

**OVERVIEW
OF
TERRA CEIA BAY BENTHOS:
1993-1997**

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INTRODUCTION

1997 was the fifth year of benthic monitoring of the Terra Ceia Bay segment of Tampa Bay. Previous results have been summarized in Grabe *et al.* (1996), Karlen & Grabe (1996), and Grabe (1997). Field and laboratory methods are outlined in Grabe *et al.* (1996) and Karlen & Grabe (1996).

STUDY AREA

Figure 1 depicts the locations of all stations sampled during 1993-1997. Figure 2 summarizes, by year, the quartile distribution of near-bottom water temperature, dissolved oxygen, and salinity. Salinities were generally higher during the 1997 sampling than during 1993-1996 and water temperatures were slightly higher in 1997 than during previous years. Sample depths were generally similar between years (Figure 3). Silt-clay data for 1997 are not available at this writing and thus silt-clay data are not discussed.

RESULTS

Abundance: Total benthic abundance ranged from 1,650 to >23,000 organisms per m² (Figure 4). Over the five-year study period, the median density was approximately 5,000 per m², with approximately 20% of Terra Ceia Bay having densities >10,000 organisms per m² (Figure 5).

Numbers of Taxa: In 1997, the number of taxa at Terra Ceia Bay stations ranged from 28 to 80 (Figure 6); for the five-year period the range was 11 to 80. For the entire survey period, the median number of taxa per sample was approximately 38 (Figure 7). The median number of taxa for 1993-1996 (32.5) was identical to the 1994-1997 period, although the 1994-1997 mean was slightly higher (Figure 8).

Diversity: Median Shannon-Wiener diversity declined from 1993-1995 and then increased (Figure 9). Mean diversity was slightly higher in 1993-1996 than during 1994-1997 (Figure 8). For the five years of study, median diversity in Terra Ceia Bay was >4 and only two samples had a diversity of <2 (Figure 10).

Benthic Index: The median Benthic Index, as was the case with Shannon-Wiener diversity, generally declined from 1993-1995 and then increased (Figure 11); the moving averages for the 1993-1996 and 1994-1997 periods were virtually identical (Figure 8). More than 70% of the Terra Ceia Bay segment had a Benthic Index score indicative of a "healthy" benthic community (based upon baywide comparisons with sediment metals contamination and suboptimal dissolved oxygen concentrations; EPC unpublished data). Benthic Index scores representative of "degraded" benthic habitat were observed at approximately 8% of the study sites (Figure 12). For the two four-year periods, there was virtually no change in the estimated areal extents of both "degraded", "marginal", and "healthy" benthic habitat from 1993-1996 to 1994 to 1997 (Figure 13). Within Terra Ceia Bay, the Benthic Index did not appear to be associated with sample depth (Figure 14), salinity (Figure 15), or dissolved oxygen (Figure 16).

An association between the Benthic Index and the PEL ("predicted effects level") quotient for metals (a measure of overall sediment contamination by trace metals; PEL quotients <0.1 suggest a low probability that sediments are toxic; PEL quotients >1.0 suggest sediments have a high probability of toxicity), was also not evident (Figure 15). Note, however, that the PEL quotients observed to date in Terra Ceia Bay are quite low (*i.e.*, <0.1), and that data are available for only 1996 and 1997. Pesticide data from 1996 and 1997 were uniformly below method detection limits and no samples have been analyzed for polycyclic aromatic hydrocarbons. Factors associated with the small area of Terra Ceia Bay with subnominal Benthic Index scores need to be examined more rigorously in the future to try to better understand why these areas appear to be "degraded". To this end, additional data on sediment contaminants, over several orders of magnitude, is desirable.

Dominant Taxa: Only seven taxa occurred in at least 60% of the samples for the 1993-1996 and 1994-1997 periods; five of the taxa were common to both periods (Table 1).

The two most abundant taxa in the 1993-1996 samples were the same as in 1994-1997: Tubificid oligochaetes (genera undetermined) and the polychaete *Monticellina dorsobranchialis* (Table 2). For 1993-1996 the ten numerical dominants comprised 50% of the total abundance in Terra Ceia Bay and 48% in 1994-1997 (Table 2).

CONCLUSIONS

Benthic community parameters during 1997 were generally within the ranges observed during 1993-1996. Based upon four-year "lagged" sampling intervals, species richness, diversity, Benthic Index, and taxonomic composition of Terra Ceia Bay benthos was generally similar for 1993-1996 and 1994-1997. Approximately 10% of Terra Ceia Bay's benthic habitat was estimated to be "degraded" and $>60\%$ was estimated to be "healthy" for for each of the two four-year periods.

LITERATURE CITED

- GRABE, S.A. 1997. *Overview of Manatee River and Terra Ceia Bay Benthos: 1996*. Environmental Protection Commission of Hillsborough County. Tampa, FL.
- GRABE, S.A., C.M. COURTNEY, Z. LIN, D. ALBERDI, H.T. WILSON, & G. BLANCHARD. 1996. *Environmental Monitoring and assessment Program-Estuaries. West Indian Province 1993 Sampling. Volume III. Technical Report: A Synoptic Survey of the Benthic Macroinvertebrates and Demersal Fishes of the Tampa Bay Estuarine System*. TBNEP Tech. Publ. #95-12.
- KARLEN, D.J. & S.A. GRABE. 1996. *Technical Report: A Synoptic Survey of the Benthic Macroinvertebrates of Terra Ceia Bay and the Manatee River. October 1993-1995*. TBNEP Tech. Publ. 03-96.

Table 1. Percent occurrence of macroinvertebrate taxa which occurred in 60% or more of samples: by survey period. Terra Ceia Bay, 1993-1996 & 1994-1997.

TAXA	1993-1996	1994-1997
Tubificidae-gen. undet. (O)	89.7	83.3
<i>Monticellina dorsobranchialis</i> (P)	79.3	80.0
<i>Apoprionospio pygmaea</i> (P)	69.0	66.7
<i>Podarkeopsis laevifuscina</i> (P)	69.0	NR
<i>Paraprionospio pinnata</i> (P)	65.5	70.0
<i>Ampelisca holmesi</i> (A)	62.1	63.3
<i>Haminoe succinea</i> (G)	62.1	NR
<i>Phascolion crypta</i> (S)	NR	63.3
<i>Acteocina canaliculata</i> (G)	NR	60.0

NR= not ranked; occurred in <60% of samples

A= Amphipoda B=Bivalvia G=Gastropoda O=Oligochaeta

P=Polychaeta S=Sipuncula

Table 2. Mean numbers per m² (percent of total abundance) of the ten most abundant taxa of benthic macroinvertebrates in Terra Ceia Bay by survey period: 1993-1996 and 1994-1997.

TAXON	1993-1996	1994-1997
Tubificidae- gen. undet. (O)	713 (14.4)	676 (11.1)
<i>Monticellina dorsobranchialis</i> (P)	644 (13.0)	646 (10.6)
<i>Paraprionospio pinnata</i> (P)	275 (5.5)	268 (4.4)
<i>Ampelisca holmesi</i> (A)	236 (4.7)	207 (3.4)
<i>Apoprionospio pygmaea</i> (P)	124 (2.5)	96 (1.6)
<i>Mediomastus</i> spp. (P)	121 (2.4)	NR
<i>Acteocina canaliculata</i> (G)	103 (2.1)	177 (2.9)
<i>Mulinia lateralis</i> (B)	100 (2.0)	420 (6.9)
<i>Astris lunulata</i> (G)	84 (1.7)	NR
<i>Haminoe succinea</i> (G)	83 (1.7)	138 (2.3)
<i>Mediomastus californiensis</i> (P)	NR	104 (1.7)
<i>Cyclaspis</i> cf. <i>varians</i> (C)	NR	179 (3.0)

NR= not ranked in top 10 for survey period

A= Amphipoda B=Bivalvia C=Cumacea G=Gastropoda

O= Oligochaeta P=Polychaeta

TERRA CEIA BAY 1993-1997

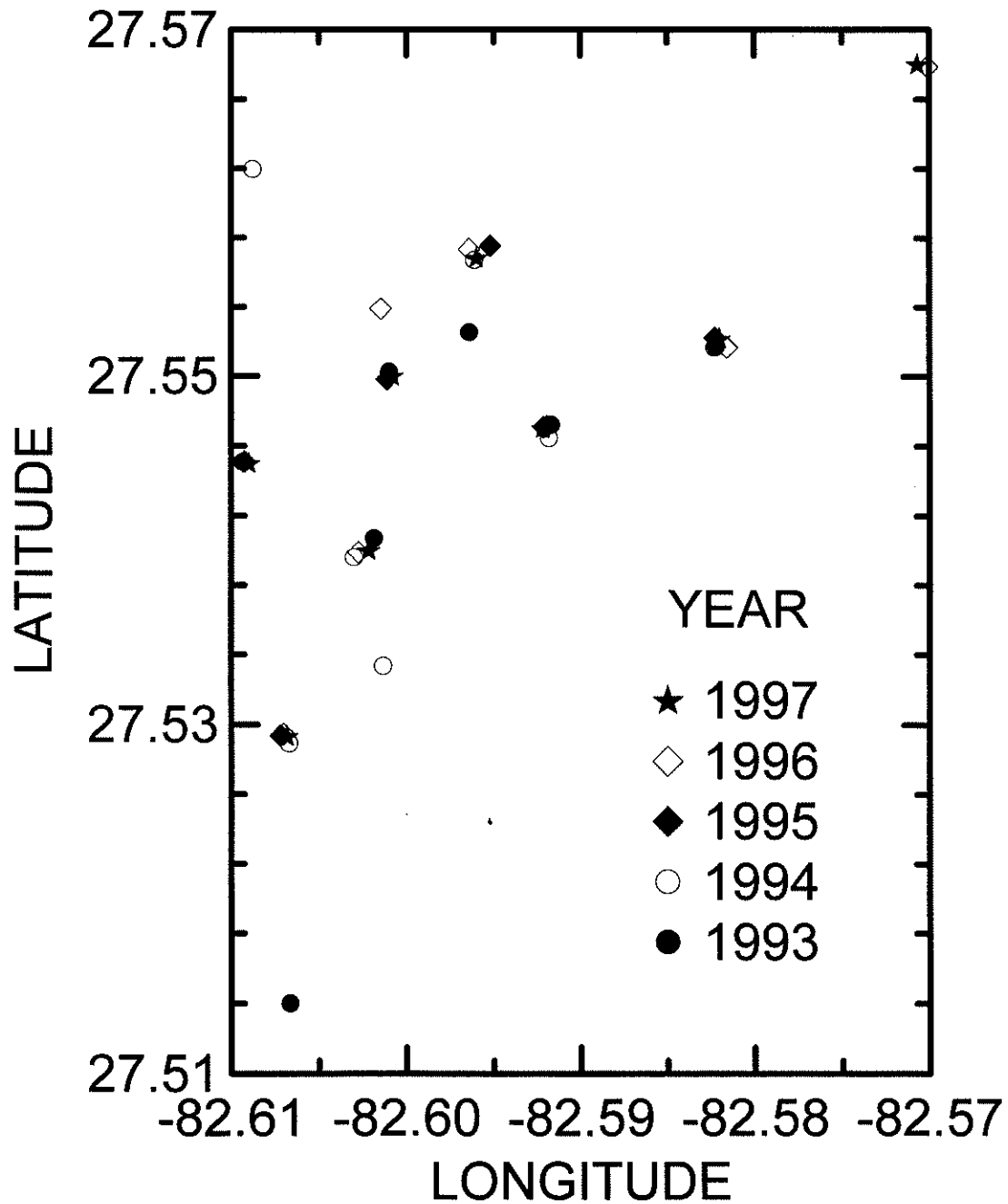


Figure 1. Schematic representation of sampling locations for sediments and benthic macroinvertebrates in Terra Ceia Bay, 1993-1997.

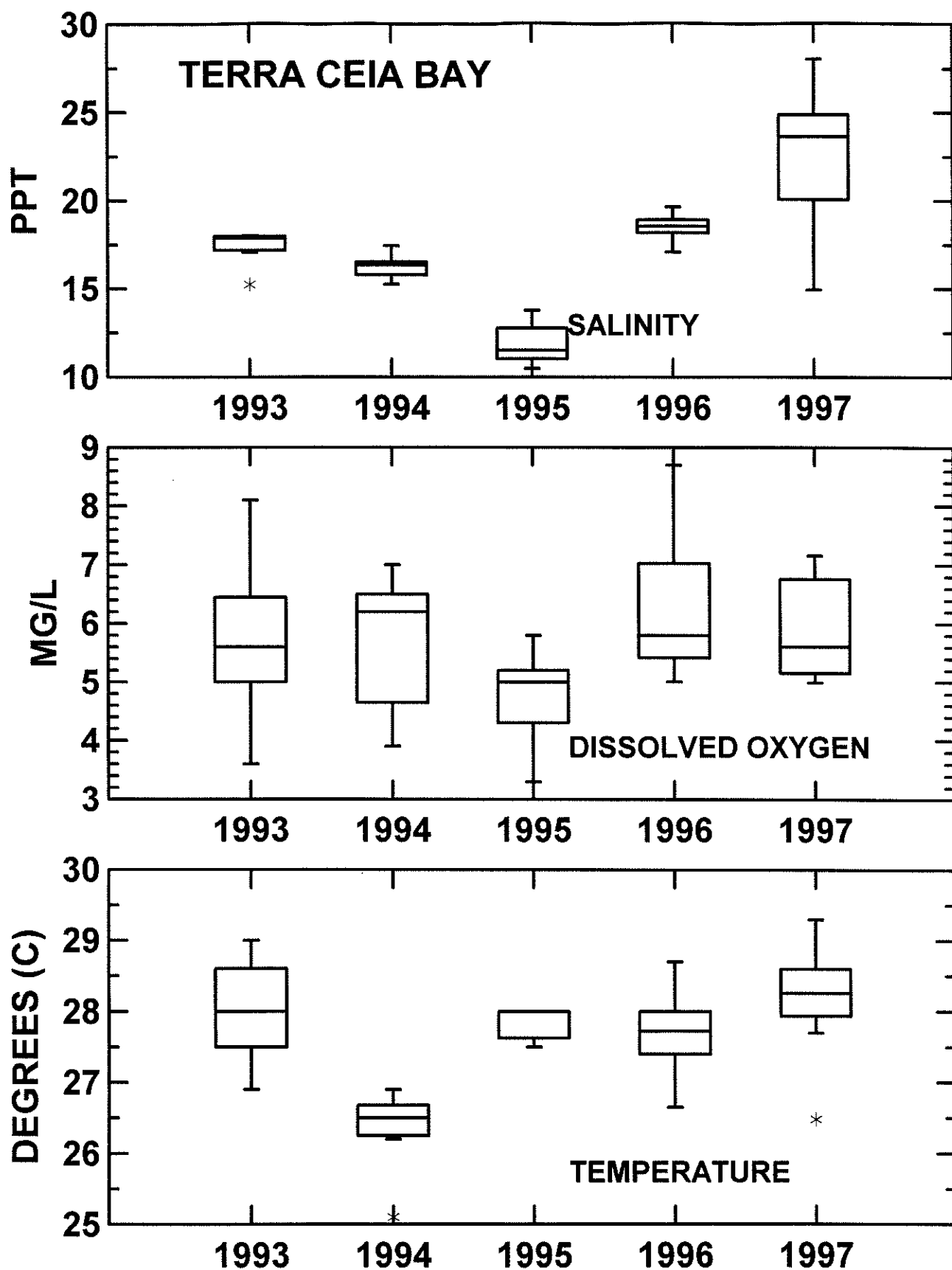


Figure 2. Quartile distribution of salinity, dissolved oxygen, and water temperature in near-bottom waters of Terra Ceia Bay, 1993-1997. Horizontal mid-line represents the median value and hinges represent the 25th and 75th percentiles.

TERRA CEIA BAY

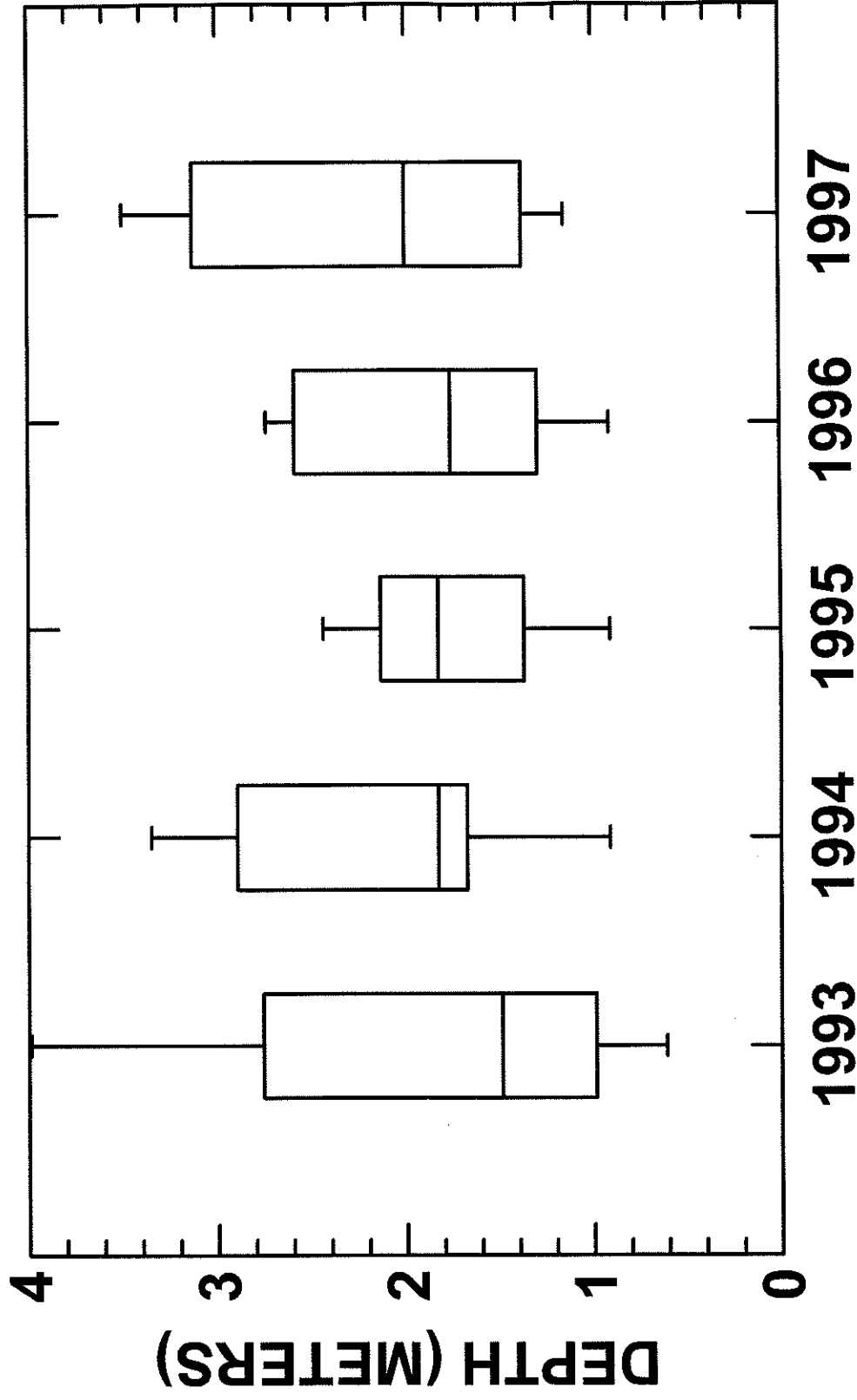


Figure 3. Quartile distribution of the sample depths in Terra Ceia Bay, 1993-1997. Horizontal mid-line represents the median value and hinges represent the 25th and 75th percentiles.

