DREDGED MATERIAL RESEARCH PROGRAM

TECHNICAL REPORT D-77-6

AQUATIC DISPOSAL FIELD INVESTIGATIONS EATONS NECK DISPOSAL SITE LONG ISLAND SOUND

APPENDIX C: PREDISPOSAL BASELINE CONDITIONS OF BENTHIC ASSEMBLAGES

by

D. Keith Serafy, David J. Hartzband, Marcia Bowen
New York Ocean Science Laboratory
Montauk, New York

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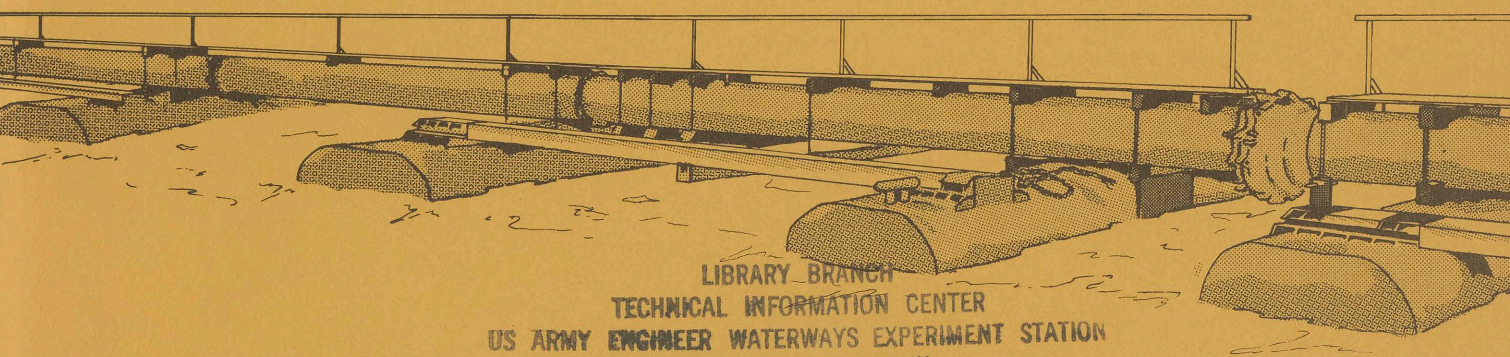
Final Report



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AQUATIC DISPOSAL FIELD INVESTIGATIONS

EATONS NECK DISPOSAL SITE

LONG ISLAND SOUND

Appendix A: Hydraulic Regime and Physical Characteristics of Bottom Sediment

Appendix B: Water-Quality Parameters and Physicochemical Sediment Parameters

Appendix C: Predisposal Baseline Conditions of Benthic Assemblages

Appendix D: Predisposal Baseline Conditions of Demersal Fish Assemblages

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Appendix F: Predisposal Baseline Conditions of Phytoplankton Assemblages

DEPARTMENT OF THE ARMY
WATERWAYS EXPERIMENT STATION, CORPS OF ENGINEERS
P. O. BOX 631
VICKSBURG, MISSISSIPPI 39180

IN REPLY REFER TO: WESYV

18 November 1977

SUBJECT: Transmittal of Technical Report D-77-6 (Appendix C)

TO: All Report Recipients

1. The technical report transmitted herewith represents the results of one of several research efforts (Work Units) undertaken as part of Task 1A, Aquatic Disposal Field Investigations of the Corps of Engineers' Dredged Material Research Program. Task 1A is a part of the Environmental Impacts and Criteria Development Project (EICDP), which has as a general objective determination of the magnitude and extent of effects of disposal sites on organisms and the quality of surrounding water, and the rate, diversity, and extent such sites are recolonized by benthic flora and fauna. The study reported on herein was an integral part of a series of research contracts jointly developed to achieve the EICDP general objective at the Eatons Neck Disposal Site, one of five sites located in several geographical regions of the United States. Consequently, this report presents results and interpretations of but one of several closely interrelated efforts and should be used only in conjunction with and consideration of the other related reports for this site.

2. This report, Appendix C: Predisposal Baseline Conditions of Benthic Assemblages, is one of six contractor-prepared appendices that are published as Waterways Experiment Station Technical Report D-77-6 entitled: Aquatic Disposal Field Investigations, Eatons Neck Disposal Site, Long Island Sound. The titles of the appendices of this series are listed on the inside front cover of this report. The main report will provide additional results, interpretations, and conclusions not found in the individual appendices and will provide a comprehensive summary and synthesis overview of the entire project.

3. The purpose of this report, conducted as Work Unit 1A06C, was to determine the baseline conditions of the macrofauna and meiofauna at an established disposal site off Eatons Neck, Long Island, New York, and to compare the disposal site with surrounding areas that were not disposed on. This report includes a determination of the distribution of benthic communities within the disposal site, the reference area and the adjacent surrounding area. Benthic distributions were determined through grab sampling, sub-coring, and epibenthic sled tows. Grain-size analysis, biomass determination, and sediment temperature profiles were also taken to augment the benthic distribution determinations.

4. The conclusions of the report are that a mud or silt-clay habitat exists for the disposal area. Dominant species or macrofauna for the habitat in the site are the polychaetes *Mediomastus ambiseta* and *Nephtys incisa* and the bivalves *Mulinea lateralis* and *Nucula proxima*. This mud assemblage is generally characterized by lower species diversity, biomass, and density of benthic organisms relative to those of the sand assemblages. It was further observed that the biology of the mud area at the dump site was very similar to nondumped mud reference areas of that portion of Long Island Sound. The same was found for the sand areas. The data suggest recovery at the dump site had progressed to a somewhat stable condition representative of that portion of Long Island Sound.

5. The baseline evaluations at all of the EICDP field sites were developed to determine the base or ambient physical, chemical, and biological conditions at the respective sites from which to determine impacts due to the subsequent disposal operations. Where the dump sites had historical usage, the long-term impacts of dumping at these sites could also be ascertained. Controlled disposal operations at the Eatons Neck site, however, did not occur due to local opposition to research activities and even though the Eatons Neck project was terminated after completion of the baseline, this information will be useful in evaluating the impacts of past disposal at this site. The results of this study are particularly important in determining placement of dredged material for open-water disposal. Referenced studies, as well as the ones summarized in this report, will aid in determining the optimum disposal conditions and site selection in relation to the benthic ecology of the historical dump site and surrounding area.

JOHN L. CANNON
Colonel, Corps of Engineers
Commander and Director

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20. ABSTRACT (*Continue on reverse side if necessary and identify by block number*)

A baseline survey of macrobenthic and meiobenthic assemblages inhabiting the Eatons Neck Disposal Site and immediate vicinity of western Long Island Sound was conducted from October 1974 through June 1975. The data were used to describe the benthic assemblages of a disposal site that had received dredged material and other substances for a period of about 71 years, 1902 to 1973. No dumping had taken place at the site for about one year prior to collection of the baseline data.

(Continued)

20. ABSTRACT (Continued).

The silt-clay or mud sedimentary environment is the largest benthic habitat in the Eatons Neck Disposal Site, extending over most of the site except in the vicinity of reefs. The mud sediments harbor a relatively distinct macrobenthic assemblage dominated numerically by the polychaetes *Mediomastus ambiseta* and *Nephtys incisa* and the bivalves *Mulinia lateralis* and *Nucula proxima*. In the sandy environment of Budd Reef in the northern corner of the site, the crustacean *Hutchinsoniella macracantha*, the polychaetes *M. ambiseta* and *N. incisa*, the bivalve *Tellina agilis*, and the nemertean *Tubulanus pellucidus* were the most abundant species. The sand assemblage occurring at Cable and Anchor Reef in the extreme eastern section of the site was dominated by the annelids *M. ambiseta*, *Aricidea cirruti*, and *Polygordius triestinus*, oligochaetes, nematodes, the bivalve *T. agilis*, and the amphipods *Ampelisca vadorum* and *Phoxocephalus holbolli*.

The mud assemblage generally had lower species diversity, biomass, and density of macroinvertebrates than the two sand assemblages. Deposit feeders were typically the most abundant species in all assemblages. Temporal changes occurred in benthic species composition and abundance. The meiobenthos was dominated by nematodes and harpacticoid copepods.

PREFACE

This report presents the results of an investigation to determine the baseline conditions of the macrofauna and meiofauna at an established disposal site off Eatons Neck, Long Island, New York.

The study was supported by the U. S. Army Engineer Waterways Experiment Station (WES), Environmental Effects Laboratory (EEL), Vicksburg, Mississippi, under Contract No. DACW51-75-C-0016 to the New York Ocean Science Laboratory, Montauk, New York. The report forms part of the Dredged Material Research Program, which is sponsored by the Office, Chief of Engineers. Contracting was handled by the New York District (NYD); COL Thomas C. Hunter, CE, NYD, was contracting officer.

The report was written by D. Keith Serafy, David J. Hartzband, and Marcia Brown.

The following New York Ocean Science Laboratory personnel assisted in the collecting, sorting, and identification of the samples: Nancy Bernius, Warren Black, Amy Breyer, Gail Erskine, Diane Guyer, Bruce Harke, Diane Lindstedt, Karl Nilsen, Noel Rowe, Lorraine Scheele, and Kim Warren. L. S. Kornicker, National Museum of Natural History (NMNH), confirmed the ostracod identifications and provided access to the national collection of crustacea. M. H. Pettibone, NMNH, confirmed some polychaete identifications and provided access to the national collection of polychaetes.

The study was conducted under the direction of the following EEL personnel: Dr. R. M. Engler, Environmental Impacts and Criteria Development Project Manager, and James Reese, Site Manager.

The study was under the general supervision of Dr. John Harrison, Chief, EEL.

Directors of WES during the study and preparation of this report were COL G. H. Hilt, CE, and COL J. L. Cannon, CE. Technical Director was Mr. F. R. Brown.

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AQUATIC DISPOSAL FIELD INVESTIGATIONS, EATONS NECK DISPOSAL SITE, LONG ISLAND SOUND

APPENDIX C: PREDISPOSAL BASELINE CONDITIONS OF BENTHIC ASSEMBLAGES

PART I: INTRODUCTION

Background

1. The United States Army Corps of Engineers was authorized by Congress in the 1970 River and Harbor Act to initiate studies to provide information on the environmental impact of dredged material disposal. This study was conducted under contract with the Corps of Engineers to determine the baseline conditions of the macrofauna and meiofauna at an established disposal site off Eatons Neck, Long Island. Eatons Neck was to be used in future experiments to determine the regional effects of the disposal of dredged material on the environment.

2. The Eatons Neck Disposal Site is located in western Long Island Sound and is depicted by the lower parallelogram in Figure 1. It is approximately 1 by 2 miles with the long axis extending NE by SW. The Eatons Neck original disposal site was used for the disposal of dredged material from 1902 until March 1973.* Since records were first kept in 1954, approximately 10.4 million m^3 of dredged material has been dumped at the site. In addition, Eatons Neck served as the disposal site for construction and demolition wastes as well as 30 vessels (mostly barges) over 10 m in length. The upper parallelogram depicts the extension of the site granted just prior to the initiation of this study. Most of the central part of the extension is part of the Norwalk disposal site. The only previously known benthic sampling at the site was reported by Serafy (1974).

3. The study was begun in late October 1974 and was designed to

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* Personal communication, James Reese, Eatons Neck Site Manager, Waterways Experiment Station, Vicksburg, Mississippi, 1974.

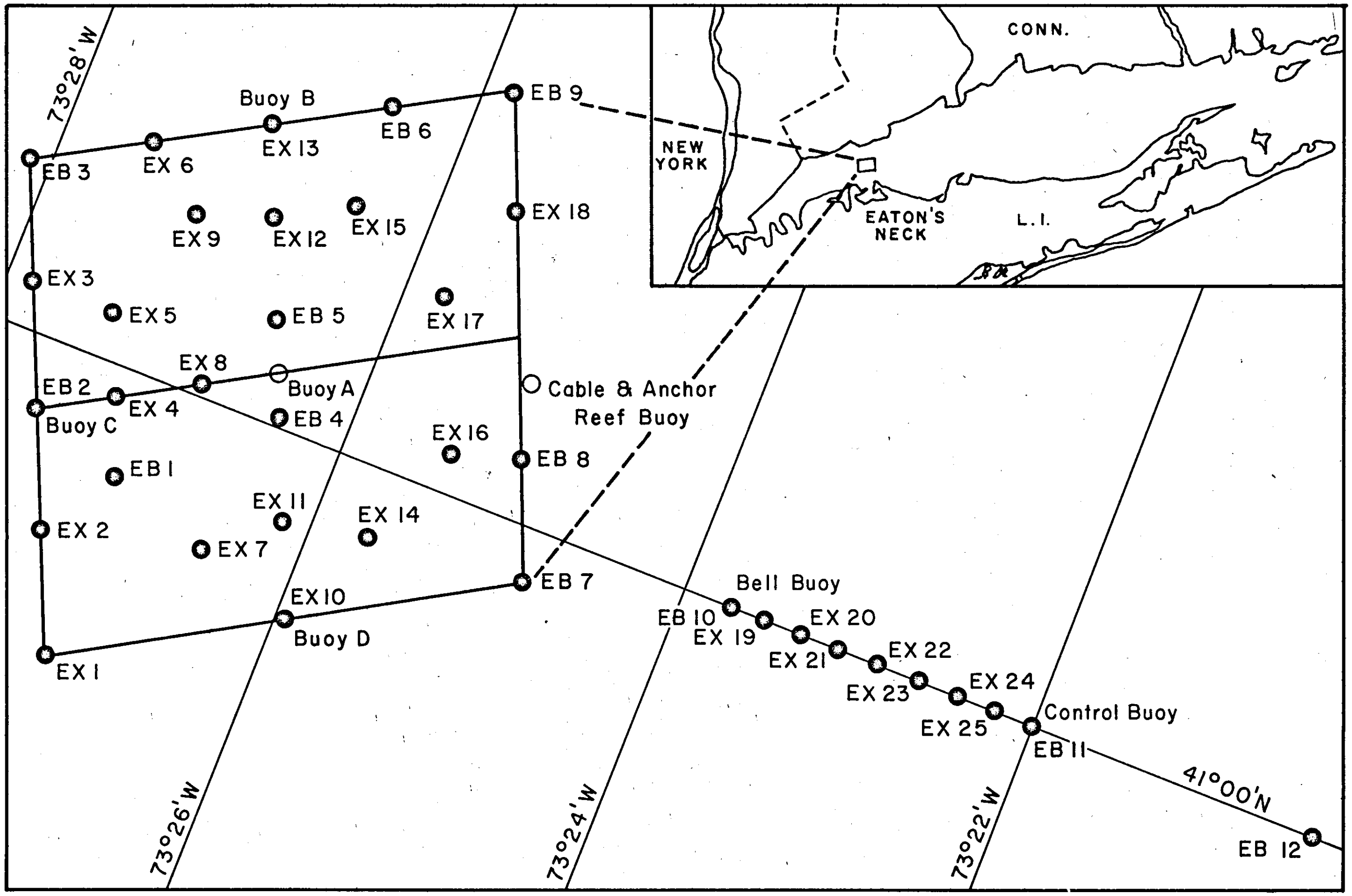

Figure 1. Benthic macrofauna stations sampled from 29 October 1974 to 22 April 1975 for the Eatons Neck aquatic field investigation

monitor the results of several discrete disposal operations of different sediment types (sands and muds). However, a decision was made by the Corps to discontinue the research at the conclusion of the baseline study as a result of local political opposition. Consequently, no disposal operations were monitored and the study results can be treated only as an inventory of benthic assemblages at a historical disposal site.

Literature Review

4. Benthic studies conducted in Long Island Sound are relatively few in number and results are mostly presented in unpublished draft reports or technical reports rather than in referenced journals.

5. Benthic studies in western Long Island Sound include one conducted by the U. S. Department of Commerce (1972) near David's Island and one along the Dunwoodie-Glenwood Interconnection (Alexander and D'Agostino, 1972).

6. The central portion of Long Island Sound has been studied more intensely than the western part, particularly with respect to power plant sitings. Several benthic studies were conducted near the Long Island Lighting Company power plant at Northport, Long Island. Hechtel (1970) collected intertidal invertebrates from sand and mud habitats while Ernst (1970) examined the flora and fauna of the jetty and deeper water areas. Polychaetes were examined by Mulstay (1971) at Northport and later D'Agostino and Colgate (1973) studied the entire bethic invertebrate fauna. Hechtel (1967) sampled the invertebrates of Flax Pond, a tidal marsh along the north shore of Long Island, while on the other side of the Sound, Richards and Riley (1967) surveyed the epifaunal invertebrates near Charles Island, Connecticut. Sanders (1956) sampled the central Sound and described the soft-bottom community of Nephtys incisa - Yoldia limatula. This community was limited to sediments containing more than 25 percent silt-clay and was found in depths of approximately 4 - 30 m.

7. Benthic studies in eastern Long Island Sound include Perlmutter (1971), who sampled the aquatic environs of a proposed nuclear power plant at Shoreham, Long Island. However, invertebrates were generally

not identified to species level and little can be interpreted from his data. Serafy and D'Agostino (1974) conducted a quantitative, 1-yr study of the benthic invertebrates off Shoreham. A total of 342 species were collected with many additional forms only identified to genus or higher taxon. Three macrobenthic assemblages were present off Shoreham: (a) a sand assemblage which was numerically dominated by the archiannelid Polygordius triestinus and the bivalve Tellina agilis; (b) a transitional muddy sand assemblage which was numerically dominated by the capitelid polychaete Mediomastus ambiseta; and (c) a rocky sand assemblage which included a sand and an epizonic rock component.

8. Benthic studies at dredged material disposal sites in Long Island Sound include a series of papers by Rhoads (1972, 1973a, 1973e, 1974a, 1974b, and 1974c) and Rhoads et al. (1975) on the New Haven dump site. Rhoads also sampled Guilford Harbor (Rhoads, 1973c) and the Milford, Branford, and Guilford Disposal Grounds (Rhoads, 1973d). Bivalve death assemblages were used by Rhoads (1975) to reflect environmental change in Long Island Sound over the last 150 yr.

9. Saila et al. (1972) provide information on the effects of dredged material on the benthos of nearby Rhode Island Sound and a survey of macrobenthic invertebrates in Greenwich Bay was conducted by Stickney and Stringer (1957).

10. Animal-sediment relationships of the infauna in Buzzards Bay, Massachusetts, were examined by Sanders (1958). In a later paper, Sanders (1960) described the structure of the soft-bottom community (Nephtys incisa - Nucula proxima) in Buzzards Bay.

11. The south shore of Long Island was sampled by O'Connor (1972) who surveyed the benthic invertebrates of Moriches Bay and by Steimle and Stone (1973) who sampled the offshore sediments.

PART II: SAMPLING AND ANALYTICAL METHODS

Sampling

Macrofauna

12. Grab samples. An initial survey of macrofauna at 36 stations (EB1 - EB11 and EX1 - EX25) was conducted with a 0.1-m^2 Smith-McIntyre Grab on 29 and 31 October 1974 (Figure 1). Based on results from these data, nine experimental stations (EB1 - EB9) and three control stations (EB10 - EB12) were selected as permanent stations to be sampled for the remainder of the study. Permanent stations were selected on the basis of sediment type, species associations, and distance from other permanent stations since several separate experiments were planned. Three replicate bottom grabs were collected at each station. On 6 December 1974 the permanent stations were sampled and EB12 was sampled for the first time.

13. After 6 months of sampling, it was apparent that WES was not going to be able to obtain the necessary amount of dredged material to conduct several discrete disposal experiments and only one experiment could be conducted. At the request of WES the study was modified to monitor only one dumping experiment on silt-clay sediments. Therefore, on 22 April 1975, 15 new stations (A1 - A15) along two perpendicular transects (Figure 2) were established in the vicinity of the proposed disposal site and these stations were sampled 4 times from 22 April to 17 June 1975. All previously sampled stations were discontinued except EB11 and EB2. The former was to be the only control station outside the disposal site while the latter was continued at the request of WES in case more funds and dredged material became available for a second experiment. Table 1 gives the geodetic position and depth at mean low water (mlw) for all stations sampled at Eatons Neck.

14. Three replicate samples were taken at each station and a sediment core was removed from the first of each replicate. Sediments were pretreated according to Ingram (1971) and the coarse (>62 μ) and mud (<62 μ) fractions separated. The coarse fraction was further divided

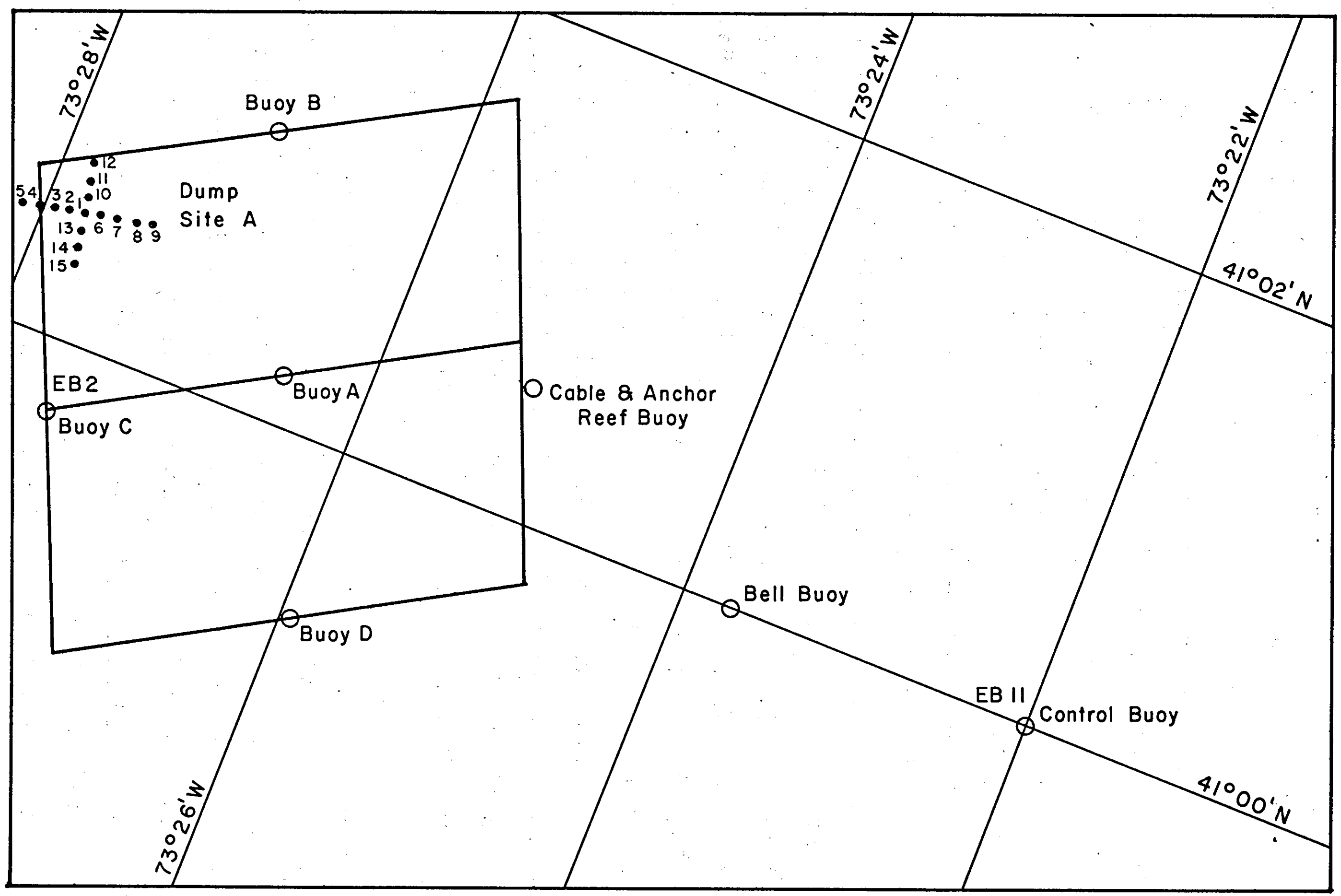

Figure 2. Benthic macrofauna stations sampled from 22 April 1975 to 17 June 1975 for the Eatons Neck aquatic field investigation

into 2.0-, 1.0-, 0.5-, 0.25-, 0.125-, and 0.062-mm fractions. Pipet analyses were conducted according to Galehouse (1971) to resolve the mud components into silt (4 - 62 μ) and clay (<4 μ) fractions.

15. Grab samples were placed in plastic bags aboard the boat and 30 ml of concentrated formalin was added to each sample. The following day sediment volume was recorded and the samples were washed through a 0.5-mm sieve. The retained material was refixed in 3 percent buffered formalin with Rose Bengal for 1 or 2 days then transferred to 70 percent ethanol. Samples were elutriated to remove the less dense organisms (polychaetes, crustacea, etc.), while the more dense organisms (molluscs, etc.) were removed by hand. Organisms were then sorted under a dissecting microscope, enumerated, and, where possible, identified to species level. Taxonomic keys in Gosner (1971) were sufficient for many groups. Other keys used were as follows: platyhelminths (Hyman, 1944), nematodes (Wieser, 1953, 1954), nemerteans (McCaul, 1963), molluscs (Abbott, 1968, 1974), polychaetes (Blake, 1971; Day, 1967; Hartman, 1944, 1959a, 1959b, 1965a, 1965b; Hartman and Fauchald, 1971; Pettibone, 1953, 1963, 1966), pycnogonids (McCloskey, 1973), stomatopods (Manning, 1974), amphipods (Barnard, 1958, 1969; Bousfield, 1965, 1973; McCain, 1968; Shoemaker, 1947), isopods (Richardson, 1972; Schultz, 1969), ostracods (Blake, 1929, 1933; Cushman, 1906; King and Kornicker, 1970; Kornicker, 1967; Maddocks, 1969; Williams, 1966), and decapods (Borradaile, 1903; Williams, 1965, 1974).

16. Biomass determinations were made as total dry weight on the first of the three replicate macrofaunal samples starting in December 1974. Any large epifaunal species greater than 2 g was omitted from the total biomass value since these organisms are poorly sampled with grabs and their inclusion masked any seasonal changes in the infauna.

17. Epibenthic sled samples. A seasonal qualitative study of the larger epifaunal invertebrates was conducted with a small epibenthic sled (40-cm x 18-cm opening) fitted with a 2-mm mesh net. Three experimental stations (EB3, EB4, and EB9) and one control station (EB11) were sampled on 21 December 1974, 17 and 28 February 1975, and 13 May 1975 with three replicate, 5-min tows each. Samples were washed through

a 2-mm sieve and the organisms were sorted according to species.

Meiofauna

18. Grab samples. Time and money constraints enabled only 12 of the 36 macrofaunal stations (EB2, EB3, EB5, EB9, EX10, EX13, EX14, EX17, EX19, EX21, and EX25) to be sampled for meiofauna during October 1974 (Figure 1). These 12 stations were chosen before the permanent macrofauna stations were established and were based on visual sediment characteristics and the degree to which they were isolated from other such stations within the disposal site. This was done since several discrete experiments were planned. When these 12 samples were analyzed, only 2 (EB3 and EB9) appeared satisfactory as permanent stations. The other 2 permanent stations (EB4 and EB11) were selected based on data from the macrofauna since the meiofauna was considered ancillary to the macrofauna study. These 4 permanent meiofauna stations were then sampled 4 times from 6 December 1974 through 1 April 1975.

19. When the study was modified, 11 new meiofaunal stations were located in the western portion of the dump site (Figure 2) while all the EB stations except EB2 and EB11 were deleted for the same reasons discussed above for the macrofauna. The new meiofauna stations (A1, A2, A3, A5, A6, A7, A9, A10, A11, A13, and A14) and the old EB2 and EB11 stations were sampled bimonthly from 22 April to 17 June 1975. At that time all sampling was discontinued.

20. Core subsamples. A core subsample was taken from each of three replicate grab samples for meiofaunal analysis. A Hope corer (3.5 cm in diameter) described by Hulings and Gray (1971) was used to obtain the meiofauna samples and the corer generally penetrated 10 cm into the sediment. The cores, sampling a surface area of 9.6 cm^2, were divided into two vertical components: upper 5 cm (top) and below 5 cm (bottom). Core samples were placed in glass jars and refrigerated at 5°C until they were washed the following day.

21. Each sample was placed in a beaker and an equal volume of 6 percent magnesium chloride was added. After allowing 10 min for anaesthetization, the sample was stirred thoroughly and the supernatant

poured through a series of two sieves, 0.5 and 0.062 mm. This process was repeated five times with filtered seawater. Organisms retained on the 0.5-mm sieve were not part of the meiofauna and were discarded. Organisms retained on the 0.062-mm sieve were preserved in 70 percent ethanol and Rose Bengal (.025 gm/ℓ of 70 percent ethanol). Specimens were sorted with mouth pipets and dissecting microscope, counted, and, where possible, identified to species level.

Grab and box corer comparison

22. On 9 April 1975, five replicate grab samples were collected with a Smith-McIntyre grab sampler (0.1 m^2) and a box corer (0.1 m^2) in the muddy sediments at station EB2. Five replicate samples were similarly collected from the muddy gravelly sand sediments at EB10, but before these samples were completely sorted and identified the study was modified to include only muddy sediments. Thus a comparison was not needed in the sandy sediments. Since 3 replicates were completed when the study changed, these data are presented along with the data for the muddy sediments. Total numbers of individuals and species were determined for each sample, as well as dry-weight biomass, depth of penetration, and total sediment volume. Each of these variables was subjected to a t-test comparison between the two types of sampling gear for both sediment types.

Statistical Analysis

23. A Shannon-Weaver diversity index was calculated for each sample according to the method of Lloyd, Zar and Karr (1968). The formula is as follows: $H' = C\sum_j P_j \log P_j$ where P_j is the probability that a randomly selected individual will belong to species A_j in an infinite series of individuals with S species $A_1, A_2, \ldots A_s$. The constant C is a positive unit conversion factor. Species evenness was calculated for all samples according to Pielou (1975) where: $J' = \frac{H'}{\log S}$. Species richness was calculated according to Pielou (1975) where: $SR = \frac{H - H_{min}}{H_{max} - H_{min}}$ and $H = \frac{1}{N} \log \frac{N!}{\pi N_i!}$, H_{max} approximates log S and $H_{min} = \frac{1}{N} \log \frac{N!}{(N - S + 1)!}$

where N is the number of individuals in a sample. All diversity statistics were calculated by determining the H', J' or SR value of each replicate separately and then taking monthly means at each station. Diversity values were then pooled within habitats (i.e. mud or sand) for experimental and control stations.

24. The multivariate technique of numerical classification was used to determine relationships between stations (normal classification) and species (inverse classification) (Clifford and Stephenson, 1975). The Bray-Curtis similarity index was used for these data since it is widely used in aquatic ecology (Clifford and Stephenson, 1975; Boesch, 1977). It can be expressed by the following formula:

$$S_{jk} = \frac{\sum_{i=1}^{i=n} | x_{ij} - x_{ik} |}{\sum_{i=1}^{i=n} (x_{ij} + x_{ik})}$$

where x_{ij} is the number of individuals of species i at station j, x_{ik} is the number of individuals of species i at station k, and n is the number of species.

25. The clustering strategy used was the flexible method described by Lance and Williams (1971). It is an agglomerative hierarchical clustering strategy represented by the following formula:

$D_{hk} = \alpha_i D_{hi} + \alpha_j + \beta D_{ij} + \gamma |D_{hi} - D_{hj}|$ with the constraints of $\alpha_i + \alpha_j + \beta = 1$; $\alpha = 0$; and $\beta = -0.25$. According to Williams (1971) and Clifford and Stephenson (1975) the β value of -0.25 has been used with acceptable results on a wide variety of data sets and has become the conventional value. All data were normalized by a log (x+1) transformation. Species were not included in the numerical classification if they occurred in less than four samples or if they totaled less than 30 individuals for all samples combined.

26. The original data matrix can be rearranged so that species groups form the rows and station groups form the columns of a two-way table. This approach is termed "nodal analysis" (Williams and Lambert, 1961) and was further expanded by Noy-Meir (1971) who developed procedures for the inter-relationship of normal and inverse ordinations. This

"nodal analysis" can be done with respect to constancy, fidelity, and abundance.

27. Constancy is based on the percentage of the number of occurrences of species in the collection group to the total possible number of such occurrences. Constancy is defined by the following formula: $C_{ij} = \frac{a_{ij}}{(n_i n_j)}$ where a_{ij} is the actual number of occurrences of members of species group i in collection group j and n_i and n_j are the numbers of entities in the respective groups. The index is 1 when all species occur in all collections in the group, and 0 when no species occur in the collections.

28. Fidelity is an expression of the constancy of species in a collection group compared to the constancy over all collections. The fidelity of species group i in collection group j is given by the following formula: $F_{ij} = \frac{(a_{ij} \sum_j n_j)}{(n_j \sum_j a_{ij})}$. This index is greater than 1 when the constancy of a species group in a collection group is greater than that of other station groups and less than 1 when its constancy is less than its overall constancy. According to Boesch (1977), values greater than 2 suggest strong "preference" of species in a group for a particular collection group.

29. The abundance matrix was obtained by determining the average abundance in the collection group and dividing by its average abundance overall. These ratios were then averaged over all species in the species group to reflect the average concentration of abundance for the node (Boesch, 1977).

PART III: RESULTS

Sediment Characteristics

30. Mean sediment temperatures for the mud and sand stations at Eatons Neck are presented in Figure 3. Sediment characteristics are presented in Figure 4 as percent sand content; these data were taken from Gordon et al. (In press). Results of the sediment analyses are presented in Appendix A'.

Macrofauna

Species checklist

31. Three hundred and twenty four taxa, mainly species, of microfauna were collected at Eatons Neck (Table 9). This represents a composite of the species collected with the grab sampler, box corer, and epibenthic sled. Table 10 lists the dominant benthic species present at Eatons Neck along with information on geographic and bathymetric range, sediment preference, reproduction, and feeding type.

