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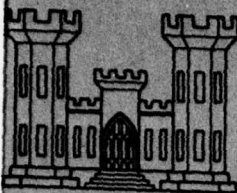
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# DREDGED MATERIAL RESEARCH PROGRAM



TECHNICAL REPORT D-77-6—

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

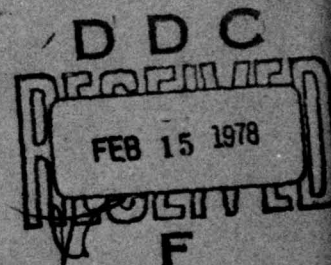
### APPENDIX C: PREDISPOSAL BASELINE CONDITIONS OF BENTHIC ASSEMBLAGES

by

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New York Ocean Science Laboratory  
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November 1977  
Final Report

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P. O. Box 631, Vicksburg, Miss. 39180



**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**
- Appendix E: Predisposal Baseline Conditions of Zooplankton Assemblages**
- Appendix F: Predisposal Baseline Conditions of Phytoplankton Assemblages**

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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.



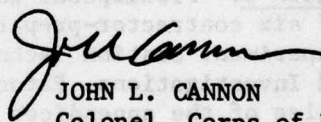
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4. The conclusions of the report are that a mud or silt-clay habitat exists for the disposal area. Dominant species or macrofauna for the habitat in the site are the polychaetes *Mediomastus ambiseta* and *Nephtys incisa* and the bivalves *Mulinia 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.			

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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.

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## 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<sup>3</sup> 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.



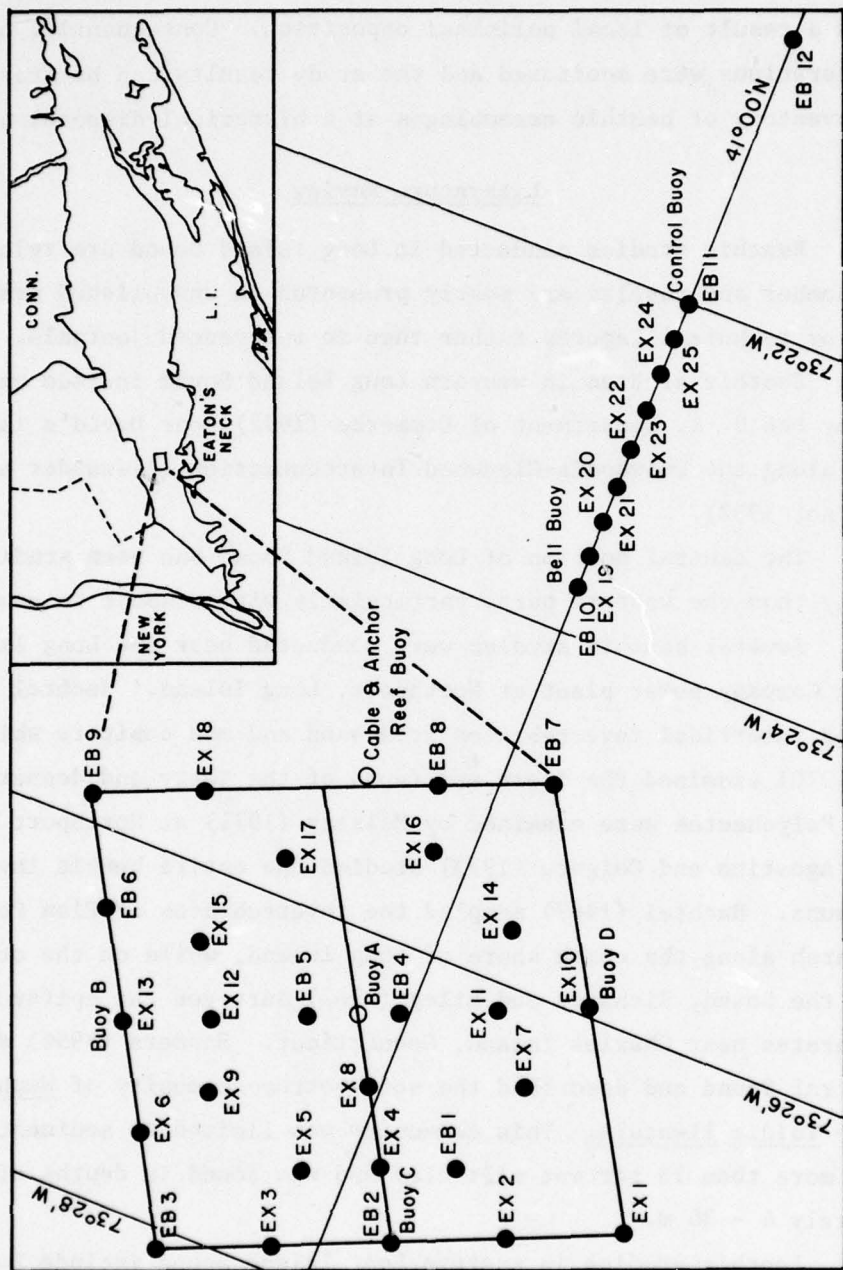


Figure 1. Benthic macrofauna stations sampled from 29 October 1974 to 22 April 1975 for the Eatons Neck aquatic field investigation

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 benthic 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 capitellid 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  $0.1\text{-m}^2$  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 ( $>62\ \mu$ ) and mud ( $<62\ \mu$ ) fractions separated. The coarse fraction was further divided

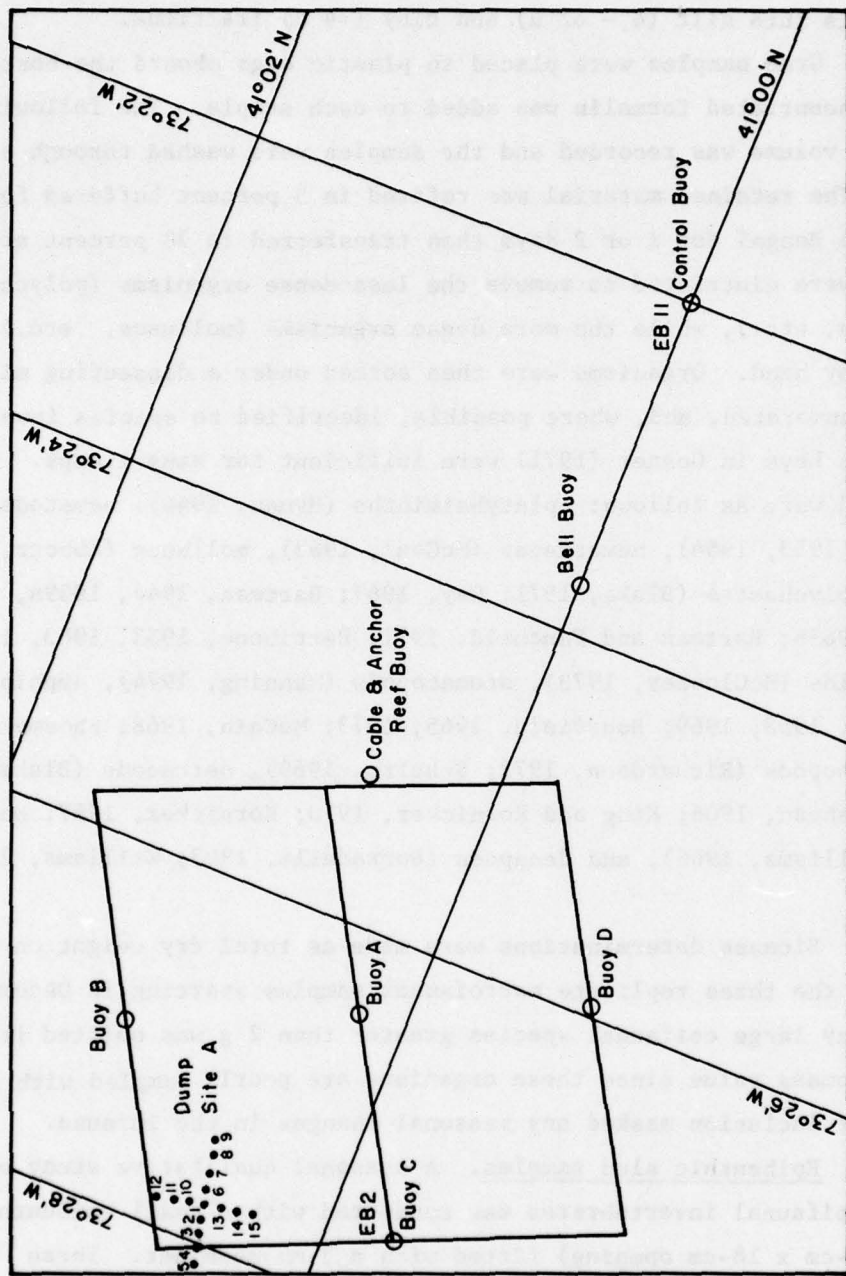


Figure 2. Benthic macrofauna stations sampled from 22 April 1975 to 17 June 1975 for the Eatons Neck aquatic field investigation

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 ( $4 - 62 \mu$ ) and clay ( $<4 \mu$ ) 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  $9.6 \text{ cm}^2$ , 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  $5^\circ\text{C}$  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 ( $0.1 \text{ m}^2$ ) and a box corer ( $0.1 \text{ m}^2$ ) 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  $A_1, A_2, \dots, A_S$ . 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  $H = \frac{1}{N} \log \frac{N!}{\pi N_1!}$ ,  $H_{\max}$  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:

$$S_{jk} = \frac{\sum_{i=1}^{i=n} |x_{ij} - x_{ik}|}{\sum_{i=1}^{i=n} (x_{ij} + x_{ik})} \text{ where } x_{ij} \text{ is the number of individuals of species } i$$

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:

$D_{hk} = \alpha_1 D_{hi} + \alpha_j + \beta D_{ij} + \gamma |D_{hi} - D_{hj}|$  with the constraints of  $\alpha_1 + \alpha_j + \beta = 1$ ;  $\alpha = 0$ ; and  $\beta = -0.25$ . According to Williams (1971) and Clifford and Stephenson (1975) the  $\beta$  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

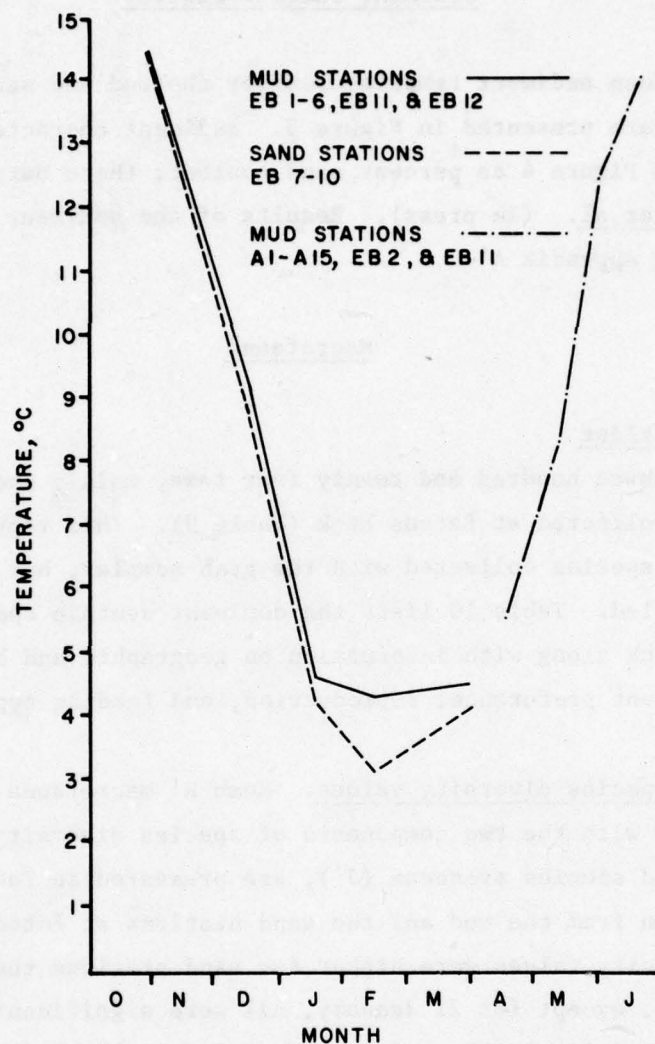


Figure 3. Mean sediment temperatures for mud and sand benthic macrofauna stations at the Eatons Neck aquatic field investigation