TERRA CEIA BAY

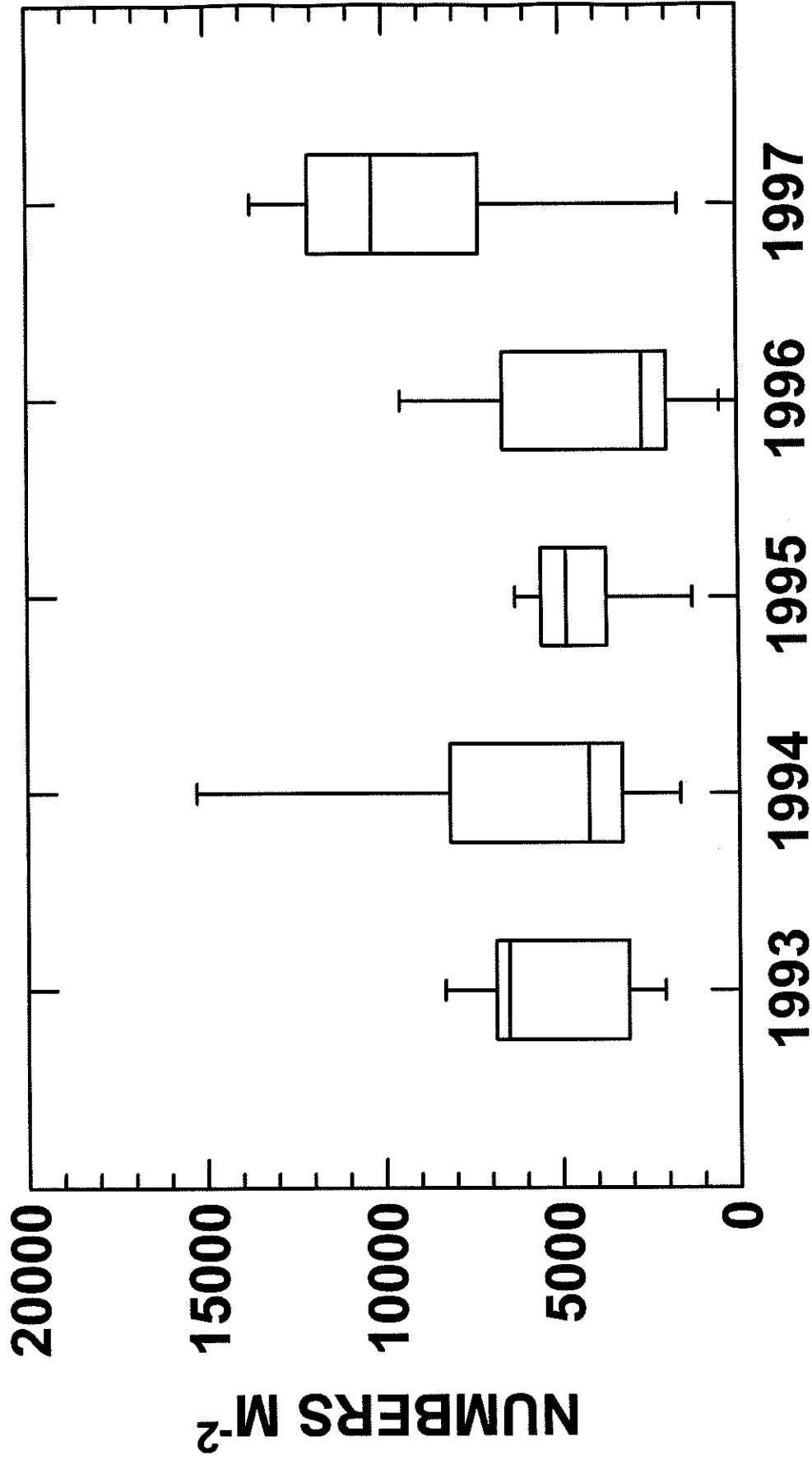


Figure 4. Quartile distribution of total abundance of benthic macroinvertebrates in Terra Ceia Bay, 1993-1997. Horizontal mid-line represents the median value and hinges represent the 25th and 75th percentiles.

TERRA CEIA BAY 1993-1997

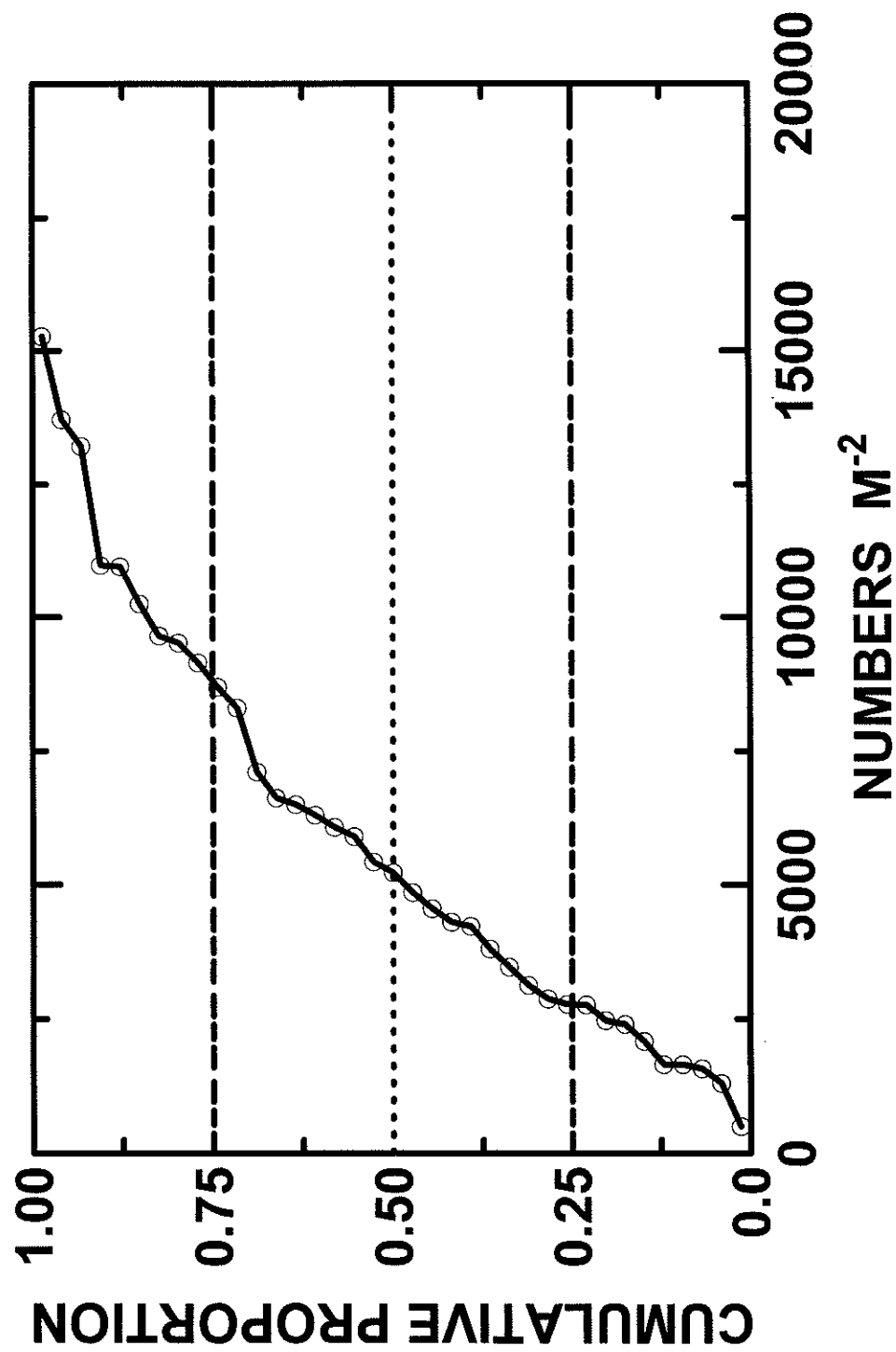


Figure 5. Cumulative frequency distribution of total abundance of benthic macroinvertebrates in Terra Ceia Bay, 1993-1997.

TERRA CEIA BAY

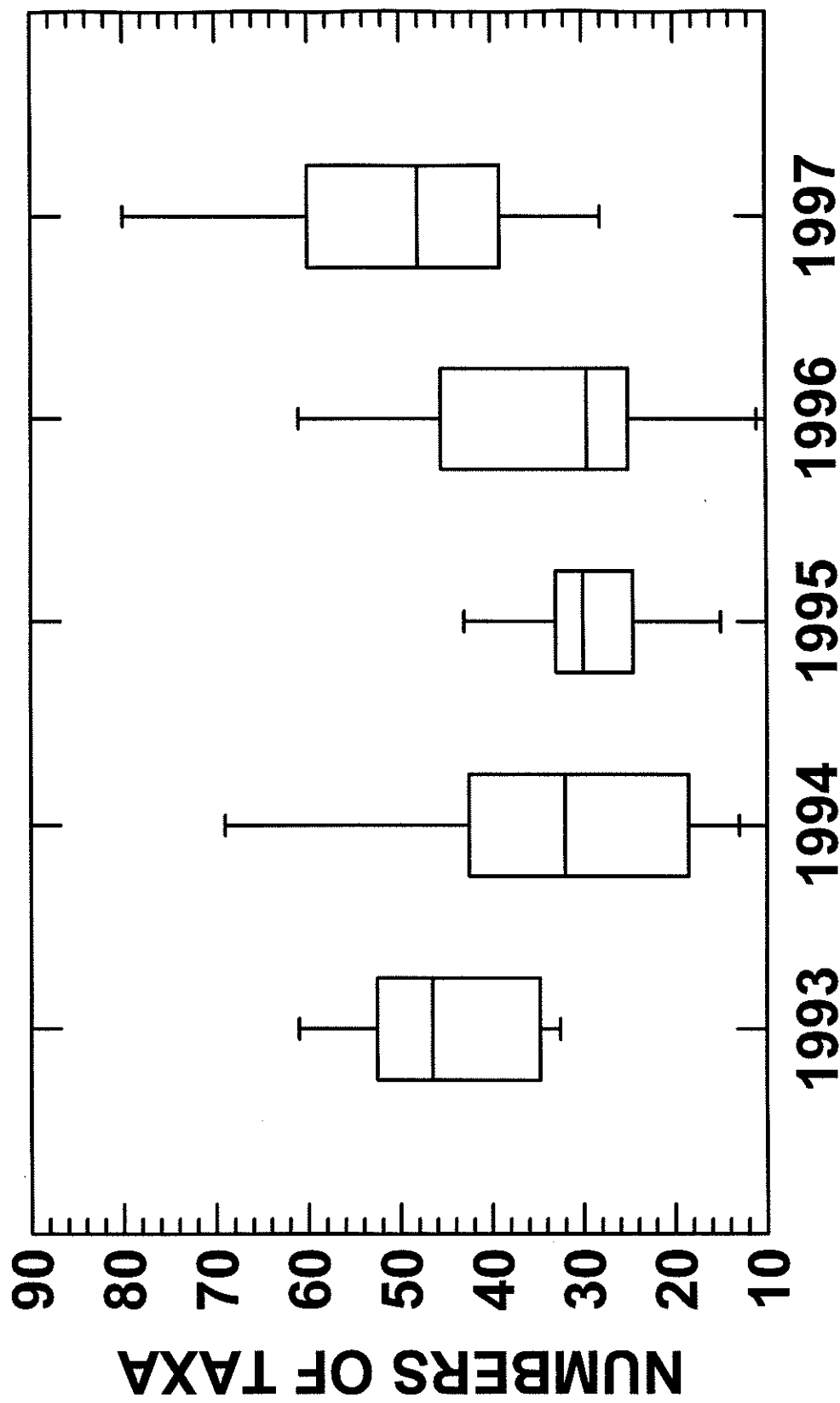


Figure 6. Quartile distribution of numbers of taxa of benthic macroinvertebrates in Terra Ceia Bay, 1993-1997. Horizontal mid-line represents the median value and hinges represent the 25th and 75th percentiles.

TERRA CEIA BAY 1993-1997

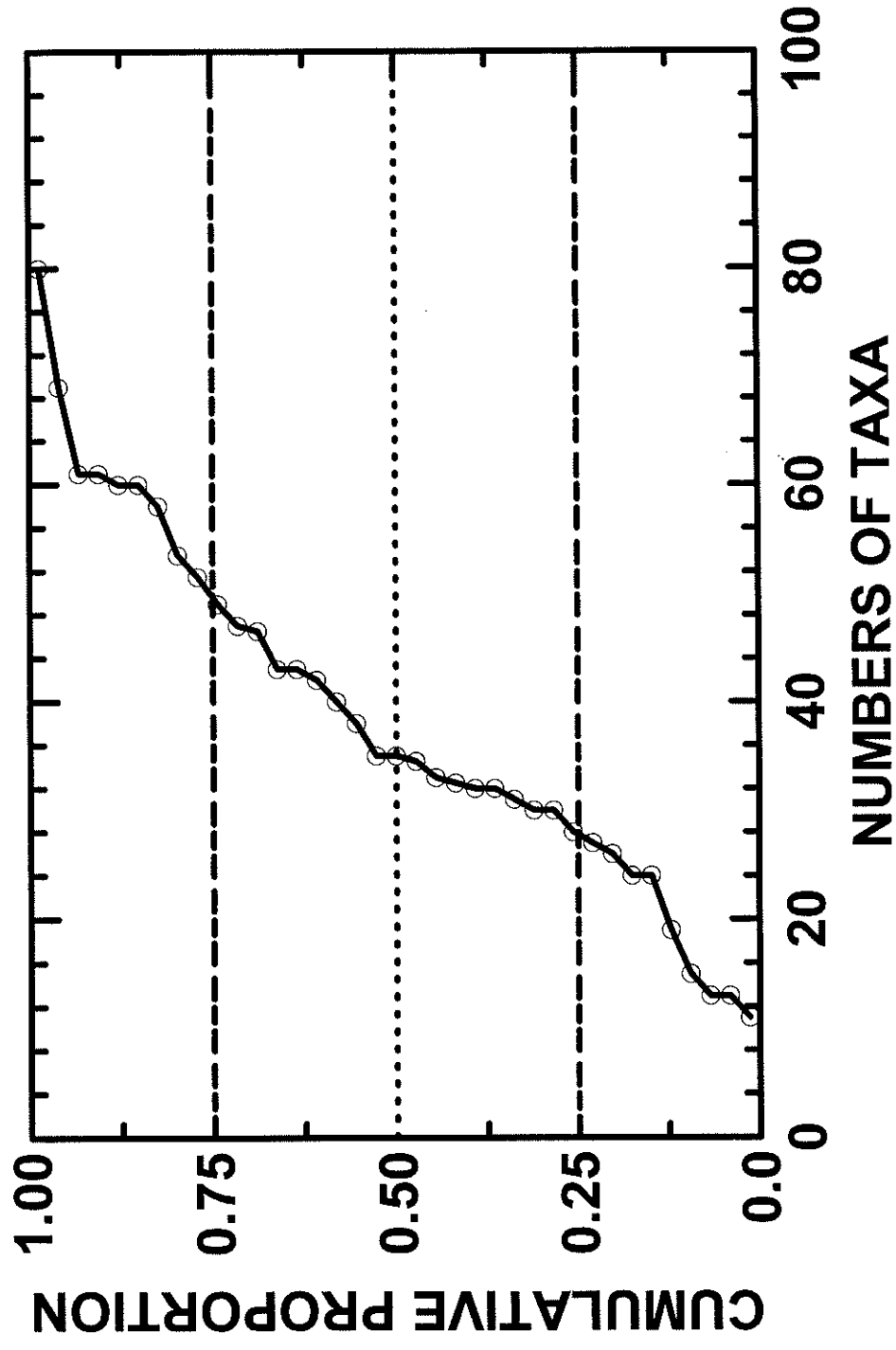


Figure 7. Cumulative frequency distribution of numbers of benthic macroinvertebrate taxa in Terra Ceia Bay, 1993-1997.

TERRA CEIA BAY

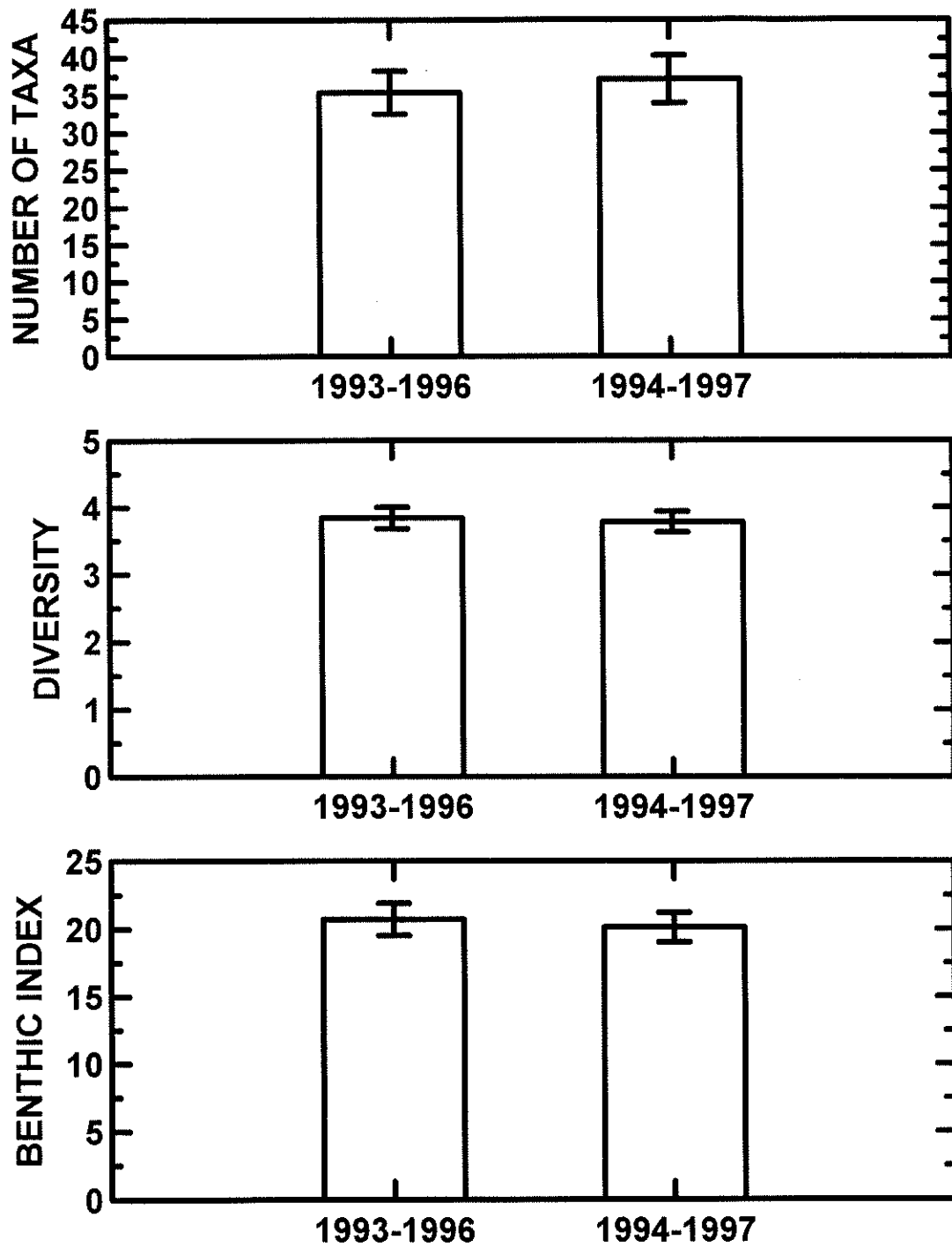


Figure 8. Four-year moving averages of mean (standard error) numbers of taxa, Shannon-Wiener diversity, and the Tampa Bay Benthic Index: Terra Ceia Bay 1993-1996 and 1994-1997.

