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**Copepods from Warm-Core Ring 82-H**

by

Nancy J. Copley, Peter H. Wiebe, and Timothy J. Cowles

July 1989

**Technical Report**

Funding was provided by the National Science Foundation  
through grant Numbers OCE 80-12748, OCE 85-08350, OCE 87-09962,  
OCE 80-19055, and OCE 80-17271.

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Woods Hole, Massachusetts 02543

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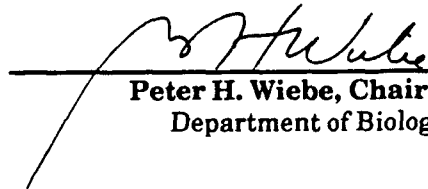
**Technical Report**

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Peter H. Wiebe, Chairman  
Department of Biology

### Abstract

Net tows were collected with a Multiple Opening/Closing Net Environmental Sampling System (MOCNESS) carrying twenty 1-m<sup>2</sup> nets in October 1982 in and near warm-core ring 82-H in the North Atlantic (RV/Knorr cruise 98). This report includes the species list and abundance tables of the copepods found in five of the tows. There are four types of abundance tables: raw data, standardized to #/1000 m<sup>3</sup>, integrated #/m<sup>2</sup> to 1000 m depth, and cumulative percents over the depth of the tows.

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## Introduction

The objective of this work was to determine the abundance and distribution of copepods associated with Gulf Stream warm-core ring 82-H in the North Atlantic. Copepods were identified from five net tows collected with a double 1 m<sup>2</sup> Multiple Opening/Closing Net Environmental Sampling System (MOCNESS).

This report includes the species list and abundance tables of the copepods found in five of the tows. There are four types of abundance tables: raw data, standardized to #/1000 m<sup>3</sup>, integrated #/m<sup>2</sup> to 1000 m depth, and cumulative percents over the depth of the tows. An appendix lists some of the copepods found in the samples which were not included in the main set of tables.

## Field Sampling

Warm-core ring 82-H was sampled before, during and after its formation in September and October 1982 on RV/Knorr cruise 98. Samples were collected with a double Multiple Opening/Closing Net Environmental Sampling System (MOCNESS) carrying 20 nets of 335  $\mu$ m Nitex nylon mesh; net opening was 1 m<sup>2</sup> (Wiebe et al, 1985b). Barber and Wiebe (1985) contains further details on the MOCNESS system, sampling strategy, tow information for all the warm-core ring tows (dates, times, positions, depth of 10° isotherm, volume filtered/net), and physical data (temperature and salinity). Wiebe et al (1985a) also gives details of the sampling area and methods. The dates and locations of MOC 217, 218, 219, 220, and 222 are listed in Table 1. Figure 1 shows the geographic position of ring 82-H shortly after formation and the positions of the tows relative to the ring center which moved substantially to the west after formation.

All tows but MOC 217 were taken from the ring center area. MOC 217 was a towyo (series of oblique hauls from surface to depth) cycled between 0 m and approximately 125 m beginning in waters of ring origin, passing through a front on the outer edge of the ring and into the surrounding Slope Water. Nets were alternately closed at the bottom of the tow and then three nets were used to sample the upward haul (Figure 2). These nets sampled below a subsurface temperature maximum, to the bottom of the mixed layer, and the surface mixed layer. MOC 218 and 219 sampled from 0 m to 1000 m with MOC 218 taken at night and MOC 219 during the day. Nets were closed every 100 m between 1000 m and 200 m and every 25 m from 200 m to the surface. MOC 220 was a towyo from 0 m to 100 m beginning in the daylight and ending after dark and MOC 222 was a nighttime high resolution oblique tow to 160 m (nets closed every 10 m). Wiebe, Copley, and Boyd (in press) provide a more detailed explanation of the field setting and sampling technique.

## Laboratory Methods

The contents of each net were preserved in 10% formalin buffered with sodium tetraborate and sorted using a Wild M-5 dissecting microscope. For further species identification a compound microscope was sometimes used. Large samples were split to no more than 1/16 aliquot in a Folsom plankton splitter. The samples were sorted over a 1-1/2

year period (April 1985 - December 1986) during which the emphasis changed from enumerating only the more common species to trying to identify all the copepods. A total of over 130 species were found. All species were identified in MOC 219 and 222; about 94 species were found in MOC 219 and 69 in MOC 222. Almost all copepods were identified in MOC 220; 56 species were recorded. MOC 217 lists 45 species and MOC 218 has 87; all species were not identified in these two tows so the absence of any species from a particular tow from Table 2 does not necessarily mean it was not present. However, a total count of copepods was made on all samples. See Table 2 for a complete listing of species (alphabetized by genus) identified from the five tows.

## The Data

Tables of raw, standardized, integrated, and cumulative percent data for the most abundant species and some of the less common but large species are included in this report (Tables 4a-r). Species are listed in taxonomic order. Females, males and copepodites were identified separately for each species except *Lucicutia* spp. and *Acartia* spp. where they are combined. Copepod species categories (female, male, copepodite) are given a three letter code on the tables. The code is preceded by an 'f' for female, 'm' for male, and 'c' for copepodite. If none of these precedes the code, females, males, and copepodites were grouped (luci for *Lucicutia* spp., oith for *Oithona* spp.). The raw data tables show just the species code; in the standardized tables, the code is preceded by a '#', integrated tables are identified by an 'i', and cumulative percent tables have a '%' before each species code. Data in the 'raw' tables are counts for the aliquot. Aliquot size is indicated; an '8' in the 'aliq' column means that a 1/8th split was sorted and the values on the table are the number of individuals found in that eighth split. Table 3 lists codes alphabetically with their species names. Appendix 1 lists some of the copepods that are included in the abundance table 4 under the heading 'misc'. These are the more rare adults, and copepodites of a group of similar species; c *Spinocalanus* spp. for example.

From the original counts, standardized values were calculated for the number of individuals/1000 m<sup>3</sup> of each species category in each net. The integrated number of individuals/m<sup>2</sup> to a depth of 1000 m and the cumulative percent of each category was calculated as well. The formulae are as follows:

$$\text{Standard: } \text{STD} = (\text{RAW}/\text{ALIQ}) * (1000/\text{VOLFIL})$$

where RAW is the # copepods counted in the split sample, ALIQ is the reciprocal of the aliquot (8 for an eighth split: ALIQ is given in the data tables in this form), and VOLFIL is the volume of water filtered in a strata.

$$\text{Integrated: } I_B = \sum_{i=1}^n b_i * h_i$$

$$\text{Cumulative \%: } C_i = \frac{b_i * h_i}{I_B} * 100 + C_{(i-1)}$$

where  $I_b$  = integrated #/m<sup>2</sup> to 1000 m,  $b_i$  = # in strata  $i$  (#/1000 m<sup>3</sup>),  $h_i$  = height of strata in meters, and  $n$  = number of strata sampled with the count starting at the surface. The vertical distribution of a copepod species category is expressed in terms of the cumulative percent of that category in the  $i^{\text{th}}$  strata,  $c_i$ , beginning with the surface strata (from Barber and Wiebe, 1985). Integrated counts for MOC 217 were found by combining the three nets of the up-haul; down-hauls sampled the entire range so were computed alone. The data is found in Table 4c with haul number listed instead of net number as the other four MOCNESS tows show.

A 1986 unpublished technical report by Flierl ("The Warm Core Rings Database Routines", available in the WHOI reference library) describes the data format. All data in the database are treated as tables of numbers. The header for each column is stored with the table and serves to identify visually the data in that column. The data must be numeric; the value -999 is used to identify a missing data item. The data are stored in MS-DOS ASCII files containing headers and data in a single column using the Flierl database format: the first line has the number of columns (NC), the next NC lines have the table headings, and the following groups of NC lines contain successive rows of the table. A disk with all data presented in this report is on file in the WHOI reference library along with copies of this report. Requests for permission to use the data should be obtained from the authors of this report.

## Observations

The MOCNESS went through a frontal region on tow 217. The species composition changed as the nets went from the warm ring to the cold Slope water. Three species were dominant in the warmer, ring center water: *Undinula vulgaris*, *Euchaeta marina*, and *Candacia pachydactyla*. Several calanoid species were dominant in the colder, slope water: *Nannocalanus minor*, *Calanus finmarchicus*, *C. tenuicornis* (stage V), *Rhincalanus cornutus*, *Clausocalanus arcuicornis*, *Lucicutia* spp., *Centropages typicus*, *C. violaceus*, *Haloptilus longicornis*, *Candacia armata*, and also *Oithona* spp. A few species were more abundant on either side of the front: *Scolecithrix danae*, *Centropages furcatus*, and some cyclopoids. Results of the towyo taken across a front on the outer edge of the ring (MOC 217) and the towyo made in ring center at sunset (MOC 220) are discussed in detail in Wiebe *et al* (in press).

In MOC 219, the species composition from 300-1000 meters was noticeably more diverse. Larger species (*Calanus finmarchicus*, *C. hyperboreus*, *Eucalanus elongatus*, *Rhincalanus cornutus*, *Undeuchaeta* spp.) were more abundant than in the upper 300 meters but overall abundance was lower.

In MOC 222, the fine scale tow which sampled every 10 m from 160 m to the surface, the vertical distribution of the five *Candacia* species was distinctive. *C. pachydactyla* males and females were found from the surface to 70 m. One male *C. ethiopica* was found between 10 and 20 m. *C. longimana* females occurred from 20 m to 100 m and the males from 30 m to 90 m. *C. curta* females were caught between 70 m and 120 m and *C. ketchumi* females were found between 100 m and 160 m; the males were found from 120 m to 160 m. In general, co-specific male and female *Candacia* shared similar strata while different species

overlapped very little. Other congeners exhibited similar segregation in MOC 222: *Scolecithrix danae* (0-50 m ) and *S. bradyi* (30-150 m) seemed to prefer different regions and *Acartia danae* (0-90 m) and *A. negligens* (80-160 m) had little overlap. The *Pleuromamma* species did not show this tendency at all, with all five species co-occurring (Figure 3).

