus spinosus, C. bigelowi, Rhepoxynius epistomus and Ampelisca agassizi*, two cumaceans, *Diastylis sculpta* and *Pseudoleptocuma minus*, one barnacle, *S. balanoides*, and one isopod, *P.polita*.

Echinoderms were represented by eight species, accounting for only three percent of overall infauna abundance measured and just seven percent of overall biomass. Five species accounted for 97% of all Echinoderms counted, including brittle stars *Ophiura robusta, Ophiura sarsii, Amphipholis squamata,* and *Ophiocten affinis* and the sand dollar, *Echinarachnius parma. E. parma* accounted for 97% of total echinoderm biomass, predominantly due to the large discrepancy in average body size between sand dollars and brittle stars collected in grab samples. Interpretation of causative factors in distributions of the echinoderms should be cautioned for all taxa outside of the sand dollar since the identification of these specimens has yet to be confirmed by an expert taxonomist.

Species from the miscellaneous Phyla included representatives from Nemertea, and Sipuncula. Four taxa accounted for 98% of the abundance and 100% of the biomass measured among this group, including ribbon worms *Cerebratulus lacteus* and *Lineus ruber*, and peanut worms of Genera *Phascolion* and *Golfingia.*

Table 5. Cumulative and proportional raw infauna abundances and biomass (g wet weight) for the 6 major taxonomic groups observed in infauna samples sieved from unconsolidated seafloor sediment samples collected through 2016 (N=126).

	Raw Abundance		**Biomass (g ww)**	
Phylum	**Total**	**% of total**	**Total**	**% of total**
Mollusca	3407	48.4	337.7	73.0
Annelida	2540	36.1	75.2	16.3
Arthropoda	808	11.5	12.9	2.8
Echinodermata	198	2.8	33.4	7.2
Other	86	1.2	3.3	0.7
TOTAL	7039	100	462.5	100

Infauna abundance measured 1618 ± 980 m^{-2} (mean ± s.d.) across the sites sampled through 2016. The lowest infauna abundance was measured at site M0060 (220 individuals m^{-2}) and the highest abundance was measured at site M0030 (4060 individuals m^{-2}). Infauna biomass ranged from 0.20-1729.60 g ww m^{-2} (sites M0088 and M0057, respectively), measuring 104.03 ± 265.15 g ww m^{-2} (mean ± s.d.) overall. Species or families comprising the top ten most abundant taxa based on abundance and biomass are listed in Table 6. Complete community assemblage lists for infauna grab sample sites are included in Appendix D, reporting raw population count and biomass measurement (grams wet weight) for each species identified at the sites.

Table 6. Top ten ranking taxa in overall infauna abundance and biomass measured for infauna samples from Midcoast Maine sites sampled 2015-2016 (n=126).

Total Abundance			Total Biomass		
Phylum	**Taxa**	**% of total**	**Phylum**	**Taxa**	**% of total**
Mollusca	*Nucula proxima*	11	Mollusca	*Astarte crenata*	31
Annelida	*Clymenella spp.*	6.6	Mollusca	*Arctica islandica*	19
Mollusca	*Ennucula tenuis*	6.3	Mollusca	*Astarte castanea*	10
Arthropoda	*Semibalanus balanoides*	3.8	Echinodermata	*Echinarachnius parma*	7.0
Mollusca	*Thyasira sp.*	3.7	Annelida	Family Nephtyidae	5.0
Mollusca	*Thracia myopsis*	3.7	Annelida	*Clymenella spp.*	3.0
Arthropoda	*Unciola irrorata*	3.6	Mollusca	*Astarte undata*	2.5
Annelida	*Chaetozone setosa*	3.5	Mollusca	*Cyclocardia borealis*	2.4
Mollusca	*Yoldia sapotilla*	3.5	Mollusca	*Thracia myopsis*	1.8
Mollusca	*Arctica islandica*	3.4	Arthropoda	*Semibalanus balanoides*	1.4

4.3 *CMECS habitat classification*

4.3.1 *Aquatic Setting*

The area surveyed by MCMI 2015-2017 fell within the subtidal marine system. The system could not be defined as estuarine given the CMECS definition that estuaries are "bounded by significant enclosure by land", even though it is likely that the nearshore regions experience substantial freshening given their proximity to riverine discharge. As for the tidal zone classification, the minimum depth surveyed referenced to MLLW vertical datum was 15 m, so none of the surveyed area was exposed to air at low tide, making the intertidal and supratidal tidal zone classifications inapplicable. Only two of the three marine aquatic settings were appropriate for the surveyed region: Marine Nearshore Subtidal, where water depths reach less than 30 m accounting for 17% of the surveyed area; and Marine Offshore Subtidal, for water depths greater than 30 m but shallower than the depth of the continental shelf break, accounting for 83% of the surveyed area (Fig. 4). Because the entire surveyed area falls well within the continental shelf region, the Marine Oceanic aquatic setting designation was not used, even where depths approached the typical 100-200 m depth of the shelf break.

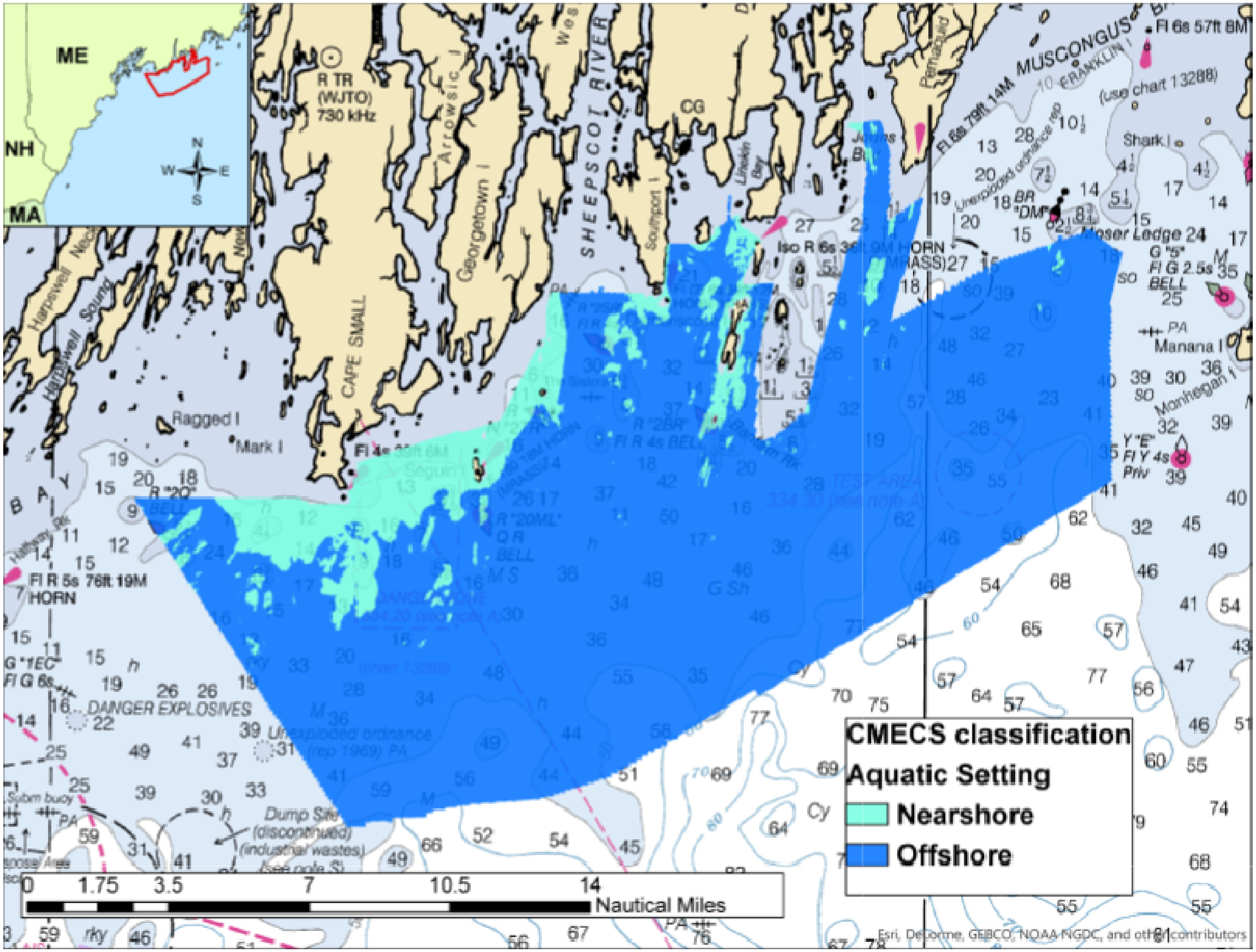


Figure 4. CMECS aquatic setting classifications for the surveyed region (15% transparency). Nearshore, <30m depth, Offshore >30m depth. Basemap depth soundings in fathoms.

4.3.2 *Water column component*

The lower water column layer was classified for the water column component of the CMECS habitat classification for all sample sites using vertical profile data. Salinity regimes for the sample sites were classified as lower polyhaline (18-25), upper polyhaline (25-30) or euhaline (>30), and classifications of temperature regimes were moderate (15-20°C), cool (10-15°C), cold (5-10 °C) or very cold (0-5 °C). Classifications for the sample sites are reported with measurements of temperature (°C), salinity, pH, dissolved oxygen (mg L^{-1}) and chlorophyll concentration (μg L^{-1}) of bottom water at the seafloor in Appendix E.

The range in time of year of data collection and differences in instrumentation measuring vertical profile data likely influenced classification of the lower water column layer. In shallower regions, lower water column temperature conditions vary dramatically in response to changes in seasonal weather, so it is important to include temporal modifiers with the CMECS temperature regime classifications. In this study, some sites were sampled as early as May, and others as late as mid-November, so it was necessary to investigate the effect of season on temperature measurements for different depths. Sample site temperature measurements taken in 2015-2016 were compiled for spring (May-June), summer (July-August) and fall (September-November) for three depth groups, less than 30m, 30-60m and greater than 60m, to investigate differences in average observed temperatures for each of the depth groups over the three sampling seasons. A two-factor ANOVA indicated significant differences between season and depth groups ($F=3.401$, $p=0.0114$, $df=4$), and a Tukey test indicated that observations collected in spring were significantly cooler, 5-10 °C on average, than observations collected during summer and fall. Because temperature regime classifications are based on five-degree interval class breaks, it is imperative to include a temporal modifier on the temperature regime classification for the CMECS water column component description for sites sampled over the course of many meteorological seasons.

Salinity regime classifications relied on calculations of salinity from measurements of temperature and sound speed using the Digibar S for sites M0001-M0030 (Dakin 1999), and measurements of salinity using the Exo 1 for sites M0031-M0197. Because salinity was calculated from measurements of temperature and sound speed for M0001-M0030 any error in those measurements introduces error into salinity data for those sites. Since salinity classifications other than euhaline were limited to sites M0011-M0023, it is advisable to flag the description of the salinity regime in the water column component as questionable for sites profiled with the Digibar S because of the lowered confidence in calculated salinity data.

4.3.3 *Geoform component*

The surveyed area is located within a passive continental margin tectonic setting, and continental shelf physiographic setting. Raw output from the benthic terrain model identified CMECS geoform classes exclusively of geologic origin and indicated that most of the hydrographic survey area can be characterized as flats or rock outcrops (Fig. 5). Only 10 of the 13 geoform class options in the classification dictionary used were detected at the 1% coverage level or greater (Table 7). The most expansive of the features identified were the flats coincident with the nearshore ramp, or Kennebec paleodelta, extending into deeper depths offshore in areas adjacent to outcropping rock formations (Fig. 5). Flats and slopes (<5°) accounted for 46% and 14% of the total surveyed area, respectively. Rock outcrops, various types of depressions, ledge, ridges or boulders on slopes or flats and steeply sloping slopes made up between 1 and 9% each of the total area, cumulatively accounting for 40% of the total surveyed area (Table 7).

Nine of the 194 sites within the surveyed area were misclassified in the raw benthic terrain model output. Two of the erroneous classifications likely resulted because of the proximity of the sample site to the terminal boundaries of the input bathymetric data grid. The model lacks data to properly contextualize bathymetric position surrounding sites along terminal boundaries of the data's extent, often leading to misclassifications. Three sites with boulder covered bottom were not identified as such, likely due to the locally limited extent of boulder fields and limited ability to detect them at 4-m bathymetric grid resolution. Misclassifications also resulted at three locations where a highly heterogeneous seafloor structure made it difficult for the model to accurately resolve geoform types across space. These misclassifications may also be attributed to possible drift during sampling operations, carrying the sampler from one geoform type into an adjacent one. The last misclassification occurred nearshore, where ledge bottom was misclassified as a flat (M0096). Dampened relief between rock outcrops and surrounding sloping or flat seafloor in the nearshore compared to offshore regions could be the cause of misclassification at that site.

While the benthic terrain model accurately classified geoform features according to the classification dictionary provided in the model input, it should be noted that many features important to gaining a comprehensive understanding of the geoform framework of the region were not delineated using this method. As for geoforms of geologic origin, the gradually sloping nearshore ramp, located shoreward of the 55-m isobath outside of the Kennebec River, coincident with the extent of the Kennebec River paleodelta, appears as one continuous flat in the modeled geoform classification results. Nearshore ramps are noted as a minor physiographic component throughout Maine state waters (Kelley et al. 1998), but for the study area discussed in this report, the nearshore ramp constitutes a major geologic feature with important significance in sand transport dynamics and sand management around one of the state's largest sandy beaches, Popham Beach State Park. Sand ripple features which were observed at nine of benthic sampling sites (M0001, -02, -03, -04, -11, -12, -21, -34 and -47) were also not delineated using the benthic terrain model analysis because these features were too small to be resolved at the scale the geospatial analysis was conducted. Additionally, if coastal managers find it important to know the presence and distribution of biogenic or anthropogenic geoform features to better inform decision making, they must be delineated manually since the benthic terrain model toolbox is unable to resolve those features based on analyses of the bathymetric and bathymetric derivative data alone. While data on most anthropogenic features is available in public documentation provided by NOAA, the Army Corps. of Engineers, and the State of Maine's Submerged Lands program, compiling those data is a time-consuming endeavor, and still requires additional due diligence in investigating the existence of undocumented features, such as submerged cable utilities that may have been emplaced without sufficient notification or documentation. Many of the biogenic geoform features may be resolved with greater benthic sampling density or using different methods for conducting surveys of biologic features, but these too require additional investment in time, effort, and therefore project funding.

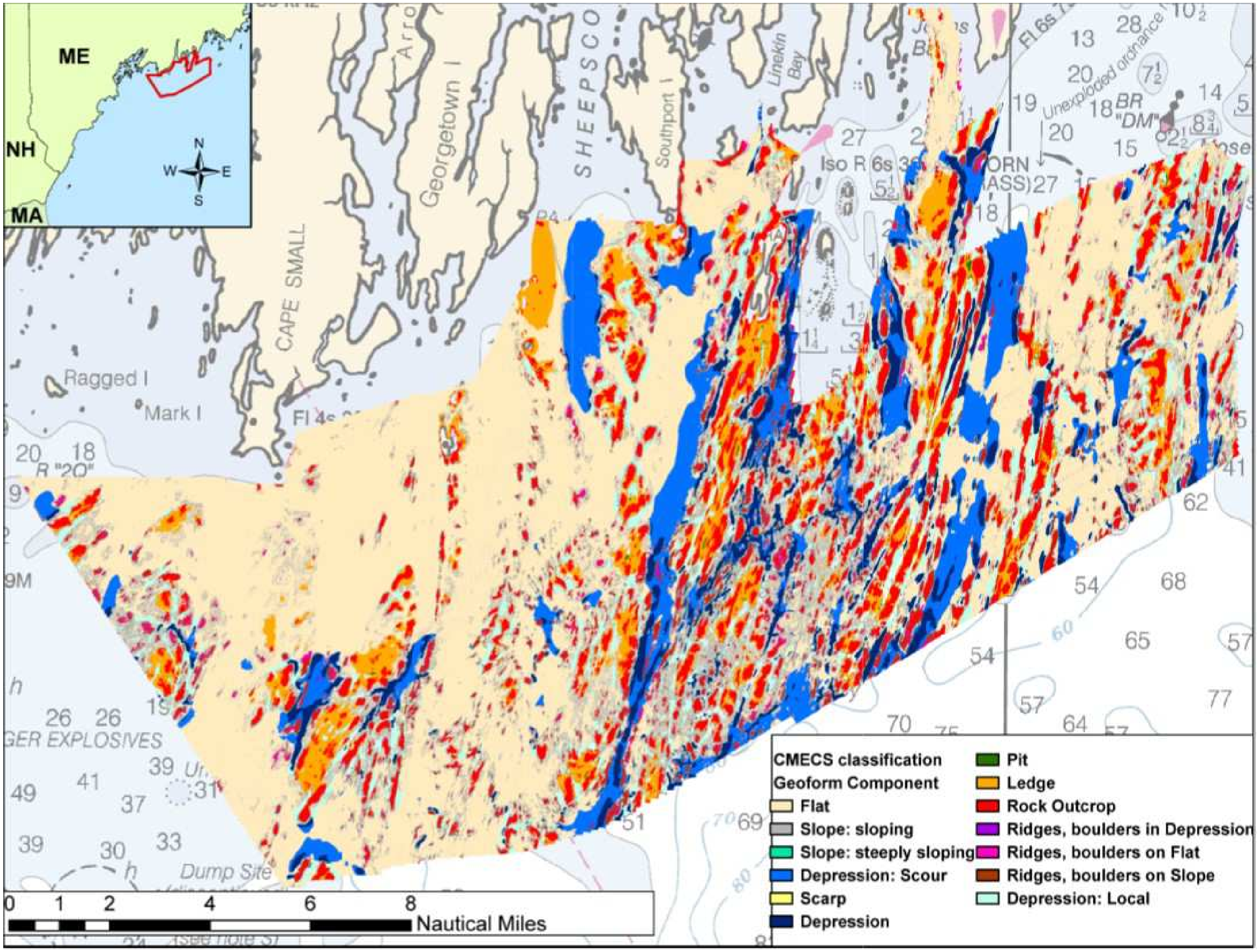


Figure 5. Geoform component classification depicting terrain features for the Midcoast Maine surveyed area. Basemap depth soundings in fathoms.

Table 7. Geoform features identified using the ArcMap 10.4.1 Benthic Terrain Modeler tool for the Midcoast Maine surveyed area.

Geoform feature	Coverage area, %
Flat	46
Slope - sloping	14
Rock Outcrop	9
Depression: Scour	8
Ledge	6
Depression	5
Depression: local	4
Ridges, boulders on Slope	3
Ridges, boulders on Flat	1
Slope - steeply sloping	1

4.3.4 *Substrate component, site classifications*

Grain size results from sites with unconsolidated sediment and seafloor imagery from sites with rocky bottom were used to classify the substrate component of habitat at the sample sites per CMECS (Appendix F). All substrate classifications were geologic in origin, and most sites with unconsolidated sediment were classified to the subgroup level in the substrate component.

4.3.5 *Substrate component, textural modeling*

Raw output from the textural model delineated the extent of seven modified CMECS substrate groups (Table 8; Fig. 6). Modifications to standard CMECS units were adopted to best describe and detect sediment mixtures occurring in the study area. The gravelly substrate group was expanded to include coarse and very coarse sand sub-groups into one substrate class, and the sand substrate group was reduced to include only very-fine to medium sand sub-groups. Sand size plays an important role in determining habitat suitability for many marine species in at least one stage of their lifecycle (Stevenson et al. 2014), and it is a major consideration in identification of compatible sand resources for beach nourishment (BOEM 2014). Modification of the CMECS substrate groups to incorporate divisions in sand size classes in this study benefited both model performance and suitability of mapped data products for informing coastal management.

Muddy and rocky substrates were distributed most widely throughout the study area, accounting for 41.6% and 32.0% of the total surveyed area, respectively. All remaining substrate groups accounted for less than 10% of the study area individually, and unconsolidated sediment substrates accounted for 174.7 mi^2 of the surveyed area combined (Table 8). Sediment and textural modeling reports for surveys conducted in each year (2015-2017) provide additional discussion on the geologic framework of the Midcoast Maine seafloor and resulting distribution of substrates observed across the study area (Dobbs 2016b; 2017b; 2017c; 2017d; 2017f).

Table 8. Proportional distributions of CMECS substrate groups occurring across the Midcoast Maine study area.

CMECS substrate group	Area (km^2)	Area (mi^2)	Proportion (%)
Bedrock/Rocky	213.2	82.3	32.0
Mud	277.1	107.0	41.6
Muddy Sand	37.9	14.6	5.7
Med-Coarse Sand & Gravelly	39.7	15.3	6.0
Gravel Mixes	20.0	7.7	3.0
Very-fine to Medium Sand	29.3	11.3	4.4
Slightly gravelly	48.4	18.7	7.3
Total	665.6	257.0	100.0

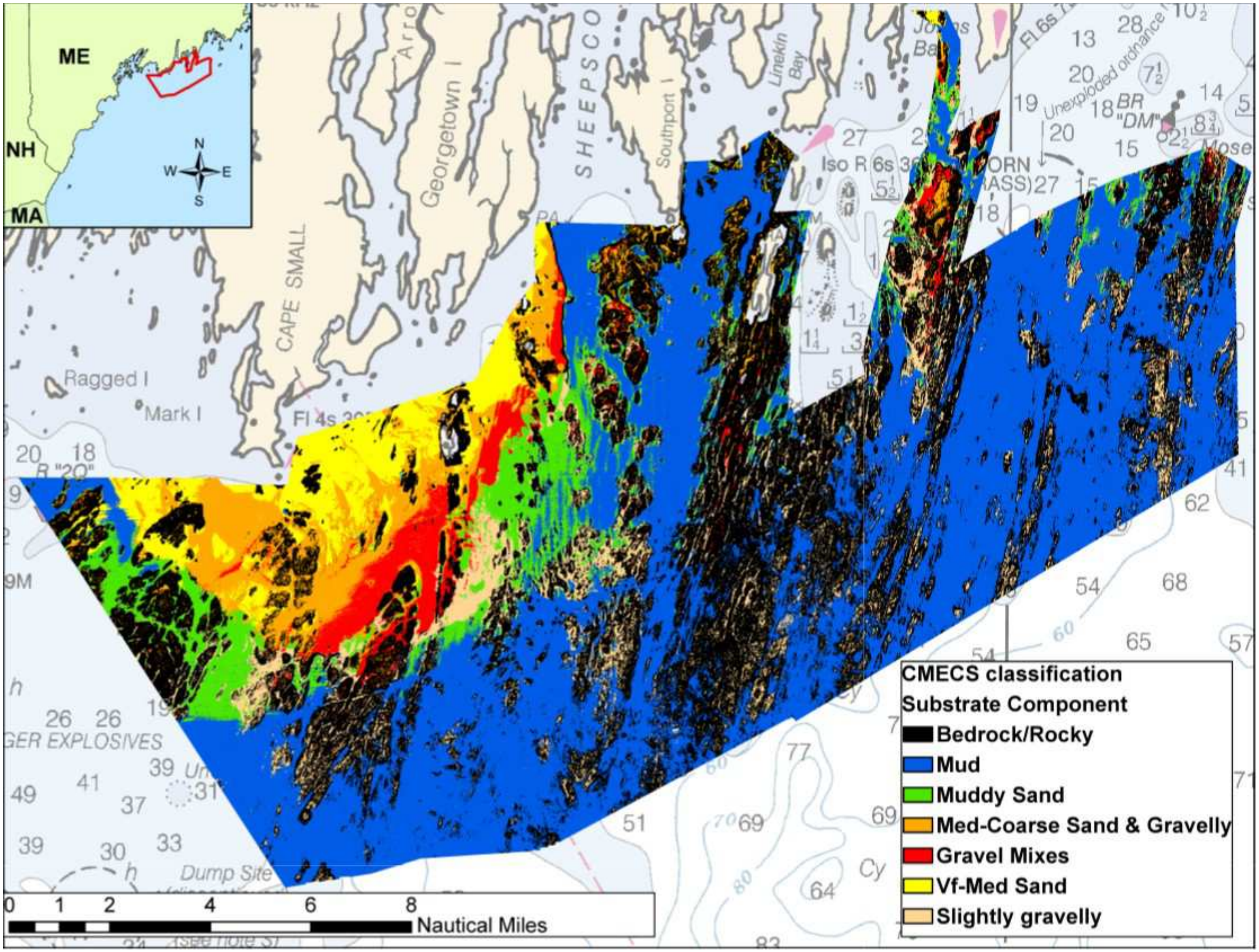


Figure 6. Cleaned raster output for 7-class textural classification model used to predict CMECS substrate group classification across study area. Basemap depth soundings in fathoms.

4.3.6 *Biotic component*

All benthic communities fell into faunal or aquatic vegetation bed classes, regardless of whether classifications were based on discrete observations or multivariate community analyses. Fauna were characterized as soft-sediment fauna or the attached fauna subclass based on substrate at the sample site, and all aquatic vegetation were of the benthic macroalgae subclass.

Discrete site classifications were performed for the 126 sites sampled through 2016. Classification to the community level was not possible for 71 of the 126 sample sites where infauna samples were collected. Classification to the group level was also not possible at 40 of those 71 sites because no one taxa or group of similar taxa accounted for a majority of the community which was used to define the biotic group at those sites. Fifty-four of the sites were fully classified to the community level where one species represented half of the total benthic community. The most common community designation for the study area was a *Pachycerianthus* (burrowing anemone) bed, typically found in mixed muddy sediments with a substantial coarse sand or gravel component. Several co-occurring species (species accounting for 25% - 50% of the total benthic community) and associated taxa (groups of organisms observed in the environment but able to leave the sample site within a single day) were also recorded for the sample sites, where present. Associated taxa included lobster (*Homarus*), crab (*Carcinus* or *Cancer*), fish meroplankton (leptocephali), krill aggregations, or fish (unidentified).

Broad scale community group classification of the biotic component based on multivariate community analyses successfully described three nearshore community groups (coded a, b and c), and five offshore community groups (coded BD, FM, I, J and K) that commonly occurred across the study area sampled through 2016. Community groups descriptions, classified at the biotic group level of the CMECS classification scheme, are reported in the multivariate community analysis results section in tables 13 and 16.

Complete descriptions of the biotic component classifications based on discrete observations and multivariate community analysis results are listed in Appendix G.

4.4 *Benthic community analyses and potential habitat modeling*

4.4.1 *Univariate infauna community summary statistics*

Total Families (S) at each site sampled through 2016 ranged from four at site M0104 (*Clymenella* bed) to 27 at site M0027 (*Pachycerianthus* bed w/ co-occurring clam bed), averaging 16 ± 6 (mean ± s.d.) overall. Indices of biodiversity (Shannon-Wiener H' and Margalef's species richness, d) varied widely for the infauna communities sampled in 2015 and 2016. Overall H' was 2.19 ± 0.39 (mean ± s.d.) and d measured 3.58 ± 0.96 (mean ± s.d.). The minimum H' was measured at site M0115 (H'= 1.10; *Clymenella* bed) and the minimum d was observed at site M0104 (d=0.91). The maximum H' and d were observed at site M0037 (H'=2.92, d=6.01), characterized as a *Pachycerianthus* bed with co-occurring mixed clams and deep-burrowing *Pherusa* polychaetes.

Univariate community metrics did not vary substantially from values reported by other studies of benthic infauna communities in the GoM. Total Families (S) and mean species diversity (H') for the MCMI study fell within ranges or closely resembled mean values reported for infauna communities across many coastal embayments and estuaries in Maine and offshore studies in the southern GoM (Larsen 1979; Larsen et al. 1983; Larsen 2005; USACE 2013; Larsen & Rogers 2015; Simpson & Watling 2006; Sparks-McConkey & Watling 2006; Grizzle et al. 2009; Grizzle et al. 2014; Findlay, Watling & Mayer 1995; Table 9). Differences in infauna density between studies equated to an order of magnitude, but could likely be attributed to differences in sieve mesh sizes used for each study. The MCMI used 1mm mesh sieves instead of the 0.5mm mesh used by many others (Table 9). Differences in infauna density between samples in this study, sieved with a 1mm mesh, and infauna density measured in samples sieved with 0.5mm mesh, commonly result in differences of an order of magnitude (Lewis & Stoner 1981; Rees 1984; Tanaka & Leite 1998). Comparisons of results from this study and studies in the Sheepscot Estuary and Cobscook Bay that used a 1mm mesh sized sieve indicate that the benthic communities sampled in the MCMI Midcoast study area are more similar to benthic communities in the Sheepscot Estuary than in Cobscook Bay, which is recognized as one of Maine's biodiversity hot spots (Trott & Larsen 2003; Larsen 2005).

Table 9. Infauna community density (individuals m^{-2}), total Families (S), and diversity (Shannon's H') reported for studies on subtidal macrobenthos in the coastal GoM, and for this study (mean or range). Asterisks (*) denote studies where a 0.5mm mesh sieve was used instead of the 1mm mesh sieve sized used by MCMI; NR= not reported.

Authors	**Study Area**	**Density m^{-2}**	**Total Families, S**	**Diversity, H'**
Larsen 1979	Sheepscot Estuary, ME	771	19	3.49
Larsen et al. 1983*	Casco Bay, ME	8,743	33	2.72
Larsen 2005	Cobscook Bay, ME	870- 12, 970	28-70	1.15-3.40
USACE 2013*	Belfast Bay mud, ME	7,327	17	2.15
Larsen & Rogers 2015*	Muddy Basin, offshore S. Maine	1,086	11	1.81
Simpson & Watling 2006*	Midcoast mud, ME	~200 -1,050	~7-21	1.30-2.30
Sparks-McConkey & Watling 2006 *	Penobscot Bay mud, ME	~7,500-12,500	15-18	~2.25-2.35
Grizzle et al. 2009*	Western GoM Closure Area	~4,000-8,000	~15-19	NR
Grizzle et al. 2014*	Open ocean aquaculture site, southwestern GoM	~15,000-50,000	~19-35	NR
Findlay, Watling & Mayer 1995*	Toothacher Cove, off Swan Island, ME under Salmon pen	~625-3,125	~6-18	~1.30-2.00
MCMI 2015/2016	Midcoast ME, offshore unconsolidated sediment	1618	16	2.19

Additionally, evaluation of benthic communities living in areas with potential offshore sand and gravel resources identified in the 2015 and 2016 surveyed areas (Fig. 7; Dobbs 2017c) did not show high value regarding diversity or presence of commercial species (Tables 10 and 11). Ocean quahogs (*Arctica islandica*) were present at sites M0039 and M0040 in resource zone 2015/2016 A, but were well below the size class for harvesting, and only made up a small proportion of the infauna community there. Communities were generally mixed in all 2015/2016 resource zones with total Families (S) counts ranging from 14 in zone D (n=1) to 24 in zone2015/2016 A (n=2), and total infauna densities (individuals m^{-2}) ranging from 987 for zone 2015/2016 B (n=3) to 3280 for zone 2015/2016 D.

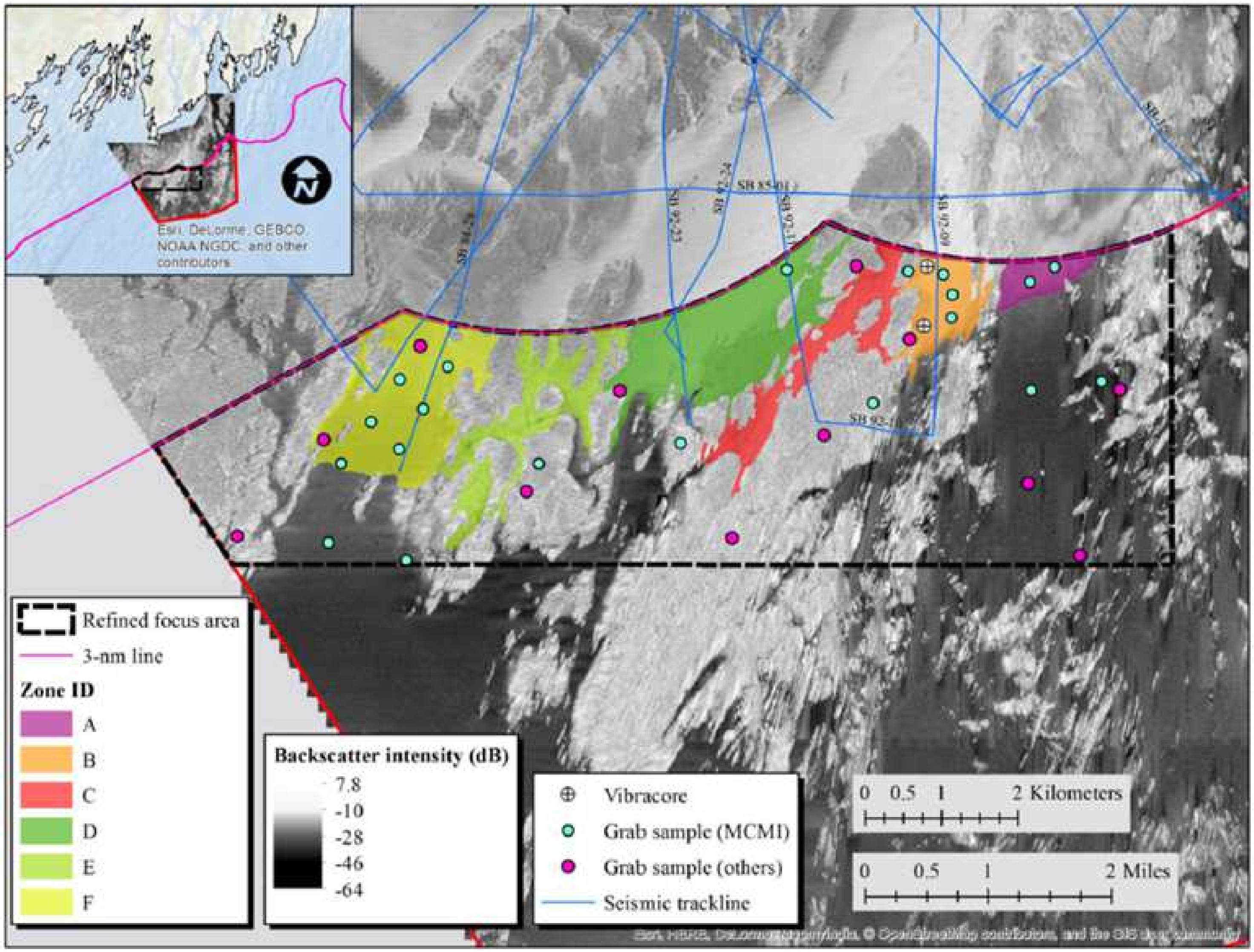


Figure 7. Federal 2015-2016 sand and gravel zones (colored and labeled A-F) plotted with coordinates of grab samples, cores and tracklines of seismic profiles over backscatter intensity data (from Dobbs 2017c). Zones correspond to information in table 10.

Table 10. CMECS biotic component classifications and mean univariate community summary metrics (total infauna density m^{-2}, N; Shannon's diversity, H'; Margalef's species richness, d; Pielou's species evenness, J'; and species rarefaction, ES (50)) for sites falling within potential offshore sand and gravel resource areas defined by MCMI project geologist. Resource zone code (A-F) correspond to zones described in Dobbs (2017c).

Resource Zone	**Site ID**	**Biotic component classification**	**N**	**S**	**H'**	**d**	**J'**	**ES (50)**
Zone A	M0039	*Pachycerianthus* bed w/ small tube builders	1970	24	2.75	5.01	0.87	18
	M0040	*Pachycerianthus* bed w/ small tube builders						
Zone B	M0036	*Pachycerianthus* bed	987	20	2.73	4.95	0.91	19
	M0037	*Pachycerianthus* bed w/ clams and deep burrowing *Pherusa*						
	M0038	*Cyclocardia* (clam) bed w/clam (*Astarte)* bed and larger deep burrowing *Nephtys*						
Zone D	M0085	*Astarte* (clam) bed w/ mobile crustaceans	3280	14	1.66	2.55	0.63	10
Zone F	M0077	Soft sediment fauna w/ mixed clam bed and tube builders	2467	21	2.39	4.14	0.79	15
	M0078	Clam bed w/ small tube builders						
	M0079	Clam bed						
	M0080	Soft sediment fauna w/ small tube builders and clam bed						
	M0081	Larger deep-burrowing fauna w/ clam bed						
	M0082	Soft sediment fauna w/ clam bed and small tube builders						

Preliminary review of the fauna collected in resource zones identified for the area surveyed in 2017 were also unremarkable regarding presence of organisms of commercial importance (Fig. 8). Again, *Arctica* quahogs were present at sites M0191 and M0163, falling within identified sand and gravel resource zones, 2017 A and 2017 D, respectively (Dobbs 2017f), but were well below the size class for commercial harvest and not dominant in the benthic communities observed at those sites. Infauna community analysis has yet to be performed for the grab samples collected in 2017, so evaluations of the quality of habitat in the identified sand and gravel resource zones for that surveyed area are to be determined. Preliminary observations recorded during initial sampling and subsequent sample processing and preservation did not indicate that these sites are any more diverse than those sampled in 2015-2016 (Table 11).

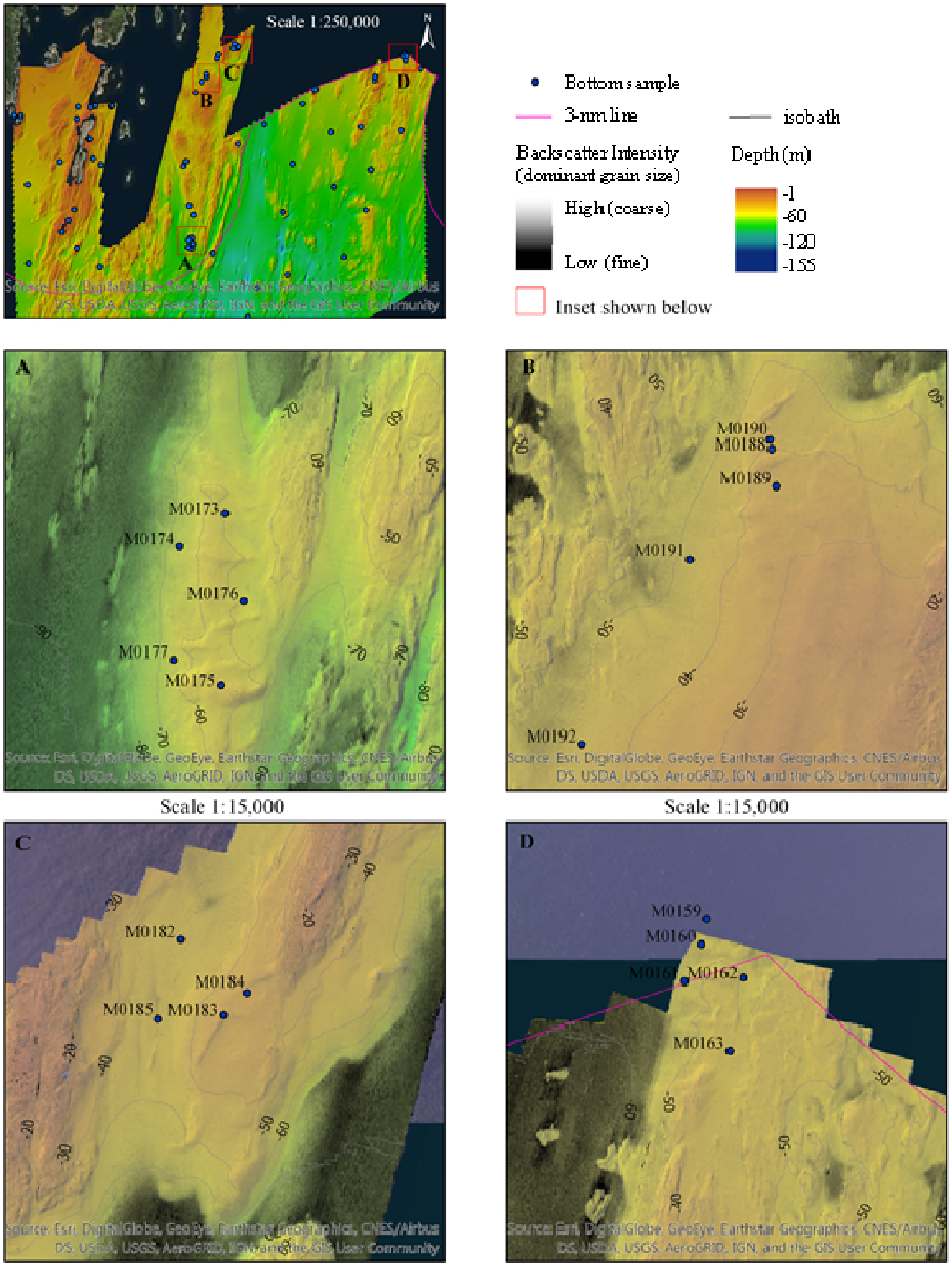


Figure 8. 2017 sand and gravel zones (labeled A-D) with coordinates of grab samples and depth contours plotted over bathymetric data (from Dobbs 2017f). Zones correspond to infauna community information in table 11.

Table 11. Preliminary sample observations of infauna communities at sites falling within potential offshore sand and gravel resource areas defined by MCMI project geologist for the 2017 surveyed area. Resource zone code (A-D) correspond to zones described in Dobbs (2017f).

Resource Zone	Site ID	Preliminary Infauna Community Observations
Zone A	M0173	Mixed clams (*Astarte, Nucula, Cyclocardia*), bean mussel, amphipods & polychaetes
	M0174	Mixed clams (*Astarte, Yoldia, Nucula, Thyasira, Parvicardium*), bean mussel, burrowing and tube building polychaetes & Nemerteans w/ brittle stars
	M0177	Mixed clams (*Astarte, Nuculana, Parvicardium, Thyasira*), burrowing and tube building polychaetes w/ brittle stars
Zone B	M0188	*Astarte*, attached molluscs, burrowing polychaetes and Nemerteans with brittle stars
	M0189	*Astarte*, attached molluscs, snails, burrowing polychaetes, *Semibalanus*, and brittle stars
	M0191	Mixed clams (*Astarte, Nucula, Parvicardium, Megayoldia, Thracia, Arctica, Thyasira*), bean mussel, tube-building and burrowing polychaetes w/ brittle stars and cumaceans
	M0192	Mixed clams (*Astarte, Cyclocardia, Thracia, Nucula, Thyasira, Parvicardium, Ennucula*), bean mussel and burrowing polychaetes w/ brittle stars, amphipods and cumaceans
Zone C	M0182	Mixed clams (*Astarte, Yoldia, Thyasira, Parvicardium, Nucula, Thracia*), bean mussel, and burrowing polychaetes
	M0185	Mixed clams (*Astarte, Nucula, Parvicardium*), burrowing and tube-building polychaetes w/ amphipods and cumaceans
Zone D	M0160	Mixed clams (*Thyasira, Parvicardium*), burrowing and tube-building polychaetes
	M0162	Attached fauna and burrowing polychaetes
	M0163	Mixed clams (*Arctica, Thracia, Nuculana, Parvicardium, Thyasira, Nucula, Megayoldia*), burrowing and tube-building polychaetes w/ amphipods

4.4.2 *Multivariate community analyses: abiotic-surrogate approach*

After removing taxa contributing to < 2% abundance at any site, 70 of the original 97 Families were included in the community assemblages for abiotic-surrogate based community analyses.

The ANOSIM test indicated that communities defined by substrate group and depth strata were significantly different (R=0.425, p=0.001). Of the 105-possible substrate-depth group pairwise comparisons, 53 were significantly different at the 5% (0.05) alpha level (Appendix H).

The non-metric multidimensional scaling plot based on Bray-Curtis similarity indices illustrated separation and similarities between communities (Fig. 9). Shallow (<30m) communities were more like one another than communities sampled from deeper regions, and communities in like-substrate were more like one another, regardless of depth, compared to communities on the opposite end of the grain size spectrum (i.e. muds vs. gravels; Fig. 9). However, the relatively high stress level for the plot (>0.2) indicates that trends in the data may be more apparent when divided by aquatic setting into nearshore and offshore datasets to reduce the quantity of data involved in analyses of similarity (Clarke et al. 2014).

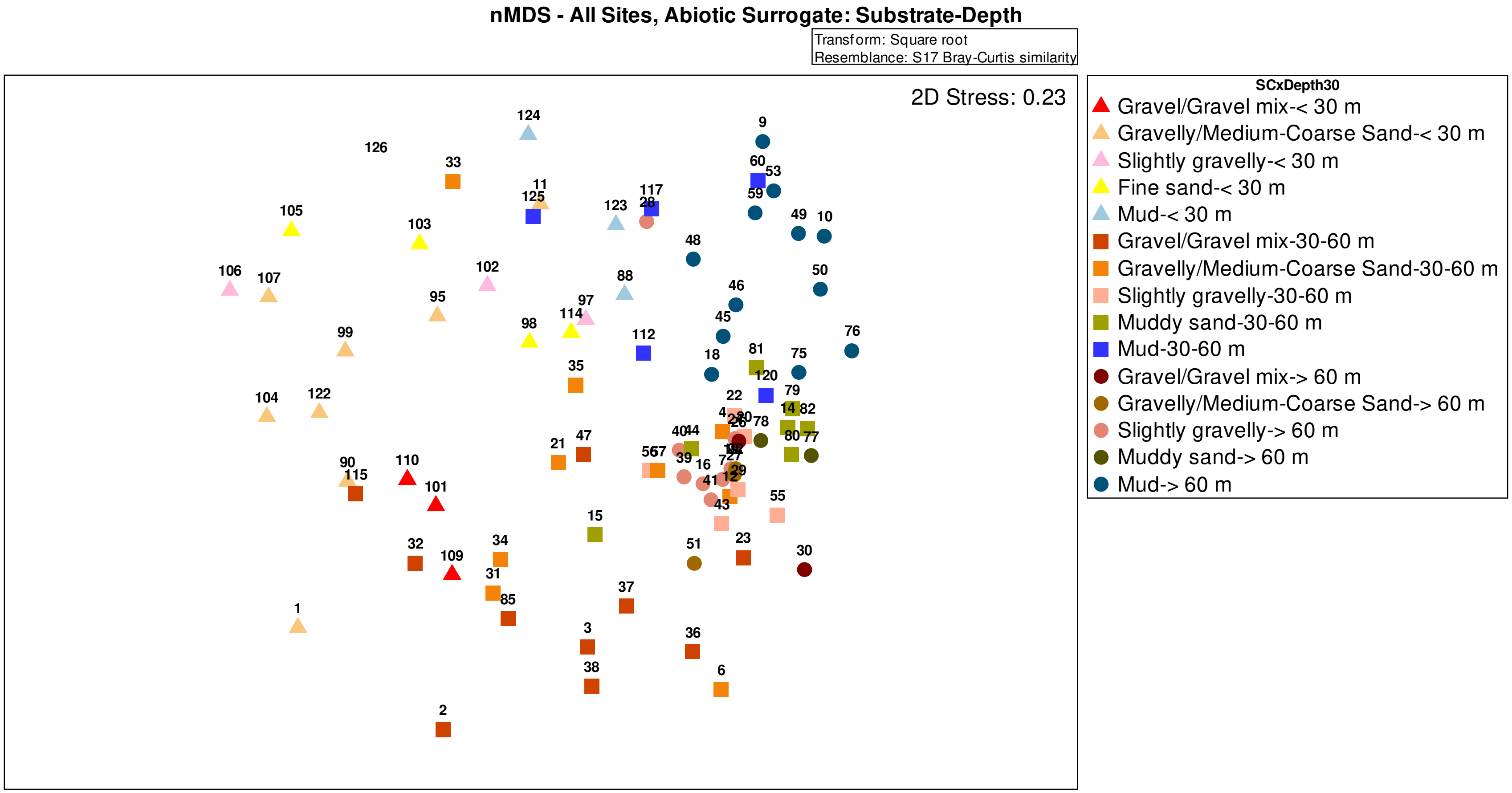


Figure 9. nMDS ordination of 84 sites from 15 community groups defined by substrate and depth strata, based on the square root transformed abundances of 70 Families observed, using Bray-Curtis similarity index. Text labels indicated the serial site ID (124= M0124, etc.), and site symbols represent the combined substrate-depth classification for the sample sites.

4.4.3 *Multivariate community analyses: bottom-up approach*

Of the 84 sites sampled in 2015-2016 with unconsolidated sediment substrate, 21 were classified as nearshore and 63 as offshore. After removing taxa contributing to <2% abundance at any site in the nearshore and offshore datasets, 46 Families were included in the community assemblages for nearshore sites, and 67 Families were included in the community assemblages for offshore sites. Twenty-five and 30 Families were removed from the nearshore and offshore data, respectively.

SIMPROF tests indicated that significantly different groups of community assemblages could be detected in benthic communities nearshore (global Pi=2.567, p=0.001) and offshore (global Pi=5.333, p=0.001).

Ordination plots (nMDS) of sites based on Bray-Curtis similarity indices illustrated some degree of relationship between community groups and substrate type, where communities separated by significant differences in community assemblages (groups defined by SIMPROF) showed some degree of affinity for coarseness of substrate (Figs. 10 & 11, nearshore and offshore datasets, respectively). Stress levels for both plots fell under 0.2, suggesting that patterns in the plots represent a somewhat useful depiction of distinction between communities (Clarke et al. 2014).

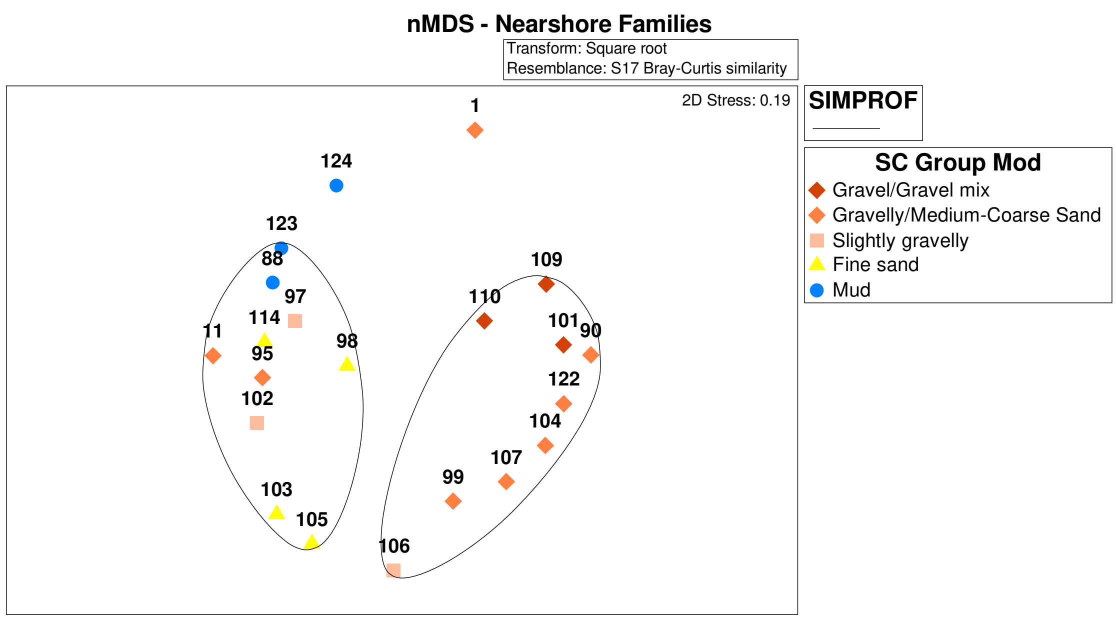


Figure 10. nMDS ordination of 21 sites from five CMECS substrate groups based on the square root transformed abundances of the 43 Families observed, using Bray-Curtis similarity index. Text labels indicated the serial site ID (124= M0124, etc.), and site symbols represent the substrate classification for the sample site as chosen from the modified CMECS substrate groups (5 in key) chosen to classify substrate in this nearshore study area.

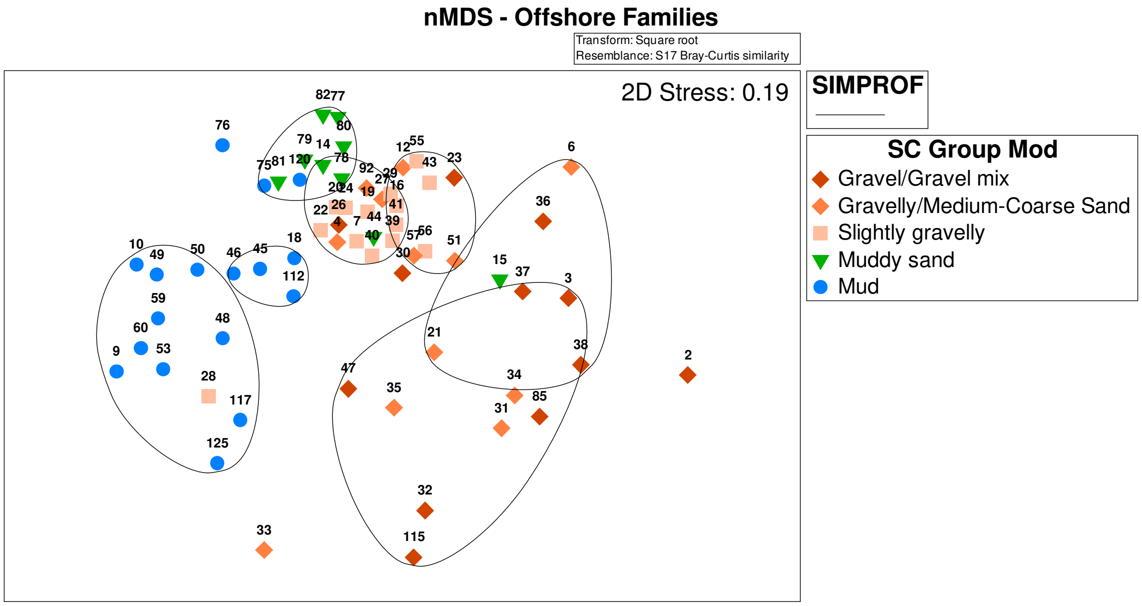


Figure 11. nMDS ordination of 63 sites from five CMECS substrate groups based on square root transformed abundances of 67 Families observed, using Bray-Curtis similarity index. Text labels display the serial sample site ID (76= M0076, etc.), and site symbols represent the substrate classification for that site as chosen from the modified CMECS substrate groups (5 in key) chosen to classify substrate in this offshore study area.

4.4.4 *Abiotic surrogate community model for mapping potential habitat*

Although not all pairwise comparisons between community groups defined by combined substrate-depth strata were statistically different, slightly more than half showed significant differences (53 of 105; Appendix H). Within group community similarity for the 15 abiotic surrogate groups defined by combined substrate and depth strata ranged between 31% and 69%, and between two to six Families were used to characterize the biotic component of the communities for the abiotic surrogate groups (Table 12).

Many biotic component classifications and co-occurring taxa combinations are similar for the communities falling within the substrate-depth defined groups, but the Families responsible for community characterizations differ across all pairwise comparisons (Table 12). For example, benthic assemblages in fine sand shallower than 30 meters and muddy sand deeper than 60 meters both are classified as clam beds with co-occurring mobile mollusks and small-tube builders, but the clam bed in communities inhabiting fine sand shallower than 30 meters is comprised of clams from a single Family, Nuculidae, where the clam bed community in muddy sand deeper than 60 meters is made up of a mix of clam taxa from Families Nuculidae, Yoldiidae and Thraciidae. Where distinctions between community characterizations lie in the co-occurring taxa element the same is true. For example, the biotic component for mud habitat in waters between 30 and 60 meters depth and deeper than 60 meters are classified as burrowing fauna communities comprised of polychaetes from Families Cirratulidae and Nephtyidae, with co-occurring clam bed and small-tube builders, but the taxa responsible for the designation of those co-occurring elements are different. Communities living in mud between depths of 30 and 60 meters are characterized by clams from Families Thraciidae and Nuculidae and tube-building polychaetes from the Family Maldanidae, where communities living in mud deeper than 60 meters are characterized by clams from only the Nuculidae Family, and the tube-building polychaetes belong to Family Ampharetidae.

The BIOENV analysis indicated that bathymetric data alone explained maximum amount (52.6%) of observed variability between communities defined by combined substrate-depth strata (global ρ =0.526, p=0.001, 999 permutations), lending support to the appropriateness of mapping community distributions based on *a priori* designation of substrate-depth strata assignment.

Analyses of variance (ANOVA) tests on univariate community metrics between communities defined by the combined substrate-depth abiotic surrogate groups identified significant differences between communities, including metrics for total Families (S; Fig. 12A; F=4.000, p<<0.0001), infauna density (number of individuals, N m^{-2}; Fig. 12A; F=3.580, p<<0.0001), Margalef's species richness index (d; Fig. 12B; F=3.904, p<<0.0001), species rarefaction (ES(50); Fig. 12B; F=3.963, p<<0.0001), and Shannon's diversity index (H' $\log_e$; Fig. 12B; F= 4.036, p<<0.0001). No significant differences were detected in Pielou's evenness metric (J') between groups defined by abiotic surrogate (F= 1.266, p=0.251). Follow-up Tukey test pairwise comparisons indicated many differences in univariate community metrics between groups (Appendix H). Most differences were observed between gravelly/medium-coarse sand substrates in waters shallower than 30m and other substrates found in deeper waters. Gravelly/medium-coarse sand in waters shallower than 30m had 10 to 13 fewer Families in those communities, on average, relative to communities in slightly gravelly and gravelly/medium-coarse sand substrates in waters deeper than 60m, and muddy sand and slightly gravelly substrates in waters 30 to 60 m deep (Fig. 12A). An average of between 397 and 503 fewer individuals m^{-2} were present in communities in gravelly/medium-coarse sand shallower than 30 m compared to communities in slightly gravelly substrates deeper than 60m, and muddy sand and slightly gravelly substrates in waters between 30 and 60 m deep (Fig. 12A). An average of 383 and 406 fewer individuals m^{-2} were present in communities in muds deeper than 60 m compared to communities in muddy sand and slightly gravelly substrates in waters 30 to 60m deep, respectively (Fig. 12A). Margalefs species richness index (d) averaged between 1.61 and 2.93 lower for communities in gravelly/medium-coarse sand in waters shallower than 30 m compared to communities in gravel/gravel mixes, gravelly/medium-coarse sand, muddy sand, and slightly gravelly substrates in waters 30 to 60m deep, and slightly gravelly and gravelly/medium-coarse sand substrates in waters deeper than 60m (Fig. 12B). Species rarefaction trends were like those for the total Families metric, where communities in gravelly/medium-coarse sand substrates in waters shallower than 30m had 10 to 12 fewer Families, on average, than communities in muddy sand and slightly gravelly substrates in waters between 30 and 60m deep, and slightly gravelly and gravelly/medium-coarse sand substrates deeper than 60m (Fig. 12B). Shannon's diversity metric comparisons showed the greatest number of significant differences in pairwise group comparisons, where the diversity metric was between 0.56 and 0.99 lower, on average, in communities from gravelly/medium-coarse sand shallower than 30 m compared to communities in gravel/gravel mixes, gravelly/medium-coarse sand, muddy sand and slightly gravelly substrates in waters between 30 and 60m deep, and communities in slightly gravelly, gravelly/medium-coarse sand and muddy sand substrates in waters deeper than 60m (Fig. 12B).

Table 12. Sample size (n), within group similarity (% Sim), taxa contributing to group similarity (% contribution), and resulting CMECS biotic component primary classification and co-occurring taxa abiotic surrogate community groups. Classifications were defined based on greatest proportional contribution to community group similarity in SIMPER results. Group classification appears in bold and the taxa responsible for the classification are listed in regular font.

Abiotic surrogate group corresponding color in figures		n	% Sim	Taxa contributing to similarity (%)	Primary BC	Co-occurring Taxa
Gravel/Gravel Mix in <30m		3	51	Maldanidae (28) Ampharetidae (19) Cirratulidae (12)	**Small tube-builders** (Maldanidae, Ampharetidae)	**Small surface burrowers** (Cirratulidae)
Gravelly/Med-Coarse Sand in <30m		8	31	Maldanidae (28) Oenonidae (23)	**Small tube-builders** (Maldanidae)	**Small burrowing fauna** (Oenonidae)
Slightly gravelly in <30m		3	32	Buccinidae (29) Maldanidae (20) Nuculidae (18)	**Mobile mollusks** (Buccinidae)	**Small tube-builders** (Maldanidae) & **Clam bed** (Nuculidae)
Fine Sand in <30m		4	41	Nuculidae (19) Buccinidae (17) Maldanidae (16)	**Clam bed** (Nuculidae)	**Mobile mollusks** (Buccinidae) & **Small tube-builders** (Maldanidae)
Mud in <30m		3	46	Cirratulidae (16) Nuculidae (14) Nephtyidae (12) Cardiidae (10)	**Burrowing fauna** small & large (Cirratulidae, Nephtyidae)	**Clam bed** (Nuculidae, Cardiidae)
Gravel/ Gravel mix in 30-60m		10	35	Maldanidae (17) Unciolidae (13) Astartidae (11) Ampharetidae (10)	**Small tube-builders** (Maldanidae, Ampharetidae)	**Mobile crustaceans** (Unciolidae) & **Clam bed** (Astartidae)
Gravelly/Med-Coarse Sand in 30-60m		9	36	Maldanidae (17) Ampharetidae (12) Astartidae (10) Nuculidae (8) Arcticidae (7)	**Small tube-builders** (Maldanidae, Ampharetidae)	**Clam bed** (Astartidae, Nuculidae, Arcticidae)
Slightly gravelly in 30-60m		6	60	Nuculidae (20) Thraciidae (11) Astartidae (10) Thyasiridae (8) Lumbrineridae (7)	**Clam bed** (Nuculidae, Thraciidae, Astartidae, Thyasiridae)	**Small surface-burrowers** (Lumbrineridae)
Muddy Sand in 30-60m		7	54	Nuculidae (23) Maldanidae (9) Thyasiridae (9) Yoldiidae (8) Rissoidae (7)	**Clam bed** (Nuculidae, Thyasiridae, Yoldiidae)	**Small tube-builders** (Maldanidae) & **Mobile mollusks** (Buccinidae)
Mud in 30-60m		5	38	Cirratulidae (14) Nephtyidae (13) Thraciidae (11) Maldanidae (10) Nuculidae (10)	**Burrowing fauna** small & large (Cirratulidae, Nephtyidae)	**Clam bed** (Thraciidae, Nuculidae) & **Small tube-builders** (Maldanidae)
Gravel/ gravel mix in >60m		2	53	Lumbrineridae (13) Thraciidae (12) Ampharetidae (10) Astartidae (10) Nuculidae (7)	**Clam bed** (Thraciidae, Astartidae, Nuculidae)	**Small surface-burrowers** (Lumbrineridae) & **Small tube-builders** (Ampharetidae)
Gravelly/Med-Coarse Sand in >60m		3	53	Nuculidae (10) Thyasiridae (9) Astartidae (9) Mytilidae (9) Maldanidae (9) Thraciidae (8)	**Clam bed** (Nuculidae, Thyasiridae, Astartidae, Thraciidae)	**Mussel bed** (*Crenella*) & **Small tube-builders** (Maldanidae)
Slightly gravelly in >60m		8	59	Maldanidae (13) Nuculidae (11) Ampharetidae(8) Thyasiridae (8) Thraciidae (8) Yoldiidae (7)	**Clam bed** (Nuculidae, Thyasiridae, Thraciidae, Yoldiidae)	**Small tube-builders** (Maldanidae, Ampharetidae)
Muddy sand in >60m		2	69	Nuculidae (14) Rissoidae (11) Yoldiidae (10) Maldanidae (9) Thraciidae (9)	**Clam bed** (Nuculidae, Yoldiide, Thraciidae)	**Mobile mollusks** (Buccinidae) & **Small tube-builders** (Maldanidae)
Mud in >60m		12	49	Nuculidae (17) Cirratulidae (14) Nephtyidae (11) Ampharetidae (11)	**Burrowing fauna** small & large (Cirratulidae, Nephtyidae)	**Clam bed** (Nuculidae) & **Small tube-builders** (Ampharetidae)

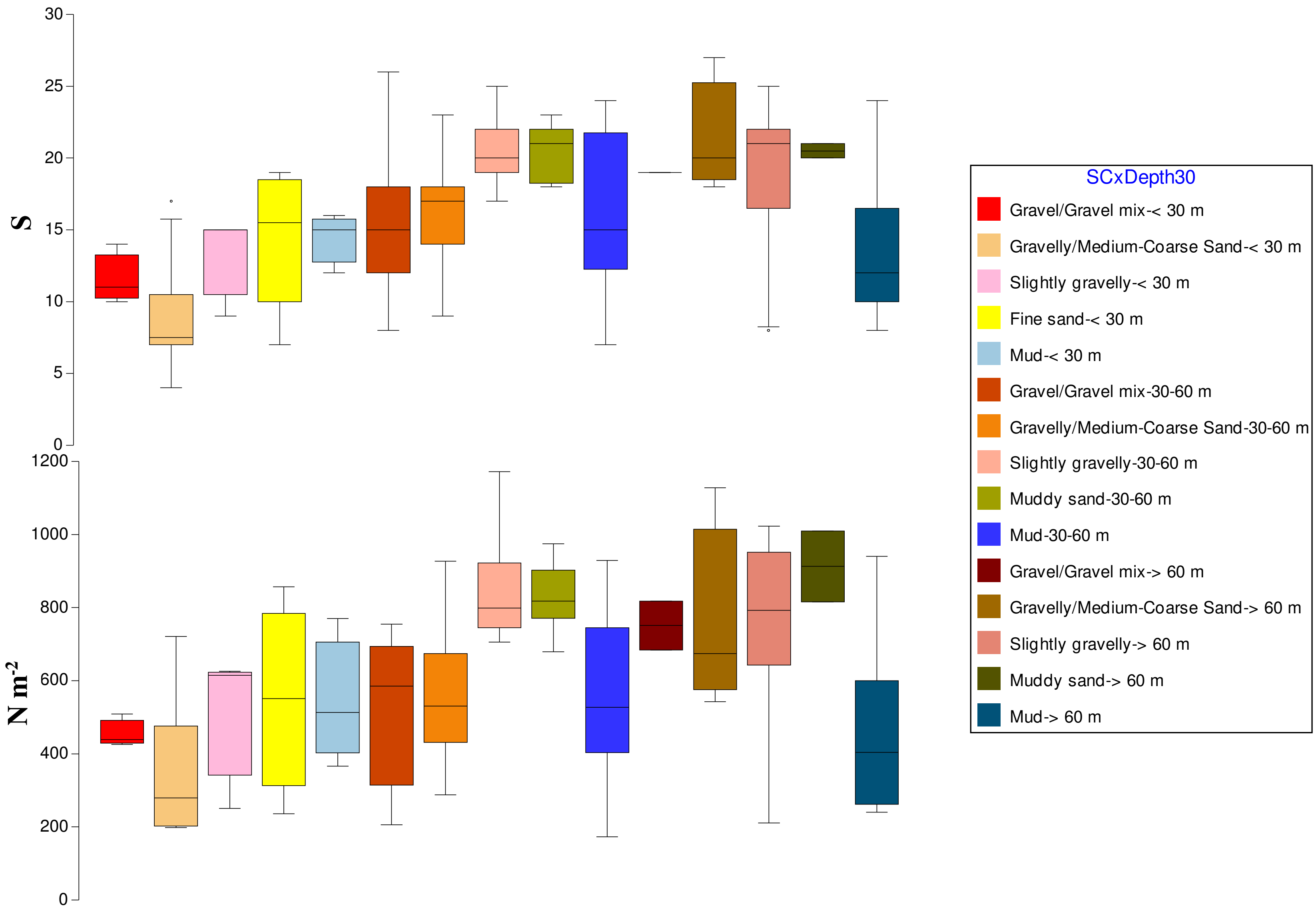


Figure 12A. Distributions of total Families, S (top) and infauna density, individuals, N m^{-2} (bottom) for infauna communities in each abiotic surrogate group defined by combined substrate-depth strata.

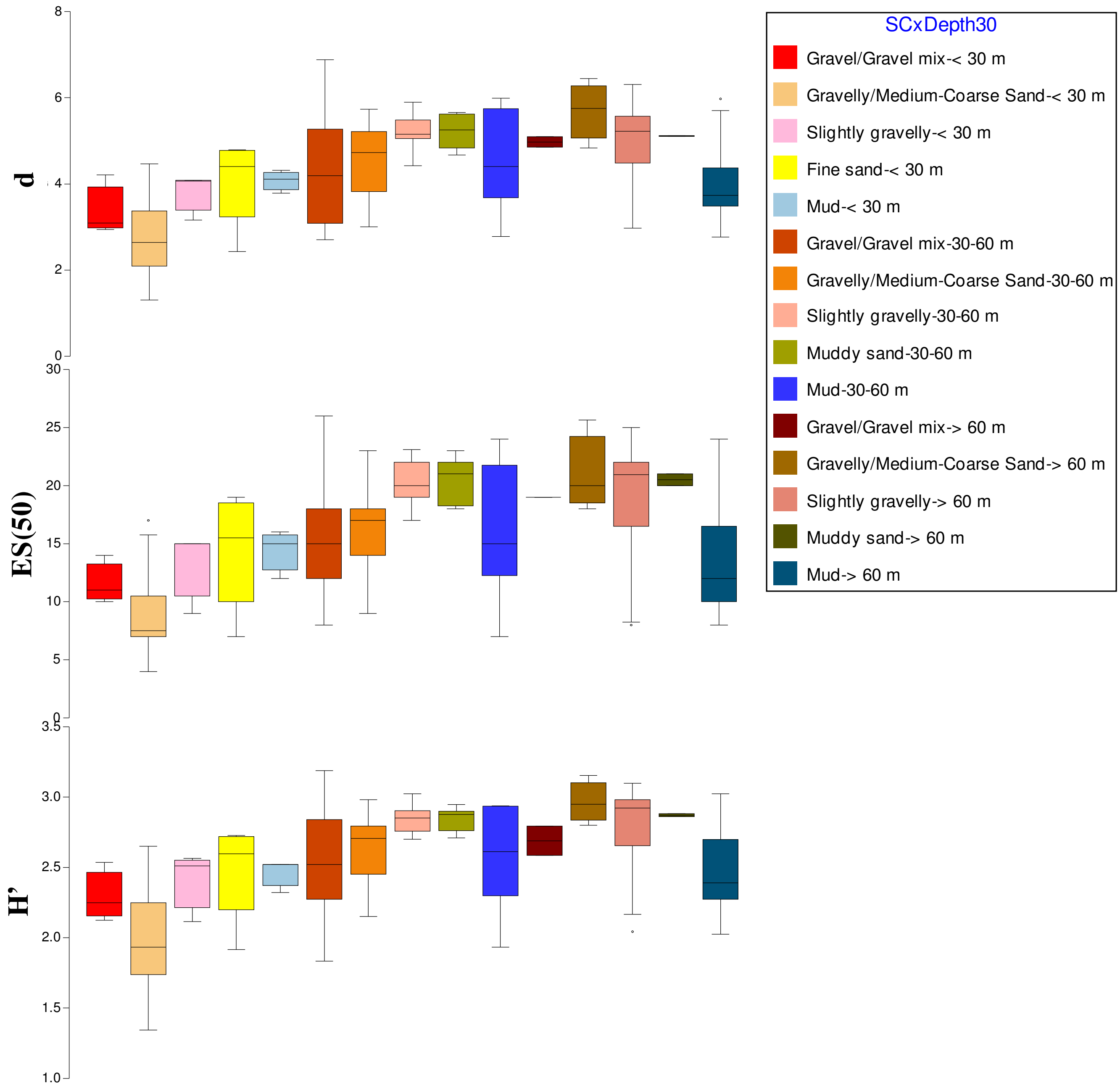


Figure 12B. Distributions of Margalef's species richness index, d, (top), species rarefaction from sample of 50, ES(50), (middle), and Shannon's diversity index, H' ($\log_e$; bottom) for infauna communities in each abiotic surrogate group defined by combined substrate-depth strata.

4.4.5 *Bottom-up community-environmental modeling for mapping potential habitat*

For the nearshore aquatic setting, results from the BIOENV analysis indicated that backscatter data alone account for the greatest proportion of variability in communities that can be explained by continuous environmental variables (bathymetric, backscatter, slope, terrain ruggedness, rugosity, aspect sin and aspect cos datasets; BIOENV ρ= 0.451, p=0.010). Constrained divisive clustering was performed with LINKTREE using only the backscatter data to define distinct groups of community assemblages and their relationship to backscatter data. Three community groups, coded a-c, were identified, and associated with three range classes of backscatter intensity data, < -30 dB, -30 to -20 dB and >-20 dB, respectively (Fig. 13; Table 13). ANOSIM test results indicated that nearshore community assemblage groups defined by the LINKTREE analysis were significantly different (global R=0.593, p=0.001). Within group community assemblage similarity ranged from 33% to 42%, and between group dissimilarity ranged from 65% to 74% in SIMPER results (Table 13). Pairwise comparisons revealed that community assemblages in group b were significantly different than for group c, but other group comparisons did not show significant differences (Table 14).

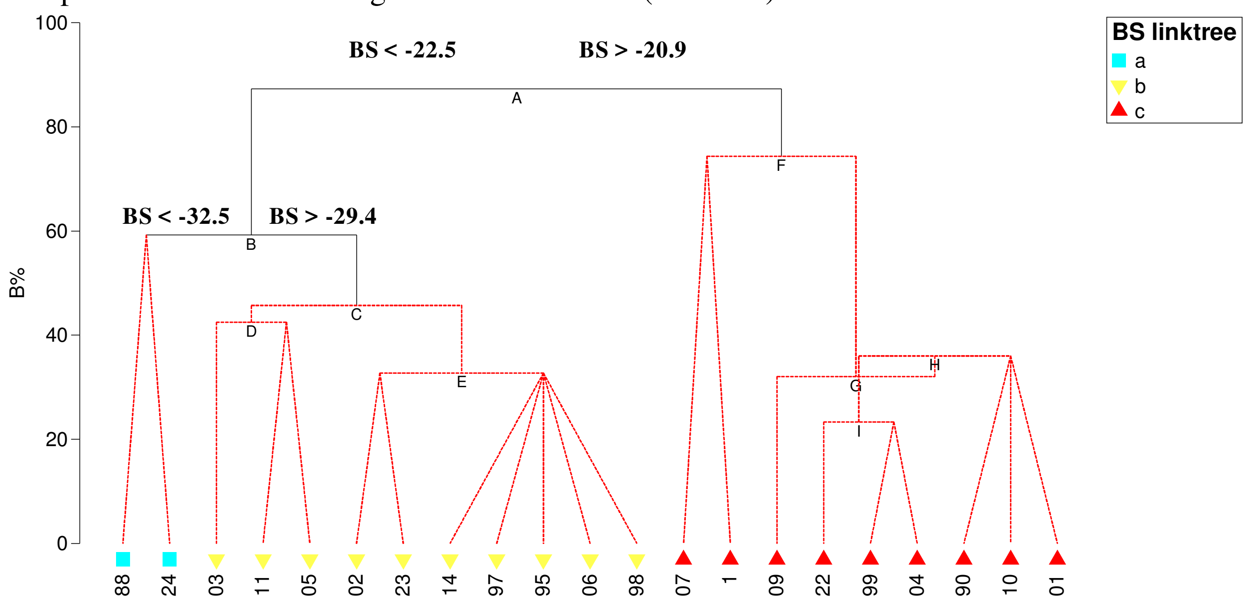


Figure 13. Diagram of sites (short serial ID; 88= M0088, etc.) clustered into one of three LINKTREE groups (a-c) where group division occurs only when a threshold in environmental variables measured at sites can explain differences between group community assemblages. For the nearshore communities in unconsolidated sediments, backscatter explained 45% of the variability in community distributions (BIOENV ρ=0.451, p=0.010).

Table 13. Sample size (n), within group level of similarity (%), taxa contributing most to within group similarity (% contribution), and resulting CMECS biotic component primary classification and co-occurring taxa for each of the community assemblage groups defined by the LINKTREE analysis of nearshore communities. Classifications were defined based on greatest proportional contribution to community group similarity in SIMPER results. Group classification appears in bold and the taxa responsible for the classification are listed in regular font below.

Nearshore LINKTREE group	n	% Sim	Taxa contributing to similarity (%)	Primary BC	Co-occurring Taxa
a	2	33	Nephtyidae (15) Buccinidae (11) Cardiidae (11) Cirratulidae (11) Flabelligeridae (11)	**Burrowing fauna** Nephtyidae, *Chaetozone*, *Pherusa*	**Mobile mollusks** *Buccinum* **Clam bed** *Parvicardium*
b	10	42	Nuculidae (21) Buccinidae (14) Maldanidae (14) Articidae (8.5)	**Clam bed** Nuculidae, *Arctica*	**Mobile mollusks** *Buccinum* **Small-tuibe builders** Maldanidae
c	9	40	Maldanidae (32) Oenonidae (22)	**Small tube-builders** Maldanidae	**Small surface-burrowers** Oenonidae

Table 14. Level of dissimilarity (%; bold), R value, and p-value (in parentheses) results from ANOSIM pairwise comparisons of community similarity between nearshore community groups defined by LINKTREE (ANOSIM global R=0.593, p=0.001). Non-significant results are italicized.

LINKTREE Nearshore community groups	a	b
b	***65%*** *0.293 (0.152)*	
c	**74%** *0.595 (0.055)*	**74%** 0.652 (0.001)

ANOVA tests for differences in univariate community metrics between nearshore community assemblage groups defined by LINKTREE analysis indicated significant differences between some nearshore community groups. Total Families, S (F=6.126, p=0.009), Shannon's H' (F=3.686, p=0.046), Margalef's d (F=5.793, p=0.011), and ES(50) (F=5.694, p=0.012) were greater in group b compared to group c, but all other pairwise comparisons did not show significant differences between univariate community metrics (Fig. 14).

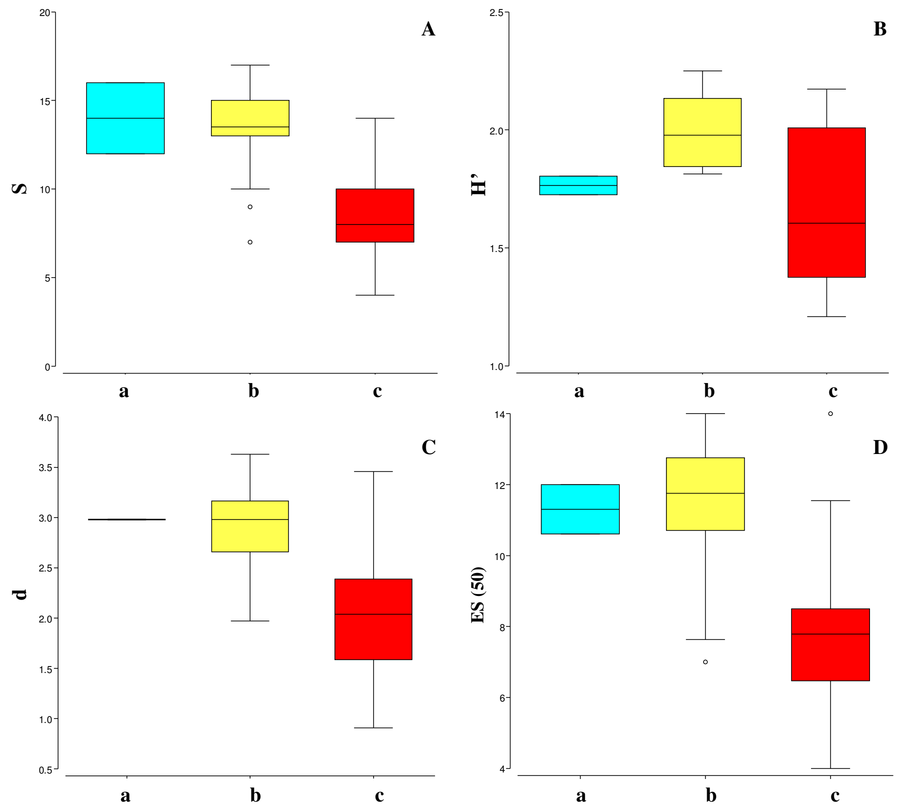


Figure 14. Box-plots for distribution of total Families, S (A), Shannon's diversity, H' (B), Margalef's species richness, d (C), and rarefaction from a sample of 50, ES(50) (D) measured in infauna communities for each community assemblage group defined in LINKTREE analysis of data collected in the nearshore aquatic setting. Community group c exhibited lower Family richness (S & d) and diversity (H' & ES(50)) compared to community group b.

For the offshore aquatic setting, results from the BIOENV analysis indicated that backscatter intensity and bathymetric data together accounted for the greatest proportion of variability in communities that could be explained by environmental variables (BIOENV ρ= 0.487, p=0.010). Constrained divisive clustering was performed with LINKTREE using backscatter and bathymetric data to define distinct groups of community assemblages. Five community groups, coded BD, FM, I, J and K were identified, and associated with four classes of backscatter intensity data, < -30 dB, -30 to -20 dB, -20 to -15 dB, and >-15 dB, and two classes of bathymetric data, < -47 m and > -47 m (Fig. 15; Tables 15 and 16). ANOSIM test results indicated that offshore community assemblage groups defined by the LINKTREE analysis were significantly different (global R=0.607, p=0.001). Within group community assemblage similarity ranged from 39% to 66%, and between group dissimilarity ranged from 43% to 75% in SIMPER results (Table 16). Individual LINKTREE community assemblage groups were significantly different than other LINKTREE groups in all pairwise comparisons (Table 17).

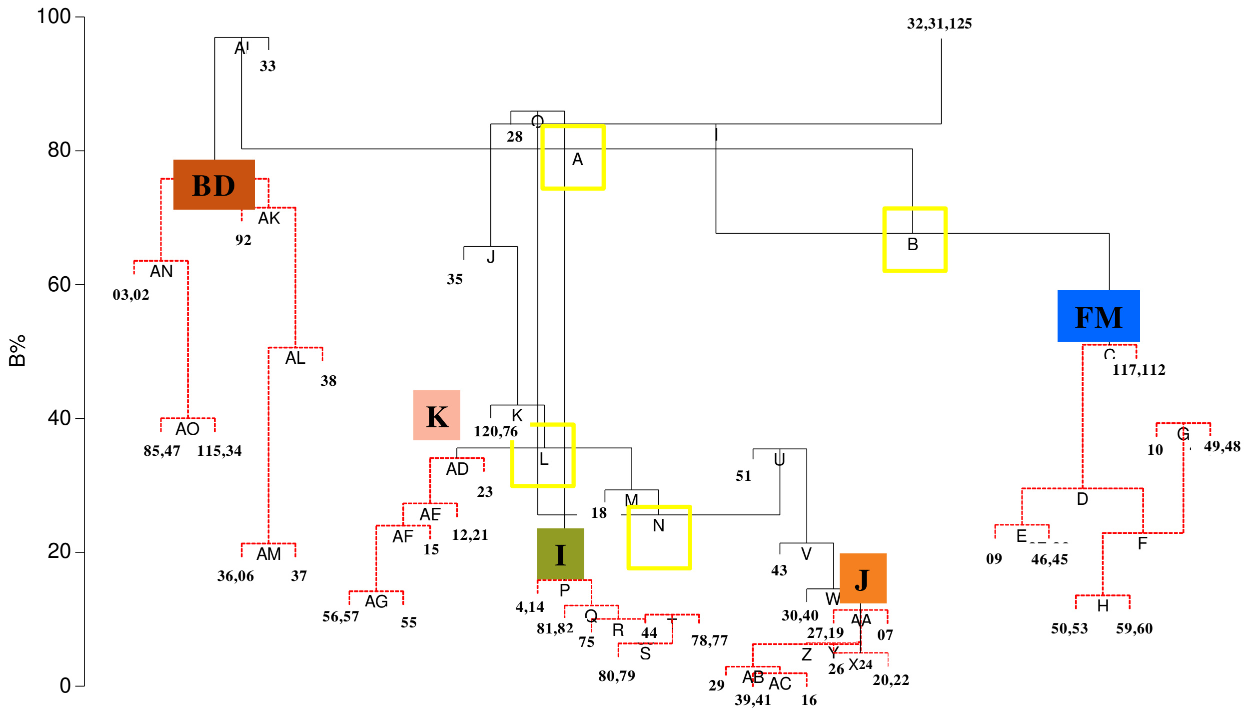


Figure 15. Cluster diagram of sites (short serial ID; 33= M0033, etc.) grouped into one of 5 LINKTREE groups (BD, FM, I, J or K) where group division occurs only when a threshold in environmental variables measured at the site can explain distinctions between community assemblages of the LINKTREE groups. Breaks at nodes in yellow squares, A, B, L and N, divide the 5 LINKTREE community assemblage groups based on backscatter and bathymetric data thresholds, detailed in table 16. For the offshore communities in unconsolidated sediments, backscatter and bathymetric data explained 49% of the variability in community distributions (BIOENV ρ=0.487, p=0.010).

Table 15. Class breaks in backscatter (BS) and bathymetric (Bathy) data associated with offshore LINKTREE community assemblage groups, coded BD, FM, I, J and K.

Step	Group to left	Group to right
A	**BD**, > -15 dB (BS)	Others, ≤ -15 dB (BS)
B	Others, > -30 dB (BS)	**FM**, ≤ -30 dB (BS)
L	K, > -47m (Bathy)	Others, ≤ -47m (Bathy)
N	**I**, < -20 dB (BS)	**J**, ≥ -20 dB (BS)

Table 16. Sample size (n), within group level of similarity (%), taxa contributing most to within group similarity (% contribution), and resulting primary and co-occuring taxa biotic component (BC) classifications are listed for each of the offshore community assemblage groups defined by the LINKTREE analysis. Classifications were defined based on greatest proportional contribution of groups in SIMPER results, where the group classification appears in bold and the taxa responsible for the classification are listed in regular font below.

Offshore LINKTREE Groups	n	% Sim	Taxa contributing to similarity (%)	Primary BC	Co-occurring taxa
BD	13	38.8	Maldanidae (17) Ampharetidae (15) Astartidae (12) Unciolidae (11)	**Small tube builders** (*Clymenella*//Ampharetidae)	. **Clam bed** (*Astarte*) **Mobile crustaceans** (*Unciola*)
FM	15	47.6	Cirratulidae (15) Nuculidae (14) Nephtyidae (14) Ampharetidae (13)	**Small surface burrowers** (*Chaetozone*//Ampharetidae)	**Clam bed** (Nuculidae) **Large surface burrowers** (Nephtyidae)
I	7	65.9	Nuculidae (18) Rissoidae (12) Yoldiidae (11) Thyasiridae (10	**Clam bed** (Nuculidae/*Yoldia*/ *Thyasira*)	**Mobile mollusks** (Rissoidae)
J	16	65.6	Nuculidae (14) Thyasiridae (10) Maldanidae (10) Thraciidae (9) Yoldiidae (8)	**Clam bed** (Nuculidae/*Thyasira*/ *Thracia*/*Yoldia*)	**Small tube builders** (*Clymenella*)
K	5	59.3	Nuculidae (12) Thraciidae (9) Scalibregmatidae (9) Astartidae (9) Lumbrineridae (7) Mytilidae (7)	**Clam bed** (Nuculidae/*Thracia*/ *Astarte*)	**Small surface burrowers** (Lumbrineridae/*Scalibregma*) **Mussel bed** (*Crenella*)

Table 17. Level of dissimilarity (%; bold), R value, and p-value (in parentheses) results from ANOSIM pairwise comparisons of community similarity between 5 offshore community groups identified with LINKTREE analysis (ANOSIM global R=0.607, p=0.001). All pairwise comparisons were significantly different.

LINKTREE community groups	BD	I	J	K
I	**73%** 0.715 (0.001)			
J	**63%** 0.637 (0.001)	**43%** 0.697 (0.001)		
K	**64%** 0.291 (0.015)	**54%** 0.867 (0.001)	**46%** 0.730 (0.001)	
FM	**75%** 0.816 (0.001)	**64%** 0.632 (0.001)	**62%** 0.739 (0.001)	**68%** 0.816 (0.001)

Tests for differences in univariate community metrics between community assemblage groups defined by LINKTREE analysis for the offshore setting indicated significant differences between total Families, overall infauna density (m^{-2}), species evenness and rarefaction between communities (Fig. 16). Total Families (S) were significantly lower for group FM compared to groups I, J and K. Density of infauna individuals (m^{-2}) was significantly lower in community group BD compared to groups I and J, as was density of individuals in group FM compared to groups I, J and K. Species evenness (d) and species rarefaction (ES(50)) were significantly lower for group FM compared to group J.

Another noteworthy difference between offshore community groups was the presence, or absence, of the burrowing anemone, *Pachycerianthus borealis*, a species which defined the majority of the benthic communities classified to the biotic community level in the discrete site classifications for the biotic component. This species of burrowing anemone was absent from community groups I and FM, but was often present in the assemblages of other community groups defined by the LINKTREE analysis. *P. borealis* anemones were present in community groups BD, J and K at 15%, 56% and 29% of the sites falling within each group, respectively.

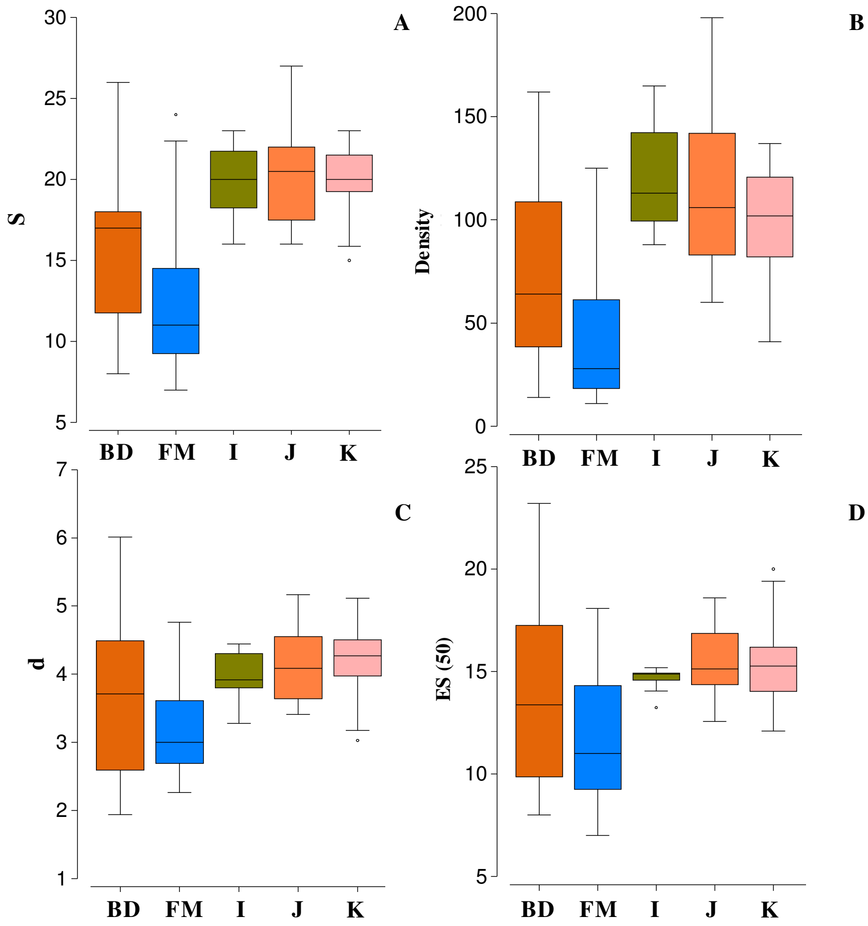


Figure 16. Distribution of total Families, S (A), infauna density per 0.05 m^2 (B), Margalef's species richness, d (C), and species rarefaction from a sample of 50, ES(50) (D) measured in infauna communities for each offshore community assemblage group defined in LINKTREE analysis.

4.4.6 *Mapping potential habitat based on abiotic surrogate*

The abiotic surrogate based community distribution map produced by combining the substrate component classification map, generated with textural modeling, with a reclassification of the bathymetric data grid into three depth strata, <30m, 30-60m and >60m, resulted in delineation of 16 unique substrate-depth classes. The map depicts distribution of the benthic communities defined by *a priori* abiotic surrogate classification based on the substrate type and depth strata from which the infauna grab sample was collected. While most of the grab samples used in the multivariate community analyses were represented in the map, three of the substrate-depth classes in the grab sample data were not delineated in the combined spatial analysis results: slightly gravelly substrate in shallower than 30m, gravel/gravel mix substrate deeper than 60m, and gravelly/medium-coarse sand substrate deeper than 60m. This indicates that mapped distributions of communities defined by the abiotic surrogate, combined substrate and depth, were not entirely accurate. Eight of the grab samples used in multivariate analyses of communities defined by the abiotic surrogate were not included in the map of community distributions, including three from slightly gravelly substrates shallower than 30m, two from gravel/gravel mix substrate deeper than 60m and three from gravelly/medium-coarse sand substrate deeper than 60m (Table 18). These results are not surprising since the evaluation of the textural model that was used to generate the substrate component classification map had most difficulty delineating these substrate classes. Of the seven substrate classes defined in the modeled substrate component classification map, slightly gravelly, gravel/gravel mixes, and gravelly/medium-coarse sand substrates exhibited the lowest percentage of identification accuracy, 55%, 25% and 57%, respectively, compared to substrate group classifications of sediment grab samples from discrete sample sites (Dobbs 2017d). The textural model achieved between 67% and 83% accuracy in classification for all other substrate group classes when compared to classifications based on sediment grab sample data (Dobbs 2017d).

Additionally, the abiotic surrogate based potential habitat map delineated one substrate-depth class that was not encountered in benthic sampling, fine sand in waters 30m to 60m deep. This class only accounted for approximately one percent of the total study area, but failing to document the community inhabiting this class prohibited the description of the biotic community that this environment supports. In future studies, it will be important to ensure that all substrate types across all depth strata are sampled at an appropriate density to ensure they are documented in potential habitat maps generated with the substrate-depth abiotic surrogate (Rooper & Zimmermann 2007).

A great degree of variability was observed in comparisons of community characterizations assigned to the abiotic surrogate classes with the CMECS point classifications of the community and co-occurring taxa details of the biotic component. Just four of the 84 sample site abiotic surrogate based community characterizations were in complete agreement with the CMECS biotic component community characterizations for the sample sites in unconsolidated sediment substrates. However, approximately 64% of the abiotic surrogate based community characterizations showed some agreement when compared to the CEMCS biotic component based community classifications, where biotic groups identified as the primary CMECS biotic component classification or one of the biotic component co-occurring taxa appeared in the community assigned to abiotic surrogate classes from SIMPER results. These results support the findings of many other studies comparing top-down or geophysical based abiotic surrogate community models. In those studies, a high degree of community variability was observed between classes defined by geophysical data compared to potential habitat models based on bottom-up methodologies where distinct benthic communities are determined prior to identifying associated environmental variables used to predict spatial distributions of benthic communities (Hewitt et al. 2004; Eastwood et al. 2006; Shumchenia & King 2010).

Table 18. Proportional distributions of benthic communities in unconsolidated sediments defined *a priori* by abiotic surrogate, combined CMECS substrate component group and depth strata, across the Midcoast Maine study area. Three classes of grab samples were not included in the map (italicized font), and one class included in the map, but not sampled is indicated with an asterisk (*).

Abiotic Surrogate Group	**Area km^2**	**Area mi^2**	**Grab n**	**Proportion (%)**
Mud in >60m	247.9	95.7	12	41.5%
Slightly gravelly in >60m	30.2	11.7	8	5.05%
Mud in 30-60m	29.0	11.2	5	4.85%
Fine sand in <30m	22.7	8.8	4	3.80%
Gravelly/Med-Coarse sand in <30m	20.8	8.0	8	3.47%
Gravel/Gravel mixes in 30-60m	19.7	7.6	10	3.30%
Muddy sand in 30-60m	19.5	7.5	7	3.26%
Gravelly/Med-Coarse sand in 30-60m	19.0	7.3	9	3.17%
Muddy sand in >60m	18.4	7.1	2	3.08%
Slightly gravelly in 30-60m	18.2	7.0	6	3.04%
Fine sand in 30-60m*	6.56	2.5	5	1.09%
Gravel/Gravel mixes in <30m	0.3	0.1	3	0.05%
Mud in <30m	0.1	0.05	3	0.02%
Slightly gravelly in <30m	-	-	3	-
Gravel/Gravel mixes in >60m	-	-	2	-
Gravelly/Med-Coarse sand in >60m	-	-	3	-

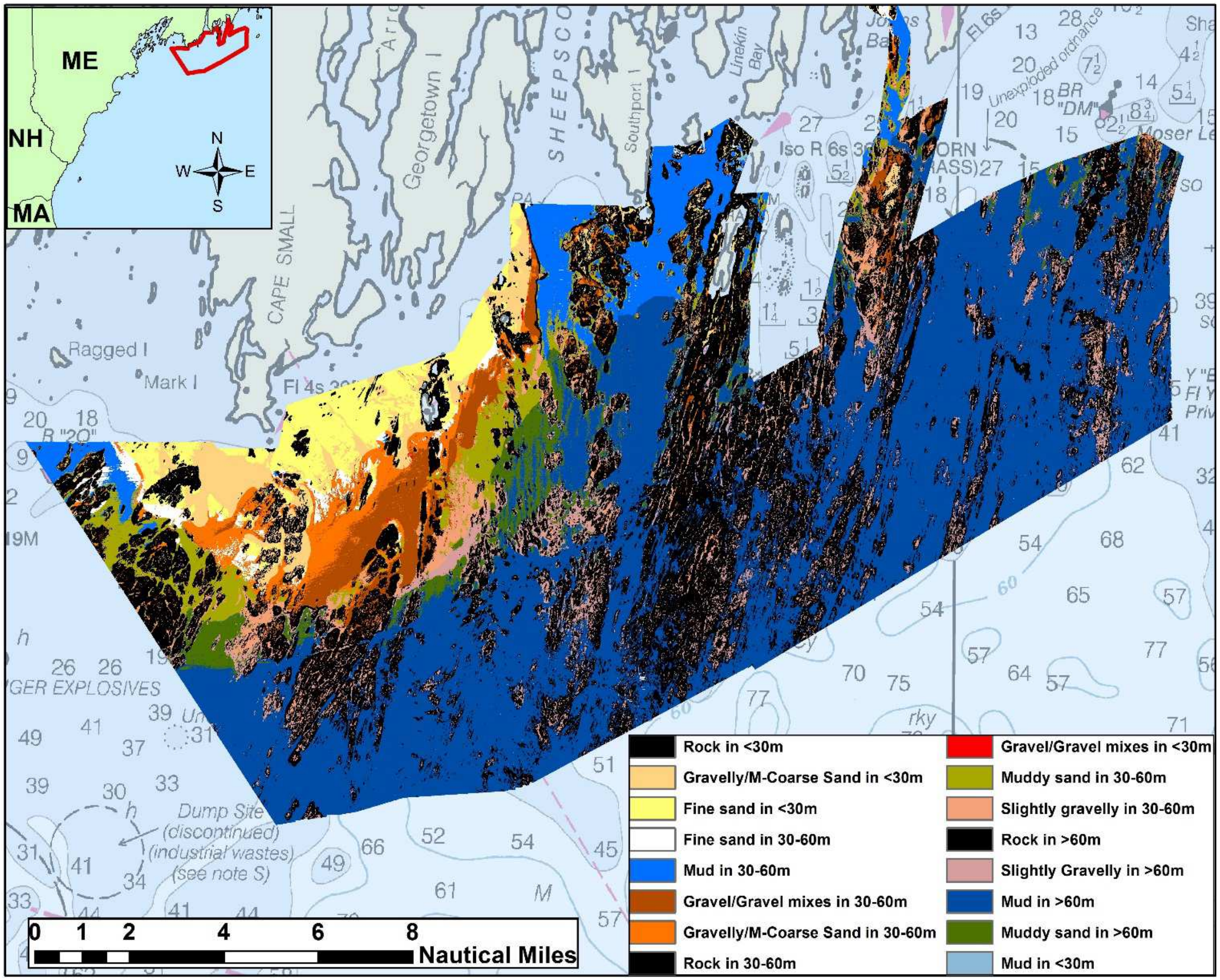


Figure 17. Abiotic surrogate based potential habitat map depicting distribution of benthic communities in unconsolidated sediment, defined by *a priori* classification into combined CMECS substrate group units and depth strata. All rocky substrate lacking CMECS biotic component classification beyond the Attached Fauna or Benthic Macroalgae class are symbolized in black, regardless of depth strata assignment. Basemap depth soundings in fathoms.

4.4.7 *Mapping potential habitat based on bottom-up community-environmental models*

Review of results for environmental thresholds associated with community groups defined in the LINKTREE analyses indicated that a combined reclassification of bathymetric and backscatter gridded datasets could be used to map predicted distributions of community groups across the entire study area, regardless of aquatic setting designation. Bathymetric and backscatter data were reclassified and assigned corresponding nearshore community group a-c or offshore community group BD, FM, I, J or K (Table 19). The resulting map illustrates the classified biotic component distributions for the entire study area (Table 20; Fig. 18).

Table 19. Backscatter and bathymetric data range associations for community groups defined by LINKTREE analyses for nearshore and offshore communities.

Bathymetric data range	Backscatter data range			
	< -31 dB	-30 to -20 dB	-20 to -15 dB	> -20 dB
< 30 m	Nearshore a	Nearshore b	Nearshore c	Nearshore c
30 – 47 m	Offshore FM	Offshore K	Offshore K	Offshore BD
>47 m	Offshore FM	Offshore I	Offshore J	Offshore BD

Table 20. Proportional distributions of predicted CMECS biotic component groups in unconsolidated sediment habitat across the Midcoast Maine study area.

CMECS biotic component group	**Area (km^2)**	**Area (mi^2)**	**Proportion (%)**
Offshore FM	109.6	42.3	24.2
Offshore BD	20.9	8.1	4.6
Offshore I	200.3	77.3	44.3
Offshore J	30.6	11.8	6.8
Offshore K	47.2	18.2	10.4
Nearshore a	3.6	1.4	0.8
Nearshore b	29.0	11.2	6.4
Nearshore c	11.2	4.3	2.5
Total	452.5	174.7	100.0

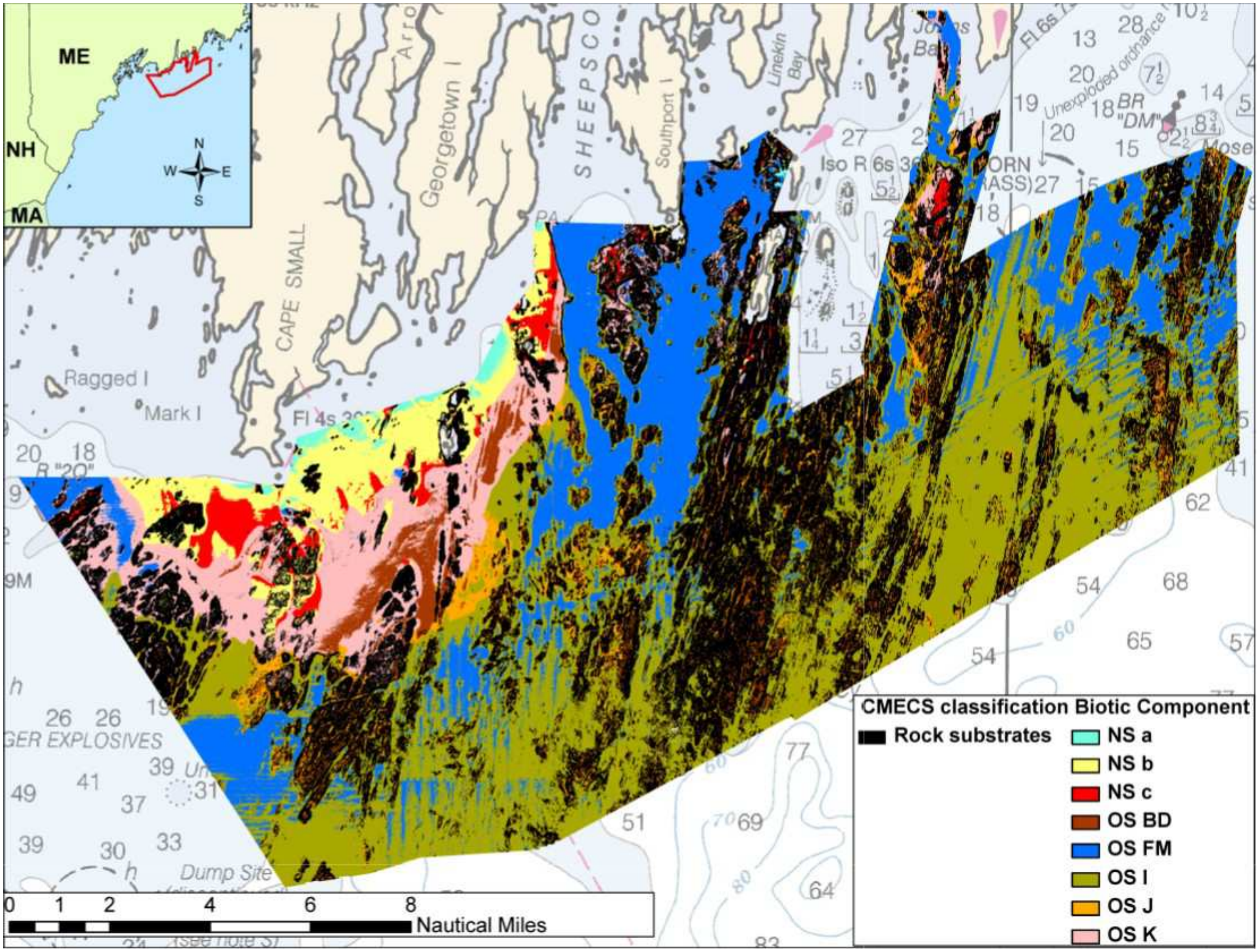


Figure 18. Bottom-up based potential habitat map depicting distribution of communities in unconsolidated substrate habitat defined by results from multivariate community LINKTREE analyses (OS= offshore community, NS= nearshore community; communities not defined for rock substrate habitat symbolized in black). Basemap depth soundings in fathoms.

Geospatial modeling of the biotic component based on community-environmental associations performed well, achieving classification accuracy of 73% overall (Table 21). Modeled classifications extracted for grab sites in 2015 and 2016 achieved between 54% and 100% accuracy in comparison to classifications of those sites in the multivariate community analysis results. The biotic component classification was predicted correctly for all sites classified as nearshore a, nearshore b, and offshore I in the LINKTREE analysis.

Table 21. Accuracy of model predictions of biotic component classification for sites sampled through 2016.

Linktree Class	n	Correct	Performance
Nearshore a	2	2	100%
Nearshore b	10	10	100%
Nearshore c	9	6	67%
Offshore B/D	13	7	54%
Offshore F/M	15	12	80%
Offshore I	7	7	100%
Offshore J	16	9	56%
Offshore K	7	5	71%
OVERALL	58	79	73%

Preliminary review of predicted biotic component classifications for the 2017 grab sites (M0127-M0197) indicates that the model performs well also. Modeled classifications accurately described the general community composition of infauna noted for each site in records of sample sorting and preservation. Once taxonomic identification and community analyses are complete for the 2017 grab samples, final discrete site biotic component classifications will be determined, and site classifications will be compared to modeled classifications extracted at grab sites to quantify model performance for these locations.

None of the grab sites in 2017 were classified as LINKTREE community groups nearshore a or c. This is not surprising because the mean depth over the 2017 surveyed area measured -75 m ± 24 m, and over 95% of the area fell within depths of 30 m or greater. Continued mapping and analysis of the nearshore area not surveyed between offshore of Boothbay Harbor, east to Muscongus Bay would likely increase reported proportions of nearshore community group representation across the study region. Evaluation of connectivity and spatial distributions of nearshore communities should be cautioned when considering the data discussed here because of the lack of MBES data available in the shallower, nearshore regions, not yet mapped with MBES sonar.

Multivariate biotic-abiotic analyses (BIOENV) determined that less than half of the observed variability in benthic community distributions could be attributed to measurements of bathymetric and backscatter intensity data in this study, leaving substantial room to improve predictive benthic habitat models for subtidal Midcoast Maine. Still, results for this study, 45% of biotic variability explained for nearshore communities, and 49% of biotic variability explained for offshore communities, fall within the 37% to 58% range of biotic variability explained by environmental variables reported for other studies of subtidal benthic habitat in the GoM (McHenry et al. 2017). Preliminary analyses of abiotic-biotic relationships in this study indicated that up to ten percent more of the observed variability in benthic community distributions could be explained with the inclusion of point observations of temperature, chlorophyll concentration or sediment grain size (percentage of gravel or mud) data. However, these data were not available in a continuous, rasterized format that enabled development of predictive, rasterized habitat maps at the time analyses were conducted. Ocean circulation models like FVCOM (Chen et al. 2007) or HYCOM (hycom.org) and sediment textural models built into common MBES data analysis programs, like Fledermaus, enable generation of rasters of these kinds of datasets from interpolations of point observations. Future investigations into the capacity for predictive modeling of benthic habitat should explore the utility of including modeled continuous data for sediment grain size, water temperature and chlorophyll concentrations in multivariate abiotic-biotic analyses used to develop predictive habitat maps.

5 Conclusions on potential habitat mapping

Coastal management needs should be carefully considered when choosing one or more of the various habitat mapping approaches available to inform decision making and spatial planning. In this study, only bottom-up, biology based potential habitat, and abiotic surrogate, combined substrate and depth, based potential habitat were mapped, but a variety of other top-down methodologies, including automated segmentation of habitat units, based on delineation of unique signatures of acoustic sonar data, are also widely used in the field of subtidal marine benthic habitat mapping. Top-down and abiotic surrogate based mapping strategies are often employed because they generally require less intensive biological sampling and utilize relatively rapid survey techniques compared to the bottom-up mapping strategy (Hewitt et al. 2004; Eastwood et al. 2007; Shumchenia & King 2010). While these maps are suitable for resource studies with a geologic focus, they often fail to describe benthic communities at specific spatial locations accurately because the characterization of communities associated with habitat units defined by geophysical data typically exhibit more community variability compared to biologically based community discrimination (Hewitt et al. 2004; Eastwood et al. 2006; Shumchenia & King 2010). In many cases approaching potential habitat mapping with both top-down, geology-based and bottom-up, biology-based methods could prove useful by providing additional benthic community details to inform spatial planning, and avoid biased decision making based on choosing one mapping method over another (Hewitt et al. 2004).

Mapped distributions of habitat units based on statistically significant acoustic data signatures are generally reliable, but caution in interpretation should be paid to spatial distributions that clearly mirror artifacts resulting from data acquisition during survey operations, or from post processing of spatial datasets used to generate seamless raster mosaics from multiple surveys. The linear nature of the delineation between distributions of offshore communities I and FM in the bottom-up potential habitat map are an obvious example of survey artifacts in backscatter intensity data that carried over into modeled results (Fig. 19). To those unfamiliar with hydrographic survey operations or lacking experience necessary to evaluate MBES data products, these features may be interpreted as real, so it will be important to call attention to instances where geospatial distributions of benthic communities should be further investigated to validate modeled classifications. This is just one example where using both top-down and bottom-up approaches to habitat mapping could prove useful, where data artifacts are prevalent in the bottom-up based potential habitat map, but are not apparent in the abiotic surrogate based potential habitat map.

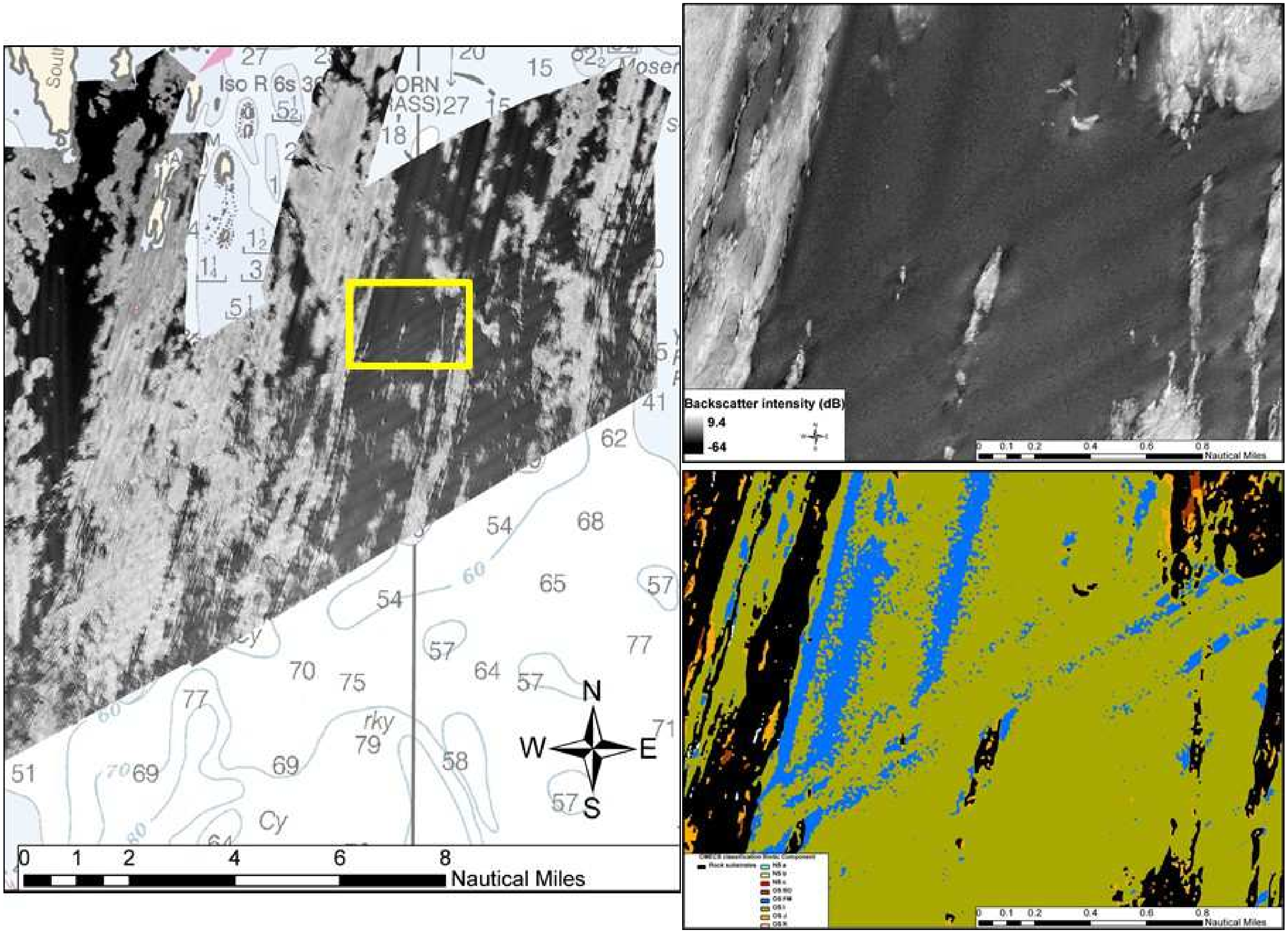


Figure 19. The area bounded in yellow (left figure) was magnified 10x to show survey artifacts in backscatter intensity data (top right) that carry over into modeled biotic community distributions (bottom right).

6 Future work

While this study makes major contributions to regional understanding of the subtidal benthic communities offshore of Maine's Midcoast, additional work will be required to completely resolve distribution and evaluation of rocky bottom habitat, accounting for 82.3 mi^2 of the 257 mi^2 investigated by the MCMI from 2015-2017. Description of the communities inhabiting rocky substrate habitats is vitally important to understanding the ecological function of the subtidal GoM ecosystem, and the connectivity between unconsolidated sediment and rocky benthic habitats. Previous work investigating relationships between the benthos and the environment offshore of Maine has shown that depth plays a strong role in determining benthic community composition of hard bottom substrates. Ledge habitat showed strong associations with assemblages of Northern lampshells and cunner wrasse in waters less than 30 m depth, pollock, horse mussel, sponge and tunicate were associated with ledge or boulder habitat at around 60m depth, and Acadian redfish and jewel anemones were associated with ledge or boulder habitat at around 100 m depth (McHenry et al. 2017). Additional analyses of the seafloor imagery collected by MCMI at rocky seafloor sampling sites will complement existing knowledge of benthic community inventories for the coastal GoM, and will reveal whether the addition of MBES backscatter data to multivariate biotic-environmental data analyses may help to achieve greater confidence in modeling benthic community distributions for hard bottom habitat at regional scales.

Improved classification and description of the biology inhabiting rocky seafloor habitat will allow for quantitative estimates of the distribution of essential fish habitat for many commercial marine species requiring or relying on hard bottom habitat for at least one stage in their life cycle. Distribution of habitat availability and habitat quality of the rocky seafloor has implications for populations of cod, tomcod, lobster, blue mussel, cunner, pollock, winter flounder and tautog commercial fisheries in the GoM (Stevenson et al. 2014). There already exists potential to combine benthic habitat classifications with documented habitat associations of commercial species to better inform fisheries specific seafloor management. Extensive literature reviews of cod populations in the Midcoast, offshore of Cape Small, sampled using both conventional trawl, and less used video or hook-and-line surveys, indicated significant substrate and temperature associations for different age class populations of cod (Grabowski et al. 2017). Environmental associations documented in thorough reviews like that for cod (Grabowski et al. 2017) could be used in conjunction with the habitat classifications provided in this study to better understand and manage fisheries on the local level, where both habitat classification and fisheries data exist. Expanding quantitative knowledge and understanding of hard bottom seafloor structure in the region will provide tremendous benefit to fisheries managers, and should be considered a primary focus of the MCMI benthic sampling program moving forward.

Additional exploration into associations of commercial fisheries populations with classified CMECS habitat units offshore of Maine is also a worthwhile endeavor. Presentations of preliminary investigations into associations of fisheries populations offshore of Massachusetts (MA), using comparisons of MA Department of Marine Fisheries trawl data with CMECS benthic habitat classifications at a regional data workshop in May 2017 and Northeast Region Ocean Planning meeting of the Habitat and Coastal and Ocean Mapping subcommittee in March 2018, indicated that individual species and fish community assemblages exhibit affinity to aquatic setting and water column classifications. Multivariate fish community assemblage and environmental data analyses illustrated that trawled-fish community assemblage cluster group divisions occur coincident with water depth strata delineated by 10 m and 30 m isobaths, and with CMECS defined water column temperature classifications (Callaghan, MA CZM, pers. comm.). These relationships are likely subject to change as climate impacts to the GoM increase in prevalence and frequency. Developing a time-series dataset of fish population and habitat associations in the GoM will be worthwhile to monitor ongoing habitat shifts, especially as temperatures in the basin warm at rates faster than almost all other coastal ocean basins around the world (Pershing et al. 2015). Researchers in the GoM have speculated that earlier than usual warming waters led to changes in timing of commercial American Lobster landings in 2012, with tremendous deleterious impact to the fishery's economic value, highlighting the opportunity for more informed development of adaptation strategies (Mills et al. 2013; 2017). Work on forecasting timing of seasonal changes to oceanographic parameters, such as temperature and salinity, should be combined with high resolution spatial data on seafloor substrate and depth, like the products presented in this report, to improve knowledge of habitat suitability for commercially important species on which the economies of coastal Maine communities heavily rely.

Investigation into correlations between high diversity benthic habitat type and structure, and high biodiversity, or commercial fisheries potential, is another important research question with implications for marine spatial planning and resource management. The highly dynamic seafloor structure and transitional environments occurring across relatively small spatial scales is a unique ecosystem feature that is widespread throughout Maine's subtidal environment relative to the rest of the Northeast region (Kelley et al. 1998). The high diversity of seafloor-character conditions, controlled by rock composition and their structural variation along and offshore of the Maine coast, are especially prevalent in Downeast Maine within the island-bay complex (Kelley et al. 1988), where the majority of tonnage and value of fisheries landings are reported for the State in recent years (DMR Landings Information 2017; 2013-2017). Random investigation into average species richness (S) in existing Maine Department of Marine Resources (DMR) trawl data collected biannually from 2000 to 2009 within the 2015-2017 MCMI study area indicate that differences in benthic habitat distributions may have meaningful ramifications for communities of "near-bottom dwelling species" sampled with trawl surveys (Libby 2010; OBIS 2014; Fig. 20). The information gained from investigations into habitat diversity and the link between biodiversity and overall production up the food chain may prove useful for coastal and fisheries management alike.

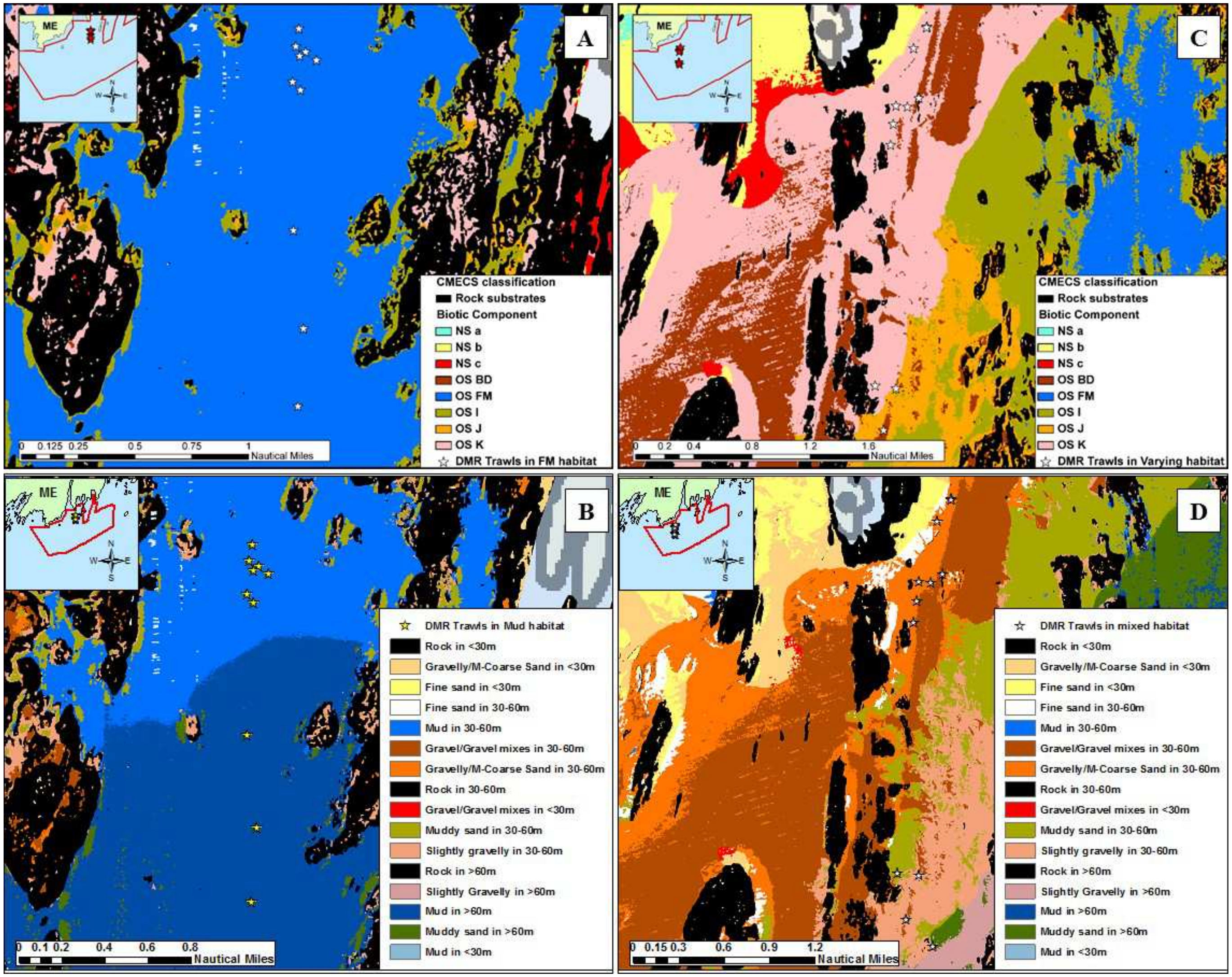


Figure 20. Random comparisons of species richness (S) in Maine DMR trawl data indicate there may be interesting differences in fisheries populations associated with diversity of benthic habitat communities. S averaged 19 for the 10 trawl surveys conducted near-bottom over a continuous expanse of offshore bottom-up based potential habitat, FM (A), or abiotic surrogate based potential habitat, Muds deeper than 30m (B), where S averaged 22 for the 12 trawl surveys conducted over seafloor with a variety of offshore bottom-up based potential habitat (C, includes benthic community groups BD, I, J and K), or abiotic surrogate based potential habitat (D; includes gravelly/medium-coarse sands, gravel/gravel mixes, slightly gravelly & muddy sand substrates deeper than 30m).

Acknowledgements

Funding for this study was provided by provided by the Bureau of Ocean Energy Management (BOEM; cooperative agreement number M14AC00008) and the National Oceanic and Atmospheric Administration (award numbers NA13NOS4190045 and NA14NOS4190066). We extend our gratitude to Captain Caleb Hodgdon and crew of the R/V Amy Gale, laboratory analysts and project managers who made this project a success through their contributions and support.

References

Abbot RT. (1954) American Seashells. D. Van Nostrand Company, Inc., New York, US, 541 p.

Baker S (1987) Recommended protocols for sampling and analyzing subtidal benthic macroinvertebrate assemblages in Puget sound. Puget Sound Water Quality Authority, written for US Environmental Protection Agency, Region 10, Office of Puget Sound, 38p.

Babb I, De Luca M (Eds.) (1988) Benthic productivity and marine resources of the Gulf of Maine. U.S. Dept. of Commerce, National Oceanic and Atmospheric Administration, Oceanic and Atmospheric Research, Office of Undersea Research Program. Research Report 88-3.

Barnhardt WA, Belknap DF, Kelley AR, Kelley JT, Dickson SM (1997) Surficial geology of the Maine inner continental shelf; Cape Elizabeth to Pemaquid Point, Maine: Maine Geological Survey, Geologic Map 96-9, map, scale 1: 100,000.

Barnhardt WA, Kelley JT, Dickson SM, Belknap DF (1998a) Mapping the Gulf of Maine with side-scan sonar: A new bottom-type classification for complex seafloors. *Journal of Coastal Research*. 14: 646-659.

Barnhardt WA, Gehrels WR, Belknap DF, Kelley JT (1995) Late Quaternary relative sea-level change in the western Gulf of Maine: Evidence for a migrating glacial forebulge: Geology, v. 23, no. 4, p. 317-320.

Belknap DF, Shipp RC, Kelley JT, Schnitker D (1989) Depositional sequence modeling of late Quaternary geologic history, west-central Maine coast, in Tucker RD, Marvinney RG (editors), Studies in Maine geology; Volume 5 - Quaternary geology: Maine Geological Survey, p. 29-46.

BOEM (2014) Proposed geophysical and geological activities in the Atlantic OCS to identify sand resources and borrow areas: North Atlantic, Mid-Atlantic, and South Atlantic-Straits of Florida Planning Areas. Final Environmental Assessment. Bureau of Ocean Energy Management Division of Environmental Assessment, U.S. Department of the Interior, 214p.

Bousfield, EL. (1973) Shallow-water Gammaridean Amphipoda of New England. Comstock Publishing Associates, Ithaca, New York, US, 312 p.

Brown B (1993) A classification system of marine and estuarine habitats in Maine: An ecosystem approach to habitats. Maine Natural Areas Program. Department of Economic and Community Development. 51 p. Augusta, ME

Chen C, Huang H, Beardsley RC, Liu H, Xu Q, Cowles G (2007) A finite volume numerical approach for coastal ocean circutlationstudies: Comparisons with finite difference models. *Journal of Geophysical Research* 112: C03018.

Christensen O, Longva O, Thorsnes T, Karlsen A (2007) Marine facies mapping using multibeam backscatter. Eds: BJ Todd and HG Greene. In: *Mapping the Seafloor for Habitat Characterization.* Geological Association of Canada, Special paper 47: 81-92.

Clarke KR (1993) Non-parametric multivariate analyses of changes in community structure. Australian Journal of Ecology 18: 117-143.

Clarke KR, Gorley RN (2015). PRIMER v7: User Manual/Tutorial. PRIMER-E, Plymouth, 296pp.

Clarke KR, Gorley RN, Somerfield PJ, Warwick RM (2014). Change in marine communities: an approach to statistical analysis and interpretation, 3rd edition. PRIMER-E, Plymouth, 260pp

DMR Landings Information (2013-2017) Maine 2013-2017 Landings by County (value), PDF. Department of Marine Resources, State of Maine. URL: http://www.maine.gov/dmr/commercial-fishing/landings/index.html Accessed 09 March 2018

DMR Landings Information (2017) Maine 2017 Landings (live pounds and value) by County, PDF. Department of Marine Resources, State of Maine. URL: http://www.maine.gov/dmr/commercial-fishing/landings/index.html Accessed 09 March 2018

Dobbs KD (2016a) 2015 Descriptive report of seafloor mapping - Midcoast Maine. Maine Coastal Mapping Initiative, Maine Coastal Program, Augusta, ME. 45p. (technical report)

Dobbs KD (2016b) 2015 Seafloor sediment analysis and mapping: Midcoast Maine. Maine Coastal Mapping Initiative, Maine Coastal Program, Augusta, ME. 130p. (technical report)

Dobbs KD (2017a) 2016 Descriptive report of seafloor mapping: Midcoast Maine. Maine Coastal Mapping Initiative, Maine Coastal Program, Augusta, ME. 86p. (technical report)

Dobbs KD (2017b) 2016 Seafloor sediment analysis and mapping: Midcoast Maine. Maine Coastal Mapping Initiative, Maine Coastal Program, Augusta, ME. 115p. (technical report)

Dobbs KD (2017c) Preliminary Sand and Gravel Reservoir Assessment for Federal Waters: Midcoast Maine. Maine Coastal Mapping Initiative, Maine Coastal Program, Augusta, ME. 22p. (technical report)

Dobbs KD (2017d) Seafloor sediment textural mapping of the inner/outer continental-shelf: Cape Small to Cape Newagen, Maine. Maine Coastal Mapping Initiative, Maine Coastal Program, Augusta, ME. 51p. (technical report)

Dobbs KD (2017e) 2017 Descriptive Report of Seafloor Mapping: Southport Island to Monhegan Island, Gulf of Maine. Maine Coastal Mapping Initiative, Maine Coastal Program, Augusta, ME. 58p. (technical report)

Dobbs KD (2017f) 2017 Seafloor sediment sampling: Southport Island to Monhegan Island, Gulf of Maine. Maine Coastal Mapping Initiative, Maine Coastal Program, Augusta, ME. 101p. (technical report)

Eastwood PD, Souissi S, Rogers SI, Coggan RA, Brown CJ (2006) Mapping seabed assemblages using comparative top-down and bottom-up classification approaches. *Canadian journal of Fisheries and Aquatic Sciences* 63: 1536-1548.

Erdey-Heydorn MD (2008) An ArcMap seabed characterization toolbox developed for investigating benthic habitats. *Marine Geodesy* 31: 318-358.

Fauchald K (1997) The Polychaete Worms: Definitions and Keys to the Orders, Families and Genera. Natural History Museum of Los Angeles, Los Angeles, California, US, 188 p.

FGDC (Federal Geographic Data Committee) (2012) Coastal and marine ecological classification standard. FGDC-STD-018-2012, Washington, DC.

Findlay RH, Watling L, Mayer LM (1995) Environmental impact of salmon net-pen culture on marine benthic communities in Maine: A case study. *Estuaries* 18: 145-179.

Folk RL (1954) The distinction between grain size and mineral composition in sedimentary-rock nomenclature. *The Journal of Geology* 62: 344-359.

Gosner KL (1971) Guide to Identification of marine and Estuarine Invertebrates: Cape Hatteras to the Bay of Fundy. Wiley-Interscience, New York, US, 693 p.

Gould AA. (1870) Report on the Invertebrata of Massachusetts. University Press: Welch, Bigelow, & Co., Cambridge, Massachusetts, US, 588 p.

Grabowski JH, Conroy CW, Gittman RK, Kelley JT, Sherman S, Sherwood GD, Wippelhauser G (2017) Habitat associations of juvenile code in nearshore waters. *Reviews in Fisheries Science & Aquaculture* 26: 1-14.

Grizzle RE, Ward LG, Fredriksson DW, Irish JD, Langan J, Heinig CS, Greene JK, Abeels, HA, Peter CR, Eberhardt AL (2014) Long-term seafloor monitoring at an open ocean aquaculture site in the western Gulf of Maine, USA: Development of an adaptive protocol. *Marine Pollution Bulletin* 88:129-137.

Grizzle RE, Ward LG, Mayer LA, Malik MA, Cooper AB, Abeels HA, Greene JK, Brodeur MA, Rosenberg AA (2009) Effects of a large fishing closure on benthic communities in the western Gulf of Maine: recovery from the effects of gillnets and otter trawls. *Fisheries Bulletin* 107: 308-317.

Harger O (1878) Report on the Marine Isopoda of New England and Adjacent Waters. From the Report of the United States Commissioner of Fish and Fisheries Part VI, for 1878. US, 304 p.

Hewitt JE, Thrush SF, Legendre P, Funnell GA, Ellis J, Morrison M (2004) Mapping of marine soft-sediment communities: integrated sampling for ecological interpretation. *Ecological Applications* 14(4): 1203-1216.

Huang Z, McArthur M, Przeslawski R, Siwabessy J, Nichol S, Brooke B (2014) Predictive mapping of soft-bottom benthic biodiversity using a surrogacy approach. *Marine and Freshwater Research* 65: 409-424.

HYCOM. Hybrid Coordinate Ocean Model. Available from: https://hycom.org. Accessed: 2018-01-17.

Kelley JT, Belknap DF, Shipp RC (1987) Geomorphology and sedimentary framework of the inner continental shelf of south central Maine: Maine Geological Survey Open-File Report 87-19, 76 p.

Kelley JT, Belknap DF, Jacobson GL, & Jacobson HA (1988) The morphology and origin of salt marshes along the glaciated coastline of Maine, USA. *Journal of Coastal Research*, 649-666.

Kelley JT, Dickson SM, Belknap DF, Stuckenrath, R (1992) Sea level change and late Quaternary sediment accumulation on the southern Maine inner continental shelf, in Fletcher, C., and Wehmiller, J. (editors), Quaternary coasts of the United States: marine and lacustrine systems: Society of Economic Paleontologists and Mineralogists, Special Publication 48, p. 23-34.

Kelley JT, Dickson SM, Barnhardt WA, Belknap DF (1997) Volume and quality of sand and gravel aggregate in the submerged paleodeltas of the Kennebec and Penobscot River mouth areas, Maine: Maine Geological Survey, Open-File Report 97-5, 61 p.

Kelley JT, Barnhardt WA, Belknap DF, Dickson SM, Kelley AR (1998) The seafloor revealed – The geology of the northwestern gulf of Maine inner continental shelf: Maine Geological Survey, Open-File Report 96-6, 61 p.

Kelley JT, Dickson SM, Belknap DF, Barnhardt WA (2003) Distribution and volume of sand bodies on the rocky, glaciated inner continental shelf of the northwestern Gulf of Maine. Journal of Coastal Research, v. 19, p. 41-56.

Kelley JT, Belknap DF, Lee KM, Dickson SM (2007) Assessment of sand and gravel resources along the inner continental shelf of Maine: years 1, 2, outer Saco Bay: a multi-year cooperative between the U.S. minerals management service, Maine Geological Survey and University of Maine.

Larsen PF (1979) The Shallow-Water Macrobenthos of a Northern New England Estuary. *Marine Biology* 55:69-78.

Larsen PF (2005) Biodiversity and observations on the subtidal macrobenthos of Cobscook Bay, Maine. Session 10: Ecosystem Modelling in a macrotidal estuary – Cobscook Bay, *In* The Changing Bay of Fundy: Beyond 400 years. Proceedings of the 6th Bay of Fundy Workshop, Cornwallis, Nova Scotia, September 29-October 2, 2004. Environment Canada – Atlantic Region, Occasional Report No. 23. Dartmouth, NS and Sackville, NB.

Larsen PF, AC Johnson, LF Doggett (1983) Environmental Benchmark Studies in Casco Bay-Portland Harbor, Maine, April 1980. NOAA Technical Memorandum NMFS-F/NEC-19, 190 p.

Larsen PF, Rogers CJ (2015) The benthic macroinfauna of a muddy depositional basin in the Northwester Gulf of Maine. Bigelow Laboratory for Ocean Sciences. Technical Report 119, 22 p.

Lewis FG, Stoner AW (1981) An examination of methods for sampling macrobenthos in seagrass meadows. *Bulletin of Marine Science* 31: 116-124.

Libby DA (2010) Maine Department of Marine Resources Inshore Trawl Survey, 2000 – 2009. Maine Department of Marine Resources, PO Box 8, West Boothbay Harbor, Maine 04575. Original Data Provider: OBIS-USA

Lundblad ER, Wright DJ, Miller J, Larkin EM, Rinehart R, Naar DF, Donahue BT, Anderson SM, Battista T (2006) A benthic terrain classification scheme for American Samoa. *Marine Geodesy* 29: 89-111.

McHenry JA (2014) Abiotic proxies of benthic megafaunal assemblages in the coastal Gulf of Maine: A template for ocean planning? University of Maine, thesis paper 2097

McHenry JA, Steneck R (2013) Two-year baseline characterization of benthic and demersal assemblages inside the University of Maine deepwater wind test sites off Monhegan Island, Maine. Report prepared for the DeepCwind Consortium. University of Maine, Orono, ME, 12 p.

Mchenry JA, Steneck RS, Brady DC (2017) Abiotic proxies for predictive mapping of near-shore benthic assemblages: Implications for marine spatial planning. *Ecological Applications* 27: 603-618.

Mills KE, Pershing AJ, Brown CJ, Chen Y, Chiang F, Holland DS, Lehuta S, Nye JA, Sun JC, Thomas AC & Wahle RA (2013) Lessons from the 2012 Ocean Heat Wave in the Northwest Atlantic. *Oceanography* 26(2): 191-195.

Mills KE, Pershing AJ & Hernández CM (2017) Forecasting the seasonal timing of Maine's lobster fishery. *Frontiers in Marine Science* 4 (337). 10 pp.

NHMR [National History Museum of Rotterdam] online collection database. Available at: http://datasets.nlbif.nl/nmr/. Accessed 6 December 2016.

OBIS (2014) Ocean Biogeographic Information System. Intergovernmental Oceanographic Commission of UNESCO. www.iobis.org.

Oksanen J, Guillaume Blanchet, Kindt R, Legendre P, Minchin PR, O'Hara RB, Simpson GL, Solymos P, Stevens MH, Wagner H (2015). Community Ecology Package 'vegan'. URL: http://cran.r-project.org, https://github.com/vegandevs/vegan

Pershing AJ, Alexander MA, Hernandez CM, Kerr LA, Le Bris A, Mills KE & Sherwood GD (2015) Slow adaptation in the face of rapid warming leads to collapse of the Gulf of Maine cod fishery. *Science* 350: 809-812.

Pollock LW (1998) A practical guide to the marine animals of northeastern North America. Rutgers University Press, New Brunswick, Canada, 367 p.
Poppe LJ, McMullen KY, Williams SJ, Paskevich VF, eds. (2014) USGS East-coast sediment analysis: Procedures, database, and GIS data (ver. 3.0, November 2014): U.S. Geological Survey Open-File Report 2005-1001, available online at http://pubs.usgs.gov/of/2005/1001/.
Ratnasingham S, Hebert PDN. (2007). BOLD: The Barcode of Life Data System (www.barcodinglife.org). Molecular Ecology Notes 7, 355-364. Online database URL http://www.boldsystems.org/index.php/TaxBrowser_Home
Rees HL (1984) A note on mesh selection and sampling efficiency in benthic studies. *Marine Pollution Bulletin* 15: 225-229.
Rooper CN, Zimmermann M (2007) A bottom-up methodology for integrating underwater video and acoustic mapping for seafloor substrate classification. *Continental Shelf Research* 27: 947-957.
R Development Core Team (2016) R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL http://www.R-project.org
Simpson AW, Watling L (2006) An investigation of the cumulative impacts of shrimp trawling on mud-bottom fishing grounds in the Gulf of Maine: effects on habitat and macrofaunal community structure. *ICES Journal of Marine Science* 63:1616-1630.
Smith RI. (1964) Keys to Marine Invertebrates of the Woods Hole Region. Marine Biological Laboratory, Massachusetts, USA, 208 p.
Somerfield PJ, Clarke KR (1995) Taxonomic levels, in marine community studies, revisited. *Marine Ecology Progress Series* 127: 113-119.
Sparks-McConkey PJ, Watling L (2001) Effects on the ecological integrity of a soft-bottom habitat from a trawling disturbance. *Hydrobiologia* 456: 73-85.
Stevenson DK, S Tuxbury, MR Johnson, C Boelke. (2014) Shallow Water Benthic Habitats in the Gulf of Maine: A Summary of Habitat Use by Common Fish and Shellfish Species in the Gulf of Maine. Greater Atlantic Region Policy Series 14-01. NOAA Fisheries Greater Atlantic Regional Fisheries Office. 77pp.
Tanaka MO, Leite FPP (1998) The effect of sieve mesh size on the abundance and composition of macrophyte-associated macrofaunal assemblages. *Hydrobiologia* 389: 21-28.
Trott TJ, Larsen PF (2003) Cobscook Bay, Maine: The crown jewel of biodiversity in the Gulf of Maine. *In* Proceedings of the 32nd Annual Benthic Ecology Meeting, Groton, CT.
Turner RD and JM Reinhart. (date unknown) Phylum Mollusca. Key prepared for the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, US, 65 p. Unpublished manuscript.
Watling L (1979) Marine flora and fauna of the Northeastern United States Crustacea: Cumacea. NOAA Technical Report NMFS Circular 423, 24 pp.
Wentworth CK (1922) A scale of grade and class terms for clastic sediments. *The Journal of Geology* 30: 377-392.
WoRMS (World Register of Marine Species) Available from http://www.marinespecies.org. Accessed 2014-12-10.
Wright DJ, Pendleton M, Boulware J, Walbridge S, Gerlt B, Eslinger D, Sampson D, and Huntley E (2012) ArcMap Benthic Terrain Modeler (BTM), v. 3.0, Environmental

Systems Research Institute, NOAA Coastal Services Center, Massachusetts Office of Coastal Zone Management. Available from: http://esriurl.com/5754.