TERRA CEIA BAY

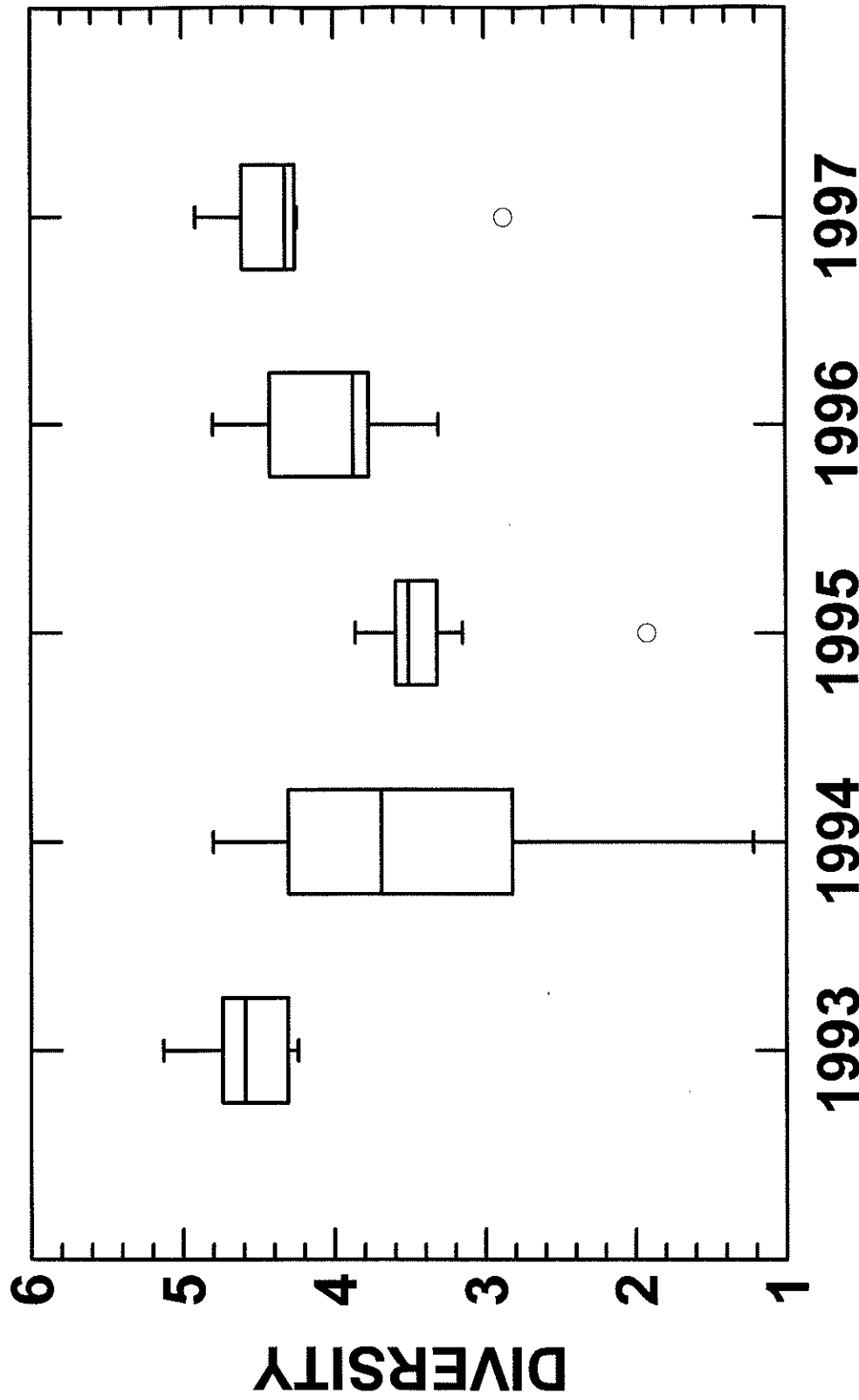


Figure 9. Quartile distribution of Shannon-Wiener diversity of benthic macroinvertebrates in Terra Ceia Bay, 1993-1997. Horizontal mid-line represents the median value and hinges represent the 25th and 75th percentiles.

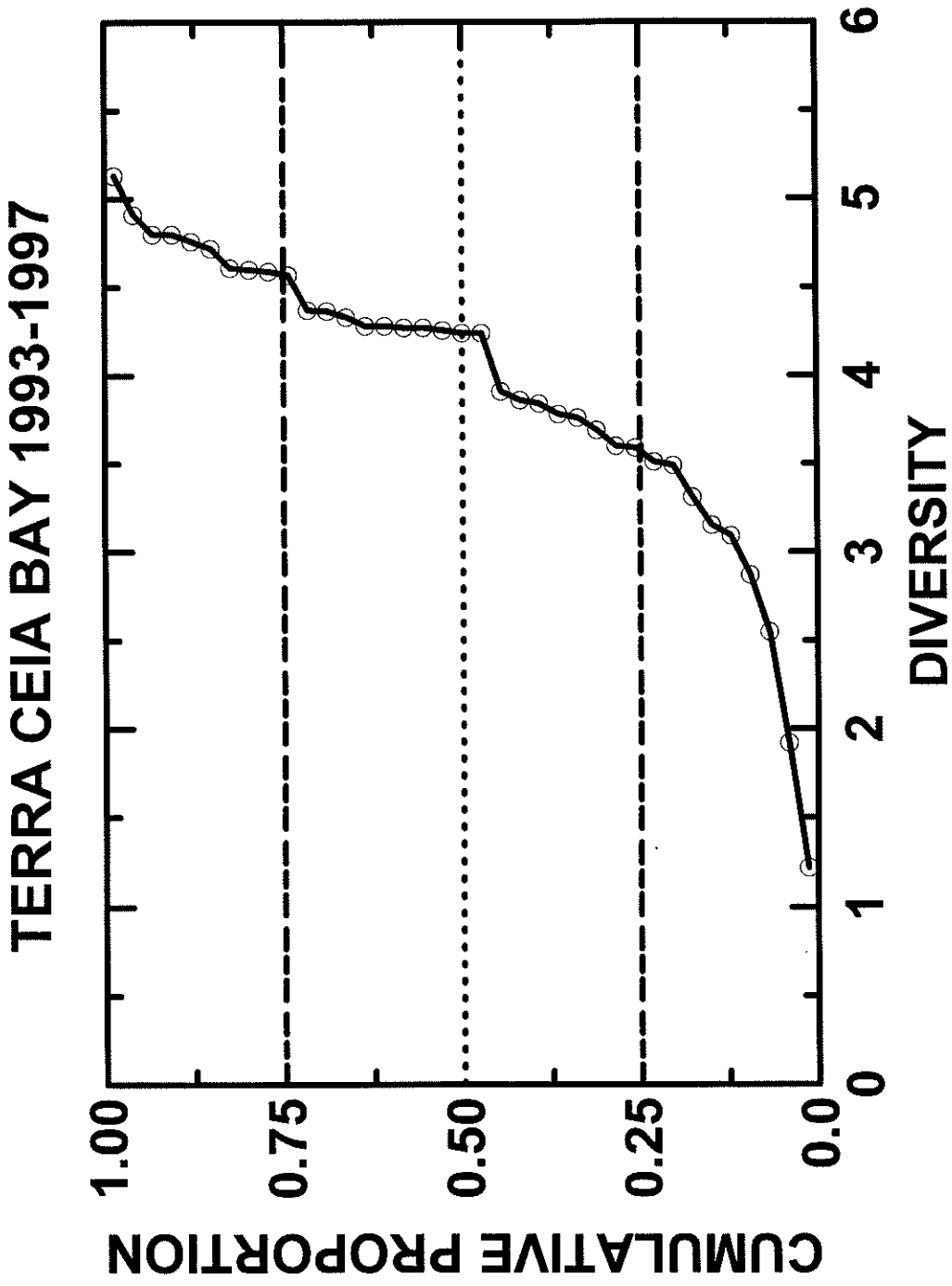


Figure 10. Cumulative frequency distribution of Shannon-Wiener diversity of benthic macroinvertebrates in Terra Ceia Bay, 1993-1997.

TERRA CEIA BAY

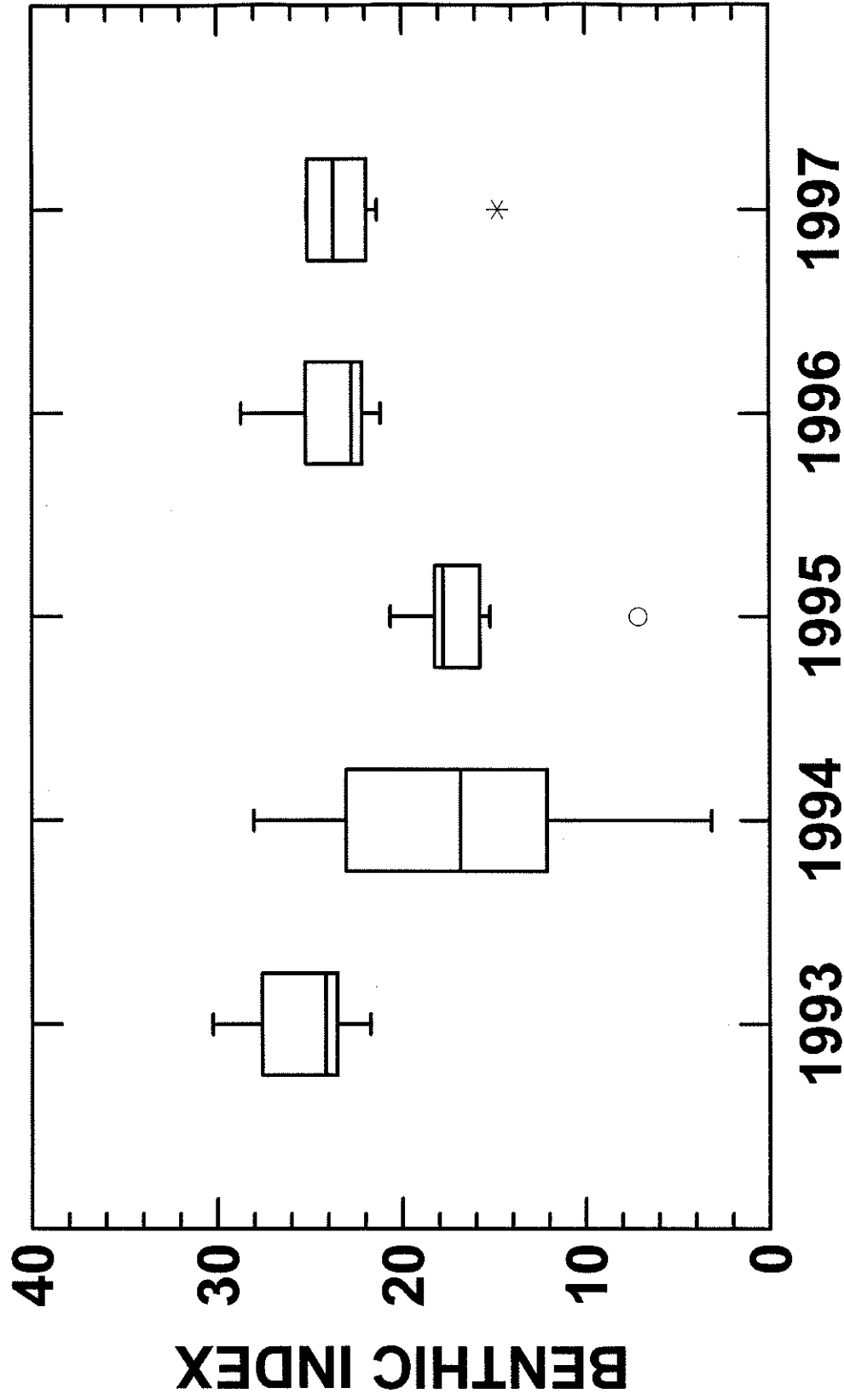


Figure 11. Quartile distribution of the Tampa Bay Benthic Index in Terra Ceia Bay, 1993-1997. Horizontal mid-line represents the median value and hinges represent the 25th and 75th percentiles.

TERRA CEIA BAY 1993-1997

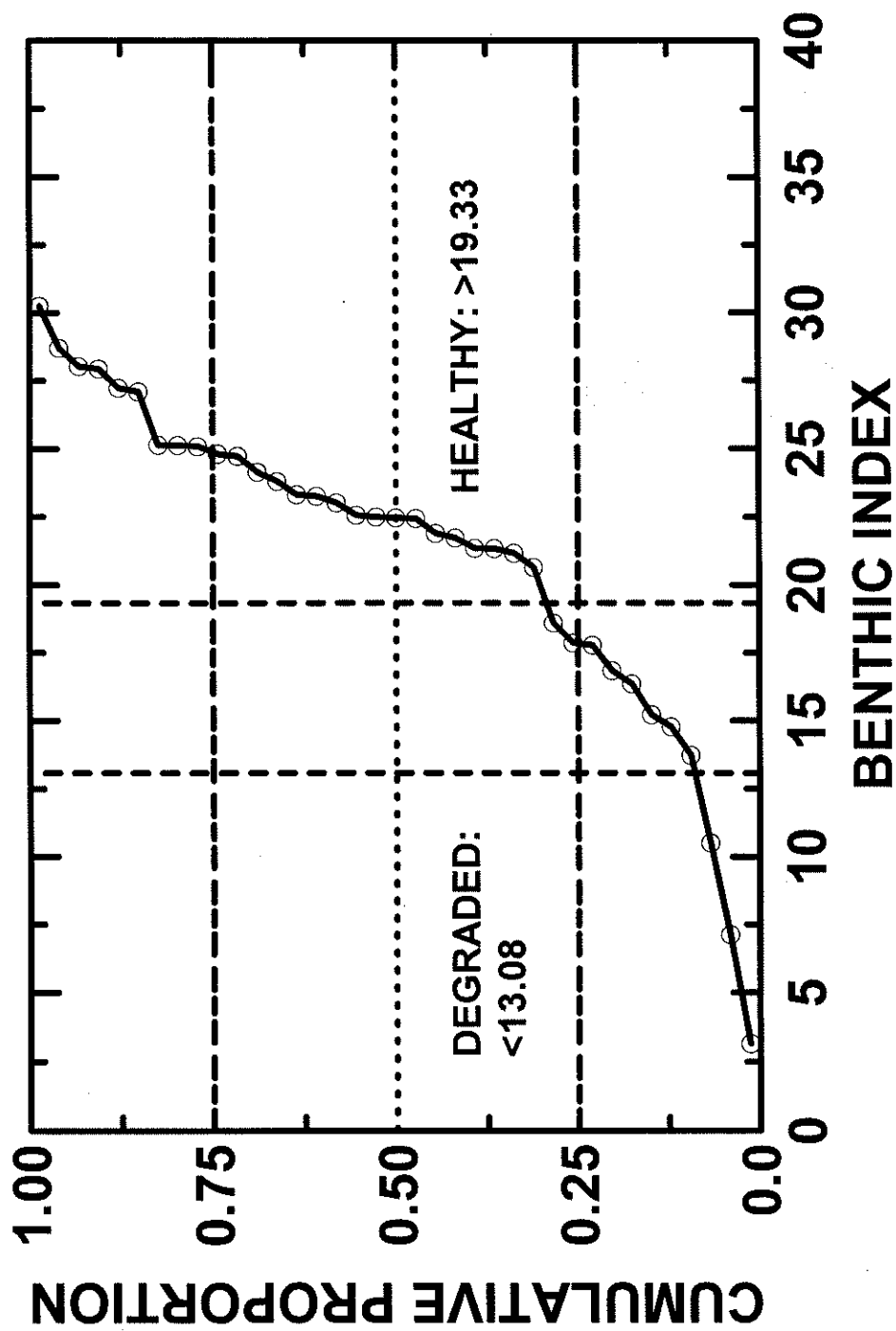


Figure 12. Cumulative frequency distribution of the Tampa Bay Benthic Index in Terra Ceia Bay, 1993-1997. Index scores <13.08 are considered diagnostic of "degraded" benthic habitat, and scores >19.33 are diagnostic of "healthy" habitat.

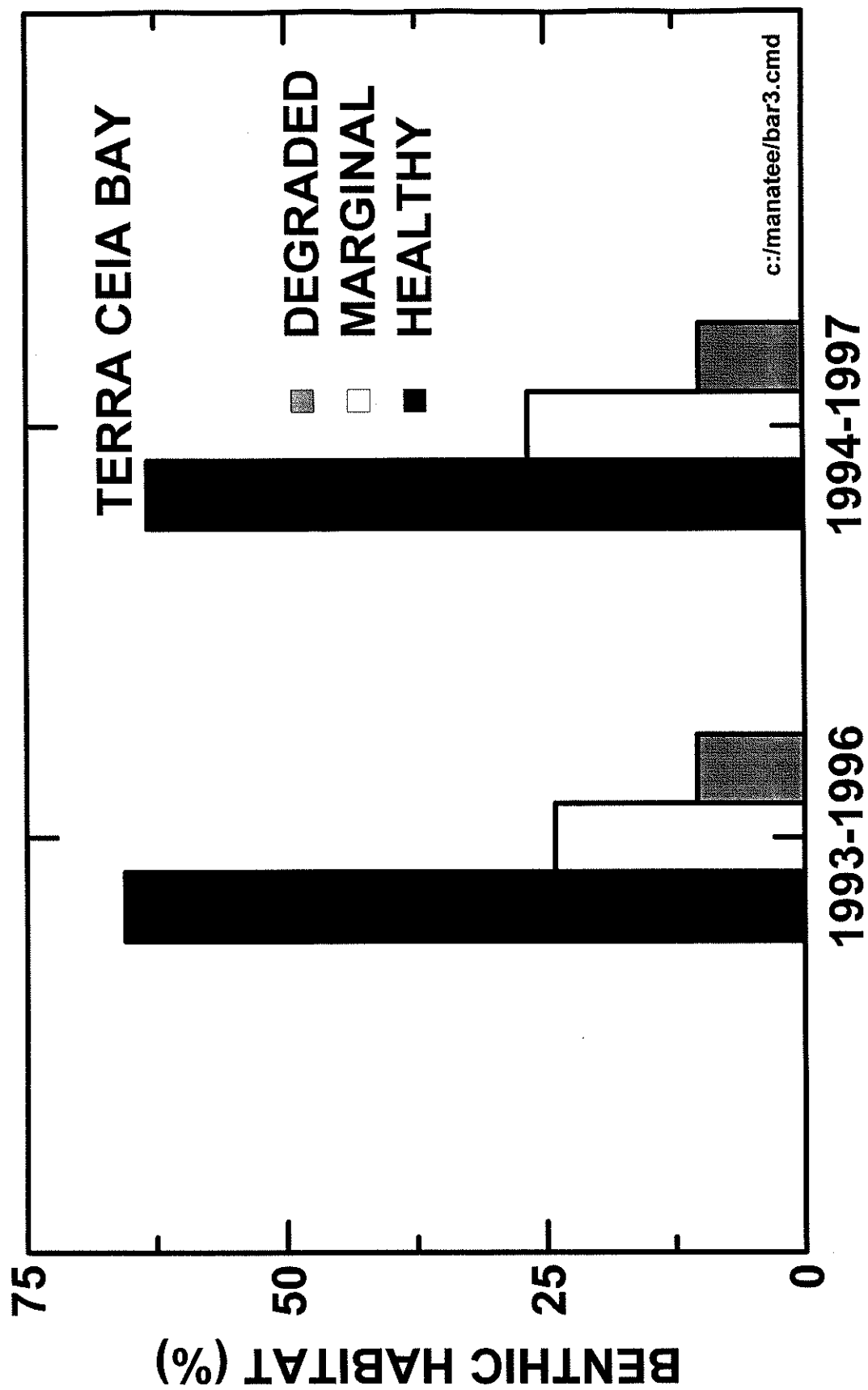


Figure 13. Four-year moving averages of the mean percent of "degraded", "marginal", and "healthy" benthic habitat, based upon the Tampa Bay Benthic Index, in Terra Ceia Bay: 1993-1996 and 1994-1997.

TERRA CEIA BAY: 1993-1997

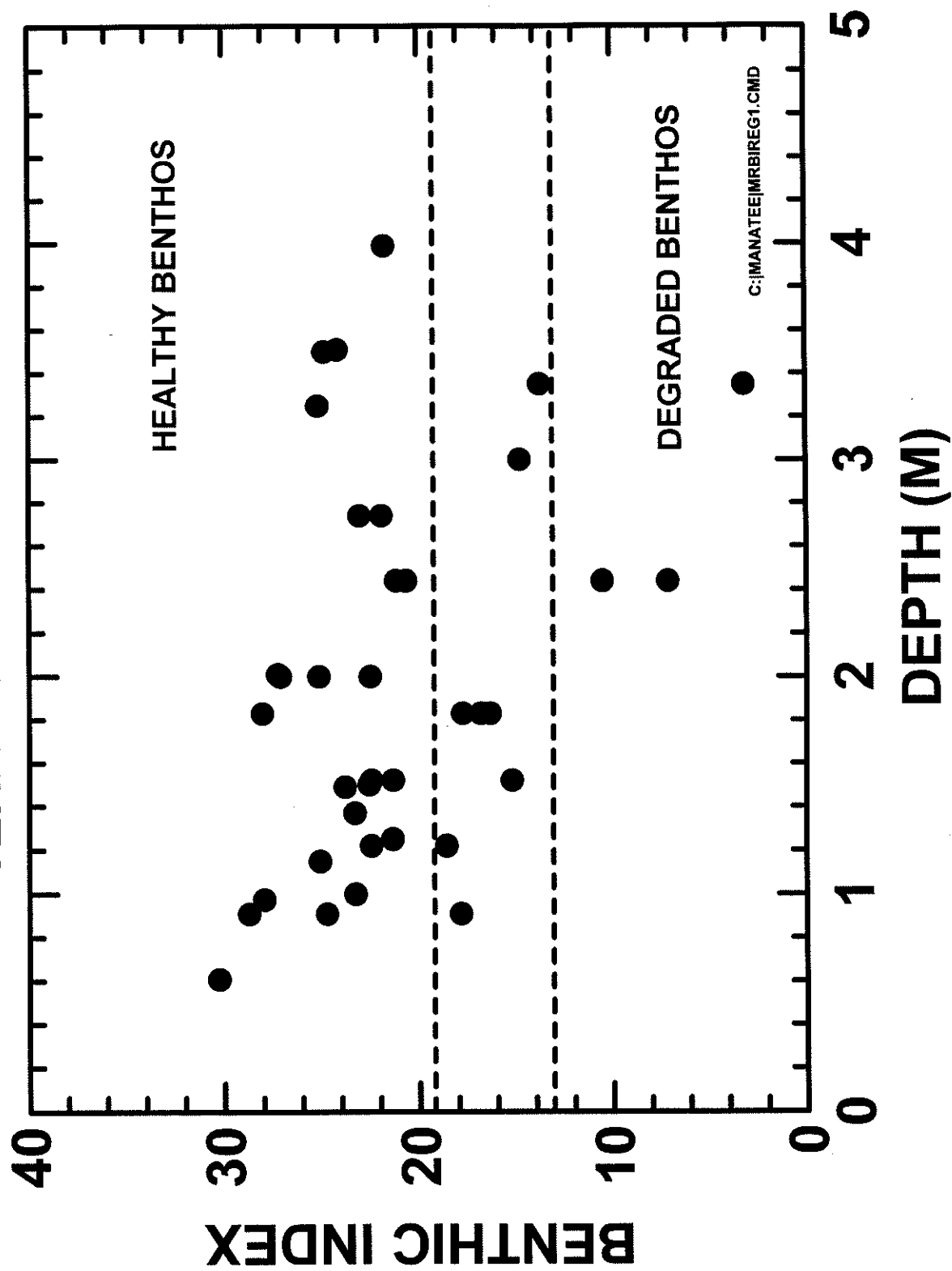


Figure 14. Association between the Tampa Bay Benthic Index and sample depth, in Terra Ceia Bay: 1993-1997.

