C.I.P.S.

MODELE MATHEMATIQUE DE LA
POLLUTION EN MER DU NORD

TECHNICAL REPORT
I973/POINT FIXE : BIOL.OI

ETUDE DU ZOOPLANCTON DE LA CROISIERE 01-1973 DU 8 AU 12 JANVIER - POINT FIXE - STATION M14

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Introduction

Jusqu'à présent la distribution du zooplancton en mer du Nord ne nous était connue que par des échantillons pris au cours de croisières itinérantes et en surface.

La nécessité de séries temporelles de résultats en certaines stations choisies a été unanimement ressentie. Dans le cas du zooplancton, une série temporelle suffisamment longue permettrait de suivre la production et la productivité des différentes espèces.

D'autre part, l'uniformisation de la profondeur de prélèvement pour une majorité de paramètres impliquait que nous pompions le zooplancton à - 5 m. Ceci a nécessité une intercalibration avec la méthode ancienne de prélèvement du seau en surface.

Méthodes

Trois fois par jour (étales de marée) 50 l d'eau ont été pris

a) en surface au seau

b) en surface à la pompe

c) à - 5 m à la pompe

et filtrés sur filet à mailles de 50 μ de côté pour récolter le zooplancton.

Résultats

I. Etude statistique des résultats des prélèvements pendant 4 jours consécutifs à raison de 3 prélèvements par jour aux étales de marée

à - 5 m (pompe)

nbre/50 l	n. cop.	copépodites	cop. adultes
moyenne	126	33	13
écart type	23,9	8,1	7,5
erreur standard	7,1	2,4	2,2
limites de l'intervalle de confiance avec un coeff. de sécurité 95 %	126 $\pm$ 15,8	33 $\pm$ 5,3	13 $\pm$ 4,9
	126 $\pm$ 12 % moy.	33 $\pm$ 18 % moy.	13 $\pm$ 38 % moy.

en surface (pompe)

nbr/50 l	n. cop.	copépodites	cop. adultes
moyenne	92	17	6
écart type	45	7,28	5,48
erreur standard	14,2	2,3	1,72
limites de l'intervalle de confiance avec un coeff. de sécurité 95 %	92 ± 31,6	17 ± 5,1	6 ± 3,8
	92 ± 34 % moy.	17 ± 35 % moy.	6 ± 66 % moy.

en surface (seau)

nbre/50 l	n. cop.	copépodites	cop. adultes	cop. adultes (Euterpina exclus)
moyenne	100	20	32	6,5
écart type	36,9	13,3	37	5,1
erreur standard	11,2	3,9	11,2	1,5
limites de l'intervalle de confiance avec un coeff. de sécurité 95 %	100 ± 25	20 ± 8,6	32 ± 25	6,5 ± 3,3
		20 ± 45 % moy.	32 ± 78 % moy.	6,5±50,8 % moy.

Nous n'avons considérés pour cette étude que les groupes d'organismes les plus nombreux, c'est-à-dire nauplii de copépodes, copépodites, copépodes adultes.

Pour les prélèvements faits au seau en surface nous avons remarqué que l'harpacticide planctonique Euterpina acutifrons se présentait en grand nombre alors que sa densité est plus faible et plus régulière dans les prélèvements faits à la pompe. C'est pourquoi nous l'avons exclus dans les corrélations de copépodes adultes. Nous avions déjà remarqué ce phénomène (cf Rap. techn. 1972/Biol.02).

II. Comparaison de 2 techniques de prélèvements

Corrélation entre les biomasses de zooplancton prises au seau et à la pompe.

VARIABLE	MEAN	VARIANCE	STD DEVIATION
seau X	97.6364	1543.05	39.3479
pompe Y	92.5455	2225.47	47.1749

