

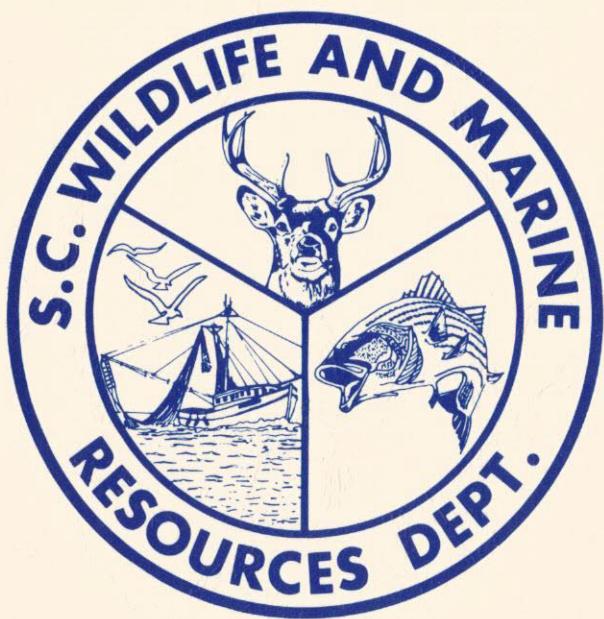
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SOME SUBTIDAL EPIFAUNAL ASSEMBLAGES IN SOUTH
CAROLINA ESTUARIES

Dale R. Calder and Billy B. Boothe, Jr.



SOUTH CAROLINA MARINE RESOURCES CENTER

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South Carolina Wildlife and Marine Resources Department
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INTRODUCTION

Animals of the benthos are divided into two ecologically distinct categories based on their relations to the substrate. The epifauna comprises those species occurring on the substrate, while the infauna included the animals living within it (Petersen, 1913; Thorson, 1957). Closely associated with the benthos are the demersal fishes and such bottom-dwelling, motile invertebrates such as shrimp and crabs.

A large number of colonial forms, including sponges, cnidarians, bryozoans, and ascidians, are present in the epifauna. Such taxa are difficult or virtually impossible to either sample quantitatively or enumerate in quantitative samples. As a result, the epifauna generally receives little more than cursory attention in most studies on benthic ecology except in studies on fouling organisms. Yet these animals are a very important component of the benthos, both economically and ecologically (Pratt, 1973). It is not coincidental that diversity and biomass of fishes and other nektonic species are often maximal near hard, "live bottom" areas, natural and artificial reefs, wrecks, breakwaters, piers, and platforms (Bearden and McKenzie, 1973; Colunga and Stone, 1974; Menzies, et al., 1966; Pearse and Williams, 1951; Roberts and Able, 1974). Epifaunal species provide food, substrate, and shelter for a variety of organisms, alter sedimentation patterns (Emery, Stephenson, and Hedgpeth, 1957), and serve as potentially valuable environmental indicators (Stephens and Davies, 1974). Fouling organisms (Woods Hole Oceanographic Institution, 1952), as well as oyster drills and starfish (Galtsoff, 1964) are all of negative economic value, while the oyster is one of the most commercially valuable of all benthic invertebrates. Fisheries also exist in other areas for a variety of other epifaunal invertebrates. While Thorson (1957) estimated that the total area of the ocean colonized by epifaunal organisms is substantially below that occupied by the infauna, the difference is much less pronounced in shallow water areas, especially in temperate or tropical

areas. Epifaunal biomass is particularly substantial in many estuarine areas where an abundance of hard substrates occur.

Benthic studies were initiated as part of the South Carolina Estuarine Survey Program at the Marine Resources Research Institute during the summer of 1973. Early in the study it became apparent that the epifauna was very poorly known in the estuaries under investigation and should be included in the research. The purpose of this report is to qualitatively describe the epifaunal invertebrate assemblages from a number of subtidal habitats in South Carolina estuaries. A complete census of all epifaunal species present in the state or even collected during this study was obviously not feasible, considering both taxonomic problems and the limited time and personnel available for the study. Accordingly, this report includes only the more common species or those we otherwise felt competent to identify. The community structure of subtidal benthic communities in the Edisto and Santee River estuaries, based on qualitative and quantitative samples, will be outlined in a forthcoming report (Calder, Boothe, and Maclin, 1977).

MATERIALS AND METHODS

The study area encompassed the region from the mouth to the head of various estuarine systems across the South Carolina coastal zone. Collections were made aboard the R/V Anita at 31 stations between Winyah Bay and Calibogue Sound during January, April, August, and October of 1974, and at 29 stations during the same months in 1975 (Fig. 1, Table 1). Tows of three to five minutes were made at each station during early flood tide using a 30 kg modified oyster dredge. The dredge consisted of a rectangular steel frame measuring 80 cm across the mouth, with a 1.5 m long bag of 2.5 cm stretch mesh polypropylene. A skirt of interlacing metal rings protected the bag from chafing. A typical catch consisted of from 10-20 liters of shells, mud, detritus, and benthic organisms. Tows longer than five minutes usually resulted in clogged dredge bags and damaged specimens. After preliminary sorting of the catch on station, unidentified epifaunal organisms and a representative sample of firm substrates were preserved in 10% neutralized formaldehyde solution and returned to the laboratory for microscopic examination.

Bottom salinity samples were taken prior to each dredge tow using a 6-liter Van Dorn bottle. These samples were analyzed in the laboratory using a Beckman RS7B induction salinometer. The bottom type at each station was determined from a series of three samples taken with a 0.13 m^2 modified Petersen grab. Depth was recorded using a Raytheon DE-725B recording depth fathometer.

A number of decapods such as shrimp and portunid crabs, while not epifaunal in the strictest sense, were included in this report. Infaunal species taken in dredge collections were excluded. The epifauna of pelagic Sargassum and beach drift, the intertidal zone, and nearshore and offshore areas have not been included.

A T L A N T I C O C E A N

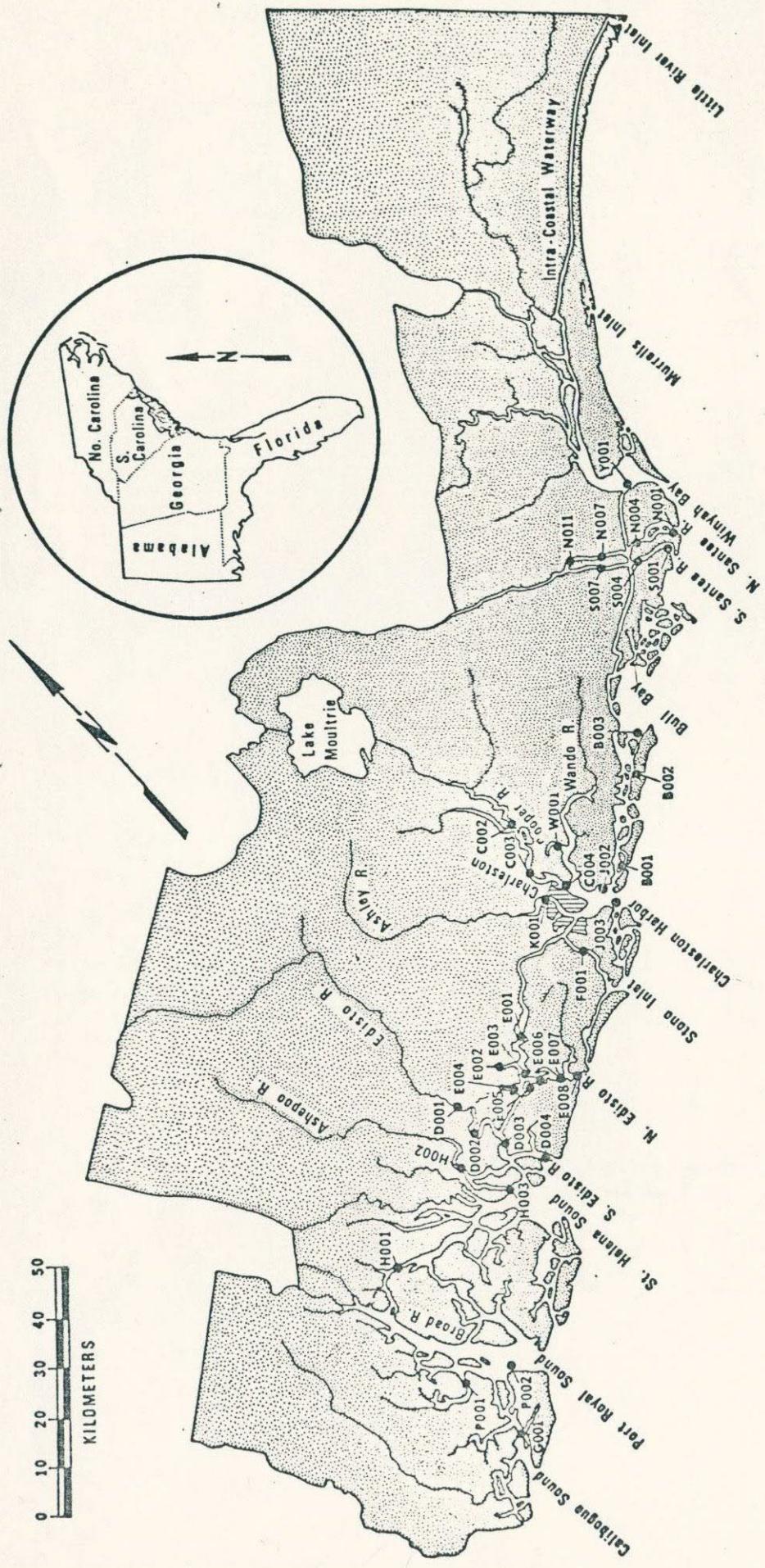


Fig. 1. South Carolina Estuarine Survey station locations.

Table 1. List of stations sampled in the coastal zone of South Carolina. Stations with one asterisk were sampled only in 1974; those with two asterisks were sampled only in 1975.