TERRA CEIA BAY: 1993-1997

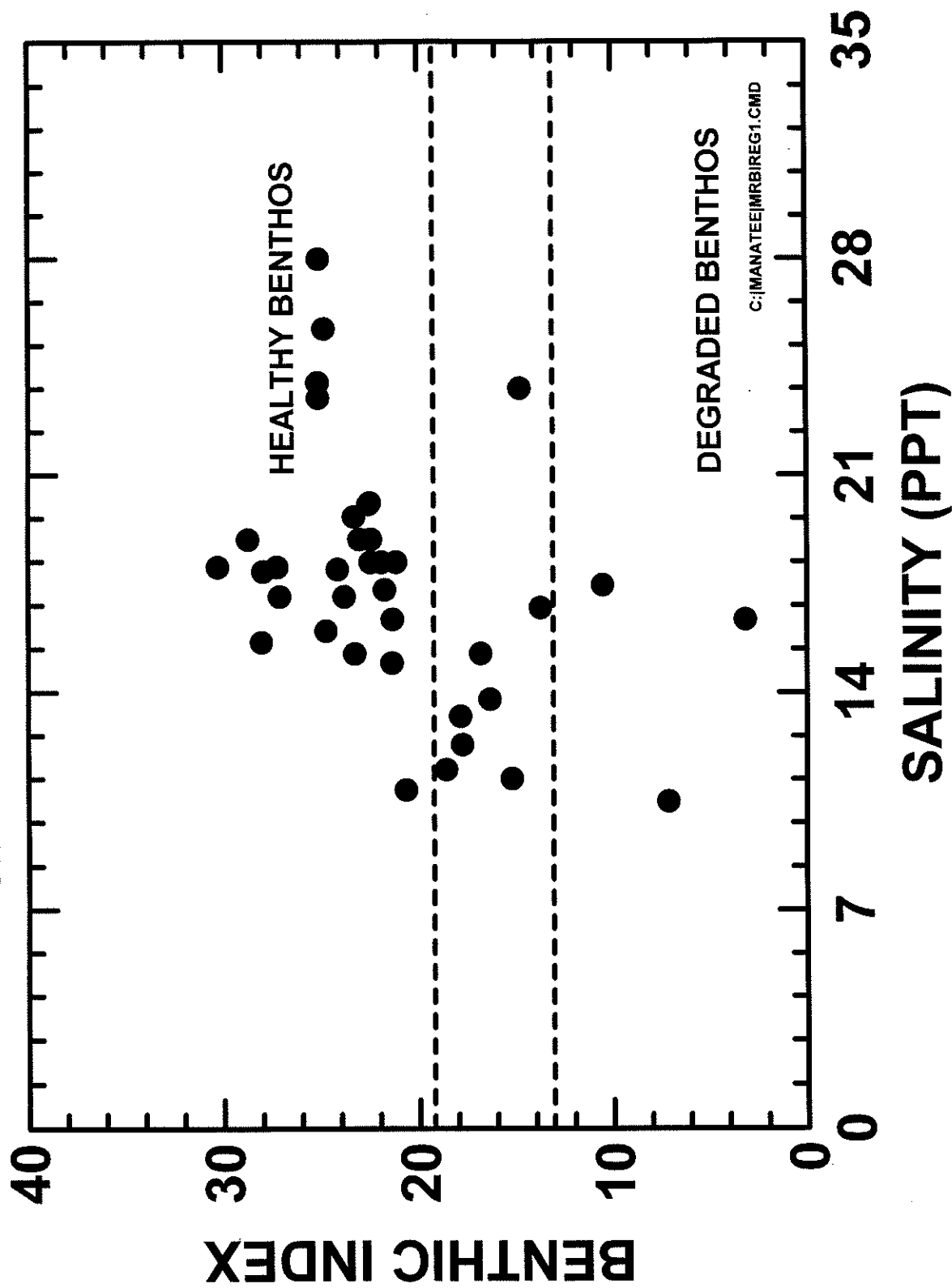


Figure 15. Association between the Tampa Bay Benthic Index and salinity, in Terra Ceia Bay: 1993-1997.

TERRA CEIA BAY: 1993-1997

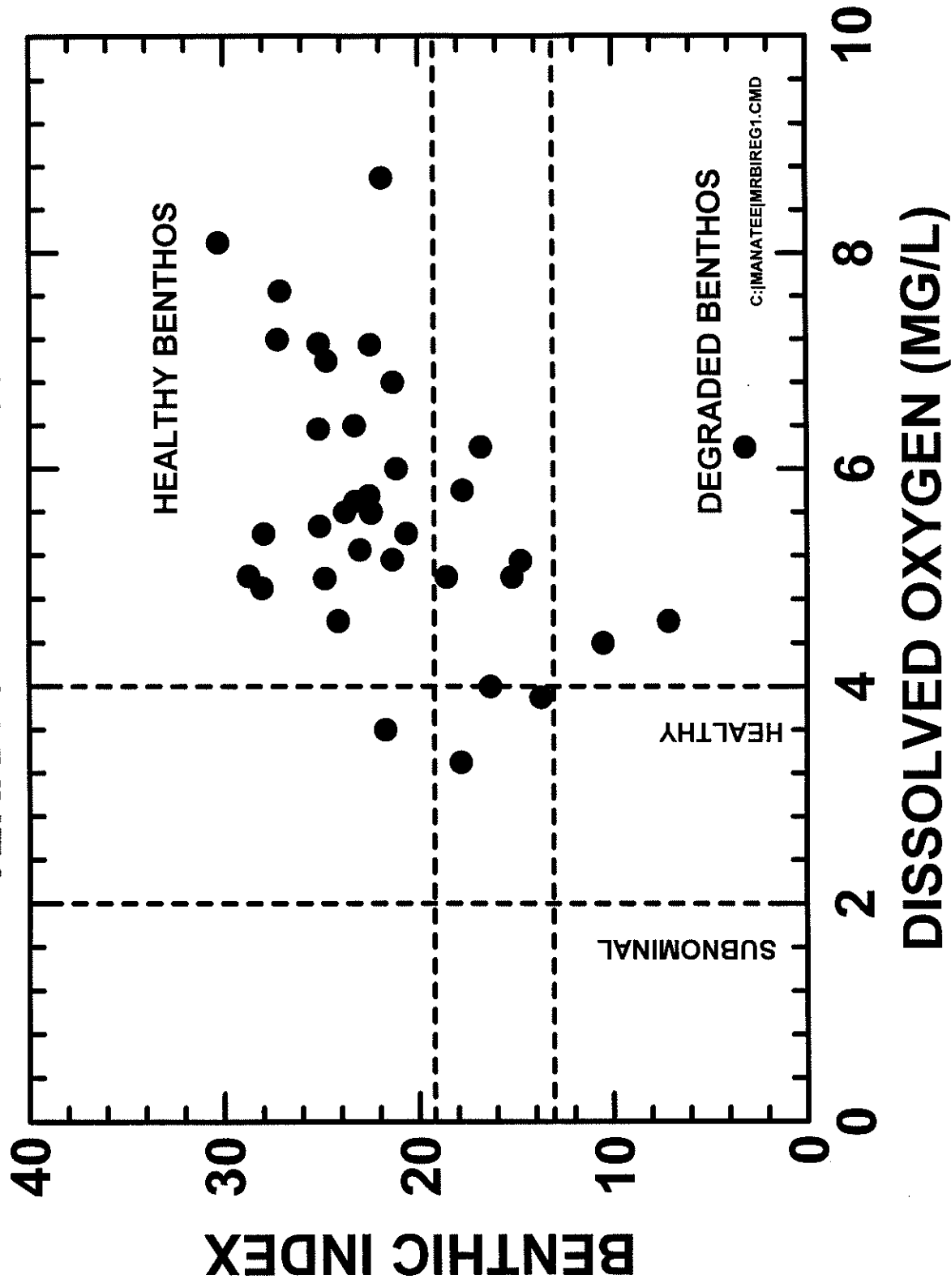


Figure 16. Association between the Tampa Bay Benthic Index and dissolved oxygen, in Terra Ceia Bay: 1993-1997.

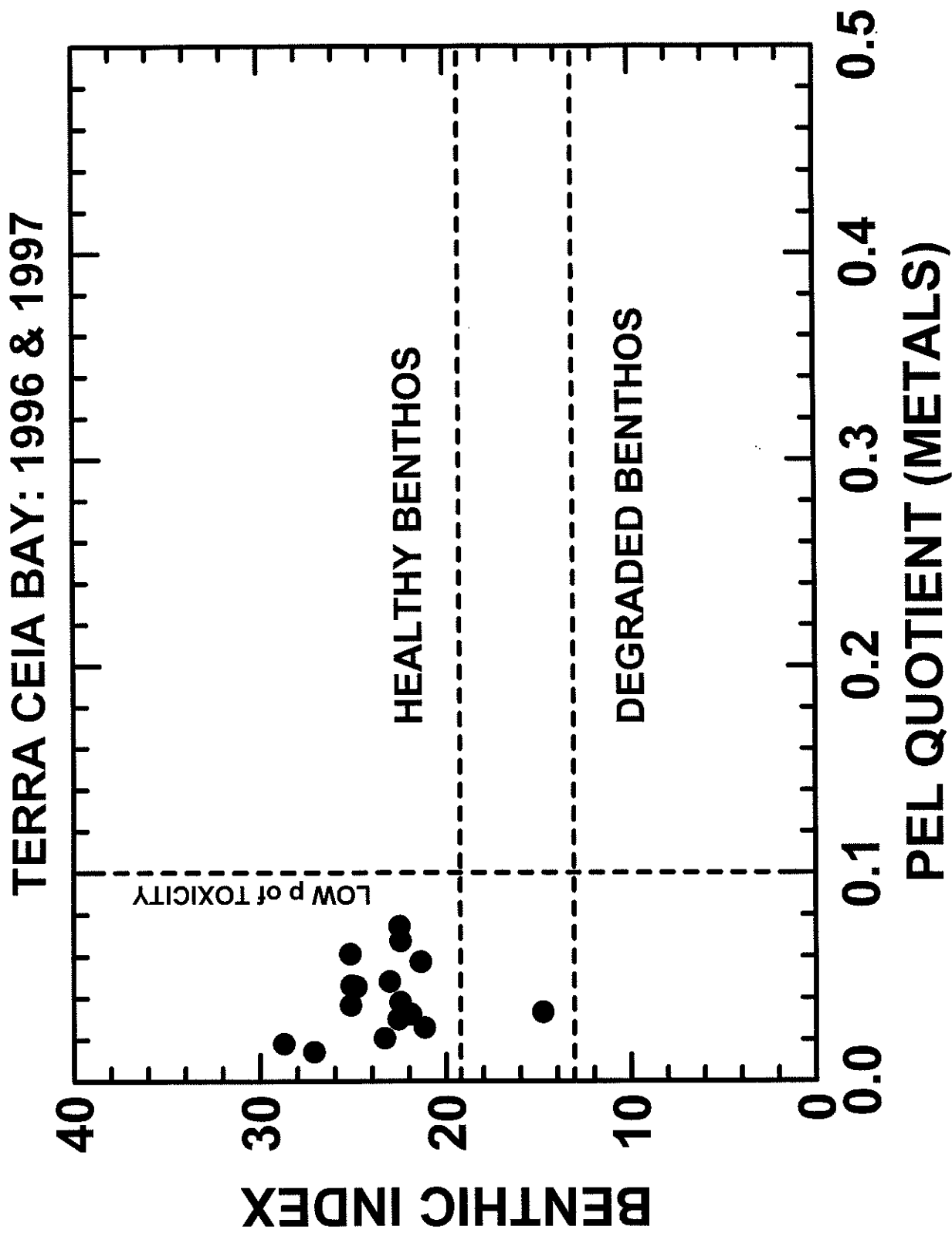


Figure 17. Association between the Tampa Bay Benthic Index and the PEL quotient for trace metals, in Terra Ceia Bay: 1993-1997.

APPENDIX A
TERRA CEIA BAY BENTHOS: 1997
STATION DATA

1997 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)

Project =1997 TAMPA BAY BENTHOS
 Location =TERRA CEIA BAY
 Date =OCT 97
 Name =97TCB01

Sample Characteristics

Number of Species : 60
 Density of All Species : 13225.00 /M2
 Diversity (Hprime -log base 2) : 4.61
 Evenness (Hprime/Hmax) : 0.78

Taxa	Observed	Percentage
Nemertea N	75.00	0.57
Polynoidae	25.00	0.19
Sthenelais sp. A	50.00	0.38
Hypereteone heteropoda	25.00	0.19
Exogone dispar	25.00	0.19
Sphaerosyllis labyrinthophila	25.00	0.19
Ceratonereis irritabilis	25.00	0.19
Glycinde solitaria	125.00	0.95
Aricidea taylori	25.00	0.19
Apoprionospio pygmaea	25.00	0.19
Paraprionospio pinnata	175.00	1.32
Spiochaetopterus costarum	75.00	0.57
Monticellina dorsobranchialis	450.00	3.40
Chaetozone	25.00	0.19
Mediomastus californiensis	125.00	0.95
Sabaco americanus	75.00	0.57
Pectinaria gouldii	100.00	0.76
Isolda pulchella	25.00	0.19
Megalomma sp.	25.00	0.19
Tubificidae	150.00	1.13
Tubificoides wasselli	200.00	1.51
Caecum pulchellum	25.00	0.19
Microeulima hemphilli	25.00	0.19
Crepidula plana	25.00	0.19
Parvanachis obesa	25.00	0.19
Jaspidella blanesi	225.00	1.70
Prunum apicinum	25.00	0.19
Eulimastoma weberi	950.00	7.18
Turbonilla sp.	25.00	0.19
Turbonilla conradi	25.00	0.19
Turbonilla cf. dalli	50.00	0.38
Cephalapsidea sp.	25.00	0.19
Rictaxis punctostriatus	50.00	0.38
Acteocina canaliculata	1000.00	7.56
Haminoea elegans	850.00	6.43
Opisthobranchia	575.00	4.35

1997 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)

Project =1997 TAMPA BAY BENTHOS
 Location =TERRA CEIA BAY
 Date =OCT 97
 Name =97TCB01-contd.

Taxa	Observed	Percentage
<i>Bivalvia</i>	150.00	1.13
<i>Amygdalum papyrium</i>	50.00	0.38
<i>Mysella planulata</i>	225.00	1.70
<i>Laevicardium mortoni</i>	225.00	1.70
<i>Tracycardium egmontianum</i>	25.00	0.19
<i>Mulinia lateralis</i>	2100.00	15.88
<i>Tellina</i> sp.	300.00	2.27
<i>Tellina versicolor</i>	50.00	0.38
<i>Tagelus divisus</i>	200.00	1.51
<i>Parastarte triquetra</i>	25.00	0.19
<i>Sphenia antillensis</i>	25.00	0.19
<i>Lyonsia hyalina floridana</i>	275.00	2.08
<i>Asthenothaerus hemphilli</i>	25.00	0.19
<i>Cirripedia</i>	25.00	0.19
<i>Oxyurostylis smithi</i>	150.00	1.13
<i>Cyclaspis</i> cf. <i>varians</i>	750.00	5.67
<i>Amakusanthura magnifica</i>	50.00	0.38
<i>Edotia triloba</i>	350.00	2.65
<i>Ampelisca holmesi</i>	450.00	3.40
<i>Ampelisca</i> sp. <i>C</i>	25.00	0.19
<i>Cerapus</i> sp. <i>C</i> ("tubularis")	325.00	2.46
<i>Erichthonius brasiliensis</i>	25.00	0.19
<i>Grandidierella bonnieroides</i>	125.00	0.95
<i>Sipuncula</i>	100.00	0.76
<i>Phascolion crypta</i>	1300.00	9.83
<i>Phoronis ?architecta</i>	25.00	0.19
<i>Glottidia pyramidata</i>	25.00	0.19
<i>Ophiuroidea</i>	25.00	0.19
<i>Branchiostoma floridae</i>	50.00	0.38

1997 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)

Project =1997 TAMPA BAY BENTHOS
 Location =TERRA CEIA BAY
 Date =OCT 97
 Name =97TCB02

Sample Characteristics

Number of Species : 49
 Density of All Species : 10950.00 /M2
 Diversity (Hprime -log base 2) : 4.27
 Evenness (Hprime/Hmax) : 0.76

Taxa	Observed	Percentage
<i>Podarkeopsis levifusca</i>	50.00	0.46
<i>Exogone dispar</i>	125.00	1.14
<i>Exogone atlantica</i>	25.00	0.23
<i>Sphaerosyllis labyrinthophila</i>	25.00	0.23
<i>Laeonereis culveri</i>	300.00	2.74
<i>Glycera americana</i>	50.00	0.46
<i>Diopatra cuprea</i>	75.00	0.68
<i>Kinbergonuphis simoni</i>	1100.00	10.05
<i>Aricidea philbinae</i>	1075.00	9.82
<i>Polydora cornuta</i>	325.00	2.97
<i>Prionospio heterobranchia</i>	100.00	0.91
<i>Apoprionospio pygmaea</i>	25.00	0.23
<i>Streblospio benedicti</i>	2425.00	22.15
<i>Scolecopsis texana</i>	75.00	0.68
<i>Magelona pettiboneae</i>	425.00	3.88
<i>Monticellina dorsobranchialis</i>	275.00	2.51
<i>Capitella capitata</i>	75.00	0.68
<i>Mediomastus californiensis</i>	175.00	1.60
<i>Pectinaria gouldii</i>	25.00	0.23
<i>Melinna maculata</i>	125.00	1.14
<i>Tubificidae</i>	350.00	3.20
<i>Tubificoides wasselli</i>	350.00	3.20
<i>Gastropoda</i>	25.00	0.23
<i>Bittium varium</i>	225.00	2.05
<i>Crepidula maculosa</i>	25.00	0.23
<i>Astris lunulata</i>	25.00	0.23
<i>Granulina hadria</i>	50.00	0.46
<i>Stellatoma stellata</i>	25.00	0.23
<i>Rictaxis punctostriatus</i>	50.00	0.46
<i>Acteocina canaliculata</i>	25.00	0.23
<i>Haminoea succinea</i>	25.00	0.23
<i>Haminoea antillarum</i>	100.00	0.91
<i>Amygdalum papyrium</i>	50.00	0.46
<i>Oorbitella (=Neaeromya) floridana</i>	125.00	1.14
<i>Laevicardium mortoni</i>	50.00	0.46
<i>Macoma tenta</i>	25.00	0.23
<i>Tellina sp.</i>	25.00	0.23
<i>Tellina versicolor</i>	75.00	0.68
<i>Sphenia antillensis</i>	50.00	0.46

1997 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)

Project =1997 TAMPA BAY BENTHOS
 Location =TERRA CEIA BAY
 Date =OCT 97
 Name =97TCB02-contd