maupli copépod

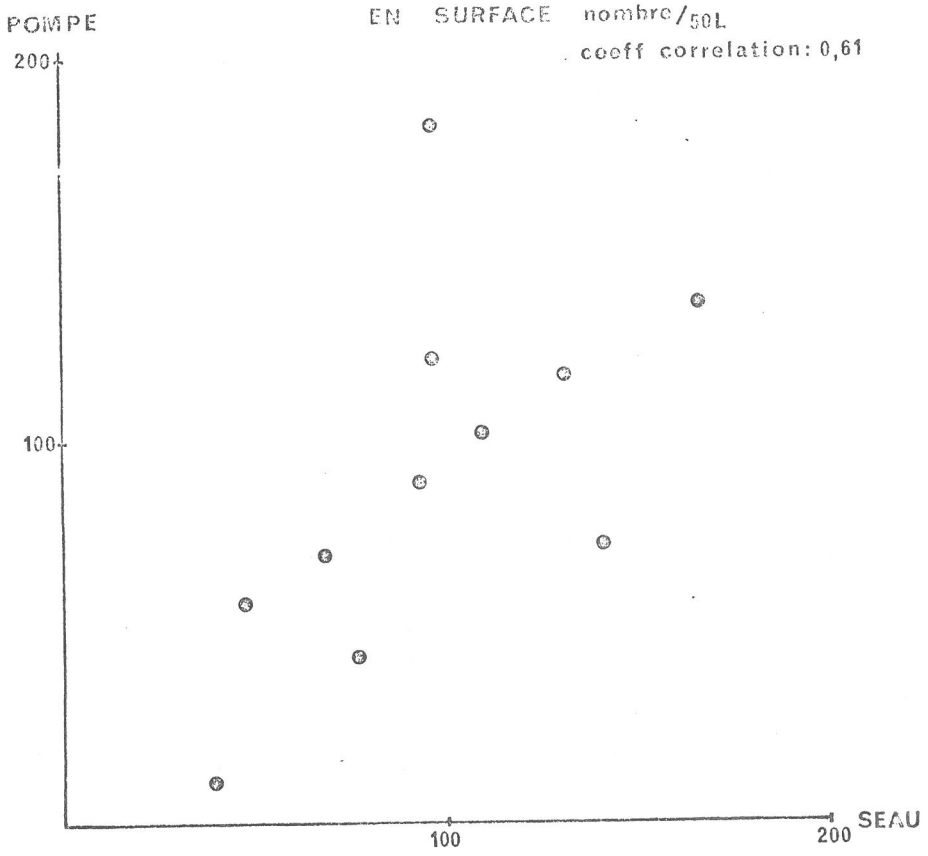
SOURCE OF VARIATION	D. F.	SUM OF SQUARES	MEAN SQUARE
TOTAL	10	22254.7	2225.47
REGRESSION	1	8333.97	8333.97
ERROR	9	13920.8	1546.75

INDEX OF DETERMINATION	.374481
CORRELATION COEFFICIENT	.611948
F-RATIO TEST STATISTIC	5.38905

PARAMETER	VALUE	95 PCT CONFIDENCE LIMITS	
A	20.9119	-54.0381	95.862
B	.733677	1.71109E-02	1.45024

X-ACTUAL	Y-ACTUAL	Y-CALC	95 PCT PREDICTION LIMITS	
99	183	93.5459	.414673	186.677
110	103	101.616	8.06978	195.163
168	137	144.17	38.2703	250.069
98	122	92.8122	-.314242	185.939
142	74	125.094	86.6916	223.496
77	45	77.405	-16.8879	171.698
68	72	70.8019	-24.7149	166.319
48	60	56.1284	-43.5588	155.816
132	119	117.757		214.084
39	13	49.5253	-52.6407	151.691
93	90	89.1439	-4.0415	182.329