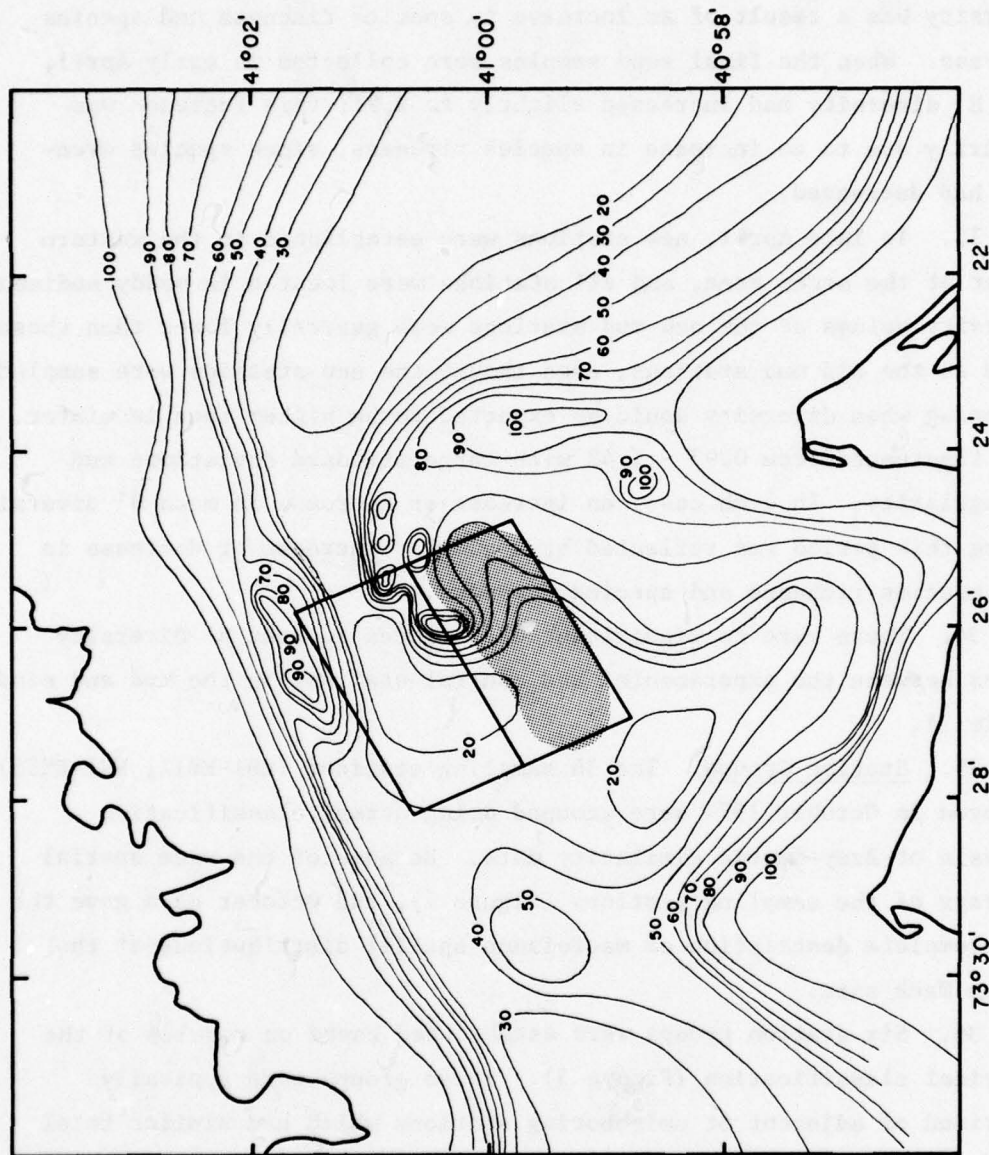


Figure 4. Sediment characteristics based on percent sand content for the general area of the Eatons Neck aquatic field investigation (Contours are sand contents in percent; shaded area is the disposal area.)

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

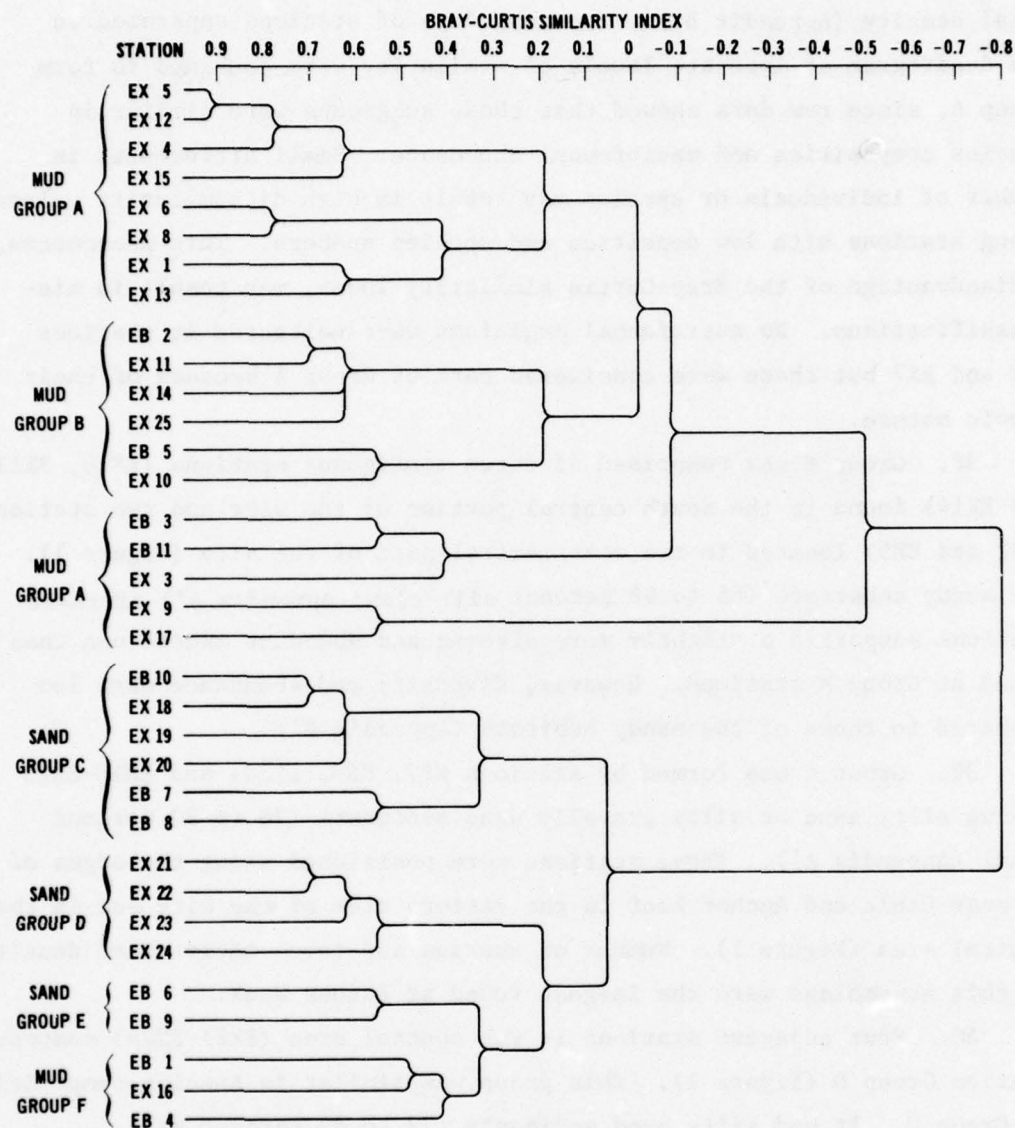


Figure 5. Dendrogram depicting station groups derived from numerical classification procedures; October 1974 benthic data, Eatons Neck disposal site



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 azoöic 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.



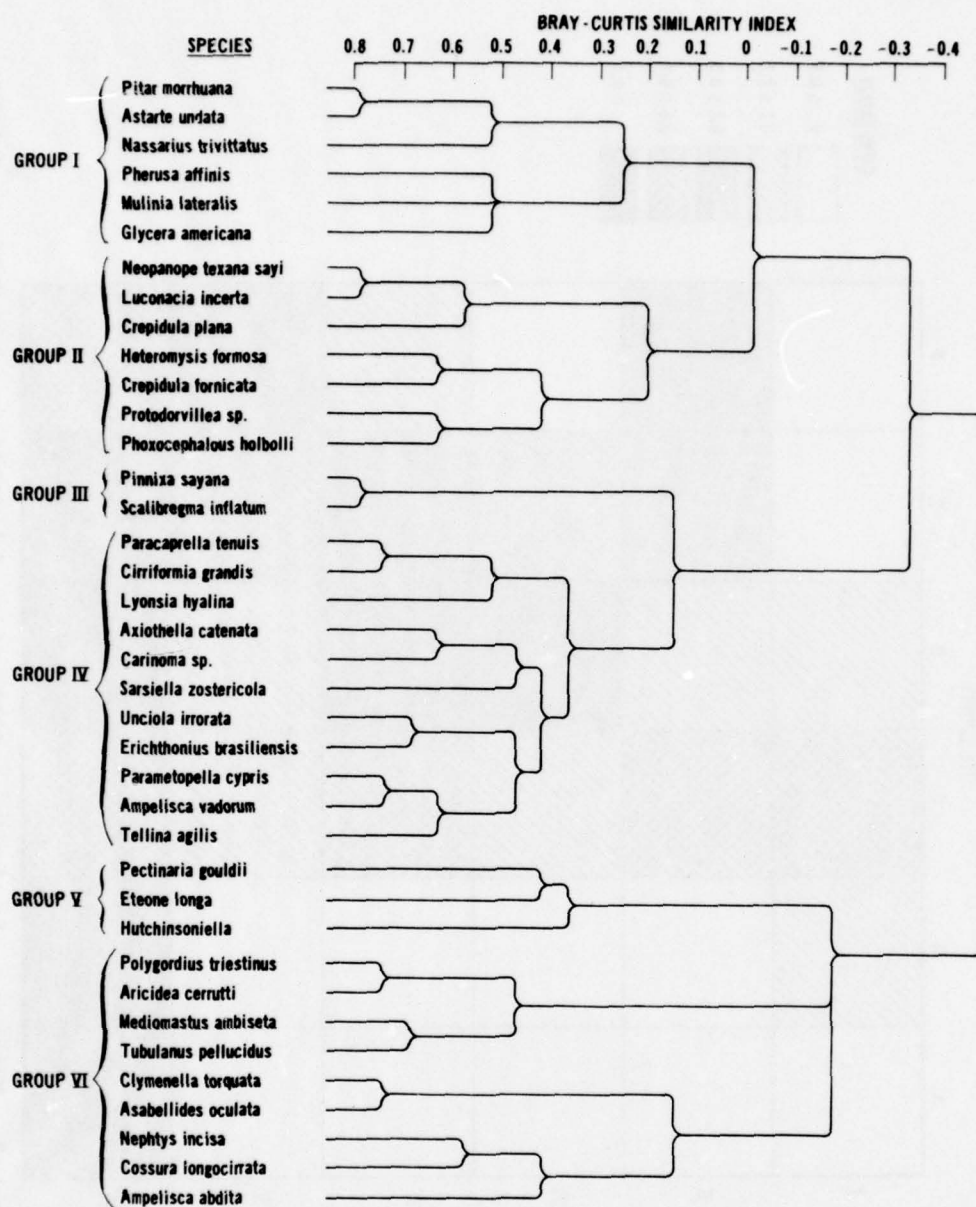


Figure 6. Dendrogram depicting species groups derived from numerical classification procedures; October 1974 benthic data, Eatons Neck disposal site

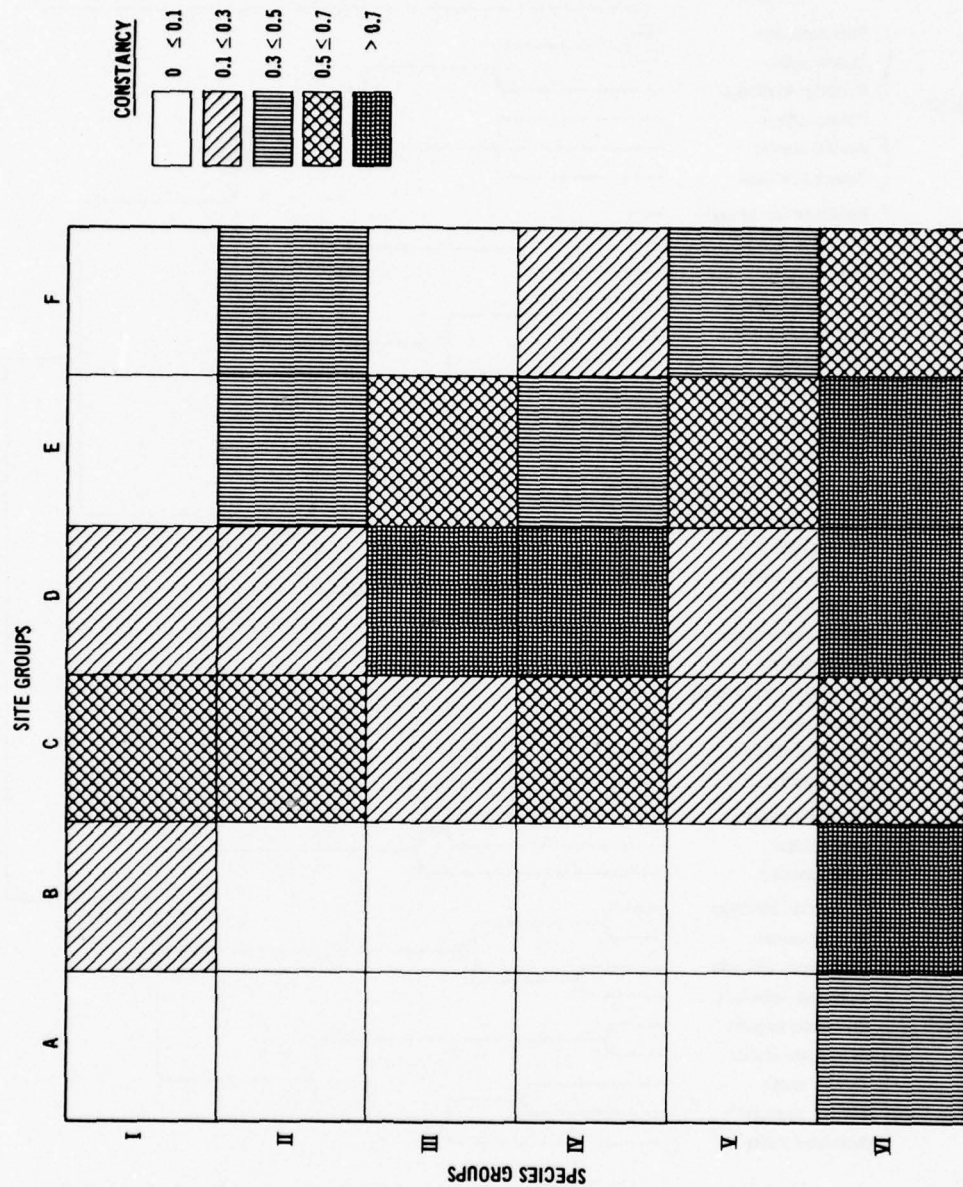


Figure 7. Two-way table showing relationship of benthic species groups and station groups based on nodal analysis of constancy, Eatons Neck disposal site

