NOAA Data Report ERL MESA-40



DISTRIBUTION AND ABUNDANCE OF BENTHIC ORGANISMS
IN THE NEW YORK BIGHT, FIRST AND SECOND MONITORING CRUISES,
NOVEMBER 1975 AND MARCH 1976

Janice Caracciolo John Pearce Martha Halsey Leslie Rogers

Marine Ecosystems Analysis Program Boulder, Colorado September 1978



9H 541.5 S3455 no.40

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These data were generated by personnel of the Division of Environmental Assessment, Northeast Fisheries Center, NMFS, with partial support from the NOAA MESA New York Bight Project. The data are being made available in the present form for timely assistance to user groups. The data are being further analyzed by staff members of the Northeast Fisheries Center and will form the basis for future publications.

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# Introduction

Analyses of benthic communities have been used since 1968 (Pearce et al. 1976a) to indicate impacts from contaminants on the ecosystem of the New York Bight apex. Studies done at Sandy Hook have had four phases: 1) reconnaissance, 2) seasonal sampling (five quarterly cruises between August 1973 and September 1974 [Pearce et al., 1976b, 1976c, 1977a]), 3) intensive grid sampling in areas known to be affected by sewage sludge and dredge spoil disposal (Pearce et al., 1977b), and 4) monitoring of selected stations in the apex.

The present data report is a product of the fourth phase, and was prepared to provide machine listed data and certain statistical calculations, diversity and equitability (Shannon and Weaver, 1963; Pielou, 1969), concerned with the distribution and abundance of benthic organisms collected at 18 monitoring stations located in the standard New York Bight MESA sampling grid (Fig. 1). Monitoring stations were selected from standard SYMAP stations located in the sewage sludge (stations 32-35) and dredge spoil disposal areas (between stations 36 and 43), in marginally polluted areas, in nearshore areas, and in unimpacted areas. Data from these stations will yield information on changes in the Bight over time by providing more replicate samples which may be compared with earlier samples collected at the same stations. Moreover, these stations also form the basis for sampling strata 4 of the new NMFS Ocean Pulse environmental assessment program (Pearce, 1977).

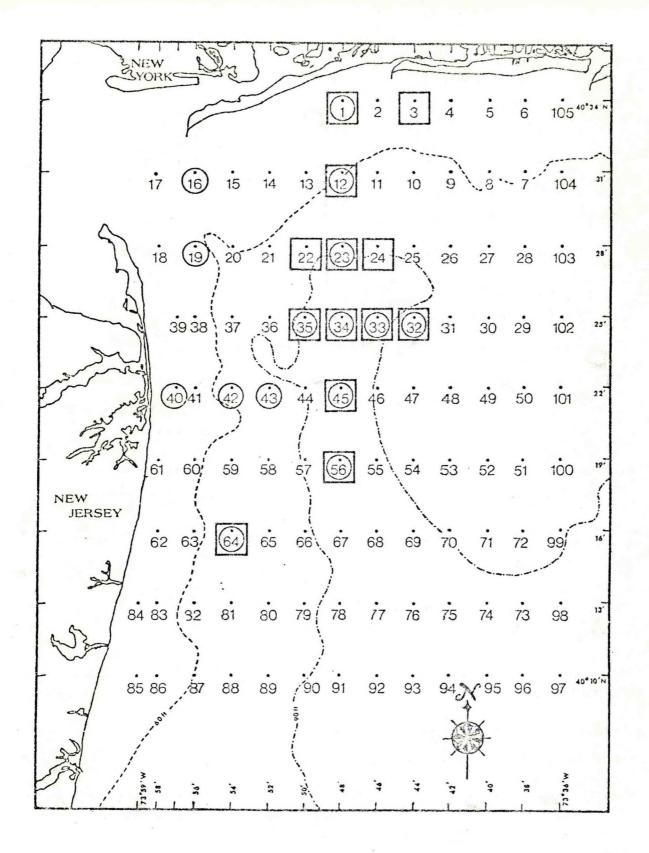


Figure 1. Standard N.Y. Bight, MESA SYMAP station positions.

= First monitoring cruise station; = Second monitoring cruise station.

#### Materials and Methods

The first monitoring cruise was conducted in November 1975. Two 0.1 m<sup>2</sup> Smith-McIntyre benthic grab samples were collected at each of 13 stations (Fig. 1) from on board the R/V Rorqual. These stations were located by LORAN-A and radar.

The second monitoring cruise was conducted in February-March 1976. During this cruise, two 0.1 m<sup>2</sup> Smith-McIntyre benthic grab samples were collected at each of 15 stations from on board the NOAA ship <u>Delaware II</u> and the R/V <u>Rorqual</u>. Ten stations sampled during the first monitoring cruise were re-sampled on the second cruise (Fig. 1). Station positions were again located and maintained by LORAN-A and radar.

During both cruises, at each station, two sediment cores (3.4 cm inside diameter) were removed from each grab sample, one for standard geological analyses and the other for heavy metals analyses. These cores were frozen and placed in storage for future use.

The remainder of each grab sample was washed through a standard geological sieve with a 1.00 mm mesh size. All macrofauna collected in these samples was fixed in 10% buffered formalin and later transferred to and preserved in 70% ethanol containing 5% glycerol.

In the laboratory, dissecting microscopes were used as an aid in sorting organisms from preserved macrofauna samples.

Whenever possible, all organisms were identified to species level using standard keys and descriptions and, when necessary, consultations with recognized taxonomists.

Station positions and counts of organisms per species in each grab were coded and machine listed. The community found at each station was analyzed for total number of individuals per grab (N), total number of species (S), equitability (J' = H'/H' max = H'/ln S), and diversity (H'  $\cong \sum -n_i \ln n_i$ , where  $n_i$  = number in the ith species).

### Results

Machine listed species lists and counts, with diversity and equitability calculations for each of the monitoring cruise stations are presented in Appendix A. Collection dates are indicated as day / month / year.

No detailed interpretations of these data will be made at this time.

#### Literature Cited

- Pearce, J. 1977. A report on a new environmental assessment and monitoring program, Ocean Pulse. International Council for the Exploration of the Sea, Paper m1977/E: 65, Fisheries Improvement Committee, 12 p.
- Pearce, J., J. Caracciolo, A. Frame, L. Rogers, M. Halsey, and J. Thomas. 1976a. Distribution and abundance of benthic organisms in the New York Bight, August 1968-December 1971.

  NOAA, National Marine Fisheries Service. NOAA DR ERL MESA-7. 114 p.
- Pearce, J., J. Thomas, J. Caracciolo, M. Halsey, and L. Rogers.
- 1976b. Distribution and abundance of benthic organisms in the

  New York Bight apex, 2-6 August 1973. NOAA, National Marine

  Fisheries Service. NOAA DR ERL MESA-8. 131 p.
- Pearce, J., J. Thomas, J. Caracciolo, M. Halsey, and L. Rogers.
- 1976c. Distribution and abundance of benthic organisms in the New York Bight apex, 26 August-6 September 1974. NOAA,
  National Marine Fisheries Service. NOAA DR ERL MESA-9.
  88 p.
- Pearce, J., L. Rogers, J. Caracciolo, and M. Halsey. 1977a.

