STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
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POST OFFICE BOX CN-029
TRENTON, N. J. 08625

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REPORT OF DATA COLLECTED FOR ECOLOGICAL STUDIES FOR THE OYSTER CREEK GENERATING STATION

SEPTEMBER 1977 - MARCH 1978

PART ONE

FINFISH, SHELLFISH, AND PLANKTON

by

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For

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January 1979

5/5/10 OCLC # 6069909 033 Horizon # 402672

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INTRODUCTION

The Oyster Creek Generating Station (OCGS) of Jersey Central Power and Light Co. is a 620 MWe boiling water reactor which has been in commercial operation since December 1969. It is located 3.2 km inland from Barnegat Bay in Lacey Township, New Jersey. Oyster Creek and the south branch of Forked River have been modified as a discharge and intake canal, respectively (Fig. 1). When OCGS is in operation, the flow in the south branch of Forked River is always upstream toward OCGS, and the flow in Oyster Creek is always downstream toward Barnegat Bay. Tidal range at the mouth of Oyster Creek is 0.15 m (U. S. Atomic Energy Commission, AEC 1974).

Barnegat Bay is a relatively large (surface area 16,714 ha), shallow (average depth 1.5 m) estuary (AEC 1974). The eastern study area contains extensive shoal areas (depth 0.2 to 0.9 m); the central and western Bay is deeper and ranges from 1.2 to 3.7 m (National Oceanic and Atmospheric Administration, NOAA 1976). Interchange of water between the Atlantic Ocean and the Bay is limited and occurs through Barnegat Inlet which is narrow (Makai 1973, Carpenter 1963). Normal tidal range in Barnegat Bay is 0.3 m (Makai 1973).

Several studies of Barnegat Bay and OCGS have been conducted prior to the studies undertaken by Ichthyological Associates, Inc. (I.A.). Makai (1973) reported on the physicochemical parameters of upper Barnegat Bay, and Halgren (1973) conducted a study on the usage of the upper Bay.

Wurtz (1969), Marcellus (1972), and McClain (1973) reported on the fishes of the Bay. Wurtz (1972) also reported preliminary findings on impingement of fishes and crabs at OCGS. Wurtz (1965, 1971) conducted brief studies of zooplankton and ichthyoplankton in limited portions of the Bay, and Sandine (1973) studied the condition of microzooplankton entrained at OCGS. Rutgers University conducted studies of the benthic invertebrates and benthic algae (Loveland et al. 1966-1972, 1974); this work was reviewed by Vouglitois (1976).

Since 8 September 1975, I.A. has conducted studies to determine and assess the biological impact of OCGS and its discharges and has made general ecological surveys of Barnegat Bay, Oyster Creek, and Forked River. Data collected from September 1975 through August 1976 and September 1976 through August 1977 were reported by Tatham et al. (1977 a, b; 1978 a, b). This report presents data from impingement and entrainment sampling programs and from fin- and shellfish collections made at selected stations in Barnegat Bay from September 1977 through March 1978. Since this document serves primarily as a progress report, the emphasis is on presentation of the data rather than extensive analyses.

Impingement and fisheries studies emphasized fin- and shellfish designated as important by the U. S. Environmental Protection Agency (EPA) and the U. S. Nuclear Regulatory Commission (NRC). These were the Atlantic menhaden, bay anchovy, Atlantic silverside, threespine stickleback, northern pipefish, striped bass, bluefish, weakfish, northern kingfish, summer flounder, winter flounder, northern puffer, sand shrimp, and blue crab. Life histories of most of these species were reported by Tatham et al.

(1977 a, 1978 a). The common and scientific names of all vertebrates and invertebrates taken by the impingement and fisheries programs are given in Tables 1-3.

Emphasis in the plankton program was also placed on forms designated as important species by the NRC or the EPA. Important macrozooplankton were the ctenophores Mnemiopsis leidyi and Beroe spp., the arrowworms Sagitta elegans and Sagitta spp., the sand shrimp Crangon septemspinosa, grass shrimp Palaemonetes spp., the mysids Neomysis americana and Mysidopsis bigelowi, polychaete epitokes and individuals less than 1 mm, and blue crab zoeae and megalopae. Important ichthyoplankton included the eggs and larvae of the Atlantic menhaden, bay anchovy, threespine stickleback, northern pipefish, striped bass, bluefish, weakfish, northern kingfish, summer flounder, winter flounder, and northern puffer.

IMPINGEMENT OF FISHES AND MACROINVERTEBRATES ON THE TRAVELING SCREENS

Gerald J. Miller

Introduction

Since September 1975, Ichthyological Associates, Inc. has studied the effect of the impingement of organisms on the vertical traveling screens which protect the intake to the OCGS circulating-water system. Miller (1977) reported impingement data from 8 September 1975 through 4 September 1976, and Miller (1978) reported data from 5 September 1976 through 3 September 1977. Data presented here are a continuation of those studies and include collections from 4 September 1977 through 1 April 1978. The objectives of these studies were to determine the species composition and abundance of organisms impinged on the OCGS screens and their survival rate when returned to the Bay. An evaluation of these losses on the populations in Barnegat Bay was discussed by JCP&L (1978).

Materials and Methods

Samples of impinged organisms were taken from the sluiceway after the last traveling screen and from the sluiceway pit (Fig. 2). A 45.7 x 50.8 x 61.0-cm wire basket (10.7-mm mesh) was used to collect organisms from the sluiceway (Sta. 8) to determine their contition. A 101.6 x 101.6 121.9-cm wire basket (10.7-mm mesh) was used to collect organisms from the sluiceway pit.

Samples were usually taken two nights a week during two periods; period 3 was from sunset to 6 h after sunset and period 4 was from 6 h after sunset to sunrise.

After the screens were washed at the beginning of the sampling period, the pit sampler was lowered into place. Subsequently, the screens washed automatically either every 2 h or when the pressure differential across the screens reached a critical level. Automatic screen washes usually involved about two complete rotations of the screens and lasted for approximately 20 min. Screen washes triggered either manually or by differential pressure lasted from 10 to 11 min.

After the screens had washed for 1 min, the sluiceway sampler was inserted. After 1 min or less, depending on the mass of organisms present, it was removed and the organisms were placed on a 3.9-m^2 sorting table. The sluiceway sampler was replaced, and the procedure repeated until a maximum of six, 1-min samples was taken during each screen wash. For 20-min screen washes, the sluiceway sampler was used only during the first 11 min of the wash.

Collections from the sluiceway sampler were rapidly processed on the sorting table. Fishes were placed into water in insulated coolers, and crabs were placed into 10-liter plastic buckets. The condition (live/dead/damaged) of the organisms was determined 5 to 10 min after the last sluiceway sample was taken. Live denoted a specimen which had no apparent damage and which was swimming normally. Damaged specimens were alive (opercular movement in fishes) but had external damage or abnormal behavior. Dead fishes showed no opercular movement,

and dead invertebrates showed no movement of appendages.

Organisms washed from the screen and not collected in the sluiceway sampler passed into the pit sampler. At the end of the screen wash, this sampler was removed and the specimens were processed. The number and weight of abundant species were estimated volumetrically. After all other species were removed from the sample, the remaining debris and abundant organisms were thoroughly mixed and a known volume removed. The number and weight of abundant species in this subsample were determined and were used to estimate the number and weight of these species in this portion of the sample. Physicochemical parameters were recorded with each collection.

When the screens washed frequently or continuously, it was not always possible to collect all impinged organisms because the screen wash overflowed the pit sampler. When this occurred, the pit sampler was removed before it overflowed, and some portion of the screen wash was missed. If some portion of the screen washes were missed, the portions of the screen washes that were sampled were used to estimate the total number and weight of organisms impinged during that period.

For a week, estimated impingement during a period (W_a) was calculated by the formula:

$$W_a = \frac{P_a \cdot 7}{s}$$

P_a = acutal or extrapolated number or weight of specimens impinged in a period during a week.

s = number of times a period was sampled during the week.

The sum of the estimated weekly impingement at night during each of the

two periods was the total weekly impingement estimate at night. A Hewlett-Packard 9830A programmable calculator was used for data compilation and statistical analyses.

Stratified sampling with optimal allocation (Snedecor and Cochran 1967) was used to estimate the total number of organisms and of various species impinged during the 7 months. The mean number impinged during the 7 months ($\bar{Y}_{st}$) was estimated by the formula:

$$\bar{Y}_{st} = \sum N_a/N \cdot \bar{Y}_a$$

$\bar{Y}_a$ = sample mean in stratum a.

N_a = number of sampling units in stratum a.

N = number of sampling units in all strata sampled.

The strata were the two time periods sampled during a night. The sampling unit size was 1 h, and each sample mean was expressed as the number of specimens impinged per hour. This sample mean was derived by dividing the number of individuals taken from all samples collected during a time period by the total duration of these samples. This weighted mean of the number impinged per hour was used as single sample because the duration of individual samples in a time period was unequal.

The total number of individuals impinged at night during the 7 months (Y) was computed by the formula:

$$Y = \bar{Y}_{st} \cdot D \cdot T$$

D = the number of days the OCGS screens operated during the 7 months of the year.

T = 13.2 (average hours of darkness for the 7 months).

Results

A total of 363 collections was taken in the 30-week period from 4 September 1977 through 1 April 1978 with 168 collections taken in period 3 and 195 collections in period 4 (Appendix Table 1). Each collection represented the organisms impinged for a duration of 20 min to 4 h 10 min. Physicochemical parameters associated with these collections were summarized for each week (Table 4).

A total of 3,906,104 ± 639,402 specimens (111 taxa) that weighed 19,235,146 ± 4,510,930 g were estimated by the stratified sampling method to have been impinged at night (Appendix Tables 2 through 31). An estimated 360,025 ± 81,870 fishes (9% of all organisms impinged, 84 taxa) that weighed 11,773,290 ± 4,132,724 g (61% of the biomass impinged) were impinged. Some 3,546,081 ± 623,056 invertebrates (91% of all organisms impinged, 27 taxa) weighing 7,461,843 ± 808,676 g (39% of the biomass impinged) were estimated to have been impinged (Table 5).

Prior to September 1977, impingement samples at OCGS were taken during both the day and at night. Beginning on 4 September 1977, all samples were taken at night, and therefore, the estimates given here represent only a portion of the organisms impinged at OCGS during the 7 months. However, most (83%) impingement occurs at night (Miller 1977, 1978) and therefore the estimates given here are indicative of the magnitude of impingement during this period (Appendix Tables 32 through 91).

The Atlantic silverside (18% of the estimated fish), spot (16%), bay anchovy (14%), Atlantic menhaden (13%), blueback herring (10%), and

winter flounder (6%) were the most numerous fishes impinged at night (Table 5). The most important fishes by weight were the winter flounder (37% of the estimated biomass of all fish), Atlantic menhaden (27%), spot (15%), and weakfish (4%). The sand shrimp (87% of the estimated invertebrates), grass shirmp (7%), and blue crab (6%) were the most numerous invertebrates impinged. The blue crab (51% of the estimated biomass of all invertebrates), sand shrimp (44%), and grass shrimp (2%) were the most important invertebrates by biomass (Table 5).

For the 30-week period, the weekly estimates of impingement were used to determine species abundance by week, but these estimates were not used to estimate the total impingement during the 7 months (Table 6 and 7). Some 89% of the impinged fish were collected from 9 October through 14 January. Most (91%) of the Atlantic silverside were impinged from 6 November through 14 January, while 95% of the spot were impinged earlier in the period (16 October through 26 November). Some 95% of the bay anchovy were impinged from 4 September through 12 November, and 92% of the Atlantic menhaden were impinged from 16 October through 10 December. A total of 83% of the winter flounder were impinged from 13 November through 15 January (Table 6).

Some 90% of all impinged invertebrates were taken from 6 November through 4 February. Most (99%) of the blue crab were impinged during the earlier portion of this period (4 September through 12 November). In contrast, most (85%) of the sand shrimp were impinged from 27 November through 21 January, and 72% of the grass shrimp were impinged from 6 November through 7 January (Table 6).

Impingement and species abundance were related to water temperature. Although individuals were present in the Bay throughout much of the period (intake temperature range of 0.0 to 26.5 C), most impingement of a species occurred over a relatively small temperature range. Most (86%) of the Atlantic silverside were impinged at a water temperature of 2 to 9 C, and 89% of the spot were impinged from 7 to 12 C. Sixty-one percent of the bay anchovy were impinged from 12 to 15 C and 72% of the Atlantic menhaden from 11 to 16 C. Most (93%) of the sand shrimp were impinged from 1 to 9 C, and 88% of the blue crab were taken from 15 to 21 C (Table 8).

Some 12,279 specimens were examined for condition (Table 9, Appendix Table 92). Most (60%) specimens were live, 27% were damaged, and 13% were dead. The bay anchovy (66% dead), Atlantic silverside (24%), and sand shrimp (7%) comprised 65% of the dead specimens. Few (8%) spot were dead, but 77% were damaged. Some 25% of the Atlantic menhaden examined were live while 21% were dead and 54% were damaged. Only 1 of the 385 winter flounder examined was dead although 45% were damaged.

FISHES, THE SAND SHRIMP, AND THE BLUE CRAB TAKEN AT SELECTED STATIONS IN WESTERN BARNEGAT BAY

Donald J. Danila

Introduction

This report consists of data taken from September 1977 through March 1978 and is a continuation of studies conducted in western Barnegat Bay since September 1975. These data are used to determine the species composition and relative abundance of fishes, the sand shrimp, and the blue crab in western Barnegat Bay and the effect of the OCGS heated discharge on the distribution of these organisms at the mouth of Oyster Creek. Data from these studies may be compared with earlier studies (Marcellus 1972, McClain 1973, Danila 1977) to assess qualitative yearly differences in the fish community of western Barnegat Bay.

Materials and Methods

Stations at the mouth of Cedar Creek (Sta. 1), Forked River (4), Oyster Creek (17), and Double Creek (23) were sampled once a month from September 1977 through March 1978 (Fig. 1, Table 23). All stations were sampled during the day, and those at the mouth of Forked River and Oyster Creek were sampled again at night, beginning 1 h after sunset. Because of extensive ice in the Bay, no samples were taken by trawl at the mouth of Cedar Creek in December and January. In February, Oyster Creek was sampled with both the seines and trawl and Forked River was sampled by trawl; the other two stations were covered by ice. The record of the

catch of one 12.2-m seine haul made at the mouth of Double Creek in September was lost in the lab before it was entered onto the computer data base.

Two consecutive 5-min hauls of a 4.9-m semiballoon otter trawl were made at each station. The trawl had a 4.9-m headrope, 5.8-m footrope, and 61.0 x 30.5-cm doors. It had a 3.8-cm nylon stretch mesh body and a 3.2-cm stretch mesh codend fitted with a 1.3-cm stretch mesh inner liner. It was hauled at 1,600 rpm from a 6.4-m MonArk work boat, and an average haul covered 771.75 m^2. The boat returned to the starting point to take the second haul as soon as the first collection was processed.

Two hauls of a 45.7 x 2.4-m nylon seine (1.3-cm stretch mesh), with a 2.4-m bag in the center, were made at each station. One collection was made before and one after two consecutive hauls of a 12.2 x 1.5-m nylon seine (0.6-cm stretch mesh). The 45.7-m seine was set in a semicircle from a 4.3-m Starcraft with both ends at or near shore when the net was fully deployed, and it was then hauled onto the beach by hand. An average haul covered approximately 3,300 m^2. The 12.2-m seine was set by holding one brail stationary at the water's edge and sweeping the fully extended net through the water in a semicircle. The maximum area covered was 233 m^2. The 45.7-m seine captured primarily larger fishes and macroinvertebrates found in shallow water within about 50 m from shore while the 12.2-m seine took smaller organisms found from shore out to about 12 m.

At each station, all individuals or a representative subsample of at least 50 specimens of the blueback herring, alewife, American shad,

Atlantic menhaden, bay anchovy, Atlantic silverside, threespine stickleback, northern pipefish, striped bass, bluefish, weakfish, spot, northern kingfish, summer flounder, winter flounder, northern puffer, sand shrimp, and blue crab were measured to the nearest mm on a measuring board. Sand shrimp taken by 45.7-m seine were not measured as this gear took only the largest individuals. Fishes that could not be identified in the field were returned to the laboratory; uncommon species were preserved in 10% formalin and stored in 40% isopropanol in the voucher collection.

Invertebrates other than the sand shrimp or blue crab were indentified in the field to the lowest practical taxon. Their numbers were counted or estimated, and their relative abundance was categorized as rare (1 to 10 individuals or colonies), occasional (11 to 100), common (101 to 1,000), or abundant (>1,000).

Data were recorded on standardized data sheets, and a Hewlett-Packard 9830A programmable calculator was used for data compilation and preparation of some tables.

Results

Most fish (n = 7,863; 80.5%) were taken in September and October and the fewest were collected during January (158, 1.6%) and February (39, 0.4%; Table 10, Appendix Tables 93 through 95). Most specimens (n = 6,156, 63.0% of total catch of fish) were taken by 4.9-m trawl (Table 11); the bay anchovy (88.7%) comprised most of the fish taken by trawl. The total catches by 45.7-m seine (n = 1,737, 17.8% of total catch of fish; Table 12) and 12.2-m seine (1,878, 19.2%; Table 13) were numerically similar although the species composition differed. The Atlantic silverside, blue runner, and bluefish

dominated the catch by the larger seine, and the Atlantic silverside and bay anchovy predominated in collections with the smaller seine.

The total catch of fish was dominated by the bay anchovy (60.7% of total catch) and Atlantic silverside (14.5%). An additional 18.4% of the catch consisted of the blue runner, fourspine stickleback, bluefish, northern pipefish, spot, tidewater silverside, naked goby, winter flounder, and oyster toadfish (Table 10). The remainder (6.4%) was comprised of 42 species.

Some 12,577 sand shrimp were taken; most specimens were collected in December (n = 6,074, 48.3% of all sand shrimp), November (3,512, 27.9%), and January (1,457, 11.6%). The fewest individuals were caught in February (n = 77, 0.6%). About two-thirds of all sand shrimp were collected by 4.9-m trawl. Most blue crab (n = 179, 45.2% of all blue crab) were collected in September, although few specimens were found from December through March (91, 23.0%). The 4.9-m trawl (41.7% of total blue crab catch) and 45.7-m seine (37.9%) took a similar number of blue crab.

Most fish (65.5%) and almost all sand shrimp (91.2%) and blue crab (87.5%) were taken at night in paired day-night collections made at Oyster Creek and Forked River (Table 14). With the exception of the bay anchovy (71.0% taken during the day) and tidewater silverside (71.1%), 9 of the 11 most abundant fishes were taken primarily at night (74.2 to 99.4%).

A comparison of the monthly catches at the four stations (Table 15) showed that many individuals were evidently attracted to Oyster Creek after September. Nearly all Atlantic needlefish, bluefish, and jacks

were taken at the mouth of Oyster Creek. The bay anchovy was an exception because most specimens were taken at Forked River, Cedar Creek, and Double Creek in September and October. The sand shrimp was apparently attracted to Oyster Creek in December and January, and more blue crab were collected there than at other stations from December through March. Even with the heated discharge, water temperature in Oyster Creek was low in January (range of 1.8 to 3.7 C), and the catch of fishes was relatively small. Although water temperature at the mouth of Oyster Creek increased (6.2 to 10.0 C) in February, few organisms were taken there because the ambient Bay temperature remained low (0.0 to 0.2 C), and few organisms were present in the Bay.

ENTRAINMENT OF ORGANISMS THROUGH THE COOLING-WATER SYSTEM

Richard P. Smith and Felicia A. Swiecicki

Introduction

The relatively small size of plankton enables these organisms to pass through the mesh of the traveling-water screens which precede the intake to the OCGS circulating-water pumps and to travel through the cooling-water system. During this entrainment, organisms are subjected to mechanical, thermal, hydraulic, and chemical stresses.

The entrainment studies reported here are a continuation of studies conducted from September 1975 through August 1977 (Sandine et al. 1977, 1978). Those studies reported the species composition and abundance of microzooplankton (planktonic invertebrates <500 microns in length), macrozooplankton (planktonic invertebrates >500 microns in length), and ichthyoplankton. No microzooplankton samples were taken after August 1978.

Materials and Methods

A total of 208 collections was taken at the intake and discharge of the OCGS circulating-water system from September 1977 through March 1978 (Appendix Tables 96 and 97). Because of the stratification and irregular flow of water in front of the intake to the OCGS circulating-water system, the relative abundance and species composition of ichthyoplankton and most zooplankton were based primarily on 104 collections from the discharge. The abundance of ctenophores, however, was determined from

collections at the intake because ctenophores were easily fragmented during passage through the circulating-water system. Periodic collections were made to estimate the mortality of entrained forms.

Samples were taken once a week starting 2 h after sunset (Period 3A) because greater densities of plankton are generally collected at night (Bridger 1956; Johnson 1957; Tatham et al. 1977b, 1978b). Collections were also taken once a month during four periods over a 24-h interval. Period 1 was from 2 h after sunrise to 6 h before sunset, period 2 was from 6 h before sunset to sunset, period 3A was from 2 to 6 h after sunset, and period 4 was from 6 h before sunrise to sunrise.

Samples were taken with a 36-cm bongo sampler (505-micron mesh) to determine the species composition and abundance of macrozoo- and ichthyoplankton entrained at OCGS. From October through March, collections were taken simultaneously at both the intake (Sta. 7) and discharge (Sta. 11) of the circulating-water system (Fig. 2). In September, tows at these stations were taken consecutively. The simultaneous tow at the discharge was made 1 to 5 min after the tow at the intake in an attempt to sample the same water mass after it circulated through the OCGS cooling-water system. Sampling the same water mass was an attempt to reduce the large variability associated with plankton populations.

The sampling gear was attached to a wire approximately 30 to 38 cm above a 27-kg weight, and it was deployed and retrieved with a hand winch mounted on a stationary boom. Two consecutive oblique tows were taken at each station and each tow sampled the entire water column at least once. Tow duration was usually from 1 to 5 min, depending upon detrital

levels and abundance of organisms. Because of the substantially greater current flow at the discharge, the tow duration at the discharge was approximately half that of the intake in order to sample a comparable volume of water. The volume of water sampled was determined with a digital flowmeter (General Oceanics Model 2030) centered in the mouth of one side of the sampler at the discharge or in the mouth of both sides of the sampler used at the OCGS intake. Current flow variabilities (i.e., eddies) at the intake resulted in differences in the volume filtered by the two sides of the sampler at this station. Therefore both sides were metered separately, and samples were analyzed separately.

As the nets were removed from the water, they were gently rinsed with either low pressure water from a pump or with water poured from buckets. Samples were preserved in the field using a 5% formalin (2% formaldehyde) solution buffered with sodium borate. However, when ctenophores were abundant, they were counted and identified before preservations because ctenophores disintegrated in formalin. All other macrozooplankton and all ichthyoplankton were identified in the laboratory at a later date. Most ichthyoplankton were identified to species with the exception of larval gobies, blennies, and silversides; these larvae cannot be identified to species until the juvenile stage. All engraulid larvae were classified as bay anchovy since no striped anchovy eggs were found in plankton collections. For collections made at the intake, all amphipods, mysids, and mud crab zoeae were grouped into their respective families. However, all forms were identified to species from collections taken at the discharge.

Immediate mortality determinations were conducted only when selected ichthyoplankton (e.g., winter flounder and bay anchovy) were abundant enough to allow examination of a substantial number of individuals. Samples were taken with a mortality sampler fitted with an expansion cone net (Fig. 3). The sampler had a mouth opening of 20-cm expanded to a 36-cm base, a 333-micron mesh conical nylon net, and a 500-ml plastic cup with a window of 250-micron netting attached as codend. The collection techniques employed for these samples were somewhat different than techniques employed during regular sampling. These differences were intended to reduce various stresses that may have affected mortality estimates. The sampler was deployed similarly to that reported for bongo collections, although the intake and discharge stations were not sampled simultaneously. The net was thoroughly rinsed before each tow to prevent contamination of the sample from the previous tow. To further reduce collection stress and the amount of detritus in the sample, tow duration was reduced to 1 min or less and the codend was not rinsed. The sample was immediately taken to a nearby trailer where the condition of organisms was determined.

For determination of the immediate condition of macrozooplankton and larval and juvenile fish, the sample was poured into a glass pan placed in a water bath that maintained the organisms near ($\pm$ 1 C) the collection temperature. Live, dead, and damaged larvae were separately preserved; measurements and enumerations were made at a later date. Specimens were considered live if normal mobility was exhibited, dead if no movement was observed, and damaged if specimens exhibited abnormal behavioral patterns (e.g., swimming on their sides) but had other vital functions (e.g.,

respiration, muscular spasms). A minimum of 25 specimens per station were required in order to use the binomial proportion test (Snedecor and Cochran 1967) to determine significant differences in mortality between individuals collected at the OCGS intake and discharge. Collections were taken until at least 25 specimens were examined at each station.

Determination of the condition of fish eggs through visual observation was difficult, and therefore, an attempt was made to use a biological stain (neutral red) which would be incorporated into live embryos. Samples that contained numerous eggs of the bay anchovy were set aside in a gallon jar for about 1 h before addition of the stain at a concentration of 1 ml of stock solution (1 g of powdered neutral red per 100 ml of distilled water) per liter of sample. This 1 h period allowed organisms that were near death upon collection to die before the stain was added. After staining, the sample was left for 4 to 6 h before examination.

Estimates of the number of an organism entrained during the 7-month period were calculated from samples taken at the OCGS discharge according to the procedures described by Sandine et al. (1978).

Results and Discussion

Macrozooplankton

From September 1977 through March 1978, an estimated $1.93 \times 10^{10} \pm 1.97 \times 10^{9}$ organisms were entrained through the OCGS circulating-water system (Table 16). The mean monthly density of all macrozooplankton at the discharge ranged from $19.7/m^3$ in February to $50.6/m^3$ in March, and it averaged $36.3/m^3$ for the 7-month period (Table 17). Twenty-one taxa represented 95% (by density) of all macrozooplankton collected; amphipods

(39.5% of all macrozooplankton), mysids (37.2%), and hydromedusae (12.8%) were most numerous. Decapod and polychaete larvae, which were major components of the macrozooplankton community in the spring and summer months (Sandine et al. 1978), comprised less than 5% of all macrozooplankton collected during this period.

The mysid Neomysis americana accounted for 32.0% of all macrozooplankton, and it occurred in almost every (99.0%) sample (Table 17). As in previous years, N. americana was more prevalent at night than during the day due to its diurnal migration (Table 18). An estimated 5.94×10^9 N. americana were entrained (Table 16). Mean monthly densities ranged from $5.9/m^3$ in September to $30.9/m^3$ in January and averaged $11.6/m^3$ for the 7 months. This 7-month mean was lower than that obtained for the same period in either 1975-76 ($19.2/m^3$) or 1976-77 ($32.5/m^3$). Although lowest monthly densities of N. americana were found in January during the previous 2 years, the highest monthly density in this 7-month period occurred in that month. Gravid female specimens comprised 0.3 to 2.0% of all N. americana collected in September, October, and March, but none were collected in other months.

Small numbers of Mysidopsis bigelowi (mean monthly densities of $0.01/m^3$ to $7.6/m^3$) were collected in all months, and an estimated 1.04×10^9 specimens were entrained (Table 16). Like N. americana, M. bigelowi migrates diurnally and was more common in night collections. M. bigelowi comprised 13.8% of all mysids collected whereas it comprised 6.0% and 2.9% during the same 7 months in 1975-76 and 1976-77. This increase in the relative abundance, however, was due to a decrease in the abundance of N. americana

rather than the increased abundance of M. bigelowi. Some 0.8 to 1.2% of all M. bigelowi collected from September through November were gravid.

The hydromedusae Sarsia spp. comprised 12.7% of all macrozooplankton, and an estimated 2.39 x 10^9 individuals were entrained (Table 16). Although they ranked third in overall abundance, they were not collected until February (mean monthly density of 0.1/m^3) and were only common in March (30.7/m^3).

Some 6.87 x 10^9 amphipods representing 33 taxa were entrained through the OCGS circulating-water system (Tables 16 and 19). The most numerous amphipods included the tubicolous forms Jassa falcata, Microdeutopus gryllotalpa, and Corophiidae (Corophium spp., Cerapus tubularis, and Erichthonius spp.); and forms found associated with hydroid colonies such as Stenothoidae and Caprellidae. J. falcata accounted for 24.4% of all macrozooplankton (61.9% of all amphipods). It was more common from September through December (mean monthly density 10.0/m^3) than during January through March (0.7/m^3 to 7.3/m^3). The seasonal pattern of abundance and the mean density for the 7-month period were similar to those of 1976-77. During these 7 months, gravid females comprised 4.5% to 8.1% of all J. falcata taken.

Four species of amphipods of the genus Corophium (C. tuberculatum, C. acherusicum, C. bonelli, and C. insidiosum) comprised 4.0% of all macrozooplankton (10.1% of all amphipods). C. tuberculatum (53.2% of all Corophium) and C. acherusicum (16.4%) were the most frequently collected.

An estimated 1.31 x 10^8 zoeae of the sand shrimp Crangon septemspinosa were entrained (Table 16). They were collected in small numbers (mean

monthly densities of $0.1/m^3$ to $0.6/m^3$) from October through March, and they occurred in 50% of the samples.

Some 6.64×10^7 megalopae of the blue crab, Callinectes sapidus, were entrained (Table 16). They were collected in decreasing densities from September (mean monthly density of $0.39/m^3$) through December ($0.01/m^3$).