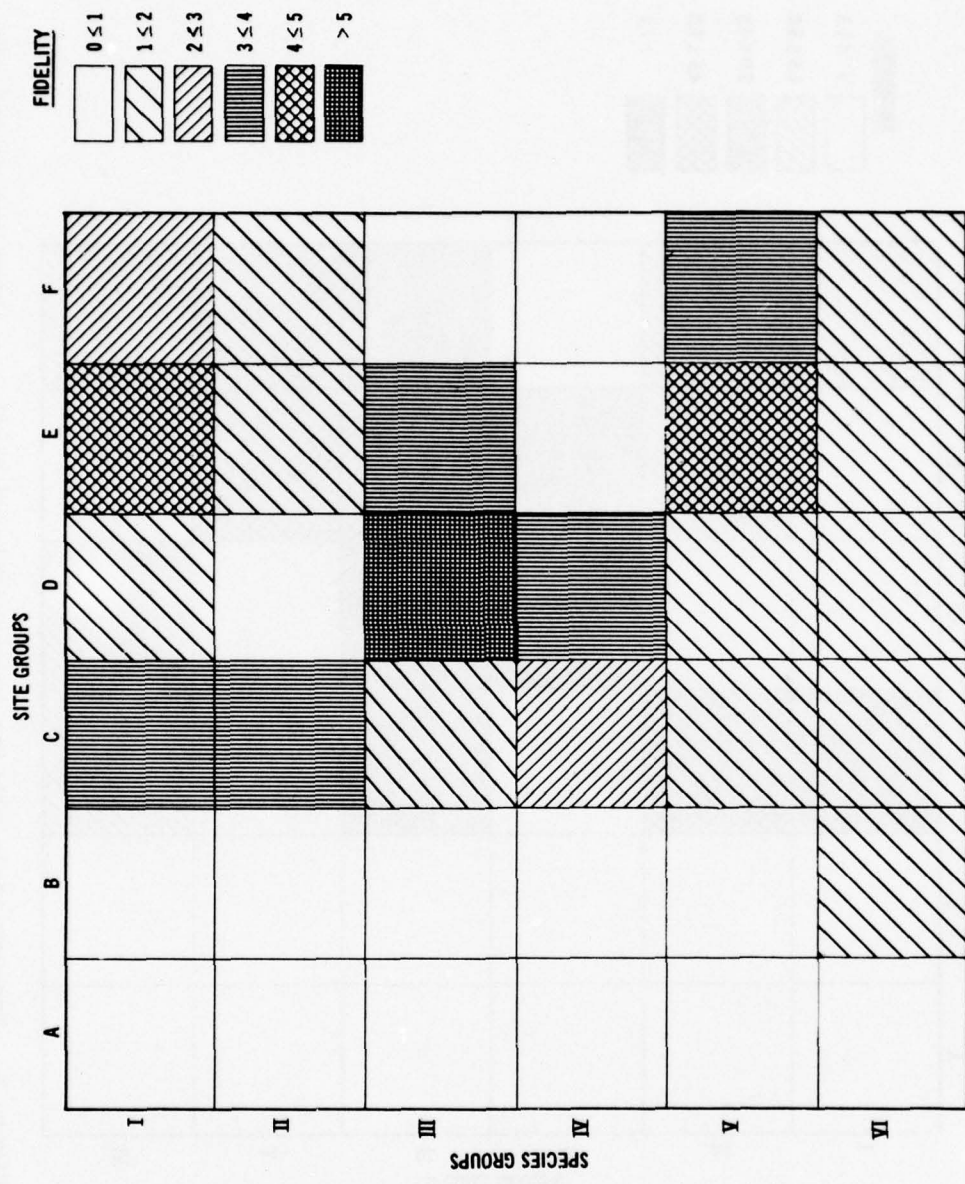


Figure 8. Two-way table showing relationship of benthic species groups and station groups based on nodal analysis of fidelity, Eatons Neck Disposal site



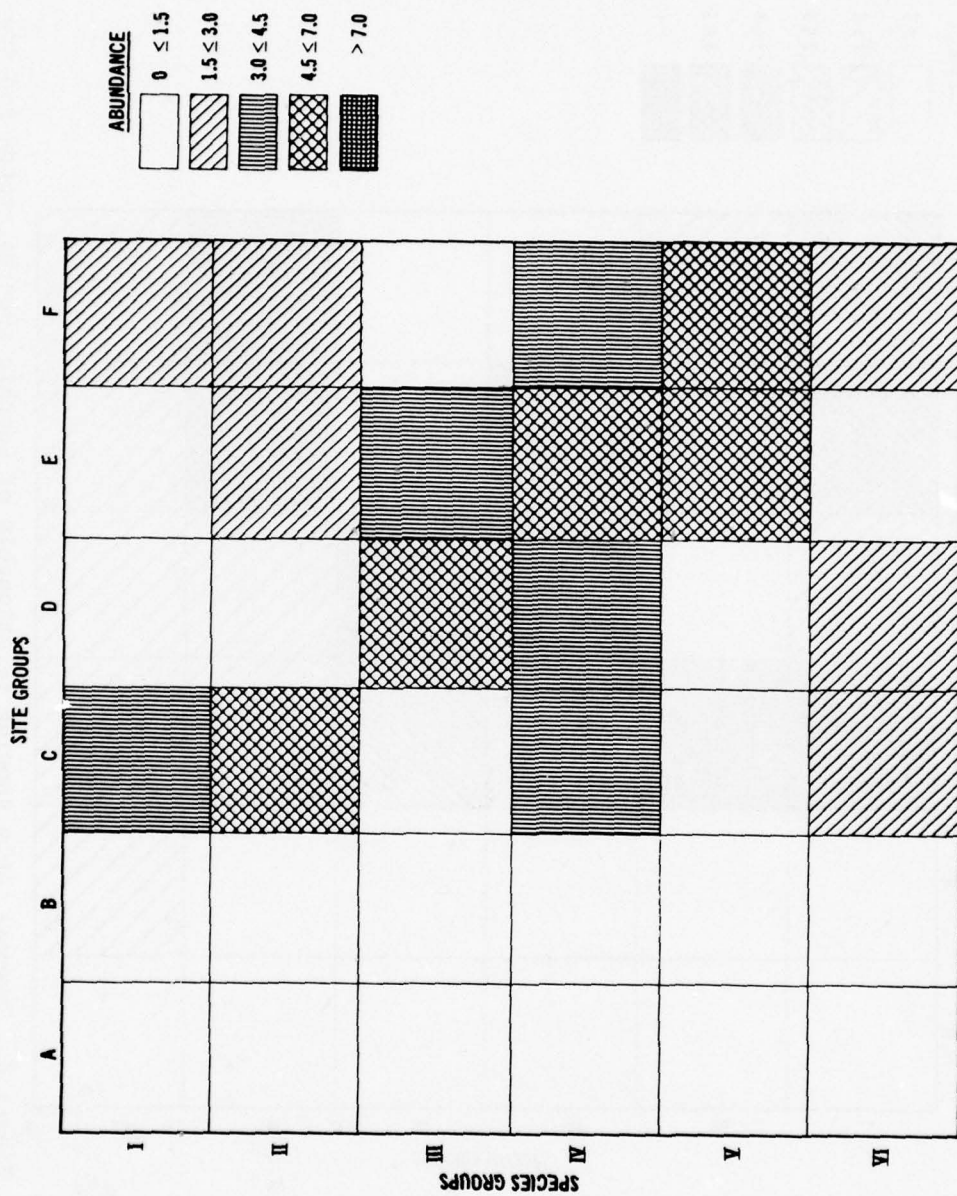


Figure 9. Two-way table showing relationship of benthic species groups and station groups based on nodal analysis of abundance, Eatons Neck Disposal site

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 Axiiothella 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<sup>2</sup> in December to about 2 g/0.1 m<sup>2</sup> in January. In February, mean biomass had slightly increased to about 4 g/0.1 m<sup>2</sup>, and on 1 April it had increased to about



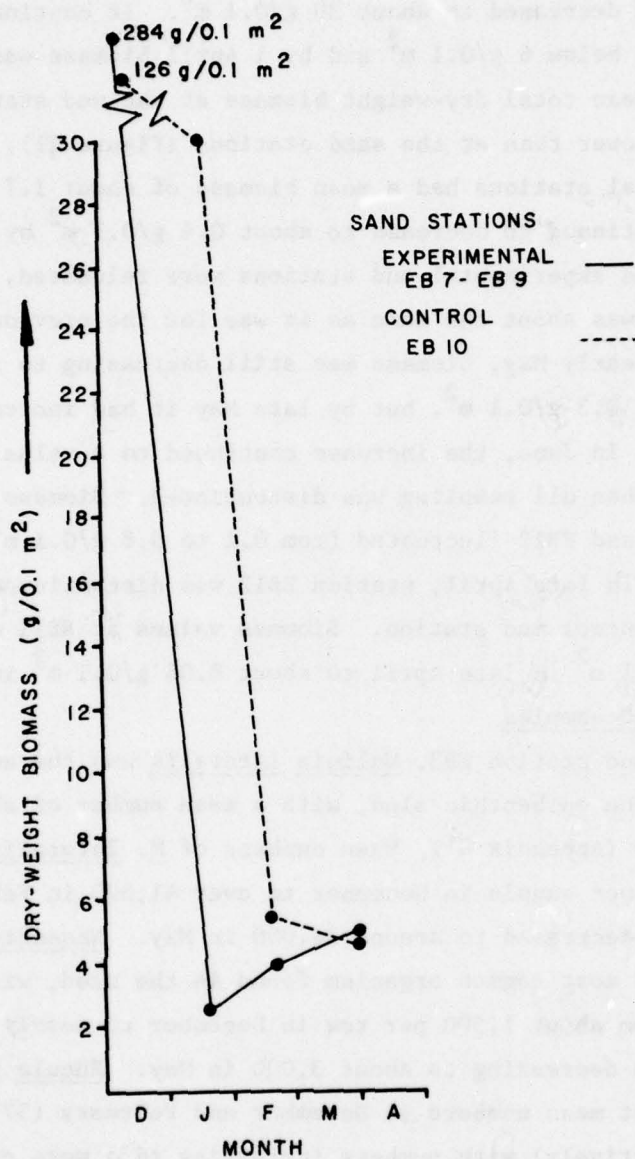


Figure 10. Dry-weight biomass for the control and disposal sand stations at the Eatons Neck aquatic field investigation

5 g/0.1 m<sup>2</sup>. 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<sup>2</sup>, and by January it had decreased to about 30 g/0.1 m<sup>2</sup>. It continued to drop in February to below 6 g/0.1 m<sup>2</sup> and by 1 April biomass was below 5 g/0.1 m<sup>2</sup>. 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<sup>2</sup> and this value continued to decrease to about 0.4 g/0.1 m<sup>2</sup> 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<sup>2</sup>, but by late May it had increased to about 0.5 g/0.1 m<sup>2</sup>. In June, the increase continued to a value of about 1.1 g/0.1 m<sup>2</sup> when all sampling was discontinued. Biomass at control stations EB11 and EB12 fluctuated from 0.1 to 0.8 g/0.1 m<sup>2</sup> 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<sup>2</sup> in late April to about 0.05 g/0.1 m<sup>2</sup> 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 septemspinosus decreased from a high of 201 per sample in December to 165

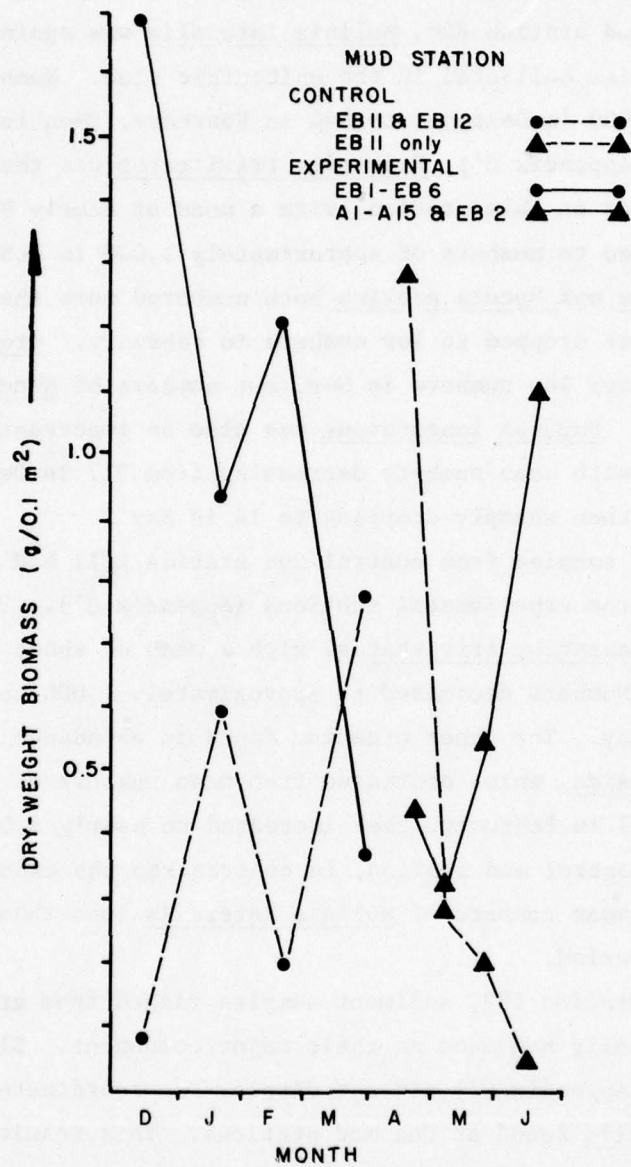


Figure 11. Dry-weight biomass for the control and disposal mud stations at the Eatons Neck aquatic field investigation



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 septemspinosus 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  $9.6 \text{ cm}^2$  and penetrated the sediment to a depth of about 10 cm. However, for purposes of discussion, the surface area will be considered as  $10 \text{ cm}^2$ . 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. Enoplos 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<sup>2</sup>, while in the bottom fraction they varied from 3 to 36. The top fraction at EB4 generally increased from 15 per 10 cm<sup>2</sup> in December 1974 to 200 per 10 cm<sup>2</sup> 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 kinorhynch 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<sup>2</sup> 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<sup>2</sup> 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<sup>2</sup> 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<sup>2</sup>. 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<sup>3</sup> 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 capitellid 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 Cerebratulus 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, the 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<sup>\*</sup>, so until this taxonomic problem

<sup>\*</sup>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  $10\text{ cm}^2$  in the upper 10 cm of the sediment with the largest numbers occurring in sand. Similar values of 169 to 1861 per  $10\text{ cm}^2$  were reported by Wieser (1960) from Buzzards Bay, Massachusetts, while Wigley and McIntyre (1964) found 117 to 988 per  $10\text{ cm}^2$  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  $10\text{ cm}^2$ ) in estuarine samples from Connecticut and Rhode Island. The lower densities (generally less than 200 per  $10\text{ cm}^2$ ) 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 north-eastern 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

<u>Station</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Depth, m</u>
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)

<u>Station</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Depth, m</u>
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 sand	1.50 ± 0.52 2.45 ± 0.52**	1.41 ± 1.10 3.14 ± 1.43	0.70 ± 0.33 0.63 ± 0.20
21 Jan 1975	mud sand	1.34 ± 0.69 1.70 ± 0.92	0.96 ± 1.02 2.60 ± 2.08	0.53 ± 0.41 0.48 ± 0.27
20 Feb 1975	mud sand	1.07 ± 1.02 2.85 ± 0.80**	0.77 ± 0.80 2.99 ± 1.41	0.56 ± 0.43 0.62 ± 0.28
1 Apr 1975	mud sand	1.57 ± 0.90 2.91 ± 0.67**	1.65 ± 0.95 3.33 ± 1.71	0.76 ± 0.28 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 Al-Al5, 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<sup>2</sup>.