Grab samples

32. Species diversity values. Mean H' macrofauna species diversity values along with the two components of species diversity, species richness (SR) and species evenness (J'), are presented in Table 2 for grab samples taken from the mud and the sand stations at Eatons Neck. In all cases, diversity values were higher for sand stations than for mud stations and, except for 21 January, all were significant at $p < 0.01$. Mean H' diversities in the mud decreased from 1.50 bits/individuals in December to 1.34 in January. This decrease was a result of a decrease in species richness and species evenness. In February, H' diversity continued to decrease to 1.07, primarily as a result of a decrease in species richness, since species evenness stayed about the same. In early April, mean H' diversities in the mud increased to 1.57 as a result of an increase in both species richness and evenness. The sand stations showed a decrease in mean H' diversity from 2.45 in December to 1.70 in January (Table 2) which

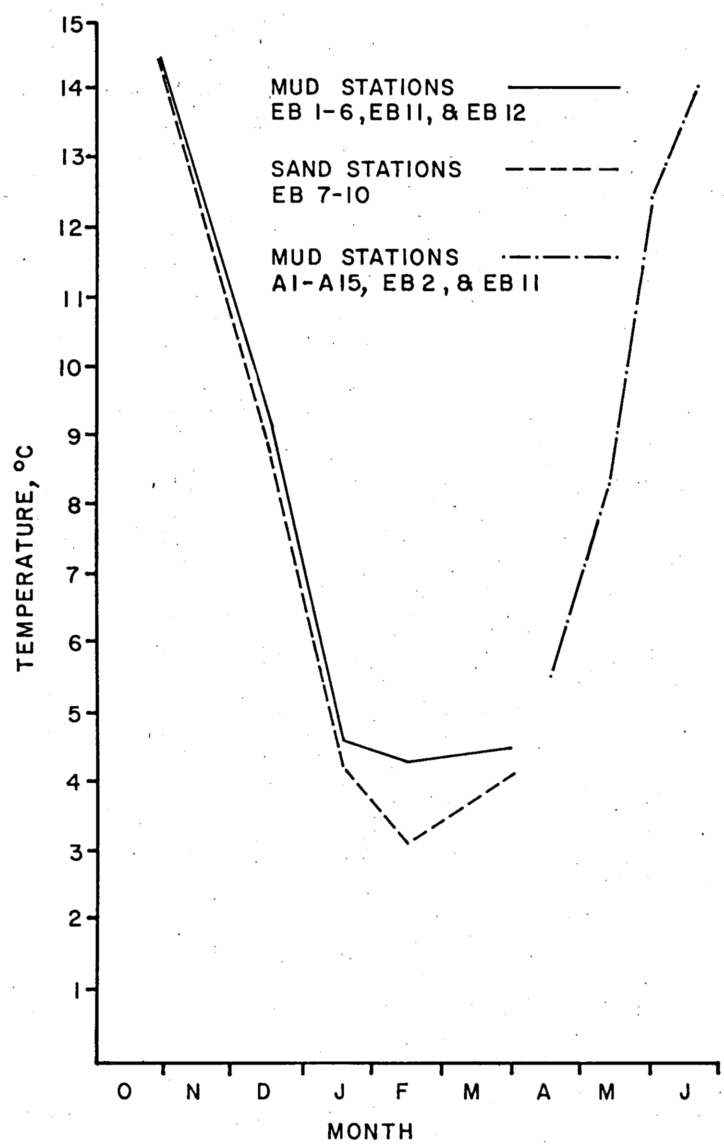

Figure 3. Mean sediment temperatures for mud and sand benthic macrofauna stations at the Eatons Neck aquatic field investigation

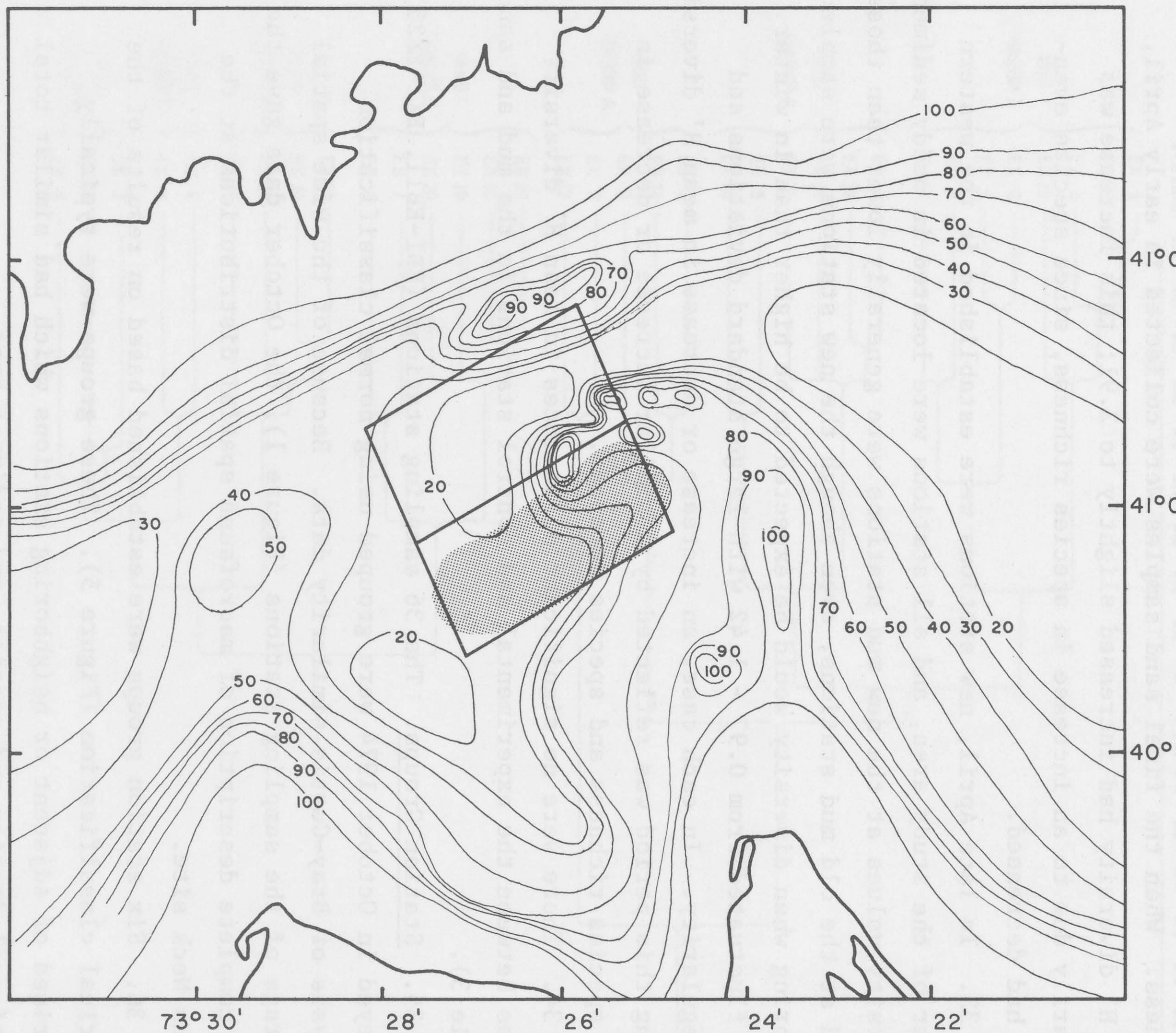

Figure 4. Sediment characteristics based on percent sand content for the general area of the Eatons Neck aquatic field investigation (Contours are sand contents in percent; shaded area is the disposal area.)

reflected the decreases in species richness and species evenness. By February, mean H' diversity had increased to 2.85 in the sand, even though diversity in the mud was still decreasing. The increased diversity was a result of an increase in species richness and species evenness. When the final sand samples were collected in early April, mean H' diversity had increased slightly to 2.91; this increase was primarily due to an increase in species richness, since species evenness had decreased.

33. In late April, new stations were established in the western corner of the study area, and all stations were located in muddy sediments. Diversity values at the new mud stations were generally lower than those found at the old mud stations, even though the new stations were sampled in spring when diversity would be expected to be higher than in winter. They fluctuated from 0.97 - 1.42 with large standard deviations and no regularity. In each case, an increase or decrease in mean H' diversity during this period was reflected by a similar increase or decrease in both species richness and species evenness.

34. There were no significant differences in mean H' diversity values between the experimental and control stations in the mud and sand (Table 3).

35. Station Groups. The 36 sampling stations (EB1-EB11, EX1-EX25) surveyed in October 1974 were grouped using normal classification analysis of Bray-Curtis similarity data. Because of the wide spatial coverage of the sampling stations (Figure 1), the October data gave the most complete description of macrofauna spatial distributions at the Eatons Neck site.

36. Six station groups were established based on results of the numerical classification (Figure 5). These groups were typically comprised of adjacent or neighboring stations which had similar total macrofaunal density and species, and sediment type.

37. Group A consisted of stations located in the western and southern portion of the disposal site (Stations EX1-EX9, EX12, EX13, EX15, EX17, and EB3) and at the control area (EB11). The sediments at

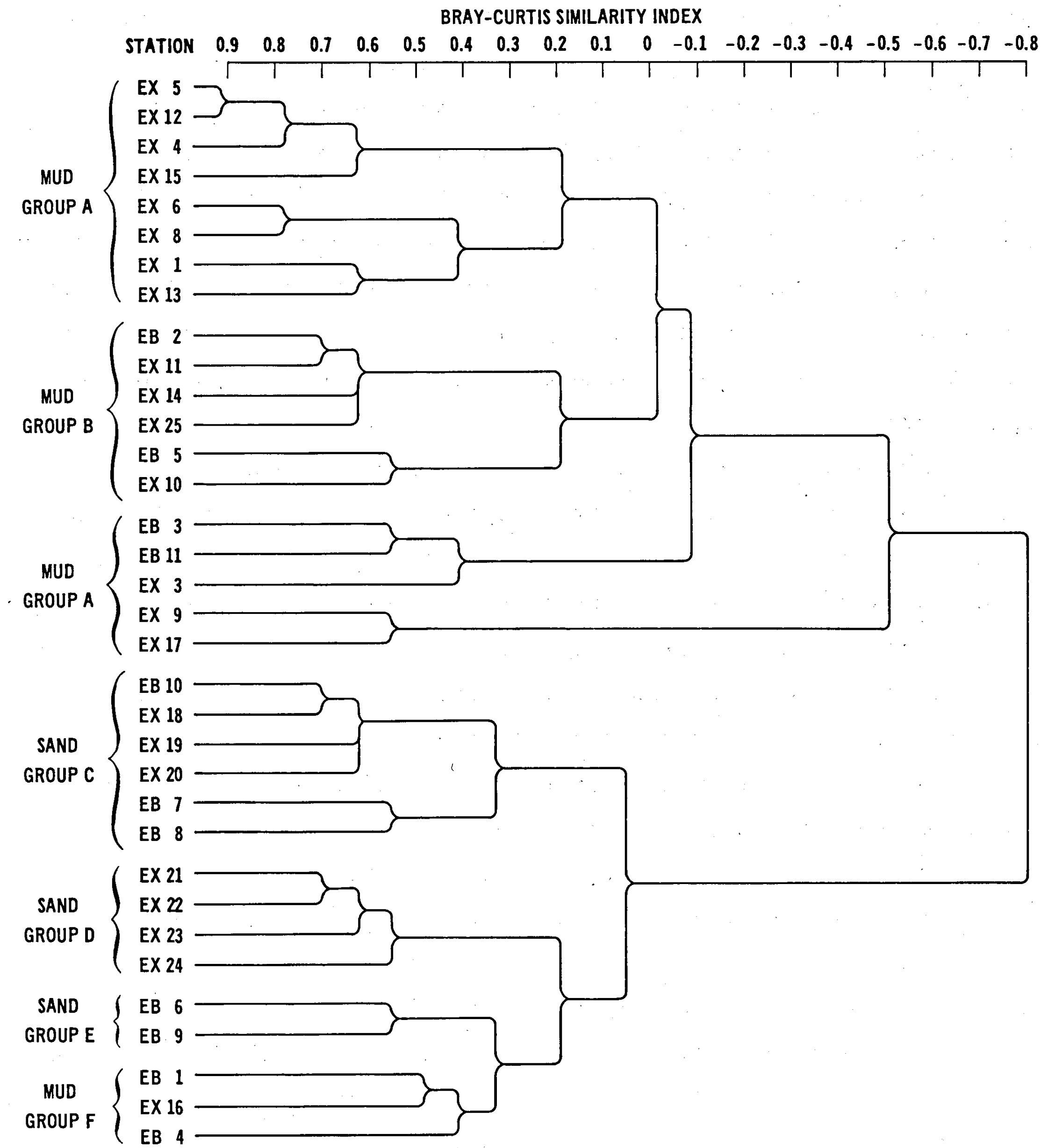

Figure 5. Dendrogram depicting station groups derived from numerical classification procedures; October 1974 benthic data, Eatons Neck disposal site

Group A stations were predominantly silt-clay ranging from 53 to 97 percent fine material (Appendix A'). The macrobenthos at Group A stations was characterized by comparatively low species numbers and total density (Appendix B'). Two subgroups of stations separated in the dendrogram at moderate levels of similarity were combined to form Group A, since raw data showed that these subgroups were similar in species composition and macrofaunal abundance. Small differences in number of individuals or species may result in high dissimilarity values among stations with low densities and species numbers. This phenomenon, a disadvantage of the Bray-Curtis similarity index, may result in misclassifications. No macrofaunal organisms were collected at stations EX2 and EX7 but these were considered part of Group A because of their azooic nature.

38. Group B was comprised of three contiguous stations (EX10, EX11, and EX14) found in the south central portion of the site and two stations (EB2 and EB5) located in the west central part of the site (Figure 1). The muddy substrate (86 to 98 percent silt-clay; Appendix A') at these stations supported a slightly more diverse and abundant macrofauna than found at Group A stations. However, diversity and abundance were low compared to those of the sandy habitats (Appendix B').

39. Group C was formed by stations EB7, EB8, EB10, and EX18-EX20 having silty sand or silty gravelly sand sediments (76 to 90 percent sand) (Appendix A'). These stations were positioned along the edges of or near Cable and Anchor Reef in the eastern area of the site and in the control area (Figure 1). Number of species and total macrofaunal density in this assemblage were the largest found at Eatons Neck.

40. Four adjacent stations in the control area (EX21-EX24) composed Station Group D (Figure 1). This group was similar in species composition to Group C. It had silty sand sediments (72 to 85 percent sand; Appendix A') and a relatively large number of species and total macrofaunal density (Appendix B'). However, the silt-clay content of the sediment at Group D stations was slightly larger than those of Group C stations. The two groups were distinctly separated in the clustering procedure,

primarily because they had different dominant species.

41. Group E consisted of two stations, EB6 and EB9, in the northern corner of the site adjacent to Budd Reef with sand to muddy sand sediments (47 to 84 percent sand ; Appendix A'). Macrofaunal density and number of species were generally less than at the Cable and Anchor Reef sand assemblage and similar to the mud stations having the largest benthic populations, i.e., Group F (Appendix B'). Group E had affinities with sand station Groups C and D, but was distinguished from the latter by having different dominant species.

42. Three stations (EB1, EB4, and EX16) with mud sediments (64 to 96 percent silt-clay; Appendix A')located along the central axis of the site and oriented east-west (Figure 1) made up station Group F. The mud stations of Group F are categorized as being a mud environment having relatively high densities and species numbers compared to the macrofauna of mud station Groups A and B where densities and species numbers were low.

43. Eleven of the 36 October benthic stations, EB1-EB11, and one new control station, EB12 (Figure 1), were sampled monthly during the December 1974 through April 1975 period. These stations were located in each of the six station groups delimited through numerical classification of the October 1974 data.

44. Normal classification of the combined December-January data when benthic densities were large, and the combined February-April data, when densities were small, produced station groups similar to those of October. The sand stations (EB7, EB8, and EB10) along Cable and Anchor Reef had large macrofaunal concentrations and clustered discretely during the four-month period. A second, different group of sand to muddy sand stations was comprised of stations EB6 and EB9 in the northern corner of the site at Budd Reef (Figure 1). Sediments at these stations ranged from 18.7 to 92.0 percent sand.

45. The mud stations EB11 and EB12 at the control area and EB1, EB2, and EB4 in the west central portion (Figure 1) of the site formed two related station groups having low macrofaunal densities and number of species. Lower density and species numbers at the control mud stations

probably caused these stations to segregate separately from those in the disposal site, although the two station groups were similar in species composition. The percent silt-clay in sediments at the two mud station groups with low macrofaunal abundance and diversity varied from 70 to 98 percent, except at EB4 in January when the sediments were 35 percent silt-clay. A third group of mud stations was formed by stations EB3 and EB5 located in the northwestern section of the disposal site. The percent composition of the silt-clay fraction of the sediments at these stations varied from 81 to 95 percent, except at EB5 in February when the percent mud was 66.

46. Normal analysis of the mud stations A1 through A15 and EB2 and EB11 using combined April through June data indicated that all the experimental stations, except A14, were highly similar. However, three small subgroups were formed within the main group of mud stations as a result of small differences in density of dominant species. Station A14 was grouped with station EB2; station EB11, the mud control, was highly dissimilar from the experimental stations.

47. Species associations. Inverse analysis was used to classify species into groups based on the October data. The 38 species of macrobenthos used in the analysis were classified into six species groups (Figure 6). Nodal analysis of constancy, fidelity, and abundance data was performed to interpret relationships between station and species groups. Two-way tables presenting these results are shown in Figures 7 through 9.

48. Species Group I contained the bivalves *Pitar morrhuana*, *Astarte undata*, and *Mulinia lateralis*, the mud snail *Nassarius trivittatus*, and the polychaetes *Pherusa affinis* and *Glycera americana*. Each of these species reportedly inhabits sand or silty sand sediments, except *P. affinis* which occurs on muddy bottoms (Table 10). These species had a high or very high constancy, fidelity, and abundance in the sand station Group C, and a high fidelity in sand Group E. This indicates that in October these species had a restricted spatial distribution and center of abundance and were characteristic of the sand environment around Cable and Anchor Reef.

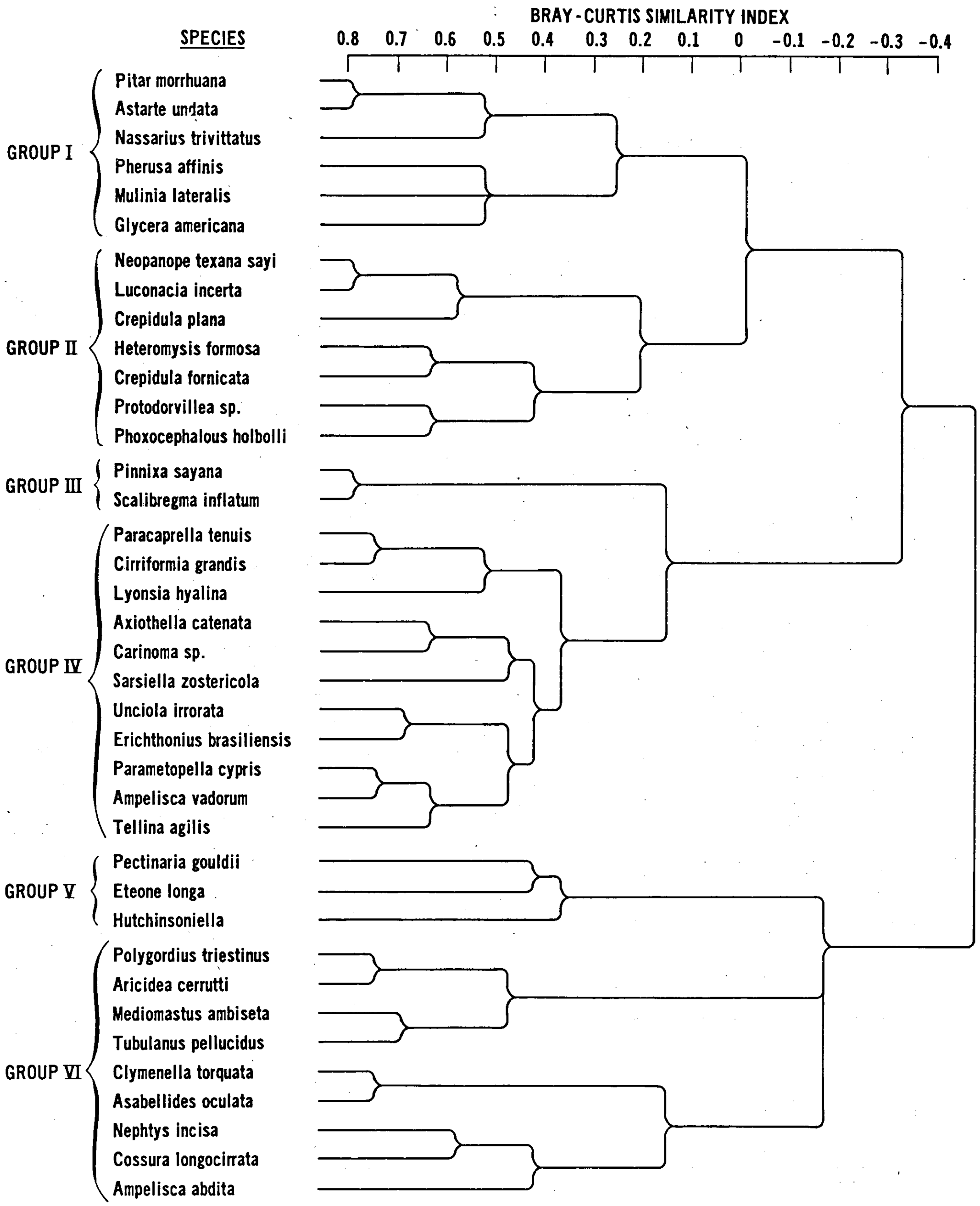

Figure 6. Dendrogram depicting species groups derived from numerical classification procedures; October 1974 benthic data, Eatons Neck disposal site

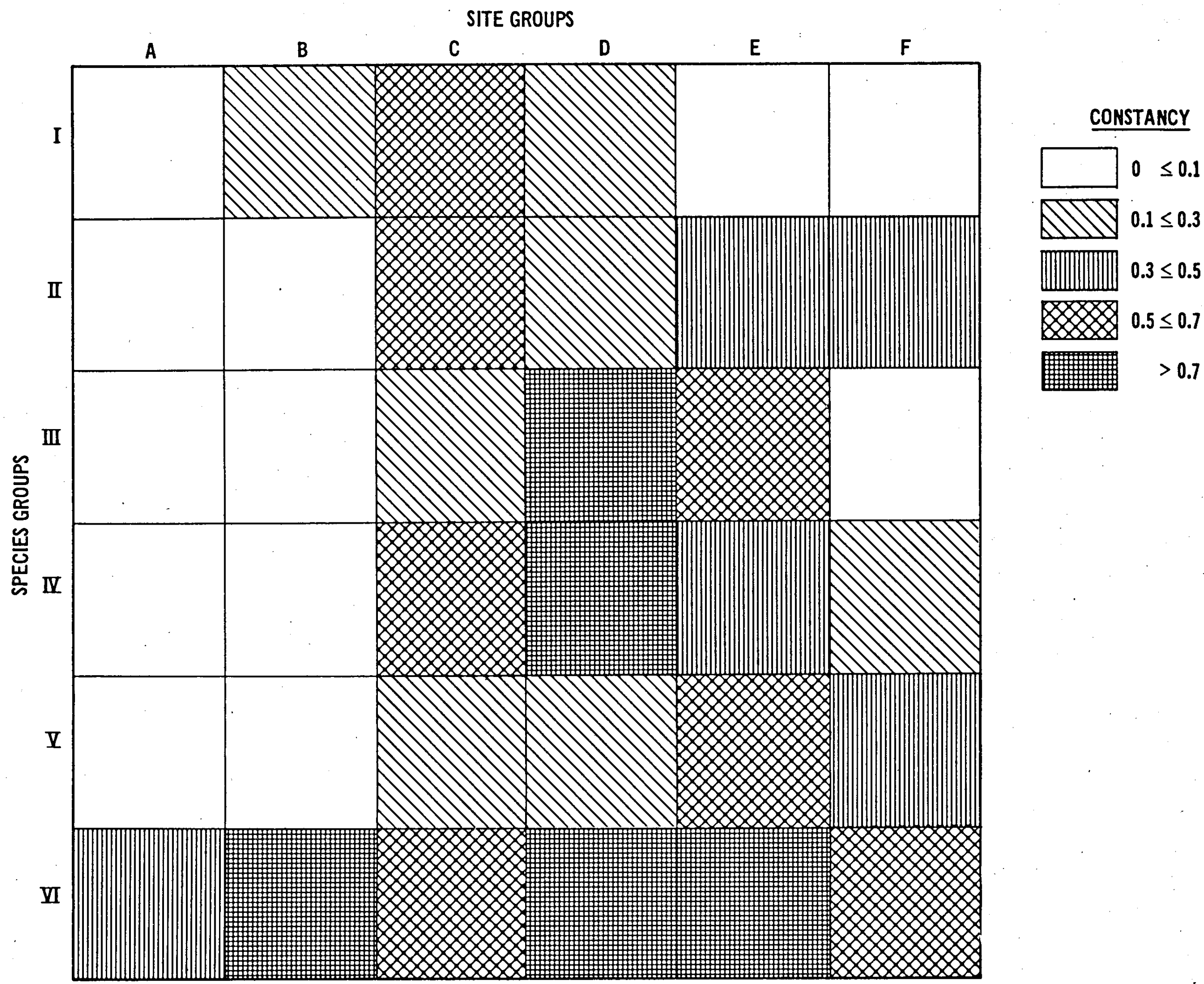

Figure 7. Two-way table showing relationship of benthic species groups and station groups based on nodal analysis of constancy, Eatons Neck disposal site

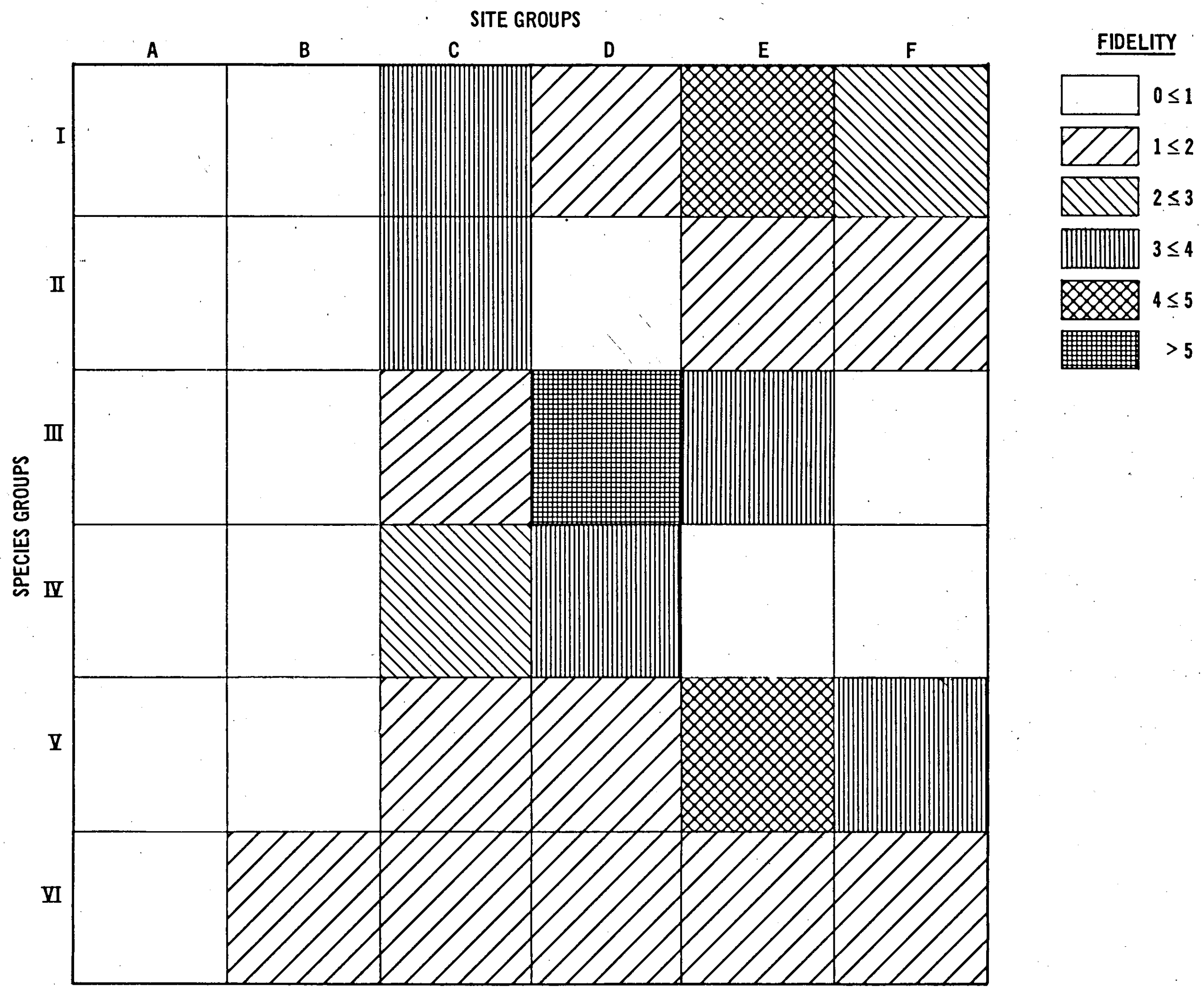

Figure 8. Two-way table showing relationship of benthic species groups and station groups based on nodal analysis of fidelity, Eatons Neck Disposal site

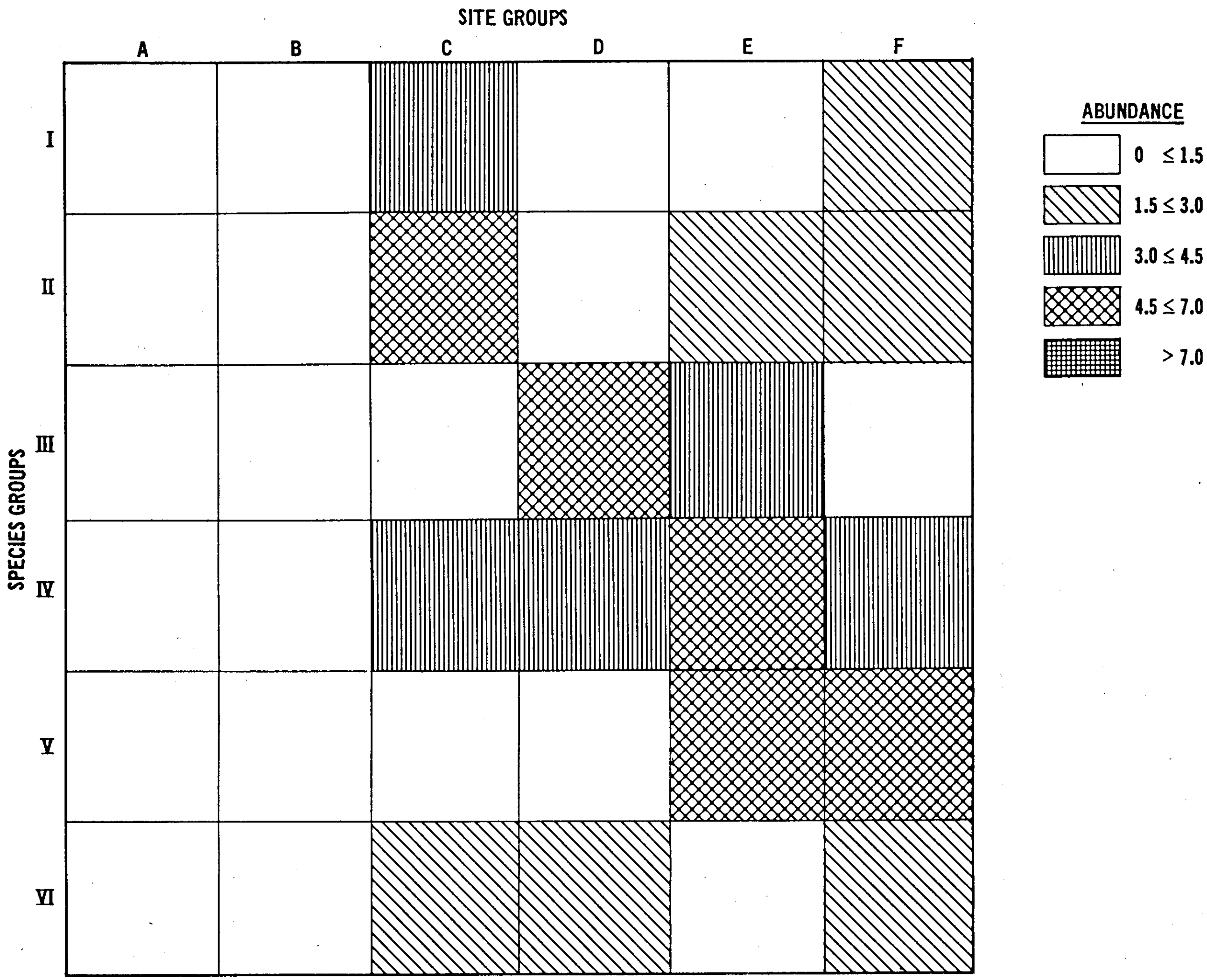

Figure 9. Two-way table showing relationship of benthic species groups and station groups based on nodal analysis of abundance, Eatons Neck Disposal site

49. Species Group II was also characteristic of the sand environment in station Group C based on the constancy, fidelity, and abundance values. However, this species group was also found with moderate constancy at station Groups E and F, accounting for the separation of species Groups I and II in the analysis. The amphipods *Luconacia incerta* and *Phoxocephalus holbolli*, the mud crab *Neopanope texana sayi*, the slipper shells *Crepidula plana* and *C. fornicata*, the mysid shrimp *Heteromysis formosa*, and the polychaete *Protodorvillea sp.* composed Group II. The only species of this group which is known to be common in sand environments is *P. holbolli* (Table 10). The slipper shells are epifaunal species that attach to rocks and deadshells while the mud crab is common on mud bottoms, but may occur in other situations as well (Williams, 1965). Data were not available on the habits of the other species in this group.

50. The pea crab *Pinnixa sayana* and the burrowing polychaete *Scalibregma inflatum* formed a highly similar species association, Group III. Since *P. sayana* is a known commensal in *Arenicola* burrows, it is possible that the close association of this crab and polychaete at Eatons Neck reflects a commensal relationship between the two organisms. Group III species had highest fidelity, constancy, and abundance at sandy station Groups D and E.

51. Species Group IV is a relatively large assemblage of organisms comprised of eleven species that primarily inhabited the three groups of sandy stations at Eatons Neck. At the sandy control stations (Group D) the fidelity and constancy of species Group IV were higher than those of station Groups C and E; abundance at station Group E was slightly greater than that at Groups C and D. Thus species in Group IV were indicative of the sandy environments at Eatons Neck, but were most characteristic of the sandy sediments at the control area. Members of Group IV included the amphipods *Paracaprella tenuis*, *Unciola irrorata*, *Erichthonius brasiliensis*, *Parametopella cypris*, and *Ampelisca vadorum*, the ostracod *Sarsiella zostericola*, the bivalves *Tellina agilis* and *Lyonsia hyalina*, the nemertean *Carinoma* sp., and the polychaetes *Cirriformia grandis* and *Axiothella catenata*. Most of these species are known to inhabit sandy environments (Table 10).

52. Two species of polychaetes, Pectinaria gouldii and Eteone longa, and the crustacean, Hutchinsoniella macracantha, constituted species Group V. This group had high constancy, fidelity, and abundance in station Groups E and F. Because of sediment heterogeneity between station Groups E and F, however, the species of Group V were not equally abundant at all stations. Neither of the three species occurred at mud station EB 1 while H. macracantha was abundant at stations EB4, EB6, and EB9. The polychaete E. longa was uncommon at stations EB4 and EB9 and absent from the remaining stations. Pectinaria gouldii was abundant at EB4, uncommon at EB6 and EX16, and absent from EB1 and EB9. The high levels of constancy, fidelity, and abundance of Group V species at Group E stations were largely due to the abundance of H. macracantha and P. gouldii at stations EB4, EB6, EB9, and EX16. Mud is the sediment type most often associated with H. macracantha (Table 10).