Ichthyoplankton

The predominant ichthyoplankton collected from September through March (Table 20) were larvae and juveniles of the bay anchovy (mean density of $0.874/m^3$ at the OCGS discharge), goby larvae ($0.436/m^3$), sand lance larvae ($1.185/m^3$), and winter flounder larvae ($4.660/m^3$). Larvae and juveniles of the American eel, silversides, northern pipefish, weakfish, Atlantic croaker, blennies, and summer flounder were taken occasionally ($<0.300/m^3$). Greater densities were observed at night for all larvae and juveniles except for sand lance larvae (Appendix Table 97). The most probable reason for increased densities of larvae and juveniles at night was decreased net avoidance (Bridger 1956).

Although sand lance and winter flounder eggs are demersal, some eggs ($3.502/m^3$) were collected from December through March. These eggs may have been dislodged from the substrate by natural phenomena or by turbulence created by the circulating-water pumps at OCGS. A few ($<0.050/m^3$) bay anchovy eggs were collected in September and November.

Winter flounder and sand lance were the most common larvae, and therefore they comprised most of the entrained larvae (2.83×10^8 and 9.90×10^7, respectively). Entrainment estimates also were calculated

for bay anchovy eggs (2.50×10^5) and total eggs (2.36×10^8), larval silversides (1.72×10^5) and gobies (3.18×10^7), juvenile northern pipefish (4.14×10^6), larvae and juveniles of the bay anchovy (6.19×10^7) and total larvae (4.47×10^8, Table 21).

Mortality studies were conducted in October, November, and March. Ichthyoplankton collected in sufficient quantity to test for significant differences in immediate mortality between the OCGS intake and discharge were larvae of the sand lance (n = 60) and winter flounder (n = 445) and juveniles of the bay anchovy (n = 174). These forms all had a significantly greater mortality at the discharge (30% mortality for the sand lance, 72% for winter flounder, and 16% for bay anchovy) than at the intake (3%, 25%, and 5% respectively). Juvenile bay anchovy had a lower mortality rate than either sand lance or winter flounder larvae (Table 22), and larger larvae and juveniles generally had a lower mortality rate than smaller larvae (Sandine et al. 1978).

Density of eggs were generally too low to estimate mortality. If a sufficient number of eggs were collected, a determination of mortality was not always successful because the stain permeated the membrane of dead eggs if the egg capsule or embryo was punctured. Since a substantial number of eggs collected with the bongo sampler had ruptured egg capsules, an accurate determination of survival and mortality was not possible during this period.

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Table 1. Alphabetical listing by common name of all vertebrates collected by fish and impingement programs from September 1977 through March 1978.

African pompano - Alectis crinitus
Alewife - Alosa pseudoharengus
American eel - Anguilla rostrata
American shad - Alosa sapidissima
Atlantic croaker - Micropogon undulatus
Atlantic herring - Clupea harengus
Atlantic menhaden - Brevoortia tyrannus
Atlantic moonfish - Vomer setapinnis
Atlantic needlefish - Strongylura marina
Atlantic silverside - Menidia menidia
Atlantic spadefish - Chaetodipterus faber
Banded rudderfish - Seriola zonata
Bay anchovy - Anchoa mitchilli
Bigeye scad - Selar crumenophthalmus
Black sea bass - Centropristis striata
Blueback herring - Alosa aestivalis
Bluefish - Pomatomus saltatrix
Blue runner - Caranx crysos
Bluespotted cornetfish - Fistularia tabacaria
Bluntnose stingray - Dasyatis sayi
Butterfish - Peprilus triacanthus
Chain pipefish - Syngnathus louisianae
Conger eel - Conger oceanicus
Crevalle jack - Caranx hippos
Cunner - Tautogolabrus adspersus
Diamondback terrapin - Malaclemys terrapin
Feather blenny - Hypsoblennius hentzi
Fourspine stickleback - Apeltes quadracus
Fowler's toad - Bufo fowleri
Gizzard shad - Dorosoma cepedianum
Gray snapper - Lutjanus griseus
Grubby - Myoxocephalus aenaeus
Halfbeak - Hyporhamphus unifasciatus
Hickory shad - Alosa mediocris
Hogchoker - Trinectes maculatus
Inshore lizardfish - Synodus foetens
Lined seahorse - Hippocampus erectus
Longhorn sculpin - Myoxocephalus octodecemspinosus
Lookdown - Selene vomer
Mummichog - Fundulus heteroclitus
Naked goby - Gobiosoma bosci
Northern kingfish - Menticirrhus saxatilis
Northern pipefish - Syngnathus fuscus
Northern puffer - Sphoeroides maculatus
Northern searobin - Prionotus carolinus
Northern stargazer - Astroscopus guttatus
Orange filefish - Aluterus schoepfi
Oyster toadfish - Opsanus tau
Permit - Trachinotus falcatus
Planehead filefish - Monacanthus hispidus
Pumpkinseed - Lepomis gibbosus
Red goatfish - Mullus auratus
Red hake - Urophycis chuss
Rough silverside - Membras martinica
Sand lance - Ammodytes sp.
Scup - Stenotomus chrysops
Seaboard goby - Gobiosoma ginsburgi
Sheepshead minnow - Cyprinodon variegatus
Silver hake - Merluccius bilinearis
Silver perch - Bairdiella chrysura
Smallmouth flounder - Etropus microstomus
Smooth dogfish - Mustelus canis
Smooth trunkfish - Lactophrys triqueter
Spot - Leiostomus xanthurus
Spotfin butterflyfish - Chaetodon ocellatus
Spotted hake - Urophycis regius
Spotted scorpionfish - Scorpaena plumieri
Striped bass - Morone saxatilis
Striped blenny - Chasmodes bosquianus
Striped burrfish - Chilomycterus schoepfi
Striped cusk-eel - Rissola marginata
Striped killifish - Fundulus majalis
Striped mullet - Mugil cephalus
Striped searobin - Prionotus evolans
Summer flounder - Paralichthys dentatus
Tautog - Tautoga onitis
Threespine stickleback - Gasterosteus aculeatus
Tidewater silverside - Menidia beryllina
Weakfish - Cynoscion regalis
White mullet - Mugil curema
White perch - Morone americana
Windowpane - Scophthalmus aquosus
Winter flounder - Pseudopleuronectes americanus
Yellow bullhead - Ictalurus natalis

Table 2. Alphabetical listing by scientific name of all vertebrates collected by fish and impingement programs from September 1977 through March 1978.

Alectis crinitus - African pompano
Alosa aestivalus - Blueback herring
Alosa mediocris - Hickory shad
Alosa pseudoharengus - Alewife
Alosa sapidissima - American shad
Aluterus schoepfi - Orange filefish
Ammodytes sp. - Sand lance
Anchoa mitchilli - Bay anchovy
Anguilla rostrata - American eel
Apeltes quadracus - Fourspine stickleback
Astroscopus guttatus - Northern stargazer
Bairdiella chrysura - Silver perch
Brevoortia tyrannus - Atlantic menhaden
Bufo fowleri - Fowler's toad
Caranx crysos - Blue runner
Carnax hippos - Crevalle jack
Centropristis striata - Black sea bass
Chaetodipterus faber - Atlantic spadefish
Chaetodon ocellatus - Spotfin butterflyfish
Chasmodes bosquianus - Striped blenny
Chilomycterus schoepfi - Striped burrfish
Clupea harengus - Atlantic herring
Conger oceanicus - Conger eel
Cynoscion regalis - Weakfish
Cyprinodon variegatus - Sheepshead minnow
Dasyatis sayi - Bluntnose stingray
Dorosoma cepedianum - Gizzard shad
Etropus microstomus - Smallmouth flounder
Fistularia tabacaria - Bluespotted cornetfish
Fundulus heteroclitus - Mummichog
Fundulus majalis - Striped killifish
Gasterosteus aculeatus - Threespine stickleback
Gobiosoma bosci - Naked goby
Gobiosoma ginsburgi - Seaboard goby
Hippocampus erectus - Lined seahorse
Hyporhamphus unifasciatus - Halfbeak
Hypsoblennius hentzi - Feather blenny
Ictalurus natalis - Yellow bullhead
Lactophys triqueter - Smooth trunkfish
Leiostomus xanthurus - Spot
Lepomis gibbosus - Pumpkinseed
Lutjanus griseus - Gray snapper
Malaclemys terrapin - Diamondback terrapin
Membras martinica - Rough silverside
Menidia beryllina - Tidewater silverside
Menidia menidia - Atlantic silverside
Menticirrhus saxatilis - Northern kingfish
Merluccius bilinearis - Silver hake
Micropogon undulatus - Atlantic croaker
Monacanthus hispidus - Planehead filefish
Morone americana - White perch
Morone saxatilis - Striped bass
Mugil cephalus - Striped mullet
Mugil curema - White mullet
Mullus auratus - Red goatfish
Mustelus canis - Smooth dogfish
Myoxocephalus aenaeus - Grubby
Myoxocephalus octodecemspinosus - Longhorn sculpin
Opsanus tau - Oyster toadfish
Paralichthys dentatus - Summer flounder
Peprilus triacanthus - Butterfish
Pomatomus saltatrix - Bluefish
Prionotus carolinus - Northern searobin
Prionotus evolans - Striped searobin
Pseudopleuronectes americanus - Winter flounder
Rissola marginata - Striped cusk-eel
Scophthalmus aquosus - Windowpane
Scorpaena plumieri - Spotted scorpionfish
Selar crumenophthalmus - Bigeye scad
Selene vomer - Lookdown
Seriola zonata - Banded rudderfish
Sphoeroides maculatus - Northern puffer
Stenotomus chrysops - Scup
Strongylura marina - Atlantic needlefish
Syngnathus fuscus - Northern pipefish
Syngnathus louisianae - Chain pipefish
Synodus foetens - Inshore lizardfish
Tautog onitis - Tautog
Tautogolabrus adspersus - Cunner
Trachinotus falcatus - Permit
Trinectes maculatus - Hogchoker
Urophycis chuss - Red hake
Urophycis regius - Spotted hake
Vomer setapinnis - Atlantic moonfish

Table 3. Alphabetical listing by scientific name of all macroinvertebrate taxa collected by fish and impingement programs from September 1977 through March 1978.

Aequorea spp. - a hydromedusa	Ovalipes ocellatus - lady crab
Callinectes sapidus - blue crab	Palaemonetes pugio - grass shrimp
Callinectes similis - lesser blue crab	Palaemonetes vulgaris - grass shrimp
Cancer irroratus - rock crab	Panopeus herbstii - a mud crab
Carcinus maenus - green crab	Penaeus aztecus - brown shrimp
Crangon septemspinosa - sand shrimp	Penaeus setiferus - white shrimp
Cyanea capillata - lion's mane jellyfish	Polinices duplicata - Atlantic moon snail
Echinodermata (phylum) - Spiny-skinned animals	Polychaeta (class) - bristle worms
Ensis directus - Atlantic jackknife clam	Porifera (phylum) - sponges
Libinia dubia - spider crab	Portunus gibbesi - a portunid crab
Mytilus edulis - blue mussel	Portunus spinimanus - a portunid crab
Nemertea (phylum) - ribbon worms	Procambarus blandingi - Blanding's crayfish
Neopanope texana - a mud crab	Squilla empusa - mantis shrimp

Table 4 . . Weekly minimum, maximum, and mean air and water temperature (C), salinity (ppt), dissolved oxygen (ppm), and pH measurements taken at the traveling screens during impingement sampling at the Oyster Creek Generating Station, Forked River, New Jersey from 4 September 1977 through 1 April 1978.

WEEK	4 - 10 SEPTEMBER			11 - 17 SEPTEMBER			18 - 24 SEPTEMBER			25 SPETEMBER-1 OCTOBER		
	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN
TEMPERATURE: AIR	19.5	20.5	20.2	13.8	19.0	16.7	13.6	16.8	15.4	9.5	21.0	14.9
SURFACE	22.5	26.5	24.1	19.5	21.3	20.6	19.4	20.2	19.7	16.8	21.0	19.0
BOTTOM	22.8	26.4	24.5	20.0	21.4	20.7	19.2	19.8	19.6	18.1	21.2	20.0
SALINITY: SURFACE	22.0	23.0	22.5	25.0	26.0	25.2	24.0	26.0	24.9	22.5	25.0	23.9
BOTTOM	22.0	23.0	22.5	25.0	26.0	25.5	24.0	26.0	24.6	23.0	25.0	24.0
OXYGEN: SURFACE	3.5	6.5	5.0	5.0	6.2	5.6	5.0	6.2	5.5	5.0	8.2	6.7
BOTTOM	4.0	6.4	4.9	5.0	5.8	5.5	5.0	6.2	5.6	5.5	7.4	6.4
PH: SURFACE	7.5	8.1	7.9	7.9	8.1	8.0	7.8	8.0	7.9	6.8	8.0	7.5
BOTTOM	7.8	8.1	8.0	7.9	8.1	8.0	7.8	8.0	7.9	7.3	7.9	7.6

WEEK	2 - 8 OCTOBER			9 - 15 OCTOBER			16 - 22 OCTOBER			23 - 29 OCTOBER		
	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN
TEMPERATURE: AIR	5.6	12.0	8.3	4.8	13.0	9.5	2.5	11.4	7.6	5.5	17.0	11.9
SURFACE	15.0	17.2	16.1	13.0	15.1	14.0	10.5	12.5	11.6	11.6	15.6	13.8
BOTTOM	16.5	18.0	17.2	13.0	15.1	14.2	12.9	14.1	13.2	11.8	15.8	13.6
SALINITY: SURFACE	22.0	25.0	23.8	22.0	24.0	22.6	22.0	24.0	23.3	20.0	23.0	21.6
BOTTOM	23.0	25.0	23.8	22.0	23.0	22.3	23.0	24.0	23.5	20.0	23.0	21.8
OXYGEN: SURFACE	5.0	6.4	5.9	5.2	8.6	6.9	7.0	8.1	7.5	6.0	8.6	7.3
BOTTOM	5.4	6.7	6.2	6.5	7.8	7.2	7.0	7.4	7.2	6.7	8.8	7.7
PH: SURFACE	7.5	8.0	7.9	7.6	8.1	7.9	7.5	7.8	7.7	7.1	8.0	7.7
BOTTOM	7.7	8.0	7.9	7.6	8.0	7.8	7.5	7.8	7.7	7.5	7.9	7.7

WEEK	30 OCTOBER-5 NOVEMBER			6 - 12 NOVEMBER			13 - 19 NOVEMBER			20 - 26 NOVEMBER		
	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN
TEMPERATURE: AIR	10.1	17.3	14.1	4.4	16.7	13.2	-2.0	13.3	3.8	-0.5	7.0	4.6
SURFACE	12.2	15.6	14.2	15.2	17.2	15.9	6.5	12.5	9.4	8.0	10.5	9.3
BOTTOM	13.1	15.5	14.3	15.6	17.2	16.2	7.0	12.0	9.1	9.4	10.2	9.8
SALINITY: SURFACE	22.0	23.0	22.4	18.0	21.0	20.2	16.0	20.5	18.1	16.0	21.0	18.2
BOTTOM	22.0	23.0	22.4	20.0	22.0	21.1	18.0	20.0	18.5	17.5	19.0	18.6
OXYGEN: SURFACE	6.4	8.2	7.5	7.2	8.8	8.0	8.7	10.2	9.4	7.2	11.6	9.7
BOTTOM	6.2	7.7	7.1	7.4	9.1	8.3	8.9	10.2	9.3	7.7	10.8	9.2
PH: SURFACE	7.4	7.9	7.7	7.3	7.8	7.6	7.7	8.1	7.9	7.1	8.2	7.8
BOTTOM	7.3	7.9	7.7	7.4	7.7	7.6	7.7	8.1	7.9	7.1	8.0	7.7

WEEK	27 NOVEMBER-3 DECEMBER			4 - 10 DECEMBER			11 - 17 DECEMBER			18 - 24 DECEMBER		
	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN
TEMPERATURE: AIR	-1.5	14.6	6.6	-4.0	12.5	3.7	-1.8	5.4	0.8	-4.1	4.2	0.7
SURFACE	5.0	9.5	7.4	2.0	9.0	6.7	1.0	6.5	3.7	3.9	7.0	5.0
BOTTOM	7.4	8.1	7.8	5.2	8.8	7.0	0.9	5.0	2.7	3.0	7.5	5.5
SALINITY: SURFACE	17.0	22.0	19.8	18.0	19.0	18.4	15.0	24.0	19.3	19.0	20.5	19.9
BOTTOM	22.0	22.0	22.0	17.5	19.0	18.5	16.0	22.0	18.3	19.0	20.5	19.7
OXYGEN: SURFACE	8.2	9.9	9.3	8.6	12.4	9.7	10.9	12.5	11.3	8.2	12.5	10.0
BOTTOM	9.1	10.1	9.6	8.9	9.4	9.3	11.0	12.3	11.6	8.8	11.2	9.8
PH: SURFACE	7.4	7.7	7.6	7.4	8.1	7.7	7.8	8.1	7.9	7.2	7.9	7.6
BOTTOM	7.4	7.5	7.5	7.5	8.0	7.7	7.8	8.0	7.9	7.4	7.9	7.6

TABLE 4 . (CONT.)

WEEK	25 - 31 DECEMBER			1 - 7 JANUARY			8 - 14 JANUARY			15 - 21 JANUARY		
	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN
TEMPERATURE: AIR	-11.5	-0.5	-6.9	-10.2	2.0	-3.8	-12.0	-1.2	-6.2	-7.0	1.8	-2.3
SURFACE	1.5	4.0	2.2	0.5	4.0	2.5	1.7	6.0	3.2	0.2	2.8	1.5
BOTTOM	0.9	3.5	2.1	2.0	2.8	2.5	1.8	6.7	4.1	0.0	3.2	1.5
SALINITY: SURFACE	14.0	18.0	16.4	18.5	22.0	19.9	19.0	24.6	22.0	14.0	21.0	18.5
BOTTOM	15.0	16.0	15.8	18.0	21.0	19.8	19.5	23.5	21.8	14.0	20.0	18.4
OXYGEN: SURFACE	9.8	10.7	10.2	13.9	16.1	15.2	12.3	14.9	13.4	13.9	17.9	16.0
BOTTOM	10.2	10.8	10.3	14.5	14.7	14.7	11.7	13.9	12.9	13.9	17.9	15.9
PH: SURFACE	7.5	7.9	7.7	7.6	7.9	7.7	7.5	7.9	7.7	7.7	8.2	7.9
BOTTOM	7.5	7.8	7.7	7.7	7.7	7.7	7.6	7.9	7.7	7.8	8.2	8.0

WEEK	22 - 28 JANUARY			29 JANUARY-4 FEBRUARY			5 - 11 FEBRUARY			12 - 18 FEBRUARY		
	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN
TEMPERATURE: AIR	-9.8	-3.8	-7.4	-12.0	-3.0	-8.2	-12.2	-3.0	-8.7	-7.0	0.5	-1.6
SURFACE	0.3	2.2	0.9	0.5	3.1	1.7	0.0	2.0	1.0	1.7	2.9	2.4
BOTTOM	1.2	3.7	2.4	1.2	2.9	2.0	0.7	1.2	0.9	1.8	2.6	2.2
SALINITY: SURFACE	15.0	21.0	19.3	14.0	18.0	16.9	20.0	22.5	21.8	16.5	20.5	19.0
BOTTOM	15.9	20.0	18.0	16.0	17.5	16.9	20.0	22.0	21.2	17.0	21.0	18.9
OXYGEN: SURFACE	16.0	19.2	17.1	10.4	18.2	14.1	14.8	17.5	16.3	13.4	16.8	15.0
BOTTOM	16.4	18.1	17.3	10.0	17.6	13.9	16.1	17.0	16.4	14.1	15.9	14.9
PH: SURFACE	7.6	7.9	7.8	7.5	7.9	7.7	7.7	7.8	7.7	7.7	8.1	7.9
BOTTOM	7.8	7.8	7.8	7.5	7.7	7.6	7.7	7.9	7.8	7.7	8.1	7.9

WEEK	19 - 25 FEBRUARY			26 FEBRUARY-4 MARCH			5 - 11 MARCH			12 - 18 MARCH		
	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN
TEMPERATURE: AIR	-8.0	-2.2	-5.9	-9.5	-2.5	-5.6	-6.0	1.1	-2.0	-1.8	4.5	1.3
SURFACE	1.1	3.0	2.0	2.0	3.1	2.5	1.5	3.1	2.8	2.2	5.5	3.8
BOTTOM	1.2	3.4	2.4	1.6	3.0	2.4	0.5	3.6	2.2	2.7	6.0	4.1
SALINITY: SURFACE	20.0	22.5	21.2	20.5	22.0	21.3	19.0	22.0	20.6	16.0	20.0	18.0
BOTTOM	19.0	22.5	21.1	20.5	22.0	21.4	19.0	22.0	20.8	16.0	20.0	18.0
OXYGEN: SURFACE	14.0	16.4	15.2	13.3	17.2	15.3	12.8	14.4	13.5	13.4	14.4	13.9
BOTTOM	4.1	14.9	13.4	13.4	17.4	15.5	12.6	14.0	13.3	13.5	14.1	13.9
PH: SURFACE	7.7	8.3	8.0	8.1	8.2	8.2	7.8	8.2	8.0	7.8	8.2	8.0
BOTTOM	7.7	8.3	8.1	8.2	8.2	8.2	7.8	8.2	8.0	7.9	8.2	8.0

WEEK	19 - 25 MARCH			26 MARCH-1 APRIL								
	MIN	MAX	MEAN	MIN	MAX	MEAN						
TEMPERATURE: AIR	3.5	9.5	6.1	-0.2	11.2	4.6	-	-	-	-	-	-
SURFACE	7.2	10.5	9.4	7.8	11.2	9.4	-	-	-	-	-	-
BOTTOM	7.5	10.3	8.8	7.2	11.9	9.6	-	-	-	-	-	-
SALINITY: SURFACE	18.0	20.0	19.5	18.0	22.0	19.7	-	-	-	-	-	-
BOTTOM	19.0	20.0	19.5	18.5	22.0	20.0	-	-	-	-	-	-
OXYGEN: SURFACE	11.4	13.7	13.1	10.4	12.3	11.3	-	-	-	-	-	-
BOTTOM	13.2	13.6	13.4	10.2	12.5	11.2	-	-	-	-	-	-
PH: SURFACE	7.9	8.1	8.1	8.0	8.2	8.0	-	-	-	-	-	-
BOTTOM	7.8	8.1	8.0	7.9	8.1	8.0	-	-	-	-	-	-

Table 5. Total estimated number and weight (g), with 80% confidence interval of selected fishes and macroinvertebrates impinged on the traveling screens at the Oyster Creek Generating Station, Forked River, New Jersey from 1 September 1977 through 31 March 1978.

	Estimated Number	Estimated Weight		Estimated Number	Estimated Weight
Alosa aestivalis	37,245 ± 18,975	149,229 ± 65,339	Prionotus evolans	10,817 ± 4,614	55,894 ± 16,449
Alosa pseudoharengus	3,604 ± 954	68,616 ± 19,619	Etropus microstomus	6,060 ± 1,840	15,693 ± 4,721
Brevoortia tyrannus	45,414 ± 24,620	3,183,886 ± 2,593,147	Paralichthys dentatus	1,235 ± 426	288,321 ± 121,713
Anchoa mitchilli	51,080 ± 15,698	143,147 ± 46,792	Pseudopleuronectes americanus	22,710 ± 6,531	4,403,584 ± 1,490,271
Menidia menidia	64,628 ± 16,570	291,831 ± 77,284	Sphoeroidss maculatus	598 ± 168	33,532 ± 12,908
Gasterosteus aculeatus	1,860 ± 520	4,558 ± 1,284	Total of all Vertebrates	360,025 ± 81,870	11,773,290 ± 4,132,724
Syngnathus fuscus	13,020 ± 2,690	27,488 ± 5,710	Palaemonetes vulgaris	239,494 ± 43,513	163,108 ± 36,974
Pomatomus saltatrix	1,552 ± 683	126,372 ± 60,130	Crangon septemspinosa	3,077,076 ± 608,726	3,299,624 ± 635,876
Cynoscion regalis	17,002 ± 8,095	416,688 ± 295,003	Callinectes sapidus	206,955 ± 64,950	3,797,776 ± 722,542
Leiostomus xanthurus	58,668 ± 30,129	1,715,813 ± 907,677	Total of all Invertebrates	3,546,081 ± 623,056	7,461,843 ± 808,676
Menticirrhus saxatilis	24 ± 15	580 ± 415	Grand total of all species[a]	3,906,104 ± 639,402	19,235,146 ± 4,510,930

a. Grand total of all species does not equal the total of all vertebrates and invertebrates because each total was a separate estimate.

TABLE 6 . Total estimated number impinged by week for taxa with more than 100 specimens taken from 4 September 1977 through 1 April 1978 at the Oyster Creek Generating Station, Forked River, New Jersey.

	September 4-10	11-17	18-24	October 25-1	2-8	9-15	16-22	23-29	November 30-5	6-12	13-19
VERTEBRATES											
ALOSA AESTIVALIS	157	4	4	-	-	4	53	4	32	2632	2079
ALOSA PSEUDOHARENGUS	4	11	-	193	18	28	130	39	340	214	1122
BREVOORTIA TYRANNUS	149	60	39	38	21	470	18183	215	1551	8551	4853
ANCHOA MITCHILLI	4940	2188	3209	1255	3036	15576	7014	242	4393	1152	391
SYNODUS FOETENS	-	-	22	46	95	95	4	-	140	49	15
OPSANUS TAU	46	18	39	25	42	56	42	46	60	56	84
MERLUCCIUS BILINEARIS	-	-	-	-	-	-	-	-	-	-	42
UROPHYCIS CHUSS	-	-	-	-	-	-	-	-	14	123	120
CYPRINODON VARIEGATUS	-	-	-	4	-	-	14	4	-	14	4
FUNDULUS HETEROCLITUS	-	-	-	-	-	-	21	26	-	11	25
MEMBRAS MARTINICA	32	95	96	110	4	22	4	-	-	-	-
MENIDIA MENIDIA	11	4	18	11	7	11	459	547	942	1635	4744
APELTES QUADRACUS	-	-	-	-	-	-	-	8	4	4	158
SYNGNATHUS FUSCUS	54	4	4	14	70	1001	1103	505	1271	497	1697
MORONE AMERICANA	-	-	4	-	14	14	18	9	42	28	78
POMATOMUS SALTATRIX	53	46	50	40	35	598	343	13	28	70	106
SELENE VOMER	244	221	240	235	140	264	14	39	56	39	-
BAIRDIELLA CHRYSURA	14	7	4	42	4	182	980	125	322	494	456
CYNOSCION REGALIS	659	385	178	852	219	4000	5516	216	718	1001	325
LEIOSTOMUS XANTHURUS	84	70	74	107	95	749	13689	610	1260	1327	31872
MICROPOGON UNDULATUS	-	-	-	-	4	-	4	-	25	137	65
TAUTOGA ONITIS	-	-	-	-	-	7	46	40	35	343	95
MUGIL CUREMA	-	14	115	80	4	21	81	-	4	4	23
HYPSOBLENNIUS HENTZI	-	-	-	-	-	25	56	15	84	39	116
PRIONOTUS EVOLANS	12	11	4	137	278	2819	1838	123	3511	634	505
ETROPUS MICROSTOMUS	-	-	-	-	-	4	-	-	249	585	378
PARALICHTHYS DENTATUS	26	21	14	57	193	394	147	8	168	28	39
PSEUDOPLEURONECTES AMERICANUS	-	-	4	-	14	67	119	118	417	480	882
TRINECTES MACULATUS	11	14	14	22	54	81	77	36	49	42	32
SPHOEROIDES MACULATUS	44	4	7	85	88	28	7	-	-	112	136
TOTAL OF ALL VERTEBRATE SPECIES	6607	3304	4252	3531	4604	26930	50460	3089	15932	20521	50826
INVERTEBRATES											
AEQUOREA SPP	-	7	103	183	7	93	102	4	-	-	7
CLASS POLYCHAETA	-	-	-	-	-	14	21	-	42	67	56
PENAEUS AZTECUS	4	7	32	45	46	383	109	159	791	2443	1337
PALAEMONETES VULGARIS	-	4	4	-	11	25	1785	117	4893	23618	9212
CRANGON SEPTEMSPINOSA	7	14	14	-	46	816	3248	120	41696	35830	27052
OVALIPES OCELLATUS	19	11	32	95	35	95	165	142	2051	1180	1487
PORTUNUS GIBBESI	-	7	-	-	-	81	14	32	581	165	133
CALLINECTES SAPIDUS	4378	11606	12159	34529	8874	6043	5905	2612	14378	92771	1180
CALLINECTES SIMILIS	298	140	333	251	60	87	56	5	133	105	14
PHYLUM NEMERTEA	-	-	-	-	-	60	4	4	42	60	25
TOTAL OF ALL INVERTEBRATE SPECIES	4720	11795	12705	35102	9086	7719	11438	3217	64715	156321	40545
GRAND TOTALS OF ALL SPECIES	11327	15099	16957	38633	13690	34649	61898	6306	80647	176841	91372

TABLE 6. (CONT.)