NAUPLII COPEPODES



seau pompe

Copépodites

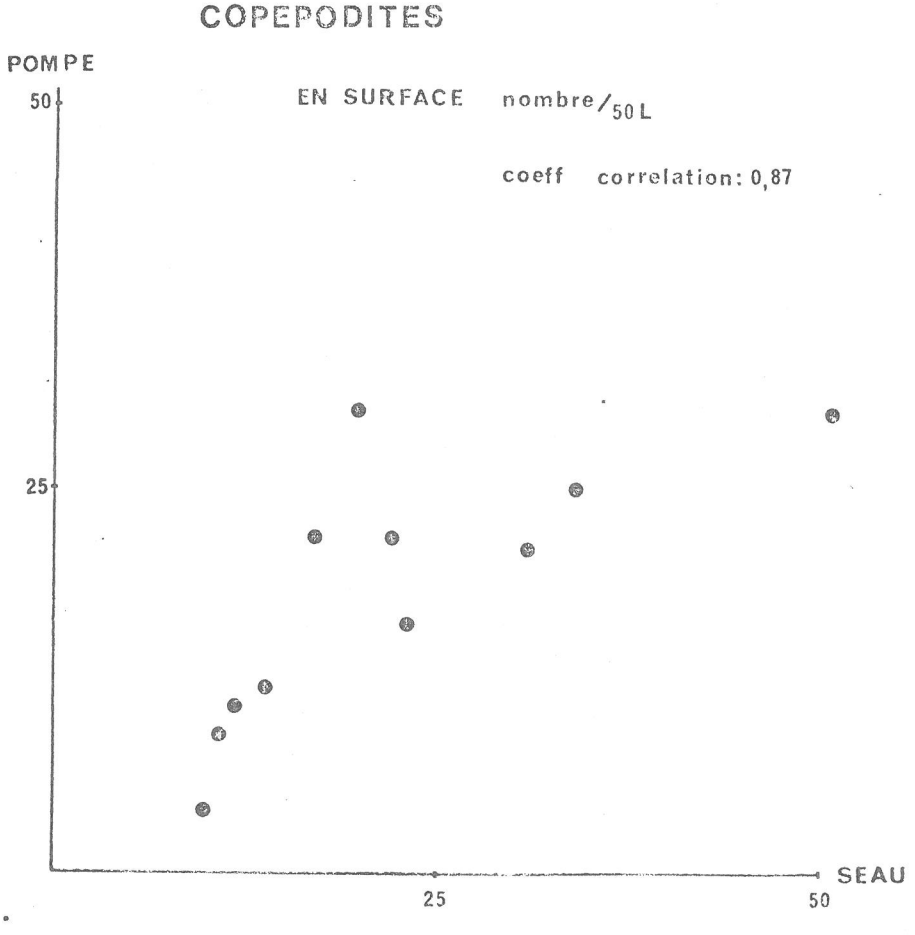
VARIABLE	MEAN	VARIANCE	STD DEVIATION
X	23.1818	156.964	12.5285
Y	17.4545	60.0727	7.75066

SOURCE OF VARIATION	D. F.	SUM OF SQUARES	MEAN SQUARE
TOTAL	10	600.727	60.0727
REGRESSION	1	454.996	454.996
ERROR	9	145.731	16.1923

INDEX OF DETERMINATION	.757409
CORRELATION COEFFICIENT	.870292
F-RATIO TEST STATISTIC	28.0995

PARAMETER	VALUE	95 PCT CONFIDENCE LIMITS	
A	4.97347	-1.03143	10.9784
B	.538399	.308137	.768661

X-ACTUAL	Y-ACTUAL	Y-CALC	95 PCT PREDICTION LIMITS	
17	22	14.1263	4.49221	23.7603
51	30	32.4318	20.9506	43.9131
30	20	21.1254	11.4637	30.7872
22	22	16.8183	7.28606	26.3505
34	25	23.279	13.4305	33.1276
11	9	10.9959	.963349	20.8285
14	12	12.5111	2.75101	22.2711
12	11	11.4343	1.5642	21.3043
23	16	17.3567	7.82825	26.8851
10	4	10.3575	.357383	20.3575
31	21	21.6638	11.967	31.3607



copépodes adultes moins Euterpina

REGRESSION OF 03/15/1988

VARIABLE	MEAN	VARIANCE	STD DEVIATION
seau X	5.90909	26.0909	5.10793
pompe Y	3.54545	14.4727	3.8043