Taxa	Observed	Percentage
<i>Oxyurostylis lecroyae</i>	25.00	0.23
<i>Leptochelia</i>	150.00	1.37
<i>Amakusanthura magnifica</i>	50.00	0.46
<i>Paracerceis caudata</i>	25.00	0.23
<i>Erichsonella attenuata</i>	25.00	0.23
<i>Ampelisca vadorum</i>	175.00	1.60
<i>Ampelisca holmesi</i>	400.00	3.65
<i>Cymadusa compta</i>	1025.00	9.36
<i>Paramicrodeutopus cf. myersi</i>	25.00	0.23
<i>Grandidierella bonnieroides</i>	400.00	3.65
<i>Pagurus</i>	25.00	0.23
<i>Xanthidae</i>	50.00	0.46
<i>Phascolion crypta</i>	25.00	0.23

1997 TERRA CEIA BAY BENTHOS (RUN DATE 8 Sept 98)

Project =1997 TAMPA BAY BENTHOS
 Location =TERRA CEIA BAY
 Date =OCT 97
 Name =97TCB03

Sample Characteristics

Number of Species : 80
 Density of All Species : 13725.00 /M2
 Diversity (Hprime -log base 2) : 4.91
 Evenness (Hprime/Hmax) : 0.78

Taxa	Observed	Percentage
Actiniaria	25.00	0.18
Nemertea N	50.00	0.36
Nemertea I	25.00	0.18
Nemertea K	125.00	0.91
Nemertea B	50.00	0.36
Bhawania heteroseta	25.00	0.18
Nereiphylla castanea	25.00	0.18
Phyllodoce arenae	100.00	0.73
Podarkeopsis levifuscina	75.00	0.55
Ancistrosyllis jonesi	25.00	0.18
Pionosyllis nr. ehlersiaeformis(?)	75.00	0.55
Syllis cornuta	75.00	0.55
Exogone dispar	675.00	4.92
Sphaerosyllis aciculata	75.00	0.55
Sphaerosyllis taylori	25.00	0.18
Sphaerosyllis labyrinthophila	275.00	2.00
Grubeosyllis (Brania) clavata	50.00	0.36
Brania wellfleetensis	100.00	0.73
Streptosyllis pettiboneae	100.00	0.73
Glycinde solitaria	25.00	0.18
Goniadides carolinae	600.00	4.37
Mooreonuphis sp.	100.00	0.73
Lumbrineris latreilli	25.00	0.18
Lumbrineris sp. D	50.00	0.36
Arabella multidentata	50.00	0.36
Schistomeringos cf. rudolphi	50.00	0.36
Aricidea philbinae	25.00	0.18
Aricidea taylori	250.00	1.82
Cirrophorus	800.00	5.83
Prionospio heterobranchia	75.00	0.55
Prionospio steenstrupi	25.00	0.18
Prionospio perkinsi	50.00	0.36
Spio pettiboneae	175.00	1.28
Paraprionospio pinnata	25.00	0.18
Cirratulidae	200.00	1.46
Caulleriella cf. alata	600.00	4.37
Caulleriella zetlandica	275.00	2.00
Monticellina dorsobranchialis	675.00	4.92
Armandia maculata	175.00	1.28
Travisia hobsonae	25.00	0.18
Mediomastus	75.00	0.55
Mediomastus californiensis	650.00	4.74

Project =1997 TAMPA BAY BENTHOS
 Location =TERRA CEIA BAY
 Date =OCT 97
 Name =97TCB03-continued

Taxa	Observed	Percentage
Maldanidae	50.00	0.36
Axiiothella mucosa	300.00	2.19
Pectinaria gouldii	25.00	0.18
Isolda pulchella	100.00	0.73
Chone sp.	50.00	0.36
Fabricinuda trilobata	50.00	0.36
Enchytraeidae	2150.00	15.66
Tubificidae	550.00	4.01
Tubificoides wasselli	1075.00	7.83
Gastropoda	50.00	0.36
Crepidula	25.00	0.18
Nassarius vibex	25.00	0.18
Jaspidella blanesi	50.00	0.36
Granulina hadria	25.00	0.18
Rictaxis punctostriatus	25.00	0.18
Mysella planulata	50.00	0.36
Erycina floridana (=Mysella A)	25.00	0.18
Laevicardium mortoni	50.00	0.36
Mulinia lateralis	25.00	0.18
Tagelus divisus	25.00	0.18
Transennella conradina	25.00	0.18
Lyonsia hyalina floridana	50.00	0.36
Cirripedia	150.00	1.09
Americamysis bigelowi	500.00	3.64
Americamysis stucki	25.00	0.18
Cyclaspis cf. varians	75.00	0.55
Kalliapseudes sp. A	25.00	0.18
Amakusanthura magnifica	75.00	0.55
Ampelisca holmesi	25.00	0.18
Ampelisca sp. C	50.00	0.36
Bemlos unifasciatus	25.00	0.18
Rudilemboides naglei	75.00	0.55
Grandidierella bonnieroides	125.00	0.91
Listriella barnardi	25.00	0.18
Monoculodes nyei	25.00	0.18
Ambidexter symmetricus	75.00	0.55
Pagurus	25.00	0.18
Upogebia	100.00	0.73
Brachyura	25.00	0.18
Pinnixa spp.	25.00	0.18
Pinnixa cf. floridana	25.00	0.18
Phascolion crypta	50.00	0.36
Branchiostoma floridae	425.00	3.10

1997 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)

Project =1997 TAMPA BAY BENTHOS
 Location =TERRA CEIA BAY
 Date =OCT 97
 Name =97TCB04

Sample Characteristics

Number of Species : 40
 Density of All Species : 5425.00 /M2
 Diversity (Hprime -log base 2) : 4.27
 Evenness (Hprime/Hmax) : 0.80

Taxa	Observed	Percentage
Athenaria	50.00	0.92
Nemertea N	50.00	0.92
Nemertea K	25.00	0.46
Sthenelais sp. A	50.00	0.92
Glycinde solitaria	25.00	0.46
Prionospio perkinsi	50.00	0.92
Paraprionospio pinnata	50.00	0.92
Carazziella hobsonae	300.00	5.53
Monticellina dorsobranchialis	125.00	2.30
Chaetozone	50.00	0.92
Mediomastus californiensis	175.00	3.23
Tubificoides wasselli	25.00	0.46
Teinostoma sp.	25.00	0.46
Nassarius vibex	50.00	0.92
Jaspidella blanesi	75.00	1.38
Eulimastoma sp.	25.00	0.46
Turbonilla interrupta	25.00	0.46
Turbonilla conradi	350.00	6.45
Acteocina canaliculata	50.00	0.92
Haminoea succinea	1000.00	18.43
Bivalvia	150.00	2.76
Nucula crenulata	50.00	0.92
Laevicardium mortoni	125.00	2.30
Mulinia lateralis	25.00	0.46
Macoma tenta	100.00	1.84
Tellina sp.	200.00	3.69
Tellina versicolor	75.00	1.38
Tagelus divisus	425.00	7.83
Chione cancellata	25.00	0.46
Lyonsia hyalina floridana	125.00	2.30
Oxyurostylis	350.00	6.45
Oxyurostylis smithi	275.00	5.07
Cyclaspis cf. varians	525.00	9.68
Edotia triloba	25.00	0.46
Ampelisca holmesi	150.00	2.76
Bemlos unifasciatus	25.00	0.46
Paramicrodeutopus cf. myersi	50.00	0.92
Cerapus sp. C (= "tubularis")	25.00	0.46
Pinnixa spp.	25.00	0.46
Phascolion crypta	25.00	0.46
Ophiuroidea	25.00	0.46
Amphiplosis sepultus (=abditus)	25.00	0.46
Branchiostoma floridae	25.00	0.46

1997 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)

Project =1997 TAMPA BAY BENTHOS
 Location =TERRA CEIA BAY
 Date =OCT 97
 Name =97TCB05

Sample Characteristics

Number of Species : 38
 Density of All Species : 10975.00 /M2
 Diversity (Hprime -log base 2) : 2.87
 Evenness (Hprime/Hmax) : 0.55

Taxa	Observed	Percentage
<i>Nemertea N</i>	25.00	0.23
<i>Nemertea F</i>	100.00	0.91
<i>Nemertea K</i>	25.00	0.23
<i>Malmgreniella taylori</i>	25.00	0.23
<i>Sthenelais sp. A</i>	50.00	0.46
<i>Neanthes succinea</i>	25.00	0.23
<i>Glycinde solitaria</i>	100.00	0.91
<i>Aricidea taylori</i>	75.00	0.68
<i>Apoprionospio pygmaea</i>	25.00	0.23
<i>Prionospio perkinsi</i>	175.00	1.59
<i>Spio pettiboneae</i>	25.00	0.23
<i>Paraprionospio pinnata</i>	600.00	5.47
<i>Monticellina dorsobranchialis</i>	50.00	0.46
<i>Mediomastus californiensis</i>	100.00	0.91
<i>Pectinaria gouldii</i>	50.00	0.46
<i>Tubificoides wasselli</i>	25.00	0.23
<i>Jaspidella blanesi</i>	25.00	0.23
<i>Eulimastoma weberi</i>	25.00	0.23
<i>Turbonilla conradi</i>	275.00	2.51
<i>Rictaxis punctostriatus</i>	75.00	0.68
<i>Acteocina canaliculata</i>	250.00	2.28
<i>Haminoea succinea</i>	100.00	0.91
<i>Amygdalum papyrium</i>	25.00	0.23
<i>Erycina floridana (=Mysella A)</i>	200.00	1.82
<i>Laevicardium mortoni</i>	150.00	1.37
<i>Mulinia lateralis</i>	6250.00	56.95
<i>Macoma tenta</i>	750.00	6.83
<i>Tellina sp.</i>	150.00	1.37
<i>Tagelus divisus</i>	425.00	3.87
<i>Lyonsia hyalina floridana</i>	100.00	0.91
<i>Oxyurostylis smithi</i>	125.00	1.14
<i>Cyclaspis cf. varians</i>	375.00	3.42
<i>Ampelisca holmesi</i>	25.00	0.23
<i>Pinnixa spp.</i>	75.00	0.68
<i>Phascolion crypta</i>	25.00	0.23
<i>Phoronis ?architecta</i>	25.00	0.23
<i>Glottidia pyramidata</i>	25.00	0.23
<i>Micropholis atra</i>	25.00	0.23

1997 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)

Project =1997 TAMPA BAY BENTHOS
 Location =TERRA CEIA BAY
 Date =OCT 97
 Name =97TCB06

Sample Characteristics

Number of Species : 28
 Density of All Species : 1650.00 /M2
 Diversity (Hprime -log base 2) : 4.24
 Evenness (Hprime/Hmax) : 0.88

Taxa	Observed	Percentage
<i>Turbellaria</i>	25.00	1.52
<i>Nemertea N</i>	25.00	1.52
<i>Nemertea F</i>	25.00	1.52
<i>Nemertea K</i>	25.00	1.52
<i>Phyllodoce arenae</i>	25.00	1.52
<i>Glycinde solitaria</i>	25.00	1.52
<i>Apoprionospio pygmaea</i>	75.00	4.55
<i>Prionospio perkinsi</i>	125.00	7.58
<i>Paraprionospio pinnata</i>	25.00	1.52
<i>Monticellina dorsobranchialis</i>	25.00	1.52
<i>Travisia hobsonae</i>	350.00	21.21
<i>Mediomastus californiensis</i>	125.00	7.58
<i>Pectinaria gouldii</i>	25.00	1.52
<i>Tubificidae</i>	75.00	4.55
<i>Tubificoides wasselli</i>	25.00	1.52
<i>Nassarius vibex</i>	25.00	1.52
<i>Prunum apicinum</i>	25.00	1.52
<i>Haminoea succinea</i>	75.00	4.55
<i>Haminoea antillarum</i>	100.00	6.06
<i>Mysella planulata</i>	50.00	3.03
<i>Laevicardium mortoni</i>	25.00	1.52
<i>Mulinia lateralis</i>	50.00	3.03
<i>Tellina sp.</i>	75.00	4.55
<i>Tellina versicolor</i>	25.00	1.52
<i>Tagelus divisus</i>	25.00	1.52
<i>Lyonsia hyalina floridana</i>	25.00	1.52
<i>Listriella barnardi</i>	25.00	1.52
<i>Phascolion crypta</i>	75.00	4.55
<i>Glottidia pyramidata</i>	25.00	1.52
<i>Ophiophragmus filograneus</i>	25.00	1.52

1997 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)

Project =1997 TAMPA BAY BENTHOS
 Location =TERRA CEIA BAY
 Date =OCT 97
 Name =97TCB07

Sample Characteristics

Number of Species : 60
 Density of All Species : 9650.00 /M2
 Diversity (Hprime -log base 2) : 4.60
 Evenness (Hprime/Hmax) : 0.78

Taxa	Observed	Percentage
Actiniaria	25.00	0.26
Nemertea F	25.00	0.26
Nemertea K	125.00	1.30
Polynoidae	50.00	0.52
Malmgreniella taylori	50.00	0.52
Nereiphylla castanea	50.00	0.52
Glycinde solitaria	150.00	1.55
Kinbergonuphis simoni	25.00	0.26
Lumbrineris verrilli	25.00	0.26
Aricidea taylori	100.00	1.04
Prionospio perkinsi	500.00	5.18
Paraprionospio pinnata	200.00	2.07
Streblospio benedicti	50.00	0.52
Carazziella hobsonae	25.00	0.26
Spiochaetopterus costarum	75.00	0.78
Monticellina dorsobranchialis	50.00	0.52
Chaetozone	25.00	0.26
Armandia maculata	25.00	0.26
Mediomastus californiensis	950.00	9.84
Sabaco americanus	25.00	0.26
Pectinaria gouldii	75.00	0.78
Isolda pulchella	25.00	0.26
Megalomma pigmentum	125.00	1.30
Tubificidae	25.00	0.26
Teinostoma sp.	25.00	0.26
Microeulima hemphilli	50.00	0.52
Jaspidella blanesi	100.00	1.04
Eulimastoma sp.	25.00	0.26
Turbonilla interrupta	25.00	0.26
Turbonilla conradi	75.00	0.78
Turbonilla incisa	50.00	0.52
Acteocina canaliculata	350.00	3.63
Haminoea succinea	275.00	2.85

1997 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)

Project =1997 TAMPA BAY BENTHOS
 Location =TERRA CEIA BAY
 Date =OCT 97
 Name =97TCB07-contd

Taxa	Observed	Percentage
Bivalvia	75.00	0.78
Nucula crenulata	25.00	0.26
Orobitella (=Neaeromya) floridana	375.00	3.89
Myrella planulata	400.00	4.15
Laevicardium mortoni	25.00	0.26
Mulinia lateralis	100.00	1.04
Tellina sp.	50.00	0.52
Tellina versicolor	100.00	1.04
Tagelus divisus	275.00	2.85
Transenella stimpsoni	25.00	0.26
Corbula swiftiana	50.00	0.52
Lyonsia hyalina floridana	150.00	1.55
Asthenothaerus hemphilli	50.00	0.52
Oxyurostylis	25.00	0.26
Oxyurostylis smithi	375.00	3.89
Cyclaspis cf. varians	2025.00	20.98
Amakusanthura magnifica	50.00	0.52
Edotia triloba	25.00	0.26
Ampelisca holmesi	975.00	10.10
Rudilemboides naglei	25.00	0.26
Cerapus sp. C ("tubularis")	175.00	1.81
Grandidierella bonnieroides	25.00	0.26
Listriella barnardi	125.00	1.30
Pagurus	25.00	0.26
Pinnixa spp.	50.00	0.52
Phascolion crypta	75.00	0.78
Glottidia pyramidata	25.00	0.26
Ophiuroidea	25.00	0.26
Amphipholis squamata	100.00	1.04
Amphioplus thrombodes	25.00	0.26
Micropholis atra	25.00	0.26

Project =1997 TAMPA BAY BENTHOS
 Location =TERRA CEIA BAY
 Date =OCT 97
 Name =97TCB08

Sample Characteristics

Number of Species : 47
 Density of All Species : 9150.00 /M2
 Diversity (Hprime -log base 2) : 4.37
 Evenness (Hprime/Hmax) : 0.79

Taxa	Observed	Percentage
Nemertea N	100.00	1.09
Nemertea F	100.00	1.09
Glycinde solitaria	75.00	0.82
Prionospio heterobranchia	25.00	0.27
Apoprionospio pygmaea	50.00	0.55
Paraprionospio pinnata	150.00	1.64
Capitella capitata	50.00	0.55
Mediomastus californiensis	150.00	1.64
Pectinaria gouldii	25.00	0.27
Chone sp.	25.00	0.27
Tubificoides wasselli	75.00	0.82
Nassarius vibex	25.00	0.27
Jaspidella blanesi	25.00	0.27
Prunum apicinum	50.00	0.55
Eulimastoma sp.	150.00	1.64
Rictaxis punctostriatus	25.00	0.27
Acteocina canaliculata	1225.00	13.39
Haminoea succinea	575.00	6.28
Nuculana acuta	25.00	0.27
Amygdalum papyrium	425.00	4.64
Diplodonta semiaspera	25.00	0.27
Oorbitella (=Neaeromya) floridana	25.00	0.27
Mysella planulata	900.00	9.84
Laevicardium mortoni	75.00	0.82
Mulinia lateralis	1200.00	13.11
Tellina iris	50.00	0.55
Tellina versicolor	25.00	0.27
Tagelus divisus	25.00	0.27
Sphenia antillensis	25.00	0.27
Lyonsia hyalina floridana	475.00	5.19
Oxyurostylis smithi	200.00	2.19
Cyclaspis cf. varians	125.00	1.37
Amakusanthura magnifica	25.00	0.27
Edotia triloba	75.00	0.82
Ampelisca holmesi	975.00	10.66
Rudilemboides naglei	75.00	0.82
Cerapus sp. C ("tubularis")	725.00	7.92
Erichthonius brasiliensis	25.00	0.27
Grandidierella bonnieroides	100.00	1.09
Listriella barnardi	75.00	0.82
Eudevenopus honduranus	75.00	0.82
Pinnixa spp.	75.00	0.82

1997 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)

Project	=1997 TAMPA BAY BENTHOS
Location	=TERRA CEIA BAY
Date	=OCT 97
Name	=97TCB08-contd

<i>Taxa</i>	<i>Observed</i>	<i>Percentage</i>
<i>Phascolion crypta</i>	200.00	2.19
<i>Glottidia pyramidata</i>	50.00	0.55
<i>Ophiuroidea</i>	50.00	0.55
<i>Amphipholis squamata</i>	25.00	0.27
<i>Ophiophragmus filograneus</i>	50.00	0.55
<i>Branchiostoma floridae</i>	50.00	0.55

APPENDIX B

TERRA CEIA BAY BENTHOS: 1997

MEAN ABUNDANCE
&
FREQUENCY OF OCCURRENCE DATA

Taxa	Mean (Divisor = N)	Std.Dev.	M / N
Actiniaria	6.25	11.57	2/ 8
Athenaria	6.25	----	1/ 8
Turbellaria	3.13	----	1/ 8
Nemertea N	40.63	35.20	6/ 8
Nemertea F	31.25	43.81	4/ 8
Nemertea I	3.13	----	1/ 8
Nemertea K	40.63	53.35	5/ 8
Nemertea B	6.25	----	1/ 8
Polynoidae	9.38	18.60	2/ 8
Malmgreniella taylori	9.38	18.60	2/ 8
Sthenelais sp. A	18.75	25.88	3/ 8
Bhawania heteroseta	3.13	----	1/ 8
Hypereteone heteropoda	3.13	----	1/ 8
Nereiphylla castanea	9.38	18.60	2/ 8
Phyllodoce arenae	15.63	35.20	2/ 8
Podarkeopsis levifuscina	15.63	29.69	2/ 8
Ancistrosyllis jonesi	3.13	----	1/ 8
Pionosyllis nr. ehlersiaeformis(?)	9.38	----	1/ 8
Syllis cornuta	9.38	----	1/ 8
Exogone dispar	103.13	235.07	3/ 8
Exogone atlantica	3.13	----	1/ 8
Sphaerosyllis aciculata	9.38	----	1/ 8
Sphaerosyllis taylori	3.13	----	1/ 8
Sphaerosyllis labyrinthophila	40.63	95.37	3/ 8
Grubeosyllis (Brania) clavata	6.25	----	1/ 8
Brania wellfleetensis	12.50	----	1/ 8
Streptosyllis pettiboneae	12.50	----	1/ 8
Ceratonereis irritabilis	3.13	----	1/ 8
Neanthes succinea	3.13	----	1/ 8
Laeonereis culveri	37.50	----	1/ 8
Glycera americana	6.25	----	1/ 8
Glycinde solitaria	65.63	55.00	7/ 8
Goniadides carolinae	75.00	----	1/ 8
Mooreonuphis sp.	12.50	----	1/ 8
Diopatra cuprea	9.38	----	1/ 8
Kinbergonuphis simoni	140.63	387.74	2/ 8
Lumbrineris latreilli	3.13	----	1/ 8
Lumbrineris verrilli	3.13	----	1/ 8
Lumbrineris sp. D	6.25	----	1/ 8
Arabella multidentata	6.25	----	1/ 8
Schistomeringos cf. rudolphi	6.25	----	1/ 8
Aricidea philbinae	137.50	378.91	2/ 8
Aricidea taylori	56.25	87.37	4/ 8
Cirrophorus	100.00	----	1/ 8