	December						January				February
	20-26	27-3	4-10	11-17	18-24	25-31	1-7	8-14	15-21	22-28	29-4
VERTEBRATES											
ALOSA AESTIVALIS	347	1760	7712	274	771	23805	1034	1184	36	-	-
ALOSA PSEUDOHARENGUS	248	33	155	4	39	178	53	137	-	-	-
ALOSA SAPIDISSIMA	-	-	-	-	28	608	270	123	-	-	-
BREVOORTIA TYRANNUS	1071	1406	2069	178	353	1542	50	262	-	-	-
ANCHOA MITCHILLI	338	820	297	61	7	54	140	-	12	-	-
SYNODUS FOETENS	4	4	-	-	-	-	-	-	-	-	-
OPSANUS TAU	21	14	4	4	-	4	-	-	-	-	4
MERLUCCIUS BILINEARIS	-	90	290	28	14	43	46	12	-	-	-
UROPHYCIS CHUSS	53	85	695	86	77	131	64	140	8	-	-
CYPRINODON VARIEGATUS	22	120	310	51	67	21	63	10	18	-	-
FUNDULUS HETEROCLITUS	18	18	15	14	25	4	4	4	-	-	-
MENIDIA MENIDIA	3573	3641	10101	5491	3519	13036	3299	13226	614	119	134
APELTES QUADRACUS	18	36	21	65	74	108	188	154	764	861	435
GASTEROSTEUS ACULEATUS	9	-	21	-	14	322	155	118	51	21	8
SYNGNATHUS FUSCUS	779	2571	1154	909	166	245	205	109	54	21	9
MORONE AMERICANA	78	26	53	21	70	34	77	30	8	-	4
SELENE VOMER	9	-	-	-	-	-	-	-	-	-	-
BAIRDIELLA CHRYSURA	313	288	177	-	-	-	-	-	-	-	-
CYNOSCION REGALIS	11	105	43	-	-	-	-	-	-	-	-
LEIOSTOMUS XANTHURUS	3284	358	979	88	269	11	4	13	-	-	-
MICROPOGON UNDULATUS	18	4	33	52	21	18	56	7	4	-	-
TAUTOGA ONITIS	301	63	91	77	35	22	-	7	-	7	-
MUGIL CUREMA	7	-	-	-	-	-	-	5	-	-	-
HYPSOBLENNIUS HENTZI	73	4	-	-	-	-	-	-	7	-	-
PRIONOTUS EVOLANS	120	77	32	23	7	-	-	-	-	-	-
MYOXOCEPHALUS AENAEUS	-	-	42	33	60	236	431	427	407	252	69
ETROPUS MICROSTOMUS	323	1271	2088	979	336	103	14	67	-	-	-
PARALICHTHYS DENTATUS	11	7	4	-	58	-	-	-	-	-	-
PSEUDOPLEURONECTES AMERICANUS	838	404	1980	506	2311	2103	1741	7654	1251	462	348
TRINECTES MACULATUS	25	21	4	-	-	-	-	-	-	-	-
SPHOEROIDES MACULATUS	73	-	-	-	-	-	-	-	-	-	-
TOTAL OF ALL VERTEBRATE SPECIES	12055	13325	28482	8965	8381	42691	7910	23707	3353	1757	1014
INVERTEBRATES											
AEQUOREA SPP	-	-	4	-	-	-	-	-	-	-	-
CLASS POLYCHAETA	37	665	1668	424	1466	18	18	70	74	28	50
PENAEUS AZTECUS	16	4	11	-	-	-	-	-	-	-	-
PALAEMONETES VULGARIS	13458	55724	30970	4283	13071	7446	21210	6200	6293	3073	7719
CRANGON SEPTEMSPINOSA	64171	402129	591617	510590	149758	438769	296652	107016	227075	70175	71116
OVALIPES OCELLATUS	655	582	99	4	-	-	-	-	-	-	-
CALLINECTES SAPIDUS	148	64	7	-	7	4	4	-	14	-	8
PHYLUM NEMERTEA	44	431	96	11	28	4	7	7	-	-	-
TOTAL OF ALL INVERTEBRATE SPECIES	78534	459644	624473	515324	164338	446254	317909	113298	233476	73290	78893
GRAND TOTALS OF ALL SPECIES	90589	472969	652955	524289	172719	488946	325819	137006	236829	75047	79907

TABLE 6. (CONT.)

	December						January				February
	20-26	27-3	4-10	11-17	18-24	25-31	1-7	8-14	15-21	22-28	29-4
VERTEBRATES											
ALOSA AESTIVALIS	347	1760	7712	274	771	23805	1034	1184	36	-	-
ALOSA PSEUDOHARENGUS	248	33	155	4	39	178	53	137	-	-	-
ALOSA SAPIDISSIMA	-	-	-	-	28	608	270	123	-	-	-
BREVOORTIA TYRANNUS	1071	1406	2069	178	353	1542	50	262	-	-	-
ANCHOA MITCHILLI	338	820	297	61	7	54	140	-	12	-	-
SYNODUS FOETENS	4	4	-	-	-	-	-	-	-	-	-
OPSANUS TAU	21	14	4	4	-	4	-	-	-	-	4
MERLUCCIUS BILINEARIS	-	90	290	28	14	43	46	12	-	-	-
UROPHYCIS CHUSS	53	85	695	86	77	131	64	140	8	-	-
CYPRINODON VARIEGATUS	22	120	310	51	67	21	63	10	18	-	-
FUNDULUS HETEROCLITUS	18	18	15	14	25	4	4	4	-	-	-
MENIDIA MENIDIA	3573	3641	10101	5491	3519	13036	3299	13226	614	119	134
APELTES QUADRACUS	18	36	21	65	74	108	188	154	764	861	435
GASTEROSTEUS ACULEATUS	9	-	21	-	14	322	155	118	51	21	8
SYNGNATHUS FUSCUS	779	2571	1154	909	166	245	205	109	54	21	9
MORONE AMERICANA	78	26	53	21	70	34	77	30	8	-	4
SELENE VOMER	9	-	-	-	-	-	-	-	-	-	-
BAIRDIELLA CHRYSURA	313	288	177	-	-	-	-	-	-	-	-
CYNOSCION REGALIS	11	105	43	-	-	-	-	-	-	-	-
LEIOSTOMUS XANTHURUS	3284	358	979	88	269	11	4	13	-	-	-
MICROPOGON UNDULATUS	18	4	33	52	21	18	56	7	4	-	-
TAUTOGA ONITIS	301	63	91	77	35	22	-	7	-	7	-
MUGIL CUREMA	7	-	-	-	-	-	-	5	-	-	-
HYPSOBLENNIUS HENTZI	73	4	-	-	-	-	-	-	7	-	-
PRIONOTUS EVOLANS	120	77	32	23	7	-	-	-	-	-	-
MYOXOCEPHALUS AENAEUS	-	-	42	33	60	236	431	427	407	252	69
ETROPUS MICROSTOMUS	323	1271	2088	979	336	103	14	67	-	-	-
PARALICHTHYS DENTATUS	11	7	4	-	58	-	-	-	-	-	-
PSEUDOPLEURONECTES AMERICANUS	838	404	1980	506	2311	2103	1741	7654	1251	462	348
TRINECTES MACULATUS	25	21	4	-	-	-	-	-	-	-	-
SPHOEROIDES MACULATUS	73	-	-	-	-	-	-	-	-	-	-
TOTAL OF ALL VERTEBRATE SPECIES	12055	13325	28482	8965	8381	42691	7910	23707	3353	1757	1014
INVERTEBRATES											
AEQUOREA SPP	-	-	4	-	-	-	-	-	-	-	-
CLASS POLYCHAETA	37	665	1668	424	1466	18	18	70	74	28	50
PENAEUS AZTECUS	16	4	11	-	-	-	-	-	-	-	-
PALAEMONETES VULGARIS	13458	55724	30970	4283	13071	7446	21210	6200	6293	3073	7719
CRANGON SEPTEMSPINOSA	64171	402129	591617	510590	149758	438769	296652	107016	227075	70175	71116
OVALIPES OCELLATUS	655	582	99	4	-	-	-	-	-	-	-
CALLINECTES SAPIDUS	148	64	7	-	7	4	4	-	14	-	8
PHYLUM NEMERTEA	44	431	96	11	28	4	7	7	-	-	-
TOTAL OF ALL INVERTEBRATE SPECIES	78534	459644	624473	515324	164338	446254	317909	113298	233476	73290	78893
GRAND TOTALS OF ALL SPECIES	90589	472969	652955	524289	172719	488946	325819	137006	236829	75047	79907

Table 7. Total estimated weight (g) impinged by week for taxa with more than 100 specimens taken from 4 September 1977 through 1 April 1978 at the Oyster Creek Generating Station, Forked River, New Jersey.

	September			October					November		
	4-10	11-17	18-24	25-1	2-8	9-15	16-22	23-29	30-5	6-12	13-19
VERTEBRATES											
ALOSA AESTIVALIS	1988	46	49	-	-	60	959	81	973	9163	8513
ALOSA PSEUDOHARENGUS	123	46	-	1008	81	308	2786	446	9856	5677	24271
BREVOORTIA TYRANNUS	5369	2629	1495	2300	2293	41786	1822429	7941	62108	168473	211289
ANCHOA MITCHILLI	13020	6234	4872	3803	8347	46597	20619	656	13468	3483	1342
SYNODUS FOETENS	-	-	972	2083	6022	4591	154	-	4788	2702	369
OPSANUS TAU	5352	2436	8222	4121	10934	2909	16664	9246	9041	4263	9531
MERLUCCIUS BILINEARIS	-	-	-	-	-	-	-	-	-	-	368
UROPHYCIS CHUSS	-	-	-	-	-	-	-	-	91	777	677
CYPRINODON VARIEGATUS	-	-	-	7	-	-	53	7	-	49	4
FUNDULUS HETEROCLITUS	-	-	-	-	-	-	95	96	-	63	165
MEMBRAS MARTINICA	133	427	234	462	11	112	11	-	-	-	-
MENIDIA MENIDIA	54	18	78	56	21	60	1575	2042	3759	7812	20096
APELTES QUADRACUS	-	-	-	-	-	-	-	15	4	7	186
SYNGNATHUS FUSCUS	102	7	7	35	200	2551	2664	1154	2867	1246	3041
MORONE AMERICANA	-	-	1061	-	242	2443	2730	1144	4704	4022	6231
POMATOMUS SALTATRIX	1666	2695	1299	3224	2178	51304	26289	812	2114	9041	13786
SELENE VOMER	2651	2167	3707	3846	2547	5801	536	942	767	802	-
BAIRDIELLA CHRYSURA	63	63	28	557	53	2478	9552	994	1810	2450	2726
CYNOSCION REGALIS	2250	2244	1123	12821	4633	76812	204169	5603	8953	10675	20549
LEIOSTOMUS XANTHURUS	1298	721	2348	2298	3035	23804	513149	14638	27178	26240	777854
MICROPOGON UNDULATUS	-	-	-	-	399	-	7	-	98	378	148
TAUTOGA ONITIS	-	-	-	-	-	2076	9538	8034	8743	87794	23258
MUGIL CUREMA	-	382	2959	1682	126	966	2548	-	347	63	572
HYPSOBLENNIUS HENTZI	-	-	-	-	-	280	434	88	595	480	1196
PRIONOTUS EVOLANS	501	186	81	6975	9701	15241	2380	570	7728	5128	2438
ETROPUS MICROSTOMUS	-	-	-	-	-	123	-	-	844	1379	917
PARALICHTHYS DENTATUS	3132	6034	1818	17180	34007	96732	66280	1609	26866	3346	3952
PSEUDOPLEURONECTES AMERICANUS	-	-	229	-	3063	13573	28742	25437	92680	104031	203054
TRINECTES MACULATUS	329	448	616	1190	2860	6066	3920	2056	1873	2968	3458
SPHOEROIDES MACULATUS	2692	88	2115	5010	15505	3419	802	-	-	536	593
TOTAL OF ALL VERTEBRATE SPECIES	47730	34342	38586	82220	115975	415110	2769981	87603	304812	473830	1369896
INVERTEBRATES											
AEQUOREA SPP	-	312	5719	6944	333	2580	2548	63	-	-	77
CLASS POLYCHAETA	-	-	-	-	-	18	35	-	119	214	224
PENAEUS AZTECUS	14	67	217	429	489	4331	1439	1323	4722	16947	7920
PALAEMONETES VULGARIS	-	4	4	-	11	25	1089	87	3416	18515	6717
CRANGON SEPTEMSPINOSA	7	14	11	-	61	805	3133	151	38749	44447	25556
OVALIPES OCELLATUS	331	144	556	1781	1400	1654	1281	1527	9569	7095	10151
PORTUNUS GIBBESI	-	11	-	-	-	413	67	140	2412	819	375
CALLINECTES SAPIDUS	235362	205051	259985	341916	216467	463514	414540	97977	285205	466750	44311
CALLINECTES SIMILIS	4091	1600	3836	3726	634	1142	557	66	1463	2821	144
PHYLUM NEMERTEA	-	-	-	-	-	224	11	25	473	287	203
TOTAL OF ALL INVERTEBRATE SPECIES	241136	207200	270430	354798	220141	476228	433188	103070	350858	560630	97295
GRAND TOTALS OF ALL SPECIES	288866	241542	309016	437017	336116	891338	3203169	190673	655669	1034460	1467191

TABLE 7. (CONT.)

	December						January				February
	20-26	27-3	4-10	11-17	18-24	25-31	1-7	8-14	15-21	22-28	29-4
VERTEBRATES											
ALOSA AESTIVALIS	1416	7066	44875	1128	5037	75235	5352	4049	105	-	-
ALOSA PSEUDOHARENGUS	4140	731	1775	105	682	2484	1334	1596	-	-	-
ALOSA SAPIDISSIMA	-	-	-	-	137	4732	2212	1101	-	-	-
BREVOORTIA TYRANNUS	77493	107959	114767	8249	10286	41433	956	6956	-	-	-
ANCHOA MITCHILLI	1245	2787	904	219	28	169	343	-	12	-	-
SYNODUS FOETENS	25	11	-	-	-	-	-	-	-	-	-
OPSANUS TAU	291	46	14	7	-	4	-	-	-	-	14
MERLUCCIUS BILINEARIS	-	848	5268	482	835	517	427	84	-	-	-
UROPHYCIS CHUSS.	1017	641	5080	548	550	1306	544	1644	53	-	-
CYPRINODON VARIEGATUS	51	276	554	116	158	43	98	32	28	-	-
FUNDULUS HETEROCLITUS	66	53	48	49	70	14	14	13	-	-	-
MENIDIA MENIDIA	15024	16279	45820	24647	15071	58910	13968	63757	2383	560	453
APELTES QUADRACUS	42	101	35	92	89	154	223	269	735	861	406
GASTEROSTEUS ACULEATUS	27	-	60	-	39	719	219	272	128	42	25
SYNGNATHUS FUSCUS	1571	4971	2556	1299	279	433	387	198	81	49	17
MORONE AMERICANA	2858	847	2485	1256	5653	2065	9793	3107	162	-	753
SELENE VOMER	18	-	-	-	-	-	-	-	-	-	-
BAIRDIELLA CHRYSURA	1182	1772	1000	-	-	-	-	-	-	-	-
CYNOSCION REGALIS	161	2202	606	-	-	-	-	-	-	-	-
LEIOSTOMUS XANTHURUS	132975	15183	31369	2290	8798	245	84	302	-	-	-
MICROPOGON UNDULATUS	35	7	76	84	25	18	56	7	4	-	-
TAUTOGA ONITIS	83246	20034	16863	19299	6540	3937	-	1089	-	763	-
MUGIL CUREMA	228	-	-	-	-	-	-	574	-	-	-
HYPSOBLENNIUS HENTZI	494	39	-	-	-	-	-	-	63	-	-
PRIONOTUS EVOLANS	738	371	119	102	81	-	-	-	-	-	-
MYOXOCEPHALUS AENAEUS	-	-	452	289	375	2116	3624	2556	2553	1442	938
ETROPUS MICROSTOMUS	1480	4161	4408	1585	543	141	1061	81	-	-	-
PARALICHTHYS DENTATUS	1012	487	147	-	69	-	-	-	-	-	-
PSEUDOPLEURONECTES AMERICANUS	167737	103605	367527	59548	536940	250251	245977	1695141	166010	72086	35220
TRINECTES MACULATUS	2664	1505	161	-	-	-	-	-	-	-	-
SPHOEROIDES MACULATUS	308	-	-	-	-	-	-	-	-	-	-
TOTAL OF ALL VERTEBRATE SPECIES	503795	299418	654132	124322	594903	447951	287098	1783469	172489	75838	37831
INVERTEBRATES											
AEQUOREA SPP	-	-	70	-	-	-	-	-	-	-	-
CLASS POLYCHAETA	170	2619	12909	1696	5805	151	110	306	192	42	210
PENAEUS AZTECUS	115	14	35	-	-	-	-	-	-	-	-
PALAEMONETES VULGARIS	9079	45702	19629	3287	7722	4491	13701	3820	3666	1806	4691
CRANGON SEPTEMSPINOSA	68369	427396	603971	621672	162500	432603	337458	117470	228129	81200	79718
OVALIPES OCELLATUS	7227	4659	1577	4	-	-	-	-	-	-	-
CALLINECTES SAPIDUS	16514	1240	228	-	39	8	438	-	84	-	42
PHYLUM NEMERTEA	399	3199	571	60	214	35	15	53	-	-	-
TOTAL OF ALL INVERTEBRATE SPECIES	101915	485869	639056	627056	176495	438121	352485	121902	232636	83734	84661
GRAND TOTALS OF ALL SPECIES	605710	785287	1293188	751378	771398	886071	639583	1905371	405125	159572	122491

TABLE 7. (CONT.)

	March 5-11	12-18	19-25	26-4	April 5-11	12-18	19-25	26-1
VERTEBRATES								
ALOSA AESTIVALIS	11	18	-	42	88	423	1334	440
ALOSA PSEUDOHARENGUS	-	-	-	-	-	4948	4457	1684
BREVOORTIA TYRANNUS	-	-	-	-	-	795	-	-
OPSANUS TAU	-	-	-	4	7	-	-	7
UROPHYCIS CHUSS	-	-	-	-	46	42	49	-
CYPRINODON VARIEGATUS	-	55	-	4	7	-	39	-
FUNDULUS HETEROCLITUS	18	21	28	-	42	21	292	144
MENIDIA MENIDIA	175	959	1729	1425	2657	5427	2182	1052
APELTES QUADRACUS	85	197	151	7	46	171	543	311
GASTEROSTEUS ACULEATUS	77	58	46	132	840	952	693	85
SYNGNATHUS FUSCUS	7	31	14	14	4	22	183	698
MORONE AMERICANA	-	-	196	-	77	547	46	1365
LEIOSTOMUS XANTHURUS	-	-	-	74	-	191	158	53
MICROPOGON UNDULATUS	7	-	4	4	-	44	-	-
TAUTOGA ONITIS	-	-	-	-	823	-	-	14
MUGIL CUREMA	-	-	-	-	648	883	-	-
MYOXOCEPHALUS AENAEUS	154	463	95	-	67	39	31	-
PSEUDOPLEURONECTES AMERICANUS	42343	69165	29208	21356	25197	124708	15763	28260
TOTAL OF ALL VERTEBRATE SPECIES	43117	71223	31857	23331	31479	140479	29883	35446
INVERTEBRATES								
CLASS POLYCHAETA	-	127	28	22	-	939	738	783
PALAEMONETES VULGARIS	3123	6982	1274	992	1617	1806	3652	3129
CRANGON SEPTEMSPINOSA	35572	43241	19397	10043	19012	32699	8325	20971
OVALIPES OCELLATUS	-	-	-	-	-	-	77	28
CALLINECTES SAPIDUS	-	-	-	7	4	-	123	1320
PHYLUM NEMERTEA	-	-	-	-	-	-	293	389
TOTAL OF ALL INVERTEBRATE SPECIES	38695	51149	20703	11069	20633	35486	14420	27092
GRAND TOTALS OF ALL SPECIES	81813	122372	52560	34399	52112	175965	44303	62538

TABLE 8. CATCH FREQUENCY (NUMBER PER COLLECTION) BY TEMPERATURE FOR SELECTED FISHES AND MACROINVERTEBRATES IMPINGED ON THE TRAVELING SCREENS AT THE OYSTER CREEK GENERATING STATION, FORKED RIVER, NEW JERSEY FROM 4 SEPTEMBER 1977 THROUGH 1 APRIL 1978.

TEMPERATURE	FREQ	CALLINECTES SAPIDUS	CRANGON SEPTENSPINOSA	PALAEMONETES VULGARIS	BREVOORTIA TYRANNUS	ANCHOA MITCHILLI	MENIDIA MENIDIA	SYNGNATHUS FUSCUS	POMATOMUS SALTATRIX	CYNOSCION REGALIS	PSEUDOPLEURONECTES AMERICANUS	PARALICHTHYS DENTATUS	SPHOEROIDES MACULATUS
27	1	174	1		4	48		3		17		1	
26	1	64				141		1	1	18		1	
25	2	40			5	90	1	1	1	16			
24	3	92			4	139			2	14			
23	4	151			4	145		2	2	19		1	3
22	0												
21	10	790			2	64			1	18		1	1
20	12	326			2	75	1		1	8		1	
19	4	534				51			1	15		1	4
18	2	469				26		1	1	18		2	1
17	12	650	184	151	10	37	3	1	1	11	1	1	2
16	8	1667	352	252	150	26	35	9	1	23	7	2	1
15	22	569	254	140	54	67	15	13	2	12	4	2	1
14	8	187	427	10	23	384	8	30	10	94	3	13	1
13	10	175	1146	284	47	171	81	36	9	48	13	6	1
12	12	97	191	48	269	129	15	27	4	90	6	2	1
11	9	95	561	105	228	70	7	19	5	54	3	2	1
10	17	4	1206	233	8	3	26	10			7		1
9	19	1	5933	801	22	6	104	13		1	22		
8	12	3	563	164	42	3	78	17		2	18		
7	10	2	4777	266	81	9	105	38	3	4	21	1	
6	6		3495	118	4		146	7			64		
5	24		5002	352	23	6	115	25		1	41	1	
4	11		9126	378	16	3	244	16			85	1	
3	49		2000	167	3	1	32	2			15		
2	61		2991	115	5		55	3			13		
1	29		3672	121			6	1			11		
0	5		627	34			2				10		
	363	6088	42509	3741	1005	1691	1078	273	43	481	345	36	17

TABLE 8 . (CONT.)

		FREQ	ALOSA AESTIVALIS	ALOSA PSEUDOHARENGUS	LEIOSTOMUS XANTHURUS	ETROPUS MICROSTOMUS	PRIONOTUS EVOLANS
T	27	1	9		1		
E	26	1	10		1		
M	25	2	7		4		
P	24	3	2		2		
E	23	4	2		2		1
R	22	0					
A	21	10			3		3
T	20	12			2		1
U	19	4		1	1		
R	18	2		12	1		1
E	17	12	9	3	3	1	6
	16	8	56	2	28	7	10
	15	22	9	3	10	5	9
	14	8		3	20	1	98
	13	10	37	20	87	5	93
	12	12	11	10	203	2	35
	11	9	1	2	188		24
	10	17	9	7	16	6	1
	9	19	68	4	19	21	1
	8	12	7	7	278	3	3
	7	10	21	9	565	18	5
	6	6	26	4	1	11	
	5	24	42		6	21	
	4	11	109	2	2	16	1
	3	49	33			1	
	2	61	76	1		1	
	1	29	1				
	0	5					
		363	542	87	1442	118	291

TABLE 9. TOTAL NUMBER OF LIVE, DEAD, AND DAMAGED FISHES AND MACRO-INVERTEBRATES IMPINGED ON THE TRAVELING SCREENS AT OYSTER CREEK GENERATING STATION, FORKED RIVER, NEW JERSEY FROM 4 SEPTEMBER 1977 THROUGH 1 APRIL 1978.

SPECIES	NUMBER	LIVE	DEAD	DAMAGED	% DEAD
ANGUILLA ROSTRATA	4	3	-	1	-
ALOSA AESTIVALIS	666	60	155	451	23
ALOSA PSEUDOHARENGUS	46	3	8	35	17
ALOSA SAPIDISSIMA	51	8	14	29	27
BREVOORTIA TYRANNUS	529	134	111	284	21
CLUPEA HARENGUS	1	-	-	1	-
DOROSOMA CEPEDIANUM	1	-	-	1	-
ANCHOA MITCHILLI	796	32	528	236	66
SYNODUS FOETENS	16	11	-	5	-
OPSANUS TAU	18	15	-	3	-
MERLUCCIUS BILINEARIS	5	-	4	1	80
UROPHYCIS CHUSS	22	1	10	11	45
RISSOLA MARGINATA	3	3	-	-	-
STRONGYLURA MARINA	1	-	1	-	100
CYPRINODON VARIEGATUS	8	5	-	3	-
FUNDULUS HETEROCLITUS	11	9	-	2	-
FUNDULUS MAJALIS	1	1	-	-	-
MEMBRAS MARTINICA	3	-	1	2	33
MENIDIA MENIDIA	1034	254	246	534	24
APELTES QUADRACUS	118	80	3	35	3
GASTEROSTEUS ACULEATUS	94	71	1	22	1
FISTULARIA TABACARIA	1	1	-	-	-
HIPPOCAMPUS ERECTUS	8	7	-	1	-
SYNGNATHUS FUSCUS	253	223	5	25	2
MORONE AMERICANA	10	4	1	5	10
CENTROPRISTIS STRIATA	1	-	-	1	-
POMATOMUS SALTATRIX	17	1	4	12	24
CARANX CRYSOS	3	-	3	-	100
CARANX HIPPOS	10	1	2	7	20
SELENE VOMER	39	13	9	17	23
VOMER SETAPINNIS	2	-	1	1	50
BAIRDIELLA CHRYSURA	38	12	7	19	18
CYNOSCION REGALIS	206	76	37	93	18
LEIOSTOMUS XANTHURUS	796	116	67	613	8
MICROPOGON UNDULATUS	5	2	2	1	40
CHAETODIPTERUS FABER	3	-	-	3	-
CHAETODON OCELLATUS	2	1	1	-	50
TAUTOGA ONITIS	35	24	-	11	-

TABLE 9. (CONT.)

TAUTOGOLABRUS ADSPERSUS	1	1	-	-	-
MUGIL CUREMA	6	-	2	4	33
ASTROSCOPUS GUTTATUS	3	2	-	1	-
CHASMODES BOSQUIANUS	1	1	-	-	-
HYPSOBLENNIUS HENTZI	4	4	-	-	-
AMMODYTES SP.	3	-	2	1	67
GOBIOSOMA BOSCI	4	-	4	-	100
PRIONOTUS CAROLINUS	7	3	-	4	-
PRIONOTUS EVOLANS	136	72	11	53	8
MYOXOCEPHALUS AENAEUS	21	15	-	6	-
ETROPUS MICROSTOMUS	102	33	27	42	26
PARALICHTHYS DENTATUS	21	3	1	17	5
SCOPHTHALMUS AQUOSUS	4	2	-	2	-
PSEUDOPLEURONECTES AMERICANUS	385	209	1	175	0
TRINECTES MACULATUS	13	9	-	4	-
ALUTERUS SCHOEPFI	1	1	-	-	-
MONACANTHUS HISPIDUS	5	2	-	3	-
SPHOEROIDES MACULATUS	10	6	-	4	-
CHILOMYCTERUS SCHOEPFI	1	-	-	1	-
AEQUOREA SPP	13	-	-	13	-
CYANEA CAPILLATA	1	-	-	1	-
CLASS POLYCHAETA	69	24	3	42	4
SQUILLA EMPUSA	4	4	-	-	-
PENAEUS AZTECUS	71	68	1	2	1
PALAEMONETES VULGARIS	699	666	18	15	3
PALAEMONETES PUGIO	1	1	-	-	-
CRANGON SEPTEMSPINOSA	4066	3664	276	126	7
CANCER IRRORATUS	2	2	-	-	-
OVALIPES OCELLATUS	108	95	1	12	1
PORTUNUS GIBBESI	13	10	1	2	8
PORTUNUS SPINIMANUS	2	1	-	1	-
CALLINECTES SAPIDUS	1568	1188	57	323	4
CALLINECTES SIMILIS	55	39	-	16	-
PHYLUM NEMERTEA	21	13	-	8	-
PROCAMBARUS BLANDINGI	1	1	-	-	-
TOTALS	12279	7310	1626	3343	13

TABLE 10. TOTAL NUMBER OF SPECIMENS TAKEN BY TRAWL AND SEINE FROM SEPTEMBER 1977 THROUGH MARCH 1978 AT THE MOUTH OF CEDAR CREEK, FORKED RIVER, OYSTER CREEK, AND DOUBLE CREEK.