Station	Location	N	W	Depth (m)	Bottom	Salinity Regime
Y001	Winyah Bay	33° 15.6'	79° 15.4'	4	mud	limnetic-mesohaline
**N001	N. Santee River	33° 08.2'	79° 14.8'	3	sand, mud, shell	limnetic-euhaline
**N004	N. Santee River	33° 10.2'	79° 17.5'	3	sand, mud	limnetic-mesohaline
**N007	N. Santee River	33° 10.6'	79° 20.7'	5	sand, mud	limnetic
**N011	N. Santee River	33° 13.0'	79° 24.2'	7	sand	limnetic
**S001	S. Santee River	33° 07.9'	79° 16.4'	3	shell, sand, mud	meso-polyhaline
S004	S. Santee River	33° 08.8'	79° 19.2'	4	sand, mud, shell	limnetic-polyhaline
**S007	S. Santee River	33° 09.8'	79° 22.3'	3	mud, sand	limnetic-oligohaline
B003	Bull Bay	32° 55.9'	79° 36.2'	7	mud	poly-euhaline
B002	Price Creek	32° 54.2'	79° 40.7'	6	shell, sand, mud	poly-euhaline
B001	Inlet Creek	32° 47.5'	79° 49.5'	5	shell, mud, sand	poly-euhaline
J003	Cummings Point	32° 44.9	79° 51.6'	12	sand, shell, mud	poly-euhaline
J002	Hog Island	32° 47.1'	79° 53.2'	4	mud	meso-polyhaline
W001	Nowell Creek	32° 53.1'	79° 52.6'	4	mud, sand, shell	mesohaline
C004	Cooper River Mouth	32° 51.1'	79° 56.0'	7	shell, sand, mud	oligo-polyhaline
C003	North Charleston	32° 53.8'	79° 57.6'	6	sand, shell, mud	oligo-mesohaline

Table 1. (continued)

Station	Location	N	W	Depth (m)	Bottom	Salinity Regime
C002	Big Island	32	58.2'	79	55.5'	6 sand limnetic-oligohaline
K001	Ashley River	32	49.0'	79	58.1'	6 mud meso-polyhaline
F001	Stono River	32	44.9'	80	00.7'	4 shell, sand, mud meso-polyhaline
E001	Yonges Island	32	41.2	80	13.4'	7 clay, sand, mud meso-polyhaline
*E002	Toogoodoo Creek	32	41.1'	80	17.3'	4 sand, mud, shell polyhaline
E003	Bears Bluff	32	38.8'	80	15.7'	6 shell, sand poly-euhaline
*E004	Dawho River	32	37.9'	80	18.6'	6 sand, mud meso-polyhaline
*E005	Steamboat Creek	32	36.2'	80	17.7	8 sand, mud polyhaline
*E006	Wadmalaw Island	32	36.5'	80	14.8'	6 sand, mud poly-euhaline
E007	Point of Pines	32	35.0'	80	13.5'	6 sand, mud poly-euhaline
*E008	DeVeaux Bank	32	33.6'	80	10.7'	11 shell, sand poly-euhaline
*D001	Snuggedy Swamp	32	39.7'	80	24.8'	3 sand, mud limnetic
*D002	Sampson Island	32	36.3'	80	25.4'	9 mud, sand limnetic-oligohaline
D003	Fenwick Island	32	33.7'	80	23.7'	5 sand, shell mesohaline
*D004	Bay Point	32	29.7'	80	21.2'	5 sand, mud, clay poly-euhaline
H003	Rock Creek	32	30.9'	80	27.9'	7 sand, shell, mud meso-polyhaline

Table 1. (continued)

Station	Location	N	W	Depth (m)	Bottom	Salinity Regime
H002	Ashepoo River	32° 34.0'	80° 29.9'	5	sand, mud	oligo-mesohaline
H001	Whale Branch	32° 32.1'	80° 43.7'	4	sand, mud	meso-polyhaline
P002	Port Royal Sound	32° 16.2'	80° 43.2'	7	mud, sand, shell	poly-euhaline
P001	Colleton River	32° 17.2'	80° 49.0'	10	sand, mud	poly-euhaline
G001	Calibogue Sound	32° 10.9'	80° 47.8'	5	shell, mud, sand	poly-euhaline

DESCRIPTION OF STUDY AREA

The coast of South Carolina extends more than 300 km along the southeastern United States between North Carolina and Georgia (Fig. 1). The northern third of the coastline is characterized by medium to high energy sandy beaches. The continuity of these beaches is broken by a number of small estuaries, including Little River Inlet, Murrells Inlet, and North Inlet, all of which receive negligible fresh water discharge. Barrier islands fringe the southern two-thirds of the South Carolina coast, and a number of rivers, inlets, sounds and bays open directly or indirectly into the Atlantic Ocean in this region.

Among the larger estuarine water masses of the state are Winyah Bay, Bull Bay, Charleston Harbor, St. Helena Sound, Port Royal Sound, Calibogue Sound, and a number of coastal river systems. Estuarine areas of the state are swept by moderately strong tidal currents, the result of a 2-3 m tidal range. The rivers of South Carolina are typically narrow and shallow in the estuarine zone; most are less than 2 km in width and 10 m in depth. Isohalines are compressed in most estuaries of the state because of their small size. Salinities fluctuate within the estuaries tidally, seasonally, and as a result of fresh water runoff following storms. The degree of these variations varied widely from one estuary to another during this study. Wide fluctuations of salinity were observed in the lower North and South Santee Rivers, while conditions were much more stable in areas such as the North Edisto River. As a result, samples were available from both homoiohaline and poikilohaline estuaries, as well as from regions of high and low salinity.

A heavy load of sediment and detritus in the water results in high turbidity levels, and reduction in water transparency apparently limits the growth of macroalgae in subtidal areas. As with Georgia (Schelske and Odum, 1961; Teal, 1962), estuarine food chains in South Carolina are probably based

primarily on detritus rather than phytoplankton.

Water temperatures in estuarine waters of the state normally range from about 10 C in winter to 28 C in summer; little difference was noted from one area to another in a given estuary, or from one estuary to another. Industrial development has been extensive along both the Cooper and Savannah Rivers. The lower Cooper River at Charleston is the site of both a major commercial port and a large naval base.

Table 2. Epifaunal invertebrates in dredge collections from Station Y001,
Winyah Bay.

Penaeus setiferus
Callinectes sapidus
Squilla empusa
Balanus improvisus
Crassostrea virginica
Parapleustes aestuarius
Garveia franciscana
Clytia kincaidi
Obelia bidentata
Obelia sp. 1

Table 3. Epifaunal invertebrates in dredge collections from Station NS01,
North Santee River.

Molgula manhattensis
Penaeus aztecus
Penaeus setiferus
Clibanarius vittatus
Callinectes sapidus
Balanus improvisus
Balanus amphitrite niveus
Membranipora tenuis
Electra monostachys
Conopeum tenuissimum
Brachidontes exustus
Crassostrea virginica
Crepidula plana
Sabellaria vulgaris
Hydroides dianthus
Campanulina sp.
Cyanea capillata versicolor (scyphistoma)
Panopeus herbstii
Xiphopenaeus kroyeri

Table 4. Epifaunal invertebrates in dredge collections from Station NS04,
North Santee River.

Molgula manhattensis
Penaeus setiferus
Palaemonetes pugio
Callinectes sapidus
Panopeus herbstii
Balanus improvisus
Brachidontes exustus
Mytilopsis leucophaeata
Crassostrea virginica
Cordylophora caspia
Garveia franciscana
Obelia bidentata
Campanulina sp.
Bowerbankia gracilis
Diadumene leucolena

Table 5. Epifaunal invertebrates in dredge collections from Station NS07,
North Santee River.

Callinectes sapidus
Balanus improvisus
Mytilopsis leucophaeata
Cordylophora caspia
Conopeum tenuissimum
Rhithropanopeus harrissii

Table 6. Epifaunal invertebrates in dredge collections from Station SS01,
South Santee River.

Molgula manhattensis
Penaeus setiferus
Palaemonetes pugio
Clibanarius vittatus
Callinectes sapidus
Panopeus herbstii
Balanus eburneus
Balanus improvisus
Alcyonidium polyoum
Bowerbankia gracilis
Membranipora tenuis
Conopeum tenuissimum
Crepidula plana
Brachidontes exustus
Crassostrea virginica
Stylochus ellipticus
Sabellaria vulgaris
Nereis succinea
Clytia kincaidi
Obelia dichotoma
Bougainvillia rugosa
Xiphopenaeus kroyeri

Table 7. Epifaunal invertebrates in dredge collections from Station SS04,
South Santee River.

Molgula manhattensis
Penaeus aztecus
Penaeus setiferus
Palaemonetes vulgaris
Callinectes sapidus
Panopeus herbstii
Eurypanopeus depressus
Paracaprella tenuis
Balanus eburneus
Balanus improvisus
Tanystylum orbiculare
Anguinella palmata
Bowerbankia gracilis
Aeverrillia setigera
Membranipora tenuis
Conopeum tenuissimum
Alcyonium mammillatum
Brachidontes exustus
Crassostrea virginica
Sabellaria vulgaris
Nereis succinea
Melita nitida
Corophium lacustre
Garveia franciscana
Cuspidella humilis
Campanulina sp.
Clytia kincaidi
Obelia bidentata
Obelia sp. 1

Table 8. Epifaunal invertebrates in dredge collections from Station SS07,
South Santee River.

Penaeus setiferus
Callinectes sapidus
Balanus improvisus
Campanulina sp.

Table 9. Epifaunal invertebrates in dredge collections from Station B003,
Bulls Bay.