  Distribution and abundance of benthic organisms in the

  New York Bight apex, five seasonal cruises, August 1973

  through September 1974. (In press).
- Pearce, J., J. Caracciolo, M. Halsey, and L. Rogers. 1977b.

  Distribution and abundance of benthic macrofauna in the sewage sludge disposal area, New York Bight apex, February 1975. (In press).

- Pielou, E. 1969. An introduction to mathematical ecology.
  Wiley-Interscience, N. Y. 286 p.
- Shannon, C. and W. Weaver. 1963. The mathematical theory of communication. Univ. of Ill. Press, Urbana. 117 p.

# APPENDIX A

Machine listings of species counts, diversity, and equitability for samples taken during the first and second monitoring cruises.

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CRUISE DATE R7501 11/11/75	NO. SPECIES 21		O i	α. Ζ	Z		Σ	۵.	-	A	0.	S	α.	d.	C.	C.	U	ш	)	Z		4

DEPTH METERS 33.1	EQUITABILITY 0.2508																												*			
LONGITUDE 7346 W	0.8694 EQUIT																															
LATITUDE 4725 N	DIVERSITY 0.	COUNT	7	4	1	15	4	9 (	N 14	7.4	2220	65	9	-	110	27	. 61	6	. 22	1	(	7 6	4	4	7	11	9	2	1	10	1 2	CT
CRUISE DATE CRUISE SYMAP GRAB R7501 11/11/75 33 32	NO. SPECIES 32 NO. INDIVIDUALS 2655	SPECIES LISTING	CERITANTHUS AMERICANUS	RHYNCHOCOELA	NEMATODA	OL I GOCHAETA	PROTODPILUS SYMBIOTICUS	NEDELT O DICH SA		PHERUSA AFFINIS	ASABELLINES OCULATA	THARYX ACUTUS	THARYX ANNULOSUS	STREPLOSPIO BENEDICTI	PRICHOSPIO STEENSTRUPI	SPICEHANES BOMBYX	POLYBORA LIGHT	VA	31	V	EYS	10	NINDE MIGRIPES	PECTINARIA GOULDIT	OWENIA FUSIFORMIS	FOOTEA TRILOBA	UNCIOLA TRRORATA	CRANGON SEPTEMSPINDSA	UNIO BIVALVE #2	TELLINA AGILLS	TECT	0 487 11

О <u>т</u> ртн метехѕ я4•э	EQUITABLETY 0.2517																							
LANGITUDE 7348 W		<b>!-</b>	~ ·			.+	•	·	.+	•			.+	.+	3	-		•	*	.+	_	01		
LATITUDE 4025 N	DIVERSITY 0,7893	COUNT	32		45	94		540	1	6			54	7				2349		7 [			ì	
6843 01	2848	10	SON					Δ_			TAE			Δ	ATA							PINNULATUM		
STATION NUMBER CRUISE SYMAP 034 34	. INDIVIDUALS	SPECIES LISTING	CHRIANIHUS AMERICANUS RHYNCHOCOELA	IS VIRENS	JSA AFFINIS	TYS INCISA	ARETE ARCTICA	ELLIDES OCULATA	YX ANNUL USUS	YX ACUTUS	MASTUS AMBISETAE	INIS GRACILIS	RINEPIS TENUIS	ONE RUBRACINCTA	JRA LONGOCIRRATA	OLA IRRORATA	RIIDAE	-	A MORRHUANA	INA AGILIS	BIVALVE #2	RWA	IA LIMATULA	US EDULIS
S	IES 23 NO		N T X I	N C C C C C C C C C C C C C C C C C C C	PHER	HOEN	Hdwb	ASABI	THAP	THAR	MEDIC	PARAL	LUMB	EUCHC	CUSSI	) I JND	HYPERIIO	NUCUL A	PITAR	TELL INA	CIND	CERASTOR	AULUIA	MYTIL
CPUISE R7501	NO. SPEC											18	3											

LATITUDE LONGITUDE METERS 4025 N 7348 W 34.0	DIVERSITY 1.9910 EQUITABILITY C.5854	COUNT	19	2	2		22	4	12	5.0		54	5.6	8	16		100	.21	42		1	1		2	7	-	410	7	7		9	11
CPUTSE DATE CRUTSE SYMAP GRAB R7501 11/11/75 034 34 02	NO. SPECIES 30 NO. INDIVIDUALS 813	SPECIES LISTING	CERIANTHUS AMERICANUS	PROTODRILUS SYMBIOTICUS	OL I GOCHAETA	DPILONERFIS LONGA	LUMBRINERIS TENUIS	MINDE MIGRIPES	PHERUSA AFFINIS	FUCHONE RUBROCINCTA	COSSURA LONGOCIRRATA	THAPYX ACUTUS	THAP YX ANNULOSUS	PARADNIS GRACILIS	PAIDNOSPID STEENSTRUPI	PECTINAPIA GOULDII	ASABFLIDES OCULATA.	MEDIUMASTUS AMBISETAE	MEPHTYS INCISA	VUUDEBUDV	LEPTOCHEIRUS PINGUIS	MELITA NITIDA	CRANGON SEPTEMSPINOSA	CANCER IFRORATUS	PITAR MOPPHUANA	CFP ASTODERMA PINNULATUM	NUCULA PROXIMA	NUCULA DELPHINDDONTA	TELLINA AGILIS	THYASIRA TRISINUATA	UNIO BIVALVE #2	PHORONIS ARCHITECTA

0		* * * *		19.	
DEPTH  RAFTERS  29.5 FOULTABILITY 05619		<b>公共共享 安安安安 克尔洛安安</b>	DEPTH METFRS 29.5	FOULTABILITY 9.1767	
GITUD 50 W		********	LONGITUDE 7350 W		
LATITUDE LOW 4025 N 73 DIVERSITY 1,4412	C nuni 17 17 5 5 11 8 42 42 11 11 11 11 11 11 11	*****	LATITUDE 4025 N	DIVERSITY 0.5460	C nunt 24 24 11 18 17 17 17 18 19 10 10 11 11 12 13 14 14 16 17 18 18 18 18 18 18 18 18 18 18
STATION NUMBER CRUISE SYMAP GRAB 15 035 35 01 NO. INDIVIDUALS 209	SPECIES LISTING RHYNCHOCDELA PROTODRILUS SYMBIDTICUS LUMBRINETIS TEMUIS GLYCERA DIBRANCHIATA SPIO FILICORNIS ASABELLIDES OCULATA AMPHARETE ARCTICA PRIONOSPIO STEEMSTRUPI THARYX ANNULOSUS UNCIOLA IPRPRATA CRANGON SEPTEMSPINOSA	计部分特殊的 计数据计算 化二氯化甲基二甲基二甲基苯甲基二甲基甲基二甲基甲基二甲基甲基甲基甲基甲基甲基甲基甲基甲基	STATION NUMBER CRUISE SYMAP GRAB 5 035 35 02	MO. IMDIVIDUALS 2466	SPECTES LISTING CERTANTHUS AMERICANUS OLIGOCHAFTA LUMBRINERIS TENUIS HARWOTHNE EXTENUATA NEPHTYS INCISA THARYX ACUTUS THARYX ANNULOSUS SPIOPHANES ROMRYX ASARELLIDES OCULATA PREPIUSA AFFINIS UMBRINERIS FRAGILIS ORILOMERIS FRAGILIS ONCICLA IPPORATA CERASTODERMA PINMULATUM NUCULA IPPORATA CERASTODERMA PINMULATUM NUCULA IPPORATA CERASTODERMA PINMULATUM NUCULA PROXIMA PITAR MORRHUANA PITAR MORRHUANA PETILINA AGILIS TELLINA AGILIS UNID BIVALVE #2
CRUISE DATE 37501 11/11/75 NO. SPECIES 13		· · · · · · · · · · · · · · · · · · ·	CRUISE DATE R7501 11/11/75	NO. SPECIES 22	20