Appendix A. Summary metadata for sites sampled by MCMI 2015-2017. Water depths (m) reported as *in situ* measurements not referenced to a vertical datum. Photo Y/N indicates whether a photo suitable for analysis could be extracted from video recorded on site. Sediment and infauna grab samples were not retained for sites M0061-M0072, otherwise it can be assumed that grab samples were collected for sites where penetration depth (cm) and sieve size (mm) is reported. Lithologic description of substrate was performed at the time of collection. Sample collectors initials were recorded along with details on infauna preservation soultion/ method and infauna preservation date. Additional notes on sampling operations and sample content are available in separate spreadsheets and pdf copies of field metadata sheets by request.

Site ID	Date	Local Time	Latitude °N	Longitiude °W	Depth, m	CTD	S	Temp	pH	DO	CHL	Photo	Penetraton depth, cm	Lithology	Sieve size	Collector	Presrvative	Preservation date
M0001	5/4/2015	8:13	43.7668	-69.7103	-27.2	Digibar S	31.9	4.90	-	-	-	Y	5.5	Very coarse sand	1mm	IMO	10% formalin	5/5/2015
M0002	5/4/2015	8:57	43.7503	-69.7058	-40.1	Digibar S	31.0	3.89	-	-	-	Y	5	Very coarse sand	1mm	IMO	10% formalin	5/5/2015
M0003	5/6/2015	7:48	43.7375	-69.7045	-38	Digibar S	31.8	3.77	-	-	-	N	5	Very coarse sand and small gravel with small clay/silt component	1mm	IMO	10% formalin	5/7/2015
M0004	5/6/2015	8:57	43.7222	-69.7032	-53.3	Digibar S	33.2	3.34	-	-	-	N	6.9	Silt and clay; silt dominated	1mm	IMO	10% formalin	5/7/2015
M0005	5/6/2015	9:55	43.7117	-69.6990	-51.1	Digibar S	32.9	3.49	-	-	-	Y	N/A	N/A	N/A	IMO	N/A	N/A
M0006	5/6/2015	10:35	43.6918	-69.6953	-59.1	Digibar S	33.5	3.47	-	-	-	Y	4	Sandy mud	1mm	IMO	10% formalin	5/7/2015
M0007	5/6/2015	11:50	43.6818	-69.6942	-72.8	Digibar S	32.3	3.34	-	-	-	Y	14	Clay/silt, small gravel/sand component	1mm	IMO	10% formalin	5/7/2015
M0008	5/6/2015	12:52	43.6703	-69.6892	-70	Digibar S	33.3	3.59	-	-	-	N	N/A	N/A	N/A	IMO	N/A	N/A
M0009	6/15/2015	10:33	43.7163	-69.6555	-77.8	Digibar S	31.2	5.21	-	-	-	Y	13	silty muck	1mm	IMO & AL	95% ethanol	6/16/2015
M0010	6/15/2015	11:15	43.7103	-69.6732	-72.8	Digibar S	31.1	4.22	-	-	-	Y	12	silty muck; trace very fine sand	1mm	IMO & AL	95% ethanol	6/16/2015
M0011	6/25/2015	6:55	43.7353	-69.7347	-25.1	Digibar S	29.8	9.19	-	-	-	Y	4	fine sand; very micaceous	1mm	IMO & AL	95% ethanol	6/26/2015
M0012	6/25/2015	7:45	43.7068	-69.7252	-48.2	Digibar S	30.4	6.95	-	-	-	Y	8	silty fine sand; trace fine gravel (possibly up to 15% gravel)	1mm	IMO & AL	95% ethanol	6/26/2015
M0013	6/25/2015	8:19	43.6977	-69.7158	-58	Digibar S	30.3	6.36	-	-	-	N	N/A	N/A	N/A	IMO & AL	95% ethanol	6/26/2015
M0014	6/25/2015	8:42	43.6923	-69.7350	-51.5	Digibar S	29.0	7.06	-	-	-	N	6	silty very fine sand; micaceous; small (trace) gravel component noticed during field sieve for infauna	1mm	IMO & AL	95% ethanol	6/26/2015
M0015	6/25/2015	9:14	43.6733	-69.7418	-50	Digibar S	29.5	7.18	-	-	-	Y	6	silty fine - medium sand	1mm	IMO & AL	95% ethanol	6/26/2015
M0016	6/25/2015	9:43	43.6617	-69.7385	-64.2	Digibar S	29.9	6.29	-	-	-	Y	9	silty sand and fine gravel	1mm	IMO & AL	95% ethanol	6/26/2015
M0017	7/22/2015	8:18	43.6458	-69.6827	-60	Digibar S	28.9	8.12	-	-	-	Y	N/A	N/A	N/A	IMO & AL	N/A	N/A
M0018	7/22/2015	9:12	43.6589	-69.6844	-80	Digibar S	31.2	7.09	-	-	-	N	12	silt with trace very fine sand	1mm	IMO & AL	95% ethanol	7/23/2015
M0019	7/22/2015	10:05	43.6704	-69.6825	-68	Digibar S	29.6	6.84	-	-	-	N	10	silty fine-medium sand; trace sub-angular fine gravel	1mm	IMO & AL	95% ethanol	7/23/2015

Site ID	Date	Local Time	Latitude °N	Longitiude °W	Depth, m	CTD	S	Temp	pH	DO	CHL	Photo	Penetraton depth, cm	Lithology	Sieve size	Collector	Presrvative	Preservation date
M0020	7/22/2015	10:39	43.7184	-69.6873	-58	Digibar S	28.9	7.82	-	-	-	N	11	silty fine-medium sand; trace sub-angular fine gravel; Thini laminae in upper 1.5 cm	1mm	IMO & AL	95% ethanol	7/23/2015
M0021	7/22/2015	11:38	43.7270	-69.7049	-45	Digibar S	24.0	10.04	-	-	-	Y	6	medium sand; sub rounded, poorly sorted; trace coarse mica	1mm	IMO & AL	95% ethanol	7/23/2015
M0022	7/22/2015	11:57	43.7316	-69.6828	-57	Digibar S	27.6	8.41	-	-	-	N	12	Fine sandy silt	1mm	IMO & AL	95% ethanol	7/23/2015
M0023	7/22/2015	12:23	43.7431	-69.6800	-44	Digibar S	23.6	9.99	-	-	-	Y	6	silty medium-coarse sand and fine-medium gravel with shell hash	1mm	IMO & AL	95% ethanol	7/23/2015
M0024	7/29/2015	7:55	43.6460	-69.6800	-75	Digibar S	31.3	6.95	-	-	-	Y	9	silty fine-medium sand with angular-subangular gravel (5-15%)	1mm	IMO & AL	95% ethanol	7/30/2015
M0025	7/29/2015	8:50	43.6498	-69.6712	-63	Digibar S	30.0	7.61	-	-	-	N	N/A only rock covered in barnacles returned on	N/A	N/A	IMO & Al	95% ethanol	7/30/2015
M0026	7/29/2015	9:12	43.6544	-69.6660	-75	Digibar S	31.0	7.02	-	-	-	Y	6	Silty fine-coarse angular sand and fine-coarse (1/2" - 2" diameter) angular to sub rounded gravel; trace coarse shell fragments	1mm	IMO & AL	95% ethanol	7/30/2015
M0027	7/29/2015	9:50	43.6643	-69.6687	-70	Digibar S	30.5	7.32	-	-	-	Y	10	silty medium-coarse sand with fine angular gravel	1mm	IMO & AL	95% ethanol	7/30/2015
M0028	7/29/2015	10:24	43.6662	-69.6795	-72	Digibar S	30.5	7.43	-	-	-	Y	11	silty fine-medium sand, trace fine angular gravel	1mm	IMO & AL	95% ethanol	7/30/2015
M0029	7/29/2015	11:01	43.6650	-69.7025	-64	Digibar S	29.8	7.84	-	-	-	Y	9	slight silty medium-coarse sand with fine angular gravel; trace shell fragments	1mm	IMO & AL	95% ethanol	7/30/2015
M0030	7/29/2015	11:35	43.6630	-69.7153	-66	Digibar S	29.7	7.55	-	-	-	N	8	sandy, very coarse mixed gravel subrounded to angular, with silt	1mm	IMO & AL	95% ethanol	7/30/2015
M0031	8/13/2015	7:04	43.7106	-69.7398	-33.7	Exo 1	32.1	9.88	7.8	8.5	0.32	Y	6	Sandy gravel; very coarse sand and fine gravel; subrounded to rounded; trace silt, trace shell fragments	1mm	IMO & AL	95% ethanol	8/14/2015
M0032	8/13/2015	7:40	43.7221	-69.7283	-35	Exo 1	32.2	9.42	7.9	8.4	0.00	Y	5.5	sandy gravel; very coarse sand and fine to medium sub-rounded gravel; trace silt	1mm	IMO & AL	95% ethanol	8/14/2015
M0033	8/13/2015	7:55	43.7232	-69.7258	-36	Exo 1	32.2	9.40	7.9	8.5	0.22	N	8	Sandy gravel; very coarse sand; gravel (find-medium); sub-rounded to rounded	1mm	IMO & Al	95% ethanol	8/14/2015
M0034	8/13/2015	8:24	43.7238	-69.7238	-37	Exo 1	32.2	9.40	7.9	8.5	0.17	N	6	Sandy gravel; medium coarse sand and fine-medium sub-rounded gravel	1mm	IMO & AL	95% ethanol	8/14/2015
M0035	8/13/2015	8:43	43.7208	-69.7265	-37	Exo 1	32.2	9.35	7.9	8.4	0.28	N	5.5	Fine-medium sand; trace fine gravel	1mm	IMO & AL	95% ethanol	8/14/2015
M0036	8/19/2015	7:20	43.6469	-69.7655	-58	Exo 1	32.6	8.49	7.8	8.1	0.00	N	5.5	Silty fine to medium subrounded gravel	1mm	IMO & KD	95% ethanol	8/20/2015
M0037	8/19/2015	7:45	43.6497	-69.7654	-51	Exo 1	32.6	8.70	7.9	8.7	0.00	N	9	silty fine to medium subrounded gravel	1mm	IMO & KD	95% ethanol	8/20/2015
M0038	8/19/2015	8:20	43.6520	-69.7669	-46.5	Exo 1	32.5	8.92	7.9	8.4	0.00	Y	8.5	silty medium subrounded gravel	1mm	IMO & KD	95% ethanol	8/20/2015
M0039	8/19/2015	8:45	43.6512	-69.7528	-62	Exo 1	32.7	8.05	7.8	8.0	0.05	N	9	silty medium sand; trace to 20% fine gravel	1mm	IMO & KD	95% ethanol	8/20/2015
M0040	8/19/2015	9:29	43.6530	-69.7488	-64	Exo 1	32.6	8.03	7.8	8.1	0.00	N	10	silty medium sand; trace to 20% fine gravel	1mm	IMO & KD	95% ethanol	8/20/2015

Site ID	Date	Local Time	Latitude °N	Longitiude °W	Depth, m	CTD	S	Temp	pH	DO	CHL	Photo	Penetraton depth, cm	Lithology	Sieve size	Collector	Presrvative	Preservation date
M0041	8/19/2015	9:59	43.6568	-69.7453	-62	Exo 1	32.6	8.00	7.8	8.1	0.00	Y	10	silty coarse sand and fine gravel	1mm	IMO & KD	95% ethanol	8/20/2015
M0042	9/10/2015	10:58	43.6524	-69.7726	-36.5	Exo 1	32.5	10.74	7.9	7.6	0.26	Y	N/A	N/A	N/A	IMO & KD	N/A	N/A
M0043	9/10/2015	11:19	43.6686	-69.7430	-52.7	Exo 1	32.8	9.03	7.9	7.3	0.21	N	6.5	Silty fine-medium sand, trace fine gravel	1mm	IMO & KD	95% ethanol	9/10/2015
M0044	9/10/2015	11:49	43.6765	-69.7258	-61.3	Exo 1	32.8	8.78	7.9	7.2	0.17	N	9.5	silty fine sand	1mm	IMO & KD	95% ethanol	9/10/2015
M0045	9/10/2015	12:19	43.6818	-69.7145	-72	Exo 1	32.8	8.52	7.8	7.0	0.10	N	13	silt	1mm	IMO & KD	95% ethanol	9/10/2015
M0046	9/10/2015	13:05	43.6860	-69.7042	-72	Exo 1	32.8	8.52	7.8	7.0	0.15	N	12	Silt; trace fine sand	1mm	IMO & KD	95% ethanol	9/10/2015
M0047	9/16/2015	6:26	43.7052	-69.7372	-37.8	Exo 1	32.5	10.95	7.9	7.9	0.13	N	9	fine-medium sub rounded gravel with coarse sand	1mm	IMO & KD	95% ethanol	9/17/2015
M0048	9/16/2015	7:02	43.6985	-69.6893	-68.9	Exo 1	32.8	8.89	7.9	7.1	0.28	N	12	silt with trace fine sand	1mm	IMO & KD	95% ethanol	9/17/2015
M0049	9/16/2015	7:37	43.7032	-69.6796	-69.9	Exo 1	32.8	8.88	7.9	7.0	1.31	N	13	silt with fine sand	1mm	IMO & KD	95% ethanol	9/17/2015
M0050	9/16/2015	8:02	43.7075	-69.6837	-69	Exo 1	32.8	8.83	7.9	6.9	0.29	N	13	silt; trace fine sand	1mm	IMO & KD	95% ethanol	9/17/2015
M0051	9/16/2015	8:37	43.7048	-69.6702	-60.7	Exo 1	32.7	9.06	7.9	7.2	0.00	N	7	medium angular sand with fine angular gravel; trace sub angular cobble and coarse gravel	1mm	IMO & KD	95% ethanol	9/17/2015
M0052	9/16/2015	9:06	43.7150	-69.6791	-35	Exo 1	32.6	11.20	8.0	8.1	0.04	Y	N/A	N/A	N/A	IMO & KD	N/A	N/A
M0053	9/16/2015	9:20	43.7231	-69.6623	-69	Exo 1	32.8	8.63	7.9	6.9	0.11	N	13	Silt with very fine sand	1mm	IMO & KD	95% ethanol	9/17/2015
M0054	9/16/2015	9:56	43.7224	-69.6854	-41.3	Exo 1	32.5	10.04	7.9	7.7	0.04	Y	N/A	N/A	N/A	IMO & KD	N/A	N/A
M0055	9/16/2015	10:15	43.7189	-69.7119	-46.6	Exo 1	32.7	9.24	7.9	7.3	0.00	N	6	Medium sand; trace fine gravel	1mm	IMO & KD	95% ethanol	9/17/2015
M0056	9/16/2015	10:38	43.7172	-69.7221	-41.5	Exo 1	32.7	10.17	7.9	7.8	0.06	Y	4	Medium sand; trace fine gravel	1mm	IMO & KD	95% ethanol	9/17/2015
M0057	9/16/2015	10:53	43.7244	-69.7156	-40.9	Exo 1	32.6	9.78	7.9	7.5	0.17	N	6.5	medium sand; with fine to medium gravel	1mm	IMO & KD	95% ethanol	9/17/2015
M0058	9/16/2015	11:40	43.7272	-69.6894	-53.1	Exo 1	32.7	8.98	7.9	7.1	0.00	N	N/A	N/A	N/A	IMO & KD	N/A	N/A
M0059	9/16/2015	11:53	43.7362	-69.6655	-64.7	Exo 1	32.7	8.83	7.9	6.9	0.38	N	13	silt with fine sand	1mm	IMO & KD	95% ethanol	9/17/2015
M0060	9/16/2015	12:17	43.7414	-69.6913	-61.2	Exo 1	32.7	8.98	7.9	6.9	0.00	N	13	silt; trace fine sand; very dense, very cohesive	1mm	IMO & KD	95% ethanol	9/17/2015
M0061	9/16/2015	12:43	43.7477	-69.6567	-61.1	Exo 1	32.7	8.75	7.9	6.8	0.11	N	13	Silt; trace fine sand	1mm	IMO & KD	95% ethanol	9/17/2015

Site ID	Date	Local Time	Latitude °N	Longitiude °W	Depth, m	CTD	S	Temp	pH	DO	CHL	Photo	Penetraton depth, cm	Lithology	Sieve size	Collector	Presrvative	Preservation date
M0062	11/4/2015	8:45	43.5838	-69.6857	-144	Exo 1	35.3	9.00	7.8	6.8	0.00	N	14	Silt; trace very fine sand	N/A	IMO & KD	N/A	N/A
M0063	11/4/2015	9:17	43.6018	-69.6783	-146.6	Exo 1	35.3	9.20	7.8	6.8	0.00	N	14	Silt; trace very fine sand	N/A	Imo & KD	N/A	N/A
M0064	11/4/2015	9:41	43.6189	-69.6716	-154	Exo 1	35.3	9.17	7.8	6.8	0.00	N	14	Silt; trace very fine sand	N/A	IMO & KD	N/A	N/A
M0065	11/4/2015	10:09	43.6460	-69.6720	-63.3	Exo 1	35.1	10.09	7.8	7.1	0.00	N	N/A	rocky?	N/A	IMO & KD	N/A	N/A
M0066	11/4/2015	10:27	43.6610	-69.6643	-86.6	Exo 1	35.1	9.67	7.8	6.9	0.00	N	14	silt	N/A	IMO & KD	N/A	N/A
M0067	11/4/2015	10:44	43.6490	-69.6550	-92.4	Exo 1	35.2	9.40	7.8	6.9	0.33	N	14	silt	N/A	IMO & KD	N/A	N/A
M0068	11/4/2015	11:01	43.6441	-69.6968	-74.5	Exo 1	35.1	9.85	7.8	6.9	0.00	N	~10 cm with washout	silty; fine-medium sub angular to subrounded gravel; trace medium-coarse sand; trace cobble size	N/A	IMO & KD	N/A	N/A
M0069	11/4/2015	11:15	43.6422	-69.7188	-64.2	Exo 1	35.1	9.92	7.8	7.0	0.00	N	~10 cm	similar to M0068 but much denser with more clay; clayey-silty; fine to medium sub-angular gravel; very dense; sticky	N/A	IMO & KD	N/A	N/A
M0070	11/4/2015	11:32	43.6396	-69.7411	-79.2	Exo 1	35.1	9.63	7.8	6.9	0.00	N	14	silt	N/A	IMO & KD	N/A	N/A
M0071	11/4/2015	11:43	43.6385	-69.7524	-79.6	Exo 1	35.1	9.74	7.8	6.8	0.00	N	14	silt	N/A	IMO & KD	N/A	N/A
M0072	11/4/2015	11:59	43.6385	-69.7781	-48	Exo 1	34.9	10.39	7.8	7.3	0.00	Y	N/A	rocky	N/A	IMO & KD	N/A	N/A
M0073	8/24/2016	7:45	43.6459	-69.8947	-32.1	Exo 1	32.6	11.10	7.9	8.4	0.40	N	NA	Rock	NA	IMO KD SG CE	NA	NA
M0074	8/24/2016	8:01	43.6371	-69.8877	-30.7	Exo 1	32.6	11.60	8.0	8.4	0.80	N	NA	Rock	NA	IMO KD SG CE	NA	NA
M0075	8/24/2016	8:14	43.6198	-69.8659	-72.7	Exo 1	32.8	9.90	7.9	7.8	0.00	N	13.7	Silty very fine sand; trace very fine muscovite-mica	1mm	IMO KD SG CE	95% ethanol	8/25/2016
M0076	8/24/2016	9:02	43.6178	-69.8532	-71.8	Exo 1	32.8	9.80	7.8	7.6	0.04	N	12.7	silty very fine sand; slightly coarser than M0075, trace very fine muscovite-mica, trace angular medium sand	1mm	IMO KD SG CE	95% ethanol	8/25/2016
M0077	8/24/2016	9:40	43.6309	-69.8545	-62.5	Exo 1	32.8	10.10	7.9	7.7	0.00	N	11.2	silty fine to medium sand, trace very fine mica and trace coarse angular sand	1mm	IMO KD SG CE	95% ethanol	8/25/2016
M0078	8/24/2016	10:22	43.6291	-69.8639	-63.7	Exo 1	32.8	10.00	7.8	7.7	0.00	N	12.7	fine sand with trace muscovite	1mm	IMO KD SG CE	95% ethanol	8/25/2016
M0079	8/24/2016	11:06	43.6340	-69.8591	-58.8	Exo 1	32.8	10.00	7.9	7.7	0.00	N	9	fine to medium sand; trace mica; occasional horizontal oxidized streaks at depth	1mm	IMO KD SG CE	95% ethanol	8/25/2016
M0080	8/24/2016	11:14	43.6356	-69.8507	-60	Exo 1	32.8	10.10	7.8	7.7	0.00	N	10	silty fine-medium sand with clay; dense; slightly sticky, trace coarse sub-angular sand fragments	1mm	IMO KD SG CE	95% ethanol	8/25/2016
M0081	8/24/2016	12:18	43.6406	-69.8468	-53.6	Exo 1	32.8	10.10	7.8	7.7	0.00	N	9.5	silty medium sand; slightly sticky, possibly trace clay; abundant medium-coarse mica fragments, trace fine-coarse pebbly gravel (1/4"-1 1/2" diameter, sub-rounded)	1mm	IMO KD SG CE	95% ethanol	8/25/2016

Site ID	Date	Local Time	Latitude °N	Longitiude °W	Depth, m	CTD	S	Temp	pH	DO	CHL	Photo	Penetraton depth, cm	Lithology	Sieve size	Collector	Presrvative	Preservation date
M0082	8/24/2016	13:12	43.6391	-69.8546	-54.2	Exo 1	32.8	10.10	7.8	7.7	0.00	N	5.7	fine sand; trace mica	1mm	IMO KD SG CE	95% ethanol	8/25/2016
M0083	9/12/2016	7:21	43.6293	-69.8319	-41	Exo 1	32.6	11.30	7.8	7.4	0.00	Y	NA	Rock	NA	IMO KD	NA	NA
M0084	9/12/2016	7:33	43.6319	-69.8092	-45.8	Exo 1	32.8	10.30	7.9	7.3	0.00	Y	NA	Rock	NA	IMO KD	NA	NA
M0085	9/12/2016	7:50	43.6524	-69.7922	-40.7	Exo 1	32.6	11.60	8.0	7.8	0.37	Y	<8	fine-med pebbly gravel; sub-round	1mm	IMO KD	95% ethanol	9/13/2016
M0086	9/12/2016	8:15	43.6648	-69.7753	-14.7	Exo 1	32.2	9.02	8.1	9.0	9.06	Y	NA	Rock	NA	IMO KD	NA	NA
M0087	9/12/2016	8:38	43.6603	-69.8224	-21	Exo 1	32.2	14.50	8.1	8.7	5.58	N	NA	Rock	NA	IMO KD	95% ethanol	9/13/2016
M0088	9/12/2016	8:53	43.6867	-69.8319	-31.5	Exo 1	32.5	12.00	8.0	7.2	0.65	N	12.7	very fine sandy silt	1mm	IMO KD	95% ethanol	9/13/2015
M0089	9/12/2016	9:35	43.6947	-69.8193	-11.4	Exo 1	32.1	15.70	8.1	8.9	5.82	N	NA	Rock	NA	IMO KD	NA	NA
M0090	9/12/2016	9:59	43.6896	-69.8044	-29.7	Exo 1	32.5	12.80	8.0	7.2	2.30	N	9	very coarse sand and fine pebbly gravel; sub-round	1mm	IMO KD	95% ethanol	9/13/2016
M0091	9/12/2016	10:29	43.6898	-69.7540	-27.5	Exo 1	32.6	12.30	8.0	7.9	1.86	Y	NA	Rock	NA	IMO KD	NA	NA
M0092	9/12/2016	10:45	43.6670	-69.7120	-68.6	Exo 1	33.0	9.40	7.8	7.0	0.00	Y	~12	Muddy very coarse sand - coarse angular gravel up to 4" diameter; mostly mica schist and rock fragments; mean diameter ~1/8"	1mm	IMO KD	95% ethanol	9/13/2015
M0093	9/12/2016	11:22	43.6708	-69.7053	-67.4	Exo 1	32.9	9.50	7.8	7.1	0.00	Y	NA	Rock	NA	IMO KD	NA	NA
M0094	9/12/2016	11:39	43.6884	-69.7180	-50.7	Exo 1	32.8	10.40	7.9	7.1	0.00	Y	NA	Rock	NA	IMO KD	NA	NA
M0095	9/20/2016	7:29	43.6862	-69.8148	-28.6	Exo 1	32.6	11.92	7.7	7.0	0.26	N	8.5	fine med-sand; trace mica, quartz and rock fragments	1mm	IMO SG KD	95% ethanol	9/21/2016
M0096	9/20/2016	7:52	43.6634	-69.8321	-20.8	Exo 1	32.5	12.59	8.0	7.7	0.96	Y	NA	Rock	NA	IMO SG KD	NA	NA
M0097	9/20/2016	8:26	43.6917	-69.8269	-26	Exo 1	32.6	11.90	7.9	6.7	0.69	N	6	fine-med sand, trace medium pebbly gravel; sub-round/sub-angular	1mm	IMO SG KD	95% ethanol	9/21/2016
M0098	9/20/2016	8:47	43.6995	-69.8021	-23.2	Exo 1	32.6	12.79	7.9	7.3	0.67	N	6	fine-med sand, slightly finer than M0095 and 97	1mm	IMO SG KD	95% ethanol	9/21/2016
M0099	9/20/2016	9:10	43.6949	-69.7900	-28.2	Exo 1	32.6	12.50	7.9	7.3	0.56	N	5	very fine-fine pebbly gravel; trace mud	1mm	IMO SG KD	95% ethanol	9/21/2016
M0100	9/20/2016	9:34	43.6970	-69.7540	-19.2	Exo 1	32.3	14.03	8.0	8.1	2.46	Y	NA	Rock	NA	IMO SG KD	NA	NA
M0101	9/20/2016	9:50	43.6908	-69.7669	-28.9	Exo 1	32.7	12.66	8.0	7.3	0.79	N	10	very fine-med pebbly gravel slightly coarser than M0099	1mm	IMO SG KD	95% ethanol	9/21/2016

Site ID	Date	Local Time	Latitude °N	Longitiude °W	Depth, m	CTD	S	Temp	pH	DO	CHL	Photo	Penetraton depth, cm	Lithology	Sieve size	Collector	Presrvative	Preservation date
M0102	9/20/2016	10:10	43.7135	-69.7895	-19.5	Exo 1	32.3	13.61	8.0	7.7	1.97	N	5	very fine to fine sand, trace very fine mica	1mm	IMO SG KD	95% ethanol	9/21/2016
M0103	9/20/2016	10:50	43.7152	-69.7927	-17.9	Exo 1	32.2	14.16	7.9	7.7	3.26	N	4	mostly very fine - fine sand, trace fine mica	1mm	IMO SG KD	95% ethanol	9/21/2016
M0104	9/20/2016	11:15	43.7191	-69.7862	-16.7	Exo 1	32.2	13.92	7.9	7.7	2.88	N	4	coarse sand and very fine gravel with coarse shell fragments	1mm	IMO SG KD	95% ethanol	9/21/2016
M0105	9/20/2016	11:25	43.7190	-69.7765	-14.3	Exo 1	32.3	13.49	7.9	7.4	3.22	N	5	very fine-fine sand abundant fine mica, trace fine shell fragments	1mm	IMO SG KD	95% ethanol	9/21/2016
M0106	9/20/2016	11:40	43.7166	-69.7798	-16.6	Exo 1	32.4	13.68	8.0	8.5	2.39	N	3.5	med-coarse sand trace very fine gravel	1mm	IMO SG KD	95% ethanol	9/21/2016
M0107	9/20/2016	11:59	43.7150	-69.7805	-17.1	Exo 1	32.6	13.51	8.0	8.3	1.12	N	8	coarse-very coarse sand with very fine gravel	1mm	IMO SG KD	95% ethanol	9/21/2016
M0108	9/20/2016	12:28	43.7316	-69.7145	-15.5	Exo 1	32.7	13.46	8.0	8.5	1.18	Y	NA	Rock	NA	IMO SG KD	NA	NA
M0109	9/20/2016	12:40	43.7468	-69.7242	-26.7	Exo 1	32.6	13.43	8.0	8.3	1.10	N	9	fine-med shell hash (1/8-1/2" diameter) with fine-med gravel (25-40%), abundant urchin spines	1mm	IMO SG KD	95% ethanol	9/21/2016
M0110	9/20/2016	13:03	43.7490	-69.7119	-30.4	Exo 1	32.6	13.35	8.0	8.2	1.15	N	9	very fine- fine gravel with sand	1mm	IMO SG KD	95% ethanol	9/21/2016
M0111	9/20/2016	13:29	43.7605	-69.6697	-20.8	Exo 1	32.6	13.71	8.0	8.4	2.02	Y	NA	Rock	NA	IMO SG KD	NA	NA
M0112	9/26/2016	6:53	43.6851	-69.8322	-32.5	Exo 1	32.7	12.53	7.6	7.1	0.51	N	13.5	very fine sandy mud	1mm	IMO SG KD	95% ethanol	9/27/2016
M0113	9/26/2016	7:22	43.6720	-69.8239	-29.5	Exo 1	32.7	12.56	7.9	7.2	0.42	N	NA	coarse cobbley gravel; sub-angular to sub-round fine to coarse gravel	NA	IMO SG KD	95% ethanol	9/27/2016
M0114	10/5/2016	7:06	43.7287	-69.7351	-26	Exo 1	32.6	13.54	7.8	8.3	1.58	Y	5	fine sand; trace fine mica and shell fragments	1mm	IMO SG KD	95% ethanol	10/6/2016
M0115	10/5/2016	7:34	43.6713	-69.7682	-35.6	Exo 1	33.0	12.69	7.9	8.4	1.72	Y	5.5	very fine to finepebbly gravel with coarse sand	1mm	IMO SG KD	95% ethanol	10/6/2016
M0116	10/5/2016	8:03	43.6504	-69.8624	-32.3	Exo 1	32.7	13.60	8.0	8.2	1.17	Y	NA	rock	NA	IMO SG KD	NA	NA
M0117	10/5/2016	8:26	43.6862	-69.9414	-44.4	Exo 1	32.6	12.78	7.9	7.0	1.60	N	13.5	mud; silty	1mm	IMO SG KD	95% ethanol	10/6/2016
M0118	10/5/2016	8:39	43.6803	-69.9347	-13.9	Exo 1	32.2	13.79	8.0	8.4	2.99	Y	NA	rock	NA	IMO SG KD	NA	NA
M0119	10/5/2016	8:52	43.6643	-69.9164	-30.2	Exo 1	32.7	13.49	8.0	8.2	1.69	Y	NA	rock	NA	IMO SG KD	NA	NA
M0120	10/5/2016	9:04	43.6842	-69.9075	-38.1	Exo 1	32.7	13.59	8.0	8.3	1.18	N	13.5	mud; silty	1mm	IMO SG KD	95% ethanol	10/6/2016
M0121	10/5/2016	9:22	43.6832	-69.8811	-13.7	Exo 1	32.5	13.76	8.0	8.6	1.82	Y	NA	rock	NA	IMO SG KD	NA	NA
M0122	10/5/2016	9:36	43.6836	-69.8525	-26.2	Exo 1	32.5	13.70	7.9	8.1	1.92	N	10	very coarse sand and very fine gravel	1mm	IMO SG KD	95% ethanol	10/6/2016

Site ID	Date	Local Time	Latitude °N	Longitiude °W	Depth, m	CTD	S	Temp	pH	DO	CHL	Photo	Penetraton depth, cm	Lithology	Sieve size	Collector	Presrvative	Preservation date
M0123	10/5/2016	10:00	43.6889	-69.8262	-28.7	Exo 1	32.6	13.79	8.0	8.4	2.54	N	13.5	mud; silty; trace medium sand; trace very fine mica; very loose	1mm	IMO SG KD	95% ethanol	10/6/2016
M0124	10/5/2016	10:14	43.7000	-69.8213	-22.7	Exo 1	32.6	13.60	8.0	8.1	1.76	N	13.5	mud; silty; trace medium sand, but slightly more sand than last sample; trace very fine mica	1mm	IMO SG KD	95% ethanol	10/6/2016
M0125	10/5/2016	10:35	43.6978	-69.7793	-33.2	Exo 1	32.8	12.79	8.0	8.0	0.86	Y	12.5	mud; silty with very fine sand; fine shelly debris; trace very fine mica	1mm	IMO SG KD	95% ethanol	10/6/2016
M0126	11/14/2016	8:41	43.6543	-69.8433	-36.1	Exo 1	33.2	11.30	7.8	8.7	1.21	Y	3.5	med-coarse sand trace mica and some shell debris/hash	1mm	IMO SG	95% ethanol	11/14/2016
M0127	7/17/2017	6:34	43.7124	-69.5995	-79.6	Exo 1	32.1	6.95	7.8	8.7	0.20	Y	13	Mud	1mm	SG IMO KD	95% ethanol	7/18/2017
M0128	7/17/2017	7:12	43.7139	-69.6449	-79.1	Exo 1	32.2	6.39	7.9	8.4	0.60	Y	13	Mud; very soft	1mm	SG IMO KD	95% ethanol	7/18/2017
M0129	7/17/2017	7:49	43.7494	-69.6457	-62.7	Exo 1	32.0	6.58	7.9	8.5	0.68	Y	13	Mud	1mm	SG IMO KD	95% ethanol	7/18/2017
M0130	7/17/2017	8:12	43.7603	-69.6252	-51.8	Exo 1	31.9	7.00	7.9	8.6	1.13	Y	13	Mud; trace fine shell hash	1mm	SG IMO KD	95% ethanol	7/18/2017
M0131	7/17/2017	8:35	43.7591	-69.5993	-58.8	Exo 1	32.0	7.07	709.0	8.5	0.32	Y	12	Muddy, fine to medium sand-sized shell hash; some quartz sand; trace fine gravel	1mm	SG IMO KD	95% ethanol	7/18/2017
M0132	7/17/2017	8:54	43.7618	-69.6043	-51.2	Exo 1	31.9	7.31	7.9	8.6	0.13	Y	13	Mud with fine shell hash	1mm	SG IMO KD	95% ethanol	7/18/2017
M0133	7/17/2017	9:18	43.7854	-69.5936	-46.7	Exo 1	32.0	7.60	7.9	8.9	0.04	Y	13	Mud with very fine shell hash; trace very fine sand	1mm	SG IMO KD	95% ethanol	7/18/2017
M0134	7/17/2017	9:38	43.7852	-69.6141	-41.7	Exo 1	31.7	7.52	7.9	8.8	0.38	Y	13	Mud with very fine shell hash; trace very fine sand	1mm	SG IMO KD	95% ethanol	7/18/2017
M0138	8/2/2017	6:43	43.7193	-69.5289	-39.7	Exo 1	32.2	9.41	7.8	9.9	1.28	Y	NA	Suspected rock	NA	IMO KD AG	95% ethanol	8/3/2017
M0139	8/2/2017	7:01	43.7382	-69.4851	-38.8	Exo 1	32.1	8.92	7.9	9.5	0.60	Y	NA	Suspected rock	NA	IMO KD AG	NA	NA
M0140	8/2/2017	7:24	43.7575	-69.4300	-76.9	Exo 1	32.4	6.68	7.7	8.4	0.14	Y		Suspected rock	NA	IMO KD AG	frozen wet in sample bag; too large for jars	8/4/2017
M0141	8/2/2017	7:40	43.7394	-69.4330	-70.3	Exo 1	32.3	7.01	7.8	8.5	0.27	Y	8	Muddy, angular fine-medium gravel and shell hash	1mm	IMO KD AG	95% ethanol	8/3/2017
M0142	8/2/2017	8:30	43.7178	-69.4463	-88	Exo 1	32.5	6.56	7.8	8.4	0.21	Y	8	Muddy coarse angular sand and fine gravel; trace fine shell has	1mm	IMO KD AG	95% ethanol	8/4/2017
M0143	8/2/2017	9:19	43.7092	-69.4820	-64.1	Exo 1	32.3	7.39	7.8	8.9	0.45	Y	8	Muddy fine to coarse subangular gravel with very coarse sand and shell hash	1mm	IMO KD AG	95% ethanol	8/4/2017
M0144	8/2/2017	9:42	43.7035	-69.5010	-83.6	Exo 1	32.4	6.63	7.8	8.7	0.06	Y	8.5	Muddy fine to mediium angular gravel; trace shell hash; very dense	1mm	IMO KD AG	95% ethanol	8/3/2017
M0145	8/2/2017	11:17	43.6498	-69.6280	-33.8	Exo 1	32.1	8.46	7.8	9.5	0.45	Y	NA	Suspected rock	NA	IMO KD AG	NA	NA
M0146	8/2/2017	11:41	43.6574	-69.6219	-51.2	Exo 1	32.2	7.76	7.8	8.9	0.12	Y	NA	Suspected rock	NA	IMO KD AG	95% ethanol	8/3/2017

Site ID	Date	Local Time	Latitude °N	Longitiude °W	Depth, m	CTD	S	Temp	pH	DO	CHL	Photo	Penetraton depth, cm	Lithology	Sieve size	Collector	Presrvative	Preservation date
M0147	8/2/2017	12:02	43.6789	-69.6012	-69	Exo 1	32.3	7.26	7.8	8.6	0.17	Y	NA	Suspected rock	NA	IMO KD AG	95% ethanol	8/3/2017
M0148	8/2/2017	12:13	43.6839	-69.6160	-36.6	Exo 1	32.1	7.98	7.8	9.2	0.52	Y	NA	Suspected rock	NA	IMO KD AG	95% ethanol	8/3/2017
M0149	8/2/2017	12:33	43.7211	-69.6143	-13.5	Exo 1	31.5	12.43	8.0	10.2	2.89	Y	NA	Suspected rock	NA	IMO KD AG	NA	NA
M0150	8/2/2017	12:44	43.7282	-69.6236	-11	Exo 1	31.1	12.96	8.0	10.0	1.42	Y	NA	Suspected rock	NA	IMO KD AG	95% ethanol	8/3/2017
M0151	8/2/2017	12:53	43.7336	-69.6199	-11	Exo 1	31.6	12.97	8.0	9.9	2.84	Y	NA	Suspected rock	NA	IMO KD AG	95% ethanol	8/3/2017
M0152	8/2/2017	13:02	43.7387	-69.6163	-23.6	Exo 1	31.7	10.26	7.9	9.4	0.72	Y	NA	Suspected rock	NA	IMO KD AG	NA	NA
M0153	8/2/2017	13:30	43.7858	-69.6032	-9.4	Exo 1	31.5	14.49	8.0	9.8	2.90	Y	NA	Suspected rock	NA	IMO KD AG	95% ethanol	8/3/2017
M0154	8/2/2017	13:36	43.7849	-69.6064	-7.9	Exo 1	31.5	13.61	8.0	9.7	3.52	Y	NA	Suspected rock	NA	IMO KD AG	NA	NA
M0155	8/28/2017	6:29	43.7782	-69.4968	-108	Exo 1	32.7	6.59	7.7	7.2	1.09	Y	13	Mud	1mm	SG IMO KD	95% ethanol	8/29/2017
M0156	8/28/2017	6:52	43.7872	-69.4729	-79.3	Exo 1	32.5	7.04	7.7	7.3	1.08	Y	13	Mud	1mm	SG IMO KD	95% ethanol	8/29/2017
M0157	8/28/2017	7:28	43.7983	-69.4280	-48.9	Exo 1	32.3	8.71	7.8	7.8	0.13	Y	5.5	Coarse angular to sub-angular sandy gravel with mud and shell hash	1mm	SG IMO KD	95% ethanol and freezer	8/29/2017
M0158	8/28/2017	7:53	43.7997	-69.4276	-37.4	Exo 1	32.3	8.65	7.8	7.8	0.43	Y	NA	Assumed rock	NA	SG IMO KD	NA	NA
M0159	8/28/2017	8:18	43.8108	-69.4095	-53.1	Exo 1	32.4	8.43	7.8	7.6	0.43	Y	7.5	Muddy angular to sub-angular gravel with trace shell hash	1mm	SG IMO KD	NA	NA
M0160	8/28/2017	8:32	43.8101	-69.4097	-53.6	Exo 1	32.3	8.85	7.8	7.8	0.27	Y	7	Muddy medium to coarse subangular to subround sand and fine gravel; trace shll hash	1mm	SG IMO KD	95% ethanol	8/29/2017
M0161	8/28/2017	8:49	43.8091	-69.4103	-54.3	Exo 1	32.3	7.78	7.8	7.7	0.11	Y	10	Muddy fine to coarse sand and fine gravel; trace shell hash	1mm	SG IMO KD	NA	NA
M0162	8/28/2017	9:10	43.8092	-69.4081	-49.4	Exo 1	32.3	8.98	7.8	7.8	0.00	Y	1	Presumed thin veneer (<3cm) muddy gravel; 1 subangular cobble sized rock retained	1mm	SG IMO KD	95% ethanol and freezer	8/29/2017
M0163	8/28/2017	9:17	43.8072	-69.4086	-49.5	Exo 1	32.3	9.18	7.8	7.8	0.20	Y	10	Slightly muddy, very fine to fine subround gravelly sand (fine to coarse); trace very fine shell hash	1mm	SG IMO KD	95% ethanol	8/29/2017
M0164	8/28/2017	9:47	43.8034	-69.3989	-62.9	Exo 1	32.4	8.22	7.8	7.6	0.72	Y	13	Mud; very loose	1mm	SG IMO KD	95% ethanol	8/29/2017
M0165	8/28/2017	10:33	43.7757	-69.4114	-60.3	Exo 1	32.4	8.84	7.8	7.9	0.25	Y	6	Muddy fine to coarse gravel and fine to coarse shell hash; becomes much denser below top 1-3cm (and less shelly)	1mm	SG IMO KD	95% ethanol	8/29/2017
M0166	8/28/2017	10:52	43.7747	-69.4553	-76.5	Exo 1	32.5	7.41	7.7	7.5	0.71	Y	13	Mud; dense; slightly sticky; top 1-2cm very soupy and loose	1mm	SG IMO KD	95% ethanol	8/29/2017
M0167	8/28/2017	11:15	43.7601	-69.4791	-87.5	Exo 1	32.6	7.02	7.7	7.5	0.22	Y	13	Mud; top 1 cm is loose muck	1mm	SG IMO KD	95% ethanol	8/29/2017

Site ID	Date	Local Time	Latitude °N	Longitiude °W	Depth, m	CTD	S	Temp	pH	DO	CHL	Photo	Penetraton depth, cm	Lithology	Sieve size	Collector	Presrvative	Preservation date
M0168	9/13/2017	6:33	43.7857	-69.5931	-47.4	Exo 1	32.3	9.75	7.7	7.3	0.67	Y	13	Slightly sandy mud; trace very fine shell has; dense	1mm	SG IMO KD	95% ethanol	914/17
M0169	9/13/2017	7:11	43.7609	-69.5458	-56.2	Exo 1	32.4	9.38	7.8	7.4	0.26	Y	7.5	coarse to very coarse sand; sub-rounded; trace mud and very fine gravel; trace coarse shell hash	1mm	SG IMO KD	95% ethanol	9/14/2017
M0170	9/13/2017	7:34	43.7587	-69.5477	-58.4	Exo 1	32.5	8.98	7.8	7.5	0.44	Y	7	sandy fine to medium sub-round/sub-angular gravel; trace mud and coarse shell fragments	1mm	SG IMO KD	95% ethanol	9/14/2017
M0171	9/13/2017	7:58	43.7408	-69.5439	-64.4	Exo 1	32.5	9.22	7.8	7.5	0.37	Y	10	slightly gravelly and muddy medium sand	1mm	SG IMO KD	95% ethanol	9/14/2017
M0172	9/13/2017	8:22	43.7366	-69.5415	-67.6	Exo 1	32.5	8.83	7.8	7.5	0.12	Y	11	muddy gravely sand, sub-angular/sub-round; trace coarse shells and shell fragments; gravel is very fine to pea to pebble size	1mm	SG IMO KD	95% ethanol	9/14/2017
M0173	9/13/2017	8:45	43.7260	-69.5424	-62.3	Exo 1	32.6	8.88	7.8	7.5	0.27	Y	6	gravelly sand, angular to sub-angular; gravel very fine to stone size; trace mud	1mm	SG IMO KD	95% ethanol	9/14/2017
M0174	9/13/2017	9:06	43.7251	-69.5441	-68.4	Exo 1	32.5	9.18	7.8	7.6	0.09	Y	6	slightly muddy gravelly sand; gravel very fine to pea size, sub-angular; fairly dense	1mm	SG IMO KD	95% ethanol	9/14/2017
M0175	9/13/2017	9:37	43.7213	-69.5425	-52.9	Exo 1	32.5	9.63	7.8	7.6	0.48	Y	NA	Large cobble or bouldery bottom suspected; no grab, retrieved just one large rock	NA	SG IMO KD	95% ethanol	9/14/2017
M0176	9/13/2017	9:59	43.7236	-69.5417	-64.1	Exo 1	32.5	9.44	7.8	7.6	0.22	Y	6.5	Muddy mixed gravel; gravel very fine to cobble size; angular-subangular; trace coarse shell fragments and whole shells	1mm	SG IMO KD	95% ethanol	9/14/2017
M0177	9/13/2017	10:26	43.7220	-69.5443	-64.5	Exo 1	32.6	9.07	7.8	7.5	0.21	Y	5	Muddy mixed gravel; gravel very fine to stone size, sub angular; trace coarse shell fragments	1mm	SG IMO KD	95% ethanol	9/14/2017
M0178	9/13/2017	11:00	43.7687	-69.5137	-29.3	Exo 1	32.3	10.88	7.8	8.1	0.78	Y	NA	Assumed rock	NA	SG IMO KD	NA	NA
M0179	9/13/2017	11:16	43.7493	-69.4531	-71.2	Exo 1	32.7	8.33	7.8	7.3	0.07	Y	NA	Assumed rock	NA	SG IMO KD	NA	NA
M0180	9/13/2017	11:32	43.7772	-69.4365	-20.2	Exo 1	32.3	10.96	7.9	8.9	1.30	Y	NA	Assumed rock	NA	SG IMO KD	NA	NA
M0181	9/13/2017	11:45	43.7939	-69.4653	-35.5	Exo 1	32.3	10.79	7.8	7.8	0.70	Y	NA	Assumed rock	NA	SG IMO KD	NA	NA
M0182	10/2/2017	6:54	43.8147	-69.5163	-48.8	Exo 1	32.7	10.17	7.7	7.2	0.43	Y	8	medium sand; sub-round-round; trace fine gravel; trace shell fragments	1mm	IMO KD	95% ethanol	10/3/2017
M0183	10/2/2017	7:10	43.8127	-69.5145	-34.7	Exo 1	32.6	10.76	7.8	7.6	0.31	Y	NA	Bouldery rock bottom	NA	IMO KD	NA	NA
M0184	10/2/2017	7:25	43.8136	-69.5136	-36.8	Exo 1	32.7	11.00	7.9	7.6	0.27	Y	NA	Bouldery rock bottom	NA	IMO KD	95% ethanol	10/3/2017
M0185	10/2/2017	7:38	43.8126	-69.5171	-48.8	Exo 1	32.7	9.96	7.8	7.1	0.29	Y	5	Coarse sand; sub-round; moderately well sorted; 10-15% very fine to fine gravel; trace shell fragments	1mm	IMO KD	95% ethanol	10/3/2017
M0186	10/2/2017	7:59	43.8095	-69.5260	-49.5	Exo 1	32.7	9.65	7.8	7.1	0.46	Y	4	Sandy very fine to fine gravel; trace mud; trace shell fragments; rip up clasts common	1mm	IMO KD	95% ethanol	10/3/2017
M0187	10/2/2017	8:18	43.8076	-69.5270	-53.6	Exo 1	32.6	9.91	7.8	7.1	0.47	Y	?	Muddy gravelly sand; trace shell fragments; very sticky; dense	1mm	IMO KD	95% ethanol	10/3/2017
M0188	10/2/2017	8:37	43.8002	-69.5336	-43	Exo 1	32.7	10.62	7.9	7.4	0.28	Y	2	Sand-gravel-shell hash mixture	1mm	IMO KD	95% ethanol	10/3/2017

Site ID	Date	Local Time	Latitude °N	Longitiude °W	Depth, m	CTD	S	Temp	pH	DO	CHL	Photo	Penetraton depth, cm	Lithology	Sieve size	Collector	Presrvative	Preservation date
M0189	10/2/2017	8:53	43.7992	-69.5335	-39.4	Exo 1	32.7	10.78	7.9	7.6	0.38	Y	8	Muddy sandy, fine to medium gravel; sub-angular to sub-round; trace fine shell hash and coarse shell fragments; Many polished well-rounded pebble size gravel stones	1mm	IMO KD	95% ethanol	10/3/2017
M0190	10/2/2017	9:10	43.8004	-69.5337	-43.2	Exo 1	32.7	10.65	7.9	7.4	0.13	Y	NA	Cobble gravel, boulder bottom	NA	IMO KD	NA	NA
M0191	10/2/2017	9:35	43.7971	-69.5367	-50.6	Exo 1	32.7	10.32	7.8	7.2	0.34	Y	9	Medium to coarse gravelly sand; trace sand-sized shell hash; trace mud	1mm	IMO KD	95% ethanol	10/3/2017
M0192	10/2/2017	10:07	43.7921	-69.5407	-48.1	Exo 1	32.7	9.94	7.8	7.1	0.45	Y	?	Medium to coarse gravelly sand and sand sized shell hash; trace mud; abundant coarse shells and shell fragments	1mm	IMO KD	95% ethanol	10/4/2017
M0193	10/2/2017	10:39	43.7707	-69.6073	-21.3	Exo 1	32.4	12.69	7.9	8.5	2.40	Y	?	100% sand-sized shell hash and urchin spines	1mm	IMO KD	95% ethanol	10/3/2017
M0194	10/2/2017	10:51	43.7707	-69.6064	-25.1	Exo 1	32.6	11.52	7.9	8.1	0.71	Y	?	sand and gravel sized shell fragments and shell hash	1mm	IMO KD	95% ethanol	10/4/2017
M0195	10/2/2017	11:10	43.7798	-69.6150	-42.9	Exo 1	32.6	10.33	7.8	7.0	0.66	Y	14	Very fine shell hash and mud; abundant coarse organic detritus; STRONGLY sulfidic	1mm	IMO KD	95% ethanol	10/4/2017
M0196	10/2/2017	11:33	43.7810	-69.6500	-15.9	Exo 1	32.2	12.66	7.9	8.8	3.55	Y	?	coarse shell hash	1mm	IMO KD	95% ethanol	10/4/2017
M0197	10/2/2017	11:52	43.7812	-69.6541	-14.5	Exo 1	32.3	12.67	7.9	8.7	2.90	Y	NA	Rock bottom	NA	IMO KD	Mussels Frozen wet in sample bag; too large for jars; rest in 95%	10/4/2017

Appendix B. Photographs of grab samples and/or still images of seafloor extracted from video.

Still Image from Video	Field Picture
EXAMPLE LAYOUT DESCRIPTIONS	
Image of seafloor extracted from video file. Green lasers are spaced 10 cm apart for scale. Scale is approximate for images/video lacking true reference scale (e.g. lasers). ***Note:*** *Lasers are obscured in some images as a result of turbidity.*	*Field picture of sediment sample taken immediately upon retrieval. This block will appear as NO SAMPLE RECOVERED for sites where no physical sample was recovered; typically rocky or gravelly sites too coarse for retrieval with sampler.*
Substrate Type: Sediment textural class (Folk, 1974) or substrate type (e.g. rocky) if no sample recovered. Textural classification based on grain-size analysis.	
Sample ID:	M0000 (sample identification number)
Date/Time (EST) of sampling event:	mm/dd/yy 00:00 (eastern-standard time, 24-hr)
Depth (real-time, m):	Real-time depth (meters) observed by hull-mounted, single-beam fathometer
Easting (WGS84 UTM Zone 19N, m):	Approximate horizontal position uncertainty ± 10 meters
Northing (WGS84 UTM Zone 19N, m):	Approximate horizontal position uncertainty ± 10 meters

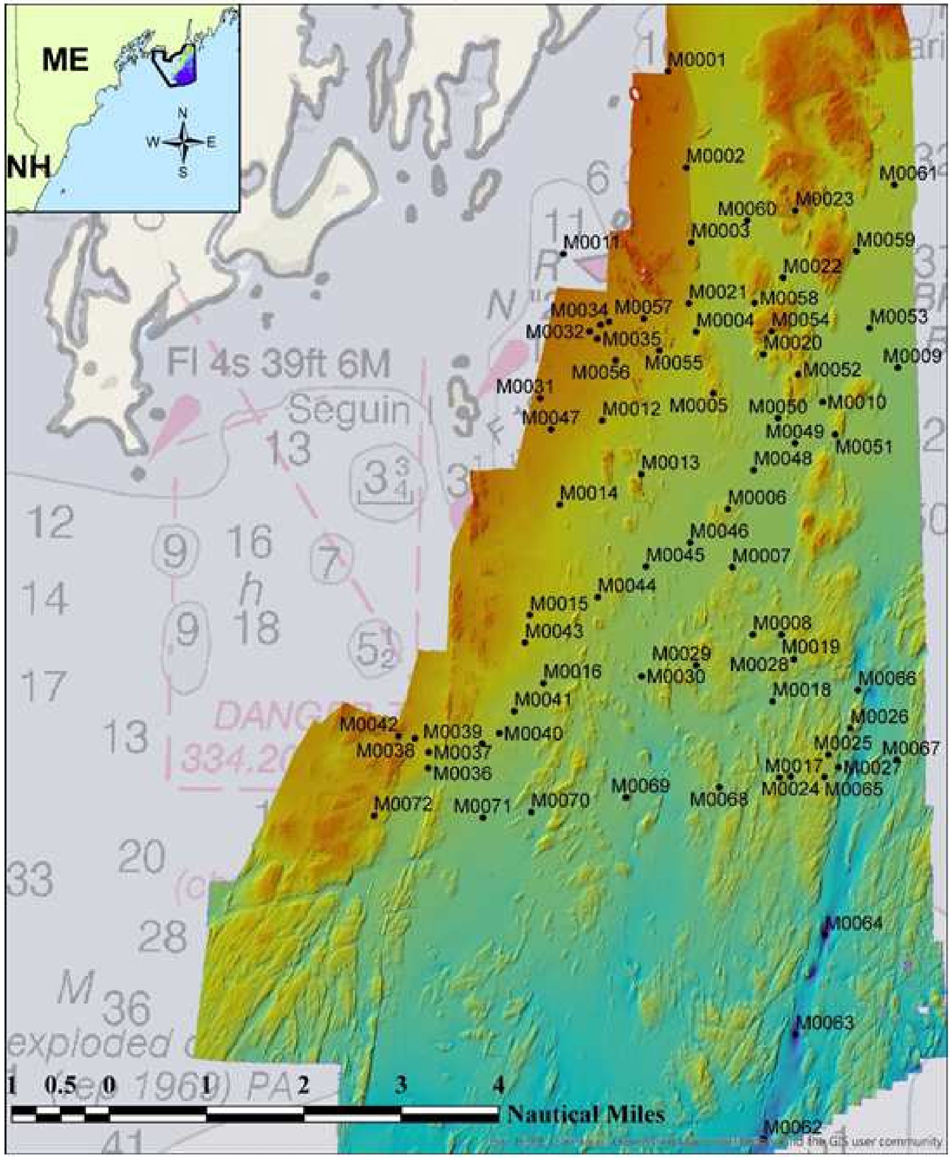
MAINE DMR MARINE RESOURCES

MAINE COASTAL PROGRAM

MCMI

Maine Coastal Mapping Initiative

2015 Survey & Sample Site Overview Map



Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** gravelly sand	

Sample ID:	M0001
Date/Time (EST):	5/4/2015 8:13:00 AM
Depth (real-time, m):	27
Easting (WGS84 UTM Zone 19N, m):	442827
Northing (WGS84 UTM Zone 19N, m):	4846221

Maine Coastal Mapping Initiative

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** sandy gravel	

Sample ID:	M0002
Date/Time (EST):	5/4/2015 8:57:00 AM
Depth (real-time, m):	40
Easting (WGS84 UTM Zone 19N, m):	443173
Northing (WGS84 UTM Zone 19N, m):	4844385

Still Image from Video	Sediment Sample Picture (10 cm diameter)

Laser spacing = 10 cm

Substrate Type: muddy sandy gravel

Sample ID:	M0003
Date/Time (EST):	5/6/2015 7:48:00 AM
Depth (real-time, m):	38
Easting (WGS84 UTM Zone 19N, m):	443268
Northing (WGS84 UTM Zone 19N, m):	4842959

Maine Coastal Mapping Initiative

<table>
<tr><th colspan="2">Still Image from Video</th><th>Sediment Sample Picture (10 cm diameter)</th></tr>
<tr><td colspan="2">
Laser spacing = 10 cm

Substrate Type: gravelly muddy sand</td><td></td></tr>
<tr><td rowspan="5">MCMI
Maine Coastal Mapping Initiative</td><td>Sample ID:</td><td>M0004</td></tr>
<tr><td>Date/Time (EST):</td><td>5/6/2015 8:57:00 AM</td></tr>
<tr><td>Depth (real-time, m):</td><td>53</td></tr>
<tr><td>Easting (WGS84 UTM Zone 19N, m):</td><td>443361</td></tr>
<tr><td>Northing (WGS84 UTM Zone 19N, m):</td><td>4841255</td></tr>
</table>

Still Image from Video	Sediment Sample Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock/rocky	**NO SAMPLE RECOVERED**

	Sample ID:	M0005
	Date/Time (EST):	5/6/2015 9:55:00 AM
	Depth (real-time, m):	51
	Easting (WGS84 UTM Zone 19N, m):	443687
Maine Coastal Mapping Initiative	Northing (WGS84 UTM Zone 19N, m):	4840086

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** gravelly muddy sand	

Sample ID:	M0006
Date/Time (EST):	5/6/2015 10:35:00 AM
Depth (real-time, m):	59
Easting (WGS84 UTM Zone 19N, m):	443964
Northing (WGS84 UTM Zone 19N, m):	4837936

Still Image from Video	**Sediment Sample Picture (10 cm diameter)**

Laser spacing = 10 cm

Substrate Type: slightly gravelly sandy mud

Sample ID:	M0007
Date/Time (EST):	5/6/2015 11:50:00 AM
Depth (real-time, m):	73
Easting (WGS84 UTM Zone 19N, m):	444049
Northing (WGS84 UTM Zone 19N, m):	4836769

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** assumed mud veneer over rock	**NO SAMPLE RECOVERED**

MCMI Maine Coastal Mapping Initiative		
	Sample ID:	M0008
	Date/Time (EST):	5/6/2015 12:52:00 PM
	Depth (real-time, m):	70
	Easting (WGS84 UTM Zone 19N, m):	444441
	Northing (WGS84 UTM Zone 19N, m):	4835489

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** mud	

Maine Coastal Mapping Initiative	Sample ID:	M0009
	Date/Time (EST):	6/15/2015 10:33:00 AM
	Depth (real-time, m):	78
	Easting (WGS84 UTM Zone 19N, m):	447196
	Northing (WGS84 UTM Zone 19N, m):	4840576

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** mud	

DMR Maine Marine Resources / Maine Coastal Program / MCMI Maine Coastal Mapping Initiative	Sample ID:	M0010
	Date/Time (EST):	6/15/2015 11:15:00 AM
	Depth (real-time, m):	73
	Easting (WGS84 UTM Zone 19N, m):	445767
	Northing (WGS84 UTM Zone 19N, m):	4839921

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** medium sand	
Sample ID:	M0011
Date/Time (EST):	6/25/2015 6:55:00 AM
Depth (real-time, m):	25
Easting (WGS84 UTM Zone 19N, m):	440837
Northing (WGS84 UTM Zone 19N, m):	4842739

Maine Coastal Mapping Initiative

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** gravelly muddy sand	

Maine Coastal Mapping Initiative	Sample ID:	M0012
	Date/Time (EST):	6/25/2015 7:45:00 AM
	Depth (real-time, m):	48
	Easting (WGS84 UTM Zone 19N, m):	441574
	Northing (WGS84 UTM Zone 19N, m):	4839567

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** bedrock/rocky	**NO SAMPLE RECOVERED**

	Label	Value
Maine DMR / Maine Coastal Program / MCMI Maine Coastal Mapping Initiative	Sample ID:	M0013
	Date/Time (EST):	6/25/2015 8:19:00 AM
	Depth (real-time, m):	58
	Easting (WGS84 UTM Zone 19N, m):	442318
	Northing (WGS84 UTM Zone 19N, m):	4838543

Still Image from Video	Sediment Sample Picture (10 cm diameter)
NO IMAGE RECORDED Laser spacing = 10 cm **Substrate Type:** muddy sand	

Sample ID:	M0014
Date/Time (EST):	6/25/2015 8:42:00 AM
Depth (real-time, m):	52
Easting (WGS84 UTM Zone 19N, m):	440768
Northing (WGS84 UTM Zone 19N, m):	4837964

Maine Coastal Mapping Initiative

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** muddy sand	

Sample ID:	M0015
Date/Time (EST):	6/25/2015 9:14:00 AM
Depth (real-time, m):	50
Easting (WGS84 UTM Zone 19N, m):	440198
Northing (WGS84 UTM Zone 19N, m):	4835859

Maine Coastal Mapping Initiative

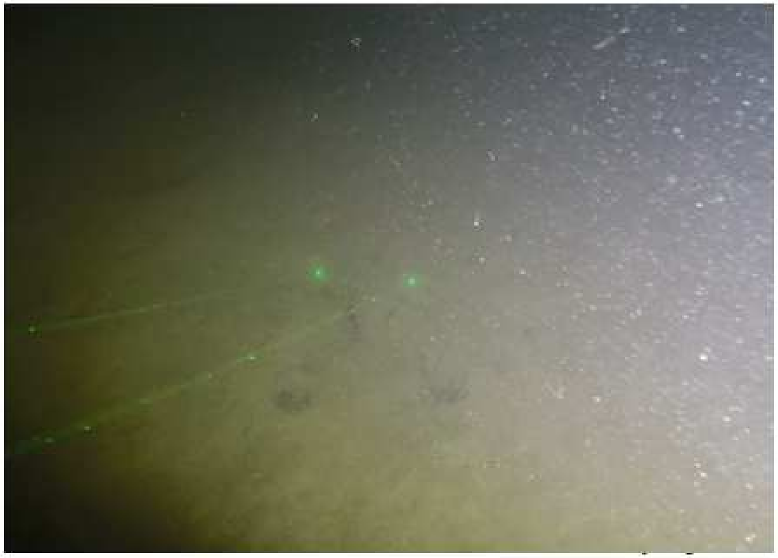
Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** slightly gravelly sandy mud	

Sample ID:	M0016
Date/Time (EST):	6/25/2015 9:43:00 AM
Depth (real-time, m):	64
Easting (WGS84 UTM Zone 19N, m):	440455
Northing (WGS84 UTM Zone 19N, m):	4834560

Maine Coastal Mapping Initiative

Still Image from Video	Sediment Sample Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock/rocky	**NO SAMPLE RECOVERED**
Sample ID:	M0017
Date/Time (EST):	7/22/2015 8:18:00 AM
Depth (real-time, m):	60
Easting (WGS84 UTM Zone 19N, m):	444944
Northing (WGS84 UTM Zone 19N, m):	4832762

Maine Coastal Mapping Initiative

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 **Substrate Type:** mud	

	Sample ID:	M0018
	Date/Time (EST):	7/22/2015 9:12:00 AM
	Depth (real-time, m):	80
	Easting (WGS84 UTM Zone 19N, m):	444814
MCMI Maine Coastal Mapping Initiative	Northing (WGS84 UTM Zone 19N, m):	4834214

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** slightly gravelly muddy sand	

Sample ID:	M0019
Date/Time (EST):	7/22/2015 10:05:00 AM
Depth (real-time, m):	68
Easting (WGS84 UTM Zone 19N, m):	444983
Northing (WGS84 UTM Zone 19N, m):	4835488

Maine Coastal Mapping Initiative

Still Image from Video	Sediment Sample Picture (10 cm diameter)
	

Laser spacing = 10 cm

Substrate Type: slightly gravelly muddy sand

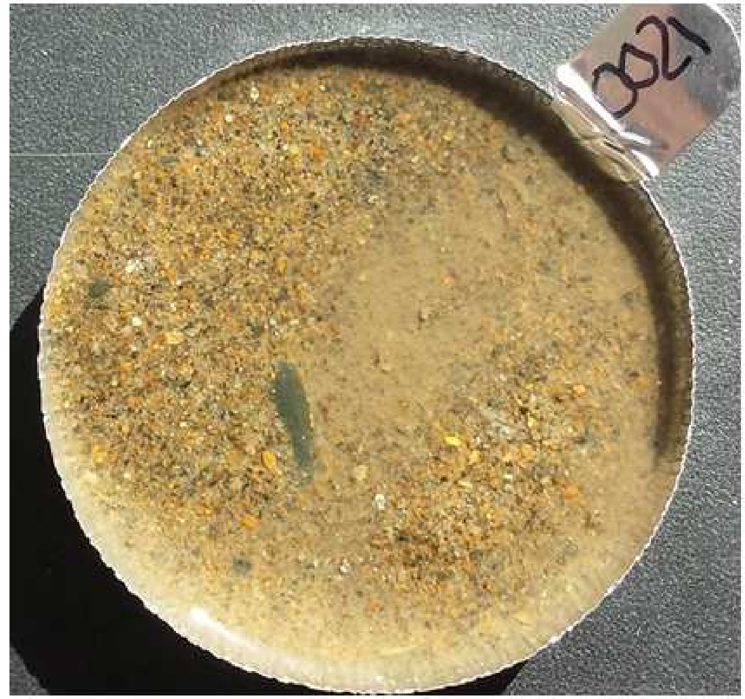
Maine Coastal Mapping Initiative

Sample ID:	M0020
Date/Time (EST):	7/22/2015 10:39:00 AM
Depth (real-time, m):	58
Easting (WGS84 UTM Zone 19N, m):	444640
Northing (WGS84 UTM Zone 19N, m):	4840826

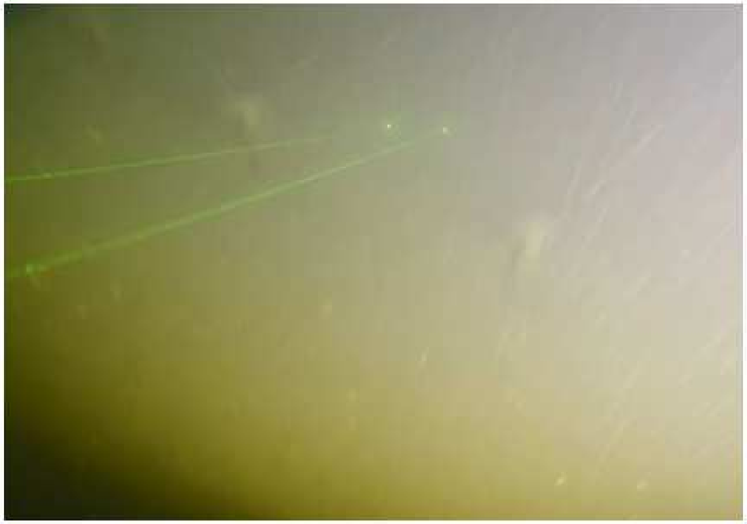
Still Image from Video	Sediment Sample Picture (10 cm diameter)

Laser spacing = 10 cm

Substrate Type: gravelly sand



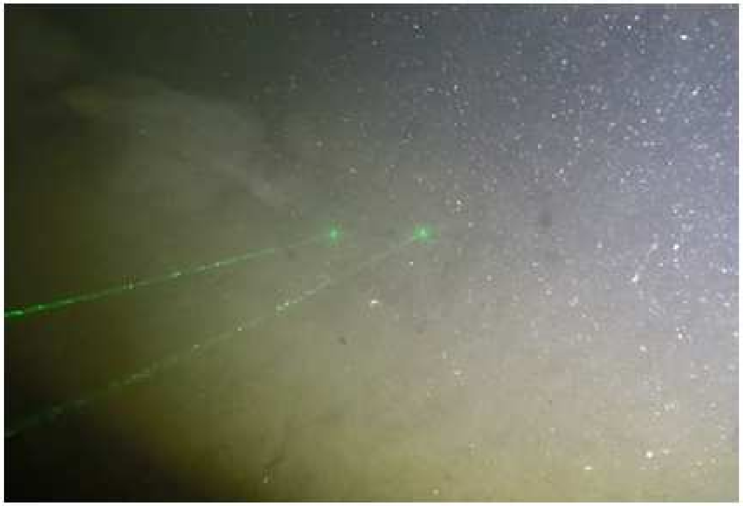
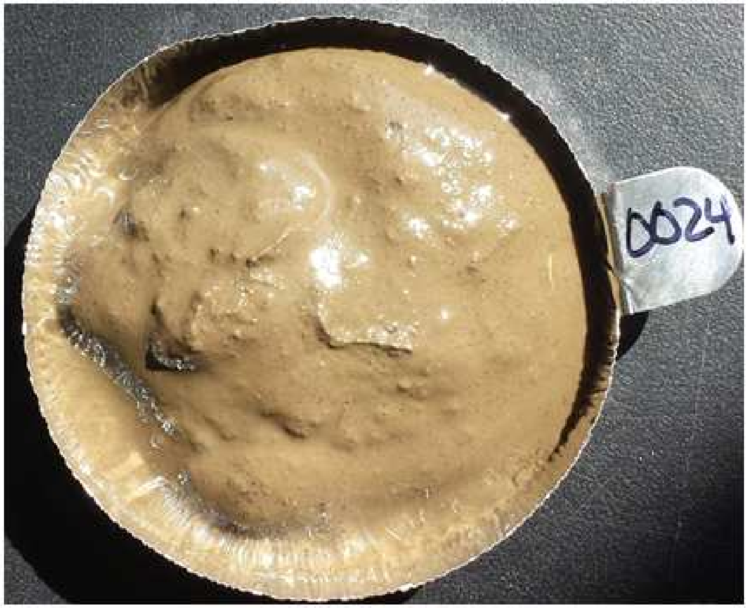
Sample ID:	M0021
Date/Time (EST):	7/22/2015 11:38:00 AM
Depth (real-time, m):	45
Easting (WGS84 UTM Zone 19N, m):	443225
Northing (WGS84 UTM Zone 19N, m):	4841797

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** slightly gravelly sandy mud	
Sample ID:	M0022
Date/Time (EST):	7/22/2015 11:57:00 AM
Depth (real-time, m):	57
Easting (WGS84 UTM Zone 19N, m):	445014
Northing (WGS84 UTM Zone 19N, m):	4842287

Maine DMR Marine Resources · Maine Coastal Program · MCMI Maine Coastal Mapping Initiative

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** muddy sandy gravel	

Maine Coastal Mapping Initiative	Sample ID:	M0023
	Date/Time (EST):	7/22/2015 12:23:00 PM
	Depth (real-time, m):	44
	Easting (WGS84 UTM Zone 19N, m):	445236
	Northing (WGS84 UTM Zone 19N, m):	4842304

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** slightly gravelly muddy sand	

	Sample ID:	M0024
	Date/Time (EST):	7/29/2015 7:55:00 AM
	Depth (real-time, m):	75
	Easting (WGS84 UTM Zone 19N, m):	445158
	Northing (WGS84 UTM Zone 19N, m):	4832782

Still Image from Video	Sediment Sample Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock/rocky	**NO SAMPLE RECOVERED**

Maine DMR Marine Resources / Maine Coastal Program / MCMI Maine Coastal Mapping Initiative	Sample ID:	M0025
	Date/Time (EST):	7/29/2015 8:50:00 AM
	Depth (real-time, m):	63
	Easting (WGS84 UTM Zone 19N, m):	445922
	Northing (WGS84 UTM Zone 19N, m):	4833198

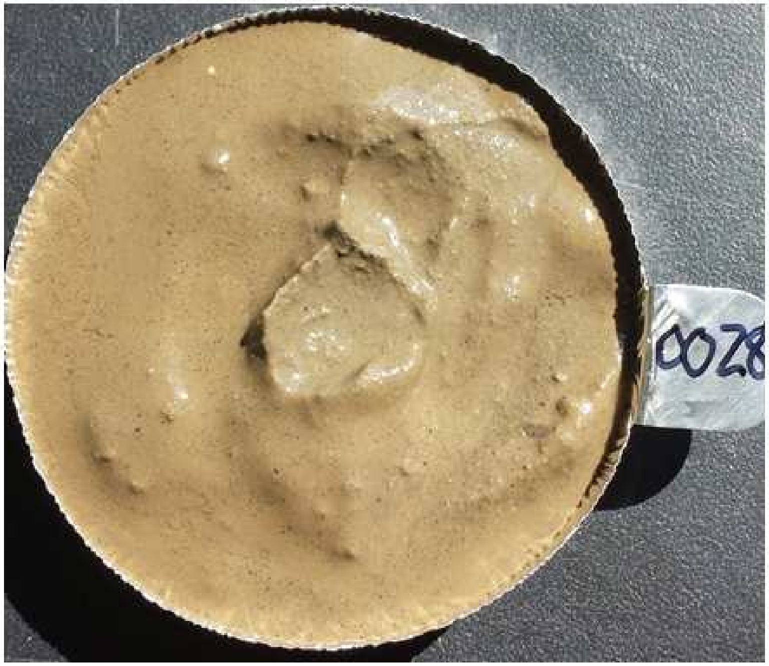
Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** muddy gravel	

MCMI Maine Coastal Mapping Initiative	Sample ID:	M0026
	Date/Time (EST):	7/29/2015 9:12:00 AM
	Depth (real-time, m):	75
	Easting (WGS84 UTM Zone 19N, m):	446293
	Northing (WGS84 UTM Zone 19N, m):	4833702

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** gravelly muddy sand	

Sample ID:	M0027
Date/Time (EST):	7/29/2015 9:50:00 AM
Depth (real-time, m):	70
Easting (WGS84 UTM Zone 19N, m):	446084
Northing (WGS84 UTM Zone 19N, m):	4834807

Maine Coastal Mapping Initiative

Still Image from Video	Sediment Sample Picture (10 cm diameter)
 Laser spacing = 10 cm **Substrate Type:** slightly gravelly sandy mud	

	Sample ID:	M0028
	Date/Time (EST):	7/29/2015 10:24:00 AM
	Depth (real-time, m):	72
	Easting (WGS84 UTM Zone 19N, m):	445218
MCMI Maine Coastal Mapping Initiative	Northing (WGS84 UTM Zone 19N, m):	4835018

Still Image from Video	Sediment Sample Picture (10 cm diameter)

Laser spacing = 10 cm

Substrate Type: slightly gravelly muddy sand

Sample ID:	M0029
Date/Time (EST):	7/29/2015 11:01:00 AM
Depth (real-time, m):	64
Easting (WGS84 UTM Zone 19N, m):	443363
Northing (WGS84 UTM Zone 19N, m):	4834904

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** muddy gravel	

Sample ID:	M0030
Date/Time (EST):	7/29/2015 11:35:00 AM
Depth (real-time, m):	66
Easting (WGS84 UTM Zone 19N, m):	442325
Northing (WGS84 UTM Zone 19N, m):	4834692

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** gravelly sand	

Sample ID:	M0031
Date/Time (EST):	8/13/2015 7:04:00 AM
Depth (real-time, m):	34
Easting (WGS84 UTM Zone 19N, m):	440395
Northing (WGS84 UTM Zone 19N, m):	4839970

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** sandy gravel	

Maine DMR Marine Resources; Maine Coastal Program; MCMI Maine Coastal Mapping Initiative	Sample ID:	M0032
	Date/Time (EST):	8/13/2015 7:40:00 AM
	Depth (real-time, m):	35
	Easting (WGS84 UTM Zone 19N, m):	441334
	Northing (WGS84 UTM Zone 19N, m):	4841261

Still Image from Video	Field Picture
 Laser spacing = 10 cm	

Substrate Type: gravelly sand

Sample ID:	M0033
Date/Time (EST):	8/13/2015 7:55:00 AM
Depth (real-time, m):	36
Easting (WGS84 UTM Zone 19N, m):	441543
Northing (WGS84 UTM Zone 19N, m):	4841389

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** gravelly sand	
Sample ID:	M0034
Date/Time (EST):	8/13/2015 8:24:00 AM
Depth (real-time, m):	37
Easting (WGS84 UTM Zone 19N, m):	441702
Northing (WGS84 UTM Zone 19N, m):	4841451

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** slightly gravelly sand	

Sample ID:	M0035
Date/Time (EST):	8/13/2015 8:43:00 AM
Depth (real-time, m):	37
Easting (WGS84 UTM Zone 19N, m):	441481
Northing (WGS84 UTM Zone 19N, m):	4841123

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** muddy sandy gravel	

Sample ID:	M0036
Date/Time (EST):	8/19/2015 7:20:00 AM
Depth (real-time, m):	58
Easting (WGS84 UTM Zone 19N, m):	438265
Northing (WGS84 UTM Zone 19N, m):	4832944

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** muddy sandy gravel	

Sample ID:	M0037
Date/Time (EST):	8/19/2015 7:45:00 AM
Depth (real-time, m):	51
Easting (WGS84 UTM Zone 19N, m):	438274
Northing (WGS84 UTM Zone 19N, m):	4833246

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** muddy sandy gravel	

Maine DMR Marine Resources; Maine Coastal Program; MCMI Maine Coastal Mapping Initiative	Sample ID:	M0038
	Date/Time (EST):	8/19/2015 8:20:00 AM
	Depth (real-time, m):	47
	Easting (WGS84 UTM Zone 19N, m):	438158
	Northing (WGS84 UTM Zone 19N, m):	4833508

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** slightly gravelly muddy sand	

Sample ID:	M0039
Date/Time (EST):	8/19/2015 8:45:00 AM
Depth (real-time, m):	62
Easting (WGS84 UTM Zone 19N, m):	439292
Northing (WGS84 UTM Zone 19N, m):	4833412

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** slightly gravelly muddy sand	

Sample ID:	M0040
Date/Time (EST):	8/19/2015 9:29:00 AM
Depth (real-time, m):	64
Easting (WGS84 UTM Zone 19N, m):	439615
Northing (WGS84 UTM Zone 19N, m):	4833609

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** slightly gravelly muddy sand	

Sample ID:	M0041
Date/Time (EST):	8/19/2015 9:59:00 AM
Depth (real-time, m):	62
Easting (WGS84 UTM Zone 19N, m):	439902
Northing (WGS84 UTM Zone 19N, m):	4834029

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock/rocky	**NO SAMPLE RECOVERED**
Sample ID:	M0042
Date/Time (EST):	9/10/2015 10:58:00 AM
Depth (real-time, m):	37
Easting (WGS84 UTM Zone 19N, m):	437700
Northing (WGS84 UTM Zone 19N, m):	4833553

Maine DMR Marine Resources; Maine Coastal Program; MCMI Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** slightly gravelly muddy sand	

Sample ID:	M0043
Date/Time (EST):	9/10/2015 11:19:00 AM
Depth (real-time, m):	53
Easting (WGS84 UTM Zone 19N, m):	440104
Northing (WGS84 UTM Zone 19N, m):	4835332

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** muddy sand	

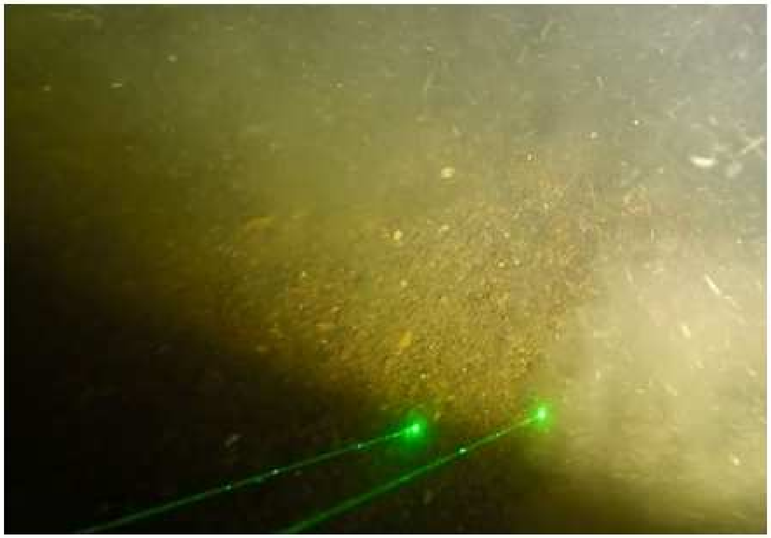
Sample ID:	M0044
Date/Time (EST):	9/10/2015 11:49:00 AM
Depth (real-time, m):	61
Easting (WGS84 UTM Zone 19N, m):	441491
Northing (WGS84 UTM Zone 19N, m):	4836199

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** mud	

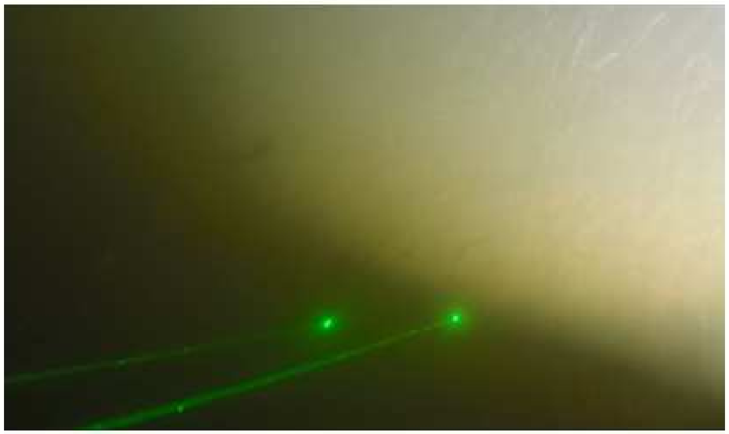
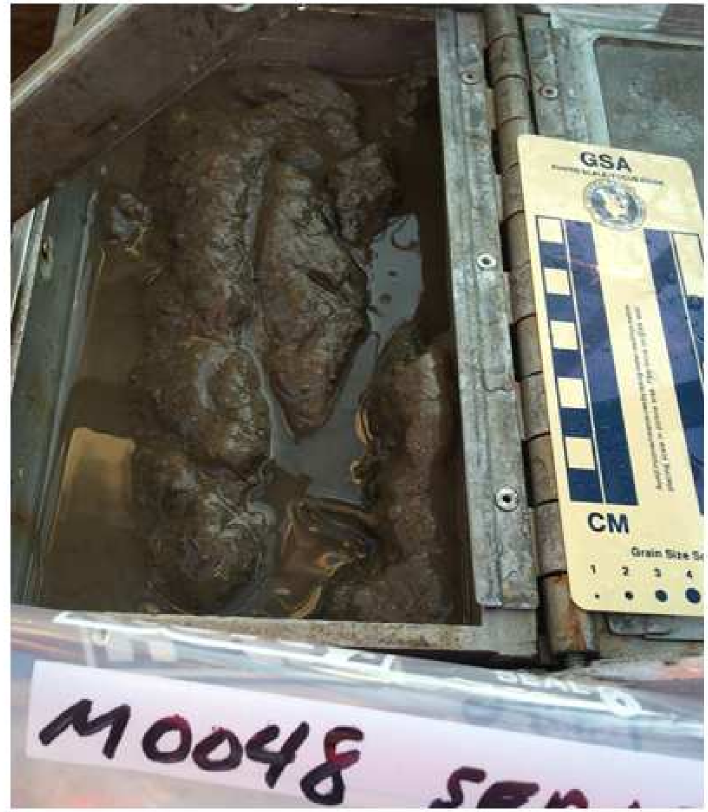
Maine Coastal Mapping Initiative	Sample ID:	M0045
	Date/Time (EST):	9/10/2015 12:19:00 PM
	Depth (real-time, m):	72
	Easting (WGS84 UTM Zone 19N, m):	442410
	Northing (WGS84 UTM Zone 19N, m):	4836783

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** mud	

Maine Coastal Mapping Initiative	Sample ID:	M0046
	Date/Time (EST):	9/10/2015 1:05:00 PM
	Depth (real-time, m):	72
	Easting (WGS84 UTM Zone 19N, m):	443247
	Northing (WGS84 UTM Zone 19N, m):	4837239

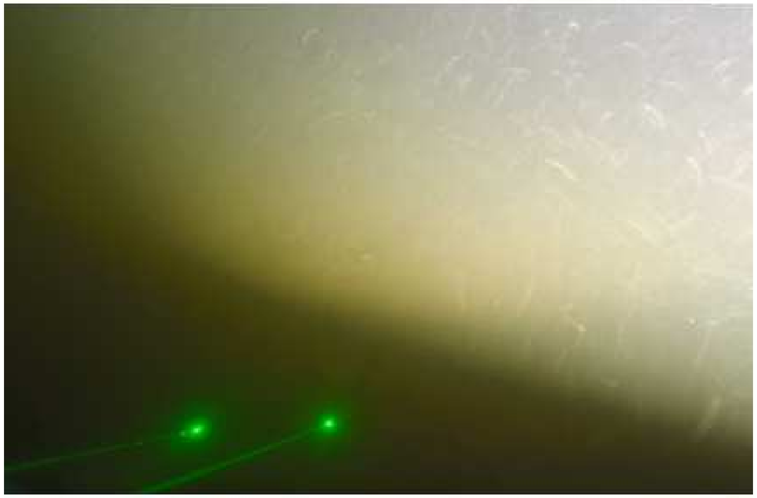
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** sandy gravel	

Sample ID:	M0047
Date/Time (EST):	9/16/2015 6:26:00 AM
Depth (real-time, m):	38
Easting (WGS84 UTM Zone 19N, m):	440602
Northing (WGS84 UTM Zone 19N, m):	4839398

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** sandy mud	

MCMI Maine Coastal Mapping Initiative	
Sample ID:	M0048
Date/Time (EST):	9/16/2015 7:02:00 AM
Depth (real-time, m):	69
Easting (WGS84 UTM Zone 19N, m):	444455
Northing (WGS84 UTM Zone 19N, m):	4838621

Still Image from Video	Field Picture

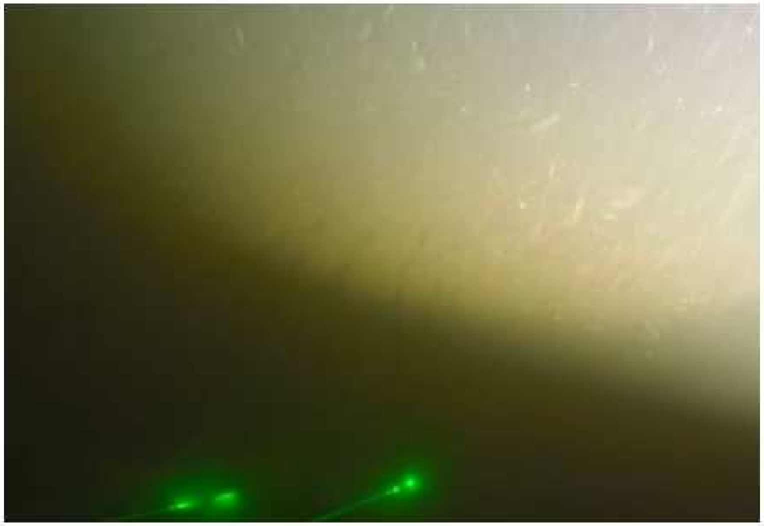


Laser spacing = 10 cm

Substrate Type: sandy mud

Sample ID:	M0049
Date/Time (EST):	9/16/2015 7:37:00 AM
Depth (real-time, m):	70
Easting (WGS84 UTM Zone 19N, m):	445240
Northing (WGS84 UTM Zone 19N, m):	4839135

MCMI
Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** sandy mud	

Sample ID:	M0050
Date/Time (EST):	9/16/2015 8:02:00 AM
Depth (real-time, m):	69
Easting (WGS84 UTM Zone 19N, m):	444918
Northing (WGS84 UTM Zone 19N, m):	4839611

MAINE DMR MARINE RESOURCES
MAINE COASTAL PROGRAM
MCMI Maine Coastal Mapping Initiative

Still Image from Video	Field Picture

Laser spacing = 10 cm

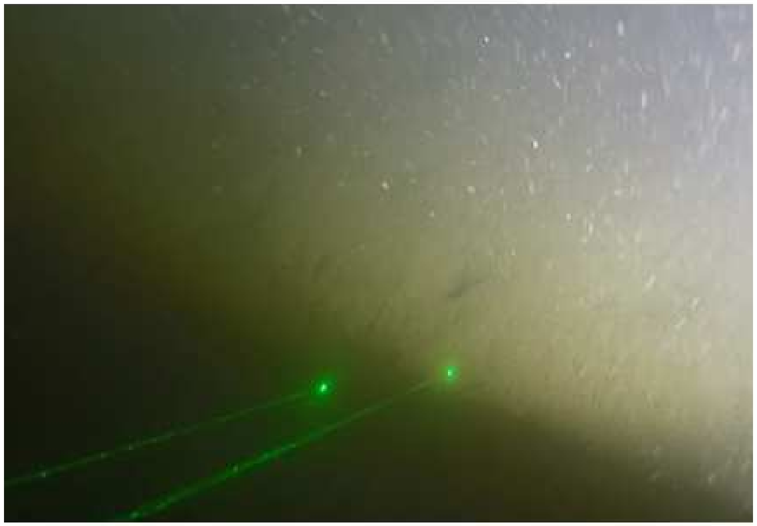
Substrate Type: gravelly muddy sand

Sample ID:	M0051
Date/Time (EST):	9/16/2015 8:37:00 AM
Depth (real-time, m):	61
Easting (WGS84 UTM Zone 19N, m):	446004
Northing (WGS84 UTM Zone 19N, m):	4839299

MCMI
Maine Coastal Mapping Initiative

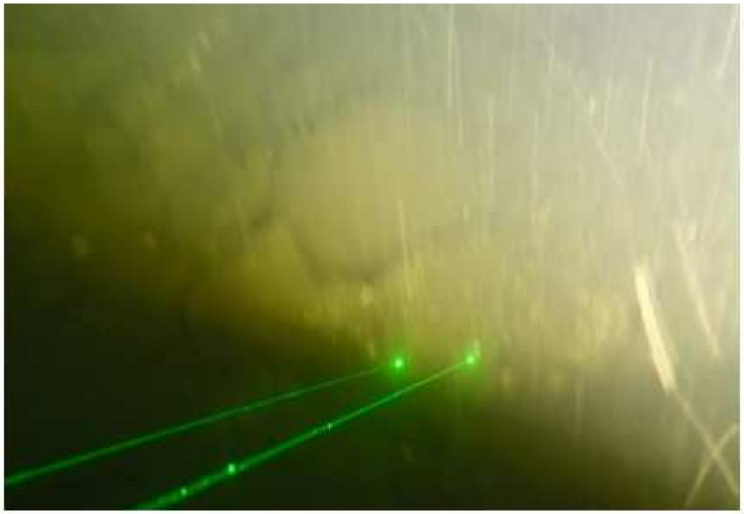
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock/rocky	**NO SAMPLE RECOVERED**

Maine DMR Marine Resources / Maine Coastal Program / MCMI Maine Coastal Mapping Initiative	Sample ID:	M0052
	Date/Time (EST):	9/16/2015 9:06:00 AM
	Depth (real-time, m):	35
	Easting (WGS84 UTM Zone 19N, m):	445297
	Northing (WGS84 UTM Zone 19N, m):	4840445

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** sandy mud	

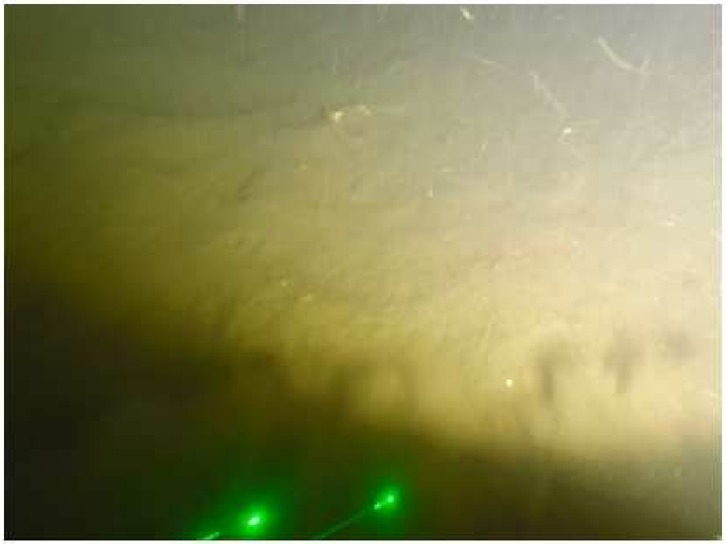
Sample ID:	M0053
Date/Time (EST):	9/16/2015 9:20:00 AM
Depth (real-time, m):	69
Easting (WGS84 UTM Zone 19N, m):	446658
Northing (WGS84 UTM Zone 19N, m):	4841326

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock/rocky	**NO SAMPLE RECOVERED**
Sample ID:	M0054
Date/Time (EST):	9/16/2015 9:56:00 AM
Depth (real-time, m):	41
Easting (WGS84 UTM Zone 19N, m):	444795
Northing (WGS84 UTM Zone 19N, m):	4841265

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture



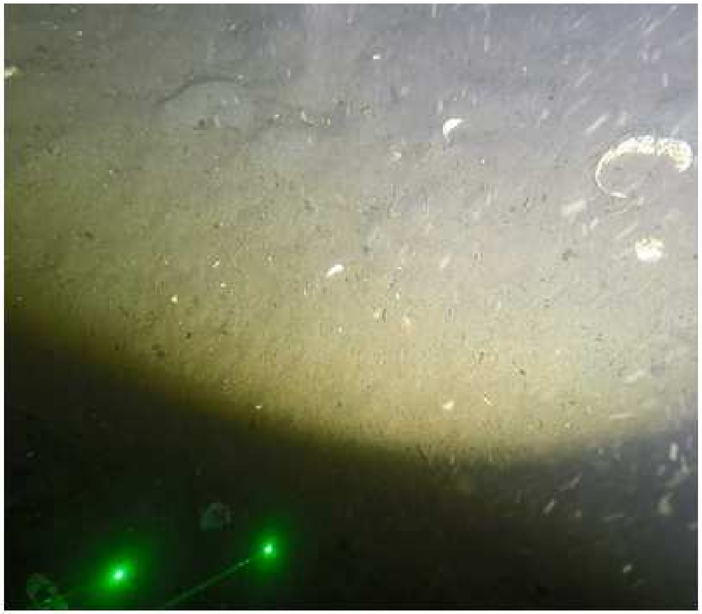
Laser spacing = 10 cm

Substrate Type: slightly gravelly muddy sand

Sample ID:	M0055
Date/Time (EST):	9/16/2015 10:15:00 AM
Depth (real-time, m):	47
Easting (WGS84 UTM Zone 19N, m):	442659
Northing (WGS84 UTM Zone 19N, m):	4840900

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** slightly gravelly sand	
Sample ID:	M0056
Date/Time (EST):	9/16/2015 10:38:00 AM
Depth (real-time, m):	42
Easting (WGS84 UTM Zone 19N, m):	441829
Northing (WGS84 UTM Zone 19N, m):	4840713

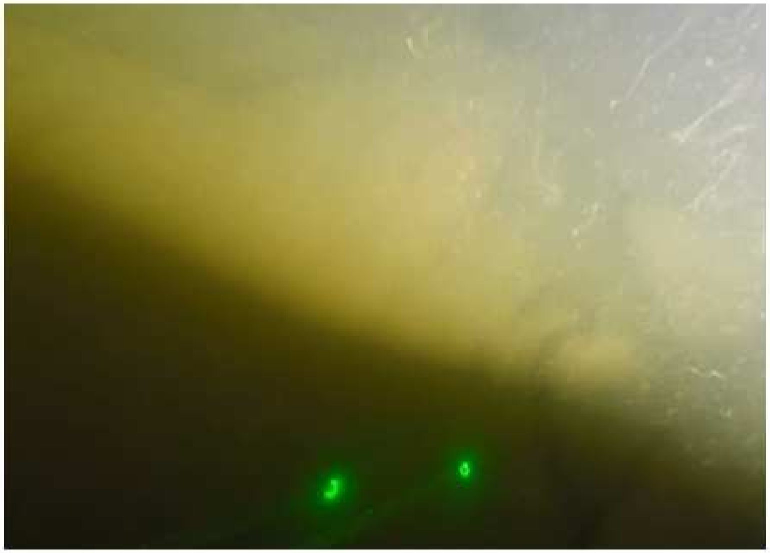
Still Image from Video	Field Picture



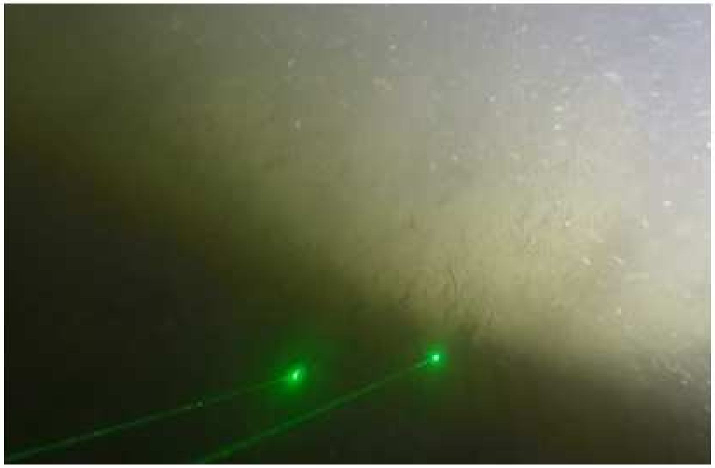
Laser spacing = 10 cm

Substrate Type: gravelly sand

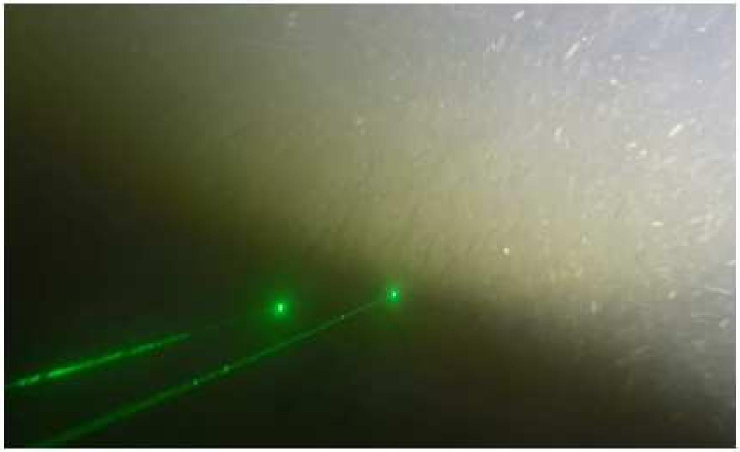
Sample ID:	M0057
Date/Time (EST):	9/16/2015 10:53:00 AM
Depth (real-time, m):	41
Easting (WGS84 UTM Zone 19N, m):	442366
Northing (WGS84 UTM Zone 19N, m):	4841506

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock/rocky	**NO SAMPLE RECOVERED**

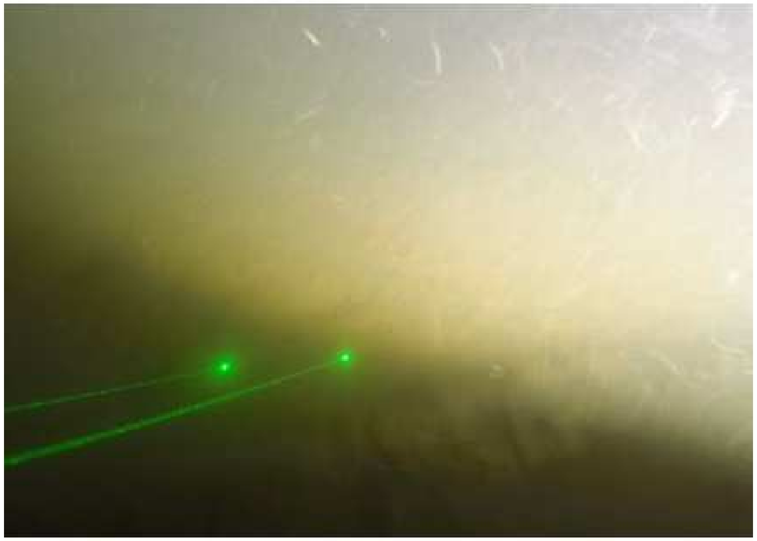
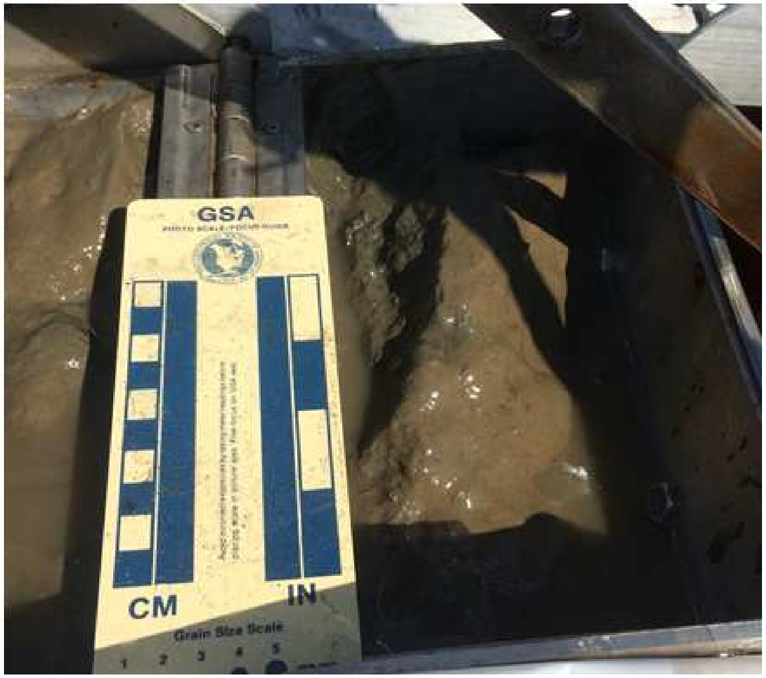
Maine Coastal Mapping Initiative	Sample ID:	M0058
	Date/Time (EST):	9/16/2015 11:40:00 AM
	Depth (real-time, m):	53
	Easting (WGS84 UTM Zone 19N, m):	444473
	Northing (WGS84 UTM Zone 19N, m):	4841805

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** sandy mud	

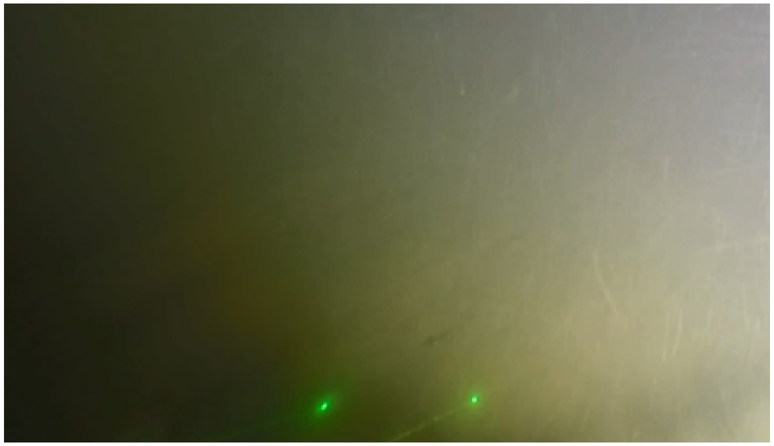
MAINE DMR MARINE RESOURCES / MAINE COASTAL PROGRAM / MCMI Maine Coastal Mapping Initiative	Sample ID:	M0059
	Date/Time (EST):	9/16/2015 11:53:00 AM
	Depth (real-time, m):	65
	Easting (WGS84 UTM Zone 19N, m):	446410
	Northing (WGS84 UTM Zone 19N, m):	4842790

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** sandy mud	

Sample ID:	M0060
Date/Time (EST):	9/16/2015 12:17:00 PM
Depth (real-time, m):	61
Easting (WGS84 UTM Zone 19N, m):	444332
Northing (WGS84 UTM Zone 19N, m):	4843378

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** sandy mud	

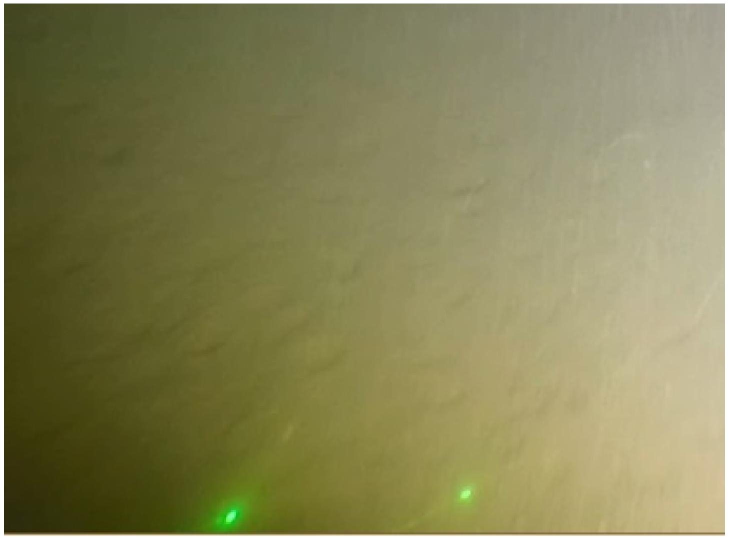
Sample ID:	M0061
Date/Time (EST):	9/16/2015 12:43:00 PM
Depth (real-time, m):	61
Easting (WGS84 UTM Zone 19N, m):	447129
Northing (WGS84 UTM Zone 19N, m):	4844058

<table>
<tr><th>Still Image from Video</th><th>Field Picture</th></tr>
<tr><td>
Laser spacing = 10 cm

Substrate Type: sandy mud
(textural description only; no GSA)</td><td>NO IMAGE RECORDED</td></tr>
</table>

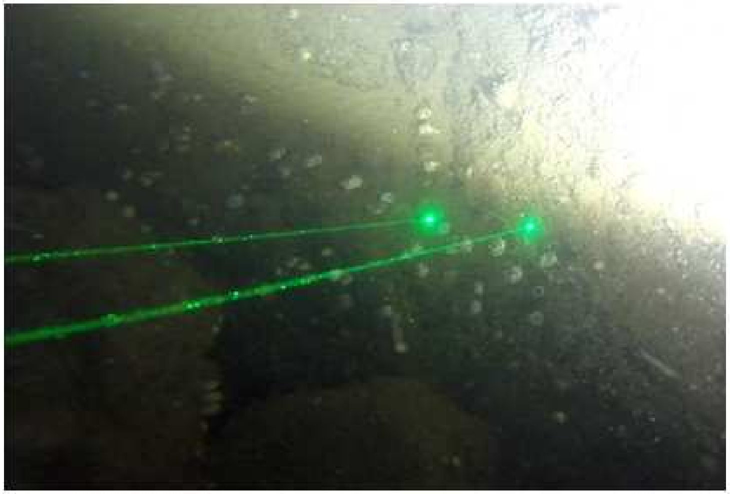
Sample ID:	M0062
Date/Time (EST):	11/4/2015 8:45:00 AM
Depth (real-time, m):	144
Easting (WGS84 UTM Zone 19N, m):	444644
Northing (WGS84 UTM Zone 19N, m):	4825876

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** sandy mud **(textural description only; no GSA)**	**NO IMAGE RECORDED**
Sample ID:	M0063
Date/Time (EST):	11/4/2015 9:17:00 AM
Depth (real-time, m):	147
Easting (WGS84 UTM Zone 19N, m):	445254
Northing (WGS84 UTM Zone 19N, m):	4827868

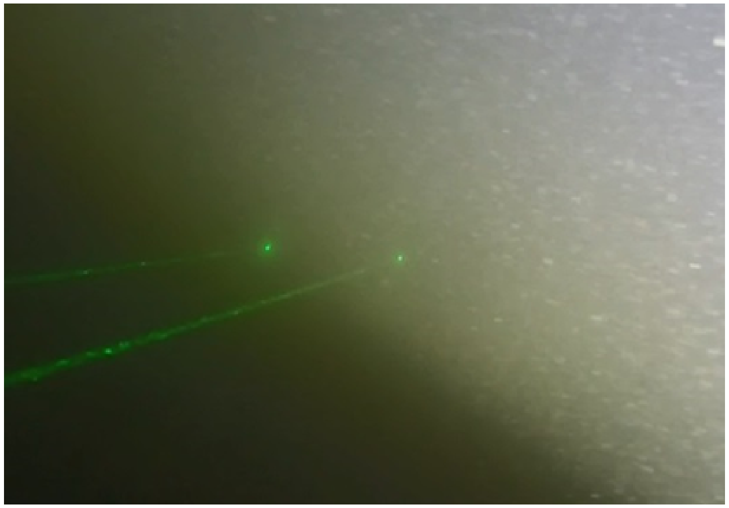
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** sandy mud **(textural description only; no GSA)**	**NO IMAGE RECORDED**

	Sample ID:	M0064
	Date/Time (EST):	11/4/2015 9:41:00 AM
	Depth (real-time, m):	154
	Easting (WGS84 UTM Zone 19N, m):	445809
	Northing (WGS84 UTM Zone 19N, m):	4829769

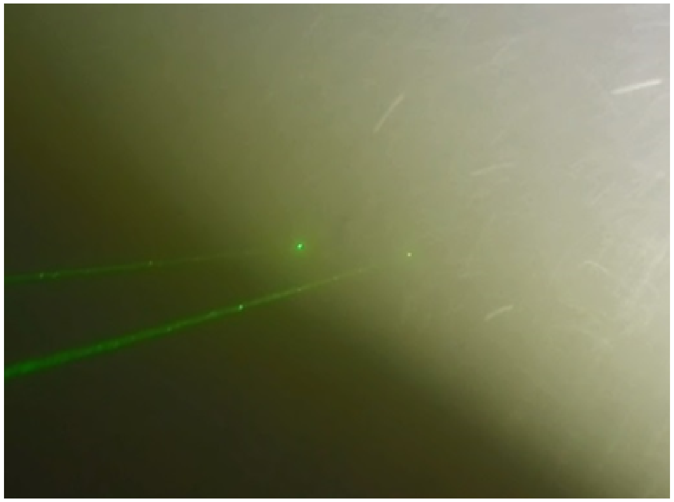
Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock/rocky	**NO SAMPLE RECOVERED**

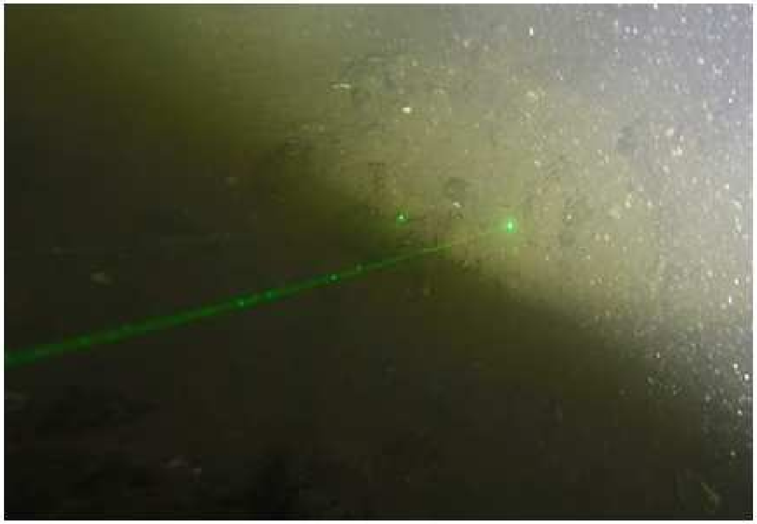
Sample ID:	M0065
Date/Time (EST):	11/4/2015 10:09:00 AM
Depth (real-time, m):	63
Easting (WGS84 UTM Zone 19N, m):	445801
Northing (WGS84 UTM Zone 19N, m):	4832772

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** mud **(textural description only; no GSA)**	**NO IMAGE RECORDED**

Sample ID:	M0066
Date/Time (EST):	11/4/2015 10:27:00 AM
Depth (real-time, m):	87
Easting (WGS84 UTM Zone 19N, m):	446440
Northing (WGS84 UTM Zone 19N, m):	4834431

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** mud **(textural description only; no GSA)**	**NO IMAGE RECORDED**

	Sample ID:	M0067
	Date/Time (EST):	11/4/2015 10:44:00 AM
	Depth (real-time, m):	92
	Easting (WGS84 UTM Zone 19N, m):	447175
	Northing (WGS84 UTM Zone 19N, m):	4833100

Still Image from Video	Sediment Sample Picture
 Laser spacing = 10 cm **Substrate Type:** muddy sandy gravel **(textural description only; no GSA)**	

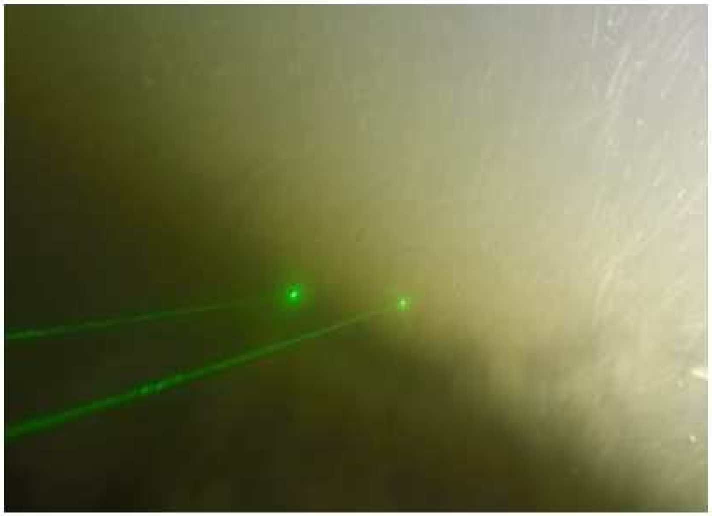
Maine DMR Marine Resources · Maine Coastal Program · MCMI Maine Coastal Mapping Initiative

Sample ID:	M0068
Date/Time (EST):	11/4/2015 11:01:00 AM
Depth (real-time, m):	75
Easting (WGS84 UTM Zone 19N, m):	443802
Northing (WGS84 UTM Zone 19N, m):	4832579

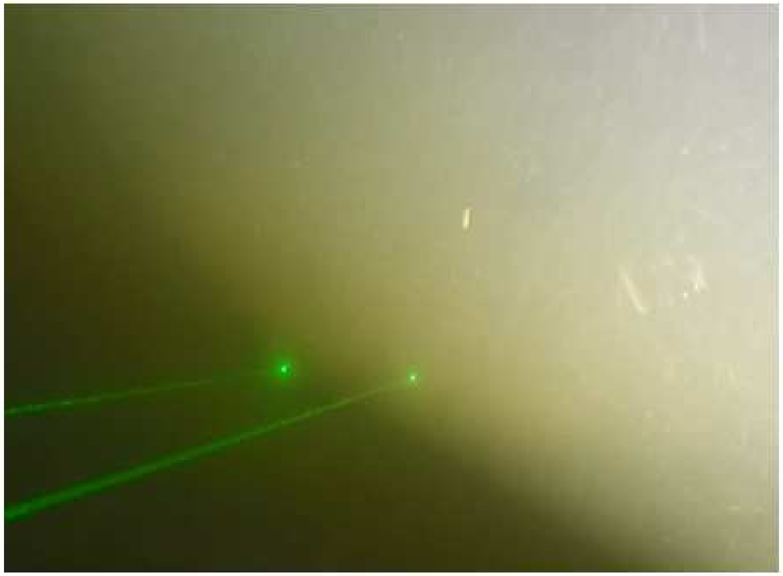
<table>
<tr><th>Still Image from Video</th><th>Sediment Sample Picture</th></tr>
<tr><td>
Laser spacing = 10 cm

Substrate Type: bedrock/rocky</td><td>NO SAMPLE RECOVERED</td></tr>
</table>

Sample ID:	M0069
Date/Time (EST):	11/4/2015 11:15:00 AM
Depth (real-time, m):	64
Easting (WGS84 UTM Zone 19N, m):	442024
Northing (WGS84 UTM Zone 19N, m):	4832385

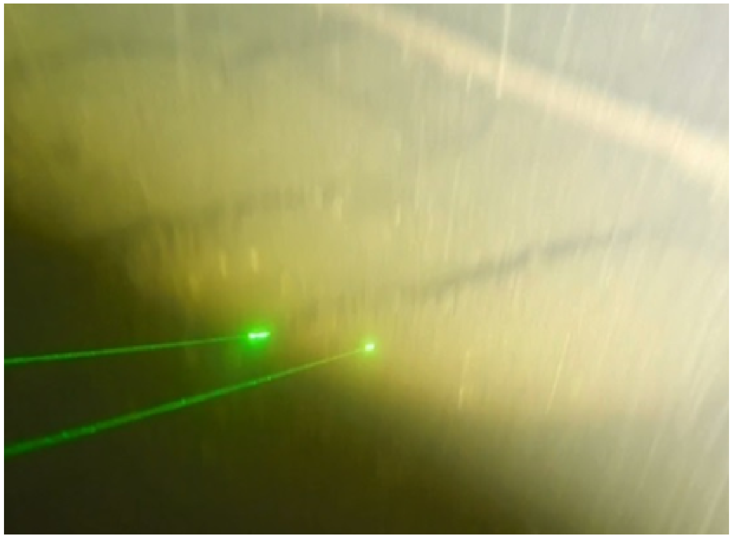
Still Image from Video	Sediment Sample Picture
 Laser spacing = 10 cm **Substrate Type:** mud **(textural description only; no GSA)**	

Sample ID:	M0070
Date/Time (EST):	11/4/2015 11:32:00 AM
Depth (real-time, m):	79
Easting (WGS84 UTM Zone 19N, m):	440224
Northing (WGS84 UTM Zone 19N, m):	4832107

Still Image from Video	Sediment Sample Picture
 Laser spacing = 10 cm **Substrate Type:** mud **(textural description only; no GSA)**	

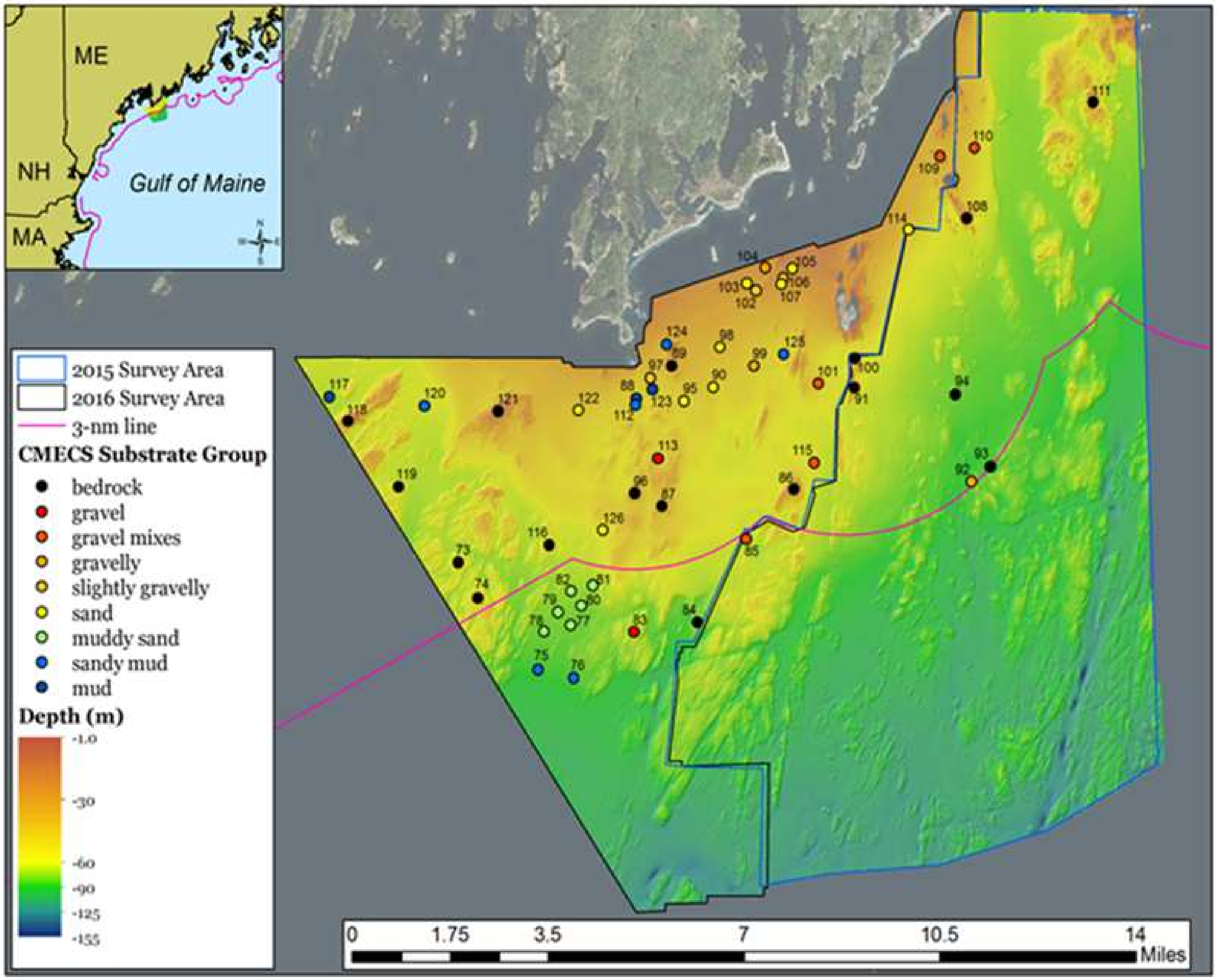
Sample ID:	M0071
Date/Time (EST):	11/4/2015 11:43:00 AM
Depth (real-time, m):	80
Easting (WGS84 UTM Zone 19N, m):	439309
Northing (WGS84 UTM Zone 19N, m):	4831998

Maine DMR Marine Resources · Maine Coastal Program · MCMI Maine Coastal Mapping Initiative

Still Image from Video	Sediment Sample Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock/rocky	**NO SAMPLE RECOVERED**

	Sample ID:	M0072
	Date/Time (EST):	11/4/2015 11:59:00 AM
	Depth (real-time, m):	48
	Easting (WGS84 UTM Zone 19N, m):	437237
	Northing (WGS84 UTM Zone 19N, m):	4832037

2016 Survey & Sample Site Overview Map



Still Image from Video	Field Picture
 Scale is approximate **Substrate Type:** bedrock / rocky	**NO SAMPLE RECOVERED**

	Sample ID:	M0073
	Date/Time (EST):	8/24/16 07:44
	Depth (real-time, m):	32.1
	Easting (WGS84 UTM Zone 19N, m):	427835
	Northing (WGS84 UTM Zone 19N, m):	4832930

Still Image from Video	Field Picture
Scale is approximate **Substrate Type:** bedrock / rocky	**NO SAMPLE RECOVERED**
Sample ID:	M0074
Date/Time (EST):	8/24/16 08:00
Depth (real-time, m):	30.7
Easting (WGS84 UTM Zone 19N, m):	428394
Northing (WGS84 UTM Zone 19N, m):	4831950

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Scale is approximate **Substrate Type:** sandy mud	

Sample ID:	M0075
Date/Time (EST):	8/24/16 08:13
Depth (real-time, m):	72.7
Easting (WGS84 UTM Zone 19N, m):	430138
Northing (WGS84 UTM Zone 19N, m):	4830012

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
Scale is approximate **Substrate Type:** sandy mud	

Sample ID:	M0076
Date/Time (EST):	8/24/16 09:01
Depth (real-time, m):	71.8
Easting (WGS84 UTM Zone 19N, m):	431155
Northing (WGS84 UTM Zone 19N, m):	4829781

Still Image from Video	Field Picture
 Scale is approximate **Substrate Type:** muddy sand	

Sample ID:	M0077
Date/Time (EST):	8/24/16 09:40
Depth (real-time, m):	62.5
Easting (WGS84 UTM Zone 19N, m):	431066
Northing (WGS84 UTM Zone 19N, m):	4831232

MCMI Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 ~10cm Scale is approximate **Substrate Type:** muddy sand	

Sample ID:	M0078
Date/Time (EST):	8/24/16 10:22
Depth (real-time, m):	63.7
Easting (WGS84 UTM Zone 19N, m):	430307
Northing (WGS84 UTM Zone 19N, m):	4831040

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Scale is approximate **Substrate Type:** muddy sand	

	Sample ID:	M0079
	Date/Time (EST):	8/24/16 11:05
	Depth (real-time, m):	58.8
	Easting (WGS84 UTM Zone 19N, m):	430700
	Northing (WGS84 UTM Zone 19N, m):	4831580

Still Image from Video	Field Picture
VIDEO NOT RECORDED **Substrate Type:** muddy sand	

Sample ID:	M0080
Date/Time (EST):	8/24/16 11:44
Depth (real-time, m):	60.0
Easting (WGS84 UTM Zone 19N, m):	431378
Northing (WGS84 UTM Zone 19N, m):	4831756

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
VIDEO NOT RECORDED **Substrate Type:** muddy sand	

Sample ID:	M0081
Date/Time (EST):	8/24/16 12:18
Depth (real-time, m):	53.6
Easting (WGS84 UTM Zone 19N, m):	431700
Northing (WGS84 UTM Zone 19N, m):	4832303

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Scale is approximate	

Substrate Type: clayey sand

Department of Agriculture Conservation & Forestry; Maine Coastal Program; MCMI Maine Coastal Mapping Initiative	Sample ID:	M0082
	Date/Time (EST):	8/24/16 13:03
	Depth (real-time, m):	53.5
	Easting (WGS84 UTM Zone 19N, m):	431072
	Northing (WGS84 UTM Zone 19N, m):	4832143

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** small-medium boulders / rocky	**NO SAMPLE RECOVERED**

Sample ID:	M0083
Date/Time (EST):	9/12/16 07:21
Depth (real-time, m):	41.0
Easting (WGS84 UTM Zone 19N, m):	432886
Northing (WGS84 UTM Zone 19N, m):	4831039

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** very large boulders / rocky	**NO SAMPLE RECOVERED**

	Sample ID:	M0084
	Date/Time (EST):	9/12/16 07:33
	Depth (real-time, m):	45.8
	Easting (WGS84 UTM Zone 19N, m):	434721
	Northing (WGS84 UTM Zone 19N, m):	4831308

Still Image from Video	Field Picture

Distance between lasers (green dots) = 10 cm

Substrate Type: sandy gravel; fine to medium pebbly gravel

Sample ID:	M0085
Date/Time (EST):	9/12/16 07:50
Depth (real-time, m):	40.7
Easting (WGS84 UTM Zone 19N, m):	436113
Northing (WGS84 UTM Zone 19N, m):	4833569

MCMI Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** bedrock outcrop / rocky	**NO SAMPLE RECOVERED**

Sample ID:	M0086
Date/Time (EST):	9/12/16 08:15
Depth (real-time, m):	14.7
Easting (WGS84 UTM Zone 19N, m):	437493
Northing (WGS84 UTM Zone 19N, m):	4834930

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Scale is approximate due to laser obstruction **Substrate Type:** bedrock outcrop / rocky	**NO SAMPLE RECOVERED**

Maine Coastal Mapping Initiative	Sample ID:	M0087
	Date/Time (EST):	9/12/16 08:38
	Depth (real-time, m):	21.0
	Easting (WGS84 UTM Zone 19N, m):	433689
	Northing (WGS84 UTM Zone 19N, m):	4834472

Still Image from Video	Field Picture
 Scale is approximate due to laser obstruction Poor water/image clarity due to sediment resuspension upon sampler impact **Substrate Type:** mud	

Sample ID:	M0088
Date/Time (EST):	9/12/16 08:53
Depth (real-time, m):	31.5
Easting (WGS84 UTM Zone 19N, m):	432950
Northing (WGS84 UTM Zone 19N, m):	4837408

Maine Department of Agriculture Conservation & Forestry
Maine Coastal Program
MCMI Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Scale is approximate **Substrate Type:** bedrock outcrop / rocky	**NO SAMPLE RECOVERED**

Maine Department of Agriculture, Conservation & Forestry; Maine Coastal Program; MCMI Maine Coastal Mapping Initiative	Sample ID:	M0089
	Date/Time (EST):	9/12/16 09:35
	Depth (real-time, m):	11.4
	Easting (WGS84 UTM Zone 19N, m):	433978
	Northing (WGS84 UTM Zone 19N, m):	4838294

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** very coarse sand	

Sample ID:	M0090
Date/Time (EST):	9/12/16 09:59
Depth (real-time, m):	29.7
Easting (WGS84 UTM Zone 19N, m):	435169
Northing (WGS84 UTM Zone 19N, m):	4837714

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** bedrock outcrop / rocky	**NO SAMPLE RECOVERED**

Sample ID:	M0091
Date/Time (EST):	9/12/16 10:29
Depth (real-time, m):	27.5
Easting (WGS84 UTM Zone 19N, m):	439231
Northing (WGS84 UTM Zone 19N, m):	4837696

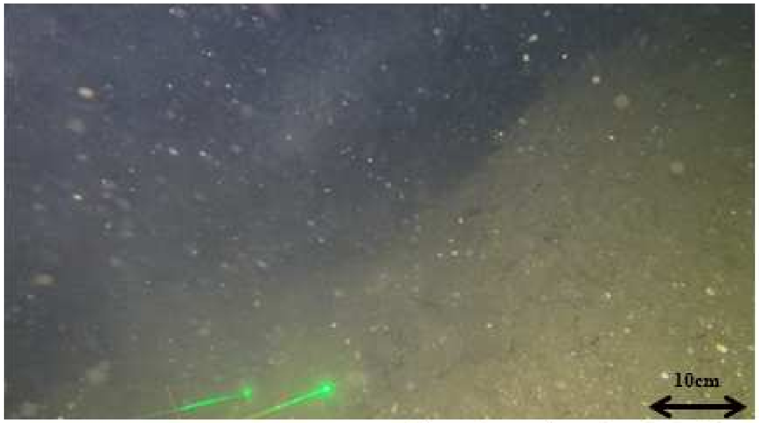
Still Image from Video	Field Picture
Distance between lasers (green dots) = 10 cm **Substrate Type:** gravelly muddy sand	
Sample ID:	M0092
Date/Time (EST):	9/12/16 10:45
Depth (real-time, m):	68.6
Easting (WGS84 UTM Zone 19N, m):	442601
Northing (WGS84 UTM Zone 19N, m):	4835134

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** bedrock outcrop / rocky	**NO SAMPLE RECOVERED**

Sample ID:	M0093
Date/Time (EST):	9/12/16 11:22
Depth (real-time, m):	67.4
Easting (WGS84 UTM Zone 19N, m):	443138
Northing (WGS84 UTM Zone 19N, m):	4835550

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** bedrock outcrop / rocky	**NO SAMPLE RECOVERED**

Maine Coastal Mapping Initiative	Sample ID:	M0094
	Date/Time (EST):	9/12/16 11:39
	Depth (real-time, m):	50.7
	Easting (WGS84 UTM Zone 19N, m):	442135
	Northing (WGS84 UTM Zone 19N, m):	4837519

Still Image from Video	Field Picture

Distance between lasers (green dots) = 10 cm

Substrate Type: sand

Sample ID:	M0095
Date/Time (EST):	9/20/16 07:28
Depth (real-time, m):	28.6
Easting (WGS84 UTM Zone 19N, m):	434333
Northing (WGS84 UTM Zone 19N, m):	4837339

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** bedrock outcrop / rocky	**NO SAMPLE RECOVERED**

Maine Coastal Mapping Initiative	Sample ID:	M0096
	Date/Time (EST):	9/20/16 07:52
	Depth (real-time, m):	20.8
	Easting (WGS84 UTM Zone 19N, m):	432913
	Northing (WGS84 UTM Zone 19N, m):	4834821

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** slightly gravelly muddy sand	

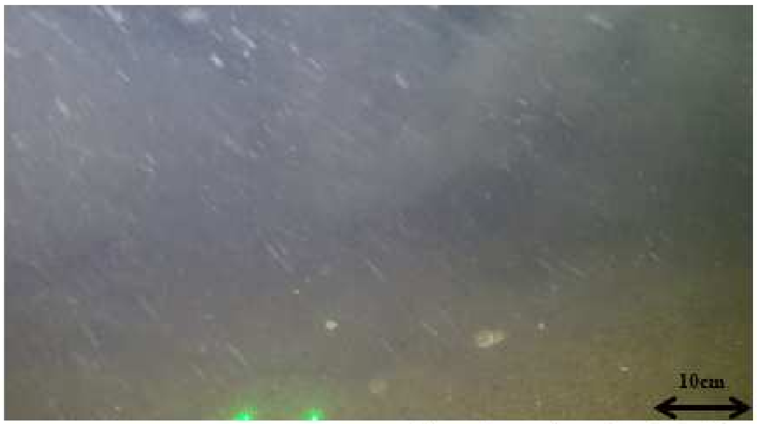
Sample ID:	M0097
Date/Time (EST):	9/20/16 08:16
Depth (real-time, m):	26.0
Easting (WGS84 UTM Zone 19N, m):	433361
Northing (WGS84 UTM Zone 19N, m):	4837960

Maine Department of Agriculture Conservation & Forestry
Maine Coastal Program
MCMI Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** sand	

MCMI Maine Coastal Mapping Initiative	Sample ID:	M0098
	Date/Time (EST):	9/20/16 08:47
	Depth (real-time, m):	23.2
	Easting (WGS84 UTM Zone 19N, m):	435365
	Northing (WGS84 UTM Zone 19N, m):	4838804

Still Image from Video	Field Picture



Distance between lasers (green dots) = 10 cm

Substrate Type: gravelly sand

Sample ID:	M0099
Date/Time (EST):	9/20/16 09:10
Depth (real-time, m):	28.2
Easting (WGS84 UTM Zone 19N, m):	436338
Northing (WGS84 UTM Zone 19N, m):	4838284

MCMI Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** bedrock outcrop / rocky	**NO SAMPLE RECOVERED**

	Sample ID:	M0100
	Date/Time (EST):	9/20/16 09:33
	Depth (real-time, m):	19.2
	Easting (WGS84 UTM Zone 19N, m):	439244
	Northing (WGS84 UTM Zone 19N, m):	4838490

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** sandy gravel	

Sample ID:	M0101
Date/Time (EST):	9/20/16 09:43
Depth (real-time, m):	28.7
Easting (WGS84 UTM Zone 19N, m):	438193
Northing (WGS84 UTM Zone 19N, m):	4837811

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** slightly gravelly sand	

Sample ID:	M0102
Date/Time (EST):	9/20/16 10:10
Depth (real-time, m):	19.5
Easting (WGS84 UTM Zone 19N, m):	436402
Northing (WGS84 UTM Zone 19N, m):	4840351

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** sand	

	Sample ID:	M0103
	Date/Time (EST):	9/20/16 10:50
	Depth (real-time, m):	17.9
	Easting (WGS84 UTM Zone 19N, m):	436139
	Northing (WGS84 UTM Zone 19N, m):	4840544

Still Image from Video	Field Picture
Distance between lasers (green dots) = 10 cm **Substrate Type:** gravelly sand; very shelly	

Sample ID:	M0104
Date/Time (EST):	9/20/16 11:06
Depth (real-time, m):	16.5
Easting (WGS84 UTM Zone 19N, m):	436671
Northing (WGS84 UTM Zone 19N, m):	4840971

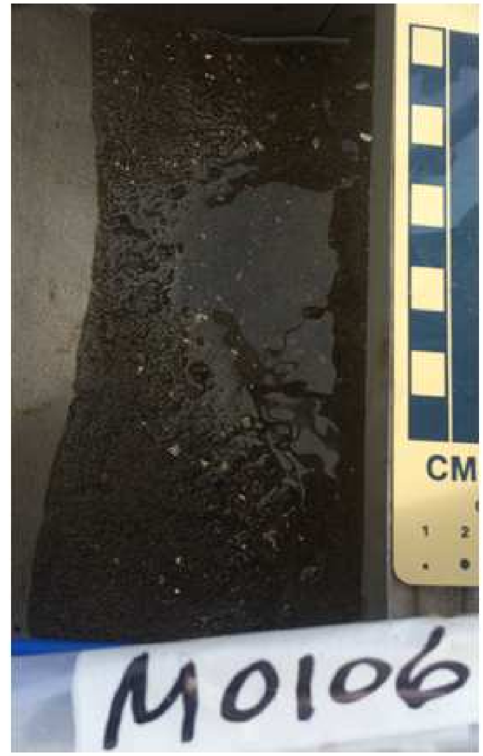
Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** sand	

	Sample ID:	M0105
	Date/Time (EST):	9/20/16 11:24
	Depth (real-time, m):	14.3
	Easting (WGS84 UTM Zone 19N, m):	437448
	Northing (WGS84 UTM Zone 19N, m):	4840954

Still Image from Video	Field Picture

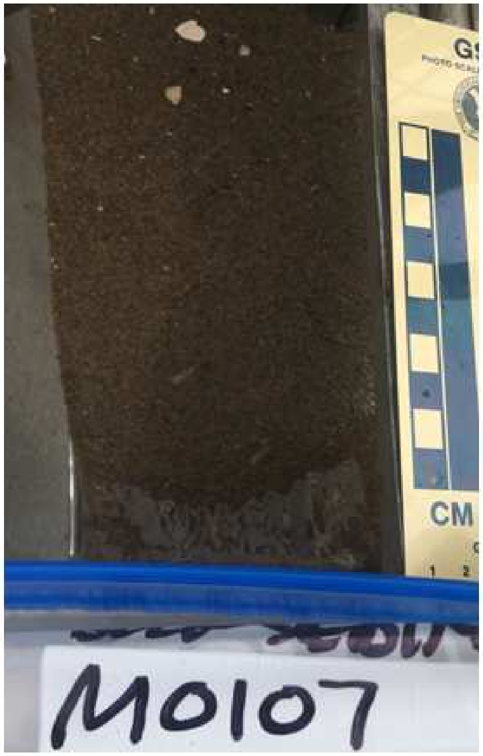
Distance between lasers (green dots) = 10 cm

Substrate Type: slightly gravelly sand



Maine Coastal Mapping Initiative

Sample ID:	M0106
Date/Time (EST):	9/20/16 11:41
Depth (real-time, m):	16.6
Easting (WGS84 UTM Zone 19N, m):	437183
Northing (WGS84 UTM Zone 19N, m):	4840692

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** sand	

Sample ID:	M0107
Date/Time (EST):	9/20/16 12:00
Depth (real-time, m):	17.1
Easting (WGS84 UTM Zone 19N, m):	437126
Northing (WGS84 UTM Zone 19N, m):	4840513

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** bedrock outcrop / rocky	**NO SAMPLE RECOVERED**

Maine Department of Agriculture, Conservation & Forestry; Maine Coastal Program; MCMI Maine Coastal Mapping Initiative	Sample ID:	M0108
	Date/Time (EST):	9/20/16 12:28
	Depth (real-time, m):	15.5
	Easting (WGS84 UTM Zone 19N, m):	442460
	Northing (WGS84 UTM Zone 19N, m):	4842312

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** sandy gravel (gravelly shell hash)	

Sample ID:	M0109
Date/Time (EST):	9/20/16 12:41
Depth (real-time, m):	26.7
Easting (WGS84 UTM Zone 19N, m):	441695
Northing (WGS84 UTM Zone 19N, m):	4844004

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** sandy gravel	

Sample ID:	M0110
Date/Time (EST):	9/20/16 13:03
Depth (real-time, m):	30.4
Easting (WGS84 UTM Zone 19N, m):	442685
Northing (WGS84 UTM Zone 19N, m):	4844239