<u>Molgula manhattensis</u>	<u>Barentsia laxa</u>
<u>Perophora viridis</u>	<u>Alcyonidium hauffi</u>
<u>Microciona prolifera</u>	<u>Alcyonidium polyoum</u>
<u>Zygomycale parishii</u>	<u>Nolella stipata</u>
<u>Halichondria bowerbanki</u>	<u>Anguinella palmata</u>
<u>Penaeus aztecus</u>	<u>Amathia distans</u>
<u>Penaeus duorarum</u>	<u>Bowerbankia gracilis</u>
<u>Penaeus setiferus</u>	<u>Aeverrillia armata</u>
<u>Alpheus normanni</u>	<u>Aeverrillia setigera</u>
<u>Pagurus longicarpus</u>	<u>Crisia sp.</u>
<u>Pagurus pollicaris</u>	<u>Membranipora tenuis</u>
<u>Hepatus epheliticus</u>	<u>Membranipora arborescens</u>
<u>Ovalipes ocellatus</u>	<u>Electra monostachys</u>
<u>Portunus gibbesii</u>	<u>Bugula neritina</u>
<u>Portunus spinimanus</u>	<u>Schizoporella errata</u>
<u>Callinectes ornatus</u>	<u>Microporella ciliata</u>
<u>Callinectes sapidus</u>	<u>Parasmittina nitida</u>
<u>Menippe mercenaria</u>	<u>Cryptosula pallasiana</u>
<u>Hexapalanopeus angustifrons</u>	<u>Conopeum tenuissimum</u>
<u>Neopanope sayi</u>	<u>Crepidula plana</u>
<u>Panopeus herbstii</u>	<u>Neosimnia uniplicata</u>
<u>Libinia dubia</u>	<u>Polinices duplicatus</u>
<u>Libinia emarginata</u>	<u>Eupleura caudata</u>
<u>Paracaprella tenuis</u>	<u>Anachis avara</u>
<u>Balanus improvisus</u>	<u>Busycon carica</u>
<u>Balanus amphitrite niveus</u>	<u>Busycon canaliculata</u>
<u>Balanus galeatus</u>	<u>Crassostrea virginica</u>
<u>Anoplodactylus latus</u>	<u>Ostrea equestris</u>
<u>Renilla reniformis</u>	<u>Glycera americana</u>
<u>Leptogorgia virgulata</u>	<u>Sabellaria vulgaris</u>
<u>Asterias forbesi</u>	<u>Glycera asymmetrica</u>
<u>Ophiothrix angulata</u>	<u>Batea catharinensis</u>
<u>Ophiophragmus wurdemani</u>	<u>Erichthonius brasiliensis</u>
<u>Hemipholis elongata</u>	<u>Corophium sp.</u>
<u>Pentamera pulcherrima</u>	<u>Caprella equilibra</u>
<u>Amphiodia pulchella</u>	<u>Paracaprella tenuis</u>
<u>Hydractinia echinata</u>	<u>Bougainvillia rugosa</u>
<u>Eudendrium carneum</u>	<u>Haleciun bermudense</u>
<u>Cuspidella humilis</u>	<u>Campanulina sp.</u>
<u>Hebella scandens</u>	<u>Clytia paulensis</u>
<u>Clytia kincaidi</u>	<u>Dynamena cornicina</u>
<u>Sertularia stookeyi</u>	<u>Lytocarpus philippinus</u>

Table 10. Epifaunal invertebrates in dredge collections from Station B002,
Price Creek

<u>Molgula manhattensis</u>	<u>Renilla reniformis</u>
<u>Amaroucium constellatum</u>	<u>Leptogorgia virgulata</u>
<u>Perophora viridis</u>	<u>Haliplanella luciae</u>
<u>Didemnum sp.</u>	<u>Astrangia danae</u>
<u>Lissodendoryx carolinensis</u>	<u>Asterias forbesi</u>
<u>Zygomycale parishii</u>	<u>Ophiothrix angulata</u>
<u>Halichondria bowerbanki</u>	<u>Ophioderma brevispinum</u>
<u>Ciocalapata gibbesi</u>	<u>Amphiodia pulchella</u>
<u>Hymeniacidon heliophila</u>	<u>Barentsia laxa</u>
<u>Cyamon vickersi</u>	<u>Alcyonidium hauffi</u>
<u>Penaeus setiferus</u>	<u>Nolella stipata</u>
<u>Sicyonia brevirostris</u>	<u>Anguinella palmata</u>
<u>Sicyonia laevigata</u>	<u>Amathia distans</u>
<u>Alpheus armillatus</u>	<u>Bowerbankia gracilis</u>
<u>Alpheus normanni</u>	<u>Aeverrillia armata</u>
<u>Lysmata wurdemanni</u>	<u>Aeverrillia setigera</u>
<u>Pagurus annulipes</u>	<u>Crisia sp.</u>
<u>Pagurus longicarpus</u>	<u>Membranipora tenuis</u>
<u>Pagurus pollicaris</u>	<u>Membranipora arborescens</u>
<u>Portunus gibbesii</u>	<u>Electra monostachys</u>
<u>Portunus spinimanus</u>	<u>Bugula neritina</u>
<u>Callinectes sapidus</u>	<u>Schizoporella errata</u>
<u>Menippe mercenaria</u>	<u>Hippoporina verrilli</u>
<u>Neopanope sayi</u>	<u>Microporella ciliata</u>
<u>Panopeus herbstii</u>	<u>Parasmittina nitida</u>
<u>Libinia emarginata</u>	<u>Cryptosula pallasiana</u>
<u>Cancer irroratus</u>	<u>Conopeum tenuissimum</u>
<u>Balanus amphitrite niveus</u>	<u>Pedicellina cernua</u>
<u>Balanus galeatus</u>	<u>Diodora cayenensis</u>
<u>Limulus polyphemus</u>	<u>Crepidula plana</u>
<u>Tanystylum orbiculare</u>	<u>Neosimnia uniplicata</u>
<u>Anoplodactylus latus</u>	<u>Urosalpinx cinerea</u>
<u>Nymphopsis duodorsospinosa</u>	<u>Hebella scandens</u>
<u>Anachis avara</u>	<u>Clytia kincaidi</u>
<u>Mitrella lunata</u>	<u>Clytia paulensis</u>
<u>Busycon carica</u>	<u>Obelia bidentata</u>
<u>Fasciolaria tulipa</u>	<u>Obelia dichotoma</u>
<u>Chaetopleura apiculata</u>	<u>Obelia hyalina</u>
<u>Brachidontes exustus</u>	<u>Obelia sp.2</u>
<u>Modiolus americanus</u>	<u>Cnidoscyphus marginatus</u>
<u>Pteria colymbus</u>	<u>Dynamena cornicina</u>
<u>Anomia simplex</u>	<u>Sertularia stookeyi</u>
<u>Crassostrea virginica</u>	<u>Schizotricha tenella</u>
<u>Ostrea equestris</u>	<u>Plumularia floridana</u>
<u>Crepidula fornicate</u>	<u>Lytocarpus philippinus</u>
<u>Modiolus squamosus squamosus</u>	<u>Arbacia punctulata</u>
<u>Sabellaria vulgaris</u>	
<u>Microciona prolifera</u>	

Table 10. (continued)

Hydroides dianthus
Nereis succinea
Melita appendiculata
Batea catharinensis
Stenothoe minuta
Leucothoe spinicarpa
Colomastix halichondriae
Lembos sp.
Unciola serrata
Erichthonius brasiliensis
Caprella equilibra
Paracaprella tenuis
Turritopsis nutricula
Hydractinia echinata
Bougainvillia rugosa
Amphinema dinema
Eudendrium album
Eudendrium carneum
Haleciuum tenellum
Cuspidella humilis
Lovenella sp.

Table 11. Epifaunal invertebrates in dredge collections from Station B001,
Inlet Creek.

<u>Molgula manhattensis</u>	<u>Aeverrillia armata</u>
<u>Perophora viridis</u>	<u>Aeverrillia setigera</u>
<u>Lissodendoryx carolinensis</u>	<u>Triticella elongata</u>
<u>Microciona prolifera</u>	<u>Membranipora tenuis</u>
<u>Halichondria bowerbanki</u>	<u>Membranipora arborescens</u>
<u>Hymeniacidon heliophila</u>	<u>Electra monostachys</u>
<u>Penaeus aztecus</u>	<u>Bugula neritina</u>
<u>Penaeus duorarum</u>	<u>Schizoporella errata</u>
<u>Penaeus setiferus</u>	<u>Hippoporina verrilli</u>
<u>Alpheus normanni</u>	<u>Microporella ciliata</u>
<u>Pagurus pollicaris</u>	<u>Parasmittina nitida</u>
<u>Portunus gibbesii</u>	<u>Pedicellina cernua</u>
<u>Portunus spinimanus</u>	<u>Diodora cayenensis</u>
<u>Callinectes ornatus</u>	<u>Neosimnia uniplicata</u>
<u>Callinectes sapidus</u>	<u>Urosalpinx cinerea</u>
<u>Menippe mercenaria</u>	<u>Chaetopleura apiculata</u>
<u>Neopanope sayi</u>	<u>Anomia simplex</u>
<u>Panopeus herbstii</u>	<u>Crassostrea virginica</u>
<u>Libinia emarginata</u>	<u>Ostrea equestris</u>
<u>Balanus improvisus</u>	<u>Crepidula fornicata</u>
<u>Balanus amphitrite niveus</u>	<u>Sabellaria vulgaris</u>
<u>Balanus galeatus</u>	<u>Hydroides dianthus</u>
<u>Nymphopsis duodorsospinosa</u>	<u>Nereis succinea</u>
<u>Leptogorgia virgulata</u>	<u>Pista quadrilobata</u>
<u>Haliplanella luciae</u>	<u>Melita appendiculata</u>
<u>Astrangia danae</u>	<u>Melita nitida</u>
<u>Ophiothrix angulata</u>	<u>Batea catharinensis</u>
<u>Pentamera pulcherrima</u>	<u>Leucothoe spinicarpa</u>
<u>Barentsia laxa</u>	<u>Lysianassa alba</u>
<u>Alcyonium hauffi</u>	<u>Lembos websteri</u>
<u>Alcyonium polyoum</u>	<u>Unciola serrata</u>
<u>Anguinella palmata</u>	<u>Erichthonius brasiliensis</u>
<u>Amathia distans</u>	<u>Caprella equilibra</u>
<u>Bowerbankia gracilis</u>	<u>Paracaprella tenuis</u>
<u>Ectopleura dumortieri</u>	
<u>Turritopsis nutricula</u>	
<u>Garveia humilis</u>	
<u>Bougainvillia rugosa</u>	
<u>Eudendrium carneum</u>	
<u>Cuspidella humilis</u>	
<u>Hebella scandens</u>	
<u>Clytia kincaidi</u>	
<u>Obelia bidentata</u>	
<u>Dynamena cornicina</u>	
<u>Sertularia stookeyi</u>	
<u>Plumularia floridana</u>	
<u>Proboscidactyla ornata</u>	
<u>Obelia dichotoma</u>	

Table 12. Epifaunal invertebrates in dredge collections from Station J003,
Cummings Point.