DEPTH METERS 37.1	EQUITABILITY 0.4252														
LATITUDE LONGITUDE 4022 N 7348 W	DIVERSITY 1.2730	COUNT	1	304	34	אינא	5	<b></b> 60		4 <b>~</b> -1	2	**	9 .	617	2
STATION NUMBER GRAB CRUISE SYMAP GRAB	NO. INDIVIDUALS 1084		HOE E	ASABELLIDES OCULATA NEPHTYS INCISA	PHERUSA AFFINIS	×		MEDIOMASTUS AMBISETAE COSSURA LONGOCIRRATA	CRANGON SEPTEMSPINGSA	Σ	YOLDIA LIMATULA CERASTODERMA PINNULATUM	CRRHU	< J	NUCULA PROXIMA	0
CRUTSE DATE 87501 11/11	NO. SPECIES 23							21							

	(D										
DEPTH METESS 37.1	EQUITABILITY 3.4989										
10NG1TUDE 7348 W											
LATITUDE 4022 N	DIVERSITY 1.6255	C nunt	0	1.0	. 11	50	406 11	1 4 4	98-	4 104 106	
STATION NUMBER CRUISE SYMAP GRAB 75 045 45 02	NO. INDIVIDUALS 1168	SPECIES LISTING CERIANTHUS AMERICANUS EDWAPDSIA SIPUNCULDIDES	PHYNCHOCOELA ANTINOELLA SARSI HARMOTHOE EXTENUATA	NEPHTYS INCISA PARANAITIS KOSTERIENSIS NINOE NIGPIPES	LUMBRINERIS FRAGILIS MEDIOMASTUS AMBISETAE PARAONIS GRACILIS	PHERUSA AFFINIS THARYX ACUTUS THARYX ANNULOSUS	ASABELI IDES OCULATA COSSURA LONGOCTPRATA PRIGNOSPIG STEFNSTRUPI	STENOPLEUSTES GRACILIS PITAR MORRHUANA YOLDIA LIMATULA	TELLINA AGILIS UNID BIVALVE #2	NUCULA PROXIMA NUCULA PELPHINODONTA	プロ・ストン ロボウロコードウーロ
CRUISE DATE R7501 11/11/75	NO. SPECIES 26					22					

DEPTH METERS 45.6	EQUITABILITY 0.7436																						
GITUD 48 W		NT	. 21	8	2 2	1	2	n v	2	9	2 7			- 8	, ,	-1	3 -		15	2	4	<b>.</b>	1
LATITUDE 4019 N	DIVERSITY 2.4778	COUNT	. N	28	1 65		26				,							1	1				
GRAB 01	213	SILIS	DIDES	<							01	ΓA		4	RUP I		<i>S</i>				ATUM		
NUMBER SYMAP 56	INDIVIDUALS	S LISTING	STPUNCULOIDES	SOCULATA	LIA NEGLECTA A AFFINIS	ASI	TSA	IN II	BOMBYX	I PES	X ACUTUS	LCNGOCIRRATA	3 A	PUBROCINCTA FRIS TENUIS	STEFNSTRU	CIPRATA	IS PINGUIS	PPOXIMA	MUPRHUANIA	AGILIS	4A PININILATUM	/E #2	RIAREUS
470	NO. INDIV	SPECIES	EDWARDSIA	AS A B ELL I DES	POTAMILIA NEGLECTA PHERUSA AFFINIS	BRADA VILL	NEDHTYS INC	RHODINE LO	SPLUDHANES	CACIN MONIN	THARYX ACU	COSSURA LON	ETERNE LONG	EUCHONE PUF	PRIONOSPIO	LAUNICE CIPRA	FPTOCHFIRIS P	NUCULA PPO	PITAR MOPE	TELLINA AG	CERASTODERA	UNID BIVAL	THYONE ARI
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	0.7516					ų.																											
DEPTH METERS 45.6	EQUITAB IL ITY																																
LONGITUDE 7348 W																																	
107777UNE LC	DIVERSITY 2.6049	COUNT	14	۲.	1 2	37	21	3	7	5	25.	9	-	4	4	, 4	4	-	p4	4	7	7	2.7	С			114	64	-	1	13	10	3
GRAB LAT				S														S											٤				
NUMBER SYMAP 56	DIVIDUALS 414	LISTING	AMERICANUS	SIPUNCULOINES	ATA HIDO	STEFNSTRIIPT	TENUIS	RUBROCINCTA	٧	QUADRILGBATA	NIS	S	PITATA	CTICA	CEPA GIGANTEA	IZ	AMBISETAE	FUND I PUL I FORM IS	INFUNDILIULUM	FIS LONGA	RENIFORMIS	S	SA	PINGUIS	SEPTEMSPINOSA	ATUS	MA	ELPHINODONTA	PINNULATUM	#2	ULA	ANA	IAREUS
STATION N CRUISE 056	NO. INDIVI	ES S	S	EDWARDSIA SI	SARFITANE CA	1 C	-	JCHONE RUBP	4UL DE MINUTA	DLYDDRA QUA	HERUSA AFFI	INGE NIGRIP	APITELLA CA	MPHARETE AR	PHICKLYCEPA	HUDINE LUVENI	SO	HUNE INFUND	YXICOLA INF	SITCHNEDETS		AARYX ACUTUS	EPHTYS INC.	PPTOCHETRUS	SANGON SEPT	ANCER TARDR	JCULA PPOXIMA	JULIA DELPH	ERASTONERMA	VID BIVALVE	YOLDIA LIMATULA		
0ATE 11/11/75	1ES 32		Ü	चें द	£ 4	à	J	Ĭ.	d	P	à	Z	73	Δ,	Ž.	ß	M	さ	N	C	D(	1	N	1	Ö	Ü	Z	Z	Ü	111	7	0.	÷
CPUISE R7501	NO. SPEC																2	24															

	0.8345																	
DEPTH METERS 20.3	EQUITABILITY 0.8345									i								
LONGITUDE 7354 W		<b>⊢</b> 72	<b>.</b>		1					2								
LATITUDE 4016 N	DIVERSITY 2.3643	COUNT													1.			
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TION NUMBER ISE SYMAP 64 64	INPIVIDUALS	ECTES LISTING	LIDES OCULATA S RUCERA	ANES BOMBYX	DIBRANCHIATA	NEPIS TENUIS	S FRAGILI	TUS	PLOS ROBU	TRILORA	JS EPISTO	LUS HOLBPI	IPPORATUS	CTUS	VEILIS	XIMA	VIUS PAPMA	CHITECTA
STATION CPUISE 064	NO. INPI	SPECIE	ASARELLIDES OCNEPATYS BUCERA	PINPHANES	-1	LUMBRINEPI	LUMBRINERIS FRAGILIS	THARYX ACUTUS	HAPLOSCOLOPLOS ROBUSTUS	ENOTEA TRI	TRICHOPHOXUS EPISTOMUS	PHOXOCEPHALUS HOLBOLLI	CANCER IPP	ENSIS DIRECTUS	VIV	NUCULA PROXIMA	<b>ECHINARACHNIUS</b>	PHORONIS APCHITECTA
94TE 11/11/75	IES 17		< Z	U.	9			-	I	بنا	<b> </b>	۵	U	w	-		U)	C
JI SE	SBECTES.																	