53. Group VI was comprised of the polychaetes Nephtys incisa, Clymenella torquata, Asabellides oculata, Cossura longocirrata, Aricidea cerruti, and Mediomastus ambiseta, the archiannelid Polygordius triestinus, the nemertean Tubulanus pellucidus, and the amphipod Ampelisca abdita. Mediomastus ambiseta, P. triestinus, and T. pellucidus were among the overall numerical dominants of the macrobenthos at Eatons Neck. Sand and mud are the sedimentary environments in which N. incisa and A. cerruti occur, while the dominants T. pellucidus and M. ambiseta are found on silty sand or sandy silt (Table 10); Polygordius triestinus is a sand dweller. Group VI displayed high to very high constancy in station Groups B-F. Conversely, the fidelity of Group VI was low to very low at all stations. Abundance, however, was moderate at station Groups C, D and F and very low at other stations. Therefore, species making up Group VI were generally ubiquitous macrofauna at Eatons Neck in October, with the exception of P. triestinus.

54. Biomass. Mean total dry-weight biomass for the control and experimental sand stations is given in Figure 10. Biomass at the experimental stations dropped precipitously from 284 $g/0.1\ m^2$ in December to about 2 $g/0.1\ m^2$ in January. In February, mean biomass had slightly increased to about 4 $g/0.1\ m^2$, and on 1 April it had increased to about

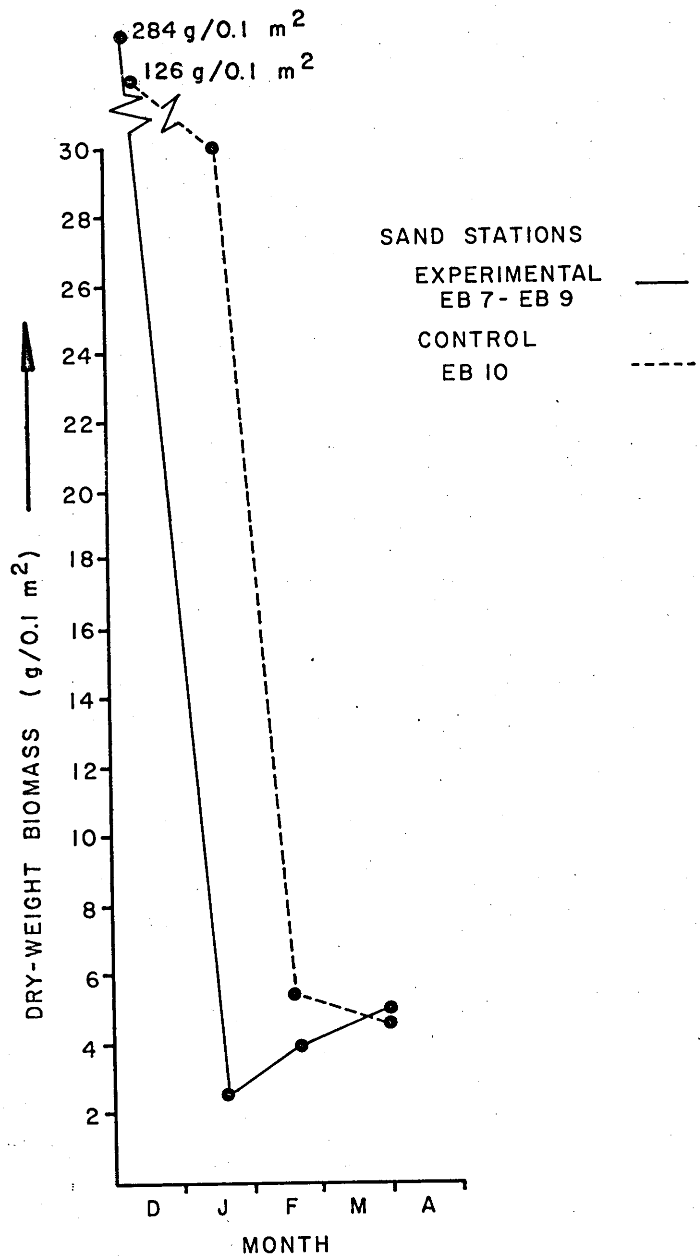

Figure 10. Dry-weight biomass for the control and disposal sand stations at the Eatons Neck aquatic field investigation

5 g/0.1 m^2. The control station (EB10) displayed a similar decrease in biomass, though not as substantial as for the experimental stations. Biomass at the control station in December was 126 g/0.1 m^2, and by January it had decreased to about 30 g/0.1 m^2. It continued to drop in February to below 6 g/0.1 m^2 and by 1 April biomass was below 5 g/0.1 m^2. Mean total dry-weight biomass at the mud stations was considerably lower than at the sand stations (Figure 11). In December, the experimental stations had a mean biomass of about 1.7 g/0.1 m^2 and this value continued to decrease to about 0.4 g/0.1 m^2 by 1 April. In late April, the experimental mud stations were relocated, but the mean biomass value was about the same as it was for the previous experimental stations. In early May, biomass was still decreasing to its lowest value of about 0.3 g/0.1 m^2, but by late May it had increased to about 0.5 g/0.1 m^2. In June, the increase continued to a value of about 1.1 g/0.1 m^2 when all sampling was discontinued. Biomass at control stations EB11 and EB12 fluctuated from 0.1 to 0.8 g/0.1 m^2 prior to early April. In late April, station EB12 was discontinued leaving EB11 as the only control mud station. Biomass values at EB11 dropped from about 1.3 g/0.1 m^2 in late April to about 0.05 g/0.1 m^2 in June.

Epibenthic sled samples

55. At mud station EB3, *Mulinia lateralis* was the dominant organism collected in the epibenthic sled, with a mean number of about 23,000 per 10-min tow (Appendix C'). Mean numbers of *M. lateralis* increased from around 11,000 per sample in December to over 41,000 in February, and then slightly decreased to around 34,000 in May. *Nassarius trivittatus* was the second most common organism found in the sled, with mean numbers increasing from about 1,500 per tow in December to nearly 10,000 in February, then decreasing to about 3,000 in May. *Nucula proxima* had fairly constant mean numbers in December and February (371 and 453 per sample, respectively) with numbers increasing to a mean of about 6,600 in May. Another important organism collected in the sled was *Neomysis americana*, whose numbers steadily increased throughout the sampling period to a mean of over 1,000 per sample in May. Mean numbers of *Crangon septemspinosa* decreased from a high of 201 per sample in December to 165

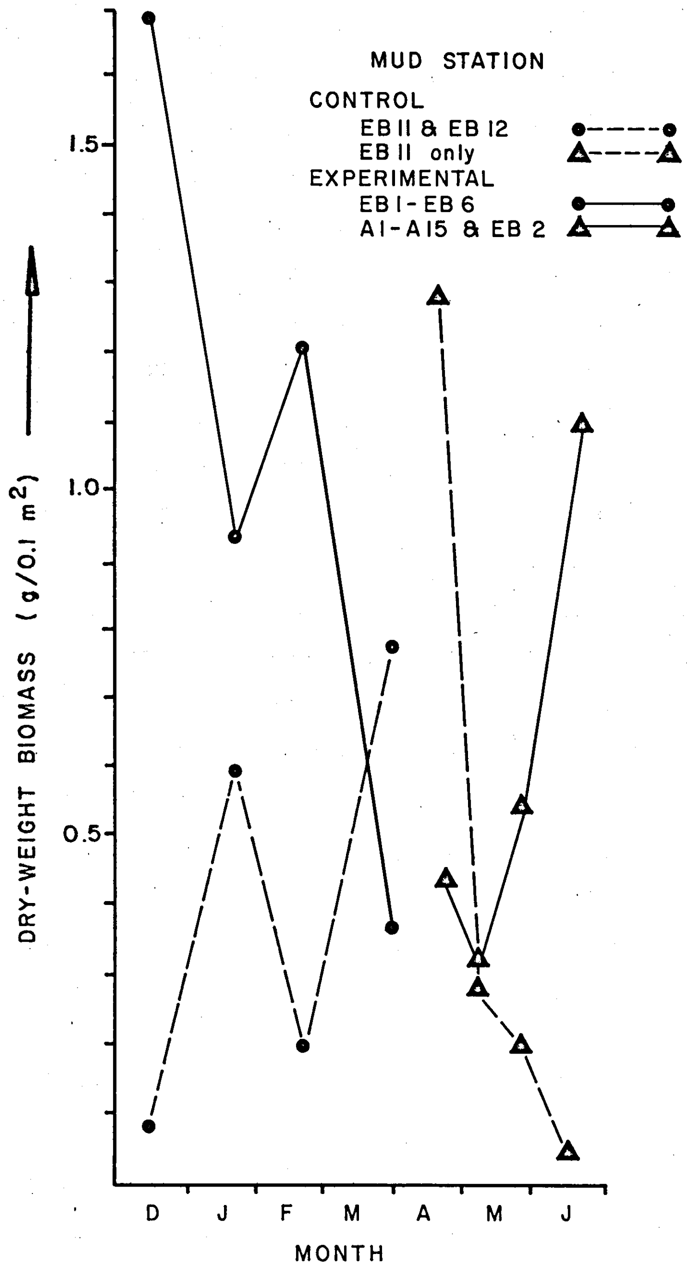

Figure 11. Dry-weight biomass for the control and disposal mud stations at the Eatons Neck aquatic field investigation

in February, finally falling to 82 in May. Total numbers of organisms in the sled showed nearly a sixfold increase from the December sampling to the February sampling and remained high in the spring sampling.

56. At mud station EB4, Mulinia lateralis was again the most abundant organism collected in the epibenthic sled. Numbers decreased from about 41,000 in December to 844 in February, then increased to about 5,500 in May (Appendix C'). Nassarius trivittatus was the next most numerous species at this station, with a mean of nearly 9,000 in December, but it decreased to numbers of approximately 1,000 in February and May. Crepidula plana and Nucula proxima both numbered more than 500 per sample in December, but dropped to low numbers in February. Crepidula plana continued to have low numbers in May, but numbers of Nucula proxima rose to nearly 500. Pagurus longicarpus was also an important organism at this station, with mean numbers decreasing from 317 in December to 154 in February, and then sharply dropping to 14 in May.

57. Sled samples from control mud station EB11 had fewer species than samples from experimental stations (Appendix C'). The dominant organism was Nassarius trivittatus, with a mean of about 3,500 per sample in December. Numbers decreased to approximately 1,000 per sample in February and May. The other organism found in abundance at this station was Nucula proxima, which decreased from mean numbers of 1,201 in December to 651 in February, then increased to nearly 3,000 per sample in May. The control mud station, in contrast to the experimental mud stations, had mean numbers of Mulinia lateralis less than 100 throughout the sampling period.

58. At station EB9, sediment samples ranged from gravelly sand to mud, but generally had sand as their major component. Sled samples from this station (Appendix C') did not display the inordinate dominance by Mulinia lateralis found at the mud stations. This resulted in a more even distribution between species. Nassarius trivittatus was the dominant organism, with a mean number of approximately 12,000 in December, dropping to under 2,000 for February and May. Nucula proxima was the next most abundant species, with numbers increasing from a mean of 417 in December

to 1,082 in February and to 6,849 in May. Mean numbers of Mulinia lateralis at EB9 remained fairly stable throughout the sampling period with 689 for the December sled samples, 463 for February, and 542 for May. Relatively high numbers of Crangon septemspinosa were collected at this station, with a mean of more than 300 in December, dropping to a mean of approximately 100 for the remainder of the sampling period. Neomysis americana did not appear in December sled samples, but was collected in low mean numbers during February (91) and in higher numbers during May (310). Pagurus longicarpus occurred in numbers of approximately 350 specimens per sample in December, dropping to about 115 in February, and to 20 in May.

Meiofauna

59. Samples were collected with a corer 3.5 cm in diameter, which covered a surface area of approximately 9.6 cm^2 and penetrated the sediment to a depth of about 10 cm. However, for purposes of discussion, the surface area will be considered as 10 cm^2. As a result of taxonomic difficulties, most meiofaunal organisms were only identified to major taxa. These taxa, in some cases phyla (Nematoda) and in some cases classes (Harpacticoida), are treated as homogeneous units, even though they contain several species. Therefore, spatial and temporal patterns within these taxa are obscured.

60. Nematodes were the dominant organisms at all stations throughout the study, and their mean percent composition varied from 45 - 100 percent by number (Tables 4 and 5). A large number of nematodes were examined with the help of Dr. W. Duane Hope, National Museum of Natural History, Washington, D.C., and two species were consistently present in large numbers. Enopolus sp. was the most abundant and generally occurred in numbers two to three times greater than the next most abundant species, Halichoanilaimus sp.

61. Harpacticoid copepods were the second most abundant taxon, and they varied from 0 to 39 percent composition by number (Tables 4 and 5). In all cases, the top fraction (0 to 5 cm) of the meiofauna had more taxa

(up to twice as many) and more individuals (one or two orders of magnitude) than the bottom fraction (5 to 10 cm). In general, species in the bottom fraction were also found in the top fraction.

62. From October 1974 through April 1975, the mud experimental stations EB3 and EB4 were similar in both dominant species and pattern of occurrence, but total numbers were higher at EB3 (Appendix D'). Nematodes dominated the samples from both of these stations. Mean numbers from the top fraction of EB3 stayed generally the same, fluctuating from 172 to 387 per 10 cm^2, while in the bottom fraction they varied from 3 to 36. The top fraction at EB4 generally increased from 15 per 10 cm^2 in December 1974 to 200 per 10 cm^2 in early April 1975, while the bottom fraction remained below 2 per sample.

63. Harpacticoid copepods were the second most abundant taxa at the experimental mud stations (Appendix D'). The top fraction at EB3 had 93 harpacticoids per sample in October 1974, but all subsequent samples had mean numbers that fluctuated between 6 and 12. The top fraction at EB4 did not include harpacticoids until January 1975. Mean numbers remained below 2 until 1 April 1975 when they increased to 37. The bottom fractions at EB3 and EB4 included harpacticoids sporadically in mean numbers less than 2 per sample. Several other taxa occurred erratically at these muddy stations indicating their patchy distribution and relatively low abundance (Appendix D'). Unidentified turbellarians occurred only in the top fraction at EB3 and EB4, as did the kinorhynchs _Pycnophyes frequens_ and _Trachydemus mainensis_. Several polychaete species were present at EB3 in mean concentrations less than 3 per sample. These species included _Cossura longocirrata_, _Hypaniola grayi_, _Mediomastus ambiseta_, and _Polygordius triestinus_. _C. longocirrata_ and _M. ambiseta_ were the only polychaetes that occurred in the bottom fraction, and they were collected only at EB3. Oligochaetes, ostracods (_Cytheromorpha_ sp., _Loxoconcha granulata_, _Sarsiella ozotothrix_), halacarid mites, and several unidentified larvae occurred sporadically in low numbers.

64. The control mud station at EB11 generally had fewer species and individuals than the experimental mud stations at EB3 and EB4 (Appendix D').

It was dominated by nematodes whose mean numbers fluctuated between 17 and 157 per 10 cm^2 in the top fraction. In the bottom fraction they remained below 7 per sample. Although harpacticoids were present in the top fractions of the January and February 1975 samples, they were less abundant than at EB3 and EB4. Their numbers accounted for a maximum of 1.7 percent composition (Table 4), and only one specimen was found in the bottom fraction. Polychaetes at EB11 were represented by two specimens of the opportunistic capitellid, *Mediomastus ambiseta*, with one each collected in the top and bottom fractions. Halacarid mites, ostracods, and various unidentified larvae occasionally appeared in the samples.

65. The sand meiofauna was sampled only at station EB9. Both number of species and number of individuals were considerably higher than those found at the mud stations (Appendix D'). Nematodes were dominant in the sand samples, although it is probable that the species are different from those found at the mud stations. Percent composition for nematodes fluctuated from 84 to 99 percent (Table 4) at EB9 and their number decreased continuously from a high in the top fraction of 2,214 per 10 cm^2 in October 1974 to a low of 108 per sample in April 1975. A similar decrease occurred in the bottom fraction with maximum values of 346 per 10 cm^2 in October 1974 and minimum values of 13 per sample in April 1975. Harpacticoid copepods were the second most abundant taxon at EB9, and they accounted for 1 to 5 percent composition by number in the top fraction (Table 4). Their occurrence in the bottom fraction was rare and more sporadic.

66. Turbellarians and nemerteans were present in low numbers at the sand station, as were the kinorhynchs *Pycnophyes frequens* and *Trachydemus mainensis*. These kinorhynchs also occurred at the mud stations. Polychaetes were collected in low numbers, but more species occurred in the sand than in the mud. Oligochaetes decreased in the top fraction throughout the sampling period from 25 per sample in October 1974 to 0 in April 1975. They were found in the bottom fraction only in October 1974. Ostracods occurred in both fractions sporadically, with mean numbers generally less than 3 per 10 cm^2. *Loxoconcha sperata*, *Sarsiella*

zostericola, Schlerochilus contortus, and Semicythera nigresens were collected at EB9, as well as Cytheromorpha sp. and Loxoconcha granulata, two species that were found both at mud and at sand stations. The cephalocarid crustacean, Hutchinsoniella macracantha, halacrid mites, unidentified bivalves, and various unidentified larvae occasionally occurred in the sand samples.

67. With the exception of the control mud station at EB11, all meiofaunal stations after 22 April 1975 were relocated in the muddy sediments of the northwestern portion of the dump site and at EB2 (Figure 2). Therefore, few comparisons can be made between samples collected before 22 April 1975 and those collected after this date.

68. The eleven A-stations (A1, A2, A3, A5, A6, A7, A9, A10, A11, A13, and A14) were all located along two transects, one north-south approximately 550 m long and one east-west approximately 735 m long. Sampling at EB2 began in anticipation of a possible second dumping experiment in that area.

69. Although the sediments and species within these areas were patchy in distribution, there were considerable similarities in the fauna. Nematoda was the dominant taxon, accounting for 60 to 100 percent composition by number (Table 5). The only exception to this was at station A7 on 29 May 1975 when mean percent composition reached a low of 45 percent. Harpacticoid copepods were the second most abundant taxon at these stations, but their concentrations were considerably lower than those for the nematodes. Mean percent composition for the harpacticoids varied throughout the study from 0 to 39 percent by number, but in most cases accounted for less than 10 percent (Table 5).

70. Other taxa encountered at the mud stations after 22 April were similar to those from the mud stations sampled prior to this date in other parts of the dump site (Appendix D'). They include unidentified turbellarians and the kinorhynchs Trachydemus mainensis and Pycnophyes frequens, which occurred sporadically and in low mean numbers (less than 1 per core sample). Polychaetes were represented primarily by two species, Cossura longocirrata and Mediomastus ambiseta, generally collected in

mean concentrations of less than 1 per sample, but occasionally occurring as high as 10 per sample. Unidentified larvae of various groups were found in low concentrations, as were unidentified oligochaetes and halacarid mites. The crustacea were represented occasionally by the cephalocarid Hutchinsoniella macracantha and the ostracods Loxoconcha granulata, L. sperata, and Cytheromorpha sp.

71. The two dominant meiofauna taxa, Nematoda and Harpacticoida, display a significant negative correlation between their percent compositions (Table 6). This appears to be the case in both mud and sand sediments, where significant negative correlations were found for each month except for October and December mud samples, when numbers were low (Table 6).

Grab and Box Corer Comparison

72. In sand, there was no significant difference ($p < 0.05$) in depth of penetration between the grab and box corer (Table 7). Sediment volume was greater for the box corer ($p < 0.01$), but there were no significant differences in number of macrofauna species or individuals (Table 7). However, biomass was significantly larger ($p < 0.05$) for samples collected in the Smith-McIntyre grab. There was no significant difference in number of meiofauna species, but the Smith-McIntyre grab collected significantly more individuals (Table 8). The grab was also much easier to handle on deck and was much safer to use than the box corer. Therefore, the Smith-McIntyre grab sampler is considered superior to the box corer in sandy sediments.

73. In mud, the box corer had a greater depth of penetration and sediment volume, but there were no significant differences in number of macrofaunal or meiofaunal species (Tables 7 and 8). Similarly there were no significant differences in biomass values (Table 7) or numbers of individuals in the meiofaunal samples (Table 8). There were significantly more macrofaunal individuals collected with the box corer (Table 7) indicating the box corer is a better sampler in soft sediments. However, the difficulties associated with operation of the box corer made the Smith-McIntyre grab the gear of choice for this study.

PART IV: DISCUSSION

Macrofauna

Grab samples

74. Community structure has been developed as a concept which quantitatively represents animal species presence and abundance and the habitat within which these species live. Species diversity (here measured as H') is one quantitative measure of community structure which relates number of species in an ecological sample (species richness = SR) with how evenly individuals are distributed among species (species evenness = J'). The mathematical formulas for these measurements show that they are interrelated so that changes in H' can be attributed to changes in J' and/or SR. H' was picked as the best single measurement of species diversity, according to the criteria of Pielou (1966).

75. Sanders (1968) proposed a stability-time hypothesis which relates community structure (i.e. species diversity) to habitat type. The stability-time hypothesis is a continuum of intrahabitat adaptive pressure in terms of environmental stability. This continuum extends from biologically accommodated communities in stable environments (temporal and/or physical), where animal adaptations are in terms of other organisms in the habitat, to physically controlled communities in unstable environments, where animal adaptations are due to fluctuations in physical parameters of the habitat (Hartzband, 1974). High species diversity is found in stable, biologically accommodated habitats, while low species diversity is found in stressed, physically controlled habitats.

76. Sanders (1968) emphasized a within-habitat restriction on diversity comparisons. Therefore, mean diversity values were computed for sand and mud stations separately. Species diversities were quite low in both cases with mean values ranging from 0.97 to 1.57 bits/individuals for the mud stations and 1.70 to 2.91 for the sand stations. Standard deviations for the mean diversities were high, averaging about 58 percent at the mud stations and 32 percent at the sand stations. According to Pielou (1969) standard deviations this high indicate patchy distributions.

77. In all cases, diversity values were higher for sand stations and, except for 21 January, all were significant at $p < 0.01$. This compares with Boesch (1973) who similarly found much higher diversities in sand.

78. The generally low diversities found at Eatons Neck, particularly in the muddy sediments, indicate a stressed environment. Some of this stress can probably be related to the early history of the disposal site, which was used from 1902 - 1973, when approximately 10.7 million m^3 of dredged material was deposited at the Eatons Neck site. However, equally low diversity values were found in the control area, which had never been exposed to disposal operations. This indicates that areas well outside the disposal site are equally stressed, probably as a result of the nearby population centers of New York and Connecticut. There were no apparent differences between the animal populations within a given sediment type between the control and experimental areas so the stations were considered together in subsequent analyses.

79. Saila et al. (1972) computed H' values for recently colonized dredged material in Rhode Island Sound. Their values, ranging from 0.73 to 3.05, were comparable to those found at Eatons Neck. Rowe (1971) studied the Hudson Gorge region with respect to the amphipod-polychaete-mollusc fraction of benthic samples, and he found diversities ranging from 0.7 to 2.9. He attributed the lowest values to the deposition of the dredged material in the area and low oxygen stress imposed by sewage sludge disposal. Rhoads (1974 a, b, and c) found low diversity values at a disposal site off New Haven, but his values are not comparable, since they were computed by a different method.

80. The benthic macrofauna at the Eatons Neck disposal site may be divided into a mud or silty-clay assemblage, and a group of sand or silty sand assemblages. The mud assemblage may be further subdivided into three separate groupings based on differences in total macrofaunal abundance and species composition, but this distinction is primarily a matter of degree.

81. The mud or predominantly silt-clay sedimentary environment at Eatons Neck encompasses most of the disposal site (Figure 2). The

remainder of estuary bottom at the site was comprised of sand facies. These sandy areas were located in the eastern section of the site on or adjacent to Cable and Anchor Reef, and the extreme northern corner of the site along the edge of Budd Reef. In these areas, the sediments are silty sand, muddy sand, or silty gravelly sand.

82. Sediment texture is variable spatially within the site. This factor in concert with normal vessel positioning error often resulted in large variation with time in the recorded sediment composition of a nominal station. Also grain size analysis was performed for only one of the three bottom grab samples taken at a station, but sediments in the three replicate grabs were occasionally visually different. Therefore, a given station might generally have sediments greater than 80 percent sand, but at times a very different sediment type might be recorded. These "outlying" samples of sediment and accompanying organisms occasionally resulted in classification difficulties. Thus some amount of subjectivity was used in assigning stations to groups to eliminate obvious misclassifications due to extreme sediment variations.

83. The mud assemblage during October was numerically dominated by the deposit feeding capitellied polychaete Mediomastus ambiseta at stations having a comparatively large total density. However, several stations had so few organisms and species that relative abundance data were not meaningful. In the December-January period, M. ambiseta was dominant only at mud stations EB1, EB2, EB4, EB11, and EB12 along with the subdominant Nephtys incisa. The bivalve Mulinia lateralis, a suspension feeder, was the most abundant macroinvertebrate at mud stations EB3 and EB5 in December and January. In the February-April period, the M. ambiseta population had declined to a very low level and the deposit feeders Nucula proxima, a bivalve, and N. incisa, a polychaete, were the most numerous organisms at all mud stations. Total macrofauna densities were very low during the February-April period. From late April through mid-June, mud stations at the experimental site in the western corner of the area had Mulinia lateralis, an opportunistic suspension feeding bivalve, as the numerically dominant macroinvertebrate. Densities and number of species remained low during this period.

84. Mud stations A1 through A15 and EB2 at the experimental disposal site were similar in benthic abundance and species composition. The suspension feeding bivalve, Mulinia lateralis, dominated the macrofauna at all stations. The bivalve Nucula proxima and the polychaete Nephtys incisa were sub-dominants with densities being one to two orders of magnitude less than that of M. lateralis. The mud snail Nassarius trivittatus and the predacious nemerteans Tubulanus pellucidus and Cerebratutus lacteus were consistently present in small numbers. The macrobenthos at control station EB11 was very sparse, and no dominant species were discernible. The control station was highly dissimilar, therefore, from the experimental mud stations. Total macrofaunal density and species number were low during the spring at the mud stations.

85. The sand to silty sand assemblage at stations EB6 and EB9 adjacent to Budd Reef was characterized by the cephalocarid crustacean, Hutchinsoniella macracantha. Although this species did not occur in all samples from EB6 or EB9, it was absent at other Eatons Neck locations, except at EB4 in October. H. macracantha is a deposit feeder. Other dominant or sub-dominant species in the assemblage were the deposit feeding polychaetes Mediomastus ambiseta and Nephtys incisa, ths suspension feeding bivalve Tellina agilis, and the carnivorous nemertean Tubulanus pellucidus. Unidentified nematodes were also abundant at EB9 in October. Seasonal changes in dominant species occurred, but low total densities from December through April make relative abundance data difficult to interpret. Macrofaunal abundance and number of species were smaller at the Budd Reef sandy environment than in other sand assemblages, but were similar to the largest benthic abundances at mud stations.

86. The silty sand or silty gravelly sand station group at Cable and Anchor Reef had a larger density and number of macrofaunal species than any benthic habitat surveyed at Eatons Neck. At station EB7, the deepest station in the group, densities were lower than at EB8 and EB10; unidentified oligochaetes, the suspension feeder Tellina agilis, and the epibenthic gastropod Crepidula fornicata were usually most abundant.

The polychaete Aricidea cirruti, however, was dominant in October, and Mediomastus ambiseta was dominant in December. At station EB8, Polygordius triestinus, a deposit feeder, was the most common macroinvertebrate except in October when A. cirruti dominated. Nematodes were also abundant from December through April. Station EB10, a sand control station located on Cable and Anchor Reef, but outside the site, was consistently dominated by P. triestinus and the amphipods Ampelisca vadorum and Phoxocephalus holbolli. Control stations EX18-EX20, which occurred in the October station group containing the Cable and Anchor Reef Stations, had Mediomastus ambiseta as the dominant organism; however, the subdominant species were similar between the two areas.

87. Comparison of the Eatons Neck benthic data with that at other Long Island Sound disposal areas is hindered because of different sampling and analysis techniques used, particularly the level of taxonomic identification. Rhoads (1972, 1973a) described a portion of the benthic fauna at the New Haven dump site, namely molluscs and polychaetes. The mollusc fraction was always identified and a few stations included polychaete identifications, but in no instance was the total fauna examined. Most molluscan species were the same as those found at Eatons Neck. Mulinia lateralis was abundant at most stations in the New Haven dump site, with Pitar morrhuana, Yoldia limatula, Pandora gouldiana, and Nucula annulata usually occurring in substantial numbers. Macoma tenata, Lyonsia hyalina, and Tellina agilis were commonly found, but generally in lower concentrations than the previous species.

88. Rhoads (1972, 1973d, 1973e, 1974a, 1974b, 1974c, and 1975) reported Nucula annulata in most of his studies, but occasionally he reported Nucula proxima (Rhoads, 1973a, 1973b). N. annulata was recently described by Hampson (1971) as occurring in muddy sediments, while N. proxima is supposed to occur in sandy sediments. However, no consistent differences in morphology or sediment preference for Nucula were found in this study or previous studies in Long Island Sound (Serafy and D'Agostino, 1974). Other workers have not been able to distinguish these nominal species*, so until this taxonomic problem

*Personal communication, Robert Reid, National Oceanic and Atmospheric Administration, Sandy Hook Laboratory, Highlands, N.J., 1974.

is resolved, all Nucula collected at Eatons Neck were tentatively identified as N. proxima.

89. Although there were similarities in the mollusc faunas at New Haven and Eatons Neck, polychaetes identified at New Haven were greatly different between the two areas. Rhoads (1972) reported no archiannelids from the New Haven disposal site, and the dominant polychaetes were represented by Streblospio benedicti, Melinna cristata, Owenia fusiformis, unidentified terrebellids, and ampharetids. At the New Haven Ship Channel and Northwest Control Sites, Rhoads (1973a) reported no archiannelids and only a few stations with large numbers of capitellids. Dominant polychaetes were Streblospio benedicti, Scoloplos sp., and Nereis succinea. At the Eatons Neck site, the dominant annelids at sandy stations were the archiannelid Polygordius triestinus (which also occurred in low concentrations at the mud stations) and the dominant at the muddy stations was the capitellid Mediomastus ambiseta. Other polychaetes occurring in large numbers were Nephtys incisa, Arricidea cerruti, Pherusa affinis, and Glycera americana. These species also occurred at the New Haven site, but never in large numbers; the dominant species at New Haven occurred infrequently and in low numbers at Eatons Neck. However, the results obtained at New Haven are based on separation of organisms and sediments with a 1-mm-mesh sieve as opposed to a 0.5-mm sieve used at Eatons Neck. This difference in technique may account for the wide differences between the polychaete faunas at the two disposal sites.

Epibenthic sled samples

90. The dominant species collected with the epibenthic sled at Eatons Neck (Mulinia lateralis, Nucula proxima, Nassarius trivittatus, Crangon septemspinosa, Pagurus longicarpus, and Neomysis americana) are all common residents of Long Island Sound. Crangon septemspinosa, Neomysis americana, and Nassarius trivittatus were all collected with a modified oyster dredge from the sandy epibenthos off Charles Island, Connecticut (Richards and Riley, 1967). With the exception of P. longicarpus and the addition of Nucula proxima, these same species were collected by Richards and Riley (1967) in the silty-sandy-clay sediments from the same area. M. lateralis was not abundant in their

samples, but Sanders (1956) occasionally collected this species in large numbers in Central Long Island Sound. At the New Haven disposal site, M. lateralis was the most dominant organism, with Pitar morrhuana, Yoldia limatula, and Nucula proxima present in large numbers as well (Rhoads, 1973a). The common sea star Asterias forbesi was abundant in epibenthic samples from off Charles Island, Connecticut (Richards and Riley, 1967), but was rare in the sled samples collected at Eatons Neck.

91. Differences between the assemblages of organisms collected in the epibenthic sled at Eatons Neck and those found elsewhere in the Sound can be ascribed primarily to the great abundance of Mulinia lateralis. This species of bivalve is particularly abundant at EB3 and EB4, within the disposal area, as opposed to station EB11, the control station. Mulinia lateralis is reportedly an early colonizer of new or disturbed environments in Long Island Sound (Rhoads, 1975). The high birth rate and short generation time of M. lateralis (Calabrese, 1968) characterize the species as highly opportunistic (Rhoads, 1973a, 1975). Its high abundance at the Eatons Neck site where disposal has not occurred in four years indicates that the environment, particularly at the north extension of the site, has been or is being stressed by factors other than disposal of dredged material or that M. lateralis is not necessarily opportunistic.

92. Although sampling sites differed in sediment characteristics, from mud at EB3, EB4, and EB11, to sand or muddy sand at EB9, the organisms collected did not always reflect these differences. All stations had as their main components, Mulinia lateralis, Nassarius trivittatus, and Nucula proxima, with Crangon septemspinosa, Neomysis americana, and Pagurus longicarpus also occurring with great regularity. The main faunal difference between stations was in the relative abundance of the species. Lower numbers of M. lateralis at sandy station EB9 are probably accounted for by its preference for silty clay substratum (Sanders, 1956).

93. Although the epibenthic sled is not a quantitative sampler, attempts were made to standardize the samples. As a result, definite trends in total number of organisms collected can be seen. Total

number at stations EB4, EB9, and EB11 dropped (at station EB4, precipitously) from December to February and remained high in May. However, these changes in number are primarily due to fluctuation in number of *Mulinia lateralis*. These numbers may vary by more than an order of magnitude between replicate samples. According to Rhoads (1975), *M. lateralis* not only has an extremely patchy distribution, but also undergoes large population fluctuations.

94. Shannon-Weaver diversity indices (H') are consistently lower for the epibenthic sled samples than for the grab samples. Several epibenthic species were collected with the sled that were not collected with the grab, and in all cases there were more species collected with the epibenthic sled. However, the extreme dominance by one species in the sled samples (primarily *Mulinia lateralis*) is believed to account for the overall lower species diversities for the sled.

Meiofauna

Total numbers

95. Total numbers of meiofaunal organisms occurring in the Eatons Neck samples ranged from 1 to 2841 per 10 cm^2 in the upper 10 cm of the sediment with the largest numbers occurring in sand. Similar values of 169 to 1861 per 10 cm^2 were reported by Wieser (1960) from Buzzards Bay, Massachusetts, while Wigley and McIntyre (1964) found 117 to 988 per 10 cm^2 in samples taken from south of Martha's Vineyard in 40 to 567 m. Tietjen (1969) found much higher numbers (1,184 to 5,163 per 10 cm^2) in estuarine samples from Connecticut and Rhode Island. The lower densities (generally less than 200 per 10 cm^2) at Eatons Neck are probably a result of the highly stressed environment within the dump site.

96. The dominance of the meiofauna at Eatons Neck by nematodes is consistent with other studies along the northeastern coast of the United States (Tietjen, 1969; Wieser, 1960; Wigley and McIntyre, 1964). In Buzzards Bay, Wieser (1960) reported that nematodes accounted for 89 to 99 percent composition by number, while Tietjen (1969) reported

percent compositions of 58 to 90 percent for nematodes in the Niantic Estuary (Connecticut) and the Pettaquamscutt Estuary (Rhode Island). Wigley and McIntyre (1964) found that nematodes varied in their samples from 39 to 94 percent composition by number. Their range of values is closest to those found in this study, which varied from 45 to 100 percent.