Taxa	Mean	Std.Dev.	M / N
	(Divisor = N)		
<i>Polydora cornuta</i>	40.63	----	1/ 8
<i>Prionospio heterobranchia</i>	25.00	40.09	3/ 8
<i>Prionospio steenstrupi</i>	3.13	----	1/ 8
<i>Apoprionospio pygmaea</i>	25.00	26.73	5/ 8
<i>Prionospio perkinsi</i>	112.50	169.03	5/ 8
<i>Spio pettiboneae</i>	25.00	61.24	2/ 8
<i>Paraprionospio pinnata</i>	153.13	196.14	7/ 8
<i>Streblospio benedicti</i>	309.38	855.02	2/ 8
<i>Scoelelepis texana</i>	9.38	----	1/ 8
<i>Carazziella hobsonae</i>	40.63	105.17	2/ 8
<i>Magelona pettiboneae</i>	53.13	----	1/ 8
<i>Spiochaetopterus costarum</i>	18.75	34.72	2/ 8
<i>Cirratulidae</i>	25.00	----	1/ 8
<i>Caulleliella cf. alata</i>	75.00	----	1/ 8
<i>Caulleliella zetlandica</i>	34.38	----	1/ 8
<i>Monticellina dorsobranchialis</i>	206.25	243.39	7/ 8
<i>Chaetozone</i>	12.50	18.90	3/ 8
<i>Armandia maculata</i>	25.00	61.24	2/ 8
<i>Travisia hobsonae</i>	46.88	122.79	2/ 8
<i>Capitella capitata</i>	15.63	29.69	2/ 8
<i>Mediomastus</i>	9.38	----	1/ 8
<i>Mediomastus californiensis</i>	306.25	316.16	8/ 8
<i>Maldanidae</i>	6.25	----	1/ 8
<i>Sabaco americanus</i>	12.50	26.73	2/ 8
<i>Axiiothella mucosa</i>	37.50	----	1/ 8
<i>Pectinaria gouldii</i>	40.63	32.56	7/ 8
<i>Melinna maculata</i>	15.62	----	1/ 8
<i>Isolda pulchella</i>	18.75	34.72	3/ 8
<i>Chone sp.</i>	9.38	18.60	2/ 8
<i>Megalomma sp.</i>	3.13	----	1/ 8
<i>Megalomma pigmentum</i>	15.62	----	1/ 8
<i>Fabricinuda trilobata</i>	6.25	----	1/ 8
<i>Enchytraeidae</i>	268.75	----	1/ 8
<i>Tubificidae</i>	143.75	202.99	5/ 8
<i>Tubificoides wasselli</i>	221.88	364.85	7/ 8
<i>Gastropoda</i>	9.38	18.60	2/ 8
<i>Teinostoma sp.</i>	6.25	11.57	2/ 8
<i>Caecum pulchellum</i>	3.13	----	1/ 8
<i>Bittium varium</i>	28.13	----	1/ 8
<i>Microeulima hemphilli</i>	9.38	18.60	2/ 8
<i>Crepidula</i>	3.13	----	1/ 8
<i>Crepidula plana</i>	3.13	----	1/ 8
<i>Crepidula maculosa</i>	3.13	----	1/ 8
<i>Astris lunulata</i>	3.13	----	1/ 8
<i>Parvanachis obesa</i>	3.13	----	1/ 8
<i>Nassarius vibex</i>	15.63	18.60	4/ 8
<i>Jaspidella blanesi</i>	62.50	74.40	6/ 8
<i>Granulina hadria</i>	9.38	18.60	2/ 8
<i>Prunum apicinum</i>	12.50	18.90	3/ 8

<i>Taxa</i>	Mean	Std.Dev.	M / N
	(Divisor = N)		
<i>Stellatoma stellata</i>	3.13	----	1/ 8
<i>Eulimastoma weberi</i>	121.87	334.73	2/ 8
<i>Eulimastoma sp.</i>	25.00	51.75	3/ 8
<i>Turbonilla sp.</i>	3.13	----	1/ 8
<i>Turbonilla interrupta</i>	6.25	11.57	2/ 8
<i>Turbonilla conradi</i>	90.63	140.75	4/ 8
<i>Turbonilla cf. dalli</i>	6.25	----	1/ 8
<i>Turbonilla incisa</i>	6.25	----	1/ 8
<i>Cephalapsidea sp.</i>	3.13	----	1/ 8
<i>Rictaxis punctostriatus</i>	28.13	28.15	5/ 8
<i>Acteocina canaliculata</i>	362.50	483.66	6/ 8
<i>Haminoea succinea</i>	256.25	358.01	6/ 8
<i>Haminoea elegans</i>	106.25	----	1/ 8
<i>Haminoea antillarum</i>	25.00	46.29	2/ 8
<i>Opisthobranchia</i>	71.88	----	1/ 8
<i>Bivalvia</i>	46.88	68.71	3/ 8
<i>Nucula crenulata</i>	9.38	18.60	2/ 8
<i>Nuculana acuta</i>	3.13	----	1/ 8
<i>Amygdalum papyrium</i>	68.75	145.62	4/ 8
<i>Diplodonta semiaspera</i>	3.13	----	1/ 8
<i>Oorbitella (=Neaeromya) floridana</i>	65.63	132.25	3/ 8
<i>Mysella planulata</i>	203.13	315.22	5/ 8
<i>Erycina floridana (=Mysella A)</i>	28.13	70.00	2/ 8
<i>Laevicardium mortoni</i>	90.63	70.63	8/ 8
<i>Tracycardium egmontianum</i>	3.13	----	1/ 8
<i>Mulinia lateralis</i>	1218.75	2172.67	7/ 8
<i>Macoma tenta</i>	109.38	261.16	3/ 8
<i>Tellina sp.</i>	100.00	107.74	6/ 8
<i>Tellina iris</i>	6.25	----	1/ 8
<i>Tellina versicolor</i>	43.75	37.20	6/ 8
<i>Tagelus divisus</i>	175.00	182.74	7/ 8
<i>Transennella conradina</i>	3.13	----	1/ 8
<i>Transenella stimpsoni</i>	3.13	----	1/ 8
<i>Chione cancellata</i>	3.13	----	1/ 8
<i>Parastarte triquetra</i>	3.13	----	1/ 8
<i>Sphenia antillensis</i>	12.50	18.90	3/ 8
<i>Corbula swiftiana</i>	6.25	----	1/ 8
<i>Lyonsia hyalina floridana</i>	150.00	156.98	7/ 8
<i>Asthenothaerus hemphilli</i>	9.38	18.60	2/ 8

1997 TERRA CEIA BAY BENTHOS (RUN DATE 8 Sept 98)-continued

Taxa	Mean	Std.Dev.	M / N
(Divisor = N)			
<i>Cirripecta</i>	21.88	52.50	2/ 8
<i>Americamysis bigelowi</i>	62.50	----	1/ 8
<i>Americamysis stucki</i>	3.13	----	1/ 8
<i>Oxyurostylis</i>	46.88	122.79	2/ 8
<i>Oxyurostylis smithi</i>	140.63	139.47	5/ 8
<i>Oxyurostylis lecrovayae</i>	3.13	----	1/ 8
<i>Cyclaspis</i> cf. <i>varians</i>	484.38	678.62	6/ 8
<i>Kalliapseudes</i> sp. A	3.13	----	1/ 8
<i>Leptocheilia</i>	18.75	----	1/ 8
<i>Amakusanthura magnifica</i>	31.25	29.12	5/ 8
<i>Paracerceis caudata</i>	3.13	----	1/ 8
<i>Erichsonella attenuata</i>	3.13	----	1/ 8
<i>Edotia triloba</i>	59.38	120.22	4/ 8
<i>Ampelisca vadorum</i>	21.88	----	1/ 8
<i>Ampelisca holmesi</i>	375.00	407.52	7/ 8
<i>Ampelisca</i> sp. C	9.38	18.60	2/ 8
<i>Cymadusa compta</i>	128.13	----	1/ 8
<i>Bemlos unifasciatus</i>	6.25	11.57	2/ 8
<i>Paramicrodeutopus</i> cf. <i>myersi</i>	9.38	18.60	2/ 8
<i>Rudilemboides naglei</i>	21.88	33.91	3/ 8
<i>Cerapus</i> sp. C ("tubularis")	156.25	258.34	4/ 8
<i>Erichthonius brasiliensis</i>	6.25	11.57	2/ 8
<i>Grandidierella bonnieroides</i>	96.88	134.59	5/ 8
<i>Listriella barnardi</i>	31.25	45.81	4/ 8
<i>Monoculodes nyei</i>	3.13	----	1/ 8
<i>Eudevenopus honduranus</i>	9.38	----	1/ 8
<i>Ambidexter symmetricus</i>	9.38	----	1/ 8
<i>Pagurus</i>	9.38	12.94	3/ 8
<i>Upogebia</i>	12.50	----	1/ 8
<i>Brachyura</i>	3.13	----	1/ 8
<i>Xanthidae</i>	6.25	----	1/ 8
<i>Pinnixa</i> spp.	31.25	32.04	5/ 8
<i>Pinnixa</i> cf. <i>floridana</i>	3.13	----	1/ 8
<i>Sipuncula</i>	12.50	----	1/ 8
<i>Phascolion crypta</i>	221.88	439.45	8/ 8
<i>Phoronis</i> ? <i>architecta</i>	6.25	11.57	2/ 8
<i>Glottidia pyramidata</i>	18.75	17.68	5/ 8
<i>Ophiuroidea</i>	15.63	18.60	4/ 8
<i>Amphipholis squamata</i>	15.63	35.20	2/ 8
<i>Ophiophragmus filograneus</i>	9.38	18.60	2/ 8
<i>Amphioplus thrombodes</i>	3.13	----	1/ 8
<i>Amphioplus sepultus</i> (=abditus)	3.13	----	1/ 8
<i>Micropholis atra</i>	6.25	11.57	2/ 8
<i>Branchiostoma floridae</i>	68.75	145.62	4/ 8

APPENDIX C

TERRA CEIA BAY BENTHOS: 1997

**RANKED MEAN ABUNDANCE :
TAXA COMPRISING >0.5%
OF
TOTAL BENTHIC ABUNDANCE**

1997 TERRA CEIA BAY BENTHOS (RUN DATE 8 Sept 98)
TAXA COMPRISING $\geq 0.5\%$ OF TOTAL ABUNDANCE

Overall Summary of 8 Samples		
Summary Characteristics		
Number of Species	:	176
Density of All Species	:	9343.75
Diversity (Hprime -log base 2)	:	5.94
Evenness (Hprime/Hmax)	:	0.80
Taxa	Observed	Percentage
<i>Mulinia lateralis</i>	1218.75	13.04
<i>Cyclaspis</i> cf. <i>varians</i>	484.38	5.18
<i>Ampelisca holmesi</i>	375.00	4.01
<i>Acteocina canaliculata</i>	362.50	3.88
<i>Streblospio benedicti</i>	309.38	3.31
<i>Mediomastus californiensis</i>	306.25	3.28
<i>Enchytraeidae</i>	268.75	2.88
<i>Haminoea succinea</i>	256.25	2.74
<i>Tubificoides wasselli</i>	221.88	2.37
<i>Phascolion crypta</i>	221.88	2.37
<i>Monticellina dorsobranchialis</i>	206.25	2.21
<i>Mysella planulata</i>	203.13	2.17
<i>Tagelus divisus</i>	175.00	1.87
<i>Cerapus</i> sp. C (= "tubularis")	156.25	1.67
<i>Paraprionospio pinnata</i>	153.13	1.64
<i>Lyonsia hyalina floridana</i>	150.00	1.61
<i>Tubificidae</i>	143.75	1.54
<i>Kinbergonuphis simoni</i>	140.63	1.51
<i>Oxyurostylis smithi</i>	140.63	1.51
<i>Aricidea philbinae</i>	137.50	1.47
<i>Cymadusa compta</i>	128.13	1.37
<i>Eulimastoma weberi</i>	121.87	1.30
<i>Prionospio perkinsi</i>	112.50	1.20
<i>Macoma tenta</i>	109.38	1.17
<i>Haminoea elegans</i>	106.25	1.14
<i>Exogone dispar</i>	103.13	1.10
<i>Cirrophorus</i>	100.00	1.07
<i>Tellina</i> sp.	100.00	1.07
<i>Grandidierella bonnieroides</i>	96.88	1.04
<i>Laevicardium mortoni</i>	90.63	0.97
<i>Turbonilla conradi</i>	90.63	0.97
<i>Caulleriella</i> cf. <i>alata</i>	75.00	0.80
<i>Goniadides carolinae</i>	75.00	0.80
<i>Opisthobranchia</i>	71.88	0.77
<i>Branchiostoma floridae</i>	68.75	0.74
<i>Amygdalum papyrium</i>	68.75	0.74
<i>Orobitella</i> (= <i>Neaeromya</i>) <i>floridana</i>	65.63	0.70
<i>Glycinde solitaria</i>	65.63	0.70
<i>Jaspidella blanesi</i>	62.50	0.67
<i>Americamysis bigelowi</i>	62.50	0.67
<i>Edotia triloba</i>	59.38	0.64
<i>Aricidea taylori</i>	56.25	0.60
<i>Magelona pettiboneae</i>	53.13	0.57
<i>Oxyurostylis</i>	46.88	0.50
<i>Bivalvia</i>	46.88	0.50
<i>Travisia hobsonae</i>	46.88	0.50

APPENDIX D

TERRA CEIA BAY BENTHOS: 1993-1996

MEAN ABUNDANCE & FREQUENCY OF OCCURRENCE DATA

1993-1996 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)

Taxa	Mean (Divisor = N)	Std.Dev.	M / N
Actiniaria	2.59	7.75	3/ 29
Athenaria	1.29	5.12	2/ 29
Thenaria	5.60	15.52	4/ 29
Turbellaria	2.59	7.75	3/ 29
Nemertea sp.	10.78	26.25	7/ 29
Nemertea Q	0.86	----	1/ 29
Nemertea N	7.76	15.09	7/ 29
Nemertea M	0.86	----	1/ 29
Nemertea F	18.10	37.88	9/ 29
Nemertea I	2.59	10.23	2/ 29
Nemertea K	12.93	29.60	7/ 29
Nemertea B	26.29	35.88	14/ 29
Nemertea J	0.86	----	1/ 29
Malmgreniella maccrarya	2.59	7.75	4/ 29
Malmgreniella taylori	0.43	----	1/ 29
Polynoidae Genus D	2.59	6.99	4/ 29
Sthenelais sp. A	8.19	24.84	4/ 29
Bhawania heteroseta	1.72	----	1/ 29
Paramphinome sp. B	0.86	----	1/ 29
Phyllodocidae	0.86	----	1/ 29
Anaitides groenlandica	1.72	6.45	2/ 29
Nereiphylla castanea	4.31	11.71	4/ 29
Paranaitis gardineri	1.72	6.45	2/ 29
Nereiphylla fragilis	0.86	----	1/ 29
Eumida sp. A	0.86	----	1/ 29
Phyllodoce arenae	10.34	23.87	6/ 29
Gyptis crypta	3.45	----	1/ 29
Paraesione luteola	6.03	19.66	4/ 29
Podarke obscura	1.29	5.12	2/ 29
Podarkeopsis levifuscina	45.69	71.83	20/ 29
Sigambra tentaculata	1.72	5.51	3/ 29
Cabira incerta	0.43	----	1/ 29
Synelmis ewingi (=sp. B)	0.43	----	1/ 29
Syllidae	1.29	----	1/ 29
Proceras sp. A	0.86	----	1/ 29
Pionosyllis sp. D	0.86	----	1/ 29
Syllis cornuta	18.97	97.43	2/ 29
Syllis prolifera	0.43	----	1/ 29
Exogone dispar	22.41	93.38	4/ 29
Sphaerosyllis aciculata	0.43	----	1/ 29
Sphaerosyllis taylori	1.29	5.12	2/ 29
Sphaerosyllis longicauda	12.07	----	1/ 29
Sphaerosyllis labyrinthophila	4.31	----	1/ 29
Grubeosyllis (Brania) clavata	4.31	16.46	2/ 29
Brania wellfleetensis	18.10	52.99	7/ 29
Brania sp. A	0.86	----	1/ 29
Syllides floriidanus	0.86	----	1/ 29
Streptosyllis pettiboneae	1.72	5.51	3/ 29

1993-1996 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)-contd.

Taxa	Mean	Std.Dev.	M / N
(Divisor = N)			
Nereidae	0.86	----	1/ 29
Ceratonereis irritabilis	0.86	----	1/ 29
Neanthes succinea	1.29	5.12	2/ 29
Nereis	0.86	----	1/ 29
Nereis lamellosa	2.59	10.23	2/ 29
Nephtys cf. hombergii	0.43	----	1/ 29
Aglaophamus verrilli	0.86	3.22	2/ 29
Glyceridae	0.86	3.22	2/ 29
Glycera americana	4.31	11.22	5/ 29
Glycinde solitaria	30.60	51.49	16/ 29
Goniadides carolinae	1.72	----	1/ 29
Mooreonuphis cf. nebulosa	0.43	----	1/ 29
Kinbergonuphis simoni	10.78	38.63	4/ 29
Lumbrineris latreilli	7.76	19.02	5/ 29
Lumbrineris verrilli	1.72	----	1/ 29
Lumbrineris sp. D	1.29	5.12	2/ 29
Arabella mutans	2.59	10.23	2/ 29
Schistomeringos cf. rudolphi	20.69	57.02	10/ 29
Pettiboneia sp.	0.86	----	1/ 29
Leitoscoloplos robustus	1.29	5.12	2/ 29
Scoloplos rubra	0.86	----	1/ 29
Leitoscoloplos	0.86	----	1/ 29
Leitoscoloplos fragilis	3.45	8.77	4/ 29
Aricidea lopezi	6.03	17.24	4/ 29
Aricidea philbinae	27.59	45.97	11/ 29
Aricidea taylori	33.19	61.44	16/ 29
Paraonis fulgens	0.86	----	1/ 29
Paraonella sp.	0.86	----	1/ 29
Cirrophorus	13.79	----	1/ 29
Cirrophorus ?lyra	13.79	69.62	2/ 29
Cirrophorus ?furcatus	0.86	----	1/ 29
Laonice cirrata	2.59	7.75	3/ 29
Polydora socialis	3.45	14.52	2/ 29
Polydora cornuta	1.72	----	1/ 29
Prionospio	17.67	47.78	6/ 29
Prionospio multibranchiata	2.59	----	1/ 29
Prionospio heterobranchia	56.47	122.50	13/ 29
Prionospio steenstrupi	6.47	20.76	4/ 29
Apoprionospio pygmaea	123.71	159.53	20/ 29
Prionospio cristata	4.31	10.17	5/ 29
Prionospio perkinsi	47.84	80.81	16/ 29
Spio pettiboneae	3.45	11.03	3/ 29
Paraprionospio pinnata	274.57	411.03	19/ 29
Streblospio benedicti	0.86	----	1/ 29
Scoelelepis	0.43	----	1/ 29
Scoelelepis texana	59.91	198.08	6/ 29
Carazziella hobsonae	66.81	140.08	10/ 29

1993-1996 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)-contd.