\*\* 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\*

<u>Station</u>	<u>Taxon</u>	<u>Statistic</u>	<u>22 Apr</u>	<u>12 May</u>	<u>29 May</u>	<u>17 Jun</u>
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
All	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<sup>2</sup>.

\*\* No sample was collected.



Table 6

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

<u>Date</u>	<u>Sediment Type</u>	
	<u>Mud</u>	<u>Sand</u>
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
	$\bar{x} \pm S.D.$	$9.6 \pm 6.2$	$28.6 \pm 15.3$	$0.3068 \pm 0.5557$	$11.4 \pm 1.8$	$9.1 \pm 1.6$
	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
Sand (EB 10)	$\bar{x} \pm S.D.$	$17.6 \pm 5.1$	$53.8 \pm 15.7$	$13.2111 \pm 28.5115$	$23.4 \pm 4.5$	$20.3 \pm 5.2$
	t - test results	2.23	2.57*	-1.01	5.56**	4.61**
	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
	$\bar{x} \pm S.D.$	$60.3 \pm 7.6$	$2814 \pm 565$	$39.2965 \pm 7.2822$	$7.2 \pm 1.0$	$4.8 \pm 1.0$
	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
	$\bar{x} \pm S.D.$	$53.3 \pm 3.8$	$2012 \pm 915$	$17.7764 \pm 10.5075$	$9.3 \pm 1.5$	$9.7 \pm 0.8$
	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

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

\* Significant at 0.05 level.



Table 9

Checklist of Macroinvertebrate SpeciesCollected at Eatons Neck

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

Table 9 (continued)

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

Table 9 (continued)

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



Table 9 (continued)

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

Table 9 (continued)

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

Table 9 (continued)

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



Table 9 (continued)

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

Table 9 (continued)

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

Table 9 (concluded)

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



Table 10

## Dominant Benthic Species Present at Eatons Neck

Species	Geographic and Bathymetric Range	Sediment Preference	Reproduction	Feeding Type	References
Cnidaria Anthozoa <u>Ceriantheopsis americanus</u>	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)
Rhynchozoela Anopla <u>Cerbratululus lacteus</u>	Cape Cod to Cape Hatteras, littoral	mud	Separate sexes, external fertilization with planktonic larvae	Predatory carnivore	Barnes (1968), Gosner (1971)
<u>Tubulanus pellucidus</u>	Cape Cod to Cape Hatteras, 1-20 m	silty-sands	Separate sexes, external fertilization with planktonic larvae	Predatory carnivore	Gosner (1971)
Mollusca Gastropoda <u>Crepidula fornicata</u>	Bay of Fundy to Cape Hatteras, 1-27 m	rock or shell	Protandric hermaphrodite	Suspension feeder	Gosner (1971)
<u>Crepidula plana</u>	Bay of Fundy to Cape Hatteras, shallow	rock or shell	Protandric hermaphrodite	Suspension feeder	Gosner (1971)
<u>Nassarius trivittatus</u>	Labrador to Cape Hatteras, 0-82 m	sand	Separate sexes, external fertilization	Scavenger	Gosner (1971), Abbott (1974)
Bivalvia <u>Astarte undata</u>	Bay of Fundy to Cape Hatteras, 1-45 m	sand	Separate sexes, external fertilization	Suspension feeder	Gosner (1971), Abbott (1974)
<u>Lyonsia hyalina</u>	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
<i>Bivalvia</i> (continued)					
<u>Mulinia lateralis</u>	Maine to N. Florida and Texas, shallow	silt-clay 20-50 percent	Separate sexes, external fertilization	Suspension feeder	Sanders (1956), Abbott (1974)
<u>Pitar morrhuana</u>	Gulf of St. Lawrence to N. Carolina, 4-33 m	sand	Separate sexes, external fertilization	Suspension feeder	Gosner (1971), Abbott (1974)
<u>Tellina agilis</u>	Bay of Fundy to Cape Hatteras, 1-45 m	sand	Separate sexes, external fertilization	Suspension feeder	Gosner (1971), Abbott (1974)
Annelida					
<u>Polychaeta</u>					
<u>Aricidea cerruti</u>	Labrador to Cape Hatteras, 2-1940 m	sandy mud	Spawns during July in Mass.	Deposit feeder	Pettibone (1963)
<u>Axiothella catenta</u>	Long Island Sound	silty sand	Eggs are incubated in cocoons attached to burrow, entrance, long development, benthic larvae	Detritus feeder	Day (1967), Gosner (1971)
<u>Cirriformia grandis</u>	Cape Cod to Cape Hatteras, littoral to 42 m	sand	Sexual, external fertilization trochophore larvae	Selective deposit feeder	Day (1967), Gosner (1971)
<u>Glycera americana</u>	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)
<u>Harmothoe imbricata</u>	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
<u>Polychaeta</u> (continued) <u>Mediomastus ambiseta</u>	Mass. to L.I. Sound, intertidal to shelf depths	Sandy mud to muddy sand	?	Deposit feeder	Hobson (1971)
<u>Nephtys incisa</u>	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)
<u>Pherusa affinis</u>	Cape Cod to Cape Hatteras, Littoral	mud	?	Deposit feeder	Day (1967), Gosner (1971)
<u>Polygordius triestinus</u>	Delaware Bay to Long Island Sound	sand	?	Deposit feeder	Serafy and D'Agostino (1974)
Arthropoda <u>Cephalocarida</u> <u>Hutchinsoniella macracantha</u>	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 <u>Sarsiella zostericola</u>	Mass., Maine, Texas, and California, 0-11 m	mud & sand	Separate sexes, internal fertilization, carries eggs, instar larvae	? Predatory carnivore	Kornicker (1967)
Amphipoda <u>Ampelisca abdita</u>	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)
<u>A. vadorum</u>	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)					
<u>Parametopella</u> <u>cypria</u>	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)
<u>Phoxocephalus</u> <u>holbolli</u>	Labrador to L.I., 91 m	fine sand, muddy sand, eel grass	One generation, male ovigerous, Feb.-June	Detritus feeder	Bousfield (1973)
Decapoda					
<u>Neopanope texana</u> <u>sayi</u>	Cape Cod to Cape Hatteras, 0-79 m	mud	Separate sexes, internal fertilization, several planktonic larval stages	Omnivore	Barnes (1968) Gosner (1971)
<u>Pagurus longicarpus</u>	Cape Cod to Cape Hatteras, intertidal to 52 m	epifaunal	Separate sexes	Omnivore	Gosner (1971)

Table 11

Checklist of Meioinvertebrate Species

Collected at Eatons Neck

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Cnidaria  
Platyhelminthes  
    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)

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Polychaeta (continued)
Polychaeta larva (Type #2)
Polychaeta larva (Type #3)
Oligochaeta
Sp. unidentified
Arthropoda
Acarina
Halacaridae sp.
Cephalocarida
<u>Hutchinsoniella macracantha</u> Sanders
Amphipoda
<u>Parametopella cypris</u> (Holmes)
Cladocera
Podon sp.
Ostracoda
<u>Actinocythereis gomillionensis</u> (Howe & Ellis)
<u>Cytheromorpha</u> sp.
<u>Hulingsina americana</u> (Cushman)
<u>Loxoconcha granulata</u> Sars
<u>Loxoconcha sperata</u> Williams
<u>Neocytherideis</u> sp.
<u>Neonesidea</u> sp.
<u>Sarsiella ozotothrix</u> Kornicker and Bowen
<u>Sarsiella zostericola</u> Cushman
<u>Schlerochilus contortus</u> (Norman)
<u>Semicytherura nigrescens</u> (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			Percent of Coarse Fraction, mm											
			Coarse	Silt	Clay	>2.00	2.00 -		1.00 -		0.50 -		0.25 -	0.125 -	0.063		
							1.00	0.50	0.25	0.125							
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 -		0.50 -		0.25 -	
							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		Percent of Coarse Fraction, mm									
			Coarse	Silt Clay	>2.00	2.00 -		1.00 -		0.50 -		0.25 -	0.125 -	0.063
						1.00	0.50	0.25	0.125					
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			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
							1.00	0.50	0.25	0.125				
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			

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F/G 6/6

AQUATIC DISPOSAL FIELD INVESTIGATIONS, EATONS NECK DISPOSAL SIT--ETC(U)

NOV 77 D K SERAFY, D J HARTZBAND, M BOWEN

DACW51-75-C-0016

UNCLASSIFIED

WES-TR-D77-6-APP-C

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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 -		0.50 -		0.25 -	0.125 -	0.063
							1.00	0.50	0.50	0.25	0.25	0.125			
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		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
						1.00	0.50	0.25	0.125				
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	6.0	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											
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)

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
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 -		0.50 -		0.125 -
							1.00	0.50	0.50	0.25	0.25	0.125	
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 EBI

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	0.3
Nematoda				
Sp. unidentified			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					
<u>Alcyonidium verrilli</u>			*	*	*
<u>Bowerbankia gracilis</u>			*	*	*
<u>Callopora aurita</u>		*	*	*	*
<u>Crisia eburnea</u>		*	*	*	*
<u>Membranipora tenuis</u>	*	*	*	*	*
<u>Membranipora sp.</u>				*	
<u>Microporella ciliata</u>					
<u>Microporella sp.</u>	*				
<u>Schizoporella unicornis</u>		*			
Mollusca					
Gastropoda					
<u>Crepidula fornicata</u>			4.7		0.3
<u>Crepidula plana</u>	10	2.7	4.0		0.3
<u>Doridella obscura</u>					
<u>Nassarius trivittatus</u>					
Bivalvia					
<u>Anadara transversa</u>				0.7	
<u>Mulinia lateralis</u>		0.7		6.7	
<u>Pandora gouldiana</u>	2				
<u>Tellina agilis</u>			0.7	0.7	

Experimental Station EBl (continued)

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

Experimental Station EBI (concluded)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Ostracoda					
<u>Sarsiella zostericola</u>		0.7			0.3
Copepoda					
<u>Temora longicornis</u> (pelagic)				0.7	
Amphipoda					
<u>Ampelisca abdita</u>	18		0.7	0.7	
<u>Erichthonius brasiliensis</u>	6	2.0			
<u>Lembos smithi</u>	6	2.0	2.0		
<u>Luconacia incerta</u>			0.7		
<u>Paracaprella tenuis</u>			2.7	3.3	1.7
<u>Parametopella cypris</u>		11.3			0.3
<u>Corophium tuberculatum</u>					0.3
<u>Stenopleustes gracilis</u>					0.7
<u>Unciola irrorata</u>					
Decapoda					
<u>Neopanope texana sayi</u>	6		2.0		
<u>Xanthidae</u> 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					
<u>Campanularia angulata</u>		*			
<u>Campanularia</u> sp.	*	*			
<u>Clytia longicyatha</u>				*	*
<u>Thuiaria argentea</u>		*		*	*
<u>Thuiaria similis</u>		*		*	*
<u>Campanularidae</u> sp.					*
<u>Obelia</u> sp.					*
<u>Podocoryne carnea</u>					*
<u>Tubularidae</u> sp.					*
Anthozoa					
<u>Ceriantheopsis americanus</u>		0.7		0.7	0.3
Nemertea					
<u>Cerebratulus lacteus</u>			1.3	0.7	0.3
<u>Cerebratulus</u> sp.		1.3			
<u>Micrura</u> sp.		0.7			
<u>Tubulanus pellucidus</u>	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					
<u>Callopora aurita</u>		*			*
<u>Cribrellina punctata</u>			*		*
<u>Membranipora tenuis</u>		*		*	*
<u>Microporella sp.</u>		*			
<u>Schizoporella unicornis</u>		*			
<u>Bowerbankia gracilis</u>					*
Mollusca					
Gastropoda					
<u>Crepidula fornicata</u>		2.7			
<u>Crepidula plana</u>		4.7		0.7	
Bivalvia					
<u>Mulinia lateralis</u>		0.7		7.3	1.0
<u>Nucula proxima</u>					0.3
Annelida					
Polychaeta					
<u>Ampharete arctica</u>	4				0.3
<u>Asabellides oculata</u>	6				
<u>Autolytus sp.</u>	2	0.7			
<u>Cirratulidae sp.</u>	2				
<u>Clymenella torquata</u>	2				
<u>Cossura longocirrata</u>	4	0.7			
<u>Flabelligera affinis</u>				1.3	