<u>Amaroucium constellatum</u>	<u>Parasmittina nitida</u>
<u>Axinella sp.</u>	<u>Cryptosula pallasiana</u>
<u>Penaeus aztecus</u>	<u>Crepidula plana</u>
<u>Penaeus setiferus</u>	<u>Anachis avara</u>
<u>Xiphopenaeus kroyeri</u>	<u>Busycon carica</u>
<u>Trachypenaeus constrictus</u>	<u>Brachidontes exustus</u>
<u>Clibanarius vittatus</u>	<u>Ostrea equestris</u>
<u>Pagurus longicarpus</u>	<u>Sabellaria vulgaris</u>
<u>Pagurus pollicaris</u>	<u>Hydroides dianthus</u>
<u>Portunus gibbesii</u>	<u>Nereis succinea</u>
<u>Portunus spinimanus</u>	<u>Glycera dibranchiata</u>
<u>Callinectes ornatus</u>	<u>Hydractinia echinata</u>
<u>Callinectes sapidus</u>	<u>Garveia franciscana</u>
<u>Panopeus herbstii</u>	<u>Eudendrium carneum</u>
<u>Libinia emarginata</u>	<u>Cuspidella humilis</u>
<u>Balanus improvisus</u>	<u>Campanulina sp.</u>
<u>Balanus amphitrite niveus</u>	<u>Obelia bidentata</u>
<u>Balanus galeatus</u>	<u>Dynamena cornicina</u>
<u>Renilla reniformis</u>	<u>Sertularia marginata</u>
<u>Leptogorgia virgulata</u>	<u>Sertularia stookeyi</u>
<u>Paranthus rapiformis</u>	<u>Aglaophenia trifida</u>
<u>Astrangia danae</u>	
<u>Asterias forbesi</u>	
<u>Alcyonium hauffi</u>	
<u>Nolella stipata</u>	
<u>Anguinella palmata</u>	
<u>Amathia distans</u>	
<u>Bowerbankia gracilis</u>	
<u>Aeverrillia setigera</u>	
<u>Membranipora tenuis</u>	
<u>Membranipora arborescens</u>	
<u>Electra monostachys</u>	
<u>Bugula neritina</u>	
<u>Schizoporella errata</u>	
<u>Microporella ciliata</u>	
<u>Celleporina hassalli</u>	

Table 13. Epifaunal invertebrates in dredge collections from Station J002,
Hog Island.

Molgula manhattensis
Penaeus setiferus
Clibanarius vittatus
Callinectes sapidus
Panopeus herbstii
Balanus improvisus
Balanus amphitrite niveus
Chelonibia patula
Astrangia danae
Asterias forbesi
Mellita quinquesperforata
Barentsia laxa
Alcyonium hauffi
Anguinella palmata
Amathia distans
Aeverrillia setigera
Membranipora tenuis
Membranipora arborescens
Hippoporina verrilli
Conopeum tenuissimum
Busycon carica
Crassostrea virginica
Ostrea equestris
Ilyanassa obsoleta
Hydroides dianthus
Ectopleura dumortieri
Campanulina sp.
Obelia bidentata
Obelia dichotoma
Sertularia marginata
Sertularia stookeyi
Plumularia floridana
Garveia humilis

Table 14. Epifaunal invertebrates in dredge collections from Station W001,
Nowell Creek.

Molgula manhattensis
Penaeus setiferus
Callinectes sapidus
Balanus improvisus
Stylochus ellipticus
Bowerbankia gracilis
Membranipora tenuis
Conopeum tenuissimum
Membranipora (?) sp.
Brachidontes exustus
Crassostrea virginica
Nereis succinea
Garveia franciscana
Campanulina sp.
Obelia bidentata
Obelia sp. 1

Table 15. Epifaunal invertebrates in dredge collections from Station C004,
Cooper River.

Molgula manhattensis
Penaeus aztecus
Penaeus setiferus
Callinectes sapidus
Menippe mercenaria
Panopeus herbstii
Balanus eburneus
Balanus improvisus
Leptogorgia virgulata
Diadumene leucolena
Alcyonium hauffi
Bowerbankia gracilis
Membranipora tenuis
Membranipora sp.
Hippoporina verrilli
Conopeum tenuissimum
Brachidontes recurvus
Brachidontes exustus
Crassostrea virginica
Sabellaria vulgaris
Hydroides dianthus
Nereis succinea
Gammarus daiberi
Garveia franciscana
Campanulina sp.
Clytia kincaidi
Obelia dichotoma
Obelia sp. 1

Table 16. Epifaunal invertebrates in dredge collections from Station C003,
North Charleston.

Penaeus setiferus
Callinectes sapidus
Rhithropanopeus harrisii
Balanus eburneus
Balanus improvisus
Barentsia sp.
Bowerbankia gracilis
Membranipora (?) sp.
Conopeum tenuissimum
Brachidontes recurvus
Brachidontes exustus
Crassostrea virginica
Mytilopsis leucophaeata
Gammarus tigrinus
Melita nitida
Corophium lacustre
Caprella equilibra
Cordylophora caspia
Garveia franciscana
Campanulina sp.
Clytia kincaidi
Obelia bidentata
Obelia sp. 1

Table 17. Epifaunal invertebrates in dredge collections from Station C002,
Big Island.

Penaeus setiferus
Callinectes sapidus
Rhithropanopeus harrisii
Barentsia sp.
Bowerbankia gracilis
Mytilopsis leucophaeata
Gammarus daiberi
Gammarus mucronatus
Gammarus tigrinus
Garveia franciscana

Table 18. Epifaunal invertebrates in dredge collections from Station K001,
Ashley River.

Molgula manhattensis
Penaeus setiferus
Callinectes sapidus
Balanus improvisus
Tanystylum orbiculare
Bowerbankia gracilis
Membranipora tenuis
Conopeum tenuissimum
Membranipora (?) sp.
Ilyanassa obsoleta
Parapleustes aestuarius
Melita nitida
Garveia franciscana
Campanulina sp.
Clytia kincaidi
Obelia bidentata
Obelia sp. 1

Table 19. Epifaunal invertebrates in dredge collections from Station F001,
Stono River.

<u>Molgula manhattensis</u>	<u>Unciola serrata</u>
<u>Microciona prolifera</u>	<u>Garveia franciscana</u>
<u>Penaeus setiferus</u>	<u>Campanulina sp.</u>
<u>Palaemonetes pugio</u>	<u>Clytia kincaidi</u>
<u>Alpheus heterochaelis</u>	<u>Obelia bidentata</u>
<u>Clibanarius vittatus</u>	<u>Obelia sp. 1</u>
<u>Pagurus longicarpus</u>	
<u>Pagurus pollicaris</u>	
<u>Callinectes sapidus</u>	
<u>Rhithropanopeus harrisi</u>	
<u>Neopanope sayi</u>	
<u>Eurypanopeus depressus</u>	
<u>Panopeus herbstii</u>	
<u>Cleantis planicauda</u>	
<u>Cyathura polita</u>	
<u>Balanus eburneus</u>	
<u>Balanus improvisus</u>	
<u>Stylochus ellipticus</u>	
<u>Coronadena mutabilis</u>	
<u>Amathia distans</u>	
<u>Bowerbankia gracilis</u>	
<u>Aevverillia setigera</u>	
<u>Membranipora tenuis</u>	
<u>Membranipora sp.</u>	
<u>Hippoporina verrilli</u>	
<u>Conopeum tenuissimum</u>	
<u>Alcyonium mammillatum</u>	
<u>Epitonium rupicola</u>	
<u>Brachidontes recurvus</u>	
<u>Brachidontes exustus</u>	
<u>Crassostrea virginica</u>	
<u>Ostrea equestris</u>	
<u>Sabellaria vulgaris</u>	
<u>Nereis succinea</u>	
<u>Melita nitida</u>	

Table 20. Epifaunal invertebrates in dredge collections from Station E001,
Yonges Island.

<u>Molgula manhattensis</u>	<u>Leucothoe spinicarpa</u>
<u>Lissodendoryx carolinensis</u>	<u>Lembos websteri</u>
<u>Microciona prolifera</u>	<u>Unciola serrata</u>
<u>Hemectyon pearsei</u>	<u>Erichthonius brasiliensis</u>
<u>Penaeus aztecus</u>	<u>Corophium sp.</u>
<u>Penaeus setiferus</u>	<u>Paracaprella tenuis</u>
<u>Alpheus heterochaelis</u>	<u>Ectopleura dumortieri</u>
<u>Pagurus longicarpus</u>	<u>Linvillea agassizi</u>
<u>Callinectes sapidus</u>	<u>Turritopsis nutricula</u>
<u>Menippe mercenaria</u>	<u>Bougainvillia rugosa</u>
<u>Hexapanopeus angustifrons</u>	<u>Garveia franciscana</u>
<u>Panopeus herbstii</u>	<u>Clytia kincaidi</u>
<u>Libinia emarginata</u>	<u>Gonothyraea loveni</u>
<u>Cleantis planicauda</u>	<u>Obelia bidentata</u>
<u>Balanus improvisus</u>	<u>Obelia dichotoma</u>
<u>Tanystylum orbiculare</u>	<u>Obelia hyalina</u>
<u>Callipallene brevirostrum</u>	<u>Schizotricha tenella</u>
<u>Loxosomella sp.</u>	
<u>Pedicellina cernua</u>	
<u>Diadumene leucolena</u>	
<u>Alcyonium polyوم</u>	
<u>Anguinella palmata</u>	
<u>Amathia distans</u>	
<u>Aeverrillia setigera</u>	
<u>Membranipora tenuis</u>	
<u>Electra monostachys</u>	
<u>Schizoporella errata</u>	
<u>Conopeum tenuissimum</u>	
<u>Alcyonium mammillatum</u>	
<u>Brachidontes exustus</u>	
<u>Sabellaria vulgaris</u>	
<u>Arabella iricolor</u>	
<u>Lepidonotus sublevis</u>	
<u>Melita dentata</u>	
<u>Melita appendiculata</u>	
<u>Melita nitida</u>	

Table 21. Epifaunal invertebrates in dredge collections from Station E002,
Toogoodoo Creek.

Molgula manhattensis
Microciona prolifera
Craniella laminaris
Penaeus aztecus
Penaeus setiferus
Callinectes ornatus
Callinectes sapidus
Cleantis planicauda
Balanus improvisus
Tanystylum orbiculare
Haliplanella luciae
Alcyonium polyoum
Anguinella palmata
Amathia distans
Bowerbankia gracilis
Conopeum tenuissimum
Eupleura caudata
Crepidula fornicata
Doridella obscura
Sabellaria vulgaris
Lepidonotus sublevis
Melita nitida
Paracaprella tenuis
Ectopleura dumortieri
Garveia franciscana
Campanulina sp.
Hebella scandens
Clytia kincaidi
Obelia bidentata
Obelia dichotoma
Obelia hyalina
Sertularia stookeyi

Table 22. Epifaunal invertebrates in dredge collections from Station E003,
Bears Bluff.