	Y 0.3932																									
NETERS 20.3	EQUITABILITY																									
LONGITUDE 7354 W																										
	1.265	COUNT	6	23	0	بسو	7	2	~	3	599	. 66	,4	11	8	3	p=-4	3		C^	7	2	m	2	3	3
LATITUDE 4016 N	DIVERSITY 1.2658	Ü	•							,	,										,					
GRAB 02	983	ပ		11005		٥	<b>-</b>			TAF				IS			S			v		OLLI			VSC	
NUMBER SYMAP 64	INDIVIDUALS	FCIES LISTING	Δ.	S SYMBIOTIO	SINIS	THUE EXTENUAT	JEFFREYSII	ALL	FTE ARCTICA	ASTUS AMRISE	201	ANNULOSUS	CIMEA	S FRAGIL	S TENUIS	MUTA	ONEREIS CAFCUS	ARENAE	IL ICORNIS	ELLA GRACILIS	A SP.	JUB HULBUL	IPPORATUS	IRRORATA	EDTEMSPINDSA	PRUXIMA
STATION CRUISE 064	NO. INDI	SPECIE	PHYNCHOCOEL A	PROTODRILUS	HERUSA AFF	HARMOTHOE	<	YLLIS CHRMUTA	MPHARFTE	EUTRAMASTU	HARYX ACUTUS	HARYX ANNI	FREIS SUC	IMPRINFRI	JMBRINERI	ISIONE REI	TAMPONERE	HYLLOPOCE	DID FILIC	DNIADELLA	CAULLERIFILA	<b>SUJAHGEONXOH</b>	ANCER IRPI	- V	S	NUCULA PRI
DATE . 11/11/75	STES 25		0	a ō	. a.	I	ব	S	A	A	-	F	Z	_	<u>.</u>	۵	S	d	S	ت	Ü	Id	Ü	S	Ü	2
CRUISE R7501	NO. SPECI											26														

DEPTH METERS 9.6	EQUITABILITY 0.7899		**************************************	EQUITABILITY 0.7528		
I CMGITUDE 7348 W		E	**************************************			
LATITUDE 4334 N	DIVERSITY 2.2380	1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	**************************************	DIVERSITY 2.3268	CGUNT 157 258 448 111111111111111111111111111111111	- 2
68 A B	7.5	CUS	****** GRAB	129	P I TUS	
NUMBER SYMAP 1	VIDUALS	SPECIES LISTING CHOCOFLA OORILUS SYMBIOTICUS OCHAETA ONERGIS LONGA PHANES BOMRYX FLLIDES OCULATA LONA ROSEA LONA ROSEA TYS PICTA CRA AMERICANA OMASTUS AMBISETAE NOSPIO STEENSTRUPI YX ACUTUS OSCOLOPLOS ROBUSTUS FUS REPNHARBUS TOA GOULDIANA	**************************************	VINUALS	SPECIES LISTING CHOCCELA CCHOCCELA CCHAETA FLLIDES DCULATA CNEREIS LONGA PHANES BOMBYX LGNA ROSEA NOSPIO STEENSTRUP TYS INCISA TYS INCISA TYS INCISA TYS INCICA TYS EMPRICA TY	CURATA TLIS TIDISSIMA TUANA JLOTANA
STATION NUMBER CRUISE SYMAP	NO. INDIVIDUALS	SPECIES LISTING PROCHOCOFLA DRICONRILUS SYMBIOTICUS JLIGOCHAETA DRILONERIS LONGA SPIOPHANES BOMRYX ASABELLIDES OCULATA MAGELONA ROSEA MAGELONA ROSEA NEPHTYS PICTA NEPHTYS PICTA NEPHTYS PICTA NEPHTYS PICTA MAGINASTUS AMRISETAE PRIONCSPIO STEENSTRUPT THARYX ACUTUS HAPLOSCOLOPLOS RORUSTUS PAGURUS RERNHARDUS TELLINA AGILIS	**************************************	NO. INDIVIDUALS		UNCIULA IRRURATA TELLINA AGILIS NUCULA PROXIMA SPISULA SOLIDISSIMA PITAR MORRHUANA PANDORA GOULDIANA
0ATE 23/03/76	SPECIES 17		9475	IES 22		2 F Z V B B
CRUTSE R7618	NO. SPEC		****** CRUISE R7618	NO. SPECIES		

	0.8484		*******		0.8370	
DEPTH MFTERS 17.3	EQUITABILITY 0.8484		****	DEPTH METERS 17.3	EQUITABILITY 0.8370	
LONGITUPE 7348 W			****	LONGITUDE 7348 W		
LATITUDE 4031 N	DIVERSITY 2.4522	C CUNIT 1 13 7 11 11 11 14 14 16 17 18	计数据存储器 计设计器 计设计器 化设计器 化设计设计设计设计设计设计设计设计设计设计设计设计设计设计设计设计设计设计设计	LATITUDE 4731 N	DIVERSITY 2.6245	C DUNT  1 16  1 17  1 13  1 13  1 14  1 17
68 4 8 01	98	A A B B S T U S T U S	***	GRAB 72	175	S S S S S S S S S S S S S S S S S S S
NUMBEP SYMAP 12	VIDUALS	SPECIES LISTING DCHAETA DHANES BOMBYX OPHAMUS CIRCINAT TYS PICTA ERA DIBRANCHIATA E NIGRIPES OMASTUS AMBISETA YX ACUTUS A	***	NUMBER SYMAP 12	VI DUAL S	ECTES LISTING  TATETA  A AFFINIS  A AFFINIS  ANES BOMBYX  ACUTUS  ACUTUS  EA JEFFFYSII  LAIS LIMICOLA  A DIBPANCHIATA  A DIBPANCHIATA  A DIBPANCHIATA  A DIBPANCHIATA  A DIBPANCHIATA  SOLOPLOS ROBUSTUS  OCCE ARENAE  STUS LATERICEUS  IRRURATUS  MACPOCOXA  SCA VERRILLI  TUS TRIVITTATUS  PROXIMA  A ACILIS  IL ARCHITECTA  A ACILIS  IL ARCHITECTA  A ACILIS  IL ARCHITECTA  A ACILIS  IL ARCHITECTA  A ACILIS  A
STATIFN CRUISE 012	NO. INDIVIDUALS	SPECTES LISTING PLIGOCHAETA SPIOPHAMES BOMBYX AGLAOPHAMUS CIRCIMATA NEPHTYS PICTA GLYCERA DIBRANCHIATA NINDE NIGRIPES MEDIOMASTUS AMBISETAE THARYX ACUTUS NOTOMASTUS LATERICEUS ASABELLIDES OCULATA LUMRRIMERIS TENUIS PHOTIS MACROCOXA: TELLINA AGILIS PITAR MORRHUANA PITAR MORRHUANA	****	STATION CRUISE 912	NO. INDIVIDUALS	SPECIES LISTING DPDTCDFILUS SYMBINTICUS OLIGOCHAETA DHEQUSA AFFINIS LUMBRINERIS FRAGILIS SPIOPHANES BOMBYX THARYX ACUTUS ARICIDEA JEFFFFYSII STHENELAIS LIMICOLA ASSAFLLIDES NCULATA ACLAPHAMUS CIRCINATA ACLAPHAMUS CIRCINATA NEPHTRACIONE NOTOMASTUS LATERICEUS CANCER IRRORATUS PHYLLODOCE ARENAE NOTOMASTUS LATERICEUS CANCER IRRORATUS PHOTIS MACPOCOXA AMPELISCA VERRILLI NASSARIUS TRIVITTATUS PUTTAR MORRHUANA TELLINA ACILIS PHORONIS ARCHITECTA
0ATE 23703/76	SPECIES 18	C N/4 2 0 2 2 F 4 7 4 E F 2 4 0	* * * * * * * * * * * * * * * * * * * *	9ATE 23/3/76	SPECIES 23	TO TO LANGUA STANDER STAFF
CRUISE R7618	NO. SPEC		***	CRUISE R7618	NO. SPEC	