Experimental Station EB2 (continued)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
<u>Mediomastus ambiseta</u>	222	32.7	13.3		
<u>Nephtys incisa</u>	8	3.3	3.3	6.0	2.7
<u>Pherusa affinis</u>		0.7			
<u>Phyllodoce arenae</u>				0.7	
<u>Polygordius triestinus</u>	2	0.7			
<u>Sigambra tentaculata</u>	8		0.7		
<u>Streblospio benedicti</u>					
<u>Glycera americana</u>					0.3
<u>Sabellaria vulgaris</u>					3.0
 Oligochaeta					
Sp. unidentified	44	7.3			
 Arthropoda					
Copepoda					
Calanoida sp.					0.3
<u>Temora longicornis</u> (pelagic)				0.7	1.3
 Amphipoda					
<u>Corophium tuberculatum</u>		3.3			
<u>Erichthonius brasiliensis</u>		3.3			0.3
<u>Paracaprella tenuis</u>					0.3
<u>Parametopella cypris</u>	2	0.7		3.0	0.3
<u>Unciola irrorata</u>				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				
<u>Metridium senile</u>		0.7		
Nemertea				
<u>Amphiporus caecus</u>		1.3		
<u>Carinoma sp.</u>		0.7		0.7
<u>Cerebratulus lacteus</u>			0.7	2.0
<u>Cerebratulus luidus</u>		1.3		
<u>Tubulanus pellucidus</u>	4	2.0	1.3	1.3 0.7
Nematoda				
Sp. unidentified		0.7		0.7 3.7
Ectoprocta				
<u>Alcyonidium verrilli</u>		*		
<u>Membranipora tenuis</u>		*		
Mollusca				
Gastropoda				
<u>Crepidula fornicata</u>		1.3		
<u>Retusa obtusa</u>		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			3.3		
Amphitrite affinis	6	0.3			
Aricidea cerruti		0.7			
Axiobella catenata		12.7			
Cirratulus grandis		1.3			
Glycera americana		0.7		0.7	0.7
Mediomastus ambiseta		1.3			
Nephtys incisa		4.0			
Polygordius triestinus		6.0	0.7	1.3	0.7
Pherusa affinis					
Microphthalamus scelkowi				0.7	0.3
Oligochaeta					
Sp. unidentified					1.3



Experimental Station EB3 (concluded)

Phylum Class or Order Species	Month			
	<u>29-31 Oct**</u>	<u>6 Dec</u>	<u>21 Jan</u>	<u>20 Feb</u> <u>1 Apr</u>
Arthropoda				
Cephalocarida				
<u>Hutchinsoniella macracantha</u>		6.7		5.3
Ostracoda				
<u>Sarsiella americana</u>		2.0		
Copepoda				
<u>Temora longicornis</u> (pelagic)				1.7
Amphipoda				
<u>Parametopella cypris</u>		1.3		
<u>Unciola irrorata</u>		0.7		
<u>Ampelisca vadorum</u>			1.3	
Decapoda				
<u>Cancer irroratus</u>		0.7		
<u>Pagurus longicarpus</u>		0.7		
<u>Pinnixa sayana</u>		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					
<u>Crepidula fornicata</u>	6				
<u>Crepidula plana</u>	102				
<u>Retusa obtusa</u>		0.7			0.3
<u>Nassarius trivittatus</u>					
Bivalvia					
<u>Lyonsia hyalina</u>		0.7	4.7		1.7
<u>Mulinia lateralis</u>		2.0			
<u>Tellina agilis</u>		0.7			2.3
<u>Nucula proxima</u>					
Annelida					
Polychaeta					
<u>Aricidea cerruti</u>		0.7			0.3
<u>Cossura longocirrata</u>	8				
<u>Eteone longa</u>	14				
<u>Eumida sanguinea</u>	2				
<u>Hydroides dianthus</u>	2				
<u>Lepidonotus sublevis</u>	2				
<u>Mediomastus ambiseta</u>	2394				
<u>Nephtys incisa</u>	18	6.0	0.7		5.3
<u>Pectinaria gouldii</u>	62	1.3	2.0		
<u>Polydora quadrilobata</u>	10				
<u>Polygordius triestinus</u>	4				



Experimental Station EB4 (continued)

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

Experimental Station EB4 (concluded)

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

Experimental Station EB5

Phylum Class or Order Species	Month			
	29-31 Oct**	6 Dec	21 Jan	20 Feb
Cnidaria				
Hydrozoa				
Campanularia sp.		*		
Podocoryne carnea		*		
Thuiaria argentea		*		*
Nemertea				
Cerebratulus lacteus				0.7
Tubulanus pellucidus	2	5.3	0.7	0.3
Nematoda				
Sp. unidentified			8.7	0.7
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
<u>Doridella obscura</u>			2.0		
<u>Nassarius trivittatus</u>			1.3		
Bivalvia					
<u>Lyonsia hyalina</u>	2	0.7	2.0		
<u>Mulinia lateralis</u>		22.0	21.3	16.6	4.0
<u>Musculus niger</u>	2				
<u>Nuculana messanensis</u>			0.7		
<u>Pitar morrhuana</u>			1.3		
<u>Nucula proxima</u>			3.3		0.3
<u>Spisula solidissima</u>			0.7		
<u>Tellina agilis</u>			1.3		
<u>Yoldia limatula</u>			0.7		
Annelida					
Polychaeta					
<u>Aricidea cerruti</u>	2				
<u>Cossura longocirrata</u>	2				
<u>Mediomastus ambiseta</u>	40			2.0	3.0
<u>Nephtys incisa</u>		3.3	4.6		
<u>Pectinaria gouldii</u>		0.6	4.6		
<u>Pherusa affinis</u>			1.3		
<u>Polydora websteri</u>	4		0.6		0.3
<u>Polygordius triestinus</u>	114				
<u>Protodorvillea sp.</u>	2				
<u>Sabellaria vulgaris</u>	2				

Experimental Station EB5 (continued)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
<u>Eusyllis lamelligera</u>					0.3
<u>Maldanopsis elongata</u>					0.3
<u>Microphthalamus scelkowi</u>					0.3
<u>Trochochaetidae sp.</u>					*
 <u>Oligochaeta</u>					
Sp. unidentified	16	1.3			
 <u>Arthropoda</u>					
Cephalocarida					
<u>Hutchinsoniella macracantha</u>		0.6	0.6		0.7
 <u>Copepoda</u>					
<u>Temora longicornis (pelagic)</u>			0.6	1.3	0.7
<u>Harpacticoida sp.</u>	4				
 <u>Ostracoda</u>					
<u>Sarsiella zostericola</u>					1.0
 <u>Amphipoda</u>					
<u>Ampelisca vadorum</u>			2.0		0.3
<u>Luconacia incerta</u>			2.6		
<u>Parametopella cypris</u>			2.6	0.6	
<u>Phoxocephalus holbolli</u>			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	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Cnidaria					
Hydrozoa	*				
Campanularia sp.		*			
Clytia coronata				*	
Thuiaria sp.		*			*
Thuiaria argentea		*			*
Tubulariidae 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.

Experimental Station EB6 (continued)

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

Experimental Station EB6 (continued)

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



Experimental Station EB6 (concluded)

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

Experimental Station EB7

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Cnidaria					
Hydrozoa					
<u>Calycella syringa</u>		*			*
<u>Campanularia sp.</u>					*
<u>Campanularidae sp.</u>		*		*	
<u>Halecium sp.</u>					*
<u>Obelia commissuralis</u>					*
<u>Obelia flabellata</u>					*
<u>Obelia sp.</u>					*
<u>Thuiaria argentea</u>	*	*		*	*
<u>Thuiaria similis</u>		*		*	*
Anthozoa					
<u>Actinothoe modesta</u>				0.7	
<u>Sp. unidentified</u>				0.7	
<u>Ceriantheopsis americanus</u>		0.7		0.7	
Nemertea					
<u>Amphiporus bioculatus</u>		1.3			
<u>Amphiporus caecus</u>		2.7			
<u>Carinoma sp.</u>		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
<u>Cerebratulus lacteus</u>			0.7	0.7
<u>Cerebratulus sp.</u>		0.7		
<u>Micrura sp.</u>		0.7		
<u>Tubulanus pellucidus</u>	8	7.3		4.7 4.3
Nematoda				
Sp. unidentified		1602.0		562.0 27.7
Entoprocta				
<u>Barentsia sp.</u>				*
Ectoprocta				
<u>Aeverillia sp.</u>				*
<u>Alcyonidium verrilli</u>				*
<u>Bowerbankia sp.</u>				*
<u>Bugula sp.</u>			*	*
<u>Callopora aurita</u>		*		*
<u>Cryptosula pallasiana</u>	*			*
<u>Electra monostachys</u>		*		*
<u>Membranipora tenuis</u>	*	*		*
<u>Microporella ciliata</u>		*		*
<u>Microporella sp.</u>		*		*
<u>Schizoporella unicornis</u>		*		*
<u>Cribrilina punctata</u>				*
<u>Hippoporina sp.</u>				*



Experimental Station EB7 (continued)

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

Experimental Station EB7 (continued)

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

Experimental Station EB7 (continued)

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



Experimental Station EB7 (concluded)

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

Experimental Station EB8

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

\* 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
<u>Thuiaria similis</u>		*	*	*	*
<u>Thuiaria sp.</u>				*	
<u>Tubularidae sp.</u>				*	*
Anthozoa					
<u>Actinothoe modesta</u>				0.7	
<u>Astrangia danae</u>				*	
<u>Metridium senile</u>				0.7	
<u>Sp. unidentified</u>				1.7	
Nemertea					
<u>Amphiporus bioculatus</u>			0.7		
<u>Carinoma sp.</u>			0.7		
<u>Sp. unidentified</u>	52	5.3	2.0		1.3
<u>Tubulanus pellucidus</u>			2.7		
Nematoda					
<u>Sp. unidentified</u>	6	230.7	297.3	236.3	78.3
Entoprocta					
<u>Barentsia sp.</u>				*	
Ectoprocta					
<u>Aeverillia armata</u>		*			
<u>Alcyonidium sp.</u>			*		
<u>Alcyonidium verrilli</u>	*	*		*	*



Experimental Station EB8 (continued)

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

Experimental Station EB8 (continued)

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

Experimental Station EB8 (continued)

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



Experimental Station EB8 (continued)

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

Experimental Station EB8 (continued)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Copepoda					
<u>Acartia clausi</u> (pelagic)				0.3	0.7
<u>Temora longicornis</u> (pelagic)				1.0	4.0
<u>Sp. unidentified</u> (pelagic)		5.3			1.0
<u>Cyclopoida</u> sp.					
<u>Harpacticoida</u> sp.			0.7		0.3
Amphipoda					
<u>Aeginella</u> sp.	4				
<u>Ampelisca abdita</u>	4	63.3	12.7	3.0	
<u>Ampelisca vadorum</u>		618.7	252.0	309.0	0.7
<u>Caprella</u> sp.	2	2.0		0.3	
<u>Corophium tuberculatum</u>					
<u>Corophium volutator</u>	4				
<u>Corophium</u> sp.	4				
<u>Erichthonius brasiliensis</u>			2.7		1.3
<u>Gammarus mucronatus</u>	2				
<u>Lembo</u> smithi			2.7		
<u>Leptocheirus pinquius</u>				0.7	
<u>Luconacia incerta</u>		14.0	18.0	6.3	3.3
<u>Paracaprella tenuis</u>			1.3	4.3	2.0
<u>Parametopella cypriis</u>	6	31.3	62.0	7.7	4.7
<u>Phoxocephalus holbolli</u>	4	1.3	15.3	5.3	
<u>Stenopleustes gracilis</u>			5.3		0.3
<u>Unciola irrorata</u>		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					
<u>Leptognatha caeca</u>				0.3	
Isopoda					
<u>Edotea triloba</u>	2		0.7		
<u>Limnoria lignorum</u>					
Mysidacea					
<u>Heteromysis formosa</u>	44	5.3			
Decapoda					
<u>Carcinus maenus</u>	12				0.7
<u>Cancer irroratus</u>					
<u>Euprognatha rastellifera</u>				0.3	
<u>Neopanope texana sayi</u>		4.0	1.3	5.0	
<u>Pagurus longicarpus</u>	2	2.7	1.3	0.3	4.7
<u>Pagurus pollicaris</u>			0.7		
<u>Pagurus sp.</u>		1.3			
<u>Panopeus herbsti</u>	2				
<u>Pinnixa sayana</u>		4.7			
<u>Pinnixa sp.</u>					
<u>Xanthidae sp.</u>			1.3	0.3	0.3
Echinodermata					
<u>Cucumaria pulcherima</u>				2.0	



Experimental Station EB9

Phylum Class or Order Species	Month			
	29-31 Oct**	6 Dec	21 Jan	20 Feb 1 Apr
Porifera				
<u>Haliclona oculata</u>				*
Cnidaria				
Hydrozoa				
<u>Campanularia sp.</u>	*		*	*
<u>Halecium sp.</u>			*	
<u>Hydrallmania falcata</u>			*	
<u>Thuiaria argentea</u>			*	*
<u>Thuiaria similis</u>			*	
<u>Thuiaria sp.</u>	*			
Anthozoa				
<u>Ceriantheopsis americanus</u>				0.3
Nemertea				
<u>Carinoma sp.</u>	4		0.7	
<u>Cerebratulus lacteus</u>			0.7	0.3
<u>Tubulanus pellucidus</u>	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					
<u>Alcyonidium verrilli</u>			*	*	
<u>Alcyonidium sp.</u>			*	*	
<u>Bugula sp.</u>					
<u>Callopora aurita</u>				*	
<u>Membranipora tenuis</u>	*	*	*	*	
Mollusca					
Gastropoda					
<u>Crepidula fornicata</u>	2	2.0	1.3		
<u>Nassarius trivittatus</u>	2				
Bivalvia					
<u>Abra lioica</u>		0.7			
<u>Anadara transversa</u>		2.7			
<u>Astarte undata</u>		3.3			
<u>Cyclocardia borealis</u>	8	0.7			
<u>Gemma gemma</u>					
<u>Lyonsia hyalina</u>		2.0		0.7	
<u>Mulinia lateralis</u>		0.7		0.7	0.3
<u>Musculus niger</u>					
<u>Nucula proxima</u>			0.7		
<u>Petricola pholadiformis</u>	6				
<u>Pitar morrhuana</u>			0.7		
<u>Tellina agilis</u>			0.7		
<u>Yoldia limatula</u>	54	12.7		1.3	
		0.7		3.3	
				0.7	