The distribution of some species of copepods in the high resolution tow (MOC 222) corresponded well with the temperature and salinity curves. From the surface to about 60 m, the temperature remained about 24.8°C. The seasonal thermocline began at about 65 m and temperature gradually dropped to 18°C at 160 m (Figure 4). Some species were concentrated above 60 to 80 m, others mostly occurred deeper, while others were found more or less evenly over the entire 160 m.

<u>mixed layer</u>	<u>below thermocline</u>	<u>both</u>
<i>Acartia danae</i>	<i>Acartia negligens</i>	<i>Clausocalanus arcuicornis</i>
<i>Acrocalanus longicornis</i>	<i>Aetideus armatus</i>	<i>C. furcatus</i>
<i>Candacia pachydactyla</i>	<i>Candacia ketchumi</i>	<i>Heterorhabdus papilliger</i>
<i>Centropages violaceus</i>	<i>Chirundina streetsi</i>	<i>Neocalanus robustior</i>
<i>Eucalanus attenuatus</i>	<i>Euaetideus giesbrechti</i>	<i>Pleuromamma abdominalis</i>
<i>Euchirella messinensis</i>	<i>Gaetanus minor</i>	<i>P. gracilis</i>
<i>Nannocalanus minor</i>	<i>Haloptilus longicornis</i>	<i>Scaphocalanus nr. amplius</i>
<i>Pleuromamma piseki</i>	<i>Heterorhabdus spinifrons</i>	<i>S. nr. longicornis</i>
<i>Pontellina plumata</i>	<i>Lucicutia clausi</i>	<i>Undeuchaeta plumosa</i>
<i>Scolecithrix danae</i>	<i>Phyllopus helgae</i>	
<i>Temora stylifera</i>	<i>Scolecithricella vittata</i>	
<i>Undinula vulgaris</i>		

Some species were concentrated in and just below the thermocline (60-90 m): *Calanus tenuicornis*, *Lophothrix latipes*, *Mecynocera clausi*, *Phaenna spinifera*, *Pontellina plumata* and *Scottocalanus securifrons*.

### Acknowledgements

We would like to thank Al Morton who provided valuable help in making the tows and maintaining the MOCNESS equipment. Valerie Barber and Steven Boyd assisted in sample collection. Mar Tamse provided analytical assistance.



## References

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- Wiebe, P. H., N. J. Copley, and S. H. Boyd. Coarse-scale horizontal patchiness and vertical migration of zooplankton in newly formed Gulf Stream warm-core ring 82-H. (submitted to *Deep-Sea Research*)

Figure 1. (a) Position of Gulf Stream meander 82-H just prior to ring formation (solid line) and ring 82-H shortly after formation (closed circle). (b) Positions of the MOCNESS tows taken on RV/KNORR cruise 98 to meander/ring 82-H relative to ring center. Corrected from Wiebe *et al* (1985); (from Wiebe, Copley, Boyd, in press).

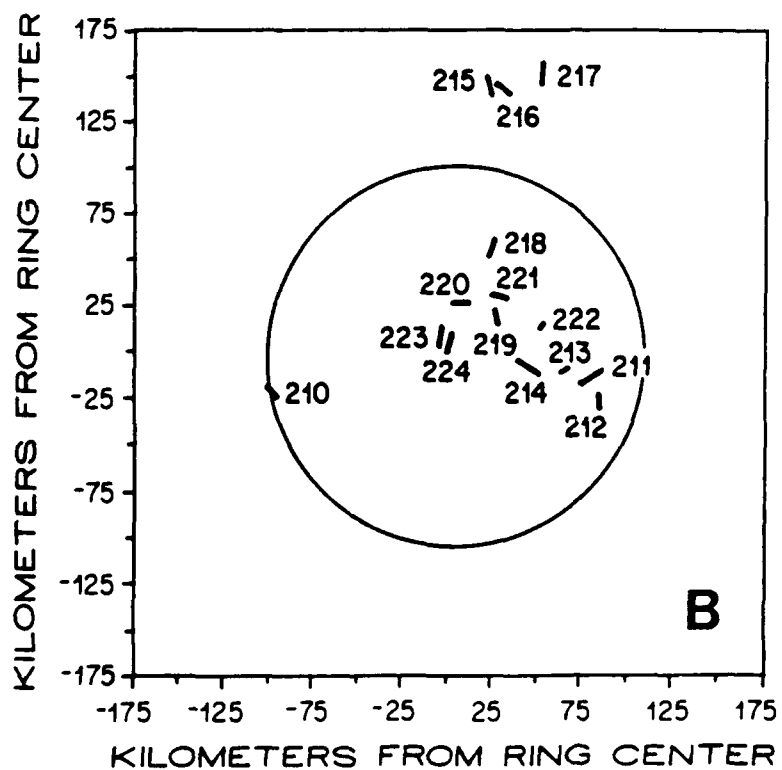
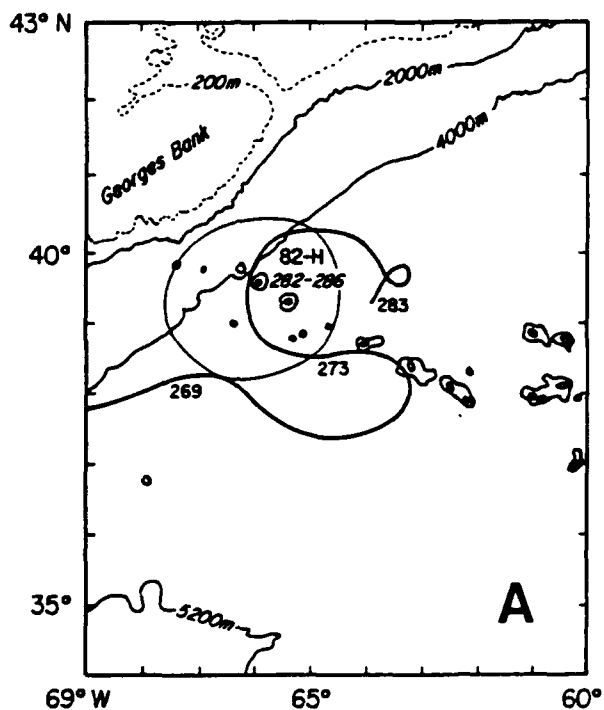
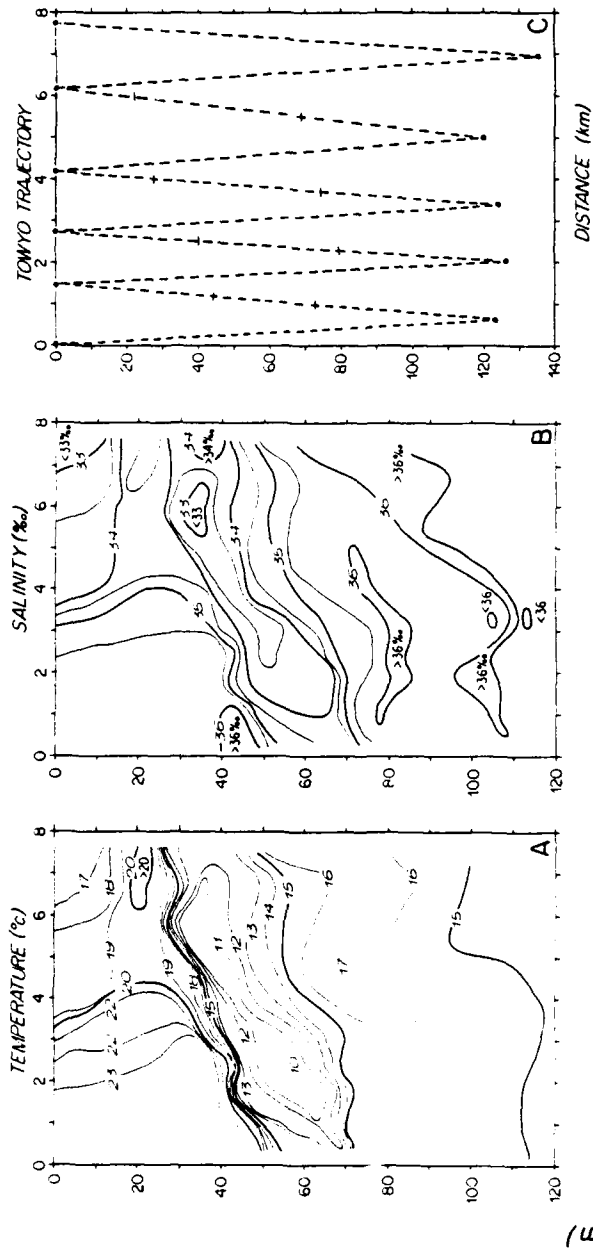


Figure 2. Horizontal section of (a) temperature and (b) salinity taken on towyo MOC 217 in the fringe region of ring 82-H. (c) towyo net trajectory - cross lines on the up-track mark the closing and opening of nets. Horizontal section of (d) temperature and (e) salinity on towyo MOC 220 at the center of the ring. (f) towyo net trajectory of MOC 220 (from Wiebe, Copley, Boyd, in press).