	0.9616		张	0.7354		
OFPTH WFTERS	EQUITABILITY		A*************************************	EQUITABILITY		
LONGITUDE 7356 W	3896		**************************************	2.1652 EQU		*
LATITUDE 4031 N	DIVERSITY 2.	CCUNT SISSIES	.*************************************	DIVERSITY 2.	COUNT 15 15 16 11 11 11	26
6248 01	22		6848 02	11	ING ATA ALA X X I I ATA I GUUA STOMUS DEICHMANNAE	
STATION NUMBER CRUISE SYMAP 016 16	NO. INDIVIDUALS	SPECIES LISTING RHYNCHCOELA GLYCERA DIBRANCHIATA NEPHTYS PICTA LUMBRINEPIS FRAGILIS ARIGIDEA JEFREYSII MAGELONA ROSEA SPIOPHANES BOMBYX ARIGIDEA WASSI STHENELAIS LIMICOLA THARYX ANNULOSUS THARYX ANNULOSUS TELLINA AGILIS	**************************************	NO. INDIVIDUALS	SPECIES LISTING RHYNCHOCOELA NEPHTYS PICTA ARICIDEA WASSI ASABELLIDES OCULATA STHENELAIS LIMICOLA SPIOPHANES BOMBYX MAGELONA ROSEA. SCOLOPLOS ARMIGER CRAINIA SWANI GLYCERA DIBRANCHIATA CHIRIDOTEA TUFTSI PSEUDUNCIALA OBLIQUIA TRICHOPHOXUS EPISTOMUS PROTOHAUSTORIUS DEICHM	NIJCULA PROXIMA LYONSIA HYALINA UNIO BIVALVE #2
DATE 23/03/76	IES 12		0ATE	IES 19		
CRUISE R7618	NO. SPECIES		*************** CPUISE DATE R7618 23/03/7	NO. SPECIES		

DE METERS 11.5	EQUITABILITY 0.4907	***************************************	DE METERS 11.5	EQUITABILITY 0.3453	
LATITUDE LONGITUDE 4928 N 7356 W	DIVERSITY 1,1768	LES LISTING	LATITUDE LONGITUDE 4028 N 7355 W	DIVERSITY 0.8280	\$53 \$22 1 1 7 24 19 11 11 18
E DATE CRUISE SYMAP GRAB 12/03/76 019 19 31	SPECIES 11 NO. INDIVIDUALS 334	SPECIES LISTING RHYNCHOCOELA NEMATODA PROTODPILUS SYMBIOTICUS OLIGOCHAFTA NEPHTYS BUCERA LUMBRINFRIS FRAGILIS GONIADELLA GRACILIS GONIADELLA GRACILIS HEMIPODUS ROSEUS PISIONE REMOTA THAPYX ACUTUS TELLINA AGILIS	STATION NUMBER STATE CRUISE SYMAP GRAR 12/03/76 019 19 02	SPECIES 11 NO. INDIVIDUALS 438	SPECIES LISTING NEMATODA PROTODPILUS SYMRIGITICUS SIGALION ARENICOLA NEPHTYS BUCERA GONIADELLA GRACILIS HEMIPODUS ROSEUS TRAVISIA CARNEA UNCIGLA IRRORATA LEPTOGNATHA CAECA TELLINA AGILIS AMMODYTES SP.
CRUIS 27618	NO. S	**************************************	CPUTSI 87618	NO. S	

DEPTH METERS 27.3	EQUITABILITY 0.7245																Approx.									
LONGITUDE 7348 W	2.3026 EG				*																					
LATITUDE 4028 N	DIVERSITY 2.	COUNT	22	7	4	9	32		-	118	16	4	2	2	8	_	4	96	76	11	1	11		1	81	48
GRAB 01	546	,-	SILIS	DIDES						-1	S				Idna	-	٦٨			TA T	LUS					-
STATION NUMBER CRUISE SYMAP 023 23	NO. INDIVIDUALS	SPECIFS LISTIN	SERIANTHUS AMERICAN	EDWARDSIA SIPUNCULOIDES	TEMATODA	PL IGNCHAETA	JEPHTYS INCISA	PHERUSA AFFINIS	MPHARETE ARCTICA	NSABELLIPES OCULAT	UMBRINFRIS FRAGIL	DATI PNEREIS LONGA	VARACNIS GRACILIS	NATOTOEA JEFFREYSI	PRIOROSPIO STEENSTE	FUCHONE PUBROCINCT	DISSURA LONGOCTPRA	THARYX ACUTUS	THARYX ANNULOSUS	MEDICHASTUS AMBISE	ATTIVITA	PITAR MORPHUANA	TELLINA AGILIS	MULINIA LATERALIS	MUCULA PROXIMA	PHORONIS ARCHITECTA
DATE 23/73/76	FCIES 24			0.2	_		2		7	7	_	<b>L</b> .				<b>u</b>	0		,	~	_	<b>L</b> .	_		2	
CPUISE 97618	Las en					¥								. 3	31											