SPECIES	SEP	OCT	NOV	DEC	JAN	FEB	MAR	TOTALS
DASYATIS SAYI	1	-	-	-	-	-	-	1
ANGUILLA ROSTRATA	26	4	-	-	-	1	-	31
ALOSA AESTIVALIS	-	-	5	5	-	-	10	20
ALOSA PSEUDOHARENGUS	-	-	2	-	-	-	8	10
BREVOORTIA TYRANNUS	1	-	2	16	-	-	-	19
ANCHOA MITCHILLI	3098	2825	5	3	-	-	-	5931
SYNODUS FOETENS	-	-	1	-	-	-	-	1
OPSANUS TAU	73	20	2	-	1	-	1	97
UROPHYCIS CHUSS	-	-	10	5	3	-	-	18
STRONGYLURA MARINA	10	61	-	-	-	-	-	71
CYPRINODON VARIEGATUS	-	3	5	-	-	-	1	9
FUNDULUS HETEROCLITUS	4	4	30	20	4	1	30	93
FUNDULUS MAJALIS	3	1	3	1	-	-	1	9
MEMBRAS MARTINICA	-	1	-	-	-	-	-	1
MENIDIA BERYLLINA	-	5	61	21	4	4	51	146
MENIDIA MENIDIA	254	340	533	112	13	6	158	1416
APELTES QUADRACUS	6	14	20	126	106	20	56	348
GASTEROSTEUS ACULEATUS	-	-	-	-	1	1	1	3
HIPPOCAMPUS ERECTUS	-	-	1	-	-	-	-	1
SYNGNATHUS FUSCUS	40	66	103	17	4	1	1	232
MORONE AMERICANA	1	1	2	1	1	2	5	13
MORONE SAXATILIS	-	-	-	1	-	-	-	1
POMATOMUS SALTATRIX	6	258	-	-	-	-	-	264
CARANX CRYSOS	-	353	-	-	-	-	-	353
CARANX HIPPOS	1	2	-	-	-	-	-	3
SELENE VOMER	14	20	-	-	-	-	-	34
SERIOLA ZONATA	-	1	-	-	-	-	-	1
TRACHINOTUS FALCATUS	3	12	-	-	-	-	-	15
LUTJANUS GRISEUS	-	-	1	-	-	-	-	1
BAIRDIELLA CHRYSURA	30	4	39	-	-	-	-	73
CYNOSCION REGALIS	65	12	1	-	-	-	-	78
LEIOSTOMUS XANTHURUS	89	53	9	-	-	-	1	152
MENTICIRRHUS SAXATILIS	3	1	-	-	-	-	-	4
MICROPOGON UNDULATUS	-	-	18	-	-	-	-	18
CHAETODIPTERUS FABER	7	-	-	-	-	-	-	7
TAUTOGA ONITIS	-	6	2	1	-	-	-	9
TAUTOGOLABRUS ADSPERSUS	-	1	-	-	-	-	-	1
MUGIL CEPHALUS	4	4	1	-	-	-	-	9
MUGIL CUREMA	4	1	-	-	-	-	-	5
CHASMODES BOSQUIANUS	2	-	-	1	-	-	-	3
HYPSOBLENNIUS HENTZI	-	1	-	-	-	-	-	1
AMMODYTES SP.	-	-	-	2	-	-	-	2
GOBIOSOMA BOSCI	4	2	91	10	-	-	1	108
GOBIOSOMA GINSBURGI	-	1	2	-	-	-	-	3
PEPRILUS TRIACANTHUS	-	-	1	-	-	-	-	1
PRIONOTUS CAROLINUS	-	-	3	-	-	-	-	3
PRIONOTUS EVOLANS	2	1	-	-	-	-	-	3
MYOXOCEPHALUS AENAEUS	-	-	-	-	3	-	-	3
ETROPUS MICROSTOMUS	-	16	12	-	-	-	-	28
PARALICHTHYS DENTATUS	3	1	-	-	-	-	-	4
PSEUDOPLEURONECTES AMERICANUS	2	3	25	32	18	3	17	100
TRINECTES MACULATUS	4	3	1	1	-	-	1	10
SPHOEROIDES MACULATUS	2	-	2	-	-	-	-	4
CRANGON SEPTEMSPINOSA	297	357	3512	6074	1457	77	803	12577
CALLINECTES SAPIDUS	179	60	66	10	44	24	13	396
CALLINECTES SIMILIS	-	-	1	-	-	-	-	1
TOTAL SPECIMENS	4238	4518	4572	6459	1659	140	1159	22745
TOTAL TAXA	32	37	34	20	13	11	18	56
TOTAL COLLECTIONS	35	36	36	34	34	16	36	227

TABLE 11. TOTAL NUMBER OF SPECIMENS TAKEN BY 4.9-m TRAWL FROM SEPTEMBER 1977 THROUGH MARCH 1978 AT THE MOUTH OF CEDAR CREEK, FORKED RIVER, OYSTER CREEK, AND DOUBLE CREEK.

SPECIES	SEP	OCT	NOV	DEC	JAN	FEB	MAR	TOTALS
DASYATIS SAYI	1	-	-	-	-	-	-	1
ANGUILLA ROSTRATA	8	2	-	-	-	-	-	10
ALOSA AESTIVALIS	-	-	1	5	-	-	-	6
BREVOORTIA TYRANNUS	-	-	1	8	-	-	-	9
ANCHOA MITCHILLI	2655	2809	4	1	-	-	-	5469
OPSANUS TAU	5	5	2	-	1	-	1	14
UROPHYCIS CHUSS	-	-	10	4	3	-	-	17
CYPRINODON VARIEGATUS	-	-	1	-	-	-	-	1
FUNDULUS HETEROCLITUS	-	-	1	-	-	-	-	1
MENIDIA MENIDIA	-	-	39	3	4	-	1	47
APELTES QUADRACUS	-	-	7	76	76	19	27	205
GASTEROSTEUS ACULEATUS	-	-	-	-	1	1	-	2
SYNGNATHUS FUSCUS	6	-	21	7	2	1	1	38
MORONE AMERICANA	-	-	1	1	-	2	1	5
POMATOMUS SALTATRIX	1	-	-	-	-	-	-	1
CARANX HIPPOS	-	1	-	-	-	-	-	1
SELENE VOMER	4	1	-	-	-	-	-	5
LUTJANUS GRISEUS	-	-	1	-	-	-	-	1
BAIRDIELLA CHRYSURA	-	4	1	-	-	-	-	5
CYNOSCION REGALIS	43	11	-	-	-	-	-	54
LEIOSTOMUS XANTHURUS	32	22	2	-	-	-	-	56
MICROPOGON UNDULATUS	-	-	17	-	-	-	-	17
CHAETODIPTERUS FABER	6	-	-	-	-	-	-	6
TAUTOGA ONITIS	-	4	1	-	-	-	-	5
TAUTOGOLABRUS ADSPERSUS	-	1	-	-	-	-	-	1
CHASMODES BOSQUIANUS	1	-	-	1	-	-	-	2
GOBIOSOMA BOSCI	2	-	78	10	-	-	1	91
GOBIOSOMA GINSBURGI	-	-	2	-	-	-	-	2
PEPRILUS TRIACANTHUS	-	-	1	-	-	-	-	1
PRIONOTUS EVOLANS	1	1	-	-	-	-	-	2
MYOXOCEPHALUS AENAEUS	-	-	-	-	3	-	-	3
ETROPUS MICROSTOMUS	-	-	4	-	-	-	-	4
PARALICHTHYS DENTATUS	1	-	-	-	-	-	-	1
PSEUDOPLEURONECTES AMERICANUS	1	3	21	21	15	1	5	67
TRINECTES MACULATUS	2	3	-	1	-	-	-	6
CRANGON SEPTEMSPINOSA	192	47	2337	4589	1302	56	32	8555
CALLINECTES SAPIDUS	36	14	37	2	44	24	8	165
CALLINECTES SIMILIS	-	-	1	-	-	-	-	1
TOTAL SPECIMENS	2997	2928	2591	4729	1451	104	77	14877
TOTAL TAXA	18	15	24	14	10	7	9	38
TOTAL COLLECTIONS	12	12	12	10	10	8	12	76

TABLE 12 . TOTAL NUMBER OF SPECIMENS TAKEN BY 45.7-m SEINE FROM SEPTEMBER 1977 THROUGH MARCH 1978 AT THE MOUTH OF CEDAR CREEK, FORKED RIVER, OYSTER CREEK, AND DOUBLE CREEK.

SPECIES	SEP	OCT	NOV	DEC	JAN	FEB	MAR	TOTALS
ANGUILLA ROSTRATA	15	2	-	-	-	1	-	18
ALOSA AESTIVALIS	-	-	4	-	-	-	10	14
ALOSA PSEUDOHARENGUS	-	-	2	-	-	-	8	10
BREVOORTIA TYRANNUS	1	-	1	5	-	-	-	7
ANCHOA MITCHILLI	94	7	1	-	-	-	-	102
SYNODUS FOETENS	-	-	1	-	-	-	-	1
OPSANUS TAU	65	15	-	-	-	-	-	80
STRONGYLURA MARINA	10	60	-	-	-	-	-	70
CYPRINODON VARIEGATUS	-	-	-	-	-	-	1	1
FUNDULUS HETEROCLITUS	-	-	11	3	-	1	4	19
FUNDULUS MAJALIS	3	-	1	1	-	-	1	6
MEMBRAS MARTINICA	-	1	-	-	-	-	-	1
MENIDIA BERYLLINA	-	1	8	2	-	-	21	32
MENIDIA MENIDIA	81	46	82	51	4	5	111	380
APELTES QUADRACUS	4	3	5	4	4	1	2	23
GASTEROSTEUS ACULEATUS	-	-	-	-	-	-	1	1
HIPPOCAMPUS ERECTUS	-	-	1	-	-	-	-	1
SYNGNATHUS FUSCUS	26	36	5	4	-	-	-	71
MORONE AMERICANA	1	1	1	-	1	-	4	8
MORONE SAXATILIS	-	-	-	1	-	-	-	1
POMATOMUS SALTATRIX	5	257	-	-	-	-	-	262
CARANX CRYSOS	-	349	-	-	-	-	-	349
CARANX HIPPOS	1	1	-	-	-	-	-	2
SELENE VOMER	10	18	-	-	-	-	-	28
SERIOLA ZONATA	-	1	-	-	-	-	-	1
TRACHINOTUS FALCATUS	2	3	-	-	-	-	-	5
BAIRDIELLA CHRYSURA	29	-	38	-	-	-	-	67
CYNOSCION REGALIS	18	1	1	-	-	-	-	20
LEIOSTOMUS XANTHURUS	53	27	6	-	-	-	1	87
MENTICIRRHUS SAXATILIS	3	1	-	-	-	-	-	4
CHAETODIPTERUS FABER	1	-	-	-	-	-	-	1
TAUTOGA ONITIS	-	2	1	-	-	-	-	3
MUGIL CEPHALUS	1	3	1	-	-	-	-	5
MUGIL CUREMA	4	1	-	-	-	-	-	5
CHASMODES BOSQUIANUS	1	-	-	-	-	-	-	1
HYPSOBLENNIUS HENTZI	-	1	-	-	-	-	-	1
GOBIOSOMA BOSCI	-	-	1	-	-	-	-	1
PRIONOTUS CAROLINUS	-	-	3	-	-	-	-	3
PRIONOTUS EVOLANS	1	-	-	-	-	-	-	1
ETROPUS MICROSTOMUS	-	1	8	-	-	-	-	9
PARALICHTHYS DENTATUS	2	1	-	-	-	-	-	3
PSEUDOPLEURONECTES AMERICANUS	1	-	4	8	2	2	10	27
TRINECTES MACULATUS	-	-	1	-	-	-	1	2
SPHOEROIDES MACULATUS	2	-	2	-	-	-	-	4
CRANGON SEPTEMSPINOSA	7	15	436	673	83	12	84	1310
CALLINECTES SAPIDUS	100	16	21	8	-	-	5	150
TOTAL SPECIMENS	541	870	646	760	94	22	264	3197
TOTAL TAXA	28	27	26	11	5	6	15	46
TOTAL COLLECTIONS	12	12	12	12	12	4	12	76

TABLE 13. TOTAL NUMBER OF SPECIMENS TAKEN BY 12.2-m SEINE FROM SEPTEMBER 1977 THROUGH MARCH 1978 AT THE MOUTH OF CEDAR CREEK, FORKED RIVER, OYSTER CREEK, AND DOUBLE CREEK.

SPECIES	SEP	OCT	NOV	DEC	JAN	FEB	MAR	TOTALS
ANGUILLA ROSTRATA	3	-	-	-	-	-	-	3
BREVOORTIA TYRANNUS	-	-	-	3	-	-	-	3
ANCHOA MITCHILLI	349	9	-	2	-	-	-	360
OPSANUS TAU	3	-	-	-	-	-	-	3
UROPHYCIS CHUSS	-	-	-	1	-	-	-	1
STRONGYLURA MARINA	-	1	-	-	-	-	-	1
CYPRINODON VARIEGATUS	-	3	4	-	-	-	-	7
FUNDULUS HETEROCLITUS	4	4	18	17	4	-	26	73
FUNDULUS MAJALIS	-	1	2	-	-	-	-	3
MENIDIA BERYLLINA	-	4	53	19	4	4	30	114
MENIDIA MENIDIA	173	294	412	58	5	1	46	989
APELTES QUADRACUS	2	11	8	46	26	-	27	120
SYNGNATHUS FUSCUS	8	30	77	6	2	-	-	123
POMATOMUS SALTATRIX	-	1	-	-	-	-	-	1
CARANX CRYSOS	-	4	-	-	-	-	-	4
SELENE VOMER	-	1	-	-	-	-	-	1
TRACHINOTUS FALCATUS	1	9	-	-	-	-	-	10
BAIRDIELLA CHRYSURA	1	-	-	-	-	-	-	1
CYNOSCION REGALIS	4	-	-	-	-	-	-	4
LEIOSTOMUS XANTHURUS	4	4	1	-	-	-	-	9
MICROPOGON UNDULATUS	-	-	1	-	-	-	-	1
TAUTOGA ONITIS	-	-	-	1	-	-	-	1
MUGIL CEPHALUS	3	1	-	-	-	-	-	4
AMMODYTES SP.	-	-	-	2	-	-	-	2
GOBIOSOMA BOSCI	2	2	12	-	-	-	-	16
GOBIOSOMA GINSBURGI	-	1	-	-	-	-	-	1
ETROPUS MICROSTOMUS	-	15	-	-	-	-	-	15
PSEUDOPLEURONECTES AMERICANUS	-	-	-	3	1	-	2	6
TRINECTES MACULATUS	2	-	-	-	-	-	-	2
CRANGON SEPTEMSPINOSA	98	295	739	812	72	9	687	2712
CALLINECTES SAPIDUS	43	30	8	-	-	-	-	81
TOTAL SPECIMENS	700	720	1335	970	114	14	818	4671
TOTAL TAXA	16	20	12	12	7	3	6	31
TOTAL COLLECTIONS	11	12	12	12	12	4	12	75

TABLE 14. TOTAL NUMBER OF SPECIMENS TAKEN IN COLLECTIONS DURING DAY AND NIGHT AT THE MOUTH OF OYSTER CREEK AND FORKED RIVER FROM SEPTEMBER 1977 THROUGH MARCH 1978.

	SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
SPECIES	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT
DASYATIS SAYI	-	1	-	-	-	-	-	-
ANGUILLA ROSTRATA	8	16	1	3	-	-	-	-
ALOSA AESTIVALIS	-	-	-	-	1	4	1	4
ALOSA PSEUDOHARENGUS	-	-	-	-	-	2	-	-
BREVOORTIA TYRANNUS	-	1	-	-	1	-	4	12
ANCHOA MITCHILLI	833	364	168	43	2	2	1	2
SYNODUS FOETENS	-	-	-	-	1	-	-	-
OPSANUS TAU	11	45	4	12	-	2	-	-
UROPHYCIS CHUSS	-	-	-	-	-	10	-	5
STRONGYLURA MARINA	-	1	3	58	-	-	-	-
CYPRINODON VARIEGATUS	-	-	3	-	-	1	-	-
FUNDULUS HETEROCLITUS	-	3	-	-	15	9	1	19
FUNDULUS MAJALIS	-	3	-	-	1	1	-	1
MEMBRAS MARTINICA	-	-	-	1	-	-	-	-
MENIDIA BERYLLINA	-	-	1	-	40	10	6	15
MENIDIA MENIDIA	37	19	4	80	41	438	61	45
APELTES QUADRACUS	-	-	-	-	6	9	3	91
HIPPOCAMPUS ERECTUS	-	-	-	-	-	1	-	-
SYNGNATHUS FUSCUS	4	8	4	9	3	95	2	11
MORONE AMERICANA	-	1	-	1	-	2	-	1
MORONE SAXATILIS	-	-	-	-	-	-	-	1
POMATOMUS SALTATRIX	2	3	10	248	-	-	-	-
CARANX CRYSOS	-	-	2	351	-	-	-	-
CARANX HIPPOS	1	-	1	1	-	-	-	-
SELENE VOMER	4	8	4	16	-	-	-	-
SERIOLA ZONATA	-	-	-	1	-	-	-	-
TRACHINOTUS FALCATUS	3	-	-	12	-	-	-	-
LUTJANUS GRISEUS	-	-	-	-	-	1	-	-
BAIRDIELLA CHRYSURA	6	23	1	3	-	38	-	-
CYNOSCION REGALIS	10	51	2	3	-	1	-	-
LEIOSTOMUS XANTHURUS	16	65	2	44	3	6	-	-
MENTICIRRHUS SAXATILIS	2	1	1	-	-	-	-	-
MICROPOGON UNDULATUS	-	-	-	-	-	17	-	-
CHAETODIPTERUS FABER	-	7	-	-	-	-	-	-
TAUTOGA ONITIS	-	-	3	1	-	1	-	1
TAUTOGOLABRUS ADSPERSUS	-	-	-	1	-	-	-	-
MUGIL CEPHALUS	3	-	2	2	-	1	-	-
MUGIL CUREMA	1	-	1	-	-	-	-	-
CHASMODES BOSQUIANUS	1	-	-	-	-	-	1	-
HYPSOBLENNIUS HENTZI	-	-	-	1	-	-	-	-
AMMODYTES SP.	-	-	-	-	-	-	1	1
GOBIOSOMA BOSCI	-	2	-	1	2	89	-	3
GOBIOSOMA GINSBURGI	-	-	-	1	1	1	-	-
PRIONOTUS CAROLINUS	-	-	-	-	-	3	-	-
PRIONOTUS EVOLANS	1	1	-	1	-	-	-	-
ETROPUS MICROSTOMUS	-	-	-	16	1	11	-	-
PARALICHTHYS DENTATUS	1	2	1	-	-	-	-	-
PSEUDOPLEURONECTES AMERICANUS	1	1	1	1	6	17	3	29
TRINECTES MACULATUS	-	4	-	3	-	1	-	1
SPHOEROIDES MACULATUS	1	1	-	-	-	2	-	-
CRANGON SEPTEMSPINOSA	1	238	3	281	245	2099	652	5380
CALLINECTES SAPIDUS	65	104	12	23	14	51	1	9
CALLINECTES SIMILIS	-	-	-	-	-	1	-	-
TOTAL SPECIMENS	1012	973	234	1218	383	2926	737	5631
TOTAL TAXA	22	26	23	29	17	31	13	19
TOTAL COLLECTIONS	12	12	12	12	12	12	12	12

TABLE 14. (CONT.)

SPECIES	JANUARY DAY	JANUARY NIGHT	FEBRUARY DAY	FEBRUARY NIGHT	MARCH DAY	MARCH NIGHT
ANGUILLA ROSTRATA	-	-	1	-	-	-
ALOSA AESTIVALIS	-	-	-	-	3	7
ALOSA PSEUDOHARENGUS	-	-	-	-	-	8
OPSANUS TAU	1	-	-	-	-	1
UROPHYCIS CHUSS	-	2	-	-	-	-
FUNDULUS HETEROCLITUS	1	3	-	1	-	27
MENIDIA BERYLLINA	4	-	3	1	10	-
MENIDIA MENIDIA	9	4	4	2	75	77
APELTES QUADRACUS	21	73	1	19	5	46
GASTEROSTEUS ACULEATUS	-	1	1	-	-	1
SYNGNATHUS FUSCUS	1	2	-	1	-	-
MORONE AMERICANA	1	-	-	2	-	5
LEIOSTOMUS XANTHURUS	-	-	-	-	-	1
GOBIOSOMA BOSCI	-	-	-	-	-	1
MYOXOCEPHALUS AENAEUS	-	3	-	-	-	-
PSEUDOPLEURONECTES AMERICANUS	2	16	-	3	4	13
TRINECTES MACULATUS	-	-	-	-	-	1
CRANGON SEPTEMSPINOSA	14	1437	16	61	50	734
CALLINECTES SAPIDUS	41	-	1	23	-	12
TOTAL SPECIMENS	95	1541	27	113	147	934
TOTAL TAXA	10	9	7	9	6	14
TOTAL COLLECTIONS	12	12	8	8	12	12

TABLE 15 . A COMPARISON OF THE TOTAL NUMBER OF SPECIMENS TAKEN AT THE MOUTH OF OYSTER CREEK, FORKED RIVER, CEDAR CREEK, AND DOUBLE CREEK FROM SEPTEMBER 1977 THROUGH MARCH 1978.

	SEPTEMBER 1977			
	OYSTER CREEK	FORKED RIVER	CEDAR CREEK	DOUBLE CREEK
TEMPERATURE: AIR	17.0 - 22.5	18.5 - 21.0	18.0 - 18.0	18.0 - 19.5
SURFACE	22.0 - 26.2	19.2 - 25.2	19.9 - 20.3	20.9 - 22.1
BOTTOM	25.9 - 26.3	22.4 - 25.0	20.2 - 20.2	21.5 - 21.5
SALINITY: SURFACE	24.0 - 26.0	25.0 - 26.5	16.0 - 30.0	23.5 - 25.0
BOTTOM	26.0 - 26.0	26.5 - 26.5	20.5 - 21.0	26.0 - 26.5
OXYGEN: SURFACE	6.3 - 7.3	7.0 - 7.4	6.8 - 7.4	7.0 - 7.2
BOTTOM	6.2 - 7.0	7.0 - 7.3	7.0 - 7.0	8.1 - 8.2
PH: SURFACE	7.7 - 8.2	7.5 - 8.2	7.6 - 7.8	7.8 - 7.9
BOTTOM	7.9 - 8.2	7.9 - 8.2	7.8 - 7.9	8.1 - 8.1
SECCHI (CM)	100.0 - 100.0	135.0 - 135.0	120.0 - 120.0	135.0 - 135.0
SPECIES	NO.	NO.	NO.	NO.
DASYATIS SAYI	-	1	-	-
ANGUILLA ROSTRATA	7	17	-	2
BREVOORTIA TYRANNUS	1	-	-	-
ANCHOA MITCHILLI	183	1014	1092	809
OPSANUS TAU	13	43	11	6
STRONGYLURA MARINA	-	1	9	-
FUNDULUS HETEROCLITUS	1	2	1	-
FUNDULUS MAJALIS	-	3	-	-
MENIDIA MENIDIA	21	35	107	91
APELTES QUADRACUS	-	-	4	2
SYNGNATHUS FUSCUS	3	9	11	17
MORONE AMERICANA	-	1	-	-
POMATOMUS SALTATRIX	4	1	1	-
CARANX HIPPOS	1	-	-	-
SELENE VOMER	10	2	2	-
TRACHINOTUS FALCATUS	2	1	-	-
BAIRDIELLA CHRYSURA	1	28	1	-
CYNOSCION REGALIS	11	50	2	2
LEIOSTOMUS XANTHURUS	23	58	6	2
MENTICIRRHUS SAXATILIS	-	3	-	-
CHAETODIPTERUS FABER	6	1	-	-
MUGIL CEPHALUS	-	3	-	1
MUGIL CUREMA	1	-	-	3
CHASMODES BOSQUIANUS	1	-	1	-
GOBIOSOMA BOSCI	1	1	2	-
PRIONOTUS EVOLANS	-	2	-	-
PARALICHTHYS DENTATUS	-	3	-	-
PSEUDOPLEURONECTES AMERICANUS	-	2	-	-
TRINECTES MACULATUS	4	-	-	-
SPHOEROIDES MACULATUS	1	1	-	-
CRANGON SEPTEMSPINOSA	23	216	27	31
CALLINECTES SAPIDUS	107	62	6	4
TOTAL SPECIMENS	425	1560	1283	970
TOTAL COLLECTIONS	12	12	6	5

TABLE 15 . (CONT.)

	OCTOBER 1977			
	OYSTER CREEK	FORKED RIVER	CEDAR CREEK	DOUBLE CREEK
TEMPERATURE: AIR	11.0 - 19.0	11.0 - 15.0	14.0 - 14.0	15.0 - 18.0
SURFACE	18.0 - 19.5	15.3 - 17.8	13.8 - 15.3	15.7 - 15.8
BOTTOM	18.7 - 19.5	15.6 - 17.4	15.3 - 15.3	15.4 - 15.5
SALINITY: SURFACE	21.0 - 23.0	22.0 - 24.0	12.0 - 22.0	22.0 - 25.0
BOTTOM	12.0 - 23.5	22.0 - 23.0	- - -	22.0 - 22.0
OXYGEN: SURFACE	7.2 - 8.2	7.6 - 8.5	7.0 - 8.0	7.9 - 9.6
BOTTOM	7.9 - 8.0	8.0 - 8.3	7.8 - 7.9	7.4 - 7.6
PH: SURFACE	7.8 - 7.9	7.8 - 8.0	7.2 - 7.6	7.9 - 8.0
BOTTOM	7.7 - 7.9	7.9 - 8.0	- - -	7.8 - 7.8
SECCHI (CM)	90.0 - 90.0	120.0 - 120.0	80.0 - 80.0	140.0 - 140.0

SPECIES	NO.	NO.	NO.	NO.
ANGUILLA ROSTRATA	4	-	-	-
ANCHOA MITCHILLI	4	207	2286	328
OPSANUS TAU	1	15	2	2
STRONGYLURA MARINA	61	-	-	-
CYPRINODON VARIEGATUS	-	3	-	-
FUNDULUS HETEROCLITUS	-	-	-	4
FUNDULUS MAJALIS	-	-	-	1
MEMBRAS MARTINICA	-	1	-	-
MENIDIA BERYLLINA	-	1	-	4
MENIDIA MENIDIA	32	52	139	117
APELTES QUADRACUS	-	-	1	13
SYNGNATHUS FUSCUS	2	11	6	47
MORONE AMERICANA	-	1	-	-
POMATOMUS SALTATRIX	256	2	-	-
CARANX CRYSOS	353	-	-	-
CARANX HIPPOS	2	-	-	-
SELENE VOMER	19	1	-	-
SERIOLA ZONATA	1	-	-	-
TRACHINOTUS FALCATUS	12	-	-	-
BAIRDIELLA CHRYSURA	-	4	-	-
CYNOSCION REGALIS	2	3	7	-
LEIOSTOMUS XANTHURUS	17	29	6	1
MENTICIRRHUS SAXATILIS	-	1	-	-
TAUTOGA ONITIS	-	4	-	2
TAUTOGOLABRUS ADSPERSUS	1	-	-	-
MUGIL CEPHALUS	4	-	-	-
MUGIL CUREMA	1	-	-	-
HYPSOBLENNIUS HENTZI	-	1	-	-
GOBIOSOMA BOSCI	-	1	-	1
GOBIOSOMA GINSBURGI	1	-	-	-
PRIONOTUS EVOLANS	-	1	-	-
ETROPUS MICROSTOMUS	-	16	-	-
PARALICHTHYS DENTATUS	-	1	-	-
PSEUDOPLEURONECTES AMERICANUS	-	2	1	-
TRINECTES MACULATUS	3	-	-	-
CRANGON SEPTEMSPINOSA	30	254	13	60
CALLINECTES SAPIDUS	21	14	9	16
TOTAL SPECIMENS	827	625	2470	596
TOTAL COLLECTIONS	12	12	6	6

TABLE 15. (CONT.)

	NOVEMBER 1977			
	OYSTER CREEK	FORKED RIVER	CEDAR CREEK	DOUBLE CREEK
TEMPERATURE: AIR	9.5 - 14.0	9.0 - 15.0	9.0 - 14.5	11.0 - 11.5
SURFACE	7.3 - 15.1	6.2 - 12.0	6.6 - 10.5	9.1 - 10.7
BOTTOM	7.3 - 9.3	6.1 - 8.0	7.3 - 7.4	8.0 - 8.1
SALINITY: SURFACE	16.0 - 17.0	17.0 - 18.0	13.5 - 16.0	17.0 - 20.5
BOTTOM	16.0 - 17.0	17.0 - 18.0	16.0 - 16.0	20.5 - 20.5
OXYGEN: SURFACE	7.6 - 9.9	8.5 - 10.1	9.2 - 11.1	10.1 - 10.8
BOTTOM	9.0 - 10.1	8.2 - 10.5	10.1 - 10.3	9.7 - 10.1
PH: SURFACE	7.9 - 7.9	8.0 - 8.0	7.9 - 7.9	8.1 - 8.2
BOTTOM	7.8 - 7.8	8.0 - 8.0	7.8 - 7.8	8.1 - 8.1
SECCHI (CM)	75.0 - 75.0	100.0 - 100.0	80.0 - 80.0	100.0 - 100.0

SPECIES	NO.	NO.	NO.	NO.
ALOSA AESTIVALIS	4	1	-	-
ALOSA PSEUDOHARENGUS	2	-	-	-
BREVOORTIA TYRANNUS	1	-	-	1
ANCHOA MITCHILLI	3	1	-	1
SYNODUS FOETENS	1	-	-	-
OPSANUS TAU	1	1	-	-
UROPHYCIS CHUSS	-	10	-	-
CYPRINODON VARIEGATUS	-	1	2	2
FUNDULUS HETEROCLITUS	11	13	2	4
FUNDULUS MAJALIS	-	2	-	1
MENIDIA BERYLLINA	46	4	-	11
MENIDIA MENIDIA	131	348	13	41
APELTES QUADRACUS	9	6	-	5
HIPPOCAMPUS ERECTUS	-	1	-	-
SYNGNATHUS FUSCUS	85	13	2	3
MORONE AMERICANA	2	-	-	-
LUTJANUS GRISEUS	1	-	-	-
BAIRDIELLA CHRYSURA	38	-	1	-
CYNOSCION REGALIS	1	-	-	-
LEIOSTOMUS XANTHURUS	8	1	-	-
MICROPOGON UNDULATUS	2	15	1	-
TAUTOGA ONITIS	1	-	-	1
MUGIL CEPHALUS	1	-	-	-
GOBIOSOMA BOSCI	78	13	-	-
GOBIOSOMA GINSBURGI	2	-	-	-
PEPRILUS TRIACANTHUS	-	-	-	1
PRIONOTUS CAROLINUS	3	-	-	-
ETROPUS MICROSTOMUS	2	10	-	-
PSEUDOPLEURONECTES AMERICANUS	10	13	2	-
TRINECTES MACULATUS	1	-	-	-
SPHOEROIDES MACULATUS	2	-	-	-
CRANGON SEPTEMSPINOSA	576	1768	812	356
CALLINECTES SAPIDUS	31	34	1	-
CALLINECTES SIMILIS	1	-	-	-
TOTAL SPECIMENS	1054	2255	836	427
TOTAL COLLECTIONS	12	12	6	6

TABLE 15. (CONT.)