TOWYO IN RING 82-H ENTRAINMENT FIELD  
MOC-1D-217



TOWYO IN RING 82-H CENTER  
MOC-1D-220

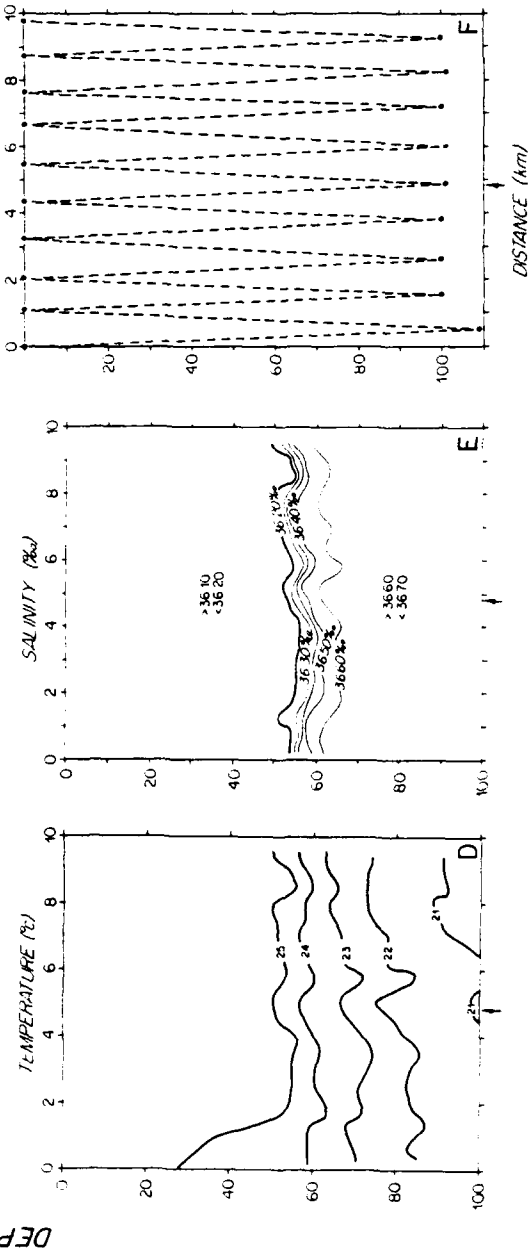


Figure 3. Vertical distributions from surface to 160 m of (a) *Candacia* spp. and (b) *Pleuromamma* spp. from high resolution night tow MOC 222 in ring center.

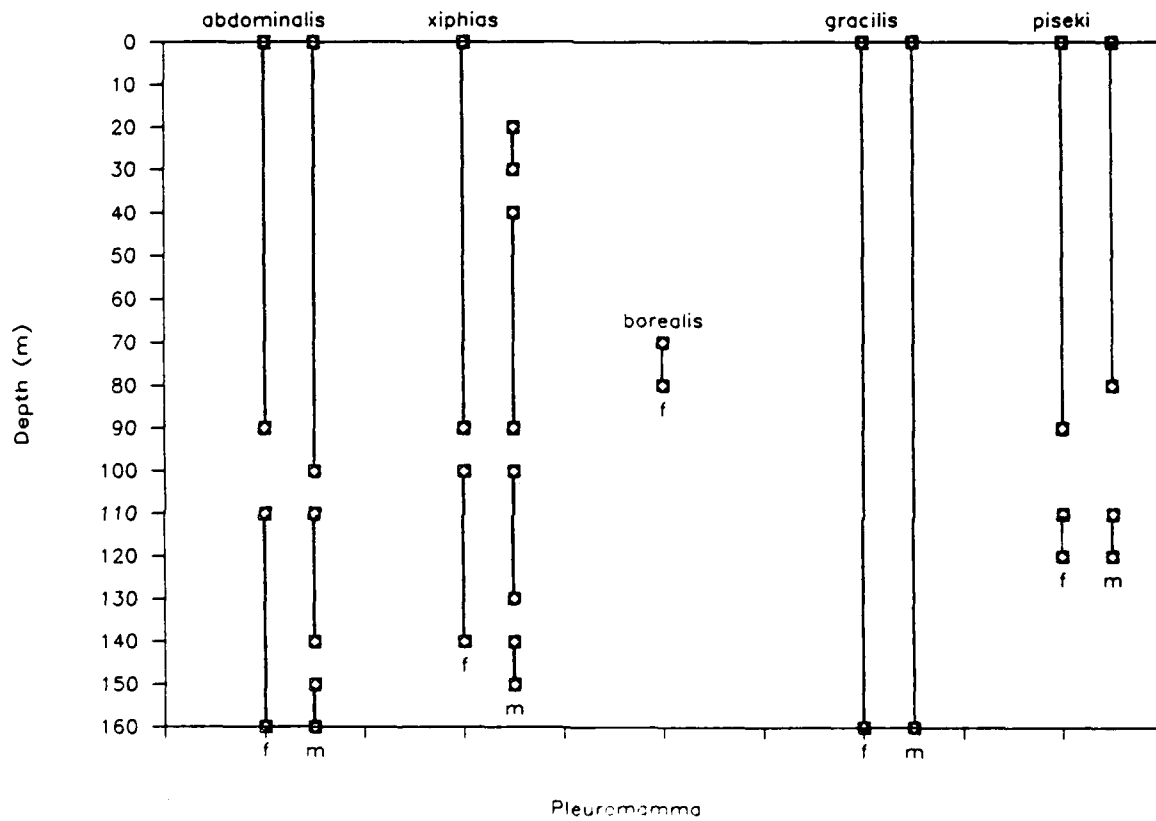
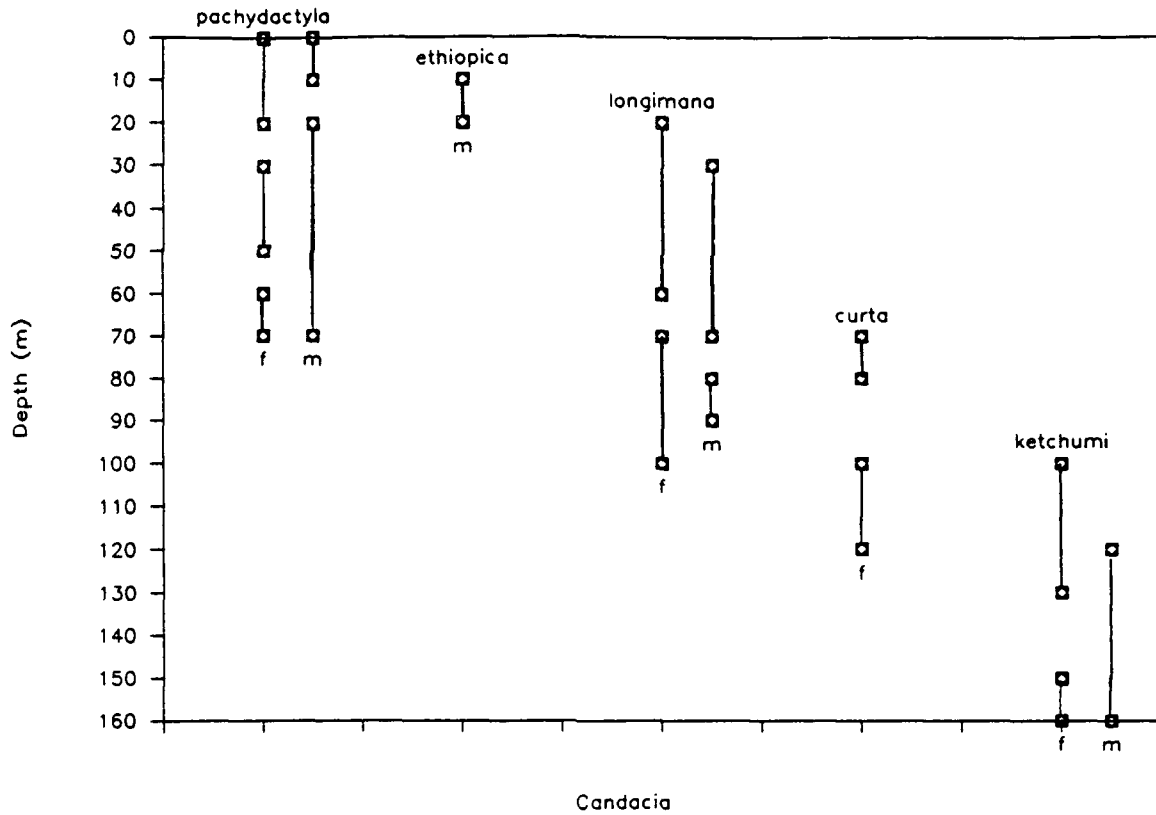


Figure 4. Temperature and salinity profiles from MOC 222.