<u>Molgula manhattensis</u>	<u>Lembos websteri</u>
<u>Perophora viridis</u>	<u>Erichthonius brasiliensis</u>
<u>Lissodendoryx carolinensis</u>	<u>Corophium sp.</u>
<u>Microciona prolifera</u>	<u>Paracaprella tenuis</u>
<u>Penaeus setiferus</u>	<u>Ectoplectron dumortieri</u>
<u>Alpheus armillatus</u>	<u>Linvillea agassizi</u>
<u>Pagurus longicarpus</u>	<u>Bougainvillia rugosa</u>
<u>Callinectes ornatus</u>	<u>Garveia franciscana</u>
<u>Callinectes sapidus</u>	<u>Eudendrium carneum</u>
<u>Menippe mercenaria</u>	<u>Cuspidella humilis</u>
<u>Panopeus herbstii</u>	<u>Campanulina sp.</u>
<u>Libinia sp.</u>	<u>Clytia kincaidi</u>
<u>Balanus improvisus</u>	<u>Obelia bidentata</u>
<u>Balanus amphitrite niveus</u>	<u>Obelia dichotoma</u>
<u>Tanystylum orbiculare</u>	<u>Sertularia stookeyi</u>
<u>Nymphopsis duodorsospinosa</u>	<u>Schizotricha tenella</u>
<u>Leptogorgia virgulata</u>	<u>Plumularia floridana</u>
<u>Paranthus rapiformis</u>	
<u>Ophiothrix angulata</u>	
<u>Alcyonium hauffi</u>	
<u>Alcyonium polyoum</u>	
<u>Anguinella palmata</u>	
<u>Amathia distans</u>	
<u>Aevarillia armata</u>	
<u>Aevarillia setigera</u>	
<u>Membranipora tenuis</u>	
<u>Electra monostachys</u>	
<u>Busycon carica</u>	
<u>Anomia simplex</u>	
<u>Sabellaria vulgaris</u>	
<u>Glycera dibranchiata</u>	
<u>Elasmopus levius</u>	
<u>Melita appendiculata</u>	
<u>Parapleustes aestuarius</u>	

Table 23. Epifaunal invertebrates in dredge collections from Station E004,
Eawho River.

Penaeus setiferus
Callinectes sapidus
Conopeum tenuissimum
Obelia hyalina

Table 24. Epifaunal invertebrates in dredge collections from Station E005,
Steamboat Creek.

<u>Molgula manhattensis</u>	<u>Ectopleura dumortieri</u>
<u>Perophora viridis</u>	<u>Turritopsis nutricula</u>
<u>Lissodendoryx carolinensis</u>	<u>Bougainvillia rugosa</u>
<u>Microciona prolifera</u>	<u>Clytia kincaidi</u>
<u>Craniella laminaris</u>	<u>Obelia bidentata</u>
<u>Penaeus setiferus</u>	<u>Obelia dichotoma</u>
<u>Clibanarius vittatus</u>	<u>Sertularia stookeyi</u>
<u>Callinectes sapidus</u>	<u>Plumularia floridana</u>
<u>Panopeus herbstii</u>	<u>Campanulina sp.</u>
<u>Squilla empusa</u>	
<u>Balanus improvisus</u>	
<u>Tanystylum orbiculare</u>	
<u>Renilla reniformis</u>	
<u>Leptogorgia virgulata</u>	
<u>Hemipholis elongata</u>	
<u>Anguinella palmata</u>	
<u>Amathia distans</u>	
<u>Bowerbankia gracilis</u>	
<u>Aeverrillia armata</u>	
<u>Aeverrillia setigera</u>	
<u>Membranipora tenuis</u>	
<u>Electra monostachys</u>	
<u>Conopeum tenuissimum</u>	
<u>Neosimnia uniplicata</u>	
<u>Sabellaria vulgaris</u>	
<u>Elasmopus levius</u>	
<u>Melita appendiculata</u>	
<u>Melita nitida</u>	
<u>Batea catharinensis</u>	
<u>Leucothoe spinicarpa</u>	
<u>Lembos websteri</u>	
<u>Microdeutopus sp.</u>	
<u>Erichthonius brasiliensis</u>	

Table 25. Epifaunal invertebrates in dredge collections from Station E006,
Wadmalaw Island.

Microciona prolifera
Penaeus setiferus
Ovalipes ocellatus
Callinectes ornatus
Callinectes sapidus
Squilla empusa
Balanus amphitrite niveus
Limulus polyphemus
Bowerbankia gracilis
Electra monostachys
Hebella scandens
Sertularia stookeyi

Table 26. Epifaunal invertebrates in dredge collections from Station E007,
Point of Pines.

<u>Molgula manhattensis</u>	<u>Paracaprella tenuis</u>
<u>Perophora viridis</u>	<u>Ectopleura dumortieri</u>
<u>Microciona prolifera</u>	<u>Tubularia crocea</u>
<u>Penaeus setiferus</u>	<u>Turritopsis nutricula</u>
<u>Pagurus pollicaris</u>	<u>Bougainvillia rugosa</u>
<u>Ovalipes ocellatus</u>	<u>Eudendrium carneum</u>
<u>Callinectes sapidus</u>	<u>Cuspidella humilis</u>
<u>Menippe mercenaria</u>	<u>Campanulina sp.</u>
<u>Balanus improvisus</u>	<u>Lovenella gracilis</u>
<u>Balanus amphitrite niveus</u>	<u>Hebella scandens</u>
<u>Chelonibia patula</u>	<u>Clytia kincaidi</u>
<u>Limulus polyphemus</u>	<u>Obelia bidentata</u>
<u>Renilla reniformis</u>	<u>Obelia dichotoma</u>
<u>Astrangia danae</u>	<u>Obelia hyalina</u>
<u>Leptogorgia virgulata</u>	<u>Sertularia stookeyi</u>
<u>Bdelloura candida</u>	<u>Plumularia floridana</u>
<u>Asterias forbesi</u>	
<u>Luidia clathrata</u>	
<u>Ophiothrix angulata</u>	
<u>Hemipholis elongata</u>	
<u>Anguinella palmata</u>	
<u>Amathia distans</u>	
<u>Aeverrillia setigera</u>	
<u>Membranipora tenuis</u>	
<u>Membranipora arborescens</u>	
<u>Electra monostachys</u>	
<u>Schizoporella errata</u>	
<u>Parasmittina nitida</u>	
<u>Crepidula plana</u>	
<u>Busycon canaliculata</u>	
<u>Ostrea equestris</u>	
<u>Sabellaria vulgaris</u>	
<u>Hydroides dianthus</u>	
<u>Leucothoe spinicarpa</u>	
<u>Corophium sp.</u>	

Table 27. Epifaunal invertebrates in dredge collections from Station E008,
DeVeaux Bank.

<u>Molgula manhattensis</u>	<u>Bugula neritina</u>
<u>Perophora viridis</u>	<u>Schizoporella errata</u>
<u>Ciocalypta penicillus</u>	<u>Microporella ciliata</u>
<u>Penaeus setiferus</u>	<u>Parasmittina nitida</u>
<u>Lysmata wurdemanni</u>	<u>Cryptosula pallasiana</u>
<u>Clibanarius vittatus</u>	<u>Alcyonidium mammillatum</u>
<u>Pagurus longicarpus</u>	<u>Diodora cayenensis</u>
<u>Portunus gibbesii</u>	<u>Crepidula plana</u>
<u>Portunus spinimanus</u>	<u>Neosimnia uniplicata</u>
<u>Cancer irroratus</u>	<u>Anachis avara</u>
<u>Callinectes ornatus</u>	<u>Mitrella lunata</u>
<u>Callinectes sapidus</u>	<u>Busycon carica</u>
<u>Menippe mercenaria</u>	<u>Chaetopleura apiculata</u>
<u>Neopanope sayi</u>	<u>Ostrea equestris</u>
<u>Panopeus herbstii</u>	<u>Sabellaria vulgaris</u>
<u>Libinia sp.</u>	<u>Hydroides dianthus</u>
<u>Balanus amphitrite niveus</u>	<u>Lepidonotus sublevis</u>
<u>Balanus galeatus</u>	<u>Melita appendiculata</u>
<u>Chelonibia patula</u>	<u>Batea catharinensis</u>
<u>Tanystylum orbiculare</u>	<u>Stenothoe minuta</u>
<u>Nymphopsis duodorsospinosa</u>	<u>Lysianassa alba</u>
<u>Leptogorgia virgulata</u>	<u>Lembos websteri</u>
<u>Astrangia danae</u>	<u>Microprotopus sp.</u>
<u>Asterias forbesi</u>	<u>Erichthonius brasiliensis</u>
<u>Ophiothrix angulata</u>	<u>Caprella equilibra</u>
<u>Barentsia laxa</u>	<u>Paracaprella tenuis</u>
<u>Alcyonidium hauffi</u>	<u>Ectopleura dumortieri</u>
<u>Alcyonidium polyoum</u>	<u>Linvillea agassizi</u>
<u>Nolella stipata</u>	<u>Zanclea costata</u>
<u>Anguinella palmata</u>	<u>Turritopsis nutricula</u>
<u>Amathia distans</u>	<u>Bougainvillia rugosa</u>
<u>Bowerbankia gracilis</u>	<u>Garveia franciscana</u>
<u>Aeverrillia setigera</u>	<u>Amphinema dinema</u>
<u>Membranipora tenuis</u>	
<u>Membranipora arborescens</u>	
<u>Electra monostachys</u>	
<u>Eudendrium album</u>	
<u>Eudendrium carneum</u>	
<u>Lovenella gracilis</u>	
<u>Campanulina sp.</u>	
<u>Hebella scandens</u>	
<u>Clytia kincaidi</u>	
<u>Obelia bidentata</u>	
<u>Obelia dichotoma</u>	
<u>Obelia hyalina</u>	
<u>Dynamena cornicina</u>	
<u>Sertularia stookeyi</u>	
<u>Schizotricha tenella</u>	

Table 28. Epifaunal invertebrates in dredge collections from Station D004,
Bay Point.

<u>Molgula manhattensis</u>	<u>Caprella equilibra</u>
<u>Microciona prolifera</u>	<u>Paracaprella tenuis</u>
<u>Penaeus setiferus</u>	<u>Turritopsis nutricula</u>
<u>Pagurus longicarpus</u>	<u>Bougainvillia rugosa</u>
<u>Callinectes sapidus</u>	<u>Garveia franciscana</u>
<u>Neopanope sayi</u>	<u>Amphinema dinema</u>
<u>Balanus amphitrite niveus</u>	<u>Campanulina sp.</u>
<u>Anoplodactylus latus</u>	<u>Lovenella gracilis</u>
<u>Leptogorgia virgulata</u>	<u>Hebella scandens</u>
<u>Luidia clathrata</u>	<u>Clytia kincaidi</u>
<u>Mellita quinquesperforata</u>	<u>Clytia paulensis</u>
<u>Alcyonium hauffi</u>	<u>Obelia bidentata</u>
<u>Alcyonium polyoum</u>	<u>Obelia dichotoma</u>
<u>Anguinella palmata</u>	<u>Obelia hyalina</u>
<u>Amathia distans</u>	<u>Dynamena cornicina</u>
<u>Bowerbankia gracilis</u>	<u>Sertularia marginata</u>
<u>Aeverrillia armata</u>	<u>Sertularia stookeyi</u>
<u>Aeverrillia setigera</u>	
<u>Membranipora tenuis</u>	
<u>Membranipora arborescens</u>	
<u>Electra monostachys</u>	
<u>Bugula neritina</u>	
<u>Schizoporella errata</u>	
<u>Microporella ciliata</u>	
<u>Neosimnia uniplicata</u>	
<u>Ostrea equestris</u>	
<u>Nereis succinea</u>	
<u>Elasmopus levius</u>	
<u>Crangonyx r. richmondensis</u>	
<u>Stenothoe minuta</u>	
<u>Leucothoe spinicarpa</u>	
<u>Microprotopus sp.</u>	
<u>Cerapus tubularis</u>	
<u>Corophium sp.</u>	

Table 29. Epifaunal invertebrates in dredge collections from Station D003,
Fenwick Island.