	DECEMBER 1977			
	OYSTER CREEK	FORKED RIVER	CEDAR CREEK	DOUBLE CREEK
TEMPERATURE: AIR	3.0 - 11.5	2.0 - 11.0	12.0 - 12.0	3.0 - 9.5
SURFACE	5.0 - 8.2	-0.5 - 3.0	3.0 - 3.2	0.6 - 4.5
BOTTOM	5.2 - 5.5	0.8 - 1.2	- - -	0.0 - 0.0
SALINITY: SURFACE	14.0 - 20.0	12.0 - 23.0	20.0 - 21.0	20.0 - 25.0
BOTTOM	14.0 - 16.0	18.0 - 20.0	- - -	22.0 - 22.0
OXYGEN: SURFACE	9.7 - 12.0	9.6 - 14.6	11.2 - 11.4	11.8 - 12.0
BOTTOM	9.6 - 9.6	12.1 - 13.0	- - -	- - -
PH: SURFACE	7.1 - 8.1	7.0 - 8.1	7.5 - 7.5	7.7 - 8.1
BOTTOM	7.1 - 8.1	7.4 - 8.1	- - -	8.1 - 8.1
SECCHI (CM)	110.0 - 110.0	110.0 - 110.0	- - -	110.0 - 110.0
SPECIES	NO.	NO.	NO.	NO.
ALOSA AESTIVALIS	5	-	-	-
BREVOORTIA TYRANNUS	16	-	-	-
ANCHOA MITCHILLI	2	1	-	-
UROPHYCIS CHUSS	5	-	-	-
FUNDULUS HETEROCLITUS	8	12	-	-
FUNDULUS MAJALIS	1	-	-	-
MENIDIA BERYLLINA	15	6	-	-
MENIDIA MENIDIA	95	11	3	3
APELTES QUADRACUS	39	55	-	32
SYNGNATHUS FUSCUS	6	7	-	4
MORONE AMERICANA	1	-	-	-
MORONE SAXATILIS	1	-	-	-
TAUTOGA ONITIS	1	-	-	-
CHASMODES BOSQUIANUS	1	-	-	-
AMMODYTES SP.	2	-	-	-
GOBIOSOMA BOSCI	1	2	-	7
PSEUDOPLEURONECTES AMERICANUS	27	5	-	-
TRINECTES MACULATUS	1	-	-	-
CRANGON SEPTEMSPINOSA	4357	1675	13	29
CALLINECTES SAPIDUS	10	-	-	-
TOTAL SPECIMENS	4594	1774	16	75
TOTAL COLLECTIONS	12	12	4	6

TABLE 15 . (CONT.)

	JANUARY 1978			
	OYSTER CREEK	FORKED RIVER	CEDAR CREEK	DOUBLE CREEK
TEMPERATURE: AIR	-3.0 - 0.0	-3.0 - 0.5	0.5 - 0.5	-3.0 - -1.0
SURFACE	1.8 - 3.7	-1.1 - -0.5	-0.5 - -0.5	0.0 - 0.2
BOTTOM	2.8 - 3.6	-1.0 - -0.9	- - -	-0.8 - -0.8
SALINITY: SURFACE	17.5 - 20.5	15.5 - 21.5	13.5 - 14.0	21.0 - 21.5
BOTTOM	19.5 - 20.0	20.0 - 22.0	- - -	24.0 - 25.0
OXYGEN: SURFACE	9.8 - 11.8	12.0 - 12.9	13.6 - 13.6	12.2 - 12.6
BOTTOM	9.2 - 12.1	12.2 - 12.4	- - -	11.8 - 12.0
PH: SURFACE	7.6 - 8.0	7.3 - 8.1	7.8 - 7.8	7.8 - 8.1
BOTTOM	7.8 - 8.0	7.8 - 8.1	- - -	8.1 - 8.1
SECCHI (CM)	50.0 - 50.0	70.0 - 70.0	- - -	110.0 - 110.0

SPECIES	NO.	NO.	NO.	NO.
OPSANUS TAU	-	1	-	-
UROPHYCIS CHUSS	2	-	-	1
FUNDULUS HETEROCLITUS	4	-	-	-
MENIDIA BERYLLINA	4	-	-	-
MENIDIA MENIDIA	9	4	-	-
APELTES QUADRACUS	63	31	2	10
GASTEROSTEUS ACULEATUS	-	1	-	-
SYNGNATHUS FUSCUS	3	-	1	-
MORONE AMERICANA	1	-	-	-
MYOXOCEPHALUS AENAEUS	3	-	-	-
PSEUDOPLEURONECTES AMERICANUS	16	2	-	-
CRANGON SEPTEMSPINOSA	1203	248	6	-
CALLINECTES SAPIDUS	36	5	-	3
TOTAL SPECIMENS	1344	292	9	14
TOTAL COLLECTIONS	12	12	4	6

TABLE 15 . (CONT.)

	FEBRUARY 1978			
	OYSTER CREEK	FORKED RIVER	CEDAR CREEK	DOUBLE CREEK
TEMPERATURE: AIR	-3.0 - -3.0	-3.0 - -3.0	- - -	- - -
SURFACE	6.2 - 9.2	0.0 - 0.2	- - -	- - -
BOTTOM	9.8 - 10.0	0.0 - 0.0	- - -	- - -
SALINITY: SURFACE	14.5 - 21.5	16.0 - 20.0	- - -	- - -
BOTTOM	14.5 - 16.0	16.0 - 20.5	- - -	- - -
OXYGEN: SURFACE	12.7 - 13.1	12.8 - 14.6	- - -	- - -
BOTTOM	12.7 - 13.2	13.0 - 14.5	- - -	- - -
PH: SURFACE	7.9 - 8.1	8.0 - 8.1	- - -	- - -
BOTTOM	8.0 - 8.1	8.1 - 8.1	- - -	- - -
SECCHI (CM)	- - -	- - -	- - -	- - -
SPECIES	NO.	NO.	NO.	NO.
ANGUILLA ROSTRATA	1	-	-	-
FUNDULUS HETEROCLITUS	1	-	-	-
MENIDIA BERYLLINA	4	-	-	-
MENIDIA MENIDIA	6	-	-	-
APELTES QUADRACUS	8	12	-	-
GASTEROSTEUS ACULEATUS	-	1	-	-
SYNGNATHUS FUSCUS	1	-	-	-
MORONE AMERICANA	2	-	-	-
PSEUDOPLEURONECTES AMERICANUS	3	-	-	-
CRANGON SEPTEMSPINOSA	53	24	-	-
CALLINECTES SAPIDUS	24	-	-	-
TOTAL SPECIMENS	103	37	0	0
TOTAL COLLECTIONS	12	4	0	0

TABLE 15. (CONT.)

	MARCH 1978			
	OYSTER CREEK	FORKED RIVER	CEDAR CREEK	DOUBLE CREEK
TEMPERATURE: AIR	4.0 - 12.0	5.0 - 12.0	4.5 - 12.0	5.0 - 13.0
SURFACE	8.3 - 13.0	3.1 - 9.9	1.8 - 8.3	2.8 - 10.0
BOTTOM	8.5 - 9.9	3.2 - 3.8	1.8 - 1.8	2.4 - 2.4
SALINITY: SURFACE	16.5 - 20.0	15.5 - 20.0	0.0 - 10.5	17.5 - 20.0
BOTTOM	18.0 - 19.0	18.5 - 20.0	16.0 - 16.5	20.5 - 20.5
OXYGEN: SURFACE	9.0 - 14.7	9.4 - 14.1	9.0 - 14.4	9.1 - 12.4
BOTTOM	14.0 - 14.2	13.6 - 14.2	15.5 - 15.5	11.5 - 11.5
PH: SURFACE	7.5 - 8.2	7.7 - 8.2	7.5 - 8.0	8.1 - 8.2
BOTTOM	7.9 - 8.1	7.5 - 8.2	- - -	8.2 - 8.2
SECCHI (CM)	200.0 - 200.0	220.0 - 220.0	200.0 - 200.0	160.0 - 160.0
SPECIES	NO.	NO.	NO.	NO.
ALOSA AESTIVALIS	10	-	-	-
ALOSA PSEUDOHARENGUS	8	-	-	-
OPSANUS TAU	-	1	-	-
CYPRINODON VARIEGATUS	-	-	-	1
FUNDULUS HETEROCLITUS	8	19	2	1
FUNDULUS MAJALIS	-	-	-	1
MENIDIA BERYLLINA	10	-	22	19
MENIDIA MENIDIA	149	3	4	2
APELTES QUADRACUS	10	41	-	5
GASTEROSTEUS ACULEATUS	-	1	-	-
SYNGNATHUS FUSCUS	-	-	-	1
MORONE AMERICANA	5	-	-	-
LEIOSTOMUS XANTHURUS	1	-	-	-
GOBIOSOMA BOSCI	1	-	-	-
PSEUDOPLEURONECTES AMERICANUS	16	1	-	-
TRINECTES MACULATUS	1	-	-	-
CRANGON SEPTEMSPINOSA	166	618	2	17
CALLINECTES SAPIDUS	11	1	-	1
TOTAL SPECIMENS	396	685	30	48
TOTAL COLLECTIONS	12	12	6	6

Table 16. Estimated entrainment, with confidence interval ($P \leq 0.20$), of common and important macrozooplankton collected at the Oyster Creek Generating Station from 1 September 1977 through 29 March 1978.

Species	Entrainment Estimate	Species	Entrainment Estimate
Rathkea octopunctata	$1.50 \times 10^7 \pm 1.27 \times 10^7$	Mysidopsis bigelowi (gravid)	$1.57 \times 10^7 \pm 9.64 \times 10^6$
Sarsia spp.	$2.39 \times 10^9 \pm 1.70 \times 10^9$	Neomysis americana (no deter.)	$5.91 \times 10^9 \pm 1.50 \times 10^9$
Beroe ovata	$1.69 \times 10^7 \pm 2.00 \times 10^7$	Neomysis americana (gravid)	$2.70 \times 10^7 \pm 1.64 \times 10^7$
Mnemiopsis leidyi	$7.03 \times 10^6 \pm 8.95 \times 10^6$	Crangon septemspinosa (gravid and no deter.)	$2.54 \times 10^8 \pm 6.10 \times 10^7$
Total Beroe spp.	$1.69 \times 10^7 \pm 2.00 \times 10^7$	Crangon septemspinosa (zoeae)	$1.31 \times 10^8 \pm 4.13 \times 10^7$
Sagitta spp.	$2.63 \times 10^8 \pm 8.87 \times 10^7$	Palaemonetes spp. (gravid and no deter.)	$2.66 \times 10^7 \pm 6.32 \times 10^6$
Nereis spp. (epitokes)	$3.97 \times 10^6 \pm 1.99 \times 10^6$	Palaemonetes spp. (zoeae)	$3.21 \times 10^6 \pm 2.40 \times 10^6$
Polychaeta (larvae)	$1.16 \times 10^8 \pm 3.72 \times 10^7$	Callinectes sapidus (megalopae)	$6.64 \times 10^7 \pm 3.68 \times 10^7$
Leucon americanus	$1.21 \times 10^8 \pm 3.38 \times 10^7$	Panopeus herbsti (zoeae)	$1.16 \times 10^8 \pm 1.02 \times 10^8$
Oxyurostylis smithi	$2.60 \times 10^7 \pm 8.39 \times 10^6$	Neopanope texana (zoeae)	$2.24 \times 10^7 \pm 1.46 \times 10^7$
Edotea triloba	$5.92 \times 10^7 \pm 2.29 \times 10^7$	Rhithropanopeus harrisii (zoeae)	$7.50 \times 10^5 \pm 9.55 \times 10^5$
Ampelisca spp.	$3.73 \times 10^7 \pm 1.11 \times 10^7$	Other Xanthidae (zoeae)	$6.68 \times 10^5 \pm 8.51 \times 10^5$
Total Corophium spp.	$7.61 \times 10^8 \pm 1.80 \times 10^8$	Total Xanthidae (zoeae)	$1.39 \times 10^6 \pm 1.17 \times 10^6$
Jassa falcata	$4.71 \times 10^9 \pm 1.07 \times 10^9$	Other Brachyura (megalopae)*	$4.67 \times 10^7 \pm 3.11 \times 10^7$
Microdeutopus gryllotalpa	$1.41 \times 10^8 \pm 7.05 \times 10^7$	Total macrozooplankton	$1.93 \times 10^{10} \pm 1.97 \times 10^9$
Other Amphipoda	$1.22 \times 10^9 \pm 2.88 \times 10^8$		
Total Amphipoda	$6.87 \times 10^9 \pm 1.02 \times 10^9$		
Mysidopsis bigelowi (no deter.)	$1.02 \times 10^9 \pm 3.84 \times 10^8$		

*Includes Libinia spp. (megalopae).

Table 17. Mean monthly densities (n/m^3) and percent composition of taxa comprising 95% (by density) of all macrozooplankton collected at the OCGS discharge (Sta. 11) from 1 September 1977 through 29 March 1978.

Taxa (life-stage)	Sept n/m^3	Sept %	Oct n/m^3	Oct %	Nov n/m^3	Nov %	Dec n/m^3	Dec %	Jan n/m^3	Jan %	Feb n/m^3	Feb %	March n/m^3	March %	Mean n/m^3	Mean %
Neomysis americana (no deter. and gravid)	5.85	15.5	11.42	27.3	11.52	31.0	7.31	29.0	30.89	73.7	5.64	28.7	8.74	17.3	11.62	32.0
Jassa falcata (no deter. and gravid)	11.44	30.4	14.77	35.3	18.58	49.9	11.55	45.7	3.07	7.3	1.95	9.9	0.70	1.4	8.87	24.4
Sarsia spp. (no deter.)	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.10	0.5	30.69	60.6	4.40	12.1
Mysidopsis bigelowi (no deter. and gravid)	2.53	6.7	7.58	18.1	1.65	4.4	0.51	2.0	0.72	1.7	0.01	0.1	0.02	<0.1	1.86	5.1
Order Caprellidea (no deter. and gravid)	4.98	13.2	1.14	2.7	0.33	0.9	0.31	1.2	0.64	1.5	1.21	6.2	0.98	1.9	1.37	3.8
Corophium tuberculatum (no deter. and gravid)	0.16	0.4	0.07	0.2	0.32	0.9	0.06	0.2	0.50	1.2	1.94	9.9	2.36	4.7	0.77	2.1
Cerapus tubularis (no deter.)	2.07	5.5	1.68	4.0	0.03	0.1	0.14	0.6	0.11	0.3	0.70	3.6	0.08	0.2	0.69	1.9
Erichthonius spp. (no deter.)	0.60	1.6	0.26	0.6	0.22	0.6	0.08	0.3	0.53	1.3	1.86	9.5	0.55	1.1	0.59	1.6
Sagitta elegans (no deter.)	0.00	0.0	0.00	0.0	0.20	0.5	1.39	5.5	1.26	3.0	0.08	0.4	0.80	1.6	0.53	1.5
Crangon septemspinosa (no deter. and gravid)	0.02	0.1	0.03	0.1	0.43	1.2	0.84	3.3	0.98	2.3	0.84	4.3	0.49	1.0	0.52	1.4
Corophium spp. (no deter. and gravid)	0.12	0.3	0.19	0.5	0.77	2.1	0.23	0.9	0.29	0.7	0.57	2.9	0.54	1.1	0.39	1.1
Family Stenotholdae (no deter. and gravid)	0.57	1.5	0.42	1.0	0.35	0.9	0.48	1.9	0.34	0.8	0.24	1.2	0.03	0.1	0.35	1.0
Uni. Amphipoda (no deter. and gravid)	0.70	1.9	0.22	0.5	0.05	0.1	0.08	0.3	0.27	0.6	0.47	2.4	0.45	0.9	0.32	0.9
Subphylum Pycnogonida (no deter. and gravid)	1.16	3.1	0.38	0.9	0.12	0.3	0.04	0.2	0.04	0.1	0.07	0.4	0.04	0.1	0.26	0.7
Microdeutopus gryllotalpa (no deter. and gravid)	0.16	0.4	0.00	0.0	0.01	<0.1	0.00	0.0	0.04	0.1	0.37	1.9	1.21	2.4	0.26	0.7
Crangon septemspinosa (moeal)	0.00	0.0	0.57	1.4	0.46	1.2	0.14	0.5	0.14	0.3	0.05	0.3	0.38	0.8	0.25	0.7
Subclass Cirripedia (cyprid)	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.01	<0.1	1.47	7.5	0.17	0.3	0.24	0.7
Class Polychaeta (larval)	0.27	0.7	0.07	0.2	0.05	0.1	0.70	2.8	0.19	0.5	0.10	0.5	0.30	0.6	0.24	0.7
Leucon americanus (no deter. and gravid)	0.27	0.7	0.68	1.6	0.30	0.8	0.10	0.4	0.03	0.1	0.06	0.3	0.10	0.2	0.22	0.6
Corophium acherusicum (no deter. and gravid)	0.00	0.0	0.12	0.3	0.67	1.8	0.68	2.7	0.05	0.1	0.06	0.3	0.02	<0.1	0.23	0.6
Panopeus herbstii (moeal)	1.23	3.3	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.18	0.5
Elasmopus levis (no deter. and gravid)	0.14	0.4	0.20	0.5	0.06	0.2	0.02	0.1	0.10	0.2	0.46	2.3	0.22	0.4	0.17	0.5
Uni. Polychaeta (no deter. and gravid)	0.09	0.2	0.01	<0.1	0.05	0.1	0.02	0.1	0.29	0.7	0.36	1.8	0.10	0.2	0.13	0.4
Total Macrozooplankton	37.65		41.86		37.22		25.25		41.90		19.67		50.61		36.31	

Table 18. Day and night densities (n/m^3) of common and important macrozooplankton based on monthly 24-h collections at the OCGS discharge (Sta. 11) from 1 September 1977 through 29 March 1978.

Taxa (life-stage)		September n/m^3	October n/m^3	November n/m^3	December n/m^3	January n/m^3	February n/m^3	March n/m^3
Neomysis americana	Day	1.68	6.90	13.45	4.80	31.66	3.96	2.09
(no deter. and gravid)	Night	15.89	27.43	14.95	30.82	37.66	11.83	16.02
Jassa falcata	Day	13.87	18.22	15.57	10.13	2.36	1.95	0.51
(no deter. and gravid	Night	15.54	14.69	15.40	11.05	3.77	1.07	0.37
Sarsia spp.	Day	0.00	0.00	0.00	0.00	0.00	0.15	16.28
(no deter.	Night	0.00	0.00	0.00	0.00	0.00	0.00	11.79
Mysidopsis bigelowi	Day	0.20	4.37	1.16	0.36	0.42	0.00	0.00
(no deter. and gravid)	Night	5.56	20.49	5.02	2.24	1.49	0.00	0.00
Order Caprellidea	Day	3.91	1.29	0.39	0.20	0.48	1.46	0.57
(no deter. and gravid)	Night	10.84	1.01	0.12	0.15	0.25	1.07	0.54
Corophium tuberculatum	Day	0.16	0.07	0.36	0.07	0.33	2.25	2.62
(no deter. and gravid)	Night	0.08	0.00	0.05	0.05	0.41	1.76	2.45
Cerapus tubularis	Day	3.23	1.82	0.00	0.02	0.07	1.09	0.09
(no deter.)	Night	1.36	1.01	0.04	0.10	0.03	0.41	0.05
Erichthonius spp.	Day	0.62	0.15	0.26	0.03	0.48	2.36	0.42
(no deter.)	Night	1.00	0.17	0.38	0.13	0.40	1.81	0.71
Sagitta elegans	Day	0.00	0.00	0.09	0.82	1.14	0.08	0.67
(no deter.)	Night	0.00	0.00	0.47	1.46	4.82	0.02	0.46
Crangon septemspinosa	Day	0.00	0.02	0.00	0.02	0.06	0.12	0.05
(no deter. and gravid)	Night	0.05	0.08	0.50	2.43	2.88	0.80	0.49
Corophium spp.	Day	0.00	0.30	0.67	0.08	0.15	0.65	0.22
(no deter. and gravid)	Night	0.18	0.08	0.23	0.14	0.19	0.25	0.67
Family Stenothoidae	Day	0.82	0.30	0.24	0.38	0.20	0.27	0.00
(no deter. and gravid)	Night	0.63	0.84	0.09	0.41	0.88	0.33	0.00
Uni. Amphipoda	Day	0.31	0.29	0.00	0.08	0.04	0.55	0.19
(no deter. and gravid)	Night	2.77	0.09	0.00	0.18	0.09	0.60	0.88
Subphylum Pycnogonida	Day	0.88	0.41	0.13	0.02	0.02	0.12	0.02
(no deter. and gravid)	Night	0.77	0.25	0.08	0.02	0.06	0.00	0.12
Microdeutopus gryllotalpa	Day	0.00	0.00	0.00	0.00	0.02	0.47	1.33
(no deter. and gravid)	Night	0.08	0.00	0.00	0.00	0.18	0.22	1.36
Crangon septemspinosa	Day	0.00	0.54	0.40	0.07	0.02	0.08	0.13
(zoeal)	Night	0.00	1.01	0.58	0.09	0.11	0.02	0.18
Subclass Cirripedia	Day	0.00	0.00	0.00	0.00	0.00	1.47	0.20
(cypris)	Night	0.00	0.00	0.00	0.00	0.04	1.14	0.15
Class Polychaeta	Day	0.31	0.00	0.05	0.37	0.07	0.07	0.09
(larval)	Night	0.28	0.17	0.00	0.26	0.42	0.04	0.31
Leucon americanus	Day	0.05	0.07	0.12	0.00	0.00	0.00	0.00
(no deter. and gravid)	Night	0.18	0.75	0.77	0.15	0.00	0.02	0.00
Corophium acherusicum	Day	0.05	0.00	0.72	0.08	0.04	0.04	0.04
(no deter. and gravid)	Night	0.08	0.17	0.72	0.05	0.03	0.08	0.00
Panopeus herbstii	Day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(zoeal)	Night	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elasmopus levis	Day	0.16	0.14	0.08	0.00	0.10	0.66	0.11
(no deter. and gravid)	Night	0.00	0.33	0.00	0.00	0.25	0.45	0.17
Uni. Polychaeta	Day	0.00	0.00	0.05	0.02	0.00	0.36	0.09
(no deter. and gravid)	Night	0.14	0.00	0.00	0.04	0.18	0.41	0.19

Table 19 . Mean monthly densities (n/1000 m^3) and frequency of occurrence of macrozooplankton taken in day and night collections at the OCGS discharge (Sta. 11) from 1 September through 29 March 1978.

		SEPTEMBER								
Species	Lifestage	Sample Frequency	Density Mean/Day	Std Dev	Sample Frequency	Density Mean/Night	Std Dev	Sample Frequency	Density Mean	Std Dev
Class Hydrozoa	No Determ.	3	254.25	0.00	5	105.33	126.07	8	179.79	89.15
Turritopsis nutricola	No Determ.	4	503.00	0.00	11	913.00	1168.04	15	708.00	825.93
Bougainvillia spp	No Determ.	1	260.50	0.00	2	81.33	199.23	3	170.92	140.87
Phialidium spp	No Determ.	1	26.25	0.00	1	15.67	38.38	2	20.96	27.14
Liriope tetraphylla	No Determ.	0	0.00	0.00	2	35.42	66.44	2	17.71	46.98
Order Actiniaria	No Determ.	3	149.75	0.00	1	40.92	100.22	4	95.33	70.87
Mnemiopsis leidyi	No Determ.	0	0.00	0.00	3	184.92	452.95	3	92.46	320.29
Order Nudibranchia	No Determ.	1	52.00	0.00	0	0.00	0.00	1	26.00	0.00
Suborder Aeolidacea	No Determ.	0	0.00	0.00	1	13.42	32.86	1	6.71	23.24
Class Bivalvia	No Determ.	0	0.00	0.00	1	8.00	19.60	1	4.00	13.86
Class Polychaeta	Larval	3	312.50	0.00	5	216.17	168.78	8	264.33	119.34
Class Polychaeta	No Determ.	0	0.00	0.00	4	181.25	238.78	4	90.63	168.84
Family Phyllodocidae	No Determ.	1	52.00	0.00	7	254.08	276.12	8	153.04	195.25
Family Phyllodocidae	Larval	0	0.00	0.00	1	16.00	39.19	1	8.00	27.71
Glycera spp	No Determ.	0	0.00	0.00	1	3.92	9.59	1	1.96	6.78
Family Syllidae	No Determ.	0	0.00	0.00	7	320.75	284.54	7	160.38	201.20
Family Syllidae	Gravid Fe.	0	0.00	0.00	4	129.08	180.68	4	64.54	127.76
Autolytus spp	No Determ.	2	599.25	0.00	6	181.58	146.21	8	390.42	103.39
Autolytus spp	Gravid Fe.	2	312.50	0.00	0	0.00	0.00	2	156.25	0.00
Nereis spp	Epitokes	0	0.00	0.00	5	44.42	50.25	5	22.21	35.53
Nereis spp.	No Determ.	0	0.00	0.00	3	35.67	41.14	3	17.83	29.09
Polydora spp	No Determ.	1	52.00	0.00	0	0.00	0.00	1	26.00	0.00
Prionospio sp	No Determ.	0	0.00	0.00	1	8.00	19.60	1	4.00	13.86
Stauronereis rudolphi	No Determ.	0	0.00	0.00	2	23.17	56.75	2	11.58	40.13
Scoloplos spp	No Determ.	0	0.00	0.00	1	14.25	34.91	1	7.13	24.68
Family Terebellidae	No Determ.	0	0.00	0.00	1	8.00	19.60	1	4.00	13.86
Order Sabellida	No Determ.	2	150.00	0.00	6	132.50	129.48	8	141.25	91.56
Sabella microphthalma	No Determ.	0	0.00	0.00	2	33.25	70.56	2	16.63	49.89
Hydroides dianthus	No Determ.	1	52.00	0.00	1	32.08	78.59	2	42.04	55.57
Subphylum Pycnogonida	No Determ.	4	882.25	0.00	10	1423.75	1250.55	14	1153.00	884.27
Subphylum Pycnogonida	Gravid Fe.	0	0.00	0.00	1	14.25	34.91	1	7.13	24.68
Subclass Copepoda	Parasitic	0	0.00	0.00	2	22.50	37.19	2	11.25	26.30
Cyclaspis varians	No Determ.	0	0.00	0.00	4	92.17	112.92	4	46.08	79.85
Leucon americanus	No Determ.	1	52.00	0.00	10	478.75	275.24	11	265.38	194.63
Oxyurostylis smithi	No Determ.	1	45.75	0.00	3	105.08	168.58	4	75.42	119.21
Lironeca ovalis	No Determ.	0	0.00	0.00	1	7.83	19.19	1	3.92	13.57
Idotea baltica	No Determ.	1	26.25	0.00	1	23.50	57.56	2	24.88	40.70
Edotea triloba	No Determ.	4	353.25	0.00	9	440.33	449.89	13	396.79	318.12
Order Amphipoda	No Determ.	2	262.50	0.00	7	1101.50	2108.87	9	682.00	1491.20
Order Amphipoda	Gravid Fe.	1	45.75	0.00	0	0.00	0.00	1	22.88	0.00
Ampelisca spp.	No Determ.	1	52.00	0.00	8	280.00	212.48	9	166.00	150.24
Ampelisca spp.	Gravid Fe.	0	0.00	0.00	1	32.08	78.59	1	16.04	55.57
Cymadusa compta	No Determ.	0	0.00	0.00	1	32.08	78.59	1	16.04	55.57
Microdeutopus gryllotalpa	No Determ.	0	0.00	0.00	5	323.17	568.97	5	161.58	402.32
Batea catharinensis	No Determ.	0	0.00	0.00	7	195.00	165.83	7	97.50	117.26
Cerapus tubularis	No Determ.	4	3233.75	0.00	10	900.17	561.86	14	2066.96	397.29

Table 19 . (cont.)