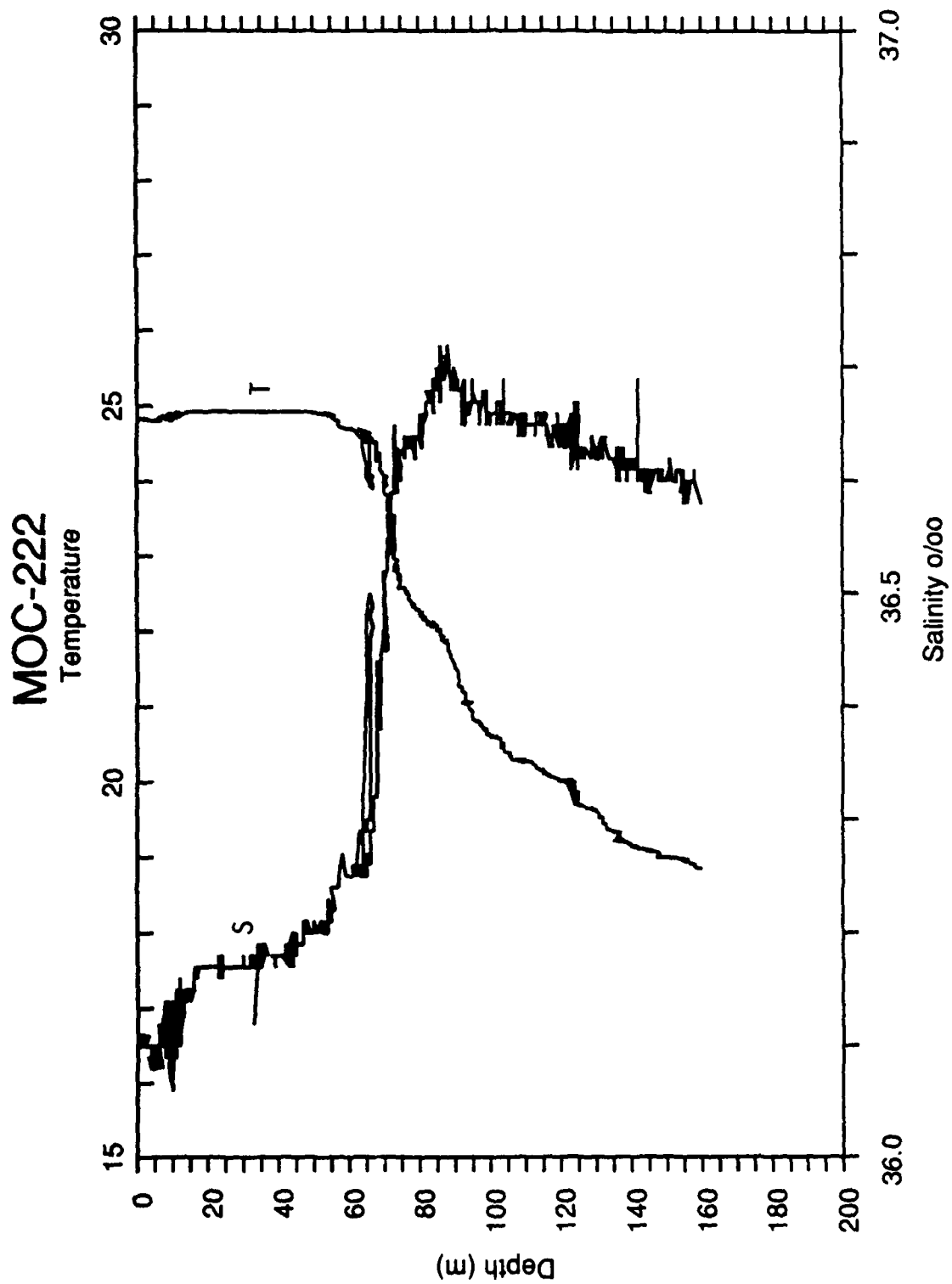


Table 1. Cruise log of MOCNESS tows from warm-core ring 82-H. Latitude and longitude are for the starting positions of the tow.

Tow No.	Date	Local Time (h)	Lat. (N)	Long. (W)	Depth 10C (m)	Dist. RC * (km)	Region	Tow Depth (m)
MOC-1D-217	6.X.82	0938	40 40.1	65 50.2	307	159	meander edge	towyo 0-125
MOC-1D-218	6.X.82	2043	39 52.9	65 12.1	727	61	ring center	0-1000
MOC-1D-219	8.X.82	0728	39 24.1	65 18.9	844	33	ring center	0-1000
MOC-1D-220	8.X.82	1640	39 29.3	65 33.0	820	27	ring center	towyo 0-100
MOC-1D-222	9.X.82	2040	39 18.8	65 12.1	755	54	ring center	1-160

\* Distances from Ring Center are corrected from Barber and Wiebe, 1985.

Table 2. List of copepod species found in MOCNESS tows from warm-core ring 82-H and their codes. x = present, - = not present, ? = may be present, not identified. Categories marked with an asterisk were not included in total species identified.

species name	code	217	218	219	220	222
<i>Acartia danae</i>	ada	x	x	x	-	x
<i>A. negligens</i>	neg	x	x	x	x	x
* <i>Acartia</i> spp.	acar	x	x	-	-	-
<i>Acrocalanus andersoni</i>	aca	?	x	-	x	x
<i>A. longicornis</i>	acr	x	?	x	x	?
<i>Aetideopsis multiserrata</i>		?	?	x	?	-
<i>Aetideus armatus</i>	aar	x	x	x	x	x
<i>Amallothrix emarginata</i>		?	?	x	?	-
<i>A. laminata</i>	lam	-	x	x	x	x
<i>A. nr. valida</i>		?	?	x	?	-
<i>Arietellus plumifer</i>		?	?	-	x	x
<i>A. setosus</i>		?	?	x	?	-
* <i>Augaptilidae</i> spp.	aug	x	-	x	x	x
<i>Calanus finmarchicus</i>	fin	x	x	x	x	-
* stage V copepodites	vfin	x	x	x	x	-
* stage IV copepodites	cfin	x	x	x	x	-
* <i>Cal., Neocal., Undinula</i> copepodites =<III	ccal	x	x	x	x	x
<i>C. hyperboreus</i>	hyp	x	x	x	-	-
<i>C. tenuicornis</i>	ten	x	x	x	x	x
<i>Calocalanus parvoninus</i>	pav	x	x	x	x	x
<i>Candacia armata</i>	arm	x	x	-	-	-
<i>C. bipinnata</i>		x	-	-	-	x
<i>C. curta</i>	cur	-	-	-	x	x
<i>C. ethiopica</i>	eth	-	x	-	x	x
<i>C. ketchumi</i>	ket	-	x	x	-	x
<i>C. longimana</i>	clo	-	x	x	-	x
<i>C. pachydactyla</i>	pak	x	x	x	x	x
<i>C. paenelongimana</i>		-	x	x	-	-
* <i>Candacia</i> spp. copepodites	ccan	x	x	x	x	x
<i>Centraugaptilus horridus</i>		?	?	x	?	-
<i>Centropages furcatus</i>	fur	x	-	-	-	-
<i>C. typicus</i>	typ	x	x	x	-	-
<i>C. violaceus</i>	vio	x	x	x	x	x
* <i>Centropages</i> spp. copepodites	ccen	x	x	x	x	x
<i>Chirundina streetsi</i>	chi	?	x	x	-	x
<i>Clausocalanus arcuicornis</i>	arc	x	x	x	x	x
<i>C. furcatus</i>	urc	x	x	x	x	x
* <i>Clausocalanus</i> spp. males	mcla	x	x	x	x	x
nr. <i>Ctenocalanus</i>		?	?	-	?	x

species name	code	217	218	219	220	222
<i>Disseta palumboi</i>		?	?	x	?	-
<i>Euaetideus giesbrechti</i>	ege	x	x	x	x	x
<i>Euaugaptilus hecticus</i>		?	?	?	x	x
<i>E. magnus</i>		?	?	x	?	-
<i>Eucalanus</i> nr. <i>attenuatus</i>	att(s)	x	x	x	x	x
<i>E. elongatus</i>	elg	x	x	x	-	x
<i>E. nr. monachus</i>	mon	?	x	x	x	x
<i>Euchaeta barbata</i>		-	-	x	-	-
<i>E. bisinuata</i>		-	x	-	-	-
<i>E. hansenii</i>		-	x	-	-	-
<i>E. incisa</i>	inc	-	x	x	-	-
<i>E. marina</i>	mar	x	x	x	x	-
<i>E. media</i>	med	-	x	x	x	-
<i>E. norvegica</i>		-	x	-	-	-
<i>E. paraconcinna</i>		-	x	x	-	-
<i>E. pseudotonsa</i>		-	x	-	-	-
<i>E. pubera</i>		-	-	x	-	-
<i>E. spinosa</i>		x	-	-	-	-
<i>E. tonsa</i>		-	-	x	-	-
* <i>Euchaeta</i> spp.	euk	x	-	-	-	x
<i>Euchirella amoena</i>		?	?	-	x	-
<i>E. bitumida</i>		?	x	-	x	-
<i>E. curticauda</i>		?	x	-	?	x
<i>E. intermedia</i>		?	x	-	?	x
<i>E. messinensis</i>	eme	?	x	x	x	x
<i>E. rostrata</i>	ros	?	x	-	-	x
* <i>Euchirella</i> spp. copepodites	cuch	?	?	x	x	x
nr. <i>Farrania oblonga</i>		?	?	x	x	x
<i>Gaetanus kruppi</i>		?	x	-	?	-
<i>G. miles</i>		?	x	x	-	-
<i>G. minor</i>	gmi	?	x	x	-	x
<i>G. pileatus</i>		?	x	x	?	-
<i>Gaidius tenuispinus</i>		?	?	x	?	-
<i>Haloptilus longicornis</i>	hal	x	x	x	x	x
<i>H. ornatus</i>	orn	?	-	x	-	-
<i>H. spiniceps</i>		?	?	x	?	-
* <i>Haloptilus</i> spp.		?	?	x	?	x
<i>Heterorhabdus abyssallis</i>		?	?	x	-	-
<i>H. norvegica</i>		-	-	x	-	-
<i>H. papilliger</i>	pap	-	x	x	x	x
<i>H. spinifrons</i>	spi	-	x	x	x	x
<i>H. vipera</i>	vip	-	x	x	-	-
* <i>Heterorhabdus</i> spp.	het	-	?	x	-	-
<i>Lophothrix frontalis</i>		-	x	x	?	-