Experimental Station EB9 (continued)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
<u>Annelida</u>					
<u>Polychaeta</u>					
<u>Aricidea cerruti</u>	12	1.3		4.0	
<u>Axiothella catenata</u>	8				
<u>Eteone longa</u>	4				
<u>Glycera americana</u>	4				
<u>Hypaniola grayi</u>				1.3	
<u>Lumbrineris brevipis</u>				1.3	
<u>Mediomastus ambiseta</u>	28	4.7	6.0	3.3	1.3
<u>Nephtys incisa</u>	2		4.7	0.7	
<u>Pectinaria gouldii</u>			0.7	0.7	1.3
<u>Pherusa affinis</u>					
<u>Phyllodoce sp.</u>	2				
<u>Polydora websteri</u>			0.7		
<u>Polygordius triestinus</u>			0.7	15.3	
<u>Potamilla reniformis</u>	2			1.3	
<u>Scalibregma inflatum</u>	2			0.7	
<u>Spio setosa</u>					
<u>Sthenelais picta</u>		0.7			
<u>Oligochaeta</u>					
<u>Sp. unidentified</u>	42	4.0			
<u>Arthropoda</u>					
<u>Cephalocarida</u>					
<u>Hutchinsoniella macracantha</u>	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				
<u>Sarsiella americana</u>	6			4.7
Amphipoda				
<u>Ampelisca abdita</u>	2			
<u>Ampelisca vadorum</u>	4	0.7		0.7
<u>Erichthonius brasiliensis</u>				0.7
<u>Luconacia incerta</u>	2			
<u>Parametopella cypris</u>		0.7	0.7	0.3
<u>Phoxocephalus holbolli</u>				
Decapoda				
<u>Pinnixa sayana</u>	6	0.7		

Experimental Station EB10

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

\* Present, but not quantified.

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

Experimental Station EBL0 (continued)

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



Experimental Station EB10 (continued)

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

Experimental Station EB10 (continued)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
<u>Bivalvia</u>					
<u>Anadara transversa</u>	4	0.7	3.3		23.0
<u>Astarte undata</u>	6	14.0	17.3	2.7	3.7
<u>Gemma gemma</u>				0.7	
<u>Lyonsia hyalina</u>	6	1.3	2.0	1.3	4.7
<u>Macoma balthica</u>		0.7			
<u>Mulinia lateralis</u>	4		0.7	2.7	
<u>Musculus niger</u>	2	0.7	1.3		1.0
<u>Nucula proxima</u>	2		0.7		0.3
<u>Pandora gouldiana</u>			1.3	0.7	2.0
<u>Petricola pholadiformis</u>	4	1.3	4.7	0.7	1.7
<u>Pitar morrhuana</u>	2	2.7	2.0	2.7	4.3
<u>Siliqua costata</u>					0.3
<u>Solemya viridis</u>			0.7		
<u>Spisula solidissima</u>	4	1.3			
<u>Tellina agilis</u>	114	18.0	44.7	27.3	41.0
<u>Annelida</u>					
<u>Polychaeta</u>					
<u>Capitella capitata</u>					0.7
<u>Ampharetidae sp.</u>					0.3
<u>Ampharete arctica</u>					1.7
<u>Amphitrite affinis</u>			0.7	2.0	
<u>Aricidea cerruti</u>	326	18.0	34.0	2.0	2.3
<u>Autolytus fasciatus</u>	4				
<u>Axiiothella catenata</u>			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
<u>Cirriformia grandis</u>	16	2.0	14.0	8.0	
<u>Dorvillea sp.</u>		1.3			1.7
<u>Drilonereis magna</u>	4		1.3		
<u>Eumida sanguinea</u>		0.7			
<u>Eusyllis lamelligera</u>		2.0			
<u>Exogone verugera</u>	4	1.3	1.3	1.3	3.3
<u>Glycera americana</u>		1.3			1.0
<u>Harmothoe imbricata</u>		1.3			
<u>Heteromastus sp.</u>		2.0			1.7
<u>Hypaniola grayi</u>	2		2.7		
<u>Lepidonotus squamatus</u>			0.7		
<u>Lumbrineris brevipes</u>			1.3		0.7
<u>Mediomastus ambiseta</u>	212	9.3	20.0		3.3
<u>Nephtys incisa</u>			0.7		0.7
<u>Owenia fusiformis</u>		0.7		0.7	
<u>Pectinaria gouldii</u>	2				1.0
<u>Pherusa affinis</u>		0.7			
<u>Pholoe minuta</u>		2.0	3.3		
<u>Phyllodoce arenae</u>					
<u>Polydora websteri</u>				4.7	
<u>Polygordius triestinus</u>	2212	633.0	409.3	990.7	660.7
<u>Potamilla reniformis</u>		0.7			
<u>Protodorvillea sp.</u>	18		2.0	1.3	
<u>Protodorvillea kerfersteini</u>					3.7
<u>Scoloplos sp.</u>				0.7	
<u>Sigalion arenicola</u>				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		1.3
<u>Sthenelais</u> <u>boa</u>				
<u>Sthenelais</u> <u>picta</u>			1.3	1.3
<u>Chaetozone</u> <u>setosa</u>				5.3
<u>Cossura</u> <u>longocirrata</u>				0.3
Oligochaeta				
Sp. unidentified	24	64.7	6.0	63.3
Arthropoda				
Acarina				
Halacaridae sp.	2			0.7 1.0
Cephalocarida				
<u>Hutchinsoniella</u> <u>macracantha</u>		0.7		
Ostracoda				
<u>Sarsiella</u> <u>americana</u>	16	5.3	2.0	2.0
<u>Sarsiella</u> <u>ozotothrix</u>				0.3
Copepoda				
Harpacticoida sp.	14	0.7	2.0	1.3 4.0
Cirripedia				
<u>Balanus</u> <u>amphitrite</u> <u>niveus</u>		29.3		

Experimental Station EB10 (continued)

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

Experimental Station EB10 (concluded)

Phylum Class or Order Species	Month				
	29-31 Oct**	6 Dec	21 Jan	20 Feb	1 Apr
Tanaidacea					
<u>Leptognatha caeca</u>			2.0	0.7	
Decapoda					
<u>Crangon septemspinosa</u>	2				
<u>Euprognatha rastellifera</u>	12	0.7	2.0	2.0	0.3
<u>Neopanope texana sayi</u>			1.3		1.7
<u>Pagurus longicarpus</u>	2	0.7	1.3		
<u>Panopeus herbstii</u>				1.3	
<u>Pinnixa sayana</u>		2.0			2.7
<u>Xanthidae sp.</u>					0.3
<u>Libinia dubia</u>					
Echinodermata					
<u>Arbacia punctulata</u>			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					
<u>Mulinia lateralis</u>			0.7	2.7	0.7
<u>Nucula proxima</u>			0.7		0.7
Annelida					
Polychaeta					
<u>Aricidea cerruti</u>		0.7			
<u>Mediomastus ambiseta</u>	2		0.7		
<u>Nephtys incisa</u>	6	3.3	0.7		0.3
<u>Pherusa affinis</u>				0.7	1.0
<u>Polydora websteri</u>			0.7		
<u>Polygordius triestinus</u>		0.7	1.3		
<u>Sigambra tentaculata</u>	2				
<u>Spionidae sp.</u>			*		
<u>Stauronereis caecus</u>		1.3			
Oligochaeta					
Sp. unidentified		0.7		0.7	
Arthropoda					
Copepoda					
<u>Harpacticoida sp.</u>		2.0			
Amphipoda					
<u>Ampelisca vadorum</u>					0.3
<u>Phoxocephalus holbolli</u>					0.3
<u>Parametopella cypris</u>					0.3

Control Station EB12\*

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

\* No sample taken in October.



Control Station EB12 (concluded)

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

Experimental Station A1

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

\*Present, but not quantified.

Experimental Station A1 (concluded)

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



Experimental Station A2

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

\*Present, but not quantified.

Experimental Station A2 (continued)

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

Experimental Station A2 (concluded)

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



Experimental Station A3

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

\*Present, but not quantified.

Experimental Station A3 (concluded)

Phylum Class or Order Species	Month			
	22 Apr	12 May	29 May	17 Jun
<u>Nephtys incisa</u>	1.0	2.3	6.3	7.7
<u>Pherusa affinis</u>	0.3			
Arthropoda				
Ostracoda				
<u>Sarsiella zostericola</u>				0.3
Cephalocarida				
<u>Hutchinsoniella macracantha</u>	0.3			
Decapoda				
<u>Crangon septemspinosa</u> (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	*	*		
Thularella 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	
<u>Crepidula plana</u>	1.3	13.0			
<u>Doridella obscura</u>		1.7			
<u>Nassarius trivittatus</u>	0.7	0.3	1.7	3.7	
<u>Retusa obtusa</u>	1.0		0.3	0.3	
Bivalvia					
<u>Lyonsia hyalina</u>	0.3			0.3	
<u>Mulinia lateralis</u>	34.7	7.0	88.0	293.7	
<u>Nucula proxima</u>	0.7		1.7	17.3	
<u>Petricola pholadiformis</u>		0.3			
<u>Pitar morrhuana</u>			0.3	1.0	
<u>Yoldia limatula</u>		0.3		0.3	
Annelida					
Polychaeta					
<u>Glycera americana</u>	0.7	0.3	0.3		
<u>Mediomastus ambiseta</u>		0.3			
<u>Nephtys incisa</u>	1.7	4.7	5.3	5.0	
<u>Pectinaria gouldii</u>		1.7			
<u>Pherusa affinis</u>		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			
	<u>22 Apr</u>	<u>12 May</u>	<u>29 May</u>	<u>17 Jun</u>
Cephalocarida				
<u>Hutchinsoniella macracantha</u>	0.3		0.3	0.1
Ostracoda				
Neonesidea sp.	0.3	1.0		
<u>Sarsiella zostericola</u>				0.3
Copepoda				
Harpacticoida sp.		1.7		
Amphipoda				
<u>Lembos smithi</u>		0.3		
<u>Parametopella cypris</u>	0.7	2.3		
Mysidacea				
<u>Heteromysis formosa</u>		1.0		
Decapoda				
<u>Cancer irroratus</u>	3.3	1.3		
<u>Cancer irroratus</u> (zoea I)		19.7		
<u>Neopanope texana sayi</u>		1.7		
<u>Pagurus longicarpus</u>	0.3	0.3		
<u>Panopeus herbstii</u>	0.3			
Insecta				
Hemipteran				0.3

Experimental Station A5

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



Experimental Station A5 (concluded)

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

Experimental Station A6

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

Experimental Station A7

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

Experimental Station A8

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

\*Present, but not quantified.

Experimental Station A8 (concluded)

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



Experimental Station A9

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

Experimental Station A9 (continued)

Phylum Class or Order Species	Month			
	<u>22 Apr</u>	<u>12 May</u>	<u>29 May</u>	<u>17 Jun</u>
Decapoda				
<u>Cancer irroratus</u> (Zoea I)		1.7		
<u>Crangon septemspinosa</u>				0.3
(post-larva Stage IV)				
<u>Pinnixa chaetoptera</u>		0.3		
Echinodermata				
<u>Asterias forbesi</u>	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	
<u>Stomphia coccinea</u>				0.3
Nemertea				
<u>Cerebratulus lacteus</u>	1.0	1.3	1.0	2.3
<u>Tubulanus pellucidus</u>		3.0		
Mollusca				
Bivalvia				
<u>Lyonsia hyalina</u>		0.3		0.3
<u>Mulinia lateralis</u>	1.7	3.7	33.0	29.0
<u>Nucula proxima</u>	0.3		3.0	19.0
<u>Yoldia limatula</u>	0.3	0.3		0.3
Annelida				
Polychaeta				
<u>Glycera americana</u>		0.3	0.3	0.3
<u>Lumbrineris fragilis</u>	0.3			
<u>Mediomastus ambiseta</u>				0.3

\* Present, but not quantified.



Experimental Station A10 (concluded)

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

Experimental Station All

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

\* Present, but not quantified.

Experimental Station All (concluded)

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

Experimental Station A12 (concluded)

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

Experimental Station A13

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

\* No sample.



Experimental Station A14

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

\* Present, but not quantified.