97. Harpacticoid copepods were the next most abundant component of the meiofauna at Eatons Neck, accounting for 0 to 39 percent composition by number. However, in most cases they accounted for less than 10 percent of the total fauna. This compares with the results of Tietjen (1969), who found harpacticoids to be the second most abundant taxon, followed by ostracods and polychaetes, respectively. Wigley and McIntyre (1964) found copepods to be the second most abundant group, but they did not distinguish between harpacticoids and other types of copepods. However, it is presumed that the majority of their copepods were harpacticoids. A slightly different ranking of taxa was reported by Wieser (1960) working in Buzzards Bay. He found kinorhynchs to be the second most abundant taxon with ostracods and harpacticoids being third and fourth, respectively.

Compositional relationships

98. The strong inverse relationship between percent composition for nematodes and harpacticoids (Table 6) is believed to indicate competitive interaction between species in these groups. Samples with lower percent composition for nematodes have proportionately higher percent composition for harpacticoids, although in no cases did harpacticoids outnumber nematodes. Although Tietjen (1969) did not discuss this inverse relationship in his studies conducted in Connecticut and Rhode Island, preliminary calculations using his data show the same trend. Statistically significant negative correlations were found, based on means of three replicate samples, since raw data were not presented. Although this is not statistically correct, it strongly suggests that there is a real negative relationship.

99. Based on gut analyses of 237 unidentified harpacticoids, Tietjen (1969) found they were primarily benthic microalgae feeders.

He now has several genera of harpacticoids in xenic culture and they seem to prefer benthic microalgae of the same type as epigrowth feeding nematodes*. Nematodes of this feeding type were the most prevalent during spring and summer in Tietjen's (1969) studies of two northeastern estuaries. Tietjen has also found similar negative correlations between nematodes and benthic foraminifera from samples collected on the Blake Plateau (Tietjen, personal communication). Although it is apparent that some sort of competitive interaction is occurring between nematodes and harpacticoids at Eatons Neck, a detailed analysis must await species identifications, since competition occurs between species and not higher taxa.

Species checklist

100. A checklist of meioinvertebrate species collected at Eatons Neck is given in Table 11.

Summary and Conclusions

101. The largest benthic habitat at the Eatons Neck site, in terms of area, is the mud or silt-clay sedimentary environment. This habitat extends over the entire disposal site except along the eastern and northern perimeter of the area. Two sand benthic habitats occur at the site, one along the eastern border of the site at or near Cable and Anchor Reef, and a second in the northern corner of the site adjacent to Budd Reef. A relatively distinct benthic macroinvertebrate assemblage inhabits each of these three sedimentary environments.

102. Numerically dominant species of macrofauna in the mud sediments included the polychaetes *Mediomastus ambiseta* and *Nephtys incisa* and the bivalves *Mulinia lateralis* and *Nucula proxima*, dominants varying with the time of year. In the sand environment at Budd Reef the crustacean *Hutchinsoniella macracantha*, the polychaetes *M. ambiseta* and *N. incisa*, the bivalve *Tellina agilis*, and the nemertean *Tubulanus pellucidus* were the most abundant species, with dominants changing

*Personal communication, J. H. Tietjen, Dept. of Biology, City College of New York, 1975.

temporally. Nematodes were also abundant. The annelids M. ambiseta, Aricidea cirruti, and Polygordius triestinus, oligochaetes, nematodes, the bivalve T. agilis, and the amphipods Ampelisca vadorum and Phoxocephalus holbolli were the dominant species in the sand habitat at Cable and Anchor Reef.

103. The mud assemblage is generally characterized by lower species diversity, biomass, and density of benthic organisms than those of the sand assemblages.

104. Deposit feeders were typically the most abundant macrofaunal species in both the sand and mud assemblages; however, a suspension feeder was dominant at the mud stations in the western section of the site from December through June.

105. Macrobenthic epifauna collected with the epibenthic sled was generally composed of the same species in the sand and mud stations, but relative abundance of species differed among habitats. Mulinia lateralis was the most abundant species at mud stations, whereas the snail Nassarius trivittatus was dominant at the sand station. Other important epifaunal species included the crustaceans Neomysis americana, Crangon septemspinosa, and Pagurus pollicaris.

106. Nematodes were the dominant taxa in the meiofaunal samples with harpacticoid copepods being second in numerical abundance. A strong inverse relationship between the abundance of nematodes and harpacticoids indicated a competitive interaction between these two groups of organisms.

107. It was not possible to quantitatively compare the benthos at the Eatons Neck disposal site with benthos of other Long Island Sound disposal sites because of differences in techniques. The molluscan fraction of the Eatons Neck site was similar to that of the New Haven site, but large differences in the polychaete fauna were observed.

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Table 1

Geodetic Position and Depth at Mean Low Water

for all Stations Sampled at Eatons Neck

Station	Latitude	Longitude	Depth, m
EB1	40° 59' 33.9" N	73° 27' 03.4" W	24.5
EB2	40° 59' 42.4" N	73° 27' 36.8" W	29.0
EB3	41° 00' 37.8" N	73° 28' 08.6" W	21.8
EB4	41° 00' 02.9" N	73° 26' 18.0" W	31.2
EB5	41° 00' 25.3" N	73° 26' 29.6" W	23.2
EB6	41° 01' 24.1" N	73° 26' 17.6" W	22.7
EB7	40° 59' 46.3" N	73° 24' 47.6" W	38.6
EB8	41° 00' 14.0" N	73° 25' 03.4" W	30.8
EB9	41° 01' 37.8" N	73° 25' 55.3" W	21.5
EB10	41° 00' 00.0" N	73° 23' 43.3" W	20.0
EB11	41° 00' 00.0" N	73° 22' 00.0" W	31.4
EB12	41° 00' 00.0" N	73° 20' 19.7" W	25.8
A1	41° 00' 31.6" N	73° 27' 50.6" W	21.9
A2	41° 00' 30.7" N	73° 27' 54.4" W	21.0
A3	41° 00' 30.0" N	73° 27' 57.9" W	21.0
A4	41° 00' 29.3" N	73° 28' 01.7" W	21.0
A5	41° 00' 28.7" N	73° 28' 06.7" W	22.0
A6	41° 00' 32.3" N	73° 27' 46.7" W	22.5
A7	41° 00' 33.3" N	73° 27' 42.9" W	22.8
A8	41° 00' 33.9" N	73° 27' 37.7" W	22.0
A9	41° 00' 34.6" N	73° 27' 33.4" W	24.0
A10	41° 00' 34.6" N	73° 27' 51.4" W	21.5
A11	41° 00' 37.2" N	73° 27' 52.3" W	21.6
A12	41° 00' 39.8" N	73° 27' 52.7" W	20.0
A13	41° 00' 28.7" N	73° 27' 49.7" W	22.3
A14	41° 00' 26.1" N	73° 27' 48.9" W	20.0
A15	41° 00' 22.8" N	73° 27' 47.6" W	22.8
EX1	40° 58' 46.3" N	73° 27' 04.3" W	24.1
EX2	40° 59" 14.0" N	73° 27' 20.6" W	32.0
EX3	41° 00' 09.8" N	73° 27' 57.2" W	25.3
EX4	40° 59' 52.2" N	73° 27' 12.9" W	28.3
EX5	41° 00' 11.7" N	73° 27' 21.9" W	25.6
EX6	41° 00' 54.5" N	73° 27' 30.9" W	21.6
EX7	40° 59' 25.4" N	73° 26' 30.0" W	37.8
EX8	41° 00' 02.6" N	73° 26' 48.9" W	26.2
EX9	41° 00' 41.7" N	73° 27' 06.0" W	21.8
EX10	40° 59' 17.0" N	73° 25' 57.0" W	43.3
EX11	40° 59' 40.4" N	73° 26' 07.7" W	32.8
EX12	41° 00' 48.3" N	73° 26' 40.3" W	22.9
EX13	41° 01' 11.1" N	73° 26' 51.4" W	22.9
EX14	40° 59' 43.0" N	73° 25' 41.6" W	34.4

Table 1 (concluded)

Station	Latitude	Longitude	Depth, m
EX15	41° 00' 58.7" N	73° 26' 18.0" W	25.6
EX16	41° 00' 08.1" N	73° 25' 25.7" W	31.7
EX17	41° 00' 46.3" N	73° 25' 44.6" W	21.2
EX18	41° 01' 09.8" N	73° 25' 35.1" W	21.6
EX19	41° 00' 00.0" N	73° 23' 30.0" W	25.0
EX20	41° 00' 00.0" N	73° 23' 17.1" W	27.7
EX21	41° 00' 00.0" N	73° 23' 12.9" W	29.6
EX22	41° 00' 00.0" N	73° 22' 51.4" W	27.1
EX23	41° 00' 00.0" N	73° 22' 38.6" W	27.4
EX24	41° 00' 00.0" N	73° 22' 25.7" W	28.0
EX25	41° 00' 00.0" N	73° 22' 12.9" W	30.0

Table 2

Mean Species Diversity, Richness, and Evenness Values for Mud and Sand Stations at Eatons Neck, 6 December 1974 through 17 June 1975

Date	Sediment Species Type*	Diversity H'	Species Richness SR	Species Evenness J'
6 Dec 1974	mud	1.50 ± 0.52	1.41 ± 1.10	0.70 ± 0.33
	sand	2.45 ± 0.52**	3.14 ± 1.43	0.63 ± 0.20
21 Jan 1975	mud	1.34 ± 0.69	0.96 ± 1.02	0.53 ± 0.41
	sand	1.70 ± 0.92	2.60 ± 2.08	0.48 ± 0.27
20 Feb 1975	mud	1.07 ± 1.02	0.77 ± 0.80	0.56 ± 0.43
	sand	2.85 ± 0.80**	2.99 ± 1.41	0.62 ± 0.28
1 Apr 1975	mud	1.57 ± 0.90	1.65 ± 0.95	0.76 ± 0.28
	sand	2.91 ± 0.67**	3.33 ± 1.71	0.55 ± 0.39
22 Apr 1975	mud	1.17 ± 0.79	1.05 ± 0.68	0.62 ± 0.37
12 May 1975	mud	1.42 ± 0.68	1.31 ± 0.67	0.72 ± 0.30
29 May 1975	mud	0.97 ± 0.54	0.98 ± 0.50	0.46 ± 0.25
17 Jun 1975	mud	1.22 ± 0.64	1.16 ± 0.66	0.53 ± 0.26

* Sand stations include EB7, EB8, EB9, and EB10; mud stations from 6 December 1974 through 1 April 1975 include EB1, EB2, EB3, EB4, EB5, EB6, EB11, and EB12; and from 22 April through 17 June mud stations include A1-A15, EB2, and EB11.

** Significantly higher diversity index, $p < 0.01$.

Table 3

Mean H' Diversity Values for Experimental and Control Stations at Eatons Neck, 6 December 1974 through 17 June 1975

Date	H' Mud* Experimental	H' Mud** Control	t-value	H' Sand* Experimental	H' Sand** Control	t-value
6 Dec 1974	1.65	1.12	0.37	2.57	1.98	0.28
21 Jan 1975	1.41	1.12	0.43	1.64	2.49	-0.39
20 Feb 1975	1.34	0.26	1.43	2.85	1.04	0.97
1 Apr 1975	1.65	1.64	0.004	2.58	2.27	0.13
22 Apr 1975	1.26	0.24	1.82	----	----	----
12 May 1975	1.24	2.08	-0.69	----	----	----
29 May 1975	0.89	1.15	-0.29	----	----	----
17 Jun 1975	1.19	1.43	-0.19	----	----	----

* Experimental stations from 6 December 1974 through 1 April 1975 included stations EB1, EB2, EB3, EB4, EB5, and EB6 for mud and EB7, EB8, and EB9 for sand. Experimental stations from 22 April through 17 June 1975 included stations A1-A15 and EB2 for mud.

** Control stations from 6 December 1974 through 1 April 1975 included stations EB11 and EB12 for mud and EB10 for sand. Control station from 22 April through 17 June 1975 was EB11 for mud.

Table 4

Mean Numbers and Percent Compositions for Nematoda and Harpacticoida Collected in the Meiofauna Samples 29-31 October 1974 through 1 April 1975*

Station	Taxon	Statistic	29-31 Oct***	6 Dec	21 Jan	20 Feb	1 Apr
EB3 (Mud)	Nematoda	Mean Number	423	185.7	364.0	288.6	175.4
		Mean Percent Composition	72.6	94.4	95.9	92.0	90.0
	Harpacticoida	Mean Number	95	6.7	7.0	12.0	8.0
		Mean Percent Composition	16.3	3.4	1.8	3.8	4.3
EB4 (Mud)	Nematoda	Mean Number	**	16.5	55.0	44.3	201.0
		Mean Percent Composition	**	87.7	92.7	94.0	79.4
	Harpacticoida	Mean Number	**	0.3	1.7	1.3	37.0
		Mean Percent Composition	**	1.6	2.9	2.8	14.6
EB11 (Mud)	Nematoda	Mean Number	**	38.8	54.0	160.0	24.6
		Mean Percent Composition	**	96.5	97.8	97.8	91.1
	Harpacticoida	Mean Number	**	0.3	0.3	2.7	0
		Mean Percent Composition	**	0.7	0.5	1.7	0

Table 4 (continued)

Station	Taxon	Statistic	29-31 Oct***	6 Dec	21 Jan	20 Feb	1 Apr
EB9 (Sand)	Nematoda	Mean Number	2560	569.3	435.4	805.4	121.6
		Mean Percent Composition	83.8	93.5	98.7	92.4	96.7
	Harpacticoida	Mean Number	156	9.3	1.3	40.0	2.0
		Mean Percent Composition	5.1	1.5	0.3	4.6	1.6

* Top and bottom fractions were combined and the surface sampling area was 10 cm^2.
** No sample was collected.
*** Not a mean, since only one replicate was collected in October.

Table 5

Mean Numbers and Percent Compositions for Nematoda and Harpacticoida Collected in the Meiofauna Samples 22 April through 17 June 1975*

Station	Taxon	Statistic	22 Apr	12 May	29 May	17 Jun
A1	Nematoda	Mean Number	18.0	70.3	122.7	43.3
		Mean Percent Composition	93.7	90.7	95.8	88.0
	Harpacticoida	Mean Number	0.3	2.3	3.7	2.3
		Mean Percent Composition	1.6	3.0	2.9	4.7
A2	Nematoda	Mean Number	**	151.0	214.3	178.4
		Mean Percent Composition	**	84.6	76.7	83.7
	Harpacticoida	Mean Number	**	16.0	13.6	25.0
		Mean Percent Composition	**	9.0	11.9	11.7
A3	Nematoda	Mean Number	83.7	175.4	67.3	108.6
		Mean Percent Composition	98.8	85.8	96.8	76.4
	Harpacticoida	Mean Number	0.7	12.7	1.3	26.0
		Mean Percent Composition	0.8	6.2	1.9	18.1

Table 5 (continued)

Station	Taxon	Statistic	22 Apr	12 May	29 May	17 Jun
A5	Nematoda	Mean Number	**	484.7	53.6	210.3
		Mean Percent Composition	**	93.1	86.3	86.7
	Harpacticoida	Mean Number	**	12.7	6.3	27.3
		Mean Percent Composition	**	2.4	10.1	11.3
A6	Nematoda	Mean Number	**	61.5	35.3	180.7
		Mean Percent Composition	**	91.1	93.1	80.1
	Harpacticoida	Mean Number	**	3.5	1.4	31.3
		Mean Percent Composition	**	5.2	3.7	13.9
A7	Nematoda	Mean Number	15.3	24.7	20.3	234.0
		Mean Percent Composition	96.2	87.0	44.5	79.6
	Harpacticoida	Mean Number	0.3	1.7	17.7	34.3
		Mean Percent Composition	1.9	5.9	38.8	11.7

Table 5 (continued)

Station	Taxon	Statistic	22 Apr	12 May	29 May	17 Jun
A9	Nematoda	Mean Number	**	30.7	16.0	126.7
		Mean Percent Composition	**	91.4	86.0	64.5
	Harpacticoida	Mean Number	**	1.0	1.0	49.0
		Mean Percent Composition	**	3.0	3.8	2.0
A10	Nematoda	Mean Number	**	180.6	47.5	142.0
		Mean Percent Composition	**	93.5	92.5	82.2
	Harpacticoida	Mean Number	**	1.9	2.0	10.4
		Mean Percent Composition	**	1.0	4.1	6.0
A11	Nematoda	Mean Number	52.3	151.3	445.3	93.6
		Mean Percent Composition	98.5	90.1	84.6	63.7
	Harpacticoida	Mean Number	0	3.0	65.6	19.8
		Mean Percent Composition	0	1.8	12.5	13.5

Table 5 (continued)

Station	Taxon	Statistic	22 Apr	12 May	29 May	17 Jun
A13	Nematoda	Mean Number	**	10.7	**	236.3
		Mean Percent Composition	**	92.2	**	70.2
	Harpacticoida	Mean Number	**	0.3	**	70.0
		Mean Percent Composition	**	2.5	**	19.9
A14	Nematoda	Mean Number	27.0	18.0	58.7	244.7
		Mean Percent Composition	93.4	84.9	87.2	60.0
	Harpacticoida	Mean Number	0.3	2.3	4.0	98.6
		Mean Percent Composition	1.0	10.8	5.9	24.2
EB2	Nematoda	Mean Number	45.4	125.3	73.3	181.0
		Mean Percent Composition	89.9	76.6	78.6	86.6
	Harpacticoida	Mean Number	3.3	16.0	15.0	10.7
		Mean Percent Composition	6.5	9.8	16.1	5.1

Table 5 (concluded)

Station	Taxon	Statistic	22 Apr	12 May	29 May	17 Jun
EB11	Nematoda	Mean Number	22.7	17.3	13.4	34.7
		Mean Percent Composition	93.4	86.1	100.0	63.0
	Harpacticoida	Mean Number	0.2	1.3	0	6.0
		Mean Percent Composition	2.9	6.5	0	10.9

* Top and bottom fractions were combined and the surface sampling area was 10 cm^2.

** No sample was collected.

Table 6

Correlation Coefficients for Nematoda and Harpacticoida Percent Compositions at Mud and Sand Stations

Date	Sediment Type	
	Mud	Sand
29-31 Oct	0.195	-0.759**
6 Dec	0.156	-0.924**
21 Jan	-0.783**	-0.608**
20 Feb	-0.980**	-0.888**
1 Apr	-0.462*	-0.774**
22 Apr	-0.682*	***
12 May	-0.734**	***
29 May	-0.891**	***
17 Jun	-0.919**	***

* Significance at $p < 0.05$.
** Significance at $p < 0.01$.
*** No sand stations were sampled after 1 April 1975.

Table 7

Comparison of Smith-McIntyre Grab Sampler and Box Corer at Eatons Neck -- Macrofauna

9 April 1975

Sediment Type (Station No.)	Grab Type & Replicate No.	No. Species (taxa)	No. of Individuals	Dry-Weight Biomass, g	Depth of Penetration of Sediment, cm	Sediment Volume, ℓ
Mud (EB 2)	SM - 1	5	24	0.0589	11.4	9.0
	SM - 2	14	37	0.0395	8.9	7.0
	SM - 3	10	50	0.0553	11.4	9.0
	SM - 4	2	10	0.0798	11.4	9.0
	SM - 5	17	22	1.3006	14.0	11.5
	$\bar{x} \pm$ S.D.	9.6 ± 6.2	28.6 ± 15.3	0.3068 ± 0.5557	11.4 ± 1.8	9.1 ± 1.6
	BC - 1	10	34	0.0369	22.9	21.5
	BC - 2	22	54	64.2111	16.5	12.0
	BC - 3	22	43	0.3957	22.9	19.0
	BC - 4	15	72	0.3773	26.7	24.0
	BC - 5	19	66	1.0356	28.0	25.0
	$\bar{x} \pm$ S.D.	17.6 ± 5.1	53.8 ± 15.7	13.2111 ± 28.5115	23.4 + 4.5	20.3 ± 5.2
	t - test results	2.23	2.57*	-1.01	5.56**	4.61**
Sand (EB 10)	SM - 1	57	2193	45.4234	8.3	6.0
	SM - 2	69	2950	31.2454	6.4	4.0
	SM - 3	55	3298	41.2206	7.0	4.5
	$\bar{x} \pm$ S.D.	60.3 ± 7.6	2814 ± 565	39.2965 ± 7.2822	7.2 ± 1.0	4.8 ± 1.0
	BC - 1	55	2921	5.6920	10.2	9.0
	BC - 2	56	2022	22.8783	10.2	10.5
	BC - 3	49	1092	24.7588	7.6	9.5
	$\bar{x} \pm$ S.D.	53.3 ± 3.8	2012 ± 915	17.7764 ± 10.5075	9.3 ± 1.5	9.7 ± 0.8
	t - test results	1.43	1.29	2.92*	-2.03	-6.48**

* Significance at $p < 0.05$.
** Significance at $p < 0.01$.

Table 8

Comparison of Smith-McIntyre Grab Sampler & Box Corer - Meiofauna

Sediment type	Grab	No. Species (taxa)	No. Individuals
Mud	SM-1	4	77
	SM-2	9	203
	SM-3	10	91
	SM-4	2	29
	SM-5	7	149
	$\bar{x} \pm$ S.D.	6.40 ± 3.36	109.80 ± 67.41
	BC-1	5	33
	BC-2	4	55
	BC-3	9	765
	BC-4	9	456
	BC-5	10	690
	$\bar{x} \pm$ S.D.	7.40 ± 2.70	399.80 ± 344.30
	t-value	t = 0.51	t = -1.84
Sand	SM-1	12	794
	SM-2	8	815
	SM-3	12	886
	SM-4	8	600
	SM-5	11	1,246
	$\bar{x} \pm$ S.D.	10.20 ± 2.04	868.80 ± 236.28
	BC-1	11	636
	BC-2	9	381
	BC-3	9	617
	BC-4	10	540
	BC-5	11	755
	$\bar{x} \pm$ S.D.	10.00 ± 1.00	585.80 ± 137.97
	t-value	0.19	2.30*

* Significant at 0.05 level.

Table 9

Checklist of Macroinvertebrate Species

Collected at Eatons Neck

	Species Number
Porifera	
Demospongiae	
Halichondria bowerbanki Burton	1
Haliclona oculata (Linnaeus)	2
Microciona prolifera (Ellis and Solander)	3
Prosuberites epiphytum (Lamarck)	4
Cnidaria	
Hydrozoa	
Bougainvillia carolinensis (McCrady)	5
Bougainvillia sp.	6
Calycella syringa (Linnaeus)	7
Campanularia angulata (Hincks)	8
Campanularia sp.	9
Campanularidae sp.	10
Clava sp.	11
Clytia coronata (Clarke)	12
Clytia cylindrica Agassiz	13
Clytia longicyatha (Allman)	14
Clytia sp.	15
Corynidae sp.	16
Dicoryne conferta (Alder)	17
Eudendrium carneum Clarke	18
Eudendrium rameum (Pallas)	19
Eudendrium sp.	20
Halecium minutum Broch	21
Halecium sp.	22
Hydrallmania falcata (Linnaeus)	23
Obelia commissuralis McCrady	24
Obelia flabellata (Hincks)	25
Obelia longissima (Pallas)	26
Obelia sp.	27
Opercularella lacerata (Johnston)	28
Opercularella pumila Clark	29
Pennaria tiarella (Ayres)	30
Podocoryne carnea Sars	31
Sertularella sp.	32
Sp. unidentified	33
Thuiaria argentea (Linnaeus)	34
Thuiaria lonchitus (Ellis and Solander)	35
Thuiaria similis	36
Thuiaria sp.	37

Table 9 (continued)

	Species Number
Hydrozoa (continued)	
Tubularia sp.	38
Tubularidae sp.	39
Anthozoa	
Actinothoe modesta (Verrill)	40
Actinothoe sp.	41
Astrangia danae Agassiz	42
Athenaria sp.	43
Ceriantheopsis americanus (Verrill)	44
Metridium senile (Linnaeus)	45
Sp. unidentified	46
Stomphia coccinea Mueller	47
Thenaria sp.	48
Rhynchocoela	
Sp. unidentified	49
Anopla	
Carinoma sp.	50
Cerebratulus lacteus (Leidy)	51
Cerebratulus luridus Verrill	52
Cerebratulus sp.	53
Micrura sp.	54
Tubulanus pellucidus (Coe)	55
Enopla	
Amphiporus bioculatus McIntosh	56
Amphiporus caecus Verrill	57
Nematoda	
Sp. unidentified	58
Entoprocta	
Barentsia sp.	59
Chaetognatha	
Sp. unidentified	60
Ectoprocta	
Aeverrillia armata (Verrill)	61
Aeverrillia sp.	62
Alcyonidium sp.	63
Alcyonidium verrilli Osburn	64
Bowerbankia gracilis Leidy	65
Bowerbankia sp.	66
Bugula sp.	67
Callopora aurita (Hincks)	68
Cribrilina punctata (Hassall)	69
Crisia eburnea (Linnaeus)	70
Cryptosula pallasiana (Moll)	71
Electra monostachys (Busk)	72
Electra sp.	73

Table 9 (continued)

	Species Number
Ectoprocta (continued)	
Eucratea sp.	74
Hippoporina americana (Verrill)	75
Hippoporina porosa (Verrill)	76
Hippoporina sp.	77
Hippothoa hyalina (Linnaeus)	78
Lichenopora sp.	79
Membranipora sp.	80
Membranipora tenuis Desor	81
Microporella sp.	82
Schizoporella sp.	83
Schizoporella unicornis (Johnston)	84
Sp. unidentified	85
Mollusca	
Gastropoda	
Acmaea testudinalis (Mueller)	86
Aeolidacea sp.	87
Colus caelatus (Verrill and Smith)	88
Colus sp.	89
Coryphella verrucosa Sars	90
Cratena aurantia Alder and Hancock	91
Crepidula fornicata (Linnaeus)	92
Crepidula plana Say	93
Cuthona concinna Alder and Hancock	94
Diastoma alternatum (Say)	95
Doridella obscura (Verrill)	96
Epitonium humphreysii Kiener	97
Eupleura caudata Say	98
Lunatia heros (Say)	99
Lunatia triseriata (Say)	100
Mitrella lunata Say	101
Nassarius trivittatus Say	102
Nassarius vibex Say	103
Nudibranchia sp.	104
Odostomia bisuturalis (Say)	105
Odostomia seminuda (Say)	106
Retusa obtusa Montagu	107
Sp. unidentified	108
Turbonilla interrupta (Totten)	109
Turbonilla sp.	110
Urosalpinx cinereus Say	111
Bivalvia	
Abra lioica Dall	112
Anadara transversa Say	113

Table 9 (continued)

	Species Number
Bivalvia (continued)	
Astarte undata Gould	114
Bamea truncata Say	115
Cyclocardita borealis (Conrad)	116
Ensis directus Conrad	117
Gemma gemma Totten	118
Lyonsia hyalina Conrad	119
Macoma balthica Linnaeus	120
Macoma tenta Say	121
Mercenaria mercenaria Linnaeus	122
Mulinia lateralis Say	123
Musculus niger Gray	124
Mytilus edulis Linnaeus	125
Nucula proxima Say	126
Nuculana messanensis Sequensa	127
Pandora gouldiana Dall	128
Petricola pholadiformis Lamarck	129
Pitar morrhuana Gould	130
Poromya granulata Nyst and Westendorp	131
Siliqua costata Say	132
Solemya velum Say	133
Solenidae sp.	134
Solen viridis Say	135
Spisula solidissima Dilwyn	136
Tellina agilis Stimpson	137
Yoldia limatula Say	138
Annelida	
Polychaeta	
Ampharete arctica Malmgren	139
Ampharetidae sp.	140
Amphitrite affinis Malmgren	141
Aricidea cerruti Laubier	142
Asabellides oculata Webster	143
Autolytus cornutus Agassiz	144
Autolytus sp.	145
Axiothella catenata	146
Capitella capitata (Fabricius)	147
Chaetozone setosa Malmgren	148
Cirratulidae sp.	149
Cirriformia grandis Verrill	150
Cirrophorus lyriformis (Annenkova)	151
Clymenella torquata (Leidy)	152
Cossura longocirrata Webster and Benedict	153
Diopatra cuprea (Bosc)	154
Dorvillea sp.	155

Table 9 (continued)

	Species Number
Polychaeta (continued)	
Drilonereis magna Webster and Benedict	156
Eteone longa (Fabricius)	157
Eumida sanguinea (Oersted)	158
Eusyllis lamelligera Marion and Bobretzky	159
Eusyllis sp.	160
Exogone verugera (Claparede)	161
Flabelligera affinis Sars	162
Glycera americana Leidy	163
Glycera dibranchiata Ehlers	164
Glycera sp.	165
Harmothoe imbricata (Linnaeus)	166
Harmothoe sp.	167
Hesionidae sp.	168
Heteromastus sp.	169
Hydroides dianthus Verrill	170
Hypaniola grayi Pettibone	171
Lepidonotus squamatus (Linnaeus)	172
Lepidonotus sublevis Verrill	173
Loimia sp.	174
Lumbrinereis brevipes (McIntosh)	175
Lumbrinereis fragilis (Mueller)	176
Lumbrinereis tenuis (Verrill)	177
Lumbrinereis sp.	178
Maldane sarsi Malmgren	179
Maldanidae sp.	180
Maldanopsis elongata (Verrill)	181
Mediomastus ambiseta (Hartman)	182
Microphthalmus sczelkowii Mecznikow	183
Microphthalmus sp.	184
Nephtys incisa Malmgren	185
Nephtys sp.	186
Nereis arenaceodonta Moore	187
Nereis grayi Pettibone	188
Nereis succinea (Frey and Leuckart)	189
Nereis virens Sars	190
Nereis sp.	191
Nicomache lumbricalis Fabricius	192
Notomastus luridus Verrill	193
Notomastus sp.	194
Odonotosyllis fulgurans Claparede	195
Owenia fusiformis delle Chiaje	196
Paranaitis kosteriensis (Malmgren)	197
Pectinaria gouldii (Verrill)	198
Pherusa affinis (Leidy)	199

Table 9 (continued)

	Species Number
Polychaeta (continued)	
Pherusa arenosa (Webster)	200
Pholoe minuta (Fabricius)	201
Phyllodoce arenae Webster	202
Phyllodocidae sp.	203
Pilargidae sp.	204
Podarke obscura Verrill	205
Polydora quadrilobata Jacobi	206
Polydora websteri Hartmann	207
Polygordius triestinus Woltereck	208
Polynoidae sp.	209
Potamilla neglecta (Sars)	210
Potamilla reniformis (Linnaeus)	211
Protodorvillea kerfersteini (McIntosh)	212
Protodorvillea sp.	213
Sabella microphthalma Verrill	214
Sabellaria sp.	215
Sabellaria vulgaris Verrill	216
Scalibregma inflatum Rathke	217
Scoloplos armiger (Mueller)	218
Scoloplos sp.	219
Sigalion arenicola Verrill	220
Sigambra sp.	221
Sigambra tentaculata Treadwell	222
Spio setosa Verrill	223
Spiochaetopterus oculatus Webster	224
Spionidae sp.	225
Spiophanes bombyx (Claparéde)	226
Stauronereis caecus (Webster and Benedict)	227
Stenelais boa (Johnston)	228
Stenelais picta Verrill	229
Streblospio benedicti Webster	230
Streptosyllis arenae Webster and Benedict	231
Syllis gracilis Grube	232
Syllidae sp.	233
Terebellidae sp.	234
Trochochaetidae sp.	235
Oligochaeta	
Sp. unidentified	236
Sipuncula	
Sp. unidentified	237
Arthropoda	
Pycnogonida	
Anoplodactylus parvus Giltay	238
Anoplodactylus petiolatus (Kroyer)	239

Table 9 (continued)

	Species Number
Pycnogonida (continued)	
Anoplodactylus sp.	240
Sp. unidentified	241
Acarina	
Halacaridae sp.	242
Cephalocarida	
Hutchinsoniella macracantha Sanders	243
Ostracoda	
Neonesidea sp.	244
Parasterope pollex Kornicker	245
Sarsiella ozotothrix Kornicker and Bowen	246
Sarsiella zostericola Cushman	247
Copepoda	
Harpacticoida sp.	248
Calanoida sp.	249
Cyclopoida sp.	250
Acartia clausi Giesbrecht	251
Acartia tonsa Giesbrecht	252
Labidocera aestiva Wheeler	253
Pseudocalanus minutus (Krøyer)	254
Sp. unidentified	255
Temora longicornis (Mueller)	256
Cirripedia	
Balanus amphitrite niveus Darwin	257
Balanus sp.	258
Sp. unidentified (cyprid)	259
Isopoda	
Edotea montosa (Stimpson)	260
Edotea triloba (Say)	261
Limnoria lignorum (Rathke)	262
Ptilanthura tenuis Harger	263
Amphipoda	
Aeginina longicornis (Kroyer)	264
Aeginina sp.	265
Acanthohaustorius shoemakeri Bousfield	266
Ampelisca abdita Mills	267
Ampelisca vadorum Mills	268
Ampelisca sp.	269
Caprella sp.	270
Corophium tuberculatum Shoemaker	271
Corophium volutator (Pallas)	272
Corophium sp.	273
Erichthonius brasiliensis (Dana)	274
Gammarus mucronatus Say	275

Table 9 (continued)

	Species Number
Amphipoda (continued)	
Halirages fulvocinctus (Sars)	276
Harpinia propinqua Sars	277
Jassa falcata (Montagu)	278
Lembos smithi (Holmes)	279
Leptocheirus pinguis (Stimpson)	280
Luconacia incerta Mayer	281
Orchomonella pinguis (Boeck)	282
Paracaprella tenuis Mayer	283
Parametopella cypris (Holmes)	284
Paraphoxus spinosus Holmes	285
Phoxocephalus holbolli (Kroyer)	286
Sp. unidentified	287
Stenopleustes gracilis (Holmes)	288
Stenothoe minuta Holmes	289
Unciola irrorata Say	290
Tanaidacea	
Leptognatha caeca (Harger)	291
Mysidacea	
Heteromysis formosa Smith	292
Neomysis americana (Smith)	293
Sp. unidentified	294
Cumacea	
Diastylis quadrispinosa Sars	295
Oxyurostylis smithi Calman	296
Sp. unidentified	297
Decapoda	
Cancer irroratus Say	298
Cancer sp.	299
Carcinus maenas (Linnaeus)	300
Crangon septemspinosa Say	301
Euprognatha rastellifera Stimpson	302
Eurypanopeus depressus (Smith)	303
Libinia dubia Milne-Edwards	304
Libinia emarginata Leach	305
Neopanope texana sayi (Stimpson)	306
Pagurus longicarpus Say	307
Pagurus pollicaris Say	308
Pagurus sp.	309
Palaemonetes vulgaris (Say)	310
Pelia mutica Hay and Shore	311
Panopeus herbsti Milne-Edwards	312
Pinnixa chaetopterana Stimpson	313
Pinnixa sayana Stimpson	314

Table 9 (concluded)