Still Image from Video	Field Picture

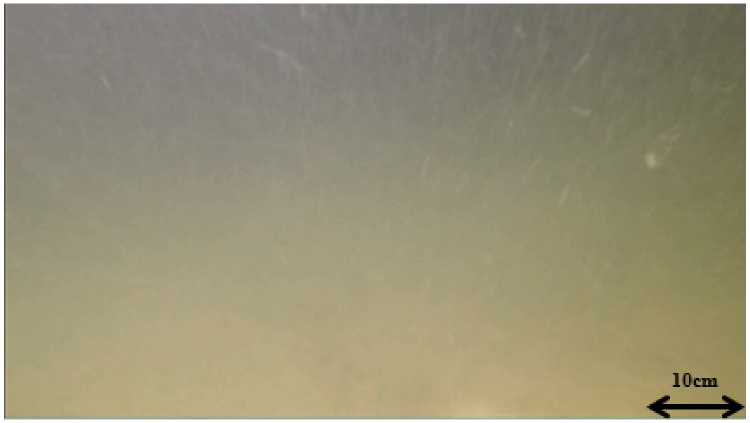
Distance between lasers (green dots) = 10 cm

Substrate Type: bedrock outcrop / rocky

NO SAMPLE RECOVERED

Sample ID:	M0111
Date/Time (EST):	9/20/16 13:29
Depth (real-time, m):	20.8
Easting (WGS84 UTM Zone 19N, m):	446095
Northing (WGS84 UTM Zone 19N, m):	4845486

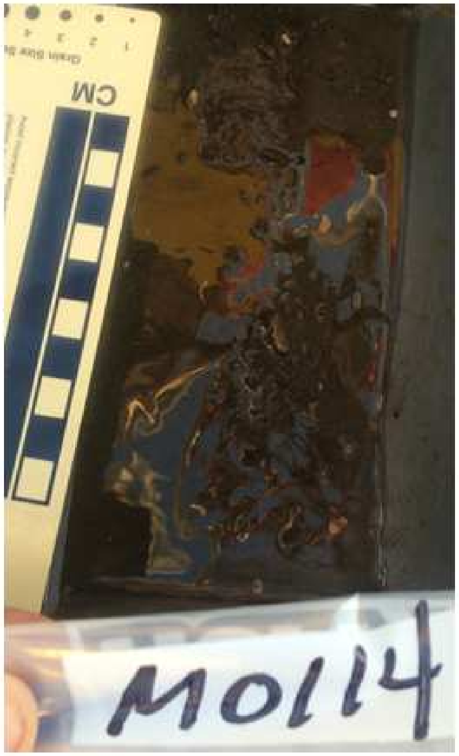
Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
Scale is approximate due to laser obstruction Poor water/image clarity due to sediment resuspension upon sampler impact **Substrate Type:** sandy mud	**NO PICTURE TAKEN**

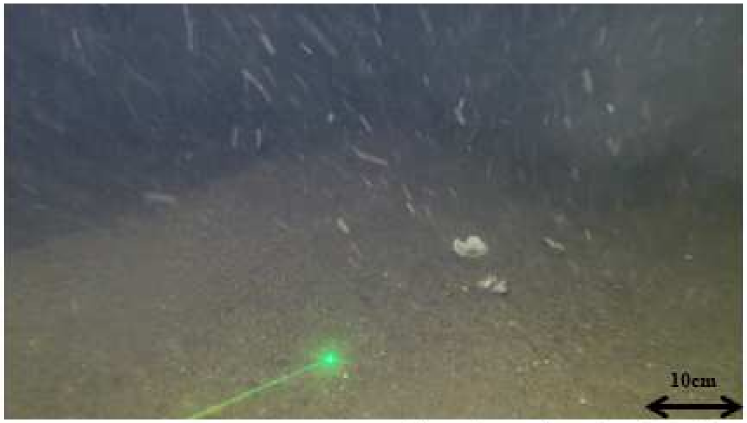
Sample ID:	M0112
Date/Time (EST):	9/26/16 06:53
Depth (real-time, m):	32.5
Easting (WGS84 UTM Zone 19N, m):	432929
Northing (WGS84 UTM Zone 19N, m):	4837324

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** gravel	**NO PICTURE TAKEN**

	Sample ID:	M0113
	Date/Time (EST):	9/26/16 07:22
	Depth (real-time, m):	29.5
	Easting (WGS84 UTM Zone 19N, m):	433581
	Northing (WGS84 UTM Zone 19N, m):	4835769

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** sand	

Maine Coastal Mapping Initiative	Sample ID:	M0114
	Date/Time (EST):	10/05/16 07:06
	Depth (real-time, m):	26.0
	Easting (WGS84 UTM Zone 19N, m):	436768
	Northing (WGS84 UTM Zone 19N, m):	4842038

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** sandy gravel	

	Sample ID:	M0115
	Date/Time (EST):	10/05/16 07:34
	Depth (real-time, m):	35.6
	Easting (WGS84 UTM Zone 19N, m):	438070
	Northing (WGS84 UTM Zone 19N, m):	4835651

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** boulders / rocky	**NO SAMPLE RECOVERED**

MCMI Maine Coastal Mapping Initiative	Sample ID:	M0116
	Date/Time (EST):	10/05/16 08:02
	Depth (real-time, m):	32.3
	Easting (WGS84 UTM Zone 19N, m):	430456
	Northing (WGS84 UTM Zone 19N, m):	4833406

Still Image from Video	Field Picture
Scale is approximate due to laser obstruction Poor water/image clarity due to sediment resuspension upon sampler impact **Substrate Type:** clay	

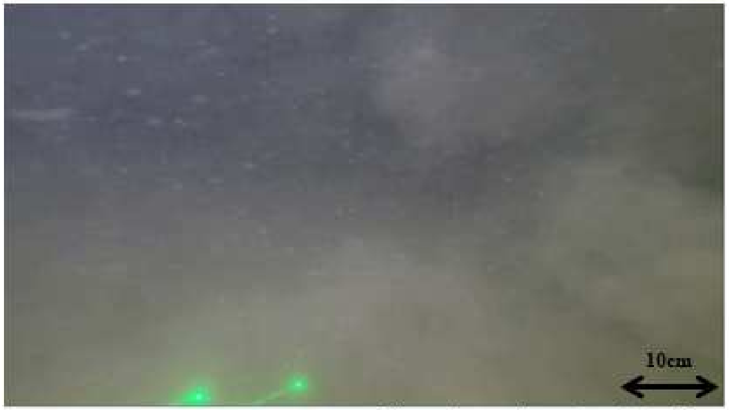
Sample ID:	M0117
Date/Time (EST):	10/05/16 08:25
Depth (real-time, m):	44.4
Easting (WGS84 UTM Zone 19N, m):	424130
Northing (WGS84 UTM Zone 19N, m):	4837446

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** bedrock outcrop / rocky	**NO SAMPLE RECOVERED**

Maine Department of Agriculture Conservation & Forestry; Maine Coastal Program; MCMI Maine Coastal Mapping Initiative	Sample ID:	M0118
	Date/Time (EST):	10/05/16 08:39
	Depth (real-time, m):	13.9
	Easting (WGS84 UTM Zone 19N, m):	424664
	Northing (WGS84 UTM Zone 19N, m):	4836784

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** bedrock outcrop / rocky	**NO SAMPLE RECOVERED**

Sample ID:	M0119
Date/Time (EST):	10/05/16 08:52
Depth (real-time, m):	30.2
Easting (WGS84 UTM Zone 19N, m):	426115
Northing (WGS84 UTM Zone 19N, m):	4834993

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** sandy mud	

Maine Department of Agriculture Conservation & Forestry / Maine Coastal Program / MCMI Maine Coastal Mapping Initiative	Sample ID:	M0120
	Date/Time (EST):	10/05/16 09:03
	Depth (real-time, m):	38.1
	Easting (WGS84 UTM Zone 19N, m):	426856
	Northing (WGS84 UTM Zone 19N, m):	4837193

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** bedrock/rocky	**NO SAMPLE RECOVERED**

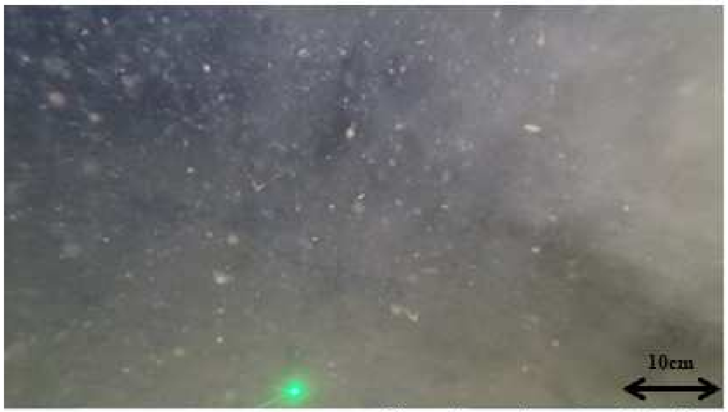
Sample ID:	M0121
Date/Time (EST):	10/05/16 09:22
Depth (real-time, m):	13.7
Easting (WGS84 UTM Zone 19N, m):	428981
Northing (WGS84 UTM Zone 19N, m):	4837064

Still Image from Video	Field Picture
 Distance between lasers (green dots) = 10 cm **Substrate Type:** sand	

Sample ID:	M0122
Date/Time (EST):	10/05/16 09:36
Depth (real-time, m):	26.2
Easting (WGS84 UTM Zone 19N, m):	431289
Northing (WGS84 UTM Zone 19N, m):	4837079

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture



Distance between lasers (green dots) = 10 cm

Substrate Type: mud

Sample ID:	M0123
Date/Time (EST):	10/05/16 09:59
Depth (real-time, m):	28.7
Easting (WGS84 UTM Zone 19N, m):	433415
Northing (WGS84 UTM Zone 19N, m):	4837650

Still Image from Video	Field Picture

Distance between lasers (green dots) = 10 cm

Substrate Type: sandy mud

Sample ID:	M0124
Date/Time (EST):	10/05/16 10:14
Depth (real-time, m):	22.7
Easting (WGS84 UTM Zone 19N, m):	433825
Northing (WGS84 UTM Zone 19N, m):	4838881

Still Image from Video	Field Picture
	

10cm

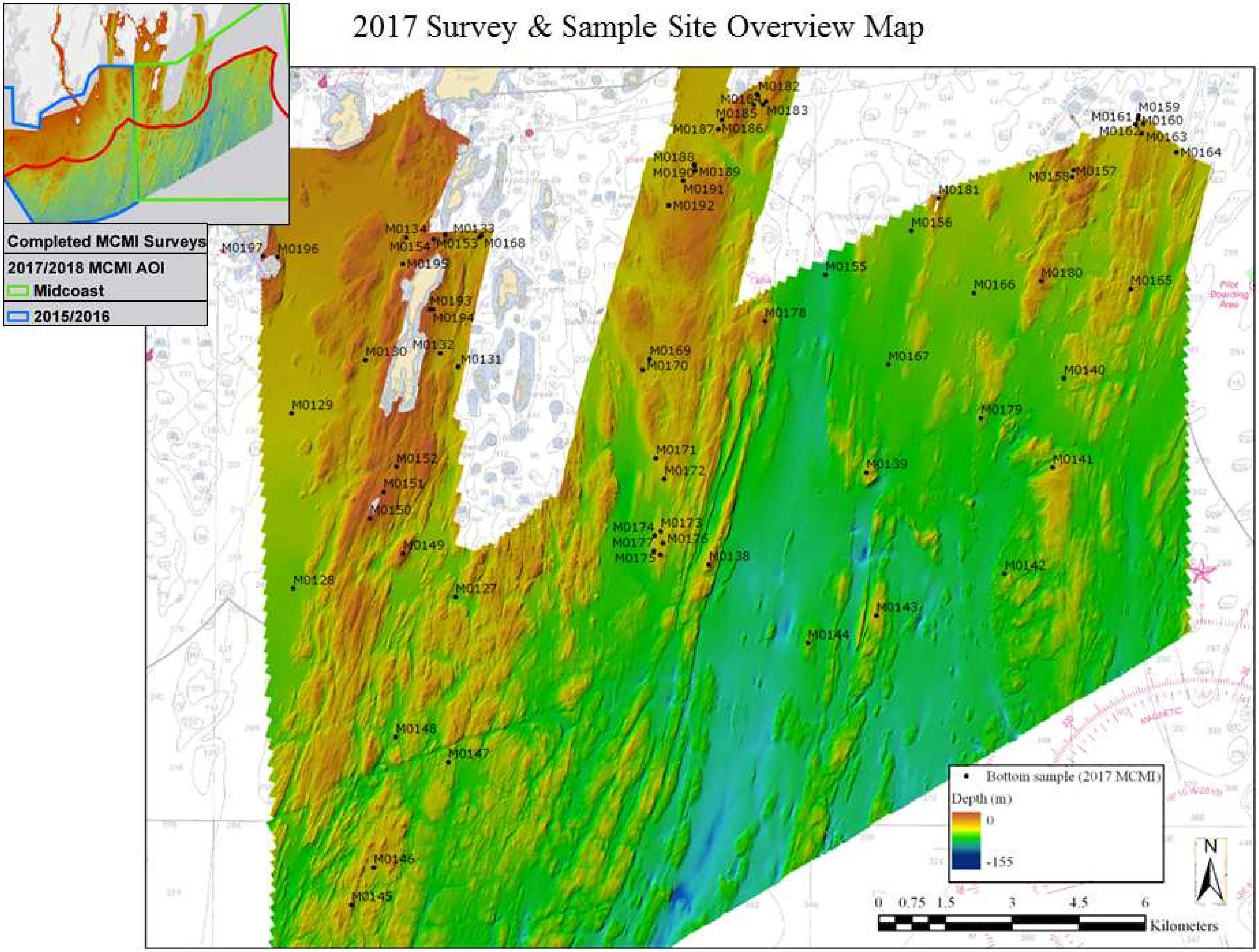
Distance between lasers (green dots) = 10 cm

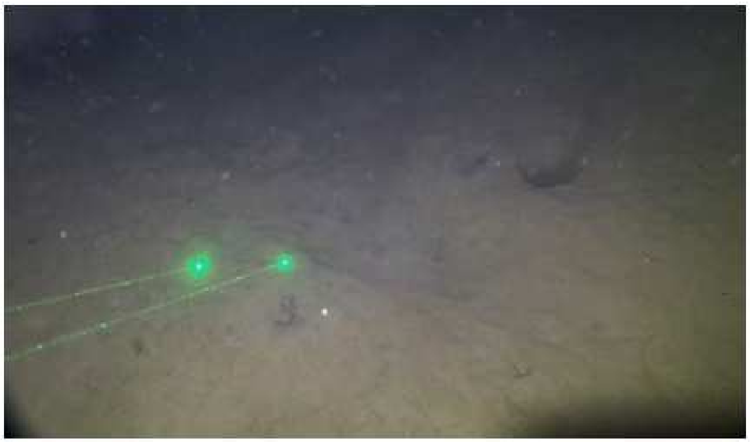
Substrate Type: sandy mud

Sample ID:	M0125
Date/Time (EST):	10/05/16 10:35
Depth (real-time, m):	33.2
Easting (WGS84 UTM Zone 19N, m):	437201
Northing (WGS84 UTM Zone 19N, m):	4838606

Still Image from Video	Field Picture
 10cm ↔ Distance between lasers (green dots) = 10 cm **Substrate Type:** Medium-Coarse Sand* (textural field description only; no GSA)	
Sample ID:	M0126
Date/Time (EST):	11/14/16 08:41
Depth (real-time, m):	36.1
Easting (WGS84 UTM Zone 19N, m):	432002
Northing (WGS84 UTM Zone 19N, m):	4833820

Maine Department of Agriculture Conservation & Forestry · Maine Coastal Program · MCMI Maine Coastal Mapping Initiative

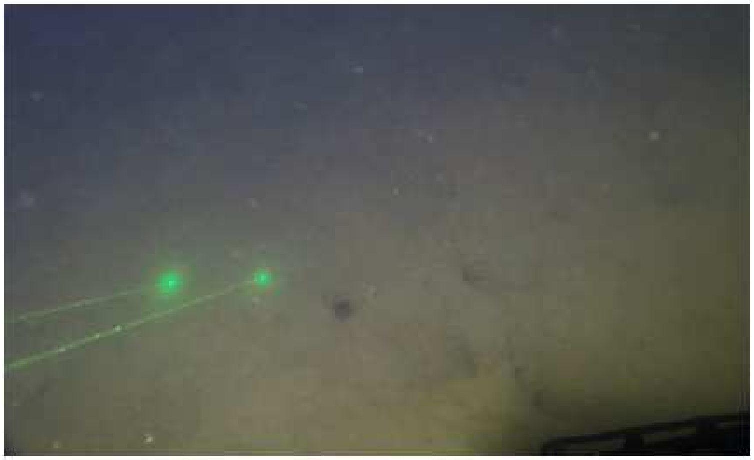

2017 Survey & Sample Site Overview Map
Completed MCMI Surveys
2017/2018 MCMI AOI
Midcoast
2015/2016
Bottom sample (2017 MCMI)
Depth (m)
0
-155
0 0.75 1.5 3 4.5 6
Kilometers
N

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

Sample ID:	M0127
Date/Time (EST):	07/07/17 06:34
Depth (real-time, m):	79.6
Easting (WGS84 UTM Zone 19N, m):	451704
Northing (WGS84 UTM Zone 19N, m):	4840105

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

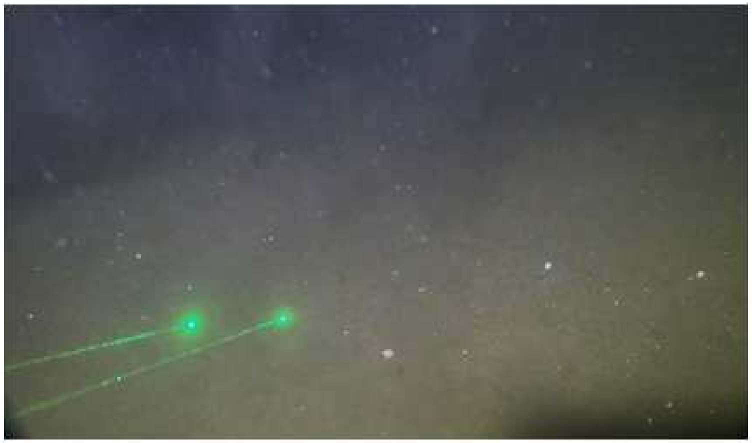
Sample ID:	M0128
Date/Time (EST):	07/07/17 07:12
Depth (real-time, m):	79.1
Easting (WGS84 UTM Zone 19N, m):	448048
Northing (WGS84 UTM Zone 19N, m):	4840299

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

Maine DMR Marine Resources / Maine Coastal Program / MCMI Maine Coastal Mapping Initiative	Sample ID:	M0129
	Date/Time (EST):	07/07/17 07:49
	Depth (real-time, m):	62.7
	Easting (WGS84 UTM Zone 19N, m):	448014
	Northing (WGS84 UTM Zone 19N, m):	4844242

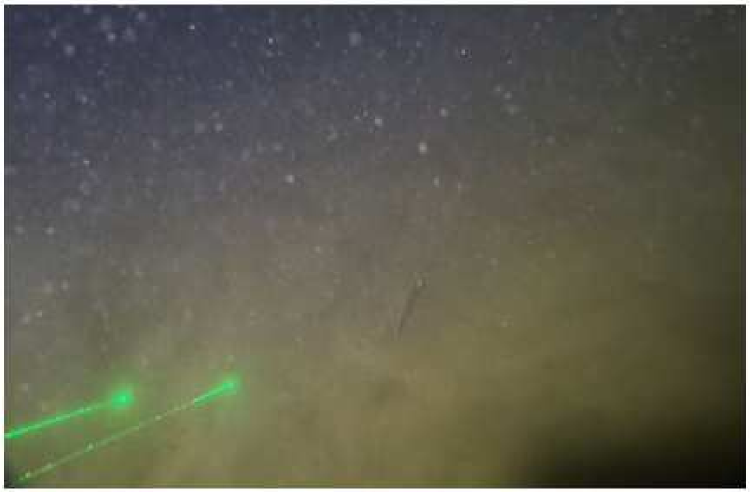
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

	Sample ID:	M0130
	Date/Time (EST):	07/07/17 08:32
	Depth (real-time, m):	51.8
	Easting (WGS84 UTM Zone 19N, m):	449674
	Northing (WGS84 UTM Zone 19N, m):	4845440

<table>
<tr><th>Still Image from Video</th><th>Field Picture</th></tr>
<tr><td>
Laser spacing = 10 cm

Substrate type: GSA results TBD</td><td></td></tr>
</table>

Sample ID:	M0131
Date/Time (EST):	07/07/17 08:35
Depth (real-time, m):	58.8
Easting (WGS84 UTM Zone 19N, m):	451758
Northing (WGS84 UTM Zone 19N, m):	4845292

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	
Sample ID:	M0132
Date/Time (EST):	07/07/17 08:54
Depth (real-time, m):	51.2
Easting (WGS84 UTM Zone 19N, m):	451357
Northing (WGS84 UTM Zone 19N, m):	4845594

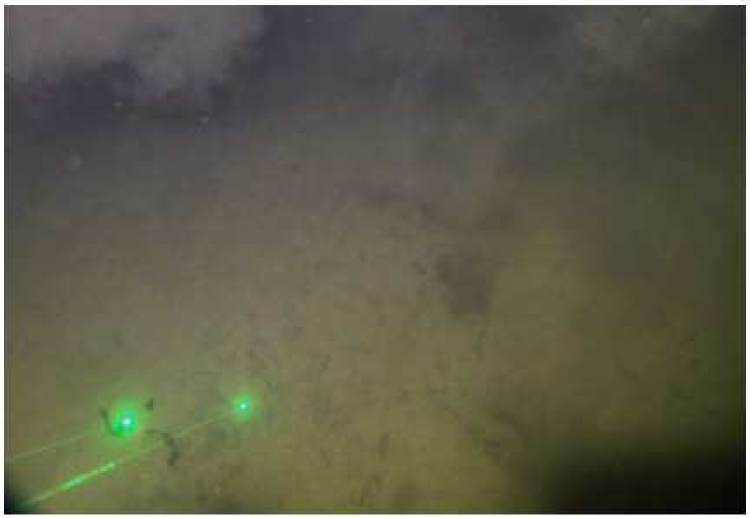
Still Image from Video	Field Picture

Lighting malfunction

Laser spacing = 10 cm

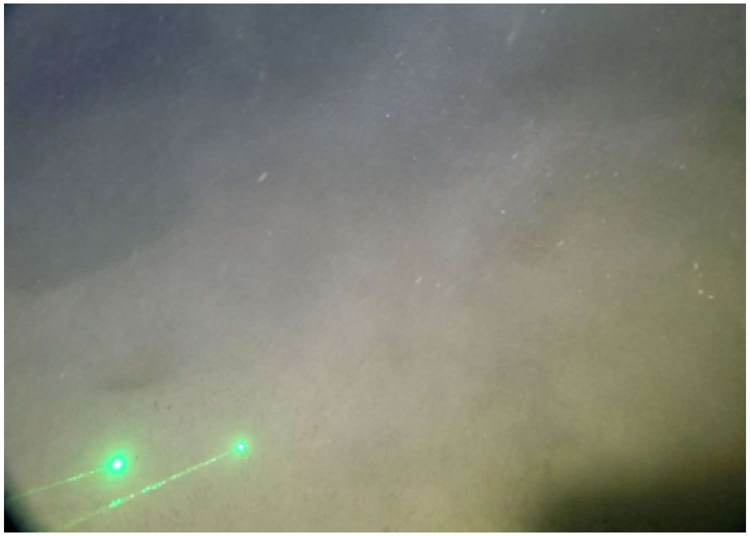
Substrate type: GSA results TBD

Sample ID:	M0133
Date/Time (EST):	07/07/17 09:18
Depth (real-time, m):	46.7
Easting (WGS84 UTM Zone 19N, m):	452237
Northing (WGS84 UTM Zone 19N, m):	4848209

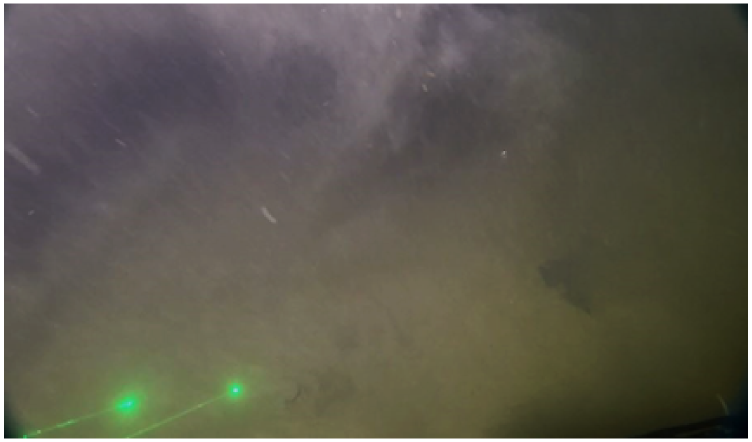
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

Sample ID:	M0134
Date/Time (EST):	07/07/17 09:38
Depth (real-time, m):	41.7
Easting (WGS84 UTM Zone 19N, m):	450588
Northing (WGS84 UTM Zone 19N, m):	4848199

Maine Coastal Mapping Initiative

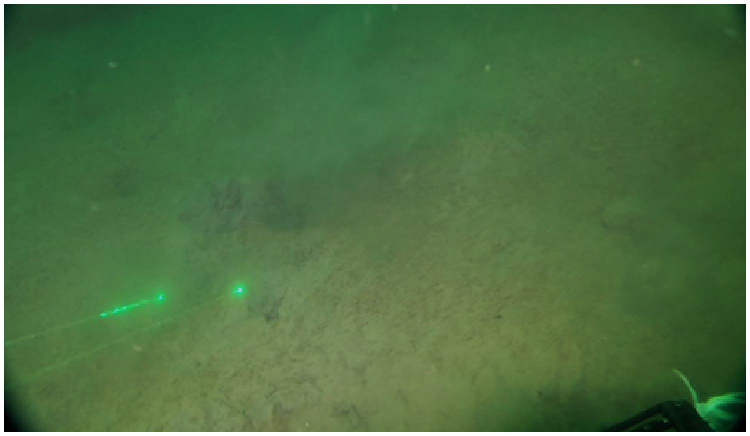
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** mud (sample not retained for GSA)	**NO SAMPLE PHOTO –** Sample site in Boothbay Harbor for Bigelow Laboratory Study and was not included in benthic habitat analyses

Maine DMR Marine Resources / Maine Coastal Program / MCMI Maine Coastal Mapping Initiative	Sample ID:	M0135IG
	Date/Time (EST):	07/07/17 10:11
	Depth (real-time, m):	29.1
	Easting (WGS84 UTM Zone 19N, m):	448187
	Northing (WGS84 UTM Zone 19N, m):	4850950

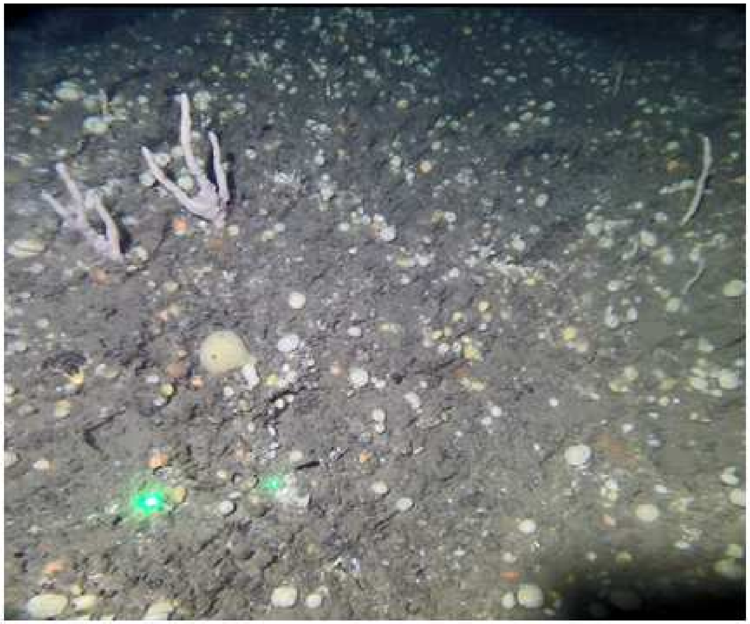
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** mud (sample not retained for GSA)	**NO SAMPLE PHOTO -** Sample site in Boothbay Harbor for Bigelow Laboratory Study and was not included in benthic habitat analyses

Maine DMR Marine Resources · Maine Coastal Program · MCMI Maine Coastal Mapping Initiative

Sample ID:	M0136IG
Date/Time (EST):	07/07/17 10:26
Depth (real-time, m):	26.0
Easting (WGS84 UTM Zone 19N, m):	450037
Northing (WGS84 UTM Zone 19N, m):	4851980

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** mud (sample not retained for GSA)	**NO SAMPLE PHOTO -** Sample site in Boothbay Harbor for Bigelow Laboratory Study and was not included in benthic habitat analyses

Maine DMR Marine Resources / Maine Coastal Program / MCMI Maine Coastal Mapping Initiative	Sample ID:	M0137IG
	Date/Time (EST):	07/07/17 10:42
	Depth (real-time, m):	18.6
	Easting (WGS84 UTM Zone 19N, m):	451679
	Northing (WGS84 UTM Zone 19N, m):	4853300

<table>
<tr><th>Still Image from Video</th><th>Field Picture</th></tr>
<tr><td>
Laser spacing = 10 cm

Substrate Type: bedrock / rocky</td><td>NO SAMPLE RECOVERED</td></tr>
<tr><td>Sample ID:</td><td>M0138</td></tr>
<tr><td>Date/Time (EST):</td><td>08/02/17 06:43</td></tr>
<tr><td>Depth (real-time, m):</td><td>39.7</td></tr>
<tr><td>Easting (WGS84 UTM Zone 19N, m):</td><td>457396</td></tr>
<tr><td>Northing (WGS84 UTM Zone 19N, m):</td><td>4840833</td></tr>
</table>

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock / rocky	**NO SAMPLE RECOVERED**
Sample ID:	M0139
Date/Time (EST):	08/02/17 07:01
Depth (real-time, m):	38.8
Easting (WGS84 UTM Zone 19N, m):	460937
Northing (WGS84 UTM Zone 19N, m):	4842910

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock / rocky	**NO SAMPLE RECOVERED**

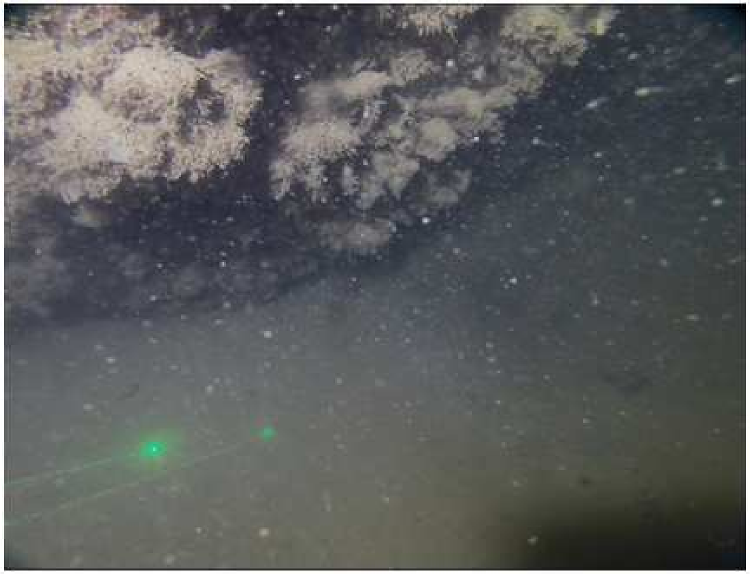
Maine Coastal Mapping Initiative	Sample ID:	M0140
	Date/Time (EST):	08/02/17 07:24
	Depth (real-time, m):	76.9
	Easting (WGS84 UTM Zone 19N, m):	465385
	Northing (WGS84 UTM Zone 19N, m):	4845029

Still Image from Video	Field Picture

Laser spacing = 10 cm

Substrate type: GSA results TBD

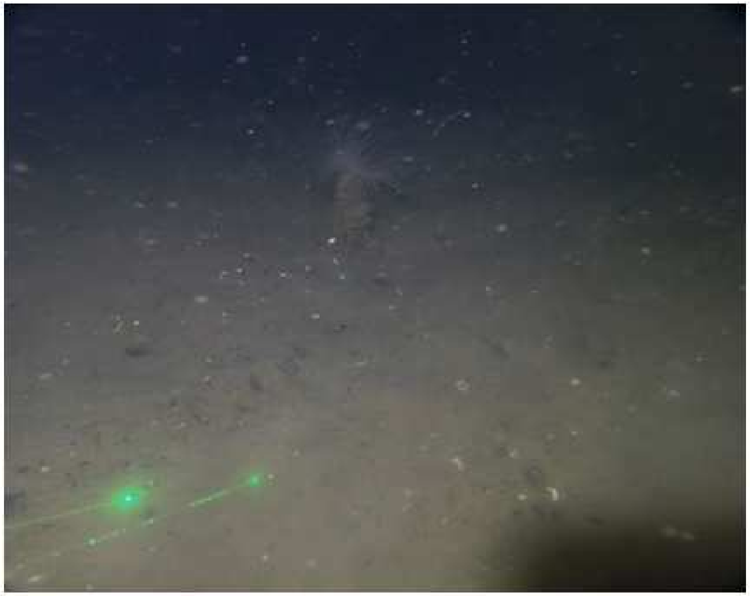
Sample ID:	M0141
Date/Time (EST):	08/02/17 07:40
Depth (real-time, m):	70.3
Easting (WGS84 UTM Zone 19N, m):	465133
Northing (WGS84 UTM Zone 19N, m):	4843020

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

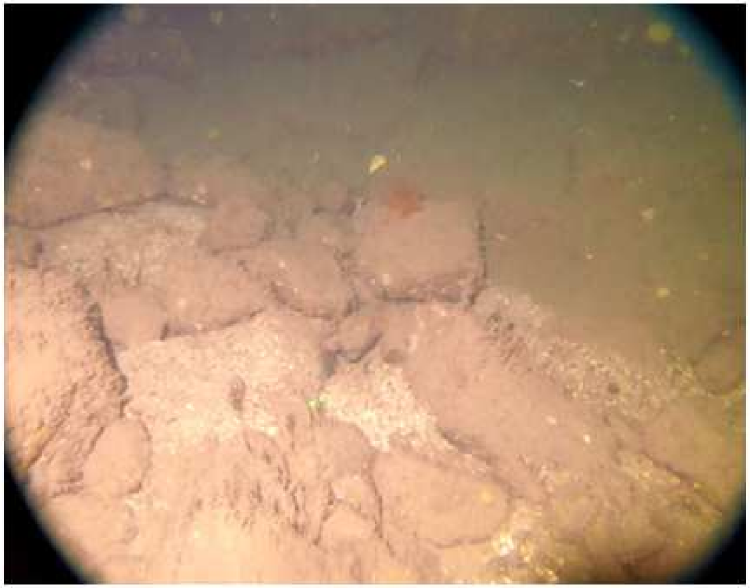
	Sample ID:	M0142
	Date/Time (EST):	08/02/17 08:30
	Depth (real-time, m):	88.0
	Easting (WGS84 UTM Zone 19N, m):	464049
	Northing (WGS84 UTM Zone 19N, m):	4840627

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

Sample ID:	M0143
Date/Time (EST):	08/02/17 09:19
Depth (real-time, m):	64.1
Easting (WGS84 UTM Zone 19N, m):	461168
Northing (WGS84 UTM Zone 19N, m):	4839688

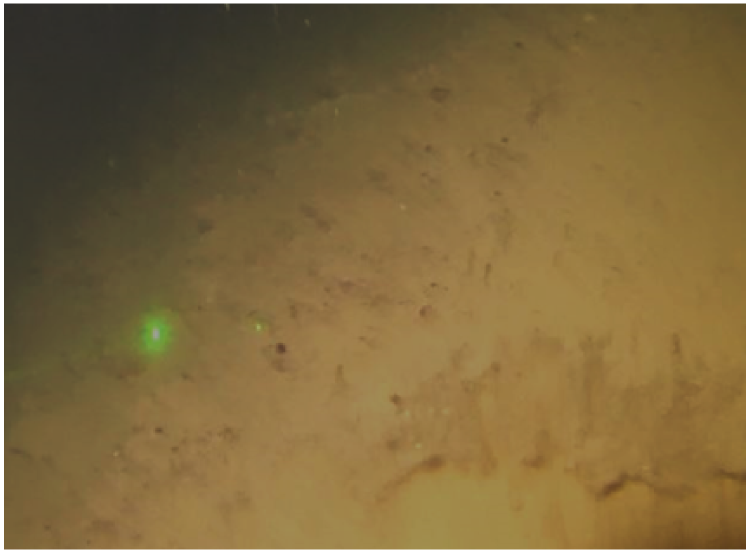
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	
Sample ID:	M0144
Date/Time (EST):	08/02/17 09:42
Depth (real-time, m):	83.6
Easting (WGS84 UTM Zone 19N, m):	459633
Northing (WGS84 UTM Zone 19N, m):	4839064

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock / rocky	**NO SAMPLE RECOVERED**
Sample ID:	M0145
Date/Time (EST):	08/02/17 11:17
Depth (real-time, m):	33.8
Easting (WGS84 UTM Zone 19N, m):	449355
Northing (WGS84 UTM Zone 19N, m):	4833170

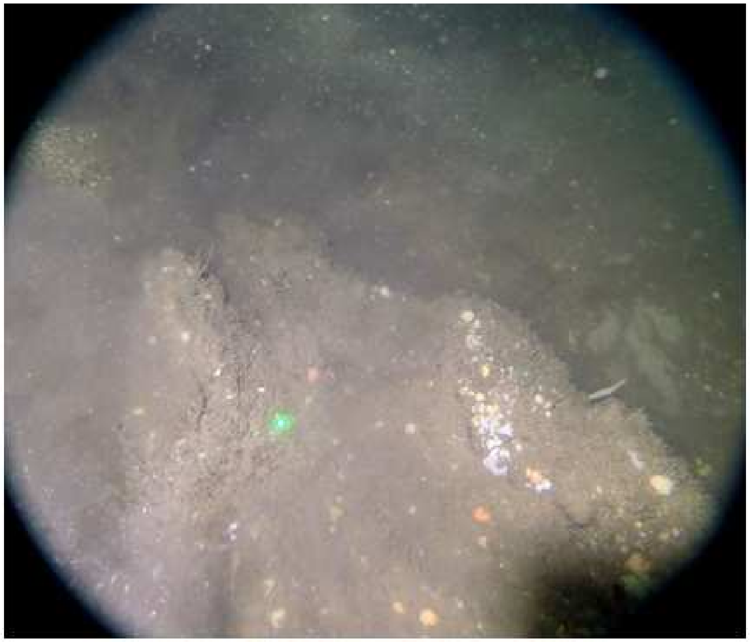
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock / rocky	

Sample ID:	M0146
Date/Time (EST):	08/02/17 11:41
Depth (real-time, m):	51.2
Easting (WGS84 UTM Zone 19N, m):	449854
Northing (WGS84 UTM Zone 19N, m):	4834010

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock / rocky	**NO SAMPLE RECOVERED**

Maine DMR Marine Resources / Maine Coastal Program / MCMI Maine Coastal Mapping Initiative	Sample ID:	M0147
	Date/Time (EST):	08/02/17 12:02
	Depth (real-time, m):	69.0
	Easting (WGS84 UTM Zone 19N, m):	451540
	Northing (WGS84 UTM Zone 19N, m):	4836386

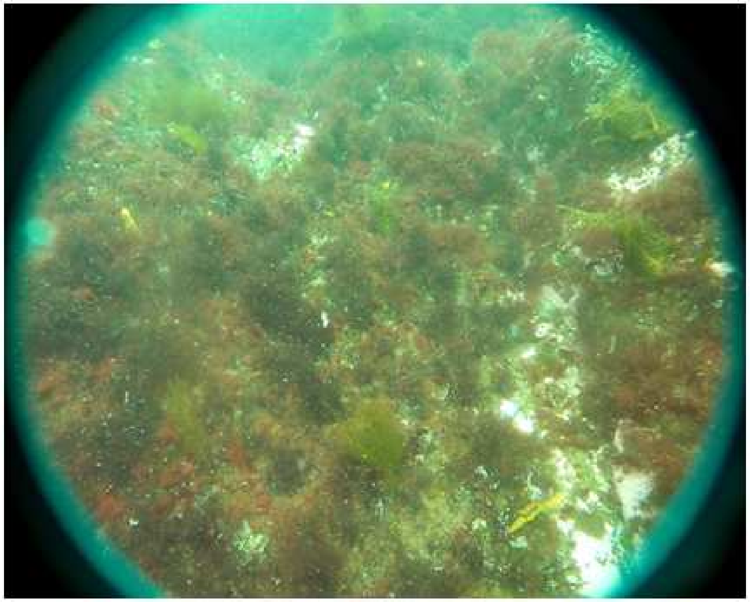
<table>
<tr><th>Still Image from Video</th><th>Field Picture</th></tr>
<tr><td>
Laser spacing = 10 cm

Substrate Type: bedrock / rocky</td><td>NO SAMPLE RECOVERED</td></tr>
<tr><td>Sample ID:</td><td>M0148</td></tr>
<tr><td>Date/Time (EST):</td><td>08/02/17 12:13</td></tr>
<tr><td>Depth (real-time, m):</td><td>36.6</td></tr>
<tr><td>Easting (WGS84 UTM Zone 19N, m):</td><td>450351</td></tr>
<tr><td>Northing (WGS84 UTM Zone 19N, m):</td><td>4839650</td></tr>
</table>

MCMI Maine Coastal Mapping Initiative

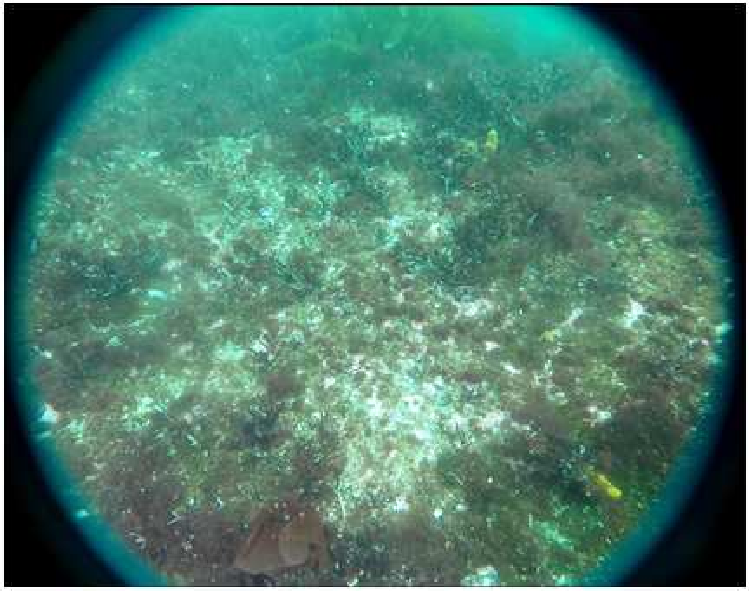
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock / rocky	**NO SAMPLE RECOVERED**

Maine Coastal Mapping Initiative	Sample ID:	M0149
	Date/Time (EST):	08/02/17 12:33
	Depth (real-time, m):	13.5
	Easting (WGS84 UTM Zone 19N, m):	450519
	Northing (WGS84 UTM Zone 19N, m):	4841080

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock / rocky	**NO SAMPLE RECOVERED**

Maine DMR Marine Resources / Maine Coastal Program / MCMI Maine Coastal Mapping Initiative	Sample ID:	M0150
	Date/Time (EST):	08/02/17 12:44
	Depth (real-time, m):	11.0
	Easting (WGS84 UTM Zone 19N, m):	449776
	Northing (WGS84 UTM Zone 19N, m):	4841874

Still Image from Video	Field Picture



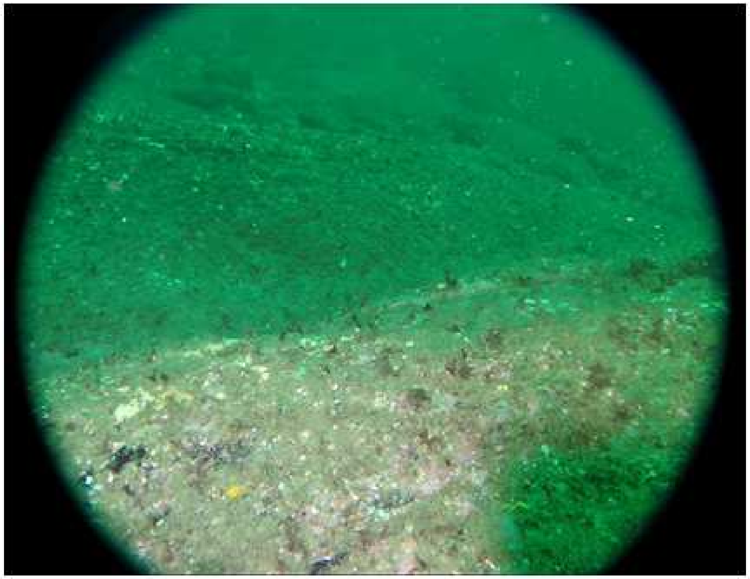
Laser spacing = 10 cm

Substrate Type: bedrock / rocky

NO SAMPLE RECOVERED

MCMI Maine Coastal Mapping Initiative

Sample ID:	M0151
Date/Time (EST):	08/02/17 12:53
Depth (real-time, m):	11.0
Easting (WGS84 UTM Zone 19N, m):	450078
Northing (WGS84 UTM Zone 19N, m):	4842472

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock / rocky	**NO SAMPLE RECOVERED**
Sample ID:	M0152
Date/Time (EST):	08/02/17 13:02
Depth (real-time, m):	23.6
Easting (WGS84 UTM Zone 19N, m):	450372
Northing (WGS84 UTM Zone 19N, m):	4843036

MCMI Maine Coastal Mapping Initiative

Still Image from Video	Field Picture

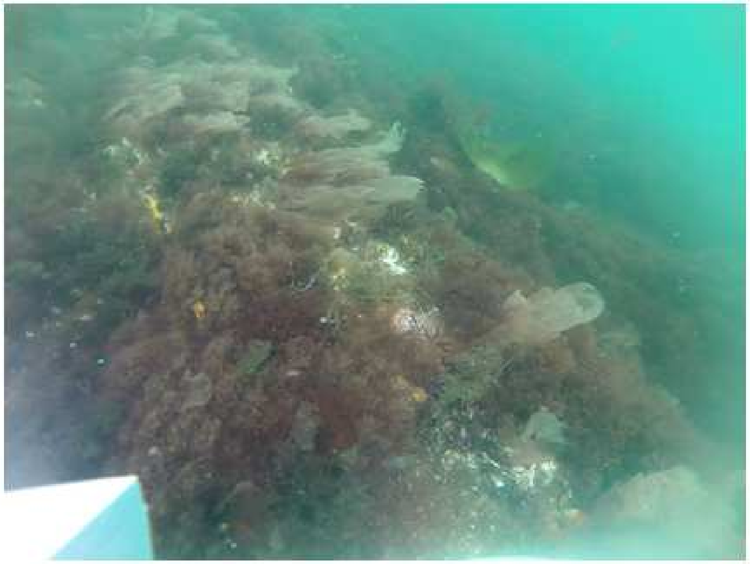
Laser spacing = 10 cm

Substrate Type: bedrock / rocky

NO SAMPLE RECOVERED

Sample ID:	M0153
Date/Time (EST):	08/02/17 13:30
Depth (real-time, m):	9.4
Easting (WGS84 UTM Zone 19N, m):	451465
Northing (WGS84 UTM Zone 19N, m):	4848259

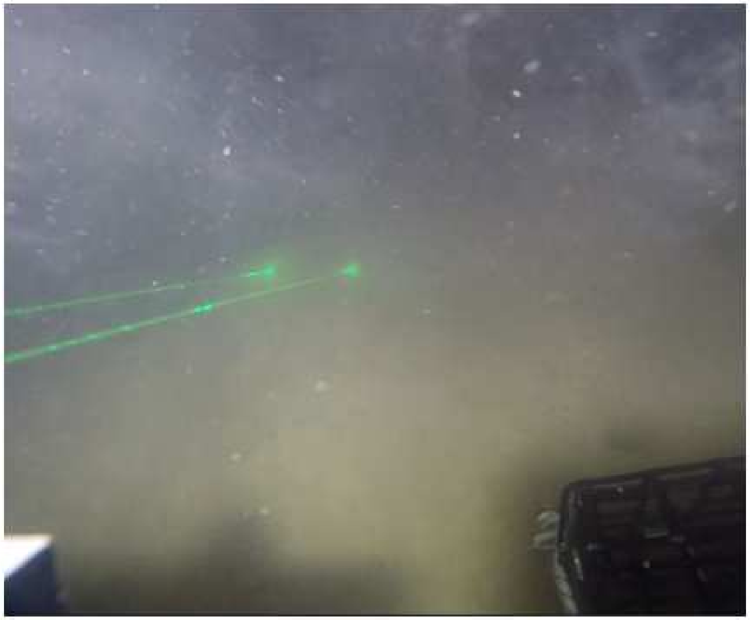
Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock / rocky	**NO SAMPLE RECOVERED**
Sample ID:	M0154
Date/Time (EST):	08/02/17 13:36
Depth (real-time, m):	7.9
Easting (WGS84 UTM Zone 19N, m):	451207
Northing (WGS84 UTM Zone 19N, m):	4848161

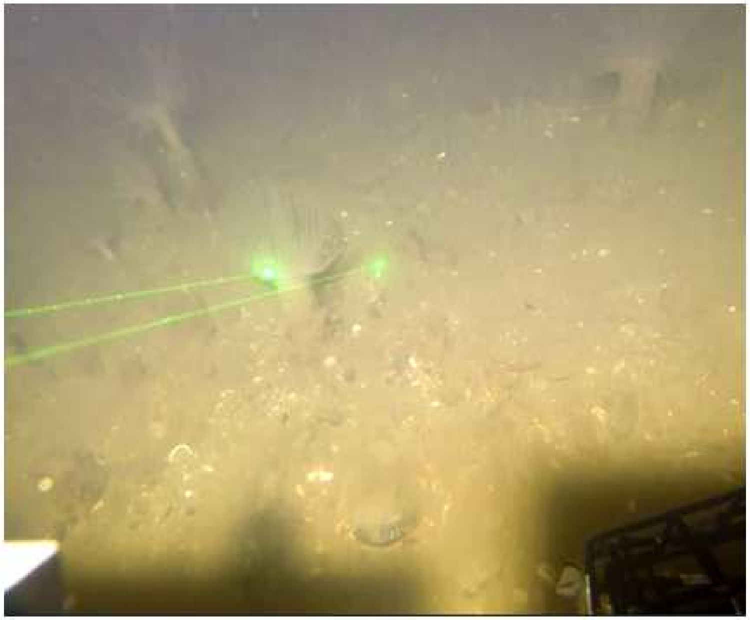
MCMI Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

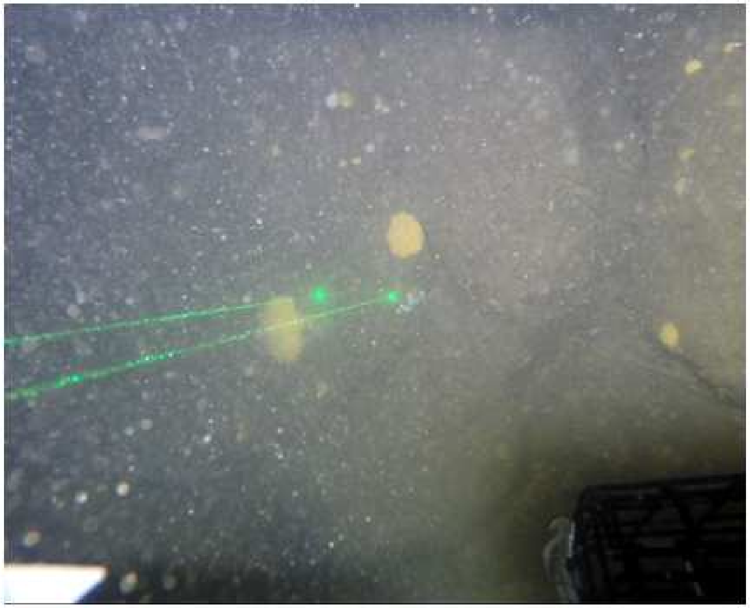
	Sample ID:	M0155
	Date/Time (EST):	08/28/17 06:29
	Depth (real-time, m):	108.0
	Easting (WGS84 UTM Zone 19N, m):	460021
	Northing (WGS84 UTM Zone 19N, m):	4847358

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

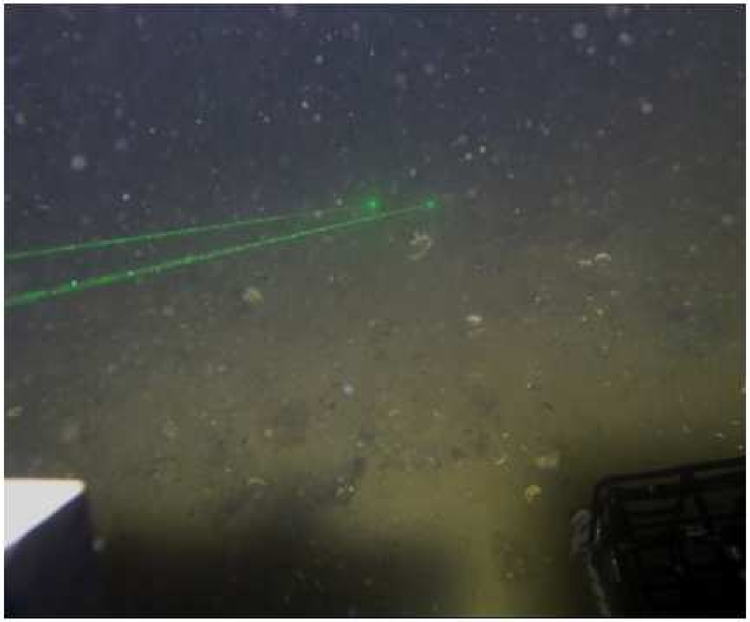
Sample ID:	M0156
Date/Time (EST):	08/28/17 06:52
Depth (real-time, m):	79.3
Easting (WGS84 UTM Zone 19N, m):	461950
Northing (WGS84 UTM Zone 19N, m):	4848347

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

	Sample ID:	M0157
	Date/Time (EST):	08/28/17 07:28
	Depth (real-time, m):	48.9
	Easting (WGS84 UTM Zone 19N, m):	465569
	Northing (WGS84 UTM Zone 19N, m):	4849560

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock / rocky	**NO SAMPLE RECOVERED**
Sample ID:	M0158
Date/Time (EST):	08/28/17 07:53
Depth (real-time, m):	37.4
Easting (WGS84 UTM Zone 19N, m):	465602
Northing (WGS84 UTM Zone 19N, m):	4849715

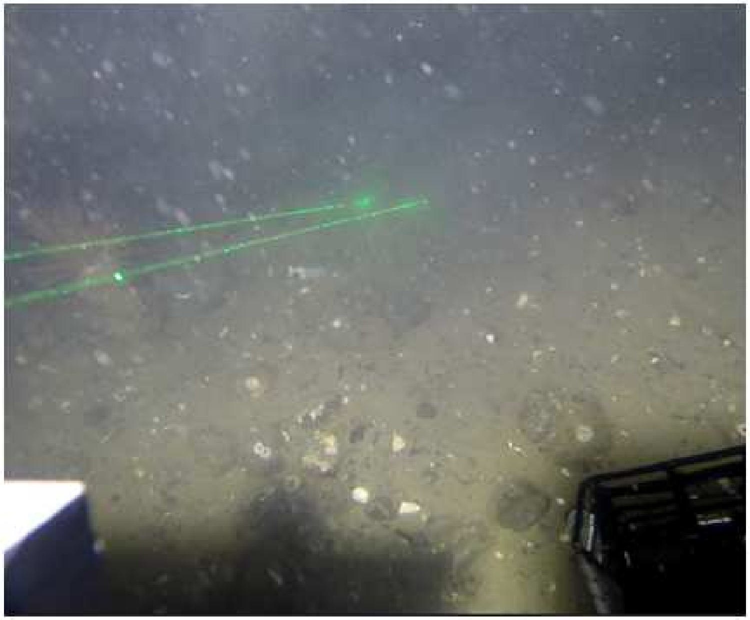
Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

Maine Coastal Program

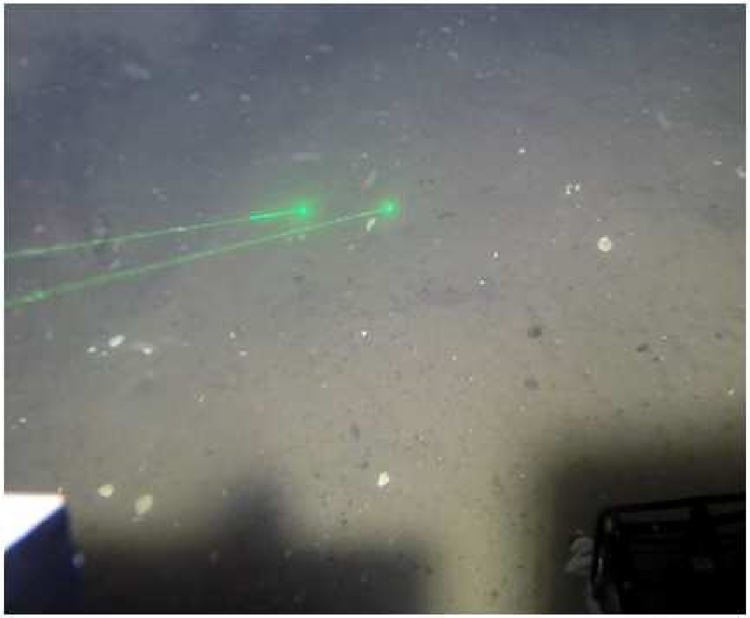
MCMI Maine Coastal Mapping Initiative

Sample ID:	M0159
Date/Time (EST):	08/28/17 08:18
Depth (real-time, m):	53.1
Easting (WGS84 UTM Zone 19N, m):	467065
Northing (WGS84 UTM Zone 19N, m):	4850941

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

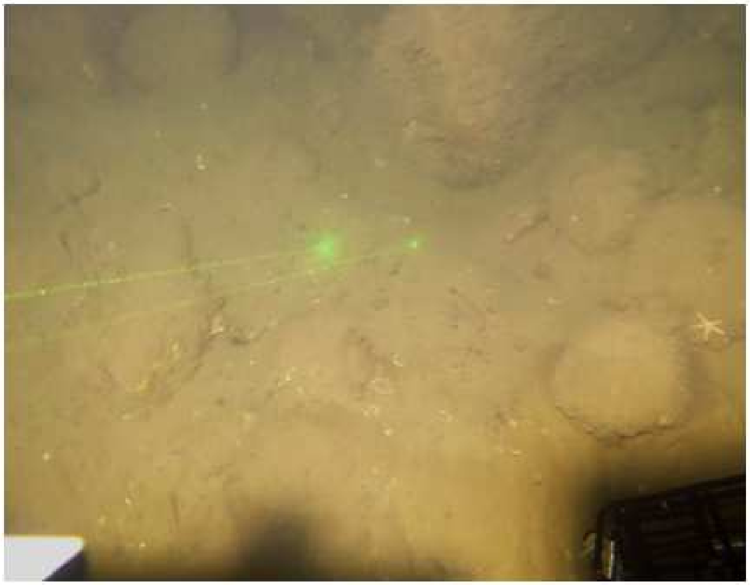
Sample ID:	M0160
Date/Time (EST):	08/28/17 08:32
Depth (real-time, m):	53.6
Easting (WGS84 UTM Zone 19N, m):	467048
Northing (WGS84 UTM Zone 19N, m):	4850863

MAINE DMR MARINE RESOURCES
MAINE COASTAL PROGRAM
MCMI
Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

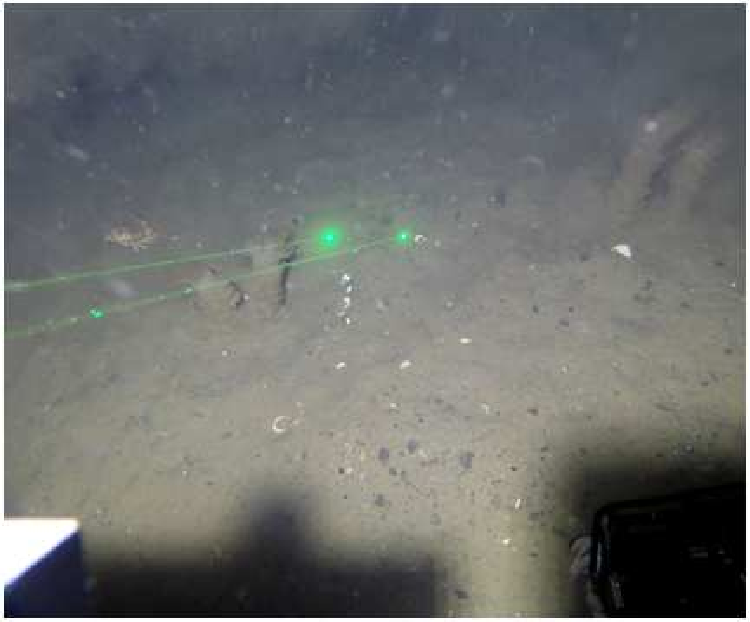
Sample ID:	M0161
Date/Time (EST):	08/28/17 08:49
Depth (real-time, m):	54.3
Easting (WGS84 UTM Zone 19N, m):	466999
Northing (WGS84 UTM Zone 19N, m):	4850752

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** subangular-subround cobbles and boulders	

Sample ID:	M0162
Date/Time (EST):	08/28/17 09:10
Depth (real-time, m):	49.4
Easting (WGS84 UTM Zone 19N, m):	467176
Northing (WGS84 UTM Zone 19N, m):	4850762

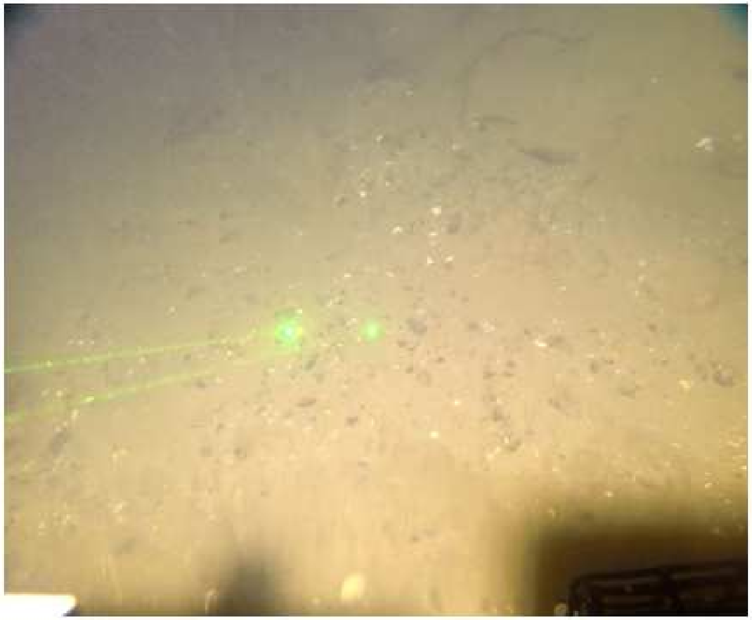
Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

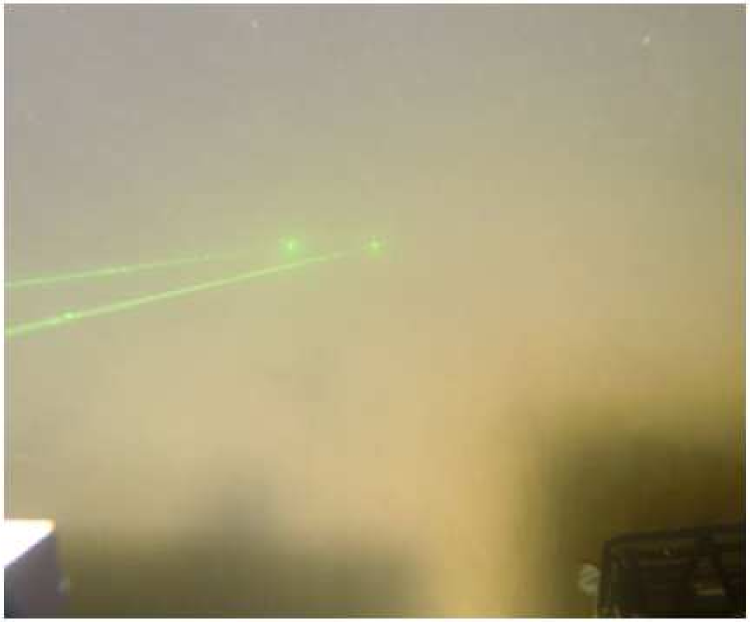
Maine Coastal Mapping Initiative	Sample ID:	M0163
	Date/Time (EST):	08/28/17 09:17
	Depth (real-time, m):	49.5
	Easting (WGS84 UTM Zone 19N, m):	467135
	Northing (WGS84 UTM Zone 19N, m):	4850540

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

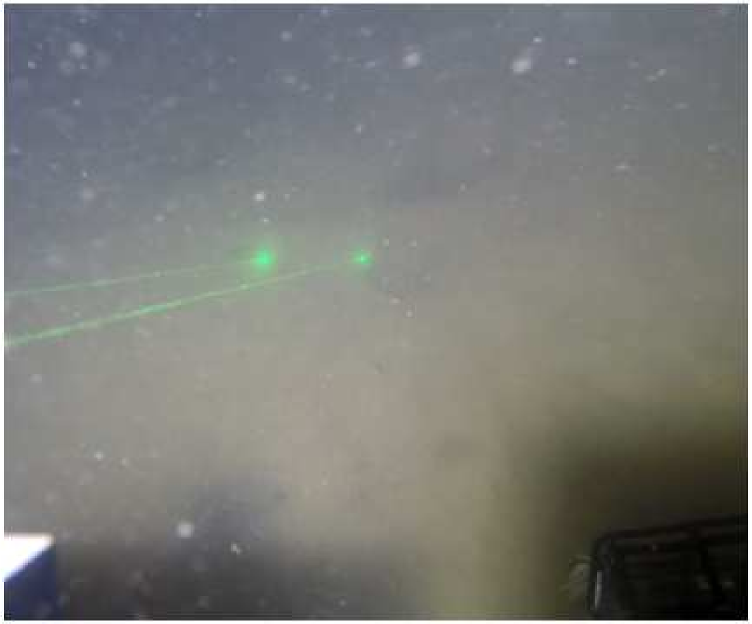
MAINE DMR MARINE RESOURCES / MAINE COASTAL PROGRAM / MCMI Maine Coastal Mapping Initiative	Sample ID:	M0164
	Date/Time (EST):	08/28/17 09:47
	Depth (real-time, m):	62.9
	Easting (WGS84 UTM Zone 19N, m):	467913
	Northing (WGS84 UTM Zone 19N, m):	4850115

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TB;** muddy gravel and boulders	

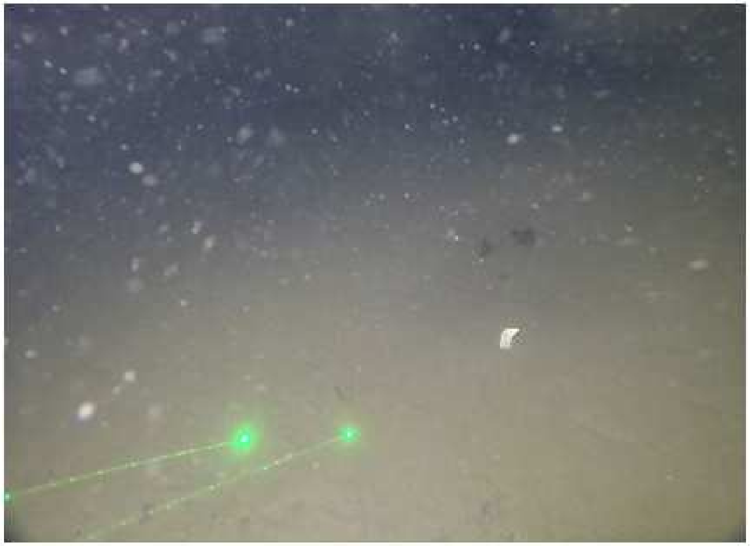
Maine DMR Marine Resources / Maine Coastal Program / MCMI Maine Coastal Mapping Initiative	Sample ID:	M0165
	Date/Time (EST):	08/28/17 10:33
	Depth (real-time, m):	60.3
	Easting (WGS84 UTM Zone 19N, m):	466892
	Northing (WGS84 UTM Zone 19N, m):	4847043

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

Maine Coastal Mapping Initiative	Sample ID:	M0166
	Date/Time (EST):	08/28/17 10:52
	Depth (real-time, m):	76.5
	Easting (WGS84 UTM Zone 19N, m):	463359
	Northing (WGS84 UTM Zone 19N, m):	4846950

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	
Sample ID:	M0167
Date/Time (EST):	08/28/17 11:15
Depth (real-time, m):	87.5
Easting (WGS84 UTM Zone 19N, m):	461434
Northing (WGS84 UTM Zone 19N, m):	4845340

Maine Coastal Mapping Initiative

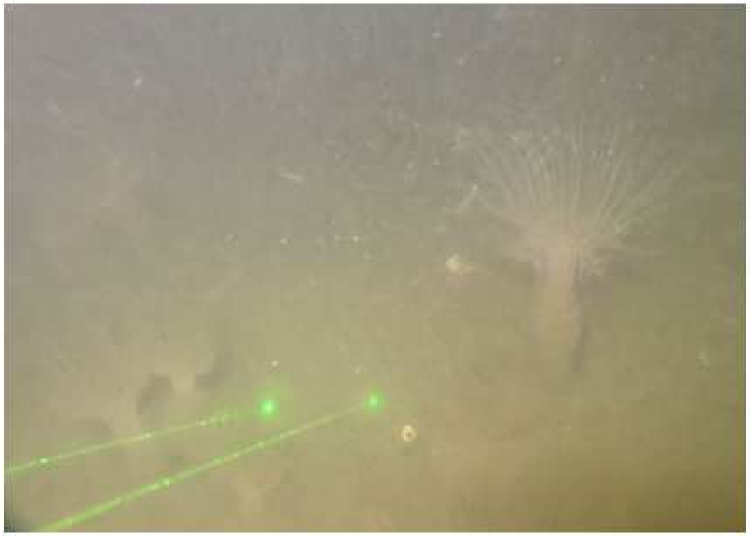
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

	Sample ID:	M0168
	Date/Time (EST):	09/13/17 06:33
	Depth (real-time, m):	47.4
	Easting (WGS84 UTM Zone 19N, m):	452278
	Northing (WGS84 UTM Zone 19N, m):	4848242

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

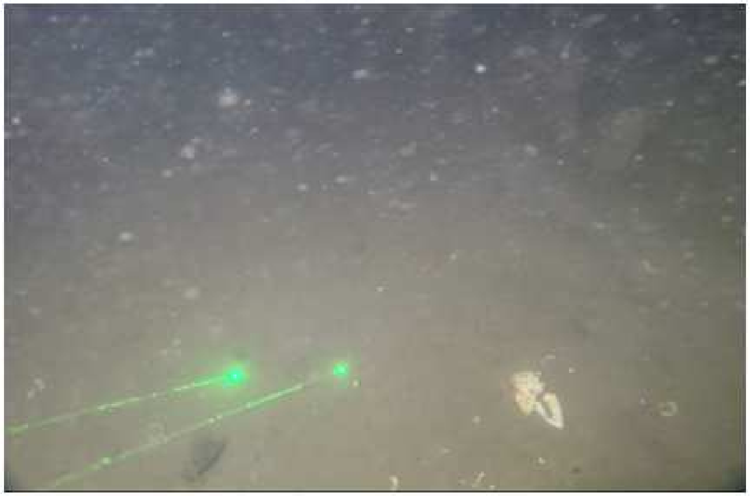
Sample ID:	M0169
Date/Time (EST):	09/13/17 07:11
Depth (real-time, m):	56.2
Easting (WGS84 UTM Zone 19N, m):	456066
Northing (WGS84 UTM Zone 19N, m):	4845462

Maine Coastal Mapping Initiative

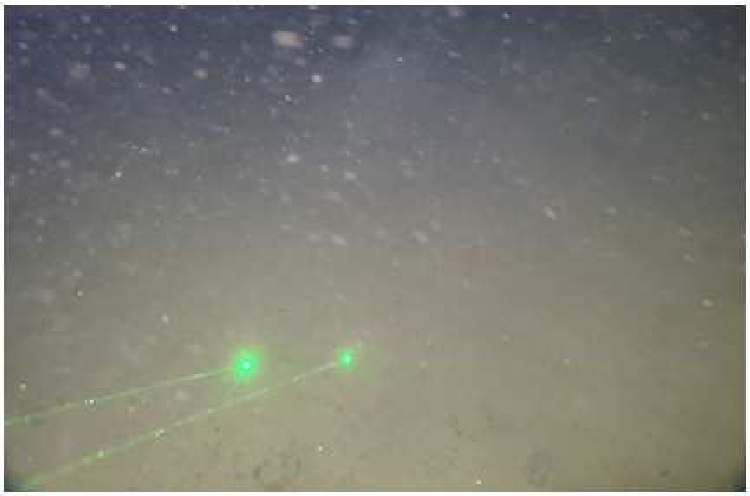
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

Sample ID:	M0170
Date/Time (EST):	09/13/17 07:34
Depth (real-time, m):	58.4
Easting (WGS84 UTM Zone 19N, m):	455911
Northing (WGS84 UTM Zone 19N, m):	4845218

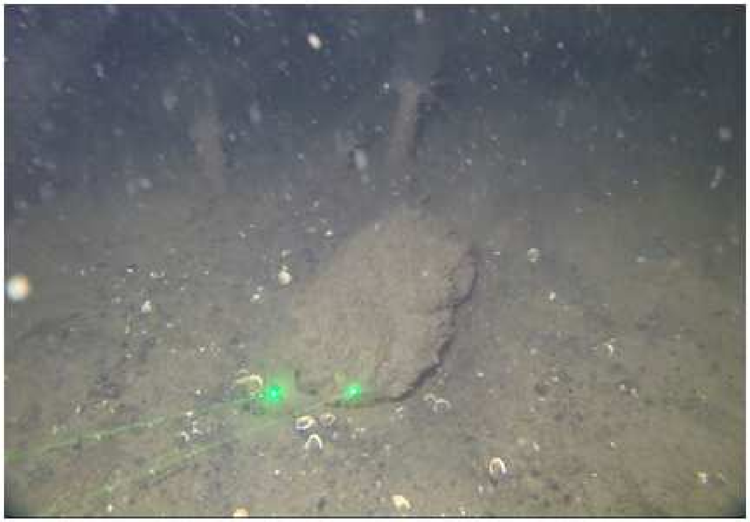
Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

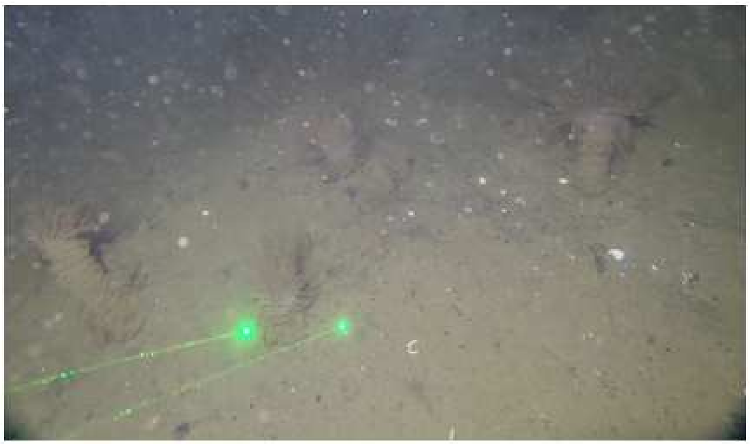
	Sample ID:	M0171
	Date/Time (EST):	09/13/17 07:58
	Depth (real-time, m):	64.4
	Easting (WGS84 UTM Zone 19N, m):	456204
	Northing (WGS84 UTM Zone 19N, m):	4843228

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

	Sample ID:	M0172
	Date/Time (EST):	09/13/17 08:22
	Depth (real-time, m):	67.6
	Easting (WGS84 UTM Zone 19N, m):	456394
	Northing (WGS84 UTM Zone 19N, m):	4842761

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

Sample ID:	M0173
Date/Time (EST):	09/13/17 08:45
Depth (real-time, m):	62.3
Easting (WGS84 UTM Zone 19N, m):	456314
Northing (WGS84 UTM Zone 19N, m):	4841584

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

Sample ID:	M0174
Date/Time (EST):	09/13/17 09:06
Depth (real-time, m):	68.4
Easting (WGS84 UTM Zone 19N, m):	456176
Northing (WGS84 UTM Zone 19N, m):	4841485

Maine DMR Marine Resources · Maine Coastal Program · MCMI Maine Coastal Mapping Initiative

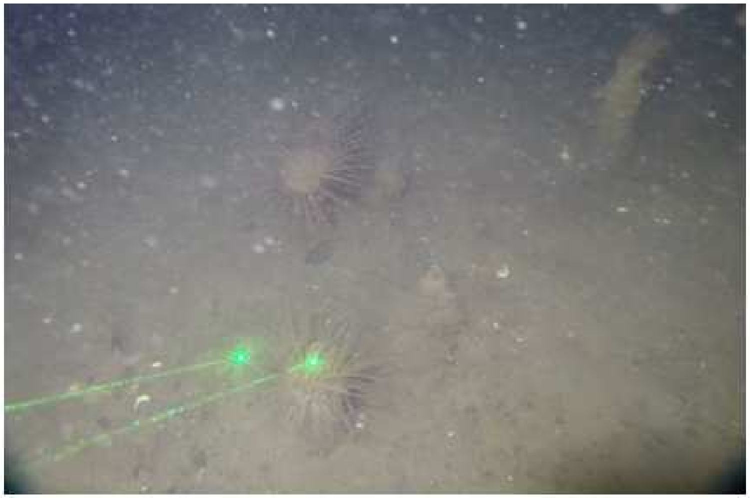
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** subangular-subround cobbles and boulders	

Maine DMR Marine Resources; Maine Coastal Program; MCMI Maine Coastal Mapping Initiative	Sample ID:	M0175
	Date/Time (EST):	09/13/17 09:37
	Depth (real-time, m):	52.9
	Easting (WGS84 UTM Zone 19N, m):	456302
	Northing (WGS84 UTM Zone 19N, m):	4841062

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

Sample ID:	M0176
Date/Time (EST):	09/13/17 09:59
Depth (real-time, m):	64.1
Easting (WGS84 UTM Zone 19N, m):	456369
Northing (WGS84 UTM Zone 19N, m):	4841317

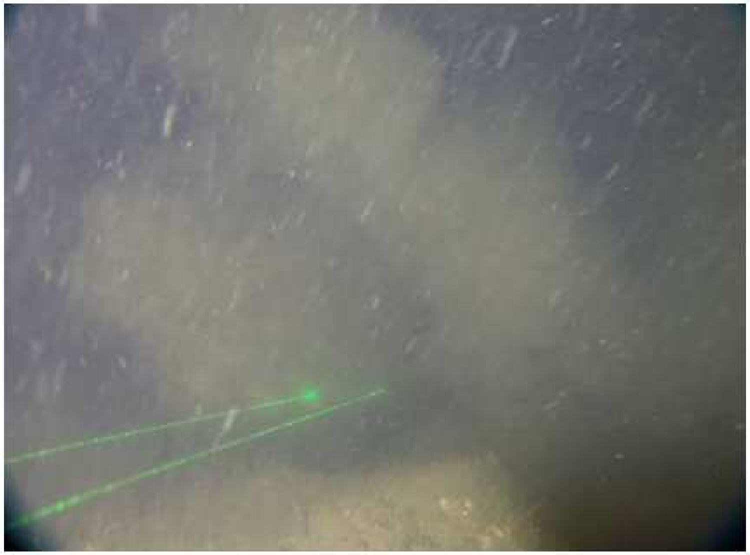
Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

MCMI Maine Coastal Mapping Initiative	Sample ID:	M0177
	Date/Time (EST):	09/13/17 10:26
	Depth (real-time, m):	64.5
	Easting (WGS84 UTM Zone 19N, m):	456158
	Northing (WGS84 UTM Zone 19N, m):	4841141

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock / rocky	**NO SAMPLE RECOVERED**
Sample ID:	M0178
Date/Time (EST):	09/13/17 11:00
Depth (real-time, m):	29.3
Easting (WGS84 UTM Zone 19N, m):	458655
Northing (WGS84 UTM Zone 19N, m):	4846312

Maine Coastal Mapping Initiative

<table>
<tr><th>Still Image from Video</th><th>Field Picture</th></tr>
<tr><td>
Laser spacing = 10 cm

Substrate Type: bedrock / rocky</td><td>NO SAMPLE RECOVERED</td></tr>
</table>

Sample ID:	M0179
Date/Time (EST):	09/13/17 11:16
Depth (real-time, m):	71.2
Easting (WGS84 UTM Zone 19N, m):	463520
Northing (WGS84 UTM Zone 19N, m):	4844129

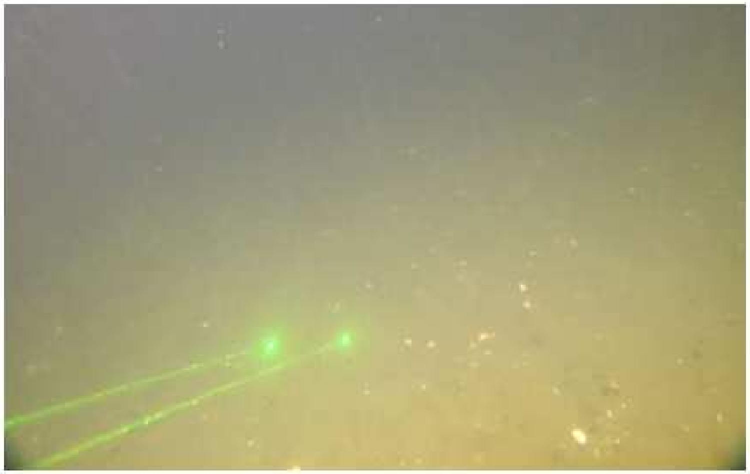
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock / rocky	**NO SAMPLE RECOVERED**
Sample ID:	M0180
Date/Time (EST):	09/13/17 11:32
Depth (real-time, m):	20.2
Easting (WGS84 UTM Zone 19N, m):	464873
Northing (WGS84 UTM Zone 19N, m):	4847220

MCMI Maine Coastal Mapping Initiative

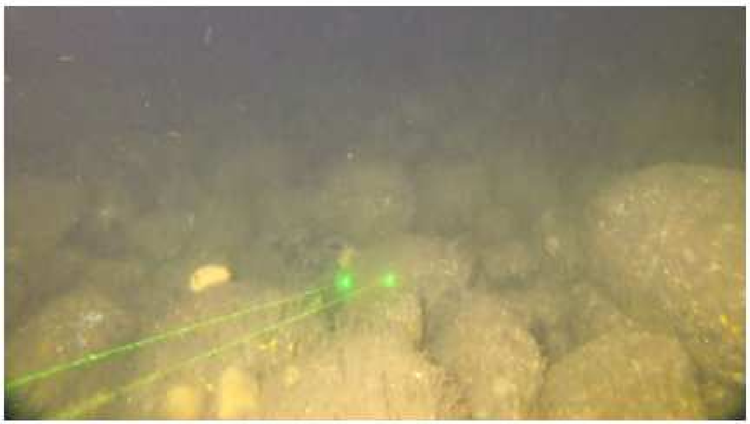
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** bedrock / rocky	**NO SAMPLE RECOVERED**

Sample ID:	M0181
Date/Time (EST):	09/13/17 11:45
Depth (real-time, m):	35.5
Easting (WGS84 UTM Zone 19N, m):	462566
Northing (WGS84 UTM Zone 19N, m):	4849087

MCMI Maine Coastal Mapping Initiative

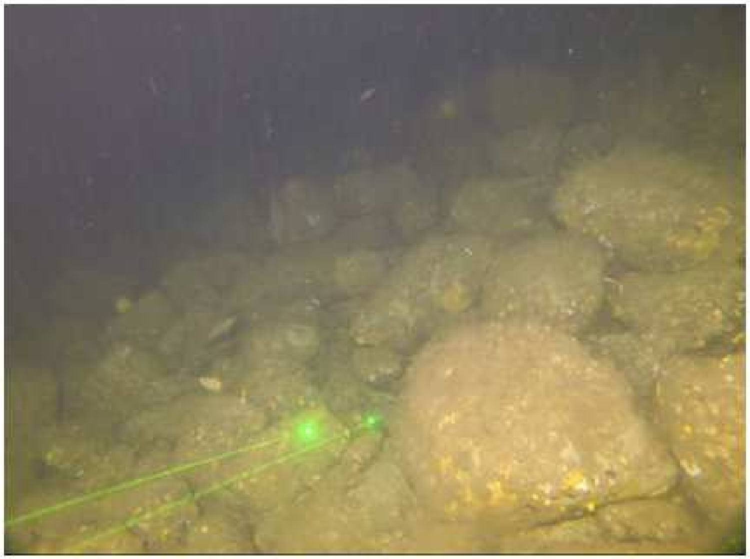
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	
Sample ID:	M0182
Date/Time (EST):	10/02/17 6:54
Depth (real-time, m):	48.8
Easting (WGS84 UTM Zone 19N, m):	458482
Northing (WGS84 UTM Zone 19N, m):	4851426

MAINE DMR MARINE RESOURCES
MAINE COASTAL PROGRAM
MCMI Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** rocky / boulders	**NO SAMPLE RECOVERED**

	Sample ID:	M0183
	Date/Time (EST):	10/02/17 7:10
	Depth (real-time, m):	35.1
	Easting (WGS84 UTM Zone 19N, m):	458612
	Northing (WGS84 UTM Zone 19N, m):	4851197

Still Image from Video



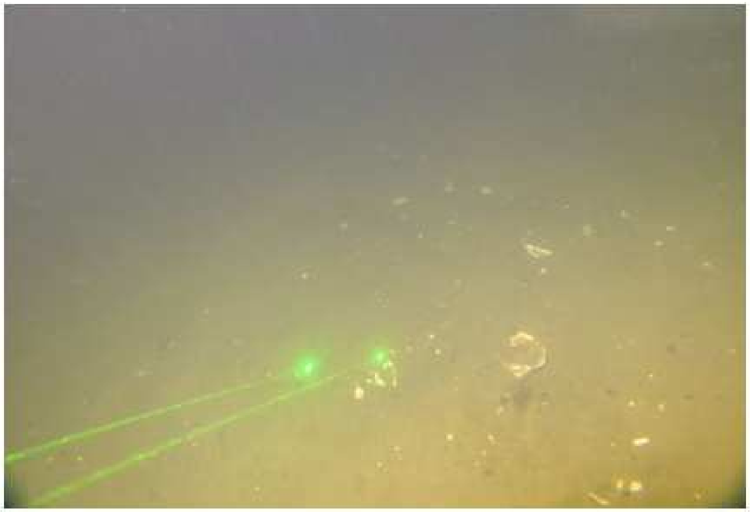
Laser spacing = 10 cm

Substrate Type: rocky / boulders

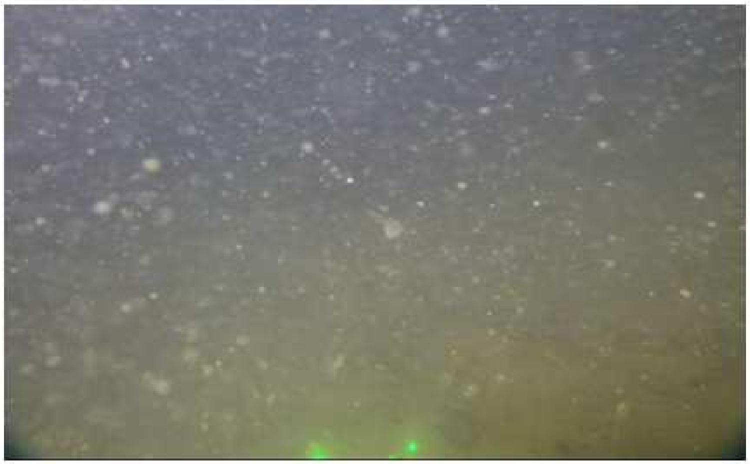
Field Picture

NO SAMPLE RECOVERED

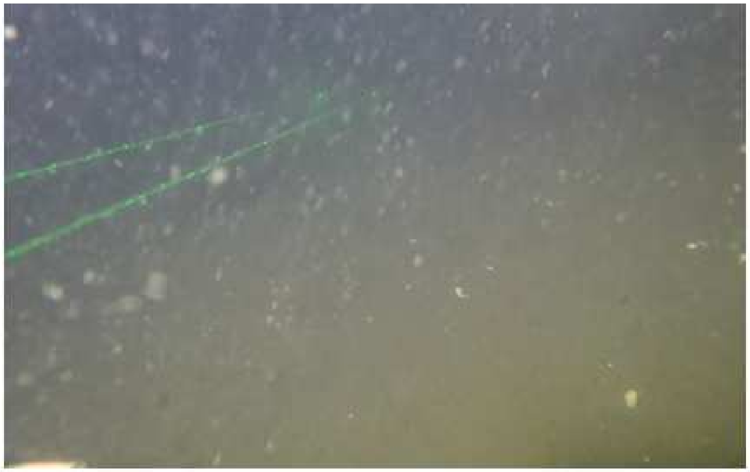
Sample ID:	M0184
Date/Time (EST):	10/02/17 7:25
Depth (real-time, m):	36.8
Easting (WGS84 UTM Zone 19N, m):	458682
Northing (WGS84 UTM Zone 19N, m):	4851265

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	
Sample ID:	M0185
Date/Time (EST):	10/02/17 7:38
Depth (real-time, m):	48.8
Easting (WGS84 UTM Zone 19N, m):	458410
Northing (WGS84 UTM Zone 19N, m):	4851184

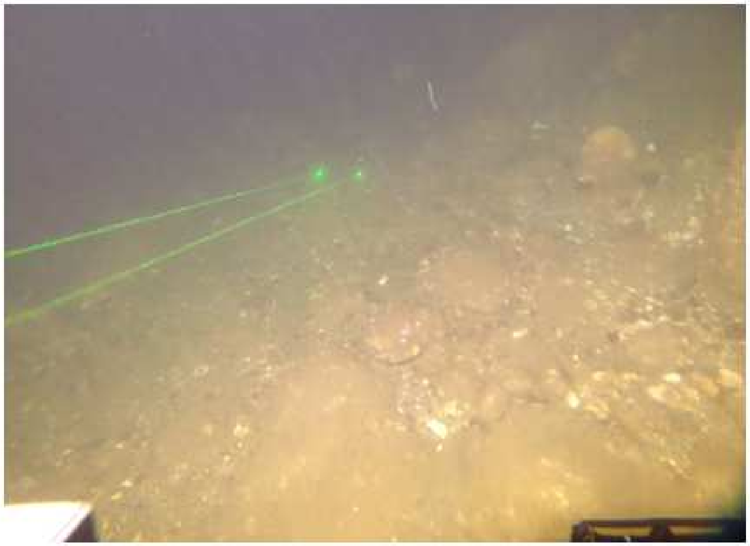
Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

Maine DMR Marine Resources; Maine Coastal Program; MCMI Maine Coastal Mapping Initiative	Sample ID:	M0186
	Date/Time (EST):	10/02/17 7:59
	Depth (real-time, m):	49.5
	Easting (WGS84 UTM Zone 19N, m):	457691
	Northing (WGS84 UTM Zone 19N, m):	4850849

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

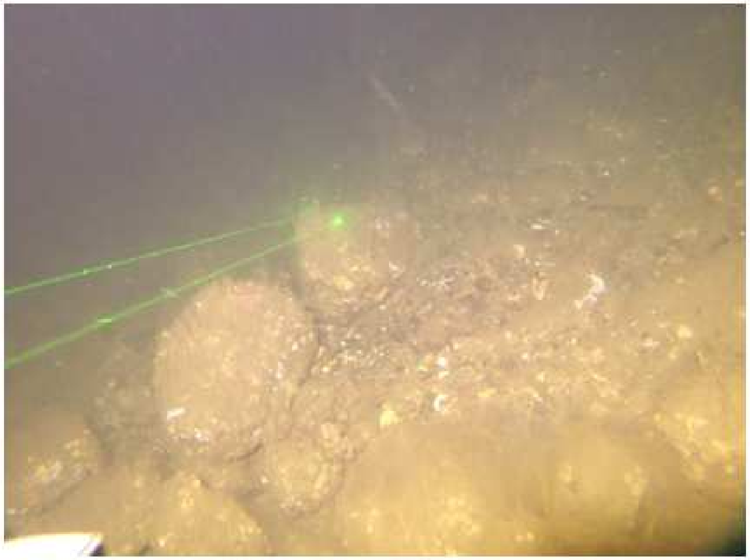
	Sample ID:	M0187
	Date/Time (EST):	10/02/17 8:18
	Depth (real-time, m):	53.6
	Easting (WGS84 UTM Zone 19N, m):	457612
	Northing (WGS84 UTM Zone 19N, m):	4850635

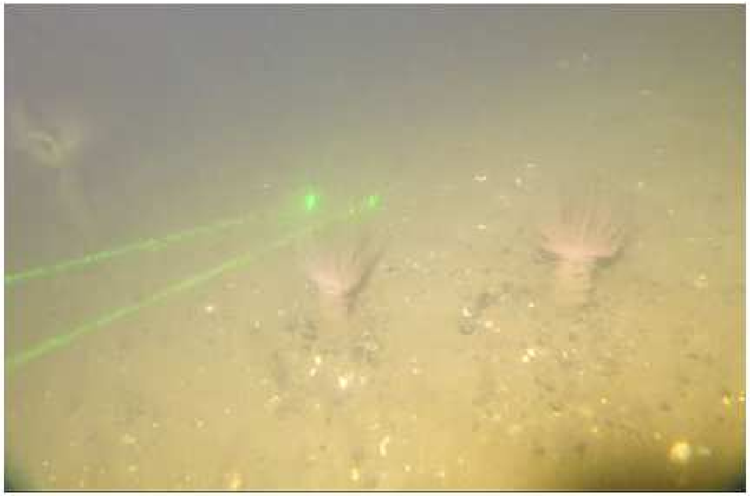
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

Sample ID:	M0188
Date/Time (EST):	10/02/17 8:37
Depth (real-time, m):	43.0
Easting (WGS84 UTM Zone 19N, m):	457073
Northing (WGS84 UTM Zone 19N, m):	4849817

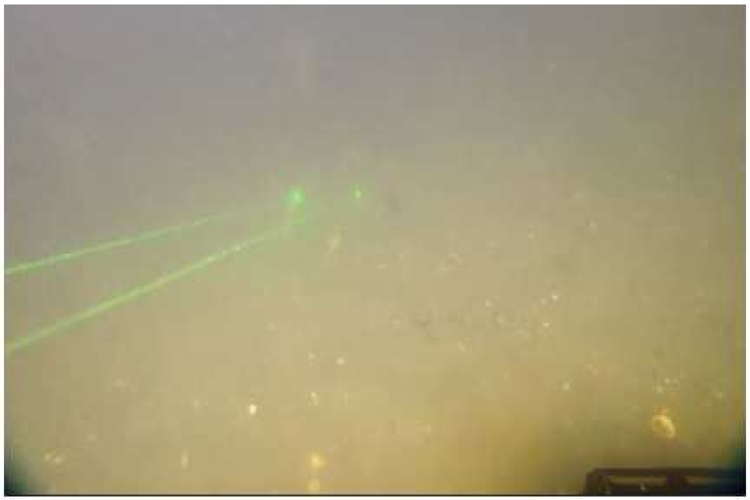
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	
Sample ID:	M0189
Date/Time (EST):	10/02/17 8:53
Depth (real-time, m):	39.4
Easting (WGS84 UTM Zone 19N, m):	457087
Northing (WGS84 UTM Zone 19N, m):	4849705

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** boulders / very coarse gravel	**NO SAMPLE RECOVERED**
Sample ID:	M0190
Date/Time (EST):	10/02/17 9:10
Depth (real-time, m):	43.2
Easting (WGS84 UTM Zone 19N, m):	457068
Northing (WGS84 UTM Zone 19N, m):	4849846

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	
Sample ID:	M0191
Date/Time (EST):	10/02/17 9:35
Depth (real-time, m):	50.6
Easting (WGS84 UTM Zone 19N, m):	456824
Northing (WGS84 UTM Zone 19N, m):	4849481

Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

Sample ID:	M0192
Date/Time (EST):	10/02/17 10:07
Depth (real-time, m):	48.1
Easting (WGS84 UTM Zone 19N, m):	456497
Northing (WGS84 UTM Zone 19N, m):	4848923

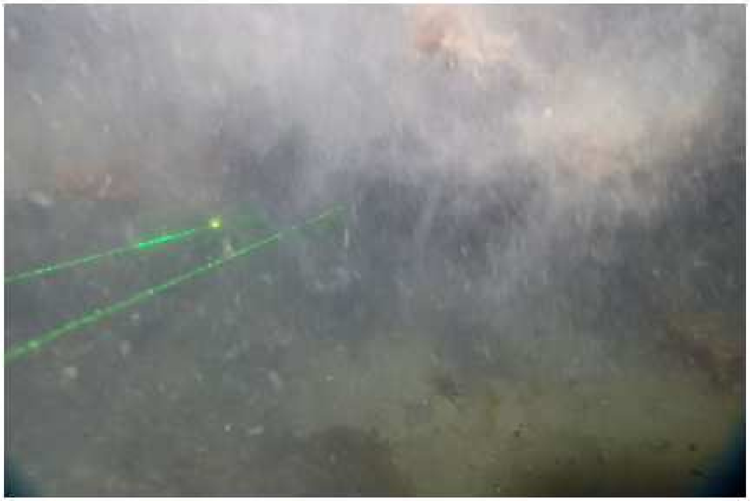
MAINE DMR MARINE RESOURCES
MAINE COASTAL PROGRAM
MCMI
Maine Coastal Mapping Initiative

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD;** sand-sized shell hash	

	Sample ID:	M0193
	Date/Time (EST):	10/02/17 10:39
	Depth (real-time, m):	21.3
	Easting (WGS84 UTM Zone 19N, m):	451126
	Northing (WGS84 UTM Zone 19N, m):	4846579

<table>
<tr><th colspan="2">Still Image from Video</th><th>Field Picture</th></tr>
<tr><td colspan="2">
Laser spacing = 10 cm

Substrate type: GSA results TBD</td><td></td></tr>
<tr><td rowspan="5">Maine Coastal Mapping Initiative</td><td>Sample ID:</td><td>M0194</td></tr>
<tr><td>Date/Time (EST):</td><td>10/02/17 10:51</td></tr>
<tr><td>Depth (real-time, m):</td><td>25.1</td></tr>
<tr><td>Easting (WGS84 UTM Zone 19N, m):</td><td>451193</td></tr>
<tr><td>Northing (WGS84 UTM Zone 19N, m):</td><td>4846582</td></tr>
</table>

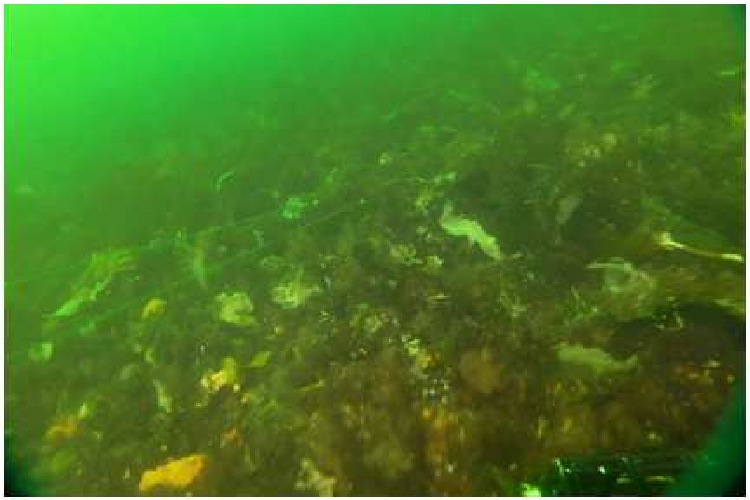
Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate type: GSA results TBD**	

Sample ID:	M0195
Date/Time (EST):	10/02/17 11:10
Depth (real-time, m):	42.9
Easting (WGS84 UTM Zone 19N, m):	450514
Northing (WGS84 UTM Zone 19N, m):	4847604

Maine Coastal Mapping Initiative

<table>
<tr><th colspan="2">Still Image from Video</th><th>Field Picture</th></tr>
<tr><td colspan="2">
Laser spacing = 10 cm

Substrate type: GSA results TBD; fine – medium (pebble-sized) shell hash</td><td></td></tr>
<tr><td rowspan="5">Maine DMR Marine Resources · Maine Coastal Program · MCMI Maine Coastal Mapping Initiative</td><td>Sample ID:</td><td>M0196</td></tr>
<tr><td>Date/Time (EST):</td><td>10/02/17 ~11:30</td></tr>
<tr><td>Depth (real-time, m):</td><td>15.9</td></tr>
<tr><td>Easting (WGS84 UTM Zone 19N, m):</td><td>447698</td></tr>
<tr><td>Northing (WGS84 UTM Zone 19N, m):</td><td>4847755</td></tr>
</table>

Still Image from Video	Field Picture
 Laser spacing = 10 cm **Substrate Type:** mussels and shell hash w/ aquatic vegetation	

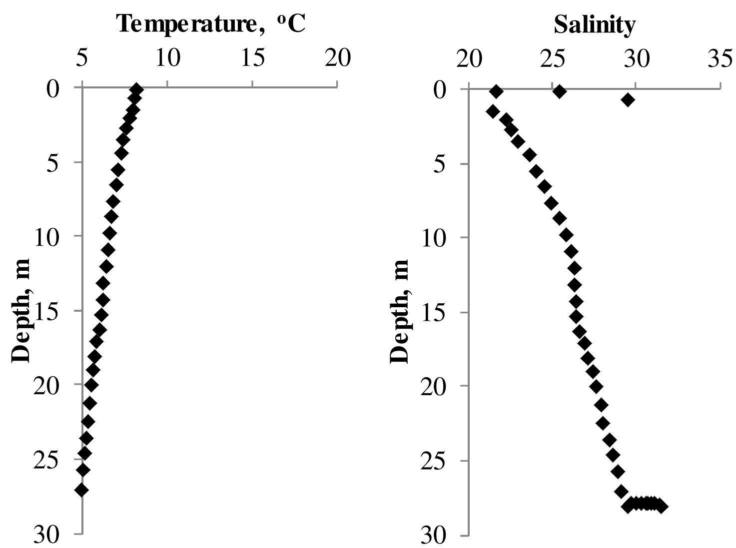
Sample ID:	M0197
Date/Time (EST):	10/02/17 11:52
Depth (real-time, m):	14.5
Easting (WGS84 UTM Zone 19N, m):	447370
Northing (WGS84 UTM Zone 19N, m):	4847781

Appendix C. Water column profiles

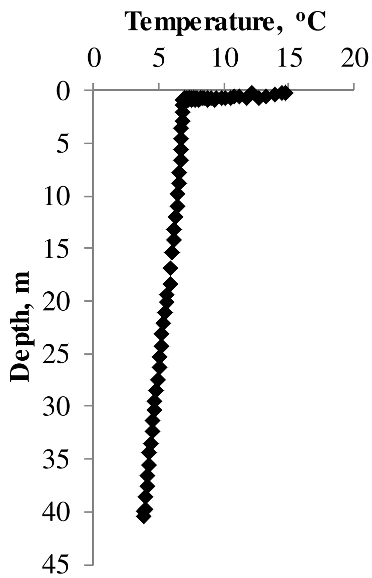
Water column profiles for temperature, salinity, pH, dissolved oxygen concentration and chlorophyll concentration from Digibar S (M0001-M0030) and Exo 1 data (M0031-M0197). Accuracy of equipment measurements are listed in the following table.

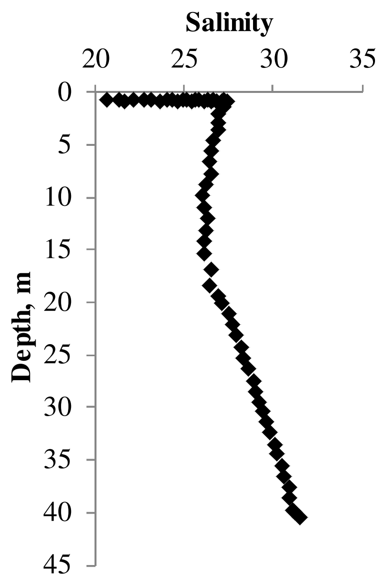
Measurement	Digibar S	Exo 1
Sound Velocity – m s^{-1}	±0.01	-
Temperature – °C	±0.10	±0.02
Salinity	-	±0.10
pH	-	±0.20
Dissolved Oxygen – mg L^{-1}	-	±0.10
Chlorophyll – µg L^{-1}	-	±0.01

M0001

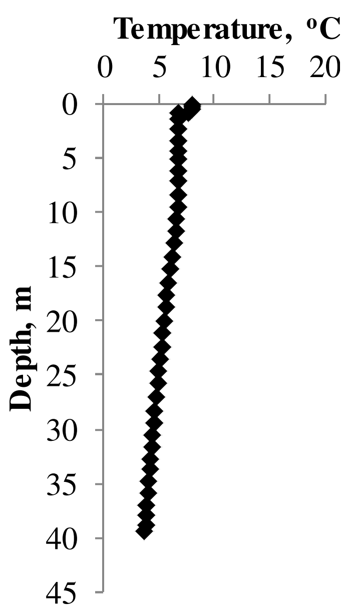


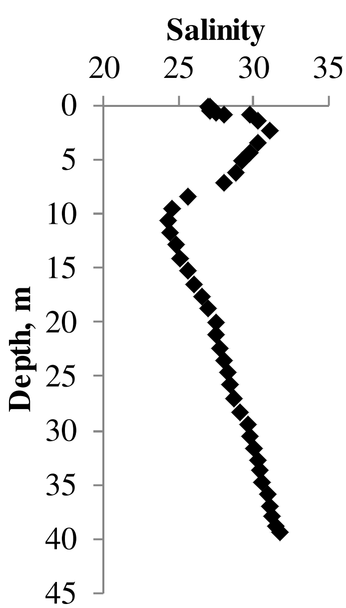
M0002


Temperature, °C
0
5
10
15
20
Depth, m
0
5
10
15
20
25
30
35
40
45

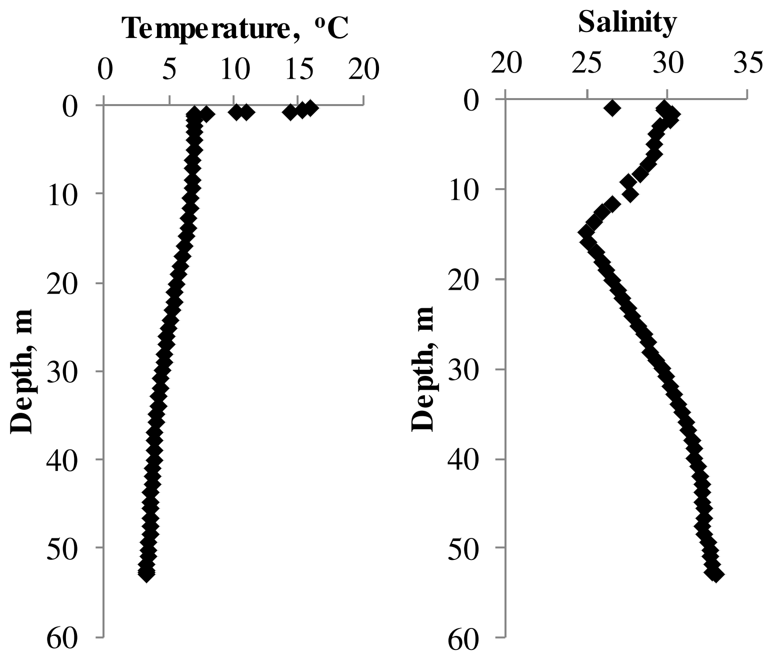

Salinity
20
25
30
35
Depth, m
0
5
10
15
20
25
30
35
40
45

M0003

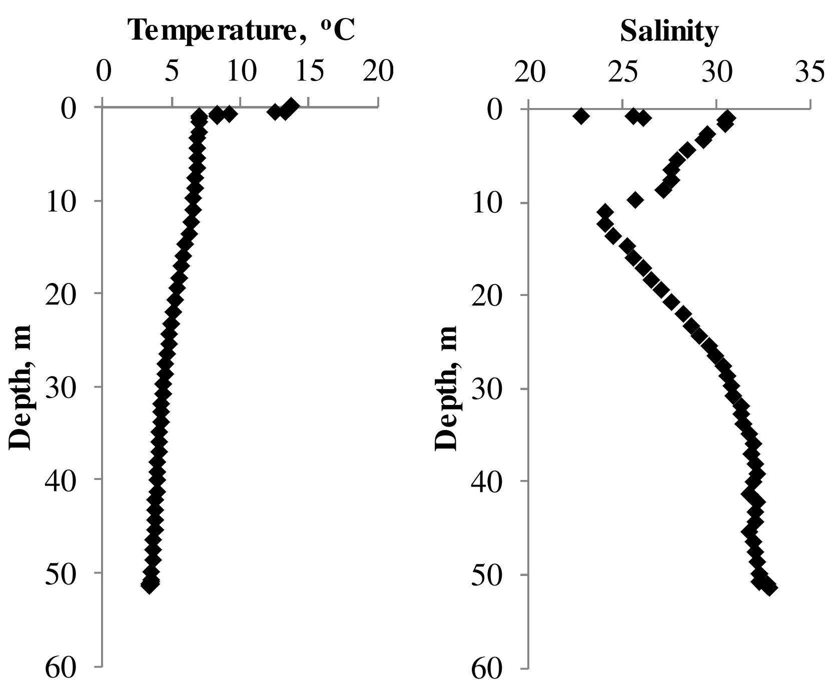

Temperature, °C
0
5
10
15
20
Depth, m
0
5
10
15
20
25
30
35
40
45


Salinity
20
25
30
35
Depth, m
0
5
10
15
20
25
30
35
40
45

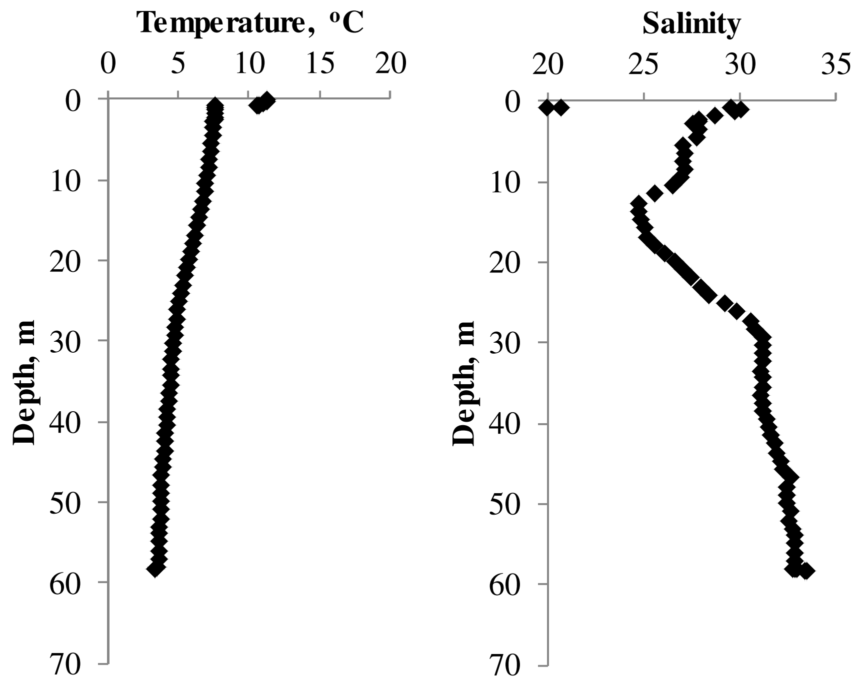
M0004


Temperature, °C
0 5 10 15 20
Depth, m
0 10 20 30 40 50 60
Salinity
20 25 30 35
Depth, m
0 10 20 30 40 50 60

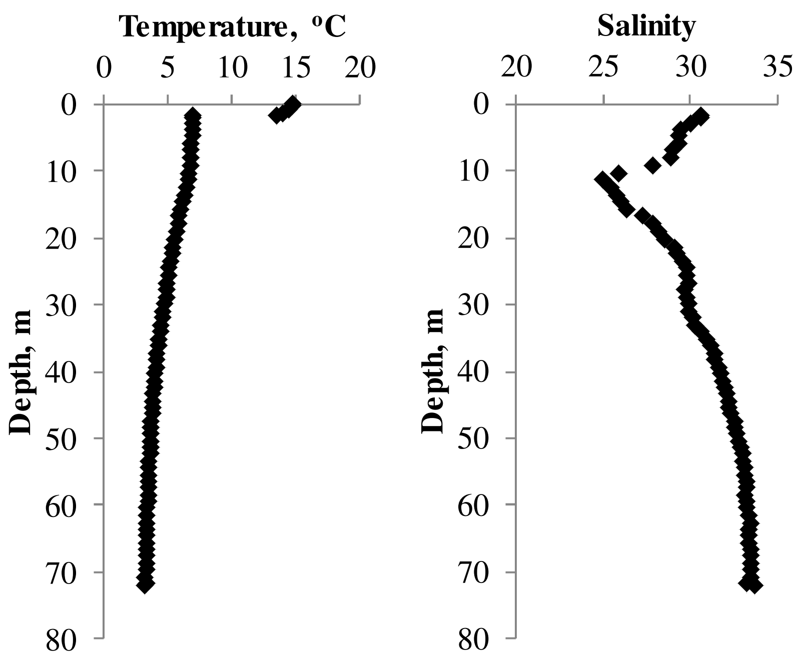
M0005


Temperature, °C
0 5 10 15 20
Depth, m
0 10 20 30 40 50 60
Salinity
20 25 30 35
Depth, m
0 10 20 30 40 50 60

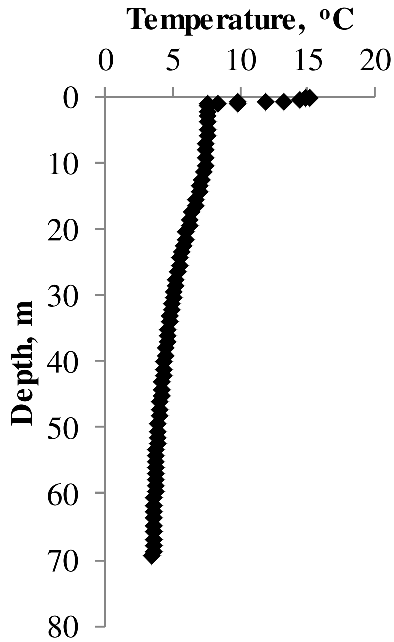
M0006

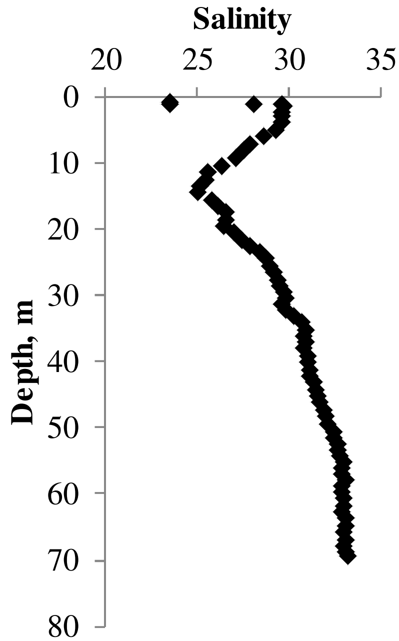

Temperature, °C
0 5 10 15 20
Salinity
20 25 30 35
Depth, m
0 10 20 30 40 50 60 70

M0007

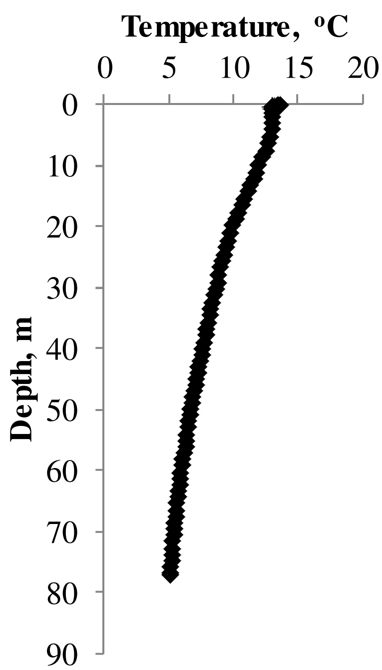

Temperature, °C
0 5 10 15 20
Salinity
20 25 30 35
Depth, m
0 10 20 30 40 50 60 70 80

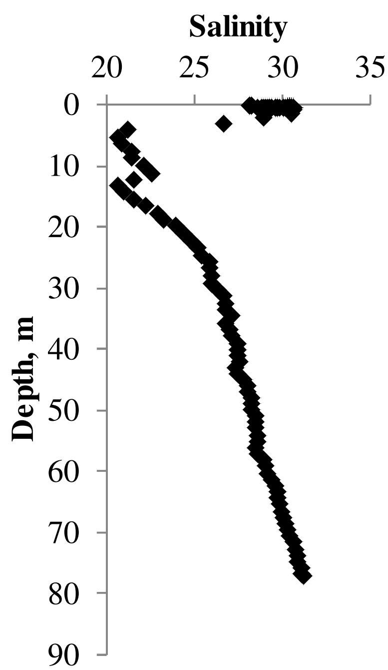
M0008


Temperature, °C
0 5 10 15 20
0 10 20 30 40 50 60 70 80
Depth, m

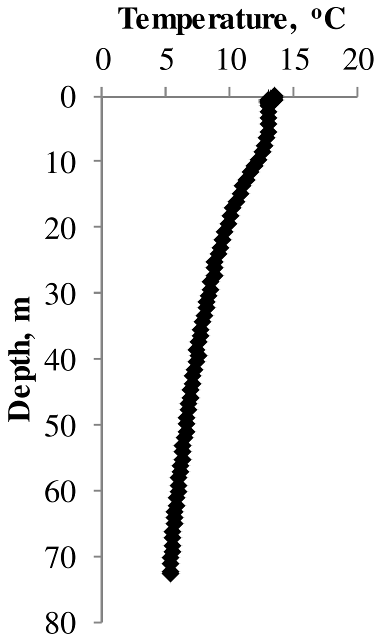

Salinity
20 25 30 35
0 10 20 30 40 50 60 70 80
Depth, m

M0009

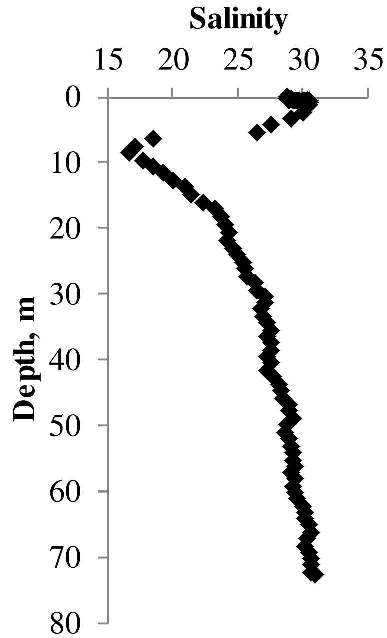

Temperature, °C
0 5 10 15 20
0 10 20 30 40 50 60 70 80 90
Depth, m


Salinity
20 25 30 35
0 10 20 30 40 50 60 70 80 90
Depth, m

M0010

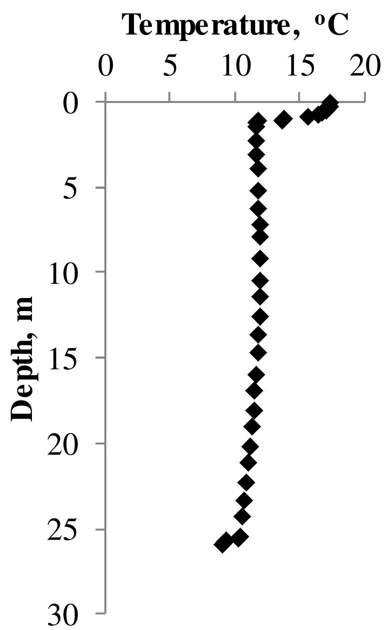


Temperature, °C
0 5 10 15 20
Depth, m
0 10 20 30 40 50 60 70 80

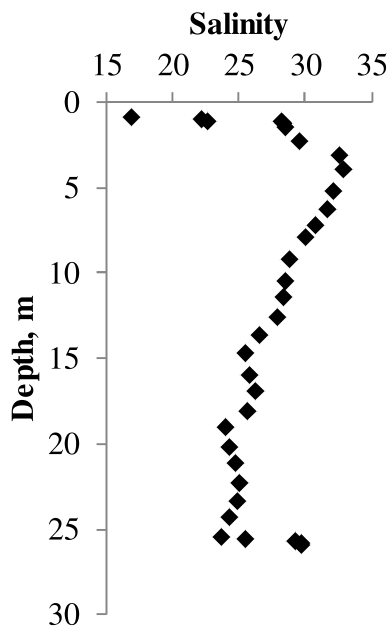


Salinity
15 20 25 30 35
Depth, m
0 10 20 30 40 50 60 70 80

M0011

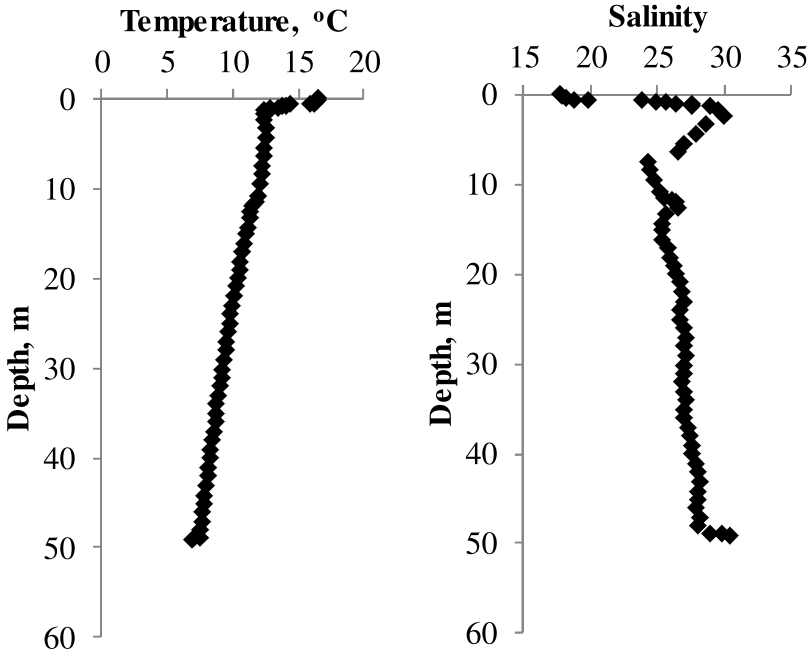


Temperature, °C
0 5 10 15 20
Depth, m
0 5 10 15 20 25 30

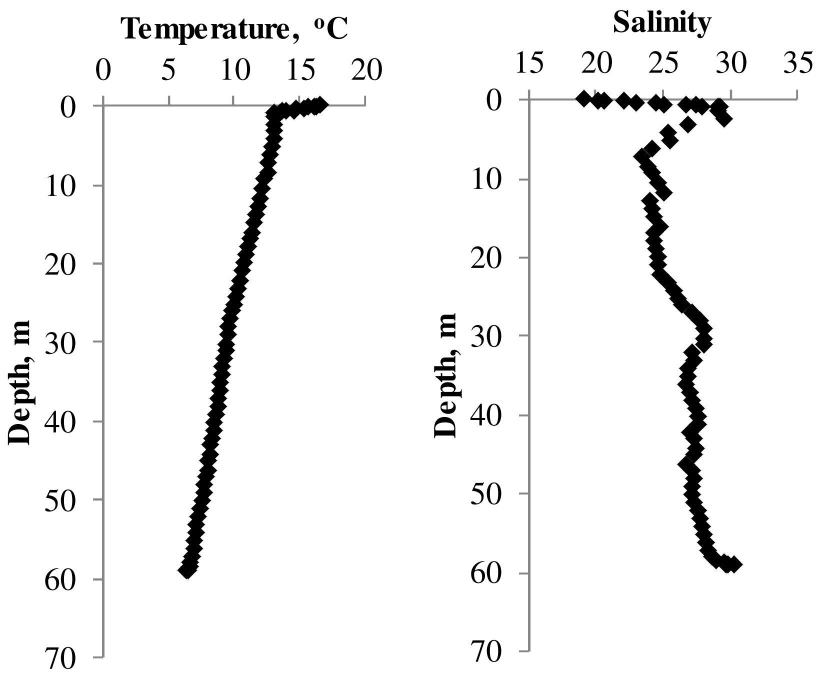


Salinity
15 20 25 30 35
Depth, m
0 5 10 15 20 25 30

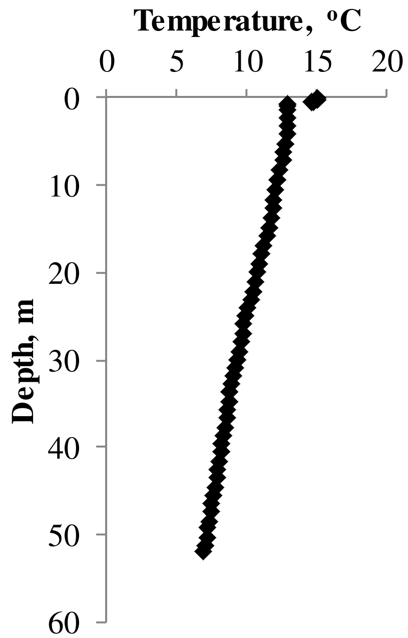
M0012

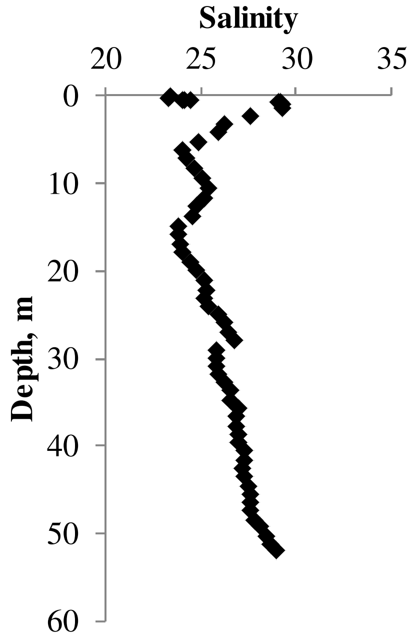

Temperature, °C
0
5
10
15
20
Depth, m
0
10
20
30
40
50
60
Salinity
15
20
25
30
35
Depth, m
0
10
20
30
40
50
60

M0013

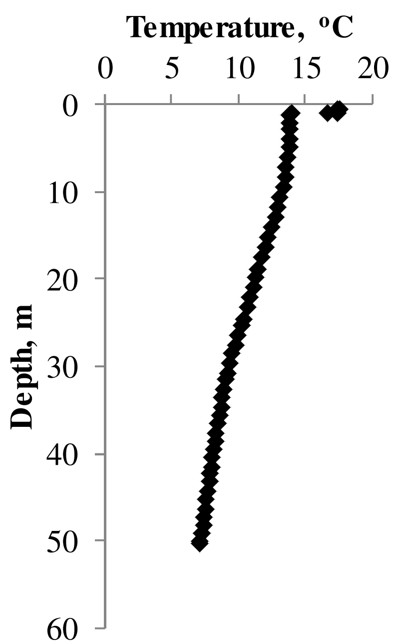

Temperature, °C
0
5
10
15
20
Depth, m
0
10
20
30
40
50
60
70
Salinity
15
20
25
30
35
Depth, m
0
10
20
30
40
50
60
70

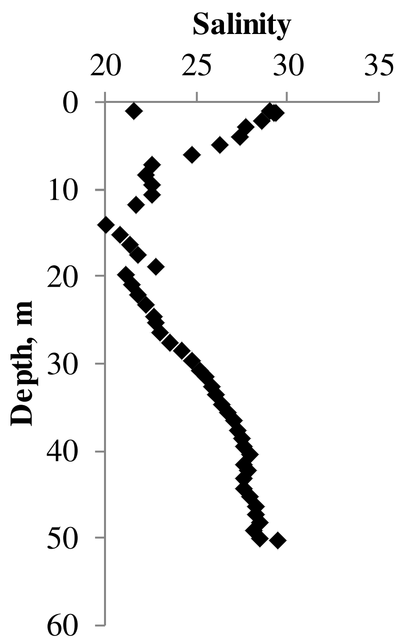
M0014


Temperature, °C
0 5 10 15 20
Depth, m
0 10 20 30 40 50 60

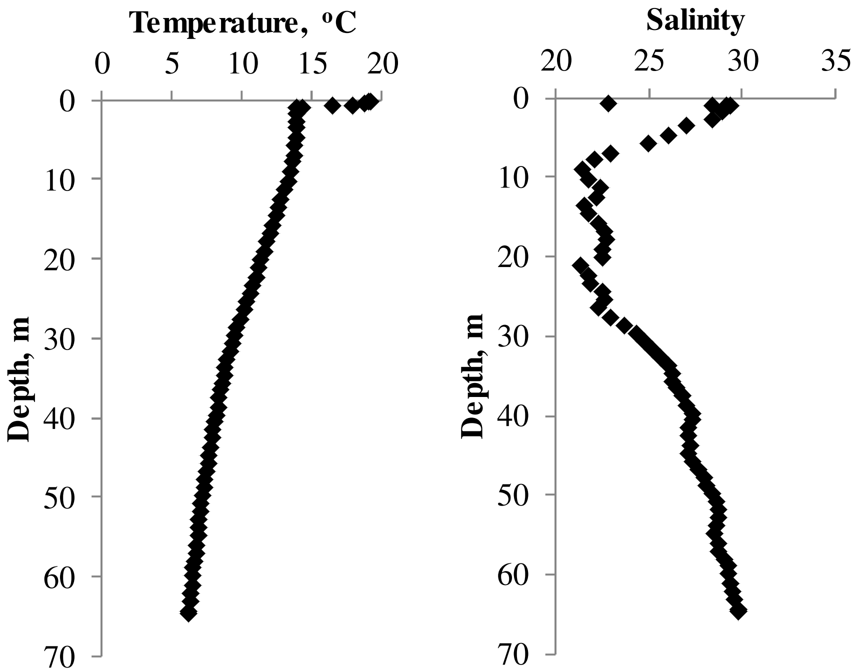

Salinity
20 25 30 35
Depth, m
0 10 20 30 40 50 60

M0015

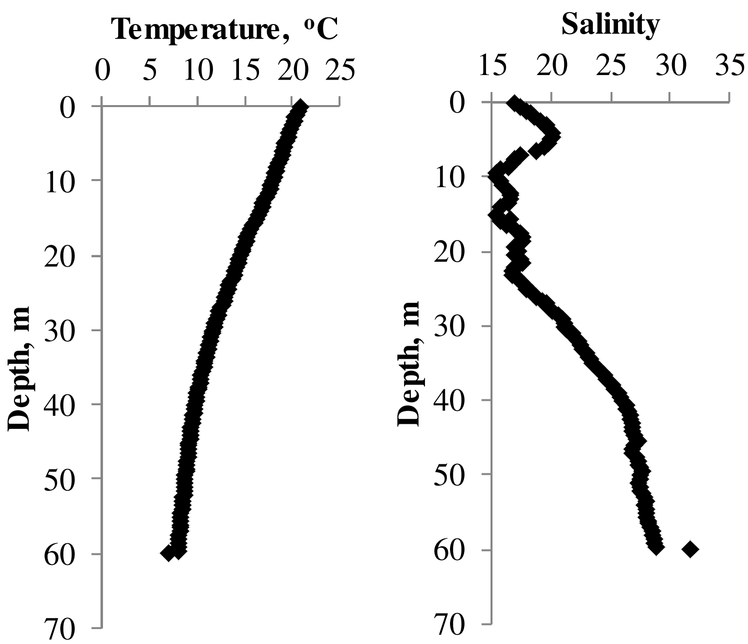

Temperature, °C
0 5 10 15 20
Depth, m
0 10 20 30 40 50 60


Salinity
20 25 30 35
Depth, m
0 10 20 30 40 50 60

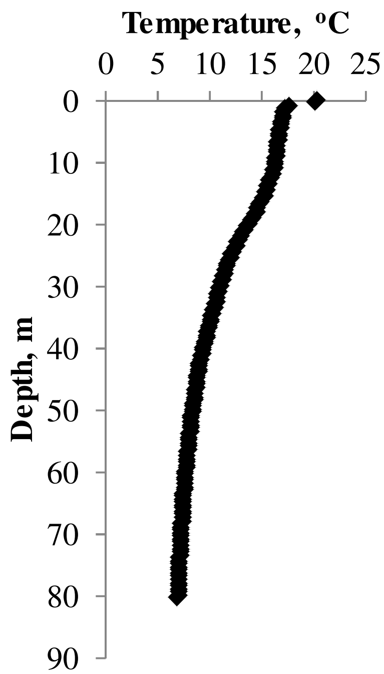
M0016

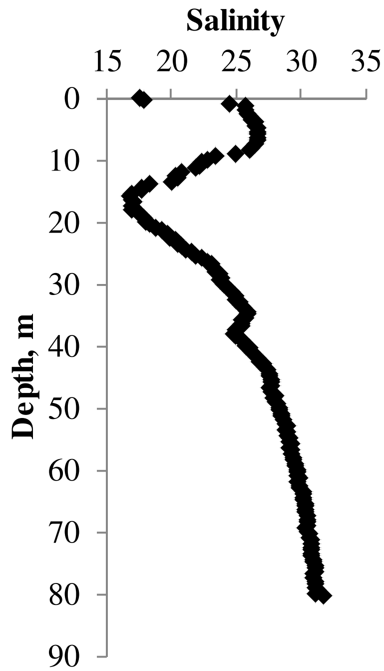

Temperature, °C
0 5 10 15 20
Salinity
20 25 30 35
Depth, m
0 10 20 30 40 50 60 70
Depth, m
0 10 20 30 40 50 60 70

M0017

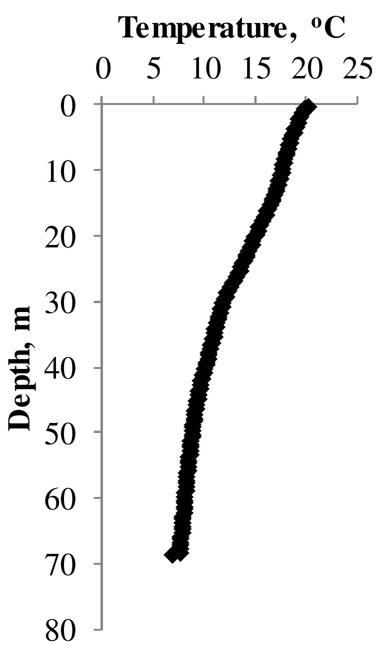

Temperature, °C
0 5 10 15 20 25
Salinity
15 20 25 30 35
Depth, m
0 10 20 30 40 50 60 70
Depth, m
0 10 20 30 40 50 60 70

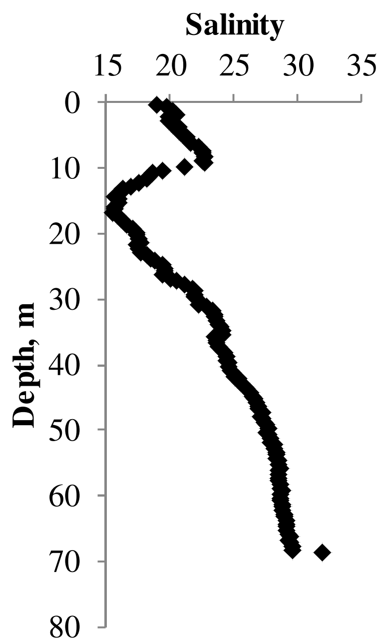
M0018


Temperature, °C
0 5 10 15 20 25
Depth, m
0 10 20 30 40 50 60 70 80 90

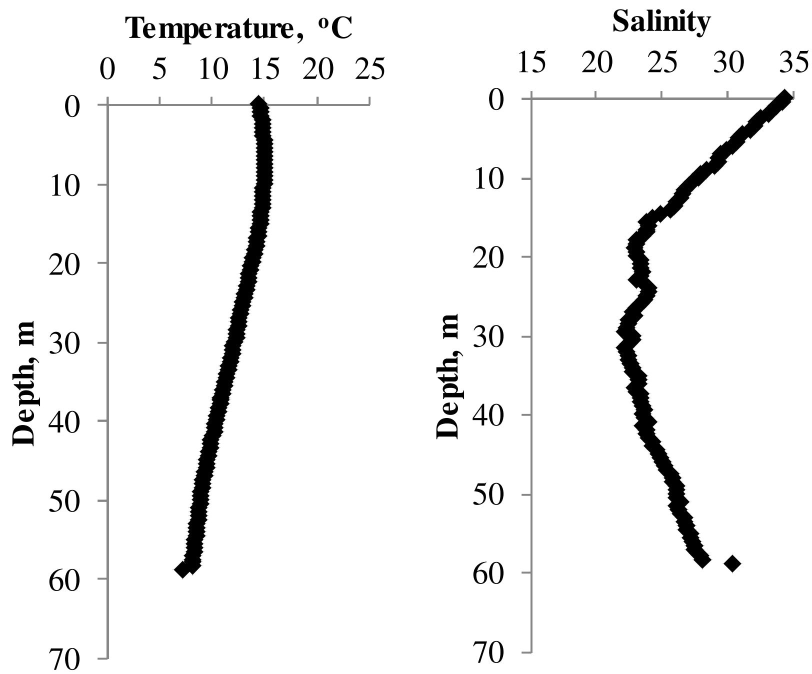

Salinity
15 20 25 30 35
Depth, m
0 10 20 30 40 50 60 70 80 90

M0019

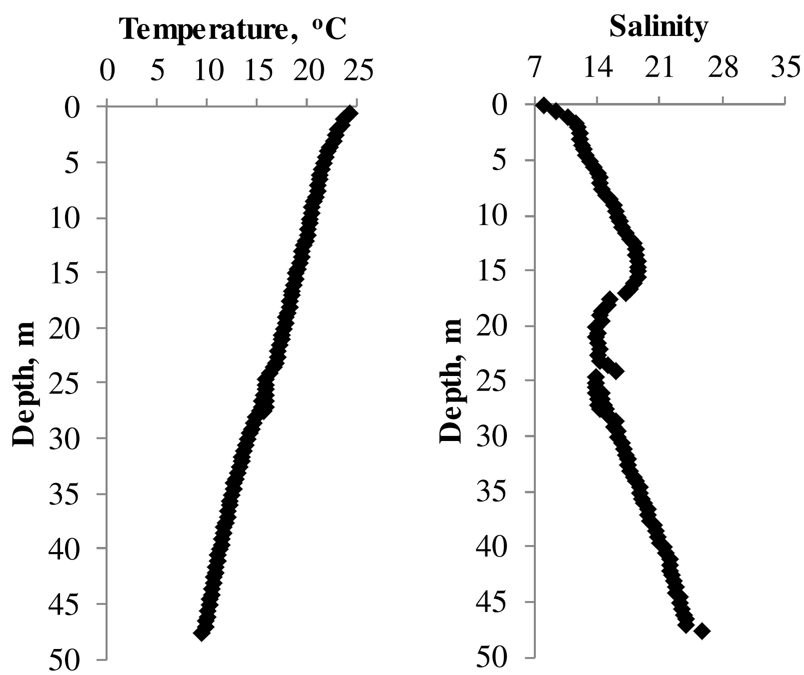

Temperature, °C
0 5 10 15 20 25
Depth, m
0 10 20 30 40 50 60 70 80


Salinity
15 20 25 30 35
Depth, m
0 10 20 30 40 50 60 70 80

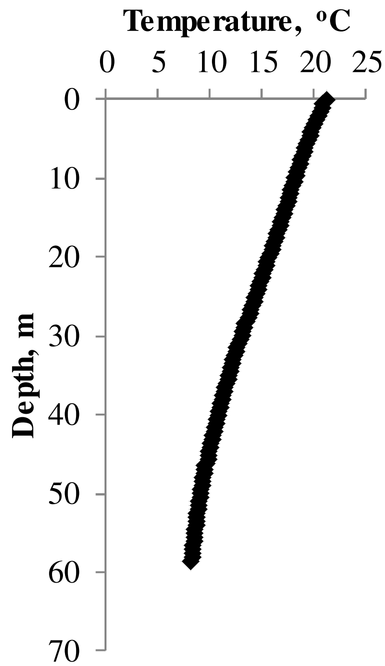
M0020


Temperature, ^{o}C
0 5 10 15 20 25
Depth, m
0 10 20 30 40 50 60 70
Salinity
15 20 25 30 35
Depth, m
0 10 20 30 40 50 60 70