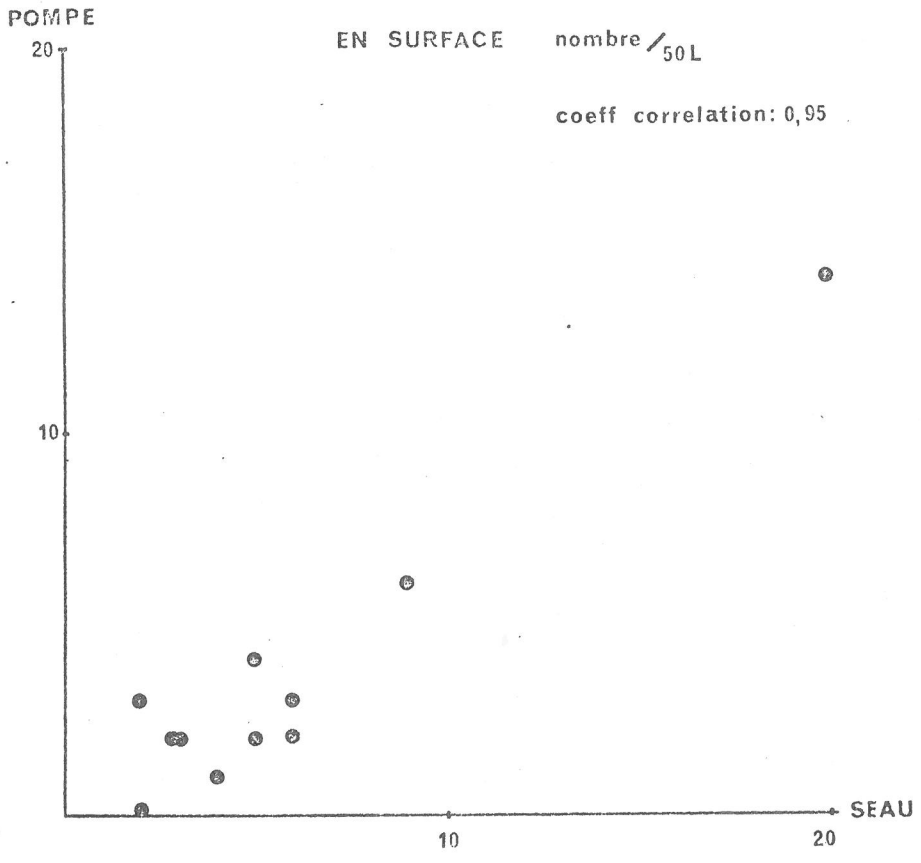
SOURCE OF VARIATION	D. F.	SUM OF SQUARES	MEAN SQUARE
TOTAL	10	144.727	14.4727
REGRESSION	1	131.951	131.951
ERROR	9	12.7767	1.41963

INDEX OF DETERMINATION	.911719
CORRELATION COEFFICIENT	.95484
F-RATIO TEST STATISTIC	92.9473

PARAMETER	VALUE	95 PCT CONFIDENCE LIMITS	
A	-.656704	-1.93733	.623746
B	.71115	.543992	.878309

X-ACTUAL	Y-ACTUAL	Y-CALC	95 PCT PREDICTION LIMITS	
0	3	.765505	-2.13053	3.66155
20	14	13.5669	9.89039	17.2421
3	2	1.47666	-1.33693	4.33059
5	4	2.90905	7.35659E-02	5.79434
9	6	5.77355	2.2753	8.61181
4	1	2.1879	-.651497	5.02711
0	0	.765505	-2.13053	3.66155
3	3	3.6101	.778769	6.43144
6	2	3.6101	.778769	6.43144
5	2	2.90905	7.35659E-02	5.79434
3	2	1.47666	-1.33693	4.33059

COPEPODES [EUTERPINA EXCLUS]



Conclusions

I. A. Constance des résultats pendant 4 jours consécutifs

A - 5 m

Les résultats sont beaucoup plus constants d'une étale de marée à l'autre, en profondeur qu'en surface.
Un échantillon par semaine est représentatif.

En surface

Les biomasses zooplanctoniques sont plus variables d'un prélèvement à l'autre, mais restent cependant dans le même ordre de grandeur.
En 4 jours les biomasses de zooplancton n'ont pas le temps de se développer d'une façon visible.
La vie d'un copépode en mer est d'environ 4 semaines (Petipa 1965). Les séries temporelles de 5 jours sont donc trop courtes.

B. Augmentation de la biomasse en fonction de la profondeur

Malgré les biomasses assez faibles en hiver on remarque une légère augmentation à - 5 m par rapport à la surface.
L'augmentation de la biomasse avec la profondeur est un phénomène bien connu.