	Species Number
Decapoda (continued)	
Pinnotheres maculatus Say	315
Pinnotheres ostreum Say	316
Thalassinidea sp.	317
Upogebia affinis (Say)	318
Xanthidae sp.	319
Insecta	
Collembola sp.	320
Echinodermata	
Asteroidea	
Asterias forbesi (Desor)	321
Henricia sanguinolenta (Mueller)	322
Echinoidea	
Arbacia punctulata (Lamarck)	323
Holothuroidea	
Pentamera pulcherrima (Ayres)	324

Table 10

Dominant Benthic Species Present at Eatons Neck

Species	Geographic and Bathymetric Range	Sediment Preference	Reproduction	Feeding Type	References
Cnidaria Anthozoa *Ceriantheopsis americanus*	Cape Cod to Cape Hatteras, 1-21 m	mud	Asexual reproduction and sexual reproduction protandrous hermaphrodite with pelagic larvae	Suspension feeder	Gosner (1971), Abbott (1974)
Rhynchocoela Anopla *Cerebratulus lacteus*	Cape Cod to Cape Hatteras, littoral	mud	Separate sexes, external fertilization with planktonic larvae	Predatory carnivore	Barnes (1968), Gosner (1971)
Tubulanus pellucidus	Cape Cod to Cape Hatteras, 1-20 m	silty-sands	Separate sexes, external fertilization with planktonic larvae	Predatory carnivore	Gosner (1971)
Mollusca Gastropoda *Crepidula fornicata*	Bay of Fundy to Cape Hatteras, 1-27 m	rock or shell	Protandric hermaphrodite	Suspension feeder	Gosner (1971)
Crepidula plana	Bay of Fundy to Cape Hatteras, shallow	rock or shell	Protandric hermaphrodite	Suspension feeder	Gosner (1971)
Nassarius trivittatus	Labrador to Cape Hatteras, 0-82 m	sand	Separate sexes, external fertilization	Scavenger	Gosner (1971), Abbott (1974)
Bivalvia *Astarte undata*	Bay of Fundy to Cape Hatteras, 1-45 m	sand	Separate sexes, external fertilization	Suspension feeder	Gosner (1971), Abbott (1974)
Lyonsia hyalina	Labrador to N. Fla., 1-31 m	sand	Separate sexes, external fertilization	Suspension feeder	Sanders (1956), Gosner (1971)

Table 10 (continued)

Species	Geographic and Bathymetric Range	Sediment Preference	Reproduction	Feeding Type	References
Bivalvia (continued)					
Mulinia lateralis	Maine to N. Florida and Texas, shallow	silt-clay 20-50 percent	Separate sexes, external fertilization	Suspension feeder	Sanders (1956), Abbott (1974)
Pitar morrhuana	Gulf of St. Lawrence to N. Carolina, 4-33 m	sand	Separate sexes, external fertilization	Suspension feeder	Gosner (1971), Abbott (1974)
Tellina agilis	Bay of Fundy to Cape Hatteras, 1-45 m	sand	Separate sexes, external fertilization	Suspension feeder	Gosner (1971), Abbott (1974)
Annelida					
Polychaeta					
Aricidea cerruti	Labrador to Cape Hatteras, 2-1940 m	sandy mud	Spawns during July in Mass.	Deposit feeder	Pettibone (1963)
Axiothella catenta	Long Island Sound	silty sand	Eggs are incubated in cocoons attached to burrow, entrance, long development, benthic larvae	Detritus feeder	Day (1967), Gosner (1971)
Cirriformia grandis	Cape Cod to Cape Hatteras, littoral to 42 m	sand	Sexual, external fertilization trochophore larvae	Selective deposit feeder	Day (1967), Gosner (1971)
Glycera americana	Mass. to Argentina, 0-300 m	Prefers mud, but occurs in sand	Spawns after 3 yrs, form swimming epitokes, and dies spawning in May	Deposit feeder	Sanders (1956), Pettibone (1963)
Harmothoe imbricata	Labrador to L.I. Sound, littoral to 225 m	Epifaunal under stones-algae	Female carries eggs & early trochophores under elytra, long planktonic stage		Smith (1964), Gosner (1971)

Table 10 (continued)

Species	Geographic and Bathymetric Range	Sediment Preference	Reproduction	Feeding Type	References
Polychaeta (continued) Mediomastus ambiseta	Mass. to L.I. Sound, Intertidal to shelf depths	Sandy mud to muddy sand	?	Deposit feeder	Hobson (1971)
Nephtys incisa	Greenland to Virginia, 0-1720 m	Prefers mud, but occurs in sand	Spawns in Long Island Sound year round with a peak in early spring & late summer	Deposit feeder	Sanders (1956), Carey (1962), Pettibone (1963)
Pherusa affinis	Cape Cod to Cape Hatteras, Littoral	mud	?	Deposit feeder	Day (1967), Gosner (1971)
Polygordius triestinus	Delaware Bay to Long Island Sound	sand	?	Deposit feeder	Serafy and D'Agostino (1974)
Arthropoda Cephalocarida Hutchinsoniella macracantha	Buzzard's Bay to L.I. Sound, 8-30 m	mud	Eggs carried in ovisac and hatch as metanauplius followed by benthic, 18 larval stages, hermaphroditic	Deposit feeder	Sanders (1955), Sanders (1963), Gosner (1971)
Ostracoda Sarsiella zostericola	Mass., Maine, Texas, and California, 0-11 m	mud & sand	Separate sexes, internal fertilization, carries eggs, instar larvae	? Predatory carnivore	Kornicker (1967)
Amphipoda Ampelisca abdita	Central Maine to Gulf of Mexico, low intertidal to 60 m	silty sand	Two generations - a short summer April & May & long over winter appears in Sept. - Oct.	Detritus feeder	Sanders (1956), Bousfield (1973)
A. vadorum	Gulf of St. Lawrence to N. Fla., low intertidal - 70 m	sand	Two generations - a short summer April & May & long over winter appears in Sept. - Oct.	Detritus feeder	Sanders (1956), Bousfield (1973)

Table 10 (concluded)

Species	Geographic and Bathymetric Range	Sediment Preference	Reproduction	Feeding Type	References
Amphipoda (continued)					
Parametopella cypris	Vineyard Sound - N. Fla., sub-tidal to 10 m	Epifaunal on hydroids, ectoprocts, and sponges	One generation ovigerous, May to October, several broods	Filter feeder	Bousfield (1973)
Phoxocephalus holbolli	Labrador to L.I., 91 m	fine sand, muddy sand, eel grass	One generation, male ovigerous, Feb.-June	Detritus feeder	Bousfield (1973)
Decapoda					
Neopanope texana sayi	Cape Cod to Cape Hatteras, 0-79 m	mud	Separate sexes, internal fertilization, several planktonic larval stages	Omnivore	Barnes (1968) Gosner (1971)
Pagurus longicarpus	Cape Cod to Cape Hatteras, Inter-tidal to 52 m	epifaunal	Separate sexes	Omnivore	Gosner (1971)

Table 11

Checklist of Meioinvertebrate Species

Collected at Eatons Neck

Cnidaria.
Platyhyhelminthes
  Turbellaria
Nemertea
Rotifera
Kinorhyncha
    Echinoderes sp.
    Pycnophyes frequens (Blake)
    Trachydemus mainensis (Blake)
Nematoda
Mollusca
  Gastropoda
    Doridella obscura (Verrill)
    Sp. unidentified (egg case)
  Pelecypoda
    Anadara transversa (Say)
    Tellina agilis Stimpson
Annelida
  Polychaeta
    Ampharetidae sp.
    Ancistrosylis sp.
    Brania clavata (Claparede)
    Capitellidae sp.
    Cirriformia grandis Verrill
    Cossura longocirrata Webster and Benedict
    Dodecaceria sp.
    Eumida fusigera
    Hypaniola grayi (Malgrem)
    Maladanidae sp.
    Mediomastus ambiseta (Hartman)
    Microphthalmus sp.
    Nerillidae sp.
    Phyllodocidae sp.
    Pilargidae sp.
    Polycirrus sp.
    Polygordius triestinus Woltereck
    Protodorvillea gaspeensis (Pettibone)
    Spionidae sp.
    Syllidae sp.
    Syllides setosa Verrill
    Terebellidae sp.
    Polychaete larva (Type #1)

Table 11 (concluded)

Polychaeta (continued)
Polychaeta larva (Type #2)
Polychaeta larva (Type #3)
Oligochaeta
Sp. unidentified
Arthropoda
Acarina
Halacaridae sp.
Cephalocarida
Hutchinsoniella macracantha Sanders
Amphipoda
Parametopella cypris (Holmes)
Cladocera
Podon sp.
Ostracoda
Actinocythereis gomillionensis (Howe & Ellis)
Cytheromorpha sp.
Hulingsina americana (Cushman)
Loxoconcha granulata Sars
Loxoconcha sperata Williams
Neocytherideis sp.
Neonesidea sp.
Sarsiella ozotothrix Kornicker and Bowen
Sarsiella zostericola Cushman
Schlerochilus contortus (Norman)
Semicytherura nigrescens (Baird)
Copepoda
Harpacticoida sp.
Sp. unidentified (nauplii)
Cirrepedia
Sp. unidentified (nauplii)
Unidentified larva

APPENDIX A': Results of Sediment Analyses,
Eatons Neck Disposal Site

Table A1

Sediment Analysis, Eatons Neck Disposal Site

Transect Station	Depth Range	Sediment Type	Percent of Total: Coarse	Silt	Clay	Percent of Coarse Fraction, mm: >2.00	2.00 - 1.00	1.00 - 0.50	0.50 - 0.25	0.25 - 0.125	0.125 - 0.063
					29-31 October 1974						
EB1	36.2	mud	4.3	45.4	50.3	19.7	1.2	10.4	47.2	25.2	24.5
EB2	32.9	mud	6.8	45.9	47.2	1.0	3.6	7.4	17.9	33.8	36.2
EB3	21.8	mud	7.7	50.2	42.1	0	1.7	4.2	4.5	12.4	77.3
EB4	31.5	sandy mud	35.8	32.5	31.7	11.3	3.1	8.8	24.6	34.9	17.4
EB5	21.6	mud	14.0	30.4	53.3	2.7	6.3	8.9	15.9	27.8	38.4
EB6	21.7	sandy mud	46.6	26.8	26.7	4.3	5.1	13.0	20.7	34.5	14.4
EB7	44.4	muddy grav. sand	90.3	3.6	6.1	28.5	11.5	22.5	30.8	5.9	0.9
EB8	24.3	muddy grav. sand	78.9	6.1	15.0	36.1	9.5	12.1	29.0	12.4	1.0
EB9	21.4	muddy grav. sand	83.9	7.9	8.2	14.4	14.4	14.4	28.4	21.1	7.4
EB10	20.0	muddy grav. sand	86.3	6.5	7.3	20.1	7.0	11.6	36.4	23.6	1.3
EB11	26.6	mud	2.5	41.2	56.4	0	2.5	18.7	38.9	12.3	27.6
EX1	24.1	mud	16.8	41.6	41.6	9.6	4.0	11.1	21.6	23.5	30.3
EX2	32.0	mud	17.8	32.3	49.9	3.4	0.9	2.3	12.6	26.3	54.6
EX3	25.3	mud	2.5	44.5	53.0	6.4	6.3	8.6	14.9	22.5	41.2
EX4	28.3	sandy grav. mud	33.3	26.9	39.7	37.5	7.1	10.0	17.5	19.1	8.9
EX5	25.6	sandy mud	21.8	35.6	42.6	17.6	6.0	14.6	24.1	21.3	16.4
EX6	21.6	mud	7.9	42.3	49.8	0	1.6	1.5	2.9	12.0	82.0
EX7	37.8	sandy mud	28.8	30.5	40.7	4.1	1.0	4.5	23.1	38.9	28.3
EX8	26.2	sandy mud	47.3	26.0	26.7	12.6	5.3	10.5	23.2	31.3	17.2
EX9	21.8	mud	3.6	42.4	54.0	28.2	0.7	3.2	3.4	11.4	53.0
EX10	43.3	mud	1.8	30.6	67.6	0	3.4	16.9	13.5	19.6	46.6
EX11	32.8	mud	9.8	42.1	48.1	5.4	4.7	12.7	26.4	28.0	22.8
EX12	22.9	mud	3.4	45.2	51.4	4.3	4.5	9.6	7.7	15.2	58.7
EX13	22.9	mud	7.7	38.9	53.4	0.5	1.3	3.4	9.7	26.9	58.1
EX14	34.4	muddy sand	61.5	15.2	23.3	10.3	6.8	15.2	29.2	26.1	12.3

Table A1 (Continued)

Transect Station	Depth Range	Sediment Type	Percent of Total			Percent of Coarse Fraction, mm					
			Coarse	Silt	Clay	>2.00	2.00 - 1.00	1.00 - 0.50	0.50 - 0.25	0.25 - 0.125	0.125 - 0.063
			29-31 October 1974 (continued)								
EX15	25.6	mud	5.0	42.8	52.2	22.7	12.4	14.9	6.8	7.4	35.9
EX16	31.7	sandy mud	29.5	35.6	34.9	4.7	6.1	14.9	28.8	28.2	17.4
EX17	21.2	mud	7.3	31.8	61.0	3.2	3.8	8.8	9.7	22.2	52.3
EX18	21.6	muddy grav. sand	85.8	5.4	8.9	28.7	13.0	11.7	27.2	18.2	1.2
EX19	25.0	gravelly sand	90.4	2.1	7.4	11.3	10.9	2.5	47.2	25.6	2.5
EX20	27.7	muddy sand	76.3	7.7	16.0	4.0	4.2	13.7	38.6	33.3	6.2
EX21	29.6	muddy sand	77.1	10.2	12.7	6.7	12.5	32.2	14.2	30.9	3.4
EX22	27.1	muddy sand	85.4	4.8	9.8	7.2	6.1	15.2	53.7	16.6	1.2
EX23	27.4	muddy sand	72.2	8.1	19.7	3.4	3.1	9.7	57.6	23.6	2.6
EX24	28.0	muddy sand	78.8	7.6	13.6	3.5	5.0	16.3	66.3	7.6	1.3
EX25	30.0	muddy sand	56.8	16.6	26.6	2.6	5.1	23.4	62.7	5.6	0.7
			6 December 1974								
EB1	36.2	mud	10.8	40.9	48.3	0	0.4	1.3	7.5	37.4	53.5
EB2	32.9	sandy mud	30.0	30.8	39.2	13.3	2.2	2.0	12.0	31.9	38.7
EB3	21.8	mud	8.6	44.6	46.8	0.6	2.0	7.6	11.1	16.6	62.0
EB4	31.5	sandy mud	26.7	33.6	39.6	0.3	0.7	2.1	15.2	51.4	30.3
EB5	21.6	mud	10.6	49.7	39.7	12.9	1.8	4.0	2.2	30.5	30.7
EB6	21.7	muddy sand	70.0	14.2	15.8	2.3	3.5	11.6	40.6	33.1	8.8
EB7	44.4	muddy grav. sand	86.7	5.7	7.6	27.2	17.7	22.0	22.1	9.4	1.7
EB8	24.3	muddy grav. sand	90.0	3.8	6.1	14.6	9.7	14.9	35.5	23.6	1.8
EB9	21.4	muddy sand	74.4	12.1	13.4	1.9	5.5	19.9	42.8	20.8	9.1
EB10	20.0	muddy grav. sand	93.1	1.5	5.3	31.4	2.6	5.6	30.3	29.0	1.3
EB11	26.6	mud	3.6	42.3	54.0	0.4	0.4	1.3	10.4	41.3	46.3
EB12	23.9	mud	2.4	44.0	53.6	7.6	7.1	6.3	8.7	14.7	55.5

Table A1 (Continued)

Transect Station	Depth Range	Sediment Type	Percent of Total Coarse	Percent of Total Silt	Percent of Total Clay	Percent of Coarse Fraction, mm >2.00	2.00 - 1.00	1.00 - 0.50	0.50 - 0.25	0.25 - 0.125	0.125 - 0.063
21 January 1975											
EB1	36.9	sandy mud	20.7	36.6	42.7	1.1	1.6	6.6	23.0	38.3	29.5
EB2	32.3	mud	2.1	50.9	47.0	0	1.5	8.5	22.1	27.2	40.8
EB3	22.5	mud	7.7	44.9	47.4	4.2	4.3	3.8	5.8	17.8	64.3
EB4	21.0	muddy sand	64.8	17.4	17.8	4.6	5.1	13.5	44.8	25.1	7.0
EB5	21.3	mud	19.4	29.4	51.3	15.6	3.1	5.3	18.8	46.2	11.0
EB6	21.9	mud	18.7	49.6	31.8	8.1	4.3	8.6	16.9	38.2	23.9
EB7	45.1	muddy sand	61.3	16.1	22.7	1.4	0.6	4.6	28.2	51.9	13.4
EB8	25.0	sand	95.4	1.4	3.2	9.4	9.7	20.7	42.0	16.8	1.3
EB9	21.9	mud	19.1	36.1	44.9	6.9	7.3	19.7	37.5	17.9	10.6
EB10	15.8	grav. sand	95.4	1.9	2.7	37.2	15.3	15.3	25.6	6.2	0.5
EB11	28.3	sandy mud	21.5	34.7	43.8	26.9	1.7	4.6	10.6	31.6	24.5
EB12	25.0	mud	12.1	39.6	48.3	0	2.2	9.6	34.4	28.8	29.0
20 February 1975											
EB1	38.1	mud	17.8	26.9	55.6	54.3	2.8	4.5	10.5	15.5	12.4
EB2	36.5	mud	15.2	29.2	55.5	12.9	2.8	6.4	19.0	37.7	20.8
EB3	21.3	mud	14.7	24.8	60.5	1.4	2.9	10.6	15.3	22.4	47.3
EB4	29.9	sandy mud	21.4	18.1	60.5	4.9	2.1	5.2	26.2	46.1	15.4
EB5	20.7	muddy sand	53.7	14.1	32.2	9.7	8.3	18.8	24.1	32.3	11.6
EB6	22.9	sandy mud	37.3	32.3	30.4	0.7	1.4	3.8	22.6	48.1	23.3
EB7	45.1	muddy grav. sand	71.1	6.3	22.6	34.3	15.1	11.5	23.2	13.5	2.3
EB8	23.5	muddy grav. sand	93.1	2.7	4.2	33.7	14.3	22.5	20.8	7.6	1.0
EB9	24.4	grav. sand	92.0	2.9	5.1	21.2	11.8	23.3	29.6	11.1	2.8
EB10	19.5	-----------	----	---	---	NO SAMPLE --		----	----	----	----
EB11	27.4	sandy mud	28.7	19.8	51.5	1.2	1.5	4.4	17.1	44.9	30.8
EB12	25.0	mud	1.7	25.8	72.5	2.4	3.0	12.2	21.9	22.6	37.8

Table A1 (Continued)

Transect Station	Depth Range	Sediment Type	Percent of Total: Coarse	Silt	Clay	Percent of Coarse Fraction, mm: >2.00	2.00 - 1.00	1.00 - 0.50	0.50 - 0.25	0.25 - 0.125	0.125 - 0.063
					1 April 1975						
EB1	35.0	mud	13.6	31.3	55.1	8.4	3.2	8.5	21.9	39.5	18.6
EB2	32.0	mud	9.6	51.3	39.1	0.8	1.2	3.0	7.7	14.9	72.5
EB3	21.3	mud	7.7	44.9	47.4	2.9	2.9	5.0	5.3	11.0	72.9
EB4	33.5	mud	12.8	38.5	48.7	0.0	0.2	1.4	29.0	43.6	25.8
EB5	21.0	mud	5.2	42.8	52.0	0.7	0.2	2.7	11.3	26.0	59.1
EB6	21.3	muddy sand	72.2	12.4	15.4	1.3	1.7	6.9	28.3	48.8	12.9
EB7	45.1	muddy grav. sand	74.9	10.5	14.6	27.7	12.5	13.6	25.0	17.7	3.4
EB8	25.6	muddy sand	53.0	19.4	27.6	9.2	4.5	10.3	35.2	34.6	6.2
EB9	24.4	sandy mud	42.4	26.1	31.5	2.3	0.5	2.4	9.8	53.9	31.1
EB10	18.3	grav. sand	92.0	3.2	4.8	16.0	5.6	17.8	44.2	15.1	1.3
EB11	27.7	mud	6.3	42.5	51.2	5.0	0.7	3.0	7.6	41.4	42.3
EB12	25.0	mud	18.6	36.4	44.9	9.1	3.6	9.5	31.1	26.8	19.8
					22-23 April 1975						
A1	18.3	mud	3.8	45.9	46.6	1.4	5.1	10.0	5.1	11.3	67.2
A2	18.3	mud	10.3	47.3	42.5	9.3	4.1	6.8	14.0	39.7	26.1
A3	18.3	mud	6.6	44.7	48.7	2.0	0.8	4.0	15.6	21.9	55.8
A4	18.9	mud	10.0	43.1	46.9	0.0	1.9	6.6	12.7	20.8	58.0
A5	18.9	mud	17.3	38.5	44.2	0.0	0.5	1.9	7.5	54.0	36.2
A6	20.7	mud	5.0	45.6	49.2	8.2	2.8	5.0	4.4	8.3	71.4
A7	20.7	mud	10.9	43.8	45.3	7.6	7.6	23.4	11.2	19.1	31.2
A8	21.3	mud	4.3	46.5	49.2	0.0	0.9	1.9	4.1	11.8	81.3
A9	19.2	mud	5.8	44.7	49.5	18.1	7.6	13.5	9.8	12.8	38.2
A10	18.3	mud	9.9	44.2	46.0	5.4	2.4	8.1	7.5	15.9	60.7
A11	18.3	mud	7.3	45.2	47.5	2.5	7.8	6.3	4.2	10.2	69.0
A12	19.8	sandy mud	48.5	25.2	26.3	18.4	6.7	7.2	15.0	28.0	24.7

Table A1 (Continued)

Transect Station	Depth Range	Sediment Type	Percent of Total			Percent of Coarse Fraction, mm					
			Coarse	Silt	Clay	>2.00	2.00 - 1.00	1.00 - 0.50	0.50 - 0.25	0.25 - 0.125	0.125 - 0.063
				22-23 April 1975 (continued)							
A13	19.8	mud	5.6	44.7	49.7	0.7	2.5	4.6	9.5	19.1	63.7
A14	21.9	mud	3.0	47.0	50.0	9.7	2.3	6.2	8.3	14.0	59.4
A15	21.9	mud	12.6	41.8	45.6	4.4	1.0	5.5	16.3	24.8	47.8
EB2	24.4	mud	7.2	43.5	49.2	1.8	1.0	3.2	7.5	21.0	65.5
EB11	25.6	mud	2.1	41.6	56.3	0.0	0.2	2.0	3.4	18.5	75.9
				12 May 1975							
A1	22.3	mud	3.2	23.2	73.5	0.0	0.9	1.5	3.9	11.3	82.3
A2	20.7	mud	8.1	46.4	46.9	0.0	0.9	3.3	8.4	19.4	68.0
A3	20.7	mud	6.2	49.1	44.7	1.4	4.2	9.3	9.8	18.7	56.6
A4	21.3	mud	9.9	42.4	47.7	13.0	1.0	2.3	10.7	22.8	50.2
A5	22.3	mud	15.3	41.4	43.3	8.2	3.6	9.3	22.1	19.1	37.7
A6	21.3	mud	8.9	45.7	45.4	14.0	1.5	1.7	1.6	9.4	71.8
A7	20.7	mud	6.8	43.2	50.0	4.0	0.4	1.4	3.0	13.8	77.4
A8	21.3	mud	11.9	40.9	47.2	1.1	3.8	11.4	15.4	18.3	50.1
A9	22.3	mud	2.8	45.1	52.1	0.0	0.2	1.5	5.2	18.2	74.8
A10	21.3	mud	10.7	44.1	45.2	0.7	2.2	10.3	10.3	16.1	60.3
A11	21.0	mud	7.7	44.2	48.1	4.2	1.5	3.0	4.3	1.1	75.7
A12	21.0	mud	2.4	63.1	34.6	2.3	4.1	3.4	5.7	12.0	72.5
A13	20.7	mud	2.8	46.9	50.2	0.0	0.4	2.1	4.2	14.3	79.0
A14	20.7	mud	3.2	47.8	49.0	6.3	2.8	7.4	7.2	12.6	63.6
A15	22.6	mud	3.3	45.5	51.3	0.0	0.2	2.2	7.1	19.0	71.5
EB2	28.0	mud	0.8	53.7	45.5	9.1	8.3	10.1	15.9	19.6	37.1
EB11	29.3	sandy mud	44.2	27.3	28.5	0.9	1.3	6.9	35.7	44.7	10.6

Table A1 (Continued)

Transect Station	Depth Range	Sediment Type	Percent of Total: Coarse	Silt	Clay	Percent of Coarse Fraction, mm: >2.00	2.00 - 1.00	1.00 - 0.50	0.50 - 0.25	0.25 - 0.125	0.125 - 0.063
29 May 1975											
EB2	29.3	mud	6.9	50.8	42.3	21.5	6.5	7.0	12.0	28.0	25.0
EB11	25.3	mud	3.6	44.4	52.0	0	0.4	1.2	2.3	32.6	63.5
A1	21.9	mud	5.0	43.9	51.1	7.2	3.5	6.0	4.0	8.3	71.0
A2	20.8	mud	7.6	41.6	50.8	1.6	4.6	2.8	8.0	17.5	65.4
A3	20.6	mud	9.3	42.6	48.1	1.4	1.1	3.3	12.5	25.7	56.0
A4	21.0	mud	9.9	42.1	48.0	10.9	3.4	10.9	7.1	14.8	52.9
A5	22.1	mud	9.8	46.2	44.0	0	1.7	11.1	20.0	15.9	51.5
A6	21.9	mud	4.8	46.8	48.4	3.9	2.5	3.0	2.9	10.4	77.3
A7	21.3	mud	7.1	44.0	48.9	27.0	3.5	12.3	5.4	8.3	43.5
A8	22.0	mud	4.2	42.8	53.0	32.5	1.0	2.6	3.1	8.7	52.0
A9	22.9	mud	4.0	30.7	65.5	0	0.5	2.9	9.1	30.3	57.1
A10	21.4	mud	11.3	43.8	44.9	10.1	2.0	4.2	10.7	16.9	56.0
A11	21.3	mud	8.5	43.9	47.6	32.5	0.6	1.0	1.8	6.9	57.1
A12	22.6	mud	10.4	43.0	46.6	17.1	2.4	10.6	5.6	9.6	54.7
A13	21.2	NO SAMPLE									
A14	20.4	mud	2.7	33.4	63.9	2.8	5.1	14.2	7.5	13.2	57.2
A15	22.7	mud	5.9	45.8	48.7	0.2	0.3	2.0	5.5	29.0	63.0
17 June 1975											
EB2	28.9	mud	11.8	47.7	41.2	2.9	1.8	4.4	19.4	46.5	24.9
EB11	25.9	mud	15.9	36.8	47.3	0.3	0.6	3.9	16.5	44.2	34.5
A1	21.9	mud	4.2	44.8	50.9	4.3	0.1	2.8	3.6	11.4	77.7
A2	21.0	mud	5.1	42.6	52.3	1.7	1.4	4.0	5.0	12.9	75.0
A3	21.0	mud	10.0	40.0	50.0	0.7	3.9	10.3	10.4	17.5	57.3
A4	21.0	mud	11.2	42.9	45.9	4.2	0.8	5.9	23.7	15.8	49.6

Table A1 (Concluded)

Transcect Station	Depth Range	Sediment Type	Percent of Total: Coarse	Silt	Clay	Percent of Coarse Fraction, mm: >2.00	2.00 - 1.00	1.00 - 0.50	0.50 - 0.25	0.25 - 0.125	0.125 - 0.063
					17 June 1975 (continued)						
A5	22.0	mud	7.0	44.8	48.2	10.4	1.0	2.3	10.4	18.3	57.6
A6	22.5	mud	5.3	43.2	51.5	4.1	1.9	7.3	5.0	14.2	67.5
A7	22.8	mud	3.8	42.9	53.3	25.9	7.8	13.7	4.4	6.5	41.7
A8	22.0	mud	16.1	39.7	44.2	9.0	7.9	14.3	17.0	18.2	33.4
A9	24.0	mud	4.6	44.6	50.8	17.8	9.0	13.0	4.4	9.0	46.8
A10	21.5	mud	14.0	24.9	61.1	0.8	1.3	2.8	14.1	19.0	62.0
A11	21.6	mud	8.6	48.6	42.7	4.0	1.8	5.0	3.9	11.8	73.5
A12	20.0	mud	3.8	50.5	45.6	3.3	1.5	2.2	3.0	7.1	82.8
A13	22.3	mud	4.3	44.7	51.0	8.6	1.1	1.4	4.8	18.8	65.2
A14	20.0	mud	17.8	42.1	40.1	48.1	5.7	7.3	10.0	11.7	17.3
A15	22.8	mud	3.7	44.3	52.0	5.5	2.3	8.1	16.6	14.4	53.0

Table A2

Sediment Analysis, Eatons Neck Disposal Site

Grab and Box Core Comparison

Transect Station	Depth Range	Sediment Type	Percent of Total			Percent of Coarse Fraction, mm					
			Coarse	Silt	Clay	>2.00	2.00 - 1.00	1.00 - 0.50	0.50 - 0.25	0.25 - 0.125	0.125 - 0.063
					9 April 1975						
EB2-1sm	32.0	mud	6.0	51.9	42.2	4.7	2.8	3.6	13.3	35.2	40.4
EB2-2sm	32.0	mud	6.0	50.0	44.0	1.3	0.9	5.6	16.6	38.0	37.6
EB2-3sm	32.0	mud	11.5	50.3	38.3	3.2	1.3	4.0	16.9	40.7	33.9
EB2-4sm	32.0	mud	9.0	54.0	37.0	0.6	2.8	4.0	11.2	24.5	56.9
EB2-5sm	32.0	mud	6.0	55.6	38.4	3.0	1.4	2.6	10.7	26.6	55.7
EB10-1sm	18.3	gravelly sand	85.3	6.9	7.8	13.4	6.8	14.3	43.7	20.5	1.3
EB10-2sm	18.3	gravelly sand	93.2	1.6	5.3	24.2	7.1	14.9	36.7	16.1	0.9
EB10-3sm	18.3	sand	89.6	3.9	6.5	6.6	5.4	17.1	47.9	21.9	1.1
EB10-4sm	18.3	sand	89.8	4.5	5.7	7.9	7.3	16.6	45.6	21.4	1.2
EB10-5sm	18.3	gravelly sand	89.2	4.3	6.4	16.5	6.6	16.0	41.7	18.2	1.0
EB2-1Box	32.0	mud	13.4	46.6	39.9	16.4	6.0	12.5	20.6	21.1	23.4
EB2-2Box	32.0	mud	19.8	45.5	34.6	14.7	3.9	6.3	18.6	44.3	12.3
EB2-3Box	32.0	mud	12.8	49.7	37.5	2.7	1.6	4.3	19.7	42.2	29.8
EB2-4Box	32.0	mud	7.1	53.8	39.1	5.1	2.7	2.0	6.1	15.2	68.9
EB2-5Box	32.0	mud	6.4	48.9	44.6	1.0	1.8	5.9	16.5	35.8	38.9
EB10-1Box	18.3	gravelly sand	91.3	3.6	5.1	22.6	8.3	19.0	36.1	13.0	0.9
EB10-2Box	18.3	sand	83.3	6.2	10.5	11.3	8.4	20.3	41.4	17.4	1.2
EB10-3Box	18.3	gravelly sand	88.5	4.7	6.7	15.1	6.3	15.9	41.8	19.6	1.3
EB10-4Box	18.3	gravelly sand	89.2	4.5	6.3	27.7	6.6	12.8	35.3	16.7	1.0
EB10-5Box	18.3	gravelly sand	89.2	4.2	6.6	19.2	8.7	2.7	46.7	21.4	1.3

APPENDIX B': Mean Number of Macrofaunal Invertebrates Collected by the Smith-McIntyre Bottom Grab

Experimental Station EB1

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Cnidaria					
Hydrozoa					
Campanularia sp.	*	*	*	*	
Thuiaria argentea	*		*	*	*
Thuiaria similis		*	*		
Thuiaria sp.				*	
Calycella syringa					*
Campanularidae sp.					*
Nemertea					
Cerebratulus lacteus			0.7		
Tubulanus pellucidus		4.0	3.3	4.0	0.3
Nematoda					
Sp. unidentified			0.7	0.7	0.7

* Present, not quantified.
**October value not a mean because no replicates taken.

Experimental Station EB1 (continued)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Ectoprocta					
Alcyonidium verrilli			*	*	
Bowerbankia gracilis				*	*
Callopora aurita		*	*	*	*
Crisia eburnea				*	
Membranipora tenuis	*	*	*	*	*
Membranipora sp.		*			
Microporella ciliata				*	
Microporella sp.	*				
Schizoporella unicornis		*			
Mollusca					
Gastropoda					
Crepidula fornicata			4.7		
Crepidula plana	10	2.7			0.3
Doridella obscura			4.0		
Nassarius trivittatus					0.3
Bivalvia					
Anadara transversa				0.7	
Mulinia lateralis		0.7		6.7	
Pandora gouldiana	2				
Tellina agilis			0.7	0.7	

Experimental Station EB1 (continued)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Annelida					
Polychaeta					
Aricidea cerruti				0.7	
Autolytus cornutus	6				
Axiothella catenata	66				
Cossura longocirrata	8				
Eusyllis sp.			0.7		
Glycera americana			0.7	0.7	
Lepidonotus squamatus			0.7		
Mediomastus ambiseta	246	8.7	12.7		
Nephtys incisa	18	6.7	4.7	8.0	7.0
Nereis grayi			1.3		
Pherusa affinis				1.3	
Polygordius triestinus			1.3		
Potamilla neglecta	2				
Sabellaria vulgaris				6.0	0.7
Nereis arenaceodonta					0.3
Owenia fusiformis					0.7
Potamilla reniformis					0.3
Oligochaeta					
sp. unidentified	208	2.7	0.7	0.7	
Arthropoda					
Cephalocarida					
Hutchinsoniella macracantha				0.7	

Experimental Station EB1 (concluded)

Phylum Class or Order Species	Month 29-31 Oct**	 6 Dec	 21 Jan	 20 Feb	 1 Apr
Ostracoda					
Sarsiella zostericola		0.7			0.3
Copepoda					
Temora longicornis (pelagic)				0.7	
Amphipoda					
Ampelisca abdita	18		0.7	0.7	
Erichthonius brasiliensis		2.0			
Lembos smithi	6				
Luconacia incerta	6	2.0	2.0		
Paracaprella tenuis			0.7		
Parametopella cypris		11.3	2.7	3.3	1.7
Corophium tuberculatum					0.3
Stenopleustes gracilis					0.3
Unciola irrorata					0.7
Decapoda					
Neopanope texana sayi	6		2.0		
Xanthidae sp.				0.7	

Experimental Station EB2

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Cnidaria					
Hydrozoa					
Campanularia angulata		*			
Campanularia sp.	*	*			
Clytia longicyatha				*	
Thuiaria argentea		*		*	*
Thuiaria similis		*		*	*
Campanularidae sp.					*
Obelia sp.					*
Podocoryne carnea					*
Tubularidae sp.					*
Anthozoa					
Ceriantheopsis americanus		0.7		0.7	0.3
Nemertea					
Cerebratulus lacteus			1.3	0.7	0.3
Cerebratulus sp.		1.3			
Micrura sp.		0.7			
Tubulanus pellucidus	28	1.3		3.3	0.3
Nematoda					
Sp. unidentified	2	2.7	0.7		

* Present, but not quantified.
**October value is not a mean since only one replicate was collected.