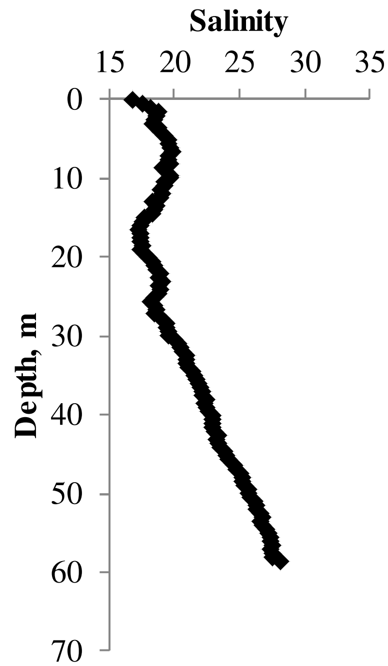
M0021


Temperature, ^{o}C
0 5 10 15 20 25
Depth, m
0 5 10 15 20 25 30 35 40 45 50
Salinity
7 14 21 28 35
Depth, m
0 5 10 15 20 25 30 35 40 45 50

M0022

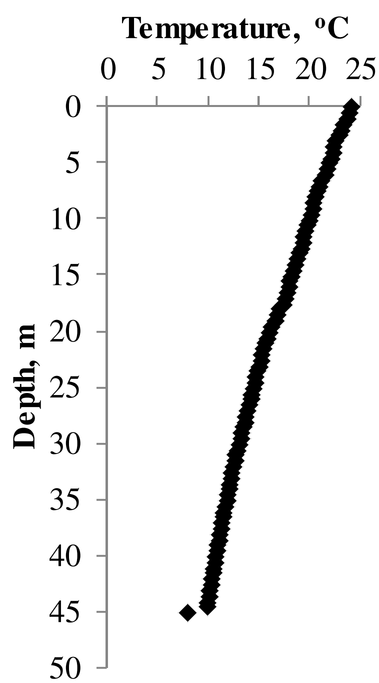


Temperature, °C
0 5 10 15 20 25
0 10 20 30 40 50 60 70
Depth, m

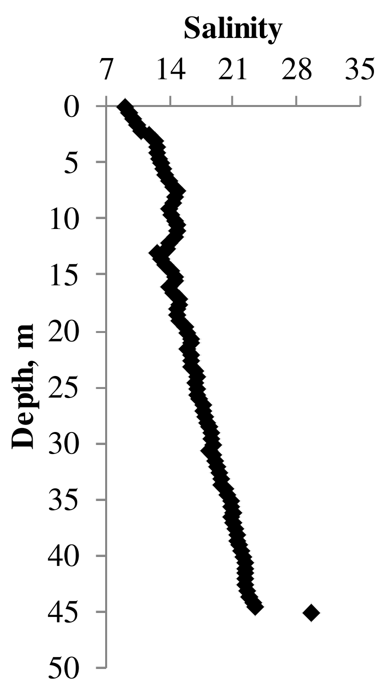


Salinity
15 20 25 30 35
0 10 20 30 40 50 60 70
Depth, m

M0023

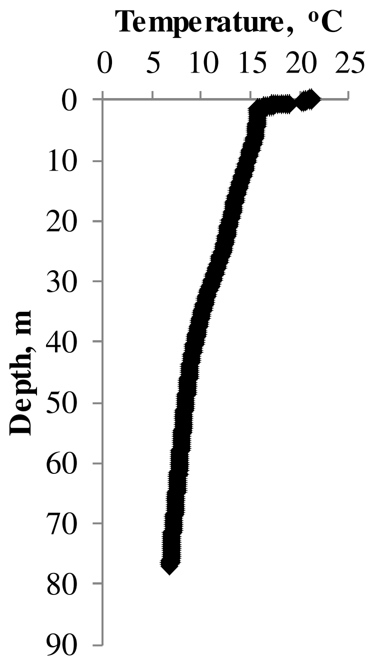


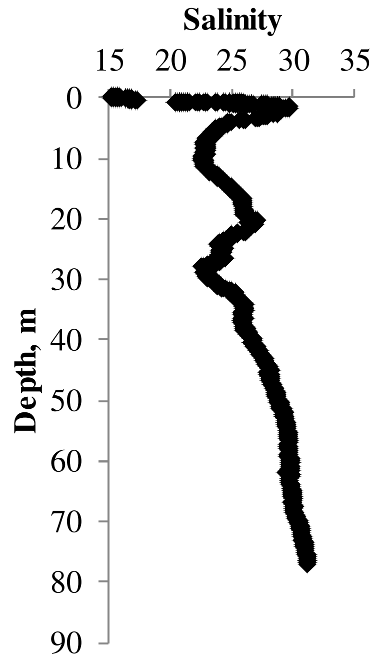
Temperature, °C
0 5 10 15 20 25
0 5 10 15 20 25 30 35 40 45 50
Depth, m



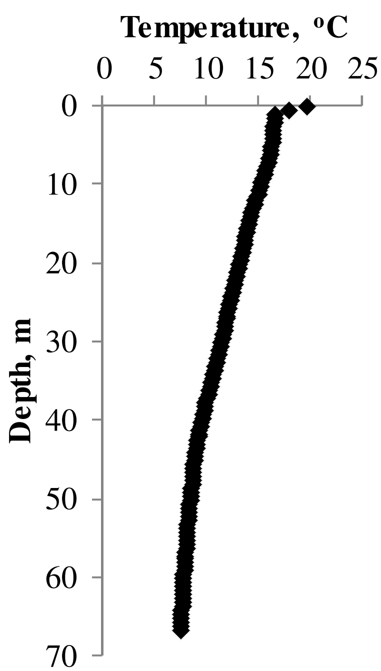
Salinity
7 14 21 28 35
0 5 10 15 20 25 30 35 40 45 50
Depth, m

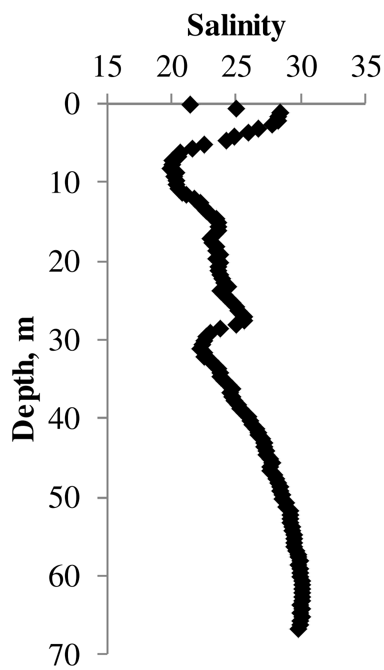
M0024


Temperature, °C
0
5
10
15
20
25
Depth, m
0
10
20
30
40
50
60
70
80
90

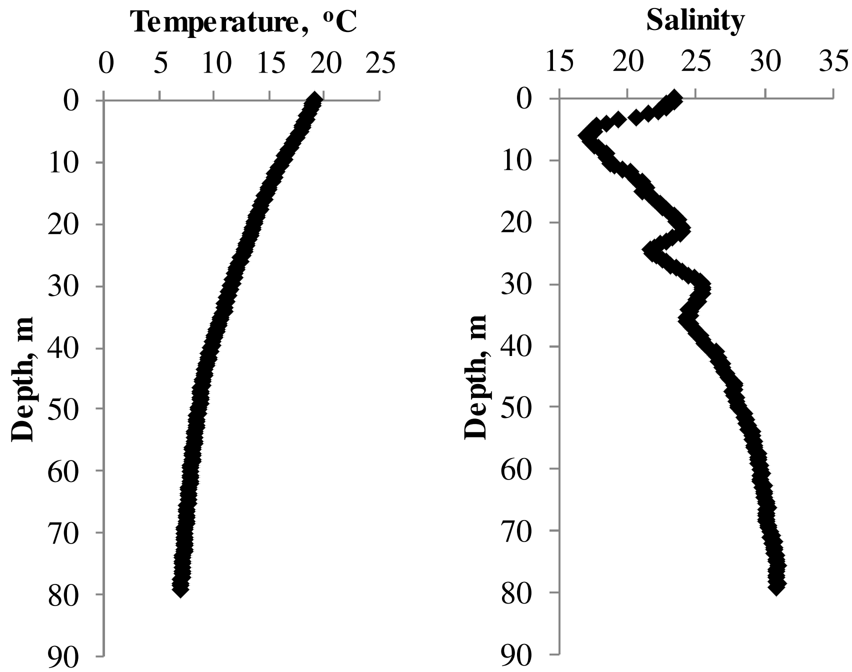

Salinity
15
20
25
30
35
Depth, m
0
10
20
30
40
50
60
70
80
90

M0025


Temperature, °C
0
5
10
15
20
25
Depth, m
0
10
20
30
40
50
60
70

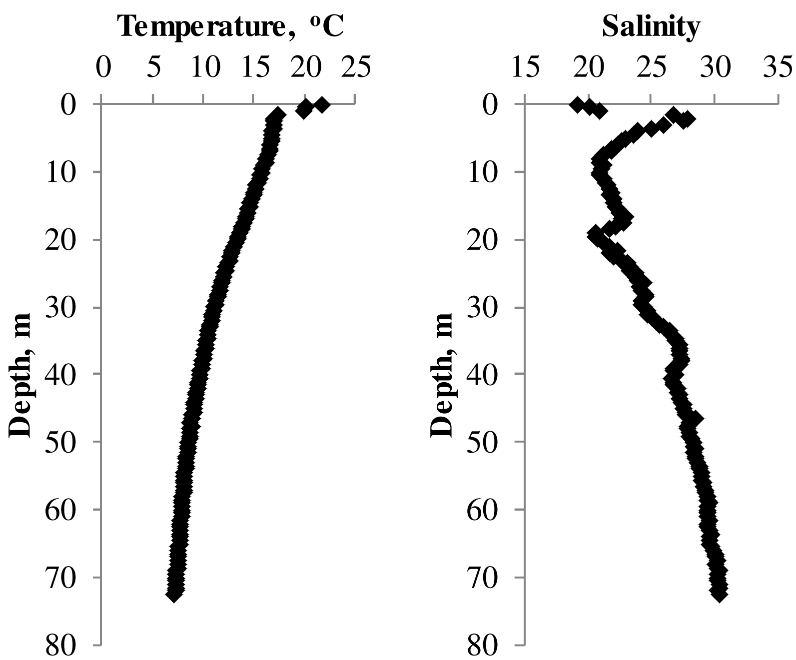

Salinity
15
20
25
30
35
Depth, m
0
10
20
30
40
50
60
70

M0026



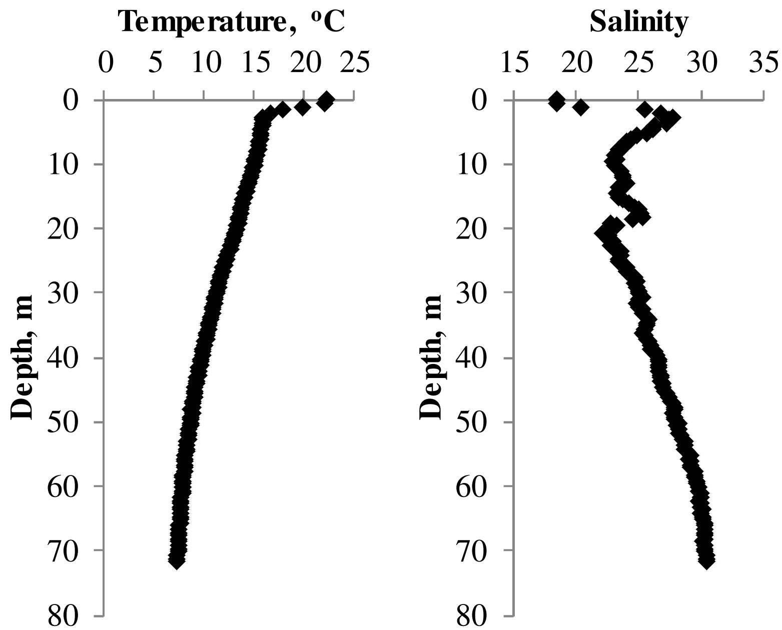
Temperature, °C
0 5 10 15 20 25
Depth, m
0 10 20 30 40 50 60 70 80 90
Salinity
15 20 25 30 35
Depth, m
0 10 20 30 40 50 60 70 80 90

M0027



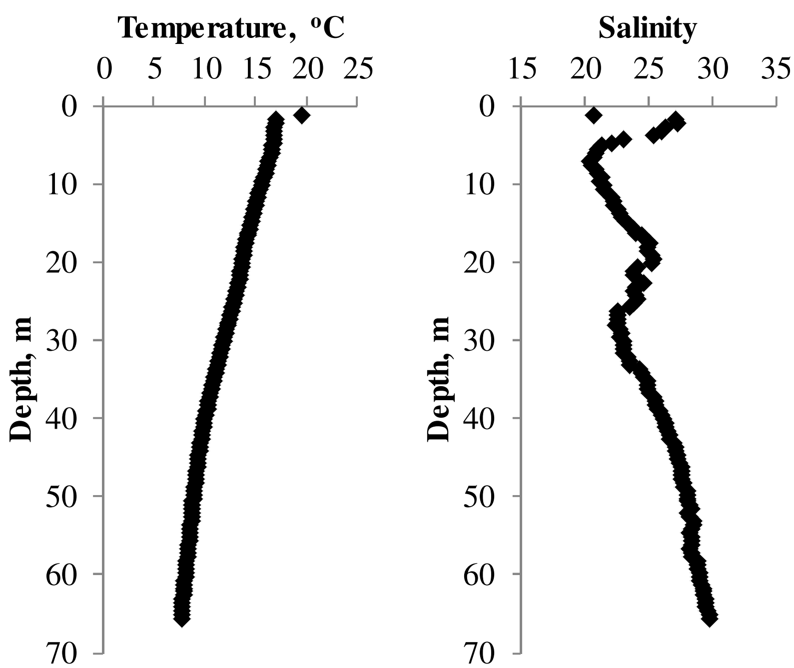
Temperature, °C
0 5 10 15 20 25
Depth, m
0 10 20 30 40 50 60 70 80
Salinity
15 20 25 30 35
Depth, m
0 10 20 30 40 50 60 70 80

M0028



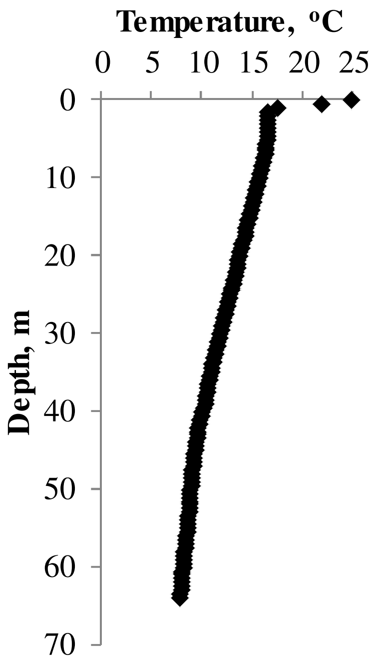
Temperature, °C
0 5 10 15 20 25
Depth, m
0 10 20 30 40 50 60 70 80
Salinity
15 20 25 30 35
Depth, m
0 10 20 30 40 50 60 70 80

M0029

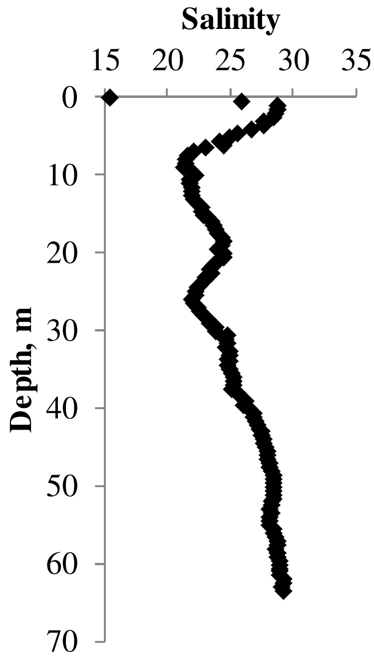


Temperature, °C
0 5 10 15 20 25
Depth, m
0 10 20 30 40 50 60 70
Salinity
15 20 25 30 35
Depth, m
0 10 20 30 40 50 60 70

M0030

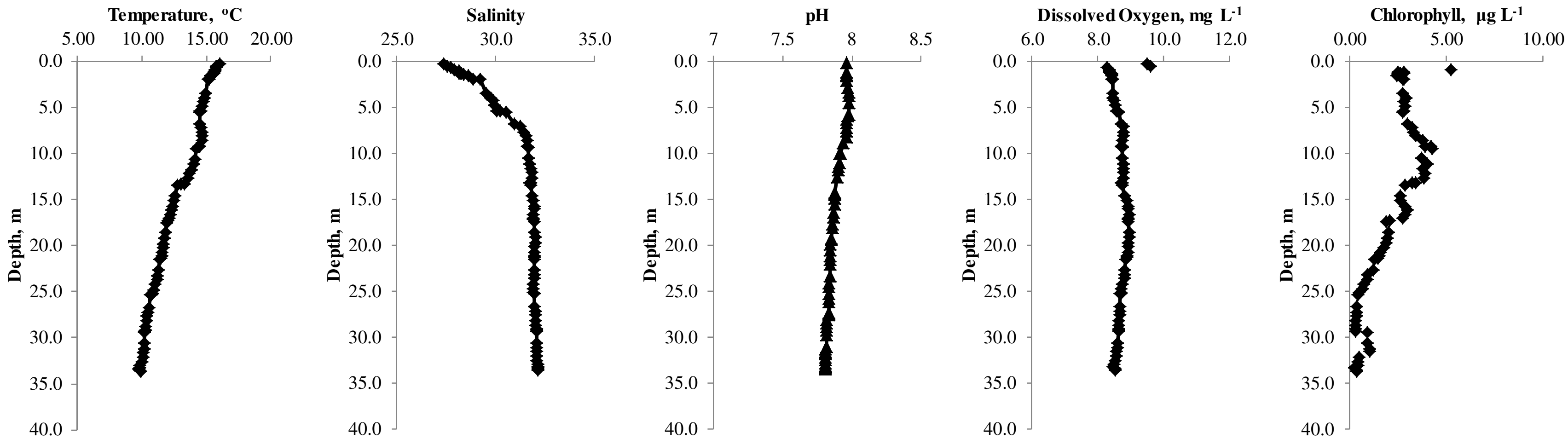


Temperature, °C
0
5
10
15
20
25
0
10
20
30
40
50
60
70
Depth, m

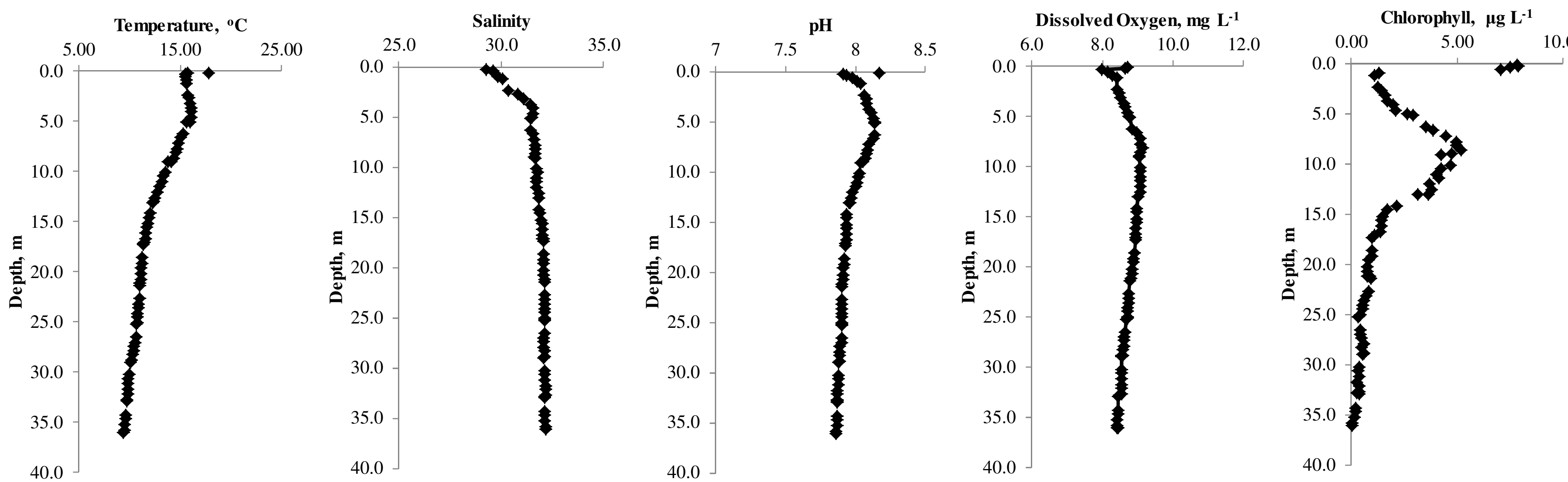


Salinity
15
20
25
30
35
0
10
20
30
40
50
60
70
Depth, m

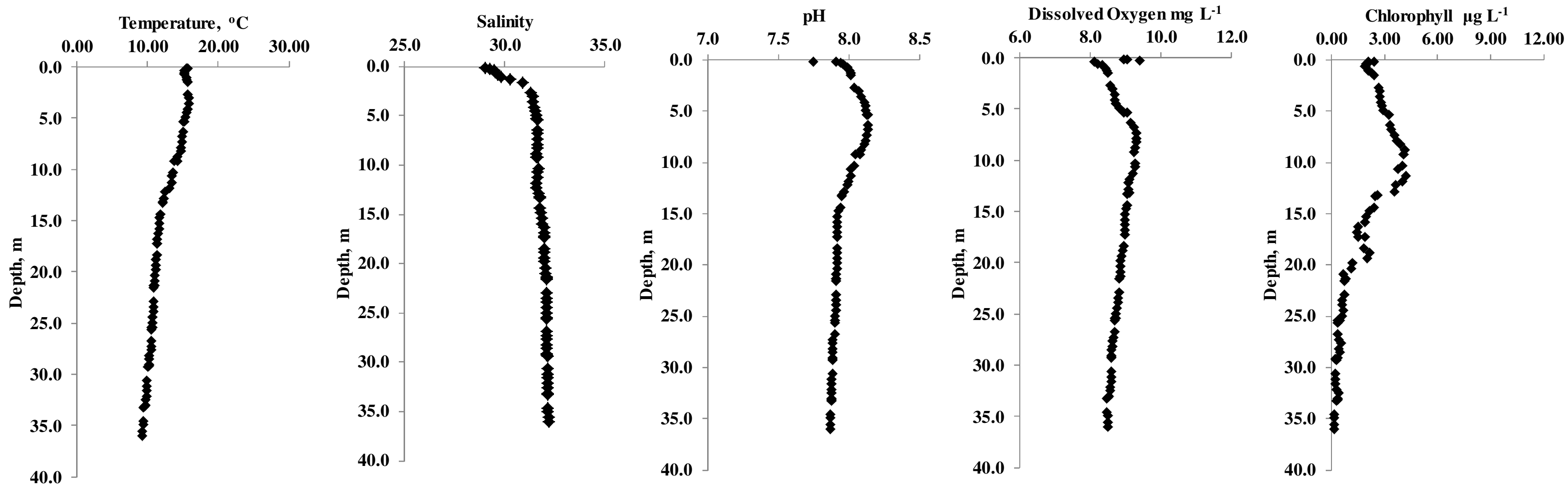
M0031– *upcast plotted for pH



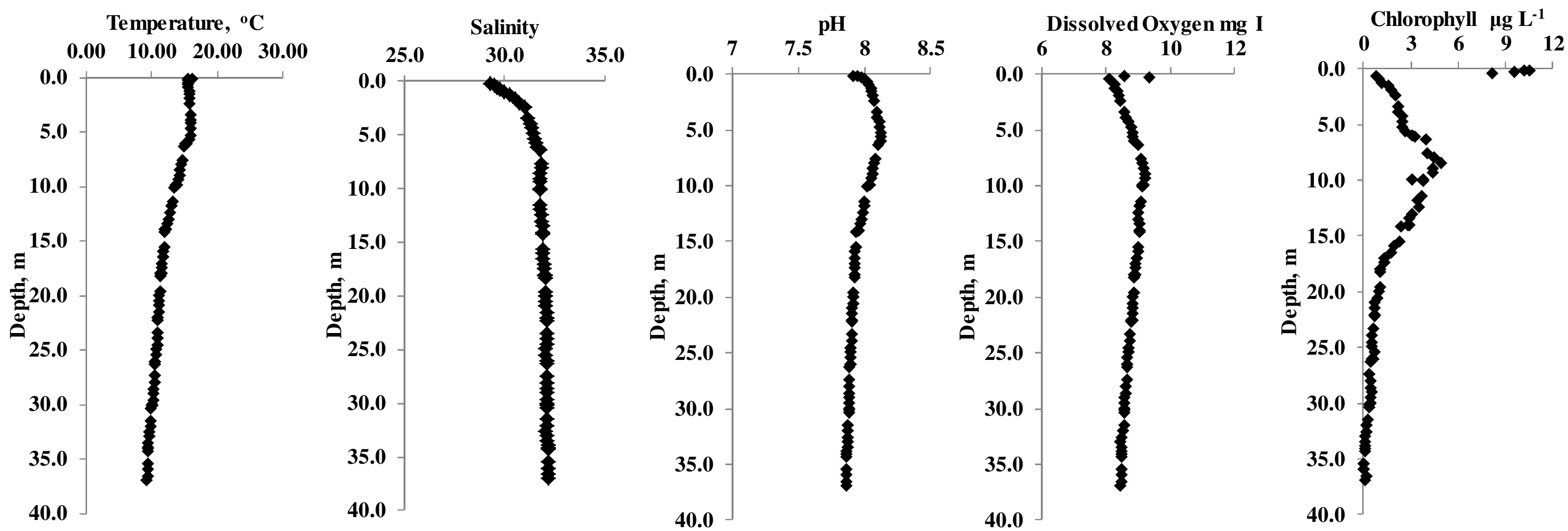
M0032



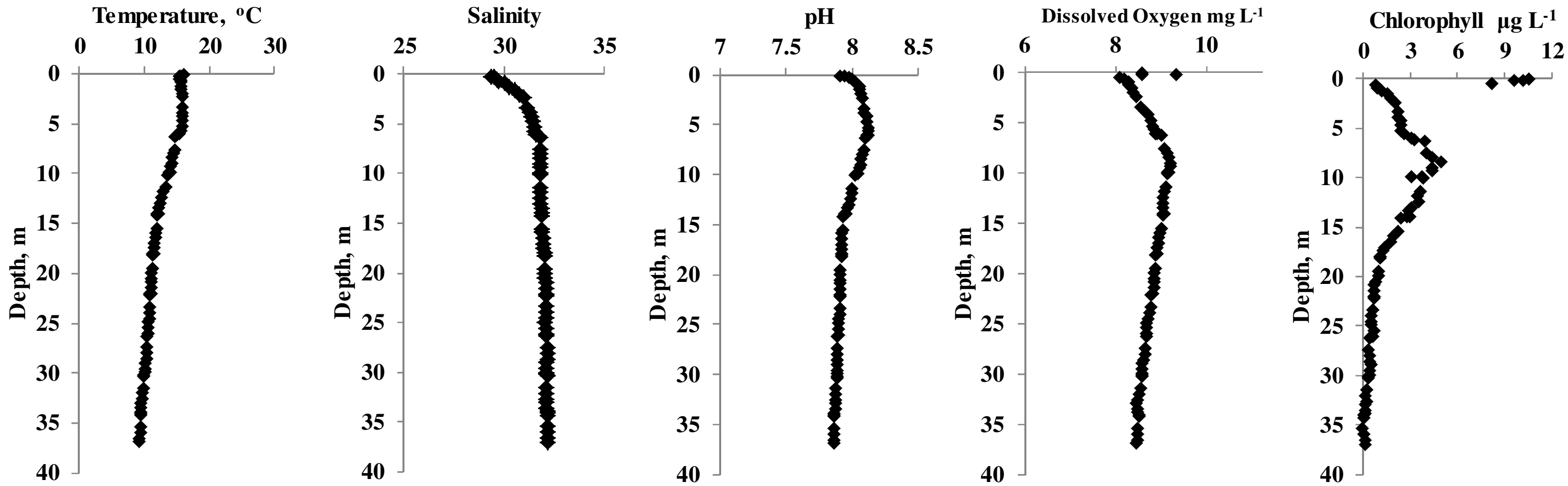
M0033


Temperature, °C
0.00 10.00 20.00 30.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
Dissolved Oxygen mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.00 3.00 6.00 9.00 12.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0

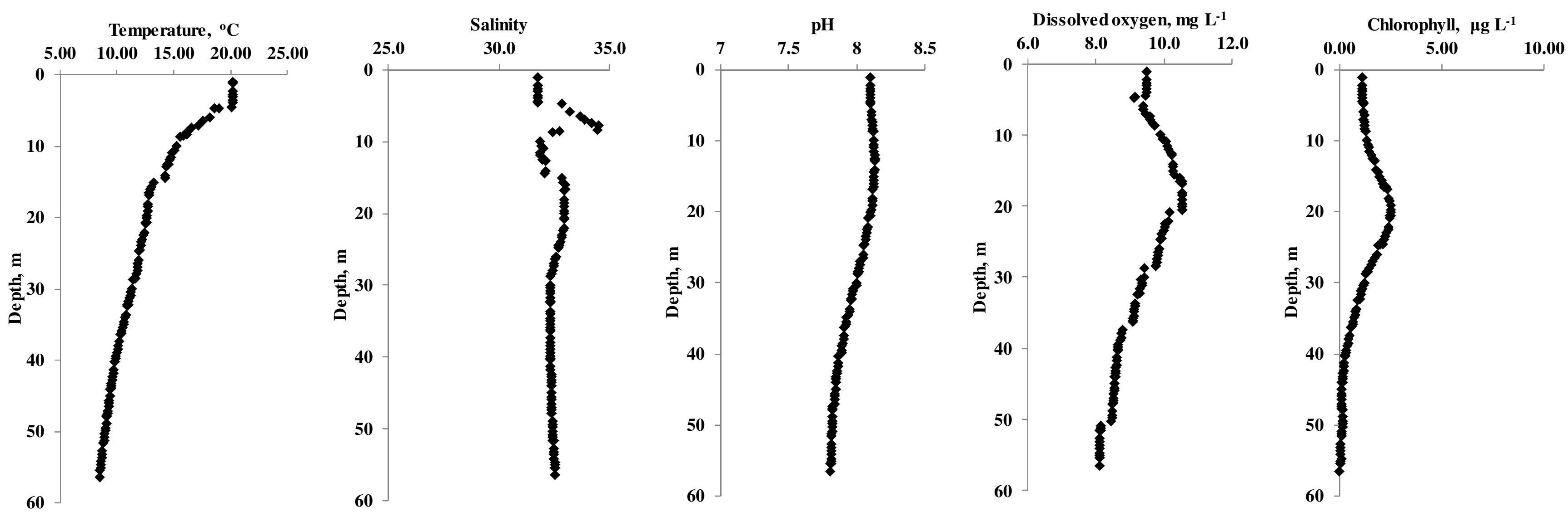
M0034


Temperature, °C
0.00 10.00 20.00 30.00
Salinity
25.0 30.0 35.0
pH
7 7.5 8 8.5
Dissolved Oxygen mg l
6 8 10 12
Chlorophyll µg L-1
0 3 6 9 12
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0

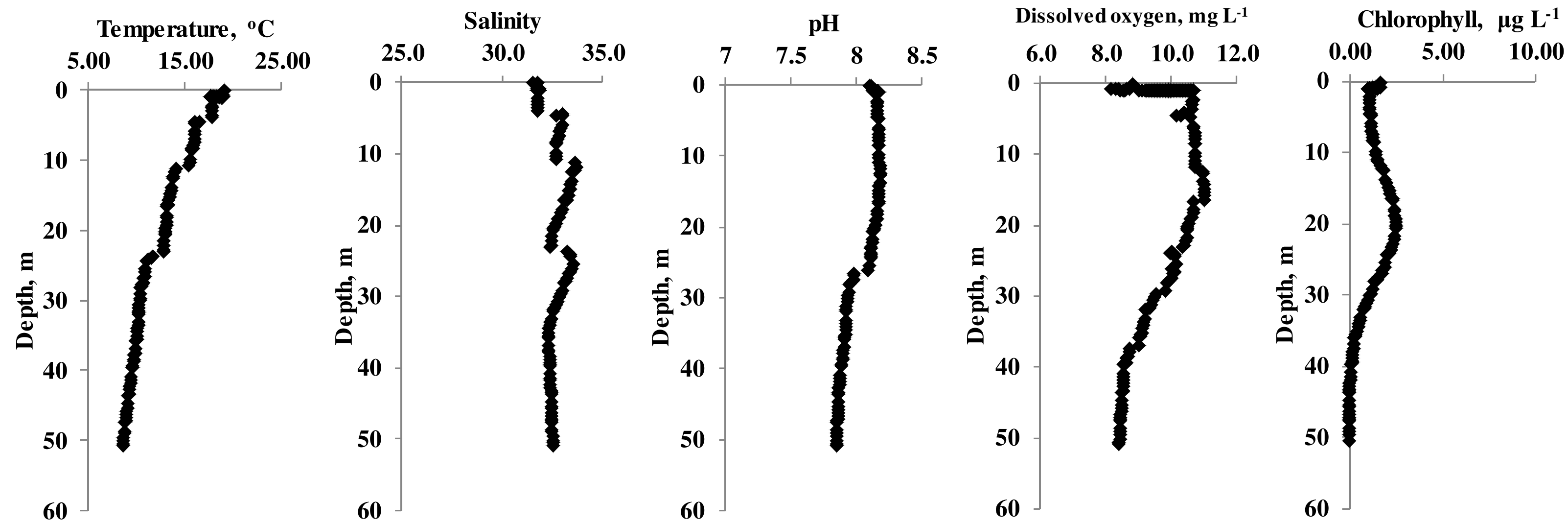
M0035


Temperature, °C
0 10 20 30
Salinity
25 30 35
pH
7 7.5 8 8.5
Dissolved Oxygen mg L-1
6 8 10
Chlorophyll µg L-1
0 3 6 9 12
Depth, m
0 5 10 15 20 25 30 35 40

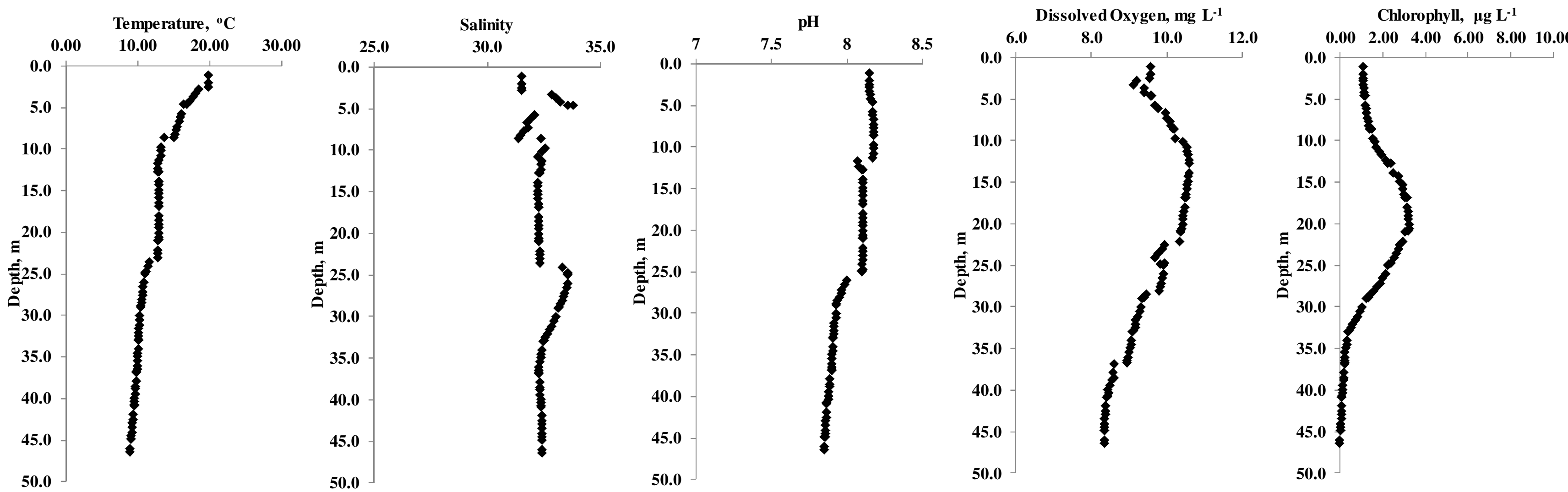
M0036


Temperature, °C
5.00 10.00 15.00 20.00 25.00
Salinity
25.0 30.0 35.0
pH
7 7.5 8 8.5
Dissolved oxygen, mg L-1
6.0 8.0 10.0 12.0
Chlorophyll, µg L-1
0.00 5.00 10.00
Depth, m
0 10 20 30 40 50 60

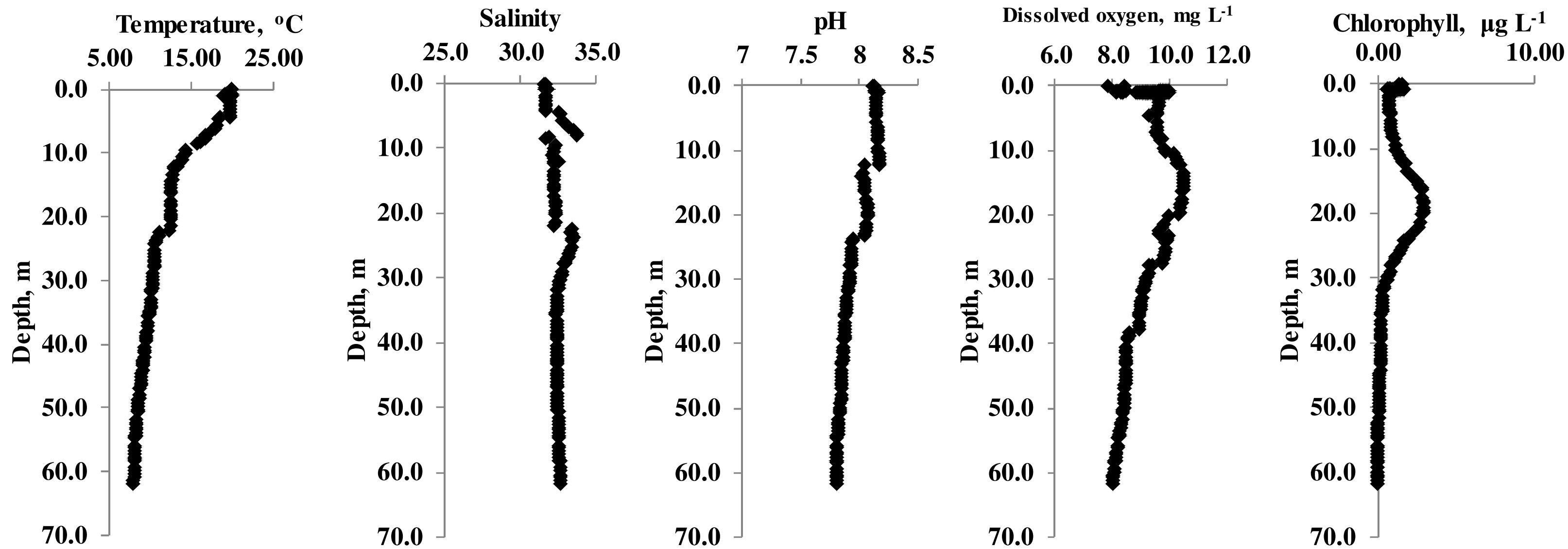
M0037


Temperature, °C
5.00
15.00
25.00
Salinity
25.0
30.0
35.0
pH
7
7.5
8
8.5
Dissolved oxygen, mg L-1
6.0
8.0
10.0
12.0
Chlorophyll, µg L-1
0.00
5.00
10.00
Depth, m
0
10
20
30
40
50
60

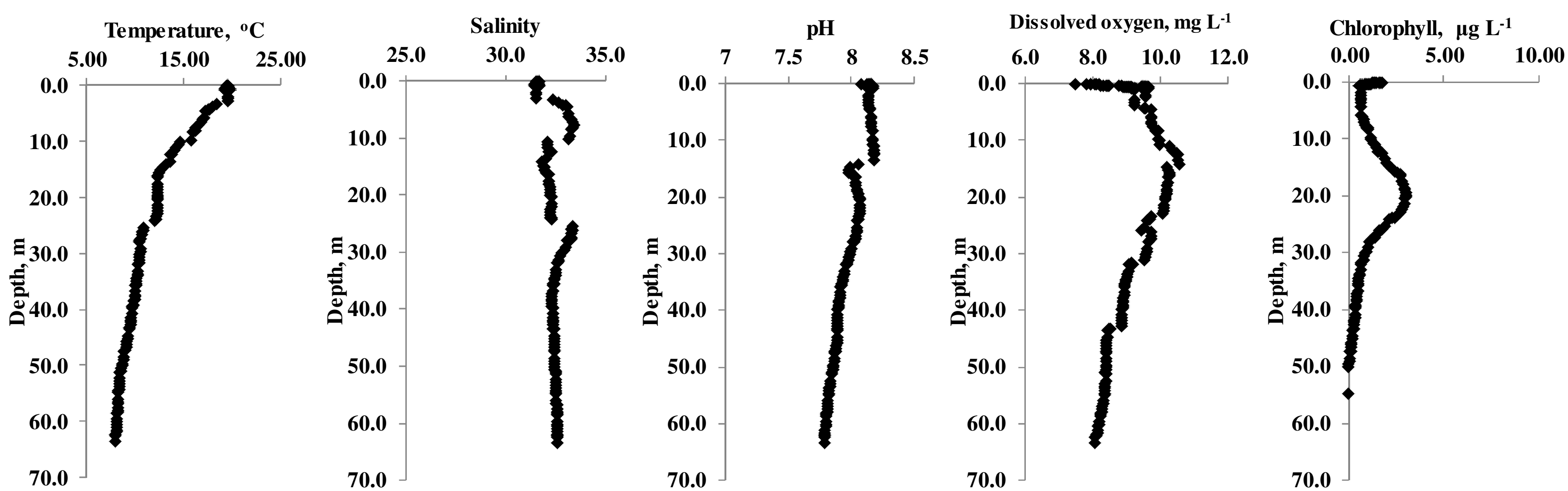
M0038


Temperature, °C
0.00
10.00
20.00
30.00
Salinity
25.0
30.0
35.0
pH
7
7.5
8
8.5
Dissolved Oxygen, mg L-1
6.0
8.0
10.0
12.0
Chlorophyll, µg L-1
0.00
2.00
4.00
6.00
8.00
10.00
Depth, m
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0

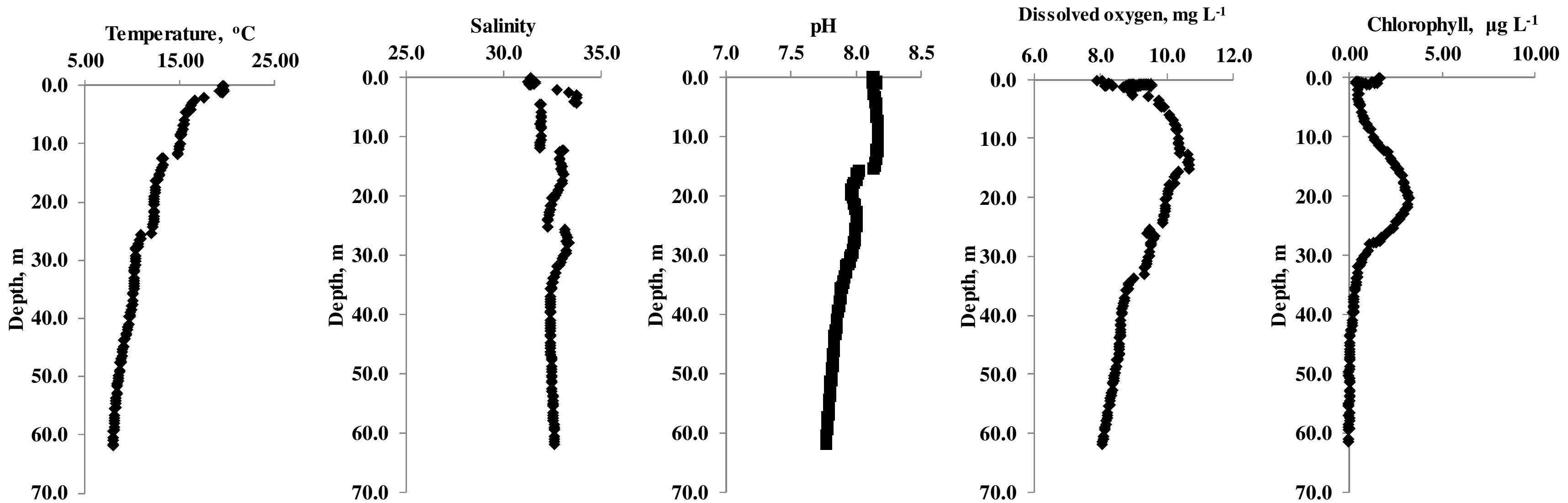
M0039


Temperature, °C
5.00 15.00 25.00
Salinity
25.0 30.0 35.0
pH
7 7.5 8 8.5
Dissolved oxygen, mg L-1
6.0 8.0 10.0 12.0
Chlorophyll, µg L-1
0.00 10.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

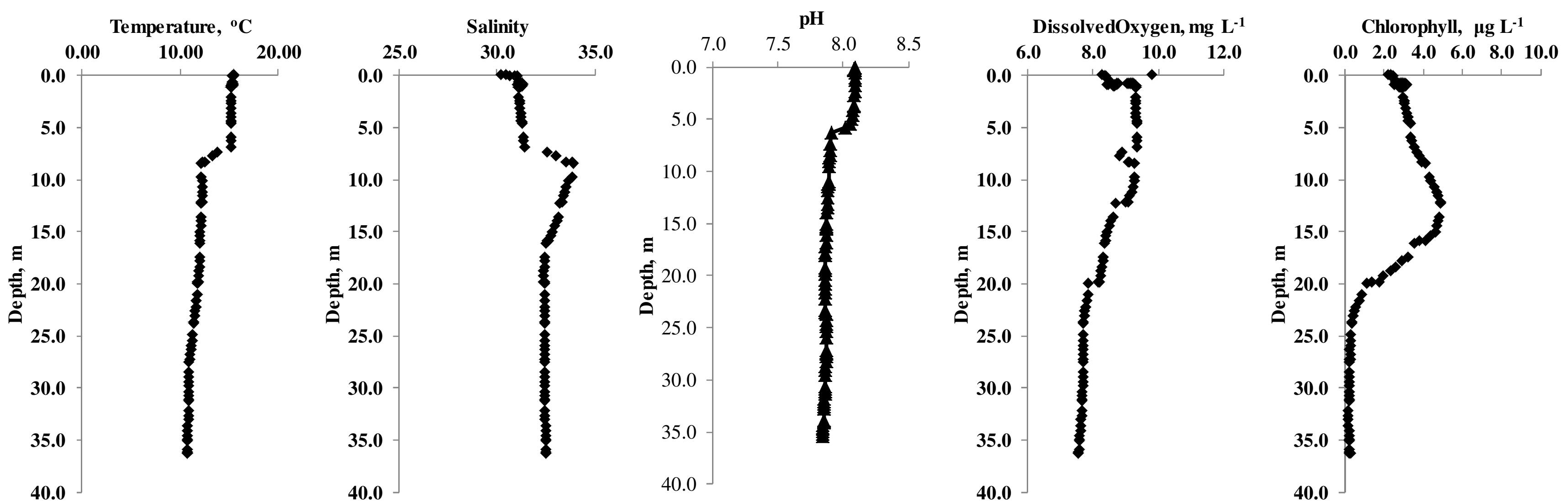
M0040


Temperature, °C
5.00 15.00 25.00
Salinity
25.0 30.0 35.0
pH
7 7.5 8 8.5
Dissolved oxygen, mg L-1
6.0 8.0 10.0 12.0
Chlorophyll, µg L-1
0.00 5.00 10.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

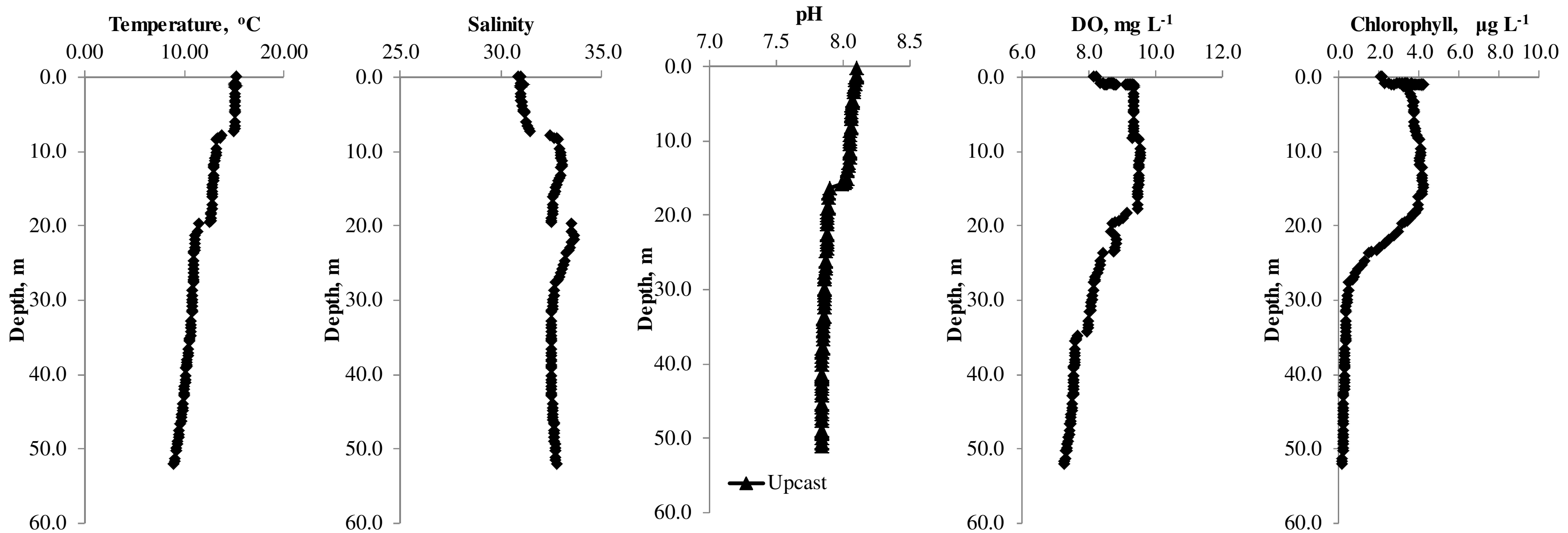
M0041



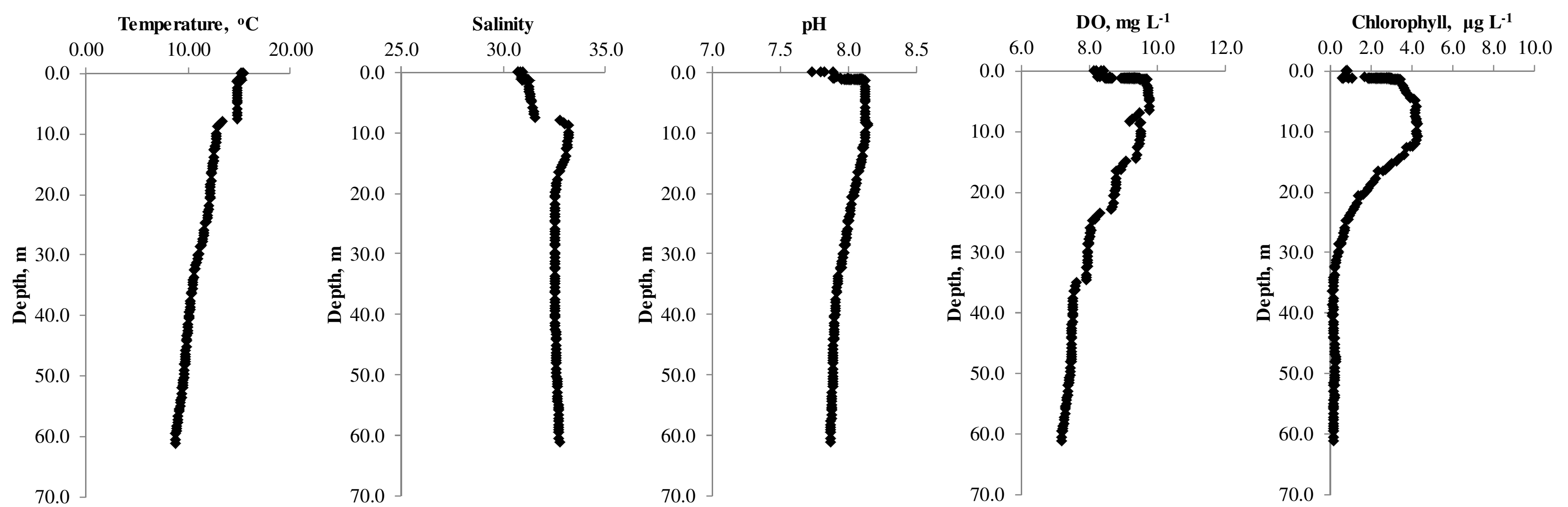
M0042– *upcast plotted for pH



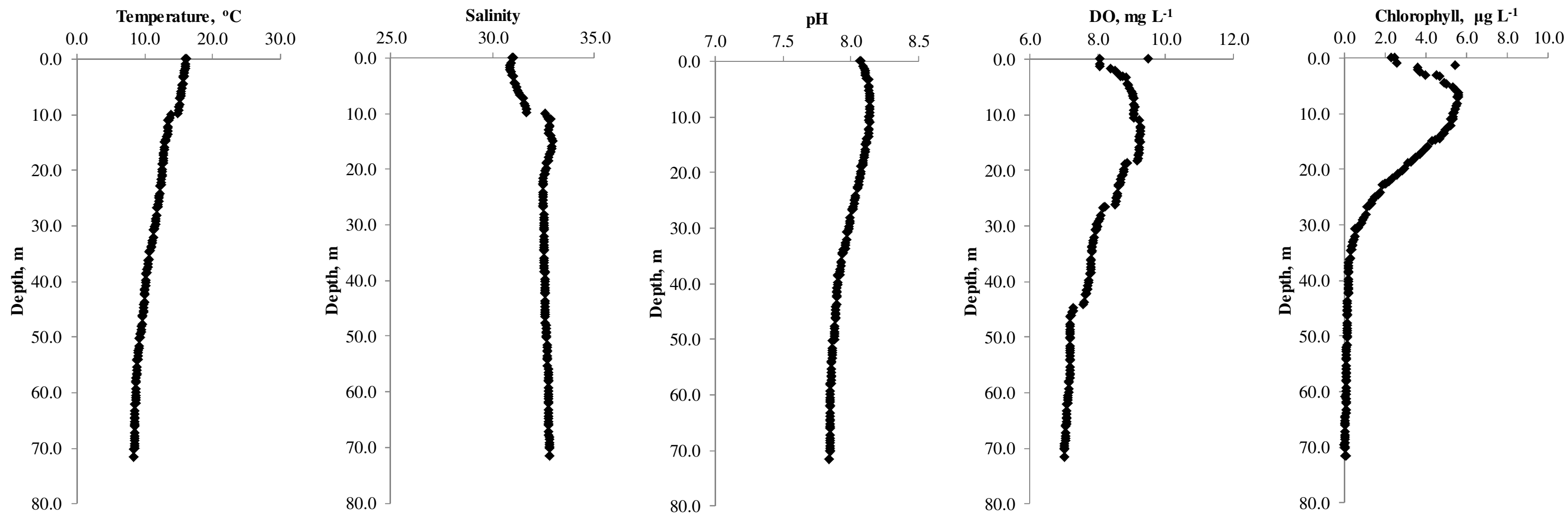
M0043– *upcast plotted for pH



M0044

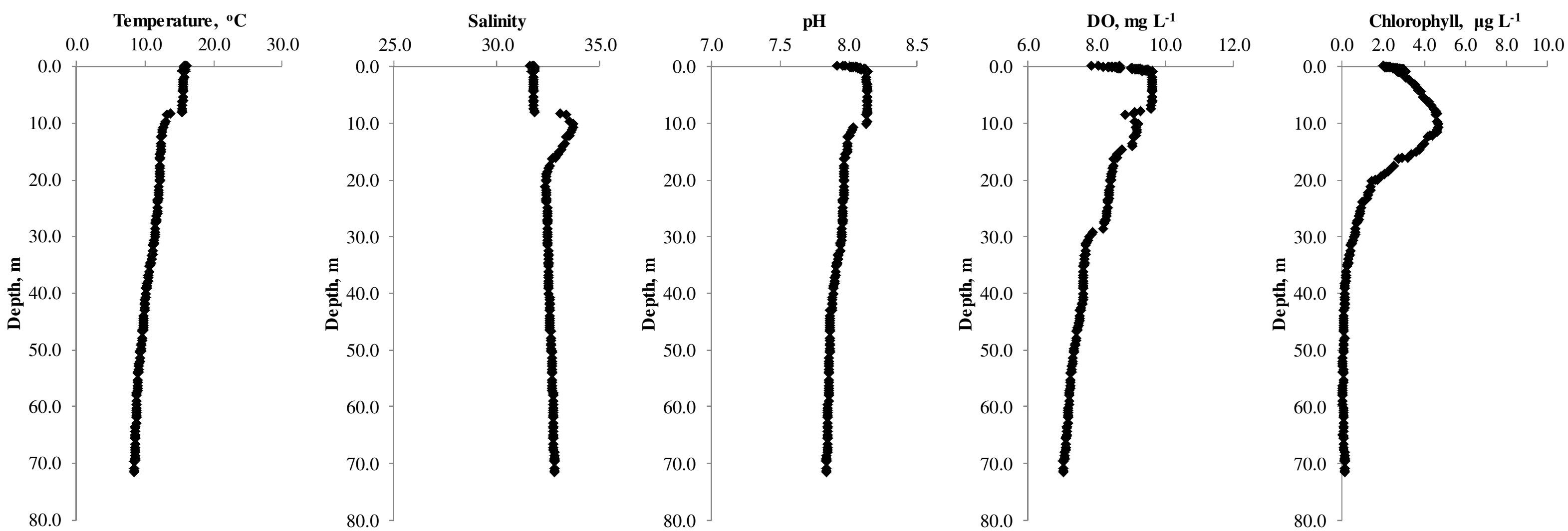


M0045



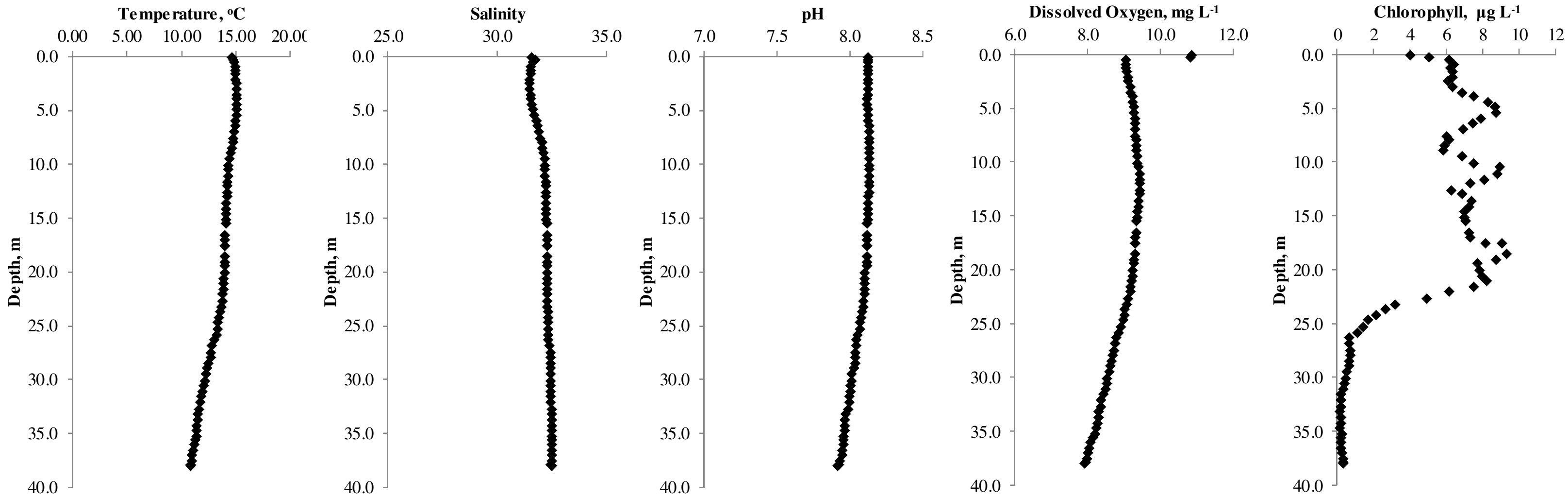
Temperature, °C
Salinity
pH
DO, mg L-1
Chlorophyll, µg L-1
Depth, m

M0046

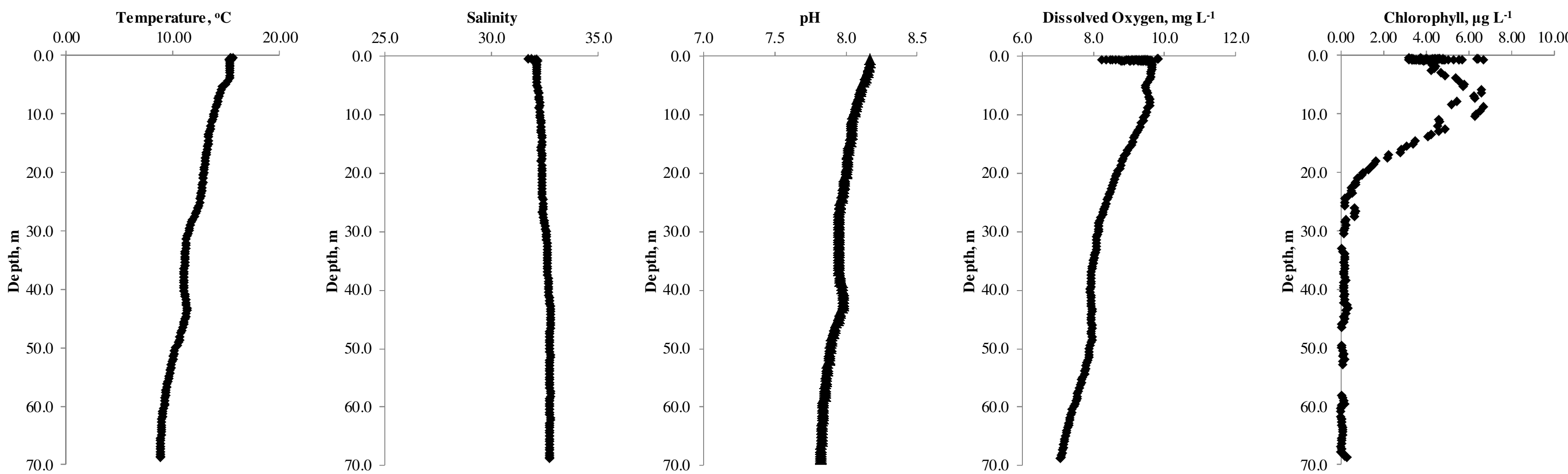


Temperature, °C
Salinity
pH
DO, mg L-1
Chlorophyll, µg L-1
Depth, m

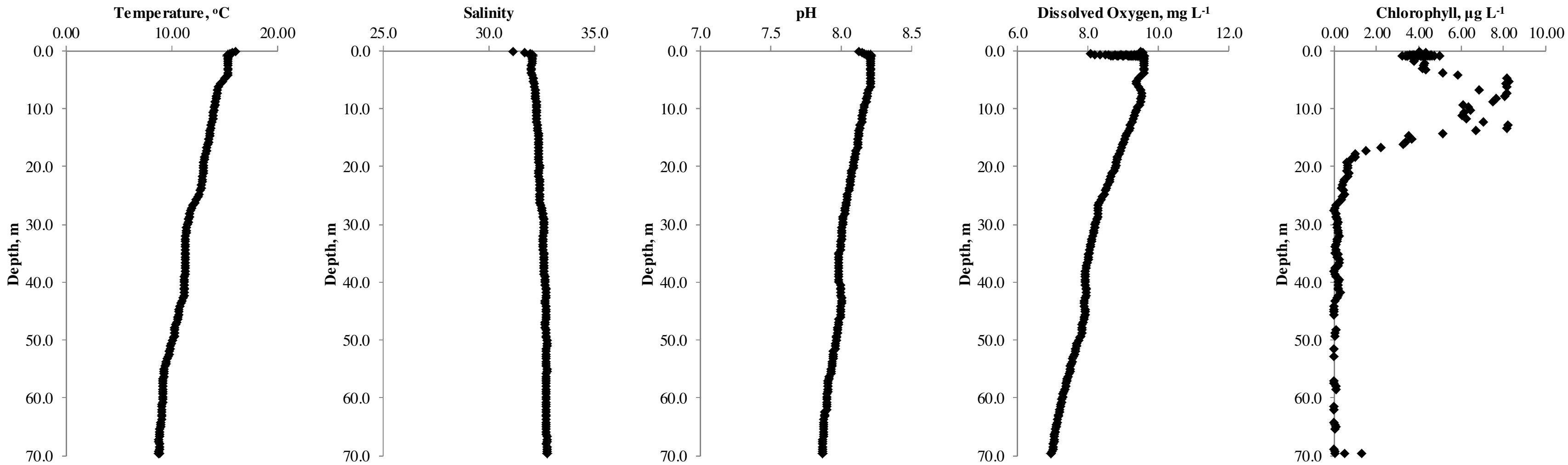
M0047– *upcast plotted for pH



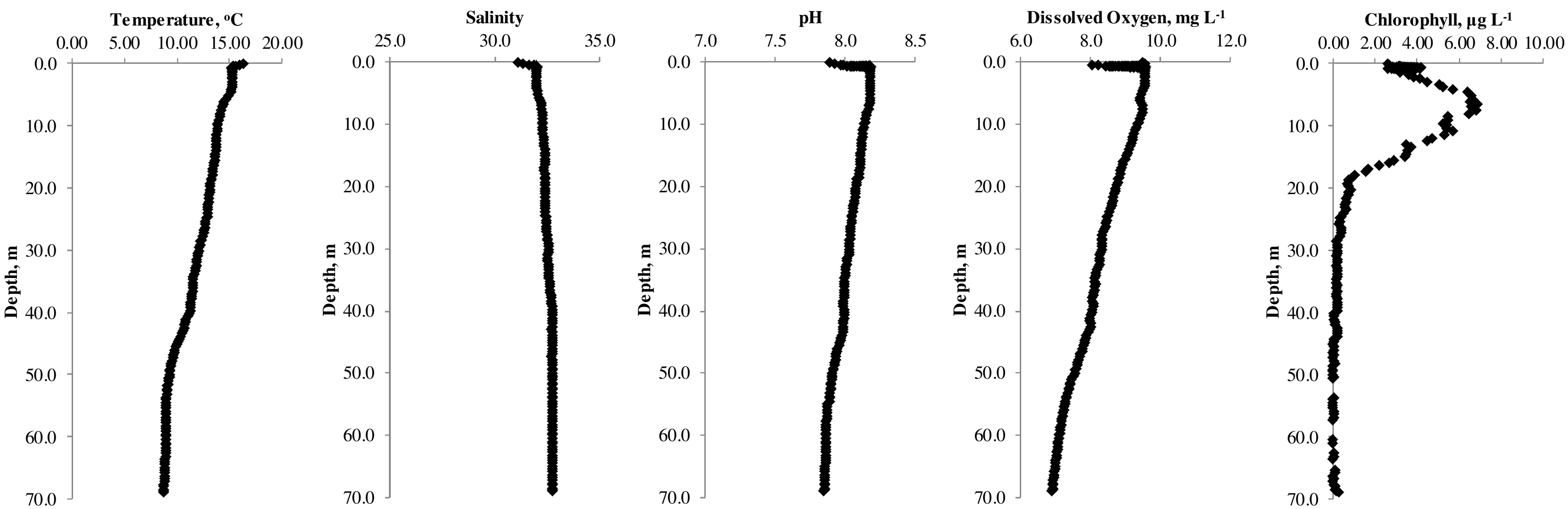
M0048– *upcast plotted for pH



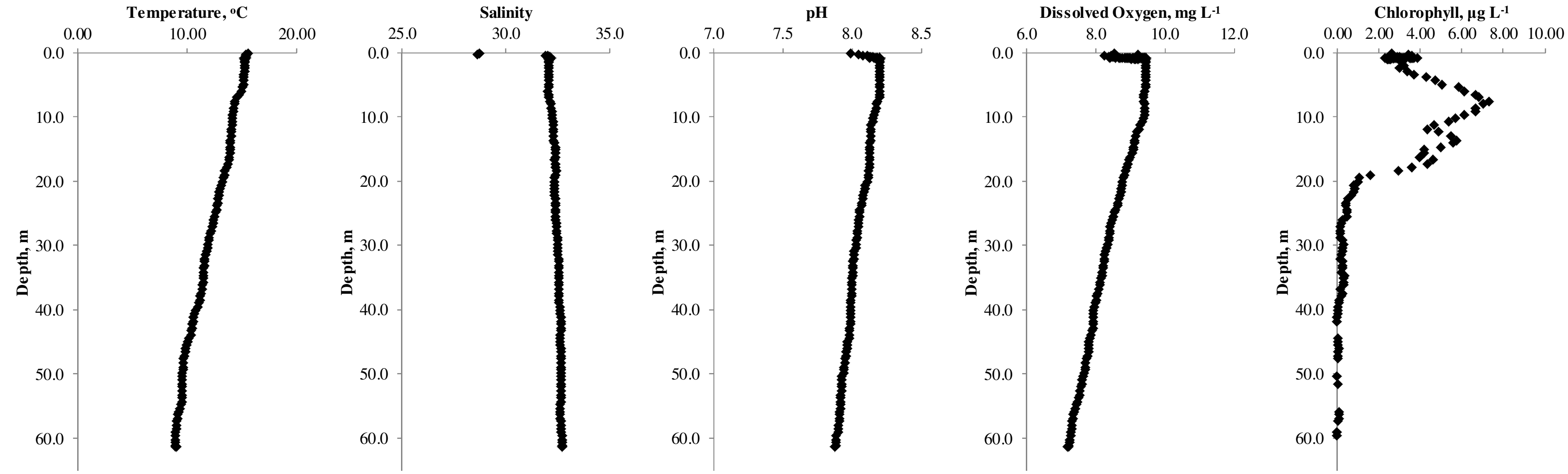
M0049


Temperature, °C
0.00
10.00
20.00
Salinity
25.0
30.0
35.0
pH
7.0
7.5
8.0
8.5
Dissolved Oxygen, mg L-1
6.0
8.0
10.0
12.0
Chlorophyll, µg L-1
0.00
2.00
4.00
6.00
8.00
10.00
Depth, m
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0

M0050

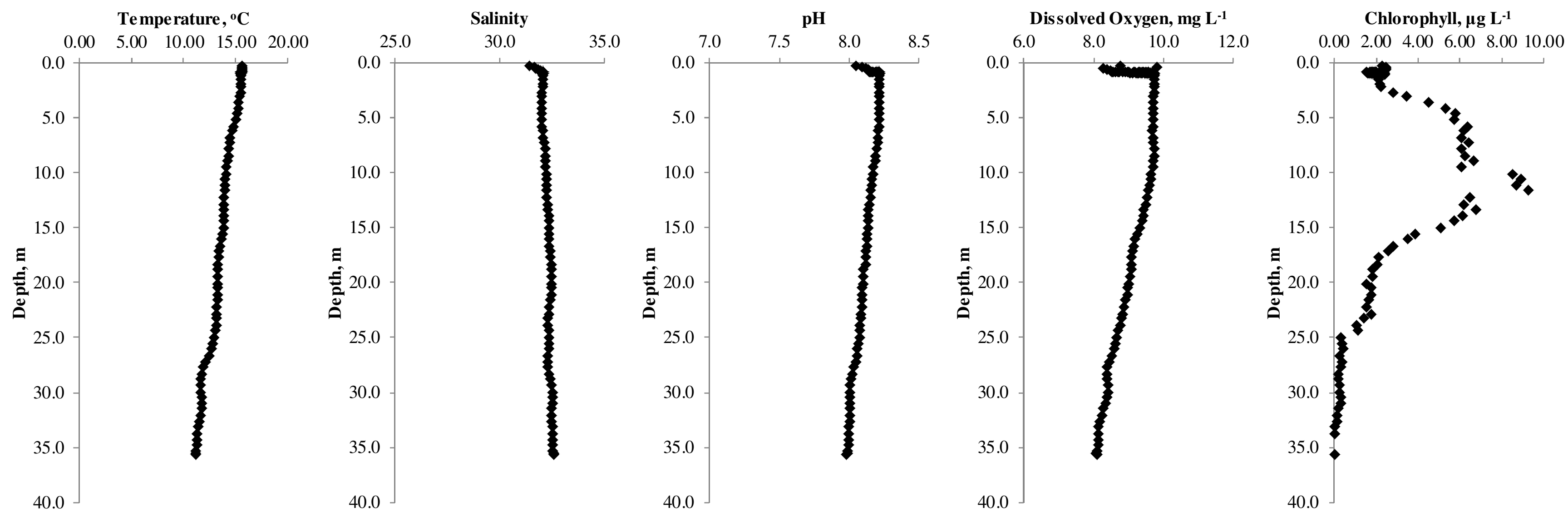

Temperature, °C
0.00
5.00
10.00
15.00
20.00
Salinity
25.0
30.0
35.0
pH
7.0
7.5
8.0
8.5
Dissolved Oxygen, mg L-1
6.0
8.0
10.0
12.0
Chlorophyll, µg L-1
0.00
2.00
4.00
6.00
8.00
10.00
Depth, m
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0

M0051



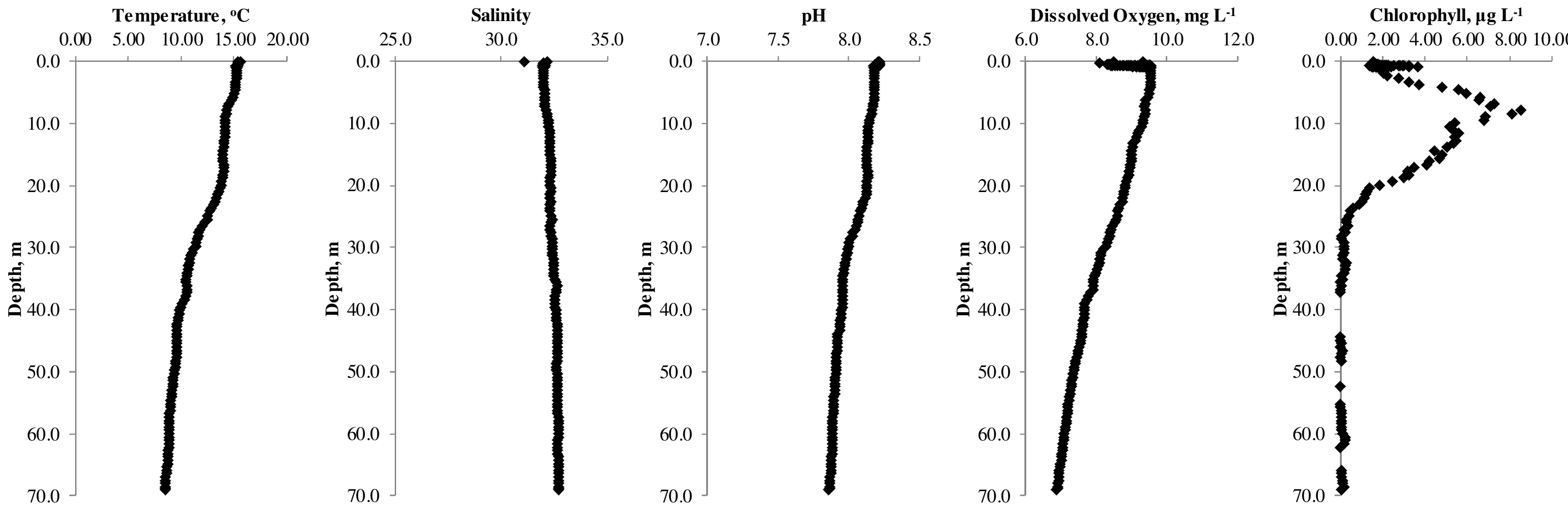
Temperature, °C
Salinity
pH
Dissolved Oxygen, mg L-1
Chlorophyll, µg L-1
Depth, m

M0052

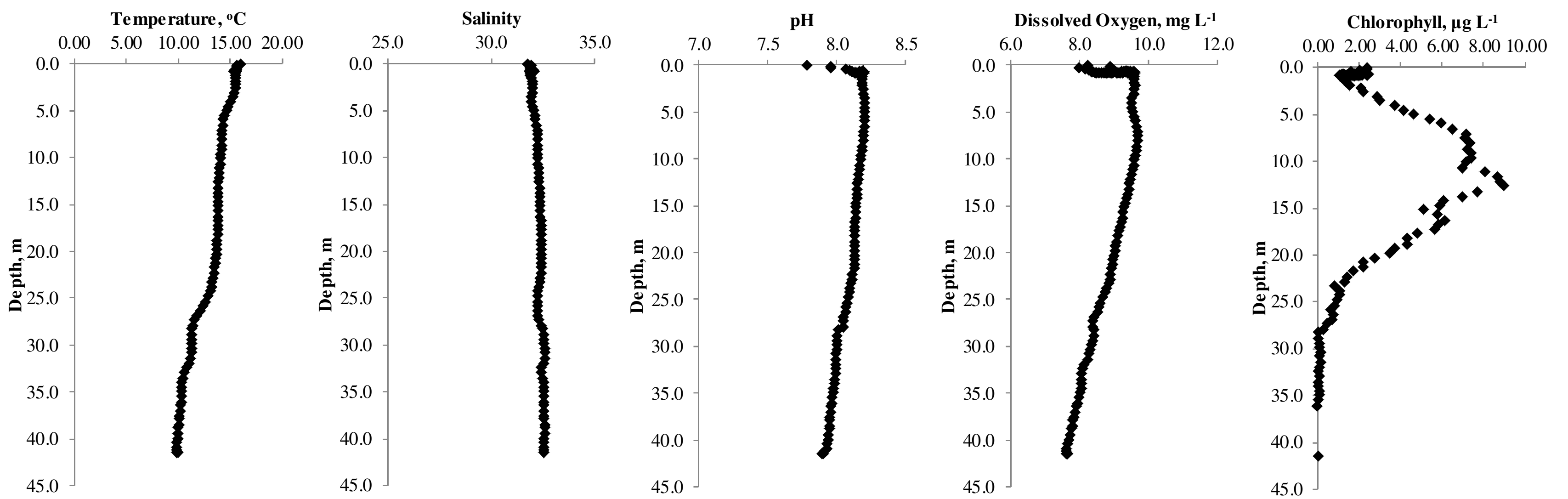


Temperature, °C
Salinity
pH
Dissolved Oxygen, mg L-1
Chlorophyll, µg L-1
Depth, m

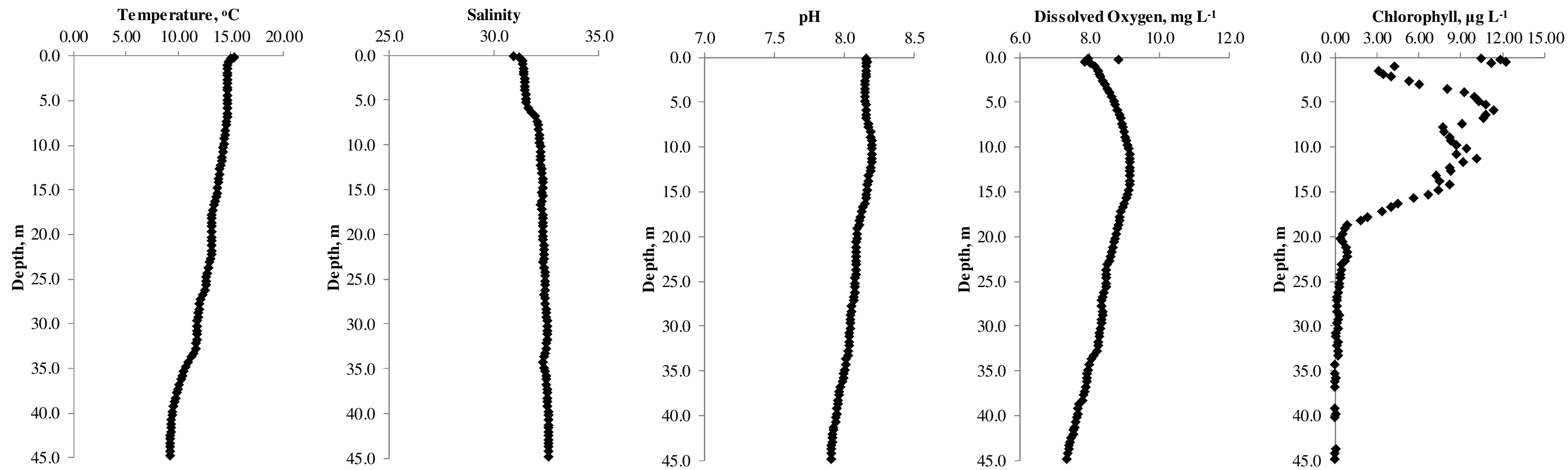
M0053


Temperature, °C
Salinity
pH
Dissolved Oxygen, mg L-1
Chlorophyll, µg L-1
Depth, m

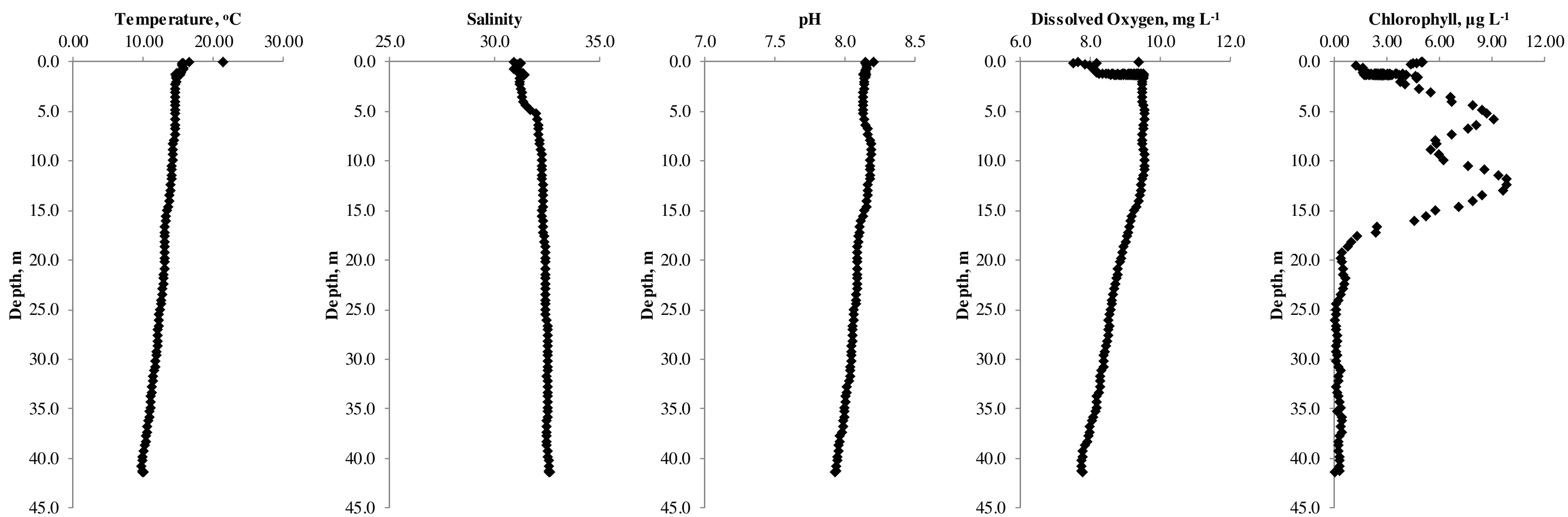
M0054


Temperature, °C
Salinity
pH
Dissolved Oxygen, mg L-1
Chlorophyll, µg L-1
Depth, m

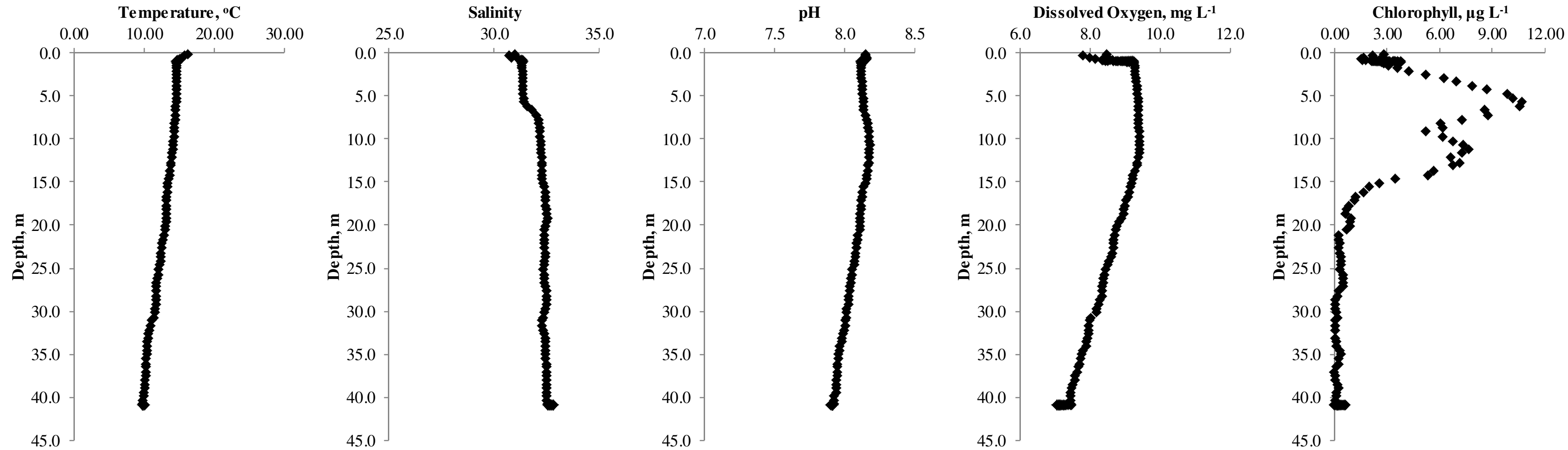
M0055


Temperature, °C
0.00 5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
Dissolved Oxygen, mg L-1
6.0 8.0 10.0 12.0
Chlorophyll, µg L-1
0.00 3.00 6.00 9.00 12.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0

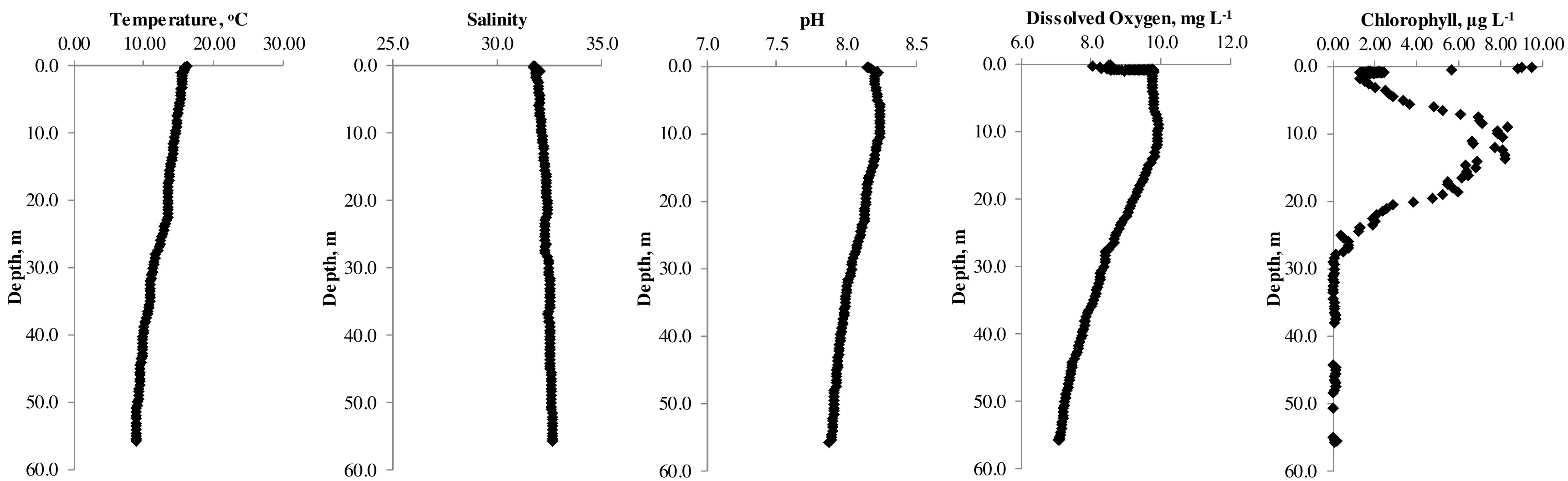
M0056


Temperature, °C
0.00 10.00 20.00 30.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
Dissolved Oxygen, mg L-1
6.0 8.0 10.0 12.0
Chlorophyll, µg L-1
0.00 3.00 6.00 9.00 12.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0

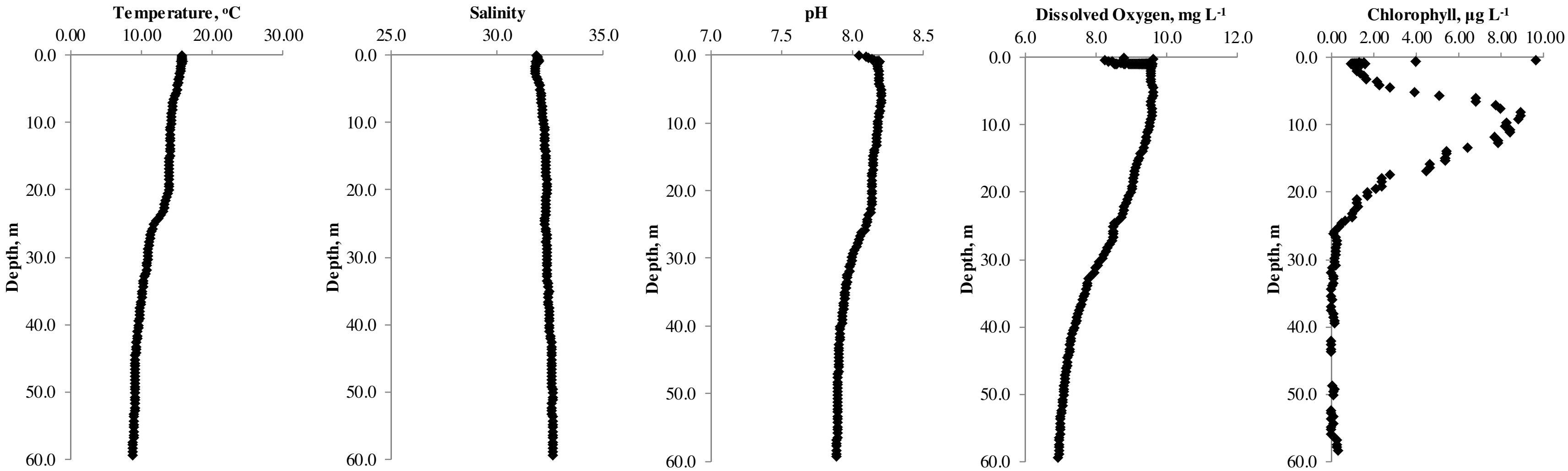
M0057


Temperature, °C
Salinity
pH
Dissolved Oxygen, mg L-1
Chlorophyll, µg L-1
Depth, m

M0058

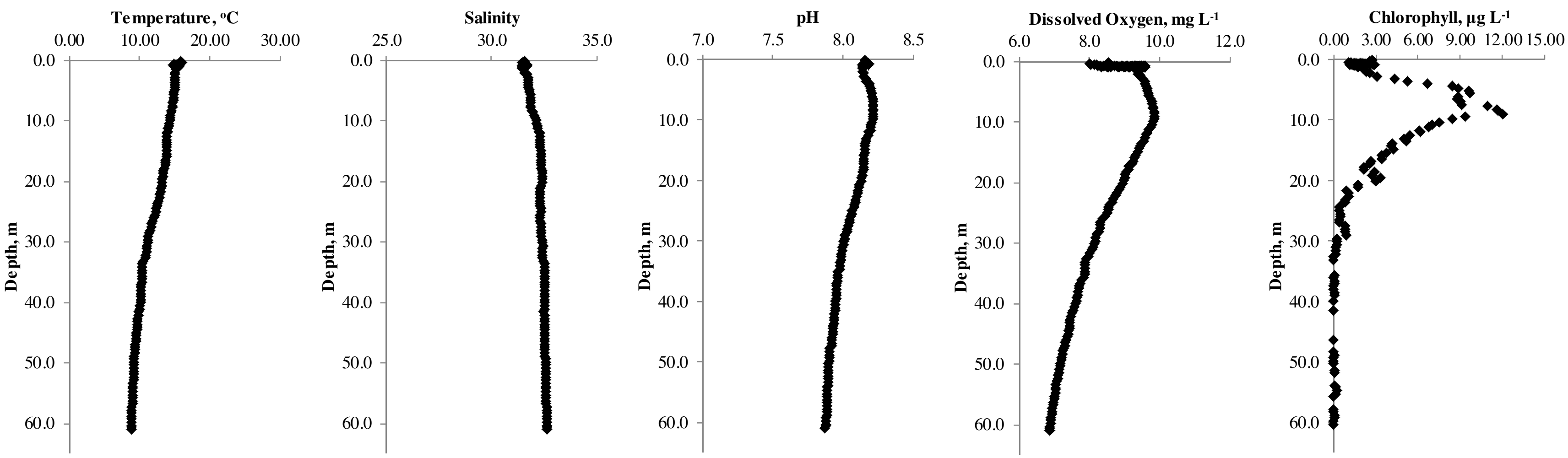

Temperature, °C
Salinity
pH
Dissolved Oxygen, mg L-1
Chlorophyll, µg L-1
Depth, m

M0059



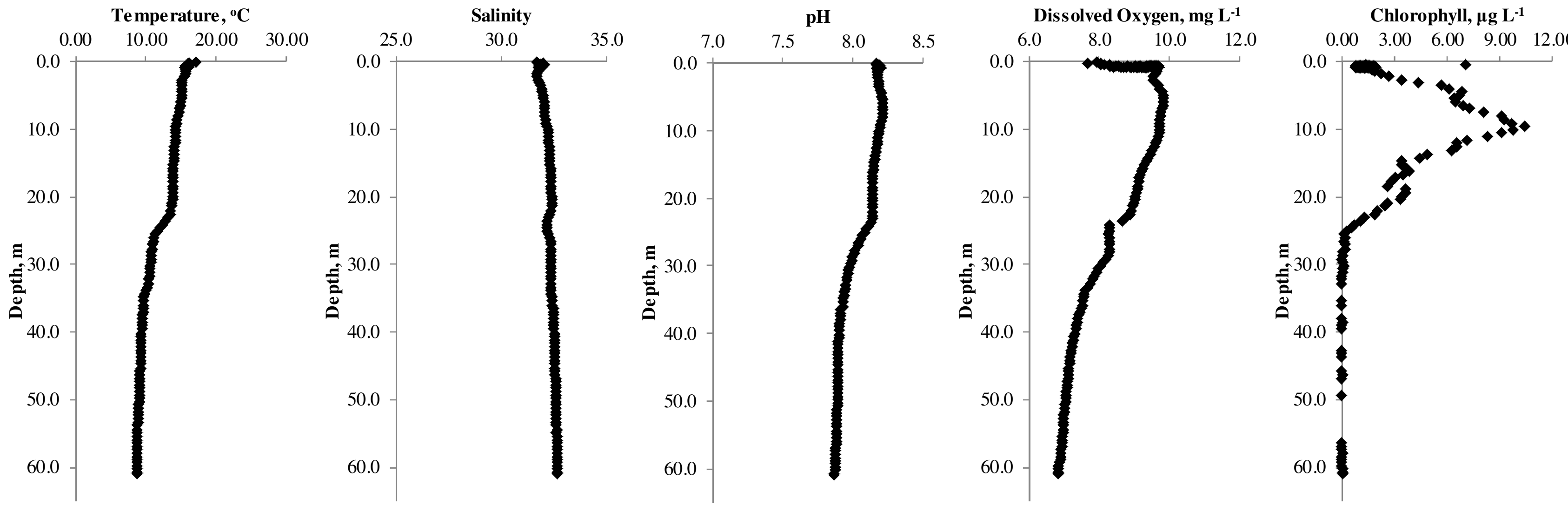
Temperature, °C
0.00 10.00 20.00 30.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
Dissolved Oxygen, mg L-1
6.0 8.0 10.0 12.0
Chlorophyll, µg L-1
0.00 2.00 4.00 6.00 8.00 10.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

M0060

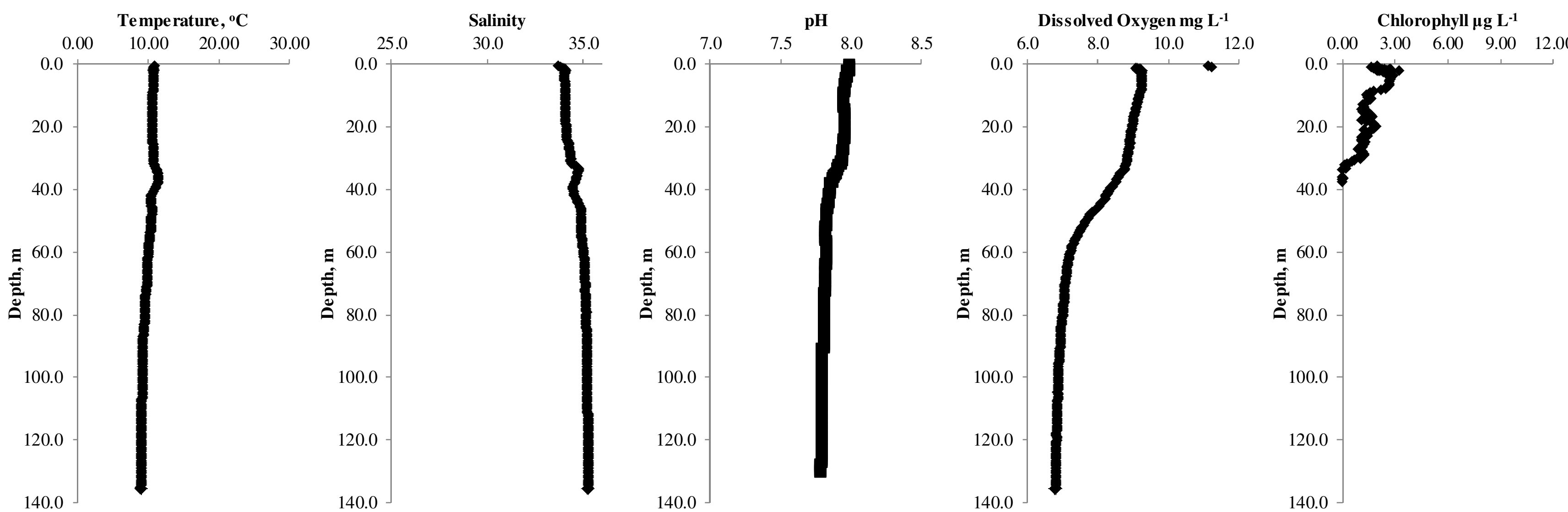


Temperature, °C
0.00 10.00 20.00 30.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
Dissolved Oxygen, mg L-1
6.0 8.0 10.0 12.0
Chlorophyll, µg L-1
0.00 3.00 6.00 9.00 12.00 15.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

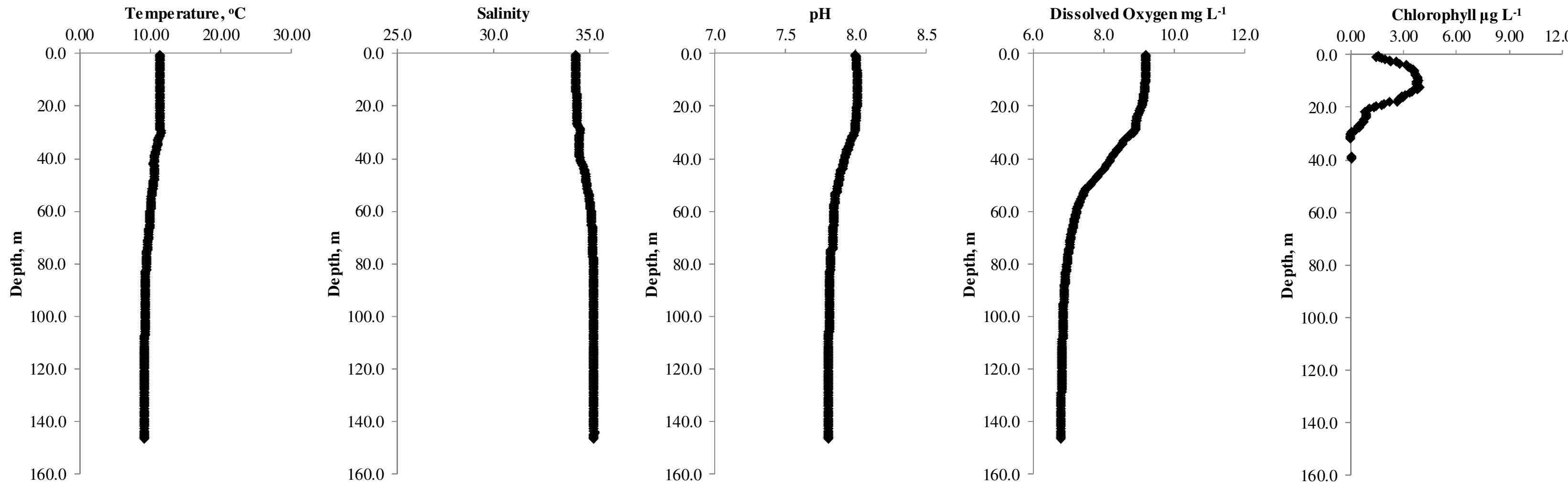
M0061



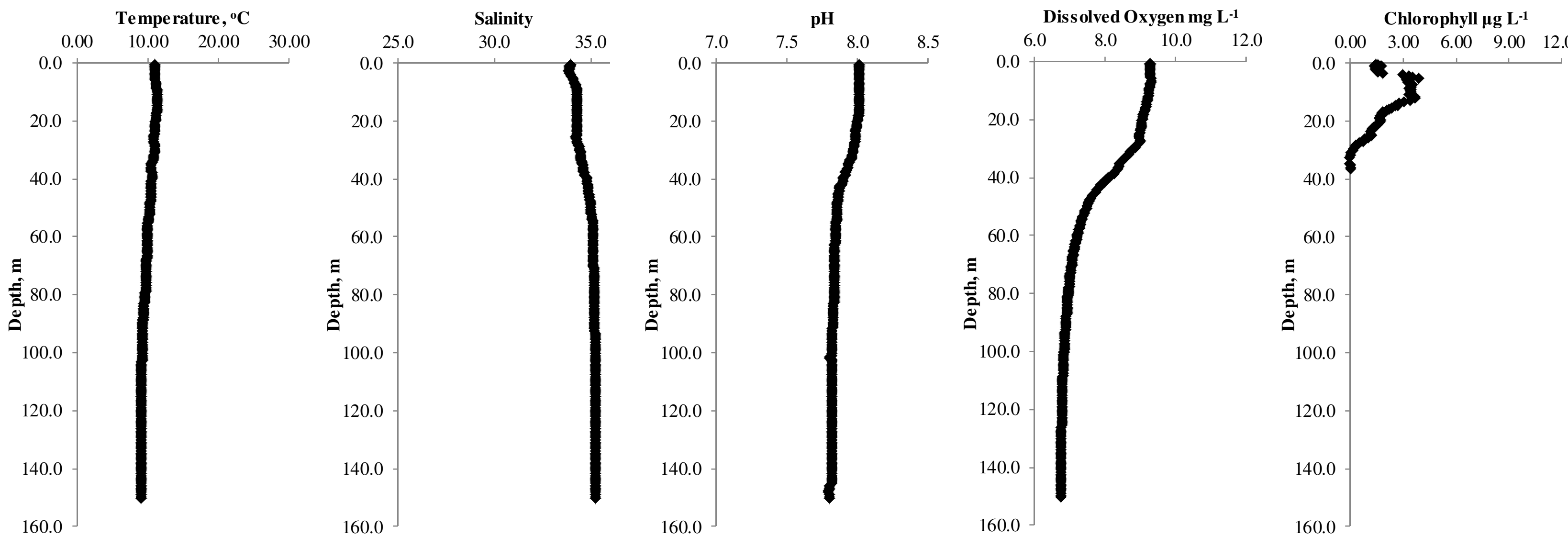
M0062– *upcast plotted for pH



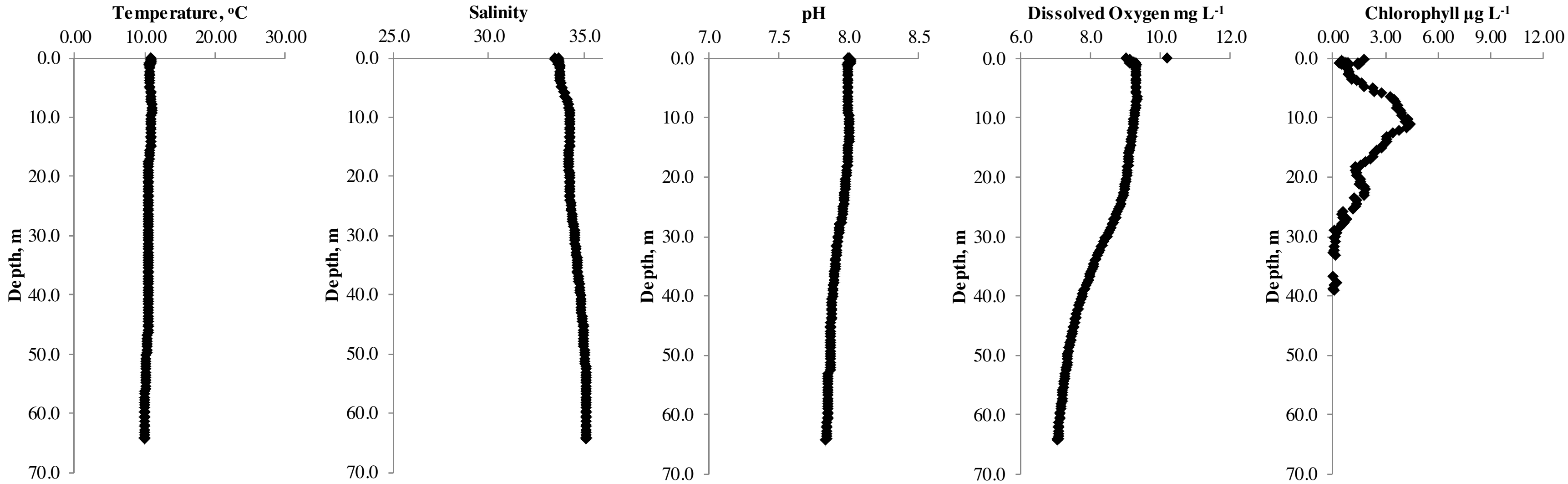
M0063


Temperature, °C
0.00
10.00
20.00
30.00
Salinity
25.0
30.0
35.0
pH
7.0
7.5
8.0
8.5
Dissolved Oxygen mg L-1
6.0
8.0
10.0
12.0
Chlorophyll µg L-1
0.00
3.00
6.00
9.00
12.00
Depth, m
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0

M0064

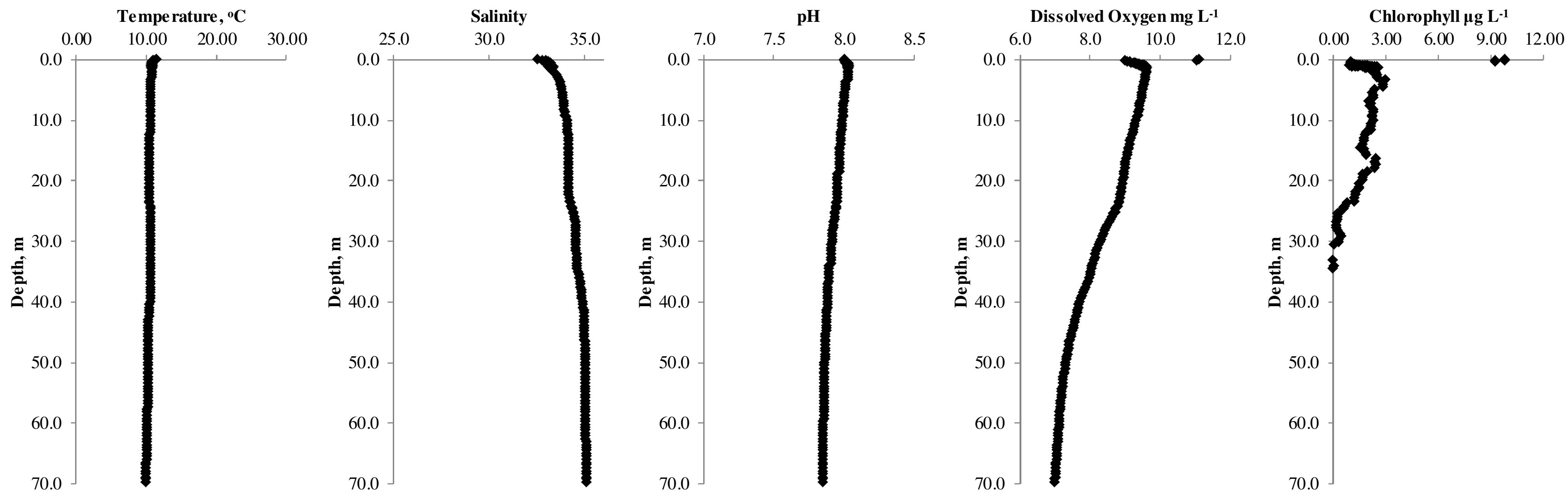

Temperature, °C
0.00
10.00
20.00
30.00
Salinity
25.0
30.0
35.0
pH
7.0
7.5
8.0
8.5
Dissolved Oxygen mg L-1
6.0
8.0
10.0
12.0
Chlorophyll µg L-1
0.00
3.00
6.00
9.00
12.00
Depth, m
0.0
20.0
40.0
60.0
80.0
100.0
120.0
140.0
160.0

M0065



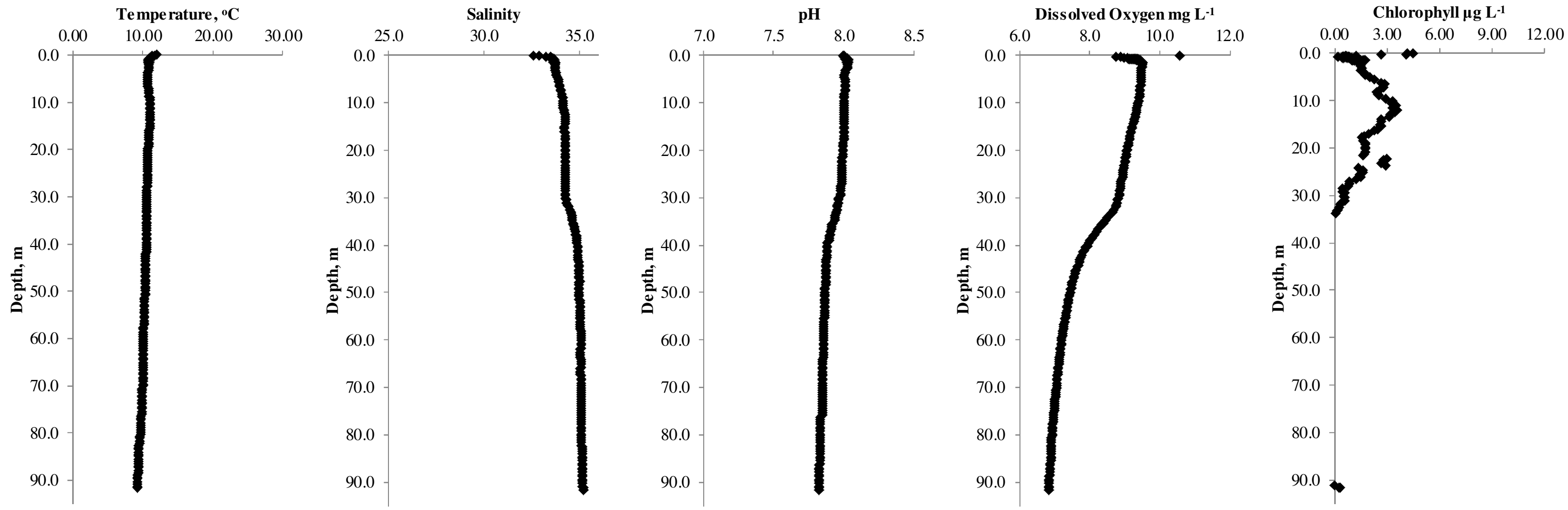
Temperature, °C
0.00 10.00 20.00 30.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
Dissolved Oxygen mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.00 3.00 6.00 9.00 12.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

M0066

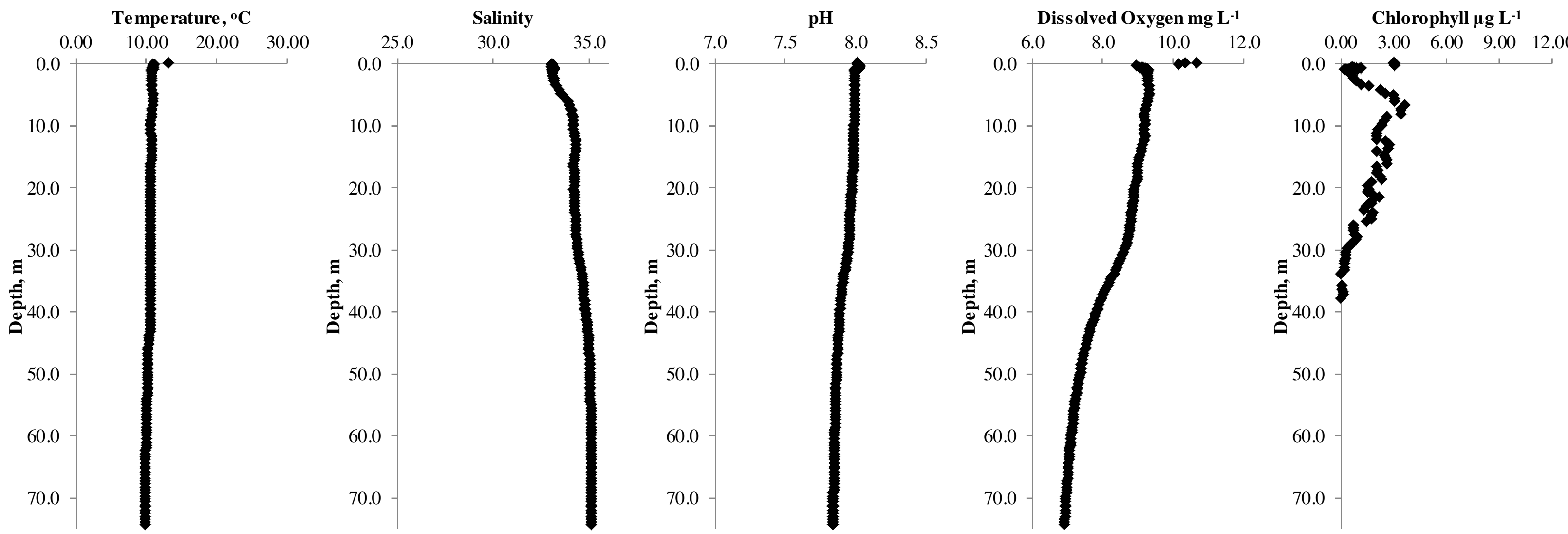


Temperature, °C
0.00 10.00 20.00 30.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
Dissolved Oxygen mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.00 3.00 6.00 9.00 12.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

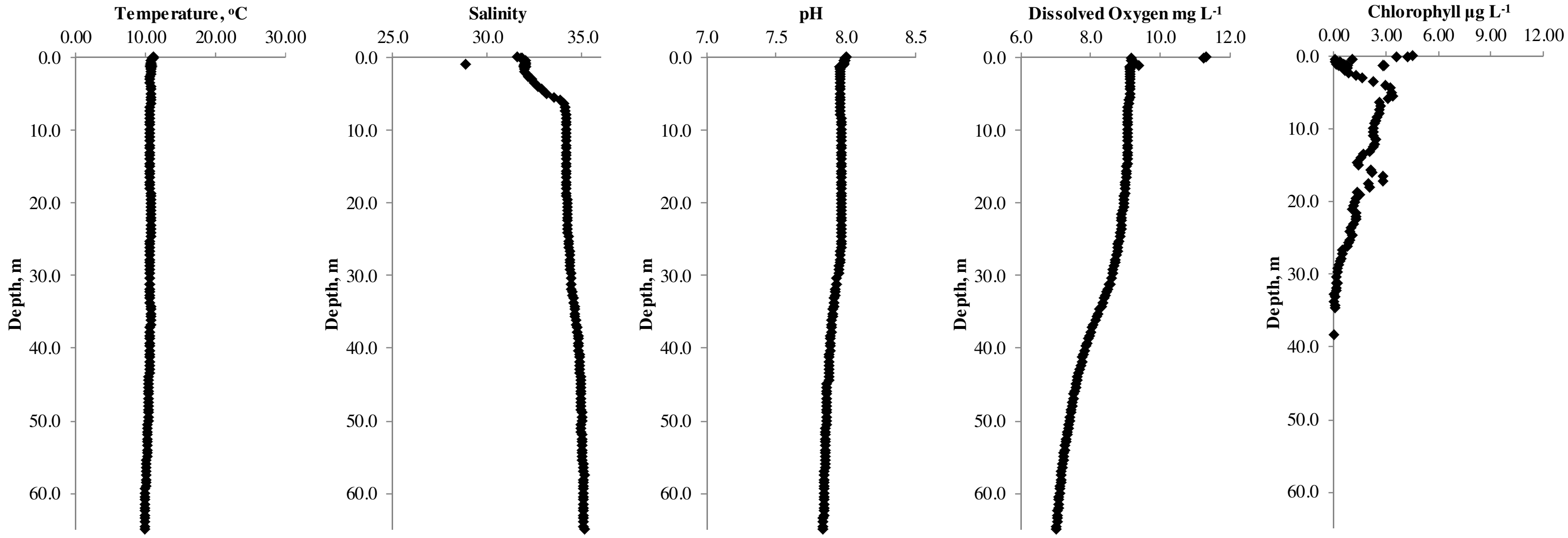
M0067


Temperature, °C
0.00 10.00 20.00 30.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
Dissolved Oxygen mg L⁻¹
6.0 8.0 10.0 12.0
Chlorophyll µg L⁻¹
0.00 3.00 6.00 9.00 12.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0 90.0

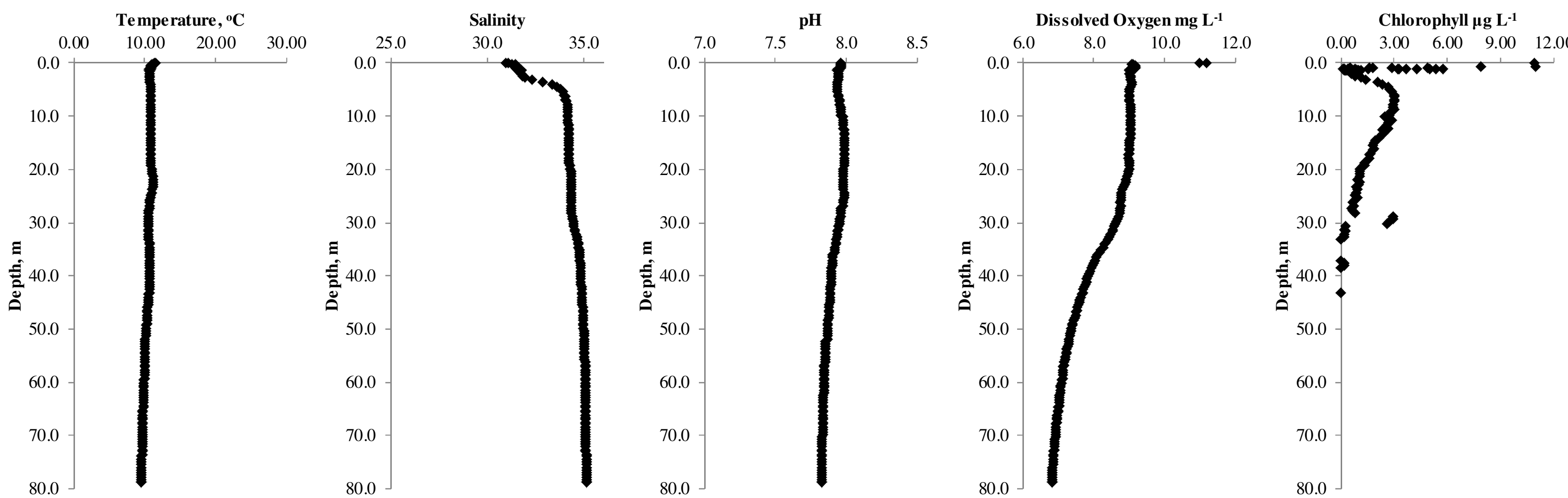
M0068


Temperature, °C
0.00 10.00 20.00 30.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
Dissolved Oxygen mg L⁻¹
6.0 8.0 10.0 12.0
Chlorophyll µg L⁻¹
0.00 3.00 6.00 9.00 12.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

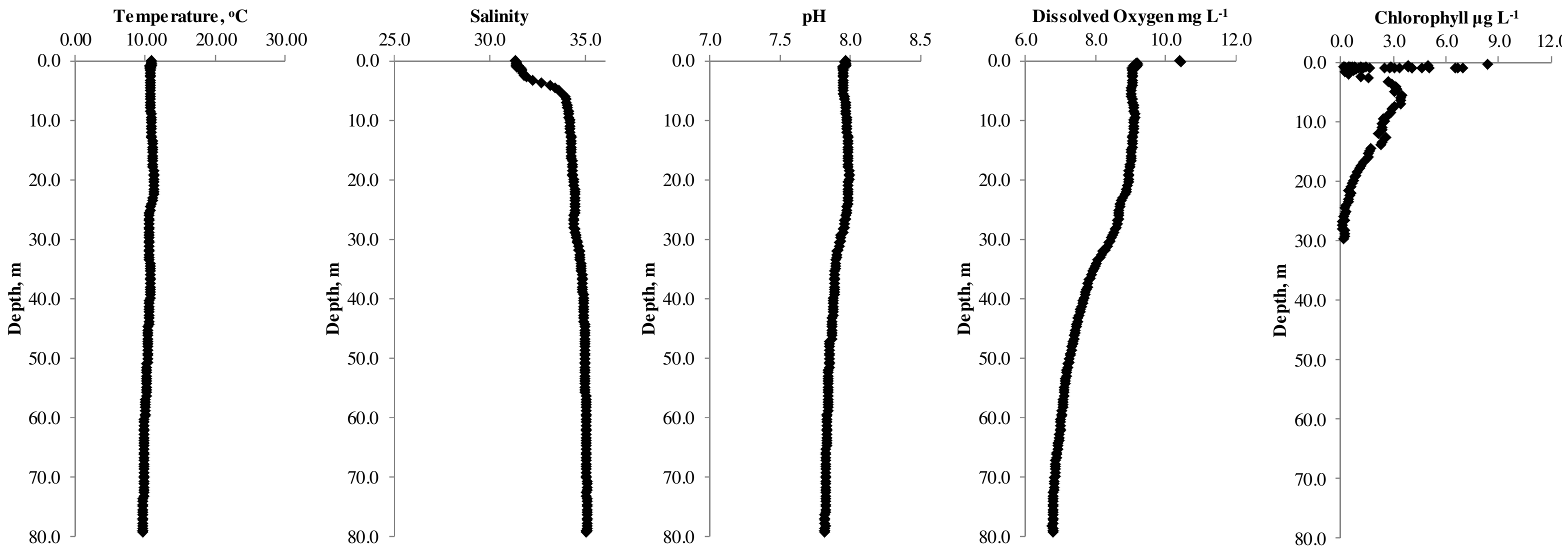
M0069


Temperature, °C
0.00 10.00 20.00 30.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
Dissolved Oxygen mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.00 3.00 6.00 9.00 12.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

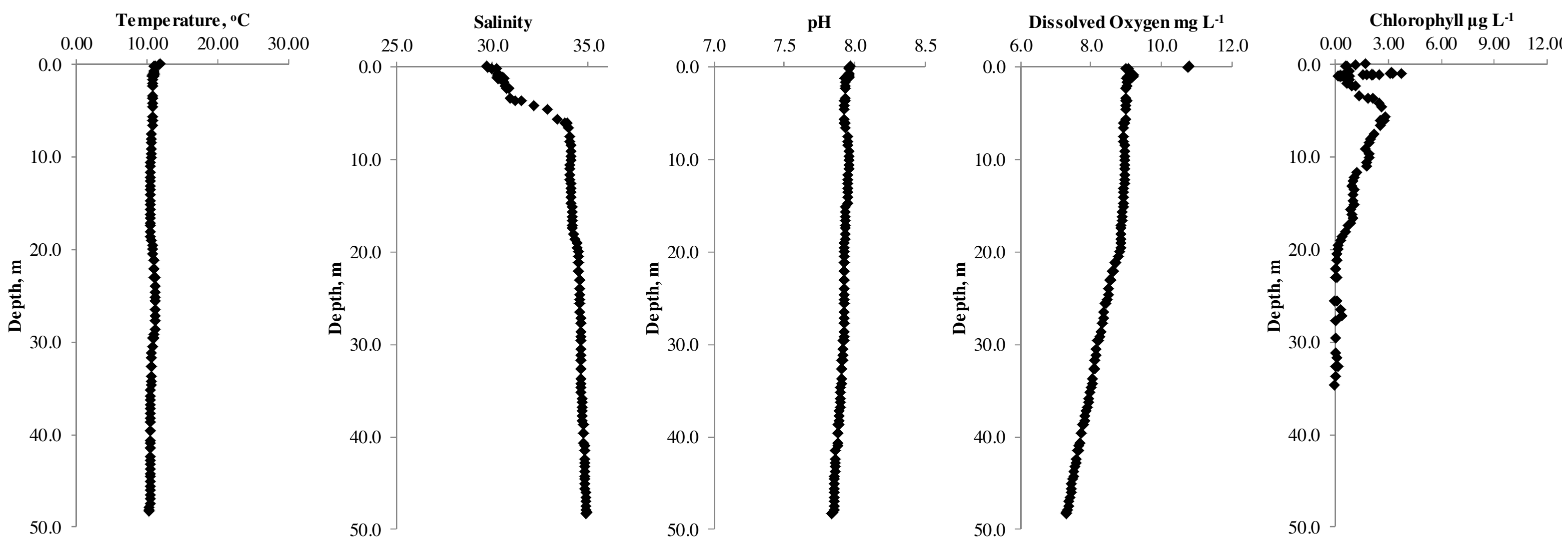
M0070


Temperature, °C
0.00 10.00 20.00 30.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
Dissolved Oxygen mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.00 3.00 6.00 9.00 12.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0