Molgula manhattensis
Penaeus setiferus
Xiphopenaeus kroyeri
Palaemonetes pugio
Callinectes sapidus
Panopeus herbstii
Balanus eburneus
Balanus improvisus
Diadumene leucolena
Stylochus ellipticus
Coronadema mutabilis
Conopeum tenuissimum
Alcyonium mammillatum
Brachidontes exustus
Crassostrea virginica
Sabellaria vulgaris
Nereis succinea
Gammarus daiberi
Melita nitida
Batea catharinensis
Parapleustes aestuarius
Corophium lacustre
Ectoplectron dumortieri
Garveia franciscana
Clytia kincaidi
Obelia bidentata
Obelia dichotoma
Obelia sp. 1

Table 30. Epifaunal invertebrates in dredge collections from Station D002,
Sampson Island.

Penaeus setiferus
Gammarus daiberi

Table 31. Epifaunal invertebrates in dredge collections from Station D001,
Snuggedy Swamp.

Callinectes sapidus
Gammarus daiberi

Table 32. Epifaunal invertebrates in dredge collections from Station H003,
Rock Creek.

<u>Molgula manhattensis</u>	<u>Aeverrillia setigera</u>
<u>Craniella laminaris</u>	<u>Triticella elongata</u>
<u>Penaeus setiferus</u>	<u>Membranipora tenuis</u>
<u>Xiphopenaeus kroyeri</u>	<u>Electra monostachys</u>
<u>Trachypenaeus constrictus</u>	<u>Conopeum tenuissimum</u>
<u>Palaemonetes vulgaris</u>	<u>Eupleura caudata</u>
<u>Clibanarius vittatus</u>	<u>Anachis avara</u>
<u>Pagurus longicarpus</u>	<u>Mitrella lunata</u>
<u>Callinectes sapidus</u>	<u>Busycon canaliculata</u>
<u>Neopanope sayi</u>	<u>Brachidontes exustus</u>
<u>Panopeus herbstii</u>	<u>Crassostrea virginica</u>
<u>Callinectes ornatus</u>	<u>Nassarius obsoletus</u>
<u>Squilla empusa</u>	<u>Sabellaria vulgaris</u>
<u>Cleantis planicauda</u>	<u>Nereis succinea</u>
<u>Balanus eburneus</u>	<u>Glycera dibranchiata</u>
<u>Balanus improvisus</u>	<u>Lepidonotus sublevis</u>
<u>Balanus amphitrite niveus</u>	<u>Paracaprella tenuis</u>
<u>Limulus polyphemus</u>	<u>Ectopleura dumortieri</u>
<u>Renilla reniformis</u>	<u>Hydractinia echinata</u>
<u>Leptogorgia virgulata</u>	<u>Bougainvillia rugosa</u>
<u>Haliplanella luciae</u>	<u>Garveia franciscana</u>
<u>Diadumene leucolena</u>	<u>Garveia humilis</u>
<u>Stylochus ellipticus</u>	<u>Amphinema dinema</u>
<u>Bdelloura candida</u>	<u>Eudendrium carneum</u>
<u>Asterias forbesi</u>	<u>Cuspidella humilis</u>
<u>Ophiothrix angulata</u>	<u>Campanulina sp.</u>
<u>Hemipholis elongata</u>	<u>Hebella scandens</u>
<u>Alcyonidium hauffi</u>	<u>Clytia kincaidi</u>
<u>Alcyonidium polyoum</u>	<u>Obelia bidentata</u>
<u>Nolella stipata</u>	<u>Obelia dichotoma</u>
<u>Anguinella palmata</u>	<u>Obelia hyalina</u>
<u>Amathia distans</u>	<u>Sertularia marginata</u>
<u>Bowerbankia gracilis</u>	
<u>Aeverrillia armata</u>	

Table 33. Epifaunal invertebrates in dredge collections from Station H002,
Ashepoo River.

Penaeus setiferus
Cleantis planicauda
Anguinella palmata
Bowerbankia gracilis
Aeverrillia setigera
Gammarus daiberi
Gammarus mucronatus
Ectopleura dumortieri
Garveia franciscana
Campanulina sp.
Obelia bidentata
Obelia sp. 1

Table 34. Epifaunal invertebrates in dredge collections from Station H001,
Wahle Branch.

Molgula manhattensis
Perophora viridis
Microciona prolifera
Craniella laminaris
Penaeus setiferus
Trachypenaeus constrictus
Callinectes sapidus
Balanus eburneus
Balanus improvisus
Tanystylum orbiculare
Leptogorgia virgulata
Diadumene leucolena
Nolella stipata
Anguinella palmata
Amathia distans
Bowerbankia gracilis
Aeverrillia setigera
Membranipora tenuis
Electra monostachys
Conopeum tenuissimum
Alcyonium mammillatum
Sabellaria vulgaris
Nereis succinea
Glycera asymmetrica
Melita appendiculata
Erichthonius brasiliensis
Caprella equilibra
Paracaprella tenuis
Ectopleura dumortieri
Garveia franciscana
Garveia humilis
Cuspidella humilis
Clytia kincaidi

Table 35. Epifaunal invertebrates in dredge collections from Station P002,
Port Royal Sound.

<u>Molgula manhattensis</u>	<u>Membranipora arborescens</u>
<u>Perophora viridis</u>	<u>Electra monostachys</u>
<u>Ciocalypta penicillus</u>	<u>Bugula neritina</u>
<u>Penaeus duorarum</u>	<u>Bugula stolonifera</u>
<u>Trachypenaeus constrictus</u>	<u>Schizoporella errata</u>
<u>Palaemonetes vulgaris</u>	<u>Hippoporina verrilli</u>
<u>Lysmata wurdemanni</u>	<u>Parasmittina nitida</u>
<u>Clibanarius vittatus</u>	<u>Alcyonidium mammillatum</u>
<u>Pagurus pollicaris</u>	<u>Crepidula plana</u>
<u>Portunus gibbesii</u>	<u>Neosimnia uniplicata</u>
<u>Portunus spinimanus</u>	<u>Urosalpinx cinerea</u>
<u>Callinectes ornatus</u>	<u>Eupleura caudata</u>
<u>Callinectes sapidus</u>	<u>Anachis avara</u>
<u>Hexapanopeus angustifrons</u>	<u>Mitrella lunata</u>
<u>Panopeus herbstii</u>	<u>Busycon carica</u>
<u>Libinia dubia</u>	<u>Nassarius vibex</u>
<u>Libinia emarginata</u>	<u>Crassostrea virginica</u>
<u>Cleantis planicauda</u>	<u>Ostrea equestris</u>
<u>Balanus amphitrite niveus</u>	<u>Sabellaria vulgaris</u>
<u>Balanus galeatus</u>	<u>Lepidonotus sublevis</u>
<u>Renilla reniformis</u>	<u>Ectopleura dumortieri</u>
<u>Leptogorgia virgulata</u>	<u>Hydractinia echinata</u>
<u>Asterias forbesi</u>	<u>Bougainvillia rugosa</u>
<u>Luidia clathrata</u>	<u>Garveia humilis</u>
<u>Ophiotrix angulata</u>	<u>Eudendrium carneum</u>
<u>Barentsia laxa</u>	<u>Campanulina sp.</u>
<u>Alcyonidium hauffi</u>	<u>Hebella scandens</u>
<u>Alcyonidium polyoum</u>	<u>Clytia kincaidi</u>
<u>Anguinella palmata</u>	<u>Clytia paulensis</u>
<u>Amathia distans</u>	<u>Obelia bidentata</u>
<u>Bowerbankia gracilis</u>	<u>Dynamena cornicina</u>
<u>Aeoverrillia setigera</u>	<u>Sertularia stookeyi</u>
<u>Membranipora tenuis</u>	<u>Monostaechas quadridens</u>
<u>Triticella elongata</u>	

Table 36. Epifaunal invertebrates in dredge collections from Station P001,
Colleton River.

<u>Molgula manhattensis</u>	<u>Alcyonidium hauffi</u>
<u>Perophora viridis</u>	<u>Anguinella palmata</u>
<u>Haliclona permollis</u>	<u>Amathia distans</u>
<u>Mycale sp.</u>	<u>Aeverrillia setigera</u>
<u>Lissodendoryx carolinensis</u>	<u>Membranipora tenuis</u>
<u>Microciona prolifera</u>	<u>Electra monostachys</u>
<u>Microciona juniperina</u>	<u>Bugula neritina</u>
<u>Halichondria bowerbanki</u>	<u>Schizoporella errata</u>
<u>Hymeniacidon heliophila</u>	<u>Hippoporina verrilli</u>
<u>Craniella laminaris</u>	<u>Anachis avara</u>
<u>Penaeus setiferus</u>	<u>Mitrella lunata</u>
<u>Trachypenaeus constrictus</u>	<u>Busycon carica</u>
<u>Palaemonetes pugio</u>	<u>Busycon canaliculata</u>
<u>Palaemonetes vulgaris</u>	<u>Nassarius trivittatus</u>
<u>Alpheus armillatus</u>	<u>Modiolus americanus</u>
<u>Alpheus normanni</u>	<u>Ostrea equestris</u>
<u>Clibanarius vittatus</u>	<u>Crepidula fornicata</u>
<u>Pagurus defensus</u>	<u>Sabellaria vulgaris</u>
<u>Pagurus longicarpus</u>	<u>Harmothoe aculeata</u>
<u>Pagurus pollicaris</u>	<u>Nereis succinea</u>
<u>Portunus gibbesi</u>	<u>Glycera dibranchiata</u>
<u>Portunus spinimanus</u>	<u>Glycera asymmetrica</u>
<u>Callinectes ornatus</u>	<u>Arabella iricolor</u>
<u>Callinectes sapidus</u>	<u>Lepidonotus sublevis</u>
<u>Menippe mercenaria</u>	<u>Elasmopus levis</u>
<u>Hexapalanopeus angustifrons</u>	<u>Melita appendiculata</u>
<u>Neopanope sayi</u>	<u>Batea catharinensis</u>
<u>Panopeus herbstii</u>	<u>Stenothoe minuta</u>
<u>Chelonibia patula</u>	<u>Leucothoe spinicarpa</u>
<u>Limulus polyphemus</u>	<u>Unciola serrata</u>
<u>Tanystylum orbiculare</u>	<u>Erichthonius brasiliensis</u>
<u>Renilla reniformis</u>	<u>Corophium sp.</u>
<u>Leptogorgia virgulata</u>	<u>Caprella equilibra</u>
<u>Asterias forbesi</u>	<u>Paracaprella tenuis</u>
<u>Ophiothrix angulata</u>	
<u>Hemipholis elongata</u>	
<u>Ectopleura dumortieri</u>	
<u>Turritopsis nutricula</u>	
<u>Hydractinia echinata</u>	
<u>Bougainvillia rugosa</u>	
<u>Amphinema dinema</u>	
<u>Eudendrium carneum</u>	
<u>Haleci um bermudense</u>	
<u>Cuspidella humilis</u>	
<u>Hebella scandens</u>	
<u>Clytia kincaidi</u>	
<u>Obelia bidentata</u>	
<u>Obelia dichotoma</u>	
<u>Obelia hyalina</u>	
<u>Dynamena cornicina</u>	
<u>Sertularia stookeyi</u>	