Experimental Station EB2 (continued)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Ectoprocta					
Callopora aurita		*			*
Cribrilina punctata			*		*
Membranipora tenuis		*		*	*
Microporella sp.		*			
Schizoporella unicornis		*			
Bowerbankia gracilis					*
Mollusca					
Gastropoda					
Crepidula fornicata		2.7			
Crepidula plana		4.7		0.7	
Bivalvia					
Mulinia lateralis		0.7		7.3	1.0
Nucula proxima					0.3
Annelida					
Polychaeta					
Ampharete arctica	4				0.3
Asabellides oculata	6				
Autolytus sp.	2	0.7			
Cirratulidae sp.	2				
Clymenella torquata	2				
Cossura longocirrata	4	0.7			
Flabelligera affinis				1.3	

Experimental Station EB2 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Mediomastus ambiseta	222	32.7	13.3		
Nephtys incisa	8	3.3	3.3	6.0	2.7
Pherusa affinis		0.7			
Phyllodoce arenae				0.7	
Polygordius triestinus	2	0.7			
Sigambra tentaculata			0.7		
Streblospio benedicti	8				
Glycera americana					0.3
Sabellaria vulgaris					3.0
Oligochaeta					
Sp. unidentified	44	7.3			
Arthropoda					
Copepoda					
Calanoida sp.					0.3
Temora longicornis (pelagic)				0.7	1.3
Amphipoda					
Corophium tuberculatum		3.3			
Erichthonius brasiliensis		3.3			0.3
Paracaprella tenuis					0.3
Parametopella cypris	2	0.7		3.0	0.3
Unciola irrorata				0.7	

Experimental Station EB2 (concluded)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Decapoda					
Cancer irroratus		0.7			
Pagurus longicarpus		0.7			
Panopeus herbsti		0.7			
Pagurus pollicaris					0.3

Experimental Station EB3

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Cnidaria					
Anthozoa					
Metridium senile		0.7			
Nemertea					
Amphiporus caecus		1.3			
Carinoma sp.		0.7		0.7	
Cerebratulus lacteus			0.7	2.0	
Cerebratulus luridus		1.3			
Tubulanus pellucidus	4	2.0	1.3	1.3	0.7
Nematoda					
Sp. unidentified		0.7		0.7	3.7
Ectoprocta					
Alcyonidium verrilli		*			
Membranipora tenuis		*			
Mollusca					
Gastropoda					
Crepidula fornicata		1.3			
Retusa obtusa		0.7			

* Present, but not quantified.
**October value is not a mean since only one replicate was collected.

Experimental Station EB3 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	 6 Dec	 21 Jan	 20 Feb	 1 Apr
Bivalvia					
Lyonsia hyalina		0.7			
Mulinia lateralis		100.7	29.3	6.0	1.7
Nucula proxima		2.7	0.7	2.0	4.7
Petricola pholadiformis		0.7			
Pitar morrhuana		0.7			
Tellina agilis		12.0			
Yoldia limatula		0.7			
Annelida					
Polychaeta					
Nephtys incisa	6		3.3		
Amphitrite affinis		0.3			
Aricidea cerruti		0.7			
Axiothella catenata		12.7			
Cirratulus grandis		1.3			
Glycera americana		0.7		0.7	0.7
Mediomastus ambiseta		1.3			
Nephtys incisa		4.0		1.3	0.7
Polygordius triestinus		6.0	0.7		
Pherusa affinis				0.7	
Microphthalamus sczelkowii					0.3
Oligochaeta					
Sp. unidentified		1.3			

Experimental Station EB3 (concluded)

Phylum Class or Order Species	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
	Month				
Arthropoda					
Cephalocarida					
Hutchinsoniella macracantha		6.7		5.3	
Ostracoda					
Sarsiella americana		2.0			
Copepoda					
Temora longicornis (pelagic)					1.7
Amphipoda					
Parametopella cypris		1.3			
Unciola irrorata		0.7			
Ampelisca vadorum			1.3		
Decapoda					
Cancer irroratus		0.7			
Pagurus longicarpus		0.7			
Pinnixa sayana		0.7			

Experimental Station EB4

Phylum Class or Order Species	Month 29-31 Oct**	 6 Dec	 21 Jan	 20 Feb	 1 Apr
Cnidaria					
Hydrozoa					
Campanularia sp.	*	*			
Dicoryne conferta		*			
Hydrallmania falcata		*			
Thuiaria argentea		*			
Thuiaria similis		*		*	
Anthozoa					
Metridium senile	8				
Nemertea					
Cerebratulus sp.		0.7			
Tubulanus pellucidus	28				
Nematoda					
Sp. unidentified		6.0			
Ectoprocta					
Bowerbankia gracilis		*			
Membranipora tenuis	*	*			

* Present, but not quantified.
**October value is not a mean since only one replicate was collected.

Experimental Station EB4 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Mollusca					
Gastropoda					
Crepidula fornicata	6				
Crepidula plana	102				
Retusa obtusa		0.7			
Nassarius trivittatus					0.3
Bivalvia					
Lyonsia hyalina		0.7			
Mulinia lateralis		2.0	4.7		1.7
Tellina agilis		0.7			
Nucula proxima					2.3
Annelida					
Polychaeta					
Aricidea cerruti		0.7			0.3
Cossura longocirrata	8				
Eteone longa	14				
Eumida sanguinea	2				
Hydroides dianthus	2				
Lepidonotus sublevis	2				
Mediomastus ambiseta	2394	6.0	0.7		
Nephtys incisa	18		2.0		5.3
Pectinaria gouldii	62	1.3			
Polydora quadrilobata	10				
Polygordius triestinus	4				

Experimental Station EB4 (continued)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Streptosyllis arenae	12				
Glycera americana					0.7
Oligochaeta					
Sp. unidentified	160	2.0			
Arthropoda					
Acarina					
Sp. unidentified				0.7	
Cephalocarida					
Hutchinsoniella macracantha	42				
Ostracoda					
Sarsiella americana		0.7			
Sarsiella zostericola					0.3
Parasterope pollex					0.3
Copepoda					
Acartia tonsa (pelagic)					0.3
Temora longicornis (pelagic)					5.7
Acartia clausi					0.3
Cirripedia					
Balanus sp.	2				
Unidentified cyprid					0.3

Experimental Station EB4 (concluded)

Phylum Class or Order Species	Month 29-31 Oct**	 6 Dec	 21 Jan	 20 Feb	 1 Apr
Amphipoda					
Ampelisca sp.	2				
Luconacia incerta	2				
Paracaprella tenuis				1.3	
Parametopella cypris	14				
Isopoda					
Edotea montosa		0.7			
Mysidiacea					
Heteromysis formosa	8				
Cumacea					
Diastylus quadrispinosa	4				
Decapoda					
Neopanope texana sayi	2				
Pinnixa sayana		0.7			

Experimental Station EB5

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Cnidaria					
Hydrozoa					
Campanularia sp.			*		
Podocoryne carnea			*		
Thuiaria argentea			*		*
Nemertea					
Cerebratulus lacteus				0.7	0.3
Tubulanus pellucidus	2		5.3	0.7	0.7
Nematoda					
Sp. unidentified			8.7		
Ectoprocta					
Electra sp.			*		
Lichenopora sp.			*		
Membranipora tenuis			*		
Membranipora sp.			*		
Mollusca					
Gastropoda					
Crepidula fornicata			4.0		

* Present, but not quantified.
**October value is not a mean since only one replicate was collected.

Experimental Station EB5 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Doridella obscura			2.0		
Nassarius trivittatus			1.3		
Bivalvia					
Lyonsia hyalina	2	0.7	2.0		
Mulinia lateralis		22.0	21.3	16.6	4.0
Musculus niger	2				
Nuculana messanensis			0.7		
Pitar morrhuana			1.3		
Nucula proxima			3.3		0.3
Spisula solidissima			0.7		
Tellina agilis			1.3		
Yoldia limatula			0.7		
Annelida					
Polychaeta					
Aricidea cerruti	2				
Cossura longocirrata	2				
Mediomastus ambiseta	40		4.6		
Nephtys incisa		3.3	4.6	2.0	3.0
Pectinaria gouldii		0.6	1.3		
Pherusa affinis			0.6		0.3
Polydora websteri	4				
Polygordius triestinus	114				
Protodorvillea sp.	2				
Sabellaria vulgaris	2				

Experimental Station EB5 (continued)

Phylum
  Class or Order
    Species
	Month
	29-31 Oct**
		6 Dec	21 Jan	20 Feb	1 Apr

Eusyllis lamelligera					0.3
Maldanopsis elongata					0.3
Microphthalamus sczelkowii					0.3
Trochochaedidae sp.					*
Oligochaeta					
Sp. unidentified	10	1.3			
Arthropoda					
Cephalocarida					
Hutchinsoniella macracantha		0.6	0.6		0.7
Copepoda					
Temora longicornis (pelagic)			0.6	1.3	0.7
Harpacticoida sp.	4				
Ostracoda					
Sarsiella zostericola					1.0
Amphipoda					
Ampelisca vadorum			2.0		0.3
Luconacia incerta			2.6		
Parametopella cypris			2.6	0.6	
Phoxocephalus holbolli			0.6		0.7

Experimental Station EB5 (concluded)

Phylum Class or Order Species	Month 29-31 Oct**	 6 Dec	 21 Jan	 20 Feb	 1 Apr
Cumacea					
Sp. unidentified			0.6		
Decapoda					
Pagurus longicarpus					0.3

Experimental Station EB6

Phylum Class or Order Species	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Cnidaria					
Hydrozoa					
Campanularia sp.	*				
Clytia coronata		*			
Thuiaria sp.				*	
Thuiaria argentea		*			*
Tubularidae sp.					*
Sp. unidentified		*			
Anthozoa					
Ceriantheopsis americanus					0.3
Nemertea					
Amphiporus caecus		0.7			
Carinoma tremephorus		2.0			
Tubulanus pellucidus	32	7.3	2.0	4.0	1.0
Cerebratulus sp.		0.7			
Sp. unidentified		2.0			
Cerebratulus lacteus					0.3
Nematoda					
Sp. unidentified	110	6			

* Present, but not quantified.
**October value is not a mean since one replicate was collected.

<u>Experimental Station EB6</u> (continued)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Ectoprocta					
Membranipora tenuis	*	*	*		*
Alcyonidium verrilli					*
Mollusca					
Gastropoda					
Crepidula fornicata	8	4.7			
Nassarius trivittatus			0.7		0.3
Bivalvia					
Lyonsia hyalina		0.7		0.7	0.3
Mulinia lateralis		0.7	0.7	0.7	
Nucula proxima			4.0		
Pitar morrhuana		2.7			0.7
Spisula solidissima		0.7		0.7	
Tellina agilis		5.3			
Astarte undatum					0.3
Annelida					
Polychaeta					
Aricidea cerruti	2				
Axiothella catenata		4.7			
Cirratulidae sp.	4				
Clymenella torquata	2				
Cossura longocirrata	6				
Eteone longa		1.3			

Experimental Station EB6 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Glycera americana	2	0.7	1.3		1.7
Lumbrinereis brevipes		2.7			1.7
Maldanopsis elongata	2				8.7
Mediomastus ambiseta	26	22.0			
Nephtys incisa	2	4.7	2.7	6.0	6.3
Pectinaria gouldii	2	1.3			
Pherusa affinis			2.7	1.3	1.3
Polygordius triestinus	12	13.3		3.3	
Scalibregma inflatum		0.7			0.7
Spiochaetopterus oculata	2				
Sabellaria vulgaris				0.7	1.3
Oligochaeta					
Sp. unidentified	10	5.3			
Arthropoda					
Cephalocarida					
Hutchinsoniella macracantha	46	18.7	42.0	7.3	9.7
Ostracoda					
Sarsiella zostericola		6.0			
Copepoda					
Temora longicornis (pelagic)				0.7	0.3

Experimental Station EB6 (concluded)

Phylum Class or Order Species	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Cyclopoida sp.				2.0	
Cirripedia					
Balanus amphitrite niveus		1.3			
Balanus sp.	12	18.0			7.0
Amphipoda					
Ampelisca abdita	8				
Ampelisca vadorum		3.3			
Corophium sp.	2				
Paracaprella tenuis				0.7	
Parametopella cypris		0.7			
Phoxocephalus holbolli		1.3			
Unciola irrorata		1.3			
Mysidacea					
Neomysis americana					0.3
Decapoda					
Pinnixa sayana		0.7			1.0
Pagurus longicarpus					0.3
Upogebia affinis					0.3

Experimental Station EB7

Phylum / Class or Order / Species	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
	Month				
Cnidaria					
Hydrozoa					
Calycella syringa					*
Campanularia sp.		*			
Campanularidae sp.					*
Halecium sp.		*		*	
Obelia commissuralis					*
Obelia flabellata					*
Obelia sp.					*
Thuiaria argentea	*	*		*	*
Thuiaria similis		*		*	*
Anthozoa					
Actinothoe modesta				0.7	
Sp. unidentified				0.7	
Ceriantheopsis americanus		0.7		0.7	
Nemertea					
Amphiporus bioculatus		1.3			
Amphiporus caecus		2.7			
Carinoma sp.		13.3			2.3

* Present, but not quantified.
**October value is not a mean since only one replicate was collected.

Experimental Station EB7 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	 6 Dec	 21 Jan	 20 Feb	 1 Apr
Cerebratulus lacteus			0.7	0.7	
Cerebratulus sp.		0.7			
Micrura sp.		0.7			
Tubulanus pellucidus	8	7.3		4.7	4.3
Nematoda					
Sp. unidentified		1602.0		562.0	27.7
Entoprocta					
Barentsia sp.				*	*
Ectoprocta					
Aeverrillia sp.				*	
Alcyonidium verrilli				*	*
Bowerbankia sp.				*	*
Bugula sp.			*		*
Callopora aurita		*		*	*
Cryptosula pallasiana	*				
Electra monostachys		*		*	*
Membranipora tenuis	*	*		*	*
Microporella ciliata				*	
Microporella sp.		*			
Schizoporella unicornis		*			
Cribrilina punctata					*
Hippoporina sp.					*

Experimental Station EB7 (continued)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Mollusca					
Gastropoda					
Crepidula fornicata		48.7	1.3	14.7	10.3
Crepidula plana	2	6.0		5.3	1.3
Doridella obscura				0.7	
Nassarius trivittatus	2	6.7		4.0	17.3
Sp. unidentified				0.7	
Bivalvia					
Anadara transversa		2.7		2.0	
Astarte undata				0.7	
Gemma gemma		0.7			
Lyonsia hyalina		4.0			
Macoma tenta		2.7			
Mulinia lateralis		0.7		2.7	
Musculus niger		0.7		0.7	
Nucula proxima			16.7		
Petricola pholadiformis				0.7	
Pitar morrhuana		0.7		2.7	1.0
Poromya granulata				1.3	
Spisula solidissima		2.0			
Tellina agilis	16	66.0	0.7	34.7	8.0
Yoldia limatula			1.3		
Annelida					
Polychaeta					
Amphitrite affinis		0.7			

Experimental Station EB7 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	 6 Dec	 21 Jan	 20 Feb	 1 Apr
Aricidea cerruti	224	10.0		1.3	1.3
Asabellides oculata	2				
Axiothella catenata		5.3		1.3	
Cirriformia grandis		18.7		1.3	
Cirratulidae sp.	20				
Cirrophorus lyriformis	2				
Clymenella torquata	2				
Dorvillea sp.		2.0			
Glycera americana		2.7		2.0	3.3
Hesionidae sp.	2				
Heteromastus sp.		3.3			
Hypaniola grayi		2.0			
Lepidonotus squamatus		0.7		2.7	
Lumbrinereis brevipes		10.0	2.7	5.3	1.3
Mediomastus ambiseta	36	366.0			6.7
Nephtys incisa		1.3	3.3	6.0	3.3
Notomastus sp.				1.3	
Pherusa affinis		3.3		2.7	1.0
Polygordius triestinus	952	52.7			2.7
Potamilla reniformis				2.7	0.3
Protodorvillea sp.	24	4.0			
Sabellaria vulgaris				0.7	0.7
Scoloplos sp.				38.0	
Sthenelais boa	2				0.3
Sthenelais picta		3.3			
Chaetozone setosa					2.7

Experimental Station EB7 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Diopatra cuprea					0.3
Drilonereis magna					0.7
Eusyllis lamelligera					1.0
Nephtys sp.					2.3
Nereis virens					0.3
Protodorvillea kerfersteini					0.3
Syllidae sp.					0.3
Oligochaeta					
Sp. unidentified	734	358.7		38.0	7.7
Arthropoda					
Cephalocarida					
Hutchinsoniella macracantha		0.7	0.7		
Ostracoda					
Sarsiella americana		23.3	0.7	12.7	4.3
Copepoda					
Calanoida sp.					0.3
Acartia tonsa (pelagic)		2.7			
Temora longicornis (pelagic)				5.3	2.0
Harpacticoida sp.				0.7	0.3
Amphipoda					
Stenopleustes gracilis					1.7

Experimental Station EB7 (concluded)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Acanthohaustorius shoemakeri	2				
Aeginina longicornis				3.3	1.3
Ampelisca abdita		2.0			
Ampelisca vadorum		2.7		2.7	1.0
Corophium tuberculatum		1.3			0.3
Halirages fulvocinctus		2.7			
Luconacia incerta		0.7		1.3	0.3
Parametopella cypris		2.0		3.3	1.7
Phoxocephalus holbolli		4.7		0.7	
Unciola irrorata		1.3		0.7	0.7
Corophium sp.					0.3
Paracaprella tenuis					0.3
Decapoda					
Cancer irroratus		2.7		0.7	0.3
Neopanope texana sayi		4.0			
Pagurus longicarpus		4.0		2.7	9.3
Pagurus sp.				1.3	
Pinnixa sayana		0.7	0.7	0.7	
Pinnotheres morulatus		0.7			
Thalassinidae sp.		0.7			
Xanthidae sp.					2.0

Experimental Station EB8

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Porifera					
Haliclona oculata				*	
Microciona prolifera	*				
Cnidaria					
Hydrozoa					
Bougainvillia carolinensis			*		
Calycella syringa				*	*
Campanularia sp.		*			
Clytia cylindrica			*		
Clytia longicyantha				*	
Eudendrium carneum				*	
Eudendrium rameum				*	
Campanularidae sp.					*
Clava sp.					*
Halecium sp.		*	*	*	*
Halecium minutum		*			
Obelia commissuralis				*	
Obelia sp.					*
Opercularella lacerata				*	
Podocoryne carnea				*	
Thuiaria argentea	*	*	*	*	*

* Present, but not quantified.
**October value is not a mean since only one replicate was collected.

Experimental Station EB8 (continued)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Thuiaria similis		*	*	*	*
Thuiaria sp.				*	
Tubularidae sp.				*	*
Anthozoa					
Actinothoe modesta				0.7	
Astrangia danae				*	
Metridium senile				0.7	
Sp. unidentified				1.7	
Nemertea					
Amphiporus bioculatus			0.7		
Carinoma sp.			0.7		
Sp. unidentified			2.0		
Tubulanus pellucidus	52	5.3	2.7		1.3
Nematoda					
Sp. unidentified	6	230.7	297.3	236.3	78.3
Entoprocta					
Barentsia sp.				*	
Ectoprocta					
Aeverrillia armata		*			
Alcyonidium sp.			*		
Alcyonidium verrilli	*	*	*	*	*

Experimental Station EB8 (continued)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Bowerbankia gracilis	*		*	*	*
Bowerbankia sp.				*	*
Callopora aurita		*	*	*	*
Cribrilina punctata				*	*
Electra sp.		*			
Electra monostachys			*		
Hippoporina sp.			*		*
Membranipora tenuis	*	*	*	*	*
Microporella ciliata				*	
Microporella sp.	*		*		
Schizoporella unicornis	*				*
Sp. unidentified	*				
Mollusca					
Gastropoda					
Colus caelatus				0.3	
Crepidula fornicata	36	9.3	28.7	16.3	
Crepidula plana				8.7	0.7
Diastoma alternatum		1.3			
Doridella obscura			1.3	0.7	
Mitrella lunata		1.3	4.7	1.3	
Nassarius trivittatus	6	9.3	0.7	0.3	1.7
Turbonilla sp.			0.7		
Bivalvia					
Abra lioica		1.3			

Experimental Station EB8 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	 6 Dec	 21 Jan	 20 Feb	 1 Apr
Anadara transversa		1.3	13.3	3.7	
Astarte undata	30	5.3	15.3	2.7	0.3
Cyclocardia borealis		2.0			
Gemma gemma			2.0	0.3	
Lyonsia hyalina		4.0	6.0	15.0	0.3
Macoma tenta		0.7			
Mulinia lateralis	2	0.7		0.7	0.7
Musculus niger	2	0.7	5.3		
Pandora gouldiana			2.0		
Petricola pholadiformis		3.3	4.7	4.3	
Pitar morrhuana	6	5.3	1.3	1.0	1.3
Spisula solidissima			0.7		
Tellina agilis	8	91.3	53.3	16.0	4.0
Annelida					
Polychaeta					
Ampharete arctica	16			1.3	
Amphitrite affinis		0.7	0.7	1.0	
Aricidia cerruti	1074	8.0	51.3	1.3	
Asabellides oculata	14				
Autolytus sp.	2				
Axiothella catenata	2	9.3	8.7	0.7	
Chaetozone setosa				2.7	
Cirratulidae sp.	32				
Cirriformia grandis		5.3	8.0	8.7	
Cirrophorus lyriformis	2				

Experimental Station EB8 (continued)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Clymenella torquata	24				
Drilonereis magna			4.0		1.0
Dorvillea sp.		0.7			
Eteone longa	2	2.0			
Exogone verugera		1.3			
Glycera americana	8	3.3	8.7	0.7	0.7
Heteromastus sp.		3.3			
Hypaniola grayi		2.7		1.0	
Lepidonotus squamatus			1.3	1.7	
Lepidonotus sublevis	6				
Lumbrinereis brevipes		11.3	2.7	5.3	1.7
Lumbrinereis fragilis	18				
Maldane sarsi	6				
Mediomastus ambiseta	446	27.3	26.7		
Microphthalmus sczelkowii	14				
Nephtys incisa		0.7	0.7		6.7
Nereis grayi				0.3	
Nereis sp.		0.7			
Nereis succina		0.7			
Notomastus sp.			0.7		
Odontosyllis fulgurans	4				
Owenia fusiformis	2				
Pectinaria gouldii	2	3.3			
Pherusa affinis	2	1.3			0.7
Phyllodoce arenae	2	2.7	2.0		
Podarke obscura	20				

Experimental Station EB8 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Polygordius triestinus	3506	276.0	964.7	140.7	
Potamilla neglecta	4				
Potamilla reniformis				0.3	
Protodorvillea sp.	150	13.3	11.3		
Protodorvillea kerfersteini					0.7
Sabellaria vulgaris	10				
Scoloplos armiger			0.7		
Scoloplos sp.	2				
Spiochaetopterus oculata	2				
Spiophanes bombyx			0.7		
Sthenelais picta		2.0		0.7	
Streblospio benedicti	2				
Streptosyllis arenae	2				
Oligochaeta					
Sp. unidentified	798	72.0	6.7		
Arthropoda					
Cephalocarida					
Hutchinsoniella macracantha					4.0
Ostracoda					
Sarsiella americana		38.7	17.3	22.7	27.7
Parasterope pollex					0.3

Experimental Station EB8 (continued)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Copepoda					
Acartia clausi (pelagic)				0.3	0.7
Temora longicornis (pelagic)				1.0	4.0
Sp. unidentified (pelagic)					1.0
Cyclopoida sp.		5.3			
Harpacticoida sp.			0.7		0.3
Amphipoda					
Aeginella sp.	4				
Ampelisca abdita	4	63.3	12.7	3.0	
Ampelisca vadorum		618.7	252.0	309.0	0.7
Caprella sp.	2				
Corophium tuberculatum		2.0		0.3	
Corophium volutator	4				
Corophium sp.	4				
Erichthonius brasiliensis			2.7		1.3
Gammarus mucronatus	2				
Lembos smithi			2.7		
Leptocheirus pinquis				0.7	
Luconacia incerta		14.0	18.0	6.3	3.3
Paracaprella tenuis			1.3	4.3	2.0
Parametopella cypris	6	31.3	62.0	7.7	4.7
Phoxocephalus holbolli	4	1.3	15.3	5.3	
Stenopleustes gracilis			5.3		0.3
Unciola irrorata		28.7	23.3	1.7	0.3

Experimental Station EB8 (concluded)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Tanaidacea					
Leptognatha caeca				0.3	
Isopoda					
Edotea triloba	2				
Limnoria lignorum			0.7		
Mysidacea					
Heteromysis formosa	44	5.3			
Decapoda					
Carcinus maenus	12				
Cancer irroratus					0.7
Euprognatha rastellifera				0.3	
Neopanope texana sayi		4.0	1.3	5.0	
Pagurus longicarpus	2	2.7	1.3	0.3	4.7
Pagurus pollicaris			0.7		
Pagurus sp.		1.3			
Panopeus herbsti	2				
Pinnixa sayana		4.7			
Pinnixa sp.				0.3	
Xanthidae sp.			1.3	1.3	0.3
Echinodermata					
Cucumaria pulcherima				2.0	

Experimental Station EB9

Phylum / Class or Order / Species	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
	Month				
Porifera					
Haliclona oculata					*
Cnidaria					
Hydrozoa					
Campanularia sp.	*		*	*	
Halecium sp.			*		
Hydrallmania falcata			*		
Thuiaria argentea			*		*
Thuiaria similis			*	*	
Thuiaria sp.	*				
Anthozoa					
Ceriantheopsis americanus					0.3
Nemertea					
Carinoma sp.	4		0.7		
Cerebratulus lacteus			0.7	0.7	0.3
Tubulanus pellucidus	30	2.0	2.0		
Nematoda					
Sp. unidentified	106	0.7	3.3	94.0	

* Present, but not quantified.
**October value is not a mean since only one replicate was collected.

Experimental Station EB9 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Ectoprocta					
Alcyonidium verrilli			*	*	
Alcyonidium sp.				*	
Bugula sp.			*		
Callopora aurita				*	
Membranipora tenuis	*	*	*	*	
Mollusca					
Gastropoda					
Crepidula fornicata	2	2.0	1.3		
Nassarius trivittatus	2				
Bivalvia					
Abra lioica		0.7			
Anadara transversa		2.7			
Astarte undata		3.3			
Cyclocardia borealis		0.7			
Gemma gemma	8				
Lyonsia hyalina		2.0		0.7	
Mulinia lateralis				0.7	0.3
Musculus niger		0.7			
Nucula proxima			0.7		
Petricola pholadiformis	6				
Pitar morrhuana			0.7	1.3	
Tellina agilis	54	12.7	0.7	3.3	
Yoldia limatula		0.7		0.7	

Experimental Station EB9 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Annelida					
Polychaeta					
Aricidea cerruti	12	1.3			
Axiothella catenata	8			4.0	
Eteone longa	4				
Glycera americana	4				
Hypaniola grayi				1.3	
Lumbrinereis brevipes				1.3	
Mediomastus ambiseta	28	4.7	6.0		
Nephtys incisa	2		4.7	3.3	1.3
Pectinaria gouldii				0.7	
Pherusa affinis			0.7	0.7	1.3
Phyllodocidae sp.	2				
Polydora websteri			0.7		
Polygordius triestinus			0.7	15.3	
Potamilla reniformis				1.3	
Scalibregma inflatum	2			0.7	
Spio setosa	2				
Sthenelais picta		0.7			
Oligochaeta					
Sp. unidentified	42	4.0			
Arthropoda					
Cephalocarida					
Hutchinsoniella macracantha	116	13.3	3.3		

Experimental Station EB9 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	 6 Dec	 21 Jan	 20 Feb	 1 Apr
Ostracoda					
Sarsiella americana	6			4.7	
Amphipoda					
Ampelisca abdita	2				
Ampelisca vadorum	4	0.7		0.7	
Erichthonius brasiliensis				0.7	
Luconacia incerta	2			0.7	
Parametopella cypris		0.7			0.3
Phoxocephalus holbolli			0.7		
Decapoda					
Pinnixa sayana	6	0.7			

Experimental Station EB10

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Porifera					
Haliclona oculata					*
Cnidaria					
Hydrozoa					
Campanularia sp.	*		*		
Clytia cylindrica			*		
Clytia longicyantha				*	
Halecium sp.	*	*	*	*	*
Obelia commissuralis				*	
Opercularella lacerata				*	*
Podocoryne carnea			*	*	*
Sertularella sp.		*			
Thuiaria argentea	*	*		*	*
Thuiaria lonchitis				*	
Thuiaria similis			*	*	*
Calycella syringa					*
Campanularidae sp.					*
Clytia sp.					*
Hydralmania falcata					*
Obelia flabellata					*
Obelia longissima					*
Obelia sp.					*

* Present, but not quantified.
**October value is not a mean since only one replicate was collected.

Experimental Station EB10 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Opercularella pumila					*
Tubularidae sp.					*
Anthozoa					
Astrangia danae		*		*	*
Metridium senile			0.7		0.3
Nemertea					
Amphiporus bioculatus	4		0.7		
Carinoma sp.			0.7	1.3	
Cerebratulus lacteus				0.7	
Cerebratulus luridus			0.7		
Tubulanus pellucidus	2		2.0	2.7	1.7
Sp. unidentified		2.7			
Nematoda					
Sp. unidentified	578	48.0	238.7	344.0	254.0
Entoprocta					
Barentsia sp.				*	*
Ectoprocta					
Aeverrillia armata					*
Alcyonidium sp.			*		
Alcyonidium verrilli		*		*	*
Bowerbankia sp.		*			*

Experimental Station EB10 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Bowerbankia gracilis	*		*	*	
Bugula sp.				*	*
Callopora aurita	*	*	*	*	*
Cribrilina punctata				*	*
Electra monostachys	*	*	*		
Hippoporina sp.			*		*
Membranipora tenuis	*	*	*	*	*
Membranipora sp.		*			
Microporella sp.	*	*	*		
Microporella ciliata				*	
Schizoporella unicornis	*	*		*	
Hippoporina porosa					*
Mollusca					
Gastropoda					
Colus sp.					0.7
Colus caelatus					0.3
Acmaea testudinalis		0.7			
Crepidula fornicata	88	245.3	102.0	10.7	44.7
Crepidula plana	104	1.3	4.0	16.7	24.0
Doridella obscura			0.7	0.7	
Mitrella lunata	4		8.7		0.3
Nassarius trivittatus	2		6.0	0.7	1.0
Turbonilla interrupta			0.7		
Urosalpinx cinereus			0.7		0.3
Nudibranchia sp.					0.3

Experimental Station EB10 (continued)

Phylum Class or Order Species	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
	Month				
Bivalvia					
Anadara transversa	4	0.7	3.3		23.0
Astarte undata	6	14.0	17.3	2.7	3.7
Gemma gemma				0.7	
Lyonsia hyalina	6	1.3	2.0	1.3	4.7
Macoma balthica		0.7			
Mulinia lateralis	4		0.7	2.7	
Musculus niger	2	0.7	1.3		1.0
Nucula proxima	2		0.7		0.3
Pandora gouldiana			1.3	0.7	2.0
Petricola pholadiformis	4	1.3	4.7	0.7	1.7
Pitar morrhuana	2	2.7	2.0	2.7	4.3
Siliqua costata					0.3
Solemya viridis			0.7		
Spisula solidissima	4	1.3	2.7		
Tellina agilis	114	18.0	44.7	27.3	41.0
Annelida					
Polychaeta					
Capitella capitata					0.7
Ampharetidae sp.					0.3
Ampharete arctica					1.7
Amphitrite affinis			0.7	2.0	
Aricidea cerruti	326	18.0	34.0	2.0	2.3
Autolytus fasciatus	4				
Axiothella catenata			8.0	2.7	

Experimental Station EB10 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Cirriformia grandis	16	2.0	14.0	8.0	
Dorvillea sp.		1.3			
Drilonereis magna			1.3		1.7
Eumida sanguinea	4				
Eusyllis lamelligera		0.7			
Exogone verugera		2.0			
Glycera americana	4	1.3	1.3	1.3	3.3
Harmothoe imbricata		1.3			1.0
Heteromastus sp.		1.3			
Hypaniola grayi		2.0	2.7		1.7
Lepidonotus squamatus	2		0.7		
Lumbrinereis brevipes			1.3		0.7
Mediomastus ambiseta	212	9.3	20.0		
Nephtys incisa			0.7		3.3
Owenia fusiformis					0.7
Pectinaria gouldii		0.7		0.7	
Pherusa affinis	2				
Pholoe minuta		0.7			1.0
Phyllodoce arenae		2.0	3.3		
Polydora websteri				4.7	
Polygordius triestinus	2212	633.0	409.3	990.7	660.7
Potamilla reniformis		0.7			
Protodorvillea sp.	18		2.0	1.3	
Protodorvillea kerfersteini					3.7
Scoloplos sp.				0.7	
Sigalion arenicola				0.7	

Experimental Station EB10 (continued)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Spionidae sp.		0.7			
Sthenelais boa					1.3
Sthenelais picta			1.3	1.3	
Chaetozone setosa					5.3
Cossura longocirrata					0.3
Oligochaeta					
Sp. unidentified	24	64.7	6.0	63.3	
Arthropoda					
Acarina					
Halacaridae sp.	2			0.7	1.0
Cephalocarida					
Hutchinsoniella macracantha		0.7			
Ostracoda					
Sarsiella americana	16	5.3	2.0	1.3	2.0
Sarsiella ozotothrix					0.3
Copepoda					
Harpacticoida sp.	14	0.7	2.0	1.3	4.0
Cirripedia					
Balanus amphitrite niveus		29.3			

Experimental Station EB10 (continued)

Phylum / Class or Order / Species	Month: 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Balanus sp.	2	10.7	2.7		
Sp. unidentified (cyprid)					0.3
Amphipoda					
Ampelisca abdita		6.7	2.0	2.7	
Ampelisca vadorum	308	70.0	45.3	18.7	89.3
Corophium tuberculatum		1.3	0.7		0.3
Corophium sp.		0.7			
Erichthonius brasiliensis	4	5.3			1.7
Halirages fulvocinctus		16.7			
Luconacia incerta	6	1.3	5.3	1.3	2.3
Paracaprella tenuis	4	0.7	0.7	1.3	1.3
Parametopella cypris	44	36.7	6.0	1.3	48.7
Paraphoxus spinosus		0.7	0.7		2.0
Phoxocephalus holbolli	210	74.7	24.7	9.3	24.7
Stenopleustes gracilis			3.3	0.7	7.3
Unciola irrorata	6	2.0	1.3		1.0
Stenothoe minuta					0.7
Isopoda					
Ptilanthura tenuis		0.7			
Mysidacea					
Heteromysis formosa	16				
Cumacea					
Oxyurostylis smithi	2				

Experimental Station EB10 (concluded)

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Tanaidacea					
Leptognatha caeca			2.0	0.7	
Decapoda					
Crangon septemspinosa	2				
Euprognatha rastellifera		0.7			
Neopanope texana sayi	12		2.0	2.0	0.3
Pagurus longicarpus		0.7	1.3		1.7
Panopeus herbstii	2	0.7	1.3		
Pinnixa sayana				1.3	
Xanthidae sp.		2.0			2.7
Libinia dubia					0.3
Echinodermata					
Arbacia punctulata			0.7		

Experimental Station EB11

Phylum Class or Order Species	Month 29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Cnidaria					
Hydrozoa					
Halecium sp.		*			
Clava sp.					*
Thuiaria argentea					*
Anthozoa					
Ceriantheopsis americanus		0.7			1.0
Nemertea					
Tubulanus pellucidus		0.7			0.3
Nematoda					
Sp. unidentified			0.7	2.0	0.3
Ectoprocta					
Callopora aurita			*		
Membranipora tenuis			*		
Mollusca					
Gastropoda					
Crepidula fornicata			0.7		
Nassarius trivittatus			0.7		

* Present, but not quantified.
** October value is not a mean since only one replicate was collected.