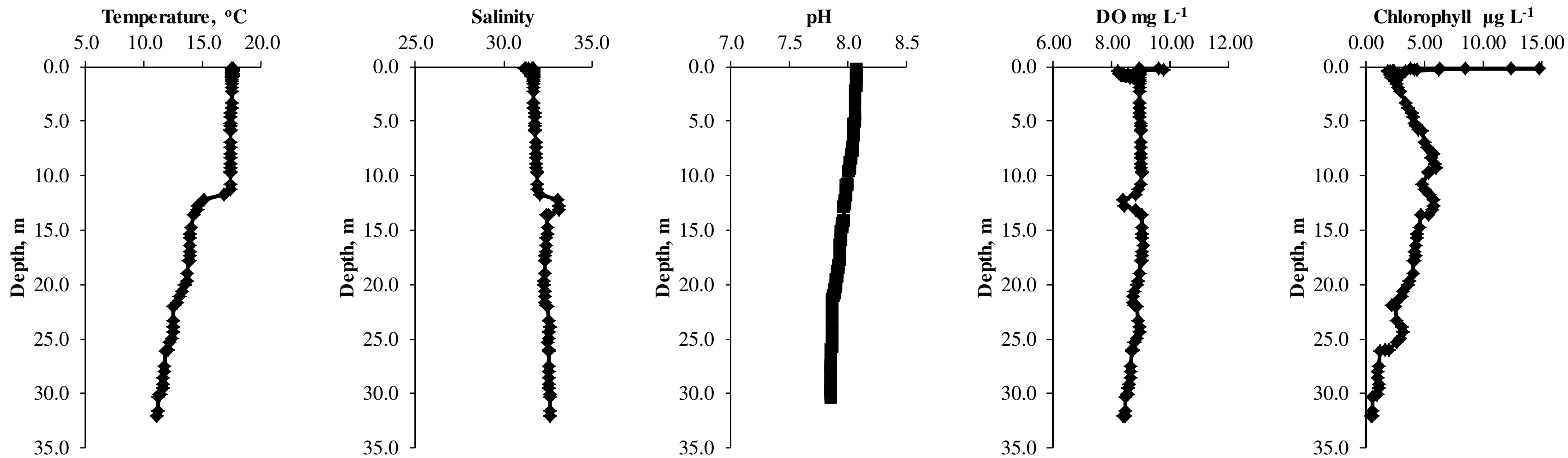
M0071


Temperature, °C
Salinity
pH
Dissolved Oxygen mg L-1
Chlorophyll µg L-1
Depth, m

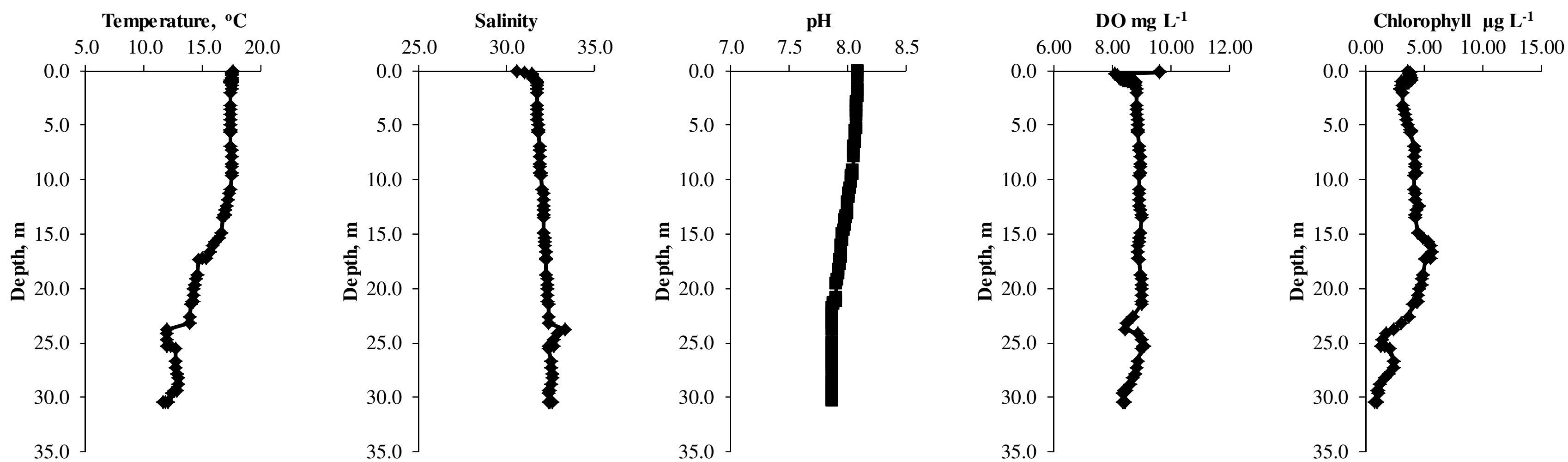
M0072


Temperature, °C
Salinity
pH
Dissolved Oxygen mg L-1
Chlorophyll µg L-1
Depth, m

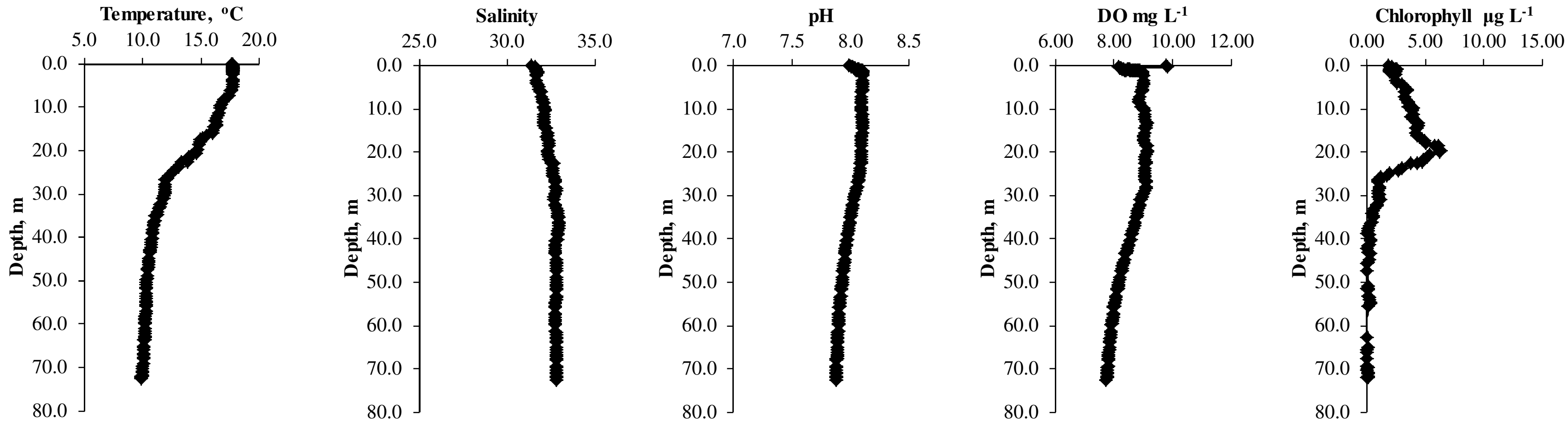
M0073– *upcast plotted for pH



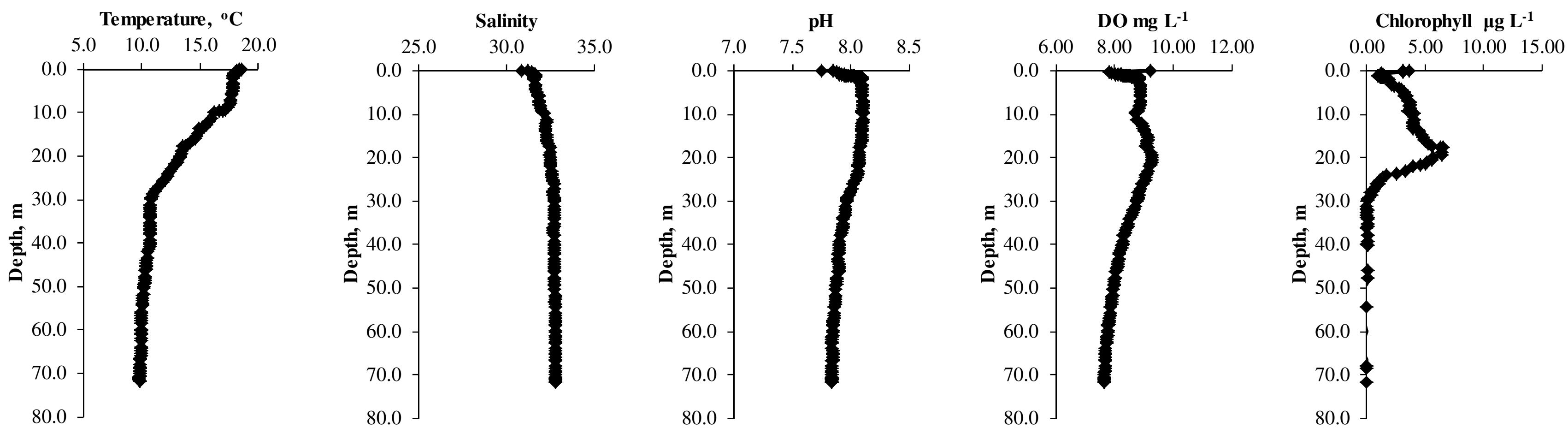
M0074– *upcast plotted for pH



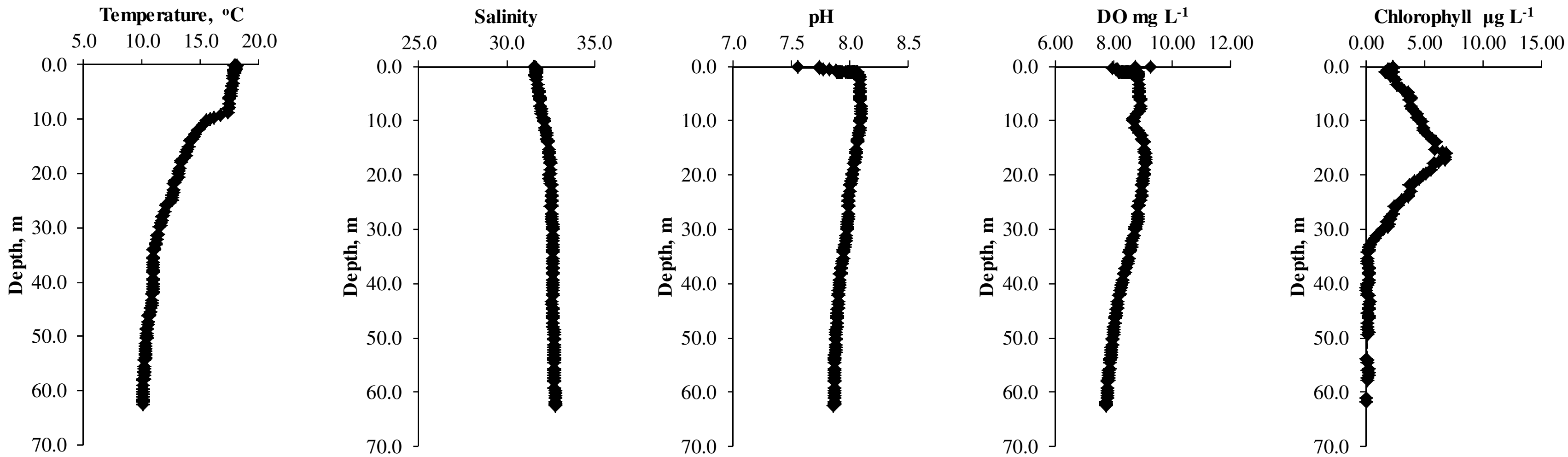
M0075


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0

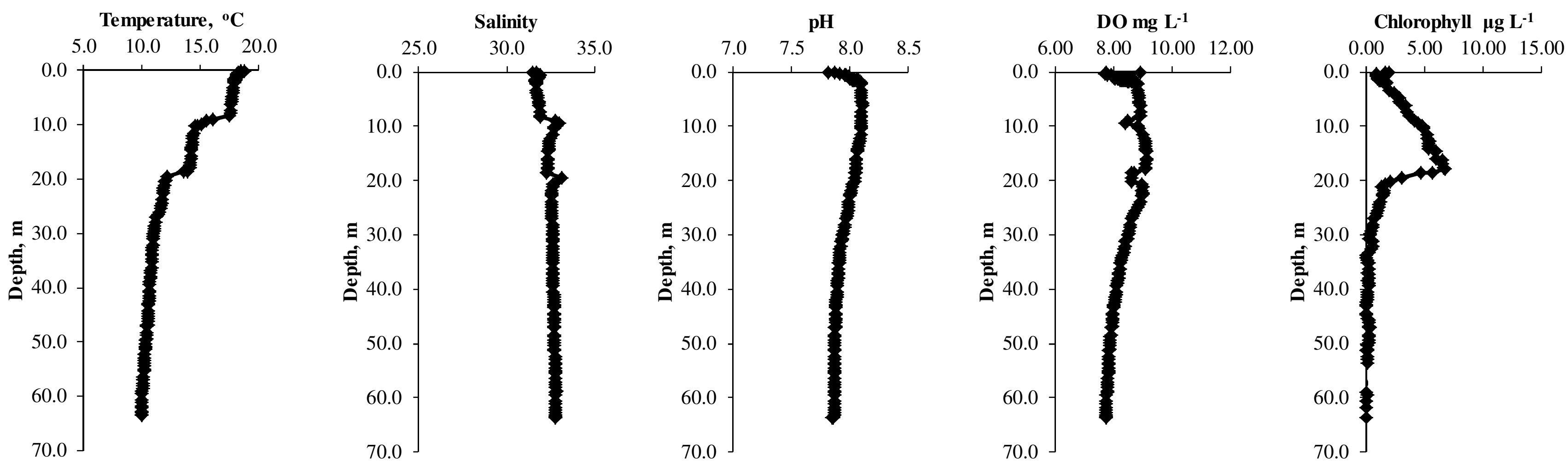
M0076


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0

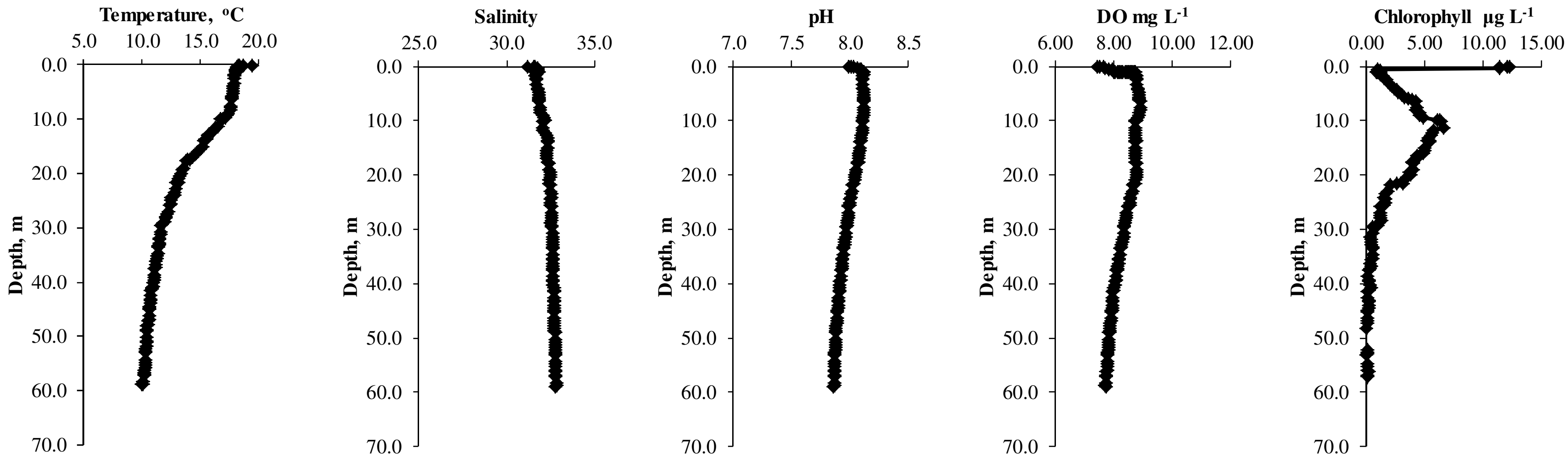
M0077


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

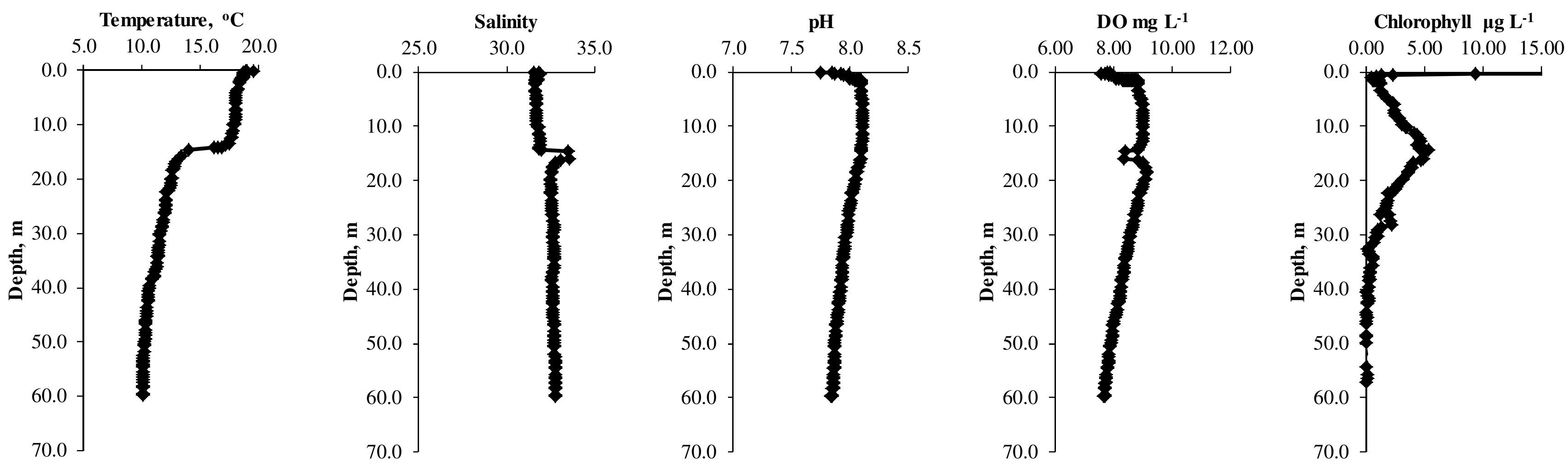
M0078


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

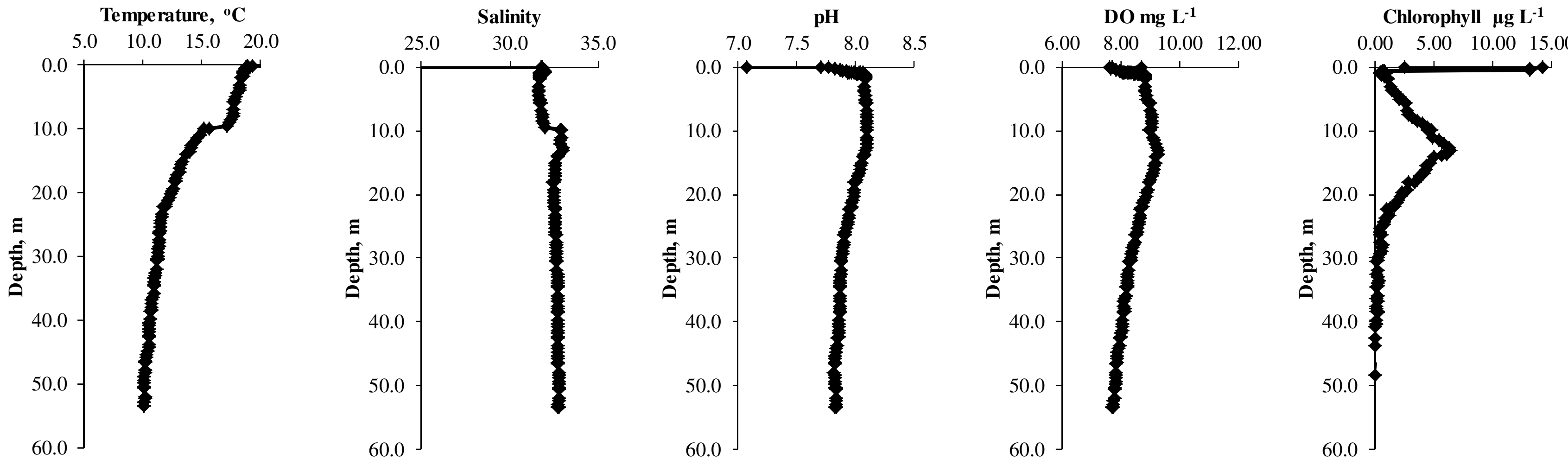
M0079


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

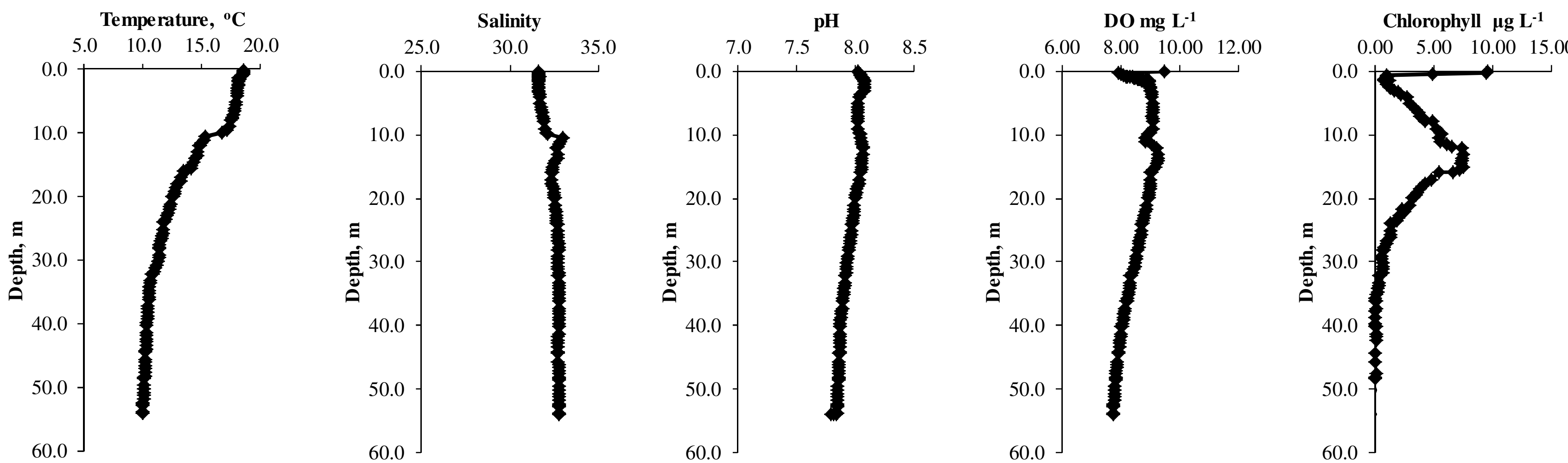
M0080


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

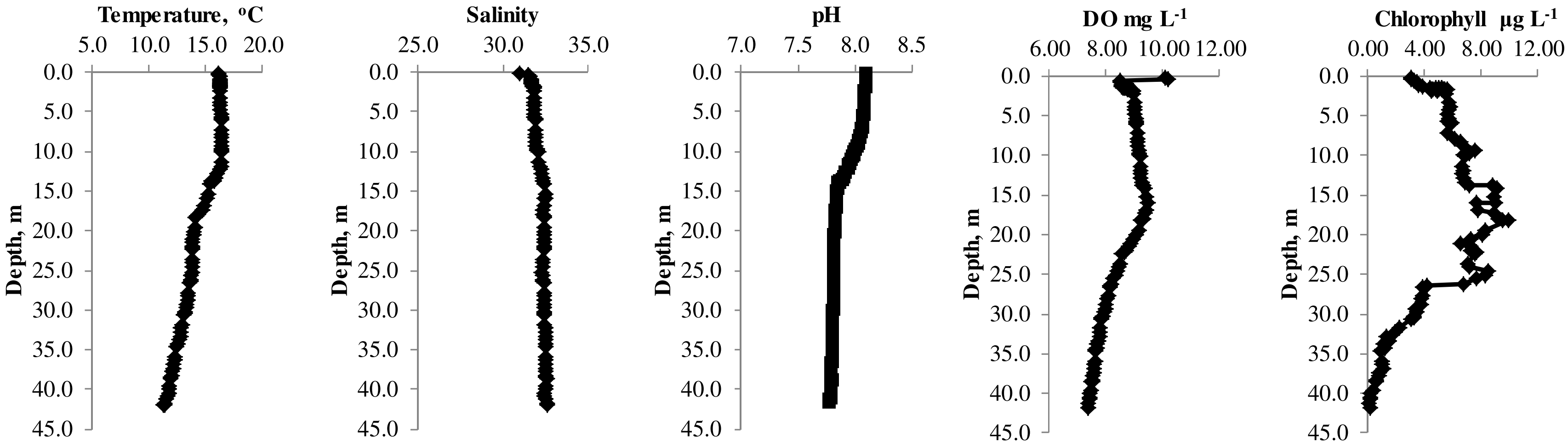
M0081


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

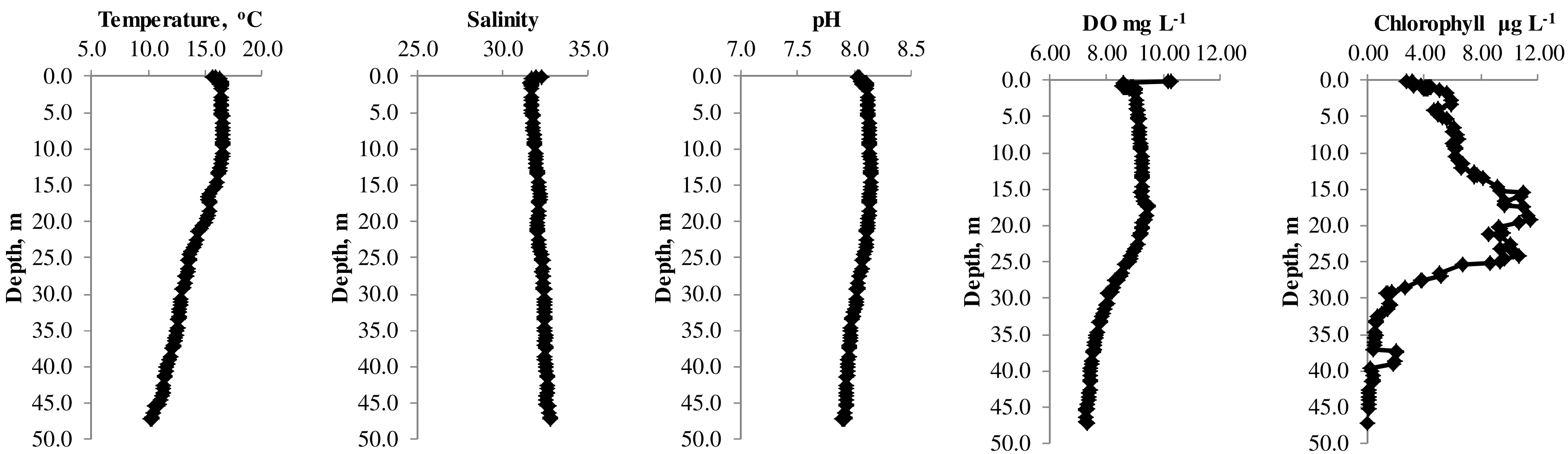
M0082


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

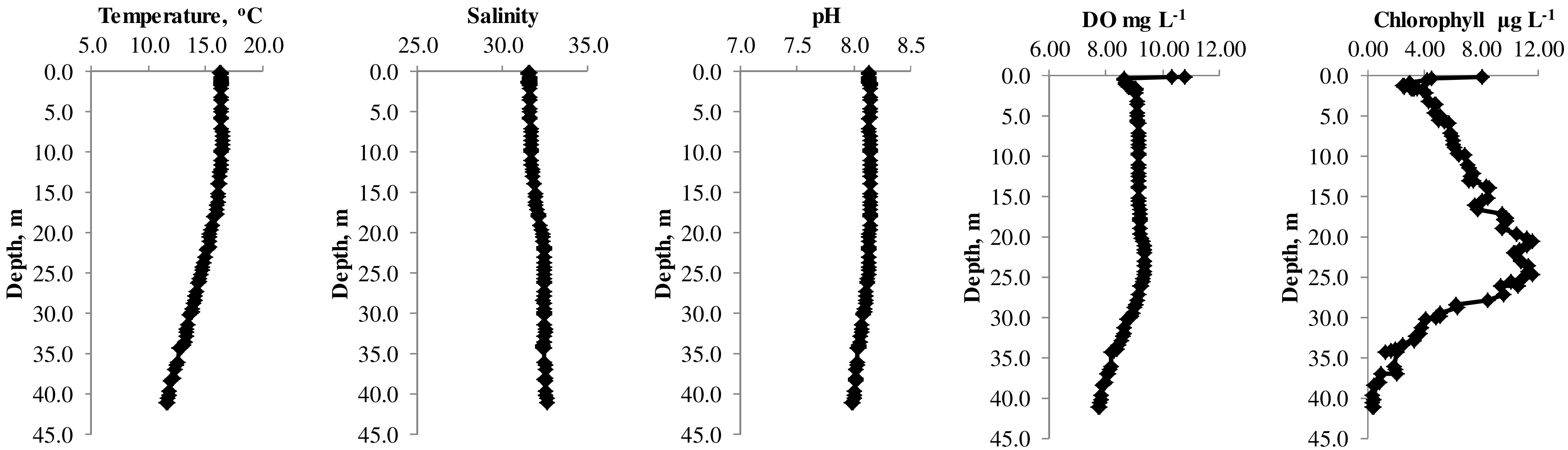
M0083 – *upcast plotted for pH



M0084

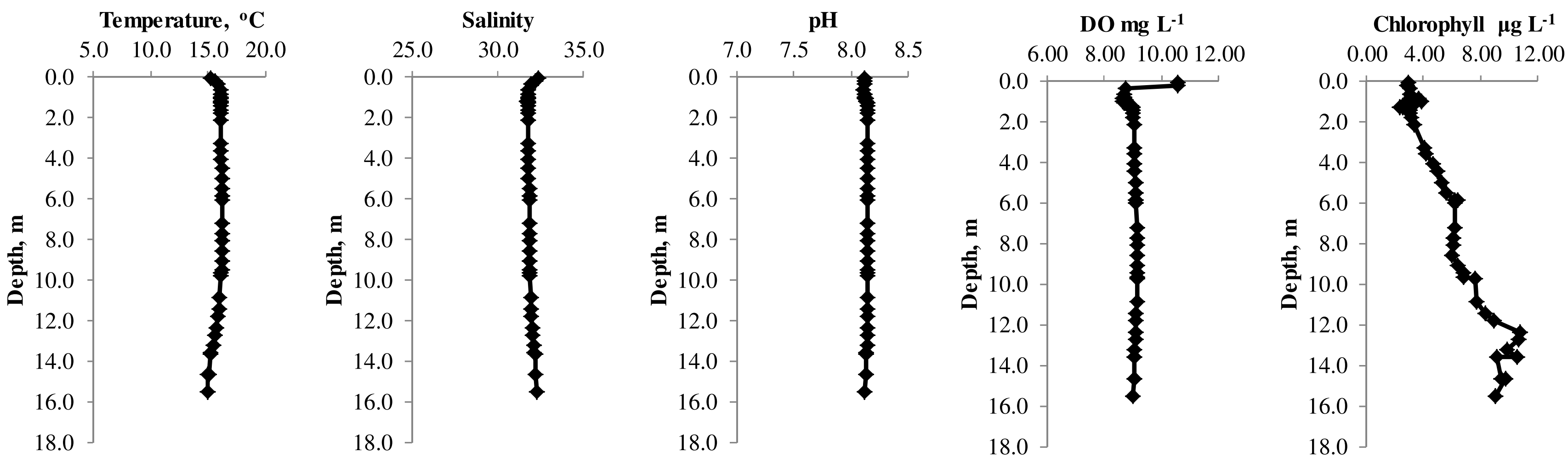


M0085



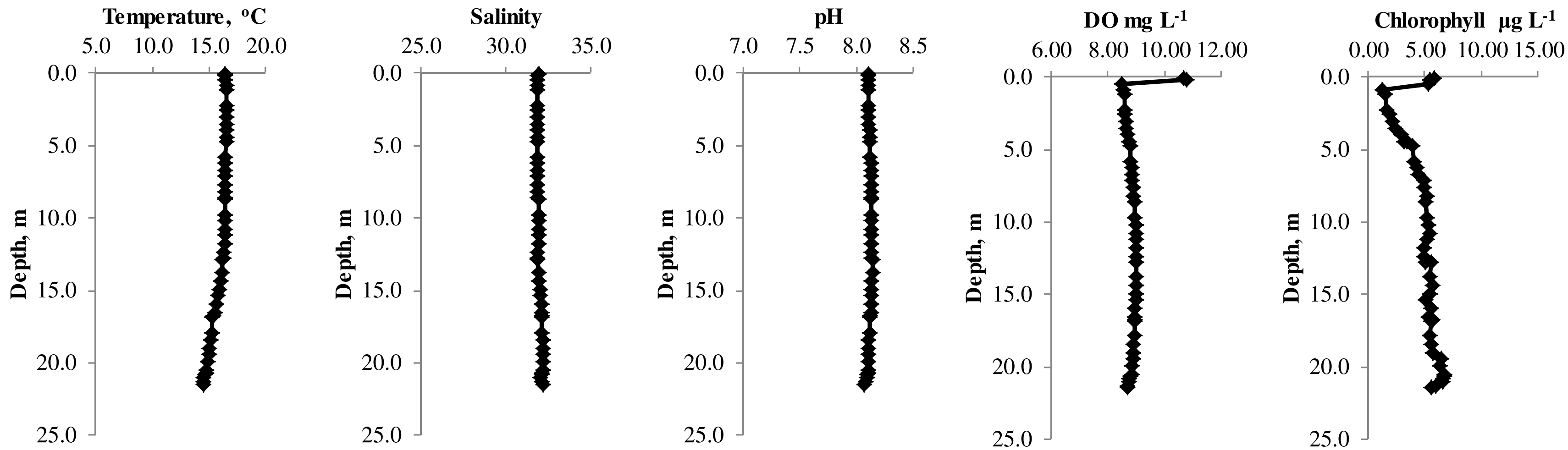
Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 4.00 8.00 12.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0

M0086

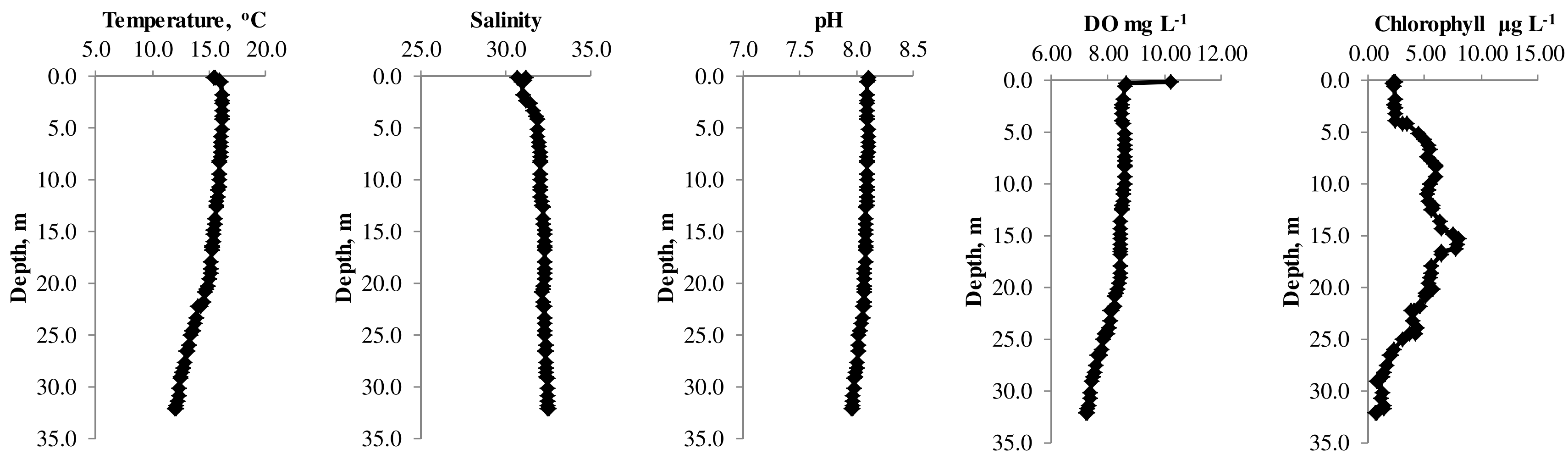


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 4.00 8.00 12.00
Depth, m
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0

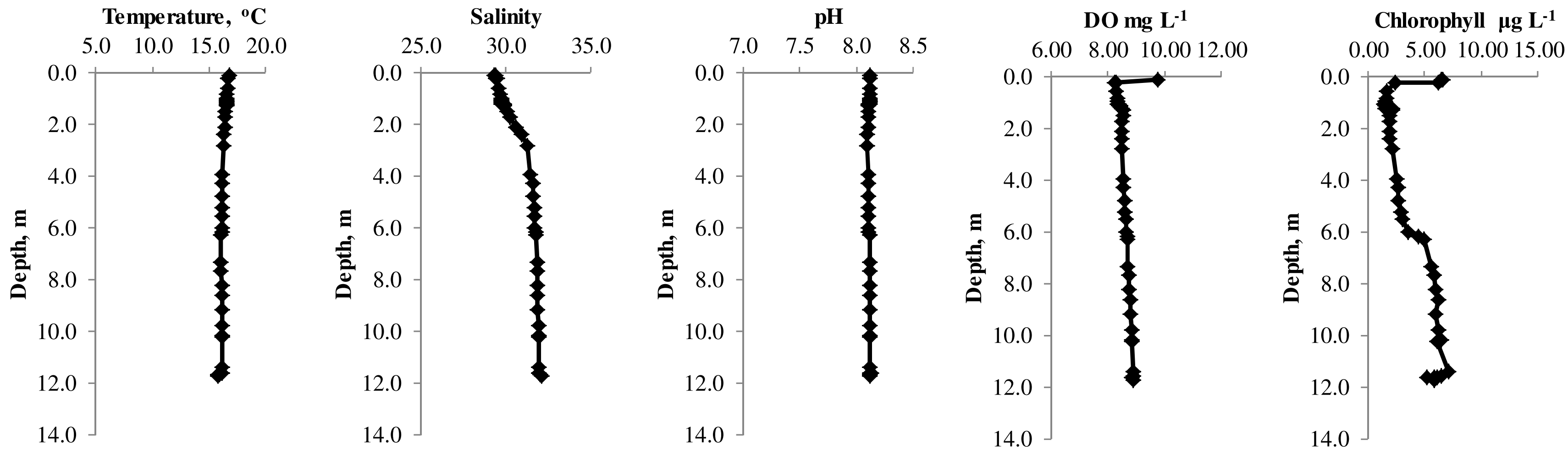
M0087


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0

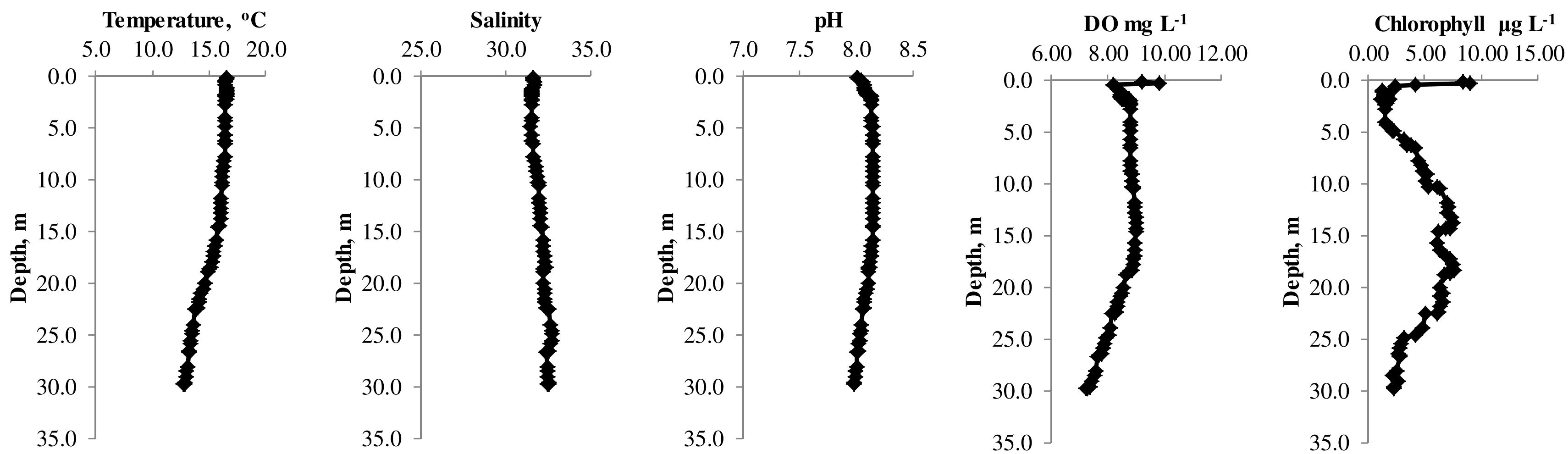
M0088


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0

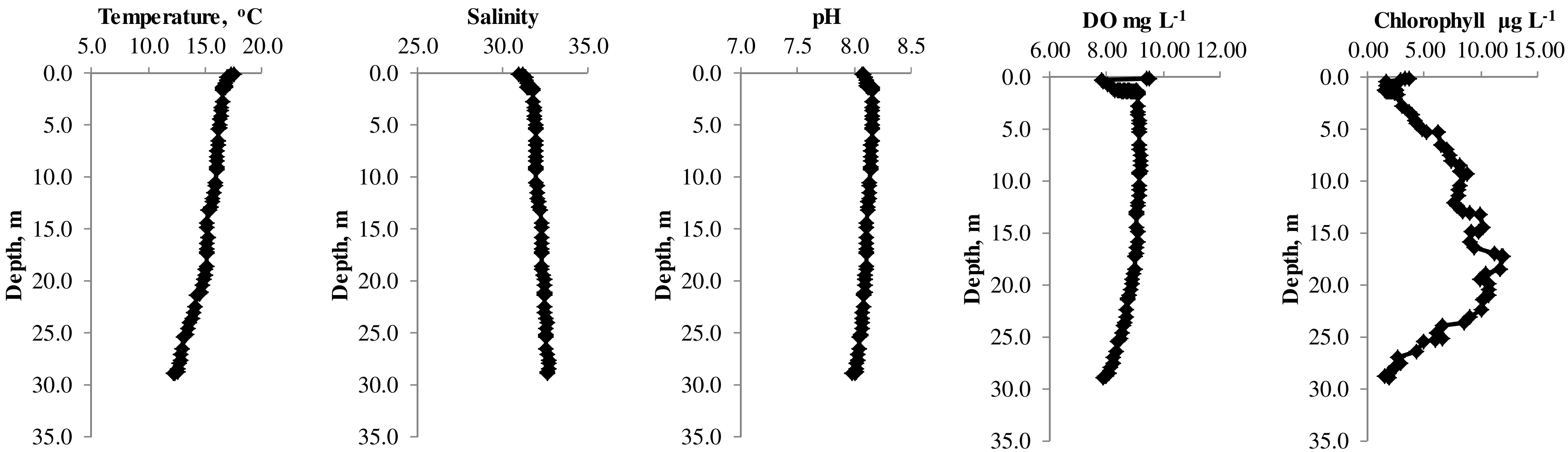
M0089


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0

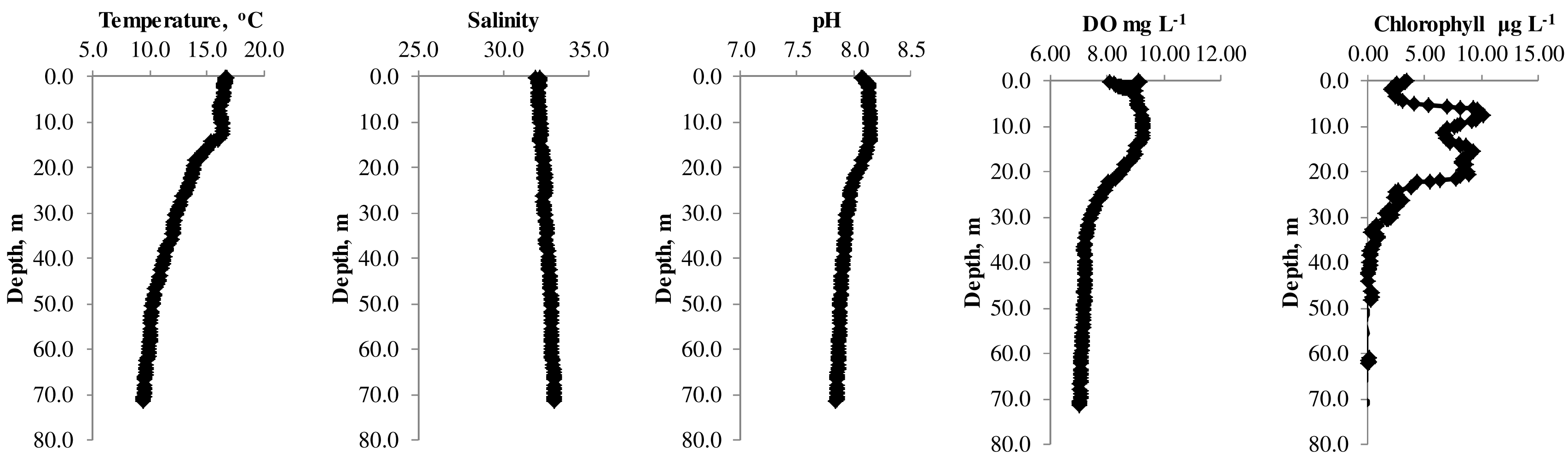
M0090


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0

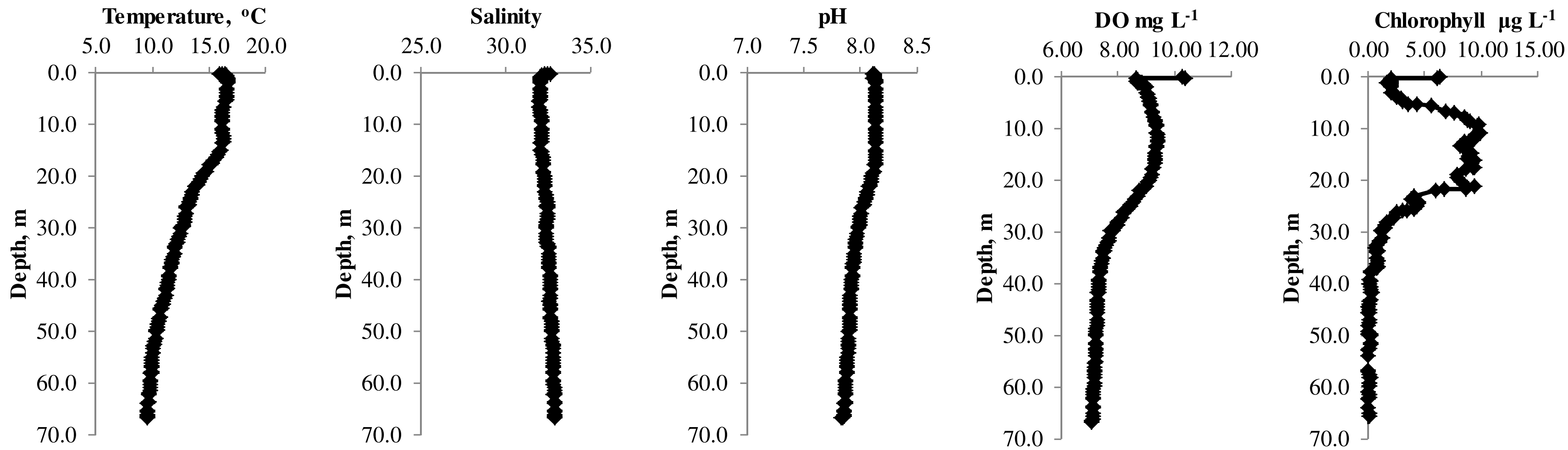
M0091


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0

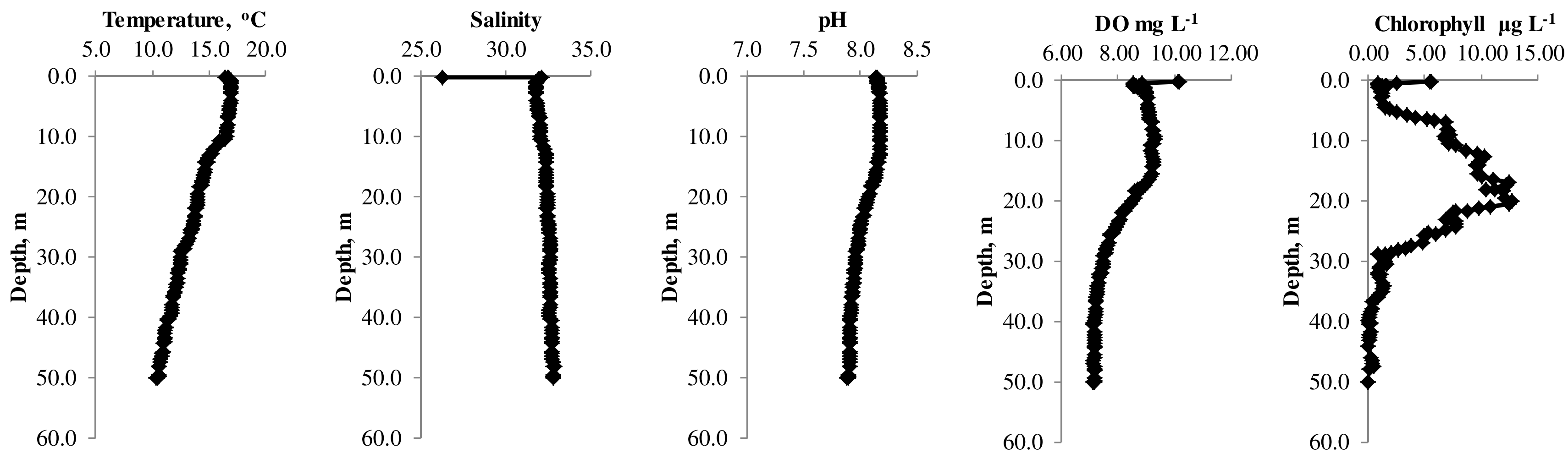
M0092


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0

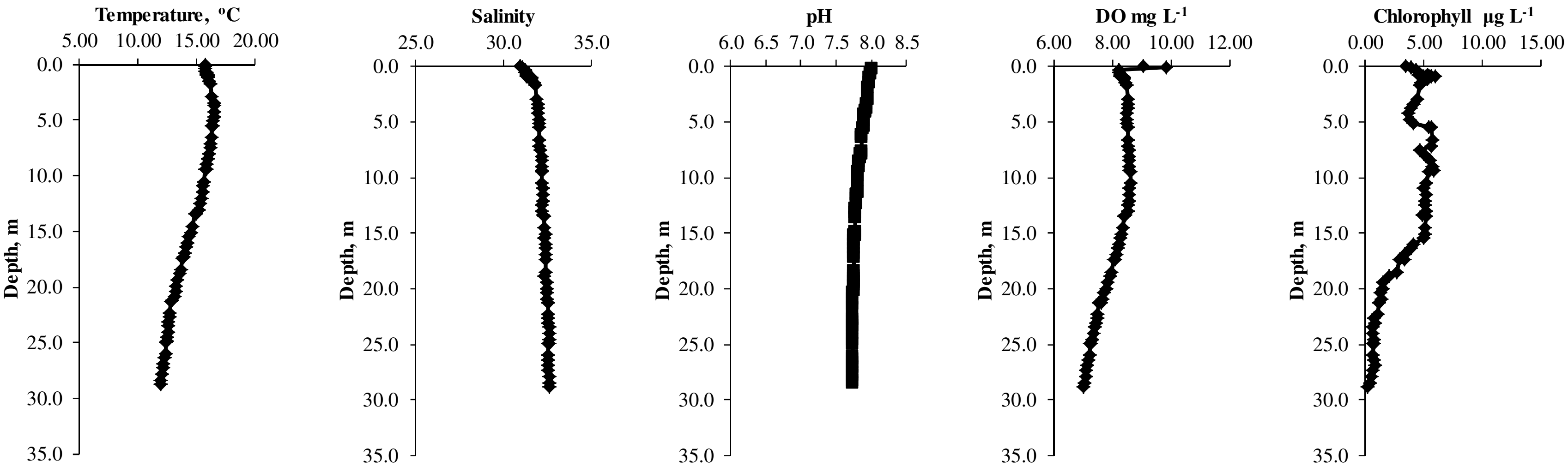
M0093


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

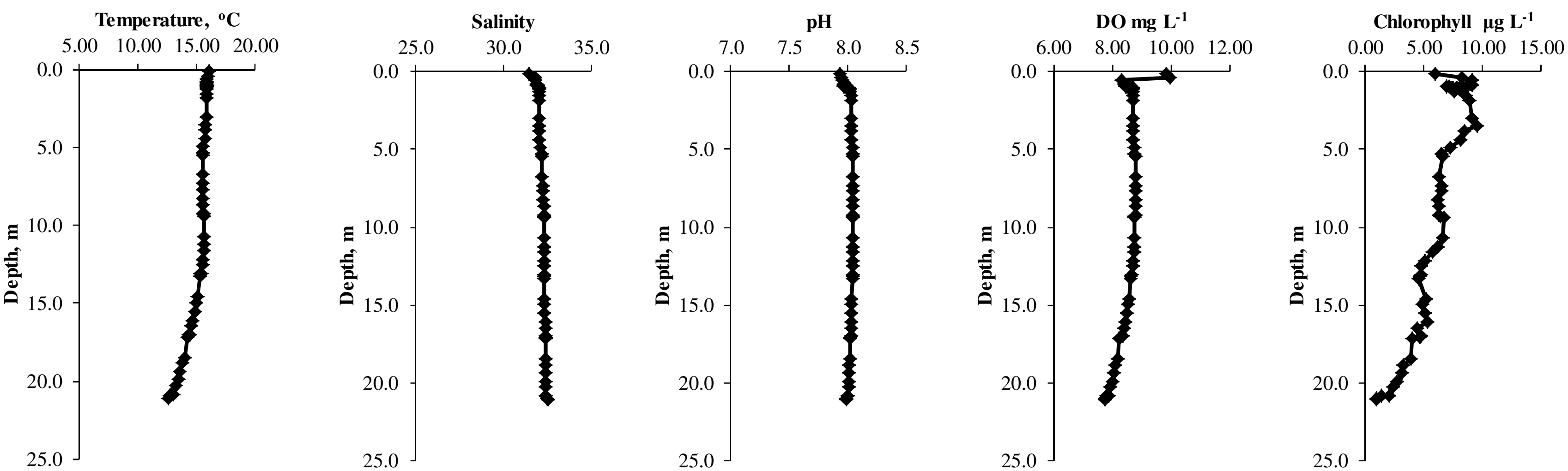
M0094


Temperature, °C
5.0 10.0 15.0 20.0
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

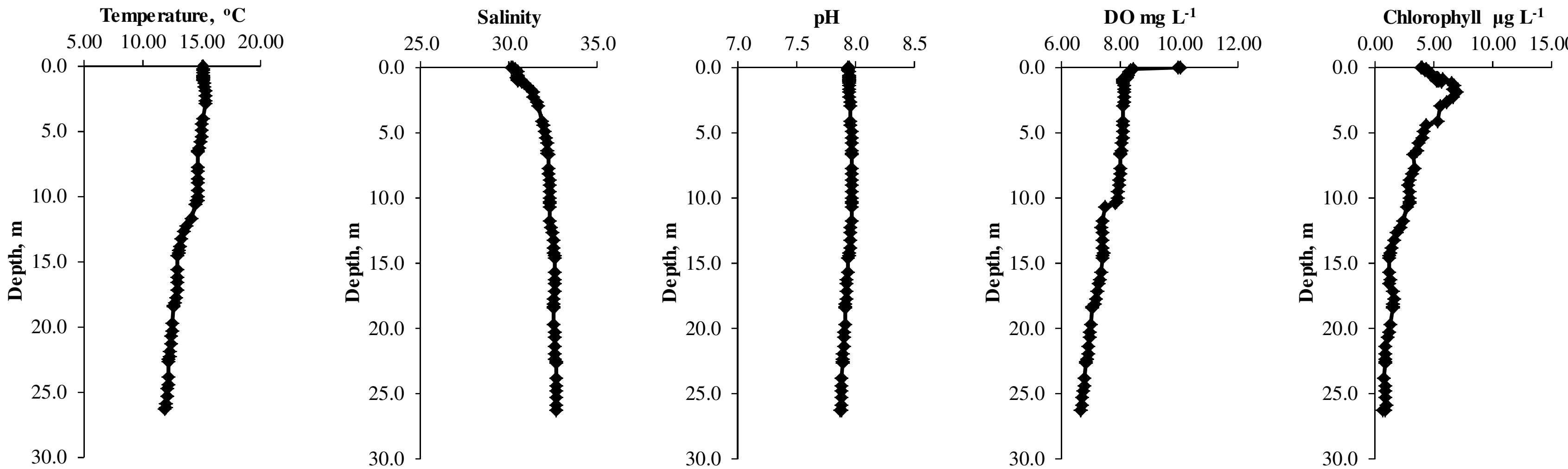
M0095– *upcast plotted for pH



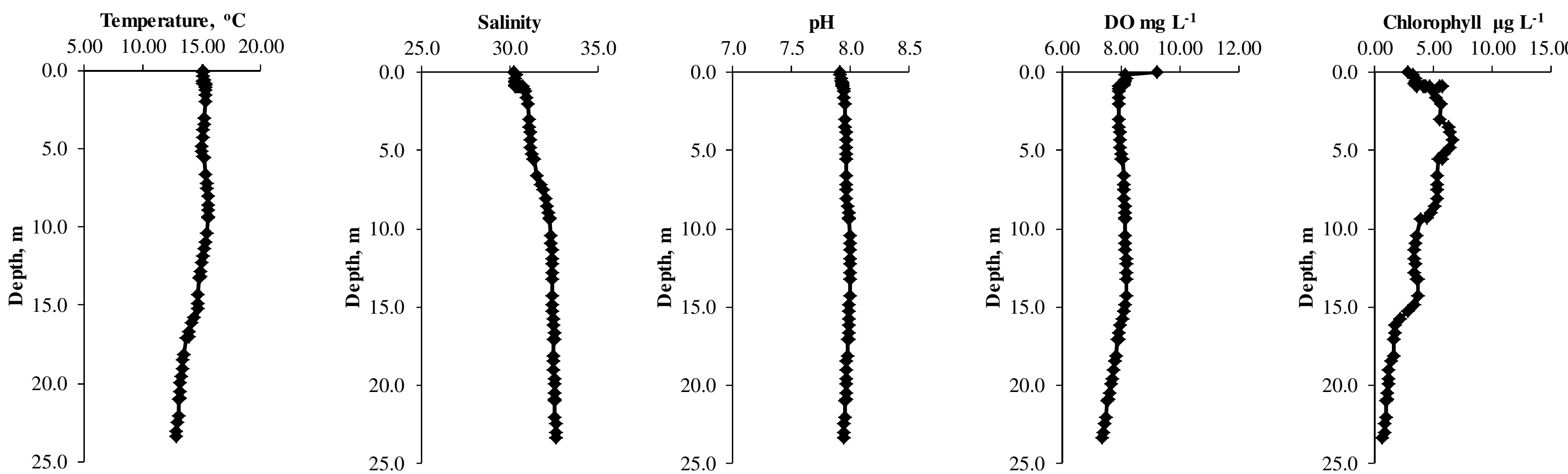
M0096



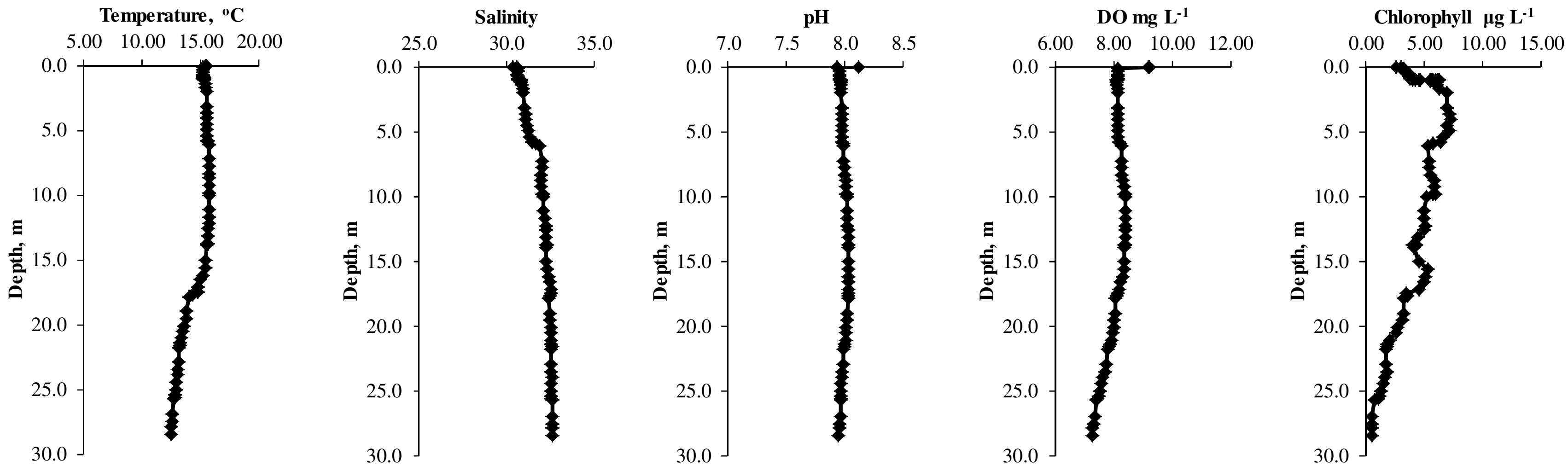
M0097


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0

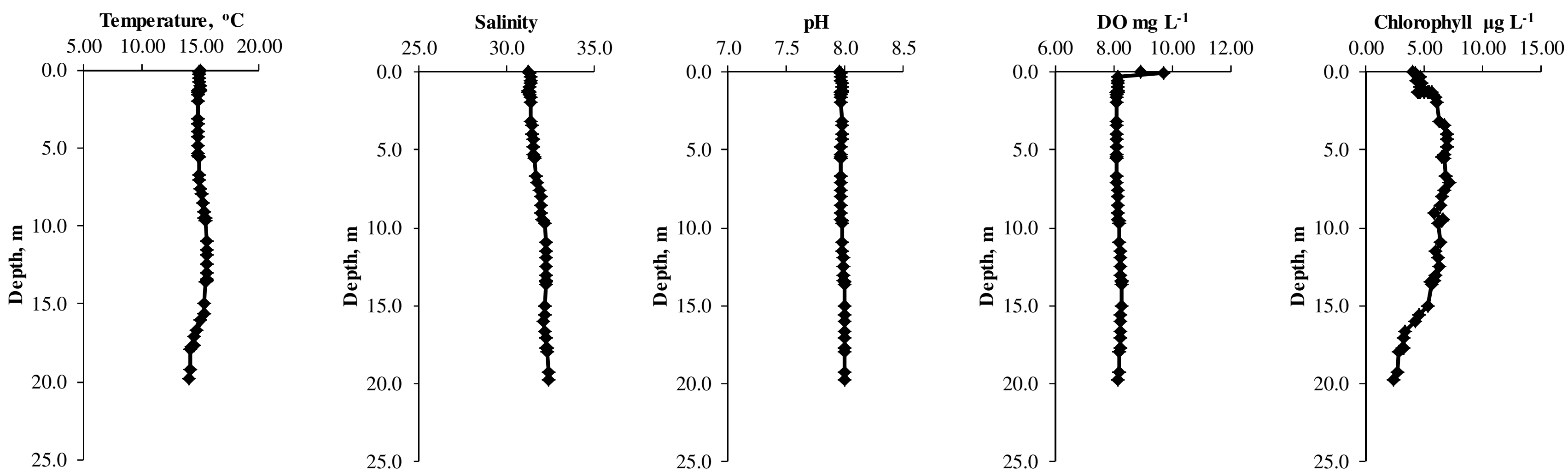
M0098


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0

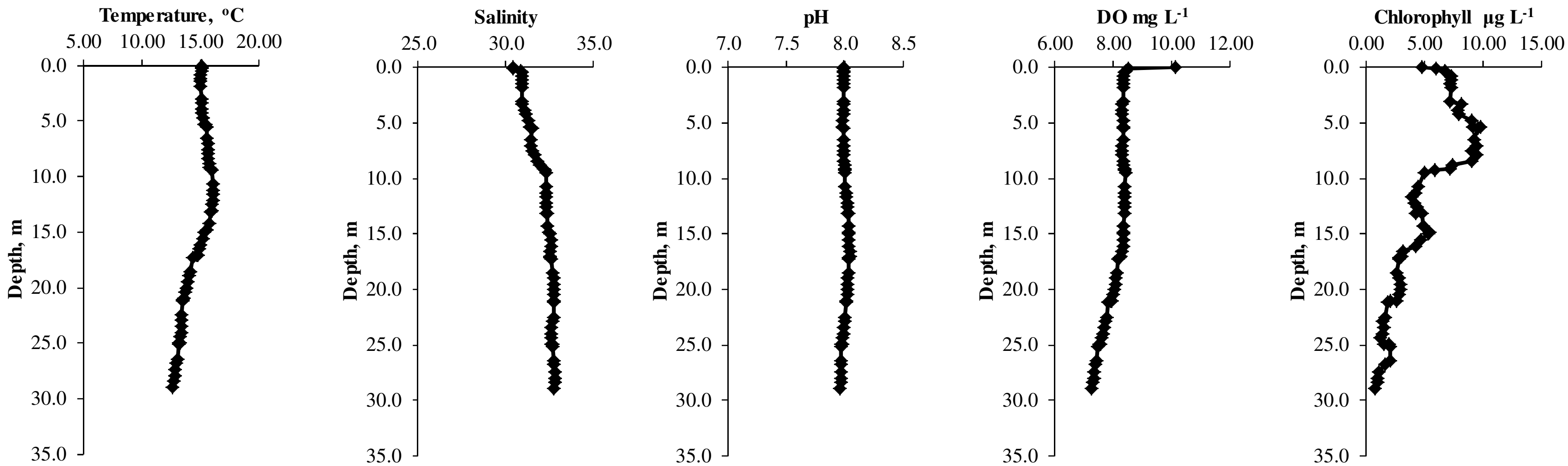
M0099


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0

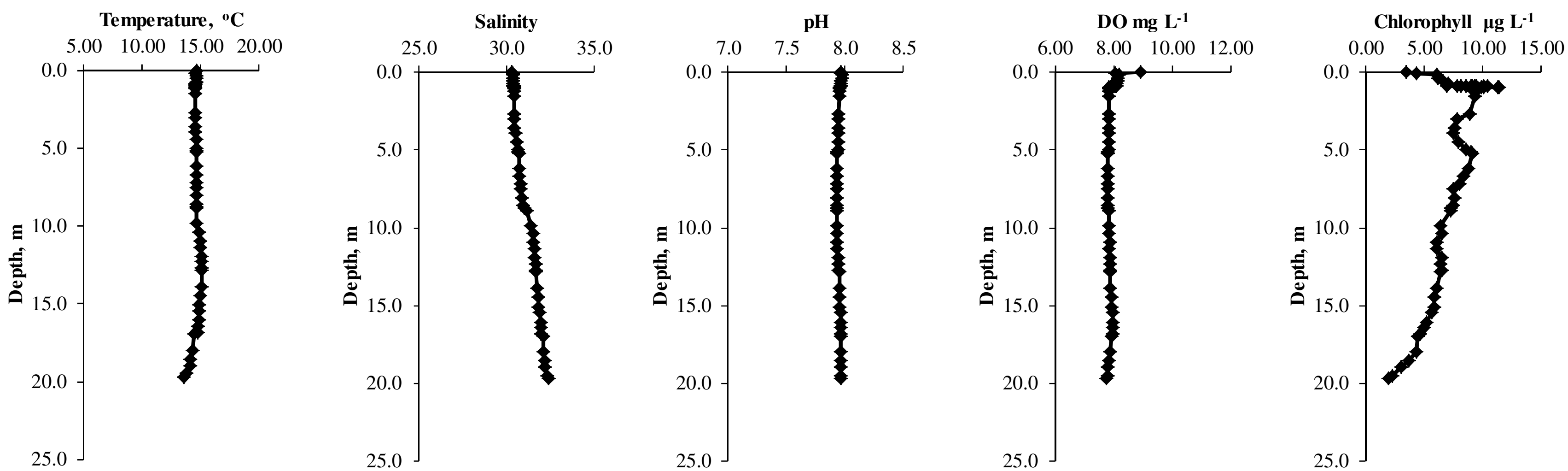
M0100


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0

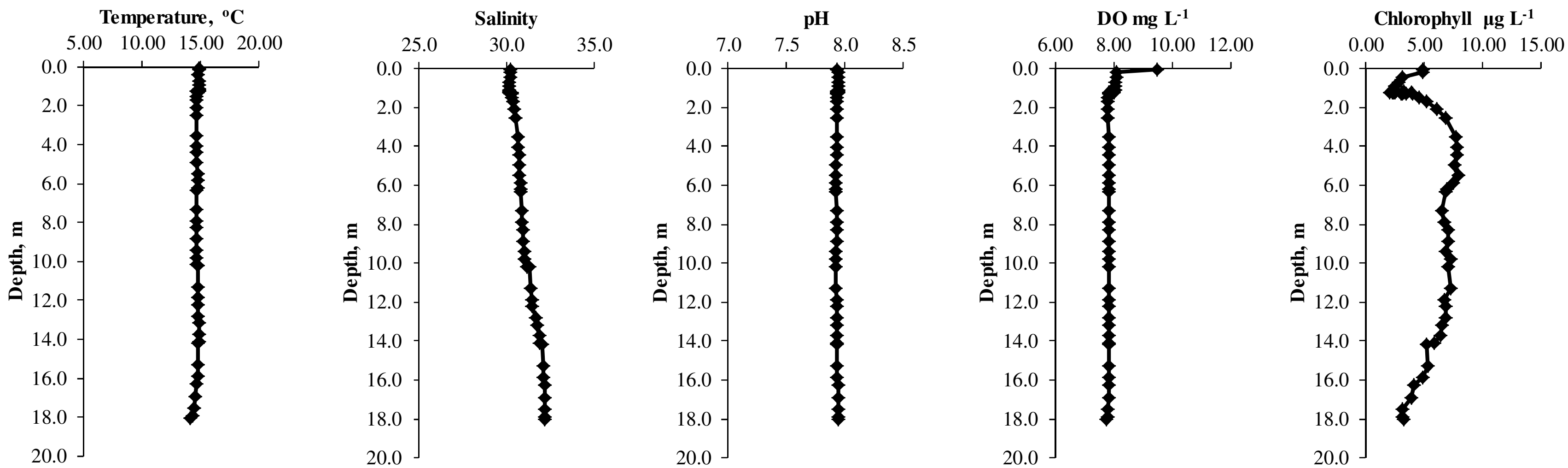
M0101


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0

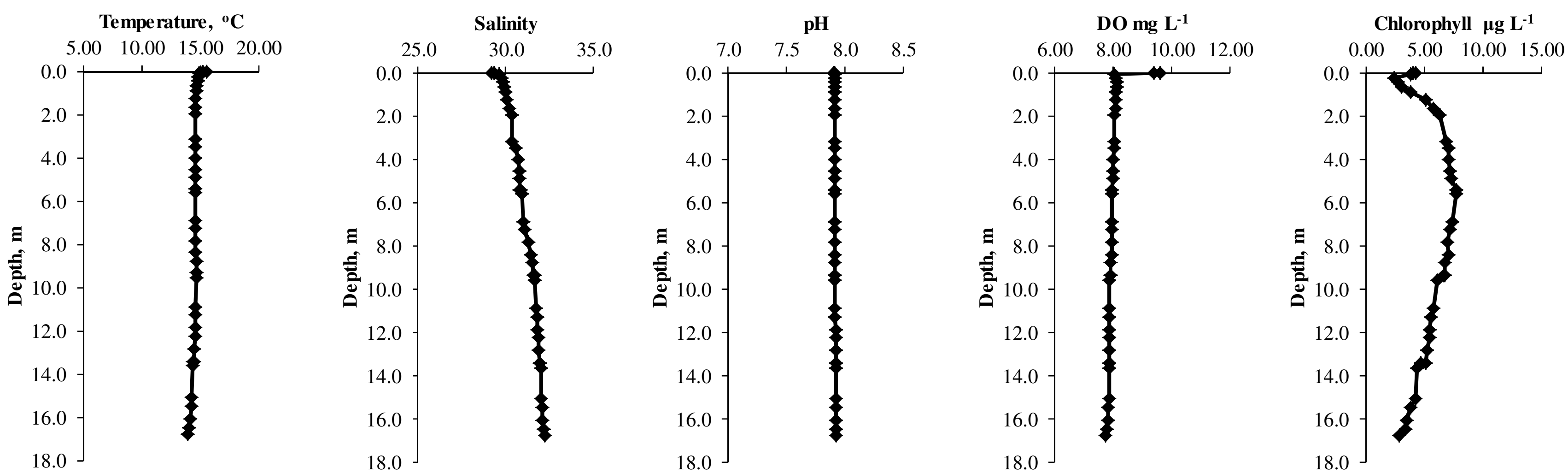
M0102


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0

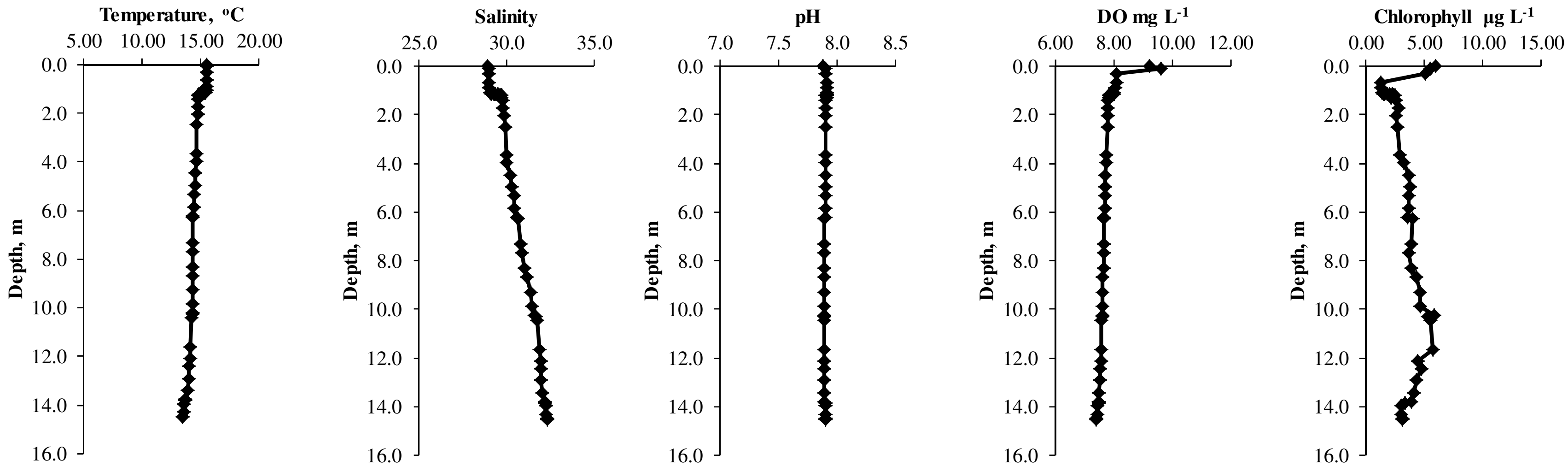
M0103


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0

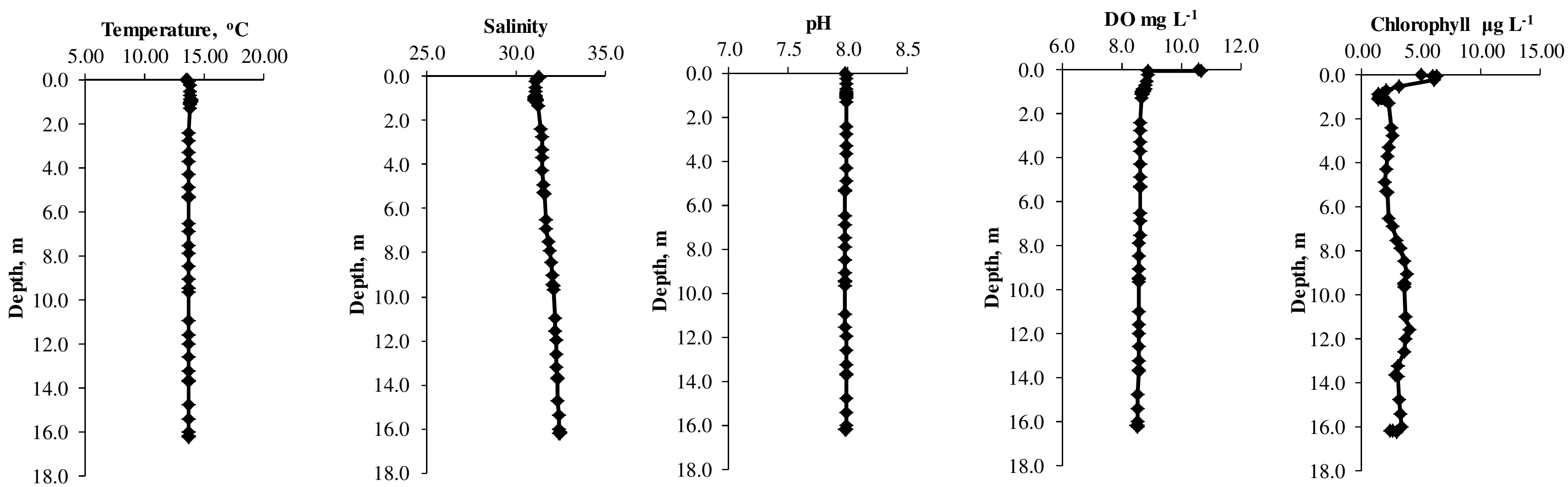
M0104


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0

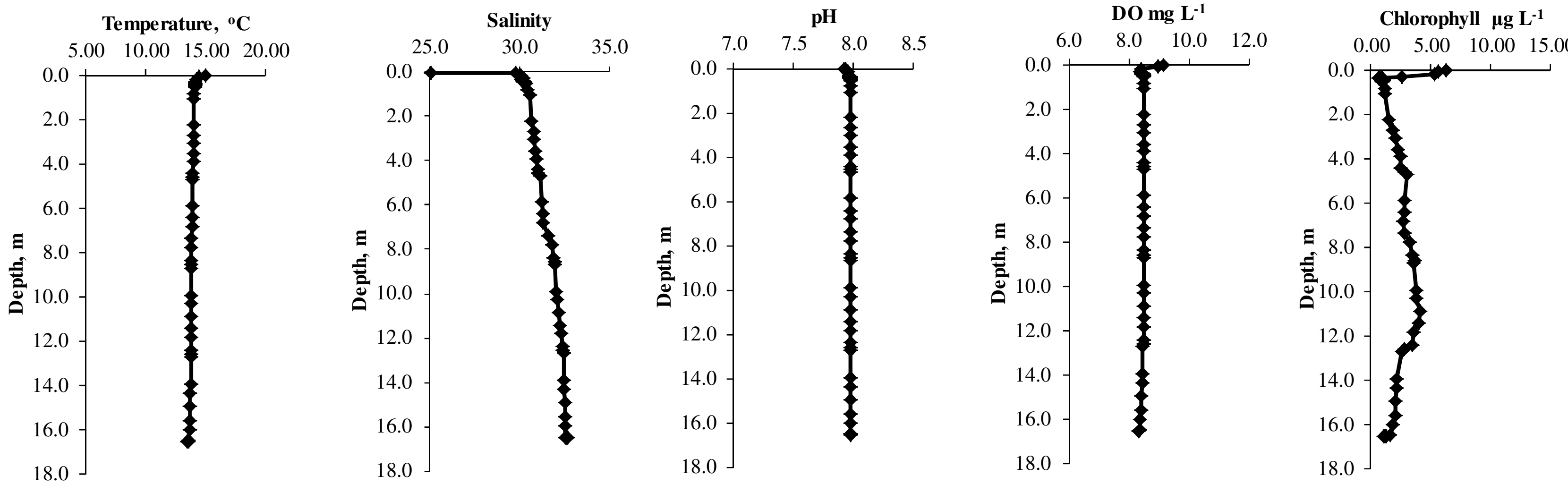
M0105


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.00 8.00 10.00 12.00
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0

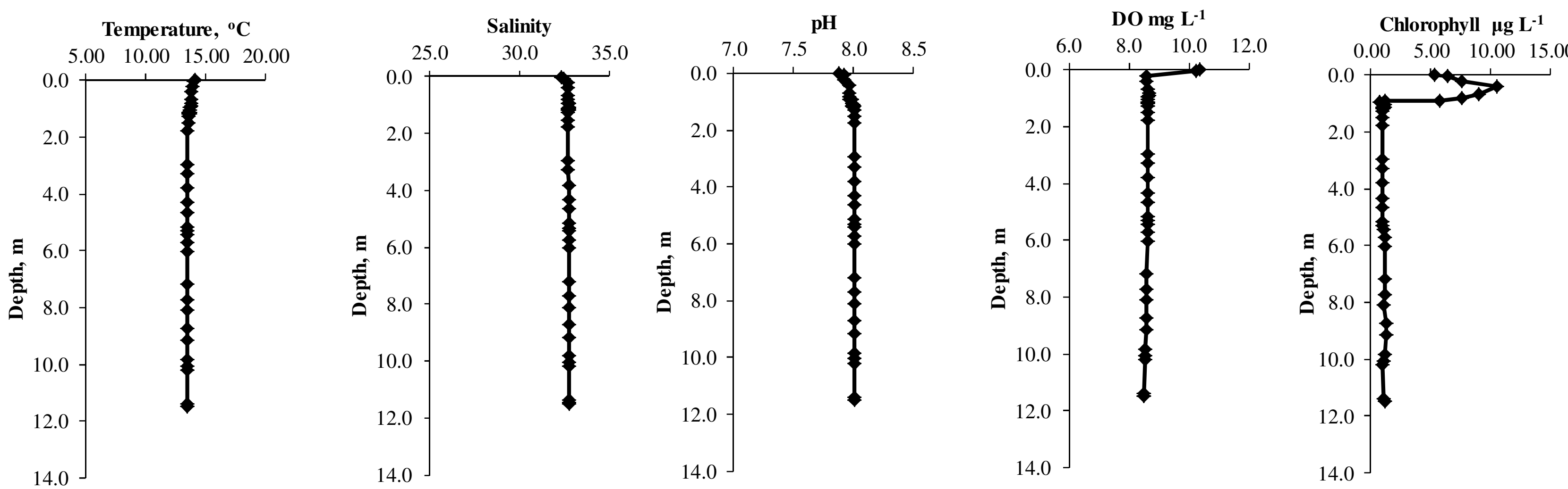
M0106


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0

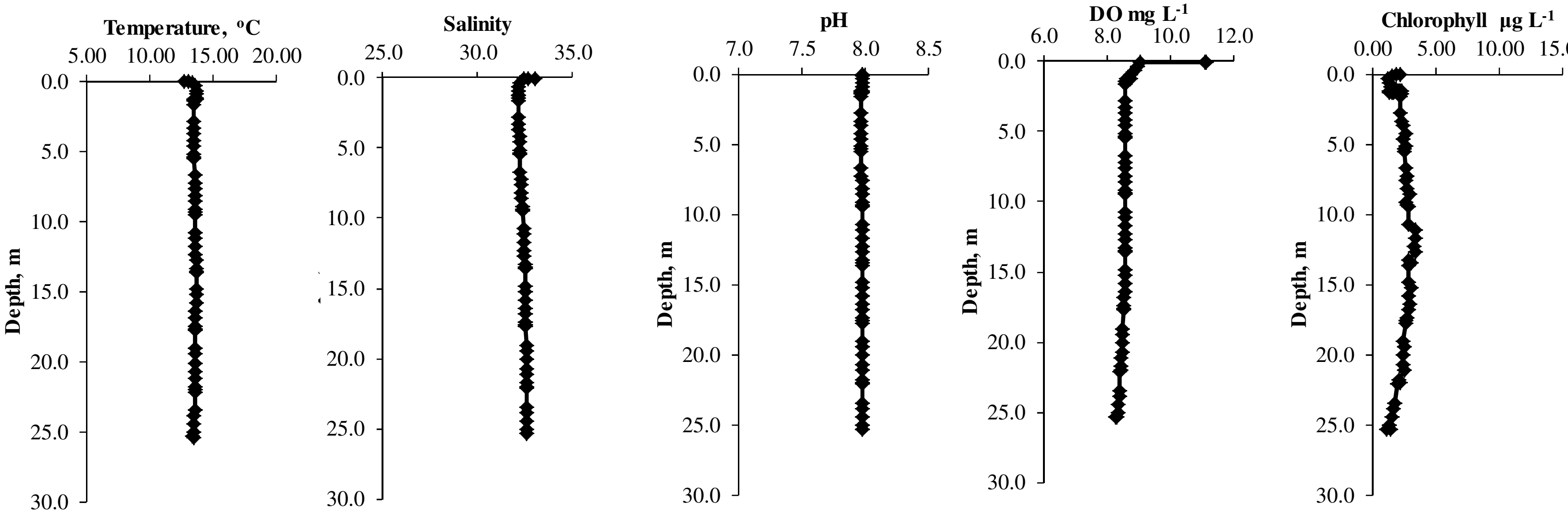
M0107


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0

M0108

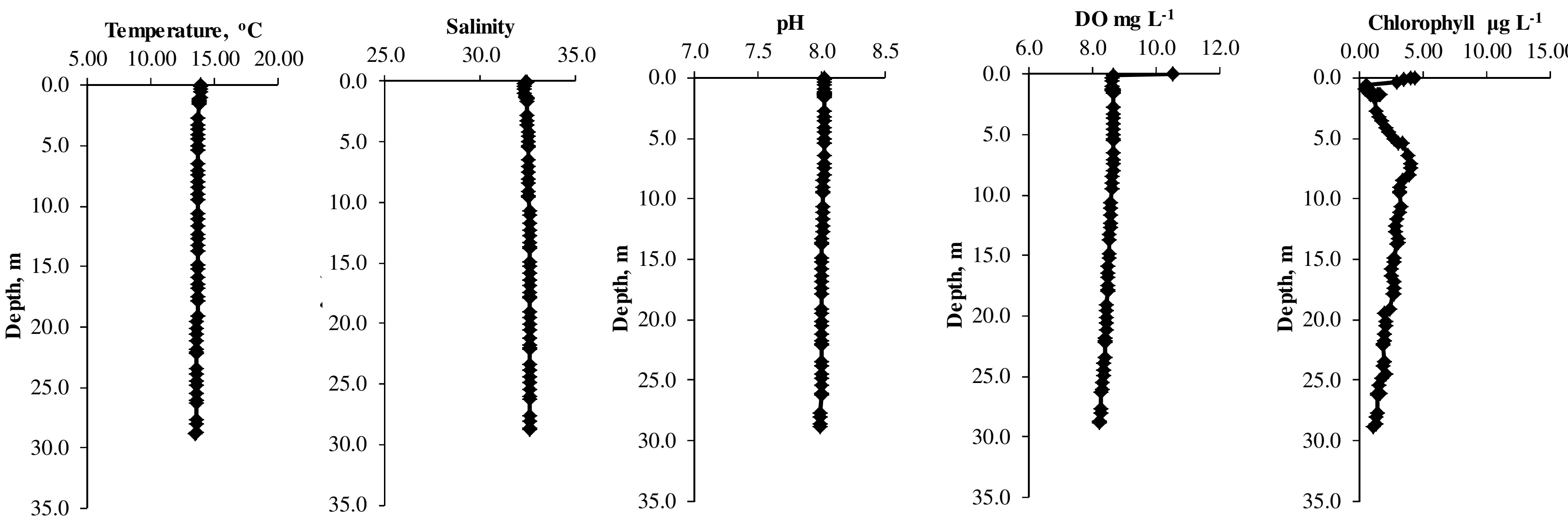

Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0

M0109



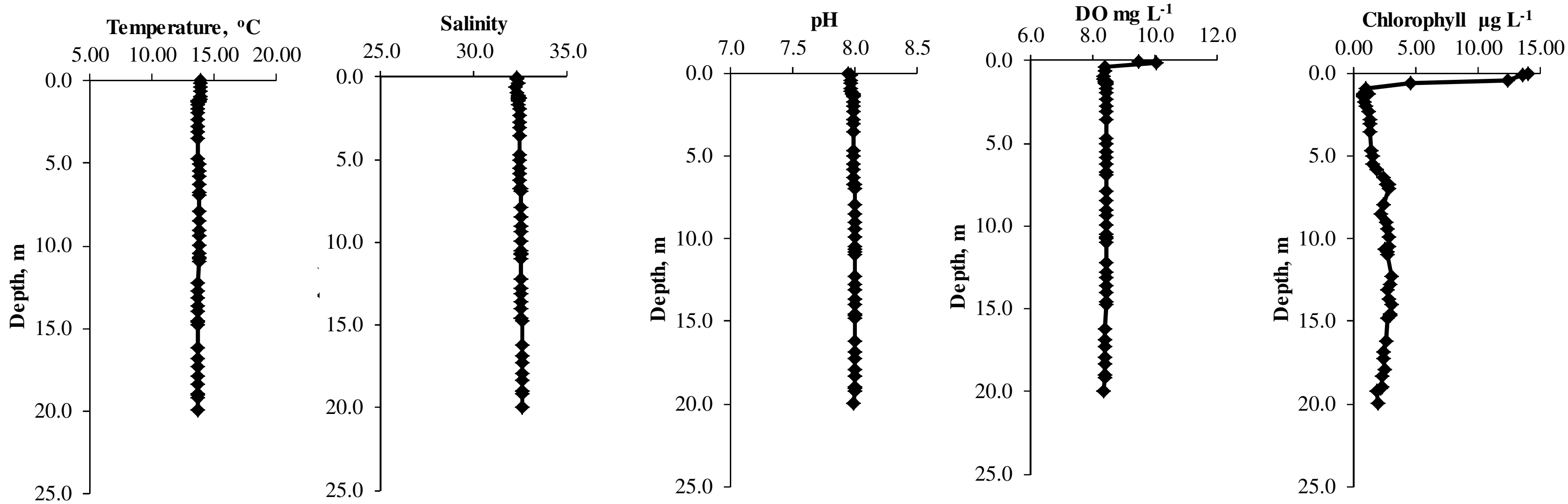
Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0

M0110

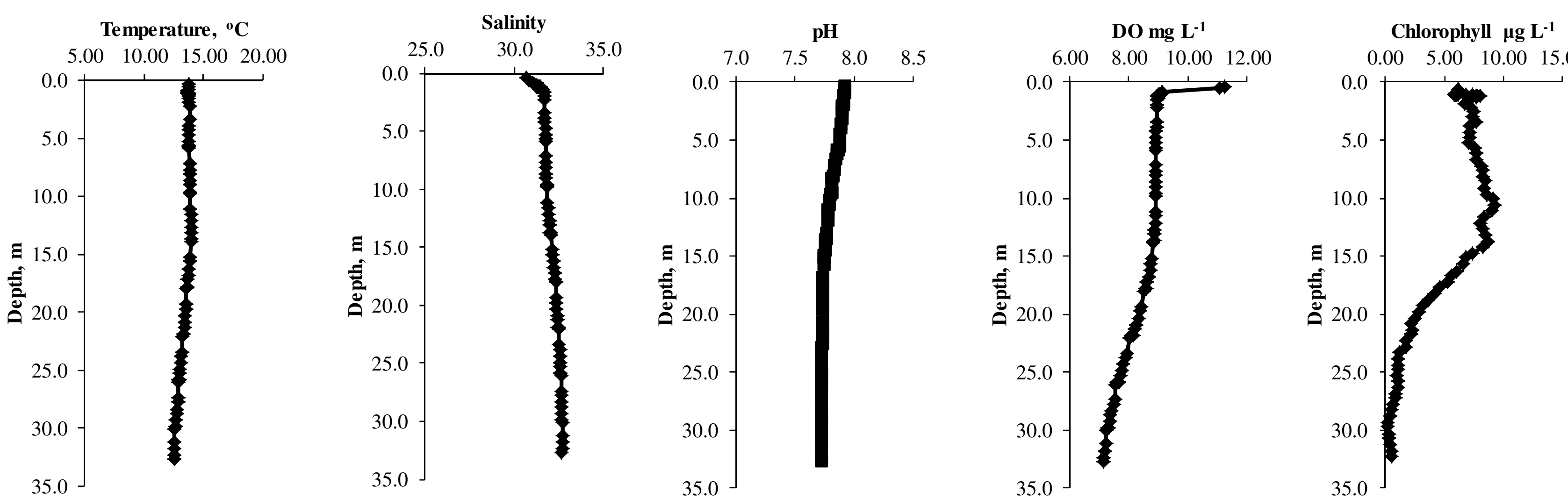


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0

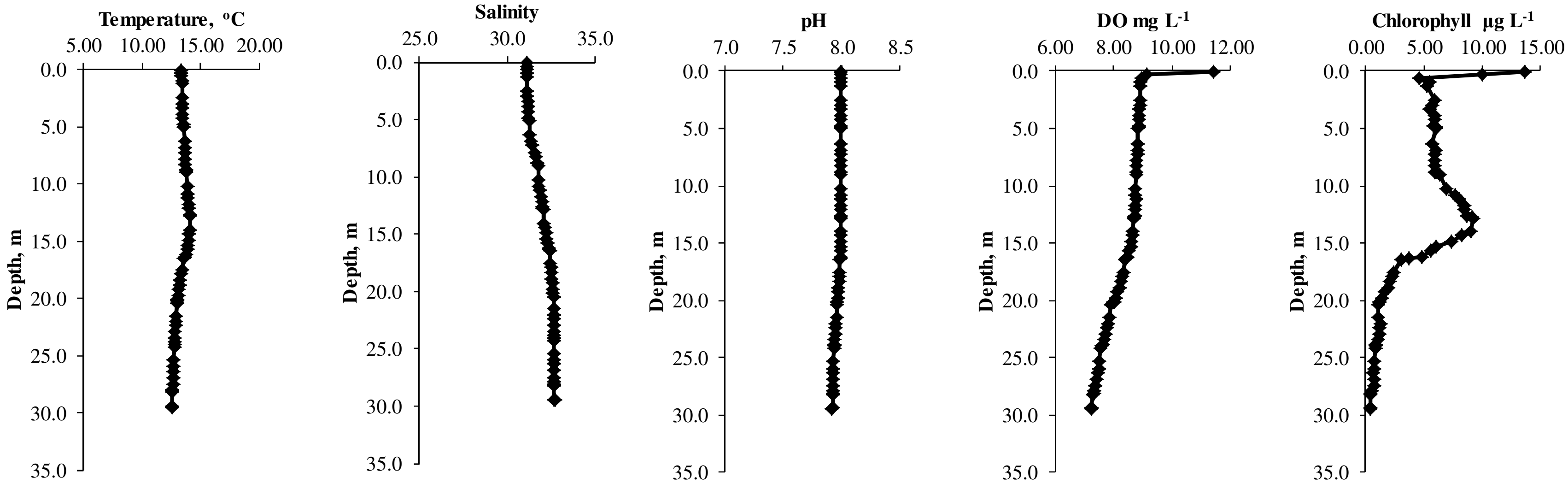
M0111



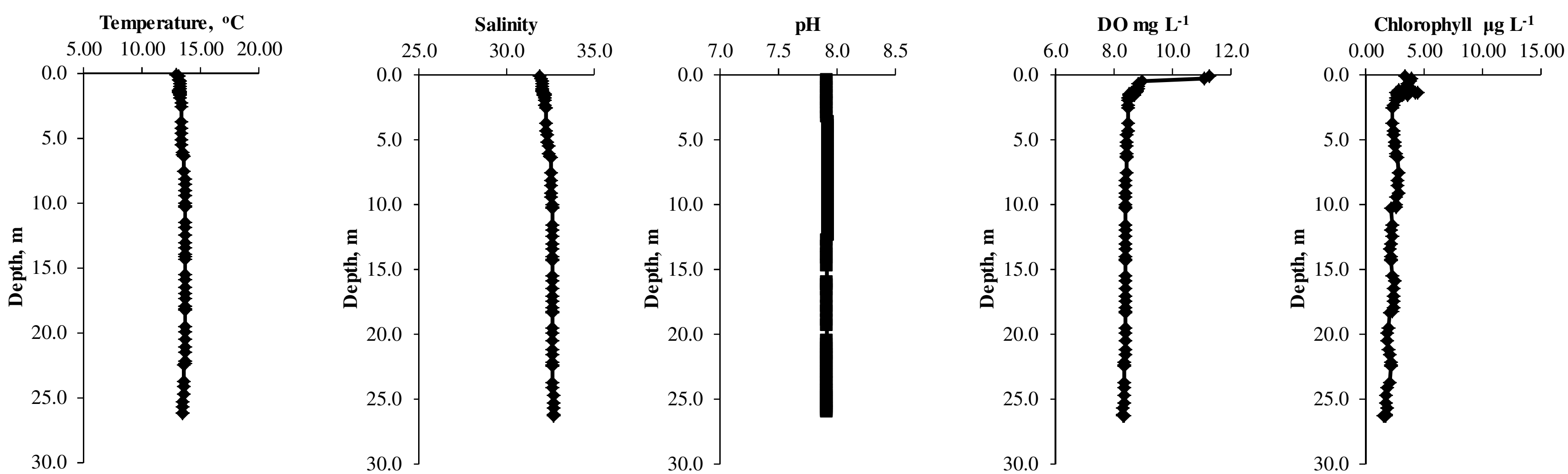
M0112 – *upcast plotted for pH



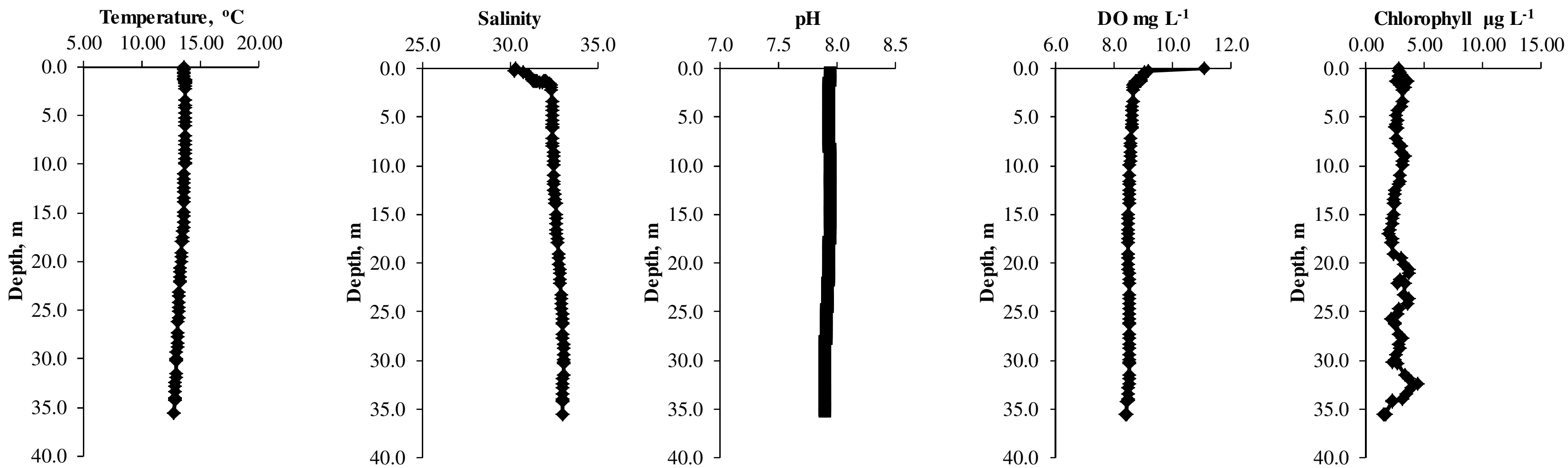
M0113



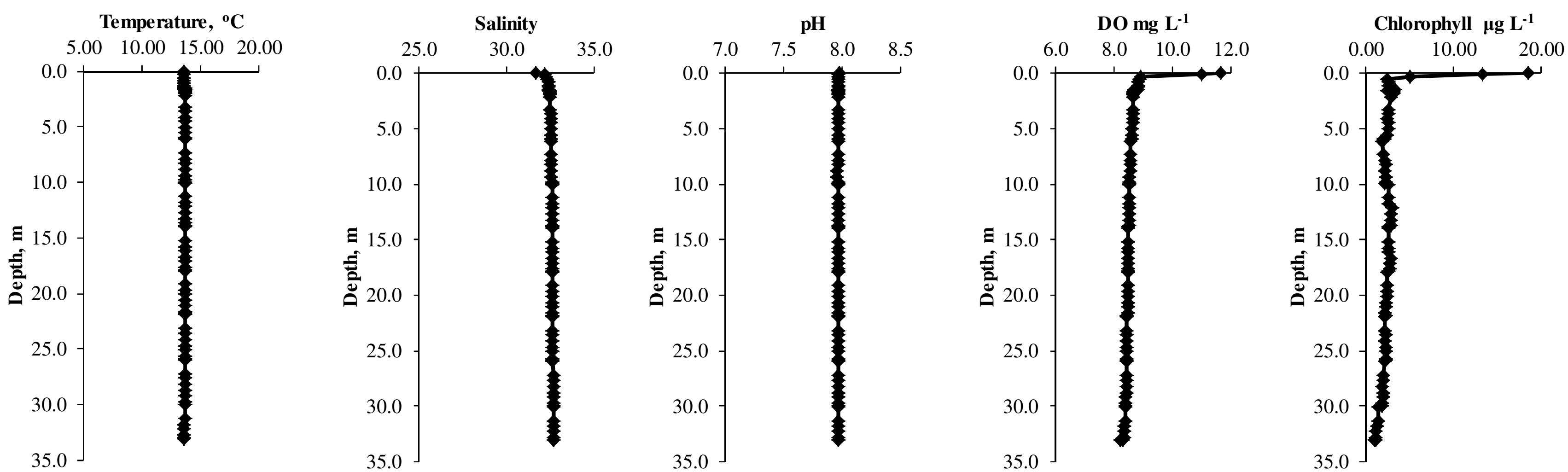
M0114– *upcast plotted for pH



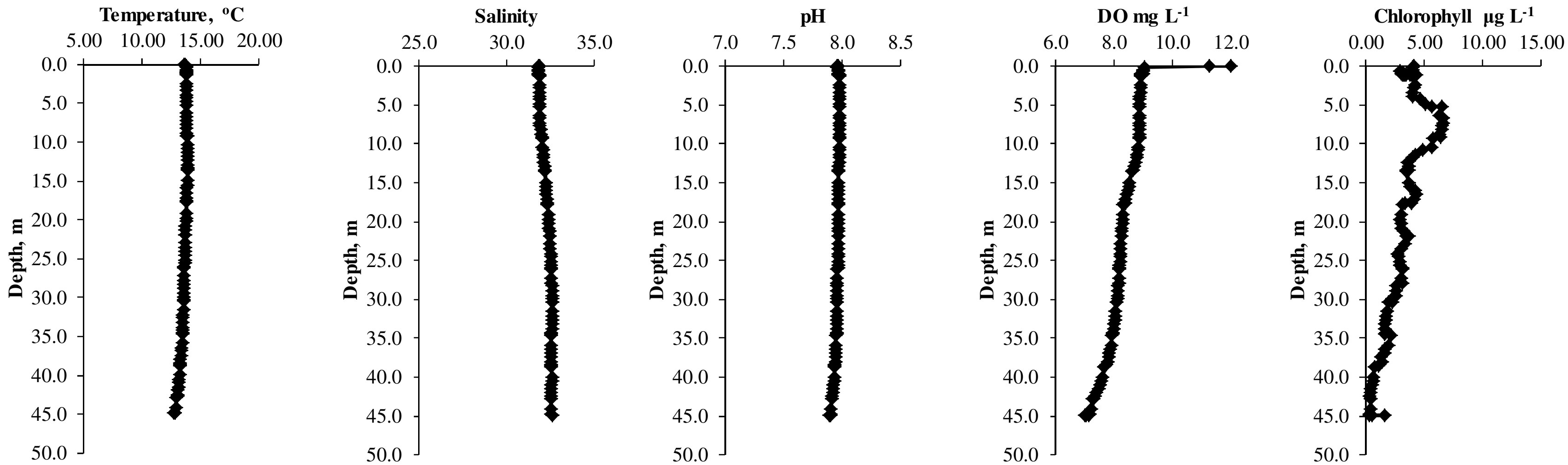
M0115– *upcast plotted for pH



M0116

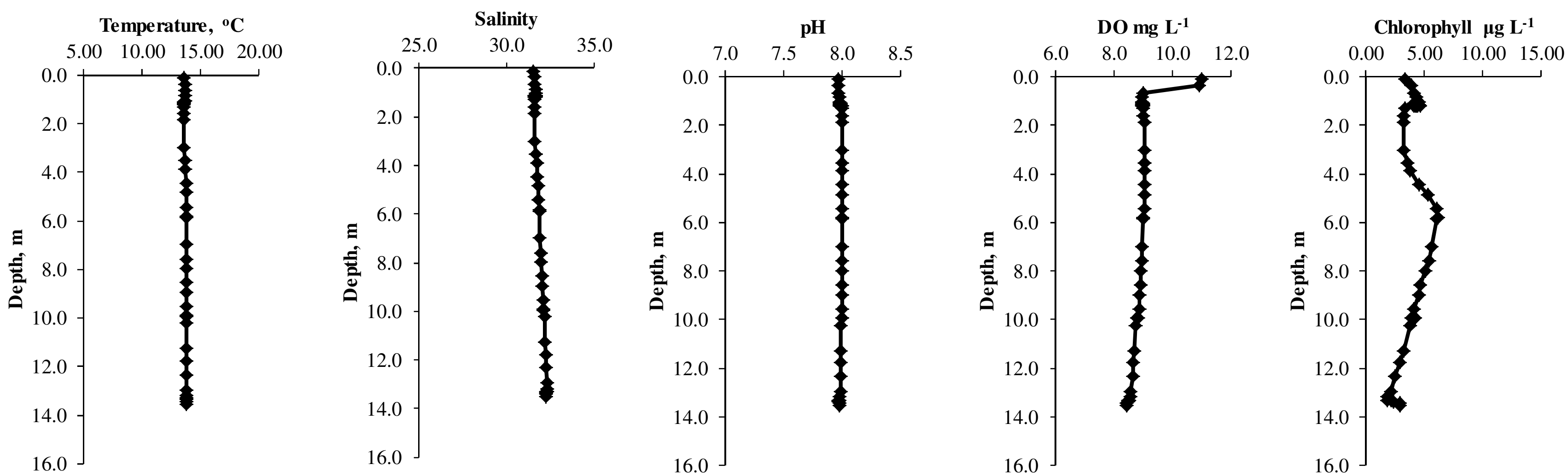


M0117



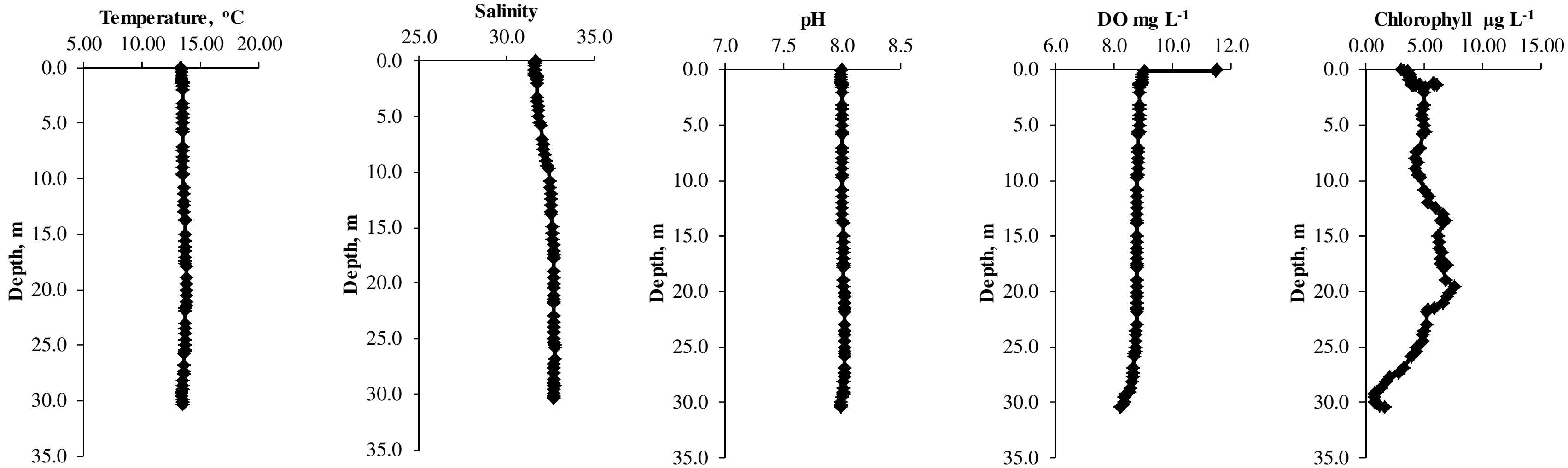
Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0 50.0

M0118

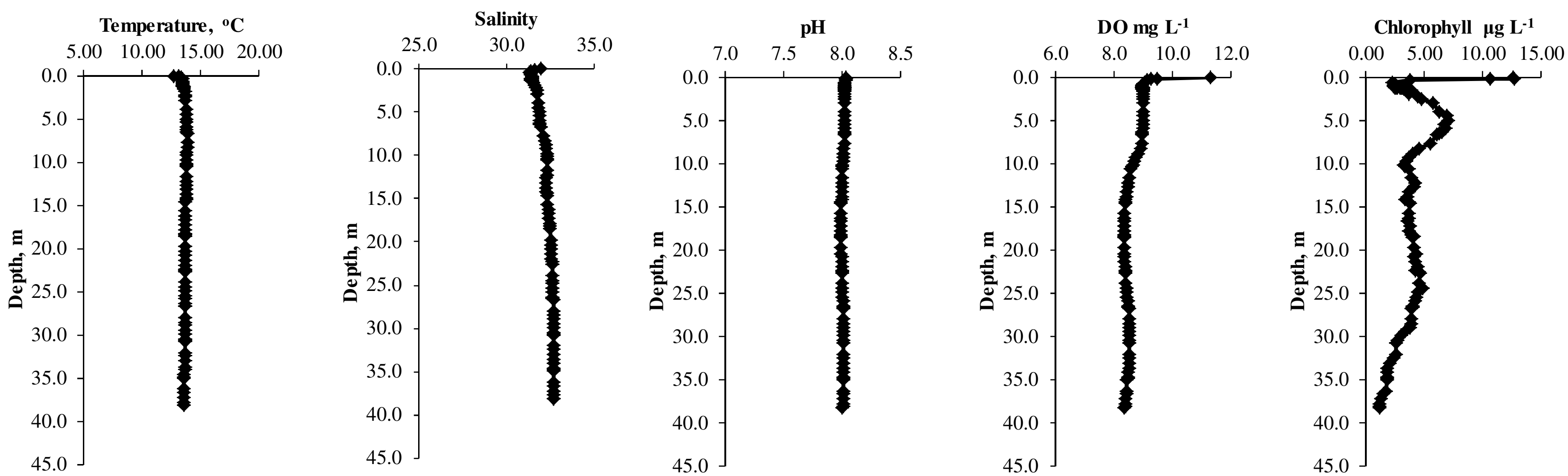


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0

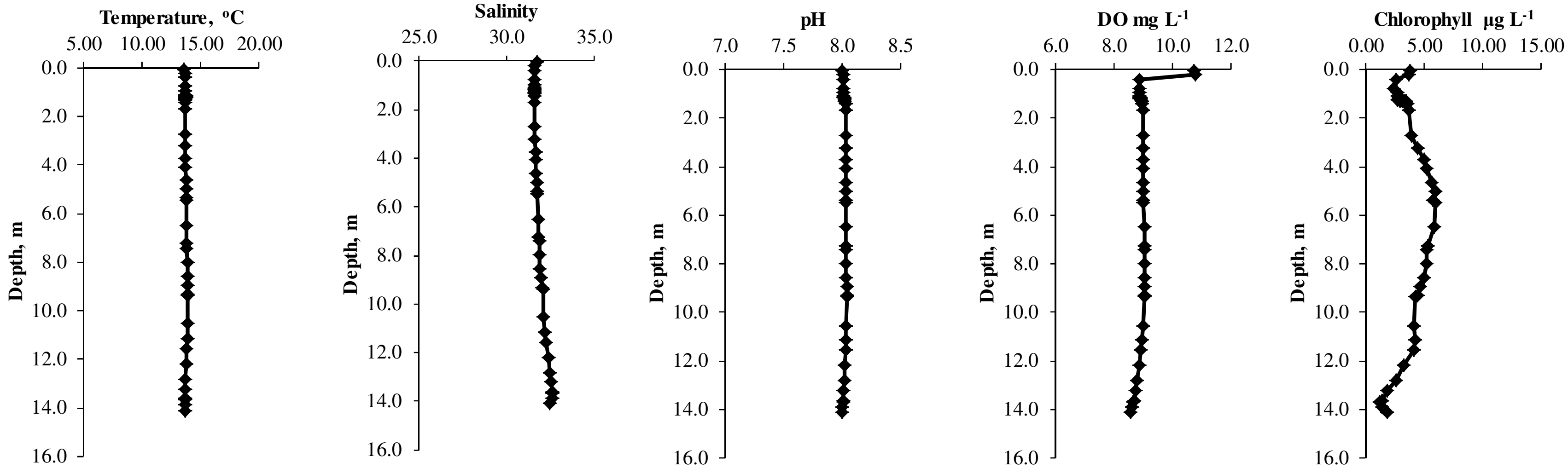
M0119


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0

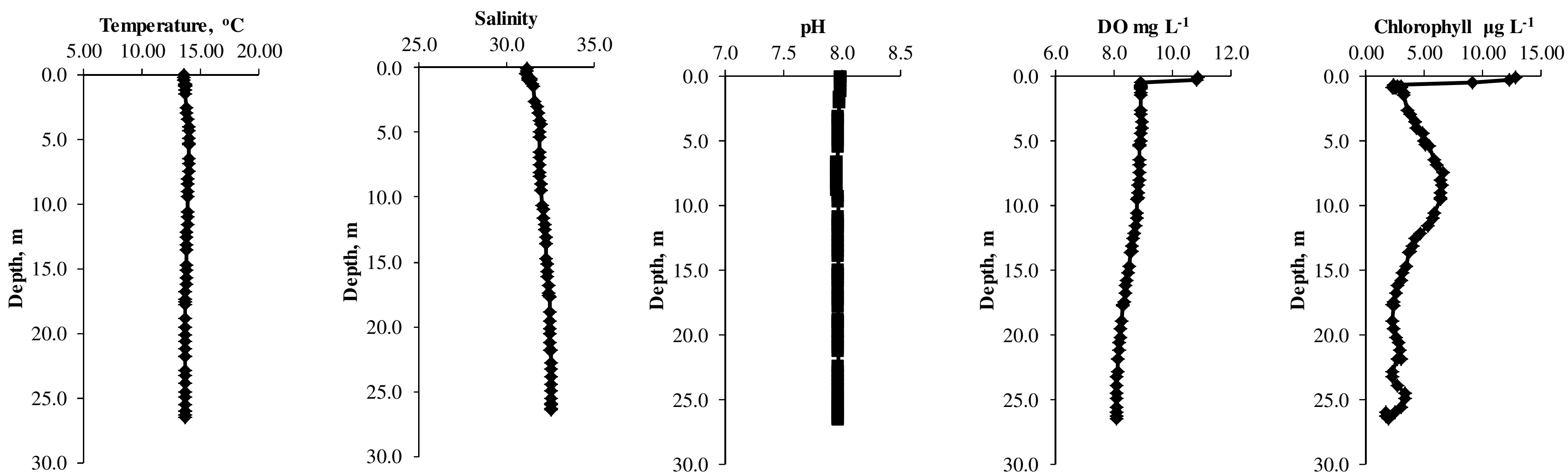
M0120


Temperature, °C
5.00 10.00 15.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.00 5.00 10.00 15.00
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0

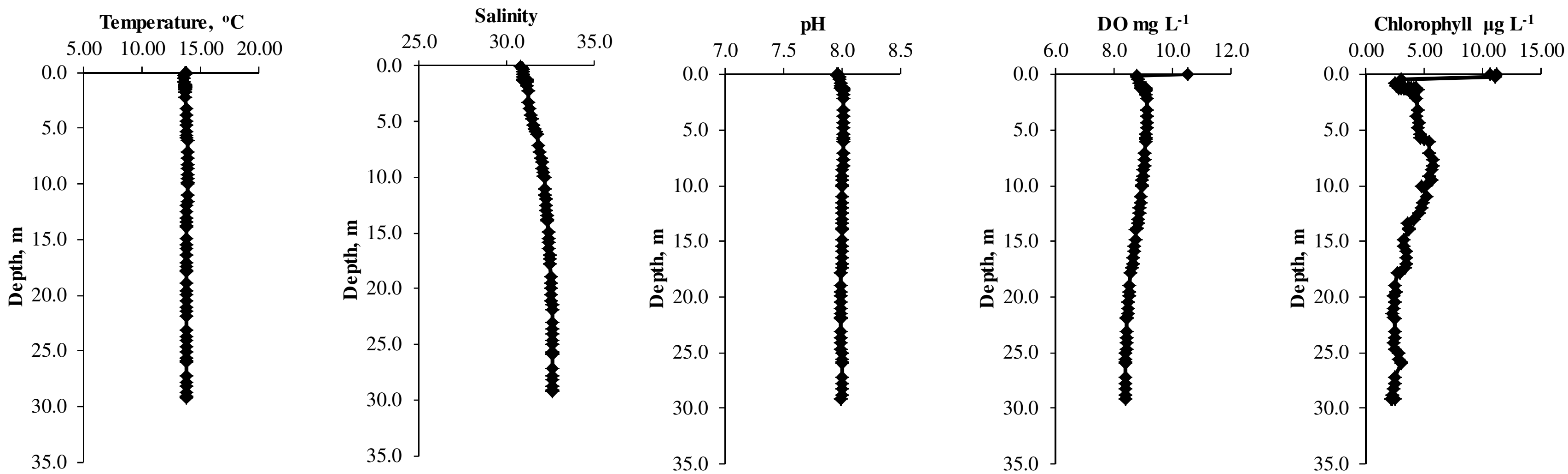
M0121



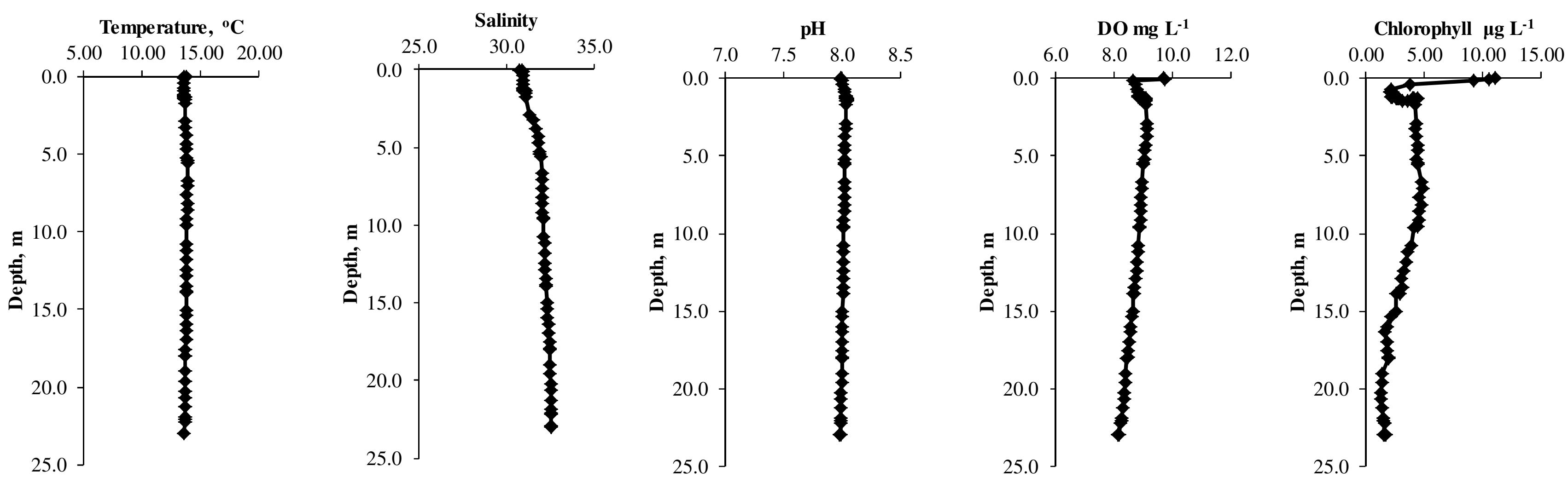
M0122– *upcast plotted for pH



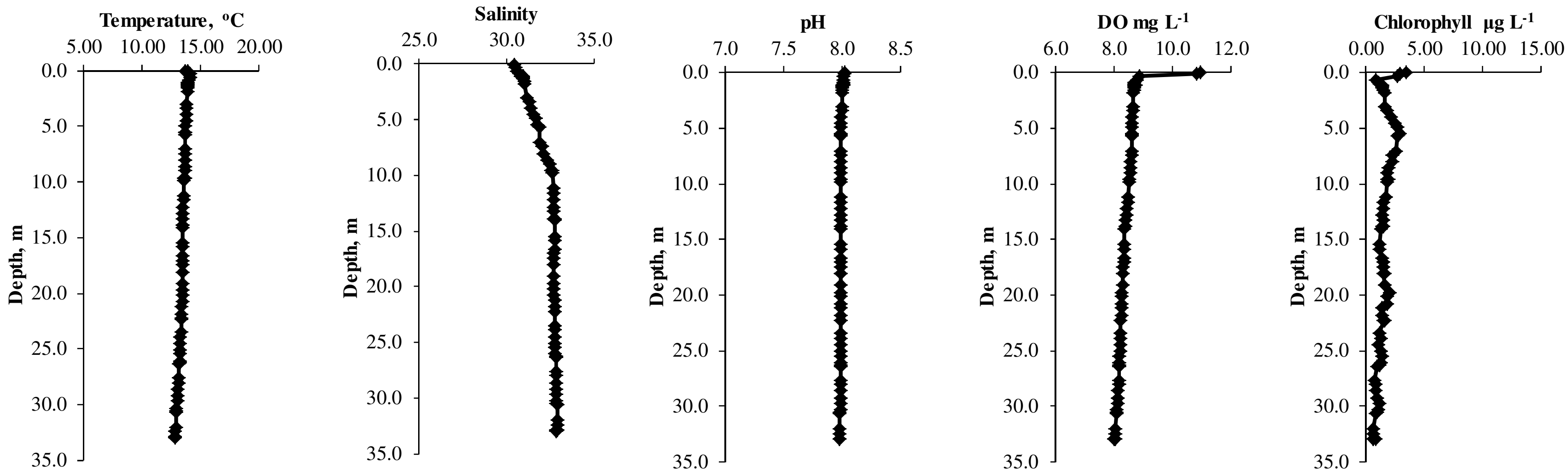
M0123


Temperature, °C
Salinity
pH
DO mg L-1
Chlorophyll µg L-1
Depth, m

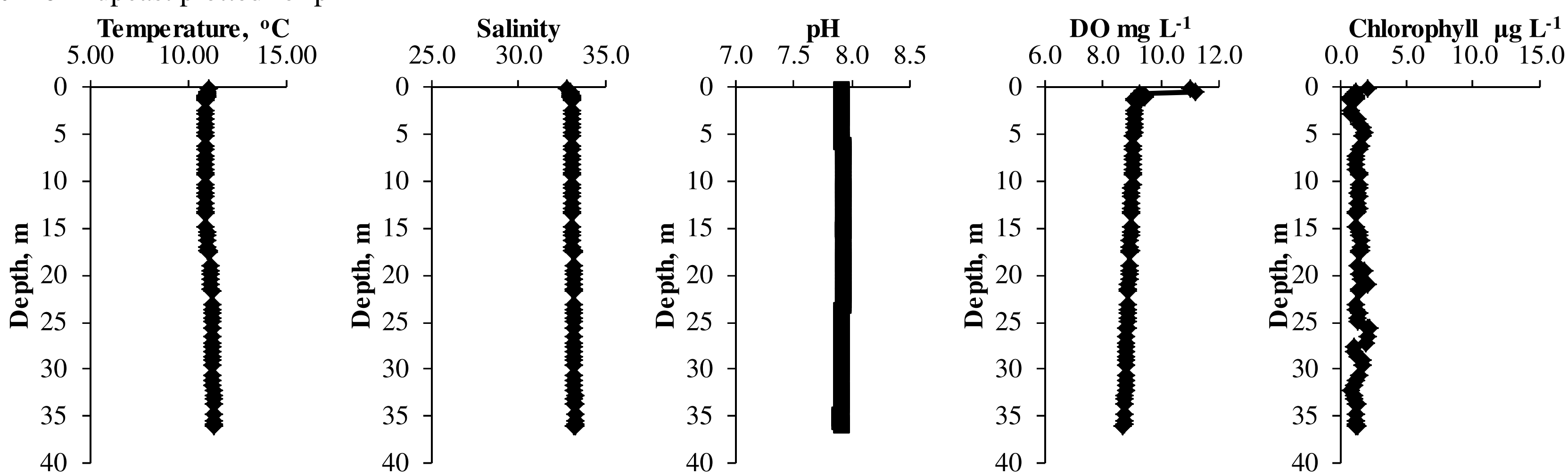
M0124


Temperature, °C
Salinity
pH
DO mg L-1
Chlorophyll µg L-1
Depth, m

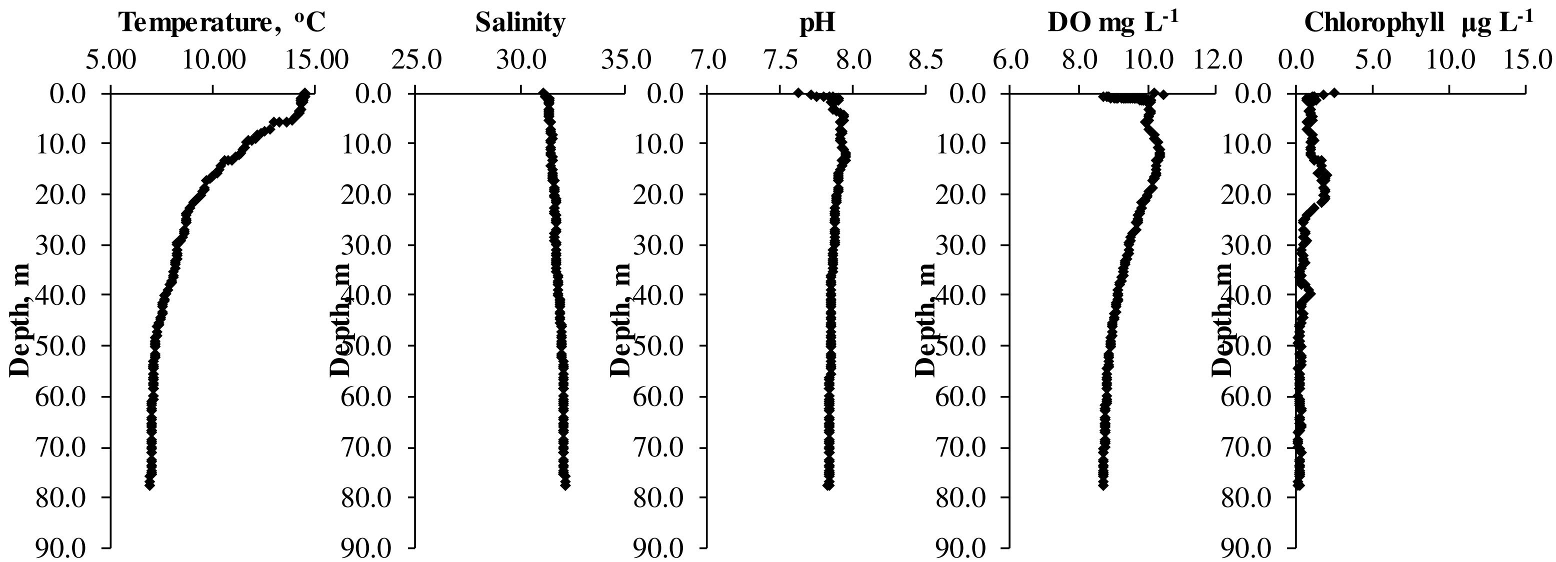
M0125



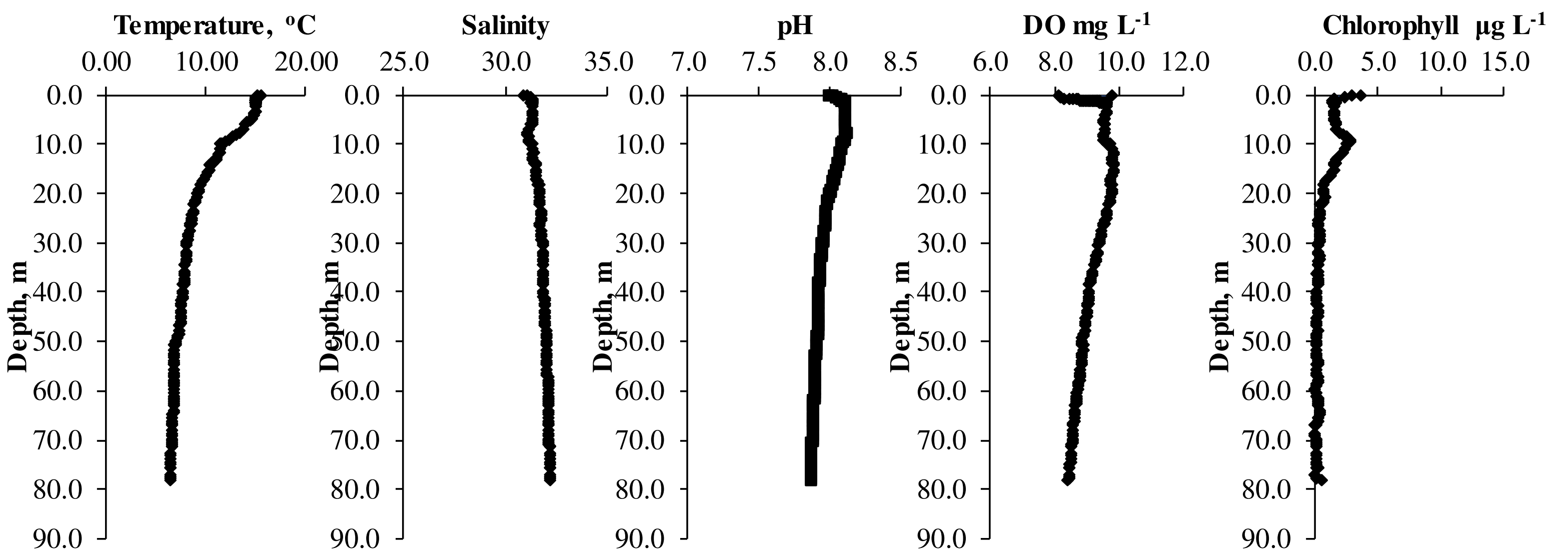
M0126– *upcast plotted for pH



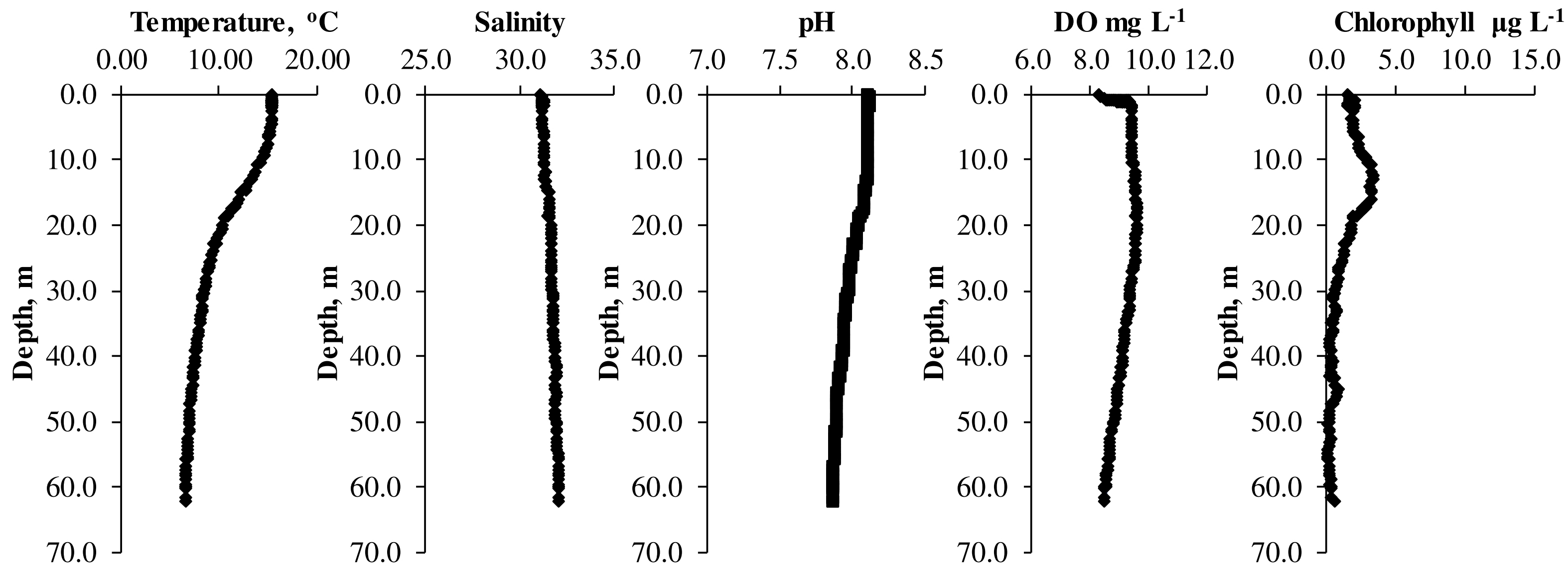
M0127


Temperature, °C
5.00 10.00 15.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0 90.0

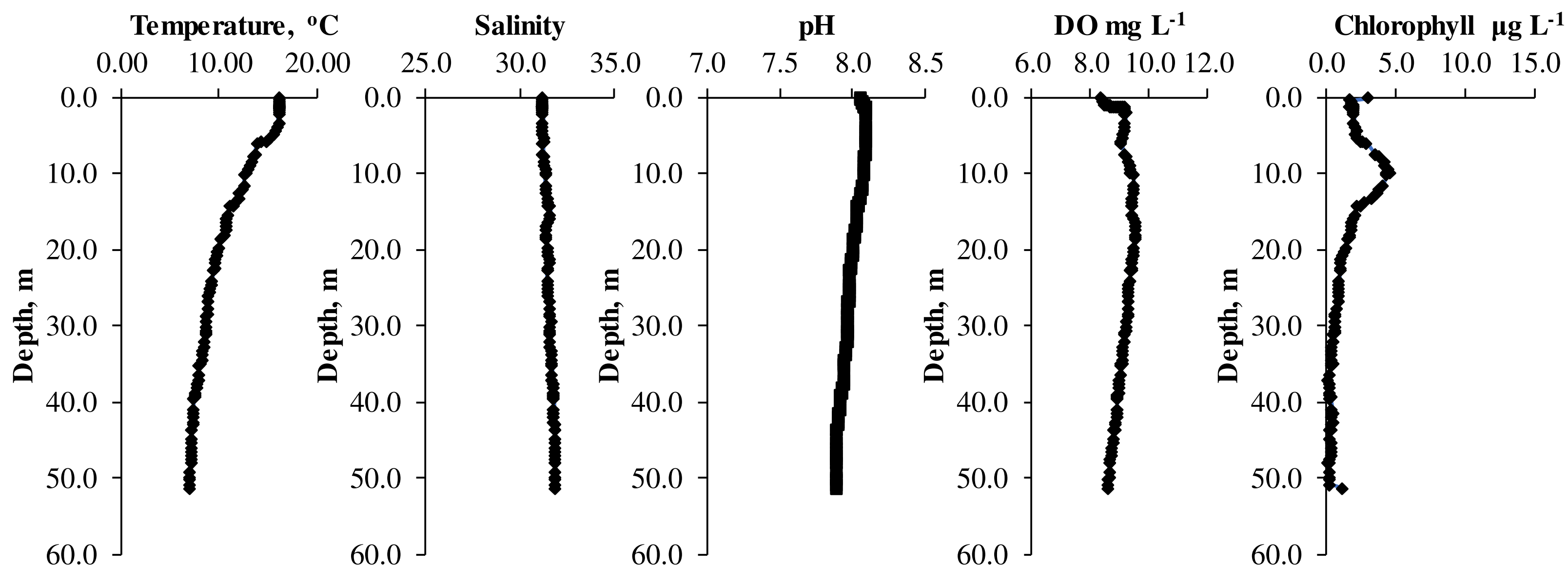
M0128


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0 90.0

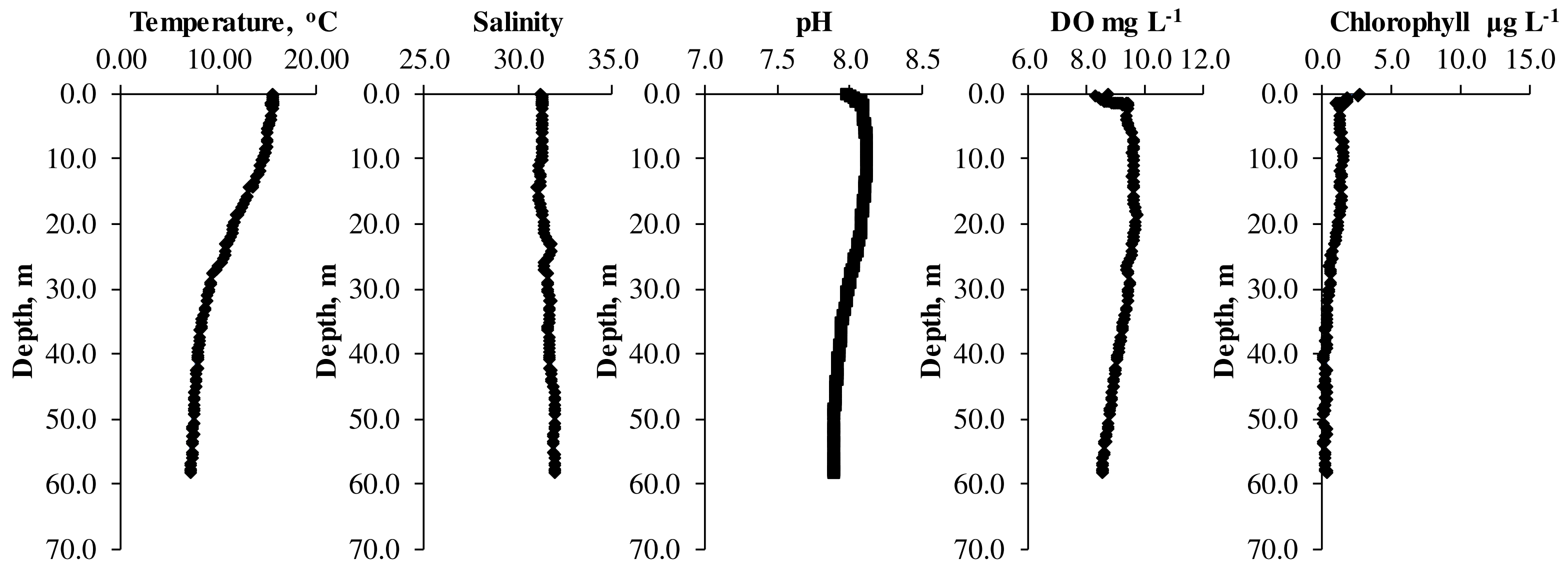
M0129


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

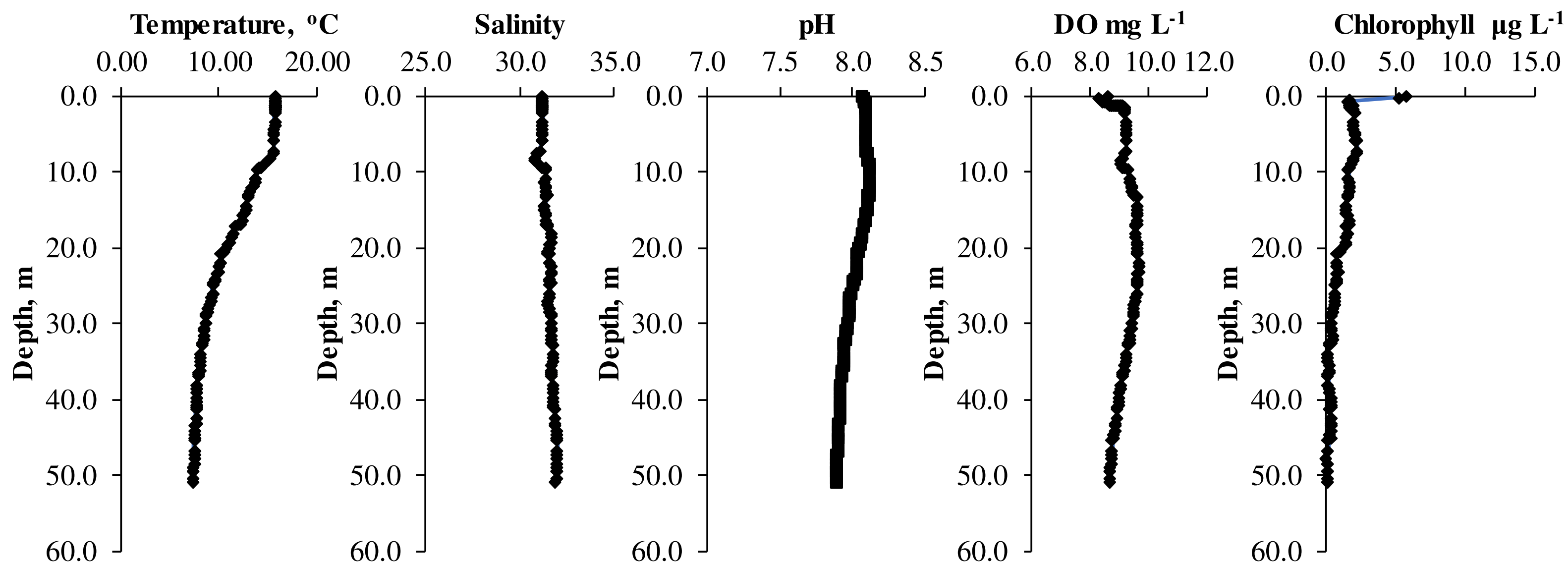
M0130


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

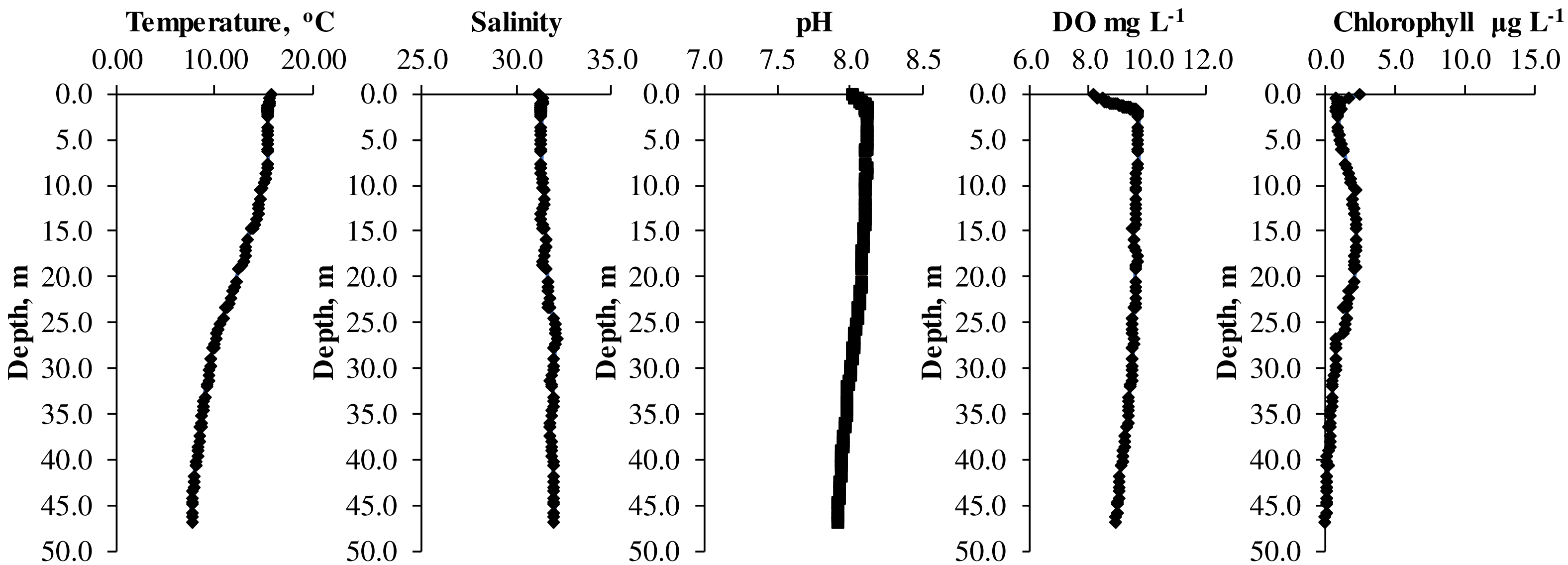
M0131


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

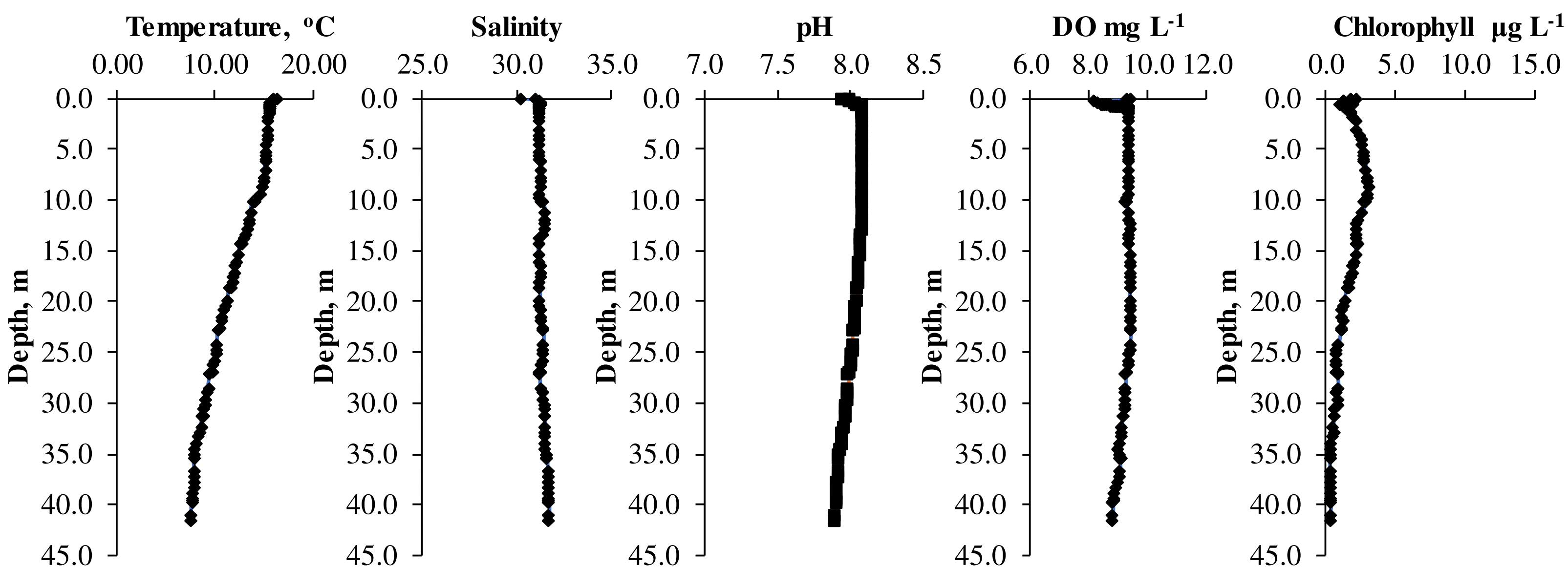
M0132


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

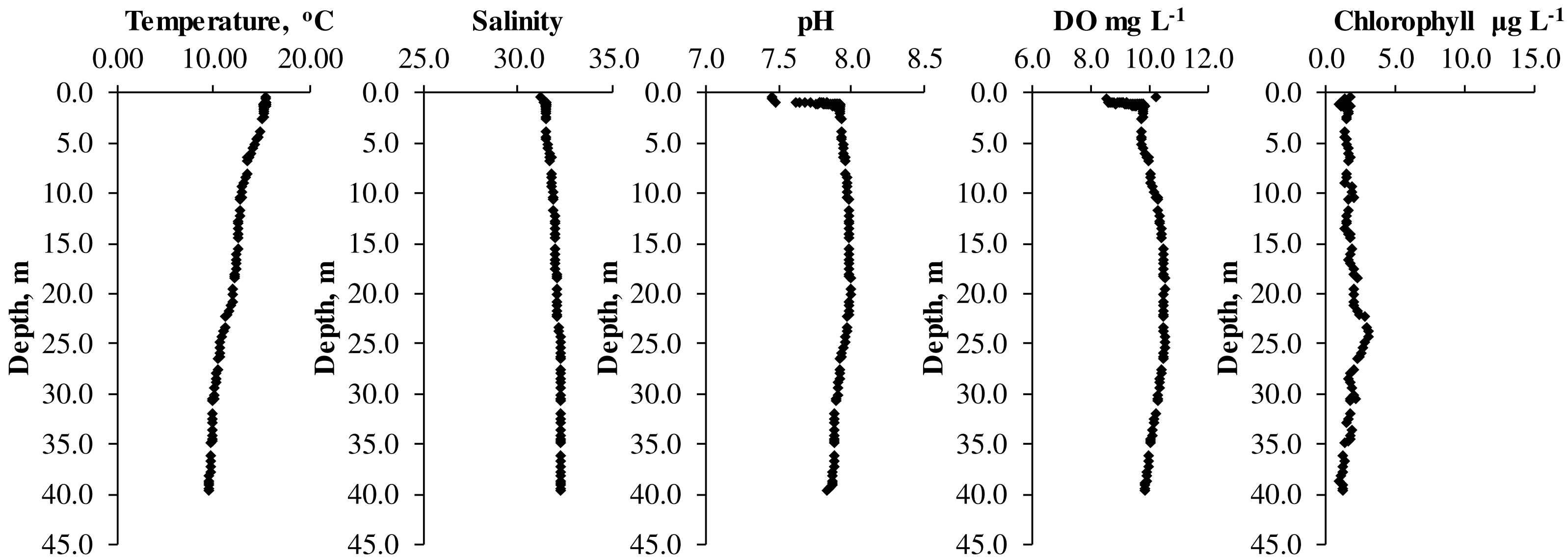
M0133


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0 50.0

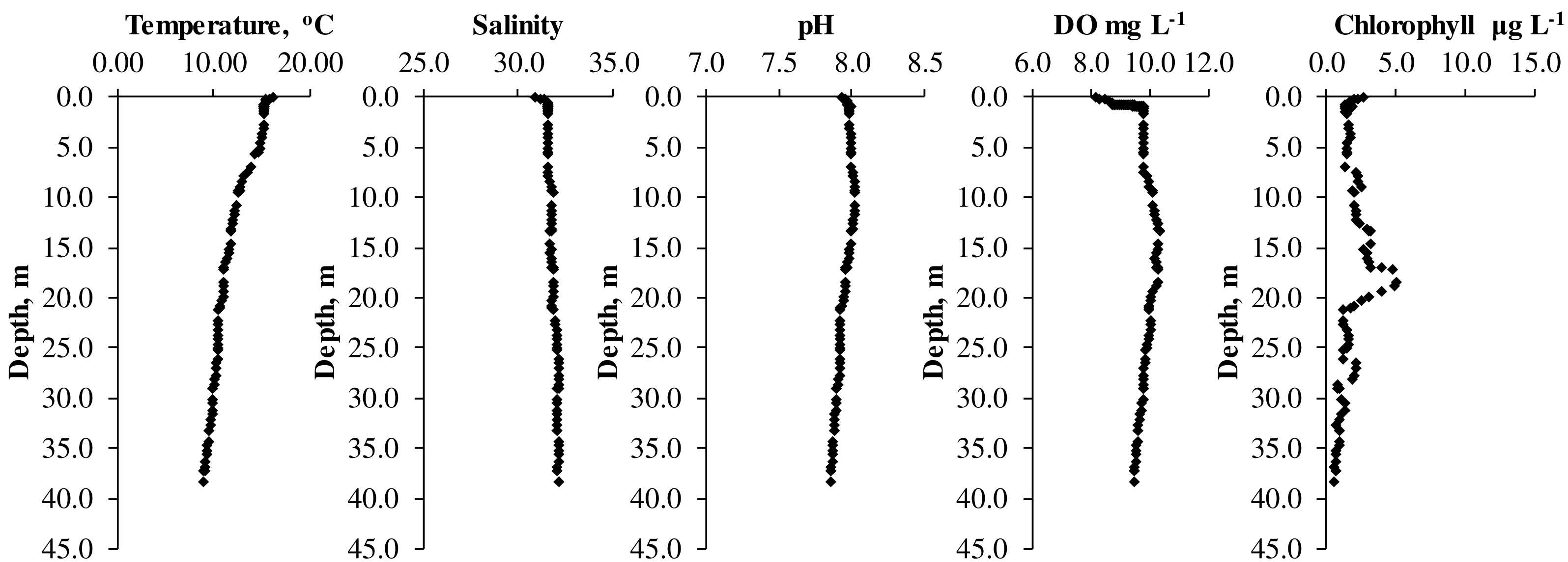
M0134


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0

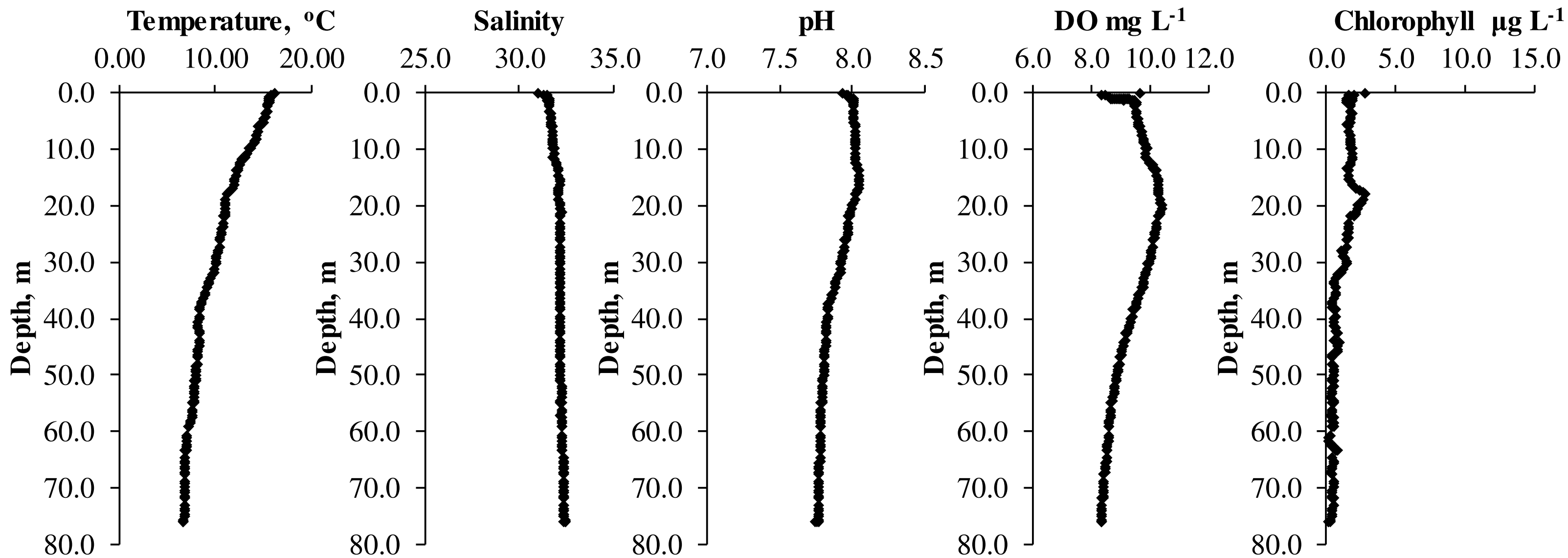
M0138


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0

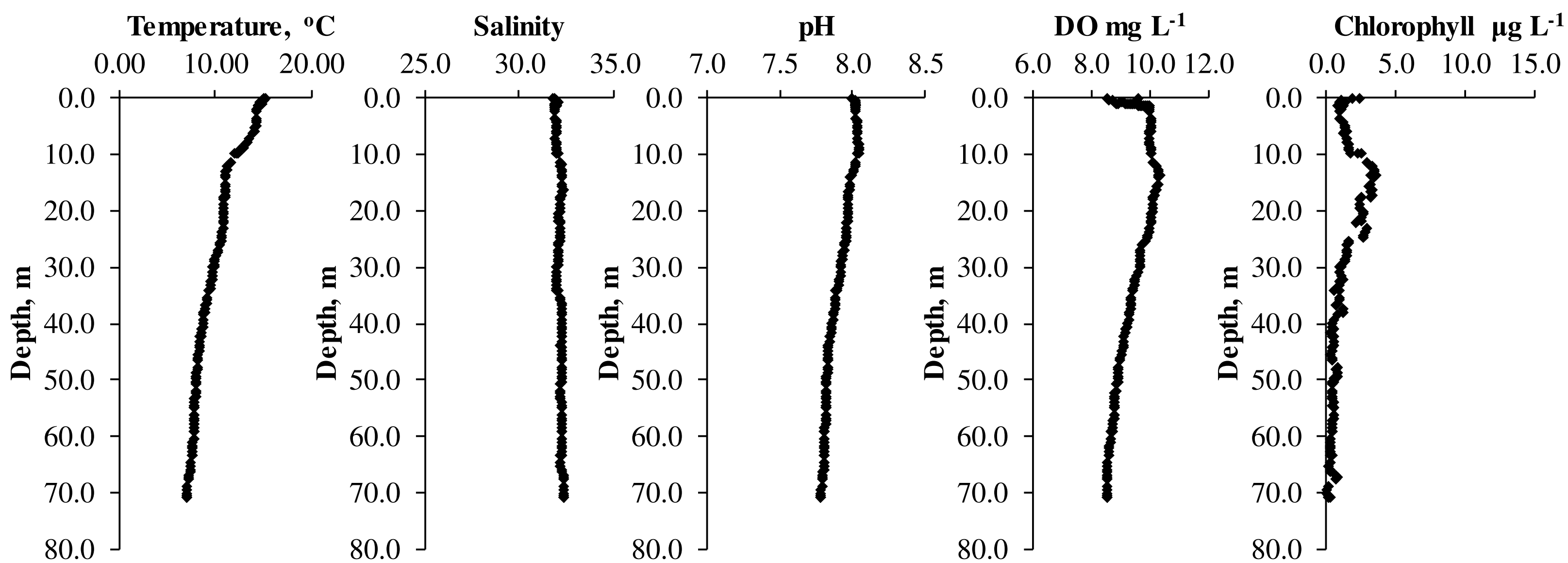
M0139


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0

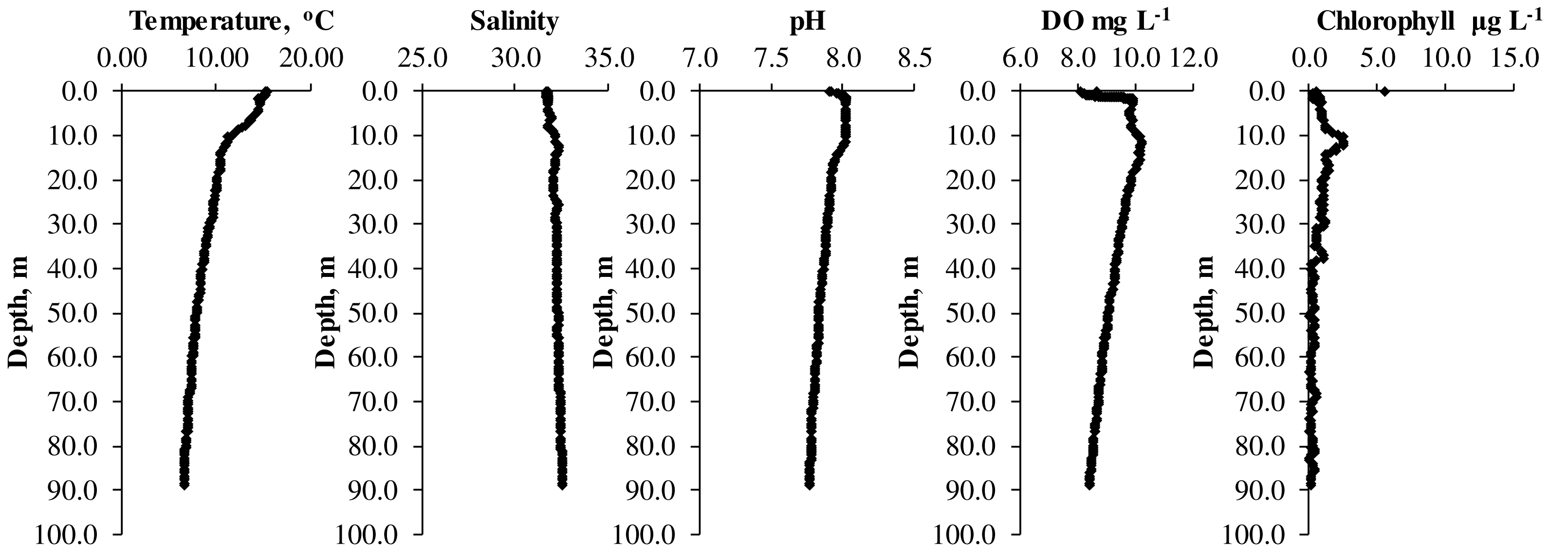
M0140


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0

M0141

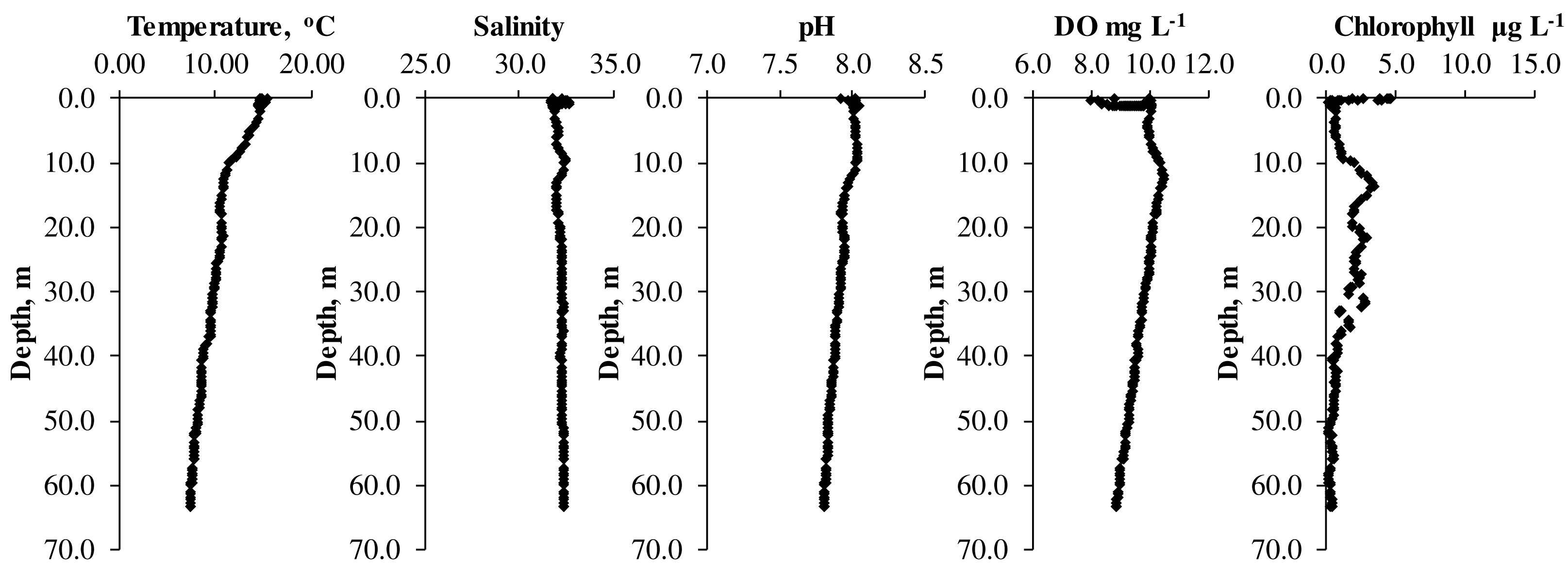

Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0

M0142



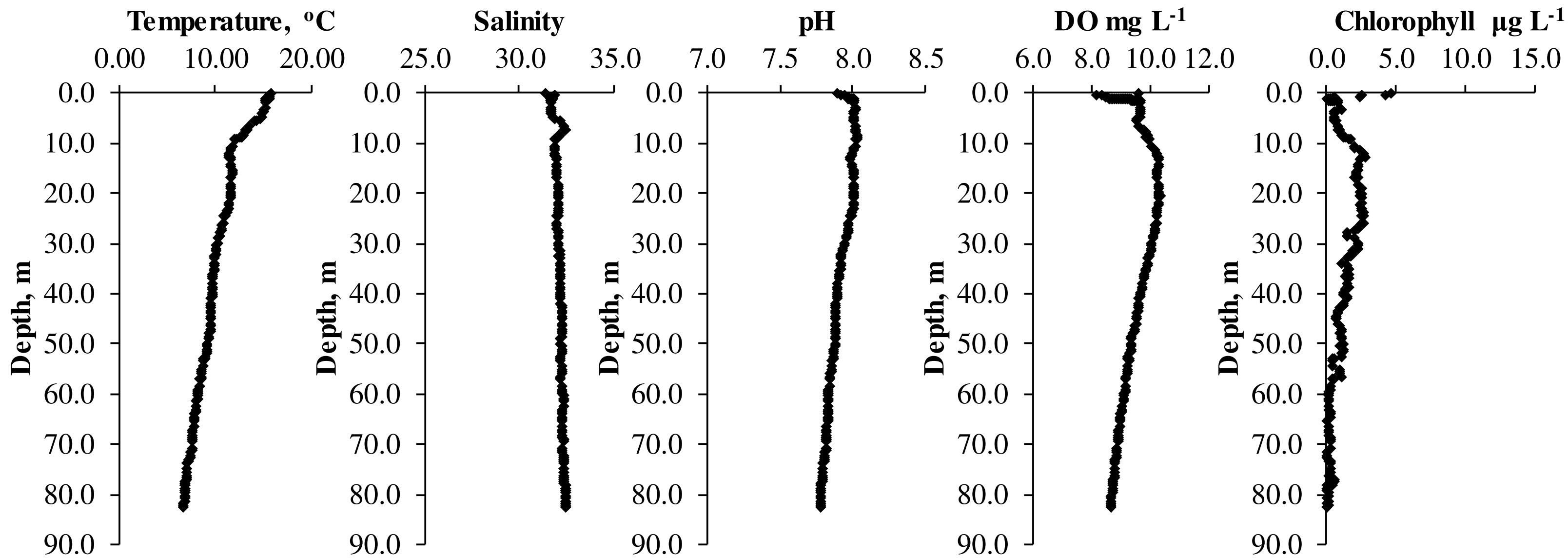
Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0 90.0 100.0