Taxa	Mean	Std.Dev.	M / N
	(Divisor = N)		
Magelonidae	0.43	----	1/ 29
Magelona pettiboneae	23.28	40.60	10/ 29
Spiochaetopterus costarum	4.31	11.22	5/ 29
Cirratulidae	0.43	----	1/ 29
Caulleriella	0.86	----	1/ 29
Caulleriella cf. alata	6.90	25.79	2/ 29
Caulleriella sp. D	8.62	33.59	3/ 29
Tharyx	5.17	----	1/ 29
Aphelochaeta sp?	2.59	10.23	2/ 29
Monticellina dorsobranchialis	644.83	2166.21	23/ 29
Chaetozone	3.45	14.52	2/ 29
Cirriformia	0.43	----	1/ 29
Cirriformia sp. B	0.43	----	1/ 29
Cirriformia sp. A	0.43	----	1/ 29
Armandia maculata	9.05	21.36	7/ 29
Capitellidae	0.43	----	1/ 29
Capitella sp. A	12.07	38.74	5/ 29
Capitella capitata	4.31	15.41	3/ 29
Notomastus	0.43	----	1/ 29
Notomastus latericeus	1.29	3.87	3/ 29
Notomastus americanus	0.86	----	1/ 29
Mediomastus	120.69	203.68	12/ 29
Mediomastus ambiseta	34.05	77.12	10/ 29
Mediomastus californiensis	24.14	63.20	6/ 29
Scyphoproctus	3.88	----	1/ 29
Maldanidae	2.59	8.44	3/ 29
Sabaco americanus	0.43	----	1/ 29
Asychis elongatus	0.86	----	1/ 29
Axiothella mucosa	1.72	----	1/ 29
Owenia fusiformis	6.47	15.89	6/ 29
Myriochele oculata	0.43	----	1/ 29
Sabellaria sp. A	31.03	157.78	2/ 29
Sabellaria sp. C	1.72	----	1/ 29
Pectinaria gouldii	2.16	6.74	3/ 29
Ampharetidae	1.72	7.26	2/ 29
Isolda pulchella	12.93	51.05	6/ 29
Loimia medusa	0.86	----	1/ 29
Streblosoma hartmanae	1.29	----	1/ 29
Chone sp.	4.31	----	1/ 29
Chone cf. americana	0.43	----	1/ 29
Megalomma bioculatum	0.86	----	1/ 29
Megalomma pigmentum	0.43	----	1/ 29
Fabriciunda trilobata	6.90	18.78	4/ 29
Serpulidae	2.16	----	1/ 29
Spirorbis spirillum	0.86	----	1/ 29
Pomatoceros americanus	3.88	----	1/ 29
Boguea enigmatica	0.86	----	1/ 29
Spirorbidae	2.16	----	1/ 29
Enchytraeidae	1.29	5.12	2/ 29

1993-1996 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)-contd.

Taxa	Mean	Std.Dev.	M / N
	(Divisor = N)		
Tubificidae	713.36	890.91	26/ 29
Tubificoides wasselli	0.86	----	1/ 29
Gastropoda	9.48	41.68	5/ 29
Schwartziella catesbyana	9.05	44.18	2/ 29
Teinostoma sp.	1.72	----	1/ 29
Vitrinellidae sp. A	3.45	16.33	2/ 29
Cyclostremiscus ?pentagonus	0.86	----	1/ 29
Caecum	0.43	----	1/ 29
Caecum pulchellum	28.45	101.49	5/ 29
Caecum nitidum	14.66	76.55	2/ 29
Modulus modulus	0.43	----	1/ 29
Bittium varium	21.12	87.06	3/ 29
Cerithium muscarum	8.62	----	1/ 29
Epitonium angulatum	0.43	----	1/ 29
Melanella	0.86	3.22	2/ 29
Microeulima hemphilli	9.05	25.86	6/ 29
Calyptrea centralis	1.72	----	1/ 29
Crepidula	2.59	9.67	3/ 29
Crepidula fornicata	3.45	14.52	2/ 29
Crepidula plana	2.59	----	1/ 29
Crepidula maculosa	23.71	93.08	2/ 29
Tectonatica pusilla	2.59	7.75	3/ 29
Phyllonatus pomum	2.59	----	1/ 29
Astris lunulata	84.48	361.14	3/ 29
Parvanachis obesa	0.86	----	1/ 29
Nassarius vibex	20.69	41.63	11/ 29
Olivella	25.86	75.59	6/ 29
Olivella pusilla	9.48	30.19	4/ 29
Jaspidella blanesi	23.28	41.69	8/ 29
Granulina hadria	2.59	10.23	2/ 29
Dentimargo aureocinctus	5.17	----	1/ 29
Gibberula lavalleenana	12.93	----	1/ 29
Prunum apicinum	22.41	30.32	14/ 29
Eulimastoma sp.	4.31	15.04	3/ 29
Eulimastoma teres	3.45	11.03	3/ 29
Odostomia producta	1.72	----	1/ 29
Turbonilla sp.	4.31	16.46	2/ 29
Turbonilla interrupta	0.86	----	1/ 29
Turbonilla conradi	40.95	110.39	9/ 29
Turbonilla incisa	0.86	----	1/ 29
Pyramidella crenulata	1.29	----	1/ 29
Turbonilla sp. I	6.47	----	1/ 29
Odostomia virginiana	5.17	19.34	2/ 29

1993-1996 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)-contd.

Taxa	Mean (Divisor = N)	Std.Dev.	M / N
<i>Rictaxis punctostriatus</i>	6.47	20.22	3/ 29
<i>Acteocina canaliculata</i>	102.59	192.39	15/ 29
<i>Cylichnella bidentata</i>	3.88	11.13	4/ 29
<i>Bulla striata</i>	0.43	----	1/ 29
<i>Haminoea succinea</i>	83.19	122.85	18/ 29
<i>Haminoea antillarum</i>	1.72	----	1/ 29
<i>Acanthopleura granulata</i>	1.72	----	1/ 29
<i>Bivalvia</i>	37.07	80.21	12/ 29
<i>Nucula crenulata</i>	20.26	58.67	8/ 29
<i>Nuculana acuta</i>	0.43	----	1/ 29
<i>Anadara transversa</i>	1.29	5.12	2/ 29
<i>Musculus lateralis</i>	4.31	18.98	2/ 29
<i>Brachidontes exustus</i>	3.45	8.77	4/ 29
<i>Amygdalum papyrium</i>	5.17	23.51	2/ 29
<i>Anomia simplex</i>	0.86	----	1/ 29
<i>Lucinidae sp.</i>	2.59	----	1/ 29
<i>Parvilucina multilineata</i>	6.03	15.53	6/ 29
<i>Lucina nassula</i>	6.47	30.37	2/ 29
<i>Crassostrea virginica</i>	37.07	194.87	2/ 29
<i>Diplodonta semiaspera</i>	3.45	11.03	3/ 29
<i>Mysella planulata</i>	31.03	38.03	15/ 29
<i>Erycina floridana (=Mysella A)</i>	8.19	23.21	5/ 29
<i>Carditamera floridana</i>	3.88	----	1/ 29
<i>Laevicardium mortoni</i>	9.48	20.23	7/ 29
<i>Mulinia lateralis</i>	99.57	440.76	6/ 29
<i>Macoma tenta</i>	15.09	32.80	8/ 29
<i>Macoma constricta</i>	3.45	12.89	2/ 29
<i>Tellina sp.</i>	33.62	58.45	10/ 29
<i>Tellina iris</i>	2.59	----	1/ 29
<i>Tellina lineata</i>	0.86	----	1/ 29
<i>Tellina versicolor</i>	8.62	32.92	2/ 29
<i>Tagelus divisus</i>	16.38	34.73	8/ 29
<i>Abra aequalis</i>	6.90	16.57	6/ 29
<i>Cumingia tellinoides vanhyningi</i>	0.86	----	1/ 29
<i>Cyclinella tenuis</i>	0.86	----	1/ 29
<i>Transennella conradina</i>	0.43	----	1/ 29
<i>Dosinia discus</i>	1.72	4.39	4/ 29
<i>Mercenaria</i>	0.43	----	1/ 29
<i>Chione cancellata</i>	1.29	3.87	3/ 29
<i>Corbula contracta</i>	3.45	7.39	6/ 29
<i>Lyonsia hyalina floridana</i>	18.10	48.02	9/ 29
<i>Asthenothaerus hemphilli</i>	0.43	----	1/ 29
<i>Dentalium texasianum</i>	0.43	----	1/ 29
<i>Pycnogonida</i>	1.72	6.45	2/ 29

1993-1996 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)-contd.

Taxa	Mean	Std.Dev.	M / N
(Divisor = N)			
<i>Cirripedia</i>	11.21	----	1/ 29
<i>Mysidopsis</i>	1.72	6.45	2/ 29
<i>Americamysis bigelowi</i>	1.72	----	1/ 29
<i>Mysidopsis furca</i>	0.86	----	1/ 29
<i>Bowmaniella</i> sp.	0.86	----	1/ 29
<i>Bowmaniella brasiliensis</i>	0.86	----	1/ 29
<i>Bowmaniella floridana</i>	0.86	3.22	2/ 29
<i>Americamysis stucki</i>	2.16	9.49	2/ 29
<i>Oxyurostylis</i>	9.48	37.30	5/ 29
<i>Oxyurostylis smithi</i>	34.05	98.59	8/ 29
<i>Oxyurostylis lecroyae</i>	9.48	23.30	6/ 29
<i>Cyclaspis</i>	0.86	----	1/ 29
<i>Cyclaspis</i> cf. <i>varians</i>	58.62	254.91	8/ 29
<i>Leptocheilia</i>	1.29	----	1/ 29
<i>Amakusanthura magnifica</i>	57.76	94.93	15/ 29
<i>Paracerceis caudata</i>	31.47	120.30	2/ 29
<i>Erichsonella attenuata</i>	1.29	----	1/ 29
<i>Edotia triloba</i>	37.50	152.91	9/ 29
<i>Ampelisca</i> spp.	13.36	62.67	3/ 29
<i>Ampelisca abdita</i>	6.90	15.88	7/ 29
<i>Ampelisca agassizi</i>	1.29	----	1/ 29
<i>Ampelisca holmesi</i>	235.78	369.89	18/ 29
<i>Ampelisca</i> sp. C	21.98	76.45	10/ 29
<i>Amphilocheus</i> sp. B	2.16	----	1/ 29
<i>Gitanopsis laguna</i>	0.43	----	1/ 29
<i>Ampithoe longimana</i>	16.38	71.43	2/ 29
<i>Cymadusa compta</i>	19.40	102.08	2/ 29
<i>Globosolembos smithi</i>	1.29	----	1/ 29
<i>Paramicrodeutopus</i> cf. <i>myersi</i>	7.33	18.76	5/ 29
<i>Rudilemboides naglei</i>	37.50	83.18	9/ 29
<i>Bemlos rectangulatus</i>	1.72	6.45	2/ 29
<i>Batea catharinensis</i>	4.31	15.04	3/ 29
<i>Batea cuspidata</i>	0.43	----	1/ 29
<i>Cerapus</i>	0.86	----	1/ 29
<i>Cerapus</i> sp. C ("tubularis")	11.21	51.14	3/ 29
<i>Monocorophium acherusicum</i>	0.86	----	1/ 29
<i>Laticorophium</i> cf. <i>baconi</i>	0.86	----	1/ 29
<i>Erichthonius brasiliensis</i>	30.60	99.70	8/ 29
<i>Grandidierella bonnieroides</i>	15.52	50.63	4/ 29
<i>Pontogenia bartschi</i>	1.72	----	1/ 29
<i>Dulichchiella appendiculata</i>	3.45	----	1/ 29
<i>Acanthohaustorius uncinus</i>	3.45	8.77	4/ 29
<i>Microprotopus raneyi</i>	0.86	----	1/ 29
<i>Listriella barnardi</i>	39.66	74.26	13/ 29
<i>Shoemakerella cubensis</i>	1.72	6.45	2/ 29
<i>Monoculodes nyei</i>	4.31	16.80	3/ 29
<i>Eudevenopus honduranus</i>	19.83	41.53	9/ 29
<i>Stenothoe</i> ? <i>gallensis</i>	12.93	64.99	2/ 29

1993-1996 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)-contd.

Taxa	Mean (Divisor = N)	Std.Dev.	M / N
<i>Caprellidae-unid.</i>	2.59	----	1/ 29
<i>Deutella incerta</i>	12.50	54.69	2/ 29
<i>Penaeus duorarum</i>	0.43	----	1/ 29
<i>Trachypenaeus constrictus</i>	1.29	3.87	3/ 29
<i>Palaemonidae</i>	12.07	----	1/ 29
<i>Periclimenes americanus</i>	2.59	----	1/ 29
<i>Periclimenes longicaudatus</i>	8.19	30.67	2/ 29
<i>Alpheus normanni</i>	0.86	----	1/ 29
<i>Alpheus angulatus</i>	0.86	----	1/ 29
<i>Hippolyte zostericola</i>	10.34	39.25	2/ 29
<i>Latreutes parvulus</i>	18.10	----	1/ 29
<i>Tozeuma carolinense</i>	0.43	----	1/ 29
<i>Processa hemphilli</i>	0.43	----	1/ 29
<i>Ambidexter symmetricus</i>	6.47	14.42	6/ 29
<i>Paguroidea</i>	7.76	37.26	2/ 29
<i>Pagurus</i>	7.33	19.91	5/ 29
<i>Pagurus gymnodactylus</i>	0.43	----	1/ 29
<i>Pagurus macLaughlinae</i>	8.19	----	1/ 29
<i>Euceramus praelongus</i>	0.86	----	1/ 29
<i>Paguristes hummi</i>	1.29	----	1/ 29
<i>Paguristes nr. tortugae</i>	3.45	----	1/ 29
<i>Upogebia</i>	2.59	7.75	3/ 29
<i>Brachyura</i>	0.43	----	1/ 29
<i>Libinia dubia</i>	0.86	----	1/ 29
<i>Pitho anisodon</i>	0.86	----	1/ 29
<i>Heterocrypta granulata</i>	0.43	----	1/ 29
<i>Xanthidae</i>	1.72	6.45	2/ 29
<i>Hexapanopeus angustifrons</i>	1.72	----	1/ 29
<i>Panopeus sp.</i>	7.76	----	1/ 29
<i>Dyspanopeus texanus</i>	0.43	----	1/ 29
<i>Pinnotheridae</i>	0.43	----	1/ 29
<i>Pinnixa spp.</i>	53.02	130.92	14/ 29
<i>Pinnixa cf. pearsei</i>	9.48	39.90	3/ 29
<i>Pinnixa sp. A</i>	1.29	5.12	2/ 29
<i>Phascolion crypta</i>	25.00	48.99	14/ 29
<i>Phoronis</i>	1.72	----	1/ 29
<i>Phoronis ?architecta</i>	5.17	23.51	2/ 29
<i>Phoronida sp. B</i>	0.86	----	1/ 29
<i>Glottidia pyramidata</i>	6.90	13.61	7/ 29

1993-1996 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)-contd.

Taxa	Mean (Divisor = N)	Std.Dev.	M / N
<i>Ophiuroidea</i>	9.05	14.90	9/ 29
<i>Hemipholis elongata</i>	4.31	18.98	2/ 29
<i>Amphiuridae</i>	2.59	10.23	2/ 29
<i>Amphiodia pulchella</i>	0.43	----	1/ 29
<i>Ophiophragmus</i>	1.72	----	1/ 29
<i>Ophiophragmus brachyactis</i>	0.43	----	1/ 29
<i>Amphioplus thrombodes</i>	4.31	14.67	4/ 29
<i>Micropholis</i>	3.02	9.83	4/ 29
<i>Micropholis atra</i>	3.88	12.98	3/ 29
<i>Micropholis gracillima</i>	1.72	5.51	3/ 29
<i>Micropholis sp. A</i>	0.86	----	1/ 29
<i>Echinoidea</i>	3.45	8.77	4/ 29
<i>Mellita tenuis</i>	3.88	11.13	4/ 29
<i>Holothuroidea</i>	0.86	3.22	2/ 29
<i>Enteropneusta</i>	9.05	37.63	3/ 29
<i>Stereobalanus canadensis</i>	12.07	44.13	3/ 29
<i>Branchiostoma floridae</i>	15.52	24.47	11/ 29

APPENDIX E

TERRA CEIA BAY BENTHOS: 1994-1997

MEAN ABUNDANCE & FREQUENCY OF OCCURRENCE DATA

Taxa	Mean	Std.Dev.	M / N
(Divisor = N)			
Actiniaria	4.17	9.48	5/ 30
Athenaria	1.67	----	1/ 30
Thenaria	5.00	15.26	3/ 30
Turbellaria	1.67	6.34	2/ 30
Nemertea sp.	1.67	6.34	2/ 30
Nemertea Q	0.83	----	1/ 30
Nemertea N	18.33	26.21	13/ 30
Nemertea M	0.83	----	1/ 30
Nemertea F	15.00	31.21	8/ 30
Nemertea I	3.33	10.85	3/ 30
Nemertea K	23.33	39.90	12/ 30
Nemertea B	17.50	30.19	10/ 30
Nemertea J	0.83	----	1/ 30
Polynoidae	2.50	10.06	2/ 30
Malmgreniella taylori	2.50	10.06	2/ 30
Sthenelais sp. A	6.67	17.29	4/ 30
Bhawania heteroseta	2.50	10.06	2/ 30
Phyllodocidae	0.83	----	1/ 30
Anaitides groenlandica	1.67	6.34	2/ 30
Hypereteone heteropoda	0.83	----	1/ 30
Nereiphylla castanea	6.67	14.58	6/ 30
Paranaitis gardineri	1.67	6.34	2/ 30
Nereiphylla fragilis	0.83	----	1/ 30
Eumida sp. A	0.83	----	1/ 30
Phyllodoce arenae	6.67	22.68	3/ 30
Gyptis crypta	3.33	----	1/ 30
Parahesion luteola	5.00	19.03	3/ 30
Podarke obscura	0.83	----	1/ 30
Podarkeopsis levifuscina	41.67	72.32	16/ 30
Ancistrotyllis jonesi	0.83	----	1/ 30
Sigambra tentaculata	0.83	----	1/ 30
Procerae sp. A	0.83	----	1/ 30
Pionosyllis sp. D	0.83	----	1/ 30
Pionosyllis nr.			
ehlersiaeformis(?)	2.50	----	1/ 30
Syllis cornuta	3.33	14.28	2/ 30
Exogone dispar	47.50	150.91	6/ 30
Exogone atlantica	0.83	----	1/ 30
Sphaerosyllis aciculata	2.50	----	1/ 30
Sphaerosyllis taylori	1.67	6.34	2/ 30
Sphaerosyllis longicauda	11.67	----	1/ 30
Sphaerosyllis labyrinthophila	10.83	50.29	3/ 30
Grubeosyllis (Brania) clavata	5.83	18.20	3/ 30
Brania wellfleetensis	18.33	54.11	6/ 30
Brania sp. A	0.83	----	1/ 30
Syllides floriidanus	0.83	----	1/ 30
Streptosyllis pettiboneae	4.17	18.67	2/ 30

Taxa	Mean	Std.Dev.	M / N
(Divisor = N)			
Nereidae	0.83	----	1/ 30
Ceratonereis irritabilis	1.67	6.34	2/ 30
Neanthes succinea	1.67	6.34	2/ 30
Nereis	0.83	----	1/ 30
Nereis lamellosa	2.50	10.06	2/ 30
Laeonereis culveri	10.00	----	1/ 30
Glycera americana	4.17	13.27	3/ 30
Glycinde solitaria	42.50	58.41	17/ 30
Goniadides carolinae	21.67	109.61	2/ 30
Mooreonuphis sp.	3.33	----	1/ 30
Diopatra cuprea	2.50	----	1/ 30
Kinbergonuphis simoni	45.00	202.61	4/ 30
Lumbrineris latreilli	8.33	18.95	6/ 30
Lumbrineris verrilli	2.50	10.06	2/ 30
Lumbrineris sp. D	1.67	----	1/ 30
Arabella mutans	2.50	10.06	2/ 30
Arabella multidentata	1.67	----	1/ 30
Schistomeringos cf. rudolphi	20.00	56.63	8/ 30
Pettiboneia sp.	0.83	----	1/ 30
Leitoscoloplos robustus	0.83	----	1/ 30
Scoloplos rubra	0.83	----	1/ 30
Leitoscoloplos	0.83	----	1/ 30
Leitoscoloplos fragilis	3.33	8.64	4/ 30
Aricidea lopezi	5.83	16.97	4/ 30
Aricidea philbinae	61.67	196.60	12/ 30
Aricidea taylori	38.33	73.91	14/ 30
Paraonis fulgens	0.83	----	1/ 30
Paraonella sp.	0.83	----	1/ 30
Cirrophorus	40.00	161.03	2/ 30
Cirrophorus ?lyra	13.33	68.46	2/ 30
Cirrophorus ?furcatus	0.83	----	1/ 30
Laonice cirrata	2.50	7.63	3/ 30
Polydora socialis	3.33	14.28	2/ 30
Polydora cornuta	12.50	59.72	2/ 30
Prionospio	6.67	32.12	2/ 30
Prionospio multibranchiata	2.50	----	1/ 30
Prionospio heterobranchia	47.50	115.10	11/ 30
Prionospio steenstrupi	1.67	6.34	2/ 30
Apoprionospio pygmaea	95.83	152.15	20/ 30
Prionospio cristata	1.67	6.34	2/ 30
Prionospio perkinsi	60.00	115.52	15/ 30
Spio pettiboneae	10.00	33.22	5/ 30
Paraprionospio pinnata	267.50	398.12	21/ 30
Streblospio benedicti	83.33	442.38	3/ 30
Scoelelepis texana	57.50	194.89	6/ 30
Carazziella hobsonae	48.33	114.46	8/ 30
Magelona pettiboneae	35.00	83.97	9/ 30
Spiochaetopterus costarum	6.67	19.62	4/ 30