Experimental Station EB11 (concluded)

Phylum Class or Order Species	Month 29-31 Oct**	 6 Dec	 21 Jan	 20 Feb	 1 Apr
Bivalvia					
Mulinia lateralis			0.7	2.7	0.7
Nucula proxima			0.7		0.7
Annelida					
Polychaeta					
Aricidea cerruti		0.7			
Mediomastus ambiseta	2		0.7		
Nephtys incisa	6	3.3	0.7		0.3
Pherusa affinis				0.7	1.0
Polydora websteri			0.7		
Polygordius triestinus		0.7	1.3		
Sigambra tentaculata	2				
Spionidae sp.			*		
Stauronereis caecus		1.3			
Oligochaeta					
Sp. unidentified		0.7		0.7	
Arthropoda					
Copepoda					
Harpacticoida sp.		2.0			
Amphipoda					
Ampelisca vadorum					0.3
Phoxocephalus holbolli					0.3
Parametopella cypris					0.3

Control Station EB12*

Phylum Class or Order Species	Month 6 Dec	 21 Jan	 20 Feb	 1 Apr
Cnidaria				
Anthozoa				
Actinothoe modesta			0.7	
Nemertea				
Tubulanus pellucidus	0.7			
Cerebratulus lacteus				0.3
Nematoda				
Sp. unidentified		0.7		
Mollusca				
Bivalvia				
Mulinia lateralis				1.3
Nucula proxima		0.7	0.7	4.0
Yoldia limatula				0.3
Annelida				
Polychaeta				
Cossura longocirrata	1.3			
Lumbrinereis brevipes		0.7		
Mediomastus ambiseta	0.7			
Nephtys incisa	1.3	0.7		0.7
Pherusa affinis			0.7	

* No sample taken in October.

Control Station EB12 (concluded)

Phylum Class or Order Species	6 Dec	21 Jan	20 Feb	1 Apr
Polygordius triestinus	2.0	2.7		
Stauronereis caecus	0.7			
Oligochaeta				
Sp. unidentified			2.0	
Arthropoda				
Amphipoda				
Parametopella cypris			0.7	0.3

Experimental Station A1

Phylum Class or Order Species	Month			
	22 Apr	12 May	29 May	17 Jun
Cnidaria				
Hydrozoa				
Thuiaria argentea		*		
Nemertea				
Cerebratulus lacteus	1.0		1.0	0.7
Tubulanus pellucidus			0.3	0.3
Mollusca				
Gastropoda				
Nassarius trivittatus			1.3	
Bivalvia				
Mulinia lateralis	0.3	2.7	37.0	8.0
Nucula proxima			2.7	1.7
Pitar morrhuana			0.3	
Yoldia limatula			0.7	
Annelida				
Polychaeta				
Nephtys incisa	0.3	1.3	3.3	4.0
Arthropoda				
Cephalocarida				
Hutchinsoniella macracantha			0.3	

*Present, but not quantified.

Experimental Station A1 (concluded)

Phylum Class or Order Species	Month			
	22 Apr	12 May	29 May	17 Jun
Copepoda				
Harpacticoida sp.		0.3		
Amphipoda				
Phoxocephalus holbolli	0.3			
Decapoda				
Pinnixa chaetopterana				0.3

Experimental Station A2

Phylum Class or Order Species	Month			
	22 Apr	12 May	29 May	17 Jun
Cnidaria				
Hydrozoa				
Calycella syringa	*			
Campanularia sp.	*			
Campanularidae sp.	*			
Halecium sp.	*			
Thuiaria argentea	*			
Thuiaria similis	*			
Tubularidae sp.	*			
Nemertea				
Cerebratulus lacteus	1.0	0.7	3.0	1.0
Tubulanus pellucidus	1.3		0.7	
Mollusca				
Gastropoda				
Nassarius trivittatus	0.7			0.3
Bivalvia				
Lysonsia hyalina			0.3	0.7
Mulinia lateralis	4.3	15.0	123.3	133.7
Nucula proxima	0.3	0.7	8.0	13.3
Pitar morrhuana				0.7
Yoldia limatula				0.7

*Present, but not quantified.

Experimental Station A2 (continued)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Annelida				
Polychaeta				
Aricidea sp.				0.3
Cossura longocirrata			1.7	1.0
Glycera americana			0.3	0.3
Mediomastus ambiseta				1.7
Nephtys incisa	3.0	1.3	6.3	10.3
Pherusa affinis				0.3
Oligochaeta				
Sp. unidentified	0.3		1.7	
Arthropoda				
Cephalocarida				
Hutchinsoniella macracantha		1.0	0.3	1.0
Copepoda				
Harpacticoida sp.				0.3
Amphipoda				
Parametopella cypris	3.3			
Stenopleustes gracilis		0.3		
Ostracoda				
Sarsiella zostericola				0.3

Experimental Station A2 (concluded)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Decapoda				
Pagurus longicarpus	0.3			
Insecta				
Hemipteran				0.3

Experimental Station A3

Phylum Class or Order Species	22 Apr	12 May	29 May	17 Jun
	Month			
Cnidaria				
Anthozoa				
Actinothoe modesta	0.3			
Hydrozoa				
Podocoryne carnea			*	
Nemertea				
Cerebratulus lacteus	0.3	2.0	1.0	0.7
Tubulanus pellucidus		0.3		0.7
Mollusca				
Gastropoda				
Nassarius trivittatus		0.3	0.3	0.7
Bivalvia				
Lyonsia hyalina	0.3			0.3
Mulinia lateralis	15.0	36.0	70.7	50.7
Nucula proxima	1.0	0.3	3.3	6.3
Pitar morrhuana		0.3		0.3
Yoldia limatula				0.7
Annelida				
Polychaeta				
Mediomastus ambiseta				2.3

*Present, but not quantified.

Experimental Station A3 (concluded)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Nephtys incisa	1.0	2.3	6.3	7.7
Pherusa affinis	0.3			
Arthropoda				
Ostracoda				
Sarsiella zostericola				0.3
Cephalocarida				
Hutchinsoniella macracantha	0.3			
Decapoda				
Crangon septemspinosa (post larva stage VI)				0.3

Experimental Station A4

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Cnidaria				
Hydrozoa				
Campanularia sp.	*			
Campanularidae sp.		*		
Opercularella pumila	*	*		
Thuiaria argentea		*		
Tubularidae sp.		*		
Anthozoa				
Ceriantheopsis americanus	0.3			
Nemertea				
Cerebratulus lacteus	0.3		1.0	0.3
Tubulanus pellucidus		1.3	0.7	0.7
Sp. unidentified		0.3		
Ectoprocta				
Alcyonidium verrilli	*	*		
Callopora aurita	*	*		
Cribrilina punctata	*	*		
Membranipora tenuis	*	*		
Mollusca				
Gastropoda				
Crepidula fornicata	0.7			

*Present, but not quantified.

Experimental Station A4 (continued)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Crepidula plana	1.3	13.0		
Doridella obscura		1.7		
Nassarius trivittatus	0.7	0.3	1.7	3.7
Retusa obtusa	1.0		0.3	0.3
Bivalvia				
Lyonsia hyalina	0.3			0.3
Mulinia lateralis	34.7	7.0	88.0	293.7
Nucula proxima	0.7		1.7	17.3
Petricola pholadiformis		0.3		
Pitar morrhuana			0.3	1.0
Yoldia limatula		0.3		0.3
Annelida				
Polychaeta				
Glycera americana	0.7	0.3	0.3	
Mediomastus ambiseta		0.3		
Nephtys incisa	1.7	4.7	5.3	5.0
Pectinaria gouldii		1.7		
Pherusa affinis		0.3	0.3	
Oligochaeta				
Sp. unidentified		0.3		
Arthropoda				
Acarina				
Halacaridae sp.	3.0			

Experimental Station A4 (concluded)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Cephalocarida				
Hutchinsoniella macracantha	0.3		0.3	0.1
Ostracoda				
Neonesidea sp.	0.3	1.0		
Sarsiella zostericola				0.3
Copepoda				
Harpacticoida sp.		1.7		
Amphipoda				
Lembos smithi		0.3		
Parametopella cypris	0.7	2.3		
Mysidacea				
Heteromysis formosa		1.0		
Decapoda				
Cancer irroratus	3.3	1.3		
Cancer irroratus (zoea I)		19.7		
Neopanope texana sayi		1.7		
Pagurus longicarpus	0.3	0.3		
Panopeus herbstii	0.3			
Insecta				
Hemipteran				0.3

Experimental Station A5

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Cnidaria				
Anthozoa				
Ceriantheopsis americanus			0.3	
Thuiaria sp.				0.3
Nemertea				
Cerebratulus lacteus	1.0	1.0	1.0	0.7
Tubulanus pellucidus	0.7		2.0	2.0
Mollusca				
Bivalvia				
Mulinia lateralis	14.3	24.7	25.7	93.7
Nucula proxima		1.3	0.7	18.3
Pitar morrhuana		0.7		
Yoldia limatula				0.3
Annelida				
Polychaeta				
Cossura longocirrata				0.3
Glycera americana			0.3	
Mediomastus ambiseta				1.0
Nephtys incisa	0.7	2.3	1.7	5.7
Pherusa affinis	0.3		0.3	
Pherusa arenosa				2.3
Pilargidae sp.	0.3			
Polygordius triestinus	0.3			

Experimental Station A5 (concluded)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Arthropoda				
Cephalocarida				
Hutchinsoniella macracantha	0.7	0.7		

Experimental Station A6

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Nemertea				
Cerebratulus lacteus	0.7	2.3	1.0	0.3
Tubulanus pellucidus		0.3		
Nematoda				
Sp. unidentified	0.3			
Mollusca				
Gastropoda				
Nassarius trivittatus		0.3	0.3	
Bivalvia				
Mulinia lateralis	0.7	56.0	100.0	123.3
Nucula proxima			5.0	16.7
Yoldia limatula		0.3	0.7	
Annelida				
Polychaeta				
Mediomastus ambiseta				0.7
Nephtys incisa	1.0	2.3	2.7	7.7
Arthropoda				
Cephalocarida				
Hutchinsoniella macracantha				1.7

Experimental Station A7

Phylum Class or Order Species	Month			
	22 Apr	12 May	29 May	17 Jun
Nemertea				
Cerebratulus lacteus	0.3	1.7	1.3	0.3
Tubulanus pellucidus	1.0	0.3		0.3
Mollusca				
Gastropoda				
Nassarius trivittatus		0.3	0.3	
Retusa obtusa		0.3		
Bivalvia				
Mulinia lateralis	8.3	24.7	132.7	217.7
Nucula proxima		0.7	6.0	34.3
Pitar morrhuana				0.3
Yoldia limatula	0.3		0.3	0.7
Annelida				
Polychaeta				
Cossura longocirrata				5.7
Glycera americana		0.3		
Mediomastus ambiseta				10.3
Nephtys incisa	1.0	2.3	4.3	11.7
Nephtys sp.	0.3			
Pherusa affinis			0.3	
Oligochaeta				
Sp. unidentified		0.3		2.0

Experimental Station A7 (concluded)

Phylum Class or Order Species	Month			
	22 Apr	12 May	29 May	17 Jun
Arthropoda				
Ostracoda				
Sarsiella zostericola				1.0

Experimental Station A8

Phylum Class or Order Species	22 Apr	12 May	29 May	17 Jun
	Month			
Cnidaria				
Hydrozoa				
Thuiaria argentea		*		
Thuiaria similis			*	
Nemertea				
Cerebratulus lacteus		0.7	0.7	
Tubulanus pellucidus	0.3	0.3	0.3	
Sipunculida				
Sp. unidentified			0.3	
Mollusca				
Gastropoda				
Nassarius trivittatus	0.3		0.3	0.3
Bivalvia				
Mulinia lateralis	3.3	15.7	98.7	606.7
Nucula proxima			3.7	25.3
Pitar morrhuana				1.3
Annelida				
Polychaeta				
Cossura longocirrata			2.3	

*Present, but not quantified.

Experimental Station A8 (concluded)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Mediomastus ambiseta				0.3
Nephtys incisa	1.0	1.7	5.3	6.7
Arthropoda				
Decapoda				
Crangon septemspinosa			0.3	
Crangon septemspinosa (post-larvae Stage VI)				0.3
Pinnixa sayana			0.3	
Unidentified Zoea		0.3		

Experimental Station A9

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Nemertea				
Cerebratulus lacteus	0.3	1.0	0.7	0.7
Tubulanus pellucidus	0.3			0.7
Mollusca				
Gastropoda				
Nassarius trivittatus		0.3	0.7	2.3
Bivalvia				
Mulinia lateralis	29.7	7.3	44.7	480.3
Nucula proxima			2.3	29.3
Pitar morrhuana				0.7
Yoldia limatula	0.3		1.2	0.7
Annelida				
Polychaeta				
Cossura longocirrata				1.0
Glycera americana				0.3
Mediomastus ambiseta				6.7
Nephtys incisa	3.3		1.7	12.3
Pherusa affinis		0.3		
Arthropoda				
Ostracoda				
Neonesidea sp.	0.3			

Experimental Station A9 (continued)

Phylum Class or Order Species	Month			
	22 Apr	12 May	29 May	17 Jun
Decapoda				
Cancer irroratus (Zoea I)		1.7		
Crangon septemspinosa (post-larva Stage IV)				0.3
Pinnixa chaetopterana		0.3		
Echinodermata				
Asterias forbesi	0.3			

Experimental Station A10

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Cnidaria				
Hydrozoa				
Thuiaria sp.		*		
Anthozoa				
Athenaria sp.			0.3	
Stomphia coccinea				0.3
Nemertea				
Cerebratulus lacteus	1.0	1.3	1.0	2.3
Tubulanus pellucidus		3.0		
Mollusca				
Bivalvia				
Lyonsia hyalina		0.3		0.3
Mulinia lateralis	1.7	3.7	33.0	29.0
Nucula proxima	0.3		3.0	19.0
Yoldia limatula	0.3	0.3		0.3
Annelida				
Polychaeta				
Glycera americana		0.3	0.3	0.3
Lumbrinereis fragilis	0.3			
Mediomastus ambiseta				0.3

* Present, but not quantified.

Experimental Station A10 (concluded)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Nephtys incisa	2.7	3.3	4.7	7.0
Pherusa affinis	0.3	1.0		
Sigambra sp.				0.3
Arthropoda				
Cephalocarida				
Hutchinsoniella macracantha	6.0		7.7	0.7
Copepoda				
Harpacticoida sp.			0.3	
Decapoda				
Pinnixa chaetopterana				0.3

Experimental Station All

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Cnidaria				
Hydrozoa				
Padocoryne carnea			*	
Thuiaria sp.		*		
Anthozoa				
Athenaria sp.			0.3	
Nemertea				
Cerebratulus lacteus	0.7	1.0	1.7	1.0
Tubulanus pellucidus			0.3	0.3
Sipunculida				
Sp. unidentified	0.3			
Mollusca				
Gastropoda				
Nassarius trivittatus			2.7	0.3
Bivalvia				
Mulinia lateralis		3.0	197.0	65.7
Nucula proxima		0.3	19.0	6.7
Pitar morrhuana			0.3	
Yoldia limatula			0.3	

* Present, but not quantified.

Experimental Station All (concluded)

Phylum Class or Order Species	Month			
	22 Apr	12 May	29 May	17 Jun
Annelida				
Polychaeta				
Cossura longocirrata				0.3
Glycera americana			0.3	0.7
Mediomastus ambiseta				0.7
Nephtys incisa	2.0	3.7	2.0	3.7
Arthropoda				
Cephalocarida				
Hutchinsoniella macracantha		0.3		0.7
Ostracoda				
Sarsiella zostericola			0.3	
Mysidacea				
Neomysis americana	0.7	0.3		

Experimental Station A12

Phylum Class or Order Species	22 Apr	12 May	29 May	17 Jun
	Month			
Cnidaria				
Anthozoa				
Athenaria sp.			0.3	
Ceriantheopsis americanus			0.3	
Nemertea				
Cerebratulus lacteus	0.3	1.0	0.3	0.7
Tubulanus pellucidus	1.0	0.3		
Mollusca				
Gastropoda				
Nassarius trivittatus				0.7
Bivalvia				
Mulinia lateralis		4.3	4.3	47.0
Nucula proxima	1.7	0.7	4.0	15.0
Pitar morrhuana	1.0			
Yoldia limatula			0.3	0.3
Annelida				
Polychaeta				
Glycera sp.		0.3		
Glycera americana				0.3
Maldanidae sp.	0.7			
Maldanopsis elongata	0.3			
Mediomastus ambiseta				0.3

<u>Experimental Station A12</u> (concluded)

Phylum Class or Order Species	Month			
	22 Apr	12 May	29 May	17 Jun
Nephtys incisa	2.3	2.3	3.3	3.3
Pherusa affinis			0.3	
Oligochaeta				
Sp. unidentified	0.7			
Arthropoda				
Cephalocarida				
Hutchinsoniella macracantha	0.7			
Copepoda				
Harpacticoida sp.	0.7			
Decapoda				
Crangon septemspinosa (post-larva, Stage VI)				0.3

Experimental Station A13

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May*	 17 Jun
Nemertea				
Cerebratulus lacteus	0.3	0.7		0.3
Mollusca				
Bivalvia				
Mulinia lateralis	1.7	0.3		46.0
Nucula proxima	0.3			16.7
Annelida				
Polychaeta				
Aricidea cerruti	0.7			
Glycera americana	0.3			0.3
Nephtys incisa	0.7	1.0		9.7
Pectinaria gouldii				0.3
Arthropoda				
Ostracoda				
Sarsiella zostericola				0.3
Copepoda				
Harpacticoida sp.		0.3		
Insecta				
Diptera				0.3

* No sample.

Experimental Station A14

Phylum Class or Order Species	Month 22 Apr	12 May	29 May	17 Jun
Cnidaria				
Hydrozoa				
Calycella syringa	*			
Campanularidae sp.	*			
Opercularella pumila	*			
Thuiaria similis	*			
Anthozoa				
Metridium senile				0.3
Nemertea				
Cerebratulus lacteus	0.7	0.3		0.3
Tubulanus pellucidus	0.3	0.3		0.3
Nematoda				
Sp. unidentified				0.3
Ectoprocta				
Alcyonidium verrilli				*
Callopora aurita				*
Cribrilina punctata				*
Electra sp.				*
Membranipora tenuis				*

* Present, but not quantified.

Experimental Station A14 (continued)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Mollusca				
Gastropoda				
Crepidula plana				1.7
Doridella obscura				0.7
Nassarius trivittatus				4.7
Bivalvia				
Lyonsia hyalina				14.3
Mulinia lateralis	6.0	2.7	11.3	
Nucula proxima	0.3	0.3		
Pitar morrhuana			0.3	0.3
Yoldia limatula				0.3
Annelida				
Polychaeta				
Lepidimetria commensalis				2.0
Mediomastus ambiseta				3.0
Nephtys incisa	1.3	0.7	2.0	9.3
Pherusa arenosa				3.3
Oligochaeta				
Sp. unidentified				0.3
Arthropoda				
Cephalocarida				
Hutchinsoniella macracantha			0.3	0.3

Experimental Station A14 (concluded)

Phylum Class or Order Species	22 Apr	12 May	29 May	17 Jun
	Month			
Ostracoda				
Sarsiella zostericola				0.3
Mysidacea				
Neomysis americana		0.3		
Decapoda				
Cancer irroratus (Zoea I)		0.3		
Cancer irroratus (Zoea IV)				0.7
Neopanope texana sayi				0.7
Insecta				
Collembola sp.		0.3		
Chelicerata sp.			0.3	

Experimental Station A15

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Nemertea				
Cerebratulus lacteus	1.3	0.7	0.3	1.0
Tubulanus pellucidus				1.7
Mollusca				
Bivalvia				
Mulinia lateralis	1.3	1.3	36.0	299.7
Nucula proxima			1.0	25.3
Yoldia limatula		0.3		1.0
Annelida				
Polychaeta				
Mediomastus ambiseta				3.7
Nephtys incisa	1.0	1.0	5.0	10.3
Pherusa affinis	0.3			
Arthropoda				
Cephalocarida				
Hutchinsoniella macracantha	3.7			
Copepoda				
Harpacticoida sp.	0.3			
Mysidacea				
Neomysis americana		1.3		

Experimental Station EB2

Phylum Class or Order Species	Month 22 Apr	12 May	29 May	17 Jun
Cnidaria				
Hydrozoa				
Campanularidae sp.		*		
Thuiaria argentea		*	*	*
Thuiaria similis		*	*	*
Anthozoa				
Ceriantheopsis americanus		0.3		1.3
Metridium senile				20.3
Nemertea				
Cerebratulus lacteus		0.3	0.3	0.3
Tubulanus pellucidus	0.7	1.3	2.3	
Ectoprocta				
Barentsia sp.		*		
Callopora aurita	*			*
Membranipora tenuis	*			*
Mollusca				
Gastropoda				
Nassarius trivittatus		0.7		0.3

* Present, but not quantified.

Experimental Station EB2 (continued)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Bivalvia				
Lyonsia hyalina				0.3
Mulinia lateralis		1.0	2.3	1.0
Nucula proxima		0.3		
Pitar morrhuana		0.7		
Yoldia limatula				0.7
Annelida				
Polychaeta				
Cirriformia grandis				2.0
Cossura longocirrata				0.3
Glycera americana				0.3
Lepidemetria commensalis				2.0
Maldanidae sp.			0.7	
Mediomastus ambiseta				19.0
Nephtys incisa	3.7	2.3	4.0	7.0
Nereis succinea				0.3
Nichomache lumbricalis			0.3	
Pectinaria gouldii				0.3
Pherusa arenosa				3.7
Potamilla neglecta				1.0
Potamilla reniformis				1.3
Sabellaria vulgaris				0.7
Pherusa affinis				0.7
Sigambra sp.		0.7		
Syllis gracilis				0.3

Experimental Station EB2 (concluded)

Phylum Class or Order Species	Month 22 Apr	12 May	29 May	17 Jun
Oligochaeta				
Sp. unidentified		0.3	1.7	0.3
Arthropoda				
Cephalocarida				
Hutchinsoniella macracantha		0.3		
Copepoda				
Harpacticoida sp.				0.3
Amphipoda				
Paracaprella tenuis				0.3
Aeginina longicornis		1.0		0.3
Luconacia incerta		0.7		
Parametopella cypris	0.7	0.3		
Decapoda				
Xanthidae sp.				0.7
Insecta				
Dipteran			0.3	
Hemipteran				0.3
Hymenopteran				0.3

Experimental Station EB11

Phylum Class or Order Species	Month			
	22 Apr	12 May	29 May	17 Jun
Cnidaria				
Hydrozoa				
Thuiaria argentea		*		
Thuiaria similis				*
Anthozoa				
Ceriantheopsis americanus	0.3	0.7		0.3
Mollusca				
Gastropoda				
Nassarius trivittatus		0.3		
Bivalvia				
Mulinia lateralis		0.3	0.3	
Nucula proxima		0.7	2.7	0.3
Yoldia limatula			0.3	0.3
Annelida				
Polychaeta				
Aricidea cerruti		1.3		
Maldanidae sp.		0.3		
Nephtys incisa		0.7	1.3	1.0
Pherusa affinis	0.3			
Polydora websteri		0.3		

* Present, but not quantified.

Experimental Station EB11 (concluded)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Oligochaeta				
Sp. unidentified		0.3		
Arthropoda				
Insecta				
Hemipteran			0.3	

APPENDIX C': MEAN NUMBER OF MACROFAUNAL INVERTEBRATES COLLECTED BY AN EPIBENTHIC SLED, REPLICATES 1, 2, AND 3

Experimental Station EB3

Phylum Class or Order Species	Month 21 Dec	 27-28 Feb	 13 May
Cnidaria			
Hydrozoa			
Campanularia sp.		*	
Hydrallmania falcata	*		
Obelia flabellata		*	
Obelia sp.		*	
Podocoryne carnea		*	*
Thuiaria argentea		*	
Thuiaria similis		*	
Anthozoa			
Metridium senile	0.7	0.3	
Entoprocta			
Barentsia sp.		*	
Ectoprocta			
Aeverrillia armata		*	
Alcyonidium verrilli		*	
Bowerbankia sp.		*	
Bugula sp.		*	
Mollusca			
Gastropoda			
Coryprella verrucosa			1.7
Cratena aurantia		0.7	
Crepidula fornicata		0.7	
Crepidula plana		3.7	0.3
Cutnona concinna		1.3	
Cylichna alba	1.3		
Epitonium humphreysii		0.3	
Lunatia heros	0.3		0.3

* Present, not quantified.

Experimental Station EB3 (continued)

Phylum Class or Order Species	Month 21 Dec	 27-28 Feb	 13 May
Lunatia triseriata		13.3	2.0
Mitrella lunata			0.3
Nassarius trivittatus	1,477.3	9,924.0	3,279.3
Retusa obtusa	1.0	31.0	89.7
Bivalvia			
Lyonsia hyalina	0.3	56.3	3.3
Mulinia lateralis	11,134.0	41,144.3	34,491.0
Nucula proxima	370.7	453.0	6,669.7
Pandora gouldiana	3.0	46.7	36.3
Petricola pholadiformis			3.7
Pitar morrhuana		2.3	14.0
Tellina agilis		2.7	0.3
Yoldia limatula	8.7	85.7	36.0
Annelida			
Polychaeta			
Glycera dibranchiata			0.3
Glycera americana	0.3		
Hypaniola grayi			0.7
Nephtys incisa	14.0	51.7	31.3
Pectinaria gouldii	1.0	6.1	1.0
Pherusa affinis			0.3
Arthropoda			
Pycnogonida			
Anoplodactylus petiolatus		0.7	0.3
Anoplodoctylus sp.		0.3	
Acarina			
Sp. unidentified			0.3
Isopoda			
Edotea triloba		1.7	
Edotea montosa			0.7

Experimental Station EB3 (concluded)

Phylum Class or Order Species	Month 21 Dec	 27-28 Feb	 13 May
Amphipoda			
Aeginina longicornis		0.3	
Ampelisca vadorum	0.3	0.7	1.0
Mysidacea			
Mysidacea sp.		17.3	
Neomysis americana	1.0	216.3	1,072.3
Decapoda			
Cancer irroratus	1.7	2.0	2.0
Crangon septemspinosa	201.3	165.0	82.3
Libinia dubia		0.3	
Neopanope texana sayi	1.0		
Pagurus longicarpus	3.0	140.0	49.7
Pagurus sp.		7.1	
Paleomonetes vulgaris	0.3		
Pelia mutica			0.3
Pinnixa sayana	0.7	4.7	
Xanthidae sp.		0.7	
Echinodermata			
Asteroidea			
Asterias forbesi	0.3	1.0	

Experimental Station EB4

Phylum Class or Order Species	Month 21 Dec	 27-28 Feb	 13 May
Porifera			
Haliclona oculata	*	*	*
Cnidaria			
Hydrozoa			
Bougainvilla carolinensis	*		
Calcella syringa		*	*
Campanularia sp.		*	*
Eudendrium sp.			*
Halecium sp.	*	*	
Hydrallmania falcata		*	
Obelia commissuralis		*	
Obelia flabellata		*	
Obelia sp.			*
Opercularella pumila		*	
Pennaria tiarella		*	
Podocoryne carnea			*
Thuiaria argentea	*	*	*
Thuiaria similis		*	*
Thuiaria sp.			*
Tubularidae sp.		*	
Anthozoa			
Astrangia danae	*	*	*
Metridium senile	49.7	20.7	3.3
Nematoda			
Sp. unidentified			0.7
Ectoprocta			
Aeverrillia armata		*	*
Alcyonidium verrilli	*	*	*

* Present, not quantified.

Experimental Station EB4 (continued)

Phylum Class or Order Species	Month 21 Dec	 27-28 Feb	 13 May
Bowerbankia sp.	*	*	*
Bugula sp.	*		*
Callopora aurita		*	*
Cribrilina punctata		*	*
Electra monostachys		*	
Lichenopora sp.	*		
Membranipora tenuis	*	*	*
Microporella ciliata		*	
Microporella sp.	*		
Schizoporella unicornis	*	*	*
Mollusca			
Gastropoda			
Aeolidacea sp.		0.7	
Coryphella venucosa		0.7	4.3
Crepidula fornicata	58.7	31.3	1.7
Crepidula plana	531.7	49.3	0.3
Cuthona conclinna		0.7	
Epitonium humpreysii		1.7	
Lunatia heros	5.0	0.7	
Lunatia triseriata		0.7	0.3
Mitrella lunata	30.3	4.0	5.3
Nassarius trivittatus	8,935.0	1,156.7	1,179.7
Odostomia bisuturalis	5.3		
Odostomia soninuda	1.3		
Retusa obtusa	55.0		0.7
Turbonilla interrupta	3.0		
Turbonilla sp.	6.3		
Urosalpinx cinera	2.7	0.7	
Bivalvia			
Anadara transvera	68.3	12.7	1.0
Astarte undata	0.3		0.7

Experimental Station EB4 (continued)

Phylum Class or Order Species	21 Dec	27-28 Feb	13 May
Barnea truncata	0.3		
Gemma gemma	1.3		
Lyonsia hyalina	155.7	8.0	7.0
Mercenaria mercenaria	0.3		
Mulinia lateralis	40,787.3	844.7	5,584.7
Musculus niger	0.3		0.3
Mytilus edulis	0.3		
Nucula proxima	521.7	16.0	476.0
Pandora gouldiana	41.7	4.7	12.3
Petricola pholadiformis	86.7	2.7	1.0
Pitar morrhuana	35.7	21.3	169.0
Tellina agilis	21.3	6.7	3.3
Yoldia limatula	49.7	14.7	9.7
Annelida			
Polychaeta			
Amphitrite affinis	2.7		
Autolytus sp.			0.3
Axiothella catenata		2.7	
Chaetozone setosa	41.3		
Cirriformis grandis	5.3		
Hypaniola grayi			1.0
Hydroides dianthus			0.3
Lepidametria commensalis			1.0
Lepidonotus squamatus	7.7	2.7	
Lumbrineris tenuis			0.3
Maldanidae sp.			0.7
Mediomastus ambiseta			1.0
Nephtys incisa	107.3	14.0	17.3
Nereis arenaceodonata	118.7		
Nereis sp.			0.3
Notomastus sp.	2.7		

Experimental Station EB4 (continued)

Phylum Class or Order Species	Month 21 Dec	 27-28 Feb	 13 May
Pectinaria gouldii	10.0	6.0	1.7
Phyllodoce arenae	5.3		0.3
Polynoidae sp.		0.7	
Potamilla reniformis	25.0	4.0	1.0
Sabella microphthalma	10.7	1.3	1.0
Sabellaria vulgaris	83.7	20.7	2.3
Sabellaria sp.			0.3
Arthropoda			
Pycnogonida			
Sp. unidentified			0.3
Cirrepedia			
Balanus amphitrite niveus			0.3
Balanus sp.	75.7	138.7	1.0
Isopoda			
Edotea triloba		0.7	
Edotea montosa			0.3
Amphipoda			
Ampelisca vadorum	21.3	18.7	0.3
Corophium tuberculatum			0.3
Erichthonius brasiliensis		4.7	
Luconacia incenta		9.3	
Parametopella cypris			0.3
Unciola irrorata		6.7	0.3
Mysidacea			
Heteromysis formosa		2.7	
Mysidacea sp.		9.3	
Neomysis americana	1.3	14.7	102.0
Decapoda			
Cancer irroratus	1.3	1.3	
Crangon septemspinosa	204.0	50.0	22.0
Crangon sp. (Zoea I)			22.7

Experimental Station EB4 (concluded)

Phylum Class or Order Species	Month 21 Dec	 27-28 Feb	 13 May
Eurypanopeus depressus	3.0		
Libinia dubia	0.3	1.3	0.3
Neopanope texana sayi	37.7	4.7	1.0
Pagurus longicarpus	317.0	154.0	13.7
Pagurus pollicaris	0.7		
Pagurus sp.		2.7	
Pinnixa chaetopterana	1.7		
Pinnixa sayana	1.7	0.7	
Pinnixa sp.	0.3	0.7	0.3
Pinnotherus osterum	1.3		
Xanthidae sp.	16.3	5.3	

Experimental Station EB9

Phylum Class or Order Species	Month 21 Dec	 27-28 Feb	 13 May
Porifera			
Haliclona oculata		*	*
Cnidaria			
Hydrozoa			
Bougainvilla carolinensis	*		
Calycella syringa			*
Campanularia sp.		*	*
Halecium sp.	*		
Hydrallmania falcata	*		
Obelia sp.		*	
Podocoryne carnea		*	*
Thuiaria argentea	*	*	*
Thuiaria similis			*
Thuiaria sp.		*	*
Tubularidae sp.			*
Anthozoa			
Astrangia danae	–	–	–
Metridium senile	7.3		1.0
Entoprocta			
Barentsia sp.			*
Ectoprocta			
Aeverillia armata			*
Alcyonidium verrilli	*	*	*
Bowerbankia gracilis	*		*
Bugula sp.	*		*
Callopora aurita	*	*	*
Cribilina punctata			*
Hippothoa hyalina	*		

* Present, not quantified

Experimental Station EB9 (continued)

Phylum Class or Order Species	Month 21 Dec	 27-28 Feb	 13 May
Hippoporina porosa			*
Hippoporina sp.			*
Lichenopora sp.	*		
Membranipora tenuis	*	*	*
Microporella sp.	*		
Mollusca			
Gastropoda			
Coryphella verrucosa			41.0
Crepidula fornicata	30.0		7.7
Crepidula plana	30.0	0.7	75.7
Doridella obscura			0.7
Eupleura caudata			0.3
Lunatia heros	3.0		
Lunatia triseriata		2.0	1.0
Mitrella lunata	94.0	2.0	10.0
Nassarius trivittatus	11,856.7	1,767.0	1,145.3
Retusa obtusa			1.3
Turbonilla interrupta	1.0		
Bivalvia			
Anadara transversa	0.7		0.3
Astarte undata	12.7		
Lyonsia hyalina	26.3	0.7	10.3
Mulinia lateralis	688.7	462.7	541.7
Musculus niger	0.3		1.0
Nucula proxima	417.3	1,081.7	6.849.3
Pandora gouldiana	10.3	7.3	
Petricola pholadiformis			2.0
Pitar morrhuana	77.0	5.0	11.7
Tellina agilis	160.7	16.0	16.0
Yoldia limatula	36.7	104.0	11.3

Experimental Station EB9 (continued)

Phylum Class or Order Species	Month 21 Dec	 27-28 Feb	 13 May
Annelida			
Polychaeta			
Ampharetidae sp.			1.3
Axiothella catenata	0.3		
Chaetozone setosa			1.0
Hypaniola grayi			0.3
Lepidemetria commensalis			2.7
Lepidonotus squamatus	1.7		
Maldanidae sp.			2.7
Maldane sarsi			3.3
Nephtys incisa	14.7	53.7	21.0
Nereis arenaceodonata	0.7		
Nereis succinea			0.3
Nereis virens			0.3
Nichomache lumbricalis			1.7
Pectinaria gouldii	3.3		2.0
Pherusa arenosa			0.3
Polydora websteri	0.3	1.3	
Potamilla reniformis	1.3		14.3
Sabellaria vulgaris	31.3		1.0
Arthropoda			
Copepoda			
Temora longicornis			1.3
Cirrepedia			
Balanus amphitrite niveus	0.3		1.3
Balanus sp.	20.3	10.3	75.3
Amphipoda			
Aeginina longicornis			1.0
Ampelisca vadorum	1.7		0.3

Experimental Station EB9 (Concluded)

Phylum Class or Order Species	Month		
	21 Dec	27-28 Feb	13 May
Stenopleustes gracilis			0.3
Unciola irrorata			0.3
Mysidacea			
Heteromysis formosa		5.3	
Mysidacea sp.		16.3	
Neomysis americana		91.0	310.3
Decapoda			
Cancer irroratus	8.3	2.7	0.7
Crangon septemspinosa	323.7	96.7	109.7
Libinia emarginata	0.7		
Neopanope texana sayi	9.0		4.0
Pagurus longicarpus	348.7	115.7	20.0
Pagurus pollicaris	1.3		
Pagurus sp.		1.3	
Panopeus herbesti	0.3		0.3
Pinnixa chaetopterana	0.7		
Pinnixa sayana	1.3		
Pinnixa sp.	0.3		
Xanthidae sp.	0.7	0.7	
Echinodermata			
Asteroidea			
Asterias forbesi			1.0
Henricia sanguinolenta	0.7		
Chaetognatha			
Sp. unidentified			1.0

Experimental Station EB11

Phylum / Class or Order / Species	21 Dec	27-28 Feb	13 May
Cnidaris			
Hydrozoa			
Podocoryne carnea		*	*
Thuiaria argentea	*		
Thuiaria sp.		*	*
Anthozoa			
Sp. unidentified		0.3	
Mollusca			
Gastropoda			
Crepidula plana	0.3		
Lunatia heros	0.7		1.0
Lunatia triserata		0.7	0.3
Nassarius trivittatus	3,515.7	1,089.3	1,466.0
Bivalvia			
Lyonsia hyalina	1.3		0.3
Mulinia lateralis	89.3	7.3	31.7
Nucula proxima	1,201.0	651.0	2,983.0
Pandora gouldiana	5.3	2.7	2.0
Pitar morrhuana	8.0	1.0	2.7
Tellina agilis	4.7	1.0	0.3
Yoldia limatula	12.3	9.7	7.0
Annelida			
Polychaeta			
Nephtys incisa	108.7	71.0	25.0
Pherusa arenosa			0.3
Arthropoda			
Pycnogonida			
Anophodadylus parvus			0.3

* Present, not quantified.