LATITUDE LONGITUDE METERS 4028 N 7348 W 27.3	DIVERSITY 2.1226 EQUITABILITY 0.6679	COUNT	15	2	15	37		138	5	20	*	,	23	56	395	275	12	19	1	2	196	82	2	1	65
CRUISE DATE CRUISE SYMAP GRAB R7618 23/03/76 023 23 02	NO. SPECIES 24 NO. INDIVIDUALS 1227	SPECIES LISTING	CERIANTHUS AMERICANUS		OL TGOCHAETA	NEPHTYS INCISA	PHERUSA AFFINIS	Lij	AR	CUSSURA LONGOCTRRATA	PARAMMIS GRACILIS	ARICIDEA JEFFREYSII	PRIONOSPIO STEENSTRUPI	MEDIOMAS	ACUT	THARYX ANNULUSUS	111	LUMBRINERIS TENUIS	PULYDORA SOCIALIS	-		PITAR MORRHUANA	TELLINA AGILIS	MULINIA LATERALIS	PHORONIS ARCHITECTA

	0.6177																																					
0EPTH METFRS 25.9	FOULTABILITY																																					
LONGITUDE 7344 W																																						
LATITUDE 4025 N	DIVERSITY 2.2396	COUNT	2	80	4	2	12	2	σ	2	-	7	9	25		_	9	4	5	10	56	231	C	-	160	20		8	1	1	<b>4</b> 1		11	5	4	5	11	2
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NUMBER SYMAP 32	INDIVIDUALS	SPECIES LISTING	1/		LA	<.	AFFINIS	INCISA	IPES			S LONGA	ORNIS	BOMBYX	LIMICOLA	Iλ	ARENAE	DIBRANCHIATA	AMERICANA	JEFFREYS!!	STEFNSTR	S OCULATA	BRUCINCIA	IFORMIS	TUS	S AMBISET	CAPITATA	TRILORA	CRATUS	LONGICARPUS	RORATA		ILIS	MA PINNUL	MORRHUANA	XIMA	VE #2	ARCHITECTA
STATION CRUISE 032	IONI ON	SPECIE	EDWARDSIA	NEWATODA	RHYNCHUCOFLA	OL TGUCHAETA		NE SYTHOUN	NINDE NIGRIPES	LUMBPINERIS	AGL A OPHAMIJS	DRIL ONERETS	SPIN FILITORNIS	SPINDHANES	STHENELAIS LIMICOLA	EREIS GRA	HYLLODOCF	GLYCERA DI	7	ARICIDEA J	PRICHOSPIN STEFNSTRUP	SABELLIDE	UCHONE RU	DWENIA FUSIFORMIS	THARYX ACUTUS	MEDIOMASTUS AMBISETAE	-	EDUTEA TRI	CANCER IRROPATUS	PAGURUS IN	UNCTOLA IPRORATA	DORIDIDAE	TELLINA AGILIS	CERASTODERMA PINNULATUM	PITAR MORR	NUCULA PPRIXIMA	V	PHORONIS A
04 TE 12/03/76	TES 31		Ш	~	LI	0	ii.	~	4		Q	<b>C</b> 3	5	0)	S	ζ.	α.	C	9	QI.	Ġ.	ď	ш	Ų.	-	2	C	U 2	C	Δ.			٢	O	a	2.	<u>ے</u>	ū
CRUISE 97618	NO. SPECIES																		3	4																		

DEPTH TUDE METERS W 33.1	FOUITABILITY 0.3819																																
LATITUDE LONGITUDE 4025 N 7346 W	DIVERSITY 1.3113	COUNT	7	4		5	16	33	2	11		65	-	19	696	15	4	2	102	1	2	7	78	2	2	18	1	-	1	5	4	m-	3
DATE CRUISE SYMAP GRAB 12/03/76 033 33 01	ES 31 NO. INDIVIDUALS 1373	SPECIES LISTING	HUS A	CHELA	NEWATODA	DLIGOCHAETA	PHERUSA AFFINIS	MFPHTYS INCISA	MINDE MICRIPES	SPINPHANES BOMBYX	GLYCERA DIRRANCHIATA	PRIONOSPIO STEENSTRUPI	PARAMAITIS KOSTERIENSIS	FUCHONE RUBROCINCTA	ASABELLIPES OCULATA	PHYLLODOCE ARENAE	PHYLLODOCE MUCOSA	NERFIS SUCCINEA	THARYX ACUTUS		POLYDORA LIGNI	PERETS CAF	STI	CAPITELLA CAPITATA	-	IRROR	LEPTOCHEIPUS PINGUIS	ODES E	NOW V	MASSARIUS TRIVITTATUS	17157	VALV	PHORONIS ARCHITECTA

06PTH METERS 33.1	HIABILITY 0.4705																															
LONGITUDE 7346 W	1.6002 EQUIT	CRUNT	7	6	9	125	31	75	m	8	155	4	. 67	2	2	3	26		r.	12	2	98			6]	2			. ~	2 80	0.	-
AB LATITUDE 2 4025 N	DIVERSITY 1. 6002	טט				. 1							,					•														
STATION NUMBER CRUISE SYMAP GRAB 033 33 02	MM. INDIVIDUALS 1297	SPECIES LISTING	1YNCHOCOFL A	EMATODA	I GOCHAFIA	PINNOSPIN STEENSTRUPI	SPINDHANES BOMBYX	SABELLINES OCULATA	HERUSA AFFINIS	INJE NIGRIPES	4ARYX ACUTUS	HARYX AMMULUSUS	EDIOMASTUS AMBISETAE	APITELLA CAPITATA	FREIS SUCCINFA	ARANAITIS KOSTERIENSIS	S	UTINDELLA SARSI	VCERA DIBRANCHIATA	TYLLODOCE ARFNAE	4YLL DOOCE MUCHSA	ICHONE PURPOCINCTA	INCER IRPORATUS	GISSA HAMATIPES	CIOLA TRRURATA	TERMYSIS FORMOSA	EDUTEA TRILORA	JCULA PPRXIMA	TAR MORRHUANA	UNID BIVALVE #2	ILINA AGILIS	RASTODERMA PINNULATUM
CRUISE 04TE R7618 12/03/76	MO. SPECIES 30		α.	Z	ิ เ	d	· ·	V	<u>I</u>	Z	Ė	F	2	Ö	N. C.		36		าย	†d	ρ	ĬĬ.	S	A	<u>.</u>	H	DI U	N	d	NO.		CE

LONGITUDE METERS 7348 W 34.0	EQUITABILITY 0.5111																												
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OATE CRUISE SYMAP GRAB 12/03/76 034 34 01	TES 27 NO. INDIVIDUALS 1310	SPECIES LISTING	CERTANTHUS AMERICANUS	OLIGOCHAETA	ASARFLLINES OCULATA	PHERUSA AFFINIS	NINGE NIGPIPES	LUMBRINERIS TENUIS	THAPYX ANNULOSUS	THARYX ACUTUS	PARAONIS GRACILIS	NEPHTYS INCISA	EUCHONF FURROCINCTA	MEDIUMASTUS AMBISETAE	NORFIS SUCCINEA	AP'G	PRIONOSPIO STEENSTRUPI	150	COSSURA LONGOCIRRATA		UNCIDLA IRROPATA	LIMPT	TELLINA AGILTS	NUCULA PPHXIMA	CERASTODERMA PINNULATUM	THYASIPA TRISINUATA	UNIO BIVALVE #2	PITAP MORRHUANA	PHORONIS ARCHITECTA