II. Comparaison des 2 techniques de prélèvement

Le calcul de regression linéaire a été fait pour chaque espèce précitée.
Les coefficients de corrélation sont satisfaisants.

nauplii de copépodes	:	0,61
copépodites	:	0,87
copépodes adultes	:	0,95

(Euterpina acutifrons exclus)

STATION M14 090173 1300 -5m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3700
DIAGRAM CONSTRUCTION (WITH MAX.AREA P=4CM):R= 3.57
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.43
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .94
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .64
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
MESATHELMINT.	60	5	83
MOLLUSCA (L)	80	7	110
ANNELIDA (L)	0	0	0
CRUSTACEA	3460		
NAU.COP.	2180	212	
COPEPODS	1240	122	
M+C CIRR.	0	0	0
OTHERS	20	1	27
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	100	9	138
PISCES (OVA)	0	0	0

STATION M14 090173 1630 -5m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 4340
DIAGRAM CONSTRUCTION (WITH MAX.AREA P=4CM):R= 3.86
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.63
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .9
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .61
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
MESATHELMINT.	0	0	0
MOLLUSCA (L)	20	1	30
ANNELIDA (L)	40	3	60
CRUSTACEA	4200		
NAU.COP.	3340	277	
COPEPODS	760	63	
M+C CIRR.	0	0	0
OTHERS	100	8	150
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	80	6	120
PISCES (OVA)	0	0	0

STATION M14 080173 1650 -5m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3160
DIAGRAM CONSTRUCTION (WITH MAX.AREA P=ACM):R= 3.3
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.64
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .69
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .47
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	20	0	51
MOLLUSCA (L)	20	0	51
ANNELIDA (L)	0	0	0
CRUSTACEA	3080		
NAU.COP.	2100	230	
COPEPODS	920	104	
N+C CIRR.	0	0	0
OTHERS	60	6	154
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
FUNICATA	40	4	102
PISCES (OVA)	0	0	0

STATION M14 090173 1000 -5m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 4520
DIAGRAM CONSTRUCTION (WITH MAX.AREA P=ACM):R= 3.94
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.64
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .64
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .43
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	40	3	120
MOLLUSCA (L)	40	3	120
ANNELIDA (L)	20	1	60
CRUSTACEA	4400		
NAU.COP.	3340	269	
COPEPODS	1020	81	
N+C CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
FUNICATA	40	4	102

STATION M14 100173 1030 -5m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3200
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 3.33
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.26
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= 1.14
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .77
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
MESOTHELMINT.	0	0	0
MOLLUSCA (L)	100	11	94
ANNELIDA (L)	0	0	0
CRUSTACEA	2840		
NAU.COP.	2200.	245	
COPEPODS	640	71	
M+C CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	940	31	265
PISCES (OVA)	0	0	0

STATION M14 100173 1345 -5m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 4640
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 4
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.72
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= 1.01
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .69
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
MESOTHELMINT.	60	4	72
MOLLUSCA (L)	60	4	72
ANNELIDA (L)	0	0	0
CRUSTACEA	4400		
NAU.COP.	2760	214	
COPEPODS	1580	122	
M+C CIRR.	0	0	0
OTHERS	60	4	72
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	120	9	144
PISCES (OVA)	0	0	0

STATION M14 100173 1030 -5m pompe

TOT.NUMB.INDIV./M3(PROT.ESCL.) 3040
DIAGRAM CONSTRUCTION (WITH MAX.AREA %=40%):D= 3.93
DIAGRAM CONSTRUCTION (NO MAX.AREA):D= 2.8
DIAGRAM CONSTRUCTION (WITH MAX.AREA) DIAM.-10PC:D= .73
DIAGRAM CONSTRUCTION (NO MAX.AREA) DIAM.-10PC:D= .53
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.AVG.PROD.	AVG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
MEMATHELMINT.	0	0	0
MOLLUSCA (L)	60	3	120
ANNELIDA (L)	20	2	40
CRUSTACEA	2460		
NAU.COP.	2040	241	
COPEPODS	820	97	
MEC CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	100	11	220
PISCES (OVA)	0	0	0

STATION M14 110173 1130 -5m pompe

TOT.NUMB.INDIV./M3(PROT.ESCL.) 4300
DIAGRAM CONSTRUCTION (WITH MAX.AREA %=40%):D= 3.49
DIAGRAM CONSTRUCTION (NO MAX.AREA):D= 2.64
DIAGRAM CONSTRUCTION (WITH MAX.AREA) DIAM.-10PC:D= .9
DIAGRAM CONSTRUCTION (NO MAX.AREA) DIAM.-10PC:D= .61
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.AVG.PROD.	AVG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
MEMATHELMINT.	0	0	0
MOLLUSCA (L)	40	3	60
ANNELIDA (L)	0	0	0
CRUSTACEA	4140		
NAU.COP.	3160	259	
COPEPODS	980	73	
MEC CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	20	1	30
ECHINOD. (L)	0	0	0
TUNICATA	180	14	270
PISCES (OVA)	0	0	0