Experimental Station EB11 (concluded)

Phylum Class or Order Species	Month 21 Dec	 27-28 Feb	 13 May
Amphipoda			
Aeginina longicornis		0.3	0.7
Ampelisca vadorum			0.7
Orchomenella pinguis		0.7	
Unciola irrorata	--	--	--
Sp. unidentified			0.3
Mysidacea			
Heteromysis formosa		0.3	
Neomysis americana	8.7	2.7	135.7
Sp. unidentified		0.3	
Decapoda			
Cancer irroratus	0.3	0.3	1.3
Crangon septemspinosa	103.0	2.0	10.3
Pagurus longicarpus	32.0	8.0	6.0
Pinnixa pollicaris	0.3		
Pinnixa chaetopterana	0.3		
Pinnixa sayana	0.7		
Pinnixa sp.			0.3
Xanthidae sp.	0.7		
Echinodermata			
Asteroidea			
Asterias forbesi	12.0	2.0	5.7
Chaetognatha			
Sp. unidentified			4.7

APPENDIX D': MEAN NUMBER OF MEIOFAUNAL INVERTEBRATES, REPLICATES 1, 2, AND 3

Experimental Station EB3 (Upper 5 cm)

Phylum / Class or Order / Species	Month				
	29-31 Oct*	6 Dec	21 Jan	20 Feb	1 Apr
Platyhelminthes					
Turbellaria					
Sp. unidentified					2.0
Nemertea					
Sp. unidentified	21.0				
Kinorhyncha					
Echinoderes sp.			0.3		0.3
Pychophyes frequens (larva)					0.3
Trachydemus mainensis		0.7	1.3	0.3	0.3
Trachydemus mainensis (larva)			0.3		
Sp. unidentified		0.3			
Nematoda					
Sp. unidentified	387.0	182.7	330.3	263.3	171.7
Mollusca					
Gastropoda					
Sp. unidentified (egg case)					0.7
Pelecypoda					
Sp. unidentified	1.0		0.3	0.3	
Annelida					
Polychaeta					
Capitellidae sp.		0.3			
Cossura longocirrata		0.3	1.0	0.7	0.3
Mediomastus ambiseta	1.0		2.0	2.7	2.0
Pilgaridae sp.				0.7	
Polygordius triestinus	2.0				
Sp. unidentified	4.0	1.7	1.3	0.3	0.3

* October value is not a mean since only one replicate was collected.

Experimental Station EB3 (Upper 5 cm) (concluded)

Phylum Class or Order Species	Month 29-31 Oct	 6 Dec	 21 Jan	 20 Feb	 1 Apr
Oligochaete					
Sp. unidentified	17.0	0.3	1.0	0.3	
Arthropoda					
Acarina					
Halacaridae sp.	6.0				0.6
Ostracoda					0.6
Cytheromorpha sp.				0.3	0.3
Loxoconcha granulata					0.3
Sp. unidentified	3.0			0.3	0.3
Copepoda					
Harpacticoida sp. unidentified	93.0	6.7	6.0	12.0	8.0
Sp. unidentified (Nauplii)	4.0			0.3	0.7
Sp. unidentified		0.3		5.0	
Unidentified larva	4.0	0.3	0.3	1.7	0.7

Experimental Station EB3 (Below 5 cm)

Phylum Class or Order Species	Month 29-31 Oct*	6 Dec	21 Jan	20 Feb	1 Apr
Nematoda					
Sp. unidentified	36.0	3.0	33.7	25.3	3.7
Annelida					
Polychaeta					
Cossura longocirrata			0.3		1.0
Mediomastus ambieseta			0.3		0.7
Arthropoda					
Acarina					
Halacaridae sp.					0.3
Ostracoda					
Sp. unidentified	2.0				
Loxoconcha granulata			0.3		
Copepoda					
Harpacticoida sp.	2.0		1.0		
Unidentified larva					0.3

* October value is not a mean since only one replicate was collected.

Experimental Station EB4 (Upper 5 cm)

Phylum / Class or Order / Species	Month: 29-31 Oct*	6 Dec	21 Jan	20 Feb	1 Apr
Platyhelmintha					
Turbellaria					
Sp. unidentified					2.3
Kinorhyncha					
Pycnophyes frequens					0.7
Pycnophyes frequens (larva)					0.7
Trachydemus mainensis					1.3
Nematoda					
Sp. unidentified		15.3	53.0	42.3	199.7
Annelida					
Polychaeta					
Cossura longocirrata		0.3	0.3	0.3	1.0
Hypaniola grayi					0.3
Mediomastus ambiseta		0.3	0.3	0.3	1.3
Polygordius triestinus		0.3			
Maldanidae sp.					0.3
Pilgaridae sp.					0.3
Sp. unidentified		0.3	1.7		0.7
Oligochaeta					
Sp. unidentified		0.7		0.3	
Arthropoda					
Acraina					
Halacaridae sp.					0.3
Ostracoda					
Cytheromorpha sp.			0.3	0.3	0.3
Sarsiella ozotothrix					0.3

* No sample taken in October.

Experimental Station EB4 (Upper 5 cm) (concluded)

Phylum Class or Order Species	Month 29-31 Oct	6 Dec	21 Jan	20 Feb	1 Apr
Copepoda					
Harpacticoida sp.			1.7	1.3	36.7
Sp. unidentified (nauplii)					4.3
Sp. unidentified					0.6

Experimental Station EB4 (Below 5 cm)

Phylum Class or Order Species	Month 29-31 Oct*	 6 Dec	 21 Jan	 20 Feb	 1 Apr
Nematoda					
Sp. unidentified		1.0	2.0	2.0	1.3
Annelida					
Polychaeta					
Sp. unidentified				0.3	
Arthropoda					
Acarina					
Halacaridae sp.					0.3
Ostracoda					
Schlerochilus contortus		0.3			
Copepoda					
Harpacticoida sp.		0.3			0.3

* No sample taken in October.

Experimental Station EB9 (Upper 5 cm)

Phylum Class or Order Species	Month 29-31 Oct*	 6 Dec	 21 Jan	 20 Feb	 1 Apr
Platyhelminthes					
Turbellaria					
Sp. unidentified	26.0	7.3	0.3	2.3	
Nemertea					
Sp. unidentified	1.0	1.3			
Kinorhyncha					
Pycnophyes frequens	1.0		0.3	1.3	
Pycnophyes frequens (larva)	2.0	0.3		1.3	
Trachydemus mainensis	10.0	2.0	1.0	1.3	
Trachydemus mainensis (larva)	6.0			0.3	
Sp. unidentified	2.0				
Nematoda					
Sp. unidentified	2214.0	527.7	315.7	704.7	108.3
Mollusca					
Gastropoda					
Sp. unidentified (egg case)			0.7	2.7	
Pelecypoda					
Sp. unidentified	8.0	0.3		0.3	
Annelida					
Polychaeta					
Cirratulidae sp.	1.0				
Cirriformia grandis	1.0				
Cossura longocirrata	1.0	0.3		0.3	
Dodecaceria sp.	1.0				
Hypaniola grayi	1.0				
Mediomastus ambiseta	14.0	1.3	0.7	2.3	
Polycirrus sp.	1.0				

* October value is not a mean since only one replicate was collected.

Experimental Station EB9 (Upper 5 cm) (concluded)

Phylum Class or Order Species	Month 29-31 Oct	6 Dec	21 Jan	20 Feb	1 Apr
Polygordius triestinus		0.3			
Protodorvillea gaspeensis	1.0				
Maldanidae sp.		0.3			
Pilgaridae sp.		0.3			
Spionidae sp.	1.0				
Terebellidae sp.	2.0				
Sp. unidentified	14.0	2.7	0.7	2.0	
Oligochaeta					
Sp. unidentified	25.0	5.7	0.3	4.7	
Arthropoda					
Cephalocarida					
Hutchinsoniella macracantha	1.0				
Acarina					
Halacaridae sp.	3.0	1.7		0.7	0.3
Ostracoda					
Cytheromorpha sp.	2.0	0.3			0.3
Loxoconcha granulata		0.3			0.3
Loxoconcha sperata				0.3	
Sp. unidentified	9.0			1.7	
Sarsiella zostericola	3.0				
Semicythera nigresens				0.3	
Copepoda					
Harpacticoida sp.	134.0	9.0	1.3	40.0	1.7
Sp. unidentified (nauplii)	10.0			1.0	0.3
Sp. unidentified		2.0		2.3	
Unidentified larva	5.0	0.3			

Experimental Station EB9 (Below 5 cm)

Phylum Class or Order Species	Month 29-31 Oct*	6 Dec	21 Jan	20 Feb	1 Apr
Platyhelminthes					
Turbellaria					
Sp. unidentified	1.0	0.7	0.3		0.3
Kinorhyncha					
Trachydemus mainensis	1.0				
Trachydemus mainensis (larva)	1.0				
Sp. unidentified	2.0				
Nematoda					
Sp. unidentified	346.0	42.3	119.7	100.7	13.3
Mollusca					
Gastropoda					
Sp. unidentified (egg case)				0.7	
Pelecypoda					
Sp. unidentified	2.0				
Annelida					
Polychaeta					
Dodecaceria sp.	1.0				
Malanidae sp. unidentified		0.3			
Mediomastus ambiseta	4.0			0.3	
Polygordius triestinus	--	--	--	--	--
Sp. unidentified	1.0	0.3			0.3
Oligochaeta					
Sp. unidentified	3.0				
Arthropoda					
Acarina					
Halacaridae sp.		0.3		0.7	

* October value is not a mean since only one replicate was collected.

Experimental Station EB9 (Below 5 cm) (concluded)

Phylum Class or Order Species	Month 29-31 Oct	 6 Dec	 21 Jan	 20 Feb	 1 Apr
Cephalocarida					
Hutchinsoniella macracantha	4.0				
Ostracoda					
Sp. unidentified	2.0	0.3			
Cytheromorpha sp.		0.3			
Schlerochilus contortus					0.3
Copepoda					
Sp. unidentified		0.7	0.3		
Sp. unidentified (nauplii)	1.0				
Harpacticoida sp.	22.0	0.3			0.3
Unidentified larva	1.0				

Control Station EB11 (Upper 5 cm)

Phylum Class or Order Species	Month 29-31 Oct*	6 Dec	21 Jan	20 Feb	1 Apr
Platyhelminthes					
Turbellaria					
Sp. unidentified		0.3		0.3	
Kinorhyncha					
Sp. unidentified				0.3	
Nematoda					
Sp. unidentified		37.7	51.3	157.0	17.3
Mollusca					
Pelecypoda					
Sp. unidentified				0.3	
Annelida					
Polychaeta					
Mediomastus ambiseta					0.3
Arthropoda					
Ostracoda					
Cytheromorpha sp.			0.3		
Loxoconcha granulata		0.3			
Copepoda					
Harpacticoida sp.			0.3	2.7	
Sp. unidentified (nauplii)					0.7

* No sample taken in October.

Experimental Station EB11 (Below 5 cm)

Phylum Class or Order Species	29-31 Oct*	6 Dec	21 Jan	20 Feb	1 Apr
Nematoda					
Sp. unidentified		1.3	2.7	3.0	7.3
Annelida					
Polychaeta					
Mediomastus ambiseta			0.3		
Arthropoda					
Acarina					
Halacaridae sp.		0.3			
Ostracoda					
Sp. unidentified			0.3		
Copepoda					
Harpacticoida sp.		0.3			
Sp. unidentified (nauplii)					0.7
Cirripedia					
Sp. unidentified (nauplii)					0.3

* No sample taken in October.

Experimental Station A1 (Upper 5 cm)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Platyhelminthes				
Turbellaria				
Sp. unidentified	0.3			
Kinorhyncha				
Sp. unidentified		0.3		
Nematoda				
Sp. unidentified	15.7	69.0	116.7	43.3
Mollusca				
Gastropoda				
Sp. unidentified (egg case)		0.3	0.3	
Annelida				
Polychaeta				
Cossura longocirrata		0.7		0.3
Mediomastus ambiseta		2.0	0.3	0.7
Pilargidae sp.				0.3
Sp. unidentified (larva type #1)		0.3		
Oligochaeta				
Sp. unidentified		0.3		
Arthropoda				
Acarina				
Halacaridae sp.	--	--	--	--
Copepoda				
Sp. unidentified				1.3
Harpacticoida sp.	0.3	2.3	2.7	2.3
Sp. unidentified (nauplii)	0.3	0.7		0.3
Sp. unidentified				0.7
Unidentified larva	0.3		0.7	

Experimental Station A1 (Below 5 cm)

Phylum Class or Order Species	22 Apr	12 May	29 May	17 Jun
Nematoda				
Sp. unidentified	2.3	1.3	6.0	
Arthropoda				
Ostracoda				
Loxoconcha granulata		0.3		
Copepoda				
Harpacticoida sp.			1.0	
Unidentified larva			0.3	

Experimental Station A2 (Upper 5 cm)

Phylum Class or Order Species	Month 22 Apr*	 12 May	 29 May	 17 Jun
Platyhelminthes				
Turbellaria				
Sp. unidentified		0.3		
Kinorhyncha				
Sp. unidentified				0.3
Trachydemus mainensis (larvae)			0.3	
Nematoda				
Sp. unidentified		149.3	214.0	171.7
Mollusca				
Gastropoda				
Sp. unidentified (egg case)		1.0	2.7	1.7
Annelida				
Polychaeta				
Cossura longocirrata			0.7	0.3
Mediomastus ambiseta		2.3	0.7	1.0
Arthropoda				
Ostracoda				
Sp. unidentified				0.3
Copepoda				
Harpacticoida sp.		16.0	33.3	24.7
Sp. unidentified (nauplii)		4.3	0.7	1.7
Sp. unidentified				0.3
Unidentified larva		3.3	28.7	3.0

* No sample taken.

Experimental Station A2 (Below 5 cm)

Phylum Class or Order Species	Month 22 Apr*	 12 May	 29 May	 17 Jun
Nematoda				
Sp. unidentified		1.7	0.3	6.7
Annelida				
Polychaeta				
Mediomastus ambiseta				0.7
Arthropoda				
Acarina				
Halacaridae sp.		0.3		0.3
Copepoda				
Harpacticoida sp.			0.3	0.3

* No sample taken.

Experimental Station A3 (Upper 5 cm)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Platyhelminthes				
Turbellaria				
Sp. unidentified		0.3		
Kinorhyncha				
Trachydemus mainensis		0.3		0.7
Trachydemus mainensis (larvae)		0.3		
Nematoda				
Sp. unidentified	55.0	173.7	63.0	106.3
Mollusca				
Gastropoda				
Sp. unidentified		0.3		
Annelida				
Polychaeta				
Cossura longocirrata				0.3
Mediomastus ambiseta		4.3		1.7
Pilangidae sp.				0.3
Oligochaeta				
Sp. unidentified		0.3		
Arthropoda				
Acarina				
Halacaridae sp.				0.3
Ostracoda				
Loxoconcha granulata				0.3
Copepoda				
Harpacticoida sp.		12.7	1.0	25.7
Sp. unidentified (nauplii)		5.0		0.3
Unidentified larva		4.0	0.3	3.7

Experimental Station A3 (Below 5 cm)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Kinorhyncha				
Sp. unidentified	0.3			
Trachydemus mainensis (larvae)			0.3	
Nematoda				
Sp. unidentified	28.7	1.7	4.3	2.3
Mollusca				
Gastropoda				
Sp. unidentified (egg case)		0.3		
Annelida				
Polychaeta				
Mediomastus ambiseta		0.7	0.3	
Arthropoda				
Acarina				
Halacaridae sp.		0.3		
Ostracoda				
Loxoconcha granulata				0.3
Copepoda				
Sp. unidentified		0.3		
Harpacticoida sp.	0.7		0.3	

Experimental Station A5 (Upper 5 cm)

Phylum Class or Order Species	Month 22 Apr*	12 May	29 May	17 Jun
Platyhelminthes				
Turbellaria				
Sp. unidentified		0.3	0.3	
Kinorhyncha				
Trachydemus mainensis		0.3		
Trachydemus mainensis (larvae)		0.3	0.3	0.3
Nematoda				
Sp. unidentified		474.7	52.3	209.3
Mollusca				
Gastropoda				
Sp. unidentified (egg case)		1.7		
Annelida				
Polychaeta				
Cossura longocirrata		1.3		0.3
Mediomastus ambiseta		9.7	0.3	1.0
Arthropoda				
Acarina				
Halacaridae sp.		1.0		
Cephalocarida				
Hutchinsoniella macracantha (juv.)				0.3
Ostracoda				
Cythermorpha sp.			0.3	
Copepoda				
Harpacticoida sp.		12.7	6.0	27.0
Sp. unidentified (nauplii)		6.0	0.3	0.3
Unidentified larva		2.3	0.7	2.3

* No sample taken.

Experimental Station A5 (Below 5 cm)

Phylum Class or Order Species	Month 22 Apr*	 12 May	 29 May	 17 Jun
Nematoda				
Sp. unidentified		10.0	1.3	1.0
Arthropoda				
Acarina				
Halacaridae sp.				0.3
Copepoda				
Harpacticoida sp.			0.3	0.3
Unidentified larva		0.3		

* No sample taken.

Experimental Station A6 (Upper 5 cm)

Phylum Class or Order Species	Month 22 Apr*	 12 May	 29 May	 17 Jun
Kinorhyncha				
Sp. unidentified				0.3
Trachydemus mainensis			0.3	
Nematoda				
Sp. unidentified		61.0	35.0	176.0
Mollusca				
Gastropoda				
Sp. unidentified (egg case)				2.0
Annelida				
Polychaeta				
Cossura longocirrata			0.3	1.0
Mediomastus ambiseta		0.5		2.3
Arthropoda				
Acarina				
Halacaridae sp.				0.7
Ostracoda				
Loxoconcha granulata		0.5		
Copeda				
Sp. unidentified				0.3
Harpacticoida sp.		3.5	0.7	31.0
Sp. unidentified (nauplii)				0.7
Unidentified larva		1.5	0.3	6.0

* No sample taken.

Experimental Station A6 (Below 5 cm)

Phylum Class or Order Species	Month 22 Apr*	 12 May	 29 May	 17 Jun
Nematoda				
Sp. unidentified		0.5	0.3	4.7
Annelida				
Polychaeta				
Mediomastus ambiseta			0.3	
Arthropoda				
Ostracoda				
Loxoconcha granulata			0.3	
Copepoda				
Harpacticoida sp.			0.7	0.3
Unidentified larva				0.3

* No sample taken.

Experimental Station A7 (Upper 5 cm)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Platyhelminthes				
Turbellaria				
Sp. unidentified				0.3
Kinorhyncha				
Trachydemus mainensis				0.3
Trachydemus mainensis (larvae)	0.3			
Nematoda				
Sp. unidentified	14.0	20.0	18.0	232.7
Mollusca				
Gastropoda				
Sp. unidentified (egg case)				4.0
Annelida				
Polychaeta				
Cossura longocirrata		1.3	0.3	0.7
Mediomastus ambiseta		0.7	2.3	0.7
Arthropoda				
Acarina				
Halacaridae sp.			0.3	
Ostracoda				
Sp. unidentified				0.3
Copepoda				
Sp. unidentified			0.7	
Harpacticoida sp.	0.3	1.7	17.7	34.3
Sp. unidentified (nauplii)			2.3	1.0
Unidentified larva			1.7	17.3

Experimental Station A7 (Below 5 cm)

Phylum / Class or Order / Species	22 Apr	12 May	29 May	17 Jun
Nematoda				
Sp. unidentified	1.3	4.7	2.3	1.3
Annelida				
Polychaeta				
Cossura longocirrata			0.3	
Mediomastus ambiseta				0.3
Arthropoda				
Unidentified larva				0.7

Experimental Station A9 (Upper 5 cm)

Phylum Class or Order Species	Month 22 Apr*	 12 May	 29 May	 17 Jun
Platyhelminthes				
Turbellaria				
Sp. unidentified		0.3		0.3
Kinorhyncha				
Pycnophyes frequens				0.3
Pycnophyes frequens (larvae)		0.3		
Trachydemus mainensis				1.0
Nematoda				
Sp. unidentified		28.7	15.3	124.0
Mollusca				
Gastropoda				
Sp. unidentified (egg case)				0.7
Annelida				
Polychaeta				
Cossura longocirrata				1.0
Mediomastus ambiseta				2.0
Pilargidae sp.				0.3
Oligochaeta				
Sp. unidentified			0.3	
Arthropoda				
Acarina				
Halacaridae sp.			0.3	0.3
Cephalocarida				
Hutchinsoniella macracantha (juv.)				0.7
Ostracoda				
Sp. unidentified			0.3	

* No sample taken.

Experimental Station A9 (Upper 5 cm) (concluded)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Copepoda				
Sp. unidentified	--	--	--	--
Harpacticoida sp.		1.0	1.0	47.0
Sp. unidentified (nauplii)		1.0	0.7	2.0
Unidentified larva		0.3		12.0

Experimental Station A9 (Below 5 cm)

Phylum Class or Order Species	Month			
	22 Apr*	12 May	29 May	17 Jun
Nematoda				
Sp. unidentified		2.0	0.7	2.7
Arthropoda				
Copepoda				
Harpacticoida sp.				2.0
Sp. unidentified (nauplii)				0.3

* No sample taken.

Experimental Station A10 (Upper 5 cm)

Phylum Class or Order Species	Month 22 Apr*	 12 May	 29 May	 17 Jun
Platyhelminthes				
Turbellaria				
Sp. unidentified		0.3		
Rotifera				
Sp. unidentified				0.3
Nematoda				
Sp. unidentified		175.3	43.3	140.3
Mollusca				
Gastropoda				
Sp. unidentified		0.7		0.3
Annelida				
Polychaeta				
Cossura longocirrata				0.7
Mediomastus ambiseta		1.0	0.3	1.0
Arthropoda				
Acarina				
Halacaridae sp.				1.0
Ostracoda				
Cytheromorpha sp.		0.3		
Loxoconcha granulata				0.7
Loxoconcha sperata				0.3
Copepoda				
Sp. unidentified				3.7
Harpacticoida sp.		2.0	2.0	9.7
Sp. unidentified (nauplii)		6.7	0.3	5.3
Unidentified larva		1.3	1.0	7.0

* No sample taken.

<u>Experimental Station A10 (Below 5 cm)</u>

Phylum Class or Order Species	Month 22 Apr*	 12 May	 29 May	 17 Jun
Nematoda				
Sp. unidentified		5.3	1.3	1.7
Arthropoda				
Copepoda				
Harpacticoida sp.				0.7
Unidentified larva		0.3		

* No sample taken.

Experimental Station A11 (Upper 5 cm)

Phylum Class or Order Species	22 Apr	12 May	29 May	17 Jun
	Month			
Platyhelminthes				
Turbellaria				
Sp. unidentified			0.3	0.3
Kinorhyncha				
Trachydemus mainensis	0.3			
Trachydemus mainensis (larvae)			0.3	0.3
Pycnophyes frequens			0.3	
Nematoda				
Sp. unidentified	47.0	145.3	442.3	107.7
Mollusca				
Gastropoda				
Sp. unidentified (egg case)		1.0		0.7
Annelida				
Polychaeta				
Cossura longocirrata		1.0	0.7	
Mediomastus ambiseta		1.7	3.0	1.0
Arthropoda				
Acarina				
Halacaridae sp.	0.3			1.0
Cephalocarida				
Hutchinsoniella macracantha (juv.)				0.7
Ostracoda				
Cytheromorpha sp.			0.3	
Loxoconcha granulata			0.3	
Copepoda				
Harpacticoida sp.		2.7	64.3	23.3
Sp. unidentified (nauplii)		8.0	2.3	1.0
Unidentified larva		1.3	7.3	8.0

Experimental Station A11 (Below 5 cm)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Nematoda				
Sp. unidentified	5.3	6.0	3.0	2.3
Mollusca				
Gastropoda				
Sp. unidentified (egg case)		0.3		
Annelida				
Polychaeta				
Mediomastus ambiseta		0.3		
Arthropoda				
Acarina				
Halacaridae sp.				0.3
Ostracoda				
Sp. unidentified				0.3
Copepoda				
Harpacticoida sp.		0.3	1.3	
Sp. unidentified (nauplii)	0.3			
Unidentified larva			0.3	

Experimental Station A13 (Upper 5 cm)

Phylum Class or Order Species	Month 22 Apr*	 12 May	 29 May*	 17 Jun
Platyhelminthes				
Turbellaria				
Sp. unidentified				0.3
Kinorhyncha				
Trachydemus mainensis (larvae)				0.3
Nematoda				
Sp. unidentified		10.0		230.0
Mollusca				
Gastropoda				
So. unidentified (egg case)				2.7
Annelida				
Polychaeta				
Cossura longocirrata				0.3
Mediomastus ambiseta				1.0
Pilgaridae sp.				0.3
Arthropoda				
Acarina				
Halacaridae sp.				0.3
Cephalocarida				
Hutchinsoniella macracantha (juv.)				1.0
Copepoda				
Sp. unidentified		0.3		
Harpacticoida sp.		0.3		64.3
Sp. unidentified (nauplii)		0.3		5.7
Unidentified larva				21.0

* No sample taken.

Experimental Station A13 (Below 5 cm)

Phylum Class or Order Species	Month 22 Apr*	 12 May	 29 May*	 17 Jun
Nematoda				
Sp. unidentified		0.7		6.3
Mollusca				
Gastropoda				
Sp. unidentified (egg case)				0.3
Arthropoda				
Copepoda				
Sp. unidentified				0.3
Harpacticoida sp.				2.7

* No sample taken.

Experimental Station A14 (Upper 5 cm)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Platyhelminthes				
Turbellaria				
Sp. unidentified				0.7
Kinorhyncha				
Pycnophes frequens				0.3
Pycnophes frequens (larva)				0.3
Trachydemus mainensis				0.3
Nematoda				
Sp. unidentified	24.7	17.3	57.7	181.0
Mollusca				
Gastropoda				
Sp. unidentified (egg case)		0.3	1.0	9.3
Annelida				
Polychaeta				
Cossura longocirrata			0.7	0.7
Mediomastus ambiseta	0.3	0.3		1.7
Oligochaeta				
Sp. unidentified				0.7
Arthropoda				
Acarina				
Halacaridae sp.				0.7
Ostracoda				
Loxoconcha granulata	--	--	--	--
Copepoda				
Sp. unidentified			0.3	2.0
Harpacticoida sp.	0.3	2.0	3.7	75.3
Sp. unidentified (nauplii)	0.3		0.3	10.7
Unidentified larva		0.3	2.3	15.0

Experimental Station A14 (Below 5 cm)

Phylum Class or Order Species	Month 22 Apr	12 May	29 May	17 Jun
Kinorhyncha				
Pycnophes frequens (larvae)				1.0
Trachydemus mainensis				0.3
Nematoda				
Sp. unidentified	2.3	0.7	1.0	63.7
Arthropoda				
Copepoda				
Sp. unidentified				0.3
Harpacticoida sp.		0.3	0.3	23.3
Sp. unidentified (nauplii)				11.0
Unidentified larvae				9.3

Control Station EB2 (Upper 5 cm)

Phylum / Class or Order / Species	22 Apr	12 May	29 May	17 Jun
Kinorhyncha				
Sp. unidentified	0.3			
Trachydemus mainensis		0.7		
Pycnophyes frequens (larvae)			0.3	
Nematoda				
Sp. unidentified	41.7	123.0	73.0	175.0
Mollusca				
Gastropoda				
Sp. unidentified (egg case)		1.7		3.3
Annelida				
Polychaeta				
Sp. unidentified		0.7		
Cossura longocirrata		0.3		0.7
Mediomastus ambiseta	1.3	3.0	0.7	0.3
Polychaeta larva (type #1)		0.3		
Oligochaeta				
Sp. unidentified			0.3	
Arthropoda				
Acarina				
Halacaridae sp.				1.0
Ostracoda				
Sp. unidentified				0.3
Cytheromorpha sp.		0.3		
Copepoda				
Sp. unidentified		5.0	0.7	1.3
Harpacticoida sp.	3.0	16.0	14.7	10.7
Sp. unidentified (nauplii)		5.0	2.0	1.7
Unidentified larva		5.0	1.0	9.0

Control Station EB2 (Below 5 cm)

Phylum / Class or Order / Species	22 Apr	12 May	29 May	17 Jun
Kinorhyncha				
Trachydemus mainensis	0.3			
Nematoda				
Sp. unidentified	3.7	2.3	0.3	6.0
Annelida				
Polychaeta				
Mediomastus ambiseta	0.3			
Sp. unidentified		0.3		
Arthropoda				
Copepoda				
Sp. unidentified				0.7
Harpacticoida sp.	0.3		0.3	

Control Station EB11 (Upper 5 cm)

Phylum Class or Order Species	Month 22 Apr	 12 May	 29 May	 17 Jun
Nematoda				
Sp. unidentified	22.0	16.0	11.7	31.0
Mollusca				
Gastropoda				
Sp. unidentified (egg case)		0.3		0.3
Annelida				
Polychaeta				
Ancistrosyllis sp.		0.3		
Cossura longocirrata		0.3		
Mediomastus ambiseta				0.3
Arthropoda				
Ostracoda				
Sp. unidentified				0.3
Cytheromorpha sp.		0.3		
Loxoconcha granulata				0.3
Loxoconcha sperata				0.3
Copepoda				
Sp. unidentified	0.3			0.3
Harpacticoida sp.	0.7	1.3		5.7
Sp. unidentified (nauplii)	0.3			3.0
Unidentified larva	0.3			4.7

Control Station EB11 (Below 5 cm)

Phylum / Class or Order / Species	Month 22 Apr	12 May	29 May	17 Jun
Nematoda				
Sp. unidentified	0.7	1.3	1.7	3.7
Mollusca				
Gastropoda				
Sp. unidentified (egg case)				0.3
Arthropoda				
Acarina				
Halacaridae sp.				0.3
Ostracoda				
Loxoconcha granulata				0.7
Loxoconcha sperata				0.3
Copepoda				
Sp. unidentified		0.3		0.3
Harpacticoida sp.				0.3
Sp. unidentified (nauplii)				1.0
Unidentified larvae				2.0

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Aquatic disposal field investigations, Eatons Neck disposal site, Long Island Sound; Appendix C: Predisposal baseline conditions of benthic assemblages / by D. Keith Serafy, David J. Hartzband, Marcia Bowen, New York Ocean Science Laboratory, Montauk, New York. Vicksburg, Miss. : U. S. Waterways Experiment Station ; Springfield, Va. : available from National Technical Information Service, 1977.

56, [182] p. : ill. ; 27 cm. (Technical report - U. S. Army Engineer Waterways Experiment Station ; D-77-6, Appendix C)

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Literature cited: p.49-56.

1. Benthos. 2. Disposal areas. 3. Dredged material. 4. Eatons Neck disposal site. 5. Field investigations. 6. Marine animals. 7. Waste disposal sites. I. Bowen, Marcia, joint author. II. Hartzband, David J., joint author.

(Continued on next card)

Serafy, D Keith

Aquatic disposal field investigations, Eatons Neck disposal site, Long Island Sound; Appendix C ... 1977. (Card 2)

III. New York Ocean Science Laboratory. IV. United States. Army. Corps of Engineers. V. Series: United States. Waterways Experiment Station, Vicksburg, Miss. Technical report ; D-77-6, Appendix C.

TA7.W34 no.D-77-6 Appendix C