CRUISE R7618

LONGITUDE - WETERS 7348 W 34.0	2.1774 EQUITABILITY C. 6351	Ε.																							
LATITUDE 4025 N	DIVERSITY 2	COUNT	29		. 12	22	54	63	45	-	11	1	2	61	71	4	1.8	15	1	-	349		5		131
STATION NUMBER CRUISE SYMAP GRAB 776 034 34 02	MO. INDIVIDUALS 941	SPECIES LISTING	CERIANTHUS AMERICANUS RHYNCHOCOELA	NEMATION	OLIGNCHAETA	PHERUSA AFFINIS	NEPHTYS INCISA	ASABELLIDES OCULATA	CHSSURA LANGUCIRRATA	NINOE NIGRIPES	LUMBRINERIS FRAGILIS	LUMBRINERIS TENUIS	PRIONOSPIN STEENSTRUPI	EUCHONE PUBROCINCIA	THARYX ACUTUS	THARYX ANNULUSUS	PARADNIS GRACILIS	MEDIOMASTUS AMBISETAF	ARGISSA HAMATIPES	PHOTIS MACROCOXA	MILCULA PANXIMA	TELLINA AGILIS	PITAR MARPHUANA	UNID BIVALVE #2	PHURONIS ARCHITECTA
CRUISE DATE R7618 12/03/	NO. SPECIES 24													38	3										

	0.2699																						
UDE METERS W 29.5	EQUITABILITY 0.2699														ė								
LONGITUDE 7350 W	3.8342	F-7	<b>~</b> -		.0	4	10	.+		<b>C</b> ;		_	_		•	_		8	_		_	•	
LATITUDE 4025 N.	DIVERSITY 0.8342	COUNT			26		5	14										6.1				14.	11
GRAB 01	895	5 N	ANUS			ATA	4.4			v.	TRUPT	1.5		₹ L	ETAE		ATUS			PINNULATUM			T A .
NUMBER SYMAP 35	INDIVIDUALS	ECTES LISTING	THUS AMERICANUS	T A	TMCISA	LONGOCIRRATA	LIDES OCULATA	GRACILIS	AFFINIS	NERIS TENUIS	SPIN STEENSTRUP	IA GRAND	ANNULOSUS	PUBROCINCTA	ASTUS AMBISETA	MACROCOXA	TUS TRIVITTATUS	MORRHUANA	IVALVE #2	ODERMA PINN	AGILIS.	PROXIMA	ARCHITECTA
STATION CRUISE 035	NO. IND	SPECI	CERTANTHU	JULI GOCHAFTA			SABELLID	V	PHERUSA A	UMBRINER	IdSUNUIse	TRRIFORM			4ED.IOMAST	PHOTIS MA	MASSARTUS	SITAR MAR	AVIB GIVE	SERASTODE			PHORONIS
19/02/76	IFS 22		<i>U</i> 2		£.		7	u	u.	_					4		~		_	J	-	•	
27618 27618	NO. SPECIF										3	9											

	2972	
DEPTH . METERS 29.5	EQUITABILITY 0.2972	
LPMGITUDE 7350 W		<b>-</b>
LATITUNE 4025 N	DIVERSITY 0.9682	C C UNT 134 134 134 13 13 14 15 16 17 17 18 18 18 18 18 18 18 18 18 18
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NUMPER SYMAD 35	DIVIDUALS	PECIES LISTING NITHUS AMERICANUS LLIDES OCULATA SA AFFINIS YS INCISA RA AMERICANA NARIA GOULDII DONCE APENAE AITTS KOSTERIENSIS X ANNULOSUS NER JEFREYSII NIS GRACILIS INE RUBROCINCTA NIGRIPES
STATION CRUISE 735	NIGNI ON	SPECIES LISTICERIANTHUS AMERICANA ASABELLIDES OCULA PHERUSA AFFINIS NEPHTYS INCISA GLYCERA AMERICANA PECTINARIA GUULDI PHYLLODOCE APENAE PAPANAITIS KOSTER THARYX ANNULOSUS ARICIDEA JEFFREYS PARAONIS GRACILIS HARMOTHOE EXTENUA EUCHONE EUBROCINCINDE TOCHEIRUS PINGICUMBRINA LOMGICORIANULO AGILIS PITAR MORRHUANA CERASTODERMA PINNUCULA PROXIMA TELLINA AGILIS PUNID BIVALVE #2 MYTILUS FOULIS
0ATE 19/32/76	1ES 26	Odrzorreatmininkierożeg
CRUTSE R7618	NO. SPECTES	40

CRUTSE R 7618	12/33/76	STATION NUMBER CRUISE SYMAP GRAB 6 040 01	LATITUDE LONGITUDE 4022 N 7357 W	DEPTH METERS 12.4
NO. SPEC	IES 1.1	NO. INDIVIDUALS 968	DIVERSITY 0.6065 EQ	EQUITABILITY 0.2529
41	NEW CON NEW ANT THA TIQ TIQ SEX	*	ECTES LISTING  840  811US SYMBIOTICUS  FILLA GRACILIS  918  6A JEFFREYSII  ACUTUS  S BUCERA  MORRHUANA  1  0DA	** ** * * * * * * * * * * * * * * * * *
CPUISE 87618	0ATE 12/03/76	STA	LATITUDE LONGITUDE 4022 N 7357 W	DEPTH METERS 12.4
Jads ON	IES 13	NO. INDIVIDUALS 71	DIVERSITY 2.0455 EQ	EQUITABLLITY 0.7975
		SPECIES LISTING RHYNCHOCOELA COSSURA LONGOCIRRATA SPIOPHANES BOMRYX THARYX ACUTUS MAGELONA ROSEA GLYCERA SP. NEPHTYS RUCERA NEPHTYS INCISA NOTOMASTUS LATERICEUS PAGURUS LONGICARPUS TELLINA AGILLIS PITAR MORRHUANA	CCUNT  4  1  3  17  17  22  22  44	

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05ртн жеттер S 21.2	EQUITABILITY 9, 7124	
LONGITUDE 7354 W	EQU	
LONG	1.0752	N 1 2 1 4 2 2 5 6 7 1 1 1 7 2 1 4 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
LAT 1700 E 4022 N	DIVERSITY 1.9752	COUNT 1 9 1 1 2 2 1 2 4 4 4 4 4
58 A B 02	96	T C US
NUMBER SYMAP 42	INDIVIDUALS	IFS LISTING DELA LUS SYMBIOTICUS ETA MUS CIRCINATA BUCERA PICTA ES BOMBYX RIS FRAGILIS RIS FRAGILIS RIS TENUIS CUTUS IOLA OBLIOUUA A VADORUM AGILIS POXIMA
STATION CRUISE 042	MO. INDI	SPECIES LISTING RHYNCHOCOELA PROTODRILUS SYMBIOTIC OLIGOCHAETA AGLACPHAMUS CIRCINATA AGLACPHAMUS CIRCINATA NEPHTYS BUCERA NEPHTYS BUCERA NEPHTYS PICTA SPINPHANES ROMBYX LUMBRINERIS FRAGILIS UMBRINERIS FRAGILIS PSEUDUNCIOLA OBLIQUUA AMPELISCA VADORUM TELLINA AGILIS NJCULA PREXIMA
12/03/76	SIES 16	a a c a z z n ¬ ¬ c Ł a a Ł z n
CRUISE 27618	NO. SPECIES 16	42