Species	Lifestage	SEPTEMBER (cont.) Sample Frequency	Density Mean/Day	Std Dev	Sample Frequency	Density Mean/Night	Std Dev	Sample Frequency	Density Mean	Std Dev
Corophium acherusicum	No Determ.	1	52.00	0.00	3	77.67	92.77	4	64.83	65.60
Corophium insidiosum	No Determ.	0	0.00	0.00	1	14.67	35.93	1	7.33	25.40
Corophium tuberculatum	Gravid Fe.	0	0.00	0.00	1	28.50	69.81	1	14.25	49.36
Corophium tuberculatum	No Determ.	2	156.25	0.00	3	138.42	188.59	5	147.33	133.35
Corophium spp	No Determ.	0	0.00	0.00	6	184.00	154.21	6	92.00	109.04
Corophium spp	Gravid Fe.	0	0.00	0.00	2	46.75	79.61	2	23.38	56.29
Erichthonius spp	No Determ.	4	619.75	0.00	9	584.00	394.13	13	601.88	278.69
Jassa falcata	No Determ.	4	13009.20	0.00	12	8439.00	5596.90	16	10724.10	3957.61
Jassa falcata	Gravid Fe.	4	857.50	0.00	9	566.75	524.83	13	712.13	371.11
Listriella barnardi	No Determ.	0	0.00	0.00	1	16.00	39.19	1	8.00	27.71
Elasmopus levis	No Determ.	2	156.25	0.00	4	124.75	151.29	6	140.50	106.98
Melita nitida	No Determ.	0	0.00	0.00	1	32.08	78.59	1	16.04	55.57
Monoculodes edwardsi	No Determ.	0	0.00	0.00	1	35.08	85.94	1	17.54	60.77
Family Stenothoidae	Gravid Fe.	1	52.00	0.00	1	14.25	34.91	2	33.13	24.68
Family Stenothoidae	No Determ.	4	764.00	0.00	7	318.58	296.70	11	541.29	209.80
Suborder Caprellidea	No Determ.	4	3907.75	0.00	12	5961.67	5577.89	16	4934.71	3944.16
Suborder Caprellidea	Gravid Fe.	0	0.00	0.00	3	94.33	159.62	3	47.17	112.87
Family Mysidae	Gravid Fe.	0	0.00	0.00	1	20.42	50.01	1	10.21	35.36
Family Mysidae	No Determ.	0	0.00	0.00	1	29.33	71.85	1	14.67	50.81
Mysidopsis bigelowi	No Determ.	2	202.00	0.00	12	4805.33	2066.62	14	2503.67	1461.32
Mysidopsis bigelowi	Gravid Fe.	0	0.00	0.00	1	42.75	104.72	1	21.38	74.05
Neomysis americana	No Determ.	4	1677.00	0.00	12	9876.08	7259.45	16	5776.54	5133.20
Neomysis americana	Gravid Fe.	0	0.00	0.00	4	143.50	225.36	4	71.75	159.35
Palaemonetes vulgaris	No Determ.	0	0.00	0.00	1	5.08	12.45	1	2.54	8.80
Palaemonetes spp	Zoeal	0	0.00	0.00	3	68.50	81.39	3	34.25	57.55
Palaemonetes spp	No Determ.	1	52.00	0.00	2	43.33	85.22	3	47.67	60.26
Hippolyte spp.	Zoeal	3	203.00	0.00	9	518.75	561.14	12	360.88	396.79
Crangon septemspinosa	No Determ.	0	0.00	0.00	4	32.75	39.60	4	16.38	28.00
Upogebia affinis	Zoeal	0	0.00	0.00	1	14.67	35.93	1	7.33	25.40
Pagurus sp	Zoeal	1	45.75	0.00	2	117.75	203.54	3	81.75	143.92
Libinia spp	Megalopal	1	52.00	0.00	10	952.83	990.40	11	502.42	700.32
Callinectes sapidus	Megalopal	3	124.00	0.00	6	646.25	1098.04	9	385.13	776.43
Callinectes sapidus	Juvenile	1	52.00	0.00	1	7.83	19.19	2	29.92	13.57
Family Xanthidae	Zoeal	0	0.00	0.00	1	14.25	34.91	1	7.13	24.68
Panopeus herbstii	Zoeal	0	0.00	0.00	4	2462.50	3815.30	4	1231.25	2697.82
Neopanope sayi	Zoeal	1	52.00	0.00	7	436.42	464.57	8	244.21	328.50
Rhithropanopeus harrisii	Zoeal	0	0.00	0.00	1	16.00	39.19	1	8.00	27.71
Sagitta enflata	No Determ.	0	0.00	0.00	1	7.83	19.19	1	3.92	13.57
Sagitta spp.	No Determ.	0	0.00	0.00	1	7.83	19.19	1	3.92	13.57
Family Molgulidae	No Determ.	0	0.00	0.00	1	5.08	12.45	1	2.54	8.80
Unidentified invertebrate	No Determ.	0	0.00	0.00	1	35.50	86.96	1	17.75	61.49
Unidentified invertebrate	Larval	0	0.00	0.00	1	35.50	86.96	1	17.75	61.49
Total								16	37645.43	

Total Number of Forms = 88

Table 19. (cont.)

Species	Lifestage	OCTOBER Sample Frequency	Density Mean/Day	Std Dev	Sample Frequency	Density Mean/Night	Std Dev	Sample Frequency	Density Mean	Std Dev
Class Hydrozoa	No Determ.	0	0.00	0.00	2	80.60	180.23	2	40.30	127.44
Bougainvillia spp	No Determ.	0	0.00	0.00	4	372.10	776.54	4	186.05	549.10
Rathkea octopunctata	No Determ.	0	0.00	0.00	1	8.00	17.89	1	4.00	12.65
Phialidium spp	No Determ.	0	0.00	0.00	2	54.50	78.24	2	27.25	55.33
Liriope tetraphylla	No Determ.	0	0.00	0.00	1	14.80	33.09	1	7.40	23.40
Order Actiniaria	No Determ.	1	139.75	0.00	5	136.50	186.18	6	138.13	131.65
Beroe ovata	No Determ.	3	410.00	0.00	1	33.90	75.80	4	221.95	53.60
Suborder Doridacea	No Determ.	0	0.00	0.00	1	33.30	74.46	1	16.65	52.65
Suborder Aeolidacea	No Determ.	0	0.00	0.00	2	41.80	72.10	2	20.90	50.98
Class Polychaeta	No Determ.	0	0.00	0.00	1	18.70	41.81	1	9.35	29.57
Class Polychaeta	Larval	0	0.00	0.00	3	124.70	171.44	3	62.35	121.23
Family Syllidae	No Determ.	0	0.00	0.00	1	20.60	46.06	1	10.30	32.57
Family Syllidae	Gravid Fe.	0	0.00	0.00	1	8.00	17.89	1	4.00	12.65
Autolytus spp	Gravid Fe.	0	0.00	0.00	1	8.00	17.89	1	4.00	12.65
Autolytus spp	No Determ.	0	0.00	0.00	2	42.00	72.10	2	21.00	50.98
Autolytus spp	Larval	0	0.00	0.00	1	16.50	36.90	1	8.25	26.09
Nereis spp	No Determ.	1	138.50	0.00	0	0.00	0.00	1	69.25	0.00
Nereis spp	Epitokes	0	0.00	0.00	1	14.80	33.09	1	7.40	23.40
Polydora spp	No Determ.	0	0.00	0.00	3	82.70	105.24	3	41.35	74.42
Sabellaria vulgaris	No Determ.	0	0.00	0.00	1	4.40	9.84	1	2.20	6.96
Order Sabellida	No Determ.	2	213.25	0.00	3	37.90	43.36	5	125.58	30.66
Subphylum Pycnogonida	No Determ.	3	410.00	0.00	7	359.90	314.36	10	384.95	222.28
Cyclaspis varians	No Determ.	0	0.00	0.00	3	43.70	85.95	3	21.85	60.77
Leucon americanus	No Determ.	1	74.75	0.00	8	1190.70	899.33	9	632.73	635.92
Leucon americanus	Gravid Fe.	0	0.00	0.00	1	103.10	230.54	1	51.55	163.02
Oxyurostylis smithi	No Determ.	0	0.00	0.00	6	105.80	77.69	6	52.90	54.94
Lironeca ovalis	No Determ.	0	0.00	0.00	2	12.30	18.48	2	6.15	13.07
Edotea triloba	No Determ.	0	0.00	0.00	8	238.80	82.17	8	119.40	58.10
Erichsonella sp	No Determ.	1	40.25	0.00	0	0.00	0.00	1	20.13	0.00
Order Amphipoda	No Determ.	2	287.75	0.00	3	155.70	263.82	5	221.73	186.55
Ampelisca spp.	No Determ.	1	40.25	0.00	4	138.10	141.33	5	89.18	99.94
Ampelisca spp.	Gravid Fe.	0	0.00	0.00	3	90.60	124.90	3	45.30	88.32
Family Aoridae	No Determ.	0	0.00	0.00	1	32.80	73.34	1	16.40	51.86
Batea catharinensis	No Determ.	0	0.00	0.00	4	107.40	147.85	4	53.70	104.54
Cerapus tubularis	No Determ.	3	1821.00	0.00	9	1531.20	1578.39	12	1676.10	1116.09
Corophium acherusicum	No Determ.	0	0.00	0.00	6	225.50	88.67	6	112.75	62.70
Corophium acherusicum	Gravid Fe.	0	0.00	0.00	1	20.60	46.06	1	10.30	32.57
Corophium tuberculatum	No Determ.	1	74.75	0.00	1	56.10	125.44	2	65.43	88.70
Corophium spp	No Determ.	3	295.25	0.00	3	92.00	94.20	6	193.63	66.61
Erichthonius spp	No Determ.	1	149.25	0.00	6	379.30	389.45	7	264.28	275.38
Jassa falcata	Gravid Fe.	4	623.25	0.00	8	692.40	170.25	12	657.83	120.39
Jassa falcata	No Determ.	4	17597.00	0.00	10	10621.60	4775.15	14	14109.30	3376.54
Listriella barnardi	No Determ.	1	40.25	0.00	3	64.60	88.53	4	52.43	62.60
Elasmopus levis	No Determ.	1	138.50	0.00	7	264.00	224.96	8	201.25	159.07
Family Stenothoidae	No Determ.	2	301.00	0.00	7	503.50	333.99	9	402.25	236.17
Family Stenothoidae	Gravid Fe.	0	0.00	0.00	1	33.90	75.80	1	16.95	53.60
Stenothoe minuta	No Determ.	0	0.00	0.00	1	66.70	149.15	1	33.35	105.46
Suborder Caprellidea	Gravid Fe.	0	0.00	0.00	3	72.60	99.98	3	36.30	70.69
Suborder Caprellidea	No Determ.	4	1290.00	0.00	9	926.90	686.45	13	1108.45	485.39

Table 19 . (cont.)

Species	Lifestage	Sample Frequency	Density Mean/Day	Std Dev	Sample Frequency	Density Mean/Night	Std Dev	Sample Frequency	Density Mean	Std Dev
		OCTOBER (cont.)								
Family Mysidae	No Determ.	0	0.00	0.00	1	67.80	151.61	1	33.90	107.20
Mysidopsis bigelowi	No Determ.	4	4295.50	0.00	9	10502.30	12118.57	13	7398.90	8569.12
Mysidopsis bigelowi	Gravid Fe.	1	74.75	0.00	3	243.20	342.55	4	158.98	242.22
Neomysis americana	No Determ.	4	6904.75	0.00	10	15471.50	12505.33	14	11188.13	8842.61
Neomysis americana	Gravid Fe.	0	0.00	0.00	3	468.90	601.27	3	234.45	425.16
Heteromysis formosa	No Determ.	0	0.00	0.00	1	14.80	33.09	1	7.40	23.40
Palaemonetes vulgaris	No Determ.	0	0.00	0.00	2	21.90	36.23	2	10.95	25.62
Palaemonetes spp	No Determ.	0	0.00	0.00	4	54.00	68.39	4	27.00	48.36
Hippolyte spp.	Zoeal	0	0.00	0.00	3	251.60	540.51	3	125.80	382.20
Crangon septemspinosa	Zoeal	3	537.00	0.00	8	595.80	490.79	11	566.40	347.04
Crangon septemspinosa	No Determ.	1	17.25	0.00	5	42.30	48.25	6	29.78	34.12
Callinectes sapidus	Megalopal	0	0.00	0.00	8	722.20	933.21	8	361.10	659.88
Unidentified invertebrate	No Determ.	0	0.00	0.00	2	66.40	90.92	2	33.20	64.29
Total								14	41860.15	

Total Number of Forms = 62

Table 19. (cont.)

Species	Lifestage	Sample Frequency	Density Mean/Day	Std Dev	Sample Frequency	Density Mean/Night	Std Dev	Sample Frequency	Density Mean	Std Dev
		NOVEMBER								
Class Hydrozoa	No Determ.	0	0.00	0.00	3	28.60	40.15	3	14.30	28.39
Bougainvillia spp	No Determ.	0	0.00	0.00	1	12.70	28.40	1	6.35	20.08
Rathkea octopunctata	No Determ.	0	0.00	0.00	2	30.40	42.55	2	15.20	30.09
Order Actiniaria	No Determ.	1	43.50	0.00	3	144.95	294.21	4	94.23	208.04
Suborder Doridacea	No Determ.	1	45.00	0.00	0	0.00	0.00	1	22.50	0.00
Suborder Aeolidacea	No Determ.	1	90.00	0.00	1	12.70	28.40	2	51.35	20.08
Class Bivalvia	No Determ.	0	0.00	0.00	4	42.50	47.99	4	21.25	33.94
Class Polychaeta	Larval	1	45.00	0.00	2	47.60	65.19	3	46.30	46.09
Class Polychaeta	No Determ.	1	45.00	0.00	2	47.50	65.05	3	46.25	46.00
Family Phyllodocidae	No Determ.	0	0.00	0.00	1	7.70	17.22	1	3.85	12.17
Glycera spp	No Determ.	0	0.00	0.00	1	2.20	4.92	1	1.10	3.48
Autolytus spp	No Determ.	1	43.50	0.00	0	0.00	0.00	1	21.75	0.00
Autolytus spp	Gravid Fe.	0	0.00	0.00	1	12.70	28.40	1	6.35	20.08
Podarke obscura	No Determ.	0	0.00	0.00	1	12.70	28.40	1	6.35	20.08
Nereis spp	Epitokes	1	19.00	0.00	0	0.00	0.00	1	9.50	0.00
Nereis spp	No Determ.	0	0.00	0.00	1	12.70	28.40	1	6.35	20.08
Polydora spp	No Determ.	0	0.00	0.00	4	74.70	92.55	4	37.35	65.44
Polydora spp	Larval	0	0.00	0.00	1	8.85	19.79	1	4.43	13.99
Sabellaria vulgaris	No Determ.	0	0.00	0.00	1	11.70	26.16	1	5.85	18.50
Order Sabellida	No Determ.	0	0.00	0.00	4	132.25	181.47	4	66.13	128.32
Family Serpulidae	No Determ.	0	0.00	0.00	1	152.90	341.89	1	76.45	241.76
Hydroides dianthus	No Determ.	0	0.00	0.00	1	11.70	26.16	1	5.85	18.50
Class Hirudinea	No Determ.	0	0.00	0.00	1	9.10	20.35	1	4.55	14.39
Subphylum Pycnogonida	No Determ.	2	132.00	0.00	6	109.95	95.50	8	120.98	67.53
Leucon americanus	No Determ.	2	120.75	0.00	11	471.65	267.05	13	296.20	188.84
Oxyurostylis smithi	No Determ.	0	0.00	0.00	2	44.20	76.00	2	22.10	53.74
Idotea baltica	Gravid Fe.	0	0.00	0.00	2	13.50	18.53	2	6.75	13.10
Idotea baltica	No Determ.	0	0.00	0.00	1	2.20	4.92	1	1.10	3.48
Erichsonella sp	No Determ.	0	0.00	0.00	1	12.70	28.40	1	6.35	20.08
Order Amphipoda	No Determ.	0	0.00	0.00	3	103.50	153.87	3	51.75	108.80
Ampelisca spp.	No Determ.	0	0.00	0.00	1	23.40	52.32	1	11.70	37.00
Family Aoridae	No Determ.	0	0.00	0.00	1	24.10	53.89	1	12.05	38.11
Microdeutopus gryllotalpa	No Determ.	0	0.00	0.00	1	23.40	52.32	1	11.70	37.00
Unciola serrata	No Determ.	0	0.00	0.00	1	7.70	17.22	1	3.85	12.17
Batea catharinensis	No Determ.	0	0.00	0.00	2	46.00	63.00	2	23.00	44.55
Cerapus tubularis	No Determ.	0	0.00	0.00	3	67.45	77.16	3	33.73	54.56
Corophium acherusicum	No Determ.	2	528.00	0.00	10	556.25	383.41	12	542.13	271.11
Corophium acherusicum	Gravid Fe.	1	188.75	0.00	5	76.85	76.64	6	132.80	54.19
Corophium bonelli	No Determ.	2	278.75	0.00	7	272.80	244.72	9	275.78	173.04
Corophium tuberculatum	No Determ.	2	355.00	0.00	6	279.90	340.54	8	317.45	240.80
Corophium spp	No Determ.	3	667.50	0.00	9	878.65	436.60	12	773.08	308.72
Erichthonius spp	No Determ.	3	257.00	0.00	8	181.70	140.78	11	219.35	99.55
Gammarus mucronatus	No Determ.	0	0.00	0.00	2	31.45	49.45	2	15.73	34.97
Jassa falcata	No Determ.	4	15054.70	0.00	12	20165.20	10470.84	16	17609.95	7404.00
Jassa falcata	Gravid Fe.	3	513.50	0.00	11	1435.30	142.71	14	974.40	100.91
Elasmopus levis	No Determ.	1	75.75	0.00	2	52.00	71.79	3	63.88	50.77
Melita nitida	No Determ.	0	0.00	0.00	1	28.60	63.95	1	14.30	45.22
Microprotopus raneyi	No Determ.	0	0.00	0.00	2	71.60	107.40	2	35.80	75.94

Table 19 . (cont.)

		NOVEMBER (cont.)								
Species	Lifestage	Sample Frequency	Density Mean/Day	Std Dev	Sample Frequency	Density Mean/Night	Std Dev	Sample Frequency	Density Mean	Std Dev
Family Stenothoidae	No Determ.	2	241.50	0.00	9	463.05	345.52	11	352.28	244.32
Orchestia grillus	No Determ.	0	0.00	0.00	1	6.00	13.42	1	3.00	9.49
Suborder Caprellidea	No Determ.	3	386.25	0.00	9	280.65	181.68	12	333.45	128.46
Family Mysidae	No Determ.	0	0.00	0.00	1	5.60	12.52	1	2.80	8.85
Mysidopsis bigelowi	No Determ.	4	1159.75	0.00	10	2112.60	2101.15	14	1636.18	1485.74
Mysidopsis bigelowi	Gravid Fe.	0	0.00	0.00	1	34.80	77.82	1	17.40	55.02
Neomysis americana	No Determ.	4	13448.20	0.00	12	9595.64	5070.81	16	11521.92	3585.60
Palaemonetes vulgaris	No Determ.	0	0.00	0.00	2	21.30	36.59	2	10.65	25.87
Palaemonetes spp	No Determ.	0	0.00	0.00	9	83.55	48.03	9	41.78	33.96
Hippolyte pleurocanthus	No Determ.	0	0.00	0.00	2	12.65	19.41	2	6.33	13.72
Hippolyte zostericola	No Determ.	0	0.00	0.00	1	8.80	19.68	1	4.40	13.91
Hippolyte spp.	No Determ.	0	0.00	0.00	1	2.25	5.03	1	1.13	3.56
Crangon septemspinosa	No Determ.	0	0.00	0.00	10	867.90	1490.42	10	433.95	1053.88
Crangon septemspinosa	Zoeal	3	398.50	0.00	9	520.65	425.60	12	459.58	300.94
Callinectes sapidus	Megalopal	0	0.00	0.00	2	69.90	156.30	2	34.95	110.52
Sagitta elegans	No Determ.	1	94.25	0.00	8	314.40	366.64	9	204.33	259.26
Family Doliolidae	No Determ.	0	0.00	0.00	1	11.30	25.27	1	5.65	17.87
Molgula manhattensis	No Determ.	0	0.00	0.00	1	5.90	13.19	1	2.95	9.33
Total								16	37222.15	

Total Number of Forms = 66

Table 19 . (cont.)

Species	Lifestage	Sample Frequency	Density Mean/Day	Std Dev	Sample Frequency	Density Mean/Night	Std Dev	Sample Frequency	Density Mean	Std Dev
		DECEMBER								
Class Hydrozoa	No Determ.	1	15.25	0.00	2	10.13	20.25	3	12.69	14.32
Margelopsis gibbesi	No Determ.	1	15.25	0.00	0	0.00	0.00	1	7.63	0.00
Rathkea octopunctata	No Determ.	0	0.00	0.00	5	43.06	54.52	5	21.53	38.55
Order Actiniaria	No Determ.	2	62.25	0.00	4	44.38	26.93	6	53.31	19.04
Phylum Platyhelminthes	No Determ.	0	0.00	0.00	1	4.75	9.50	1	2.38	6.72
Suborder Aeolidacea	No Determ.	1	15.75	0.00	1	18.75	37.50	2	17.25	26.52
Class Bivalvia	No Determ.	4	118.50	0.00	5	43.94	39.35	9	81.22	27.83
Class Polychaeta	Larval	4	368.50	0.00	9	1037.31	1471.76	13	702.91	1040.69
Class Polychaeta	No Determ.	1	16.50	0.00	4	19.00	22.03	5	17.75	15.58
Family Syllidae	No Determ.	0	0.00	0.00	1	5.81	11.62	1	2.91	8.22
Autolytus spp	No Determ.	0	0.00	0.00	1	4.75	9.50	1	2.38	6.72
Nereis spp	Epitokes	0	0.00	0.00	1	18.75	37.50	1	9.38	26.52
Family Capitellidae	No Determ.	0	0.00	0.00	5	178.88	243.88	5	89.44	172.45
Polydora spp	No Determ.	1	30.75	0.00	1	5.50	11.00	2	18.13	7.78
Sabellaria vulgaris	No Determ.	0	0.00	0.00	2	16.88	25.82	2	8.44	18.26
Order Sabellida	No Determ.	2	31.75	0.00	6	89.19	97.00	8	60.47	68.59
Family Serpulidae	No Determ.	1	15.25	0.00	0	0.00	0.00	1	7.63	0.00
Class Hirudinea	No Determ.	0	0.00	0.00	3	16.94	33.87	3	8.47	23.95
Subphylum Pycnogonida	No Determ.	1	19.75	0.00	4	67.88	108.53	5	43.81	76.75
Cyclaspis varians	No Determ.	0	0.00	0.00	1	5.63	11.25	1	2.81	7.95
Leucon americanus	No Determ.	0	0.00	0.00	8	194.81	191.37	8	97.41	135.32
Oxyurostylis smithi	No Determ.	0	0.00	0.00	2	49.75	85.77	2	24.88	60.65
Idotea baltica	No Determ.	2	31.75	0.00	2	9.06	18.12	4	20.41	12.82
Edotea triloba	No Determ.	0	0.00	0.00	2	22.63	37.09	2	11.31	26.23
Order Amphipoda	No Determ.	1	79.25	0.00	3	88.06	90.52	4	83.66	64.01
Unciola serrata	No Determ.	0	0.00	0.00	1	38.75	77.50	1	19.38	54.80
Cerapus tubularis	No Determ.	1	15.75	0.00	6	267.25	331.20	7	141.50	234.19
Corophium acherusicum	No Determ.	1	79.25	0.00	7	1208.19	1493.97	8	643.72	1056.40
Corophium acherusicum	Gravid Fe.	0	0.00	0.00	1	75.25	150.50	1	37.63	106.42
Corophium tuberculatum	No Determ.	1	66.25	0.00	2	49.31	70.97	3	57.78	50.18
Corophium spp	No Determ.	1	79.25	0.00	7	379.69	336.63	8	229.47	238.03
Erichthonius spp	No Determ.	1	31.50	0.00	5	118.06	97.42	6	74.78	68.88
Gammarus mucronatus	No Determ.	0	0.00	0.00	1	10.94	21.87	1	5.47	15.47
Jassa falcata	No Determ.	4	10005.00	0.00	10	11707.88	7629.67	14	10856.44	5394.99
Jassa falcata	Gravid Fe.	1	122.75	0.00	8	1274.06	1509.62	9	698.41	1067.46
Listriella barnardi	No Determ.	0	0.00	0.00	1	5.38	10.75	1	2.69	7.60
Elasmopus levis	No Determ.	0	0.00	0.00	2	34.38	56.79	2	17.19	40.16
Family Stenothoidae	No Determ.	2	378.75	0.00	10	553.50	550.55	12	466.13	389.30
Family Stenothoidae	Gravid Fe.	0	0.00	0.00	1	27.13	54.25	1	13.56	38.36
Stenothoe brevicornis	No Determ.	0	0.00	0.00	1	4.75	9.50	1	2.38	6.72
Suborder Caprellidea	No Determ.	4	201.25	0.00	9	419.38	343.26	13	310.31	242.72
Mysidopsis bigelowi	No Determ.	4	364.00	0.00	7	657.06	1063.94	11	510.53	752.32
Neomysis americana	No Determ.	4	4804.50	0.00	11	9806.13	14641.49	15	7305.31	10353.10
Palaemonetes vulgaris	No Determ.	0	0.00	0.00	1	7.38	14.75	1	3.69	10.43
Palaemonetes spp	No Determ.	1	30.75	0.00	4	81.94	94.62	5	56.34	66.90

Table 19 . (cont.)

		DECEMBER (cont.)								
Species	Lifestage	Sample Frequency	Density Mean/Day	Std Dev	Sample Frequency	Density Mean/Night	Std Dev	Sample Frequency	Density Mean	Std Dev
Crangon septemspinosa	Zoeal	4	67.25	0.00	8	213.50	201.69	12	140.38	142.62
Crangon septemspinosa	No Determ.	1	15.25	0.00	10	1672.44	586.46	11	843.84	414.69
Callinectes sapidus	Megalopal	0	0.00	0.00	1	14.75	29.50	1	7.38	20.86
Sagitta elegans	No Determ.	4	823.50	0.00	10	1956.75	1633.45	14	1390.13	1155.03
Unidentified invertebrate	No Determ.	1	15.25	0.00	1	5.38	10.75	2	10.31	7.60
Total								14	25252.88	

Total Number of Forms = 50

Table 19. (cont.)

Species	Lifestage	Sample Frequency	Density Mean/Day	Std Dev	Sample Frequency	Density Mean/Night	Std Dev	Sample Frequency	Density Mean	Std Dev
		JANUARY								
Rathkea octopunctata	No Determ.	0	0.00	0.00	1	5.75	11.50	1	2.88	8.13
Class Scyphozoa	Larval	0	0.00	0.00	1	7.81	15.62	1	3.91	11.05
Order Actiniaria	No Determ.	2	59.50	0.00	1	5.75	11.50	3	32.63	8.13
Pleurobrachia sp	No Determ.	2	48.25	0.00	4	108.63	217.25	6	78.44	153.62
Suborder Aeolidacea	No Determ.	1	27.00	0.00	1	34.50	69.00	2	30.75	48.79
Class Bivalvia	No Determ.	2	100.25	0.00	4	85.50	59.50	6	92.88	42.07
Class Polychaeta	No Determ.	0	0.00	0.00	7	581.44	899.56	7	290.72	636.09
Class Polychaeta	Larval	2	65.75	0.00	8	302.88	228.75	10	184.31	161.75
Family Phyllodocidae	No Determ.	0	0.00	0.00	1	21.13	42.25	1	10.56	29.88
Family Syllidae	No Determ.	1	27.00	0.00	0	0.00	0.00	1	13.50	0.00
Nereis spp	Larval	0	0.00	0.00	1	5.75	11.50	1	2.88	8.13
Family Capitellidae	No Determ.	1	38.75	0.00	6	244.38	178.63	7	141.56	126.31
Polydora spp	No Determ.	0	0.00	0.00	1	96.13	192.25	1	48.06	135.94
Sabellaria vulgaris	No Determ.	0	0.00	0.00	1	42.25	84.50	1	21.13	59.75
Order Sabellida	No Determ.	1	27.00	0.00	2	10.88	21.75	3	18.94	15.38
Family Serpulidae	No Determ.	1	20.75	0.00	0	0.00	0.00	1	10.38	0.00
Hydroides dianthus	No Determ.	0	0.00	0.00	1	21.13	42.25	1	10.56	29.88
Class Hirudinea	No Determ.	4	239.00	0.00	5	440.38	511.46	9	339.69	361.66
Subphylum Pycnogonida	No Determ.	1	21.25	0.00	4	60.69	87.48	5	40.97	61.85
Subclass Cirripedia	Larval	0	0.00	0.00	2	10.88	21.75	2	5.44	15.38
Leptocuma minor	No Determ.	1	21.25	0.00	0	0.00	0.00	1	10.63	0.00
Leucon americanus	No Determ.	0	0.00	0.00	2	55.63	111.25	2	27.81	78.67
Oxyurostylis smithi	No Determ.	1	20.75	0.00	1	96.13	192.25	2	58.44	135.94
Idotea baltica	No Determ.	1	27.00	0.00	2	28.94	39.86	3	27.97	28.19
Edotea triloba	No Determ.	1	27.00	0.00	2	13.56	27.12	3	20.28	19.18
Erichsonella sp	No Determ.	1	27.00	0.00	0	0.00	0.00	1	13.50	0.00
Order Amphipoda	No Determ.	1	38.75	0.00	5	499.56	710.46	6	269.16	502.37
Ampelisca spp.	No Determ.	0	0.00	0.00	2	10.88	21.75	2	5.44	15.38
Cymadusa compta	No Determ.	1	19.50	0.00	0	0.00	0.00	1	9.75	0.00
Microdeutopus gryllotalpa	No Determ.	1	21.25	0.00	2	66.25	87.10	3	43.75	61.59
Unciola irrorata	No Determ.	1	20.75	0.00	0	0.00	0.00	1	10.38	0.00
Unciola spp	No Determ.	1	27.00	0.00	0	0.00	0.00	1	13.50	0.00
Lembos smithi	No Determ.	1	20.75	0.00	0	0.00	0.00	1	10.38	0.00
Batea catharinensis	No Determ.	0	0.00	0.00	2	577.00	1154.00	2	288.50	816.00
Cerapus tubularis	No Determ.	3	67.25	0.00	5	144.31	165.37	8	105.78	116.93
Corophium acherusicum	No Determ.	1	41.75	0.00	3	50.06	40.54	4	45.91	28.67
Corophium bonelli	No Determ.	0	0.00	0.00	2	25.50	38.56	2	12.75	27.27
Corophium insidiosum	No Determ.	1	38.75	0.00	0	0.00	0.00	1	19.38	0.00
Corophium tuberculatum	No Determ.	4	333.00	0.00	7	661.50	859.02	11	497.25	607.42
Corophium spp	No Determ.	2	152.00	0.00	7	426.38	258.45	9	289.19	182.75
Erichthonius spp	No Determ.	4	478.00	0.00	10	578.56	383.47	14	528.28	271.15
Gammarus mucronatus	No Determ.	0	0.00	0.00	2	37.13	74.25	2	18.56	52.50
Jassa falcata	No Determ.	4	2144.00	0.00	10	3488.30	1151.86	14	2816.15	814.49
Jassa falcata	Gravid Fe.	4	218.50	0.00	7	281.94	128.86	11	250.22	91.11
Elasmopus levis	No Determ.	3	101.75	0.00	6	107.94	127.08	9	104.84	89.86
Melita nitida	No Determ.	0	0.00	0.00	1	5.13	10.25	1	2.56	7.25
Family Stenothoidae	No Determ.	4	199.25	0.00	9	485.50	264.72	13	342.38	187.18
Suborder Caprellidea	No Determ.	4	479.75	0.00	7	801.00	867.52	11	640.38	613.43
Mysidopsis bigelovi	No Determ.	3	415.75	0.00	9	1014.75	475.07	12	715.25	335.92

Table 19 . (cont.)