species name	code	217	218	219	220	222
<i>L. latipes</i>	lop	?	x	x	x	x
<i>Lucicutia clausi</i>	cla	?	?	x	x	x
<i>L. ovalis</i>		?	?	?	x	x
* <i>Lucicutia</i> spp.	luci,lut	x	x	x	x	x
<i>Megacalanus longicornis</i>		x	?	-	-	-
<i>Metridia brevicauda</i>	brv	-	x	x	-	-
<i>M. longa</i>	lon	-	x	x	-	-
<i>M. lucens</i>	luc	x	x	-	-	-
<i>M. princeps</i>	pri	-	x	x	-	-
<i>M. venusta</i>	ven	-	x	x	-	-
* <i>Metridia</i> spp. copepodites	cmet	x	x	x	-	?
<i>Mecynocera clausi</i>	mey	x	x	x	x	x
nr. <i>Microcalanus</i>		?	?	-	?	x
nr. <i>Mimocalanus</i>	mim	?	x	x	?	x
<i>Monacilla typica</i>	mty	?	?	x	-	-
<i>Nannocalanus minor</i>	min	x	x	x	x	x
<i>Neocalanus gracilis</i>	ngr	x	x	x	x	-
<i>N. robustior</i>	nro	x	x	-	x	x
* <i>N. grac. &amp; rob.</i> cop'tes IV,V	cneo	x	x	x	x	x
<i>Pachyptilus eurygnathus</i>		?	x	-	?	-
<i>Paracandacia bispinosa</i>	pbi,pbs	x	x	x	x	x
<i>P. simplex</i>	sim	x	x	x	x	-
<i>Paraugaptilus buchani</i>		-	?	-	?	x
<i>Phaenna spinifera</i>	psp	?	x	x	x	x
<i>Phyllopus helgae</i>	hel	-	x	x	-	x
<i>P. impar</i>	imp	-	x	-	-	-
<i>Pleuromamma abdominalis</i>	abd	x	x	x	x	x
<i>P. borealis</i>	bor	x	-	x	-	x
<i>P. gracilis</i>	gra	x	x	x	x	x
<i>P. piseki</i>	pis	x	x	x	x	x
<i>P. robusta</i>	rob	x	-	-	-	-
<i>P. xiphias</i>	xip	-	x	x	x	x
* <i>P. bor. &amp; grac.</i> males	mpsm	x	x	x	x	x
* <i>P. bor.,grac,pis.</i> cop'dites	cpsm	x	x	x	x	x
* <i>P. abd.,rob.,xip.</i> cop'dites	cplg	x	x	x	x	x
<i>Pontella</i> sp.		?	x	-	-	-
<i>Pontellina plumata</i>	pon	x	x	x	x	x
nr. <i>Pseudochirella</i>		?	x	-	?	x
<i>Racovitzanus</i> sp.		?	?	x	-	-
<i>Rhincalanus cornutus</i>	cor	x	x	x	x	x
<i>R. nasutus</i>	nas	x	x	-	-	-
<i>Scaphocalanus</i> nr. <i>amplius</i>	sam	?	x	x	x	?
<i>S. nr. curtus</i>	scu	?	x	x	?	x
<i>S. nr. longifurcus</i>	slo	?	x	x	x	x

species name	code	217	218	219	220	222
<i>Scaphocalanus</i> nr. <i>magnus</i>	sma	?	?	x	?	?
* <i>Scaphocalanus</i> spp. males	mscp	?	?	x	?	x
<i>Scolecithricella</i> nr. <i>abyssalis</i>		?	?	x	?	?
<i>S. ctenopus</i>		?	?	x	?	?
<i>S. dentata</i>	den	x	?	x	x	x
<i>S. minor</i>		?	?	-	?	x
<i>S. vittata</i>	vit	x	x	x	-	x
* <i>Scolecithricella</i> spp. males	msca	?	?	x	?	x
<i>Scolecithrix</i> <i>bradyi</i>	bra	x	x	x	x	x
<i>S. danae</i>	dan	x	x	x	x	x
<i>Scottocalanus</i> nr. <i>australis</i>		?	x	-	-	-
<i>S. helenae</i>		?	?	x	-	-
<i>S. persecans</i>		?	x	-	-	-
<i>S. securifrons</i>	sco	?	x	x	x	x
<i>Spinocalanus</i> nr. <i>spinosus</i>	spi	?	x	x	?	?
<i>Temora longicornis/turbinata</i>	ttu	x	x	-	x	x
<i>T. stylifera</i>	tst	x	x	x	x	x
<i>Temorites</i> sp.	tmt	?	?	x	?	-
<i>Undeuchaeta major</i>	umj	?	x	x	x	x
<i>U. plumosa</i>	upl	?	x	x	x	x
<i>Undinula vulgaris</i> (cund=cIV,cV)	und	x	x	x	x	x
nr. <i>Xanthocalanus agilis</i>		?	?	-	x	x
nr. <i>Xantho./Amallothrix</i>		?	?	-	?	x
misc. calanoids - F,M,C	misc	x	x	x	x	x
<i>Oithona</i> spp.	oith	x	x	x	x	x
other cycl. & harp. spp.	cycl	x	x	x	x	x
total copepods	totl					
# of species identified in tow		45	87	94	56	69
total # species identified = 130						

code	species name
pon	<i>Pontellina plumata</i>
pri	<i>Metridia princeps</i>
psm	<i>Pleuromamma borealis</i> , <i>P. gracilis</i> , & <i>P. piseki</i> copepodites
(m)psm	<i>P. bor.</i> & <i>P. grac.</i> males
psp	<i>Phaenna spinifera</i>
rob	<i>Pleuromamma robusta</i>
ros	<i>Euchirella rostrata</i>
sam	<i>Scaphocalanus</i> nr. <i>amplius</i>
sca	<i>Scolecithricella</i> spp. males
sco	<i>Scottocalanus securifrons</i>
scp	<i>Scaphocalanus</i> spp. males
scu	<i>Scaphocalanus</i> nr. <i>curtus</i>
sim	<i>Paracandacia simplex</i>
slo	<i>Scaphocalanus</i> nr. <i>longifurcus</i>
sma	<i>Scaphocalanus</i> nr. <i>magnus</i>
spi	<i>Heterorhabdus spinifrons</i>
ssp	<i>Spinocalanus</i> nr. <i>spinusus</i>
ten	<i>Calanus tenuicornis</i>
tmt	<i>Temorites</i> sp.
totl	total copepods
tst	<i>Temora stylifera</i>
ttu	<i>Temora longicornis/turbinata</i>
typ	<i>Centropages typicus</i>
uch	<i>Euchirella</i> spp. copepodites
umj	<i>Undeuchaeta major</i>
und	<i>Undinula vulgaris</i>
upl	<i>Undeuchaeta plumosa</i>
urc	<i>Clausocalanus furcatus</i>
ven	<i>Metridea venusta</i>
vio	<i>Centropages violaceus</i>
vip	<i>Heterorhabdus vipera</i>
vit	<i>Scolecithricella vittata</i>
xip	<i>Pleuromamma xiphias</i>

Table 3: Alphabetical list of species codes, excluding the preceding f, m, and c. Some codes do not have f, m, or c before the 3 letter code. These others describe a group of species within a genus or larger grouping (eg. acar = *Acartia* spp., totl = total copepods) and have a 4 letter code. Note: *Pleuromamma piseki* males = mpis; *P. gracilis* and *P. borealis* males = mpsm. These two were grouped because they are very similar in appearance while *P. piseki* is distinct.

code	species name	code	species name
aar	<i>Aetideus armatus</i>	hal	<i>Haloptilus longicornis</i>
abd	<i>Pleuromamma abdominalis</i>	hel	<i>Phyllopus helgae</i>
aca	<i>Acrocalanus andersoni</i>	het	<i>Heterorhabdus</i> spp.
acar	<i>Acartia</i> spp.	hyp	<i>Calanus hyperboreus</i>
acr	<i>Acrocalanus longicornis</i>	imp	<i>Phyllopus impar</i>
ada	<i>Acartia danae</i>	inc	<i>Euchaeta incisa</i>
arc	<i>Clausocalanus arcuicornis</i>	ket	<i>Candacia ketchumi</i>
arm	<i>Candacia armata</i>	lam	<i>Amallothrix laminata</i>
att(s)	<i>Eucalanus</i> nr. <i>attenuatus</i>	lon	<i>Metridia longa</i>
aug	<i>Augaptilidae</i> spp.	lop	<i>Lophothrix latipes</i>
bor	<i>Pleuromamma borealis</i>	luc	<i>Metridia lucens</i>
bra	<i>Scolecithrix bradyi</i>	luci	<i>Lucicutia</i> spp.
brv	<i>Metridia brevicauda</i>	lut	<i>Lucicutia</i> spp.
cal	<i>Calanus, Neocalanus, Undinula</i> copepodites =<III	mar	<i>Euchaeta marina</i>
can	<i>Candacia</i> spp. copepodites	med	<i>E. media</i>
cen	<i>Centropages</i> spp. copepodites	met	<i>Metridia</i> spp. copodites
chi	<i>Chirundina streetsi</i>	mey	<i>Mecynocera clausi</i>
cla	<i>Lucicutia clausi</i>	mim	nr. <i>Mimocalanus</i>
clo	<i>Candacia longimana</i>	min	<i>Nannocalanus minor</i>
cor	<i>Rhincalanus cornutus</i>	misc	misc. calanoids - F,M,C
cur	<i>Candacia curta</i>	mon	<i>Eucalanus</i> nr. <i>monachus</i>
cycl	non- <i>Oithona</i> cyclopoids & harpacticoid spp.	mty	<i>Monacilla typica</i>
dan	<i>Scolecithrix danae</i>	nas	<i>Rhincalanus nasutus</i>
den	<i>Scolecithricella dentata</i>	neg	<i>Acartia negligens</i>
ege	<i>Euaetideus giesbrechti</i>	neo	<i>Neocalanus gracilis</i> & <i>robustior</i> stage IV + V copepodites
elg	<i>Eucalanus elongatus</i>	ngr	<i>Neocalanus gracilis</i>
eme	<i>Euchirella messinensis</i>	nro	<i>N. robustior</i>
eth	<i>Candacia ethiopica</i>	oith	<i>Oithona</i> spp.
euk	<i>Euchaeta</i> spp.	orn	<i>Haloptilus ornatus</i>
fin	<i>Calanus finmarchicus</i>	pak	<i>Candacia pachydactyla</i>
(v)fin	stage V copepodites	pap	<i>Heterorhabdus papilliger</i>
(c)fin	stage IV copepodites	pav	<i>Calocalanus parvoninus</i>
fur	<i>Centropages furcatus</i>	pbi	<i>Paracandacia bispinosa</i>
gmi	<i>Gaetanus minor</i>	pis	<i>Pleuromamma piseki</i>
gra	<i>Pleuromamma gracilis</i>	plg	<i>P. abdominalis, P. robustior, &amp;</i> <i>P. xiphias</i> copepodites

Table 4. Copepod counts from MOCNESS tows. Tow number is given at top left of each page followed by 'raw', 'std', 'int', or 'cum'. Page 2 (The Data) explains how the raw, standardized, integrated, and cumulative percent was determined.