1994-1997 TERRA CEIA BAY BENTHOS (RUN DATE 8 Sept 98)-CONTINUED

Taxa	Mean	Std.Dev.	M / N
(Divisor = N)			
<i>Cirratulidae</i>	6.67	----	1/ 30
<i>Caulleriella</i>	0.83	----	1/ 30
<i>Caulleriella cf. alata</i>	26.67	111.21	3/ 30
<i>Caulleriella zetlandica</i>	9.17	----	1/ 30
<i>Aphelochaeta sp?</i>	2.50	10.06	2/ 30
<i>Monticellina dorsobranchialis</i>	645.83	2128.52	24/ 30
<i>Chaetozone</i>	6.67	17.29	5/ 30
<i>Armandia maculata</i>	10.83	33.27	6/ 30
<i>Travisia hobsonae</i>	12.50	63.91	2/ 30
<i>Capitella sp. A</i>	11.67	38.13	5/ 30
<i>Capitella capitata</i>	6.67	20.69	3/ 30
<i>Notomastus americanus</i>	0.83	----	1/ 30
<i>Mediomastus</i>	50.83	105.14	8/ 30
<i>Mediomastus ambiseta</i>	25.83	73.25	8/ 30
<i>Mediomastus californiensis</i>	104.17	207.83	13/ 30
<i>Maldanidae</i>	1.67	----	1/ 30
<i>Sabaco americanus</i>	3.33	14.28	2/ 30
<i>Asychis elongatus</i>	0.83	----	1/ 30
<i>Axiothella mucosa</i>	11.67	55.22	2/ 30
<i>Owenia fusiformis</i>	5.00	15.26	4/ 30
<i>Sabellaria sp. A</i>	28.33	----	1/ 30
<i>Sabellaria sp. C</i>	1.67	----	1/ 30
<i>Pectinaria gouldii</i>	12.50	24.34	9/ 30
<i>Melinna maculata</i>	4.17	----	1/ 30
<i>Isolda pulchella</i>	15.00	52.77	5/ 30
<i>Loimia medusa</i>	0.83	----	1/ 30
<i>Chone sp.</i>	6.67	24.51	3/ 30
<i>Megalomma sp.</i>	0.83	----	1/ 30
<i>Megalomma bioculatum</i>	0.83	----	1/ 30
<i>Megalomma pigmentum</i>	4.17	----	1/ 30
<i>Fabricinuda trilobata</i>	2.50	10.06	2/ 30
<i>Spirorbis spirillum</i>	0.83	----	1/ 30
<i>Enchytraeidae</i>	71.67	----	1/ 30
<i>Tubificidae</i>	675.83	886.11	25/ 30
<i>Tubificoides wasselli</i>	60.00	204.96	8/ 30
<i>Gastropoda</i>	10.00	41.83	3/ 30
<i>Schwartziella catesbyana</i>	0.83	----	1/ 30
<i>Teinostoma sp.</i>	3.33	10.85	3/ 30
<i>Cyclostremiscus ?pentagonus</i>	0.83	----	1/ 30
<i>Caecum pulchellum</i>	10.83	33.91	5/ 30
<i>Bittium varium</i>	27.50	93.39	3/ 30
<i>Cerithium muscarum</i>	8.33	----	1/ 30
<i>Microeulima hemphilli</i>	7.50	24.70	4/ 30
<i>Calyptrea centralis</i>	1.67	----	1/ 30
<i>Crepidula</i>	0.83	----	1/ 30
<i>Crepidula fornicata</i>	0.83	----	1/ 30
<i>Crepidula plana</i>	3.33	14.28	2/ 30
<i>Crepidula maculosa</i>	15.83	82.13	2/ 30
<i>Tectonatica pusilla</i>	2.50	7.63	3/ 30
<i>Phyllonatus pomum</i>	2.50	----	1/ 30
<i>Astris lunulata</i>	76.67	354.89	3/ 30

Taxa	Mean	Std.Dev.	M / N
	(Divisor = N)		
<i>Parvanachis obesa</i>	1.67	6.34	2/ 30
<i>Nassarius vibex</i>	22.50	41.18	12/ 30
<i>Olivella pusilla</i>	9.17	29.71	4/ 30
<i>Jaspidella blanesi</i>	39.17	55.20	14/ 30
<i>Granulina hadria</i>	4.17	13.27	3/ 30
<i>Prunum apicinum</i>	22.50	30.34	14/ 30
<i>Stellatoma stellata</i>	0.83	----	1/ 30
<i>Eulimastoma weberi</i>	37.50	173.42	4/ 30
<i>Eulimastoma sp.</i>	10.83	30.57	6/ 30
<i>Eulimastoma teres</i>	3.33	10.85	3/ 30
<i>Odostomia producta</i>	1.67	----	1/ 30
<i>Turbonilla sp.</i>	0.83	----	1/ 30
<i>Turbonilla interrupta</i>	1.67	6.34	2/ 30
<i>Turbonilla conradi</i>	33.33	87.67	7/ 30
<i>Turbonilla cf. dalli</i>	1.67	----	1/ 30
<i>Turbonilla incisa</i>	2.50	10.06	2/ 30
<i>Cephalapsidea sp.</i>	0.83	----	1/ 30
<i>Rictaxis punctostriatus</i>	10.83	21.46	7/ 30
<i>Acteocina canaliculata</i>	176.67	317.45	18/ 30
<i>Cylichnella bidentata</i>	2.50	10.06	2/ 30
<i>Haminoea succinea</i>	138.33	222.42	17/ 30
<i>Haminoea elegans</i>	28.33	----	1/ 30
<i>Haminoea antillarum</i>	6.67	25.37	2/ 30
<i>Opisthobranchia</i>	19.17	----	1/ 30
<i>Acanthopleura granulata</i>	1.67	----	1/ 30
<i>Bivalvia</i>	35.00	81.90	10/ 30
<i>Nucula crenulata</i>	10.00	24.21	6/ 30
<i>Nuculana acuta</i>	0.83	----	1/ 30
<i>Musculus lateralis</i>	4.17	18.67	2/ 30
<i>Brachidontes exustus</i>	2.50	7.63	3/ 30
<i>Amygdalum papyrium</i>	23.33	80.12	6/ 30
<i>Anomia simplex</i>	0.83	----	1/ 30
<i>Lucinidae sp.</i>	2.50	----	1/ 30
<i>Parvilucina multilineata</i>	4.17	14.80	3/ 30
<i>Lucina nassula</i>	0.83	----	1/ 30
<i>Crassostrea virginica</i>	35.83	191.60	2/ 30
<i>Diplodonta semiaspera</i>	4.17	11.53	4/ 30
<i>Orobitella (=Neaeromya) floridana</i>	17.50	71.36	3/ 30
<i>Mysella planulata</i>	74.17	176.84	15/ 30
<i>Erycina floridana (=Mysella A)</i>	8.33	36.75	3/ 30
<i>Laevicardium mortoni</i>	28.33	52.82	12/ 30
<i>Tracycardium egmontianum</i>	0.83	----	1/ 30
<i>Mulinia lateralis</i>	420.00	1250.66	11/ 30
<i>Macoma tenta</i>	33.33	137.14	6/ 30
<i>Macoma constricta</i>	3.33	12.69	2/ 30
<i>Tellina sp.</i>	40.83	74.42	11/ 30
<i>Tellina iris</i>	4.17	16.19	2/ 30
<i>Tellina lineata</i>	0.83	----	1/ 30
<i>Tellina versicolor</i>	15.00	31.21	7/ 30
<i>Tagelus divisus</i>	52.50	118.24	11/ 30
<i>Abra aequalis</i>	0.83	----	1/ 30
<i>Cyclinella tenuis</i>	0.83	----	1/ 30

1994-1997 TERRA CEIA BAY BENTHOS (RUN DATE 8 Sept 98)-CONTINUED.

Taxa	Mean	Std.Dev.	M / N
(Divisor = N)			
<i>Transennella conradina</i>	0.83	----	1/ 30
<i>Transennella stimpsoni</i>	0.83	----	1/ 30
<i>Chione cancellata</i>	0.83	----	1/ 30
<i>Parastarte triquetra</i>	0.83	----	1/ 30
<i>Sphenia antillensis</i>	3.33	10.85	3/ 30
<i>Corbula contracta</i>	1.67	6.34	2/ 30
<i>Corbula swiftiana</i>	1.67	----	1/ 30
<i>Lyonsia hyalina floridana</i>	54.17	107.29	13/ 30
<i>Asthenothaerus hemphilli</i>	2.50	10.06	2/ 30
<i>Pycnogonida</i>	1.67	6.34	2/ 30
<i>Cirripedia</i>	16.67	64.44	3/ 30
<i>Mysidopsis</i>	1.67	6.34	2/ 30
<i>Americamysis bigelowi</i>	18.33	91.43	2/ 30
<i>Mysidopsis furca</i>	0.83	----	1/ 30
<i>Bowmaniella sp.</i>	0.83	----	1/ 30
<i>Bowmaniella brasiliensis</i>	0.83	----	1/ 30
<i>Americamysis stucki</i>	0.83	----	1/ 30
<i>Oxyurostylis</i>	20.83	72.24	5/ 30
<i>Oxyurostylis smithi</i>	47.50	93.16	10/ 30
<i>Oxyurostylis lecroyae</i>	4.17	14.80	3/ 30
<i>Cyclaspis</i>	0.83	----	1/ 30
<i>Cyclaspis cf. varians</i>	179.17	456.09	11/ 30
<i>Kalliapseudes sp. A</i>	0.83	----	1/ 30
<i>Leptocheilia</i>	5.00	----	1/ 30
<i>Amakusanthura magnifica</i>	42.50	58.04	16/ 30
<i>Paracerceis caudata</i>	19.17	100.36	2/ 30
<i>Erichsonella attenuata</i>	0.83	----	1/ 30
<i>Edotia triloba</i>	50.83	160.48	10/ 30
<i>Ampelisca spp.</i>	1.67	6.34	2/ 30
<i>Ampelisca abdita</i>	5.83	15.65	5/ 30
<i>Ampelisca vadorum</i>	5.83	----	1/ 30
<i>Ampelisca holmesi</i>	206.67	304.56	19/ 30
<i>Ampelisca sp. C</i>	6.67	13.02	7/ 30
<i>Ampithoe longimana</i>	3.33	----	1/ 30
<i>Cymadusa compta</i>	52.50	209.30	2/ 30
<i>Bemlos unifasciatus</i>	1.67	6.34	2/ 30
<i>Paramicrodeutopus cf. myersi</i>	7.50	18.74	5/ 30
<i>Rudilemboides naglei</i>	35.83	81.65	9/ 30
<i>Bemlos rectangulatus</i>	0.83	----	1/ 30
<i>Batea catharinensis</i>	4.17	14.80	3/ 30
<i>Cerapus sp. C ("tubularis")</i>	52.50	150.48	7/ 30
<i>Monocorophium acherusicum</i>	0.83	----	1/ 30
<i>Erichthonius brasiliensis</i>	30.00	98.13	7/ 30
<i>Grandidierella bonnieroides</i>	40.83	89.17	9/ 30
<i>Dulichchiella appendiculata</i>	3.33	----	1/ 30
<i>Acanthohaustorius uncinus</i>	2.50	7.63	3/ 30
<i>Microprotopus raneyi</i>	0.83	----	1/ 30
<i>Listriella barnardi</i>	29.17	52.15	11/ 30
<i>Shoemakerella cubensis</i>	1.67	6.34	2/ 30
<i>Monoculodes nyei</i>	0.83	----	1/ 30
<i>Eudevenopus honduranus</i>	16.67	39.57	7/ 30
<i>Stenothoe ?gallensis</i>	12.50	63.91	2/ 30

Taxa	Mean (Divisor = N)	Std.Dev.	M / N
Caprellidae-unid.	2.50	----	1/ 30
Deutella incerta	2.50	----	1/ 30
Palaemonidae	11.67	----	1/ 30
Periclimenes longicaudatus	4.17	----	1/ 30
Alpheus normanni	0.83	----	1/ 30
Alpheus angulatus	0.83	----	1/ 30
Hippolyte zostericola	5.83	----	1/ 30
Latreutes parvulus	17.50	----	1/ 30
Ambidexter symmetricus	7.50	18.74	5/ 30
Paguroidea	7.50	36.64	2/ 30
Pagurus	5.83	15.65	5/ 30
Euceramus praelongus	0.83	----	1/ 30
Paguristes nr. tortugae	3.33	----	1/ 30
Upogebia	5.83	19.35	4/ 30
Brachyura	0.83	----	1/ 30
Libinia dubia	0.83	----	1/ 30
Pitho anisodon	0.83	----	1/ 30
Xanthidae	3.33	10.85	3/ 30
Hexapanopeus angustifrons	1.67	----	1/ 30
Panopeus sp.	7.50	----	1/ 30
Pinnixa spp.	30.00	69.60	14/ 30
Pinnixa cf. floridana	0.83	----	1/ 30
Sipuncula	3.33	----	1/ 30
Phascolion crypta	75.00	235.71	19/ 30
Phoronis	1.67	----	1/ 30
Phoronis ?architecta	6.67	23.61	4/ 30
Phoronida sp. B	0.83	----	1/ 30
Glottidia pyramidata	7.50	13.37	8/ 30
Ophiuroidea	7.50	13.37	8/ 30
Hemipholis elongata	4.17	18.67	2/ 30
Amphiuridae	2.50	10.06	2/ 30
Amphipholis squamata	4.17	18.67	2/ 30
Ophiophragmus filograneus	2.50	10.06	2/ 30
Amphioplus thrombodes	4.17	14.80	3/ 30
Amphioplus sepultus (=abditus)	0.83	----	1/ 30
Micropholis atra	2.50	7.63	3/ 30
Echinoidea	2.50	7.63	3/ 30
Mellita tenuis	3.33	10.85	3/ 30
Stereobalanus canadensis	11.67	43.42	3/ 30
Branchiostoma floridae	28.33	78.71	10/ 30

APPENDIX F

TERRA CEIA BAY BENTHOS: 1993-1996

**RANKED MEAN ABUNDANCE :
TAXA COMPRISING >0.5%
OF
TOTAL BENTHIC ABUNDANCE**

1993-1996 TERRA CEIA BAY BENTHOS (RUN DATE 4 sep 98)

Overall Summary of 29 Samples		
Summary Characteristics		
Number of Species	:	335
Density of All Species	:	4968.97
Diversity (Hprime -log base 2)	:	6.02
Evenness (Hprime/Hmax)	:	0.72
Taxa	Observed	Percentage
<i>Tubificidae</i>	713.36	14.36
<i>Monticellina dorsobranchialis</i>	644.83	12.98
<i>Paraprionospio pinnata</i>	274.57	5.53
<i>Ampelisca holmesi</i>	235.78	4.74
<i>Apoprionospio pygmaea</i>	123.71	2.49
<i>Mediomastus</i>	120.69	2.43
<i>Acteocina canaliculata</i>	102.59	2.06
<i>Mulinia lateralis</i>	99.57	2.00
<i>Astris lunulata</i>	84.48	1.70
<i>Haminoea succinea</i>	83.19	1.67
<i>Carazziella hobsonae</i>	66.81	1.34
<i>Scolecopsis texana</i>	59.91	1.21
<i>Cyclaspis cf. varians</i>	58.62	1.18
<i>Amakusanthura magnifica</i>	57.76	1.16
<i>Prionospio heterobranchia</i>	56.47	1.14
<i>Pinnixa spp.</i>	53.02	1.07
<i>Prionospio perkinsi</i>	47.84	0.96
<i>Podarkeopsis levifuscina</i>	45.69	0.92
<i>Turbonilla conradi</i>	40.95	0.82
<i>Listriella barnardi</i>	39.66	0.80
<i>Edotia triloba</i>	37.50	0.75
<i>Rudilemboides naglei</i>	37.50	0.75
<i>Crassostrea virginica</i>	37.07	0.75
<i>Bivalvia</i>	37.07	0.75
<i>Mediomastus ambiseta</i>	34.05	0.69
<i>Oxyurostylis smithi</i>	34.05	0.69
<i>Tellina sp.</i>	33.62	0.68
<i>Aricidea taylori</i>	33.19	0.67
<i>Paracerceis caudata</i>	31.47	0.63
<i>Mysella planulata</i>	31.03	0.62
<i>Sabellaria sp. A</i>	31.03	0.62
<i>Glycinde solitaria</i>	30.60	0.62
<i>Erichthonius brasiliensis</i>	30.60	0.62
<i>Caecum pulchellum</i>	28.45	0.57
<i>Aricidea philbinae</i>	27.59	0.56
<i>Nemertea B</i>	26.29	0.53
<i>Olivella</i>	25.86	0.52
<i>Phascolion crypta</i>	25.00	0.50

APPENDIX G

TERRA CEIA BAY BENTHOS: 1994-1997

**RANKED MEAN ABUNDANCE :
TAXA COMPRISING >0.5%
OF
TOTAL BENTHIC ABUNDANCE**

1994-1997 TERRA CEIA BAY BENTHOS (RUN DATE 8 Sept 98)
TAXA COMPRISING >= 0.5% OF TOTAL ABUNDANCE

Overall Summary of 30 Samples		
Summary Characteristics		
Number of Species	:	289
Density of All Species	:	6080.00
Diversity (Hprime -log base 2)	:	6.08
Evenness (Hprime/Hmax)	:	0.74
Taxa	Observed	Percentage
<i>Tubificidae</i>	675.83	11.12
<i>Monticellina dorsobranchialis</i>	645.83	10.62
<i>Mulinia lateralis</i>	420.00	6.91
<i>Paraprionospio pinnata</i>	267.50	4.40
<i>Ampelisca holmesi</i>	206.67	3.40
<i>Cyclaspis cf. varians</i>	179.17	2.95
<i>Acteocina canaliculata</i>	176.67	2.91
<i>Haminoea succinea</i>	138.33	2.28
<i>Mediomastus californiensis</i>	104.17	1.71
<i>Apoprionospio pygmaea</i>	95.83	1.58
<i>Streblospio benedicti</i>	83.33	1.37
<i>Astris lunulata</i>	76.67	1.26
<i>Phascolion crypta</i>	75.00	1.23
<i>Mysella planulata</i>	74.17	1.22
<i>Enchytraeidae</i>	71.67	1.18
<i>Aricidea philbinae</i>	61.67	1.01
<i>Prionospio perkinsi</i>	60.00	0.99
<i>Tubificoides wasselli</i>	60.00	0.99
<i>Scolecopsis texana</i>	57.50	0.95
<i>Lyonsia hyalina floridana</i>	54.17	0.89
<i>Cerapus sp. C</i> ("tubularis")	52.50	0.86
<i>Cymadusa compta</i>	52.50	0.86
<i>Tagelus divisus</i>	52.50	0.86
<i>Mediomastus</i>	50.83	0.84
<i>Edotia triloba</i>	50.83	0.84
<i>Carazziella hobsonae</i>	48.33	0.79
<i>Oxyurostylis smithi</i>	47.50	0.78
<i>Exogone dispar</i>	47.50	0.78
<i>Prionospio heterobranchia</i>	47.50	0.78
<i>Kinbergonuphis simoni</i>	45.00	0.74
<i>Amakusanthura magnifica</i>	42.50	0.70
<i>Glycinde solitaria</i>	42.50	0.70
<i>Podarkeopsis levifuscina</i>	41.67	0.69
<i>Tellina sp.</i>	40.83	0.67
<i>Grandidierella bonnieroides</i>	40.83	0.67
<i>Cirrophorus</i>	40.00	0.66
<i>Jaspidella blanesi</i>	39.17	0.64
<i>Aricidea taylori</i>	38.33	0.63
<i>Eulimastoma weberi</i>	37.50	0.62
<i>Rudilemboides naglei</i>	35.83	0.59
<i>Crassostrea virginica</i>	35.83	0.59
<i>Bivalvia</i>	35.00	0.58
<i>Magelona pettiboneae</i>	35.00	0.58
<i>Turbonilla conradi</i>	33.33	0.55
<i>Macoma tenta</i>	33.33	0.55