		JANUARY (cont.)								
Species	Lifestage	Sample Frequency	Density Mean/Day	Std Dev	Sample Frequency	Density Mean/Night	Std Dev	Sample Frequency	Density Mean	Std Dev
Neomysis americana	No Determ.	4	31655.20	0.00	10	30117.75	14133.82	14	30886.48	9994.12
Palaemonetes spp	No Determ.	1	21.25	0.00	4	49.88	46.59	5	35.56	32.95
Crangon septemspinosa	Gravid Fe.	0	0.00	0.00	1	10.50	21.00	1	5.25	14.85
Crangon septemspinosa	No Determ.	3	61.50	0.00	10	1904.94	684.65	13	983.22	484.12
Crangon septemspinosa	Zoeal	1	19.50	0.00	5	253.69	168.55	6	136.59	119.18
Sagitta elegans	No Determ.	4	1142.50	0.00	7	1378.38	2122.03	11	1260.44	1500.50
Unidentified invertebrate	No Determ.	1	27.00	0.00	1	5.13	10.25	2	16.06	7.25
Total								14	41902.09	

Total Number of Forms = 56

Table 19 . (cont.)

Species	Lifestage	Sample Frequency	Density Mean/Day	Std Dev	Sample Frequency	Density Mean/Night	Std Dev	Sample Frequency	Density Mean	Std Dev
		FEBRUARY								
Class Hydrozoa	No Determ.	0	0.00	0.00	2	15.45	25.01	2	7.73	17.69
Hybocodon prolifer	No Determ.	0	0.00	0.00	1	3.60	8.05	1	1.80	5.69
Sarsia spp	No Determ.	4	149.00	0.00	2	55.30	123.65	6	102.15	87.44
Class Scyphozoa	Larval	0	0.00	0.00	1	9.70	21.69	1	4.85	15.34
Order Actiniaria	No Determ.	2	87.50	0.00	1	6.50	14.53	3	47.00	10.28
Suborder Doridacea	No Determ.	0	0.00	0.00	1	6.50	14.53	1	3.25	10.28
Suborder Aeolidacea	No Determ.	0	0.00	0.00	2	16.90	24.15	2	8.45	17.07
Class Bivalvia	No Determ.	2	65.75	0.00	4	60.05	86.29	6	62.90	61.02
Class Polychaeta	Larval	2	70.25	0.00	5	107.00	184.61	7	88.63	130.54
Class Polychaeta	No Determ.	4	363.00	0.00	11	355.40	207.85	15	359.20	146.97
Family Phyllodocidae	No Determ.	0	0.00	0.00	2	33.80	51.06	2	16.90	36.11
Family Polynoidae	No Determ.	0	0.00	0.00	1	6.30	14.09	1	3.15	9.96
Family Syllidae	No Determ.	0	0.00	0.00	2	20.95	30.04	2	10.48	21.24
Nereis spp	No Determ.	1	40.00	0.00	2	8.25	18.45	3	24.13	13.04
Nereis spp	Larval	0	0.00	0.00	2	15.05	22.98	2	7.53	16.25
Family Capitellidae	No Determ.	1	77.50	0.00	5	79.45	86.99	6	78.48	61.51
Family Maldanidae	No Determ.	1	125.75	0.00	2	17.30	24.88	3	71.53	17.59
Family Spionidae	No Determ.	0	0.00	0.00	2	15.55	25.22	2	7.78	17.84
Sabellaria vulgaris	No Determ.	1	14.00	0.00	0	0.00	0.00	1	7.00	0.00
Stauronereis rudolphi	No Determ.	0	0.00	0.00	1	3.95	8.83	1	1.98	6.25
Family Terebellidae	No Determ.	0	0.00	0.00	1	6.50	14.53	1	3.25	10.28
Pectinaria gouldii	No Determ.	2	48.00	0.00	2	21.95	30.60	4	34.98	21.64
Order Sabellida	No Determ.	0	0.00	0.00	3	19.25	27.18	3	9.63	19.22
Sabella microphthalma	No Determ.	1	42.25	0.00	0	0.00	0.00	1	21.13	0.00
Family Serpulidae	No Determ.	1	10.00	0.00	1	11.50	25.71	2	10.75	18.18
Hydroides dianthus	No Determ.	0	0.00	0.00	1	11.60	25.94	1	5.80	18.34
Class Hirudinea	No Determ.	1	14.00	0.00	8	75.95	32.58	9	44.98	23.04
Subphylum Pycnogonida	No Determ.	2	118.75	0.00	2	17.90	26.24	4	68.33	18.55
Subclass Cirripedia	Larval	4	1466.50	0.00	12	1469.10	867.01	16	1467.80	613.07
Leptocuma minor	No Determ.	1	28.00	0.00	1	4.65	10.40	2	16.33	7.35
Leucon americanus	No Determ.	0	0.00	0.00	6	110.60	122.19	6	55.30	86.40
Oxyurostylis smithi	No Determ.	0	0.00	0.00	1	10.40	23.26	1	5.20	16.44
Idotea baltica	No Determ.	0	0.00	0.00	2	10.10	14.75	2	5.05	10.43
Edotea triloba	No Determ.	0	0.00	0.00	7	107.10	100.82	7	53.55	71.29
Erichsonella sp	No Determ.	0	0.00	0.00	1	6.30	14.09	1	3.15	9.96
Order Amphipoda	No Determ.	4	546.25	0.00	11	390.75	236.79	15	468.50	167.44
Ampelisca spp.	No Determ.	1	40.00	0.00	5	58.20	40.85	6	49.10	28.89
Microdeutopus gryllotalpa	No Determ.	2	468.75	0.00	8	280.25	245.39	10	374.50	173.52
Unciola irrorata	No Determ.	1	160.00	0.00	2	44.50	60.99	3	102.25	43.13
Unciola serrata	No Determ.	1	38.75	0.00	1	3.95	8.83	2	21.35	6.25
Unciola spp	No Determ.	3	248.50	0.00	7	128.60	126.53	10	188.55	89.47
Lembos smithi	No Determ.	0	0.00	0.00	1	10.40	23.26	1	5.20	16.44
Batea catharinensis	No Determ.	0	0.00	0.00	1	4.65	10.40	1	2.33	7.35
Calliopius laeviusculus	No Determ.	0	0.00	0.00	1	6.50	14.53	1	3.25	10.28
Cerapus tubularis	No Determ.	4	1088.00	0.00	11	311.15	161.26	15	699.58	114.03
Corophium acherusicum	No Determ.	1	38.75	0.00	4	72.60	94.41	5	55.68	66.76
Corophium bonelli	No Determ.	1	42.25	0.00	2	15.65	24.19	3	28.95	17.11

Table 19 . (cont.)

		FEBRUARY (cont.)								
Species	Lifestage	Sample Frequency	Density Mean/Day	Std Dev	Sample Frequency	Density Mean/Night	Std Dev	Sample Frequency	Density Mean	Std Dev
Corophium tuberculatum	No Determ.	4	2247.00	0.00	12	1624.55	363.21	16	1935.78	256.83
Corophium spp	No Determ.	4	653.25	0.00	10	478.80	299.42	14	566.03	211.72
Erichthonius spp	No Determ.	4	2363.00	0.00	12	1355.50	415.56	16	1859.25	293.85
Family Gammaridae	No Determ.	0	0.00	0.00	1	7.25	16.21	1	3.63	11.46
Gammarus mucronatus	No Determ.	0	0.00	0.00	1	9.70	21.69	1	4.85	15.34
Jassa falcata	Gravid Fe.	1	120.00	0.00	6	104.00	77.05	7	112.00	54.48
Jassa falcata	No Determ.	4	1834.25	0.00	12	1841.25	775.82	16	1837.75	548.59
Amphiporeia virginiana	No Determ.	0	0.00	0.00	1	6.50	14.53	1	3.25	10.28
Listriella barnardi	No Determ.	0	0.00	0.00	1	12.60	28.17	1	6.30	19.92
Lysianopsis alba	No Determ.	0	0.00	0.00	2	21.80	48.75	2	10.90	34.47
Elasmopus levis	No Determ.	4	659.25	0.00	11	257.05	201.37	15	458.15	142.39
Monoculodes edwardsi	No Determ.	0	0.00	0.00	1	10.40	23.26	1	5.20	16.44
Family Stenothoidae	No Determ.	4	271.50	0.00	10	215.70	110.41	14	243.60	78.07
Suborder Caprellidea	No Determ.	4	1459.50	0.00	12	960.95	478.05	16	1210.23	338.03
Family Mysidae	No Determ.	0	0.00	0.00	1	10.80	24.15	1	5.40	17.08
Mysidopsis bigelowi	No Determ.	0	0.00	0.00	1	26.00	58.14	1	13.00	41.11
Neomysis americana	No Determ.	4	3962.75	0.00	12	7307.24	4317.88	16	5635.00	3053.20
Order Decapoda	No Determ.	0	0.00	0.00	1	4.90	10.96	1	2.45	7.75
Palaemonetes vulgaris	No Determ.	0	0.00	0.00	2	14.40	23.47	2	7.20	16.60
Palaemonetes spp	No Determ.	2	40.50	0.00	5	41.95	25.02	7	41.23	17.69
Crangon septemspinosa	No Determ.	4	115.00	0.00	13	1563.55	1408.15	17	839.28	995.71
Crangon septemspinosa	Zoeal	2	81.00	0.00	3	27.20	29.96	5	54.10	21.19
Sagitta elegans	No Determ.	2	81.00	0.00	5	80.30	106.54	7	80.65	75.34
Family Molgulidae	No Determ.	1	19.50	0.00	1	11.00	24.60	2	15.25	17.39
Total								16	19669.75	

Total Number of Forms = 71

Table 19. (cont.)

		MARCH								
Species	Lifestage	Sample Frequency	Density Mean/Day	Std Dev	Sample Frequency	Density Mean/Night	Std Dev	Sample Frequency	Density Mean	Std Dev
Hybocodon prolifer	No Determ.	1	21.50	0.00	0	0.00	0.00	1	10.75	0.00
Sarsia spp	No Determ.	4	16281.20	0.00	10	45100.20	58034.60	14	30690.70	41036.66
Rathkea octopunctata	No Determ.	4	251.25	0.00	1	62.50	139.75	5	156.88	98.82
Obelia spp	No Determ.	1	45.50	0.00	2	215.80	482.54	3	130.65	341.21
Order Actiniaria	No Determ.	0	0.00	0.00	2	64.00	91.66	2	32.00	64.82
Crepidula spp	No Determ.	1	21.50	0.00	0	0.00	0.00	1	10.75	0.00
Suborder Aeolidacea	No Determ.	1	43.50	0.00	3	159.30	218.14	4	101.40	154.25
Class Bivalvia	No Determ.	1	22.75	0.00	2	58.00	81.07	3	40.38	57.32
Mytilus edulis	No Determ.	0	0.00	0.00	1	24.40	54.56	1	12.20	38.58
Class Polychaeta	Larval	3	87.50	0.00	9	506.60	361.87	12	297.05	255.88
Class Polychaeta	No Determ.	3	90.25	0.00	3	112.20	110.93	6	101.23	78.44
Nereis spp	No Determ.	1	22.75	0.00	2	81.90	117.22	3	52.33	82.89
Family Maldanidae	No Determ.	0	0.00	0.00	1	50.60	113.15	1	25.30	80.01
Stauronereis rudolphi	No Determ.	1	21.75	0.00	0	0.00	0.00	1	10.88	0.00
Marphysa sanguinea	No Determ.	0	0.00	0.00	1	15.60	34.88	1	7.80	24.67
Order Sabellida	No Determ.	0	0.00	0.00	3	76.00	110.14	3	38.00	77.88
Sabella spp	No Determ.	1	21.50	0.00	0	0.00	0.00	1	10.75	0.00
Hydroides dianthus	No Determ.	0	0.00	0.00	1	15.60	34.88	1	7.80	24.67
Class Hirudinea	No Determ.	3	89.50	0.00	7	582.70	489.58	10	336.10	346.19
Subphylum Pycnogonida	No Determ.	1	21.75	0.00	2	60.40	104.36	3	41.08	73.79
Subclass Cirripedia	Larval	4	199.50	0.00	5	141.20	135.76	9	170.35	95.99
Leptocuma minor	No Determ.	1	21.75	0.00	1	31.30	69.99	2	26.53	49.49
Leucon americanus	No Determ.	0	0.00	0.00	4	208.50	333.13	4	104.25	235.56
Oxyurostylis smithi	No Determ.	1	23.25	0.00	4	173.80	239.20	5	98.53	169.14
Idotea baltica	No Determ.	0	0.00	0.00	1	8.40	18.78	1	4.20	13.28
Edotea triloba	No Determ.	2	66.25	0.00	3	177.40	363.54	5	121.83	257.06
Order Amphipoda	No Determ.	1	187.00	0.00	9	716.50	490.50	10	451.75	346.83
Ampelisca spp.	No Determ.	1	22.75	0.00	4	109.80	80.24	5	66.28	56.74
Microdeutopus gryllotalpa	No Determ.	4	1326.00	0.00	9	1089.90	635.41	13	1207.95	449.30
Unciola serrata	No Determ.	2	43.25	0.00	1	50.60	113.15	3	46.93	80.01
Unciola spp	No Determ.	3	180.25	0.00	3	100.70	97.63	6	140.48	69.04
Cerapus tubularis	No Determ.	3	89.50	0.00	1	79.20	177.10	4	84.35	125.23
Corophium acherusicum	No Determ.	1	43.00	0.00	0	0.00	0.00	1	21.50	0.00
Corophium insidiosum	No Determ.	1	43.00	0.00	0	0.00	0.00	1	21.50	0.00

Table 19 . (cont.)

Species	Lifestage	Sample Frequency	Density Mean/Day	Std Dev	Sample Frequency	Density Mean/Night	Std Dev	Sample Frequency	Density Mean	Std Dev
		MARCH (cont.)								
Corophium tuberculatum	No Determ.	4	2619.25	0.00	9	2099.00	1199.68	13	2359.13	848.30
Corophium spp	No Determ.	3	223.50	0.00	8	860.80	437.84	11	542.15	309.60
Erichthonius spp	No Determ.	4	423.00	0.00	7	671.60	567.20	11	547.30	401.07
Jassa falcata	No Determ.	4	484.75	0.00	9	797.10	496.99	13	640.93	351.43
Jassa falcata	Gravid Fe.	1	23.25	0.00	2	86.50	119.15	3	54.88	84.25
Lysianopsis alba	No Determ.	1	21.50	0.00	0	0.00	0.00	1	10.75	0.00
Elasmopus levis	No Determ.	2	112.50	0.00	6	318.70	231.84	8	215.60	163.94
Microprotopus raneyi	No Determ.	1	43.50	0.00	1	96.40	215.56	2	69.95	152.42
Family Stenothoidae	No Determ.	0	0.00	0.00	2	51.80	85.89	2	25.90	60.73
Suborder Caprellidea	No Determ.	3	569.50	0.00	9	1383.70	974.24	12	976.60	688.89
Mysidopsis bigelowi	No Determ.	0	0.00	0.00	1	31.30	69.99	1	15.65	49.49
Neomysis americana	No Determ.	4	2087.75	0.00	10	15338.70	10363.17	14	8713.23	7327.87
Neomysis americana	Gravid Fe.	0	0.00	0.00	1	50.60	113.15	1	25.30	80.01
Palaemonetes spp	No Determ.	1	23.25	0.00	2	112.10	221.71	3	67.68	156.77
Crangon septemspinosa	No Determ.	2	46.00	0.00	10	936.50	222.79	12	491.25	157.54
Crangon septemspinosa	Zoeal	4	134.75	0.00	4	626.60	1191.80	8	380.68	842.73
Sagitta elegans	No Determ.	4	665.25	0.00	8	929.50	945.69	12	797.38	668.70
Total								14	50614.73	

Total Number of Forms = 51

Table 19 . (cont.)

	SEPTEMBER-MARCH				
Species	Lifestage	Frequency	Yearly Mean	Std Dev	% Composition
Total		104	36309.33		
Neomysis americana	No Determ.	105	11575.10	7440.08	31.88
Jassa falcata	No Determ.	103	8370.62	4001.32	23.05
Sarsia spp	No Determ.	20	4398.97	15510.40	12.12
Mysidopsis bigelowi	No Determ.	66	1827.57	3347.82	5.03
Suborder Caprellidea	No Determ.	93	1359.15	1550.68	3.74
Corophium tuberculatum	No Determ.	58	768.59	421.00	2.12
Cerapus tubularis	No Determ.	63	686.85	463.47	1.89
Erichthonius spp	No Determ.	78	585.02	264.27	1.61
Sagitta elegans	No Determ.	53	533.27	765.85	1.47
Crangon septemspinosa	No Determ.	73	519.67	601.81	1.43
Jassa falcata	Gravid Fe.	69	494.26	434.28	1.36
Corophium spp	No Determ.	66	383.64	221.16	1.06
Family Stenothoidae	No Determ.	72	339.11	225.47	0.93
Order Amphipoda	No Determ.	52	318.36	618.18	0.88
Subphylum Pycnogonida	No Determ.	49	264.73	348.76	0.73
Microdeutopus gryllotalpa	No Determ.	32	257.07	238.75	0.71
Crangon septemspinosa	Zoeal	54	248.24	369.59	0.68
Class Polychaeta	Larval	56	235.12	417.95	0.65
Subclass Cirripedia	Larval	27	234.80	234.61	0.65
Corophium acherusicum	No Determ.	40	212.36	414.55	0.58
Leucon americanus	No Determ.	53	211.29	284.20	0.58
Panopeus herbstii	Zoeal	4	175.89	1019.68	0.48
Elasmopus levis	No Determ.	51	171.63	117.21	0.47
Class Polychaeta	No Determ.	41	130.73	257.49	0.36
Callinectes sapidus	Megalopal	20	112.65	387.47	0.31
Class Hirudinea	No Determ.	32	104.83	189.72	0.29
The Above Organisms Comprised 95% of the Assemblage					
Edotea triloba	No Determ.	38	103.31	158.92	0.28
Turritopsis nutricola	No Determ.	15	101.14	312.17	0.28
Libinia spp	Megalopal	11	71.77	264.70	0.20
Order Actiniaria	No Determ.	28	70.37	100.26	0.19
Hippolyte spp.	Zoeal	15	69.53	208.23	0.19
Batea catharinensis	No Determ.	16	66.43	314.55	0.18
Order Sabellida	No Determ.	34	65.71	72.86	0.18
Autolytus spp	No Determ.	12	62.22	43.64	0.17
Ampelisca spp.	No Determ.	28	55.38	73.89	0.15
Bougainvillia spp	No Determ.	8	51.90	214.40	0.14
Unciola spp	No Determ.	17	48.93	42.71	0.13
Oxyurostylis smithi	No Determ.	22	48.21	100.82	0.13
Neomysis americana	Gravid Fe.	8	47.36	174.25	0.13
Corophium bonelli	No Determ.	14	45.35	66.53	0.12
Palaemonetes spp	No Determ.	36	45.32	73.27	0.12
Family Capitellidae	No Determ.	18	44.21	84.07	0.12

Table 19 . (cont.)

Species	Lifestage	SEPTEMBER-MARCH (cont.) Frequency	Yearly Mean	Std Dev	% Composition
Class Bivalvia	No Determ.	29	43.23	39.45	0.12
Class Hydrozoa	No Determ.	18	36.40	60.37	0.10
Neopanope sayi	Zoeal	8	34.89	124.16	0.10
Suborder Aeolidacea	No Determ.	15	33.83	66.23	0.09
Beroe ovata	No Determ.	4	31.71	20.26	0.09
Rathkea octopunctata	No Determ.	14	28.64	42.06	0.08
Mysidopsis bigelowi	Gravid Fe.	6	28.25	97.97	0.08
Family Syllidae	No Determ.	12	28.22	77.52	0.08
Family Phyllodocidae	No Determ.	12	26.34	76.03	0.07
Corophium acherusicum	Gravid Fe.	8	25.82	46.79	0.07
Polydora spp	No Determ.	11	24.41	63.65	0.07
Nereis spp	No Determ.	11	24.27	34.41	0.07
Autolytus spp	Gravid Fe.	4	23.80	8.97	0.07
Obelia spp	No Determ.	3	18.66	128.96	0.05
Unciola irrorata	No Determ.	4	16.09	16.30	0.04
Microprotopus raneyi	No Determ.	4	15.11	64.36	0.04
Family Serpulidae	No Determ.	5	15.03	91.63	0.04
Family Maldanidae	No Determ.	4	13.83	30.96	0.04
Mnemiopsis leidyi	No Determ.	3	13.21	121.06	0.04
Unciola serrata	No Determ.	7	13.07	37.02	0.04
Idotea baltica	No Determ.	13	11.94	20.40	0.03
Suborder Caprellidea	Gravid Fe.	6	11.92	50.34	0.03
Pagurus sp	Zoeal	3	11.68	54.40	0.03
Pleurobrachia sp	No Determ.	6	11.21	58.06	0.03
Unidentified invertebrate	No Determ.	7	11.05	33.86	0.03
Hydroides dianthus	No Determ.	6	10.29	27.43	0.03
Cyclaspis varians	No Determ.	8	10.11	38.04	0.03
Listriella barnardi	No Determ.	7	9.92	27.10	0.03
Family Syllidae	Gravid Fe.	5	9.79	48.52	0.03
Family Stenothoidae	Gravid Fe.	4	9.09	26.60	0.03
Ampelisca spp.	Gravid Fe.	4	8.76	39.44	0.02
Family Mysidae	No Determ.	4	8.11	45.42	0.02
Leptocuma minor	No Determ.	5	7.64	18.91	0.02
Leucon americanus	Gravid Fe.	1	7.36	61.61	0.02
Nereis spp	Epitokes	8	6.93	18.95	0.02
Corophium insidiosum	No Determ.	3	6.89	9.60	0.02
Phialidium spp	No Determ.	4	6.89	23.29	0.02
Sabellaria vulgaris	No Determ.	6	6.37	24.77	0.02
Gammarus mucronatus	No Determ.	6	6.37	25.22	0.02
Erichsonella sp	No Determ.	4	6.16	8.47	0.02
Suborder Doridacea	No Determ.	3	6.06	20.28	0.02
Sabella microphthalma	No Determ.	3	5.39	18.86	0.01
Palaemonetes vulgaris	No Determ.	8	5.00	15.98	0.01
Pectinaria gouldii	No Determ.	4	5.00	8.18	0.01
Palaemonetes spp	Zoeal	3	4.89	21.75	0.01
Stenothoe minuta	No Determ.	1	4.76	39.86	0.01
Melita nitida	No Determ.	3	4.70	27.22	0.01
Callinectes sapidus	Juvenile	2	4.27	5.13	0.01
Family Aoridae	No Determ.	2	4.06	24.32	0.01
Order Nudibranchia	No Determ.	1	3.71	0.00	0.01

Table 19 . (cont.)

	SEPTEMBER-MARCH (cont.)				
Species	Lifestage	Frequency	Yearly Mean	Std Dev	% Composition
Cymadusa compta	No Determ.	2	3.68	21.00	0.01
Liriope tetraphylla	No Determ.	3	3.59	19.84	0.01
Stauronereis rudolphi	No Determ.	4	3.49	15.35	0.01
Corophium spp	Gravid Fe.	2	3.34	21.28	0.01
Order Amphipoda	Gravid Fe.	1	3.27	0.00	0.01
Monoculodes edwardsi	No Determ.	2	3.25	23.79	0.01
Lysianopsis alba	No Determ.	3	3.09	13.03	0.01
Family Molgulidae	No Determ.	3	2.54	7.37	0.01
Unidentified invertebrate	Larval	1	2.54	23.24	0.01
Lembos smithi	No Determ.	2	2.23	6.22	0.01
Corophium tuberculatum	Gravid Fe.	1	2.04	18.66	0.01
Bybocodon prolifer	No Determ.	2	1.79	2.15	0.00
Mytilus edulis	No Determ.	1	1.74	14.58	0.00
Subclass Copepoda	Parasitic	2	1.61	9.94	0.00
Crepidula spp	No Determ.	1	1.54	0.00	0.00
Sabella spp	No Determ.	1	1.54	0.00	0.00
Nereis spp	Larval	3	1.49	6.87	0.00
Family Mysidae	Gravid Fe.	1	1.46	13.37	0.00
Lironeca ovalis	No Determ.	3	1.44	7.12	0.00
Class Scyphozoa	Larval	2	1.25	7.14	0.00
Autolytus spp	Larval	1	1.18	9.86	0.00
Family Phyllodocidae	Larval	1	1.14	10.47	0.00
Rhithropanopeus harrisii	Zoeal	1	1.14	10.47	0.00
Marphysa sanguinea	No Determ.	1	1.11	9.32	0.00
Family Spionidae	No Determ.	2	1.11	6.74	0.00
Margelopsis gibbesi	No Determ.	1	1.09	0.00	0.00
Beteromysis formosa	No Determ.	1	1.06	8.84	0.00
Upogebia affinis	Zoeal	1	1.05	9.60	0.00
Family Terebellidae	No Determ.	2	1.04	6.52	0.00
Scoloplos spp	No Determ.	1	1.02	9.33	0.00
Subphylum Pycnogonida	Gravid Fe.	1	1.02	9.33	0.00
Family Xanthidae	Zoeal	1	1.02	9.33	0.00
Idotea baltica	Gravid Fe.	2	0.96	4.95	0.00
Podarke obscura	No Determ.	1	0.91	7.59	0.00
Hippolyte pleurocanthus	No Determ.	2	0.90	5.19	0.00
Family Doliolidae	No Determ.	1	0.81	6.75	0.00
Crangon septemspinosa	Gravid Fe.	1	0.75	5.61	0.00
Polydora spp	Larval	1	0.63	5.29	0.00
Hippolyte zostericola	No Determ.	1	0.63	5.26	0.00
Prionospio sp	No Determ.	1	0.57	5.24	0.00
Sagitta enflata	No Determ.	1	0.56	5.13	0.00
Sagitta spp.	No Determ.	1	0.56	5.13	0.00
Family Gammaridae	No Determ.	1	0.52	4.33	0.00
Calliopius laeviusculus	No Determ.	1	0.46	3.88	0.00

Table 19 . (cont.)