M0143

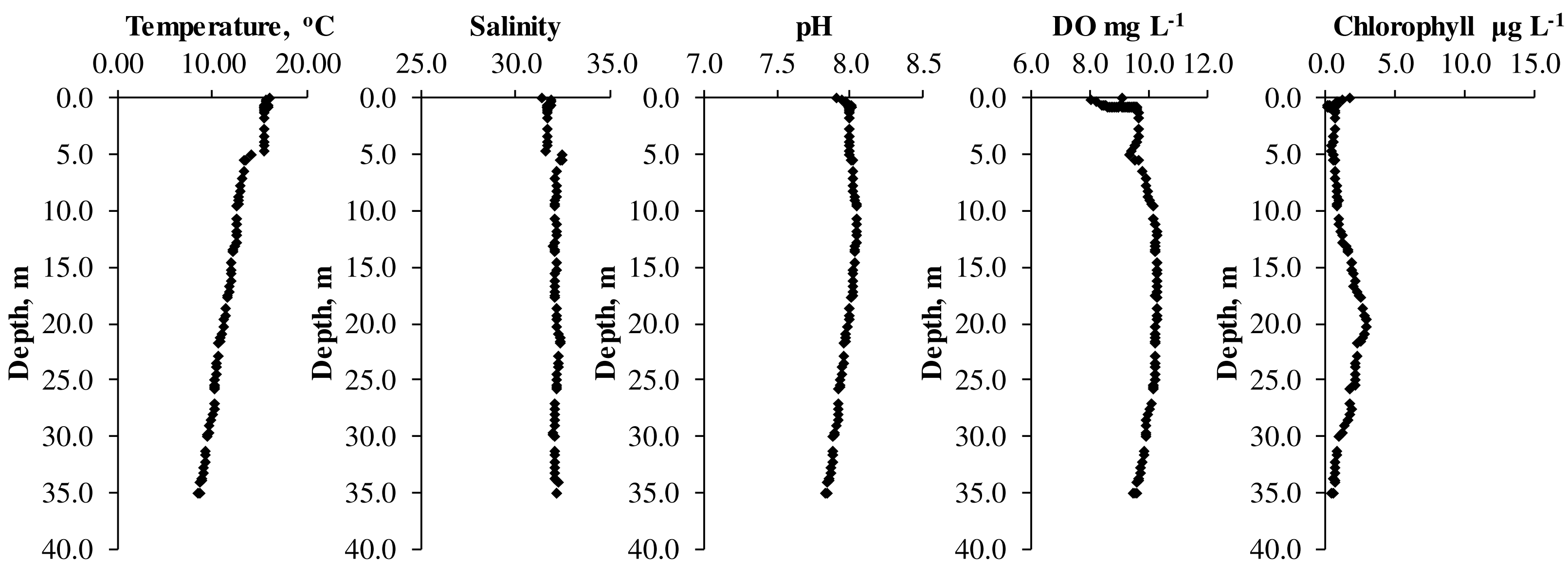


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

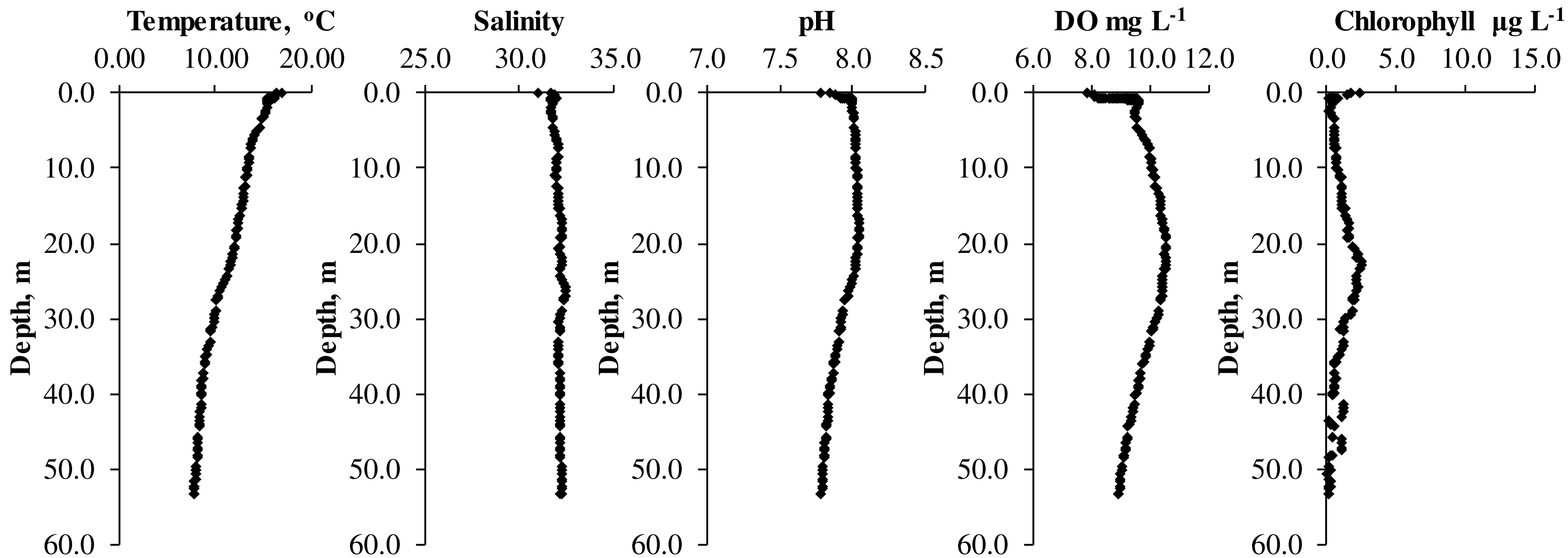
M0144


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0 90.0

M0145

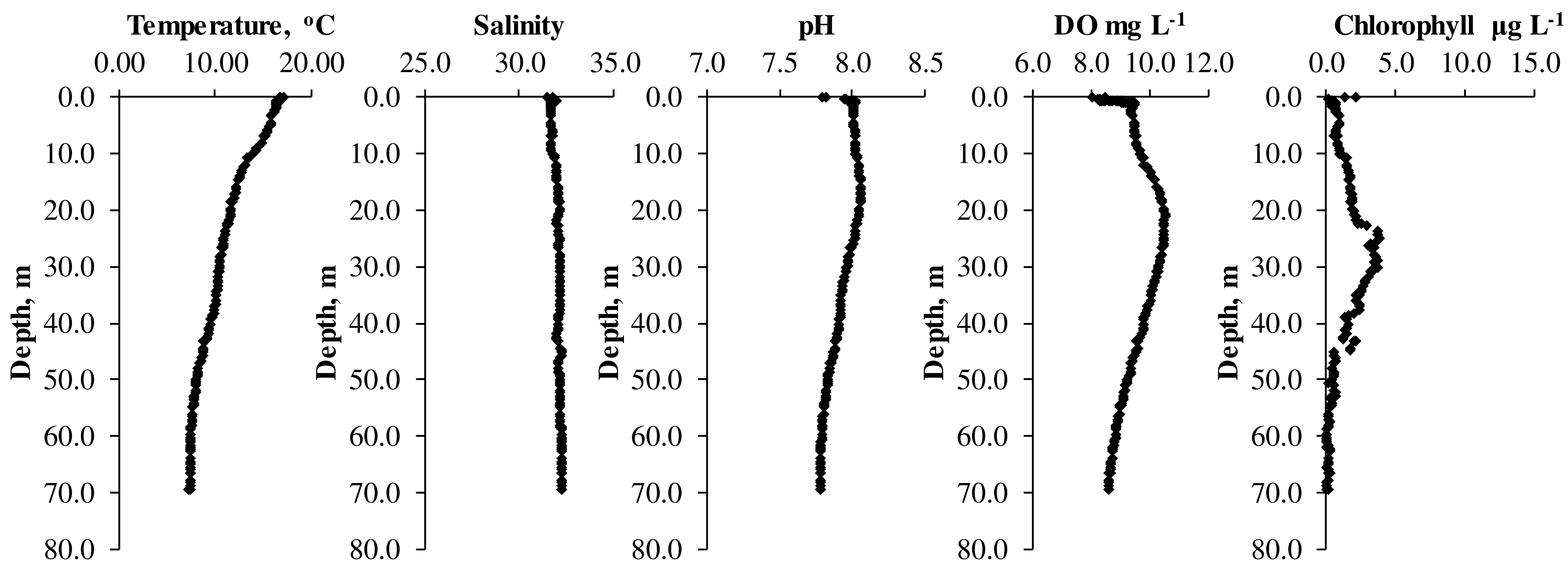

Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0

M0146



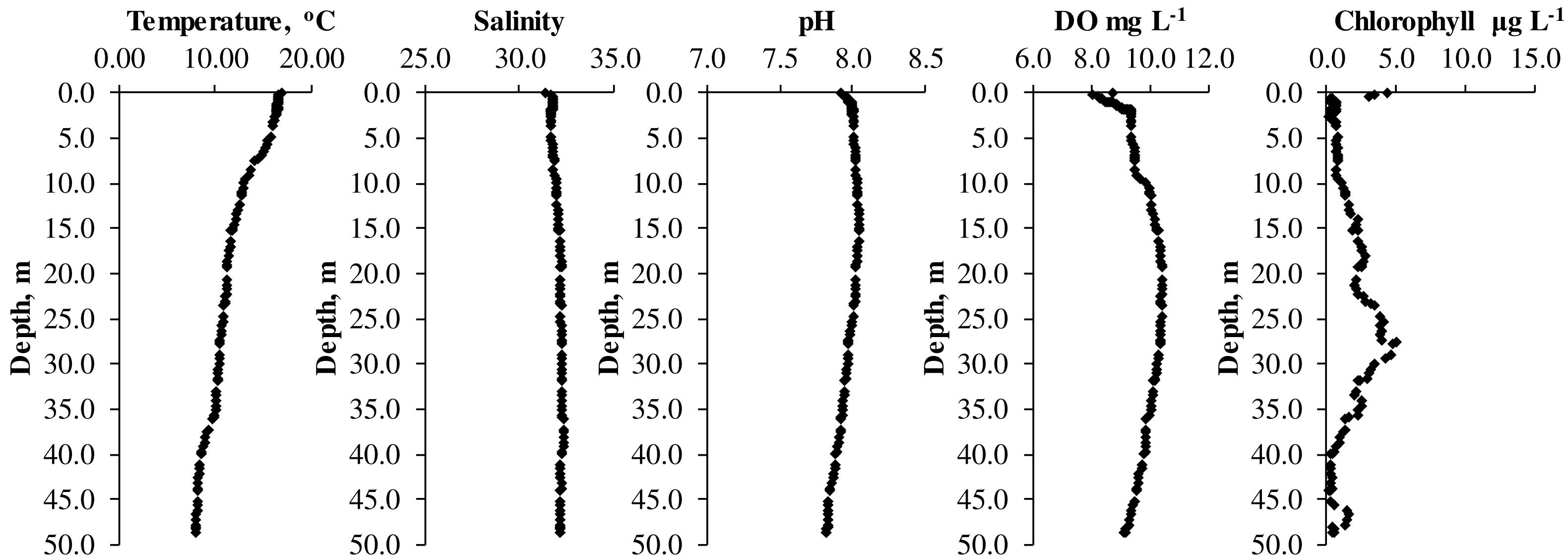
Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

M0147

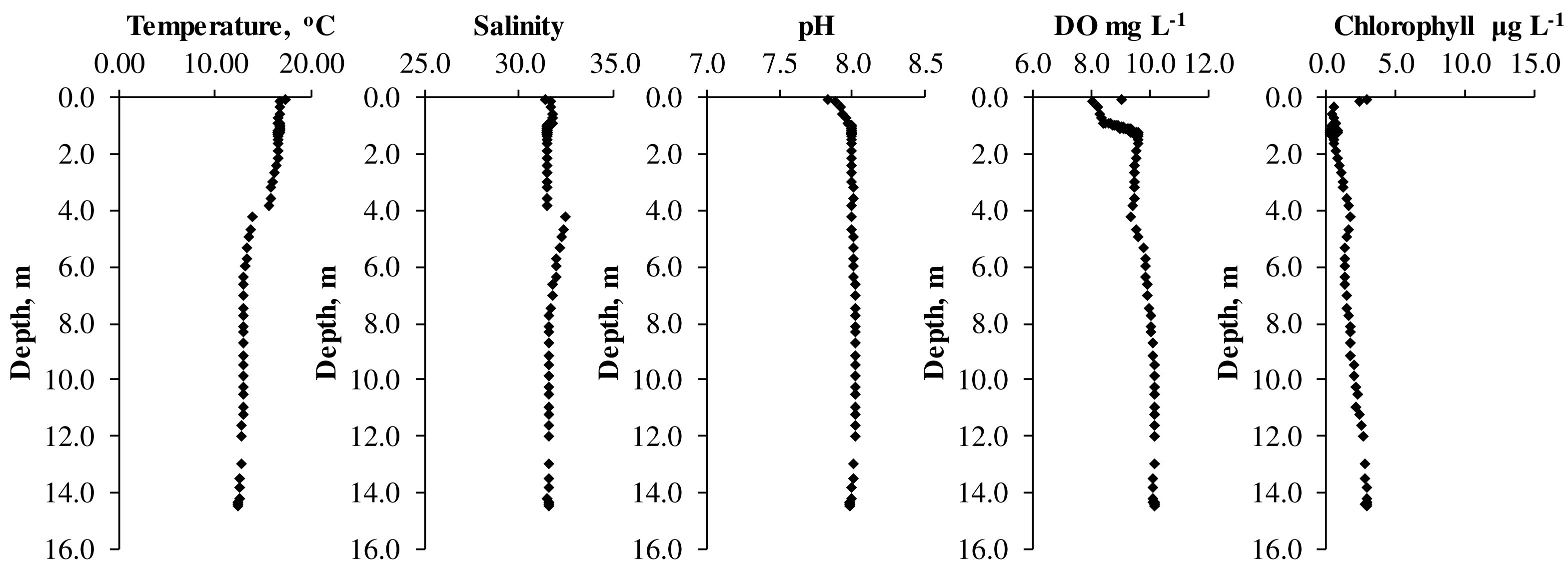


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0

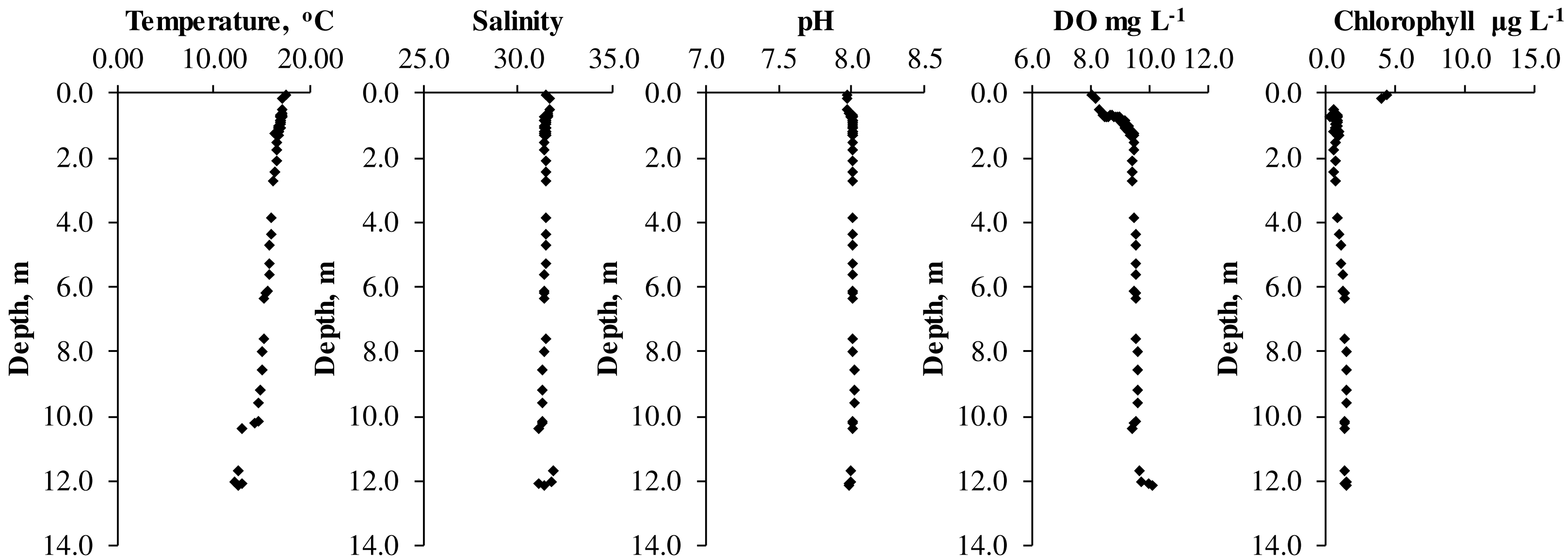
M0148


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0 50.0

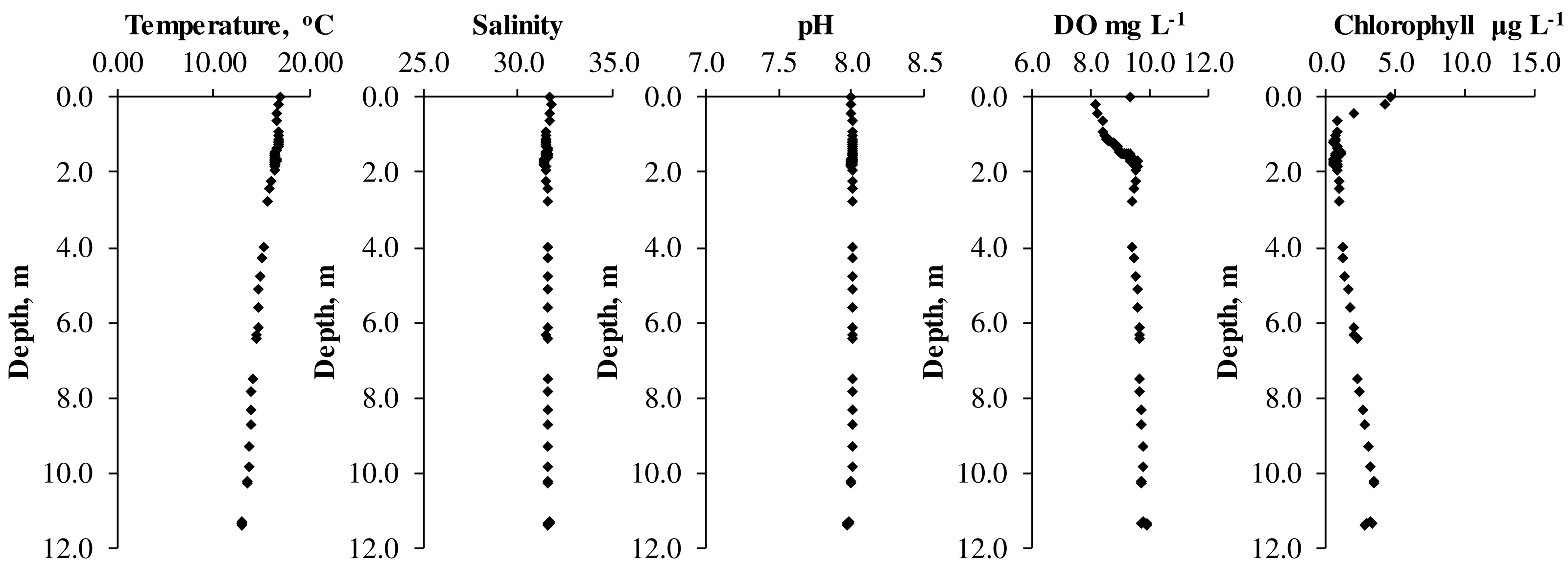
M0149


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0

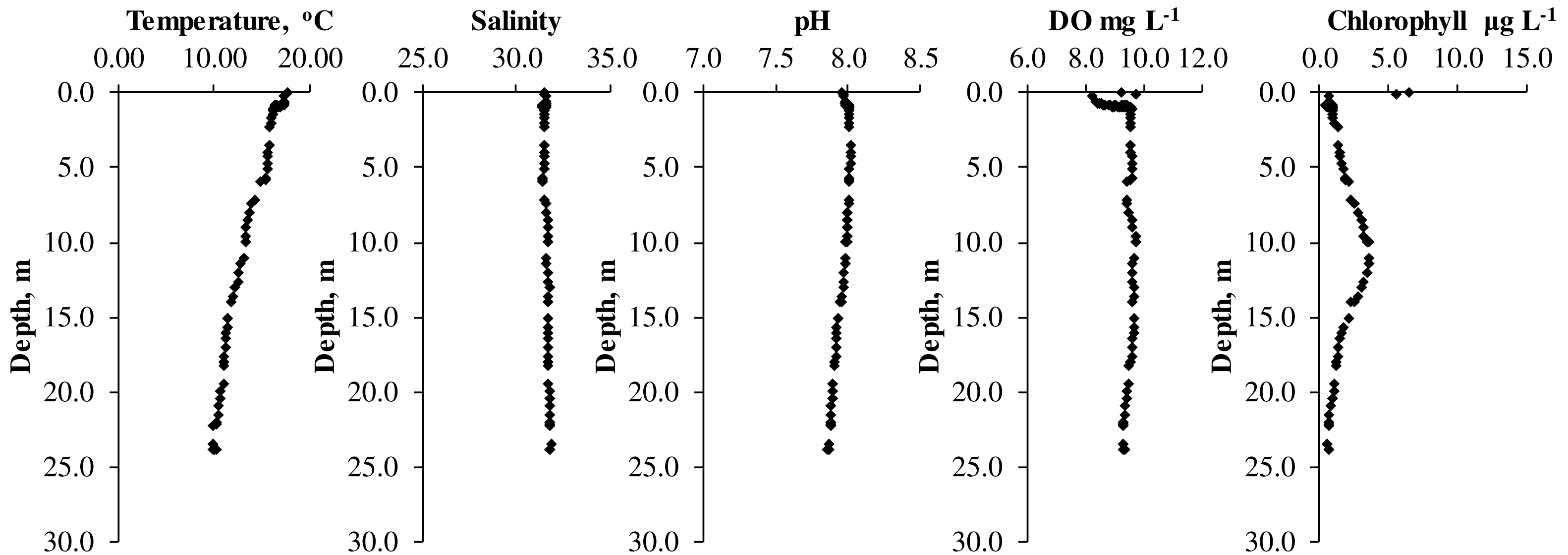
M0150


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0

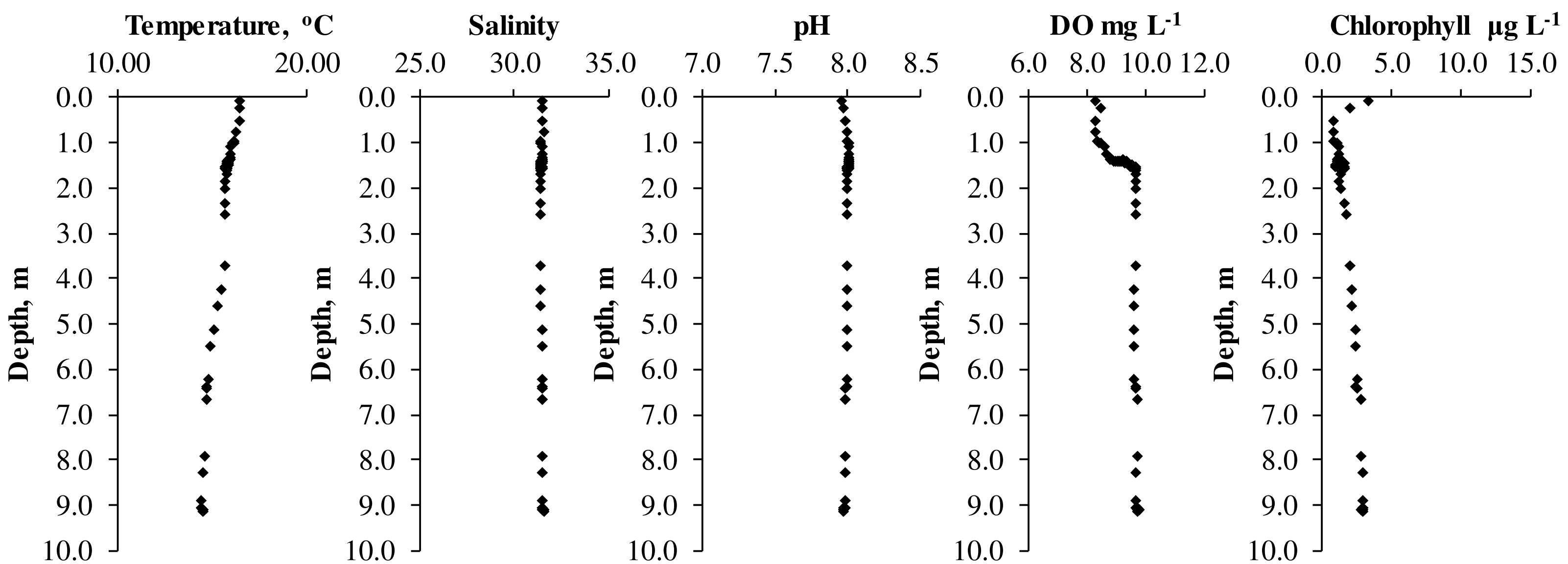
M0151


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 2.0 4.0 6.0 8.0 10.0 12.0

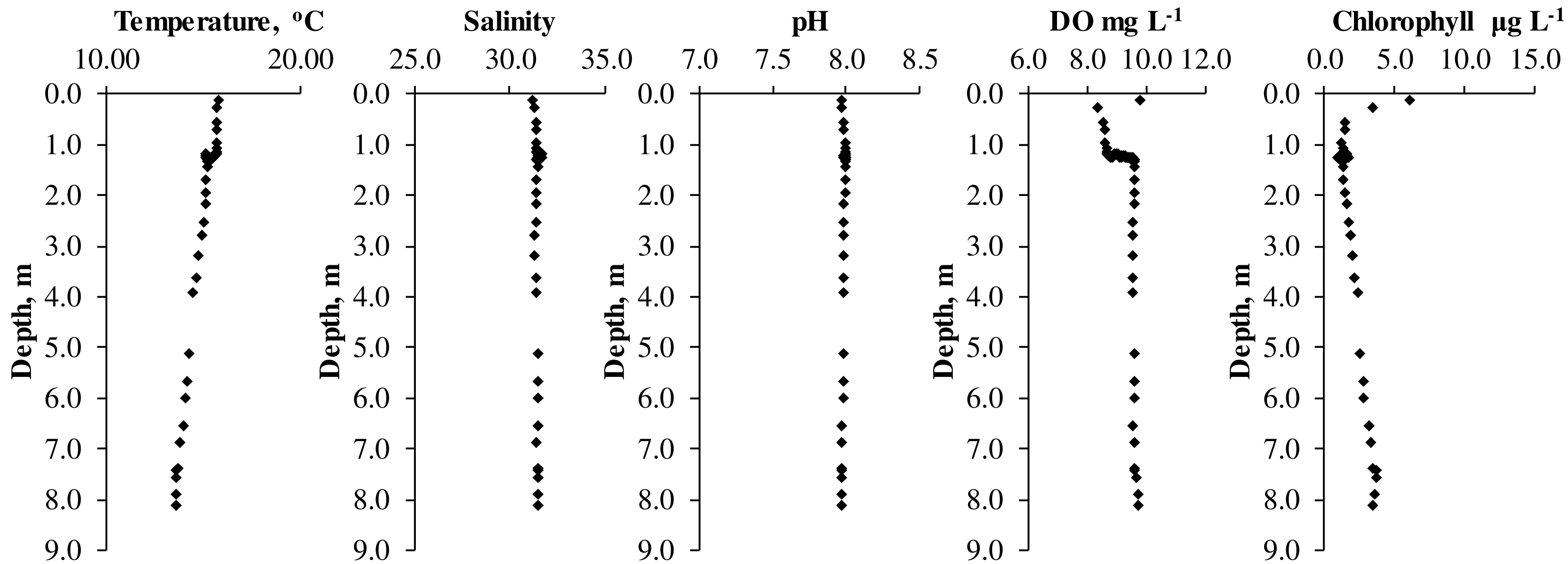
M0152


Temperature, °C
Salinity
pH
DO mg L-1
Chlorophyll µg L-1
Depth, m

M0153

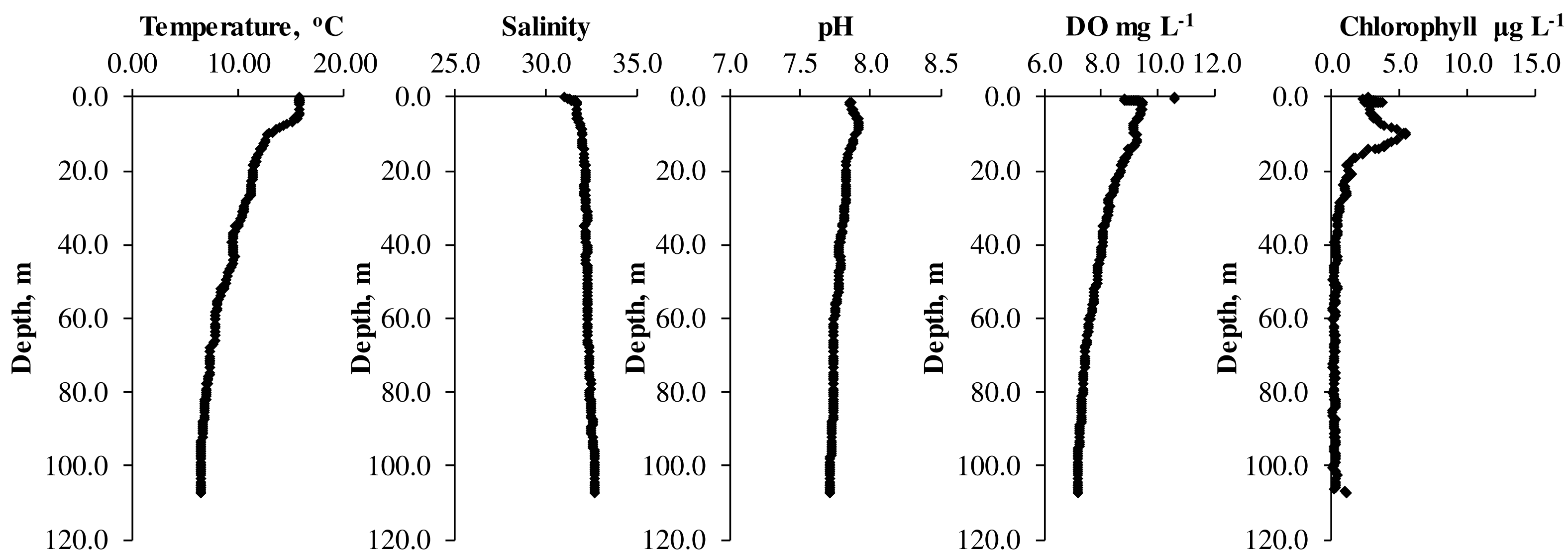

Temperature, °C
Salinity
pH
DO mg L-1
Chlorophyll µg L-1
Depth, m

M0154



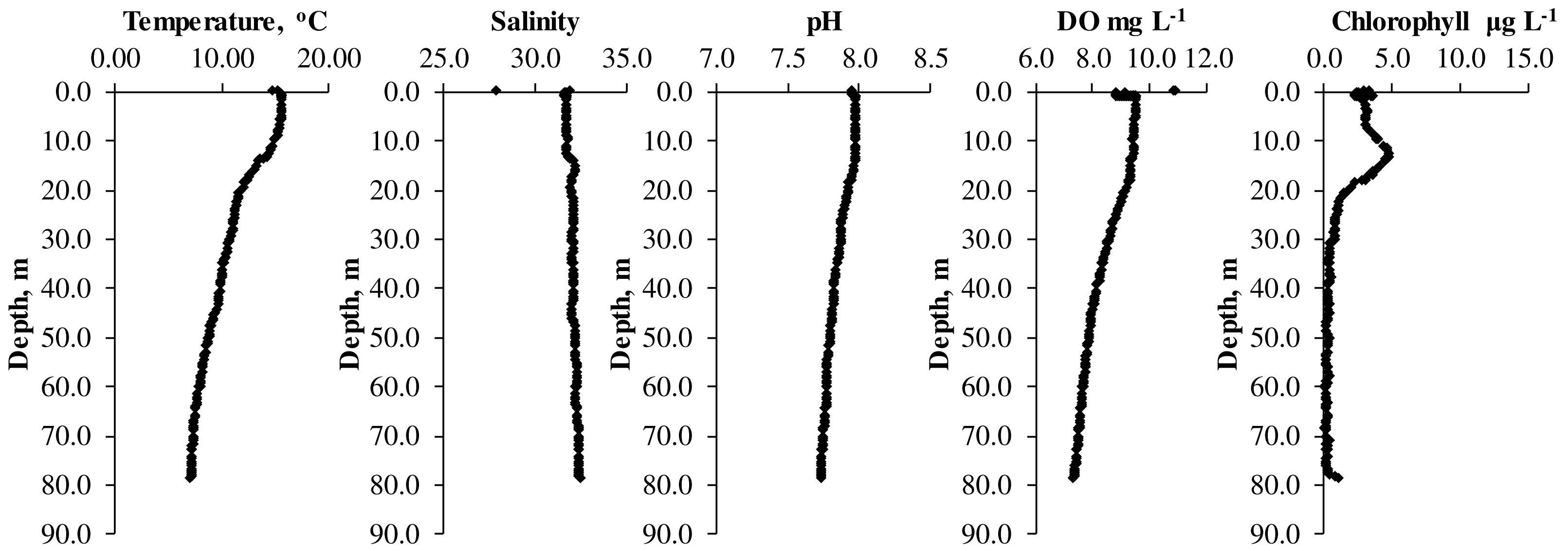
Temperature, °C
10.00
20.00
Salinity
25.0
30.0
35.0
pH
7.0
7.5
8.0
8.5
DO mg L-1
6.0
8.0
10.0
12.0
Chlorophyll µg L-1
0.0
5.0
10.0
15.0
Depth, m
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0

M0155

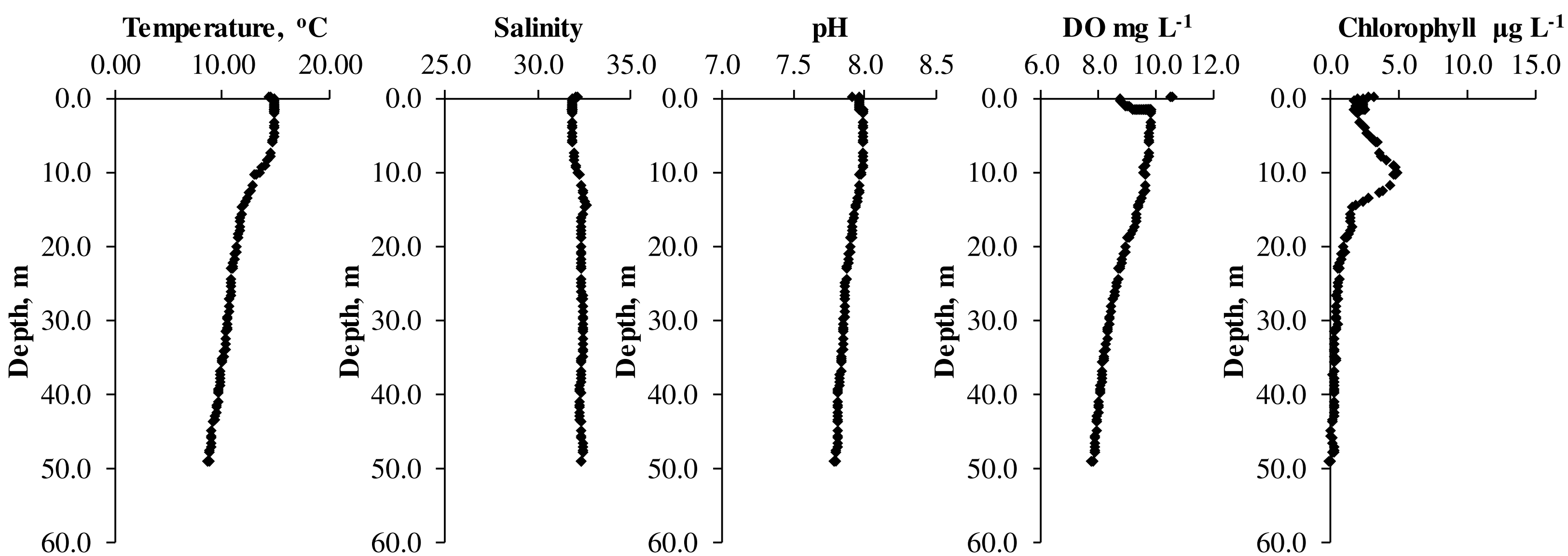


Temperature, °C
0.00
10.00
20.00
Salinity
25.0
30.0
35.0
pH
7.0
7.5
8.0
8.5
DO mg L-1
6.0
8.0
10.0
12.0
Chlorophyll µg L-1
0.0
5.0
10.0
15.0
Depth, m
0.0
20.0
40.0
60.0
80.0
100.0
120.0

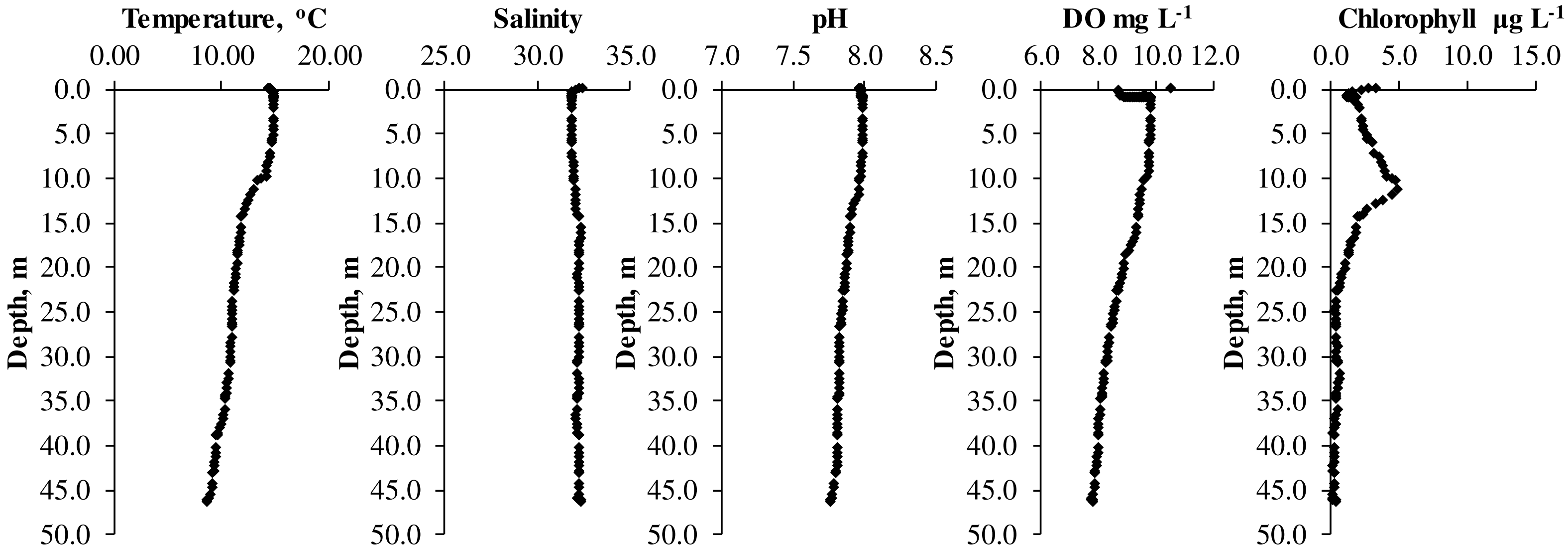
M0156


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0 90.0

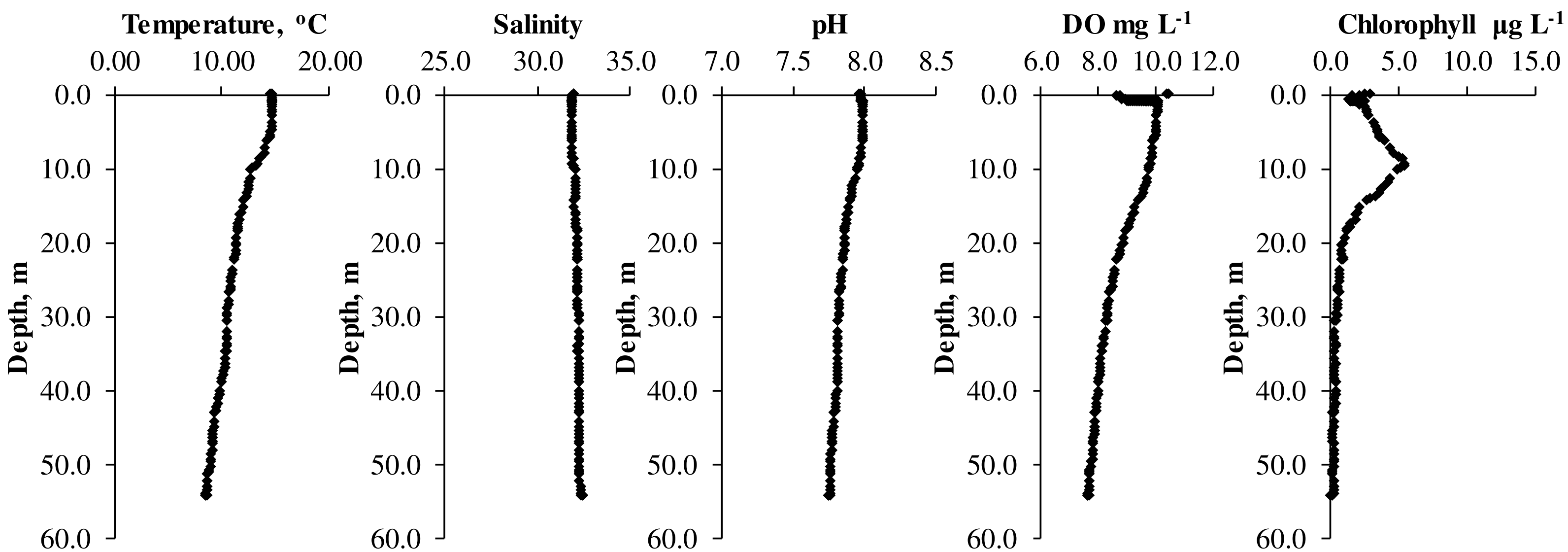
M0157


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

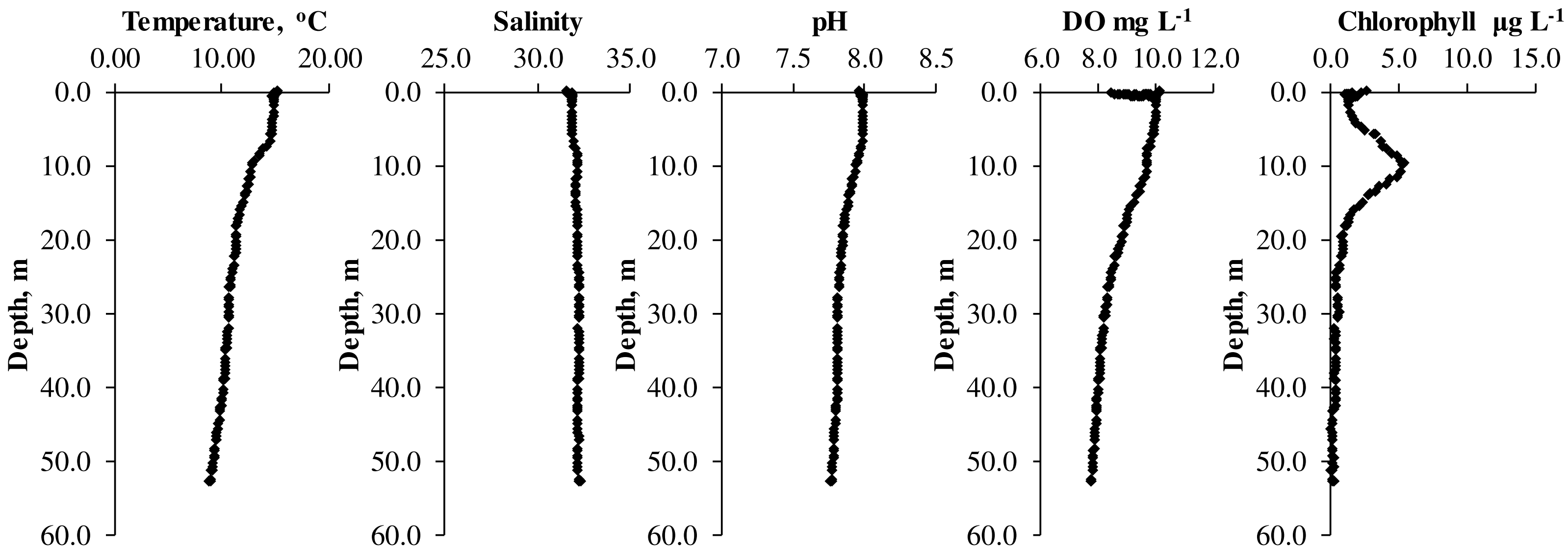
M0158


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0 50.0

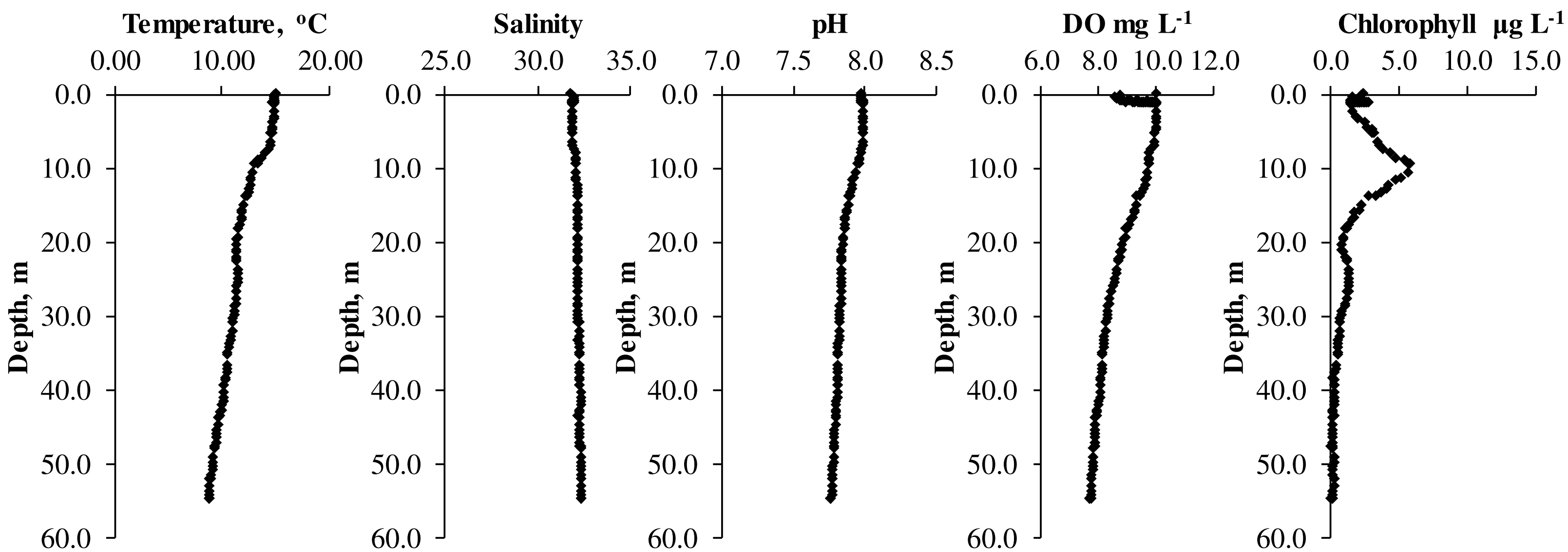
M0159


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

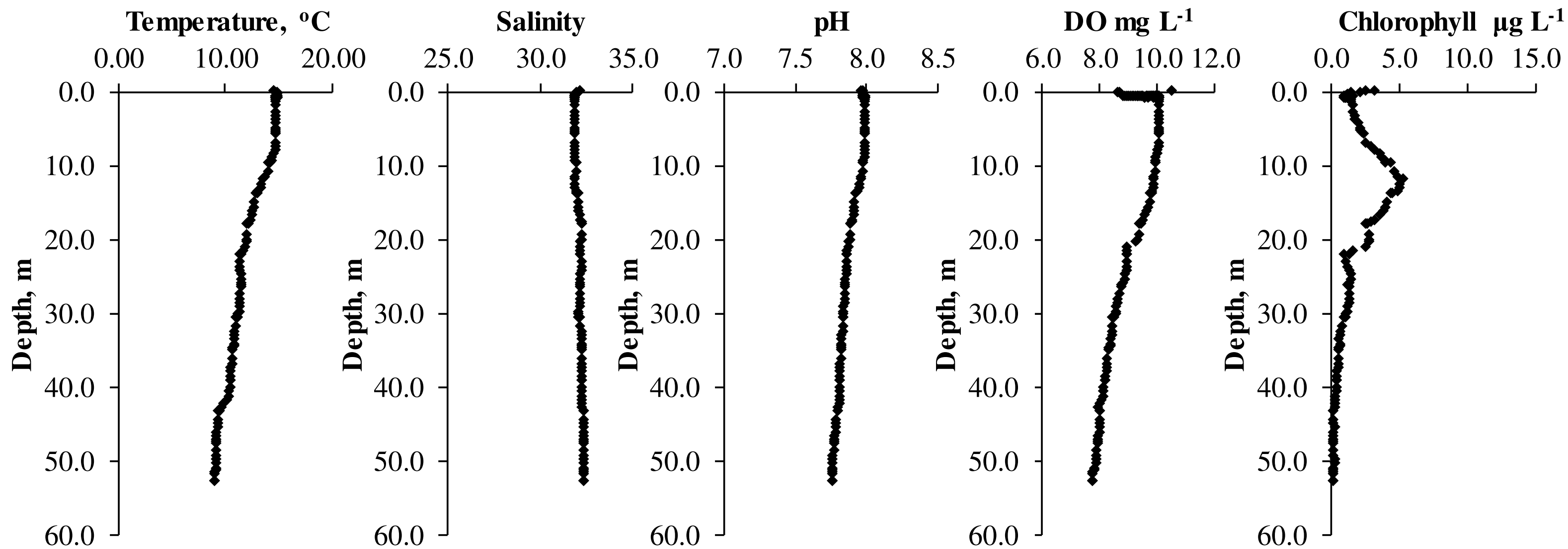
M0160


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

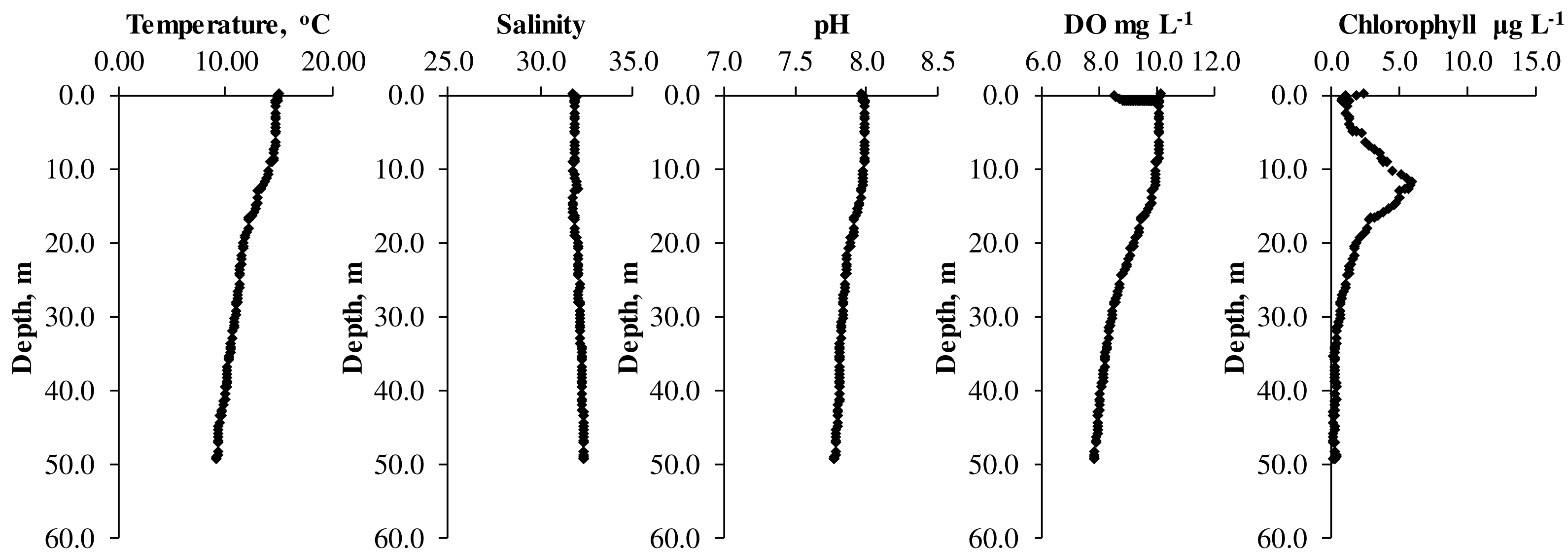
M0161


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

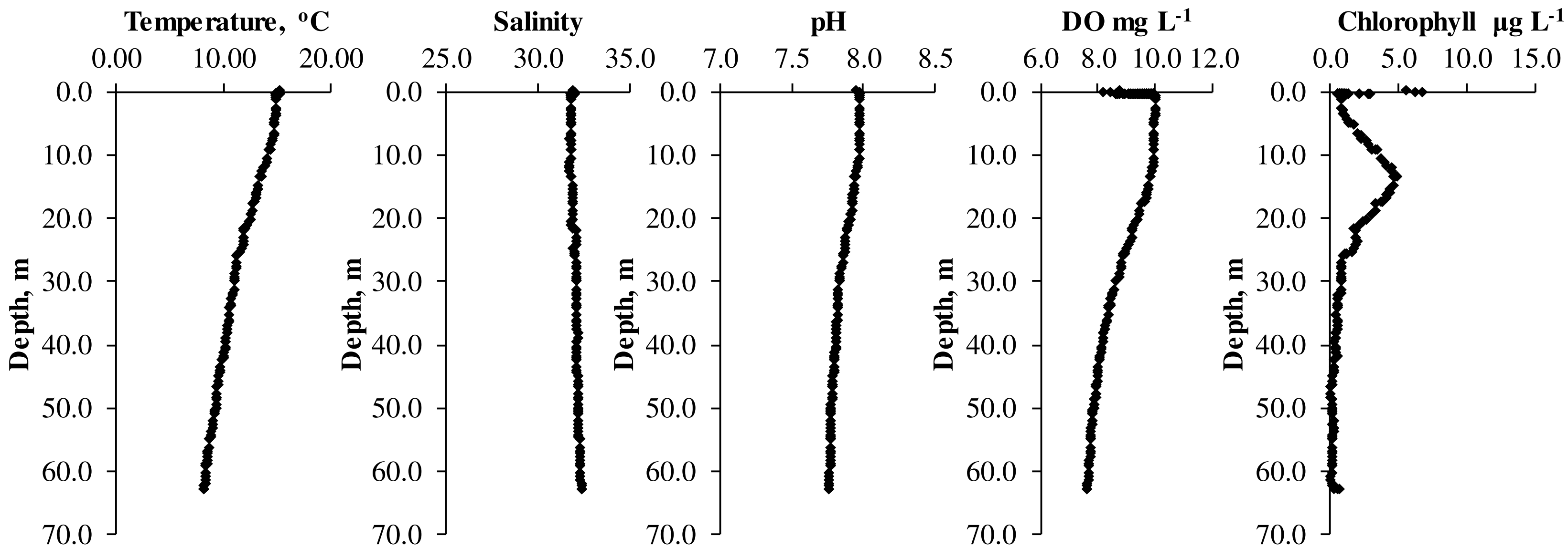
M0162


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

M0163

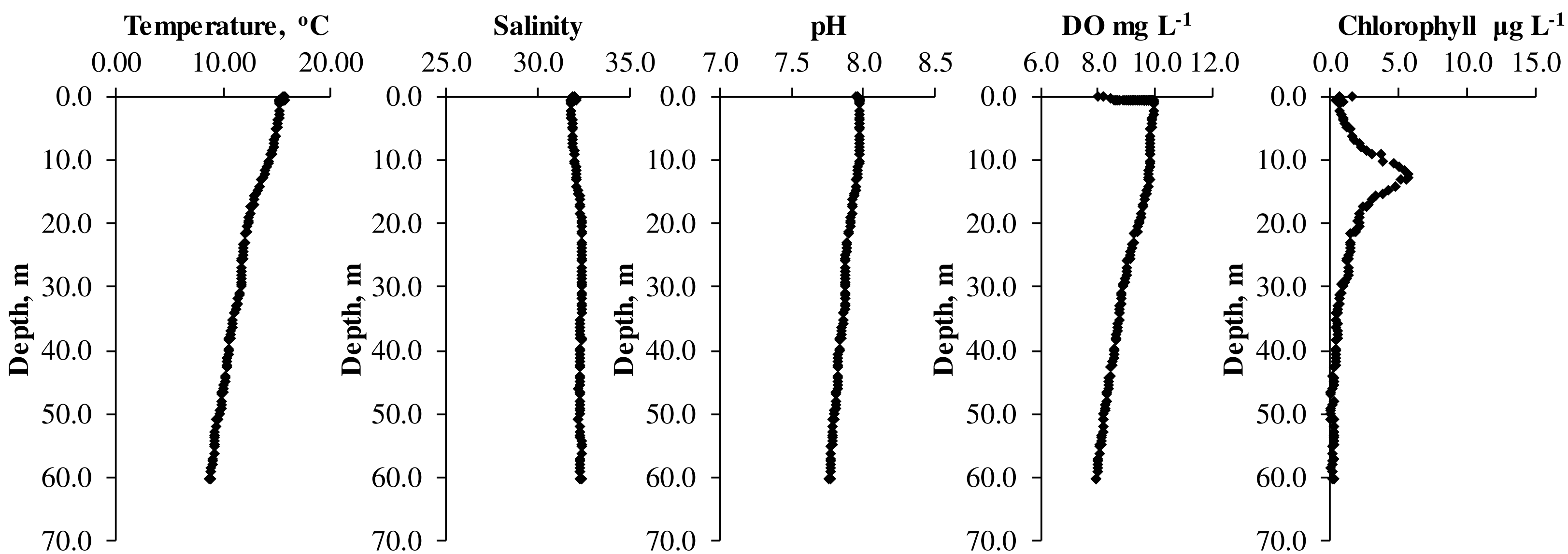

Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

M0164



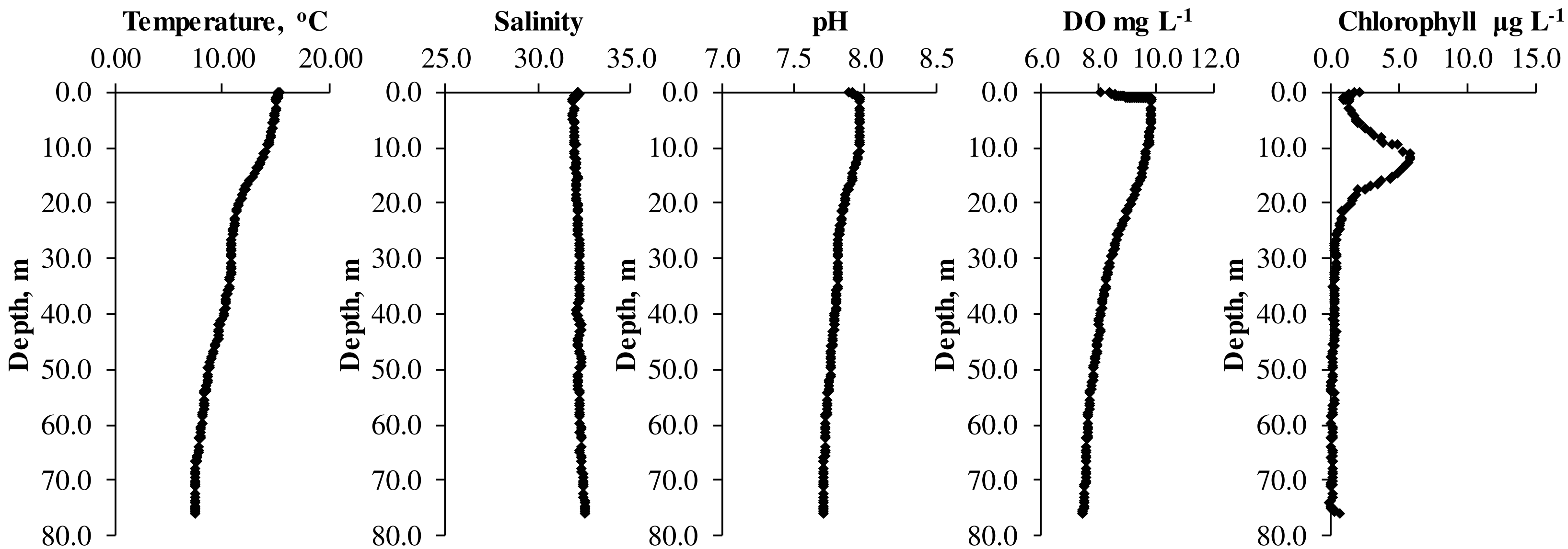
Temperature, ^{o}C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L^{-1}
6.0 8.0 10.0 12.0
Chlorophyll µg L^{-1}
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

M0165



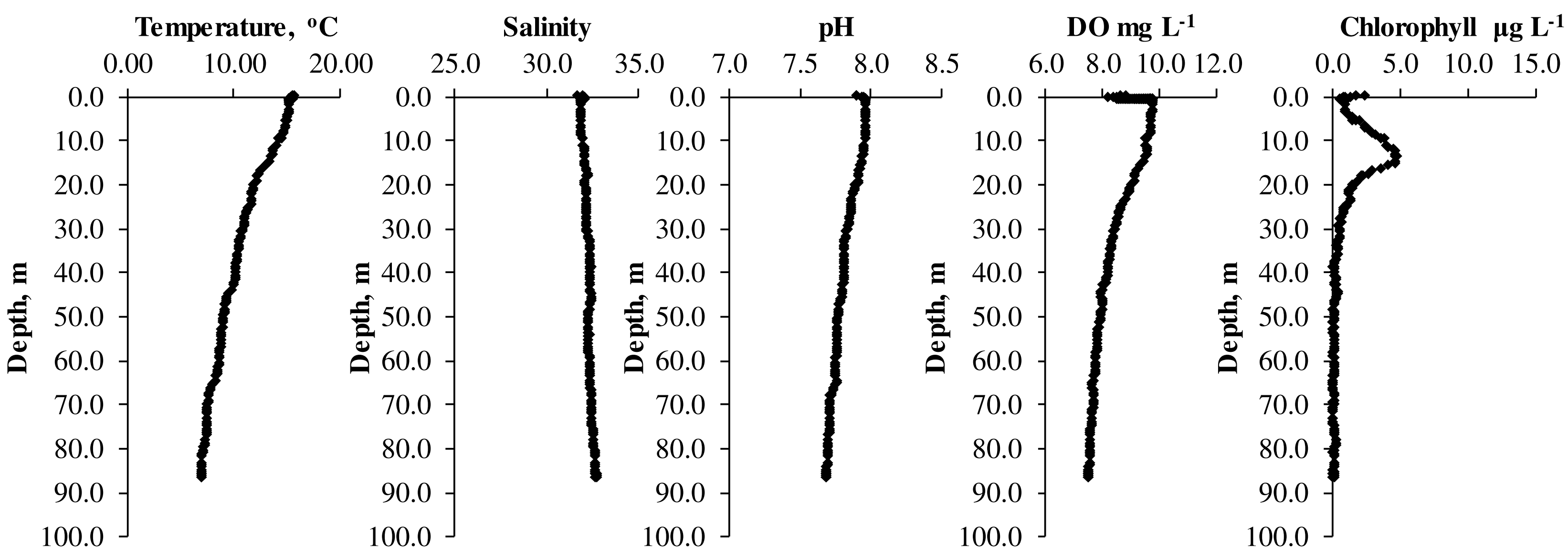
Temperature, ^{o}C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L^{-1}
6.0 8.0 10.0 12.0
Chlorophyll µg L^{-1}
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

M0166



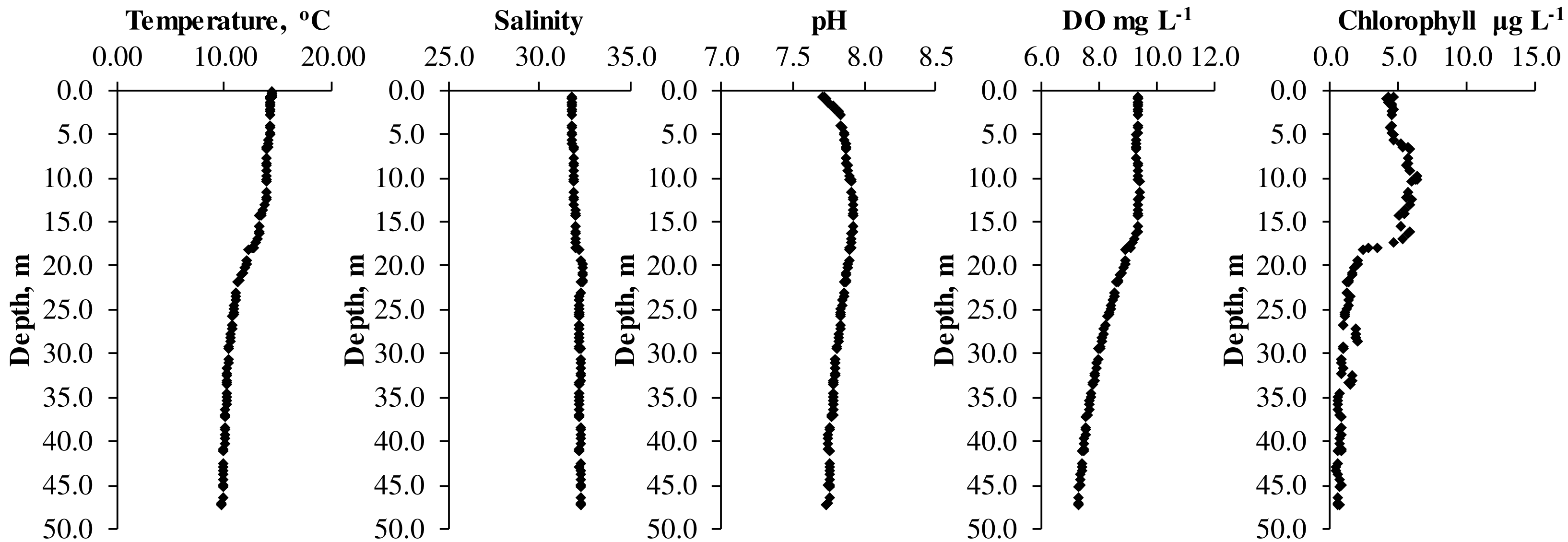
Temperature, °C
0.00
10.00
20.00
Salinity
25.0
30.0
35.0
pH
7.0
7.5
8.0
8.5
DO mg L-1
6.0
8.0
10.0
12.0
Chlorophyll µg L-1
0.0
5.0
10.0
15.0
Depth, m
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0

M0167

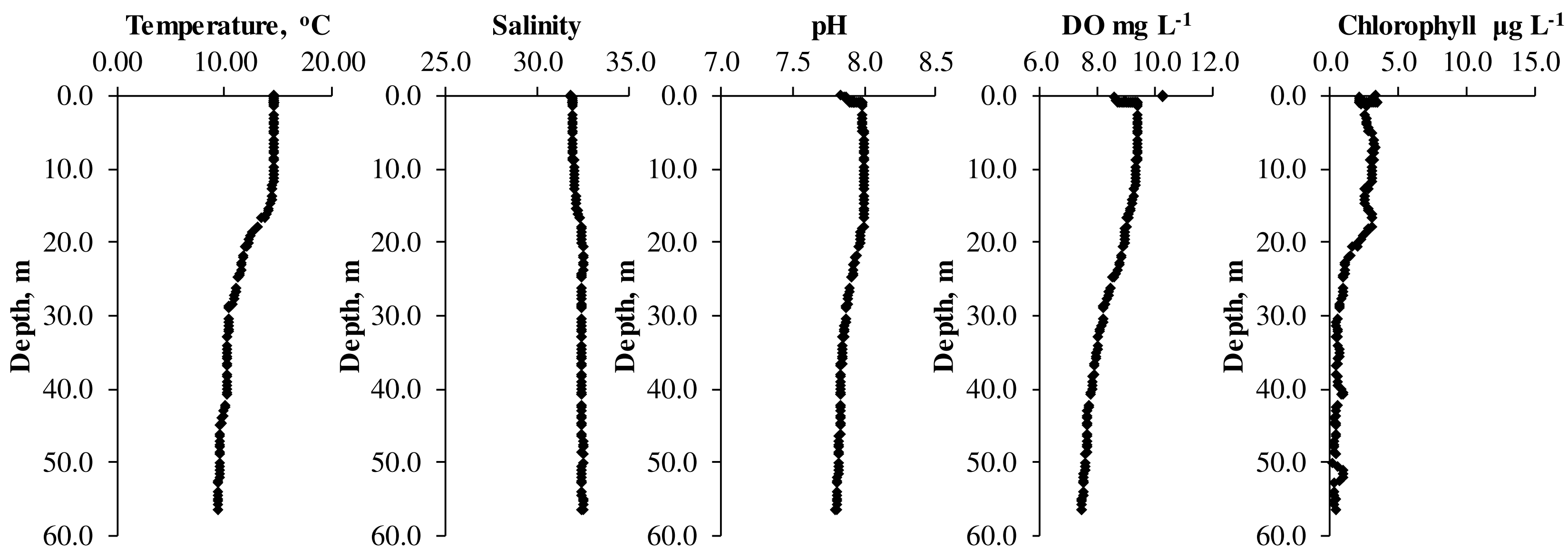


Temperature, °C
0.00
10.00
20.00
Salinity
25.0
30.0
35.0
pH
7.0
7.5
8.0
8.5
DO mg L-1
6.0
8.0
10.0
12.0
Chlorophyll µg L-1
0.0
5.0
10.0
15.0
Depth, m
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0

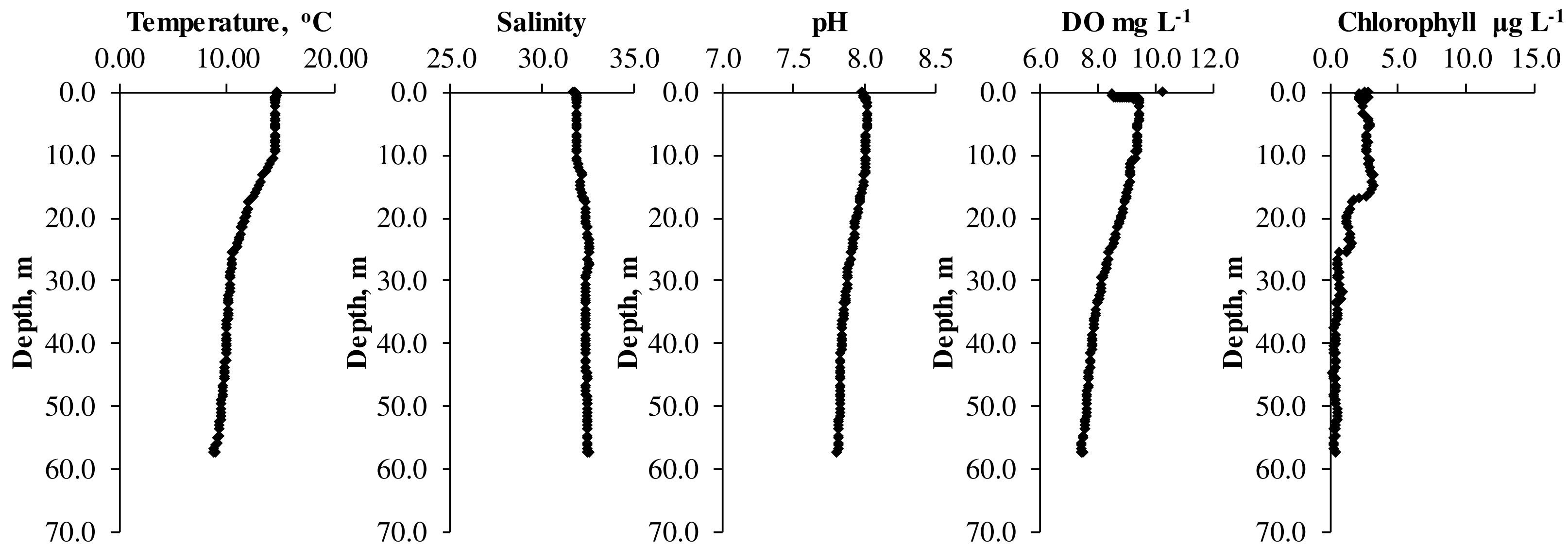
M0168


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0 50.0

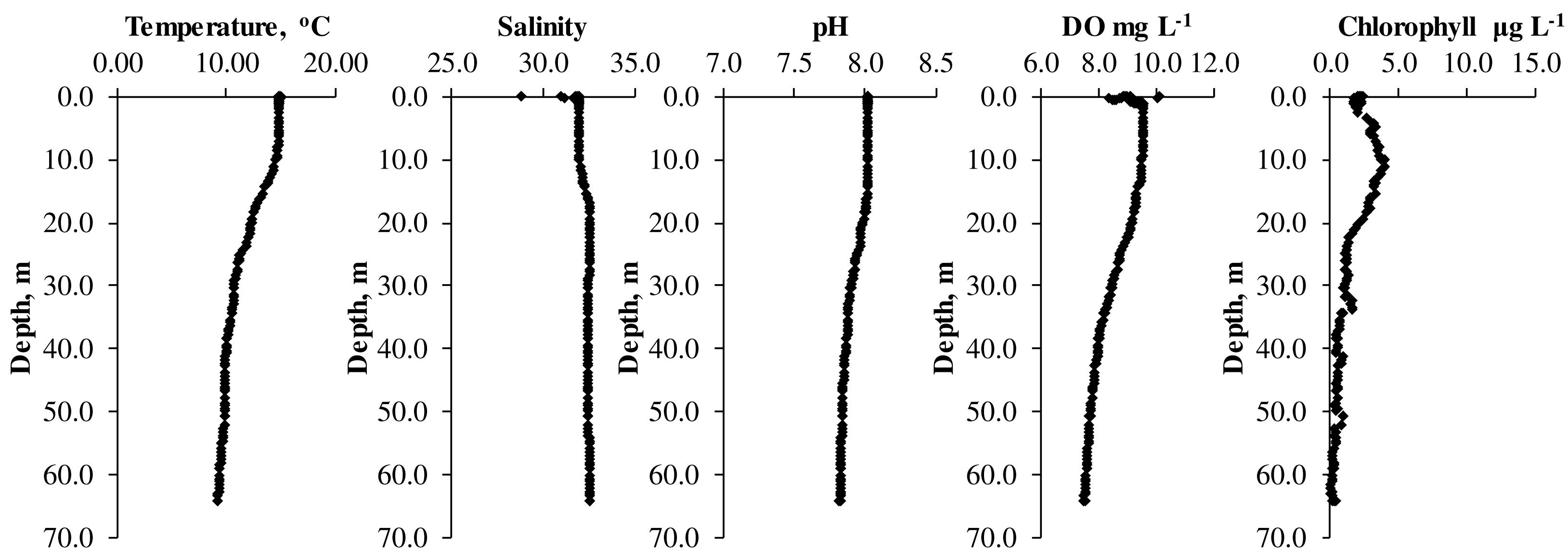
M0169


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

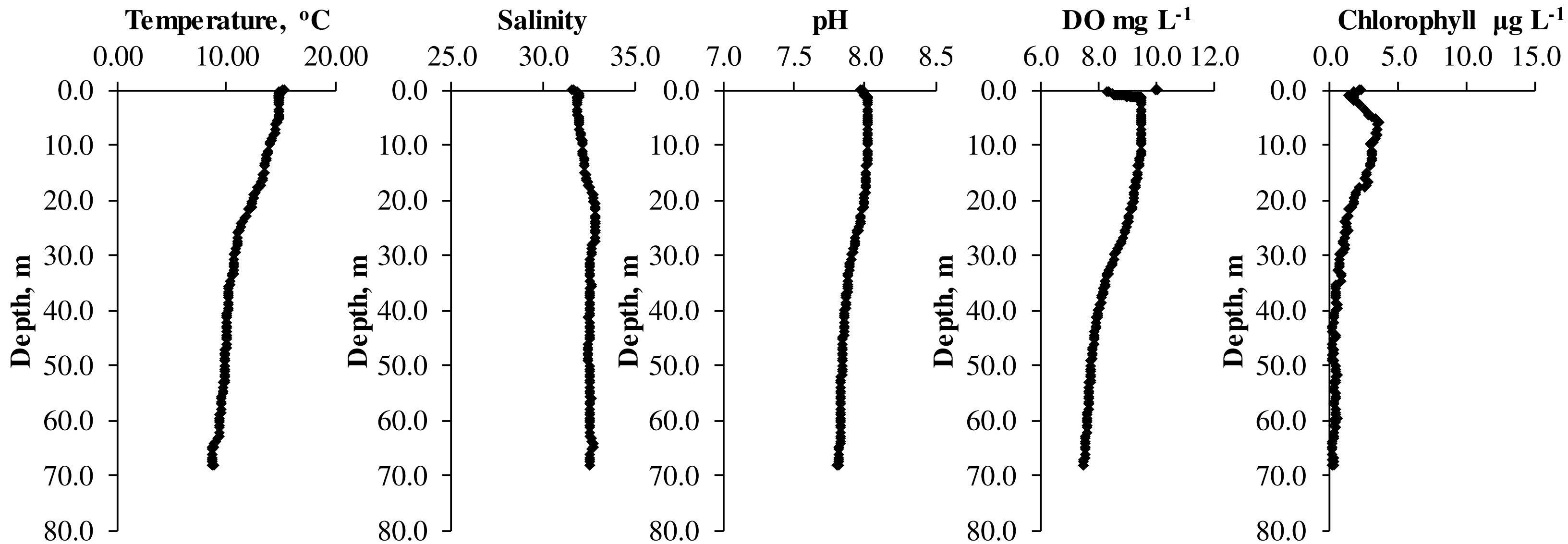
M0170


Temperature, °C
0.00
10.00
20.00
Salinity
25.0
30.0
35.0
pH
7.0
7.5
8.0
8.5
DO mg L-1
6.0
8.0
10.0
12.0
Chlorophyll µg L-1
0.0
5.0
10.0
15.0
Depth, m
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0

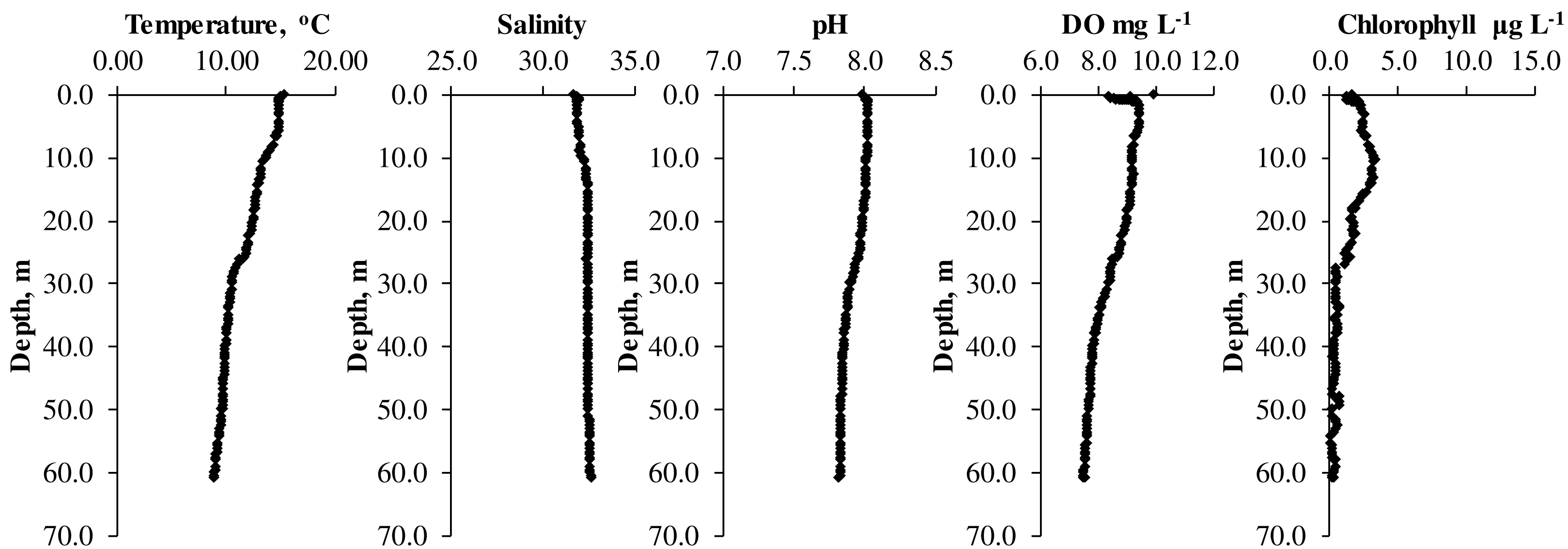
M0171


Temperature, °C
0.00
10.00
20.00
Salinity
25.0
30.0
35.0
pH
7.0
7.5
8.0
8.5
DO mg L-1
6.0
8.0
10.0
12.0
Chlorophyll µg L-1
0.0
5.0
10.0
15.0
Depth, m
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0

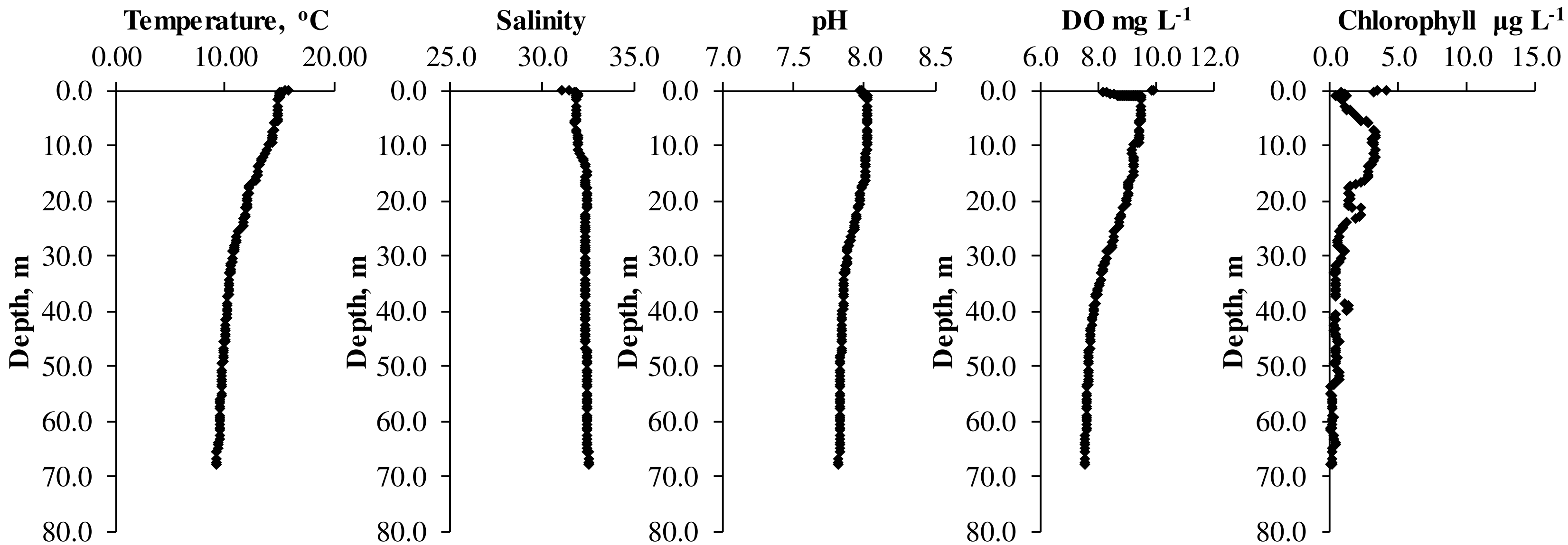
M0172


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0

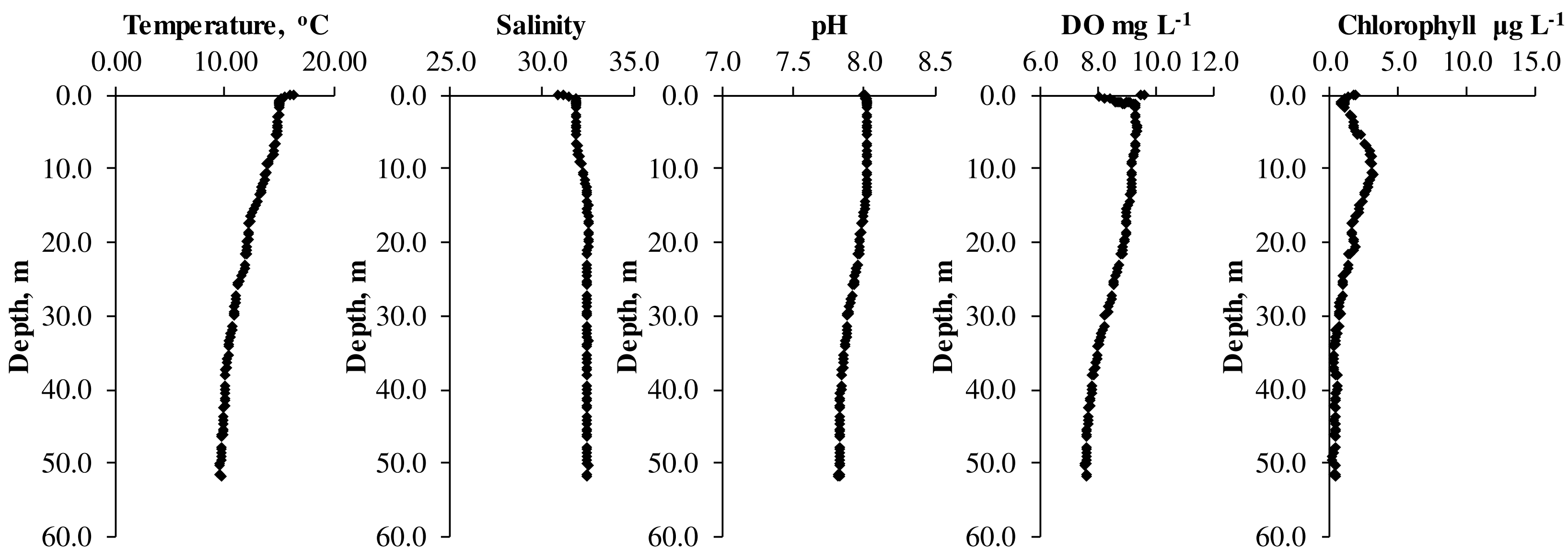
M0173


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

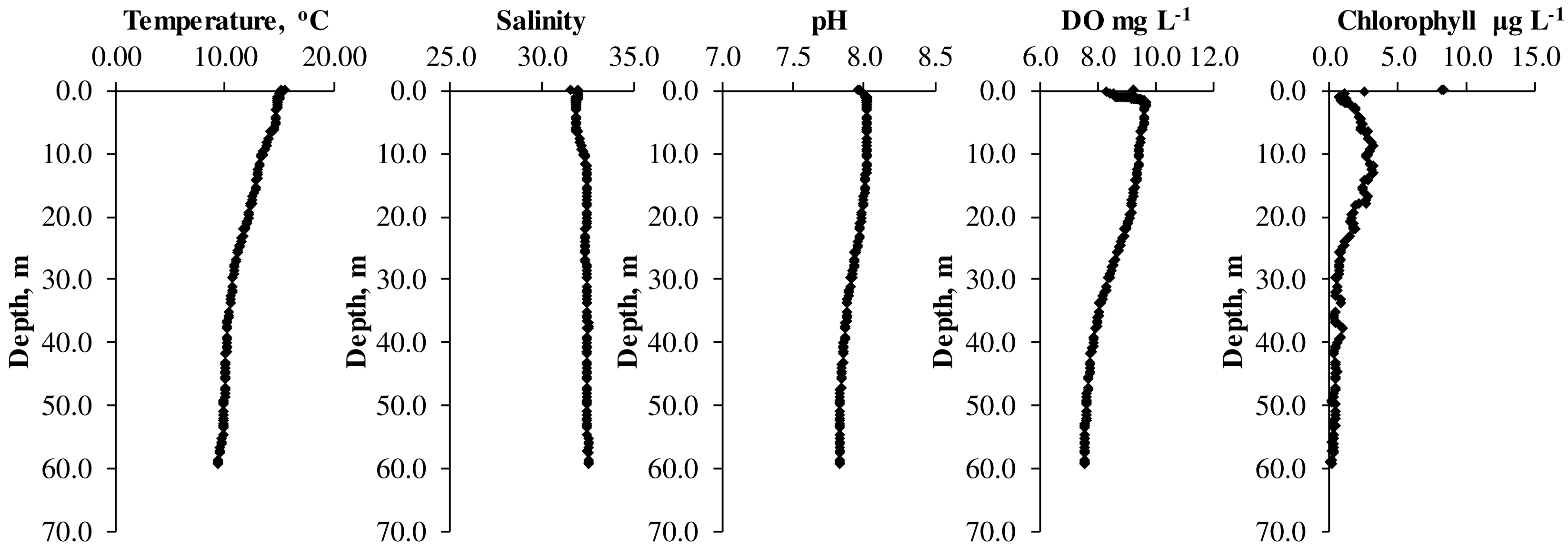
M0174


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0

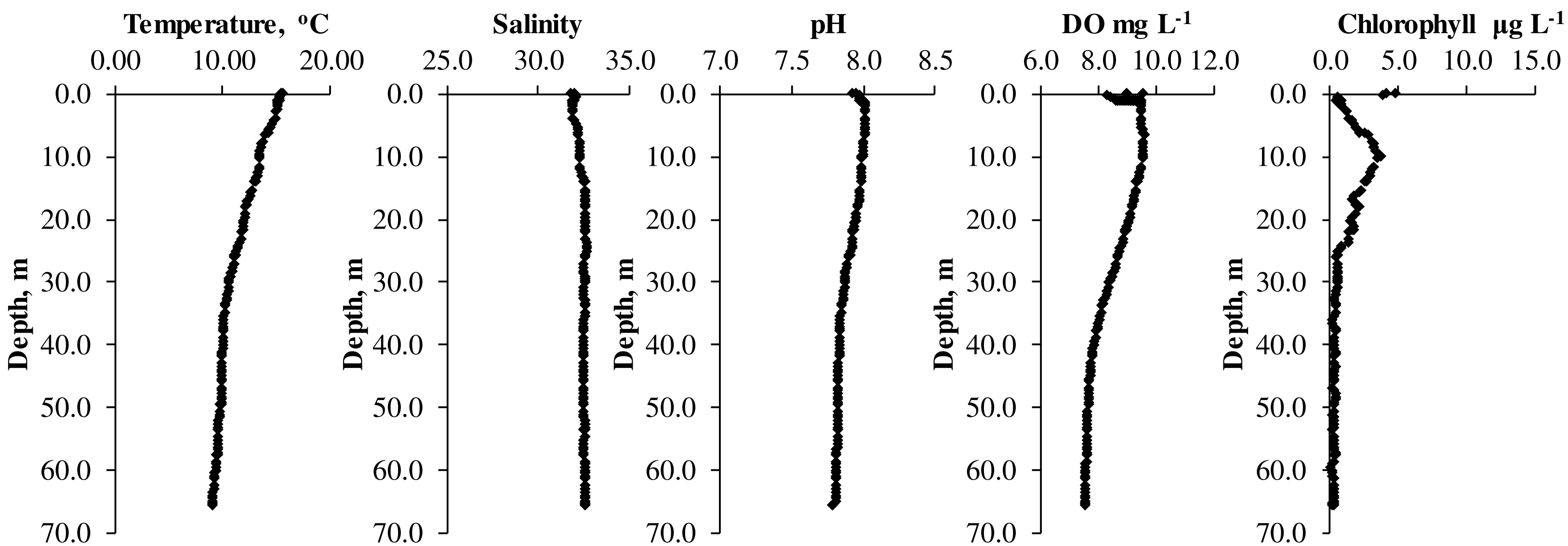
M0175


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

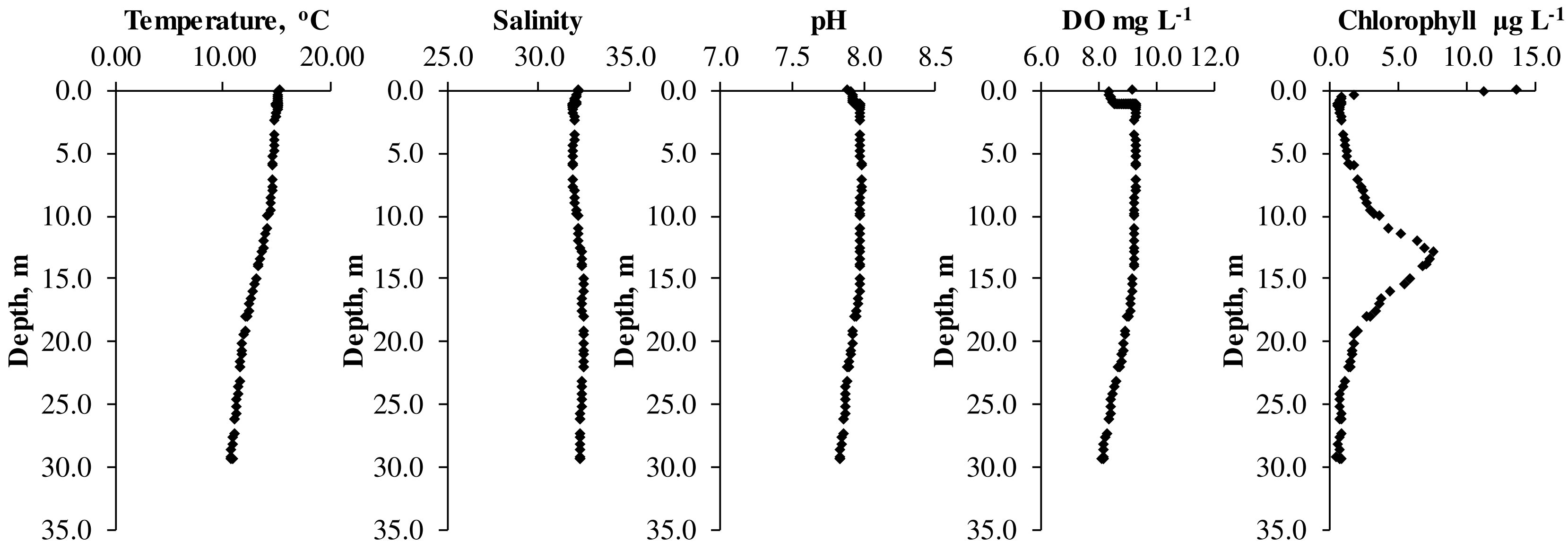
M0176


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

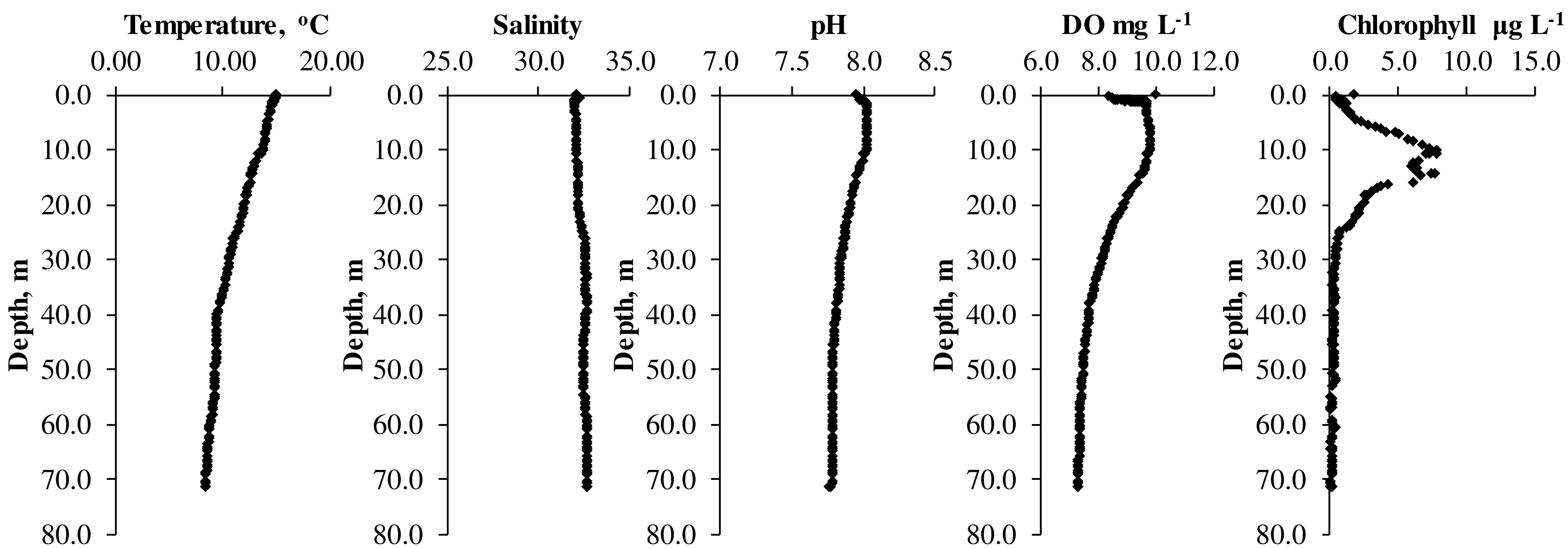
M0177


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

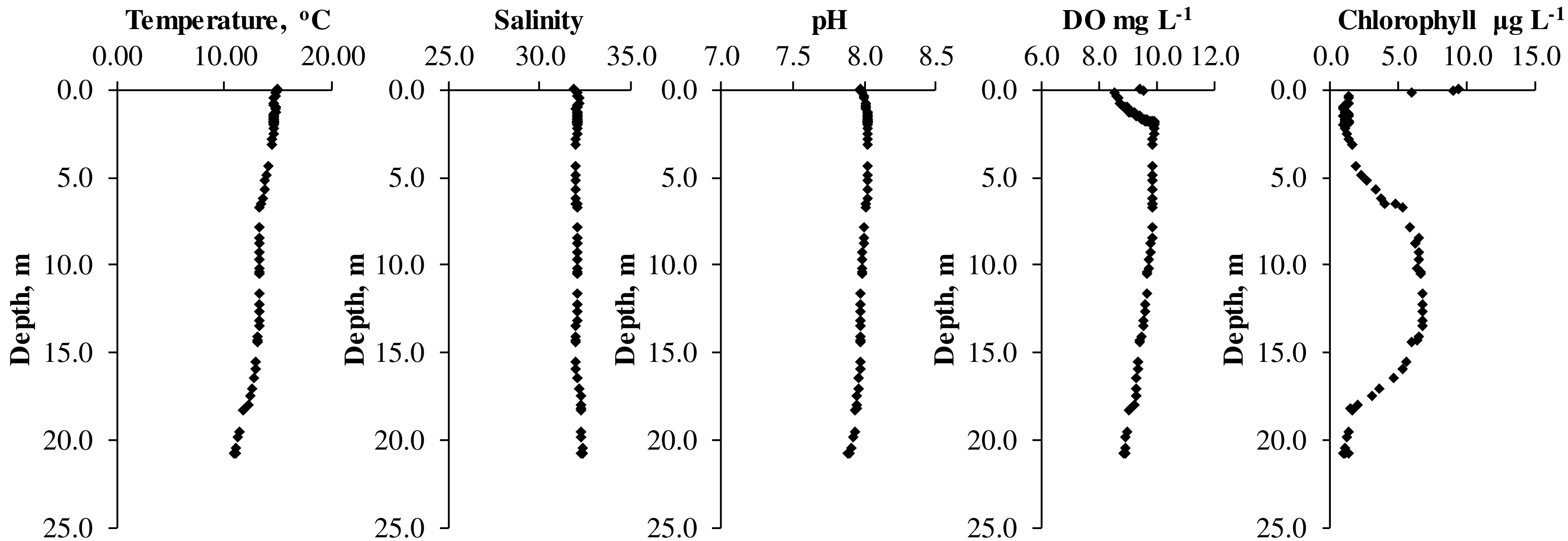
M0178


Temperature, °C
Salinity
pH
DO mg L-1
Chlorophyll µg L-1
Depth, m

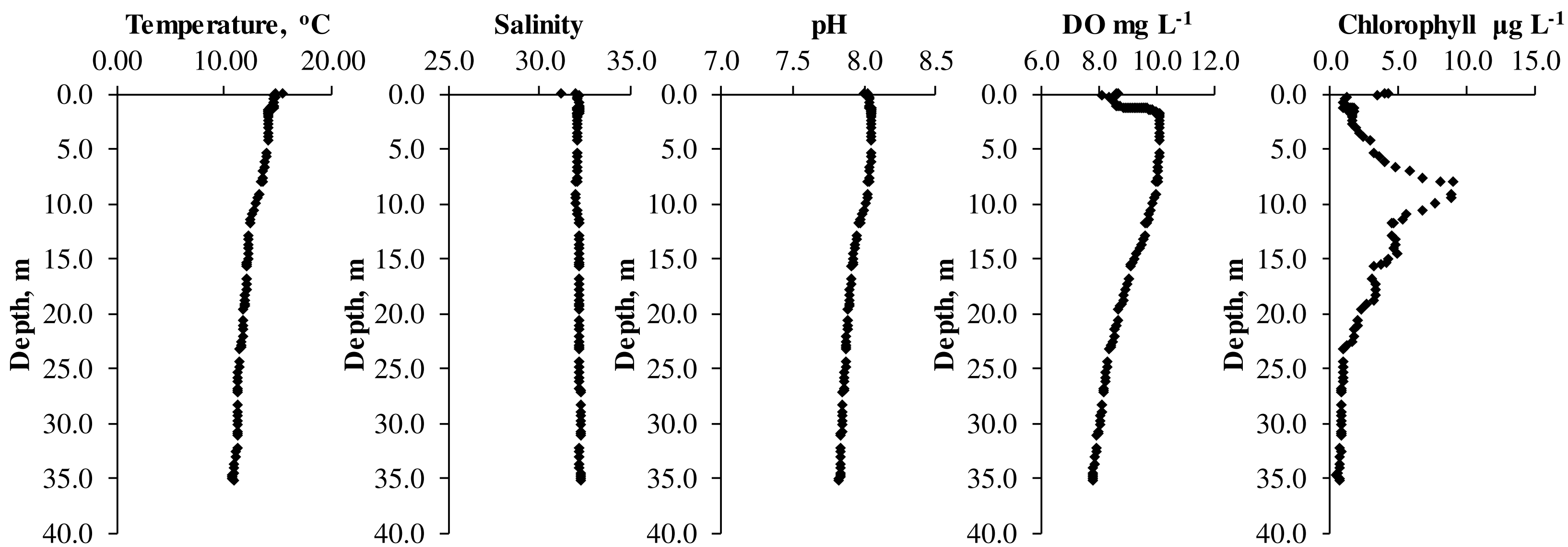
M0179


Temperature, °C
Salinity
pH
DO mg L-1
Chlorophyll µg L-1
Depth, m

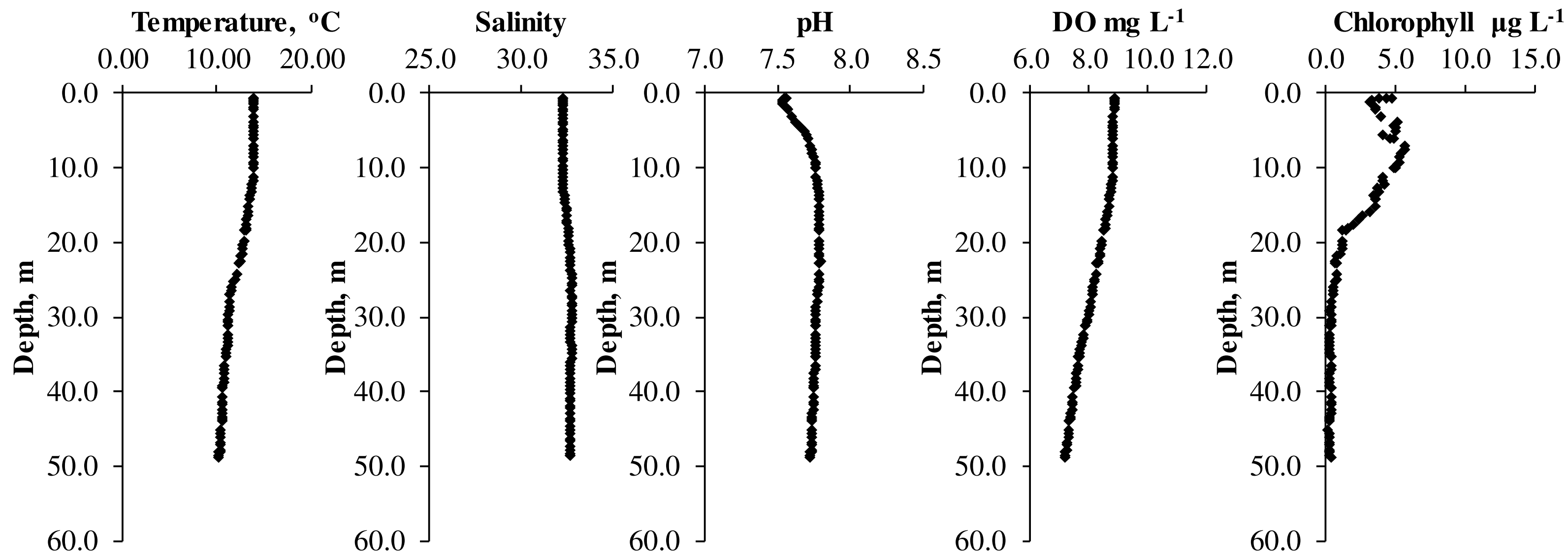
M0180


Temperature, °C
0.00
10.00
20.00
Salinity
25.0
30.0
35.0
pH
7.0
7.5
8.0
8.5
DO mg L-1
6.0
8.0
10.0
12.0
Chlorophyll µg L-1
0.0
5.0
10.0
15.0
Depth, m
0.0
5.0
10.0
15.0
20.0
25.0

M0181

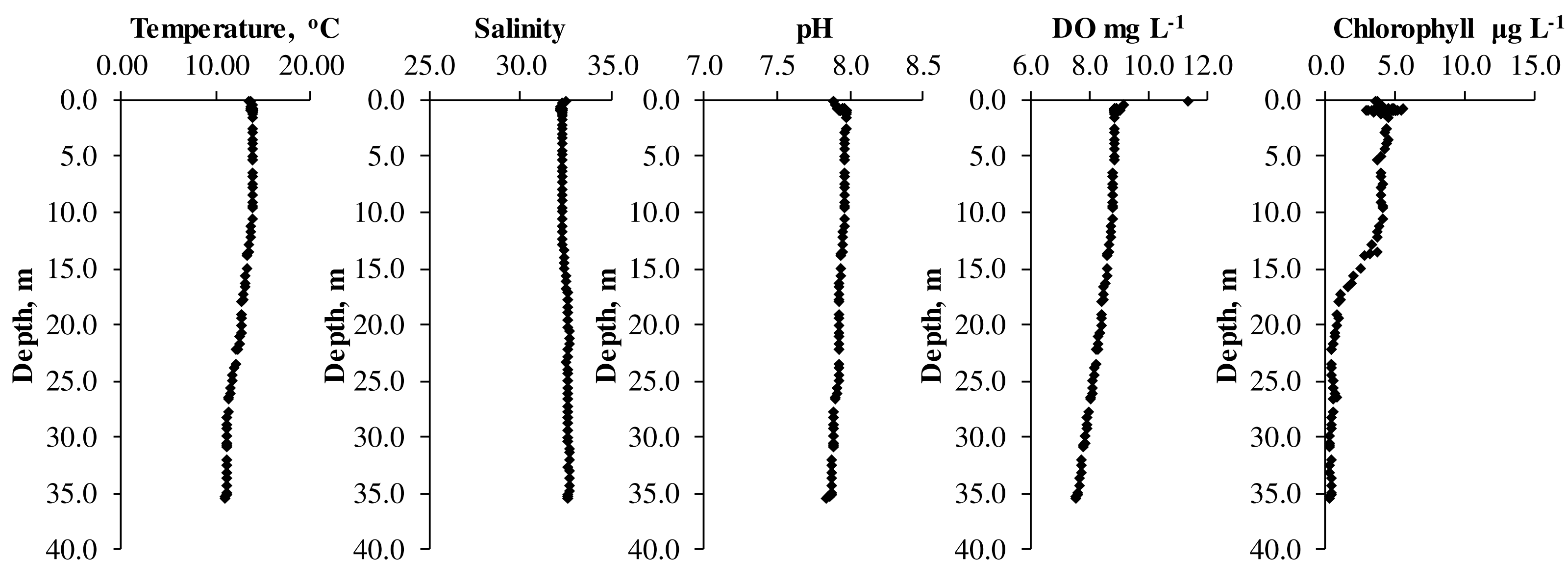

Temperature, °C
0.00
10.00
20.00
Salinity
25.0
30.0
35.0
pH
7.0
7.5
8.0
8.5
DO mg L-1
6.0
8.0
10.0
12.0
Chlorophyll µg L-1
0.0
5.0
10.0
15.0
Depth, m
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0

M0182



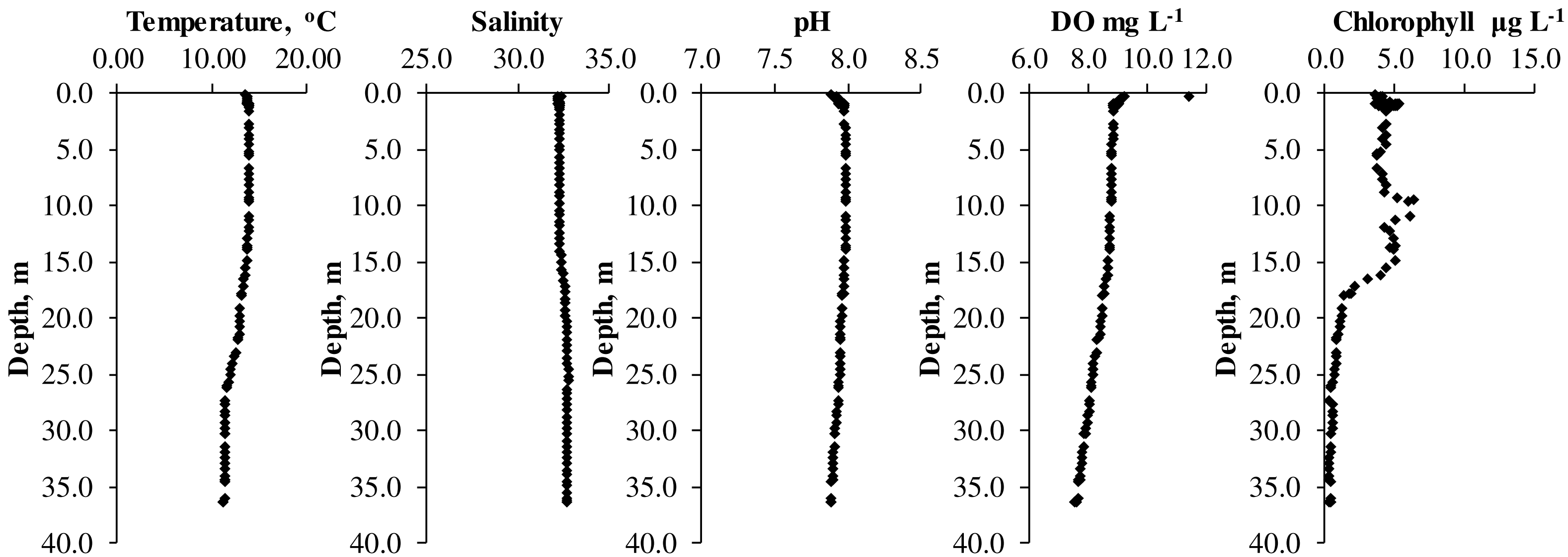
Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

M0183

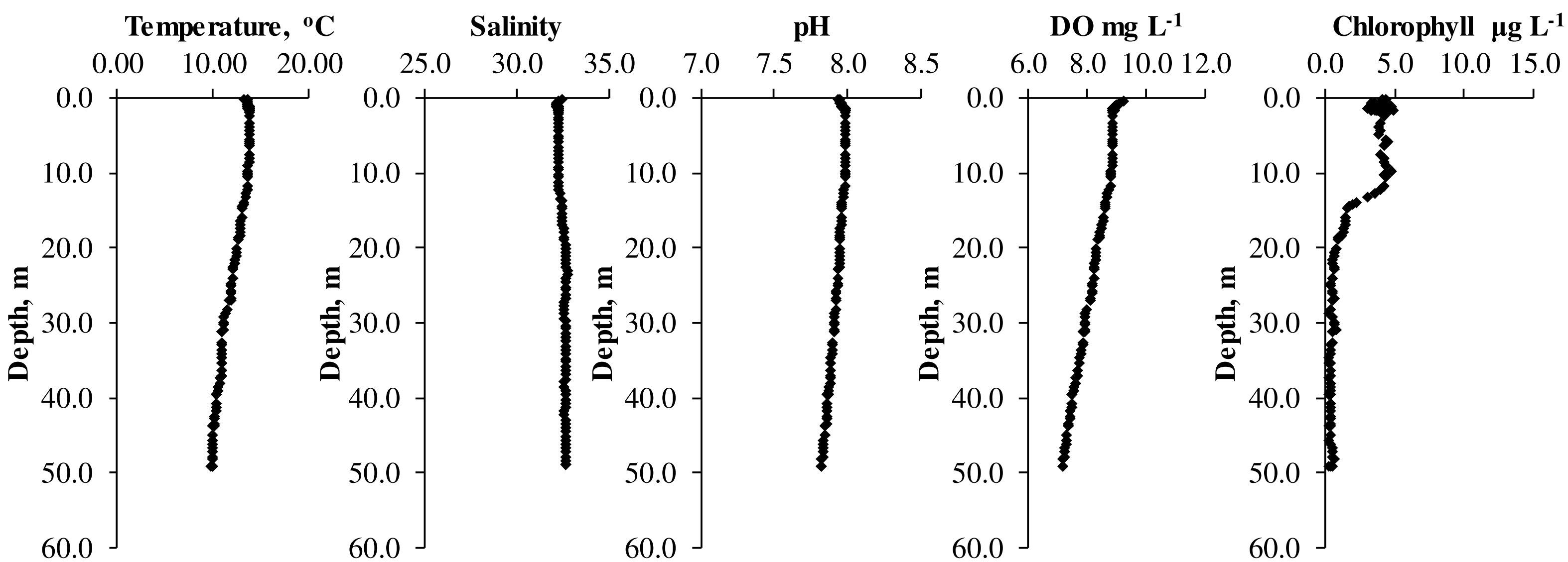


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0

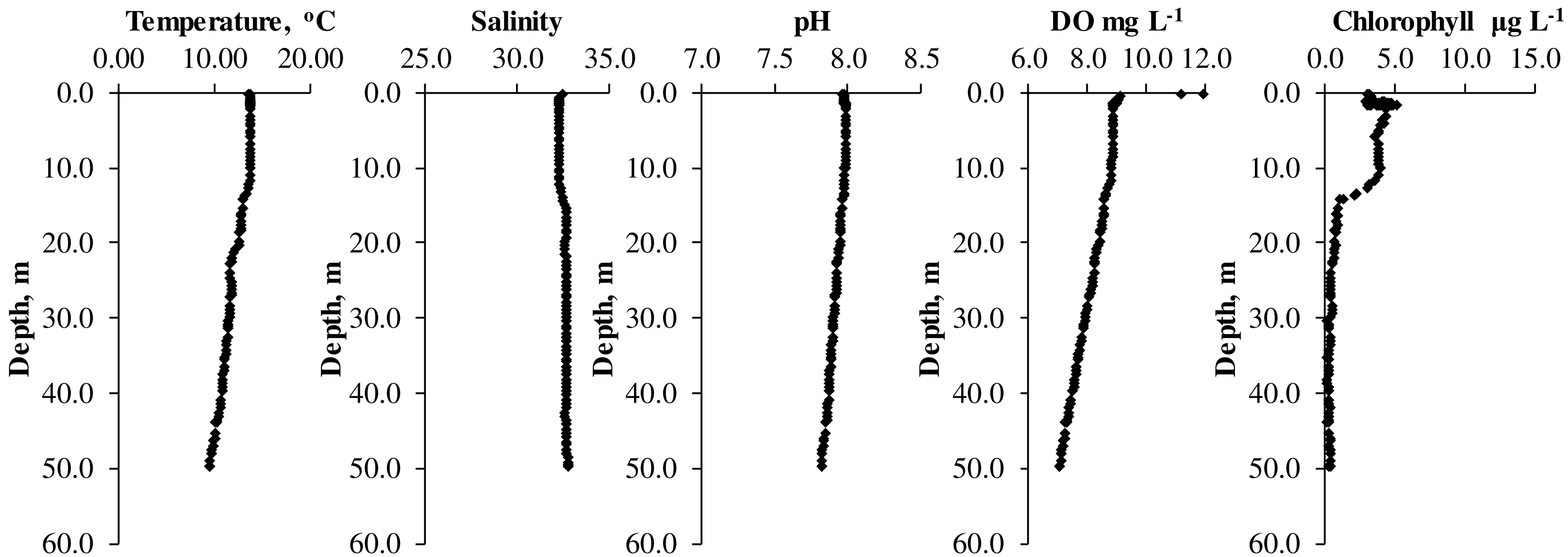
M0184


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0

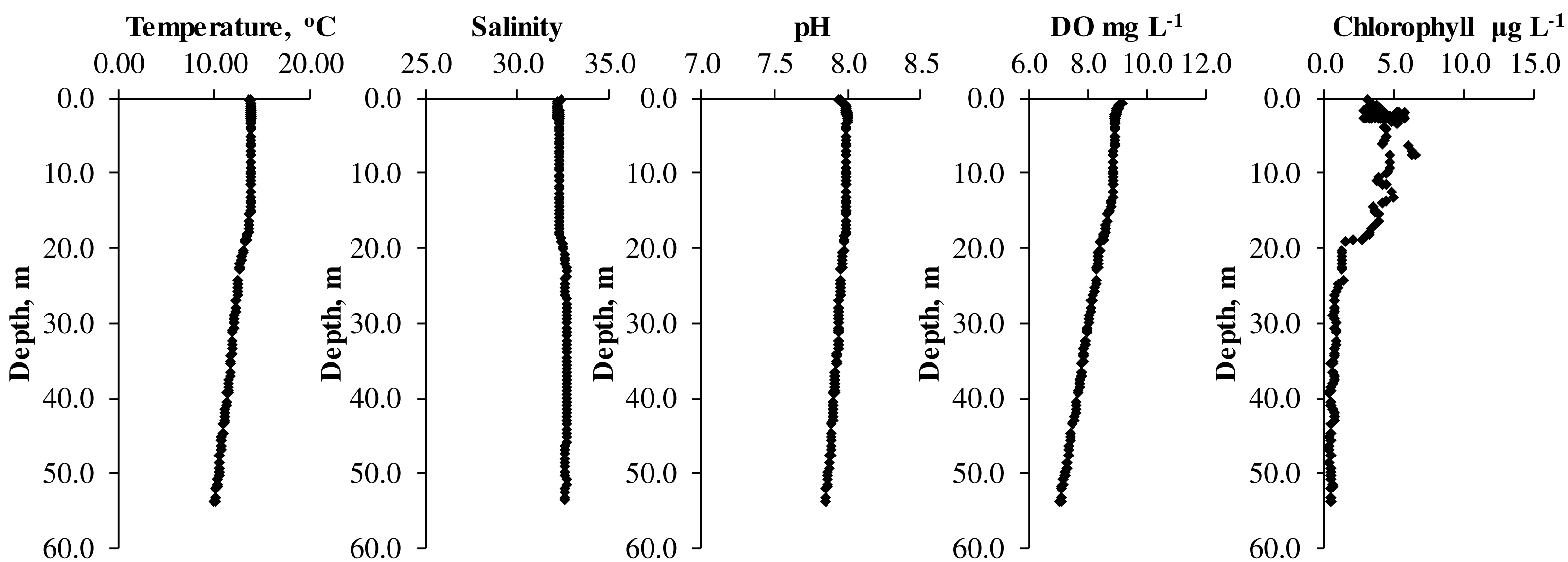
M0185


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

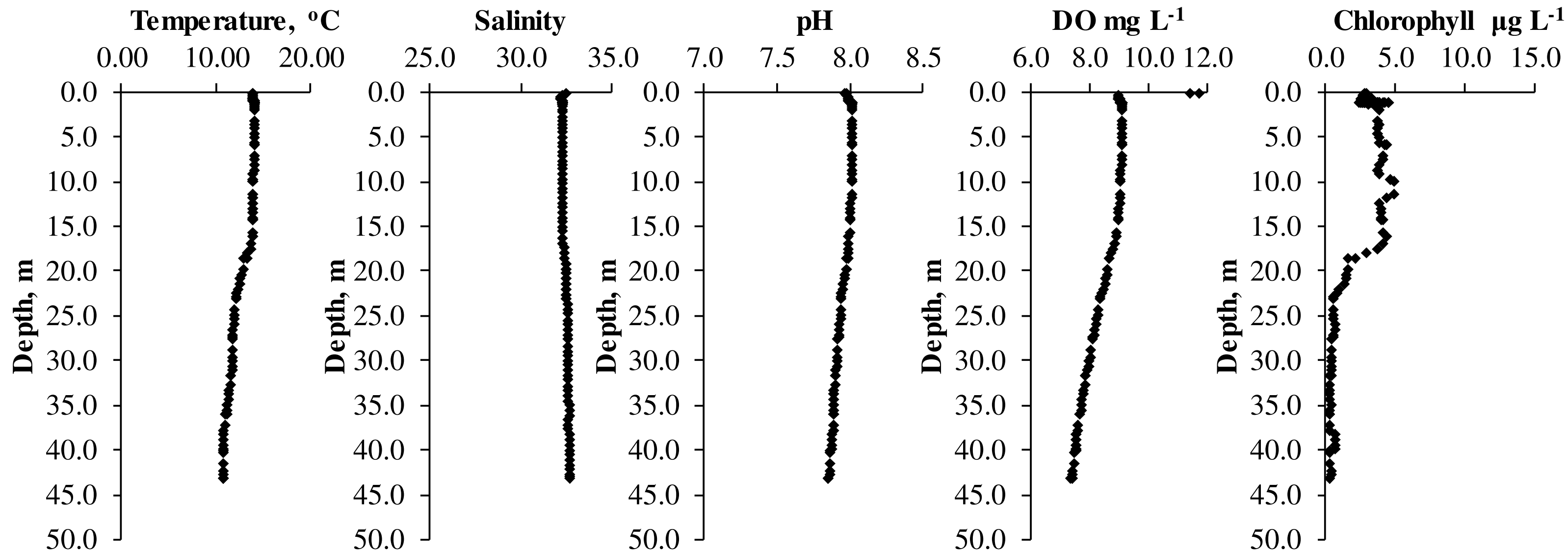
M0186


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

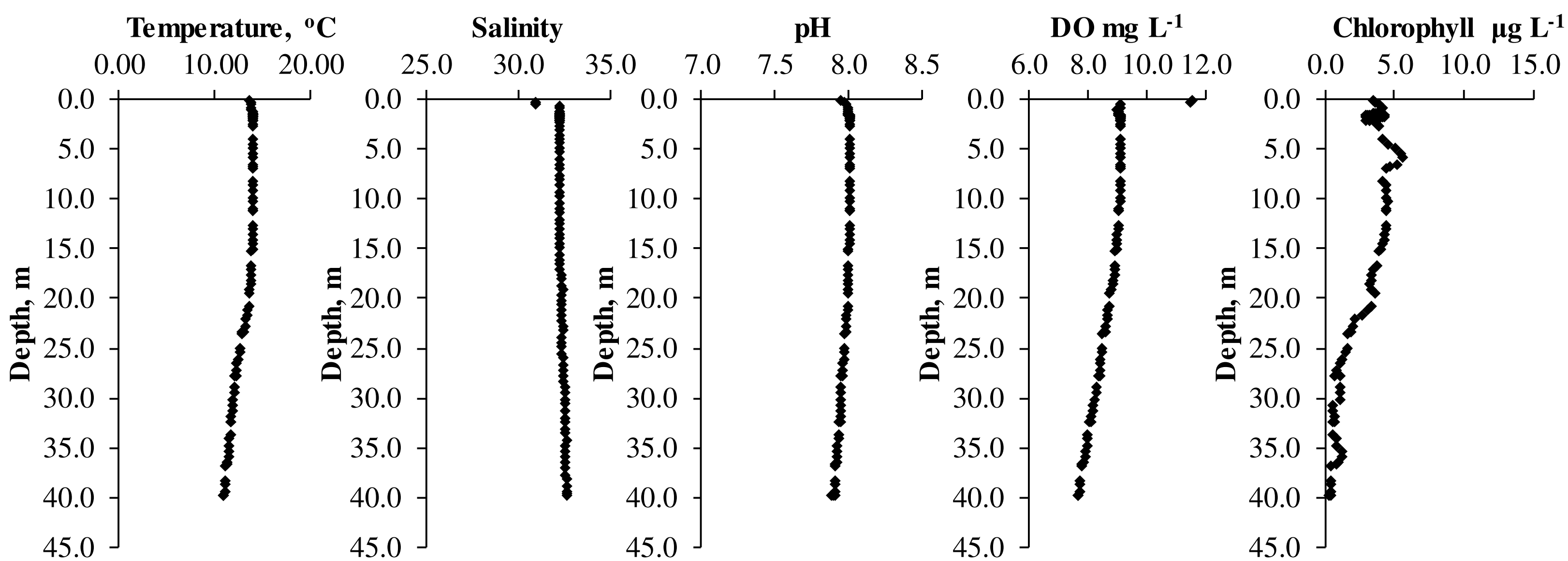
M0187


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

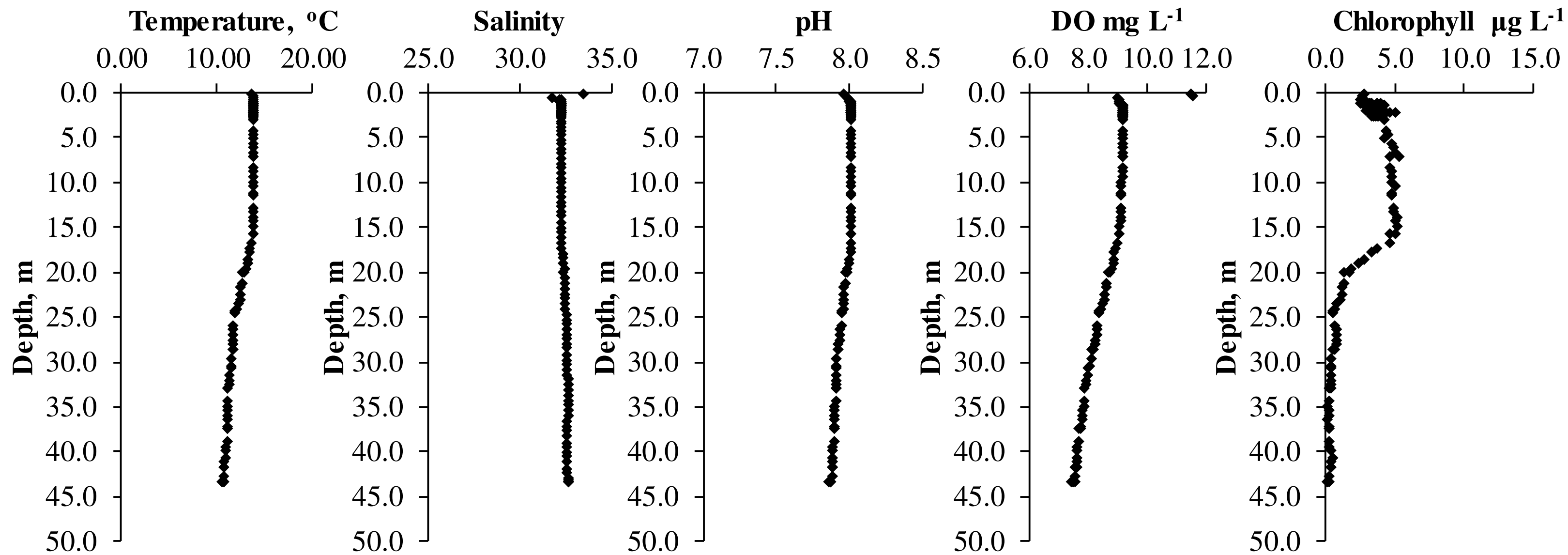
M0188


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0 50.0

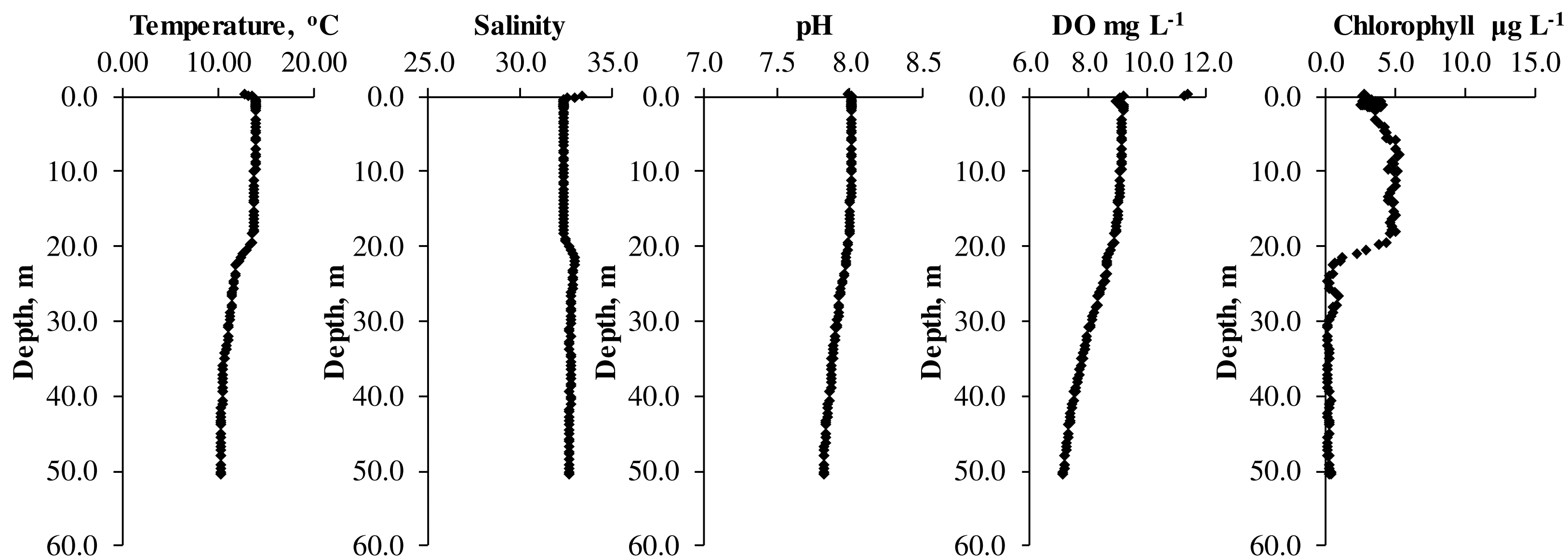
M0189


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0

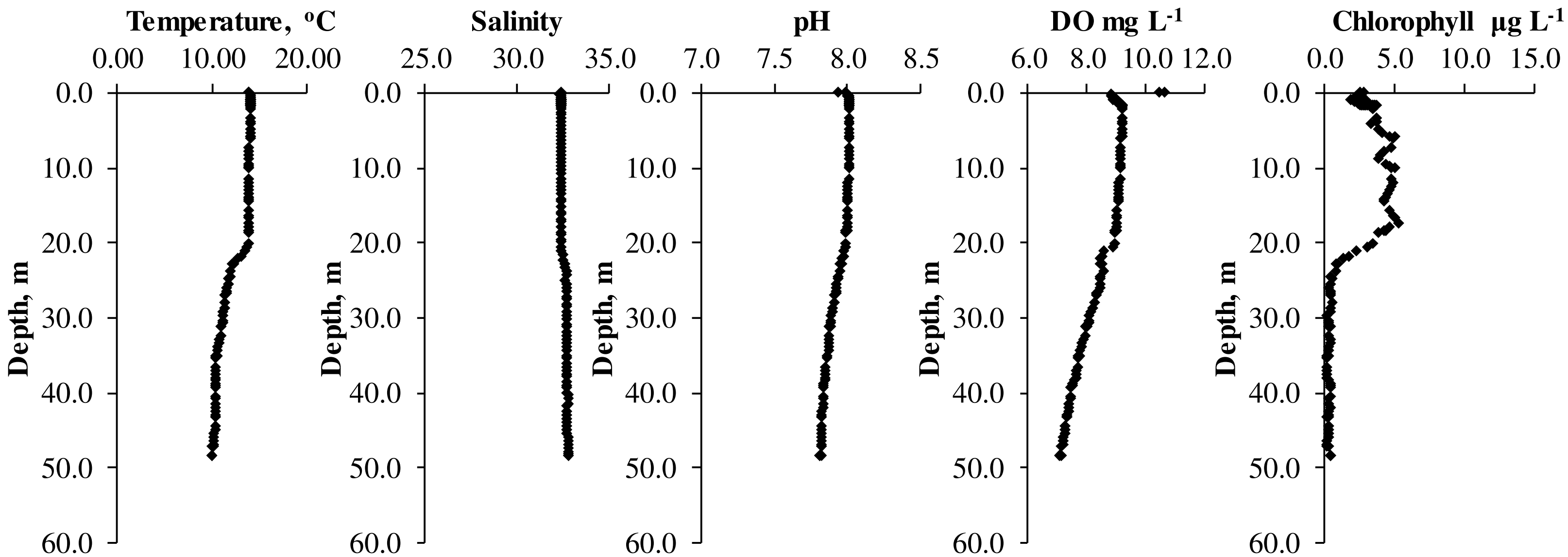
M0190


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0 50.0

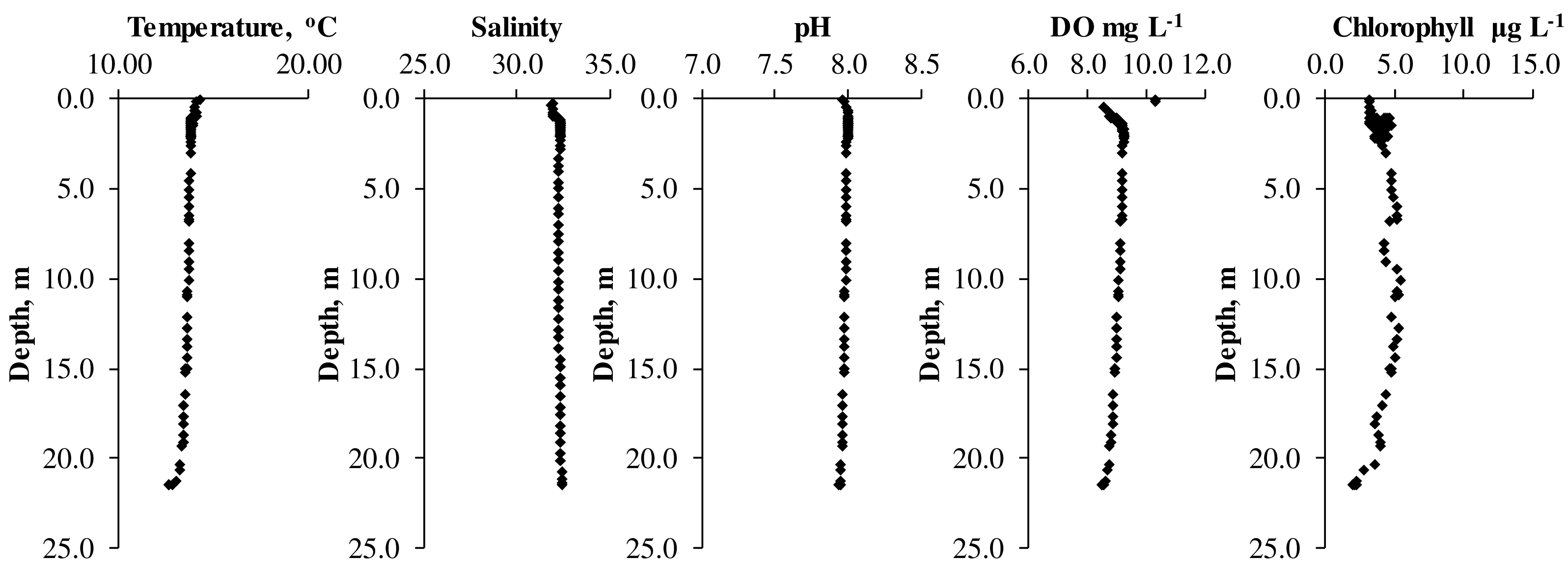
M0191


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

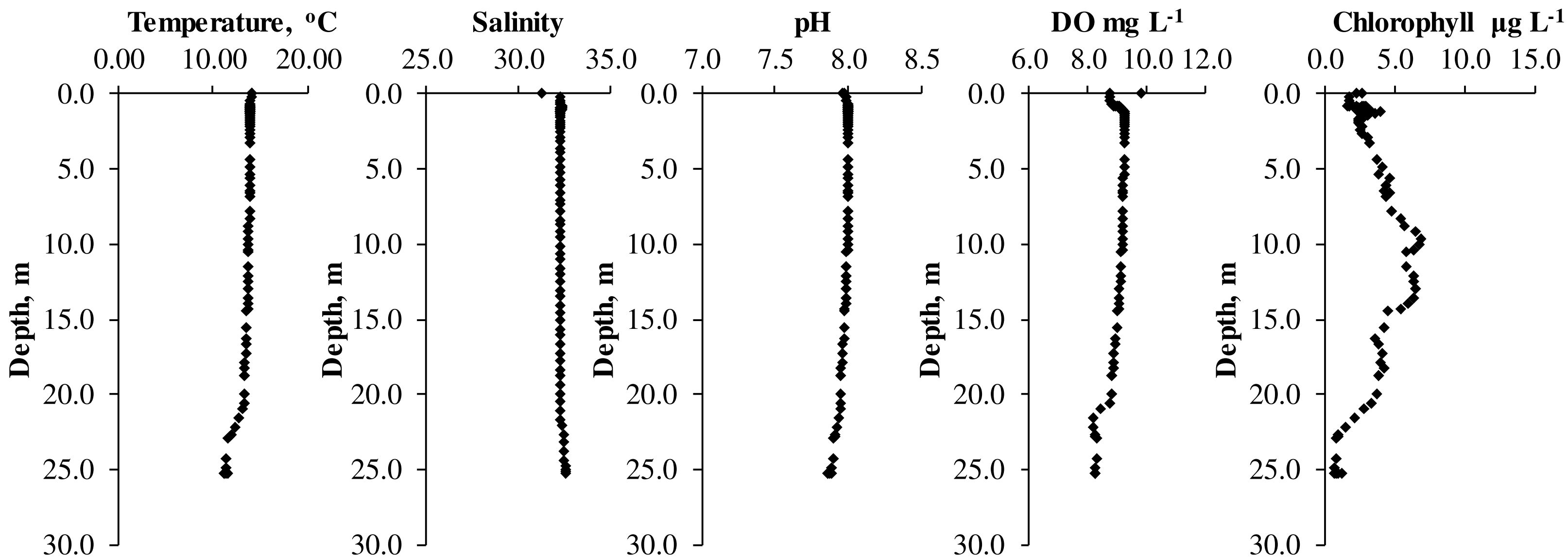
M0192


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 10.0 20.0 30.0 40.0 50.0 60.0