mocness-1-cop217.raw WCR-82H MOCNESS tow copepods

4a-1

net#	midd	depi	volf	aliq	ffin	mfin	vfin	cfin	fhyp
0	62	123	650	4	0	0	9	2	0
1	98	50	312	1	0	0	1	3	0
2	59	29	240	4	0	1	3	34	0
3	22	44	336	2	0	0	2	3	0
4	63	126	677	4	0	0	2	35	1
5	102	49	257	1	0	0	4	7	0
6	58	38	261	4	0	0	2	68	0
7	20	39	262	2	0	0	0	1	0
8	60	120	731	4	0	0	5	119	0
11	97	46	298	1	0	0	0	4	0
12	51	47	396	2	0	0	5	208	0
13	14	27	217	2	0	0	12	21	0
14	60	120	888	4	0	0	9	59	0
15	94	52	510	1	0	0	2	7	0
16	46	45	404	4	1	2	9	130	0
17	12	23	454	8	1	0	0	2	0
18	67	134	930	16	1	2	0	15	0
19	67	134	965	16	0	0	1	1	0

net#	chyp	ften	mten	cten	fngr	mngr	fnro	mnro	cneo
0	3	3	0	1	0	0	0	0	6
1	0	16	2	70	0	0	0	0	7
2	0	0	1	1	0	0	1	1	1
3	0	0	0	1	0	0	0	0	0
4	0	3	0	5	0	1	0	0	0
5	1	19	2	59	0	0	0	0	13
6	0	0	0	1	1	0	2	0	1
7	0	0	0	0	0	0	0	0	0
8	0	4	1	11	0	0	1	0	3
11	0	13	0	50	0	0	0	0	6
12	0	2	0	6	0	0	1	0	6
13	0	0	0	0	0	0	1	0	0
14	0	4	0	12	0	0	0	0	2
15	0	37	3	139	0	0	0	0	13
16	0	0	0	12	0	0	0	0	1
17	0	0	0	0	0	0	0	0	1
18	0	4	0	6	0	0	0	0	1
19	0	5	0	61	0	0	0	0	1

4a-2

net#	fund	mund	vund	cund	ccal	fmin	mmin	cmin	felg
0	33	29	36	6	4	29	28	231	0
1	0	0	0	0	58	9	9	55	0
2	143	77	102	11	11	116	57	202	1
3	7	1	20	26	0	7	3	31	0
4	38	14	31	12	12	49	19	118	0
5	2	1	0	1	54	30	10	55	0
6	42	38	13	9	13	47	17	175	0
7	2	1	10	7	2	3	1	9	0
8	7	4	10	5	32	44	17	191	2
11	0	3	5	1	62	40	18	180	1
12	2	1	0	0	64	92	23	330	6
13	2	2	0	0	1	13	0	13	0
14	0	0	0	0	8	43	14	126	0
15	0	0	0	0	48	130	67	96	1
16	1	0	0	0	52	55	36	123	3
17	1	1	0	0	2	48	34	184	0
18	0	0	0	0	18	60	27	189	0
19	0	1	1	0	112	59	50	456	0

net#	celg	fcor	mcor	ccor	fnas	cnas	fmey	fpav	farc
0	0	0	0	1	0	0	0	22	6
1	0	2	0	4	0	0	1	1	6
2	0	0	0	0	0	1	0	5	3
3	0	0	0	0	0	0	3	13	7
4	0	0	0	5	0	1	0	6	8
5	3	4	0	16	0	1	0	1	4
6	1	0	0	0	0	4	1	1	3
7	0	0	0	1	0	0	0	3	21
8	3	1	1	9	0	1	2	6	28
11	2	0	0	20	0	2	0	2	17
12	15	0	0	7	0	12	1	0	8
13	1	0	0	1	0	0	0	1	66
14	3	2	0	10	0	5	0	3	25
15	8	7	1	32	1	1	0	0	59
16	23	0	0	12	0	9	0	0	3
17	0	2	0	11	0	0	0	3	106
18	4	0	0	7	0	0	0	5	87
19	1	1	0	9	0	2	15	4	41

4a-3

net#	fmar	mmar	ceuk	fbra	mbra	fdan	mdan	ftst	mtst
0	50	15	201	1	0	91	52	4	2
1	0	0	34	4	1	1	0	0	0
2	67	20	95	0	0	101	57	3	1
3	86	33	71	0	0	152	77	8	6
4	0	1	20	0	0	36	8	2	0
5	1	0	41	3	0	12	5	0	0
6	0	0	22	0	0	13	7	1	1
7	9	3	8	0	0	8	1	1	0
8	6	1	58	0	1	21	7	2	0
11	1	0	60	3	0	11	1	0	0
12	3	1	139	0	0	20	13	1	0
13	7	0	2	0	0	3	2	0	0
14	2	0	8	1	0	20	4	1	0
15	0	0	112	8	0	6	0	0	0
16	2	0	10	0	0	20	11	0	0
17	4	0	7	0	0	10	7	1	0
18	3	2	10	0	0	11	2	0	0
19	0	0	0	2	2	18	6	0	0

net#	ftur	mtur	fluc	mluc	cluc	fbor	fgra	mpsm	mpis
0	0	0	1	1	12	0	0	0	0
1	0	0	2	0	2	0	0	0	1
2	8	0	0	0	0	0	0	0	0
3	15	2	0	2	1	0	0	0	0
4	12	6	0	0	0	0	0	0	0
5	1	0	1	0	1	1	1	0	0
6	13	0	0	0	0	0	0	0	0
7	6	5	0	0	0	1	0	0	0
8	3	1	0	0	2	0	0	0	0
11	1	0	0	0	1	0	6	4	0
12	2	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	2	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	1	0
16	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	30	0	0	0	0

4a-4

net#	cpsm	mabd	mrob	cplg	ftyp	mtyp	ffur	mfur	ccen
0	0	0	1	2	0	1	2	2	3
1	0	0	0	3	0	1	0	1	1
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	5	1	5	2	4
4	0	0	0	0	6	1	2	4	-999
5	0	0	0	3	3	3	0	0	2
6	0	0	0	0	2	0	1	0	5
7	0	0	0	1	74	13	0	1	1
8	0	1	0	2	61	31	1	1	23
11	7	0	0	1	2	1	0	0	1
12	0	0	0	0	22	11	0	0	20
13	0	0	0	0	142	68	0	0	58
14	1	0	0	0	105	52	0	0	133
15	0	0	0	5	4	2	0	0	1
16	0	0	0	0	12	16	0	0	28
17	0	0	0	0	408	271	0	0	327
18	0	0	0	6	217	136	0	0	255
19	1	0	0	20	361	286	1	2	507

net#	fvio	mvio	cvio	luci	fhal	chal	farm	marm	fbip
0	1	2	0	36	0	1	0	0	0
1	3	0	0	239	19	26	0	0	0
2	0	0	1	4	0	0	0	0	0
3	7	5	6	1	0	0	0	0	0
4	1	1	2	21	0	2	0	0	0
5	3	0	0	133	11	14	0	0	0
6	0	0	0	19	0	0	0	0	0
7	21	10	10	0	0	0	0	0	0
8	19	5	13	23	4	2	0	0	0
11	3	0	0	118	6	8	0	0	0
12	7	6	13	11	0	0	1	0	0
13	27	31	10	0	0	0	4	2	0
14	20	10	34	58	4	3	1	1	0
15	5	4	0	386	53	8	0	0	0
16	4	8	4	6	0	0	0	1	0
17	26	19	6	2	0	0	4	1	1
18	20	9	8	11	2	3	2	2	0
19	58	48	41	71	6	15	3	4	0



4.5

net#	fpak	mpak	fpbi	mpbi	fsim	msim	ccan	fpon	mpon
0	20	24	1	0	3	0	143	1	2
1	1	1	1	0	0	1	4	0	0
2	4	2	0	0	0	3	6	0	1
3	4	5	1	0	11	6	9	2	2
4	2	4	0	0	0	0	12	3	0
5	1	0	0	0	0	0	3	0	0
6	0	0	0	0	0	0	1	0	0
7	14	18	0	2	0	0	35	3	0
8	7	8	0	0	2	1	7	2	0
11	1	0	1	1	0	0	7	0	0
12	0	0	0	0	0	0	3	0	0
13	0	0	0	0	0	0	2	0	0
14	0	0	0	0	0	0	4	0	0
15	1	0	1	0	0	0	4	0	0
16	0	0	0	0	0	0	2	0	0
17	0	0	0	0	1	0	9	1	0
18	0	0	0	0	1	0	8	0	0
19	1	0	0	0	0	0	0	0	0

net#	acar	fmis	mmis	cmis	oith	cycl	totl
0	7	36	11	187	17	824	2206
1	0	70	11	472	35	104	1282
2	110	0	6	78	9	106	1454
3	9	32	0	171	1	586	1452
4	3	37	7	100	14	231	898
5	0	24	10	370	11	70	1013
6	30	11	7	29	10	36	647
7	10	18	6	55	4	198	597
8	49	30	10	129	43	164	1247
11	1	35	21	336	106	82	1254
12	198	24	6	105	203	89	1687
13	16	10	12	49	1	31	611
14	144	47	9	148	80	87	1304
15	2	35	23	712	47	109	2181
16	5	22	1	73	83	14	794
17	13	55	36	259	0	48	1912
18	22	30	25	202	13	45	1471
19	86	145	56	516	195	94	3396