Experimental Station A14 (continued)

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

Experimental Station A14 (concluded)

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



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
<u>Tubulanus pellucidus</u>				1.7
Mollusca				
Bivalvia				
Mulinia lateralis	1.3	1.3	36.0	299.7
Nucula proxima			1.0	25.3
<u>Yoldia limatula</u>		0.3		1.0
Annelida				
Polychaeta				
Mediomastus ambiseta				3.7
<u>Nephtys incisa</u>	1.0	1.0	5.0	10.3
<u>Pherusa affinis</u>	0.3			
Arthropoda				
Cephalocarida				
<u>Hutchinsoniella macracantha</u>	3.7			
Copepoda				
Harpacticoida sp.	0.3			
Mysidacea				
<u>Neomysis americana</u>		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			
	<u>22 Apr</u>	<u>12 May</u>	<u>29 May</u>	<u>17 Jun</u>
Bivalvia				
<u>Lyonsia hyalina</u>				0.3
<u>Mulinia lateralis</u>		1.0	2.3	1.0
<u>Nucula proxima</u>		0.3		
<u>Pitar morrhuana</u>		0.7		
<u>Yoldia limatula</u>				0.7
Annelida				
Polychaeta				
<u>Cirriformia grandis</u>				2.0
<u>Cossura longocirrata</u>				0.3
<u>Glycera americana</u>				0.3
<u>Lepidometria commensalis</u>			0.7	2.0
<u>Maldanidae sp.</u>				
<u>Mediomastus ambiseta</u>				19.0
<u>Nephtys incisa</u>	3.7	2.3	4.0	7.0
<u>Nereis succinea</u>				0.3
<u>Nichomache lumbricalis</u>			0.3	
<u>Pectinaria gouldii</u>				0.3
<u>Pherusa arenosa</u>				3.7
<u>Potamilla neglecta</u>				1.0
<u>Potamilla reniformis</u>				1.3
<u>Sabellaria vulgaris</u>				0.7
<u>Pherusa affinis</u>				0.7
<u>Sigambra sp.</u>		0.7		
<u>Syllis gracilis</u>				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 <u>Hutchinsoniella macracantha</u>		0.3		
Copepoda Harpacticoida sp.				0.3
Amphipoda Paracaprella tenuis <u>Aeginina longicornis</u> <u>Luconacia incerta</u> <u>Parametopella cypris</u>		1.0 0.7 0.3		0.3 0.3
Decapoda Xanthidae sp.	0.7			0.7
Insecta Dipteran Hemipteran Hymenopteran			0.3	0.3 0.3

Experimental Station EB11

Phylum Class or Order Species	Month			
	22 Apr	12 May	29 May	17 Jun
Cnidaria				
Hydrozoa				
<u>Thuiaria argentea</u>		*		*
<u>Thuiaria similis</u>				
Anthozoa				
<u>Ceriantheopsis americanus</u>	0.3	0.7		0.3
Mollusca				
Gastropoda				
<u>Nassarius trivittatus</u>		0.3		
Bivalvia				
<u>Mulinia lateralis</u>		0.3	0.3	
<u>Nucula proxima</u>		0.7	2.7	0.3
<u>Yoldia limatula</u>			0.3	0.3
Annelida				
Polychaeta				
<u>Aricidea cerruti</u>		1.3		
<u>Maldanidae sp.</u>		0.3		
<u>Nephtys incisa</u>		0.7	1.3	1.0
<u>Pherusa affinis</u>	0.3			
<u>Polydora websteri</u>		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			
<i>Campanularia</i> sp.		*	
<i>Hydrallmania falcata</i>	*	*	
<i>Obelia flabellata</i>		*	
<i>Obelia</i> sp.		*	
<i>Podocoryne carnea</i>		*	*
<i>Thuiaria argentea</i>		*	
<i>Thuiaria similis</i>		*	
Anthozoa			
<i>Metridium senile</i>	0.7	0.3	
Entoprocta			
<i>Barentsia</i> sp.		*	
Ectoprocta			
<i>Aevertillia armata</i>		*	
<i>Alcyonidium verrilli</i>		*	
<i>Bowerbankia</i> sp.		*	
<i>Bugula</i> sp.		*	
Mollusca			
Gastropoda			
<i>Coryrella verrucosa</i>			1.7
<i>Cratena aurantia</i>		0.7	
<i>Crepidula fornicata</i>		0.7	
<i>Crepidula plana</i>		3.7	0.3
<i>Cutnona concinna</i>		1.3	
<i>Cylichna alba</i>	1.3		
<i>Epitonium humphreysii</i>		0.3	
<i>Lunatia heros</i>	0.3		0.3

\* Present, not quantified.

Experimental Station EB3 (continued)

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



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NEW YORK OCEAN SCIENCE LAB MONTAUK

F/G 6/6

AQUATIC DISPOSAL FIELD INVESTIGATIONS, EATONS NECK DISPOSAL SIT--ETC(U)

NOV 77 D K SERAFY, D J HARTZBAND, M BOWEN

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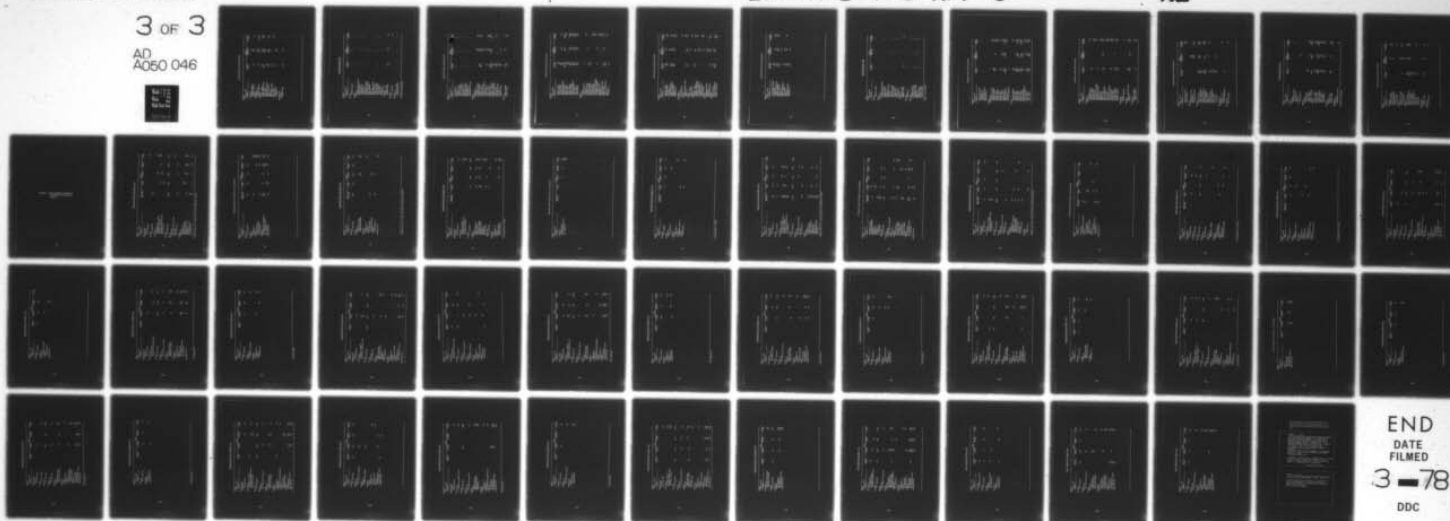
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Experimental Station EB3 (concluded)

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

Experimental Station EB4

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

\* Present, not quantified.



Experimental Station EB4 (continued)

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

Experimental Station EB4 (continued)

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

Experimental Station EB4 (continued)

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



Experimental Station EB4 (concluded)

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

Experimental Station EB9

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

\* Present, not quantified

Experimental Station EB9 (continued)

Phylum Class or Order Species	Month		
	21 Dec	27-28 Feb	13 May
<i>Hippoporina porosa</i>			*
<i>Hippoporina</i> sp.			*
<i>Lichenopora</i> sp.	*		
<i>Membranipora tenuis</i>	*	*	*
<i>Microporella</i> sp.	*		
Mollusca			
Gastropoda			
<i>Coryphella verrucosa</i>			41.0
<i>Crepidula fornicata</i>	30.0		7.7
<i>Crepidula plana</i>	30.0	0.7	75.7
<i>Doridella obscura</i>			0.7
<i>Eupleura caudata</i>			0.3
<i>Lunatia heros</i>	3.0		
<i>Lunatia triseriata</i>		2.0	1.0
<i>Mitrella lunata</i>	94.0	2.0	10.0
<i>Nassarius trivittatus</i>	11,856.7	1,767.0	1,145.3
<i>Retusa obtusa</i>			1.3
<i>Turbonilla interrupta</i>	1.0		
Bivalvia			
<i>Anadara transversa</i>	0.7		0.3
<i>Astarte undata</i>	12.7		
<i>Lyonsia hyalina</i>	26.3	0.7	10.3
<i>Mulinia lateralis</i>	688.7	462.7	541.7
<i>Musculus niger</i>	0.3		1.0
<i>Nucula proxima</i>	417.3	1,081.7	6,849.3
<i>Pandora gouldiana</i>	10.3	7.3	
<i>Petricola pholadiformis</i>			2.0
<i>Pitar morrhuana</i>	77.0	5.0	11.7
<i>Tellina agilis</i>	160.7	16.0	16.0
<i>Yoldia limatula</i>	36.7	104.0	11.3



Experimental Station EB9 (continued)

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

Experimental Station EB9 (Concluded)

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

Experimental Station EB11

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

\* Present, not quantified.



Experimental Station EB11 (concluded)

Phylum Class or Order Species	Month		
	21 Dec	27-28 Feb	13 May
Amphipoda			
<i>Aeginina longicornis</i>		0.3	0.7
<i>Ampelisca vadorum</i>			0.7
<i>Orchomenella pinguis</i>		0.7	
<i>Uciola irrorata</i>			
Sp. unidentified			0.3
Mysidacea			
<i>Heteromysis formosa</i>		0.3	
<i>Neomysis americana</i>	8.7	2.7	135.7
Sp. unidentified		0.3	
Decapoda			
<i>Cancer irroratus</i>	0.3	0.3	1.3
<i>Crangon septemspinosa</i>	103.0	2.0	10.3
<i>Pagurus longicarpus</i>	32.0	8.0	6.0
<i>Pinnixa pollicaris</i>	0.3		
<i>Pinnixa chaetoptera</i>	0.3		
<i>Pinnixa sayana</i>	0.7		
<i>Pinnixa</i> sp.			0.3
<i>Xanthidae</i> sp.	0.7		
Echinodermata			
Asteroidea			
<i>Asterias forbesi</i>	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			
	<u>29-31 Oct*</u>	<u>6 Dec</u>	<u>21 Jan</u>	<u>20 Feb</u> <u>1 Apr</u>
Platyhelminthes				
Turbellaria				
Sp. unidentified				2.0
Nemertea				
Sp. unidentified	21.0			
Kinorhyncha				
<i>Echinoderes</i> sp.			0.3	0.3
<i>Pyrophophyes frequens</i> (larva)				0.3
<i>Trachydemus mainensis</i>		0.7	1.3	0.3
<i>Trachydemus mainensis</i> (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				
<i>Capitellidae</i> sp.		0.3		
<i>Cossura longocirrata</i>		0.3	1.0	0.3
<i>Mediomastus ambiseta</i>	1.0		2.0	2.0
<i>Pilgariidae</i> sp.				0.7
<i>Polygordius triestinus</i>	2.0			
Sp. unidentified	4.0	1.7	1.3	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	1 Apr
Oligochaete				
Sp. unidentified	17.0	0.3	1.0	0.3
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.	6.0			0.6
Ostracoda				0.6
<i>Cytheromorpha</i> sp.				0.3
<i>Loxococoncha granulata</i>				0.3
Sp. unidentified	3.0			0.3
Copepoda				
<i>Harpacticoida</i> sp. unidentified	93.0	6.7	6.0	8.0
Sp. unidentified (Nauplii)	4.0	0.3		0.7
Sp. unidentified		0.3	0.3	
Unidentified larva	4.0			0.7

Experimental Station EB3 (Below 5 cm)