	SEPTEMBER-MARCH (cont.)				
Species	Lifestage	Frequency	Yearly Mean	Std Dev	% Composition
Amphiporeia virginiana	No Determ.	1	0.46	3.88	0.00
Family Polynoidae	No Determ.	1	0.45	3.76	0.00
Glycera spp	No Determ.	2	0.44	2.88	0.00
Orchestia grillus	No Determ.	1	0.43	3.59	0.00
Molgula manhattensis	No Determ.	1	0.42	3.53	0.00
Order Decapoda	No Determ.	1	0.35	2.93	0.00
Phylum Platyhelminthes	No Determ.	1	0.34	2.54	0.00
Stenothoe brevicornis	No Determ.	1	0.34	2.54	0.00
Hippolyte spp.	No Determ.	1	0.16	1.34	0.00
Subtotals					
TOTAL HYDROMEDUSAE			4647.99		12.80
TOTAL POLYCHAETA			518.66		1.43
TOTAL AMPHIPODA			14322.43		39.45
TOTAL MYSIDAE			13488.90		37.15
TOTAL DECAPODA			790.89		2.18

Total Number of Forms = 145

Table 20 . Mean monthly densities (n/m^3) of ichthyoplankton collected at the OCGS intake (Sta. 7) and discharge (Sta. 11) from 1 September 1977 through 29 March 1978.

MONTH		SEPTEMBER 1977	
LOCATION		7	11
TEMPERATURE:	AIR	15.0 - 27.0	14.6 - 27.0
	SURFACE	21.0 - 27.2	29.2 - 37.0
	BOTTOM	20.8 - 27.0	- - -
SALINITY:	SURFACE	23.0 - 26.0	22.0 - 25.0
	BOTTOM	22.0 - 26.5	- - -
OXYGEN:	SURFACE	4.6 - 6.6	4.9 - 6.8
	BOTTOM	4.0 - 6.4	- - -
PH:	SURFACE	7.7 - 8.2	7.7 - 8.2
	BOTTOM	7.8 - 8.2	- - -
		DENSITY	DENSITY
JUVENILES			
ANCHOA MITCHILLI		0.243	0.195
MEMBRAS MARTINICA		-	0.003
SYNGNATHUS FUSCUS		0.051	0.041
CYNOSCION REGALIS		-	0.005
LARVAE			
ANCHOA MITCHILLI		0.593	0.261
MICROPOGON UNDULATUS		-	0.003
FAMILY BLENNIIDAE		0.062	0.111
FAMILY GOBIIDAE		0.458	0.423
PARALICHTHYS DENTATUS		0.016	-
EGGS			
ANCHOA MITCHILLI		0.045	-
TOTAL LARVAE & JUVENILES		1.422	1.042
TOTAL EGGS		0.045	0.000
TOTAL COLLECTIONS		16	16

TABLE 20 . (CONT.)

MONTH		OCTOBER 1977	
LOCATION		7	11
TEMPERATURE:	AIR	10.0 - 16.0	10.0 - 16.0
	SURFACE	11.5 - 17.6	20.7 - 26.5
	BOTTOM	10.8 - 17.0	- - -
SALINITY:	SURFACE	22.0 - 24.0	20.0 - 23.0
	BOTTOM	22.0 - 24.0	- - -
OXYGEN:	SURFACE	6.8 - 8.6	6.8 - 8.6
	BOTTOM	6.8 - 9.2	- - -
PH:	SURFACE	7.9 - 8.1	7.8 - 8.0
	BOTTOM	7.9 - 8.1	- - -
		DENSITY	DENSITY
JUVENILES			
ANCHOA MITCHILLI		0.363	0.223
SYNGNATHUS FUSCUS		0.006	0.021
MICROPOGON UNDULATUS		-	0.003
GOBIOSOMA GINSBURGI		-	0.006
LARVAE			
ANGUILLA ROSTRATA		0.007	-
ANCHOA MITCHILLI		0.028	-
MICROPOGON UNDULATUS		0.070	0.036
FAMILY BLENNIIDAE		0.004	0.013
FAMILY GOBIIDAE		0.026	0.009
PARALICHTHYS DENTATUS		0.009	-
TOTAL LARVAE & JUVENILES		0.514	0.311
TOTAL EGGS		0.000	0.000
TOTAL COLLECTIONS		14	14

TABLE 20 . (CONT.)

MONTH	NOVEMBER 1977	
LOCATION	7	11
TEMPERATURE: AIR	9.5 - 15.0	9.5 - 15.0
SURFACE	7.2 - 15.3	16.0 - 25.0
BOTTOM	7.2 - 16.0	21.6 - 21.6
SALINITY: SURFACE	16.0 - 23.0	14.0 - 21.5
BOTTOM	16.0 - 23.0	21.5 - 21.5
OXYGEN: SURFACE	7.4 - 10.2	7.2 - 13.5
BOTTOM	7.3 - 12.4	7.6 - 7.6
PH: SURFACE	7.4 - 7.9	7.5 - 7.7
BOTTOM	7.6 - 7.7	7.7 - 7.7
	DENSITY	DENSITY
JUVENILES		
BREVOORTIA TYRANNUS	0.034	0.031
ANCHOA MITCHILLI	0.143	0.189
SYNGNATHUS FUSCUS	-	0.011
MICROPOGON UNDULATUS	-	0.004
GOBIOSOMA BOSCI	-	0.006
PARALICHTHYS DENTATUS	0.004	-
LARVAE		
FAMILY GOBIIDAE	-	0.004
PARALICHTHYS DENTATUS	0.006	0.002
EGGS		
ANCHOA MITCHILLI	0.003	0.004
TOTAL LARVAE & JUVENILES	0.187	0.246
TOTAL EGGS	0.003	0.004
TOTAL COLLECTIONS	16	16

TABLE 20 . (CONT.)

MONTH		DECEMBER 1977	
LOCATION		7	11
TEMPERATURE:	AIR	-5.0 - 3.5	-5.0 - 3.5
	SURFACE	1.5 - 7.0	10.2 - 15.7
	BOTTOM	0.8 - 7.5	- - -
SALINITY:	SURFACE	16.5 - 21.0	16.0 - 20.0
	BOTTOM	15.0 - 20.0	- - -
OXYGEN:	SURFACE	8.8 - 12.2	8.7 - 13.8
	BOTTOM	8.7 - 12.7	- - -
PH:	SURFACE	7.4 - 8.0	7.6 - 8.0
	BOTTOM	7.6 - 8.1	- - -
		DENSITY	DENSITY
JUVENILES			
ANCHOA MITCHILLI		0.010	-
SYNGNATHUS FUSCUS		0.012	-
MICROPOGON UNDULATUS		0.003	-
FAMILY GOBIIDAE		0.010	-
LARVAE			
ANGUILLA ROSTRATA		0.004	-
MICROPOGON UNDULATUS		0.004	-
AMMODYTES SP.		0.089	0.158
EGGS			
AMMODYTES SP.		-	0.004
TOTAL LARVAE & JUVENILES		0.133	0.158
TOTAL EGGS		0.000	0.004
TOTAL COLLECTIONS		14	14

TABLE 20 . (CONT.)

MONTH		JANUARY 1978	
LOCATION		7	11
TEMPERATURE:	AIR	-8.0 - 1.9	-8.0 - 1.9
	SURFACE	1.2 - 4.1	10.0 - 16.0
	BOTTOM	0.8 - 3.9	- - -
SALINITY:	SURFACE	14.0 - 22.5	13.0 - 22.5
	BOTTOM	14.5 - 22.0	- - -
OXYGEN:	SURFACE	14.6 - 16.5	11.7 - 13.9
	BOTTOM	14.5 - 15.4	- - -
PH:	SURFACE	7.6 - 7.9	7.6 - 7.9
	BOTTOM	7.7 - 7.9	- - -
		DENSITY	DENSITY
JUVENILES			
BREVOORTIA TYRANNUS		0.008	-
ANCHOA MITCHILLI		-	0.006
LARVAE			
MICROPOGON UNDULATUS		-	0.003
AMMODYTES SP.		0.267	0.256
PSEUDOPLEURONECTES AMERICANUS		-	0.007
EGGS			
AMMODYTES SP.		0.007	0.011
PSEUDOPLEURONECTES AMERICANUS		-	0.934
UNIDENTIFIED FISH		0.052	0.144
TOTAL LARVAE & JUVENILES		0.275	0.271
TOTAL EGGS		0.059	1.089
TOTAL COLLECTIONS		14	14

TABLE 20 . (CONT.)

MONTH		FEBRUARY 1978	
LOCATION		7	11
TEMPERATURE:	AIR	-6.0 - 2.5	-6.0 - 2.5
	SURFACE	1.0 - 5.2	8.8 - 13.7
	BOTTOM	2.0 - 2.7	- - -
SALINITY:	SURFACE	16.5 - 20.0	17.0 - 18.5
	BOTTOM	17.0 - 18.0	- - -
OXYGEN:	SURFACE	12.4 - 17.0	11.4 - 15.0
	BOTTOM	12.9 - 14.2	- - -
PH:	SURFACE	7.7 - 8.2	7.7 - 8.4
	BOTTOM	7.8 - 8.2	- - -
		DENSITY	DENSITY
LARVAE			
ANGUILLA ROSTRATA		0.020	0.021
AMMODYTES SP.		0.408	0.578
PSEUDOPLEURONECTES AMERICANUS		0.026	-
EGGS			
AMMODYTES SP.		0.010	0.022
PSEUDOPLEURONECTES AMERICANUS		1.011	1.195
UNIDENTIFIED FISH		0.083	0.178
TOTAL LARVAE & JUVENILES		0.454	0.599
TOTAL EGGS		1.104	1.395
TOTAL COLLECTIONS		16	16

TABLE 20. (CONT.)

MONTH		MARCH 1978	
LOCATION		7	11
TEMPERATURE:	AIR	0.0 - 7.0	0.0 - 7.0
	SURFACE	2.5 - 8.1	11.5 - 18.5
	BOTTOM	2.2 - 7.7	- - -
SALINITY:	SURFACE	16.0 - 18.5	15.0 - 18.5
	BOTTOM	16.0 - 20.0	- - -
OXYGEN:	SURFACE	10.8 - 13.6	9.9 - 11.2
	BOTTOM	10.4 - 14.0	- - -
PH:	SURFACE	7.9 - 8.2	7.9 - 8.2
	BOTTOM	7.9 - 8.2	- - -
		DENSITY	DENSITY
LARVAE			
ANGUILLA ROSTRATA		0.004	0.009
AMMODYTES SP.		0.258	0.193
PSEUDOPLEURONECTES AMERICANUS		4.281	4.653
EGGS			
PSEUDOPLEURONECTES AMERICANUS		1.329	1.158
TOTAL LARVAE & JUVENILES		4.543	4.856
TOTAL EGGS		1.329	1.158
TOTAL COLLECTIONS		14	14

Table 21. Estimated entrainment, with confidence interval ($P \leq 0.20$), of common and important ichthyoplankton collected at the Oyster Creek Generating Station from 1 September 1977 through 29 March 1978.

Species	Life Stage	Entrainment Estimate	Confidence Interval
Anchoa mitchilli	eggs	2.50×10^5	$\pm 3.18 \times 10^5$
Anchoa mitchilli	larvae & juveniles	6.19×10^7	$\pm 2.08 \times 10^7$
Atherinidae	larvae & juveniles	1.72×10^5	$\pm 2.19 \times 10^5$
Syngnathus fuscus	juveniles	4.14×10^6	$\pm 2.47 \times 10^6$
Ammodytes spp.	larvae	9.90×10^7	$\pm 4.29 \times 10^7$
Gobiidae	larvae	3.18×10^7	$\pm 1.76 \times 10^7$
Pseudopleuronectes americanus	larvae	2.83×10^8	$\pm 1.96 \times 10^8$
Total	larvae	4.47×10^8	$\pm 1.98 \times 10^8$
Total	eggs	2.36×10^8	$\pm 1.02 \times 10^8$

Table 22. Monthly totals of live, dead, and damaged ichthyoplankton collected at the OCGS intake (Sta. 7) and discharge (Sta. 11) in October and November 1977, and March 1978.

Date		October 1977	
Location		7	11
Air Temp. (C)		10.0- 17.0	10.0- 16.0
Water Temp. (C)	surface	11.5- 15.5	20.7- 26.5
	bottom	10.8- 15.3	- - -
Salinity (ppt)	surface	16.0- 24.0	20.0- 23.0
	bottom	18.0- 23.5	- - -
Oxygen (ppm)	surface	6.8- 13.9	6.8- 8.6
	bottom	6.8- 13.7	- - -
pH	surface	7.9- 8.1	7.8- 8.0
	bottom	7.9- 8.1	- - -

	Alive		Dead		Damaged		Alive		Dead		Damaged	
	#	%	#	%	#	%	#	%	#	%	#	%
LARVAE												
Anguilla rostrata	1	100	0	0	0	0	-	-	-	-	-	-
Anchoa mitchilli	3	75	1	25	0	0	-	-	-	-	-	-
Micropogon undulatus	8	80	1	10	1	10	4	44	4	44	1	11
Family Gobiidae	1	100	0	0	0	0	-	-	-	-	-	-
Paralichthys dentatus	1	100	0	0	0	0	-	-	-	-	-	-
JUVENILES												
Anchoa mitchilli	61	95	2	3	1	2	27	54	23	46	0	0
Micropogon undulatus	-	-	-	-	-	-	1	100	0	0	0	0
Gobiosoma ginsburgi	-	-	-	-	-	-	1	100	0	0	0	0

TABLE 22 .(CONT.)

Date		November 1977	
Location		7	11
Air Temp. (C)		9.5- 15.0	9.5- 15.0
Water Temp.(C)	surface	7.2- 15.3	16.0- 25.0
	bottom	7.2- 16.0	- - -
Salinity (ppt)	surface	16.0- 18.0	14.0- 19.0
	bottom	16.0- 18.5	- - -
Oxygen (ppm)	surface	7.5- 10.2	7.2- 13.5
	bottom	7.3- 12.4	- - -
pH	surface	7.4- 7.9	7.5- 7.7
	bottom	7.6- 7.7	- - -

	Alive		Dead		Damaged		Alive		Dead		Damaged	
	#	%	#	%	#	%	#	%	#	%	#	%
LARVAE												
Family Gobiidae	-	-	-	-	-	-	0	0	1	100	0	0
Paralichthys dentatus	-	-	-	-	-	-	1	100	0	0	0	0
JUVENILES												
Brevoortia tyrannus	6	100	0	0	0	0	5	83	1	17	0	0
Anchoa mitchilli	19	70	7	26	1	4	26	79	5	15	2	6
Micropogon undulatus	-	-	-	-	-	-	0	0	1	100	0	0
Hypsoblennius hentzi	-	-	-	-	-	-	1	100	0	0	0	0
Paralichthys dentatus	1	100	0	0	0	0	-	-	-	-	-	-

TABLE 22 .(CONT.)

Date		March 1978	
Location		7	11
Air Temp. (C)		8.5- 17.0	10.0- 17.0
Water Temp.(C)	surface	8.0- 13.1	18.0- 22.0
	bottom	8.2- 13.3	- - -
Salinity (ppt)	surface	16.0- 20.0	15.5- 19.0
	bottom	17.0- 21.0	- - -
Oxygen (ppm)	surface	9.6- 13.9	8.9- 17.6
	bottom	10.2- 13.7	- - -
pH surface		7.9- 8.1	7.7- 8.2
bottom		8.0- 8.1	- - -

	Alive		Dead		Damaged		Alive		Dead		Damaged	
	#	%	#	%	#	%	#	%	#	%	#	%
LARVAE												
Ammodytes sp.	36	97	1	3	0	0	16	70	7	30	0	0
Pseudopleuronectes americanus	186	75	63	25	0	0	54	28	142	72	0	0

Table 23. Description of trawl and seine stations regularly sampled during Oyster Creek Generating Station Ecological Studies.

Station 1: Cedar Creek Mouth

Trawl

Area Sampled:	Navigation channel in mouth of Cedar Creek, west of Intracoastal Waterway can buoy C "63"; tow is made in mid-channel between flashing light FL "1" and the third black channel marker inside Cedar Creek.
Depth Sampled:	1.5 to 2.1 m.
Current:	Very slight, dependent on tide.
Claridty:	Clear to tannic brown.
Aquatic Vegetation:	*Zostera marina* attached and detrital, *Agardhiella*, and *Ulva* occasional to abundant.

Seine

Area Sampled:	Off the easternmost peninsula of the north bank of Cedar Creek mouth, area sampled is approximately 100 m of a narrow (5 m) sandy beach on the south side of the peninsular tip.
Beach and Bottom Composition:	Hard-packed sand and gravel; slope very gentle.
Depth Sampled:	0 to 1 m; during extremely high tides entire beach is submerged to vegetation zone.
Current:	Slight, dependent on tide.
Clarity:	Normally clear, turbid with surf.
Aquatic Vegetation:	Scattered beds of *Zostera marina*; occasional *Ulva* and detritus.

Station 4: Forked River Mouth

Trawl

Area Sampled:	Mouth of Forked River, west of Intracoastal Waterway mid-channel marker BW N "D1"; tow is made in north approach channel between buoys 5 and 6 outside of mouth and buoys 9 and 10 inside of mouth.

Table 23. (cont.)

Depth Sampled:	1.5 to 2.1 m.
Current:	Slight to moderate, westerly due to influence of OCGS.
Clarity:	Clear to turbid.
Aquatic Vegetation:	Detritus (Zostera marina) none to abundant: Ulva and Codium none to occasional.

Seine

Area Sampled:	At the easternmost point of the south bank of Forked River mouth; area sampled is approximately 100 m of a narrow (5 m) sandy beach in the cove on the north side of the point.
Beach and Bottom Composition:	Soft sand throughout sampling area with frequent patches of mud; slope gentle.
Depth Sampled:	0 to 1.1 m.
Current:	Slight, westerly due to influence of OCGS.
Clarity:	Normally clear.
Aquatic Vegetation:	Occasional patches of Zostera marina; floating Zostera, Ulva and detritus, occasional to common.

Station 17: Oyster Creek Mouth

Trawl

Area Sampled:	Mouth of Oyster Creek, due west of Intracoastal Waterway mid-channel marker BW N "E1"; tow is made west to east beginning at second black channel stake located just west of bulkhead on north bank and ending in vicinity of first channel marker can and nun.
Depth Sampled:	1.8 to 3.7 m.
Current:	Slight to moderate, easterly due to influence OCGS.
Clarity:	Clear to turbid.
Aquatic Vegetation:	Detritus rare to common; Zostera and Codium fragile none to occasional; shellhash occasional.

Table 23. (cont.)

Seine

Area Sampled:	North bank of Oyster Creek mouth. Area sampled in approximately 100 m of a narrow (5 m) sandy beach immediately east of the bulkhead at the mouth of Oyster Creek.
Beach and Bottom Composition:	Hard sand and coarse gravel from shore to a depth of about 0.6 m, becoming soft sand and mud to edge of sampling area; slope steep.
Depth Sampled:	0 to 1.2 m.
Current:	Slight to moderate, easterly due to influence of OCGS.
Clarity:	Normally clear, turbid with surf.
Aqatic Vegetation:	None attached in immediate sampling area; occasional floating *Zostera marina*, *Ulva*, *Codium*, and detritus.

Station 23: Double Creek Mouth

Trawl

Area Sampled:	Mouth of Double Creek, southwest of Intracoastal Waterway flashing light FL R "68"; tow is made in mid-channel between the fourth black channel stake inside Double Creek and the flashing light FL R "2".
Depth Sampled:	2.1 to 3.7 m.
Current:	Slight, dependent on tide.
Clarity:	Usually clear.
Aquatic Vegetation:	*Zostera marina* and detritus, occasional to abundant; *Ulva* and *Codium fragile* occasional to common.

Seine

Area Sampled:	North bank of mouth of Double Creek, area sampled is approximately 100 m of a narrow (5 m) sandy beach, located between two groin bulkheads immediately northwest of Double Creek flashing light FL R "2".

Table 23. (cont.)

Beach and Bottom Composition:	Firm sand throughout with some gravel to edge of sampling area; slope gentle.
Depth Sampled:	0 to 0.8 m.
Current:	None to slight.
Clarity:	Clear to turbid.
Aquatic Vegetation:	Attached and floating Zostera marina occasional to abundant, Codium fragile and detritus occasional to common; beach often completely covered with a layer of dead Zostera up to 30 cm thick.

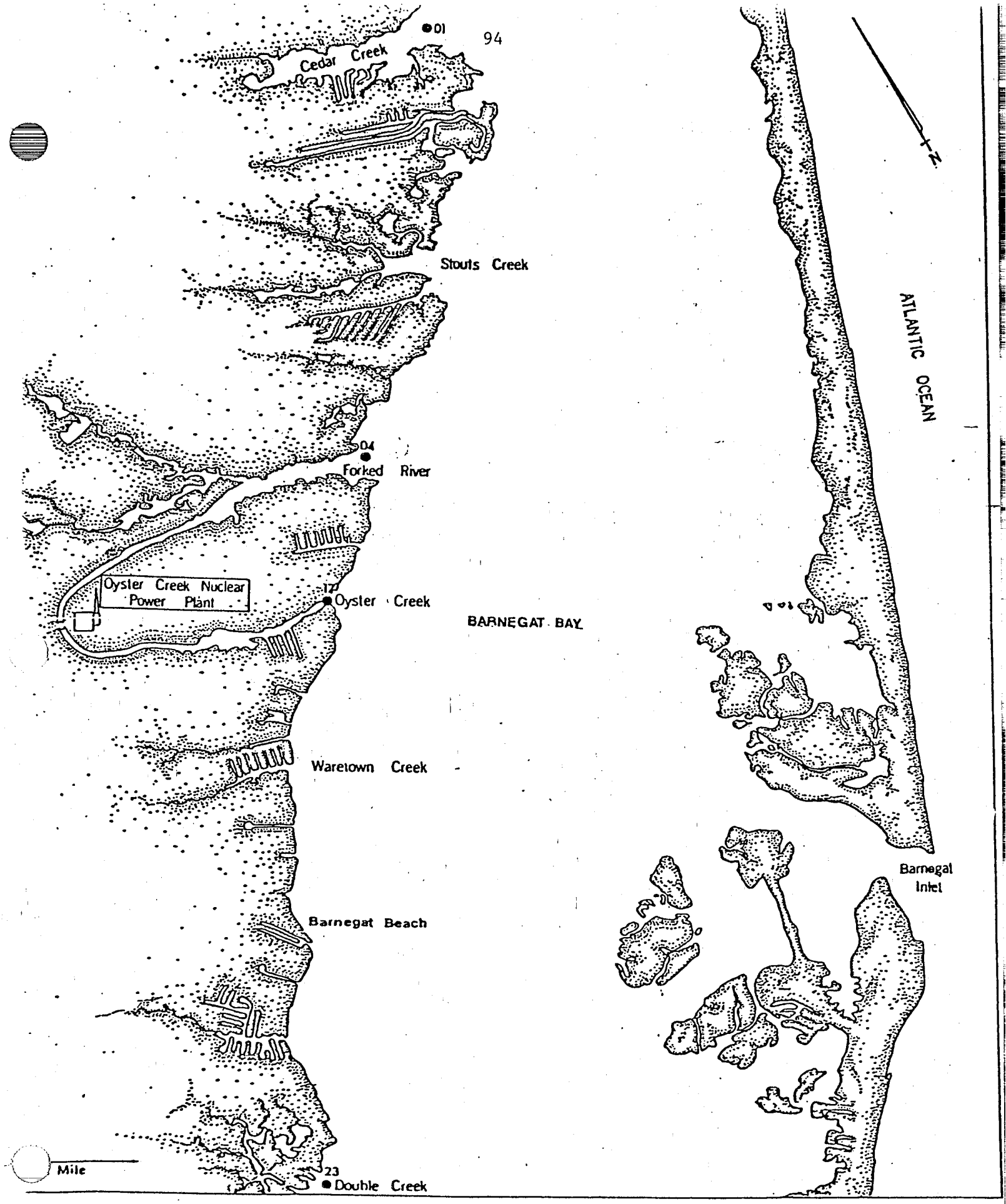

Fig. 1. Sampling locations for biological collections taken for the OCGS ecological study.

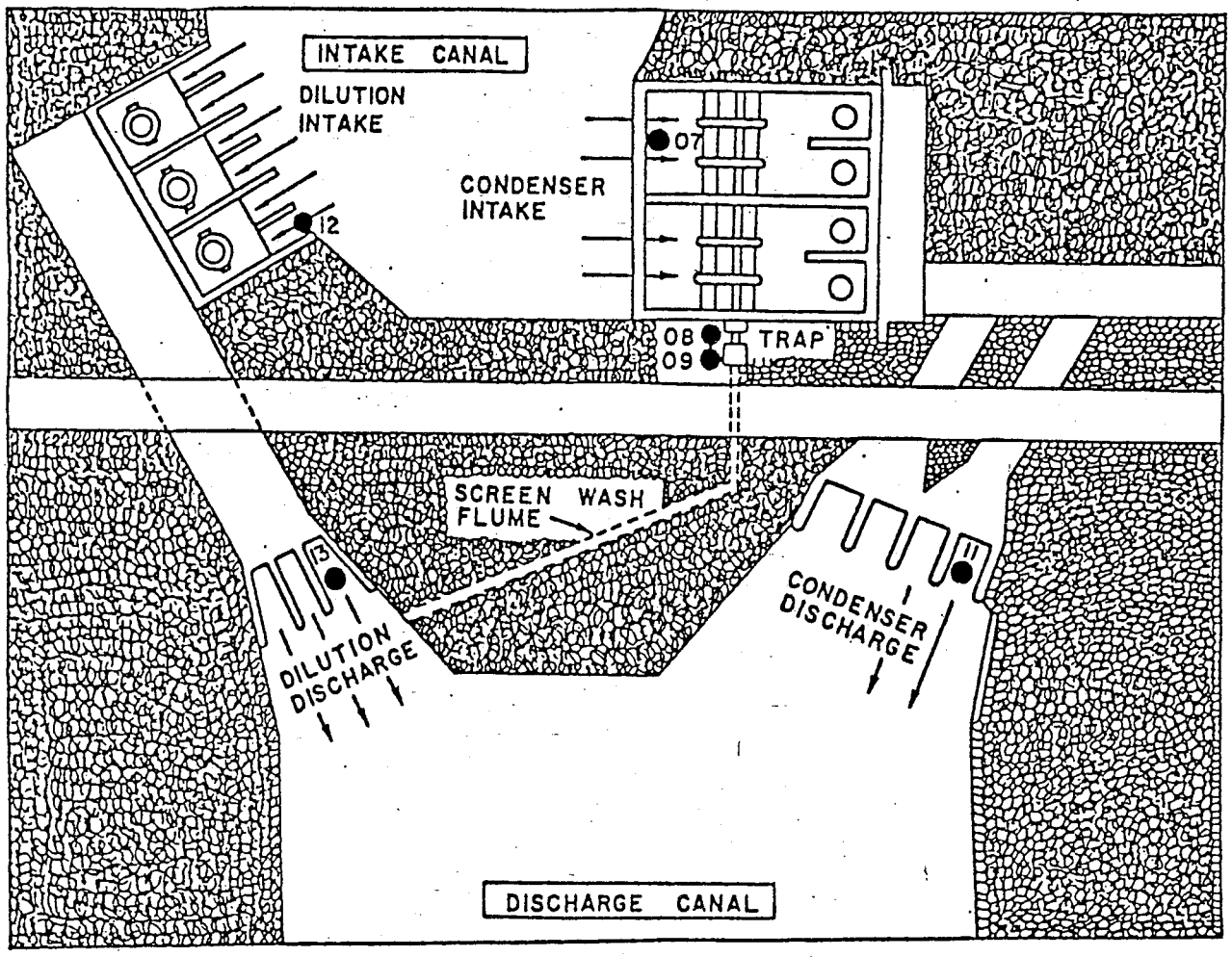

Fig. 2. Diagram of the intake and discharge of the circulating water system and the dilution pumps at the Oyster Creek Generating Station.

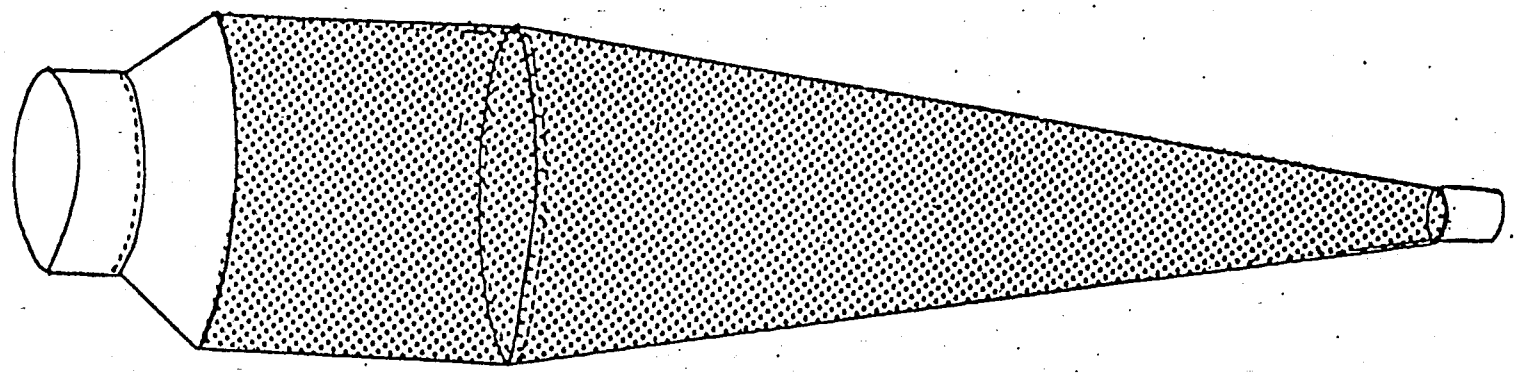

Fig. 3. The Clarke-Bumpus sampler with modified cylinder-cone net and velocity reduction cone used to collect ichthyoplankton for condition determinations.