4b-1

net#	midd	depi	volf	aliq	#ffin	#mfin	#vfin	#cfin	#fhyp
0	61.5	123.0	650.2	4.0	0.0	0.0	55.4	12.3	0.0
1	98.0	50.0	312.4	1.0	0.0	0.0	3.2	9.6	0.0
2	58.5	29.0	239.7	4.0	0.0	16.7	50.1	567.4	0.0
3	22.0	44.0	335.9	2.0	0.0	0.0	11.9	17.9	0.0
4	63.0	126.0	677.2	4.0	0.0	0.0	11.8	206.7	5.9
5	101.5	49.0	256.6	1.0	0.0	0.0	15.6	27.3	0.0
6	58.0	38.0	260.6	4.0	0.0	0.0	30.7	1043.7	0.0
7	19.5	39.0	261.5	1.6	0.0	0.0	0.0	6.1	0.0
8	60.0	120.0	731.3	4.0	0.0	0.0	27.3	650.9	0.0
11	97.0	46.0	297.5	1.0	0.0	0.0	0.0	13.4	0.0
12	50.5	47.0	396.4	2.0	0.0	0.0	25.2	1049.4	0.0
13	13.5	27.0	216.7	2.0	0.0	0.0	110.8	193.8	0.0
14	60.0	120.0	887.6	4.0	0.0	0.0	40.6	265.9	0.0
15	94.0	52.0	509.7	1.0	0.0	0.0	3.9	13.7	0.0
16	45.5	45.0	404.1	4.0	9.9	19.8	89.1	1286.8	0.0
17	11.5	23.0	454.3	8.0	17.6	0.0	0.0	35.2	0.0
18	67.0	134.0	929.6	16.0	17.2	34.4	0.0	258.2	0.0
19	67.0	134.0	965.3	16.0	0.0	0.0	16.6	16.6	0.0

net#	#chyp	#ften	#mten	#cten	#fngr	#mngr	#fnro	#mnro	#cneo
0	18.5	18.5	0.0	6.2	0.0	0.0	0.0	0.0	36.9
1	0.0	51.2	6.4	224.1	0.0	0.0	0.0	0.0	22.4
2	0.0	0.0	16.7	16.7	0.0	0.0	16.7	16.7	16.7
3	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
4	0.0	17.7	0.0	29.5	0.0	5.9	0.0	0.0	0.0
5	3.9	74.0	7.8	229.9	0.0	0.0	0.0	0.0	50.7
6	0.0	0.0	0.0	15.3	15.3	0.0	30.7	0.0	15.3
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	21.9	5.5	60.2	0.0	0.0	5.5	0.0	16.4
11	0.0	43.7	0.0	168.1	0.0	0.0	0.0	0.0	20.2
12	0.0	10.1	0.0	30.3	0.0	0.0	5.0	0.0	30.3
13	0.0	0.0	0.0	0.0	0.0	0.0	9.2	0.0	0.0
14	0.0	18.0	0.0	54.1	0.0	0.0	0.0	0.0	9.0
15	0.0	72.6	5.9	272.7	0.0	0.0	0.0	0.0	25.5
16	0.0	0.0	0.0	118.8	0.0	0.0	0.0	0.0	9.9
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6
18	0.0	68.8	0.0	103.3	0.0	0.0	0.0	0.0	17.2
19	0.0	82.9	0.0	1011.1	0.0	0.0	0.0	0.0	16.6

4b-2

net#	#fund	#mund	#vund	#cund	#ccal	#fmin	#mmin	#cmin	#felg
0	203.0	178.4	221.5	36.9	24.6	178.4	172.3	1421.1	0.0
1	0.0	0.0	0.0	0.0	185.7	28.8	28.8	176.1	0.0
2	2386.3	1284.9	1702.1	183.6	183.6	1935.8	951.2	3370.9	16.7
3	41.7	6.0	119.1	154.8	0.0	41.7	17.9	184.6	0.0
4	224.5	82.7	183.1	70.9	70.9	289.4	112.2	697.0	0.0
5	7.8	3.9	0.0	3.9	210.4	116.9	39.0	214.3	0.0
6	644.7	583.3	199.5	138.1	199.5	721.4	260.9	2686.1	0.0
7	12.2	6.1	61.2	42.8	12.2	18.4	6.1	55.1	0.0
8	38.3	21.9	54.7	27.3	175.0	240.7	93.0	1044.7	10.9
11	0.0	10.1	16.8	3.4	208.4	134.5	60.5	605.0	3.4
12	10.1	5.0	0.0	0.0	322.9	464.2	116.0	1665.0	30.3
13	18.5	18.5	0.0	0.0	9.2	120.0	0.0	120.0	0.0
14	0.0	0.0	0.0	0.0	36.1	193.8	63.1	567.8	0.0
15	0.0	0.0	0.0	0.0	94.2	255.1	131.4	188.3	2.0
16	9.9	0.0	0.0	0.0	514.7	544.4	356.3	1217.5	29.7
17	17.6	17.6	0.0	0.0	35.2	845.3	598.7	3240.1	0.0
18	0.0	0.0	0.0	0.0	309.8	1032.7	464.7	3253.0	0.0
19	0.0	16.6	16.6	0.0	1856.4	977.9	828.8	7558.3	0.0

net#	#celg	#fcor	#mcor	#ccor	#fnas	#cnas	#fmey	#fpav	#farc
0	0.0	0.0	0.0	6.2	0.0	0.0	0.0	135.3	36.9
1	0.0	6.4	0.0	12.8	0.0	0.0	3.2	3.2	19.2
2	0.0	0.0	0.0	0.0	0.0	16.7	0.0	83.4	50.1
3	0.0	0.0	0.0	0.0	0.0	0.0	17.9	77.4	41.7
4	0.0	0.0	0.0	29.5	0.0	5.9	0.0	35.4	47.3
5	11.7	15.6	0.0	62.4	0.0	3.9	0.0	3.9	15.6
6	15.3	0.0	0.0	0.0	0.0	61.4	15.3	15.3	46.0
7	0.0	0.0	0.0	6.1	0.0	0.0	0.0	18.4	128.5
8	16.4	5.5	5.5	49.2	0.0	5.5	10.9	32.8	153.2
11	6.7	0.0	0.0	67.2	0.0	6.7	0.0	6.7	57.1
12	75.7	0.0	0.0	35.3	0.0	60.5	5.0	0.0	40.4
13	9.2	0.0	0.0	9.2	0.0	0.0	0.0	9.2	609.1
14	13.5	9.0	0.0	45.1	0.0	22.5	0.0	13.5	112.7
15	15.7	13.7	2.0	62.8	2.0	2.0	0.0	0.0	115.8
16	227.7	0.0	0.0	118.8	0.0	89.1	0.0	0.0	29.7
17	0.0	35.2	0.0	193.7	0.0	0.0	0.0	52.8	1866.6
18	68.8	0.0	0.0	120.5	0.0	0.0	0.0	86.1	1497.4
19	16.6	16.6	0.0	149.2	0.0	33.2	248.6	66.3	679.6

4b-3

net#	#fmar	#mmar	#ceuk	#fbra	#mbra	#fdan	#mdan	#ftst	#mtst
0	307.6	92.3	1236.5	6.2	0.0	559.8	319.9	24.6	12.3
1	0.0	0.0	108.8	12.8	3.2	3.2	0.0	0.0	0.0
2	1118.1	333.8	1585.3	0.0	0.0	1685.4	951.2	50.1	16.7
3	512.1	196.5	422.7	0.0	0.0	905.0	458.5	47.6	35.7
4	0.0	5.9	118.1	0.0	0.0	212.6	47.3	11.8	0.0
5	3.9	0.0	159.8	11.7	0.0	46.8	19.5	0.0	0.0
6	0.0	0.0	337.7	0.0	0.0	199.5	107.4	15.3	15.3
7	55.1	18.4	48.9	0.0	0.0	48.9	6.1	6.1	0.0
8	32.8	5.5	317.2	0.0	5.5	114.9	38.3	10.9	0.0
11	3.4	0.0	201.7	10.1	0.0	37.0	3.4	0.0	0.0
12	15.1	5.0	701.3	0.0	0.0	100.9	65.6	5.0	0.0
13	64.6	0.0	18.5	0.0	0.0	27.7	18.5	0.0	0.0
14	9.0	0.0	36.1	4.5	0.0	90.1	18.0	4.5	0.0
15	0.0	0.0	219.7	15.7	0.0	11.8	0.0	0.0	0.0
16	19.8	0.0	99.0	0.0	0.0	198.0	108.9	0.0	0.0
17	70.4	0.0	123.3	0.0	0.0	176.1	123.3	17.6	0.0
18	51.6	34.4	172.1	0.0	0.0	189.3	34.4	0.0	0.0
19	0.0	0.0	0.0	33.2	33.2	298.4	99.5	0.0	0.0

net#	#ftur	#mtur	#fluc	#mluc	#cluc	#fbor	#fgra	#mpsm	#mpis
0	0.0	0.0	6.2	6.2	73.8	0.0	0.0	0.0	0.0
1	0.0	0.0	6.4	0.0	6.4	0.0	0.0	0.0	3.2
2	133.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	89.3	11.9	0.0	11.9	6.0	0.0	0.0	0.0	0.0
4	70.9	35.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	3.9	0.0	3.9	0.0	3.9	3.9	3.9	0.0	0.0
6	199.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	36.7	30.6	0.0	0.0	0.0	6.1	0.0	0.0	0.0
8	16.4	5.5	0.0	0.0	10.9	0.0	0.0	0.0	0.0
11	3.4	0.0	0.0	0.0	3.4	0.0	20.2	13.4	0.0
12	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	497.3	0.0	0.0	0.0	0.0