	0.6622		0.3463	
DEPTH METERS 25.8	EQUITABILITY 0.6622		**************************************	
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LATITUDE 4322 N	DIVERSITY 1.9139	COUNT 101 427 777 777 777 777 777 777 777 777 777	LATITUDE 10N 4022 N 73 01VERSITY 0.9600 COUNT 1 1 1 1	-
STATION NUMBER GRAR CRUISE SYMAP GRAR	NO. INDIVIDUALS 361	SPECIES LISTING RHYNCHOCOELA PROTODRILUS SYMBIDTICUS OLLIGOCHAETA LUMBRINERIS TENUIS GLYCERA DIBRANCHIATA ARICIDEA JEFREYSII AMPHARETE ARCTICA ANDHARETE ARCTICA ANDHARIS CAECA OLOMBRINERIS FRACILIS THARYX ACUTUS THARYX ARUUIS FXNSONE HEBES GOMIADELLA GRACILIS ENSIS DIPECTUS SPISULA SOLIDISSIMA	CRUISE DATE CRUISE SYMAP GRAB LATITUDE IONGITUDE METERS A7518 12/33/76 043 43 02 4022 N 7352 W 25.8  NO. SPECIES 16 NO. INTIVIDUALS 236 DIVERSITY 0.9600 EQUITABILITY 0.3463  SPECIES 16 NO. INTIVIDUALS 236 DIVERSITY 0.9600 EQUITABILITY 0.3463  COUNT FOWARDSIA SIPUNCULOIDES 1 1 2 2 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	MEPHTYS PICTA
CRUISE 0ATE R7518 127/75	MO. SPECIES 18	# 4 5 D M S 4 5 E M 8 D F E M 6 B 8	CPUISE DATE R751P 12/33/76 NO. SPECIES 16 PH 64 65 65 85 85 85 85 85 85 85 85 85 85 85 85 85	d i

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AGLAPHAMUS CIRCINATA LUMBRINERIS FRAGILIS LUMBRINERIS TENUIS THARYX ACUTUS THARYX ANNULOSUS MEDIOMASTUS AMBISETAE CAULLERIELLA KILLARIENSIS PHOXNCEPHALUS HOLBOLLI SPISULA SOLIDISSIMA

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		DRILINGREIS LONGA			5				
	U.		STEFNSTRUPT	RUPT	8				
	U	COSSURA LON	LONGOCIPRAT	TA	53				
	a	PAPANNIS GRACILI	RACILIS		20				
	La	NINGE NIGRIPES	IPES		13				
		LUMBRINERIS		1.5	9				
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	α.	PHOTIS MACROCOXA	AXOOOA		-				
	Z	NASSARIUS TRIVITTATUS	TRIVITA	TUS	1				
	U	CERASTODERMA	MA PINNULATUM	LATUM	*				
	1	>	VE #2						
	-	THRACIA SP.			-				
	>	YOLDIA LIMATULA	ATULA						
	-	TELLINA AGI	AGILIS		3				
	2		DELPHINODONIA	TA	99				
	Z		PROXIMA		521				
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	<b>+-</b> 1	THY ASIRA TR	TRISINUATA	-	2				
	۵		ARCHITECTA	4	8				

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	İ	1Y ASIRA F	FLEXUNSA			1	
	5	UNID BIVALVE	VE #2			1	
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NUMBER SYMAP 56	INDIVIDUALS	S LISTING	AMERICANUS	A	AFFINIS	INCLSA	PES	_	COCULATA	ARCTICA	STEENSTRUPI	ROMBYX	7.0.5	AMMULOSUS	SIGNAL	~	3 AMBISETAE	CAPITATA			HEERI	MEDISA	4	RUBROCINCTA	T A	NEGICA			A MINUTA	MONOCANTHA		IS RUBRICORNIS	4 - 4	PKI XI MA	NOCONT	7 111 A	A PINNIII ATIIM	F #2	-	FLEXUOSA	ATA	ARCHITECTA
STATTON CRUISE 356	NO. INDIN	SPECTE		RHYNCHOCOFLA	PHERUSA AFF	S	NINNE NIGRIPE	DATLONERFIS	ASABFLLIDES	AMPHARETE !	PAIGNOSPIG	<		THARYX ANNI		PAPANNIS GG		V	LAUNICE CIP	SPINCHAFINPTERUS	YRIOCHELE	POLYCIREUS	CHONE INFILE		PHOLDE MINUTA		GONIADA MAC	LEPTOCHETRUS	Lini		HAPPINIA PR	1		NUCULA PRINTALMA	2	VOLDEN TO TAKE THE A	CERASTONERMA	UNIO BIVALVE	TELLINA AGI	THYASIRA FL	$\supset$	PHURUNIS AR
0ATE 19/02/76	SPECIES 42	•	<b>υ</b> 1	n &	Φ.	Z	Z	0	Q	A	ď	5	-	-	1	Ф	2	Ü	_	S	₹.	۵	Ü	Ц	4	C	٠ ت	1	C.	0 :	Ιi	T. G	īž	Ž	. 0	>	. :	) <b>5</b>	F	F	A	ā
CRUISE R7618	NO. SPEC																4	16																								

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NUMBER SYMAP 56	IMDIVIDUALS	ZA- LA MITO D I D F
STATION CRUISE 056	NG. IMDI	SPECIES LISTI CERIANTHUS AMERIC EDWAPDSIA SIPUNCU RHYNCHOCOELA NEMATODA PHERUSA AFFINIS NEPHTYS INCISA DRILCNEPEIS LONGA NINDE NIGRIPES ETFONE LONGA PHYLLODOCE ARENAE ASABELLIPES OCULA COSSURA LONGOCIRR RHPDINE LOVENI THARYX ANNULOSUS WEDIOMASTUS AMBIS PRIDNOSPIO STEENS EUCHONE RUBROCINC LUMBRINERIS TENUI FONTEA TRILOBA LEPTOCHEIRUS PING UNCIOLA IRRORATA OULIGHIA MONOCANT PITAR MORRINGA PINN UNCULA PROXIMA CERASTODERMA PINN UNCULA PROXIMA CERASTODERMA PINN UNICULA PROXIMA COMPA
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CPUISE. 37618	NO. SPECT	47

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	0.8617	4. ************************************	0.8674	
DEPTH WETERS 20.3	EQUITABILITY	**************************************	EQUITABILITY	
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LONGT) 7354	2.3335 118 111 125 127 127 127 127 127 127	3 ******* Lnngit 7354	2.2892 NAT 2 1 1 1 1 1 3 3 4 1 1 1 1 1 1 1 1 1 1 1 1	122
LATITUDE 4016 N	DIVERSITY 2.	CKENFLLA DLAYDOLA  SKANNGAKAMAKANAKAKAKAKAKAKAKAKAKAKAKAKAKAKAKAK	01VFRS1TY 2. CQUMT 1 1 1 10 9 9 10 1	
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