STATION M14 110173 1430 -5m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3360
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=40M):D= 3.27
DIAGRAM CONSTRUCTION (NO MAX.AREA):D= 2.49
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:D= .98
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:D= .66
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	40	4	51
MOLLUSCA (L)	140	15	180
ANNELIDA (L)	0	0	0
CRUSTACEA	3120		
NAU.COP.	2080	226	
COPEPODS	940	102	
N+C CIRR.	0	0	0
OTHERS	100	10	128
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	0	0	0
PISCES (OVA)	0	0	0

STATION M14 110173 1715 -5m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3320
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=40M):D= 3.38
DIAGRAM CONSTRUCTION (NO MAX.AREA):D= 2.3
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:D= .9
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:D= .61
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	40	4	60
ANNELIDA (L)	0	0	0
CRUSTACEA	3120		
NAU.COP.	2240	242	
COPEPODS	840	91	
N+C CIRR.	0	0	0
OTHERS	40	4	60
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	160	17	240
PISCES (OVA)	0	0	0

STATION M14 120173 0915 -5m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3440
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 3.59
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.39
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .94
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .64
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
MESATHELMINT.	0	0	0
MOLLUSCA (L)	40	4	55
ANNELIDA (L)	40	4	55
CRUSTACEA	3340		
NAU.COP.	2460	246	
COPEPODS	880	88	
M+C CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	180	18	240
PISCES (OVA)	0	0	0

STATION M14 120173 1100 -5m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3240
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 3.34
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.27
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= 1.05
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .71
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
MESATHELMINT.	20	2	22
MOLLUSCA (L)	100	11	112
ANNELIDA (L)	100	11	112
CRUSTACEA	2920		
NAU.COP.	2360	262	
COPEPODS	560	62	
M+C CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	100	11	112
PISCES (OVA)	0	0	0

ZOOPLANCTON EKOLOGIE EN SYSTEMATIEK V.U.B.

CRUISE 01-1973 8 JAN.-12 JAN.1973 Point Fixe - Station M14 0m pompe

STATION M14 090173 1000 00m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 4760
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=40M):R= 4
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.75
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= 1.13
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .77
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	120	9	113
ANNELIDA (L)	20	1	18
CRUSTACEA	4380		
NAU.COP.	3660	276	
COPEPODS	720	54	
N+C CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	240	18	227
PISCES (OVA)	0	0	0

STATION M14 090173 1300 00m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3360
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=40M):R= 3.36
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.31
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= 1.1
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .75
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	20	2	20
MOLLUSCA (L)	80	8	80
ANNELIDA (L)	0	0	0
CRUSTACEA	3020		
NAU.COP.	2060	220	
COPEPODS	940	100	
N+C CIRR.	0	0	0
OTHERS	20	2	20
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	240	25	240
PISCES (OVA)	0	0	0

STATION M14 090173 1630 00m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3380
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=40M):R= 3.37
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.32
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .81
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .56
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	100	10	180
ANNELIDA (L)	0	0	0
CRUSTACEA	3200		
NAU.COP.	2740	291	
COPEPODS	440	46	
N+C CIRR.	0	0	0
OTHERS	20	2	36
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	80	8	144
PISCES (OVA)	0	0	0

STATION M14 100173 1030 00m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3280
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 3.32
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.29
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .77
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .53
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	20	2	40
MOLLUSCA (L)	80	8	160
ANNELIDA (L)	20	2	40
CRUSTACEA	3100		
NAU.COP.	2440	267	
COPEPODS	660	72	
N+C CIPR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	60	6	120
PISCES (OVA)	0	0	0

STATION M14 100173 1345 00m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 2080
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 2.64
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 1.82
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .51
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .35
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	60	10	270
ANNELIDA (L)	0	0	0
CRUSTACEA	2000		
NAU.COP.	1480	256	
COPEPODS	520	90	
N+C CIPR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	20	3	90
PISCES (OVA)	0	0	0

STATION M14 100173 1630 00m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 1240
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=40%):R= 2.04
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 1.4
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .57
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .39
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.DEPR.	ANG.DEPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	20	5	72
ANNELIDA (L)	0	0	0
CRUSTACEA	1140		
NAU.COP.	900	261	
COPEPODS	240	69	
N+C CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	80	23	288
PISCES (OVA)	0	0	0