M0193

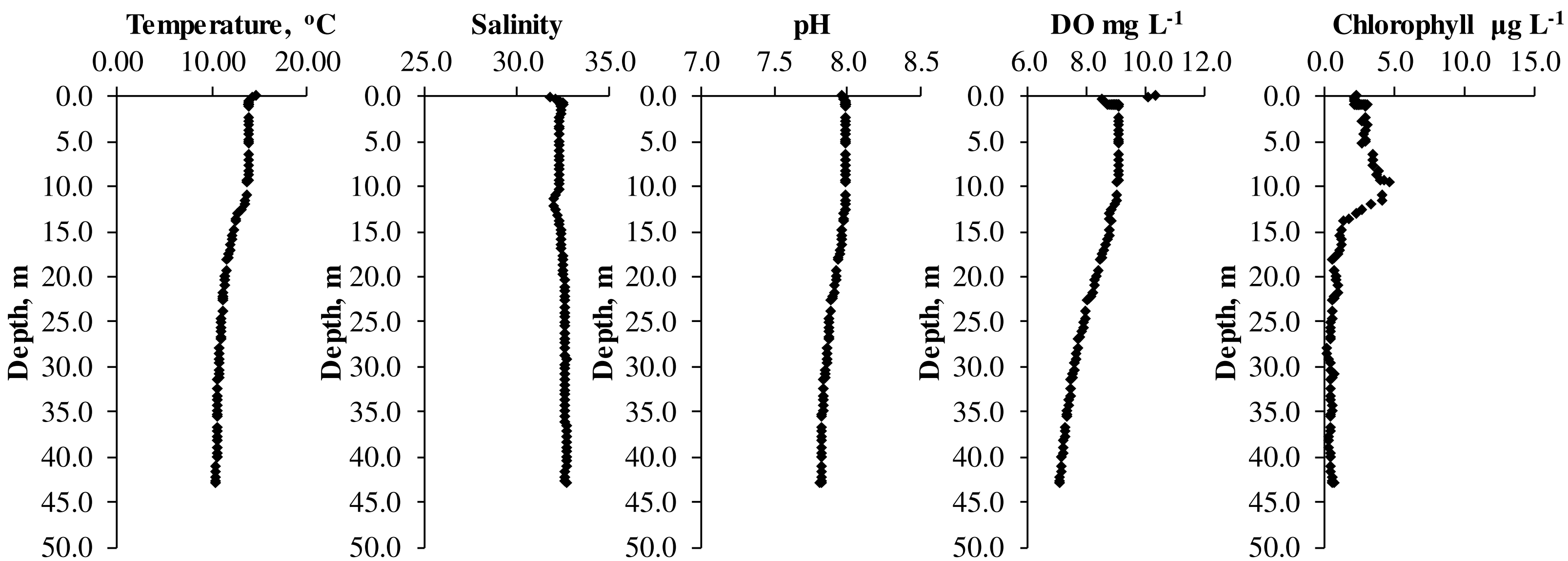

Temperature, °C
10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0

M0194



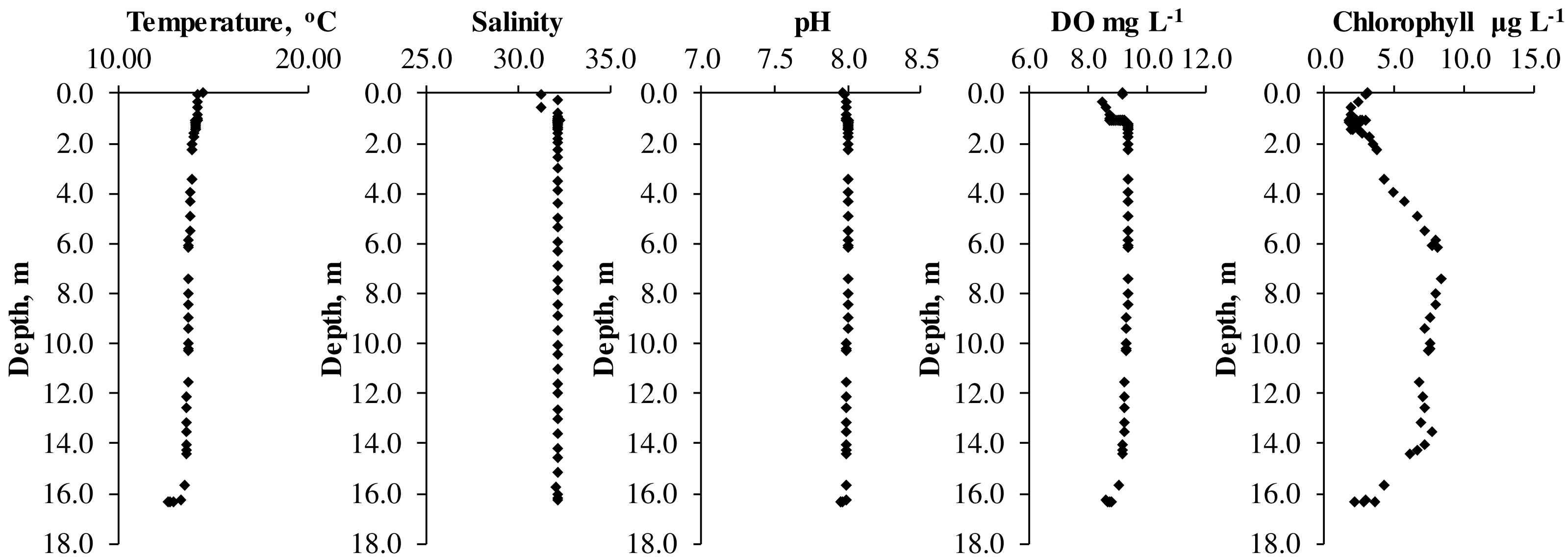
Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0

M0195

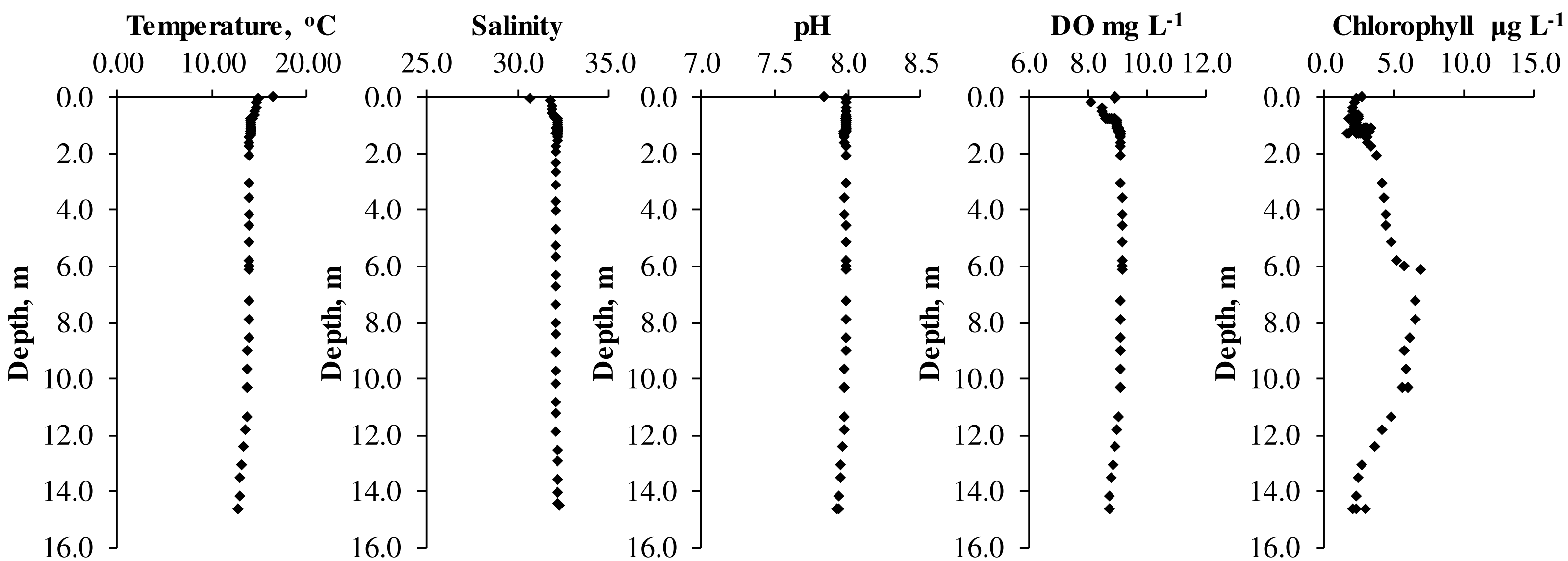


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0 50.0

M0196


Temperature, °C
10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0

M0197


Temperature, °C
0.00 10.00 20.00
Salinity
25.0 30.0 35.0
pH
7.0 7.5 8.0 8.5
DO mg L-1
6.0 8.0 10.0 12.0
Chlorophyll µg L-1
0.0 5.0 10.0 15.0
Depth, m
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0

Appendix D. Infauna community summary tables for MCMI grab samples collected 2015-2016. Density values reported per meter. Count and biomass (g) values reported as raw values (0.05m^2 ponar grab). Identifications of taxa belonging to Phyla Echinodermata, Sipuncula and Nemertea, and polychaete Families Spionidae, Terebellidae, Trichobranchidae, Nereididae, Orbiniidae, Paraonidae, Pholoidae, Phyllodocidae, Polynoidae, Sabellidae, and Sabellariidae have yet to be validated by expert taxonomist, Dr. Thomas Trott, and are subject to revision.

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
M0001	620	8	1.57	0.75	2.04	8	Arthropoda	Unciolidae	*Unciola irrorata*	16	0.45
							Annelida	Oenonidae	*Drilonereis longa*	4	0.02
							Arthropoda	Cirolanidae	*Politolana polita*	3	0.17
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	3	0.01
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	2	0.04
							Mollusca	Thraciidae	*Thracia myopsis*	1	0.01
							Echinodermata	Echinarachniidae	*Echinarachnius parma*	1	
							Annelida	Lumbrineridae	*Lumbrinerides acuta*	1	0
M0002	420	13	2.34	0.91	3.94	13	Annelida	Maldanidae	*Clymenella torquata*	6	0.11
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	2	0.01
							Annelida	Nereididae	*Nereis pelagica*	2	0.09
							Mollusca	Mytilidae	*Crenella decussata*	2	0.01
							Annelida	Capitellidae	*Heteromastus spp.*	1	0.01
							Echinodermata	Echinarachniidae	*Echinarachnius parma*	1	
							Arthropoda	Unciolidae	*Unciola irrorata*	1	0.02
							Arthropoda	Maeridae	*Maera danae*	1	0
							Annelida	Opheliidae	*Ophelina acuminata*	1	0.03
							Miscellaneous	Phascolionidae	*Phascolion sp.*	1	0.01
							Annelida	Cossuridae	*Cossura longocirrata*	1	0.02
							Arthropoda	Archaeobalanidae	*Semibalanus balanoides*	1	0.03
							Mollusca	Astartidae	*Astarte castanea*	1	0.05
M0003	2160	16	1.96	0.71	3.2	12	Arthropoda	Unciolidae	*Unciola irrorata*	50	1.03
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	13	0.59
							Annelida	Maldanidae	*Clymenella torquata*	10	0.27
							Mollusca	Mytilidae	*Crenella glandula*	6	0.3
							Annelida	Lumbrineridae	*Ninoe nigripes*	6	0.29

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Mollusca	Astartidae	*Astarte castanea*	4	0.14
							Echinodermata	Amphiuridae	*Amphipholis squamata*	4	0.04
							Echinodermata	Ophiuridae	*Ophiura robusta*	3	0.02
							Annelida	Glyceridae	*Glycera dibranchiata*	2	0.17
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	2	0.15
							Annelida	Sabellidae	*Chone infundibuliformis*	1	0.01
							Miscellaneous	Phascolionidae	*Phascolion sp.*	1	0.01
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0.02
							Annelida	Phyllodocidae	*Mystides borealis*	1	0.01
							Mollusca	Arcticidae	*Arctica islandica*	1	0.04
							Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	1	0.02
							Annelida	Ampharetidae	*Anobothrus gracilis*	1	0.01
							Mollusca	Astartidae	*Astarte crenata*	1	0.06
M0004	1680	17	2.32	0.82	3.61	14	Mollusca	Thyasiridae	*Thyasira sp.*	20	0.18
							Mollusca	Nuculidae	*Ennucula tenuis*	14	0.09
							Mollusca	Nuculidae	*Nucula proxima*	7	0.06
							Mollusca	Thraciidae	*Thracia myopsis*	7	0.32
							Annelida	Ampharetidae	*Anobothrus gracilis*	6	0.08
							Annelida	Maldanidae	*Clymenella torquata*	4	0.36
							Mollusca	Yoldiidae	*Yoldia sapotilla*	4	0.02
							Mollusca	Mytilidae	*Crenella decussata*	3	0.02
							Mollusca	Astartidae	*Astarte crenata*	3	0.03
							Annelida	Lumbrineridae	*Ninoe nigripes*	3	0.1
							Annelida	Nephtyidae	*Aglaophamus verrilli*	3	1.35
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	3	0.04
							Annelida	Glyceridae	*Glycera dibranchiata*	2	0.03
							Mollusca	Arcticidae	*Arctica islandica*	1	0.01
							Miscellaneous	Golfingiidae	*Golfingia sp.*	1	0.04
							Annelida	Echiuridae	*Echiurus echiurus*	1	0.08
							Annelida	Sternaspidae	*Sternaspis scutata*	1	0.08
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	1	0.01

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
M0006	540		2.62	0.92	4.86	17	Annelida	Lumbrineridae	*Ninoe nigripes*	4	0.12
							Mollusca	Astartidae	*Astarte crenata*	4	19.49
							Annelida	Opheliidae	*Ophelina acuminata*	3	0.09
							Annelida	Flabelligeridae	*Pherusa plumosa*	2	0.08
							Arthropoda	Unciolidae	*Unciola irrorata*	1	0.04
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	1	
							Miscellaneous	Phascolionidae	*Phascolion sp.*	1	0.02
							Annelida	Goniadidae	*Goniadella gracilis*	1	0.03
							Annelida	Pholoidae	*Pholoe minuta*	1	0.03
							Annelida	Ampharetidae	*Ampharete arctica*	1	0.11
							Mollusca	Thyasiridae	*Thyasira sp.*	1	0
							Annelida	Nereididae	*Nereis pelagica*	1	0.02
							Mollusca	Astartidae	*Astarte undata*	1	3.27
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	1	0.06
							Mollusca	Yoldiidae	*Yoldia sapotilla*	1	0.02
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.08
							Mollusca	Carditidae	*Cyclocardia borealis*	1	0.03
							Annelida	Maldanidae	*Clymenella torquata*	1	0
							Miscellaneous	Bugulidae	*Bugula sp.*	0	0
M0007	1200	16	2.35	0.85	3.66	15	Mollusca	Thyasiridae	*Thyasira sp.*	12	0.12
							Annelida	Maldanidae	*Clymenella torquata*	8	0.3
							Mollusca	Yoldiidae	*Yoldia sapotilla*	8	0.38
							Mollusca	Nuculidae	*Nucula proxima*	7	0.05
							Annelida	Ampharetidae	*Anobothrus gracilis*	5	0.03
M0007	1200	16	2.35	0.85	3.66	15	Mollusca	Astartidae	*Astarte crenata*	5	0.03
							Mollusca	Nuculidae	*Ennucula tenuis*	3	0.03
							Annelida	Lumbrineridae	*Ninoe nigripes*	2	0.08
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	2	0
							Annelida	Opheliidae	*Ophelina acuminata*	1	0.05
							Annelida	Echiuridae	*Echiurus echiurus*	1	0.02
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	1	0

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Nereididae	*Nereis grayi*	1	0
							Annelida	Scalibregmatidae	Scalibregmatidae	1	0.01
							Annelida	Sternaspidae	*Sternaspis scutata*	1	0
							Mollusca	Thraciidae	*Thracia myopsis*	1	0.06
							Miscellaneous	Golfingiidae	*Golfingia sp.*	1	0.02
M0009	360	10	2.19	0.95	3.11	10	Annelida	Ampharetidae	*Anobothrus gracilis*	3	0.01
							Annelida	Sternaspidae	*Sternaspis scutata*	3	0.01
							Annelida	Cirratulidae	*Chaetozone setosa*	3	0.03
							Miscellaneous	Nemertea	Nemertea	2	0.01
							Annelida	Lumbrineridae	*Ninoe nigripes*	2	0.02
							Annelida	Nephtyidae	*Nephtys incisa*	1	0.27
							Annelida	Annelida	unidentified annelid sp 2	1	0.1
							Arthropoda	Oedicerotidae	*Ameroculodes edwardsi*	1	0.01
							Mollusca	Nuculidae	*Nucula proxima*	1	0
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	1	0
M0010	340	11	2.23	0.93	3.53	11	Annelida	Lumbrineridae	*Ninoe nigripes*	4	0.09
							Annelida	Cirratulidae	*Chaetozone setosa*	2	0.01
							Mollusca	Thraciidae	*Thracia myopsis*	2	0
							Annelida	Flabelligeridae	Flabelligeridae	1	0.01
							Annelida	Trichobranchidae	*Terebellides stroemii*	1	0.01
							Annelida	Ampharetidae	*Anobothrus gracilis*	1	0
							Annelida	Cirratulidae	*Dodecaceria sp.*	1	0
							Mollusca	Yoldiidae	*Yoldia sapotilla*	1	0.07
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	1	0.01
							Miscellaneous	Lineidae	*Lineus ruber*	1	1.14
							Mollusca	Thyasiridae	*Thyasira flexuosa*	1	0.06
							Annelida	Nephtyidae	*Nephtys incisa*	1	0.12
M0011	1160	13	2.17	0.85	2.96	12	Annelida	Spionidae	*Prionospio sp.*	11	0.04
							Annelida	Cirratulidae	*Chaetozone setosa*	10	0.01
							Mollusca	Arcticidae	*Arctica islandica*	10	0.05
							Mollusca	Nuculidae	*Ennucula tenuis*	6	0.01

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Arthropoda	Phoxocephalidae	*Rhepoxynius epistomus*	5	0.02
							Mollusca	Nuculidae	*Nucula proxima*	4	0.03
							Annelida	Scalibregmatidae	*Polyphysia crassa*	3	0.01
							Echinodermata	Echinarachniidae	*Echinarachnius parma*	2	
M0011	1160	13	2.17	0.85	2.96	12	Annelida	Nephtyidae	*Aglaophamus verrilli*	2	0.03
							Arthropoda	Chaetiliidae	*Chiridotea tuftsii*	1	0.01
							Annelida	Nereididae	*Neanthes acuminata*	1	0
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	1	0.01
							Mollusca	Rissoidae	*Alvania sp.*	1	0.01
							Annelida	Maldanidae	*Maldanidae*	1	0.11
							Miscellaneous	Unidentified egg mass?			
M0012	2520	23	2.56	0.82	4.55	16	Mollusca	Nuculidae	*Nucula proxima*	30	0.17
							Mollusca	Thyasiridae	*Thyasira sp.*	14	0.09
							Annelida	Maldanidae	*Clymenella spp.*	11	1.08
							Mollusca	Yoldiidae	*Yoldia sapotilla*	10	0.17
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	8	0.07
							Annelida	Lumbrineridae	*Ninoe nigripes*	7	0.43
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	6	0.05
							Annelida	Goniadidae	*Goniada maculata*	6	0.11
							Mollusca	Arcticidae	*Arctica islandica*	5	0.03
							Mollusca	Nuculidae	*Ennucula tenuis*	4	0.03
							Mollusca	Thraciidae	*Thracia myopsis*	4	0.08
							Mollusca	Mytilidae	*Crenella decussata*	4	0.04
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	2	0.09
							Miscellaneous	Phascolionidae	*Phascolion sp.*	2	0.02
							Mollusca	Astartidae	*Astarte crenata*	2	0.01
							Arthropoda	Corophiidae	*Leptocheirus pinguis*	2	0.04
							Annelida	Sternaspidae	*Sternaspis scutata*	1	0.05
							Annelida	Nephtyidae	*Nephtys incisa*	1	0.01
							Annelida	Spionidae	*Polydora websteri*	1	0.04
							Mollusca	Chaetodermatidae	*Chaetoderma canadense*	1	0.02

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Arthropoda	Phoxocephalidae	*Harpinia propinqua*	1	0.01
							Annelida	Sabellidae	*Chone infundibuliformis*	1	0.02
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	1	
							Annelida	Echiuridae	*Echiurus echiurus*	1	0.02
							Annelida	Opheliidae	*Ophelina acuminata*	1	0.09
M0014	2340	18	2.12	0.73	3.57	13	Mollusca	Nuculidae	*Nucula proxima*	42	0.25
							Mollusca	Thyasiridae	*Thyasira sp.*	17	0.1
							Mollusca	Thraciidae	*Thracia myopsis*	9	0.55
							Annelida	Maldanidae	*Clymenella spp.*	8	0.24
							Mollusca	Yoldiidae	*Yoldia sapotilla*	7	0.07
							Mollusca	Nuculidae	*Ennucula tenuis*	6	0.03
							Annelida	Sternaspidae	*Sternaspis scutata*	4	0.15
							Annelida	Goniadidae	*Goniada maculata*	3	0.03
							Echinodermata	Ophiuridae	*Ophiura robusta*	3	0
							Annelida	Trichobranchidae	*Terebellides stroemii*	2	0.01
M0014	2340	18	2.12	0.73	3.57	13	Annelida	Ampharetidae	*Ampharete arctica*	2	0.01
							Annelida	Oligochaeta	Oligochaeta sp 1	2	0.02
							Mollusca	Rissoidae	*Alvania sp.*	2	0
							Mollusca	Mytilidae	*Crenella decussata*	1	0
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	1	0
							Arthropoda	Diastylidae	*Diastylis sculpta*	1	0
							Annelida	Nereididae	*Neanthes acuminata*	1	0
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0
							Annelida	Lumbrineridae	*Ninoe nigripes*	1	0.02
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	1	0.01
M0015	2740	21	2.34	0.77	4.07	15	Mollusca	Arcticidae	*Arctica islandica*	49	0.31
							Mollusca	Mytilidae	*Crenella glandula*	18	0.08
							Miscellaneous	Phascolionidae	*Phascolion sp.*	10	0.04
							Mollusca	Astartidae	*Astarte crenata*	9	0.08
							Annelida	Maldanidae	*Clymenella spp.*	8	0.75
							Mollusca	Nuculidae	*Ennucula tenuis*	7	0.04

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	6	0.08
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	5	0.03
							Annelida	Ampharetidae	*Ampharete arctica*	4	0.07
							Arthropoda	Ampeliscidae	*Ampelisca agassizi*	3	0.01
							Annelida	Lumbrineridae	*Ninoe nigripes*	3	0.1
							Annelida	Nephtyidae	*Aglaophamus circinata*	2	0.16
							Annelida	Spionidae	*Spio sp.*	2	0
							Arthropoda	Unciolidae	*Unciola irrorata*	2	0.02
							Annelida	Sabellidae	*Chone infundibuliformis*	2	0.01
							Annelida	Trichobranchidae	*Terebellides stroemii*	1	0.01
							Mollusca	Carditidae	*Cyclocardia borealis*	1	0.01
							Annelida	Flabelligeridae	*Pherusa plumosa*	1	0.01
							Mollusca	Rissoidae	*Alvania sp.*	1	0
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	1	0
							Annelida	Spionidae	*Polydora websteri*	1	0
							Annelida	Nereididae	*Neanthes acuminata*	1	0.01
							Miscellaneous	Unidentified egg mass?			
M0016	2980	24	2.7	0.85	4.6	16	Echinodermata	Ophiuridae	*Ophiura robusta*	19	0.04
							Mollusca	Nuculidae	*Nucula proxima*	18	0.14
							Annelida	Ampharetidae	*Anobothrus gracilis*	18	0.05
							Annelida	Maldanidae	*Clymenella spp.*	18	0.43
							Mollusca	Thyasiridae	*Thyasira sp.*	14	0.08
							Mollusca	Astartidae	*Astarte crenata*	11	0.06
							Mollusca	Mytilidae	*Crenella decussata*	8	0.03
							Mollusca	Yoldiidae	*Yoldia sapotilla*	6	0.15
							Mollusca	Thraciidae	*Thracia myopsis*	6	0.06
M0016	2980	24	2.7	0.85	4.6	16	Mollusca	Arcticidae	*Arctica islandica*	4	0.04
							Annelida	Nephtyidae	*Aglaophamus circinata*	3	0.69
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	3	0.05
							Mollusca	Rissoidae	*Alvania sp.*	3	0
							Arthropoda	Ampeliscidae	*Ampelisca agassizi*	3	0.02

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Orbiniidae	Orbiniidae	2	0.02
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	2	0.02
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	1	0.01
							Arthropoda	Pseudocumatidae	*Petalosarsia declivis*	1	0
							Arthropoda	Corophiidae	*Leptocheirus pinguis*	1	0.04
							Arthropoda	Cheirocratidae	*Casco bigelowi*	1	0.02
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0.01
							Annelida	Lumbrineridae	*Ninoe nigripes*	1	0.02
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.02
							Arthropoda	Diastylidae	*Diastylis sculpta*	1	0
							Annelida	Phyllodocidae	Phyllodocidae	1	0
M0018	2520	25	2.61	0.81	4.96	17	Annelida	Cirratulidae	*Chaetozone setosa*	23	0.11
							Echinodermata	Ophiuridae	*Ophiura robusta*	19	0.04
							Mollusca	Nuculidae	*Nucula proxima*	18	0.21
							Annelida	Ampharetidae	*Anobothrus gracilis*	8	0.01
							Annelida	Maldanidae	*Clymenella spp.*	7	0.19
							Annelida	Lumbrineridae	*Ninoe nigripes*	6	0.06
							Mollusca	Thraciidae	*Thracia myopsis*	5	0.11
							Annelida	Trichobranchidae	*Terebellides stroemii*	4	0.07
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	3	0.01
							Annelida	Oligochaeta	Oligochaeta sp 1	3	0.01
							Annelida	Echiuridae	*Echiurus echiurus*	3	0.07
							Mollusca	Thyasiridae	*Thyasira sp.*	3	0.07
							Annelida	Nephtyidae	*Aglaophamus verrilli*	3	0.15
							Annelida	Cirratulidae	*Dodecaceria concharum*	3	0
							Annelida	Annelida	unidentified annelid sp 2	2	0
							Annelida	Oenonidae	*Drilonereis longa*	2	0
							Mollusca	Nuculidae	*Ennucula tenuis*	2	0.01
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	2	0.02
							Miscellaneous	Golfingiidae	*Golfingia sp.*	2	0.03
							Arthropoda	Pardaliscidae	*Pardalisca c.f.*	1	0

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Orbiniidae	*Orbinia ornata*	1	0.03
							Mollusca	Yoldiidae	*Yoldia sapotilla*	1	0.03
							Annelida	Flabelligeridae	*Pherusa plumosa*	1	0.01
							Mollusca	Mytilidae	*Crenella decussata*	1	0.01
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	1	0.01
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	1	0.02
M0018	2520	25	2.61	0.81	4.96	17	Annelida	Terebellidae	*Polycirrus sp.*	1	0.01
M0019	2200	18	2.29	0.79	3.62	13	Annelida	Maldanidae	*Clymenella spp.*	24	1.02
							Mollusca	Thraciidae	*Thracia myopsis*	11	0.46
							Mollusca	Nuculidae	*Ennucula tenuis*	10	0.05
							Mollusca	Nuculidae	*Nucula proxima*	10	0.06
							Mollusca	Thyasiridae	*Thyasira sp.*	9	0.07
							Mollusca	Yoldiidae	*Yoldia sapotilla*	9	0.39
							Mollusca	Mytilidae	*Crenella decussata*	8	0.04
							Mollusca	Astartidae	*Astarte crenata*	8	0.04
							Annelida	Maldanidae	*Maldane sarsi*	5	0.09
							Mollusca	Arcticidae	*Arctica islandica*	2	0.02
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	2	0.08
							Annelida	Lumbrineridae	*Ninoe nigripes*	2	
							Echinodermata	Ophiuridae	*Ophiura robusta*	1	0.01
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	1	0
							Annelida	Nephtyidae	*Nephtys bucera*	1	0.08
							Annelida	Trichobranchidae	*Terebellides stroemii*	1	0.02
							Arthropoda	Cheirocratidae	*Casco bigelowi*	1	0.01
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.02
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0.01
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	1	
							Annelida	Nephtyidae	*Nephtys incisa*	1	
							Annelida	Phyllodocidae	*Mystides borealis*	1	0
M0020	2140	20	2.4	0.8	4.07	15	Mollusca	Nuculidae	*Nucula proxima*	19	0.12
							Annelida	Maldanidae	*Clymenella spp.*	13	0.23

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Mollusca	Thyasiridae	*Thyasira sp.*	11	0.05
							Mollusca	Nuculidae	*Ennucula tenuis*	11	0.05
							Mollusca	Thraciidae	*Thracia myopsis*	11	0.55
							Mollusca	Yoldiidae	*Yoldia sapotilla*	6	0.21
							Mollusca	Astartidae	*Astarte crenata*	6	0.03
							Annelida	Maldanidae	*Maldane sarsi*	4	0.05
							Annelida	Lumbrineridae	*Ninoe nigripes*	3	0.05
							Annelida	Nephtyidae	*Aglaophamus verrilli*	2	0.22
							Arthropoda	Cheirocratidae	*Casco bigelowi*	2	0.03
							Mollusca	Arcticidae	*Arctica islandica*	2	0
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	2	0
							Annelida	Oligochaeta	Oligochaeta sp 1	2	0.02
							Annelida	Ampharetidae	*Anobothrus gracilis*	2	0.01
							Annelida	Echiuridae	*Echiurus echiurus*	2	0.07
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	2	0.01
							Annelida	Oenonidae	*Arabella iricolor*	1	0.02
							Mollusca	Rissoidae	*Alvania sp.*	1	0
M0020	2140	20	2.4	0.8	4.07	15	Annelida	Trichobranchidae	*Terebellides stroemii*	1	0.01
							Annelida	Orbiniidae	Orbiniidae	1	0
							Echinodermata	Ophiuridae	*Ophiura robusta*	1	0
							Mollusca	Chaetodermatidae	*Chaetoderma canadense*	1	0.01
M0021	920	18	2.54	0.88	4.44	18	Annelida	Maldanidae	*Clymenella sp.*	10	0.46
							Mollusca	Arcticidae	*Arctica islandica*	9	0.1
							Mollusca	Astartidae	*Astarte undata*	3	0.08
							Mollusca	Nuculidae	*Nucula proxima*	3	0.05
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	2	0.01
							Mollusca	Thyasiridae	*Thyasira sp.*	2	0.01
							Annelida	Nereididae	*Alitta succinea*	2	0.01
							Annelida	Orbiniidae	Orbiniidae	2	0.01
							Annelida	Goniadidae	*Goniada maculata*	2	0.04
							Annelida	Ampharetidae	*Anobothrus gracilis*	2	0

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Nephtyidae	*Aglaophamus verrilli*	2	0.05
							Arthropoda	Diastylidae	*Diastylis sculpta*	1	0.01
							Arthropoda	Ampeliscidae	*Ampelisca macrocephala*	1	0
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0
							Annelida	Spionidae	*Polydora sp.*	1	0
							Mollusca	Carditidae	*Cyclocardia borealis*	1	0.02
							Arthropoda	Unciolidae	*Unciola irrorata*	1	0.02
							Echinodermata	Ophiuridae	*Ophiura robusta*	1	0.01
							Miscellaneous	Unidentified egg mass?			
M0022	2100	17	2.37	0.84	3.44	14	Mollusca	Nuculidae	*Nucula proxima*	14	0.12
							Mollusca	Nuculidae	*Ennucula tenuis*	13	0.06
							Mollusca	Thyasiridae	*Thyasira sp.*	12	0.05
							Mollusca	Astartidae	*Astarte crenata*	11	0.04
							Mollusca	Thraciidae	*Thracia myopsis*	10	0.67
							Annelida	Maldanidae	*Clymenella spp.*	10	0.34
							Annelida	Lumbrineridae	*Ninoe nigripes*	8	0.13
							Annelida	Cirratulidae	*Chaetozone setosa*	6	0.01
							Annelida	Ampharetidae	*Anobothrus gracilis*	4	0.02
							Mollusca	Rissoidae	*Alvania sp.*	3	0
							Annelida	Trichobranchidae	*Terebellides stroemii*	2	0.01
							Annelida	Oligochaeta	Oligochaeta sp 1	2	0.01
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	2	0.02
							Mollusca	Mytilidae	*Crenella decussata*	2	0.02
							Annelida	Nephtyidae	*Aglaophamus verrilli*	2	0.5
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	1	0.01
							Annelida	Sternaspidae	*Sternaspis scutata*	1	0.01
							Mollusca	Yoldiidae	*Yoldia sapotilla*	1	0.09
							Echinodermata	Ophiuridae	*Ophiura robusta*	1	0.01
M0023	1560	21	2.57	0.84	4.59	17	Annelida	Lumbrineridae	*Ninoe nigripes*	15	0.42
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	10	0.12
							Mollusca	Astartidae	*Astarte undata*	10	5.08

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Opheliidae	*Ophelina acuminata*	7	0.35
							Mollusca	Thyasiridae	*Thyasira sp.*	6	0.03
							Mollusca	Thraciidae	*Thracia myopsis*	6	0.13
							Annelida	Maldanidae	*Clymenella sp.*	5	0.12
							Annelida	Goniadidae	*Goniada maculata*	3	0.08
							Echinodermata	Ophiuridae	*Ophiura robusta*	2	0.01
							Annelida	Sabellidae	*Myxicola infundibulum*	1	0.47
							Annelida	Nephtyidae	*Aglaophamus verrilli*	1	0.04
							Annelida	Sabellariidae	*Sabellaria vulgaris*	1	0.45
							Annelida	Sabellidae	*Chone infundibuliformis*	1	0.03
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0.01
							Arthropoda	Diastylidae	*Diastylis sculpta*	1	0.01
							Arthropoda	Corophiidae	*Leptocheirus pinguis*	1	0.01
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	1	
							Mollusca	Yoldiidae	*Yoldia sapotilla*	1	0.01
							Mollusca	Arcticidae	*Arctica islandica*	1	0.02
							Mollusca	Mytilidae	*Crenella decussata*	1	0.02
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	1	0.06
							Mollusca	Astartidae	*Astarte crenata*	1	9.5
							Arthropoda	Cheirocratidae	*Casco bigelowi*	1	0.08
M0024	3440	23	2.48	0.79	4.27	15	Mollusca	Nuculidae	*Nucula proxima*	28	0.18
							Mollusca	Nuculidae	*Ennucula tenuis*	24	0.13
							Mollusca	Astartidae	*Astarte crenata*	20	0.06
							Mollusca	Yoldiidae	*Yoldia sapotilla*	13	0.23
							Mollusca	Mytilidae	*Crenella decussata*	13	0.07
							Annelida	Maldanidae	*Clymenella torquata*	10	0.42
							Mollusca	Thraciidae	*Thracia myopsis*	9	0.03
							Annelida	Lumbrineridae	*Ninoe nigripes*	7	0.09
							Mollusca	Thyasiridae	*Thyasira sp.*	7	0.07
							Annelida	Maldanidae	*Maldane sarsi*	6	0.24
							Annelida	Cirratulidae	*Chaetozone setosa*	4	0.03

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Mollusca	Rissoidae	*Frigidoalvania janmayeni*	4	0.02
							Echinodermata	Ophiuridae	*Ophiura robusta*	4	0.01
							Annelida	Nephtyidae	*Nephtys bucera*	3	0.17
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	3	0.02
							Annelida	Ampharetidae	*Anobothrus gracilis*	3	0.03
							Mollusca	Arcticidae	*Arctica islandica*	2	0.04
							Miscellaneous	Phascolionidae	*Phascolion sp.*	2	0.04
							Annelida	Trichobranchidae	*Terebellides stroemii*	2	0.01
M0024	3440	23	2.48	0.79	4.27	15	Annelida	Terebellidae	*Polycirrus sp.*	1	0.02
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	1	
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0
							Mollusca	Pectinidae	*Argopecten irradians*	1	0.03
							Annelida	Maldanidae	*Clymenella zonalis*	1	0.07
							Annelida	Sternaspidae	*Sternaspis scutata*	1	0.13
							Annelida	Nephtyidae	*Nephtys incisa*	1	
							Annelida	Echiuridae	*Echiurus echiurus*	1	0.01
							Annelida	Maldanidae	*Praxillella praetermissa*		
M0026	1640	19	2.41	0.82	4.09		Mollusca	Yoldiidae	*Yoldia sapotilla*	13	0.51
							Mollusca	Nuculidae	*Nucula proxima*	11	0.1
							Mollusca	Thraciidae	*Thracia myopsis*	11	0.14
							Annelida	Lumbrineridae	*Ninoe nigripes*	9	0.2
							Mollusca	Nuculidae	*Ennucula tenuis*	7	0.05
							Mollusca	Thyasiridae	*Thyasira sp.*	6	0.03
							Annelida	Maldanidae	*Clymenella sp.*	4	0.15
							Mollusca	Astartidae	*Astarte crenata*	4	0.03
							Annelida	Ampharetidae	*Anobothrus gracilis*	4	0.02
							Annelida	Trichobranchidae	*Terebellides stroemii*	2	0.01
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	1	0.04
							Mollusca	Mytilidae	*Crenella decussata*	1	0
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	1	0.02
							Arthropoda	Phoxocephalidae	*Harpinia propinqua*	1	0.01

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Terebellidae	*Polycirrus medusa*	1	0.02
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	1	0.03
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	1	
							Echinodermata	Ophiuridae	*Ophiura robusta*	1	0
							Annelida	Nephtyidae	*Nephtys incisa*	1	0.12
							Arthropoda	Cheirocratidae	*Casco bigelowi*	1	0.01
M0027	3100	27	2.78	0.84	5.16	18	Mollusca	Nuculidae	*Nucula proxima*	22	0.1
							Mollusca	Thyasiridae	*Thyasira sp.*	19	0.12
							Mollusca	Thraciidae	*Thracia myopsis*	16	0.88
							Annelida	Maldanidae	*Clymenella spp.*	11	0.72
							Mollusca	Yoldiidae	*Yoldia sapotilla*	10	0.2
							Mollusca	Mytilidae	*Crenella decussata*	8	0.06
							Mollusca	Astartidae	*Astarte crenata*	8	0.03
							Mollusca	Nuculidae	*Ennucula tenuis*	8	0.05
							Echinodermata	Ophiuridae	*Ophiura robusta*	6	0.01
							Annelida	Lumbrineridae	*Ninoe nigripes*	5	0.07
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	4	0.01
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	4	0.12
M0027	3100	27	2.78	0.84	5.16	18	Annelida	Ampharetidae	*Anobothrus gracilis*	4	0.02
							Mollusca	Rissoidae	*Alvania sp.*	3	0
							Annelida	Terebellidae	*Thelepus cincinnatus*	3	0.06
							Annelida	Sabellidae	*Pseudopotamilla reniformis*	3	0.04
							Mollusca	Arcticidae	*Arctica islandica*	3	0.03
							Annelida	Cirratulidae	*Chaetozone setosa*	2	0.04
							Annelida	Sternaspidae	*Sternaspis scutata*	2	0
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	2	0.01
							Arthropoda	Diastylidae	*Diastylis sculpta*	2	0.02
							Mollusca	Carditidae	*Cyclocardia borealis*	2	0.01
							Annelida	Nephtyidae	*Aglaophamus verrilli*	1	0.55
							Arthropoda	Cheirocratidae	*Casco bigelowi*	1	0.01

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Trichobranchidae	*Terebellides stroemii*	1	0
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	1	0
							Annelida	Nereididae	*Neanthes acuminata*	1	0.01
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	1	
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.01
							Annelida	Goniadidae	*Goniada maculata*	1	0.01
M0028	300	8	1.93	0.93	2.59	8	Annelida	Maldanidae	*Clymenella spp.*	4	0.02
							Annelida	Nephtyidae	*Aglaophamus verrilli*	3	0.37
							Mollusca	Thraciidae	*Thracia myopsis*	2	0.32
							Annelida	Ampharetidae	*Anobothrus gracilis*	1	0
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0.03
							Annelida	Lumbrineridae	*Ninoe nigripes*	1	0.04
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0.01
							Mollusca	Nuculidae	*Nucula proxima*	1	0
M0029	4000	26	2.58	0.79	4.72	16	Mollusca	Nuculidae	*Nucula proxima*	28	0.21
							Mollusca	Nuculidae	*Ennucula tenuis*	23	0.12
							Mollusca	Astartidae	*Astarte crenata*	21	20
							Annelida	Ampharetidae	*Anobothrus gracilis*	19	0.08
							Mollusca	Thyasiridae	*Thyasira sp.*	18	0.11
							Mollusca	Thraciidae	*Thracia myopsis*	14	0.29
							Mollusca	Mytilidae	*Crenella decussata*	10	0.02
							Echinodermata	Ophiuridae	*Ophiura robusta*	9	0.02
							Mollusca	Yoldiidae	*Yoldia sapotilla*	8	0.12
							Annelida	Maldanidae	*Maldane sarsi*	8	0.06
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	8	0.09
							Mollusca	Carditidae	*Cyclocardia borealis*	5	0.17
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	4	0.14
							Annelida	Terebellidae	*Thelepus cincinnatus*	3	0.03
							Annelida	Lumbrineridae	*Ninoe nigripes*	3	0.05
							Mollusca	Scaphandridae	*Acteocina canaliculata*	2	0
M0029	4000	26	2.58	0.79	4.72	16	Arthropoda	Cheirocratidae	*Casco bigelowi*	2	0.03

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Nephtyidae	*Nephtys incisa*	2	0.11
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	2	
							Annelida	Maldanidae	*Clymenella spp.*	2	0.29
							Annelida	Orbiniidae	*Orbinia sp.*	1	0.01
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0
							Annelida	Sabellidae	*Chone infundibuliformis*	1	0.01
							Annelida	Oligochaeta	Oligochaeta sp 1	1	0
							Arthropoda	Phoxocephalidae	*Harpinia propinqua*	1	0.01
							Mollusca	Arcticidae	*Arctica islandica*	1	0
							Mollusca	Rissoidae	*Alvania sp.*	1	0
							Annelida	Trichobranchidae	*Terebellides stroemii*	1	0
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.01
M0030	4060	20	1.38	0.46	3.58	10	Arthropoda	Archaeobalanidae	*Semibalanus balanoides*	143	0.38
							Mollusca	Astartidae	*Astarte crenata*	11	75.16
							Annelida	Lumbrineridae	*Ninoe nigripes*	7	0.31
							Mollusca	Mytilidae	*Crenella decussata*	6	0.03
							Mollusca	Thraciidae	*Thracia myopsis*	6	0.04
							Annelida	Terebellidae	*Thelepus cincinnatus*	4	0.03
							Echinodermata	Ophiuridae	*Ophiura robusta*	2	0
							Mollusca	Nuculidae	*Ennucula tenuis*	2	0
							Mollusca	Thyasiridae	*Thyasira sp.*	2	0.01
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	2	0.05
							Mollusca	Yoldiidae	*Yoldia sapotilla*	2	0.07
							Annelida	Trichobranchidae	*Terebellides stroemii*	2	0
							Annelida	Ampharetidae	*Ampharete arctica*	2	0.11
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0.02
							Mollusca	Astartidae	*Astarte undata*	1	2.85
							Annelida	Annelida	unidentified annelid sp 5	1	0.16
							Annelida	Annelida	unidentified annelid sp 2	1	0.07
							Miscellaneous	Golfingiidae	*Golfingia sp.*	1	0.03
							Annelida	Maldanidae	*Clymenella torquata*	1	0.02

Site ID	Density	S	H' (log$_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Polynoidae	*Harmothoe extenuata*	1	0.01
							Annelida	Opheliidae	*Ophelina acuminata*	1	0.04
M0031	1280	11	1.68	0.7	2.4		Annelida	Ampharetidae	*Ampharete arctica*	30	0.04
							Annelida	Maldanidae	*Clymenella torquata*	11	0.1
							Mollusca	Astartidae	*Astarte castanea*	10	7.02
							Arthropoda	Cirolanidae	*Politolana polita*	3	0.62
							Mollusca	Mytilidae	*Crenella decussata*	2	0.05
							Annelida	Nephtyidae	*Aglaophamus circinata*	2	0.37
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	2	0.02
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	1	0.03
M0031	1280	11	1.68	0.7	2.4	10	Annelida	Paraonidae	Paraonidae	1	0
							Arthropoda	Cheirocratidae	*Casco bigelowi*	1	0.01
							Mollusca	Arcticidae	*Arctica islandica*	1	0
M0032	280	8	1.97	0.95	2.65	8	Arthropoda	Unciolidae	*Unciola irrorata*	3	0.05
							Annelida	Ampharetidae	*Ampharete sp.*	3	0
							Mollusca	Astartidae	*Astarte castanea*	2	0.3
							Annelida	Maldanidae	*Maldane sarsi*	2	0.01
							Arthropoda	Cirolanidae	*Politolana polita*	1	0.01
							Annelida	Nephtyidae	*Aglaophamus circinata*	1	0.44
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	1	0.02
							Mollusca	Mytilidae	*Crenella decussata*	1	0.07
M0033	520	10	2.13	0.92	2.76	10	Annelida	Nephtyidae	*Aglaophamus circinata*	5	0.12
							Annelida	Cirratulidae	*Chaetozone setosa*	4	0.02
							Annelida	Maldanidae	*Clymenella torquata*	4	0.1
							Annelida	Orbiniidae	*Leitoscoloplos fragilis*	4	0.03
							Annelida	Oligochaeta	Oligochaeta sp 1	3	0
							Annelida	Spionidae	*Polydora sp.*	1	0
							Annelida	Ampharetidae	*Hobsonia florida*	1	0
							Annelida	Glyceridae	*Glycera dibranchiata*	1	0.34
							Arthropoda	Cirolanidae	*Politolana polita*	1	0.18
							Arthropoda	Uristidae	*Anonyx lilljeborgi*	1	0.01

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0.02
M0034	1960	18	2.24	0.78	3.71	13	Annelida	Maldanidae	*Clymenella torquata*	22	0.24
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	19	0.23
							Annelida	Ampharetidae	*Ampharete arctica*	18	0.02
							Arthropoda	Unciolidae	*Unciola irrorata*	13	0.13
							Annelida	Orbiniidae	*Leitoscoloplos fragilis*	5	0.07
							Miscellaneous	Golfingiidae	*Golfingia sp.*	3	0.02
							Mollusca	Astartidae	*Astarte castanea*	3	0.23
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	2	0.03
							Annelida	Oligochaeta	Oligochaeta sp 1	2	0
							Annelida	Oenonidae	*Drilonereis longa*	2	0.03
							Annelida	Cirratulidae	*Chaetozone setosa*	2	0
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	1	0
							Annelida	Polynoidae	*Lepidonotus squamatus*	1	0
							Mollusca	Mytilidae	*Crenella decussata*	1	0.02
							Annelida	Nereididae	*Neanthes acuminata*	1	0.01
							Mollusca	Arcticidae	*Arctica islandica*	1	0.14
							Annelida	Spionidae	*Polydora sp.*	1	0
							Annelida	Opheliidae	*Ophelina acuminata*	1	0.03
M0035	1020	16	2.06	0.74	3.82	16	Annelida	Paraonidae	Paraonidae	13	0.05
							Mollusca	Nuculidae	*Nucula proxima*	9	0.05
M0035	1020	16	2.06	0.74	3.82	16	Mollusca	Nuculidae	*Ennucula tenuis*	8	0.04
							Mollusca	Arcticidae	*Arctica islandica*	6	0.06
							Mollusca	Mytilidae	*Crenella decussata*	3	0.01
							Arthropoda	Phoxocephalidae	*Rhepoxynius epistomus*	1	0.01
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.01
							Arthropoda	Idoteidae	*Edotia triloba*	1	0.01
							Annelida	Nereididae	*Neanthes acuminata*	1	0
							Echinodermata	Echinarachniidae	*Echinarachnius parma*	1	
							Annelida	Ampharetidae	*Anobothrus gracilis*	1	0
							Annelida	Goniadidae	*Goniada maculata*	1	0.01

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	1	0
							Annelida	Maldanidae	*Clymenella torquata*	1	0
							Miscellaneous	Golfingiidae	*Golfingia sp.*	1	0.02
							Annelida	Nephtyidae	*Aglaophamus circinata*	1	0.04
							Echinodermata	Ophiuridae	*Ophiura robusta*	1	0
M0036	900	17	2.59	0.91	4.2	17	Mollusca	Cardiidae	*Parvicardium pinnulatum*	7	0.07
							Annelida	Lumbrineridae	*Ninoe nigripes*	7	0.12
							Mollusca	Astartidae	*Astarte undata*	5	0.12
							Arthropoda	Archaeobalanidae	*Semibalanus balanoides*	3	0.01
							Annelida	Nereididae	*Neanthes acuminata*	3	0.04
							Echinodermata	Ophiuridae	*Ophiura robusta*	3	0.01
							Annelida	Ampharetidae	*Ampharete arctica*	2	0.01
							Arthropoda	Oedicerotidae	*Ameroculodes edwardsi*	2	0.02
							Mollusca	Carditidae	*Cyclocardia borealis*	2	0.09
							Annelida	Terebellidae	*Thelepus cincinnatus*	2	0.05
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	2	
							Mollusca	Thyasiridae	*Thyasira sp.*	1	0
							Annelida	Opheliidae	*Ophelina acuminata*	1	0.08
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	1	0.07
							Annelida	Goniadidae	*Goniada maculata*	1	0.01
							Mollusca	Mytilidae	*Crenella decussata*	1	0
							Annelida	Maldanidae	*Clymenella sp.*	1	0
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0
M0037	1280	26	2.92	0.9	6.01	23	Mollusca	Cardiidae	*Parvicardium pinnulatum*	13	0.08
							Annelida	Terebellidae	*Thelepus cincinnatus*	5	0.09
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	4	0.04
							Mollusca	Astartidae	*Astarte crenata*	4	0.21
							Mollusca	Carditidae	*Cyclocardia borealis*	3	0.15
							Annelida	Sabellidae	*Chone infundibuliformis*	3	0.03
							Annelida	Oligochaeta	Oligochaeta sp 1	3	0
							Annelida	Flabelligeridae	*Pherusa plumosa*	2	0.79

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Lumbrineridae	*Ninoe nigripes*	2	0.05
M0037	1280	26	2.92	0.9	6.01	23	Annelida	Ampharetidae	*Ampharete sp.*	2	0.01
							Echinodermata	Ophiuridae	*Ophiura robusta*	2	0.01
							Arthropoda	Corophiidae	*Leptocheirus pinguis*	2	0.03
							Arthropoda	Unciolidae	*Unciola irrorata*	2	0.05
							Mollusca	Mytilidae	*Crenella glandula*	2	0.12
							Arthropoda	Phoxocephalidae	*Rhepoxynius epistomus*	2	0
							Annelida	Maldanidae	*Maldanidae*	1	0
							Annelida	Opheliidae	*Ophelina acuminata*	1	0.02
							Mollusca	Thraciidae	*Thracia myopsis*	1	0.01
							Annelida	Nereididae	*Neanthes acuminata*	1	0.02
							Annelida	Nephtyidae	*Nephtys sp.*	1	0.26
							Annelida	Nemertea	unidentified Nemertean	1	0.01
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0.01
							Annelida	Spionidae	Spionidae sp 1	1	0.05
							Annelida	Orbiniidae	*Leitoscoloplos fragilis*	1	0
							Annelida	Annelida	unidentified annelid sp 2	1	0.01
							Arthropoda	Archaeobalanidae	*Semibalanus balanoides*	1	0
							Mollusca	Thyasiridae	*Thyasira flexuosa*	1	0.02
M0038	780	18	2.69	0.93	4.64	18	Mollusca	Cardiidae	*Parvicardium pinnulatum*	6	0.15
							Echinodermata	Ophiuridae	*Ophiura robusta*	5	0.02
							Arthropoda	Unciolidae	*Unciola irrorata*	3	0.07
							Mollusca	Carditidae	*Cyclocardia borealis*	3	10.08
							Annelida	Orbiniidae	Orbiniidae	3	0.07
							Annelida	Nereididae	*Neanthes acuminata*	3	0.06
							Annelida	Spionidae	Spionidae sp 1	2	0.09
							Mollusca	Astartidae	*Astarte crenata*	2	0.03
							Annelida	Ampharetidae	*Melinna cristata*	2	0.1
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0.07
							Annelida	Sabellidae	*Pseudopotamilla reniformis*	1	0.01
							Miscellaneous	Nemertea	unidentified Nemertean	1	0.01

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0.07
							Arthropoda	Phoxocephalidae	*Rhepoxynius epistomus*	1	0.01
							Miscellaneous	Golfingiidae	*Golfingia sp.*	1	0
							Annelida	Nephtyidae	*Nephtys sp.*	1	0.52
							Mollusca	Mytilidae	*Crenella decussata*	1	0.01
							Mollusca	Astartidae	*Astarte castanea*	1	5.95
							Annelida	Trichobranchidae	*Terebellides stroemii*	1	0.03
							Mollusca	Thraciidae	*Thracia myopsis*	1	0.31
							Annelida	Ampharetidae	*Ampharete acutifrons*		
							Arthropoda	Archaeobalanidae	*Semibalanus balanoides*		
M0039	1860	23	2.8	0.89	4.85		Annelida	Maldanidae	*Clymenella torquata*	11	0.57
							Echinodermata	Ophiuridae	*Ophiura robusta*	9	0.2
							Mollusca	Astartidae	*Astarte crenata*	9	0.09
M0039	1860	23	2.8	0.89	4.85	18	Mollusca	Mytilidae	*Crenella decussata*	8	0.04
							Mollusca	Thyasiridae	*Thyasira sp.*	7	0.07
							Annelida	Ampharetidae	*Anobothrus gracilis*	7	0.04
							Mollusca	Nuculidae	*Nucula proxima*	6	0.03
							Mollusca	Arcticidae	*Arctica islandica*	4	0.05
							Mollusca	Nuculidae	*Ennucula tenuis*	4	0.02
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	3	0.08
							Annelida	Nephtyidae	*Nephtys incisa*	3	0.43
							Mollusca	Thraciidae	*Thracia myopsis*	3	0.07
							Arthropoda	Corophiidae	*Leptocheirus pinguis*	3	0.03
							Mollusca	Yoldiidae	*Yoldia sapotilla*	2	0.1
							Annelida	Lumbrineridae	*Ninoe nigripes*	2	0.01
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	2	0.09
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0.02
							Annelida	Nereididae	*Alitta succinea*	1	0.02
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	1	
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	1	0.07
							Mollusca	Rissoidae	*Alvania sp.*	1	0

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Arthropoda	Pardaliscidae	*Pardalisca c.f.*	1	0
							Annelida	Spionidae	*Prionospio sp.*	1	0.03
							Annelida	Polynoidae	*Harmothoe imbricata*	1	0.02
							Annelida	Trichobranchidae	*Terebellides stroemii*	1	0
M0040	2080	25	2.7	0.84	5.17	19	Annelida	Maldanidae	*Clymenella torquata*	27	1.32
							Mollusca	Nuculidae	*Ennucula tenuis*	8	0.04
							Annelida	Lumbrineridae	*Ninoe nigripes*	8	0.13
							Mollusca	Thyasiridae	*Thyasira sp.*	7	0.04
							Annelida	Terebellidae	*Thelepus cincinnatus*	6	0.05
							Echinodermata	Ophiuridae	*Ophiura robusta*	6	0.03
							Mollusca	Yoldiidae	*Yoldia sapotilla*	4	0.07
							Annelida	Ampharetidae	*Anobothrus gracilis*	4	0.02
							Miscellaneous	Golfingiidae	*Golfingia sp.*	4	0.02
							Mollusca	Mytilidae	*Crenella decussata*	3	0.02
							Annelida	Nephtyidae	*Nephtys incisa*	2	0.06
							Annelida	Spionidae	*Polydora websteri*	2	0.05
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	2	0.05
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	2	0.01
							Annelida	Cirratulidae	*Chaetozone setosa*	2	0.01
							Arthropoda	Diastylidae	*Diastylis sculpta*	2	0.01
							Annelida	Trichobranchidae	*Terebellides stroemii*	2	0.02
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	2	0
							Mollusca	Thraciidae	*Thracia myopsis*	2	0.13
							Annelida	Nereididae	*Neanthes acuminata*	1	0
M0040	2080	25	2.7	0.84	5.17	19	Mollusca	Nuculidae	*Nucula proxima*	1	0.01
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	1	
							Arthropoda	Corophiidae	*Leptocheirus pinguis*	1	0
							Arthropoda	Cheirocratidae	*Casco bigelowi*	1	0.03
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	1	0.05
							Mollusca	Astartidae	*Astarte crenata*	1	0.02
							Mollusca	Arcticidae	*Arctica islandica*	1	0.03

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	1	0
M0041	1600	21	2.77	0.91	4.56	18	Echinodermata	Ophiuridae	*Ophiura robusta*	10	0.01
							Mollusca	Yoldiidae	*Yoldia sapotilla*	8	0.08
							Mollusca	Astartidae	*Astarte crenata*	7	0.06
							Annelida	Ampharetidae	*Ampharete sp.*	7	0.08
							Mollusca	Thyasiridae	*Thyasira sp.*	6	0.04
							Mollusca	Thraciidae	*Thracia myopsis*	5	0.33
							Annelida	Maldanidae	*Clymenella torquata*	5	0.14
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	4	0.15
							Annelida	Lumbrineridae	*Ninoe nigripes*	4	0.05
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	3	0
							Annelida	Nereididae	*Nereis grayi*	3	0.03
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	3	0.04
							Mollusca	Nuculidae	*Ennucula tenuis*	3	0.02
							Mollusca	Mytilidae	*Crenella decussata*	3	0.01
							Annelida	Trichobranchidae	*Terebellides stroemii*	2	0.01
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	1	
							Arthropoda	Diastylidae	*Diastylis sculpta*	1	0.01
							Annelida	Spionidae	*Polydora sp.*	1	0.05
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0
							Arthropoda	Corophiidae	*Leptocheirus pinguis*	1	0.09
							Arthropoda	Cheirocratidae	*Casco bigelowi*	1	0.01
							Annelida	Nephtyidae	*Aglaophamus verrilli*	1	0.71
M0043	2780	23	2.51	0.8	4.46	15	Mollusca	Arcticidae	*Arctica islandica*	24	0.24
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	18	0.22
							Mollusca	Thyasiridae	*Thyasira sp.*	16	0.13
							Mollusca	Nuculidae	*Ennucula tenuis*	15	0.11
							Mollusca	Nuculidae	*Nucula proxima*	11	0.05
							Mollusca	Mytilidae	*Crenella decussata*	8	0.02
							Mollusca	Astartidae	*Astarte crenata*	8	0.08
							Annelida	Lumbrineridae	*Ninoe nigripes*	7	0.23

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	5	0.01
							Mollusca	Thraciidae	*Thracia myopsis*	5	0.02
							Annelida	Ampharetidae	*Ampharete sp.*	2	0.01
							Annelida	Cirratulidae	*Chaetozone setosa*	2	0.01
M0043	2780	23	2.51	0.8	4.46	15	Annelida	Oweniidae	*Owenia fusiformis*	2	0.04
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	2	0.04
							Mollusca	Carditidae	*Cyclocardia borealis*	2	0.02
							Arthropoda	Idoteidae	*Edotia triloba*	2	0
							Arthropoda	Corophiidae	*Leptocheirus pinguis*	2	0.04
							Annelida	Opheliidae	*Ophelina acuminata*	1	0.05
							Annelida	Spionidae	*Spio sp.*	1	0.01
							Annelida	Polynoidae	*Harmothoe imbricata*	1	0.01
							Echinodermata	Amphiuridae	*Amphipholis squamata*	1	0
							Mollusca	Yoldiidae	*Yoldia sapotilla*	1	0.01
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0.01
							Annelida	Goniadidae	*Goniada maculata*	1	0.01
							Annelida	Maldanidae	*Clymenella sp.*	1	0.02
M0044	2760		2.37	0.76	4.47		Mollusca	Nuculidae	*Nucula proxima*	22	0.1
							Mollusca	Nuculidae	*Ennucula tenuis*	20	0.08
							Mollusca	Thyasiridae	*Thyasira sp.*	17	0.11
							Annelida	Maldanidae	*Clymenella zonalis*	8	
							Annelida	Maldanidae	*Clymenella torquata*	7	0.26
							Mollusca	Astartidae	*Astarte crenata*	7	0.04
							Mollusca	Mytilidae	*Crenella decussata*	7	0.04
							Mollusca	Thraciidae	*Thracia myopsis*	7	0.38
							Echinodermata	Ophiuridae	*Ophiura robusta*	7	0.02
							Mollusca	Arcticidae	*Arctica islandica*	5	0.09
							Annelida	Maldanidae	*Maldane sarsi*	4	0.03
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	3	0.02
							Mollusca	Yoldiidae	*Yoldia sapotilla*	3	0.03
							Annelida	Lumbrineridae	*Ninoe nigripes*	3	0.05

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Nephtyidae	*Aglaophamus verrilli*	2	0.1
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	1	0.01
							Mollusca	Rissoidae	*Alvania sp.*	1	0.01
							Annelida	Terebellidae	*Cirratulus cirratus*	1	
							Arthropoda	Cheirocratidae	*Casco bigelowi*	1	0.05
							Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	1	0.01
							Annelida	Ampharetidae	*Ampharete sp.*	1	0
							Miscellaneous	Golfingiidae	*Golfingia sp.*	1	0.02
							Annelida	Nereididae	*Neanthes acuminata*	1	0.01
							Annelida	Goniadidae	*Goniada maculata*	1	0.04
							Annelida	Spionidae	*Polydora websteri*	1	0.02
							Annelida	Flabelligeridae	*Pherusa plumosa*	1	0.23
							Annelida	Oweniidae	*Owenia fusiformis*	1	0.03
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0.06
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0.01
M0045	1240	13	2.24	0.87	2.91	12	Annelida	Cirratulidae	*Chaetozone setosa*	15	0.08
							Echinodermata	Ophiuridae	*Ophiura robusta*	10	0.04
							Mollusca	Nuculidae	*Nucula proxima*	8	0.06
							Annelida	Sternaspidae	*Sternaspis scutata*	5	0.08
							Annelida	Ampharetidae	*Ampharete sp.*	4	0.01
							Annelida	Lumbrineridae	*Ninoe nigripes*	4	0.03
							Annelida	Maldanidae	*Clymenella torquata*	4	0.11
							Mollusca	Yoldiidae	*Yoldia sapotilla*	3	0.02
							Mollusca	Thyasiridae	*Thyasira sp.*	3	0.02
							Annelida	Spionidae	*Spio setosa*	1	0.01
							Annelida	Maldanidae	*Maldane sarsi*	1	0.02
							Mollusca	Nuculidae	*Ennucula tenuis*	1	0
							Mollusca	Thraciidae	*Thracia myopsis*	1	0
							Annelida	Nephtyidae	*Nephtys incisa*	1	0.15
							Annelida	Trichobranchidae	*Terebellides stroemii*	1	0.02
M0046	1180		1.96	0.76	2.94		Mollusca	Nuculidae	*Nucula proxima*	21	0.11

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Cirratulidae	*Chaetozone setosa*	10	0.04
							Annelida	Sternaspidae	*Sternaspis scutata*	5	0.03
							Annelida	Ampharetidae	*Ampharete sp.*	5	0.04
							Mollusca	Nuculidae	*Ennucula tenuis*	3	0.1
							Mollusca	Chaetodermatidae	*Chaetoderma canadense*	2	0.02
							Annelida	Lumbrineridae	*Ninoe nigripes*	2	0.03
							Annelida	Maldanidae	*Maldane sarsi*	2	0.04
							Mollusca	Thraciidae	*Thracia myopsis*	2	0.2
							Annelida	Oligochaeta	Oligochaeta sp 1	1	0
							Mollusca	Thyasiridae	*Thyasira gouldi*	1	0
							Echinodermata	Ophiuridae	*Ophiura robusta*	1	0
							Annelida	Nephtyidae	*Nephtys incisa*	1	0.02
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0.02
							Mollusca	Thyasiridae	*Thyasira flexuosa*	1	0.02
							Miscellaneous	Phascolionidae	*Phascolion sp.*	1	0
M0047	2280	15	1.74	0.64	2.96	11	Arthropoda	Unciolidae	*Unciola irrorata*	60	0.51
							Annelida	Maldanidae	*Clymenella spp.*	18	0.22
							Mollusca	Nuculidae	*Nucula proxima*	8	0.06
							Annelida	Ampharetidae	*Ampharete sp.*	4	0.01
							Annelida	Cirratulidae	*Chaetozone setosa*	4	0
							Echinodermata	Ophiuridae	*Ophiura robusta*	3	0.01
							Arthropoda	Phoxocephalidae	*Rhepoxynius epistomus*	3	0.01
							Miscellaneous	Golfingiidae	*Golfingia sp.*	3	0
							Mollusca	Thraciidae	*Thracia myopsis*	2	0.31
							Annelida	Glyceridae	*Glycera dibranchiata*	2	0.06
							Annelida	Paraonidae	*Levinsenia gracilis*	1	0
M0047	2280	15	1.74	0.64	2.96	11	Mollusca	Mytilidae	*Crenella glandula*	1	0.01
							Annelida	Lumbrineridae	*Ninoe nigripes*	1	0.01
							Annelida	Paraonidae	*Aricidea albatrossae*	1	0.01
							Mollusca	Yoldiidae	*Yoldia sapotilla*	1	0.06
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	1	0.01

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	1	0.01
M0048	560	11	2.17	0.91	3		Mollusca	Nuculidae	*Nucula proxima*	5	0.06
							Mollusca	Thraciidae	*Thracia myopsis*	4	0.02
							Annelida	Cirratulidae	*Chaetozone setosa*	3	0.02
							Annelida	Maldanidae	*Clymenella torquata*	3	0.08
							Mollusca	Nuculidae	*Ennucula tenuis*	2	0.05
							Miscellaneous	Phascolionidae	*Phascolion sp.*	2	0.1
							Annelida	Echiuridae	*Echiurus echiurus*	2	0.04
							Annelida	Nephtyidae	*Nephtys incisa*	1	0.04
							Mollusca	Thyasiridae	*Thyasira sp.*	1	0.01
							Echinodermata	Ophiuridae	*Ophiura robusta*	1	0.01
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	1	0
							Annelida	Ampharetidae	*Ampharete arctica*	1	0.03
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	1	0
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0
M0049	400	9	1.71	0.78	2.67	9	Mollusca	Nuculidae	*Nucula proxima*	10	0.05
							Annelida	Cirratulidae	*Chaetozone setosa*	2	0.01
							Annelida	Nephtyidae	*Aglaophamus verrilli*	2	0.07
							Mollusca	Yoldiidae	*Yoldia sapotilla*	1	0.1
							Echinodermata	Ophiuridae	*Ophiura robusta*	1	0.01
							Annelida	Ampharetidae	*Ampharete sp.*	1	0
							Annelida	Echiuridae	*Echiurus echiurus*	1	0
							Mollusca	Thyasiridae	*Thyasira sp.*	1	0.01
							Annelida	Lumbrineridae	*Ninoe nigripes*	1	0.02
M0050	720	17	2.69	0.95	4.47	17	Miscellaneous	Golfingiidae	*Golfingia sp.*	4	0.04
							Mollusca	Nuculidae	*Nucula proxima*	4	0
							Annelida	Nephtyidae	*Nephtys incisa*	3	0.25
							Mollusca	Thraciidae	*Thracia myopsis*	3	0.02
							Annelida	Paraonidae	*Levinsenia gracilis*	3	0.01
							Mollusca	Thyasiridae	*Thyasira sp.*	3	0.02
							Annelida	Ampharetidae	*Anobothrus gracilis*	2	0.01

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Lumbrineridae	*Ninoe nigripes*	2	0.02
							Annelida	Echiuridae	*Echiurus echiurus*	2	0.37
							Annelida	Sternaspidae	*Sternaspis scutata*	2	0.05
							Arthropoda	Phoxocephalidae	*Rhepoxynius epistomus*	1	0.01
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0.04
							Echinodermata	Ophiuridae	*Ophiura robusta*	1	0.01
M0050	720	17	2.69	0.95	4.47	17	Annelida	Capitellidae	*Capitella capitata*	1	0.01
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	1	0.02
							Annelida	Cossuridae	*Cossura longocirrata*	1	0
							Mollusca	Yoldiidae	*Yoldia sapotilla*	1	0.02
							Annelida	Trichobranchidae	*Terebellides stroemii*	1	0.04
M0051	820	20	2.76	0.92	5.12	20	Mollusca	Thyasiridae	*Thyasira sp.*	4	0.02
							Annelida	Maldanidae	*Clymenella torquata*	2	0.06
							Annelida	Ampharetidae	*Ampharete sp.*	2	0.02
							Annelida	Lumbrineridae	*Paraninoe brevipes*	2	0.02
							Mollusca	Astartidae	*Astarte crenata*	2	0.02
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	2	0
							Mollusca	Mytilidae	*Crenella decussata*	2	0
							Mollusca	Thraciidae	*Thracia myopsis*	2	0.01
							Annelida	Sabellidae	*Pseudopotamilla reniformis*	2	0.52
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	2	0.01
							Annelida	Opheliidae	*Ophelina acuminata*	2	0.12
							Annelida	Goniadidae	*Goniada maculata*	1	0.04
							Miscellaneous	Golfingiidae	*Golfingia sp.*	1	0.01
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	1	
							Mollusca	Nuculidae	*Nucula proxima*	1	0.01
							Mollusca	Nuculidae	*Ennucula tenuis*	1	0.01
							Mollusca	Yoldiidae	*Yoldia sapotilla*	1	0
							Arthropoda	Cheirocratidae	*Casco bigelowi*	1	0.05
							Mollusca	Carditidae	*Cyclocardia borealis*	1	0.01
							Echinodermata	Amphiuridae	*Amphipholis squamata*	1	0.02

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Spionidae	*Spionidae*	1	0.02
M0053	380	10	2.21	0.96	3.06	10	Mollusca	Nuculidae	*Nucula proxima*	3	0.01
							Echinodermata	Ophiuridae	*Ophiura robusta*	3	0.01
							Annelida	Nephtyidae	*Nephtys incisa*	3	0.24
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	2	0.02
							Annelida	Ampharetidae	*Ampharete sp.*	2	0.01
							Miscellaneous	Golfingiidae	*Golfingia sp.*	2	0.03
							Annelida	Cossuridae	*Cossura longocirrata*	1	0
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0.01
							Annelida	Lumbrineridae	*Ninoe nigripes*	1	0.01
							Annelida	Capitellidae	*Capitella capitata*	1	0.01
M0055	2100	20	2.5	0.83	4.08	15	Mollusca	Nuculidae	*Nucula proxima*	20	0.11
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	19	0.36
							Mollusca	Thyasiridae	*Thyasira sp.*	9	0.05
							Mollusca	Thraciidae	*Thracia myopsis*	9	0.06
							Annelida	Lumbrineridae	*Ninoe nigripes*	8	0.13
							Annelida	Goniadidae	*Goniada maculata*	6	0.17
M0055	2100	20	2.5	0.83	4.08	15	Mollusca	Arcticidae	*Arctica islandica*	5	0.06
							Mollusca	Astartidae	*Astarte crenata*	4	0.03
							Annelida	Ampharetidae	*Ampharete arctica*	3	0.03
							Mollusca	Yoldiidae	*Yoldia sapotilla*	3	0.03
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	3	0.03
							Mollusca	Mytilidae	*Crenella decussata*	2	0
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	2	0.01
							Mollusca	Nuculidae	*Ennucula tenuis*	2	0.01
							Arthropoda	Diastylidae	*Diastylis sculpta*	1	
							Arthropoda	Diastylidae	*Diastylis quadrispinosa*	1	
							Mollusca	Astartidae	*Astarte undata*	1	0.07
							Miscellaneous	Phascolionidae	*Phascolion sp.*	1	0.02
							Arthropoda	Idoteidae	*Edotia triloba*	1	0.01
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	1	0.03

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Sabellidae	*Chone infundibuliformis*	1	0
							Annelida	Opheliidae	*Ophelina acuminata*	1	0.01
							Annelida	Nephtyidae	*Nephtys incisa*	1	0.04
							Annelida	Nereididae	*Nereis zonata*	1	0
M0056	1980	21	2.22	0.73	4.35		Mollusca	Nuculidae	*Nucula proxima*	23	0.19
							Mollusca	Nuculidae	*Ennucula tenuis*	16	0.06
							Mollusca	Arcticidae	*Arctica islandica*	13	0.13
							Mollusca	Mytilidae	*Crenella decussata*	10	0.04
							Mollusca	Astartidae	*Astarte crenata*	5	0.03
							Mollusca	Thraciidae	*Thracia myopsis*	5	0.01
							Annelida	Spionidae	*Polydora sp.*	4	0.02
							Annelida	Ampharetidae	*Ampharete sp.*	4	0.01
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	3	0.03
							Annelida	Maldanidae	*Clymenella torquata*	2	0
							Annelida	Goniadidae	*Goniada maculata*	2	0.03
							Annelida	Opheliidae	*Ophelina acuminata*	1	0
							Annelida	Sabellidae	*Chone infundibuliformis*	1	0
							Miscellaneous	Golfingiidae	*Golfingia sp.*	1	0
							Mollusca	Pectinidae	*Argopecten irradians*	1	0.01
							Annelida	Nephtyidae	*Aglaophamus sp.*	1	0.01
							Annelida	Lumbrineridae	*Ninoe* ?	1	0.13
							Arthropoda	Cheirocratidae	*Casco bigelowi*	1	0
							Mollusca	Yoldiidae	*Yoldia sapotilla*	1	0.01
							Arthropoda	Chaetiliidae	*Chiridotea tuftsii*	1	0.01
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	1	0
							Annelida	Ampharetidae	*Ampharete arctica*	1	0
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	1	0.01
M0057	2060	16	2.03		3.24	13	Mollusca	Nuculidae	*Nucula proxima*	31	0.19
M0057	2060	16	2.03	0.73	3.24	13	Mollusca	Arcticidae	*Arctica islandica*	21	85.69
							Mollusca	Astartidae	*Astarte undata*	10	0.09
							Mollusca	Nuculidae	*Ennucula tenuis*	9	0.04

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Mollusca	Mytilidae	*Crenella decussata*	5	0.02
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	4	0.02
							Annelida	Ampharetidae	*Ampharete arctica*	3	0.09
							Mollusca	Thraciidae	*Thracia myopsis*	3	0.02
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	2	0.06
							Mollusca	Thyasiridae	*Thyasira sp.*	2	0.02
							Miscellaneous	Golfingiidae	*Golfingia sp.*	2	0.01
							Annelida	Spionidae	*Spio setosa*	1	0.02
							Mollusca	Cylichnidae	*Cylichna alba*	1	0
							Annelida	Glyceridae	*Glycera dibranchiata*	1	0.01
							Mollusca	Yoldiidae	*Yoldia sapotilla*	1	0.01
							Annelida	Maldanidae	*Praxillella praetermissa*	1	
							Annelida	Maldanidae	*Clymenella torquata*	1	0.17
							Annelida	Spionidae	*Prionospio cirrifera*	1	
							Annelida	Orbiniidae	*Leitoscoloplos fragilis*	1	
							Annelida	Lumbrineridae	*Scoletoma tenuis*	1	0.02
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	1	0
							Annelida	Spionidae	*Spiophanes bombyx*	1	
M0059	440	8	1.87	0.9	2.27	8	Mollusca	Nuculidae	*Nucula proxima*	7	0.05
							Annelida	Nephtyidae	*Nephtys incisa*	3	0.26
							Annelida	Ampharetidae	*Ampharete sp.*	3	0.04
							Annelida	Lumbrineridae	*Ninoe nigripes*	2	0.02
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	2	0.02
							Annelida	Cirratulidae	*Cirratulidae*	1	0
							Annelida	Sternaspidae	*Sternaspis scutata*	1	0.01
							Miscellaneous	Lineidae	*Cerebratulus lacteus*	1	0.31
							Mollusca	Thraciidae	*Thracia myopsis*	1	0.01
							Annelida	Lumbrineridae	*Lumbrinerides acuta*	1	0.01
M0060	220	7	1.89	0.97	2.5	7	Annelida	Lumbrineridae	*Ninoe nigripes*	2	0.02
							Annelida	Nephtyidae	*Nephtys incisa*	2	2.45
							Mollusca	Nuculidae	*Nucula proxima*	2	0.01

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Ampharetidae	*Ampharete sp.*	2	0.02
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	1	0.01
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0.02
							Mollusca	Thyasiridae	*Thyasira flexuosa*	1	0.03
M0075	1940	16	2.38	0.86	3.28	13	Mollusca	Rissoidae	*Frigidoalvania janmayeni*	21	1.25
							Mollusca	Thraciidae	*Thracia myopsis*	16	0.16
							Mollusca	Nuculidae	*Nucula proxima*	12	0.13
							Mollusca	Yoldiidae	*Yoldia sapotilla*	10	0.15
M0075	1940	16	2.38	0.86	3.28	13	Annelida	Sternaspidae	*Sternaspis scutata*	8	0.43
							Annelida	Cirratulidae	*Chaetozone setosa*	6	0.03
							Mollusca	Scaphandridae	*Acteocina canaliculata*	5	0.02
							Echinodermata	Ophiuridae	*Ophiura sarsii*	4	0.03
							Mollusca	Thyasiridae	*Thyasira trisinuata*	4	0.01
							Annelida	Lumbrineridae	*Ninoe nigripes*	4	0.04
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	3	0.05
							Mollusca	Thyasiridae	*Thyasira gouldi*	3	0.01
							Mollusca	Nuculidae	*Ennucula tenuis*	2	0.01
							Annelida	Nephtyidae	*Aglaophamus verrilli*	1	0.1
							Annelida	Maldanidae	*Clymenella torquata*	1	0.04
							Annelida	Ampharetidae	*Ampharete sp.*	1	0.01
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.03
							Annelida	Lumbrineridae	*Lumbrineris acicularum*	1	1
							Annelida	Annelida	unidentified annelid sp 3	0	0.07
M0076	1620	17	2.51	0.89	3.64	15	Mollusca	Yoldiidae	*Yoldia sapotilla*	15	0.08
							Mollusca	Nuculidae	*Nucula proxima*	13	0.09
							Mollusca	Rissoidae	*Alvania sp.*	8	0.01
							Annelida	Cirratulidae	*Chaetozone setosa*	7	0.05
							Annelida	Sternaspidae	*Sternaspis scutata*	6	0.17
							Annelida	Lumbrineridae	*Ninoe nigripes*	5	0.08
							Mollusca	Scaphandridae	*Acteocina canaliculata*	4	0.01
							Mollusca	Astartidae	*Astarte crenata*	4	0.01

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Miscellaneous	Golfingiidae	*Golfingia sp.*	3	0.03
							Annelida	Trichobranchidae	*Terebellides stroemii*	3	0.15
							Annelida	Annelida	unidentified annelid sp 4	3	0.12
							Mollusca	Veneridae	*Pitar morrhuanus*	2	1.16
							Mollusca	Nuculidae	*Ennucula tenuis*	1	0.01
							Annelida	Nephtyidae	*Nephtys bucera*	1	1.01
							Annelida	Spionidae	*Polydora sp.*	1	0.01
							Echinodermata	Ophiuridae	*Ophiura sarsii*	1	0.01
							Annelida	Oligochaeta	Oligochaeta sp 1	1	0
							Annelida	Maldanidae	*Clymenella torquata*	1	0.07
							Annelida	Nephtyidae	*Nephtys incisa*	1	
M0077	2140	20	2.54	0.85	4.07		Mollusca	Yoldiidae	*Yoldia sapotilla*	17	0.24
							Mollusca	Rissoidae	*Alvania sp.*	13	0.03
							Mollusca	Nuculidae	*Nucula proxima*	11	0.06
							Mollusca	Nuculidae	*Ennucula tenuis*	10	0.07
							Mollusca	Thyasiridae	*Thyasira spp.*	9	0.06
							Annelida	Maldanidae	*Clymenella torquata*	9	0.78
							Mollusca	Thraciidae	*Thracia myopsis*	7	0.2
							Echinodermata	Ophiuridae	*Ophiura robusta*	6	0.02
M0077	2140	20	2.54	0.85	4.07	15	Mollusca	Scaphandridae	*Acteocina canaliculata*	6	0.02
							Mollusca	Astartidae	*Astarte crenata*	5	0.02
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	2	0
							Arthropoda	Corophiidae	*Leptocheirus pinguis*	2	0.01
							Mollusca	Thraciidae	*Thracia myopsis*	2	
							Annelida	Lumbrineridae	*Ninoe nigripes*	2	0.04
							Mollusca	Buccinidae	*Buccinum undatum*	1	0.01
							Mollusca	Mytilidae	*Crenella glandula*	1	0.01
							Arthropoda	Diastylidae	*Diastylis sculpta*	1	0.01
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0.03
							Annelida	Glyceridae	*Glycera dibranchiata*	1	0.01
							Annelida	Oenonidae	*Drilonereis longa*	1	0

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Echinodermata	Synaptidae	*Epitomapta roseola*	1	0.03
M0078	3320	22	2.5	0.81	4.11		Mollusca	Nuculidae	*Ennucula tenuis*	23	0.11
							Mollusca	Nuculidae	*Nucula proxima*	21	0.14
							Mollusca	Thraciidae	*Thracia myopsis*	19	0.46
							Mollusca	Rissoidae	*Alvania sp.*	14	0.02
							Mollusca	Yoldiidae	*Yoldia sapotilla*	11	0.14
							Mollusca	Thyasiridae	*Thyasira gouldi*	9	0.03
							Annelida	Maldanidae	*Clymenella torquata*	9	1.25
							Mollusca	Thyasiridae	*Thyasira trisinuata*	9	0.06
							Mollusca	Astartidae	*Astarte undata*	8	0.03
							Annelida	Sternaspidae	*Sternaspis scutata*	6	0.23
							Mollusca	Mytilidae	*Crenella decussata*	5	0.02
							Annelida	Lumbrineridae	*Ninoe nigripes*	5	0.1
							Arthropoda	Phoxocephalidae	*Harpinia propinqua*	4	0.01
							Echinodermata	Ophiuridae	*Ophiura sarsii*	4	0.02
							Echinodermata	Ophiuridae	*Ophiura robusta*	3	0.01
							Mollusca	Thyasiridae	*Thyasira sp.*	3	0
							Annelida	Cirratulidae	*Chaetozone setosa*	3	0.09
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	2	0.02
							Annelida	Spionidae	*Polydora sp.*	2	0.04
							Annelida	Nephtyidae	*Nephtys incisa*	1	0.97
							Annelida	Orbiniidae	*Orbinia sp.*	1	0
							Mollusca	Scaphandridae	*Acteocina canaliculata*	1	0
							Arthropoda	Diastylidae	*Diastylis sculpta*	1	0
							Annelida	Sigalionidae	*Sthenelais boa*	1	0.19
							Annelida	Ampharetidae	*Ampharete sp.*	1	0.01
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.03
M0079	2260		2.3	0.74	4.44		Mollusca	Nuculidae	*Nucula proxima*	34	0.24
							Mollusca	Yoldiidae	*Yoldia sapotilla*	16	0.22
							Mollusca	Thyasiridae	*Thyasira sp.*	10	0.11
M0079	2260	22	2.3	0.74	4.44	15	Mollusca	Rissoidae	*Alvania sp.*	7	0.01

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Mollusca	Nuculidae	*Ennucula tenuis*	7	0.09
							Annelida	Lumbrineridae	*Ninoe nigripes*	7	0.16
							Echinodermata	Ophiuridae	*Ophiocten affinis*	5	0.02
							Mollusca	Thraciidae	*Thracia myopsis*	4	0.14
							Mollusca	Scaphandridae	*Acteocina canaliculata*	3	0.01
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	2	0.03
							Arthropoda	Phoxocephalidae	*Harpinia propinqua*	2	0.01
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	2	0.01
							Annelida	Maldanidae	*Clymenella torquata*	1	0.36
							Annelida	Cirratulidae	*Dodecaceria concharum*	1	0.02
							Annelida	Oligochaeta	Oligochaeta sp 1	1	0.08
							Mollusca	Astartidae	*Astarte undata*	1	0.02
							Annelida	Orbiniidae	*Orbinia sp.*	1	0
							Mollusca	Chaetodermatidae	*Chaetoderma canadense*	1	0.02
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0
							Annelida	Sternaspidae	*Sternaspis scutata*	1	0
							Echinodermata	Ophiuridae	*Ophiura robusta*	1	0.01
							Annelida	Nephtyidae	*Nephtys incisa*	1	0.32
							Annelida	Spionidae	*Spiochaetopterus costarum oculatus*	1	0.01
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.03
							Echinodermata	Ophiuridae	*Ophiura sarsii*	1	0.01
							Miscellaneous	Nemertea	Nemertea sp 1	0	0.08
M0080	3040	23	2.37	0.76	4.38		Mollusca	Nuculidae	*Nucula proxima*	40	0.28
							Mollusca	Yoldiidae	*Yoldia sapotilla*	14	0.3
							Mollusca	Nuculidae	*Ennucula tenuis*	14	0.1
							Mollusca	Rissoidae	*Frigidoalvania janmayeni*	14	0.03
							Annelida	Cirratulidae	*Chaetozone setosa*	12	0.07
							Annelida	Lumbrineridae	*Ninoe nigripes*	11	0.18
							Annelida	Maldanidae	*Clymenella torquata*	10	1.32
							Annelida	Maldanidae	*Clymenella zonalis*	8	
							Mollusca	Thyasiridae	*Thyasira spp.*	8	0.05

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Echinodermata	Ophiuridae	*Ophiura sarsii*	5	0.02
							Mollusca	Astartidae	*Astarte undata*	4	0.01
							Mollusca	Scaphandridae	*Acteocina canaliculata*	4	0.03
							Mollusca	Thraciidae	*Thracia myopsis*	3	0.01
							Arthropoda	Corophiidae	*Leptocheirus pinguis*	2	0.09
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	2	0.04
							Mollusca	Carditidae	*Cyclocardia borealis*	2	0.01
							Arthropoda	Cheirocratidae	*Casco bigelowi*	2	0.26
							Annelida	Polynoidae	Polynoidae fragment	1	0.01
							Echinodermata	Amphiuridae	*Amphipholis squamata*	1	0
M0080	3040	23	2.37	0.76	4.38	15	Mollusca	Rissoidae	*Pusillina harpa*	1	0
							Echinodermata	Ophiuridae	*Ophiura robusta*	1	0.01
							Arthropoda	Phoxocephalidae	*Harpinia propinqua*	1	0
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	1	0
							Annelida	Sternaspidae	*Sternaspis scutata*	1	0.03
							Annelida	Goniadidae	*Goniada maculata*	1	0.01
							Annelida	Trichobranchidae	*Terebellides stroemii*	1	0.03
							Annelida	Nephtyidae	*Nephtys incisa*	1	0.06
							Miscellaneous	Porifera	Porifera		
M0081	1780	19	2.24		4.01		Mollusca	Nuculidae	*Nucula proxima*	33	0.23
							Mollusca	Rissoidae	*Alvania sp.*	11	0.02
							Mollusca	Thraciidae	*Thracia myopsis*	5	0.03
							Mollusca	Yoldiidae	*Yoldia sapotilla*	5	0.06
							Mollusca	Thyasiridae	*Thyasira spp.*	4	0.03
							Annelida	Lumbrineridae	*Ninoe nigripes*	4	0.08
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	3	0.15
							Annelida	Nephtyidae	*Nephtys incisa*	3	3.95
							Mollusca	Nuculidae	*Ennucula tenuis*	3	0.02
							Annelida	Cirratulidae	*Chaetozone setosa*	3	0.03
							Annelida	Sternaspidae	*Sternaspis scutata*	3	0.1
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	2	0.02

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Maldanidae	*Clymenella torquata*	2	0.19
							Mollusca	Chaetodermatidae	*Chaetoderma canadense*	2	0.03
							Mollusca	Astartidae	*Astarte crenata*	1	0
							Mollusca	Veneridae	*Gemma gemma*	1	0.01
							Miscellaneous	Golfingiidae	*Golfingia sp.*	1	0.01
							Arthropoda	Leuconidae	*Leucon americanus*	1	0
							Annelida	Glyceridae	*Glycera dibranchiata*	1	0.01
							Mollusca	Buccinidae	*Buccinum undatum*	1	0.01
M0082	2260		2.41	0.82	3.81		Mollusca	Nuculidae	*Nucula proxima*	29	0.24
							Mollusca	Yoldiidae	*Yoldia sapotilla*	14	0.17
							Mollusca	Rissoidae	*Alvania sp.*	13	0.02
							Annelida	Maldanidae	*Clymenella torquata*	8	0.38
							Mollusca	Thyasiridae	*Thyasira spp.*	8	0.05
							Arthropoda	Ampeliscidae	*Ampelisca agassizi*	6	0.03
							Mollusca	Thraciidae	*Thracia myopsis*	5	0.03
							Mollusca	Buccinidae	*Buccinum undatum*	5	0.05
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	3	0.03
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	3	0.03
							Mollusca	Chaetodermatidae	*Chaetoderma canadense*	3	0.02
							Mollusca	Nuculidae	*Ennucula tenuis*	3	0.03
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	2	0.01
M0082	2260	19	2.41	0.82	3.81	15	Mollusca	Cardiidae	*Parvicardium pinnulatum*	2	0.02
							Annelida	Lumbrineridae	*Ninoe nigripes*	2	0.03
							Arthropoda	Diastylidae	*Diastylis sculpta*	1	
							Arthropoda	Idoteidae	*Edotia triloba*	1	0.01
							Arthropoda	Diastylidae	*Diastylis quadrispinosa*	1	0.01
							Mollusca	Mytilidae	*Crenella decussata*	1	0
							Annelida	Glyceridae	*Glycera dibranchiata*	1	0.01
							Annelida	Sternaspidae	*Sternaspis scutata*	1	0.01
							Annelida	Nephtyidae	*Aglaophamus verrilli*	1	0.04
							Annelida	Spionidae	*Spionidae*	0	0

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
M0085	3280	14	1.66	0.63	2.55	10	Arthropoda	Unciolidae	*Unciola irrorata*	86	0.67
							Annelida	Maldanidae	*Clymenella torquata*	32	0.19
							Mollusca	Astartidae	*Astarte montagui*	7	0.1
							Annelida	Cirratulidae	*Chaetozone setosa*	6	0.02
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	5	0.17
							Mollusca	Mytilidae	*Crenella decussata*	5	0.12
							Annelida	Spionidae	*Polydora sp.*	5	0.02
							Annelida	Glyceridae	*Glycera dibranchiata*	3	0.2
							Mollusca	Mesodesmatidae	*Mesodesma arctatum*	3	0.05
							Echinodermata	Ophiuridae	*Ophiura robusta*	2	0
							Mollusca	Astartidae	*Astarte castanea*	2	22.65
							Annelida	Ampharetidae	*Ampharete arctica*	2	0.02
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	2	0.16
							Annelida	Cirratulidae	*Dodecaceria concharum*	1	0
							Arthropoda	Dulichiidae	*Dyopedos cf porrectus*	1	0
							Mollusca	Velutinidae	*Marsenina ampla*	1	0.01
							Echinodermata	Ophiuridae	*Ophiura sarsii*	1	0
M0088	3100	17	1.83	0.65	3.17	11	Annelida	Spionidae	*Polydora sp.*	75	0.95
							Annelida	Cirratulidae	*Chaetozone setosa*	22	0.4
							Mollusca	Nuculidae	*Nucula proxima*	11	0.07
							Annelida	Maldanidae	*Clymenella torquata*	10	0.21
							Mollusca	Nuculidae	*Ennucula tenuis*	7	0.03
							Mollusca	Thraciidae	*Thracia myopsis*	6	0.04
							Annelida	Sternaspidae	*Sternaspis scutata*	5	0.04
							Annelida	Nephtyidae	*Nephtys incisa*	3	0.15
							Arthropoda	Phoxocephalidae	*Phoxocephalus holbolli*	3	0.03
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	2	0.02
							Mollusca	Veneridae	*Gemma gemma*	2	0.02
							Annelida	Flabelligeridae	*Pherusa plumosa*	2	0.02
							Mollusca	Buccinidae	*Buccinum undatum*	1	0.01
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	1	0.01

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Arthropoda	Phoxocephalidae	*Harpinia propinqua*	1	0.01
M0088	3100	17	1.83	0.65	3.17	11	Annelida	Oenonidae	*Drilonereis longa*	1	0
							Annelida	Phyllodocidae	*Eteone trilineata*	1	0.05
							Echinodermata	Ophiuridae	*Ophiura sarsii*	1	0.02
							Mollusca	Veneridae	*Pitar morrhuanus*	1	0.01
							Mollusca	Mytilidae	*Mytilus edulis*	1	0.02
M0090	2460	7	1.23	0.63	1.25	5	Annelida	Maldanidae	*Clymenella torquata*	55	2.14
							Annelida	Ampharetidae	*Ampharete arctica*	38	0.5
							Annelida	Oenonidae	*Drilonereis longa*	25	0.42
							Annelida	Spionidae	*Polydora sp.*	2	0.02
							Annelida	Nephtyidae	*Aglaophamus circinata*	1	0.39
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0.01
							Mollusca	Astartidae	*Astarte castanea*	1	0.02
M0092	1540	20	2.64	0.88	4.37	17	Mollusca	Astartidae	*Astarte crenata*	13	18.93
							Mollusca	Nuculidae	*Ennucula tenuis*	9	0.06
							Mollusca	Mytilidae	*Crenella decussata*	9	0.06
							Annelida	Maldanidae	*Clymenella torquata*	7	0.22
							Annelida	Lumbrineridae	*Ninoe nigripes*	5	0.41
							Mollusca	Thraciidae	*Thracia myopsis*	5	0.36
							Mollusca	Yoldiidae	*Yoldia sapotilla*	4	0.29
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	3	0.06
							Mollusca	Thyasiridae	*Thyasira trisinuata*	3	0.01
							Mollusca	Rissoidae	*Alvania sp.*	3	0.01
							Mollusca	Nuculanidae	*Nuculana tenuisulcata*	2	0.01
							Annelida	Oenonidae	*Drilonereis longa*	2	0.03
							Annelida	Cirratulidae	*Chaetozone setosa*	2	0
							Mollusca	Nuculidae	*Nucula proxima*	2	0.03
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	1	
							Annelida	Polynoidae	*Lepidonotus squamatus*	1	0
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0.02
							Mollusca	Chaetodermatidae	*Chaetoderma canadense*	1	0.02

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Mollusca	Iottidae	*Testudinalia testudinalis*	1	0.01
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	1	0
							Echinodermata	Amphiuridae	*Amphipholis squamata*	1	0.01
							Mollusca	Hiatellidae	*Hiatella arctica*	1	0.01
							Annelida	Oenonidae	*Drilonereis magna*		
M0095	2160	17	2.2	0.78	3.42	13	Annelida	Spionidae	*Polydora sp.*	30	0.3
							Mollusca	Veneridae	*Gemma gemma*	18	0.11
							Mollusca	Nuculidae	*Nucula proxima*	11	0.14
							Annelida	Oenonidae	*Drilonereis longa*	11	0.07
							Mollusca	Nuculidae	*Ennucula tenuis*	8	0.05
							Mollusca	Arcticidae	*Arctica islandica*	6	0.16
							Mollusca	Buccinidae	*Buccinum undatum*	4	0.03
M0095	2160	17	2.2	0.78	3.42	13	Arthropoda	Ampeliscidae	*Ampelisca agassizi*	4	0.04
							Mollusca	Tellinidae	*Ameritella agilis*	3	0.02
							Annelida	Maldanidae	*Clymenella torquata*	3	0.08
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	3	0.01
							Arthropoda	Diastylidae	*Diastylis sculpta*	1	0
							Miscellaneous	Golfingiidae	*Golfingia sp.*	1	0.01
							Annelida	Opheliidae	*Ophelina acuminata*	1	0.07
							Annelida	Lumbrineridae	*Ninoe nigripes*	1	0.05
							Annelida	Glyceridae	*Glycera dibranchiata*	1	0
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.01
							Mollusca	Pharidae	*Ensis leei*	1	0
M0097	1760	15	2.11		3.13		Mollusca	Nuculidae	*Nucula proxima*	19	0.14
							Annelida	Spionidae	*Polydora sp.*	16	0.14
							Mollusca	Nuculidae	*Ennucula tenuis*	13	0.05
							Annelida	Oenonidae	*Drilonereis longa*	9	0.08
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	6	0.02
							Annelida	Lumbrineridae	*Ninoe nigripes*	3	0.04
							Mollusca	Buccinidae	*Buccinum undatum*	3	0.03

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	3	0.02
							Annelida	Cirratulidae	*Chaetozone setosa*	3	0.01
							Miscellaneous	Lineidae	*Cerebratulus lacteus*	2	0.08
							Arthropoda	Ampeliscidae	*Ampelisca agassizi*	2	0.05
							Annelida	Maldanidae	*Clymenella torquata*	2	0
							Annelida	Opheliidae	*Ophelina acuminata*	2	0.14
							Arthropoda	Corophiidae	*Leptocheirus pinguis*	1	0.06
							Arthropoda	Ampeliscidae	*Ampelisca abdita*	1	0
							Mollusca	Thraciidae	*Thracia myopsis*	1	0.03
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.01
							Mollusca	Yoldiidae	*Yoldia sapotilla*	1	0.03
M0098	2020	18	2.13	0.74	3.68	14	Mollusca	Nuculidae	*Nucula proxima*	23	0.13
							Mollusca	Nuculidae	*Ennucula tenuis*	20	0.11
							Annelida	Spionidae	*Spiophanes bombyx*	12	0.23
							Annelida	Maldanidae	*Clymenella torquata*	7	0.38
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	6	0
							Annelida	Cirratulidae	*Chaetozone setosa*	5	0
							Mollusca	Tellinidae	*Ameritella agilis*	4	0.06
							Mollusca	Buccinidae	*Buccinum undatum*	3	0.02
							Arthropoda	Unciolidae	*Unciola irrorata*	2	0.01
							Mollusca	Veneridae	*Gemma gemma*	2	0.06
							Mollusca	Arcticidae	*Arctica islandica*	2	0.16
							Mollusca	Pharidae	*Ensis leei*	2	0.03
							Annelida	Nephtyidae	*Aglaophamus circinata*	2	0.13
M0098	2020	18	2.13	0.74	3.68	14	Annelida	Oenonidae	*Drilonereis longa*	2	0.01
							Annelida	Ampharetidae	*Ampharete arctica*	2	0.06
							Annelida	Oligochaeta	Oligochaeta sp 1	1	0
							Annelida	Lumbrineridae	*Ninoe nigripes*	1	0.03
							Arthropoda	Corophiidae	*Leptocheirus pinguis*	1	0.01
							Annelida	Spionidae	*Prionospio steenstrupi*	1	

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0.01
							Annelida	Goniadidae	*Goniada maculata*	1	0
							Annelida	Annnelida	unidentified annelida 1		
M0099	280	8	1.97	0.95	2.65	8	Annelida	Maldanidae	*Clymenella torquata*	3	0.01
							Annelida	Ampharetidae	*Ampharete arctica*	2	0.02
							Mollusca	Buccinidae	*Buccinum scalariforme*	2	0.04
							Annelida	Nephtyidae	*Aglaophamus verrilli*	2	0.13
							Arthropoda	Ampeliscidae	*Ampelisca cf abdita*	1	0.01
							Mollusca	Buccinidae	*Buccinum scalariforme*	1	0.01
							Annelida	Flabelligeridae	*Pherusa plumosa*	1	0
							Arthropoda	Unciolidae	*Unciola irrorata*	1	0.01
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	1	0.01
M0101	2020	13	1.55	0.6	2.6	9	Annelida	Maldanidae	*Clymenella torquata*	51	0.63
							Annelida	Ampharetidae	*Ampharete arctica*	25	0.27
							Mollusca	Astartidae	*Astarte castanea*	8	9.88
							Annelida	Oenonidae	*Drilonereis longa*	5	0.09
							Annelida	Nephtyidae	*Aglaophamus verrilli*	2	0.38
							Annelida	Spionidae	*Polydora sp.*	2	0.01
							Annelida	Cirratulidae	*Chaetozone setosa*	2	0.02
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.04
							Arthropoda	Carcinidae	*Carcinus* cf *maenas*	1	0.01
							Arthropoda	Mysida	Mysida ?	1	0
							Arthropoda	Phoxocephalidae	*Rhepoxynius epistomus*	1	0.01
							Arthropoda	Corophiidae	*Leptocheirus pinguis*	1	0.01
							Annelida	Polynoidae	*Lepidonotus squamatus*	1	0.01
M0102	1860	15	1.97	0.73	3.09	12	Mollusca	Arcticidae	*Arctica islandica*	27	0.48
							Mollusca	Nuculidae	*Ennucula tenuis*	25	0.12
							Mollusca	Buccinidae	*Buccinum undatum*	8	0.08
							Mollusca	Veneridae	*Gemma gemma*	6	0.03
							Mollusca	Nuculidae	*Nucula proxima*	4	0.04
							Annelida	Maldanidae	*Clymenella torquata*	4	0.01

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	3	0.03
							Mollusca	Buccinidae	*Buccinum scalariforme*	3	0.02
							Annelida	Orbiniidae	*Orbinia ornata*	2	0.01
							Annelida	Cirratulidae	*Chaetozone setosa*	2	0.01
							Annelida	Pholoidae	*Pholoe minuta*	2	0.15
M0102	1860	15	1.97	0.73	3.09	12	Arthropoda	Unciolidae	*Unciola irrorata*	1	0.01
							Annelida	Oenonidae	*Drilonereis longa*	1	0.01
							Annelida	Goniadidae	*Goniada maculata*	1	0.01
							Mollusca	Tellinidae	*Ameritella agilis*	1	0.04
							Mollusca	Thraciidae	*Thracia myopsis*	1	0
							Echinodermata	Echinarachniidae	*Echinarachnius parma*	1	0.27
							Annelida	Glyceridae	*Glycera dibranchiata*	1	0.01
M0103	420	7	1.84	0.95	1.97	7	Mollusca	Arcticidae	*Arctica islandica*	4	0.1
							Annelida	Maldanidae	*Clymenella torquata*	4	0.02
							Mollusca	Nuculidae	*Ennucula tenuis*	3	0.02
							Mollusca	Nuculidae	*Nucula proxima*	2	0.01
							Mollusca	Tellinidae	*Ameritella agilis*	2	0.01
							Mollusca	Buccinidae	*Buccinum undatum*	2	0.01
							Arthropoda	Unciolidae	*Unciola irrorata*	2	0
							Echinodermata	Echinarachniidae	*Echinarachnius parma*	1	0.16
							Mollusca	Thraciidae	*Thracia myopsis*	1	0.07
M0104	540	4	1.21	0.87	0.91	4	Annelida	Maldanidae	*Clymenella torquata*	14	0.08
							Mollusca	Buccinidae	*Buccinum undatum*	5	0.14
							Annelida	Oenonidae	*Drilonereis longa*	5	0.06
							Annelida	Ampharetidae	*Ampharete arctica*	3	0.02
M0105	740	15	2.31	0.85	3.88	15	Mollusca	Buccinidae	*Buccinum undatum*	12	0.31
							Mollusca	Arcticidae	*Arctica islandica*	3	0.09
							Annelida	Maldanidae	*Clymenella torquata*	3	0.01
							Echinodermata	Echinarachniidae	*Echinarachnius parma*	3	9.81
							Mollusca	Tellinidae	*Ameritella agilis*	3	0.05
							Arthropoda	Lysianassidae	*Psammonyx nobilis*	2	0.04

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	2	0.01
							Annelida	Spionidae	*Polydora sp.*	1	0.01
							Annelida	Oenonidae	*Drilonereis longa*	1	0
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.02
							Annelida	Annelida	unidentified annelid sp 5	1	0.04
							Annelida	Pholoidae	*Pholoe minuta*	1	0.18
							Arthropoda	Chaetiliidae	*Chiridotea tuftsii*	1	0.01
							Arthropoda	Idoteidae	*Edotia triloba*	1	0.01
							Mollusca	Thraciidae	*Thracia myopsis*	1	0
							Mollusca	Nuculidae	*Ennucula tenuis*	1	0.01
M0106	420	9	1.81	0.83	2.63	9	Mollusca	Buccinidae	*Buccinum undatum*	9	0.33
							Annelida	Maldanidae	*Clymenella torquata*	3	0.04
							Arthropoda	Unciolidae	*Unciola irrorata*	2	0.01
							Mollusca	Pharidae	*Ensis leei*	2	0.05
							Mollusca	Naticidae	*Euspira heros*	1	0.03
							Annelida	Spionidae	*Spiophanes bombyx*	1	0.02
M0106	420	9	1.81	0.83	2.63	9	Annelida	Nephtyidae	*Aglaophamus verrilli*	1	0
							Echinodermata	Echinarachniidae	*Echinarachnius parma*	1	5.09
							Mollusca	Tellinidae	*Ameritella agilis*	1	0.03
M0107	320	8	1.93	0.93	2.53	8	Annelida	Maldanidae	*Clymenella torquata*	4	0.24
							Annelida	Spionidae	*Polydora sp.*	3	0.15
							Annelida	Oenonidae	*Drilonereis longa*	3	0.03
							Arthropoda	Cirolanidae	*Politolana polita*	2	0.12
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	1	0
							Annelida	Nephtyidae	*Aglaophamus verrilli*	1	0.89
							Arthropoda	Chaetiliidae	*Chiridotea tuftsii*	1	0.04
							Mollusca	Buccinidae	*Buccinum undatum*	1	0.03
M0109	860	14	2.17	0.82	3.46	14	Annelida	Maldanidae	*Clymenella torquata*	15	0.19
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	7	0.1
							Mollusca	Carditidae	*Cyclocardia borealis*	3	0.53
							Mollusca	Astartidae	*Astarte castanea*	3	0.35

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Annelida	Polynoidae	*Lepidonotus squamatus*	2	0.02
							Echinodermata	Amphiuridae	*Amphipholis squamata*	2	0.02
							Annelida	Cirratulidae	*Chaetozone setosa*	2	0
							Annelida	Ampharetidae	*Ampharete arctica*	2	0.02
							Arthropoda	Unciolidae	Unciolidae	1	0
							Annelida	Terebellidae	*Thelepus cincinnatus*	1	0.01
							Echinodermata	Strongylocentrotidae	*Strongylocentrotus droebachiensis*	1	0.01
							Annelida	Spionidae	*Polydora sp.*	1	0
							Annelida	Oenonidae	*Drilonereis longa*	1	0
							Mollusca	Myidae	*Mya arenaria*	1	0.3
							Mollusca	Mytilidae	*Crenella decussata*	1	0.05
M0110	1000	10	2.12	0.92	2.3	10	Annelida	Ampharetidae	*Ampharete arctica*	10	0.1
							Annelida	Maldanidae	*Clymenella torquata*	9	0.08
							Annelida	Spionidae	*Polydora sp.*	8	0.02
							Annelida	Oenonidae	*Drilonereis longa*	6	0.84
							Arthropoda	Unciolidae	*Unciola irrorata*	5	0.06
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	3	0.07
							Annelida	Cirratulidae	*Chaetozone setosa*	3	0.03
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	3	0.18
							Annelida	Nereididae	*Nereis grayi*	2	0.02
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	1	0.04
M0112	1400	21	2.57	0.84	4.71	18	Mollusca	Nuculidae	*Nucula proxima*	19	0.15
							Mollusca	Arcticidae	*Arctica islandica*	7	0.08
							Annelida	Maldanidae	*Clymenella torquata*	6	0.25
							Annelida	Flabelligeridae	*Pherusa plumosa*	5	0.07
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	4	0.01
							Annelida	Oenonidae	*Drilonereis longa*	4	0.03
M0112	1400	21	2.57	0.84	4.71	18	Annelida	Sternaspidae	*Sternaspis scutata*	3	0.05
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	3	0.01
							Annelida	Nephtyidae	*Nephtys incisa*	2	0.1
							Annelida	Lumbrineridae	*Ninoe nigripes*	2	0.01

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Mollusca	Yoldiidae	*Yoldia sapotilla*	2	0.01
							Annelida	Spionidae	*Polydora sp.*	2	0.02
							Mollusca	Thraciidae	*Thracia myopsis*	1	0.01
							Miscellaneous	Phascolionidae	*Phascolion sp.*	1	0
							Annelida	Oligochaeta	Oligochaeta sp 1	1	0
							Cnidaria	Cerianthidae	*Pachycerianthus borealis*	1	0.01
							Annelida	Polynoidae	*Lepidonotus squamatus*	1	0
							Miscellaneous	Lineidae	*Cerebratulus lacteus*	1	1.05
							Annelida	Ampharetidae	*Ampharete arctica*	1	0
							Echinodermata	Ophiuridae	*Ophiura robusta*	1	0
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0.02
							Annelida	Orbiniidae	*Orbinia ornata*	1	0
							Mollusca	Nuculidae	*Ennucula tenuis*	1	0
M0114	3240		1.96	0.64	3.93	13	Mollusca	Nuculidae	*Ennucula tenuis*	57	0.3
							Mollusca	Nuculidae	*Nucula proxima*	25	0.22
							Mollusca	Arcticidae	*Arctica islandica*	16	0.11
							Mollusca	Buccinidae	*Buccinum undatum*	14	0.1
							Annelida	Spionidae	*Spiophanes bombyx*	8	0.08
							Annelida	Cirratulidae	*Chaetozone setosa*	7	0.04
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	6	0.03
							Arthropoda	Unciolidae	*Unciola irrorata*	4	0
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	3	0.01
							Mollusca	Tellinidae	*Ameritella agilis*	3	0.02
							Annelida	Nephtyidae	*Aglaophamus circinata*	3	0.21
							Annelida	Sabellidae	*Chone infundibuliformis*	2	0
							Annelida	Maldanidae	*Clymenella torquata*	2	0.01
							Annelida	Spionidae	*Laonice cirrata*	2	
							Arthropoda	Idoteidae	*Edotia triloba*	2	0.01
							Annelida	Phyllodocidae	*Mystides borealis*	1	0
							Arthropoda	Phoxocephalidae	*Rhepoxynius epistomus*	1	0
							Arthropoda	Diastylidae	*Diastylis sculpta*	1	0.01

Site ID	Density	S	H' ($\log_e$)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Mollusca	Mytilidae	*Crenella decussata*	1	0.01
							Annelida	Lumbrineridae	*Ninoe nigripes*	1	0.06
							Mollusca	Mytilidae	*Musculus discors*	1	0
							Mollusca	Calyptraeidae	*Crepidula convexa*	1	0.01
							Mollusca	Mactridae	*Spisula solidissima*	1	0.05
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	1	0.01
							Annelida	Ampharetidae	*Ampharete arctica*	1	0.01
M0115	740	8	1.1	0.53	1.94	8	Annelida	Maldanidae	*Clymenella torquata*	26	0.41
							Annelida	Ampharetidae	*Ampharete arctica*	5	0.22
							Annelida	Glyceridae	*Glycera dibranchiata*	1	0.22
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.07
							Annelida	Oenonidae	*Drilonereis longa*	1	0.02
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0.02
							Miscellaneous	Golfingiidae	*Golfingia sp.*	1	0.01
							Arthropoda	Unciolidae	*Unciola irrorata*	1	0
M0117	940	15	2.29	0.84	3.64	15	Annelida	Cirratulidae	*Chaetozone setosa*	15	0.07
							Annelida	Maldanidae	*Clymenella torquata*	6	0.05
							Annelida	Lumbrineridae	*Ninoe nigripes*	5	0.08
							Miscellaneous	Phascolionidae	*Phascolion sp.*	3	0
							Annelida	Sternaspidae	*Sternaspis scutata*	3	0.02
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	3	0.01
							Echinodermata	Synaptidae	*Epitomapta roseola*	2	0.15
							Annelida	Nephtyidae	*Nephtys incisa*	2	0.01
							Annelida	Spionidae	*Polydora sp.*	1	0
							Mollusca	Thraciidae	*Thracia myopsis*	1	0.01
							Mollusca	Rissoidae	*Alvania sp.*	1	0
							Annelida	Scalibregmatidae	*Scalibregma inflatum*	1	0.02
							Annelida	Ampharetidae	*Ampharete arctica*	1	0
							Annelida	Spionidae	*Spio sp.*	1	0.02
							Miscellaneous	Nemertea	Nemertea sp 1	0	0.01
M0120	3140	25	2.04	0.63	4.75	14	Arthropoda	Ampeliscidae	*Ampelisca abdita*	81	0.33

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Mollusca	Nuculidae	*Nucula proxima*	12	0.04
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	9	0.09
							Annelida	Sternaspidae	*Sternaspis scutata*	8	0.19
							Mollusca	Mytilidae	*Crenella glandula*	7	0.02
							Mollusca	Thyasiridae	*Thyasira trisinuata*	5	0.05
							Mollusca	Yoldiidae	*Yoldia sapotilla*	5	0.03
							Mollusca	Rissoidae	*Alvania sp.*	4	0.01
							Annelida	Cirratulidae	*Chaetozone setosa*	4	0.02
							Annelida	Maldanidae	*Clymenella torquata*	3	0.03
							Annelida	Lumbrineridae	*Ninoe nigripes*	3	0.03
							Annelida	Spionidae	*Polydora sp.*	2	0.02
							Annelida	Nephtyidae	*Nephtys incisa*	1	0.57
							Mollusca	Thyasiridae	*Thyasira flexuosa*	1	0.01
							Arthropoda	Carcinidae	*Carcinus* cf *maenas*	1	0
							Annelida	Goniadidae	*Goniada maculata*	1	0.07
							Annelida	Opheliidae	*Ophelina acuminata*	1	0.04
							Annelida	Ampharetidae	*Ampharete arctica*	1	0
							Annelida	Echiuridae	*Echiurus echiurus*	1	0.01
M0120	3140	25	2.04	0.63	4.75	14	Annelida	Glyceridae	*Glycera dibranchiata*	1	0.01
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	1	0.01
							Mollusca	Arcticidae	*Arctica islandica*	1	0
							Mollusca	Chaetodermatidae	*Chaetoderma canadense*	1	0
							Annelida	Trichobranchidae	*Terebellides stroemii*	1	0.01
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	1	0.01
							Mollusca	Astartidae	*Astarte crenata*	1	0.01
M0122	720	8	1.73	0.83	1.95	8	Annelida	Oenonidae	*Drilonereis longa*	12	0.08
							Annelida	Maldanidae	*Clymenella torquata*	5	0.08
							Annelida	Maldanidae	*Clymenella zonalis*	5	
							Annelida	Ampharetidae	*Ampharete arctica*	4	0.03
							Arthropoda	Cirolanidae	*Politolana polita*	4	0.15
							Annelida	Nephtyidae	*Aglaophamus circinata*	2	0.16

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
							Arthropoda	Chaetiliidae	*Chiridotea tuftsii*	2	0.03
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	1	0
							Annelida	Spionidae	*Polydora sp.*	1	0
M0123	1300	15	1.94	0.71	3.35	13	Annelida	Cirratulidae	*Chaetozone setosa*	26	0.22
							Mollusca	Nuculidae	*Nucula proxima*	12	0.08
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	5	0.01
							Annelida	Oenonidae	*Drilonereis longa*	4	0.03
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	3	0.03
							Annelida	Nephtyidae	*Nephtys incisa*	3	0.73
							Mollusca	Nuculidae	*Ennucula tenuis*	3	0.02
							Annelida	Orbiniidae	*Orbinia sp.*	1	0
							Annelida	Trichobranchidae	*Terebellides stroemii*	1	0
							Mollusca	Veneridae	*Gemma gemma*	1	0
							Arthropoda	Diastylidae	*Diastylis sculpta*	1	0
							Annelida	Maldanidae	*Clymenella torquata*	1	0
							Mollusca	Buccinidae	*Buccinum undatum*	1	0
							Arthropoda	Ampeliscidae	*Ampelisca abdita*	1	0
							Echinodermata	Ophiuridae	*Ophiura robusta*	1	0
							Annelida	Flabelligeridae	*Pherusa plumosa*	1	0.01
M0124	800	12	1.73	0.69	2.98	12	Arthropoda	Diastylidae	*Diastylis sculpta*	21	0.11
							Mollusca	Mytilidae	*Mytilus edulis*	5	0.02
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	3	0.01
							Annelida	Nephtyidae	*Nephtys incisa*	3	0.25
							Mollusca	Rissoidae	*Alvania sp.*	1	0
							Annelida	Oenonidae	*Drilonereis* ?	1	0.02
							Arthropoda	Bodotriidae	*Pseudoleptocuma minus*	1	0
							Annelida	Maldanidae	*Clymenella torquata*	1	0
							Mollusca	Buccinidae	*Buccinum undatum*	1	0.01
							Annelida	Cirratulidae	*Chaetozone setosa*	1	0.01
M0124	800	12	1.73	0.69	2.98	12	Annelida	Flabelligeridae	*Pherusa plumosa*	1	0.04
							Mollusca	Nuculidae	*Ennucula tenuis*	1	0.01

Site ID	Density	S	H' (log_e)	J'	d	ES(50)	Phylum	Family	*Species* or Taxa	Count	Biomass
M0125	1600	14	1.65	0.63	2.97	11	Annelida	Maldanidae	*Clymenella torquata*	51	0.26
							Annelida	Cirratulidae	*Chaetozone setosa*	7	0.03
							Annelida	Spionidae	*Polydora sp.*	6	0.06
							Annelida	Oenonidae	*Drilonereis longa*	4	0.02
							Mollusca	Cardiidae	*Parvicardium pinnulatum*	2	0.01
							Mollusca	Nuculidae	*Nucula proxima*	2	0.01
							Annelida	Nephtyidae	*Nephtys incisa*	2	0.85
							Mollusca	Yoldiidae	*Megayoldia thraciaeformis*	1	0.01
							Mollusca	Yoldiidae	*Yoldia limatula*	1	1.37
							Mollusca	Naticidae	*Euspira heros*	1	0.01
							Annelida	Sternaspidae	*Sternaspis scutata*	1	0
							Mollusca	Buccinidae	*Buccinum undatum*	1	0
							Annelida	Echiuridae	*Echiurus echiurus*	1	0

Infauna species list for MCMI grab samples collected 2015-2016 from unconsolidated sediment subtidal habitat offshore of Midcoast Maine, Harpswell to Southport Islands. The total count of individuals in $0.05m^2$ ponar grab samples are reported with the currently accepted taxonomic nomenclature. Nomenclature and status of acceptance were extracted for the species list using the WoRMS' Match taxa tool (http://www.marinespecies.org/aphia.php?p=match, accessed 1/11/18).

Species	Total Count	Aphia ID	TSN	Taxon status	Accepted Aphia ID	Accepted Scientific Name	Phylum	Class	Order	Family	Genus	Subgenus	Species	Subspecies	Citation
Acteocina canaliculata	25	160065	76117	accepted	160065	*Acteocina canaliculata*	Mollusca	Gastropoda	Cephalaspidea	Acteocinidae	*Acteocina*		*canaliculata*		Rosenberg G. (2010). Acteocina canaliculata. In: MolluscaBase
Aglaophamus circinata	18	157145	66053	accepted	157145	*Aglaophamus circinata*	Annelida	Polychaeta	Phyllodocida	Nephtyidae	*Aglaophamus*		*circinata*		Read G. (2017). Aglaophamus circinata (Verrill in Smith &
Aglaophamus sp.	1	129366	66047	accepted	129366	*Aglaophamus*	Annelida	Polychaeta	Phyllodocida	Nephtyidae	*Aglaophamus*				Bellan G. (2008). Aglaophamus. In: Read G.; Fauchald K. (Ed.)
Aglaophamus verrilli	44	157147	66052	accepted	157147	*Aglaophamus verrilli*	Annelida	Polychaeta	Phyllodocida	Nephtyidae	*Aglaophamus*		*verrilli*		Read G. (2017). Aglaophamus verrilli (McIntosh 1885). In: Read
Alitta succinea	3	234850		accepted	234850	*Alitta succinea*	Annelida	Polychaeta	Phyllodocida	Nereididae	*Alitta*		*succinea*		Glasby C.; Read G. (2017). Alitta succinea (Leuckart 1847). In:
Alvania sp.	92	138439	70798	accepted	138439	*Alvania*	Mollusca	Gastropoda	Littorinimorpha	Rissoidae	*Alvania*				Gofas S. (2014). Alvania Risso 1826. In: MolluscaBase (2017).
Ameritella agilis	17	878476		accepted	878476	*Ameritella agilis*	Mollusca	Bivalvia	Cardiida	Tellinidae	*Ameritella*		*agilis*		Sartori AndrÃ© F. (2016). Ameritella agilis (Stimpson 1857).
Ameroculodes edwardsi	3	547000	657126	accepted	547000	*Ameroculodes edwardsi*	Arthropoda	Malacostraca	Amphipoda	Oedicerotidae	*Ameroculodes*		*edwardsi*		1905). In: Horton T.; Lowry J.; De Broyer C.; Bellan-Santini D.;
Ampelisca abdita	83	158020	93329	accepted	158020	*Ampelisca abdita*	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	*Ampelisca*		*abdita*		1964. In: Horton T.; Lowry J.; De Broyer C.; Bellan-Santini D.;
Ampelisca agassizi	18	158021	93332	accepted	158021	*Ampelisca agassizi*	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	*Ampelisca*		*agassizi*		1896). In: Horton T.; Lowry J.; De Broyer C.; Bellan-Santini D.;
Ampelisca cf abdita	1	158020	93329	accepted	158020	*Ampelisca abdita*	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	*Ampelisca*		*abdita*		1964. In: Horton T.; Lowry J.; De Broyer C.; Bellan-Santini D.;
Ampelisca macrocephala	1	101908	93322	accepted	101908	*Ampelisca macrocephala*	Arthropoda	Malacostraca	Amphipoda	Ampeliscidae	*Ampelisca*		*macrocephala*		D. (2004). Ampelisca macrocephala Liljeborg 1852. In:
Ampharete acutifrons		129775	67735	accepted	129775	*Ampharete acutifrons*	Annelida	Polychaeta	Terebellida	Ampharetidae	*Ampharete*		*acutifrons*		Bellan G. (2008). Ampharete acutifrons. In: Read G.; Fauchald
Ampharete arctica	165	159916	67728	accepted	159916	*Ampharete arctica*	Annelida	Polychaeta	Terebellida	Ampharetidae	*Ampharete*		*arctica*		WoRMS (2008). Ampharete arctica Malmgren 1866. In: Read
Ampharete sp.	44	129155	67727	accepted	129155	*Ampharete*	Annelida	Polychaeta	Terebellida	Ampharetidae	*Ampharete*				Bellan G. (2008). Ampharete. In: Read G.; Fauchald K. (Ed.)
Amphipholis squamata	10	125064	157676	accepted	125064	*Amphipholis squamata*	Echinodermata	Ophiuroidea	Ophiurida	Amphiuridae	*Amphipholis*		*squamata*		StÃ¶hr S.; Hansson
Anobothrus gracilis	95	129789	67778	accepted	129789	*Anobothrus gracilis*	Annelida	Polychaeta	Terebellida	Ampharetidae	*Anobothrus*		*gracilis*		Bellan G. (2008). Anobothrus gracilis. In: Read G.; Fauchald K.
Anomia simplex	11	156737	79798	accepted	156737	*Anomia simplex*	Mollusca	Bivalvia	Pectinida	Anomiidae	*Anomia*		*simplex*		Bouchet P.; Huber M.; Rosenberg G. (2011). Anomia simplex. In:
Anonyx lilljeborgi	1	102513		accepted	102513	*Anonyx lilljeborgi*	Arthropoda	Malacostraca	Amphipoda	Uristidae	*Anonyx*		*lilljeborgi*		D.; Costello M. (2016). Anonyx lilljeborgi. In: Horton T.; Lowry
Arabella iricolor	1	129854	66441	accepted	129854	*Arabella iricolor*	Annelida	Polychaeta	Eunicida	Oenonidae	*Arabella*		*iricolor*		Read G.; Bellan G. (2011). Arabella iricolor (Montagu 1804).
Arctica islandica	238	138802	81343	accepted	138802	*Arctica islandica*	Mollusca	Bivalvia	Venerida	Arcticidae	*Arctica*		*islandica*		Gofas S. (2004). Arctica islandica (Linnaeus 1767). In:
Arenicola sp.	5	129206	67507	accepted	129206	*Arenicola*	Annelida	Polychaeta		Arenicolidae	*Arenicola*				Bellan G. (2008). Arenicola. In: Read G.; Fauchald K. (Ed.)
Argopecten irradians	3	156817	79737	accepted	156817	*Argopecten irradians*	Mollusca	Bivalvia	Pectinida	Pectinidae	*Argopecten*		*irradians*		Rosenberg G. (2010). Argopecten irradians (Lamarck 1819). In:
Aricidea albatrossae	1	326599		accepted	326599	*Aricidea (Aricidea) albatrossae*	Annelida	Polychaeta		Paraonidae	*Aricidea*	*Aricidea*	*albatrossae*		WoRMS (2008). Aricidea (Aricidea) albatrossae Pettibone
Astarte castanea	35	156744	80801	accepted	156744	*Astarte castanea*	Mollusca	Bivalvia	Carditida	Astartidae	*Astarte*		*castanea*		Rosenberg G. (2017). Astarte castanea (Say 1822). In:
Astarte crenata	198	138820	80804	accepted	138820	*Astarte crenata*	Mollusca	Bivalvia	Carditida	Astartidae	*Astarte*		*crenata*		Gofas S. (2004). Astarte crenata (Gray 1824). In: MolluscaBase
Astarte montagui	7	138823	80837	accepted	138823	*Astarte montagui*	Mollusca	Bivalvia	Carditida	Astartidae	*Astarte*		*montagui*		Gofas S. (2004). Astarte montagui. In: MolluscaBase (2017).
Astarte undata	44	156747	80811	accepted	156747	*Astarte undata*	Mollusca	Bivalvia	Carditida	Astartidae	*Astarte*		*undata*		Rosenberg G. (2010). Astarte undata Gould 1841. In:
Boonea bisuturalis	1	397024	75987	accepted	397024	*Boonea bisuturalis*	Mollusca	Gastropoda		Pyramidellidae	*Boonea*		*bisuturalis*		Bouchet P. (2017). Boonea bisuturalis (Say 1822). In:

Species	Total Count	Aphia ID	TSN	Taxon status	Accepted Aphia ID	Accepted Scientific Name	Phylum	Class	Order	Family	Genus	Subgenus	Species	Subspecies	Citation
Buccinum scalariforme	6	138875	73737	accepted	138875	*Buccinum scalariforme*	Mollusca	Gastropoda	Neogastropoda	Buccinidae	*Buccinum*		*scalariforme*		Gofas S. (2004). Buccinum scalariforme MÃ¸ller 1842. In:
Buccinum undatum	72	138878	73795	accepted	138878	*Buccinum undatum*	Mollusca	Gastropoda	Neogastropoda	Buccinidae	*Buccinum*		*undatum*		Fraussen K.; Gofas S. (2010). Buccinum undatum. In:
Bugula sp.	0	110839	156049	accepted	110839	*Bugula*	Bryozoa	Gymnolaemata	Cheilostomatida	Bugulidae	*Bugula*				Bock P.; Hayward P. (2012). Bugula. In: Bock P.; Gordon D.
Capitella capitata	2	129876	67415	accepted	129876	*Capitella capitata*	Annelida	Polychaeta		Capitellidae	*Capitella*		*capitata*		Bellan G. (2008). Capitella capitata. In: Read G.; Fauchald K.
Carcinus cf maenas	2	107381	98734	accepted	107381	*Carcinus maenas*	Arthropoda	Malacostraca	Decapoda	Carcinidae	*Carcinus*		*maenas*		M. (2007). Carcinus maenas. Accessed through: World
Casco bigelowi	17	158077	93835	accepted	158077	*Casco bigelowi*	Arthropoda	Malacostraca	Amphipoda	Cheirocratidae	*Casco*		*bigelowi*		1929. In: Horton T.; Lowry J.; De Broyer C.; Bellan-Santini D.;
Cerebratulus lacteus	4	147322	57455	accepted	147322	*Cerebratulus lacteus*	Nemertea	Anopla		Lineidae	*Cerebratulus*		*lacteus*		Gibson R. (2005). Cerebratulus lacteus (Leidy 1851). In:
Chaetoderma canadense	12	159929	79084	accepted	159929	*Chaetoderma canadense*	Mollusca	Caudofoveata	Chaetodermatida	Chaetodermatidae	*Chaetoderma*		*canadense*		Rosenberg G. (2010). Chaetoderma canadense
Chaetopteridae	3	918	67095	accepted	918	*Chaetopteridae*	Annelida	Polychaeta		Chaetopteridae					Read G. (2014). Chaetopteridae Audouin & Milne Edwards 1833.
Chaetozone setosa	247	129955	67157	accepted	129955	*Chaetozone setosa*	Annelida	Polychaeta	Terebellida	Cirratulidae	*Chaetozone*		*setosa*		Read G.; Bellan G. (2015). Chaetozone setosa Malmgren
Chiridotea tuftsii	6	119031	92643	accepted	119031	*Chiridotea tuftsii*	Arthropoda	Malacostraca	Isopoda	Chaetiliidae	*Chiridotea*		*tuftsii*		M. (2017). Chiridotea tuftsii (Stimpson 1853). In: Boyko C.B;
Chone infundibuliformis	13	130891	68079	accepted	130891	*Chone infundibuliformis*	Annelida	Polychaeta	Sabellida	Sabellidae	*Chone*		*infundibuliformis*		Bellan G. (2008). Chone infundibuliformis. In: Read G.;
Cirratulidae	1	919	67116	accepted	919	*Cirratulidae*	Annelida	Polychaeta	Terebellida	Cirratulidae					Read G. (2017). Cirratulidae Ryckholt 1851. In: Read G.;
Clymenella sp.	21	129344	67526	accepted	129344	*Clymenella*	Annelida	Polychaeta		Maldanidae	*Clymenella*				Read G.; Bellan G. (2011). Clymenella Verrill 1873. In: Read
Clymenella spp.	134	129344	67526	accepted	129344	*Clymenella*	Annelida	Polychaeta		Maldanidae	*Clymenella*				Read G.; Bellan G. (2011). Clymenella Verrill 1873. In: Read
Clymenella torquata	522	130279	67528	accepted	130279	*Clymenella torquata*	Annelida	Polychaeta		Maldanidae	*Clymenella*		*torquata*		Bellan G. (2008). Clymenella torquata (Leidy 1855). In: Read
Clymenella zonalis	1	157320	67531	accepted	157320	*Clymenella zonalis*	Annelida	Polychaeta		Maldanidae	*Clymenella*		*zonalis*		Read G. (2017). Clymenella zonalis (Verrill 1874). In: Read
Cossura longocirrata	3	129984	67207	accepted	129984	*Cossura longocirrata*	Annelida	Polychaeta		Cossuridae	*Cossura*		*longocirrata*		Read G.; Bellan G. (2015). Cossura longocirrata. In: Read G.;
Crenella decussata	147	140440	79459	accepted	140440	*Crenella decussata*	Mollusca	Bivalvia	Mytilida	Mytilidae	*Crenella*		*decussata*		Gofas S. (2004). Crenella decussata (Montagu 1808). In:
Crenella glandula	35	156765	79461	unaccepted	506189	*Solamen glandula*	Mollusca	Bivalvia	Mytilida	Mytilidae	*Crenella*		*glandula*		Rosenberg G. (2017). Crenella glandula (Totten 1834). In:
Crepidula convexa	1	160228	72624	accepted	160228	*Crepidula convexa*	Mollusca	Gastropoda	Littorinimorpha	Calyptraeidae	*Crepidula*		*convexa*		Rosenberg G. (2017). Crepidula convexa Say 1822. In:
Cyclocardia borealis	26	156832	80744	accepted	156832	*Cyclocardia borealis*	Mollusca	Bivalvia	Carditida	Carditidae	*Cyclocardia*		*borealis*		Rosenberg G. (2010). Cyclocardia borealis (Conrad 1832). In:
Cylichna alba	1	139474	76148	accepted	139474	*Cylichna alba*	Mollusca	Gastropoda	Cephalaspidea	Cylichnidae	*Cylichna*		*alba*		Gofas S. (2004). Cylichna alba. In: MolluscaBase (2017). Accessed
Diastylis quadrispinosa	2	157816	90863	accepted	157816	*Diastylis quadrispinosa*	Arthropoda	Malacostraca	Cumacea	Diastylidae	*Diastylis*		*quadrispinosa*		1871. In: Watling L.; Gerken S. (2017). World Cumacea database.
Diastylis sculpta	37	157817	90865	accepted	157817	*Diastylis sculpta*	Arthropoda	Malacostraca	Cumacea	Diastylidae	*Diastylis*		*sculpta*		L.; Gerken S. (2017). World Cumacea database. Accessed
Dodecaceria concharum	5	129967	67166	accepted	129967	*Dodecaceria concharum*	Annelida	Polychaeta	Terebellida	Cirratulidae	*Dodecaceria*		*concharum*		Bellan G. (2008). Dodecaceria concharum. In: Read G.; Fauchald
Dodecaceria sp.	1	129246	67165	accepted	129246	*Dodecaceria*	Annelida	Polychaeta	Terebellida	Cirratulidae	*Dodecaceria*				Bellan G. (2008). Dodecaceria Ã–rsted 1843. In: Read G.;
Drilonereis ?	1	129200	66423	accepted	129200	*Drilonereis*	Annelida	Polychaeta	Eunicida	Oenonidae	*Drilonereis*				Bellan G. (2008). Drilonereis ClaparÃ¨de 1870. In: Read G.;
Drilonereis longa	106	157357	66426	accepted	157357	*Drilonereis longa*	Annelida	Polychaeta	Eunicida	Oenonidae	*Drilonereis*		*longa*		WoRMS (2008). Drilonereis longa Webster 1879. In: Read G.;
Drilonereis magna		157358	66431	accepted	157358	*Drilonereis magna*	Annelida	Polychaeta	Eunicida	Oenonidae	*Drilonereis*		*magna*		WoRMS (2008). Drilonereis magna Webster & Benedict 1887.