Table 37. Epifaunal invertebrates in dredge collections from Station G001,
Calibogue Sound.

<u>Molgula manhattensis</u>	<u>Barentsia laxa</u>
<u>Perophora viridis</u>	<u>Loxosomella cricketae</u>
<u>Ecteinascidia turbinata</u>	<u>Alcyonidium hauffi</u>
<u>Lissodendoryx carolinensis</u>	<u>Alcyonidium polyoum</u>
<u>Microciona prolifera</u>	<u>Nolella stipata</u>
<u>Craniella laminaris</u>	<u>Anguinella palmata</u>
<u>Penaeus setiferus</u>	<u>Amathia distans</u>
<u>Trachypenaeus constrictus</u>	<u>Bowerbankia gracilis</u>
<u>Alpheus heterochaelis</u>	<u>Aeverrillia setigera</u>
<u>Alpheus normanni</u>	<u>Membranipora tenuis</u>
<u>Latreutes parvulus</u>	<u>Conopeum commensale</u>
<u>Lysmata wurdemanni</u>	<u>Electra monostachys</u>
<u>Pagurus defensus</u>	<u>Bugula neritina</u>
<u>Pagurus longicarpus</u>	<u>Bugula stolonifera</u>
<u>Pagurus pollicaris</u>	<u>Schizoporella errata</u>
<u>Cancer irroratus</u>	<u>Hippoporina verrilli</u>
<u>Portunus gibbesii</u>	<u>Parasmittina nitida</u>
<u>Portunus spinimanus</u>	<u>Alcyonidium mammillatum</u>
<u>Callinectes sapidus</u>	<u>Crepidula plana</u>
<u>Hexapalanopeus angustifrons</u>	<u>Neosimnia uniplicata</u>
<u>Neopanope sayi</u>	<u>Eupleura caudata</u>
<u>Libinia emarginata</u>	<u>Anachis avara</u>
<u>Squilla empusa</u>	<u>Mitrella lunata</u>
<u>Balanus amphitrite niveus</u>	<u>Busycon carica</u>
<u>Balanus galeatus</u>	<u>Busycon canaliculata</u>
<u>Limulus polyphemus</u>	<u>Nassarius trivittatus</u>
<u>Tanystylum orbiculare</u>	<u>Ostrea equestris</u>
<u>Renilla reniformis</u>	<u>Crassostrea virginica</u>
<u>Leptogorgia virgulata</u>	<u>Doridella obscura</u>
<u>Asterias forbesi</u>	<u>Sabellaria vulgaris</u>
<u>Luidia clathrata</u>	<u>Hydroides dianthus</u>
<u>Ophiothrix angulata</u>	<u>Lepidonotus sublevis</u>
<u>Ophioderma brevispinum</u>	<u>Melita appendiculata</u>
<u>Lembos websteri</u>	<u>Batea catharinensis</u>
<u>Erichthonius brasiliensis</u>	
<u>Caprella equilibra</u>	
<u>Paracaprella tenuis</u>	
<u>Ectopleura dumortieri</u>	
<u>Halocordyle disticha</u>	
<u>hydractinia echinata</u>	
<u>Bougainvillia rugosa</u>	
<u>Garveia humilis</u>	
<u>Eudendrium carneum</u>	
<u>Campanulina sp.</u>	
<u>Hebella scandens</u>	
<u>Clytia kincaidi</u>	
<u>Obelia bidentata</u>	
<u>Dynamena cornicina</u>	
<u>Sertularia stookeyi</u>	

Table 38. List of epifaunal species collected, and their observed distribution in the Venice System salinity zones.

Species	Oligohaline	Mesohaline	Polyhaline	Euhaline
Phylum Porifera				
<u>Haliclona permollis</u>				+
<u>Lissodendoryx carolinensis</u>	+	+		+
<u>Zygomycale parishii</u>				+
<u>Mycale</u> sp.				+
<u>Microciona juniperina</u>			+	+
<u>Microciona prolifera</u>		+		+
<u>Hemectyon pearsei</u>	+	+	+	+
<u>Axinella</u> sp.		+		+
<u>Halichondria bowerbanki</u>			+	+
<u>Ciocalypta penicillus</u>			+	+
<u>Ciocalapata gibbsi</u>				+
<u>Hymeniacidon heliophila</u>				+
<u>Cyamon vickersi</u>				+
<u>Craniella laminaris</u>	+	+		+
Phylum Cnidaria				
<u>Cyanea capillata versicolor</u> (scyphistoma)				
<u>Ectopleura dumortieri</u>			+	+
<u>Tubularia crocea</u>		+	+	+
<u>Halocordyle disticha</u>			+	+
<u>Linvillea agassizi</u>			+	+
<u>Zanclea costata</u>			+	+
<u>Cordylophora caspia</u>			+	+
<u>Turritopsis nutricula</u>	+	+		
<u>Hydractinia echinata</u>			+	+
<u>Bougainvillia rugosa</u>			+	+
<u>Garveia franciscana</u>			+	+
<u>Garveia humilis</u>	+	+	+	+
<u>Amphinema dinema</u>				+
<u>Eudendrium album</u>			+	+
<u>Eudendrium carneum</u>			+	+
<u>Halecia bermudense</u>			+	+
<u>Halecia tenellum</u>			+	+
<u>Cuspidella humilis</u>			+	+
<u>Campanulina</u> sp.	+	+	+	+
<u>Lovenella gracilis</u>		+	+	+
<u>Hebella scandens</u>			+	+
<u>Clytia cylindrica</u>			+	+
<u>Clytia kincaidi</u>	+	+	+	+
<u>Clytia paulensis</u>			+	+
<u>Gonothyraea loveni</u>			+	+
<u>Obelia bidentata</u>	+	+	+	+
<u>Obelia dichotoma</u>		+	+	+
<u>Obelia hyalina</u>			+	+

Table 38. (continued)

Species	Oligohaline	Mesohaline	Polyhaline	Euhaline
<u>Obelia longicyatha</u>			+	+
<u>Obelia</u> sp. 1	+	+	+	
<u>Obelia</u> sp. 2				+
<u>Campanopsis (?)</u> sp.			+	
<u>Cnidoscyphus marginatus</u>		+	+	+
<u>Dynamena cornicina</u>		+	+	
<u>Sertularia marginata</u>		+	+	
<u>Sertularia stookeyi</u>		+	+	
<u>Monostaechas quadridens</u>				+
<u>Schizotricha tenella</u>		+	+	
<u>Plumularia floridana</u>		+	+	
<u>Aglaophenia trifida</u>		+	+	
<u>Lytocarpus philippinus</u>				+
<u>Proboscidactyla ornata</u>			+	
<u>Leptogorgia virgulata</u>		+	+	
<u>Renilla reniformis</u>		+	+	
<u>Actinauge modesta</u>		+	+	
<u>Paranthus rapiformis</u>		+	+	
<u>Haliplanella luciae</u>		+	+	
<u>Diadumene leucolena</u>	+	+	+	
<u>Astrangia danae</u>		+	+	
Phylum Platyhelminthes				
<u>Bdelloura candida</u>				
<u>Coronadena mutabilis</u>	+	+		
<u>Stylochus ellipticus</u>	+	+		
Phylum Entoprocta				
<u>Loxosomella</u> sp.			+	
<u>Pedicellina cernua</u>		+	+	
<u>Barentsia laxa</u>			+	
<u>Barentsia</u> sp.	+			
Phylum Bryozoa				
<u>Crisia</u> sp.			+	
<u>Alcyonidium hauffi</u>			+	
<u>Alcyonidium mammillatum</u>		+	+	
<u>Alcyonidium polyoum</u>		+	+	
<u>Arachnidium</u> sp.			+	
<u>Nolella stipata</u>			+	
<u>Anguinella palmata</u>		+	+	
<u>Amathia distans</u>		+	+	
<u>Bowerbankia gracilis</u>	+	+	+	

Table 38. (continued)