STATION M14 110173 1130 00m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 1920
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=40%):R= 2.54
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 1.75
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .89
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .61
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.DEPR.	ANG.DEPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	40	7	60
MOLLUSCA (L)	40	7	60
ANNELIDA (L)	0	0	0
CRUSTACEA	1700		
NAU.COP.	1440	220	
COPEPODS	240	45	
N+C CIRR.	0	0	0
OTHERS	20	3	30
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	140	26	210
PISCES (OVA)	0	0	0

STATION M14 110173 1430 00m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 1620
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 2.33
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 1.6
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .63
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .43
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	20	4	60
MOLLUSCA (L)	40	8	120
ANNELIDA (L)	0	0	0
CRUSTACEA	1500		
NAU.COP.	1200	266	
COPEPODS	300.	66	
N+C CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	60	13	180
PISCES (OVA)	0	0	0

STATION M14 110173 1715 00m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3000
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 3.17
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.19
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .93
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .64
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	160	19	221
ANNELIDA (L)	0	0	0
CRUSTACEA	2760		
NAU.COP.	2380	285	
COPEPODS	360	43	
N+C CIRR.	0	0	0
OTHERS	20	2	27
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	80	9	110
PISCES (OVA)	0	0	0

STATION M14 120173 0815 00m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 520
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 1.32
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= .91
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .44
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .3
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	20	13	120
MOLLUSCA (L)	80	55	
ANNELIDA (L)	0	0	0
CRUSTACEA	340		
MAU.COP.	260	130	
COPEPODS	120	83	
N+C CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	40	27	240
PISCES (OVA)	0	0	0

STATION M14 120173 1100 00m pompe

TOT.NUMB.INDIV./M3(PROT.EXCL.) 2640
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):D= 2.97
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.05
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .97
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .66
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	120	16	154
ANNELIDA (L)	60	8	77
CRUSTACEA	2360		
MAU.COP.	1800	245	
COPEPODS	560	76	
N+C CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	100	13	128
PISCES (OVA)	0	0	0

STATION M14 080173 1630 00m seau

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3960
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):D= 3.52
DIAGRAM CONSTRUCTION (NO MAX.AREA):D= 2.51
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:D= .83
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:D= .59
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	20	1	32
ANNELIDA (L)	20	1	32
CRUSTACEA	3780		
NAU.COP.	2580	234	
COPEPODS	1160	105	
M+C CIRR.	0	0	0
OTHERS	40	3	65
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	140	12	229
PISCES (OVA)	0	0	0

STATION M14 090173 1000 00m seau

TOT.NUMB.INDIV./M3(PROT.EXCL.) 5320
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):D= 4.08
DIAGRAM CONSTRUCTION (NO MAX.AREA):D= 2.91
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:D= 1.09
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:D= .77
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	20	1	18
MOLLUSCA (L)	140	9	132
ANNELIDA (L)	20	1	18
CRUSTACEA	4980		
NAU.COP.	1980	133	
COPEPODS	2960	200	
M+C CIRR.	20	1	18
OTHERS	20	1	18
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	160	10	151
PISCES (OVA)	0	0	0

STATION M14 090173 1300 00m seau

TOT.NUMB.INDIV./M3(PROT.EXCL.) 4220
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 3.63
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.59
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= 1.22
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .87
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	40	3	30
MOLLUSCA (L)	140	11	105
ANNELIDA (L)	40	3	30
CRUSTACEA	3760		
NAU.COP.	2200	187	
COPEPODS	1540	131	
N+C CIRR.	0	0	0
OTHERS	20	1	15
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	240	20	180
PISCES (OVA)	0	0	0

STATION M14 090173 1630 00m Seau

TOT.NUMB.INDIV./M3(PROT.EXCL.) 5100
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 4
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.85
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .56
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .39
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	40	2	144
ANNELIDA (L)	20	1	72
CRUSTACEA	5000		
NAU.COP.	3360	237	
COPEPODS	1640	115	
N+C CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	40	2	144
PISCES (OVA)	0	0	0

STATION M14 100173 1030 00m seau

TOT.NUMB.INDIV./M3(PROT.EXCL.) 2760
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 2.94
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.1
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .78
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .56
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	120	15	216
ANNELIDA (L)	0	0	0
CRUSTACEA	2560		
NAU.COP.	1960	255	
COPEPODS	600	78	
N+C CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	80	10	144
PISCES (OVA)	0	0	0