Phylum Class or Order Species	Month			
	29-31 Oct*	6 Dec	21 Jan	20 Feb
Nematoda				
Sp. unidentified	36.0	3.0	33.7	25.3
3.7				
Annelida				
Polychaeta				
<i>Cossura longocirrata</i>			0.3	1.0
<i>Mediomastus ambleseta</i>			0.3	0.7
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.				0.3
Ostracoda				
Sp. unidentified	2.0		0.3	
<i>Loxoconcha granulata</i>				
Copepoda				
<i>Harpacticoida</i> 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
Platyhelmintha				
Turbellaria				
Sp. unidentified				2.3
Kinorhyncha				
<i>Pycnophyes frequens</i>				0.7
<i>Pycnophyes frequens</i> (larva)				0.7
<i>Trachydermus mainensis</i>				1.3
Nematoda				
Sp. unidentified	15.3	53.0	42.3	199.7
Annelida				
Polychaeta				
<i>Cossura longocirrata</i>	0.3	0.3	0.3	1.0
<i>Hypaniola grayi</i>				0.3
<i>Mediomastus ambiseta</i>	0.3	0.3	0.3	1.3
<i>Polygordius triestinus</i>	0.3			
<i>Maldanidae</i> sp.				0.3
<i>Pilgaridae</i> sp.				0.3
Sp. unidentified	0.3	1.7		0.7
Oligochaeta				
Sp. unidentified	0.7		0.3	
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.				0.3
Ostracoda				
<i>Cytheromorpha</i> sp.		0.3	0.3	0.3
<i>Sarsiella ozotothrix</i>				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	1 Apr
Copepoda				
<i>Harpacticoida</i> sp.			1.7	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
Nematoda				
Sp. unidentified	1.0	1.0	2.0	2.0
1.3				
Annelida				
Polychaeta				
Sp. unidentified				0.3
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.				0.3
Ostracoda		0.3		
<i>Schlerochilus contortus</i>				
Copepoda		0.3		
<i>Harpacticoida</i> sp.				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
Platyhelminthes				
Turbellaria				
Sp. unidentified	26.0	7.3	0.3	2.3
Nemertea				
Sp. unidentified	1.0	1.3		
Kinorhyncha				
<i>Pycnophyes frequens</i>	1.0		0.3	1.3
<i>Pycnophyes frequens</i> (larva)	2.0	0.3		1.3
<i>Trachydermus mainensis</i>	10.0	2.0	1.0	1.3
<i>Trachydermus mainensis</i> (larva)	6.0			0.3
Sp. unidentified	2.0			
Nematoda				
Sp. unidentified	2214.0	527.7	315.7	704.7
Mollusca				
Gastropoda				
Sp. unidentified (egg case)			0.7	2.7
Pelecypoda				
Sp. unidentified	8.0	0.3		0.3
Annelida				
Polychaeta				
<i>Cirratulidae</i> sp.	1.0			
<i>Cirriformia grandis</i>	1.0			
<i>Cossura longocirrata</i>	1.0	0.3		0.3
<i>Dodecaceria</i> sp.	1.0			
<i>Hypaniola grayi</i>	1.0			
<i>Mediomastus ambiseta</i>	14.0	1.3	0.7	2.3
<i>Polycirrus</i> 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
<i>Polygordius triestinus</i>		0.3			
<i>Protodorvillea gaspeensis</i>	1.0	0.3			
<i>Maldanidae</i> sp.		0.3			
<i>Pilgaridae</i> sp.		0.3			
<i>Spionidae</i> sp.	1.0				
<i>Terebellidae</i> 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					
<i>Hutchinsoniella macracantha</i>	1.0				
Acarina					
<i>Halacaridae</i> sp.	3.0	1.7		0.7	0.3
Ostracoda					
<i>Cytheromorpha</i> sp.	2.0	0.3			0.3
<i>Loxoconcha granulata</i>		0.3			0.3
<i>Loxoconcha sperata</i>				0.3	
Sp. unidentified	9.0			1.7	
<i>Sarsiella zostericola</i>	3.0				
<i>Semicythera nigrescens</i>				0.3	
Copepoda					
<i>Harpacticoida</i> sp.	134.0	9.0	1.3	40.0	1.7
Sp. unidentified (nauplii)	10.0	2.0		1.0	0.3
Sp. unidentified				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
Platyhelminthes				
Turbellaria				
Sp. unidentified	1.0	0.7	0.3	0.3
Kinorhyncha				
<i>Trachydemus mainensis</i>	1.0			
<i>Trachydemus mainensis</i> (larva)	1.0			
Sp. unidentified	2.0			
Nematoda				
Sp. unidentified	346.0	42.3	119.7	100.7
Mollusca				
Gastropoda				
Sp. unidentified (egg case)				0.7
Pelecypoda				
Sp. unidentified	2.0			
Annelida				
Polychaeta				
<i>Dodecaceria</i> sp.	1.0			
<i>Malanidae</i> sp. unidentified		0.3		
<i>Mediomastus ambiseta</i>	4.0			0.3
<i>Polygordius triestinus</i>	-	-	-	-
Sp. unidentified	1.0	0.3		0.3
Oligochaeta				
Sp. unidentified	3.0			
Arthropoda				
Acarina				
<i>Halacaridae</i> 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					
<i>Hutchinsoniella macracantha</i>	4.0				
Ostracoda					
Sp. unidentified	2.0	0.3			
<i>Cytheromorpha</i> sp.		0.3			
<i>Sclerochilus contortus</i>					0.3
Copepoda					
Sp. unidentified		0.7	0.3		
Sp. unidentified (nauplii)	1.0				
<i>Harpacticoida</i> 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					
<i>Mediomastus ambiseta</i>					0.3
Arthropoda					
Ostracoda					
<i>Cytheromorpha</i> sp.			0.3		
<i>Loxococoncha granulata</i>		0.3			
Copepoda					
<i>Harpacticoida</i> 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	Month			
	29-31 Oct*	6 Dec	21 Jan	20 Feb
Nematoda				
Sp. unidentified		1.3	2.7	3.0
7.3				
Annelida				
Polychaeta				
<i>Mediomastus ambiseta</i>			0.3	
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.		0.3		
Ostracoda				
Sp. unidentified			0.3	
Copepoda				
<i>Harpacticoida</i> 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				
<i>Cossura longocirrata</i>		0.7		0.3
<i>Mediomastus ambiseta</i>		2.0	0.3	0.7
<i>Pilargidae</i> sp.				0.3
Sp. unidentified (larva type #1)		0.3		
Oligochaeta				
Sp. unidentified		0.3		
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.				
Copepoda				
Sp. unidentified				1.3
<i>Harpacticoida</i> sp.		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	Month			
	<u>22 Apr</u>	<u>12 May</u>	<u>29 May</u>	<u>17 Jun</u>
Nematoda				
Sp. unidentified	2.3	1.3	6.0	
Arthropoda				
Ostracoda				
<i>Loxococoncha granulata</i>		0.3		
Copepoda				
<i>Harpacticoida</i> sp.			1.0	
Unidentified larva			0.3	

Experimental Station A2 (Upper 5 cm)

Phylum Class or Order Species	Month			
	<u>22 Apr*</u>	<u>12 May</u>	<u>29 May</u>	<u>17 Jun</u>
Platyhelminthes				
Turbellaria				
Sp. unidentified		0.3		
Kinorhyncha				
Sp. unidentified			0.3	0.3
<i>Trachydemus mainensis</i> (larvae)				
Nematoda				
Sp. unidentified		149.3	214.0	171.7
Mollusca				
Gastropoda				
Sp. unidentified (egg case)		1.0	2.7	1.7
Annelida				
Polychaeta				
<i>Cossura longocirrata</i>			0.7	0.3
<i>Mediomastus ambiseta</i>		2.3	0.7	1.0
Arthropoda				
Ostracoda				
Sp. unidentified				0.3
Copepoda				
<i>Harpacticoida</i> 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				
<i>Mediomastus ambiseta</i>				0.7
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.		0.3		0.3
Copepoda				
<i>Harpacticoida</i> 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				
<i>Trachydermus mainensis</i>		0.3		0.7
<i>Trachydermus mainensis</i> (larvae)		0.3		
Nematoda				
Sp. unidentified	55.0	173.7	63.0	106.3
Mollusca				
Gastropoda				
Sp. unidentified		0.3		
Annelida				
Polychaeta				
<i>Cossura longocirrata</i>				0.3
<i>Mediomastus ambiseta</i>		4.3		1.7
<i>Pilangidae</i> sp.				0.3
Oligochaeta				
Sp. unidentified		0.3		
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.				0.3
Ostracoda				
<i>Loxoconcha granulata</i>				0.3
Copepoda				
<i>Harpacticoida</i> 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		0.3	
<i>Trachydermus mainensis</i> (larvae)				
Nematoda				
Sp. unidentified	28.7	1.7	4.3	2.3
Mollusca				
Gastropoda				
Sp. unidentified (egg case)		0.3		
Annelida				
Polychaeta		0.7	0.3	
<i>Mediomastus ambiseta</i>				
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.		0.3		
Ostracoda				
<i>Loxococoncha granulata</i>				0.3
Copepoda				
Sp. unidentified		0.3		
<i>Harpacticoida</i> sp.	0.7		0.3	

Experimental Station A5 (Upper 5 cm)

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

\* No sample taken.



Experimental Station A5 (Below 5 cm)

Phylum Class or Order Species	Month			
	<u>22 Apr*</u>	<u>12 May</u>	<u>29 May</u>	<u>17 Jun</u>
Nematoda				
Sp. unidentified		10.0	1.3	1.0
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.				0.3
Copepoda				
<i>Harpacticoida</i> 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	0.3
<i>Trachydemus mainensis</i>				
Nematoda				
Sp. unidentified		61.0	35.0	176.0
Mollusca				
Gastropoda				
Sp. unidentified (egg case)				2.0
Annelida				
Polychaeta				
<i>Cossura longocirrata</i>			0.3	1.0
<i>Mediomastus ambiseta</i>		0.5		2.3
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.				0.7
Ostracoda				
<i>Loxococoncha granulata</i>		0.5		
Copeoda				
Sp. unidentified				0.3
<i>Harpacticoida</i> sp.		3.5	0.7	31.0
Sp. unidentified (nauplii)		1.5	0.3	0.7
Unidentified larva				6.0

\* No sample taken.

Experimental Station A6 (Below 5 cm)

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

\* No sample taken.



Experimental Station A7 (Upper 5 cm)

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

Experimental Station A7 (Below 5 cm)

Phylum Class or Order Species	Month			
	22 Apr	12 May	29 May	17 Jun
Nematoda				
Sp. unidentified	1.3	4.7	2.3	1.3
Annelida				
Polychaeta				
<i>Cossura longocirrata</i>			0.3	0.3
<i>Mediomastus ambiseta</i>				
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			
<i>Pycnophyes frequens</i>			0.3
<i>Pycnophyes frequens</i> (larvae)		0.3	
<i>Trachydemus mainensis</i>			1.0
Nematoda			
Sp. unidentified		28.7	15.3 124.0
Mollusca			
Gastropoda			
Sp. unidentified (egg case)			0.7
Annelida			
Polychaeta			
<i>Cossura longocirrata</i>			1.0
<i>Mediomastus ambiseta</i>			2.0
<i>Pilargidae</i> sp.			0.3
Oligochaeta			
Sp. unidentified			0.3
Arthropoda			
Acarina			
<i>Halacaridae</i> sp.			0.3
Cephalocarida			
<i>Hutchinsoniella macracantha</i> (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	--	--	--	--
<i>Harpacticoida</i> 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		
	<u>22 Apr *</u>	<u>12 May</u>	<u>29 May</u> <u>17 Jun</u>
Nematoda			
Sp. unidentified		2.0	0.7      2.7
Arthropoda			
Copepoda			
<i>Harpacticoida</i> sp.			2.0
Sp. unidentified (nauplii)			0.3

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\* 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				
<i>Cossura longocirrata</i>				0.7
<i>Mediomastus ambiseta</i>		1.0	0.3	1.0
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.				1.0
Ostracoda				
<i>Cytheromorpha</i> sp.				
<i>Loxococoncha granulata</i>		0.3		0.7
<i>Loxococoncha sperata</i>				0.3
Copepoda				
Sp. unidentified				3.7
<i>Harpacticoida</i> 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.



Experimental Station A10 (Below 5 cm)

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

\* No sample taken.

Experimental Station A11 (Upper 5 cm)

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



Experimental Station A13 (Upper 5 cm)

Phylum Class or Order Species	22 Apr*	12 May	29 May*	17 Jun
Platyhelminthes				
Turbellaria				
Sp. unidentified				0.3
Kinorhyncha				
<i>Trachydemus mainensis</i> (larvae)				0.3
Nematoda				
Sp. unidentified		10.0		230.0
Mollusca				
Gastropoda				
So. unidentified (egg case)				2.7
Annelida				
Polychaeta				
<i>Cossura longocirrata</i>				0.3
<i>Mediomastus ambiseta</i>				1.0
<i>Pilgaridae</i> sp.				0.3
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.				0.3
Cephalocarida				
<i>Hutchinsoniella macracantha</i> (juv.)				1.0
Copepoda				
Sp. unidentified		0.3		
<i>Harpacticoida</i> 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
<i>Harpacticoida</i> 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				0.7
Sp. unidentified				
Kinorhyncha				
<i>Pycnophes frequens</i>				0.3
<i>Pycnophes frequens</i> (larva)				0.3
<i>Trachydemus mainensis</i>				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				
<i>Cossura longocirrata</i>			0.7	0.7
<i>Mediomastus ambiseta</i>	0.3	0.3		1.7
Oligochaeta				
Sp. unidentified				0.7
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.				0.7
Ostracoda				
<i>Loxoconcha granulata</i>				
Copepoda				
Sp. unidentified			0.3	2.0
<i>Harpacticoida</i> 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		
	<u>22 Apr</u>	<u>12 May</u>	<u>29 May</u> <u>17 Jun</u>
Kinorhyncha			
<i>Pycnophes frequens</i> (larvae)			1.0
<i>Trachydemus mainensis</i>			0.3
Nematoda			
Sp. unidentified	2.3	0.7	1.0 63.7
Arthropoda			
Copepoda			
Sp. unidentified			0.3
<i>Harpacticoida</i> sp.		0.3	23.3
Sp. unidentified (nauplii)			11.0
Unidentified larvae			9.3

Control Station EB2 (Upper 5 cm)

Phylum Class or Order Species	Month			
	22 Apr	12 May	29 May	17 Jun
Kinorhyncha				
Sp. unidentified	0.3	0.7		
<i>Trachydemus mainensis</i>			0.3	
<i>Pycnophyes frequens</i> (larvae)				
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		0.7
<i>Cosura longocirrata</i>		0.3		0.3
<i>Mediomastus ambiseta</i>		3.0	0.7	
<i>Polychaeta larva</i> (type #1)	1.3	0.3		
Oligochaeta				
Sp. unidentified			0.3	
Arthropoda				
Acarina				
<i>Halacaridae</i> sp.				1.0
Ostracoda				0.3
Sp. unidentified		0.3		
<i>Cytheromorpha</i> sp.				
Copepoda				
Sp. unidentified		5.0	0.7	1.3
<i>Harpacticoida</i> 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	Month			
	22 Apr	12 May	29 May	17 Jun
Kinorhyncha <i>Trachydemus mainensis</i>	0.3			
Nematoda Sp. unidentified	3.7	2.3	0.3	6.0
Annelida Polychaeta <i>Mediomastus ambiseta</i> Sp. unidentified	0.3	0.3		
Arthropoda Copepoda Sp. unidentified <i>Harpacticoida</i> sp.	0.3		0.3	0.7



Control Station EB11 (Upper 5 cm)

Phylum Class or Order Species	Month			
	<u>22 Apr</u>	<u>12 May</u>	<u>29 May</u>	<u>17 Jun</u>
Nematoda				
Sp. unidentified	22.0	16.0	11.7	31.0
Mollusca				
Gastropoda				
Sp. unidentified (egg case)		0.3		0.3
Annelida				
Polychaeta				
<i>Ancistrosyllis</i> sp.		0.3		
<i>Cossura longocirrata</i>		0.3		
<i>Mediomastus ambiseta</i>				0.3
Arthropoda				
Ostracoda				
Sp. unidentified				0.3
<i>Cytheromorpha</i> sp.		0.3		
<i>Loxoconcha granulata</i>				0.3
<i>Loxoconcha sperata</i>				0.3
Copepoda				
Sp. unidentified	0.3			0.3
<i>Harpacticoida</i> 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		
	<u>22 Apr</u>	<u>12 May</u>	<u>17 Jun</u>
Nematoda			
Sp. unidentified	0.7	1.3	3.7
Mollusca			
Gastropoda			
Sp. unidentified (egg case)			0.3
Arthropoda			
Acarina			
<i>Halacaridae</i> sp.			0.3
Ostracoda			
<i>Loxococoncha granulata</i>			0.7
<i>Loxococoncha sperata</i>			0.3
Copepoda			
Sp. unidentified		0.3	0.3
<i>Harpacticoida</i> sp.			0.3
Sp. unidentified (nauplii)			1.0
Unidentified larvae			2.0

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Serafy, D Keith

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