Species	Total Count	Aphia ID	TSN	Taxon status	Accepted Aphia ID	Accepted Scientific Name	Phylum	Class	Order	Family	Genus	Subgenus	Species	Subspecies	Citation
Dyopedos cf porrectus	1	103044	94831	accepted	103044	*Dyopedos porrectus*	Arthropoda	Malacostraca	Amphipoda	Dulichiidae	*Dyopedos*		*porrectus*		M.; Bellan-Santini D. (2010). Dyopedos porrectus Spence Bate
Echinarachnius parma	12	158062	158016	accepted	158062	*Echinarachnius parma*	Echinodermata	Echinoidea	Clypeasteroida	Echinarachniidae	*Echinarachnius*		*parma*		Kroh A. (2013). Echinarachnius parma (Lamarck
Echiurus echiurus	18	110377	155054	accepted	110377	*Echiurus echiurus*	Annelida	Polychaeta	Echiuroidea	Echiuridae	*Echiurus*		*echiurus*		Tanaka M.; Pilger John F.; Murina G. (2017). Echiurus echiurus.
Edotia triloba	8	157885	544186	accepted	157885	*Edotia triloba*	Arthropoda	Malacostraca	Isopoda	Idoteidae	*Edotia*		*triloba*		M. (2009). Edotia triloba (Say 1818). In: Boyko C.B; Bruce N.L.;
Enchytraeus albidus	26	137402	68532	accepted	137402	*Enchytraeus albidus*	Annelida	Clitellata	Enchytraeida	Enchytraeidae	*Enchytraeus*		*albidus*		Timm T.; ErsÃ©us C. (2005). Enchytraeus albidus. Accessed
Ennucula tenuis	443	140584	567536	accepted	140584	*Ennucula tenuis*	Mollusca	Bivalvia	Nuculida	Nuculidae	*Ennucula*		*tenuis*		Gofas S. (2004). Ennucula tenuis. In: MolluscaBase (2017).
Ensis leei	5	876640		accepted	876640	*Ensis leei*	Mollusca	Bivalvia	Adapedonta	Pharidae	*Ensis*		*leei*		Sartori AndrÃ© F. (2016). Ensis leei M. Huber 2015. In:
Eobrolgus spinosus	2	158087	94755	accepted	158087	*Eobrolgus spinosus*	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	*Eobrolgus*		*spinosus*		1905. In: Horton T.; Lowry J.; De Broyer C.; Bellan-Santini D.;
Epitomapta roseola	3	124453	158437	accepted	124453	*Epitomapta roseola*	Echinodermata	Holothuroidea	Apodida	Synaptidae	*Epitomapta*		*roseola*		Paulay G.; Hansson
Eteone trilineata	1	157374	65268	accepted	157374	*Eteone trilineata*	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	*Eteone*		*trilineata*		Traits (2008). Eteone trilineata Webster & Benedict 1887. In:
Eunoe oerstedi	1	130746	64442	accepted	130746	*Eunoe oerstedi*	Annelida	Polychaeta	Phyllodocida	Polynoidae	*Eunoe*		*oerstedi*		Fauchald K.; Bellan G. (2008). Eunoe oerstedi. In: Read G.;
Euspira heros	2	160315	72985	accepted	160315	*Euspira heros*	Mollusca	Gastropoda	Littorinimorpha	Naticidae	*Euspira*		*heros*		Gofas S.; Bouchet P.; Rosenberg G. (2014). Euspira heros (Say
Flabelligeridae	1	976	67224	accepted	976	*Flabelligeridae*	Annelida	Polychaeta	Terebellida	Flabelligeridae					Salazar-Vallejo S.; Read G. (2011). Flabelligeridae de Saint-
Frigidoalvania janmayeni	39	141283	71033	accepted	141283	*Frigidoalvania janmayeni*	Mollusca	Gastropoda	Littorinimorpha	Rissoidae	*Frigidoalvania*		*janmayeni*		Gofas S. (2004). Frigidoalvania janmayeni (Friele 1878). In:
Gemma gemma	30	156803	81511	accepted	156803	*Gemma gemma*	Mollusca	Bivalvia	Venerida	Veneridae	*Gemma*		*gemma*		Rosenberg G. (2010). Gemma gemma (Totten 1834). In:
Glycera dibranchiata	18	157392	66107	accepted	157392	*Glycera dibranchiata*	Annelida	Polychaeta	Phyllodocida	Glyceridae	*Glycera*		*dibranchiata*		WoRMS (2017). Glycera dibranchiata Ehlers 1868. In: Read
Golfingia sp.	34	136021	154597	accepted	136021	*Golfingia*	Sipuncula	Sipunculidea	Golfingiida	Golfingiidae	*Golfingia*				Saiz-Salinas J. (2009). Golfingia. In: Saiz J. (2017). World
Goniada maculata	32	130140	66140	accepted	130140	*Goniada maculata*	Annelida	Polychaeta	Phyllodocida	Goniadidae	*Goniada*		*maculata*		Bellan G. (2008). Goniada maculata Ã–rsted 1843. In: Read
Goniadella gracilis	1	130145	66148	accepted	130145	*Goniadella gracilis*	Annelida	Polychaeta	Phyllodocida	Goniadidae	*Goniadella*		*gracilis*		Bellan G. (2008). Goniadella gracilis (Verrill 1873). In: Read
Harmothoe extenuata	1	130762	64509	accepted	130762	*Harmothoe extenuata*	Annelida	Polychaeta	Phyllodocida	Polynoidae	*Harmothoe*		*extenuata*		Fauchald K.; Bellan G. (2008). Harmothoe extenuata. In: Read G.;
Harmothoe imbricata	2	130769	64513	accepted	130769	*Harmothoe imbricata*	Annelida	Polychaeta	Phyllodocida	Polynoidae	*Harmothoe*		*imbricata*		Fauchald K.; Bellan G. (2008). Harmothoe imbricata. In: Read G.;
Harpinia propinqua	11	102974	94650	accepted	102974	*Harpinia propinqua*	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	*Harpinia*		*propinqua*		D. (2017). Harpinia propinqua Sars 1891. In: Horton T.; Lowry
Heteranomia squamula	2	138749	205563	accepted	138749	*Heteranomia squamula*	Mollusca	Bivalvia	Pectinida	Anomiidae	*Heteranomia*		*squamula*		Gofas S. (2004). Heteranomia squamula. In: MolluscaBase
Heteromastus spp.	1	129214	67419	accepted	129214	*Heteromastus*	Annelida	Polychaeta		Capitellidae	*Heteromastus*				Bellan G. (2008). Heteromastus Eisig 1887. In: Read G.; Fauchald
Hiatella arctica	4	140103	81765	accepted	140103	*Hiatella arctica*	Mollusca	Bivalvia	Adapedonta	Hiatellidae	*Hiatella*		*arctica*		Marshall B.; Gofas S. (2015). Hiatella arctica. In: MolluscaBase
Hobsonia florida	1	333624	67755	accepted	333624	*Hobsonia florida*	Annelida	Polychaeta	Terebellida	Ampharetidae	*Hobsonia*		*florida*		WoRMS (2008). Hobsonia florida (Hartman 1951). In: Read G.;
Lacuna vincta	1	140170	70381	accepted	140170	*Lacuna vincta*	Mollusca	Gastropoda	Littorinimorpha	Littorinidae	*Lacuna*		*vincta*		Gofas S. (2004). Lacuna vincta. In: MolluscaBase (2017).
Leitoscoloplos fragilis	10	157447	66656	accepted	157447	*Leitoscoloplos fragilis*	Annelida	Polychaeta		Orbiniidae	*Leitoscoloplos*		*fragilis*		Read G. (2010). Leitoscoloplos fragilis (Verrill 1873). In: Read
Lepidonotus squamatus	6	130801	64604	accepted	130801	*Lepidonotus squamatus*	Annelida	Polychaeta	Phyllodocida	Polynoidae	*Lepidonotus*		*squamatus*		Fauchald K.; Bellan G. (2008). Lepidonotus squamatus. In: Read
Leptocheirus pinguis	20	158112	93487	accepted	158112	*Leptocheirus pinguis*	Arthropoda	Malacostraca	Amphipoda	Corophiidae	*Leptocheirus*		*pinguis*		T.; Lowry J.; De Broyer C.; Bellan-Santini D.; Coleman C. O.;

Species	Total Count	Aphia ID	TSN	Taxon status	Accepted Aphia ID	Accepted Scientific Name	Phylum	Class	Order	Family	Genus	Subgenus	Species	Subspecies	Citation
Leucon americanus	1	157825	90790	accepted	157825	*Leucon (Leucon) americanus*	Arthropoda	Malacostraca	Cumacea	Leuconidae	*Leucon*	*Leucon*	*americanus*		1943. In: Watling L.; Gerken S. (2017). World Cumacea database.
Levinsenia gracilis	4	130578	66729	accepted	130578	*Levinsenia gracilis*	Annelida	Polychaeta		Paraonidae	*Levinsenia*		*gracilis*		Bellan G. (2008). Levinsenia gracilis (Tauber 1879). In: Read
Lineus ruber	1	122536	57463	accepted	122536	*Lineus ruber*	Nemertea	Anopla		Lineidae	*Lineus*		*ruber*		Norenburg J.; Gibson R. (2018). Lineus ruber (MÃ¼ller 1774). In:
Lumbrinerides acuta	2	130228	66408	accepted	130228	*Lumbrinerides acuta*	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Lumbrinerides*		*acuta*		Bellan G. (2008). Lumbrinerides acuta (Verrill 1875). In: Read G.;
Lumbrineris acicularum	1	157467	182725	accepted	157467	*Lumbrineris acicularum*	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Lumbrineris*		*acicularum*		WoRMS (2008). Lumbrineris acicularum Webster & Benedict
Maera danae	1	158037	93795	accepted	158037	*Maera danae*	Arthropoda	Malacostraca	Amphipoda	Maeridae	*Maera*		*danae*		J. (2015). Maera danae (Stimpson 1853). In: Horton T.; Lowry J.; De
Maldane sarsi	32	130305	67536	accepted	130305	*Maldane sarsi*	Annelida	Polychaeta		Maldanidae	*Maldane*		*sarsi*		Bellan G. (2008). Maldane sarsi Malmgren 1865. In: Read G.;
Maldanidae	2	923	67515	accepted	923	*Maldanidae*	Annelida	Polychaeta		Maldanidae					Read G. (2010). Maldanidae Malmgren 1867. In: Read G.;
Marsenina ampla	1	160362	72726	accepted	160362	*Marsenina ampla*	Mollusca	Gastropoda	Littorinimorpha	Velutinidae	*Marsenina*		*ampla*		Rosenberg G. (2010). Marsenina ampla A. E. Verrill 1880. In:
Megayoldia thraciaeformis	65	141983	567874	accepted	141983	*Megayoldia thraciaeformis*	Mollusca	Bivalvia	Nuculanida	Yoldiidae	*Megayoldia*		*thraciaeformis*		Gofas S. (2017). Megayoldia thraciaeformis (Storer 1838). In:
Melinna cristata	2	129804	67763	accepted	129804	*Melinna cristata*	Annelida	Polychaeta	Terebellida	Ampharetidae	*Melinna*		*cristata*		Bellan G. (2008). Melinna cristata. In: Read G.; Fauchald K.
Mesodesma arctatum	3	156805	81004	accepted	156805	*Mesodesma arctatum*	Mollusca	Bivalvia		Mesodesmatidae	*Mesodesma*		*arctatum*		Rosenberg G. (2010). Mesodesma arctatum (Conrad 1831). In:
Modiolus modiolus	1	140467	79501	accepted	140467	*Modiolus modiolus*	Mollusca	Bivalvia	Mytilida	Mytilidae	*Modiolus*		*modiolus*		Gofas S. (2004). Modiolus modiolus. In: MolluscaBase
Musculus discors	1	140472	79475	accepted	140472	*Musculus discors*	Mollusca	Bivalvia	Mytilida	Mytilidae	*Musculus*		*discors*		Gofas S. (2004). Musculus discors. In: MolluscaBase (2017).
Mya arenaria	1	140430	81692	accepted	140430	*Mya arenaria*	Mollusca	Bivalvia	Myida	Myidae	*Mya*		*arenaria*		Gofas S. (2004). Mya arenaria. In: MolluscaBase (2017). Accessed
Mysida (?)	1	149668	89855	accepted	149668	*Mysida*	Arthropoda	Malacostraca	Mysida						J. & K. Meland (Eds) (2012 onwards). World List of
Mystides borealis	3	130653	65307	accepted	130653	*Mystides borealis*	Annelida	Polychaeta	Phyllodocida	Phyllodocidae	*Mystides*		*borealis*		Bellan G. (2008). Mystides borealis ThÃ©el 1879. In: Read
Mytilus edulis	6	140480	79454	accepted	140480	*Mytilus edulis*	Mollusca	Bivalvia	Mytilida	Mytilidae	*Mytilus*		*edulis*		Gofas S. (2004). Mytilus edulis. In: MolluscaBase (2017).
Myxicola infundibulum	1	130932	68125	accepted	130932	*Myxicola infundibulum*	Annelida	Polychaeta	Sabellida	Sabellidae	*Myxicola*		*infundibulum*		Bellan G. (2008). Myxicola infundibulum. In: Read G.;
Neanthes acuminata	15	157496	65899	accepted	157496	*Neanthes acuminata*	Annelida	Polychaeta	Phyllodocida	Nereididae	*Neanthes*		*acuminata*		Read G. (2016). Neanthes acuminata (Ehlers 1868). In: Read
Nephtys caeca	23	130355	66014	accepted	130355	*Nephtys caeca*	Annelida	Polychaeta	Phyllodocida	Nephtyidae	*Nephtys*		*caeca*		Bellan G. (2008). Nephtys caeca. In: Read G.; Fauchald K. (Ed.)
Nephtys incisa	14	130362	66028	accepted	130362	*Nephtys incisa*	Annelida	Polychaeta	Phyllodocida	Nephtyidae	*Nephtys*		*incisa*		Bellan G. (2008). Nephtys incisa. In: Read G.; Fauchald K. (Ed.)
Nephtys picta	11	157501	66030	accepted	157501	*Nephtys picta*	Annelida	Polychaeta	Phyllodocida	Nephtyidae	*Nephtys*		*picta*		WoRMS (2008). Nephtys picta Ehlers 1868. In: Read G.;
Nephtys sp.	2	129370	66011	accepted	129370	*Nephtys*	Annelida	Polychaeta	Phyllodocida	Nephtyidae	*Nephtys*				Read G.; Bellan G. (2017). Nephtys. In: Read G.; Fauchald K.
Nereis grayi	6	157503	65916	accepted	157503	*Nereis grayi*	Annelida	Polychaeta	Phyllodocida	Nereididae	*Nereis*		*grayi*		Read G. (2010). Nereis grayi Pettibone 1956. In: Read G.;
Nereis pelagica	3	130404	65905	accepted	130404	*Nereis pelagica*	Annelida	Polychaeta	Phyllodocida	Nereididae	*Nereis*		*pelagica*		Bellan G. (2008). Nereis pelagica Linnaeus 1758. In: Read G.;
Nereis zonata	1	130407	65912	accepted	130407	*Nereis zonata*	Annelida	Polychaeta	Phyllodocida	Nereididae	*Nereis*		*zonata*		Bellan G. (2008). Nereis zonata. In: Read G.; Fauchald K. (Ed.)
Ninoe ?	1	129338	66401	accepted	129338	*Ninoe*	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Ninoe*				Read G.; Bellan G. (2016). Ninoe Kinberg 1865. In: Read G.;
Ninoe nigripes	216	130255	66405	accepted	130255	*Ninoe nigripes*	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Ninoe*		*nigripes*		Bellan G. (2008). Ninoe nigripes. In: Read G.; Fauchald K. (Ed.)
Notomastus spp.	5	129220	67423	accepted	129220	*Notomastus*	Annelida	Polychaeta		Capitellidae	*Notomastus*				Gil J.; Bellan G. (2017). Notomastus M. Sars 1851. In:

Species	Total Count	Aphia ID	TSN	Taxon status	Accepted Aphia ID	Accepted Scientific Name	Phylum	Class	Order	Family	Genus	Subgenus	Species	Subspecies	Citation
Nucula proxima	790	156916	79132	accepted	156916	*Nucula proxima*	Mollusca	Bivalvia	Nuculida	Nuculidae	*Nucula*		*proxima*		Rosenberg G. (2010). Nucula proxima. In: MolluscaBase
Nuculana tenuisulcata	42	156923	79203	accepted	156923	*Nuculana tenuisulcata*	Mollusca	Bivalvia	Nuculanida	Nuculanidae	*Nuculana*		*tenuisulcata*		Rosenberg G. (2010). Nuculana tenuisulcata. In: MolluscaBase
Ophelina acuminata	26	130500	67391	accepted	130500	*Ophelina acuminata*	Annelida	Polychaeta		Opheliidae	*Ophelina*		*acuminata*		Bellan G. (2008). Ophelina acuminata. In: Read G.; Fauchald
Ophiocten affinis	5	124850		accepted	124850	*Ophiocten affinis*	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	*Ophiocten*		*affinis*		StÃ¶hr S.; Hansson
Ophiura robusta	149	124933	157425	accepted	124933	*Ophiura robusta*	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	*Ophiura*		*robusta*		StÃ¶hr S.; Hansson
Ophiura robusta	1	124933	157425	accepted	124933	*Ophiura robusta*	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	*Ophiura*		*robusta*		StÃ¶hr S.; Hansson
Ophiura sarsii	17	124934	157424	accepted	124934	*Ophiura sarsii*	Echinodermata	Ophiuroidea	Ophiurida	Ophiuridae	*Ophiura*		*sarsii*		StÃ¶hr S.; Hansson
Orbinia ornata	4	157514	66621	unaccepted	334519	*Phylo ornatus*	Annelida	Polychaeta		Orbiniidae	*Orbinia*		*ornata*		Read G. (2010). Orbinia ornata (Verrill 1873). In: Read G.;
Orbinia sp.	4	129420	66618	accepted	129420	*Orbinia*	Annelida	Polychaeta		Orbiniidae	*Orbinia*				Read G.; Bellan G. (2016). Orbinia Quatrefages 1866. In:
Orbiniidae	8	902	66570	accepted	902	*Orbiniidae*	Annelida	Polychaeta		Orbiniidae					Read G. (2017). Orbiniidae Hartman 1942. In: Read G.;
Owenia fusiformis	3	130544	67647	accepted	130544	*Owenia fusiformis*	Annelida	Polychaeta	Sabellida	Oweniidae	*Owenia*		*fusiformis*		Bellan G. (2008). Owenia fusiformis. In: Read G.; Fauchald
Pachycerianthus borealis	18	283816		accepted	283816	*Pachycerianthus borealis*	Cnidaria	Anthozoa	Spirularia	Cerianthidae	*Pachycerianthus*		*borealis*		Molodtsova T. (2011). Pachycerianthus borealis (Verrill
Paraninoe brevipes	2	130256		accepted	130256	*Paraninoe brevipes*	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Paraninoe*		*brevipes*		Bellan G. (2004). Paraninoe brevipes (McIntosh 1903). In:
Paraonidae	14	903	66659	accepted	903	*Paraonidae*	Annelida	Polychaeta		Paraonidae					Read G. (2010). Paraonidae. In: Read G.; Fauchald K. (Ed.)
Pardalisca c.f.	2	101710	94607	accepted	101710	*Pardalisca*	Arthropoda	Malacostraca	Amphipoda	Pardaliscidae	*Pardalisca*				M.; Bellan-Santini D. (2010). Pardalisca. In: Horton T.; Lowry
Parvicardium pinnulatum	164	181343		accepted	181343	*Parvicardium pinnulatum*	Mollusca	Bivalvia	Cardiida	Cardiidae	*Parvicardium*		*pinnulatum*		ter Poorten J.; Gofas S. (2014). Parvicardium pinnulatum. In:
Petalosarsia declivis	1	110593	90928	accepted	110593	*Petalosarsia declivis*	Arthropoda	Malacostraca	Cumacea	Pseudocumatidae	*Petalosarsia*		*declivis*		L.; Gerken S. (2017). World Cumacea database. Accessed
Phascolion sp.	25	136025	154733	accepted	136025	*Phascolion*	Sipuncula	Sipunculidea	Golfingiida	Phascolionidae	*Phascolion*				Saiz-Salinas J. (2013). Phascolion ThÃ©el 1875. In: Saiz J. (2017).
Phascolion strombus strombus	1	416714	773124	ate represen	410749	*Phascolion (Phascolion) strombus strombus*	Sipuncula	Sipunculidea	Golfingiida	Phascolionidae	*Phascolion*		*strombus*	strombus	WoRMS (2017). Phascolion strombus strombus (Montagu
Pherusa affinis	17	157526	67247	accepted	157526	*Pherusa affinis*	Annelida	Polychaeta	Terebellida	Flabelligeridae	*Pherusa*		*affinis*		Read G. (2016). Pherusa affinis. In: Read G.; Fauchald K. (Ed.)
Pholoe minuta	4	130603	65074	accepted	130603	*Pholoe minuta*	Annelida	Polychaeta	Phyllodocida	Pholoidae	*Pholoe*		*minuta*		Fauchald K.; Bellan G. (2008). Pholoe minuta. In: Read G.;
Phoxocephalus holbolli	3	102989	94677	accepted	102989	*Phoxocephalus holbolli*	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	*Phoxocephalus*		*holbolli*		D. (2004). Phoxocephalus holbolli. In: Horton T.; Lowry J.;
Phyllodocidae	1	931	65228	accepted	931	*Phyllodocidae*	Annelida	Polychaeta	Phyllodocida	Phyllodocidae					WoRMS (2008). Phyllodocidae. In: Read G.; Fauchald K. (Ed.)
Pitar morrhuanus	3	156963	81501	accepted	156963	*Pitar morrhuanus*	Mollusca	Bivalvia	Venerida	Veneridae	*Pitar*		*morrhuanus*		Rosenberg G. (2017). Pitar morrhuanus (Dall 1902). In:
Politolana polita	14	157903	92280	accepted	157903	*Politolana polita*	Arthropoda	Malacostraca	Isopoda	Cirolanidae	*Politolana*		*polita*		M. (2008). Politolana polita (Stimpson 1853). In: Boyko C.B;
Polycirrus medusa	1	131531	67961	accepted	131531	*Polycirrus medusa*	Annelida	Polychaeta	Terebellida	Terebellidae	*Polycirrus*		*medusa*		Bellan G. (2008). Polycirrus medusa Grube 1850. In: Read G.;
Polycirrus sp.	2	129710	67959	accepted	129710	*Polycirrus*	Annelida	Polychaeta	Terebellida	Terebellidae	*Polycirrus*				Read G.; Bellan G. (2017). Polycirrus. In: Read G.; Fauchald
Polydora sp.	193	129619	0	accepted	129619	*Polydora*	Annelida	Polychaeta	Spionida	Spionidae	*Polydora*				Gil J.; Bellan G. (2016). Polydora. In: Read G.; Fauchald K. (Ed.)
Polydora websteri	5	153847	66802	accepted	153847	*Polydora websteri*	Annelida	Polychaeta	Spionida	Spionidae	*Polydora*		*websteri*		WoRMS (2008). Polydora websteri Hartman in Loosanoff &
Polynoidae fragment	1	939	64397	accepted	939	*Polynoidae*	Annelida	Polychaeta	Phyllodocida	Polynoidae					Read G.; Fauchald K. (2017). Polynoidae Kinberg 1856. In:

Species	Total Count	Aphia ID	TSN	Taxon status	Accepted Aphia ID	Accepted Scientific Name	Phylum	Class	Order	Family	Genus	Subgenus	Species	Subspecies	Citation
Polyphysia crassa	4	130977	67321	accepted	130977	*Polyphysia crassa*	Annelida	Polychaeta		Scalibregmatidae	*Polyphysia*		*crassa*		Bellan G. (2008). Polyphysia crassa. In: Read G.; Fauchald K.
Praxillella praetermissa		130326	67570	accepted	130326	*Praxillella praetermissa*	Annelida	Polychaeta		Maldanidae	*Praxillella*		*praetermissa*		Bellan G. (2008). Praxillella praetermissa. In: Read G.;
Prionospio sp.	12	129620	66838	accepted	129620	*Prionospio*	Annelida	Polychaeta	Spionida	Spionidae	*Prionospio*				Gil J.; Read G.; Bellan G. (2016). Prionospio. In: Read G.; Fauchald
Psammonyx nobilis	2	158140	94455	accepted	158140	*Psammonyx nobilis*	Arthropoda	Malacostraca	Amphipoda	Lysianassidae	*Psammonyx*		*nobilis*		J. (2017). Psammonyx nobilis (Stimpson 1853). In: Horton T.;
Pseudoleptocuma minus	23	157836	573797	accepted	157836	*Pseudoleptocuma minus*	Arthropoda	Malacostraca	Cumacea	Bodotriidae	*Pseudoleptocuma*		*minus*		1912). In: Watling L.; Gerken S. (2017). World Cumacea database.
Pseudopotamilla reniformis	6	130963	68137	accepted	130963	*Pseudopotamilla reniformis*	Annelida	Polychaeta	Sabellida	Sabellidae	*Pseudopotamilla*		*reniformis*		Read G.; Bellan G. (2012). Pseudopotamilla reniformis
Pusillina harpa	1	160039	182739	accepted	160039	*Pusillina harpa*	Mollusca	Gastropoda	Littorinimorpha	Rissoidae	*Pusillina*		*harpa*		Rosenberg G. (2010). Pusillina harpa. In: MolluscaBase (2017).
Rhepoxynius epistomus	15	158146	94728	accepted	158146	*Rhepoxynius epistomus*	Arthropoda	Malacostraca	Amphipoda	Phoxocephalidae	*Rhepoxynius*		*epistomus*		1938). In: Horton T.; Lowry J.; De Broyer C.; Bellan-Santini D.;
Sabellaria vulgaris	1	157555	67671	accepted	157555	*Sabellaria vulgaris*	Annelida	Polychaeta		Sabellariidae	*Sabellaria*		*vulgaris*		WoRMS (2008). Sabellaria vulgaris Verrill 1873. In: Read G.;
Scalibregma inflatum	148	130980	67313	accepted	130980	*Scalibregma inflatum*	Annelida	Polychaeta		Scalibregmatidae	*Scalibregma*		*inflatum*		Bellan G. (2008). Scalibregma inflatum. In: Read G.; Fauchald K.
Scalibregmatidae	1	925	67311	accepted	925	*Scalibregmatidae*	Annelida	Polychaeta		Scalibregmatidae					Read G. (2010). Scalibregmatidae. In: Read G.; Fauchald K. (Ed.)
Scoletoma tenuis	1	382375		accepted	382375	*Scoletoma tenuis*	Annelida	Polychaeta	Eunicida	Lumbrineridae	*Scoletoma*		*tenuis*		Read G. (2010). Scoletoma tenuis (Verrill 1873). In: Read G.;
Semibalanus balanoides	270	106210	89687	accepted	106210	*Semibalanus balanoides*	Arthropoda	Hexanauplia	Sessilia	Archaeobalanidae	*Semibalanus*		*balanoides*		A. (2017). Semibalanus balanoides (Linnaeus 1767).
Spio setosa	1	157573	66868	accepted	157573	*Spio setosa*	Annelida	Polychaeta	Spionida	Spionidae	*Spio*		*setosa*		WoRMS (2008). Spio setosa Verrill 1873. In: Read G.;
Spio sp.	19	129625	66864	accepted	129625	*Spio*	Annelida	Polychaeta	Spionida	Spionidae	*Spio*				Gil J.; Bellan G. (2016). Spio. In: Read G.; Fauchald K. (Ed.)
Spiochaetopterus costarum oculatus	1	335843	67108	accepted	335843	*Spiochaetopterus costarum oculatus*	Annelida	Polychaeta		Chaetopteridae	*Spiochaetopterus*		*costarum*	*oculatus*	WoRMS (2008). Spiochaetopterus costarum oculatus Webster 1879.
Spionidae	1	913	66781	accepted	913	*Spionidae*	Annelida	Polychaeta	Spionida	Spionidae					WoRMS (2017). Spionidae Grube 1850. In: Read G.; Fauchald K.
Spionidae sp 1	3	913	66781	accepted	913	*Spionidae*	Annelida	Polychaeta	Spionida	Spionidae					WoRMS (2017). Spionidae Grube 1850. In: Read G.; Fauchald K.
Spisula solidissima	1	156996	80944	accepted	156996	*Spisula solidissima*	Mollusca	Bivalvia		Mactridae	*Spisula*		*solidissima*		Huber M.; Rosenberg G. (2010). Spisula solidissima (Dillwyn
Sternaspis scutata	73	131242	67411	accepted	131242	*Sternaspis scutata*	Annelida	Polychaeta	Terebellida	Sternaspidae	*Sternaspis*		*scutata*		Read G.; Bellan G. (2017). Sternaspis scutata (Ranzani 1817).
Sthenelais boa	1	131074	65084	accepted	131074	*Sthenelais boa*	Annelida	Polychaeta	Phyllodocida	Sigalionidae	*Sthenelais*		*boa*		Fauchald K.; Bellan G. (2017). Sthenelais boa (Johnston 1833).
Strongylocentrotus droebachiensis	1	124321	157969	accepted	124321	*Strongylocentrotus droebachiensis*	Echinodermata	Echinoidea	Camarodonta	Strongylocentrotidae	*Strongylocentrotus*		*droebachiensis*		Kroh A.; Hansson H. (2012). Strongylocentrotus droebachiensis
Terebellides stroemii	34	131573	68069	accepted	131573	*Terebellides stroemii*	Annelida	Polychaeta	Terebellida	Trichobranchidae	*Terebellides*		*stroemii*		Bellan G. (2008). Terebellides stroemii. In: Read G.; Fauchald K.
Testudinalia testudinalis	1	234208		accepted	234208	*Testudinalia testudinalis*	Mollusca	Gastropoda		Lottiidae	*Testudinalia*		*testudinalis*		Rosenberg G.; Gofas S. (2010). Testudinalia testudinalis. In:
Thelepus cincinnatus	42	131543	67982	accepted	131543	*Thelepus cincinnatus*	Annelida	Polychaeta	Terebellida	Terebellidae	*Thelepus*		*cincinnatus*		Bellan G. (2008). Thelepus cincinnatus. In: Read G.; Fauchald
Thracia myopsis	265	141648	81964	accepted	141648	*Thracia myopsis*	Mollusca	Bivalvia		Thraciidae	*Thracia*		*myopsis*		Rosenberg G.; Huber M.; Gofas S. (2010). Thracia myopsis. In:
Thyasira flexuosa	5	141662	80512	accepted	141662	*Thyasira flexuosa*	Mollusca	Bivalvia	Lucinida	Thyasiridae	*Thyasira*		*flexuosa*		Gofas S. (2004). Thyasira flexuosa. In: MolluscaBase
Thyasira gouldi	13	141663	80548	accepted	141663	*Thyasira gouldi*	Mollusca	Bivalvia	Lucinida	Thyasiridae	*Thyasira*		*gouldi*		Gofas S. (2017). Thyasira gouldi (Philippi 1845). In: MolluscaBase
Thyasira sp.	263	138552	80508	accepted	138552	*Thyasira*	Mollusca	Bivalvia	Lucinida	Thyasiridae	*Thyasira*				Bouchet P.; Rosenberg G.; Gofas S. (2015). Thyasira. In:
Thyasira spp.	29	138552	80508	accepted	138552	*Thyasira*	Mollusca	Bivalvia	Lucinida	Thyasiridae	*Thyasira*				Bouchet P.; Rosenberg G.; Gofas S. (2015). Thyasira. In:

Species	Total Count	Aphia ID	TSN	Taxon status	Accepted Aphia ID	Accepted Scientific Name	Phylum	Class	Order	Family	Genus	Subgenus	Species	Subspecies	Citation
Thyasira trisinuata	21	156674	80525	accepted	156674	*Thyasira trisinuata*	Mollusca	Bivalvia	Lucinida	Thyasiridae	*Thyasira*		*trisinuata*		Sartori AndrÃ© F.; Rosenberg G. (2016). Thyasira trisinuata
Unciola irrorata	256	158156	93632	accepted	158156	*Unciola irrorata*	Arthropoda	Malacostraca	Amphipoda	Unciolidae	*Unciola*		*irrorata*		1818. In: Horton T.; Lowry J.; De Broyer C.; Bellan-Santini D.;
Unciolidae	1	248352		accepted	248352	*Unciolidae*	Arthropoda	Malacostraca	Amphipoda	Unciolidae					J.; De Broyer C. (2013). Unciolidae Myers & Lowry 2003.
Yoldia limatula	1	157005	79273	accepted	157005	*Yoldia limatula*	Mollusca	Bivalvia	Nuculanida	Yoldiidae	*Yoldia*		*limatula*		Rosenberg G. (2010). Yoldia limatula (Say 1831). In:
Yoldia sapotilla	245	157007	79274	accepted	157007	*Yoldia sapotilla*	Mollusca	Bivalvia	Nuculanida	Yoldiidae	*Yoldia*		*sapotilla*		Rosenberg G. (2010). Yoldia sapotilla (Gould 1841). In:

Appendix E. CMECS water column component classifications listed for MCMI sites sampled 2015-2017. All classifications are for the lower water column layer. Depth (m) values are reported for the MBES MLLW referenced bathymetric data and for non-vertically-referenced measurements made *in situ* (Depth_m). The water column (WC) CMECS code is listed for each site along with designations of site salinity and temperature regimes. Measurements of seafloor conditions are listed for sites where they were measured, including the parameters temperature (°C), salinity, pH, and concentrations of dissolved oxygen (mg L^{-1}) and chlorophyll (µg L^{-1}). Water column measurements collected at sites M0001-M0030 were collected with a Digibar S sound speed probe, and an Exo 1 water quality sonde was used to measure water column data at sites M0031-M0197.

Site_ID	Date	Time_local	Lat_Dec	Lon_Dec	MLLW_m	Depth_m	BS_ecoreg	BS_code	WClayer	WCSal	WCTemp	WCcode	Temp	Sal	pH	DO	CHL
M0001	5/4/2015	8:13	43.7668	-69.7103	-26.4	27.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Very Cold	W24.t2.s5	4.90	31.9	-	-	-
M0002	5/4/2015	8:57	43.7503	-69.7058	-38.4	40.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Very Cold	W24.t2.s5	3.89	31.0	-	-	-
M0003	5/6/2015	7:48	43.7375	-69.7045	-40.0	38.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Very Cold	W24.t2.s5	3.77	31.8	-	-	-
M0004	5/6/2015	8:57	43.7222	-69.7032	-52.1	53.3	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Very Cold	W24.t2.s5	3.34	33.2	-	-	-
M0005	5/6/2015	9:55	43.7117	-69.6990	-50.0	51.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Very Cold	W24.t2.s5	3.49	32.9	-	-	-
M0006	5/6/2015	10:35	43.6918	-69.6953	-56.6	59.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Very Cold	W24.t2.s5	3.47	33.5	-	-	-
M0007	5/6/2015	11:50	43.6818	-69.6942	-66.4	72.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Very Cold	W24.t2.s5	3.34	32.3	-	-	-
M0008	5/6/2015	12:52	43.6703	-69.6892	-66.0	70.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Very Cold	W24.t2.s5	3.59	33.3	-	-	-
M0009	6/15/2015	10:33	43.7163	-69.6555	-73.4	77.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	5.21	31.2	-	-	-
M0010	6/15/2015	11:15	43.7103	-69.6732	-68.8	72.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Very Cold	W24.t2.s5	4.22	31.1	-	-	-
M0011	6/25/2015	6:55	43.7353	-69.7347	-22.7	25.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Upper Polyhaline	Cold	W24.t3.s4	9.19	29.8	-	-	-
M0012	6/25/2015	7:45	43.7068	-69.7252	-46.4	48.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	6.95	30.4	-	-	-
M0013	6/25/2015	8:19	43.6977	-69.7158	-59.6	58.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	6.36	30.3	-	-	-
M0014	6/25/2015	8:42	43.6923	-69.7350	-49.1	51.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Upper Polyhaline	Cold	W24.t3.s4	7.06	29.0	-	-	-
M0015	6/25/2015	9:14	43.6733	-69.7418	-47.6	50.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Upper Polyhaline	Cold	W24.t3.s4	7.18	29.5	-	-	-
M0016	6/25/2015	9:43	43.6617	-69.7385	-62.6	64.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Upper Polyhaline	Cold	W24.t3.s4	6.29	29.9	-	-	-
M0017	7/22/2015	8:18	43.6458	-69.6827	-64.5	60.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Upper Polyhaline	Cold	W24.t3.s4	8.12	28.9	-	-	-
M0018	7/22/2015	9:12	43.6589	-69.6844	-79.3	80.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	7.09	31.2	-	-	-
M0019	7/22/2015	10:05	43.6704	-69.6825	-68.5	68.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Upper Polyhaline	Cold	W24.t3.s4	6.84	29.6	-	-	-
M0020	7/22/2015	10:39	43.7184	-69.6873	-57.4	58.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Upper Polyhaline	Cold	W24.t3.s4	7.82	28.9	-	-	-
M0021	7/22/2015	11:38	43.7270	-69.7049	-44.8	45.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Lower Polyhaline	Cool	W24.t4.s3	10.04	24.0	-	-	-
M0022	7/22/2015	11:57	43.7316	-69.6828	-55.3	57.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Upper Polyhaline	Cold	W24.t3.s4	8.41	27.6	-	-	-
M0023	7/22/2015	12:23	43.7431	-69.6800	-43.0	44.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Lower Polyhaline	Cold	W24.t3.s3	9.99	23.6	-	-	-
M0024	7/29/2015	7:55	43.6460	-69.6800	-74.3	75.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	6.95	31.3	-	-	-
M0025	7/29/2015	8:50	43.6498	-69.6712	-60.2	63.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	7.61	30.0	-	-	-
M0026	7/29/2015	9:12	43.6544	-69.6660	-76.7	75.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	7.02	31.0	-	-	-
M0027	7/29/2015	9:50	43.6643	-69.6687	-69.9	70.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	7.32	30.5	-	-	-
M0028	7/29/2015	10:24	43.6662	-69.6795	-68.6	72.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	7.43	30.5	-	-	-
M0029	7/29/2015	11:01	43.6650	-69.7025	-59.6	64.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Upper Polyhaline	Cold	W24.t3.s4	7.84	29.8	-	-	-
M0030	7/29/2015	11:35	43.6630	-69.7153	-72.4	66.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Upper Polyhaline	Cold	W24.t3.s4	7.55	29.7	-	-	-
M0031	8/13/2015	7:04	43.7106	-69.7398	-32.9	33.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.88	32.1	7.8	8.5	0.32
M0032	8/13/2015	7:40	43.7221	-69.7283	-34.0	35.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.42	32.2	7.9	8.4	0.00
M0033	8/13/2015	7:55	43.7232	-69.7258	-34.8	36.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.40	32.2	7.9	8.5	0.22
M0034	8/13/2015	8:24	43.7238	-69.7238	-35.2	37.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.40	32.2	7.9	8.5	0.17
M0035	8/13/2015	8:43	43.7208	-69.7265	-35.5	37.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.35	32.2	7.9	8.4	0.28
M0036	8/19/2015	7:20	43.6469	-69.7655	-56.8	58.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.49	32.6	7.8	8.1	0.00
M0037	8/19/2015	7:45	43.6497	-69.7654	-50.6	51.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.70	32.6	7.9	8.7	0.00
M0038	8/19/2015	8:20	43.6520	-69.7669	-46.3	46.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.92	32.5	7.9	8.4	0.00
M0039	8/19/2015	8:45	43.6512	-69.7528	-61.8	62.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.05	32.7	7.8	8.0	0.05
M0040	8/19/2015	9:29	43.6530	-69.7488	-63.2	64.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.03	32.6	7.8	8.1	0.00
M0041	8/19/2015	9:59	43.6568	-69.7453	-61.5	62.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.00	32.6	7.8	8.1	0.00
M0042	9/10/2015	10:58	43.6524	-69.7726	-35.0	36.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.74	32.5	7.9	7.6	0.26
M0043	9/10/2015	11:19	43.6686	-69.7430	-49.3	52.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.03	32.8	7.9	7.3	0.21
M0044	9/10/2015	11:49	43.6765	-69.7258	-59.5	61.3	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.78	32.8	7.9	7.2	0.17
M0045	9/10/2015	12:19	43.6818	-69.7145	-70.2	72.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.52	32.8	7.8	7.0	0.10
M0046	9/10/2015	13:05	43.6860	-69.7042	-70.5	72.0	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.52	32.8	7.8	7.0	0.15
M0047	9/16/2015	6:26	43.7052	-69.7372	-37.7	37.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.95	32.5	7.9	7.9	0.13
M0048	9/16/2015	7:02	43.6985	-69.6893	-68.8	68.9	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.89	32.8	7.9	7.1	0.28
M0049	9/16/2015	7:37	43.7032	-69.6796	-69.5	69.9	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.88	32.8	7.9	7.0	1.31
M0050	9/16/2015	8:02	43.7075	-69.6837	-68.6	69	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.83	32.8	7.9	6.9	0.29
M0051	9/16/2015	8:37	43.7048	-69.6702	-60.3	60.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.06	32.7	7.9	7.2	0.00
M0052	9/16/2015	9:06	43.7150	-69.6791	-34.8	35	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	11.20	32.6	8.0	8.1	0.04
M0053	9/16/2015	9:20	43.7231	-69.6623	-68.3	69	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.63	32.8	7.9	6.9	0.11

Site_ID	Date	Time_local	Lat_Dec	Lon_Dec	MLLW_m	Depth_m	BS_ecoreg	BS_code	WClayer	WCSal	WCTemp	WCcode	Temp	Sal	pH	DO	CHL
M0054	9/16/2015	9:56	43.7224	-69.6854	-40.7	41.3	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.04	32.5	7.9	7.7	0.04
M0055	9/16/2015	10:15	43.7189	-69.7119	-44.9	46.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.24	32.7	7.9	7.3	0.00
M0056	9/16/2015	10:38	43.7172	-69.7221	-40.0	41.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.17	32.7	7.9	7.8	0.06
M0057	9/16/2015	10:53	43.7244	-69.7156	-39.4	40.9	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.78	32.6	7.9	7.5	0.17
M0058	9/16/2015	11:40	43.7272	-69.6894	-54.7	53.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.98	32.7	7.9	7.1	0.00
M0059	9/16/2015	11:53	43.7362	-69.6655	-62.3	64.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.83	32.7	7.9	6.9	0.38
M0060	9/16/2015	12:17	43.7414	-69.6913	-58.7	61.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.98	32.7	7.9	6.9	0.00
M0061	9/16/2015	12:43	43.7477	-69.6567	-58.5	61.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.75	32.7	7.9	6.8	0.11
M0062	11/4/2015	8:45	43.5838	-69.6857	-133.0	144	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.00	35.3	7.8	6.8	0.00
M0063	11/4/2015	9:17	43.6018	-69.6783	-146.3	146.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.20	35.3	7.8	6.8	0.00
M0064	11/4/2015	9:41	43.6189	-69.6716	-148.9	154	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.17	35.3	7.8	6.8	0.00
M0065	11/4/2015	10:09	43.6460	-69.6720	-64.4	63.3	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.09	35.1	7.8	7.1	0.00
M0066	11/4/2015	10:27	43.6610	-69.6643	-85.7	86.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.67	35.1	7.8	6.9	0.00
M0067	11/4/2015	10:44	43.6490	-69.6550	-91.8	92.4	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.40	35.2	7.8	6.9	0.33
M0068	11/4/2015	11:01	43.6441	-69.6968	-74.8	74.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.85	35.1	7.8	6.9	0.00
M0069	11/4/2015	11:15	43.6422	-69.7188	-65.5	64.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.92	35.1	7.8	7.0	0.00
M0070	11/4/2015	11:32	43.6396	-69.7411	-78.5	79.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.63	35.1	7.8	6.9	0.00
M0071	11/4/2015	11:43	43.6385	-69.7524	-79.2	79.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.74	35.1	7.8	6.8	0.00
M0072	11/4/2015	11:59	43.6385	-69.7781	-46.1	48	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.39	34.9	7.8	7.3	0.00
M0073	8/24/2016	7:45	43.6459	-69.8947	-31.5	32.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	11.10	32.6	7.9	8.4	0.40
M0074	8/24/2016	8:01	43.6371	-69.8877	-30.3	30.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	11.60	32.6	8.0	8.4	0.80
M0075	8/24/2016	8:14	43.6198	-69.8659	-72.3	72.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.90	32.8	7.9	7.8	0.00
M0076	8/24/2016	9:02	43.6178	-69.8532	-71.8	71.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.80	32.8	7.8	7.6	0.04
M0077	8/24/2016	9:40	43.6309	-69.8545	-62.5	62.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.10	32.8	7.9	7.7	0.00
M0078	8/24/2016	10:22	43.6291	-69.8639	-63.9	63.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	10.00	32.8	7.8	7.7	0.00
M0079	8/24/2016	11:06	43.6340	-69.8591	-58.9	58.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	10.00	32.8	7.9	7.7	0.00
M0080	8/24/2016	11:14	43.6356	-69.8507	-59.5	60	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.10	32.8	7.8	7.7	0.00
M0081	8/24/2016	12:18	43.6406	-69.8468	-52.8	53.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.10	32.8	7.8	7.7	0.00
M0082	8/24/2016	13:12	43.6391	-69.8546	-52.8	54.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.10	32.8	7.8	7.7	0.00
M0083	9/12/2016	7:21	43.6293	-69.8319	-39.3	41	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	11.30	32.6	7.8	7.4	0.00
M0084	9/12/2016	7:33	43.6319	-69.8092	-44.9	45.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.30	32.8	7.9	7.3	0.00
M0085	9/12/2016	7:50	43.6524	-69.7922	-38.8	40.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	11.60	32.6	8.0	7.8	0.37
M0086	9/12/2016	8:15	43.6648	-69.7753	-13.5	14.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W20.t3.s5	9.02	32.2	8.1	9.0	9.06
M0087	9/12/2016	8:38	43.6603	-69.8224	-19.2	21	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	14.50	32.2	8.1	8.7	5.58
M0088	9/12/2016	8:53	43.6867	-69.8319	-29.7	31.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	12.00	32.5	8.0	7.2	0.65
M0089	9/12/2016	9:35	43.6947	-69.8193	-10.1	11.4	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Moderate	W20.t5.s5	15.70	32.1	8.1	8.9	5.82
M0090	9/12/2016	9:59	43.6896	-69.8044	-28.0	29.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	12.80	32.5	8.0	7.2	2.30
M0091	9/12/2016	10:29	43.6898	-69.7540	-28.3	27.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	12.30	32.6	8.0	7.9	1.86
M0092	9/12/2016	10:45	43.6670	-69.7120	-68.2	68.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.40	33.0	7.8	7.0	0.00
M0093	9/12/2016	11:22	43.6708	-69.7053	-62.5	67.4	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.50	32.9	7.8	7.1	0.00
M0094	9/12/2016	11:39	43.6884	-69.7180	-50.4	50.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.40	32.8	7.9	7.1	0.00
M0095	9/20/2016	7:29	43.6862	-69.8148	-29.1	28.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	11.92	32.6	7.7	7.0	0.26
M0096	9/20/2016	7:52	43.6634	-69.8321	-21.4	20.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	12.59	32.5	8.0	7.7	0.96
M0097	9/20/2016	8:26	43.6917	-69.8269	-26.9	26	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	11.90	32.6	7.9	6.7	0.69
M0098	9/20/2016	8:47	43.6995	-69.8021	-23.5	23.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	12.79	32.6	7.9	7.3	0.67
M0099	9/20/2016	9:10	43.6949	-69.7900	-28.5	28.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	12.50	32.6	7.9	7.3	0.56
M0100	9/20/2016	9:34	43.6970	-69.7540	-19.4	19.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	14.03	32.3	8.0	8.1	2.46
M0101	9/20/2016	9:50	43.6908	-69.7669	-28.6	28.9	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	12.66	32.7	8.0	7.3	0.79
M0102	9/20/2016	10:10	43.7135	-69.7895	-19.2	19.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	13.61	32.3	8.0	7.7	1.97
M0103	9/20/2016	10:50	43.7152	-69.7927	-16.9	17.9	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	14.16	32.2	7.9	7.7	3.26
M0104	9/20/2016	11:15	43.7191	-69.7862	-15.2	16.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	13.92	32.2	7.9	7.7	2.88
M0105	9/20/2016	11:25	43.7190	-69.7765	-13.0	14.3	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	13.49	32.3	7.9	7.4	3.22
M0106	9/20/2016	11:40	43.7166	-69.7798	-15.1	16.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	13.68	32.4	8.0	8.5	2.39
M0107	9/20/2016	11:59	43.7150	-69.7805	-15.3	17.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	13.51	32.6	8.0	8.3	1.12
M0108	9/20/2016	12:28	43.7316	-69.7145	-12.9	15.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	13.46	32.7	8.0	8.5	1.18
M0109	9/20/2016	12:40	43.7468	-69.7242	-24.0	26.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W20.t4.s5	13.43	32.6	8.0	8.3	1.10
M0110	9/20/2016	13:03	43.7490	-69.7119	-27.4	30.4	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	13.35	32.6	8.0	8.2	1.15

Site_ID	Date	Time_local	Lat_Dec	Lon_Dec	MLLW_m	Depth_m	BS_ecoreg	BS_code	WClayer	WCSal	WCTemp	WCcode	Temp	Sal	pH	DO	CHL
M0111	9/20/2016	13:29	43.7605	-69.6697	-18.7	20.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W20.t4.s5	13.71	32.6	8.0	8.4	2.02
M0112	9/26/2016	6:53	43.6851	-69.8322	-30.4	32.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W24.t4.s5	12.53	32.7	7.6	7.1	0.51
M0113	9/26/2016	7:22	43.6720	-69.8239	-27.1	29.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W20.t4.s5	12.56	32.7	7.9	7.2	0.42
M0114	10/5/2016	7:06	43.7287	-69.7351	-25.8	26	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W20.t4.s5	13.54	32.6	7.8	8.3	1.58
M0115	10/5/2016	7:34	43.6713	-69.7682	-35.4	35.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W24.t4.s5	12.69	33.0	7.9	8.4	1.72
M0116	10/5/2016	8:03	43.6504	-69.8624	-33.0	32.3	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W24.t4.s5	13.60	32.7	8.0	8.2	1.17
M0117	10/5/2016	8:26	43.6862	-69.9414	-44.5	44.4	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W24.t4.s5	12.78	32.6	7.9	7.0	1.60
M0118	10/5/2016	8:39	43.6803	-69.9347	-14.0	13.9	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W20.t4.s5	13.79	32.2	8.0	8.4	2.99
M0119	10/5/2016	8:52	43.6643	-69.9164	-30.1	30.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W24.t4.s5	13.49	32.7	8.0	8.2	1.69
M0120	10/5/2016	9:04	43.6842	-69.9075	-37.7	38.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W24.t4.s5	13.59	32.7	8.0	8.3	1.18
M0121	10/5/2016	9:22	43.6832	-69.8811	-13.8	13.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W20.t4.s5	13.76	32.5	8.0	8.6	1.82
M0122	10/5/2016	9:36	43.6836	-69.8525	-26.0	26.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W20.t4.s5	13.70	32.5	7.9	8.1	1.92
M0123	10/5/2016	10:00	43.6889	-69.8262	-28.5	28.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W20.t4.s5	13.79	32.6	8.0	8.4	2.54
M0124	10/5/2016	10:14	43.7000	-69.8213	-22.1	22.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W20.t4.s5	13.60	32.6	8.0	8.1	1.76
M0125	10/5/2016	10:35	43.6978	-69.7793	-31.9	33.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W24.t4.s5	12.79	32.8	8.0	8.0	0.86
M0126	11/14/2016	8:41	43.6543	-69.8433	-33.2	36.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W24.t4.s5	11.30	33.2	7.8	8.7	1.2
M0127	7/17/2017	6:34	43.7124	-69.5995	-76.2	79.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	6.95	32.1	7.8	8.7	0.20
M0128	7/17/2017	7:12	43.7139	-69.6449	-75.9	79.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	6.39	32.2	7.9	8.4	0.60
M0129	7/17/2017	7:49	43.7494	-69.6457	-60.1	62.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	6.58	32.0	7.9	8.5	0.68
M0130	7/17/2017	8:12	43.7603	-69.6252	-49.7	51.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	7.00	31.9	7.9	8.6	1.13
M0131	7/17/2017	8:35	43.7591	-69.5993	-56.8	58.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	7.07	32.0	709.0	8.5	0.32
M0132	7/17/2017	8:54	43.7618	-69.6043	-49.9	51.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	7.31	31.9	7.9	8.6	0.13
M0133	7/17/2017	9:18	43.7854	-69.5936	-45.7	46.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	7.60	32.0	7.9	8.9	0.04
M0134	7/17/2017	9:38	43.7852	-69.6141	-40.7	41.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	7.52	31.7	7.9	8.8	0.38
M0138	8/2/2017	6:43	43.7193	-69.5289	-38.2	39.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	9.41	32.2	7.8	9.9	1.28
M0139	8/2/2017	7:01	43.7382	-69.4851	-36.3	38.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	8.92	32.1	7.9	9.5	0.60
M0140	8/2/2017	7:24	43.7575	-69.4300	-73.7	76.9	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	6.68	32.4	7.7	8.4	0.14
M0141	8/2/2017	7:40	43.7394	-69.4330	-68.1	70.3	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	7.01	32.3	7.8	8.5	0.27
M0142	8/2/2017	8:30	43.7178	-69.4463	-86.1	88	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	6.56	32.5	7.8	8.4	0.21
M0143	8/2/2017	9:19	43.7092	-69.4820	-61.1	64.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	7.39	32.3	7.8	8.9	0.45
M0144	8/2/2017	9:42	43.7035	-69.5010	-81.5	83.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	6.63	32.4	7.8	8.7	0.06
M0145	8/2/2017	11:17	43.6498	-69.6280	-32.9	33.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	8.46	32.1	7.8	9.5	0.45
M0146	8/2/2017	11:41	43.6574	-69.6219	-49.4	51.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	7.76	32.2	7.8	8.9	0.12
M0147	8/2/2017	12:02	43.6789	-69.6012	-68.6	69	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	7.26	32.3	7.8	8.6	0.17
M0148	8/2/2017	12:13	43.6839	-69.6160	-72.8	36.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	7.98	32.1	7.8	9.2	0.52
M0149	8/2/2017	12:33	43.7211	-69.6143	-13.9	13.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W24.t4.s5	12.43	31.5	8.0	10.2	2.89
M0150	8/2/2017	12:44	43.7282	-69.6236	-10.0	11	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W24.t4.s5	12.96	31.1	8.0	10.0	1.42
M0151	8/2/2017	12:53	43.7336	-69.6199	-10.3	11	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W24.t4.s5	12.97	31.6	8.0	9.9	2.84
M0152	8/2/2017	13:02	43.7387	-69.6163	-23.9	23.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W24.t4.s5	10.26	31.7	7.9	9.4	0.72
M0153	8/2/2017	13:30	43.7858	-69.6032	-9.3	9.4	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W24.t4.s5	14.49	31.5	8.0	9.8	2.90
M0154	8/2/2017	13:36	43.7849	-69.6064	-7.8	7.9	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cool	W24.t4.s5	13.61	31.5	8.0	9.7	3.52
M0155	8/28/2017	6:29	43.7782	-69.4968	-105.2	108	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	6.59	32.7	7.7	7.2	1.09
M0156	8/28/2017	6:52	43.7872	-69.4729	-76.9	79.3	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	7.04	32.5	7.7	7.3	1.08
M0157	8/28/2017	7:28	43.7983	-69.4280	-47.5	48.9	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	8.71	32.3	7.8	7.8	0.13
M0158	8/28/2017	7:53	43.7997	-69.4276	-36.5	37.4	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	8.65	32.3	7.8	7.8	0.43
M0159	8/28/2017	8:18	43.8108	-69.4095	-	53.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	8.43	32.4	7.8	7.6	0.43
M0160	8/28/2017	8:32	43.8101	-69.4097	-52.6	53.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	8.85	32.3	7.8	7.8	0.27
M0161	8/28/2017	8:49	43.8091	-69.4103	-54.0	54.3	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	7.78	32.3	7.8	7.7	0.11
M0162	8/28/2017	9:10	43.8092	-69.4081	-52.2	49.4	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	8.98	32.3	7.8	7.8	0.00
M0163	8/28/2017	9:17	43.8072	-69.4086	-49.2	49.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	9.18	32.3	7.8	7.8	0.20
M0164	8/28/2017	9:47	43.8034	-69.3989	-62.5	62.9	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	8.22	32.4	7.8	7.6	0.72
M0165	8/28/2017	10:33	43.7757	-69.4114	-61.2	60.3	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	8.84	32.4	7.8	7.9	0.25
M0166	8/28/2017	10:52	43.7747	-69.4553	-75.9	76.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	7.41	32.5	7.7	7.5	0.71
M0167	8/28/2017	11:15	43.7601	-69.4791	-86.2	87.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	7.02	32.6	7.7	7.5	0.22
M0168	9/13/2017	6:33	43.7857	-69.5931	-45.1	47.4	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	9.75	32.3	7.7	7.3	0.67
M0169	9/13/2017	7:11	43.7609	-69.5458	-53.9	56.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	9.38	32.4	7.8	7.4	0.26
M0170	9/13/2017	7:34	43.7587	-69.5477	-55.8	58.4	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Column	Euhaline	Cold	W24.t3.s5	8.98	32.5	7.8	7.5	0.44

Site_ID	Date	Time_local	Lat_Dec	Lon_Dec	MLLW_m	Depth_m	BS_ecoreg	BS_code	WClayer	WCSal	WCTemp	WCcode	Temp	Sal	pH	DO	CHL
M0171	9/13/2017	7:58	43.7408	-69.5439	-63.2	64.4	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.22	32.5	7.8	7.5	0.37
M0172	9/13/2017	8:22	43.7366	-69.5415	-66.9	67.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.83	32.5	7.8	7.5	0.12
M0173	9/13/2017	8:45	43.7260	-69.5424	-61.3	62.3	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.88	32.6	7.8	7.5	0.27
M0174	9/13/2017	9:06	43.7251	-69.5441	-66.8	68.4	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.18	32.5	7.8	7.6	0.09
M0175	9/13/2017	9:37	43.7213	-69.5425	-51.9	52.9	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.63	32.5	7.8	7.6	0.48
M0176	9/13/2017	9:59	43.7236	-69.5417	-63.7	64.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.44	32.5	7.8	7.6	0.22
M0177	9/13/2017	10:26	43.7220	-69.5443	-64.6	64.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.07	32.6	7.8	7.5	0.21
M0178	9/13/2017	11:00	43.7687	-69.5137	-29.2	29.3	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.88	32.3	7.8	8.1	0.78
M0179	9/13/2017	11:16	43.7493	-69.4531	-70.6	71.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	8.33	32.7	7.8	7.3	0.07
M0180	9/13/2017	11:32	43.7772	-69.4365	-22.6	20.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.96	32.3	7.9	8.9	1.30
M0181	9/13/2017	11:45	43.7939	-69.4653	~40.0	35.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.79	32.3	7.8	7.8	0.70
M0182	10/2/2017	6:54	43.8147	-69.5163	-47.0	48.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.17	32.7	7.7	7.2	0.43
M0183	10/2/2017	7:10	43.8127	-69.5145	-32.7	34.7	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.76	32.6	7.8	7.6	0.31
M0184	10/2/2017	7:25	43.8136	-69.5136	-32.7	36.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	11.00	32.7	7.9	7.6	0.27
M0185	10/2/2017	7:38	43.8126	-69.5171	-46.8	48.8	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.96	32.7	7.8	7.1	0.29
M0186	10/2/2017	7:59	43.8095	-69.5260	-47.0	49.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.65	32.7	7.8	7.1	0.46
M0187	10/2/2017	8:18	43.8076	-69.5270	-51.2	53.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.91	32.6	7.8	7.1	0.47
M0188	10/2/2017	8:37	43.8002	-69.5336	-40.2	43	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.62	32.7	7.9	7.4	0.28
M0189	10/2/2017	8:53	43.7992	-69.5335	-37.0	39.4	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.78	32.7	7.9	7.6	0.38
M0190	10/2/2017	9:10	43.8004	-69.5337	-40.5	43.2	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.65	32.7	7.9	7.4	0.13
M0191	10/2/2017	9:35	43.7971	-69.5367	-48.2	50.6	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.32	32.7	7.8	7.2	0.34
M0192	10/2/2017	10:07	43.7921	-69.5407	-46.2	48.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cold	W24.t3.s5	9.94	32.7	7.8	7.1	0.45
M0193	10/2/2017	10:39	43.7707	-69.6073	-18.9	21.3	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	12.69	32.4	7.9	8.5	2.40
M0194	10/2/2017	10:51	43.7707	-69.6064	-23.3	25.1	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	11.52	32.6	7.9	8.1	0.71
M0195	10/2/2017	11:10	43.7798	-69.6150	-40.8	42.9	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	10.33	32.6	7.8	7.0	0.66
M0196	10/2/2017	11:33	43.7810	-69.6500	-14.4	15.9	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	12.66	32.2	7.9	8.8	3.55
M0197	10/2/2017	11:52	43.7812	-69.6541	-13.3	14.5	Gulf of Maine	E2.1.2	Marine Offshore Lower Water Colum	Euhaline	Cool	W24.t4.s5	12.67	32.3	7.9	8.7	2.90

Appendix F. CMECS substrate component classifications for MCMI sites sampled 2015-2016. All classifications are of geologic origin. Depth (m) measurements were extracted from the post-processed bathymetric attributed grid (4m, MLLW vertical datum). The substrate component (SC) CMECS code is listed for each site along with classificiations and group assignment of the sediment mixture at sites with unconsolidated sediment, or a description of the rock size at sites with hard bottom. The Folk (1954) classification of seafloor substrate mixtures is listed as well. Folk classifications for sites M0062-M0072 were based on field observations of grabs because those samples were not retained for grain size analyses.

Site Name	Date	Time (local)	Lat_dec	Lon_dec	Depth (m)	CMECS code	Origin	Class	Subclass	Group	Subgroup	Text_Code	Modified Substrate Group
M0001	5/4/2015	8:13	43.7668	-69.7103	-26.39	S1.2.1.3.1	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Sand	gS	Gravelly/Medium-Coarse Sand
M0002	5/4/2015	8:57	43.7503	-69.7058	-38.39	S1.2.1.2.1	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Sandy Gravel	sG	Gravel/Gravel mix
M0003	5/6/2015	7:48	43.7375	-69.7045	-39.98	S1.2.1.2.2	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Muddy Sandy Gravel	msG	Gravel/Gravel mix
M0004	5/6/2015	8:57	43.7222	-69.7032	-52.08	S1.2.1.3.2	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Muddy Sand	gmS	Gravelly/Medium-Coarse Sand
M0005	5/6/2015	9:55	43.7117	-69.699	-49.98	S1.1	Geologic substrate	Rock substrate				R	
M0006	5/6/2015	10:35	43.6918	-69.6953	-56.64	S1.2.1.3.2	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Muddy Sand	gmS	Gravelly/Medium-Coarse Sand
M0007	5/6/2015	11:50	43.6818	-69.6942	-66.38	S1.2.2.1.3	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Sandy Mud	(g)sM	Slightly gravelly
M0008	5/6/2015	12:52	43.6703	-69.6892	-66.01	S1.2.1.2.2	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Muddy Sandy Gravel	msG*	Gravel/Gravel mix
M0009	6/15/2015	10:33	43.7163	-69.6555	-73.41	S1.2.2.5	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Mud		M	Mud
M0010	6/15/2015	11:15	43.7103	-69.6732	-68.84	S1.2.2.5	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Mud		M	Mud
M0011	6/25/2015	6:55	43.7353	-69.7347	-22.74	S1.2.2.2.3	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sand	Medium Sand	S	Gravelly/Medium-Coarse Sand
M0012	6/25/2015	7:45	43.7068	-69.7252	-46.36	S1.2.1.3.2	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Muddy Sand	gmS	Gravelly/Medium-Coarse Sand
M0013	6/25/2015	8:19	43.6977	-69.7158	-59.56	S1.1	Geologic substrate	Rock substrate				R	
M0014	6/25/2015	8:42	43.6923	-69.735	-49.08	S1.2.2.3	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Muddy Sand		mS	Muddy sand
M0015	6/25/2015	9:14	43.6733	-69.7418	-47.57	S1.2.2.3	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Muddy Sand		mS	Muddy sand
M0016	6/25/2015	9:43	43.6617	-69.7385	-62.58	S1.2.2.1.3	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Sandy Mud	(g)sM	Slightly gravelly
M0017	7/22/2015	8:18	43.6458	-69.6827	-64.48	S1.1	Geologic substrate	Rock substrate				R	
M0018	7/22/2015	9:12	43.6589	-69.6844	-79.33	S1.2.2.5	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Mud		M	Mud
M0019	7/22/2015	10:05	43.6704	-69.6825	-68.46	S1.2.2.1.2	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Muddy Sand	(g)mS	Slightly gravelly
M0020	7/22/2015	10:39	43.7184	-69.6873	-57.36	S1.2.2.1.2	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Muddy Sand	(g)mS	Slightly gravelly
M0021	7/22/2015	11:38	43.727	-69.7049	-44.78	S1.2.1.3.1	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Sand	gS	Gravelly/Medium-Coarse Sand
M0022	7/22/2015	11:57	43.7316	-69.6828	-55.31	S1.2.2.1.3	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Sandy Mud	(g)sM	Slightly gravelly
M0023	7/22/2015	12:23	43.7431	-69.68	-43.04	S1.2.1.2.2	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Muddy Sandy Gravel	msG	Gravel/Gravel mix
M0024	7/29/2015	7:55	43.646	-69.68	-74.29	S1.2.2.1.2	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Muddy Sand	(g)mS	Slightly gravelly
M0025	7/29/2015	8:50	43.6498	-69.6712	-60.19	S1.1	Geologic substrate	Rock substrate				R	
M0026	7/29/2015	9:12	43.6544	-69.666	-76.72	S1.2.1.2.3	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Muddy Gravel	mG	Gravel/Gravel mix
M0027	7/29/2015	9:50	43.6643	-69.6687	-69.88	S1.2.1.3.2	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Muddy Sand	gmS	Gravelly/Medium-Coarse Sand
M0028	7/29/2015	10:24	43.6662	-69.6795	-68.63	S1.2.2.1.3	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Sandy Mud	(g)sM	Slightly gravelly
M0029	7/29/2015	11:01	43.665	-69.7025	-59.57	S1.2.2.1.2	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Muddy Sand	(g)mS	Slightly gravelly
M0030	7/29/2015	11:35	43.663	-69.7153	-72.39	S1.2.1.2.3	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Muddy Gravel	mG	Gravel/Gravel mix
M0031	8/13/2015	7:04	43.7106	-69.7398	-32.87	S1.2.1.3.1	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Sand	gS	Gravelly/Medium-Coarse Sand
M0032	8/13/2015	7:40	43.7221	-69.7283	-33.99	S1.2.1.2.1	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Sandy Gravel	sG	Gravel/Gravel mix
M0033	8/13/2015	7:55	43.7232	-69.7258	-34.82	S1.2.1.3.1	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Sand	gS	Gravelly/Medium-Coarse Sand
M0034	8/13/2015	8:24	43.7238	-69.7238	-35.18	S1.2.1.3.1	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Sand	gS	Gravelly/Medium-Coarse Sand
M0035	8/13/2015	8:43	43.7208	-69.7265	-35.50	S1.2.1.3.1	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Sand	gS	Gravelly/Medium-Coarse Sand
M0036	8/19/2015	7:20	43.6469	-69.7655	-56.82	S1.2.1.2.2	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Muddy Sandy Gravel	msG	Gravel/Gravel mix
M0037	8/19/2015	7:45	43.6497	-69.7654	-50.63	S1.2.1.2.2	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Muddy Sandy Gravel	msG	Gravel/Gravel mix
M0038	8/19/2015	8:20	43.652	-69.7669	-46.31	S1.2.1.2.2	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Muddy Sandy Gravel	msG	Gravel/Gravel mix
M0039	8/19/2015	8:45	43.6512	-69.7528	-61.82	S1.2.2.1.2	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Muddy Sand	(g)mS	Slightly gravelly
M0040	8/19/2015	9:29	43.653	-69.7488	-63.17	S1.2.2.1.2	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Muddy Sand	(g)mS	Slightly gravelly
M0041	8/19/2015	9:59	43.6568	-69.7453	-61.53	S1.2.2.1.2	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Muddy Sand	(g)mS	Slightly gravelly
M0042	9/10/2015	10:58	43.6524	-69.7726	-35.04	S1.1	Geologic substrate	Rock substrate				R	
M0043	9/10/2015	11:19	43.6686	-69.743	-49.34	S1.2.2.1.2	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Muddy Sand	(g)mS	Slightly gravelly
M0044	9/10/2015	11:49	43.6765	-69.7258	-59.50	S1.2.2.3	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Muddy Sand		mS	Muddy sand
M0045	9/10/2015	12:19	43.6818	-69.7145	-70.24	S1.2.2.5	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Mud		M	Mud
M0046	9/10/2015	13:05	43.686	-69.7042	-70.48	S1.2.2.5	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Mud		M	Mud
M0047	9/16/2015	6:26	43.7052	-69.7372	-37.71	S1.2.1.2.1	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Sandy Gravel	sG	Gravel/Gravel mix
M0048	9/16/2015	7:02	43.6985	-69.6893	-68.85	S1.2.2.4	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud		sM	Mud
M0049	9/16/2015	7:37	43.7032	-69.6796	-69.49	S1.2.2.4	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud		sM	Mud
M0050	9/16/2015	8:02	43.7075	-69.6837	-68.62	S1.2.2.4	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud		sM	Mud
M0051	9/16/2015	8:37	43.7048	-69.6702	-60.33	S1.2.1.3.2	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Muddy Sand	gmS	Gravelly/Medium-Coarse Sand
M0052	9/16/2015	9:06	43.715	-69.6791	-34.79	S1.1	Geologic substrate	Rock substrate				R	
M0053	9/16/2015	9:20	43.7231	-69.6623	-68.29	S1.2.2.4	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud		sM	Mud
M0054	9/16/2015	9:56	43.7224	-69.6854	-40.68	S1.1	Geologic substrate	Rock substrate				R	
M0055	9/16/2015	10:15	43.7189	-69.7119	-44.90	S1.2.2.1.2	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Muddy Sand	(g)mS	Slightly gravelly
M0056	9/16/2015	10:38	43.7172	-69.7221	-39.96	S1.2.2.1.1	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Sand	(g)S	Slightly gravelly
M0057	9/16/2015	10:53	43.7244	-69.7156	-39.38	S1.2.1.3.1	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Sand	gS	Gravelly/Medium-Coarse Sand

Site Name	Date	Time (local)	Lat_dec	Lon_dec	Depth (m)	CMECS code	Origin	Class	Subclass	Group	Subgroup	Text_Code	Modified Substrate Group
M0058	9/16/2015	11:40	43.7272	-69.6894	-54.70	S1.1	Geologic substrate	Rock substrate				R	
M0059	9/16/2015	11:53	43.7362	-69.6655	-62.33	S1.2.2.4	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud		sM	Mud
M0060	9/16/2015	12:17	43.7414	-69.6913	-58.65	S1.2.2.4	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud		sM	Mud
M0061	9/16/2015	12:43	43.7477	-69.6567	-58.48	S1.2.2.4	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud		sM	Mud
M0062	11/4/2015	8:45	43.5838	-69.6857	######	S1.2.2.4	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud		sM*	Mud
M0063	11/4/2015	9:17	43.6018	-69.6783	######	S1.2.2.4	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud		sM*	Mud
M0064	11/4/2015	9:41	43.6189	-69.6716	######	S1.2.2.4	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud		sM*	Mud
M0065	11/4/2015	10:09	43.646	-69.672	-64.36	S1.1	Geologic substrate	Rock substrate				R	
M0066	11/4/2015	10:27	43.661	-69.6643	-85.70	S1.2.2.5	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Mud		M*	Mud
M0067	11/4/2015	10:44	43.649	-69.655	-91.78	S1.2.2.5	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Mud		M*	Mud
M0068	11/4/2015	11:01	43.6441	-69.6968	-74.83	S1.2.1.2.2	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Muddy Sandy Gravel	msG*	Gravel/Gravel mix
M0069	11/4/2015	11:15	43.6422	-69.7188	-65.52	S1.2.1.2.3	Geologic substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Muddy Gravel	mG*	Gravel/Gravel mix
M0070	11/4/2015	11:32	43.6396	-69.7411	-78.48	S1.2.2.5	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Mud		M*	Mud
M0071	11/4/2015	11:43	43.6385	-69.7524	-79.20	S1.2.2.5	Geologic substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Mud		M*	Mud
M0072	11/4/2015	11:59	43.6385	-69.7781	-46.11	S1.1	Geologic substrate	Rock substrate				R	
M0073	8/24/2016	7:45	43.6459	-69.8947	-31.45	S1.1	Geologic Substrate	Rock substrate				R	
M0074	8/24/2016	8:01	43.6371	-69.8877	-30.29	S1.1	Geologic Substrate	Rock substrate				R	
M0075	8/24/2016	8:14	43.6198	-69.8659	-72.32	S1.2.2.4.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud	Sandy Silt-Clay	sZC	Mud
M0076	8/24/2016	9:02	43.6178	-69.8532	-71.80	S1.2.2.4.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud	Sandy Silt-Clay	sZC	Mud
M0077	8/24/2016	9:40	43.6309	-69.8545	-62.53	S1.2.2.3.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Muddy Sand	Silty-Clayey Sand	zcS	Muddy sand
M0078	8/24/2016	10:22	43.6291	-69.8639	-63.92	S1.2.2.3.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Muddy Sand	Silty-Clayey Sand	zcS	Muddy sand
M0079	8/24/2016	11:06	43.634	-69.8591	-58.87	S1.2.2.3.3	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Muddy Sand	Clayey Sand	cS	Muddy sand
M0080	8/24/2016	11:14	43.6356	-69.8507	-59.49	S1.2.2.3.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Muddy Sand	Silty-Clayey Sand	zcS	Muddy sand
M0081	8/24/2016	12:18	43.6406	-69.8468	-52.84	S1.2.2.3.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Muddy Sand	Silty-Clayey Sand	zcS	Muddy sand
M0082	8/24/2016	13:12	43.6391	-69.8546	-52.75	S1.2.2.3.3	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Muddy Sand	Clayey Sand	cS	Muddy sand
M0083	9/12/2016	7:21	43.6293	-69.8319	-39.32	S1.1	Geologic Substrate	Rock substrate				R	
M0084	9/12/2016	7:33	43.6319	-69.8092	-44.92	S1.1	Geologic Substrate	Rock substrate				R	
M0085	9/12/2016	7:50	43.6524	-69.7922	-38.75	S1.2.1.2.1	Geologic Substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Sandy Gravel	sG	Gravel/Gravel mix
M0086	9/12/2016	8:15	43.6648	-69.7753	-13.53	S1.1	Geologic Substrate	Rock substrate				R	
M0087	9/12/2016	8:38	43.6603	-69.8224	-19.23	S1.1	Geologic Substrate	Rock substrate				R	
M0088	9/12/2016	8:53	43.6867	-69.8319	-29.73	S1.2.2.5.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Mud	Silt-Clay	ZC	Mud
M0089	9/12/2016	9:35	43.6947	-69.8193	-10.13	S1.1	Geologic Substrate	Rock substrate				R	
M0090	9/12/2016	9:59	43.6896	-69.8044	-28.01	S1.2.2.2.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sand	Coarse Sand	S	Gravelly/Medium-Coarse Sand
M0091	9/12/2016	10:29	43.6898	-69.754	-28.33	S1.1	Geologic Substrate	Rock substrate				R	
M0092	9/12/2016	10:45	43.667	-69.712	-68.19	S1.2.1.3.2	Geologic Substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Muddy Sand	gmS	Gravelly/Medium-Coarse Sand
M0093	9/12/2016	11:22	43.6708	-69.7053	-62.45	S1.1	Geologic Substrate	Rock substrate				R	
M0094	9/12/2016	11:39	43.6884	-69.718	-50.44	S1.1	Geologic Substrate	Rock substrate				R	
M0095	9/20/2016	7:29	43.6862	-69.8148	-29.08	S1.2.2.2.3	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sand	Medium Sand	S	Gravelly/Medium-Coarse Sand
M0096	9/20/2016	7:52	43.6634	-69.8321	-21.43	S1.1	Geologic Substrate	Rock substrate				R	
M0097	9/20/2016	8:26	43.6917	-69.8269	-26.86	S1.2.2.1.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Muddy Sand	(g)mS	Slightly gravelly
M0098	9/20/2016	8:47	43.6995	-69.8021	-23.55	S1.2.2.2.4	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sand	Fine Sand	S	Fine sand
M0099	9/20/2016	9:10	43.6949	-69.79	-28.55	S1.2.1.3.1	Geologic Substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Sand	gS	Gravelly/Medium-Coarse Sand
M0100	9/20/2016	9:34	43.697	-69.754	-19.37	S1.1	Geologic Substrate	Rock substrate				R	
M0101	9/20/2016	9:50	43.6908	-69.7669	-28.65	S1.2.1.2.1	Geologic Substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Sandy Gravel	sG	Gravel/Gravel mix
M0102	9/20/2016	10:10	43.7135	-69.7895	-19.19	S1.2.2.1.1	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Sand	(g)S	Slightly gravelly
M0103	9/20/2016	10:50	43.7152	-69.7927	-16.93	S1.2.2.2.5	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sand	Very Fine Sand	S	Fine sand
M0104	9/20/2016	11:15	43.7191	-69.7862	-15.22	S1.2.1.3.1	Geologic Substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravelly	Gravelly Sand	gS	Gravelly/Medium-Coarse Sand
M0105	9/20/2016	11:25	43.719	-69.7765	-13.01	S1.2.2.2.4	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sand	Fine Sand	S	Fine sand
M0106	9/20/2016	11:40	43.7166	-69.7798	-15.06	S1.2.2.1.1	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Sand	(g)S	Slightly gravelly
M0107	9/20/2016	11:59	43.715	-69.7805	-15.27	S1.2.2.2.3	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sand	Medium Sand	S	Gravelly/Medium-Coarse Sand
M0108	9/20/2016	12:28	43.7316	-69.7145	-12.85	S1.1	Geologic Substrate	Rock substrate				R	
M0109	9/20/2016	12:40	43.7468	-69.7242	-24.04	S1.2.1.2.1	Geologic Substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Sandy Gravel	sG	Gravel/Gravel mix
M0110	9/20/2016	13:03	43.749	-69.7119	-27.42	S1.2.1.2.1	Geologic Substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Sandy Gravel	sG	Gravel/Gravel mix
M0111	9/20/2016	13:29	43.7605	-69.6697	-18.71	S1.1	Geologic Substrate	Rock substrate				R	
M0112	9/26/2016	6:53	43.6851	-69.8322	-30.37	S1.2.2.4.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud	Sandy Silt-Clay	sZC	Mud
M0113	9/26/2016	7:22	43.672	-69.8239	-27.12	S1.2.1.1.3	Geologic Substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel	Pebble	G	Gravel/Gravel mix
M0114	10/5/2016	7:06	43.7287	-69.7351	-25.78	S1.2.2.2.4	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sand	Fine Sand	S	Fine sand
M0115	10/5/2016	7:34	43.6713	-69.7682	-35.42	S1.2.1.2.1	Geologic Substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel Mixes	Sandy Gravel	sG	Gravel/Gravel mix
M0116	10/5/2016	8:03	43.6504	-69.8624	-32.99	S1.1	Geologic Substrate	Rock substrate				R	
M0117	10/5/2016	8:26	43.6862	-69.9414	-44.49	S1.2.2.5.3	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Mud	Clay	C	Mud
M0118	10/5/2016	8:39	43.6803	-69.9347	-14.02	S1.1	Geologic Substrate	Rock substrate				R	

Site Name	Date	Time (local)	Lat_dec	Lon_dec	Depth (m)	CMECS code	Origin	Class	Subclass	Group	Subgroup	Text_Code	Modified Substrate Group
M0119	10/5/2016	8:52	43.6643	-69.9164	-30.14	S1.1	Geologic Substrate	Rock substrate				R	
M0120	10/5/2016	9:04	43.6842	-69.9075	-37.69	S1.2.2.4.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud	Sandy Silt-Clay	sZC	Mud
M0121	10/5/2016	9:22	43.6832	-69.8811	-13.78	S1.1	Geologic Substrate	Rock substrate				R	
M0122	10/5/2016	9:36	43.6836	-69.8525	-26.02	S1.2.2.2.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sand	Coarse Sand	S	Gravelly/Medium-Coarse Sand
M0123	10/5/2016	10:00	43.6889	-69.8262	-28.46	S1.2.2.5.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Mud	Silt-Clay	ZC	Mud
M0124	10/5/2016	10:14	43.7	-69.8213	-22.08	S1.2.2.4.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud	Sandy Silt-Clay	sZC	Mud
M0125	10/5/2016	10:35	43.6978	-69.7793	-31.85	S1.2.2.4.2	Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud	Sandy Silt-Clay	sZC	Mud

Appendix G. CMECS biotic component classifications for MCMI sites sampled 2015-2016. Depth (m) measurements were extracted from the post-processed bathymetric attributed grid (4m, MLLW vertical datum). The biotic component (BC) CMECS code is listed for each site along with class, subclass, group and community classification of the benthic community at sample sites. Site classification of the BC beyond the subclass level indicates that a group of similar organisms, or community of organisms (Genera specific) are responsible for at least 50% for the total community abundance at that site. Any biotic group comprising 25-50% of of the total community abundance at that site is listed as a co-occurring element with the Genera responsible for the designation following in parentheses. All organisms observed at the site in seafloor imagery that are able to migrate out of the sampling area within a day (i.e. fish and crab) are documened as associated taxa, listing the type of organism observed and identified Genera of the organism(s) following in parentheses. For sites where both BC and Co-occurring taxa were assigned and other groups of organisms accounted for a substantial portion of the community they were listed as Associated Taxa, even if they were not considered highly mobile macrofauna.

Site_ID	Date	Time	Lat_Dec	Lon_Dec	Depth_m	BC_code	BC_Setting	BC_Class	BC_Sbclass	BC_Group	BC_Commun	BC_Co_Occ1	BC_Co_Occ2	CoOc1_code	CoOc2_code	BC_As_Tax1	BC_As_Tax2	As_Tax1_code	As_Tax2_code
M0001	05/04/15	8:13	43.7668	-69.7103	-26.39	2.2.2.24.echinarachnius	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Sand dollar bed	*Echinarachnius* bed	Small surface-burrowing fauna (Unciola)		2.2.2.2.unciola					
M0002	05/04/15	8:57	43.7503	-69.7058	-38.39	2.2.2.24.echinarachnius	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Sand dollar bed	*Echinarachnius* bed	Small tube-building fauna (Clymenella)		2.2.2.5.clymenella		Fish		AT.fish	
M0003	05/06/15	7:48	43.7375	-69.7045	-39.98	2.2.2.2.unciola	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Small surface-burrowing fauna		Small surface-burrowing fauna (*Unciola*)		2.2.2.2.unciola					
M0004	05/06/15	8:57	43.7222	-69.7032	-52.08	2.2.2.14	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed		Clam bed (mixed)	Larger deep-burrowing fauna (Aglaophamus)	2.2.2.14	2.2.2.1.4				
M0005	05/06/15	9:55	43.7117	-69.6990	-49.98	2.2.1.17.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Attached hydroids (Sertularia)		Attached sponges	Attached seastar (Asterias)	2.2.1.21	2.2.1.22.1	Attached tunicate (Didemnum)		2.2.1.23.4	
M0006	05/06/15	10:35	43.6918	-69.6953	-56.64	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed	Clam bed (*Astarte*)		2.2.2.14.astarte					
M0007	05/06/15	11:50	43.6818	-69.6942	-66.38	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Clam bed (mixed)	Small tube-building fauna (Clymenella)	2.2.2.14	2.2.2.5.clymenella				
M0008	05/06/15	12:52	43.6703	-69.6892	-66.01	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed								
M0009	06/15/15	10:33	43.7163	-69.6555	-73.41	2.2.2.1.4	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Larger deep-burrowing fauna	*Nephtys* bed								
M0010	06/15/15	11:15	43.7103	-69.6732	-68.84	2.2.2.1.ribbonworm	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Larger deep-burrowing fauna	Nemertean bed								
M0011	06/25/15	6:55	43.7353	-69.7347	-22.74	2.2.2.24.echinarachnius	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Sand dollar bed	*Echinarachnius* bed	Small tube-building fauna (Maldanidae)		2.2.2.5					
M0012	06/25/15	7:45	43.7068	-69.7252	-46.36	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed	Small tube-building fauna (Clymenella)	Clam bed (mixed)	2.2.2.5.clymenella	2.2.2.14				
M0013	06/25/15	8:19	43.6977	-69.7158	-59.56	2.2.1.17.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Attached hydroids (Sertularia)		Attached anemone (Urticina)	Attached sponges	2.2.1.5.urticina	2.2.1.21				
M0014	06/25/15	8:42	43.6923	-69.7350	-49.08	2.2.2.14	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed		Clam bed (mixed)		2.2.2.14					
M0015	06/25/15	9:14	43.6733	-69.7418	-47.57	2.2.2.14	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed		Clam bed (mixed)	Small tube-building fauna (Clymenella)	2.2.2.14	2.2.2.5.clymenella				
M0016	06/25/15	9:43	43.6617	-69.7385	-62.58	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Larger deep-burrowing fauna (Aglaophamus)		2.2.2.1.4		Soft sediment brittle stars (Ophiura)	Clam bed (*Nucula*)	2.2.2.11.3	2.2.2.14.6
M0017	07/22/15	8:18	43.6458	-69.6827	-64.48	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna			Attached tunicate (Didemnum)	Attached seastar (Asterias)	2.2.1.23.1	2.2.1.22.1	Attached bryozoan (Bugula)	Attached anemone	2.2.1.10.1	2.2.1.5
M0018	07/22/15	9:12	43.6589	-69.6844	-79.33	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0019	07/22/15	10:05	43.6704	-69.6825	-68.46	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed	Clam bed (mixed)	Small tube-building fauna (Clymenella)	2.2.2.14	2.2.2.5.clymenella				
M0020	07/22/15	10:39	43.7184	-69.6873	-57.36	2.2.2.14	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed		Clam bed (Thracia)	Clam bed (mixed)	2.2.2.14.thracia	2.2.2.14				
M0021	07/22/15	11:38	43.7270	-69.7049	-44.78	2.2.2.5.clymenella	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Small tube-building fauna	*Clymenella* bed								
M0022	07/22/15	11:57	43.7316	-69.6828	-55.31	2.2.2.14	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed		Clam bed (Thracia)	Clam bed (mixed)	2.2.2.14.thracia	2.2.2.14				
M0023	07/22/15	12:23	43.7431	-69.6800	-43.04	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus bed*	Clam bed (Astarte)	Small surface-burrowing fauna (polychaetes)	2.2.2.14.astarte	2.2.2.2				
M0024	07/29/15	7:55	43.6460	-69.6800	-74.29	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed	Clam bed (mixed)		2.2.2.14					

Site_ID	Date	Time	Lat_Dec	Lon_Dec	Depth_m	BC_code	BC_Setting	BC_Class	BC_Sbclass	BC_Group	BC_Commun	BC_Co_Occ1	BC_Co_Occ2	CoOc1_code	CoOc2_code	BC_As_Tax1	BC_As_Tax2	As_Tax1_code	As_Tax2_code
M0025	07/29/15	8:50	43.6498	-69.6712	-60.19	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna			Attached anemone (Urticina)	Attached sponges	2.2.1.5.urticina	2.2.1.21				
M0026	07/29/15	9:12	43.6544	-69.6660	-76.72	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus bed*	Clam bed (Yoldia)	Clam bed (mixed)	2.2.2.14.10	2.2.2.14				
M0027	07/29/15	9:50	43.6643	-69.6687	-69.88	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus bed*	Clam bed (Thracia)		2.2.2.14.thracia					
M0028	07/29/15	10:24	43.6662	-69.6795	-68.63	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Larger deep-burrowing fauna (Aglaophamus)	Clam bed (Thracia)	2.2.2.1.4	2.2.2.14.thracia	Small tube-building fauna (Clymenella)		2.2.2.5.clymenella	
M0029	07/29/15	11:01	43.6650	-69.7025	-59.57	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus bed*	Clam bed (Astarte)	Clam bed (mixed)	2.2.2.14.astarte	2.2.2.14				
M0030	07/29/15	11:35	43.6630	-69.7153	-72.39	2.2.2.14.astarte	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed	*Astarte* bed	Barnacles (Semibalanus)		2.2.1.6.1					
M0031	08/13/15	7:04	43.7106	-69.7398	-32.87	2.2.2.14.astarte	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed	*Astarte* bed	Mobile crustaceans on soft sediments (Politolana)	Small tube-building fauna (polychaetes)	2.2.2.16.politolana	2.2.2.5	Larger deep-burrowing fauna (Aglaophamus)	Lobster (Homarus)	2.2.2.1.4	AT.Homarus
M0032	08/13/15	7:40	43.7221	-69.7283	-33.99	2.2.2.1.4	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Larger deep-burrowing fauna	*Aglaophamus* bed								
M0033	08/13/15	7:55	43.7232	-69.7258	-34.82	2.2.2.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Larger deep-burrowing fauna		Larger deep-burrowing fauna (Glycera)	Larger deep-burrowing fauna (Aglaophamus)	2.2.2.1.3	2.2.2.1.4				
M0034	08/13/15	8:24	43.7238	-69.7238	-35.18	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Small tube-building fauna (polychaetes)		2.2.2.5					
M0035	08/13/15	8:43	43.7208	-69.7265	-35.50	2.2.2.24.echinarachnius	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Sand dollar bed	*Echinarachnius* bed	Small surface-burrowing fauna (Paraonidae)		2.2.2.2					
M0036	08/19/15	7:20	43.6469	-69.7655	-56.82	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed					Crab (Cancer)		AT.Cancer	
M0037	08/19/15	7:45	43.6497	-69.7654	-50.63	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Clam bed (mixed)	Larger deep-burrowing fauna (Pherusa)	2.2.2.14	2.2.2.1.pherusa				
M0038	08/19/15	8:20	43.6520	-69.7669	-46.31	2.2.2.14.cyclocardia	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed	*Cyclocardia* bed	Clam bed (Astarte)	Larger deep-burrowing fauna (Nephtys)	2.2.2.14.astarte	2.2.2.1.4	Lobster (Homarus)		AT.Homarus	
M0039	08/19/15	8:45	43.6512	-69.7528	-61.82	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed	Small tube-building fauna (Clymenella)		2.2.2.5.clymenella					
M0040	08/19/15	9:29	43.6530	-69.7488	-63.17	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus bed*	Small tube-building fauna (Clymenella)		2.2.2.5.clymenella					
M0041	08/19/15	9:59	43.6568	-69.7453	-61.53	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed	Larger deep-burrowing fauna (Aglaophamus)		2.2.2.1.4					
M0042	09/10/15	10:58	43.6524	-69.7726	-35.04	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers		Attached sponges	Attached seastar	2.2.1.21	2.2.1.22	Attached tunicate (Didemnum)	Fish	2.2.1.23.3	AT.fish
M0043	09/10/15	11:19	43.6686	-69.7430	-49.34	2.2.2.14	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed		Clam bed (mixed)	Small surface-burrowing fauna (polychaetes)	2.2.2.14	2.2.2.2				
M0044	09/10/15	11:49	43.6765	-69.7258	-59.50	2.2.2.14	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed		Clam bed (mixed)		2.2.2.14					
M0045	09/10/15	12:19	43.6818	-69.7145	-70.24	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0046	09/10/15	13:05	43.6860	-69.7042	-70.48	2.2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Small surface-burrowing fauna		Clam bed (Nucula)	Clam bed (Thracia)	2.2.2.14.6	2.2.2.14.thracia				
M0047	09/16/15	6:26	43.7052	-69.7372	-37.71	2.2.2.2.unciola	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Small surface-burrowing fauna	*Unciola* bed					Crab (Cancer)		AT.Cancer	
M0048	09/16/15	7:02	43.6985	-69.6893	-68.85	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0049	09/16/15	7:37	43.7032	-69.6796	-69.49	2.2.2.14.6	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed	*Nucula* bed	Larger deep-burrowing fauna (Aglaophamus)		2.2.2.1.4					
M0050	09/16/15	8:02	43.7075	-69.6837	-68.62	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Echiurid bed (Echiurus)	Larger deep-burrowing fauna (Nephtys)	2.2.2.17	2.2.2.1.4	Fish meroplankton		1.1.5.1.leptocephali	

Site_ID	Date	Time	Lat_Dec	Lon_Dec	Depth_m	BC_code	BC_Setting	BC_Class	BC_Sbclass	BC_Group	BC_Commun	BC_Co_Occ1	BC_Co_Occ2	CoOc1_code	CoOc2_code	BC_As_Tax1	BC_As_Tax2	As_Tax1_code	As_Tax2_code
M0051	09/16/15	8:37	43.7048	-69.6702	-60.33	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed	Small surface-burrowing fauna (Capitellid)	Clam bed (mixed)	2.2.2.2.1	2.2.2.14	Fish meroplankton		1.1.5.1.leptocephali	
M0052	09/16/15	9:06	43.7150	-69.6791	-34.79	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers		Attached sponges	Attached tunicate (Didemnum)	2.2.1.21	2.2.1.23.1				
M0053	09/16/15	9:20	43.7231	-69.6623	-68.29	2.2.2.1.4	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Larger deep-burrowing fauna	*Nephtys* bed								
M0054	09/16/15	9:56	43.7224	-69.6854	-40.68	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna										
M0055	09/16/15	10:15	43.7189	-69.7119	-44.90	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Small surface-burrowing fauna (Scalibregma)		2.2.2.2.scalibregma					
M0056	09/16/15	10:38	43.7172	-69.7221	-39.96	2.2.2.14.6	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed	*Nucula* bed	Clam bed (mixed)		2.2.2.14					
M0057	09/16/15	10:53	43.7244	-69.7156	-39.38	2.2.2.14.arctica	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed	*Arctica* bed	Clam bed (Nucula)		2.2.2.14.6		Crab(*Cancer*)		AT.Cancer	
M0058	09/16/15	11:40	43.7272	-69.6894	-54.70	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna			Attached seastar		2.2.1.22					
M0059	09/16/15	11:53	43.7362	-69.6655	-62.33	2.2.2.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Larger deep-burrowing fauna		Larger deep-burrowing fauna (Nemertean)	Larger deep-burrowing fauna (Nephtys)	2.2.2.1.ribbonworm	2.2.2.1.4	Clam bed (Nucula)		2.2.2.14.6	
M0060	09/16/15	12:17	43.7414	-69.6913	-58.65	2.2.2.1.4	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Larger deep-burrowing fauna	*Nephtys* bed								
M0061	09/16/15	12:43	43.7477	-69.6567	-58.48	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0062	11/04/15	8:45	43.5838	-69.6857	-132.97	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Fish meroplankton (Leptocephali)		1.1.5.leptocephali					
M0063	11/04/15	9:17	43.6018	-69.6783	-146.31	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Krill aggregation		1.1.1.3					
M0064	11/04/15	9:41	43.6189	-69.6716	-148.88	2.2.3	Benthic/ Attached Biota	Faunal Bed	Inferred Fauna			Soft-sediment fauna		2.2.2					
M0065	11/04/15	10:09	43.6460	-69.6720	-64.36	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna			Attached sponges	Attached seastar (Asterias)	2.2.1.21	2.2.1.22.1	Attached anemone (Urticina)	Fish meroplankton (Leptocephali)	2.2.1.5.urticina	1.1.5.leptocephali
M0066	11/04/15	10:27	43.6610	-69.6643	-85.70	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0067	11/04/15	10:44	43.6490	-69.6550	-91.78	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0068	11/04/15	11:01	43.6441	-69.6968	-74.83	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0069	11/04/15	11:15	43.6422	-69.7188	-65.52	2.2.1.5.urticina	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Attached Anemone	Attached *Urticina*	Attached seastar (Asterias)	Attached hydroids	2.2.1.22.1	2.2.1.17	Attached tunicate (Didemnum)		2.2.1.23.1	
M0070	11/04/15	11:32	43.6396	-69.7411	-78.48	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0071	11/04/15	11:43	43.6385	-69.7524	-79.20	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0072	11/04/15	11:59	43.6385	-69.7781	-46.11	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna										
M0073	08/24/16	7:45	43.6459	-69.8947	-31.45	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers									
M0074	08/24/16	8:01	43.6371	-69.8877	-30.29	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers									
M0075	08/24/16	8:14	43.6198	-69.8659	-72.32	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Mobile mollusks on soft sediment (Frigidoalvania)	Small surface-burrowing fauna (Lumbrineris)	2.2.2.20.alvania	2.2.2.2.4	Clam bed (mixed)		2.2.2.14	
M0076	08/24/16	9:02	43.6178	-69.8532	-71.80	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Clam bed (Pitar)	Larger deep-burrowing fauna (Aglaophamus)	2.2.2.14.pitar	2.2.2.1.4	Clam bed (mixed)		2.2.2.14	

Site_ID	Date	Time	Lat_Dec	Lon_Dec	Depth_m	BC_code	BC_Setting	BC_Class	BC_Sbclass	BC_Group	BC_Commun	BC_Co_Occ1	BC_Co_Occ2	CoOc1_code	CoOc2_code	BC_As_Tax1	BC_As_Tax2	As_Tax1_code	As_Tax2_code
M0077	08/24/16	9:40	43.6309	-69.8545	-62.53	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Small tube-building fauna (Clymenella)	Clam bed (mixed)	2.2.2.5.clymenella	2.2.2.14				
M0078	08/24/16	10:22	43.6291	-69.8639	-63.92	2.2.2.14	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed		Clam bed (mixed)	Small tube-building fauna (Clymenella)	2.2.2.14	2.2.2.5.clymenella				
M0079	08/24/16	11:06	43.6340	-69.8591	-58.87	2.2.2.14	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed		Clam bed (mixed)		2.2.2.14					
M0080	08/24/16	11:14	43.6356	-69.8507	-59.49	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Small tube-building fauna (Clymenella)	Clam bed (Nucula)	2.2.2.5.clymenella	2.2.2.14.6				
M0081	08/24/16	12:18	43.6406	-69.8468	-52.84	2.2.2.1.4	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Larger deep-burrowing fauna	*Nephtys* bed	Clam bed (mixed)	Clam bed (Nucula)	2.2.2.14	2.2.2.14.6				
M0082	08/24/16	13:12	43.6391	-69.8546	-52.75	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Clam bed (Nucula)	Small tube-building fauna (Clymenella)	2.2.2.14.6	2.2.2.5.clymenella				
M0083	09/12/16	7:21	43.6293	-69.8319	-39.32	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers		Attached hydroids	Attached sponges	2.2.1.17	2.2.1.21	Attached tunicate (Didemnum)	Fish	2.2.1.23.6	AT.fish
M0084	09/12/16	7:33	43.6319	-69.8092	-44.92	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers		Attached hydroids	Attached anemone (Urticina)	2.2.1.17	2.2.1.5.urticina	Attached sponges	Attached tunicate (Didemnum)	2.2.1.21	2.2.1.23.6
M0085	09/12/16	7:50	43.6524	-69.7922	-38.75	2.2.2.14.astarte	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed	*Astarte* bed	Small surface-burrowing fauna (Unciola)		2.2.2.2.unciola					
M0086	09/12/16	8:15	43.6648	-69.7753	-13.53	2.5.1.5	Benthic/ Attached Biota	Aquatic Vegetation Bed	Benthic Macroalgae	Leathery/Leafy Algal bed		Attached sponges	Attached tunicate (Didemnum)	2.2.1.21	2.2.1.23.1	Coralline/Crustose Algal bed	Fish	2.5.1.3	AT.fish
M0087	09/12/16	8:38	43.6603	-69.8224	-19.23	2.5.1.3	Benthic/ Attached Biota	Aquatic Vegetation Bed	Benthic Macroalgae	Coralline/Crustose Algal Bed		Diverse Colonizers (Mussel/Sponge/Tunicate colonizers)	Attached seastar (Asterias)	2.2.1.3.2	2.2.1.22.1	Attached tunicate (Didemnum)		2.2.1.23.5	
M0088	09/12/16	8:53	43.6867	-69.8319	-29.73	2.2.2.5	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Small tube-building fauna		Small tube-building fauna (Spionidae)	Small tube-building fauna (Clymenella)	2.2.2.5.4	2.2.2.5.clymenella				
M0089	09/12/16	9:35	43.6947	-69.8193	-10.13	2.5.1.5	Benthic/ Attached Biota	Aquatic Vegetation Bed	Benthic Macroalgae	Leathery/Leafy Algal bed		Coralline/Crustose Algal bed	Attached seastar (Asterias)	2.5.1.3	2.2.1.22.1				
M0090	09/12/16	9:59	43.6896	-69.8044	-28.01	2.2.2.5.clymenella	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Small tube-building fauna	*Clymenella* bed	Small tube-building fauna (Ampharete)	Small surface-burrowing fauna (Drilonereis)	2.2.2.5.ampharete	2.2.2.2.oenonid				
M0091	09/12/16	10:29	43.6898	-69.7540	-28.33	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers		Attached sponges	Attached seastar (Asterias)	2.2.1.21	2.2.1.22.1	Coralline/Crustose Algal bed	Attached tunicate (Didemnum)	2.5.1.3	2.2.1.23.6
M0092	09/12/16	10:45	43.6670	-69.7120	-68.19	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed	Clam bed (Astarte)	Small surface-burrowing fauna (Ninoe)	2.2.2.14.astarte	2.2.2.2.4	Krill aggregation		1.1.1.3	
M0093	09/12/16	11:22	43.6708	-69.7053	-62.45	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna			Attached sponges	Attached seastar (Asterias)	2.2.1.21	2.2.1.22.1				
M0094	09/12/16	11:39	43.6884	-69.7180	-50.44	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna			Attached sponges	Attached seastar (Asterias)	2.2.1.21	2.2.1.22.1				
M0095	09/20/16	7:29	43.6862	-69.8148	-29.08	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Small tube-building fauna (Spionidae)	Clam bed (mixed)	2.2.2.5.4	2.2.2.14				
M0096	09/20/16	7:52	43.6634	-69.8321	-21.43	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers		Attached sponges	Coralline/Crustose algal bed	2.2.1.21	2.5.1.3	Attached tunicate (Didemnum)		2.2.1.23.7	
M0097	09/20/16	8:26	43.6917	-69.8269	-26.86	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Clam bed (Nucula)		2.2.2.14.6					
M0098	09/20/16	8:47	43.6995	-69.8021	-23.55	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Clam bed (Nucula)	Small tube-building fauna (Clymenella)	2.2.2.14.6	2.2.2.5.clymenella				
M0099	09/20/16	9:10	43.6949	-69.7900	-28.55	2.2.2.1.4	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Larger deep-burrowing fauna	*Aglaophamus* bed	Mobile mollusks on soft-sediment (Buccinum)		2.2.2.20.buccinum		Crab (Cancer)		AT.Cancer	
M0100	09/20/16	9:34	43.6970	-69.7540	-19.37	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers		Attached sponges	Coralline/Crustose algal bed	2.2.1.21	2.5.1.3	Attached seastar (Asterias)	Attached tunicate (Didemnum)	2.2.1.22.1	2.2.1.23.6
M0101	09/20/16	9:50	43.6908	-69.7669	-28.65	2.2.2.14.astarte	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed	*Astarte* bed	Small tube-building fauna (Clymenella, Ampharete)	Larger deep-burrowing fauna (Aglaophamus)	2.2.2.5	2.2.2.1.4	Lobster (*Homarus*)		AT.Homarus	
M0102	09/20/16	10:10	43.7135	-69.7895	-19.19	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed		Clam bed (Arctica)	Clam bed (Nucula)	2.2.2.14.arctica	2.2.2.14.6	Crab (*Cancer*)		AT.Cancer	

Site_ID	Date	Time	Lat_Dec	Lon_Dec	Depth_m	BC_code	BC_Setting	BC_Class	BC_Sbclass	BC_Group	BC_Commun	BC_Co_Occ1	BC_Co_Occ2	CoOc1_code	CoOc2_code	BC_As_Tax1	BC_As_Tax2	As_Tax1_code	As_Tax2_code
M0103	09/20/16	10:50	43.7152	-69.7927	-16.93	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Clam bed (Arctica)	Sand dollar bed (Echinarachnius)	2.2.2.14.arctica	2.2.2.24.echinarachnius				
M0104	09/20/16	11:15	43.7191	-69.7862	-15.22	2.2.2.5.clymenella	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Small tube-building fauna	*Clymenella* bed								
M0105	09/20/16	11:25	43.7190	-69.7765	-13.01	2.2.2.24.echinarachnius	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Sand dollar bed	*Echinarachnius* bed	Mobile Mollusks on soft sediment (Buccinum)		2.2.2.20.buccinum					
M0106	09/20/16	11:40	43.7166	-69.7798	-15.06	2.2.2.24.echinarachnius	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Sand dollar bed	*Echinarachnius* bed	Mobile Mollusks on soft sediment (Buccinum)		2.2.2.20.buccinum		Lobster (Homarus)		AT.Homarus	
M0107	09/20/16	11:59	43.7150	-69.7805	-15.27	2.2.2.1.4	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Larger deep-burrowing fauna	*Aglaophamus* bed	Small tube-building fauna (Clymenella)		2.2.2.5.clymenella					
M0108	09/20/16	12:28	43.7316	-69.7145	-12.85	2.5.1.3	Benthic/ Attached Biota	Aquatic Vegetation Bed	Benthic Macroalgae	Coralline/Crustose Algal Bed		Attached seastar (Asterias)	Attached tunicate (Didemnum)	2.2.1.22.1	2.2.1.23.1				
M0109	09/20/16	12:40	43.7468	-69.7242	-24.04	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Clam bed (Cyclocardia)	Small tube-building fauna (Clymenella)	2.2.2.14.cyclocardia	2.2.2.5.clymenella				
M0110	09/20/16	13:03	43.7490	-69.7119	-27.42	2.2.2.2.oenonid	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Small surface-burrowing fauna	*Drilonereis* bed	Small tube-building fauna (mixed)		2.2.2.5					
M0111	09/20/16	13:29	43.7605	-69.6697	-18.71	2.5.1.2.2	Benthic/ Attached Biota	Aquatic Vegetation Bed	Benthic Macroalgae	Canopy-forming Algal Bed	*Laminaria* communities	Coralline/Crustose Algal bed		2.5.1.3		Fish		AT.fish	
M0112	09/26/16	6:53	43.6851	-69.8322	-30.37	2.2.2.1.ribbonworm	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Larger deep-burrowing fauna	Nemertean bed	Clam bed (Nucula)		2.2.2.14.6					
M0113	09/26/16	7:22	43.6720	-69.8239	-27.12	2.2.2.25.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Scallop bed	*Argopecten* bed	Barnacles (Semibalanus)	Attached Anomiidae	2.2.1.6.1	2.2.1.attachedjingle	Crab (*Cancer*)		AT.Cancer	
M0114	10/05/16	7:06	43.7287	-69.7351	-25.78	2.2.2.14.6	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Clam bed	*Nucula* bed					Lobster (Homarus)		AT.Homarus	
M0115	10/05/16	7:34	43.6713	-69.7682	-35.42	2.2.2.5.clymenella	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Small tube-building fauna	*Clymenella* bed								
M0116	10/05/16	8:03	43.6504	-69.8624	-32.99	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers		Attached sponges	Attached hydroids	2.2.1.21	2.2.1.17	Attached tunicate (Didemnum)	Soft-sediment fauna	2.2.1.23.2	2.2.2
M0117	10/05/16	8:26	43.6862	-69.9414	-44.49	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Surface burrowing-fauna (polychaetes)	Holothurian bed (Epitomapta)	2.2.2.2	2.2.2.18.3				
M0118	10/05/16	8:39	43.6803	-69.9347	-14.02	2.5.1	Benthic/ Attached Biota	Aquatic Vegetation Bed	Benthic Macroalgae			Attached tunicate (Didemnum)		2.2.1.23.1					
M0119	10/05/16	8:52	43.6643	-69.9164	-30.14	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers		Attached sponges	Attached tunicate (Didemnum)	2.2.1.21	2.2.1.23.1	Fish		AT.fish	
M0120	10/05/16	9:04	43.6842	-69.9075	-37.69	2.2.2.5.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Small tube-building fauna	Thin *Ampelisca* bed	Larger deep-burrowing fauna (Nephtys)		2.2.2.1.4					
M0121	10/05/16	9:22	43.6832	-69.8811	-13.78	2.5.1.2.3	Benthic/ Attached Biota	Aquatic Vegetation Bed	Benthic Macroalgae	Canopy-forming Algal Bed	*Laminaria* communities	Coralline/Crustose Algal bed	Leafy/Leathery Algal bed (Chondrus)	2.5.1.3	2.5.1.5.3	Fish	Lobster (Homarus)	AT.fish	AT.lobster
M0122	10/05/16	9:36	43.6836	-69.8525	-26.02	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna			Small surface-burrowing fauna (Drilonereis)	Small tube-building fauna (Clymenella)	2.2.2.2.oenonid	2.2.2.5.clymenella	Mobile crustaceans on soft sediments (Politolana)	Larger deep-burrowing fauna (Aglaophamus)	2.2.2.16.politolana	2.2.2.1.4
M0123	10/05/16	10:00	43.6889	-69.8262	-28.46	2.2.2.1.4	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Larger deep-burrowing fauna	*Nephtys* bed	Small surface-burrowing fauna (Chaetozone)	Clam bed (mixed)	2.2.2.2.chaetozone	2.2.2.14				
M0124	10/05/16	10:14	43.7000	-69.8213	-22.08	2.2.2.16.cumacean	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Mobile crustaceans on soft sediments	*Diastylis* bed	Larger deep-burrowing fauna (Nephtys)		2.2.2.1.4					
M0125	10/05/16	10:35	43.6978	-69.7793	-31.85	2.2.2.5.clymenella	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Small tube-building fauna	*Clymenella* bed	Clam bed (Yoldia)	Larger deep-burrowing fauna (Nephtys)	2.2.2.14.10	2.2.2.1.4				
M0126	11/14/16	8:41	43.6543	-69.8433	-33.19	2.2.2.24.echinarachnius	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Sand dollar bed	*Echinarachnius bed*	Small tube-building fauna (Spio)		2.2.2.5					
M0127	07/17/17	6:34	43.7124	-69.5995	79.6	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna					1.1.1.3					
M0128	07/17/17	7:12	43.7139	-69.6449	79.1	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna					1.1.1.3					

Site_ID	Date	Time	Lat_Dec	Lon_Dec	Depth_m	BC_code	BC_Setting	BC_Class	BC_Sbclass	BC_Group	BC_Commun	BC_Co_Occ1	BC_Co_Occ2	CoOc1_code	CoOc2_code	BC_As_Tax1	BC_As_Tax2	As_Tax1_code	As_Tax2_code
M0129	07/17/17	7:49	43.7494	-69.6457	62.7	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0130	07/17/17	8:12	43.7603	-69.6252	51.8	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0131	07/17/17	8:35	43.7591	-69.5993	58.8	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0132	07/17/17	8:54	43.7618	-69.6043	51.2	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna					2.2.2.5		Lobster (Homarus)		AT.lobster	
M0133	07/17/17	9:18	43.7854	-69.5936	46.7	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0134	07/17/17	9:38	43.7852	-69.6141	41.7	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0138	08/02/17	6:43	43.7193	-69.5289	39.7	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers									
M0139	08/02/17	7:01	43.7382	-69.4851	38.8	2.2.1.17	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Attached hydroids				2.2.1.21	2.2.1.22.1				
M0140	08/02/17	7:24	43.7575	-69.4300	76.9	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna					1.1.1.3					
M0141	08/02/17	7:40	43.7394	-69.4330	70.3	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed								
M0142	08/02/17	8:30	43.7178	-69.4463	88	2.2.1.17	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Attached hydroids									
M0143	08/02/17	9:19	43.7092	-69.4820	64.1	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed								
M0144	08/02/17	9:42	43.7035	-69.5010	83.6	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed								
M0145	08/02/17	11:17	43.6498	-69.6280	33.8	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers				2.2.1.21	2.2.1.17	Fish		AT.fish	
M0146	08/02/17	11:41	43.6574	-69.6219	51.2	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna					2.2.1.21		Fish		AT.fish	
M0147	08/02/17	12:02	43.6789	-69.6012	69	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna					2.2.1.5.urticina					
M0148	08/02/17	12:13	43.6839	-69.6160	36.6	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna					2.2.1.21	2.2.1.17				
M0149	08/02/17	12:33	43.7211	-69.6143	13.5	2.5.1	Benthic/ Attached Biota	Aquatic Vegetation	Benthic Macroalgae							Fish		AT.fish	
M0150	08/02/17	12:44	43.7282	-69.6236	11	2.5.1	Benthic/ Attached Biota	Aquatic Vegetation	Benthic Macroalgae							Lobster (Homarus)		AT.lobster	
M0151	08/02/17	12:53	43.7336	-69.6199	11	2.5.1	Benthic/ Attached Biota	Aquatic Vegetation	Benthic Macroalgae							Fish		AT.fish	
M0152	08/02/17	13:02	43.7387	-69.6163	23.6	2.5.1	Benthic/ Attached Biota	Aquatic Vegetation	Benthic Macroalgae							Fish		AT.fish	
M0153	08/02/17	13:30	43.7858	-69.6032	9.4	2.5.1	Benthic/ Attached Biota	Aquatic Vegetation	Benthic Macroalgae										
M0154	08/02/17	13:36	43.7849	-69.6064	7.9	2.5.1	Benthic/ Attached Biota	Aquatic Vegetation	Benthic Macroalgae							Fish		AT.fish	
M0155	08/28/17	6:29	43.7782	-69.4968	108	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna					1.1.1.3					
M0156	08/28/17	6:52	43.7872	-69.4729	79.3	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna					1.1.1.3					
M0157	08/28/17	7:28	43.7983	-69.4280	48.9	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed								

Site_ID	Date	Time	Lat_Dec	Lon_Dec	Depth_m	BC_code	BC_Setting	BC_Class	BC_Sbclass	BC_Group	BC_Commun	BC_Co_Occ1	BC_Co_Occ2	CoOc1_code	CoOc2_code	BC_As_Tax1	BC_As_Tax2	As_Tax1_code	As_Tax2_code
M0158	08/28/17	7:53	43.7997	-69.4276	37.4	2.2.2	Benthic/ Attached Biota	Faunal Bed	Attached fauna					2.2.1.21					
M0159	08/28/17	8:18	43.8108	-69.4095	53.1	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna					1.1.1.3					
M0160	08/28/17	8:32	43.8101	-69.4097	53.6	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed								
M0161	08/28/17	8:49	43.8091	-69.4103	54.3	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed					Lobster (Homarus)		AT.lobster	
M0162	08/28/17	9:10	43.8092	-69.4081	49.4	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna					2.2.1.21		Crab		AT.crab	
M0163	08/28/17	9:17	43.8072	-69.4086	49.5	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed					Crab		AT.crab	
M0164	08/28/17	9:47	43.8034	-69.3989	62.9	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0165	08/28/17	10:33	43.7757	-69.4114	60.3	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed			2.2.1.21		Lobster (Homarus)		AT.lobster	
M0166	08/28/17	10:52	43.7747	-69.4553	76.5	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna					1.1.1.3					
M0167	08/28/17	11:15	43.7601	-69.4791	87.5	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna					1.1.1.3					
M0168	09/13/17	6:33	43.7857	-69.5931	47.4	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0169	09/13/17	7:11	43.7609	-69.5458	56.2	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed								
M0170	09/13/17	7:34	43.7587	-69.5477	58.4	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed								
M0171	09/13/17	7:58	43.7408	-69.5439	64.4	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed								
M0172	09/13/17	8:22	43.7366	-69.5415	67.6	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0173	09/13/17	8:45	43.7260	-69.5424	62.3	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed			2.2.1.21	1.1.6.1				
M0174	09/13/17	9:06	43.7251	-69.5441	68.4	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed								
M0175	09/13/17	9:37	43.7213	-69.5425	52.9	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna					2.2.1.5.urticina	2.2.1.21	Fish		AT.fish	
M0176	09/13/17	9:59	43.7236	-69.5417	64.1	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna					2.2.1.23.1					
M0177	09/13/17	10:26	43.7220	-69.5443	64.5	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed			2.2.2.24.echinarachnius					
M0178	09/13/17	11:00	43.7687	-69.5137	29.3	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers				2.2.1.5	2.2.1.21	Crab		AT.crab	
M0179	09/13/17	11:16	43.7493	-69.4531	71.2	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna										
M0180	09/13/17	11:32	43.7772	-69.4365	20.2	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers				2.2.1.5	2.2.1.22.1	Attached Sponge		2.2.1.21	
M0181	09/13/17	11:45	43.7939	-69.4653	35.5	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers				2.2.1.21	2.2.1.22.1	Fish		AT.fish	
M0182	10/02/17	6:54	43.8147	-69.5163	48.8	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0183	10/02/17	7:10	43.8127	-69.5145	34.7	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna					2.2.1.21	2.2.1.22.1	Fish		AT.fish	

Site_ID	Date	Time	Lat_Dec	Lon_Dec	Depth_m	BC_code	BC_Setting	BC_Class	BC_Sbclass	BC_Group	BC_Commun	BC_Co_Occ1	BC_Co_Occ2	CoOc1_code	CoOc2_code	BC_As_Tax1	BC_As_Tax2	As_Tax1_code	As_Tax2_code
M0184	10/02/17	7:25	43.8136	-69.5136	36.8	2.2.1.3	Benthic/ Attached Biota	Faunal Bed	Attached fauna	Diverse Colonizers				2.2.1.21	2.2.1.22.1	Fish	Crab	AT.fish	AT.crab
M0185	10/02/17	7:38	43.8126	-69.5171	48.8	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0186	10/02/17	7:59	43.8095	-69.5260	49.5	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna					2.2.2.24.echinarachnius					
M0187	10/02/17	8:18	43.8076	-69.5270	53.6	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna					2.2.1.21					
M0188	10/02/17	8:37	43.8002	-69.5336	43	2.2	Benthic/ Attached Biota	Faunal Bed	Attached fauna					2.2.1.21					
M0189	10/02/17	8:53	43.7992	-69.5335	39.4	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed					Fish		AT.fish	
M0190	10/02/17	9:10	43.8004	-69.5337	43.2	2.2.1	Benthic/ Attached Biota	Faunal Bed	Attached fauna					2.2.2.25.1	2.2.1.22.1				
M0191	10/02/17	9:35	43.7971	-69.5367	50.6	2.2.2.8.1	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Burrowing Anemones	*Pachycerianthus* bed								
M0192	10/02/17	10:07	43.7921	-69.5407	48.1	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0193	10/02/17	10:39	43.7707	-69.6073	21.3	2.2.2.24.echinarachnius	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Sand dollar bed	*Echinarachnius* bed								
M0194	10/02/17	10:51	43.7707	-69.6064	25.1	2.2.2.24.echinarachnius	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Sand dollar bed	*Echinarachnius* bed								
M0195	10/02/17	11:10	43.7798	-69.6150	42.9	2.2.2	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna										
M0196	10/02/17	11:33	43.7810	-69.6500	15.9	2.2.2.24.echinarachnius	Benthic/ Attached Biota	Faunal Bed	Soft-sediment fauna	Sand dollar bed	*Echinarachnius* bed								
M0197	10/02/17	11:52	43.7812	-69.6541	14.5	2.5.1.8	Benthic/ Attached Biota	Aquatic Vegetation	Benthic Macroalgae	Turf Algal Bed	Mixed Algal Turf Communities			2.2.1.19.1	2.2.1.21				

Appendix H. ANOSIM pairwase abiotic surrogate group comparisons with details on significantly different univariate community summary metrics, determined from ANOVA tests with follow-up Tukey tests, for MCMI grab samples collected from unconsolidated sediment habitat 2015-2016. Significantly different ($p \leq 5\%$) pairwise group comparisons are indicated using bold font. Univariate community metrics are reported as the change in the metric average from group A to group B, only for instances where pairwise comparisons were significantly different at or below the 0.05 (5%) alpha level. Univariate community metrics include: total Families (S), infauna density per meter squared (N m^{-2}), Margalef's species richness index (d), species rarefaction (from a sample of 50, ES(50)), and Shannon's diversity (H; log_e). No significant differences in group pairwise comparisons were detected for the Pielou's species evenness metric (J').

Group A	Group B	R statistic	Permutations		Number ≥ observed	Significance level, %	Difference between Groups A&B				
			Possible	Actual			S	N m^{-2}	d	ES(50)	H
Gravelly/Medium-Coarse Sand-< 30 m	**Gravel/Gravel mix-30-60 m**	**0.554**	35	35	1	**0.1**			**-1.61**		**-0.56**
Gravelly/Medium-Coarse Sand-< 30 m	**Gravelly/Medium-Coarse Sand-30-60 m**	**0.381**	43758	999	6	**0.5**			**-1.76**		**-0.63**
Gravelly/Medium-Coarse Sand-< 30 m	**Slightly gravelly-> 60 m**	**0.610**	646646	999	0	**0.1**	**-10**	**-397**	**-2.23**	**-10**	**-0.80**
Gravelly/Medium-Coarse Sand-< 30 m	**Mud-> 60 m**	**0.840**	19448	999	2	**0.2**					
Gravelly/Medium-Coarse Sand-< 30 m	**Muddy sand-30-60 m**	**0.636**	8008	999	28	**0.1**	**-12**	**-480**	**-2.46**	**-12**	**-0.86**
Gravelly/Medium-Coarse Sand-< 30 m	**Slightly gravelly-30-60 m**	**0.629**	3003	999	2	**0.3**	**-12**	**-503**	**-2.45**	**-11**	**-0.87**
Gravelly/Medium-Coarse Sand-< 30 m	**Gravel/Gravel mix-> 60 m**	**0.608**	286	286	1	**4.4**					
Gravelly/Medium-Coarse Sand-< 30 m	**Gravelly/Medium-Coarse Sand-> 60 m**	**0.487**	286	286	1	**0.6**	**-13**		**-2.93**	**-12**	**-0.99**
Gravelly/Medium-Coarse Sand-< 30 m	**Mud-30-60 m**	**0.283**	1001	999	1	**2.7**					
Gravelly/Medium-Coarse Sand-< 30 m	**Muddy sand-> 60 m**	**0.539**	**43758**	**999**	**0**	**2.2**					**-0.89**
Gravelly/Medium-Coarse Sand-< 30 m	Mud-< 30 m	0.102	**43758**	**999**	**3**	32.1					
Gravelly/Medium-Coarse Sand-< 30 m	Slightly gravelly-< 30 m	-0.024	**6435**	**999**	**0**	57.0					
Gravelly/Medium-Coarse Sand-< 30 m	Fine sand-< 30 m	0.055	125970	999	0	34.9					
Gravelly/Medium-Coarse Sand-< 30 m	Gravel/Gravel mix-< 30 m	-0.137	**6435**	**999**	**1**	77.0					
Gravel/Gravel mix-30-60 m	Gravelly/Medium-Coarse Sand-30-60 m	0.076	**3003**	**999**	**2**	15.6					
Gravel/Gravel mix-30-60 m	**Slightly gravelly-> 60 m**	**0.258**	45	45	2	**0.9**					
Gravel/Gravel mix-30-60 m	**Mud-> 60 m**	**0.795**	**165**	**165**	**1**	**0.1**					
Gravel/Gravel mix-30-60 m	**Muddy sand-30-60 m**	**0.454**	1287	999	23	**0.3**					
Gravel/Gravel mix-30-60 m	**Slightly gravelly-30-60 m**	**0.316**	**45**	**45**	**1**	**1.3**					
Gravel/Gravel mix-30-60 m	Gravel/Gravel mix-> 60 m	0.026	35	35	1	43.9					
Gravel/Gravel mix-30-60 m	Gravelly/Medium-Coarse Sand-> 60 m	0.018	**646646**	**999**	**0**	42.0					
Gravel/Gravel mix-30-60 m	**Mud-30-60 m**	**0.673**	286	286	6	**0.1**					
Gravel/Gravel mix-30-60 m	Muddy sand-> 60 m	0.324	1001	999	48	9.1					
Gravel/Gravel mix-30-60 m	**Mud-< 30 m**	**0.763**	**50388**	**999**	**0**	**0.3**					
Gravel/Gravel mix-30-60 m	**Slightly gravelly-< 30 m**	**0.707**	**18564**	**999**	**0**	**0.3**					
Gravel/Gravel mix-30-60 m	**Fine sand-< 30 m**	**0.658**	455	455	1	**0.2**					
Gravel/Gravel mix-30-60 m	Gravel/Gravel mix-< 30 m	-0.018	6188	999	24	53.5					
Gravelly/Medium-Coarse Sand-30-60 m	Slightly gravelly-> 60 m	0.087	91	91	1	7.6					
Gravelly/Medium-Coarse Sand-30-60 m	**Mud-> 60 m**	**0.649**	455	455	1	**0.1**					
Gravelly/Medium-Coarse Sand-30-60 m	**Muddy sand-30-60 m**	**0.178**	455	455	1	**4.5**					
Gravelly/Medium-Coarse Sand-30-60 m	Slightly gravelly-30-60 m	-0.027	1820	999	2	54.3					
Gravelly/Medium-Coarse Sand-30-60 m	Gravel/Gravel mix-> 60 m	0.024	455	455	1	45.5					
Gravelly/Medium-Coarse Sand-30-60 m	Gravelly/Medium-Coarse Sand-> 60 m	-0.210	126	126	1	86.4					
Gravelly/Medium-Coarse Sand-30-60 m	**Mud-30-60 m**	**0.316**	56	56	1	**2.2**					
Gravelly/Medium-Coarse Sand-30-60 m	Muddy sand-> 60 m	0.111	792	792	3	32.7					
Gravelly/Medium-Coarse Sand-30-60 m	**Mud-< 30 m**	**0.573**	120	120	2	**0.9**					

Group A	Group B	R statistic	Permutations		Number ≥ observed	Significance level, %	Difference between Groups A&B				
			Possible	Actual			S	N m^{-2}	d	ES(50)	H
Gravelly/Medium-Coarse Sand-30-60 m	**Slightly gravelly-< 30 m**	**0.438**	120	120	2	**3.6**					
Gravelly/Medium-Coarse Sand-30-60 m	**Fine sand-< 30 m**	**0.382**	330	330	3	**2.0**					
Gravelly/Medium-Coarse Sand-30-60 m	Gravel/Gravel mix-< 30 m	0.208	120	120	1	11.4					
Slightly gravelly-> 60 m	**Mud-> 60 m**	**0.472**	125970	999	0	**0.2**					
Slightly gravelly-> 60 m	**Muddy sand-30-60 m**	**0.308**	6435	999	5	**0.3**					
Slightly gravelly-> 60 m	Slightly gravelly-30-60 m	0.157	1287	999	13	6.3					
Slightly gravelly-> 60 m	Gravel/Gravel mix-> 60 m	0.216	165	165	2	28.9					
Slightly gravelly-> 60 m	Gravelly/Medium-Coarse Sand-> 60 m	0.081	165	165	1	32.7					
Slightly gravelly-> 60 m	**Mud-30-60 m**	**0.509**	495	495	2	**0.6**					
Slightly gravelly-> 60 m	Muddy sand-> 60 m	0.353	165	165	1	15.6					
Slightly gravelly-> 60 m	**Mud-< 30 m**	**0.817**	462	462	1	**1.2**					
Slightly gravelly-> 60 m	**Slightly gravelly-< 30 m**	**0.836**	84	84	1	**1.2**					
Slightly gravelly-> 60 m	**Fine sand-< 30 m**	**0.807**	84	84	1	**0.2**					
Slightly gravelly-> 60 m	**Gravel/Gravel mix-< 30 m**	**0.823**	210	210	1	**0.6**					
Mud-> 60 m	**Muddy sand-30-60 m**	**0.501**	84	84	1	**0.2**		**-383**			
Mud-> 60 m	**Slightly gravelly-30-60 m**	**0.618**	10	10	3	**0.1**		**-406**			
Mud-> 60 m	Gravel/Gravel mix-> 60 m	0.430	21	21	5	5.5					
Mud-> 60 m	**Gravelly/Medium-Coarse Sand-> 60 m**	**0.638**	3	3	1	**0.2**					
Mud-> 60 m	**Mud-30-60 m**	**0.269**	10	10	1	**2.5**					
Mud-> 60 m	**Muddy sand-> 60 m**	**0.481**	10	10	2	**1.1**					
Mud-> 60 m	**Mud-< 30 m**	**0.688**	15	15	1	**0.2**					
Mud-> 60 m	**Slightly gravelly-< 30 m**	**0.915**	10	10	1	**0.2**					
Mud-> 60 m	**Fine sand-< 30 m**	**0.907**	92378	999	115	**0.1**					
Mud-> 60 m	**Gravel/Gravel mix-< 30 m**	**0.994**	66	66	27	**0.2**					
Muddy sand-30-60 m	Slightly gravelly-30-60 m	0.160	286	286	118	10.2					
Muddy sand-30-60 m	Gravel/Gravel mix-> 60 m	0.247	66	66	6	27.8					
Muddy sand-30-60 m	Gravelly/Medium-Coarse Sand-> 60 m	0.147	286	286	147	22.5					
Muddy sand-30-60 m	**Mud-30-60 m**	**0.458**	165	165	50	**0.4**					
Muddy sand-30-60 m	Muddy sand-> 60 m	-0.240	165	165	102	86.1					
Muddy sand-30-60 m	**Mud-< 30 m**	**0.694**	495	495	184	**1.7**					
Muddy sand-30-60 m	**Slightly gravelly-< 30 m**	**0.655**	165	165	121	**1.7**					
Muddy sand-30-60 m	**Fine sand-< 30 m**	**0.669**	56	56	6	**0.9**					
Muddy sand-30-60 m	**Gravel/Gravel mix-< 30 m**	**0.913**	10	10	4	**0.8**					
Slightly gravelly-30-60 m	Gravel/Gravel mix-> 60 m	0.385	10	10	1	10.7					
Slightly gravelly-30-60 m	Gravelly/Medium-Coarse Sand-> 60 m	0.056	10	10	1	33.3					
Slightly gravelly-30-60 m	**Mud-30-60 m**	**0.579**	10	10	1	**0.2**					
Slightly gravelly-30-60 m	Muddy sand-> 60 m	0.354	43758	999	148	14.3					
Slightly gravelly-30-60 m	**Mud-< 30 m**	**0.951**	19448	999	71	**1.2**					
Slightly gravelly-30-60 m	**Slightly gravelly-< 30 m**	**0.852**	8008	999	658	**1.2**					
Slightly gravelly-30-60 m	**Fine sand-< 30 m**	**0.786**	66	66	34	**0.5**					
Slightly gravelly-30-60 m	**Gravel/Gravel mix-< 30 m**	**1.000**	286	286	242	**1.2**					
Gravel/Gravel mix-> 60 m	Gravelly/Medium-Coarse Sand-> 60 m	0.250	3003	999	53	30.0					

Group A	Group B	R statistic	Permutations		Number ≥ observed	Significance level, %	Difference between Groups A&B				
			Possible	Actual			S	N m^{-2}	d	ES(50)	H
Gravel/Gravel mix-> 60 m	Mud-30-60 m	0.327	66	66	23	19.0					
Gravel/Gravel mix-> 60 m	Muddy sand-> 60 m	0.500	286	286	21	33.3					
Gravel/Gravel mix-> 60 m	Mud-< 30 m	0.833	286	286	97	10.0					
Gravel/Gravel mix-> 60 m	Slightly gravelly-< 30 m	0.667	10	10	2	20.0					
Gravel/Gravel mix-> 60 m	Fine sand-< 30 m	0.857	35	35	2	6.7					
Gravel/Gravel mix-> 60 m	Gravel/Gravel mix-< 30 m	1.000	10	10	1	10.0					
Gravelly/Medium-Coarse Sand-> 60 m	Mud-30-60 m	0.210	91	91	5	14.3					
Gravelly/Medium-Coarse Sand-> 60 m	Muddy sand-> 60 m	0.083	21	21	5	40.0					
Gravelly/Medium-Coarse Sand-> 60 m	Mud-< 30 m	0.889	56	56	9	10.0					
Gravelly/Medium-Coarse Sand-> 60 m	Slightly gravelly-< 30 m	0.630	56	56	4	10.0					
Gravelly/Medium-Coarse Sand-> 60 m	**Fine sand-< 30 m**	**0.833**	10	10	2	**2.9**					
Gravelly/Medium-Coarse Sand-> 60 m	Gravel/Gravel mix-< 30 m	1.000	10	10	2	10.0					
Mud-30-60 m	Muddy sand-> 60 m	0.255	15	15	2	23.8					
Mud-30-60 m	Mud-< 30 m	0.241	10	10	1	16.1					
Mud-30-60 m	Slightly gravelly-< 30 m	0.364	1716	999	96	7.1					
Mud-30-60 m	**Fine sand-< 30 m**	**0.494**	36	36	10	**0.8**					
Mud-30-60 m	**Gravel/Gravel mix-< 30 m**	**0.744**	120	120	28	**1.8**					
Muddy sand-> 60 m	Mud-< 30 m	0.667	36	36	31	20.0					
Muddy sand-> 60 m	Slightly gravelly-< 30 m	0.417	35	35	34	20.0					
Muddy sand-> 60 m	Fine sand-< 30 m	0.714	10	10	1	13.3					
Muddy sand-> 60 m	Gravel/Gravel mix-< 30 m	1.000	3003	999	82	10.0					
Mud-< 30 m	Slightly gravelly-< 30 m	0.222	45	45	13	20.0					
Mud-< 30 m	Fine sand-< 30 m	0.500	165	165	55	5.7					
Mud-< 30 m	Gravel/Gravel mix-< 30 m	1.000	45	45	7	10.0					
Slightly gravelly-< 30 m	Fine sand-< 30 m	-0.352	28	28	3	100.0					
Slightly gravelly-< 30 m	Gravel/Gravel mix-< 30 m	0.630	84	84	25	10.0					
Fine sand-< 30 m	Gravel/Gravel mix-< 30 m	0.778	28	28	4	5.7					