STATION M14 100173 1345 00m seau

TOT.NUMB.INDIV./M3(PROT.EXCL.) 4080
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 3.57
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.55
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .79
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .56
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	40	3	72
ANNELIDA (L)	0	0	0
CRUSTACEA	3900		
NAU.COP.	2840	250	
COPEPODS	1040	91	
N+C CIRR.	0	0	0
OTHERS	20	1	36
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	20	1	36
TUNICATA	120	10	216
PISCES (OVA)	0	0	0

STATION M14 100173 1630 00m seau

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3140
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 3.13
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.24
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .5
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .35
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	20	2	90
ANNELIDA (L)	0	0	0
CRUSTACEA	3060		
NAU.COP.	1540	175	
COPEPODS	1520	174	
N+C CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	60	6	270
PISCES (OVA)	0	0	0

STATION M14 110173 1130 00m seau

TOT.NUMB.INDIV./M3(PROT.EXCL.) 1840
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 2.4
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 1.71
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .5
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .35
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	0	0	0
ANNELIDA (L)	20	3	90
CRUSTACEA	1780		
NAU.COP.	1360	266	
COPEPODS	400	73	
N+C CIRR.	0	0	0
OTHERS	20	3	90
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	40	7	180
PISCES (OVA)	0	0	0

STATION M14 110173 1430 00m seau

TOT.NUMB.INDIV./M3(PROT.EXCL.) 1420
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 2.11
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 1.5
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .56
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .39
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	0	0	0
ANNELIDA (L)	0	0	0
CRUSTACEA	1320		
NAU.COP.	960	243	
COPEPODS	360	91	
N+C CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	100	25	360
PISCES (OVA)	0	0	0

STATION M14 110173 1715 00m seau

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3440
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 3.28
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.34
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .83
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .59
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	60	6	98
MOLLUSCA (L)	60	6	98
ANNELIDA (L)	0	0	0
CRUSTACEA	3220		
NAU.COP.	2640	276	
COPEPODS	580	60	
N+C CIRR.	0	0	0
OTHERS	0	0	0
BRYOZOA (L)	0	0	0
PHORONIS (L)	20	2	32
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	80	8	130
PISCES (OVA)	0	0	0

STATION M14 120173 0915 00m seau

TOT.NUMB.INDIV./M3(PROT.EXCL.) 1160
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 1.9
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 1.36
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .43
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .3
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	0	0	0
ANNELIDA (L)	0	0	0
CRUSTACEA	1120		
MAG.COP.	730	242	
COPEPODS	390	99	
N+C CIRR.	0	0	0
OTHERS	20	6	120
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	40	12	240
PISCES (OVA)	0	0	0

STATION M14 120173 1100 00m seau

TOT.NUMB.INDIV./M3(PROT.EXCL.) 3620
DIAGRAM CONSTRUCTION (WITH MAX.AREA R=4CM):R= 3.36
DIAGRAM CONSTRUCTION (NO MAX.AREA):R= 2.4
DIAGRAM CONSTRUCTION (WITH MAX.AREA) ORGAN.-10PC:R= .97
DIAGRAM CONSTRUCTION (NO MAX.AREA) ORGAN.-10PC:R= .69
DRY MAT.(G/M3) PARTICLES > 40 MICRONS 0
ASHES IDEM 0
ORG. MAT. IDEM 0
DIAGRAM CONSTRUCTION DRY MAT. :D= 0
DIAGRAM CONSTRUCTION ORG.MAT.:D= 0

	TOT.NUMB./M3	TOT.ANG.REPR.	ANG.REPR.-10PC
PROTOZOA			
NOCTILUCA	0		
OTHERS	0		
CNIDARIA	0	0	0
ACNIDARIA	0	0	0
NEMATHELMINT.	0	0	0
MOLLUSCA (L)	120	11	144
ANNELIDA (L)	20	1	24
CRUSTACEA	3340		
MAG.COP.	1360	184	
COPEPODS	1460	145	
N+C CIRR.	0	0	0
OTHERS	20	1	24
BRYOZOA (L)	0	0	0
CHAETOGNATHA	0	0	0
ECHINOD. (L)	0	0	0
TUNICATA	140	13	168
PISCES (OVA)	0	0	0