Species	Oligohaline	Mesohaline	Polyhaline	Euhaline
<u>Aeverrillia armata</u>			+	+
<u>Aeverrillia setigera</u>	+	+	+	+
<u>Triticella elongata</u>			+	+
<u>Membranipora arborescens</u>			+	+
<u>Membranipora tenuis</u>	+	+	+	+
<u>Membranipora (?) sp.</u>	+	+		
<u>Conopeum tenuissimum</u>		+	+	
<u>Electra monostachys</u>			+	+
<u>Bugula neritina</u>			+	+
<u>Bugula stolonifera</u>			+	+
<u>Schizoporella errata</u>	+	+	+	+
<u>Hippoporina verrilli</u>		+	+	+
<u>Microporella ciliata</u>			+	+
<u>Parasmittina nitida</u>			+	+
<u>Cryptosula pallasiana</u>			+	+
<u>Celleporina hassalli</u>			+	
Phylum Annelida				
<u>Arabella iricolor</u>		+	+	+
<u>Marphysa sanguinea</u>			+	
<u>Glycera americana</u>				+
<u>Glycera asymmetrica</u>				+
<u>Glycera dibranchiata</u>			+	+
<u>Nereis succinea</u>	+	+	+	+
<u>Harmothoe aculeata</u>			+	
<u>Lepidonotus sublevis</u>			+	+
<u>Sabellaria vulgaris</u>			+	+
<u>Hydroides dianthus</u>			+	+
<u>Pista quadrilobata</u>			+	
<u>Polydora ligni</u>		+		
Phylum Mollusca				
<u>Diodora cayenensis</u>			+	+
<u>Epitoneum rupicola</u>	+			
<u>Crepidula fornicata</u>			+	+
<u>Crepidula plana</u>			+	+
<u>Neosimnia uniplicata</u>			+	+
<u>Polinices duplicatus</u>			+	+
<u>Urosalpinx cinerea</u>			+	+
<u>Eupleura caudata</u>			+	+
<u>Anachis avara</u>			+	+
<u>Mitrella lunata</u>			+	+
<u>Busycon carica</u>			+	+
<u>Busycon canalicolatum</u>			+	+
<u>Nassarius trivittatus</u>			+	+

Table 38. (continued)

Species	Oligohaline	Mesohaline	Polyhaline	Euhaline
<u>Nassarius vibex</u>			+	
<u>Ilyanassa obsoleta</u>		+	+	
<u>Fasciolaria tulipa</u>				+
<u>Doridella obscura</u>			+	
<u>Chaetopleura apiculata</u>			+	+
<u>Brachidontes exustus</u>	+	+	+	+
<u>Brachidontes recurvus</u>	+	+	+	
<u>Modiolus americanus</u>				+
<u>Modiolus modiolus squamosus</u>			+	+
<u>Pteria columbus</u>			+	+
<u>Anomia simplex</u>			+	+
<u>Ostrea equestris</u>			+	+
<u>Crassostrea virginica</u>	+	+	+	+
<u>Mytilopsis leucophaeata</u>	+			
Phylum Arthropoda				
<u>Limulus polyphemus</u>			+	+
<u>Nymphopsis duodorsospinosa</u>			+	+
<u>Tanystylum orbiculare</u>			+	+
<u>Callipallene brevirostrum</u>			+	
<u>Anoplodactylus latus</u>			+	+
<u>Balanus amphitrite</u>			+	+
<u>Balanus eburneus</u>		+	+	
<u>Balanus galeatus</u>			+	+
<u>Balanus improvisus</u>	+	+	+	+
<u>Chelonibia patula</u>			+	+
<u>Cleantis planicauda</u>			+	+
<u>Cyathura burbancki</u>			+	+
<u>Cyathura polita</u>	+	+		
<u>Chiridotea sp.</u>	+			
<u>Gammarus daiberi</u>	+	+	+	
<u>Gammarus mucronatus</u>	+	+		
<u>Gammarus tigrinus</u>	+	+		
<u>Elasmopus levius</u>				+
<u>Melita dentata</u>				+
<u>Melita appendiculata</u>		+	+	+
<u>Melita nitida</u>	+	+	+	
<u>Crangonyx r. richmondensis</u>				+
<u>Batea catharinensis</u>			+	+
<u>Parapleustes aestuarius</u>	+	+	+	+
<u>Stenothoe minuta</u>			+	+
<u>Leucothoe spinicarpa</u>			+	+
<u>Colomastix halichondriae</u>				+
<u>Lysianassa alba</u>			+	+
<u>Lembos websteri</u>			+	+
<u>Lembos sp.</u>				+

Table 38. (continued)

Species	Oligohaline	Mesohaline	Polyhaline	Euhaline
<u>Microdeutopus</u> sp.			+	+
<u>Unciola</u> <u>serrata</u>		+	+	+
<u>Microprotopus</u> sp.			+	+
<u>Erichthonius</u> <u>brasiliensis</u>			+	+
<u>Cerapus</u> <u>tubularis</u>			+	+
<u>Corophium</u> <u>acutum</u>			+	
<u>Corophium</u> <u>lacustre</u>	+	+		
<u>Corophium</u> sp.			+	+
<u>Caprella</u> <u>equilibra</u>		+	+	+
<u>Paracaprella</u> <u>tenuis</u>		+	+	+
<u>Penaeus</u> <u>a.</u> <u>aztecus</u>	+	+	+	+
<u>Penaeus</u> <u>d.</u> <u>duorarum</u>			+	+
<u>Penaeus</u> <u>setiferus</u>	+	+	+	+
<u>Xiphopenaeus</u> <u>kroyeri</u>		+	+	
<u>Trachypenaeus</u> <u>constrictus</u>		+	+	+
<u>Sicyonia</u> <u>brevirostris</u>				+
<u>Sicyonia</u> <u>laevigata</u>				+
<u>Palaemonetes</u> <u>pugio</u>	+	+	+	+
<u>Palaemonetes</u> <u>vulgaris</u>			+	
<u>Alpheus</u> <u>armillatus</u>			+	+
<u>Alpheus</u> <u>heterochaelis</u>		+	+	
<u>Alpheus</u> <u>normanni</u>			+	+
<u>Latreutes</u> <u>parvulus</u>			+	
<u>Lysmata</u> <u>wurdemanni</u>			+	+
<u>Clibanarius</u> <u>vittatus</u>			+	+
<u>Pagurus</u> <u>annulipes</u>				+
<u>Pagurus</u> <u>defensus</u>			+	+
<u>Pagurus</u> <u>longicarpus</u>			+	+
<u>Pagurus</u> <u>pollicaris</u>			+	+
<u>Hepatus</u> <u>epheliticus</u>				+
<u>Ovalipes</u> <u>ocellatus</u>			+	+
<u>Cancer</u> <u>irroratus</u>			+	+
<u>Portunus</u> <u>gibbesii</u>			+	+
<u>Portunus</u> <u>spinimanus</u>			+	+
<u>Callinectes</u> <u>ornatus</u>			+	+
<u>Callinectes</u> <u>sapidus</u>	+	+	+	+
<u>Menippe</u> <u>mercenaria</u>		+	+	+
<u>Rhithropanopeus</u> <u>harrisii</u>	+			+
<u>Hexapanopeus</u> <u>angustifrons</u>			+	+
<u>Neopanope</u> <u>sayi</u>		+	+	+
<u>Eurypanopeus</u> <u>depressus</u>		+	+	
<u>Panopeus</u> <u>herbstii</u>		+	+	+
<u>Libinia</u> <u>dubia</u>			+	+
<u>Libinia</u> <u>emarginata</u>		+	+	+
<u>Squilla</u> <u>empusa</u>			+	

Table 38. (continued)

Species	Oligohaline	Mesohaline	Polyhaline	Euhaline
<u>Phylum Echinodermata</u>				
<u>Asterias forbesi</u>			+	+
<u>Luidia clathrata</u>			+	+
<u>Pentamera pulcherrima</u>			+	+
<u>Ophiophragmus wurdemani</u>				+
<u>Hemipholis elongata</u>			+	+
<u>Amphiodia pulchella</u>				+
<u>Ophioderma brevispinum</u>			+	+
<u>Ophiothrix angulata</u>			+	+
<u>Arbacia punctulata</u>			+	+
<u>Mellita quinquesperforata</u>			+	+
<u>Phylum Chordata</u>				
<u>Amaroucium constellatum</u>				+
<u>Didemnum sp.</u>				+
<u>Ecteinascidia turbinata</u>			+	
<u>Perophora viridis</u>			+	+
<u>Molgula manhattensis</u>	+		+	+

LITERATURE CITED

- Bearden, C. M., and M. D. McKenzie. 1973. A guide to saltwater sport fishing in South Carolina. South Carolina Wildl. Mar. Res. Dept., Charleston. 119 p.
- Calder, D. R., B. B. Boothe, Jr., and M. S. Maclin. 1977. A preliminary report on estuarine macrobenthos of the Edisto and Santee River systems, South Carolina. South Carolina Mar. Res. Center Tech. Rep. No. 22 .(in press).
- Colunga, L., and R. Stone (eds.). 1974. Proceedings of an international conference on artificial reefs. Texas A & M Univ. Pub. TAMU-SG-74-103. 152 p.
- Emery, K. O., R. E. Stevenson, and J. W. Hedgpeth. 1957. Estuaries and lagoons. Pages 673-750 in J. W. Hedgpeth (ed.), Treatise on marine ecology and paleoecology. Geol. Soc. Amer. Mem. 67.
- Galtsoff, P. S. 1964. The American oyster Crassostrea virginica Gmelin. Fish. Bull. 64. 480 p.
- Menzies, R. J., O. H. Pilkey, B. W. Blackwelder, D. Dexter, P. Huling, and L. McCloskey. 1966. A submerged reef off North Carolina. Int. Rev. Ces. Hydrobiol. 51: 393-431.
- Pearse, A.S. and L. G. Williams. 1951. The biota of the reefs off the Carolinas. J. Elisha Mitchell Sci. Soc. 67: 133-161.
- Peterson, C. G. J. 1913. Valuation of the sea. II. The animal communities of the sea bottom and their importance for marine zoogeography. Rep. Danish Biol. Sta. 21. 44 p.

Pratt, S. D. 1973. Benthic fauna. Pages 5-1 to 5-70 in Coastal and offshore environmental inventory. Cape Hatteras to Nantucket Shoals. Univ. Rhode Island Mar. Pub. Ser. No. 2.

Roberts, M. H., Jr., and K. Able. 1974. Fisheries: Commercial and sport. Pages 376-520 in M. H. Roberts, Jr., A socio-economic environmental baseline summary for the South Atlantic region between Cape Hatteras, North Carolina and Cape Canaveral, Florida. Vol. III. Chemical and biological oceanography. Va. Inst. Mar. Sci., Gloucester Point.

Schelske, C. L., and E. P. Odum. 1961. Mechanisms maintaining high productivity in Georgia estuaries. Proc. Gulf Caribb. Fish Inst. 14: 75-80.

Stephens, D. G., and T. T. Davies. 1974. The distribution of cheilostome Bryozoa in a tidal creek system on the South Carolina coast. Southeastern Geol. 16: 107-120.

Teal, J. M. 1962. Energy flow in the salt marsh ecosystem of Georgia. Ecology 43: 614-624.

Thorson, G. 1957. Bottom communities (sublittoral or shallow shelf). Pages 461-534 in J. W. Hedgpeth (ed.), Treatise on marine ecology and paleoecology. Geol. Soc. Amer. Mem. 67.

Woods Hole Oceanographic Institution. 1952. Marine fouling and its prevention. U. S. Naval Inst., Annapolis. 388 p.