464

net#	#cpsm	#mabd	#mrob	#cplg	#ftyp	#mtyp	#ffur	#mfur	#ccen
0	0.0	0.0	6.2	12.3	0.0	6.2	12.3	12.3	18.5
1	0.0	0.0	0.0	9.6	0.0	3.2	0.0	3.2	3.2
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	29.8	6.0	29.8	11.9	23.8
4	0.0	0.0	0.0	0.0	35.4	5.9	11.8	23.6	-999.0
5	0.0	0.0	0.0	11.7	11.7	11.7	0.0	0.0	7.8
6	0.0	0.0	0.0	0.0	30.7	0.0	15.3	0.0	76.7
7	0.0	0.0	0.0	6.1	452.8	79.5	0.0	6.1	6.1
8	0.0	5.5	0.0	10.9	333.7	169.6	5.5	5.5	125.8
11	23.5	0.0	0.0	3.4	6.7	3.4	0.0	0.0	3.4
12	0.0	0.0	0.0	0.0	111.0	55.5	0.0	0.0	100.9
13	0.0	0.0	0.0	0.0	1310.6	627.6	0.0	0.0	535.3
14	4.5	0.0	0.0	0.0	473.2	234.3	0.0	0.0	599.4
15	0.0	0.0	0.0	9.8	7.8	3.9	0.0	0.0	2.0
16	0.0	0.0	0.0	0.0	118.8	158.4	0.0	0.0	277.2
17	0.0	0.0	0.0	0.0	7184.7	4772.2	0.0	0.0	5758.3
18	0.0	0.0	0.0	103.3	3734.9	2340.8	0.0	0.0	4389.0
19	16.6	0.0	0.0	331.5	5983.6	4740.5	16.6	33.2	8403.6

net#	#fvio	#mvio	#cvio	#luci	#fhal	#chal	#farm	#marm	#fbip
0	6.2	12.3	0.0	221.5	0.0	6.2	0.0	0.0	0.0
1	9.6	0.0	0.0	765.0	60.8	83.2	0.0	0.0	0.0
2	0.0	0.0	16.7	66.8	0.0	0.0	0.0	0.0	0.0
3	41.7	29.8	35.7	6.0	0.0	0.0	0.0	0.0	0.0
4	5.9	5.9	11.8	124.0	0.0	11.8	0.0	0.0	0.0
5	11.7	0.0	0.0	518.3	42.9	54.6	0.0	0.0	0.0
6	0.0	0.0	0.0	291.6	0.0	0.0	0.0	0.0	0.0
7	128.5	61.2	61.2	0.0	0.0	0.0	0.0	0.0	0.0
8	103.9	27.3	71.1	125.8	21.9	10.9	0.0	0.0	0.0
11	10.1	0.0	0.0	396.6	20.2	26.9	0.0	0.0	0.0
12	35.3	30.3	65.6	55.5	0.0	0.0	5.0	0.0	0.0
13	249.2	286.1	92.3	0.0	0.0	0.0	36.9	18.5	0.0
14	90.1	45.1	153.2	261.4	18.0	13.5	4.5	4.5	0.0
15	9.8	7.8	0.0	757.3	104.0	15.7	0.0	0.0	0.0
16	39.6	79.2	39.6	59.4	0.0	0.0	0.0	9.9	0.0
17	457.8	334.6	105.7	35.2	0.0	0.0	70.4	17.6	17.6
18	344.2	154.9	137.7	189.3	34.4	51.6	34.4	34.4	0.0
19	961.4	795.6	679.6	1176.8	99.5	248.6	49.7	66.3	0.0

4b-5

net#	#fpak	#mpak	#fpbi	#mpbi	#fsim	#msim	#ccan	#fpon	#mpon
0	123.0	147.6	6.2	0.0	18.5	0.0	879.7	6.2	12.3
1	3.2	3.2	3.2	0.0	0.0	3.2	12.8	0.0	0.0
2	66.8	33.4	0.0	0.0	0.0	50.1	100.1	0.0	16.7
3	23.8	29.8	6.0	0.0	65.5	35.7	53.6	11.9	11.9
4	11.8	23.6	0.0	0.0	0.0	0.0	70.9	17.7	0.0
5	3.9	0.0	0.0	0.0	0.0	0.0	11.7	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	15.3	0.0	0.0
7	85.7	110.1	0.0	12.2	0.0	0.0	214.1	18.4	0.0
8	38.3	43.8	0.0	0.0	10.9	5.5	38.3	10.9	0.0
11	3.4	0.0	3.4	3.4	0.0	0.0	23.5	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	15.1	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	18.5	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	18.0	0.0	0.0
15	2.0	0.0	2.0	0.0	0.0	0.0	7.8	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	19.8	0.0	0.0
17	0.0	0.0	0.0	0.0	17.6	0.0	158.5	17.6	0.0
18	0.0	0.0	0.0	0.0	17.2	0.0	137.7	0.0	0.0
19	16.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

net#	#acar	#fmis	#mmis	#cmis	#oith	#cycl	#totl
0	43.1	221.5	67.7	1150.4	104.6	5069.2	%13571.2
1	0.0	224.1	35.2	1510.9	112.0	332.9	4103.7
2	1835.6	0.0	100.1	1301.6	150.2	1768.9	%24263.7
3	53.6	190.5	0.0	1018.2	6.0	3489.1	8645.4
4	17.7	218.5	41.3	590.7	82.7	1364.4	5304.2
5	0.0	93.5	39.0	1441.9	42.9	272.8	3947.8
6	460.5	168.8	107.4	445.1	153.5	552.6	9930.9
7	61.2	110.1	36.7	336.5	24.5	1211.5	3652.8
8	268.0	164.1	54.7	705.6	235.2	897.0	6820.7
11	3.4	117.6	70.6	1129.4	356.3	275.6	4215.1
12	999.0	121.1	30.3	529.8	1024.2	449.0	8511.6
13	147.7	92.3	110.8	452.2	9.2	286.1	5639.1
14	648.9	211.8	40.6	667.0	360.5	392.1	5876.5
15	3.9	68.7	45.1	1396.9	92.2	213.9	4279.0
16	49.5	217.8	9.9	722.6	821.6	138.6	7859.4
17	228.9	968.5	633.9	4560.9	0.0	845.3	%33669.4
18	378.7	516.4	430.3	3476.8	223.8	774.5	%25318.4
19	1425.5	2403.4	928.2	8552.8	3232.2	1558.1	%56289.2

c217.int WCR-82H MOCNESS tow copepods

4c-1

haul	midd	depi	volf	#ffin	#mfin	#vfin	#cfin	#fhyp	#chyp
1	61.5	123.0	650.2	0.0	0.0	6.8	1.5	0.0	2.3
1	61.5	123.0	888.0	0.0	0.5	2.1	17.7	0.0	0.0
2	63.0	126.0	677.2	0.0	0.0	1.5	26.0	0.7	0.0
2	63.0	126.0	778.7	0.0	0.0	1.9	41.2	0.0	0.2
3	60.0	120.0	731.3	0.0	0.0	3.3	78.1	0.0	0.0
3	60.0	120.0	910.6	0.0	0.0	4.2	55.2	0.0	0.0
4	60.0	120.0	887.6	0.0	0.0	4.9	31.9	0.0	0.0
4	60.0	120.0	1368.1	0.9	0.9	4.2	59.4	0.0	0.0
5	67.0	134.0	929.6	2.3	4.6	0.0	34.6	0.0	0.0
5	67.0	134.0	965.3	0.0	0.0	2.2	2.2	0.0	0.0

haul	#ften	#mten	#cten	#fngr	#mngr	#fnro	#mnro	#cneo	#fund
1	2.3	0.0	0.8	0.0	0.0	0.0	0.0	4.5	25.0
1	2.6	0.8	12.0	0.0	0.0	0.5	0.5	1.6	71.0
2	2.2	0.0	3.7	0.0	0.7	0.0	0.0	0.0	28.3
2	3.6	0.4	11.8	0.6	0.0	1.2	0.0	3.1	25.4
3	2.6	0.7	7.2	0.0	0.0	0.7	0.0	2.0	4.6
3	2.5	0.0	9.2	0.0	0.0	0.5	0.0	2.4	1.0
4	2.2	0.0	6.5	0.0	0.0	0.0	0.0	1.1	0.0
4	3.8	0.3	19.5	0.0	0.0	0.0	0.0	2.2	0.9
5	9.2	0.0	13.8	0.0	0.0	0.0	0.0	2.3	0.0
5	11.1	0.0	135.5	0.0	0.0	0.0	0.0	2.2	0.0

haul	#mund	#vund	#cund	#ccal	#fmin	#mmin	#cmin	#felg	#celg
1	21.9	27.2	4.5	3.0	21.9	21.2	174.8	0.0	0.0
1	37.5	54.6	12.1	14.6	59.4	29.8	114.7	0.5	0.0
2	10.4	23.1	8.9	8.9	36.5	14.1	87.8	0.0	0.0
2	22.6	10.0	7.1	18.4	33.9	12.1	114.7	0.0	1.2
3	2.6	6.6	3.3	21.0	28.9	11.2	125.4	1.3	2.0
3	1.2	0.8	0.2	25.0	31.2	8.2	109.3	1.6	4.1
4	0.0	0.0	0.0	4.3	23.3	7.6	68.1	0.0	1.6
4	0.4	0.0	0.0	28.9	57.2	36.6	139.1	1.4	11.1
5	0.0	0.0	0.0	41.5	138.4	62.3	435.9	0.0	9.2
5	2.2	2.2	0.0	248.8	131.0	111.1	1012.8	0.0	2.2

c217.int WCR-82H MOCNESS tow copepods

4c- 2

haul	#fcor	#mcor	#ccor	#fnas	#cnas	#fmey	#fpav	#farc	#fmar
1	0.0	0.0	0.8	0.0	0.0	0.0	16.6	4.5	37.8
1	0.3	0.0	0.6	0.0	0.5	0.9	6.0	4.2	55.0
2	0.0	0.0	3.7	0.0	0.7	0.0	4.5	6.0	0.0
2	0.8	0.0	3.3	0.0	2.5	0.6	1.5	7.5	2.3
3	0.7	0.7	5.9	0.0	0.7	1.3	3.9	18.4	3.9
3	0.0	0.0	5.0	0.0	3.2	0.2	0.6	21.0	2.6
4	1.1	0.0	5.4	0.0	2.7	0.0	1.6	13.5	1.1
4	1.5	0.1	13.1	0.1	4.1	0.0	1.2	50.3	2.5
5	0.0	0.0	16.1	0.0	0.0	0.0	11.5	200.7	6.9
5	2.2	0.0	20.0	0.0	4.4	33.3	8.9	91.1	0.0

haul	#mmar	#ceuk	#fbra	#mbra	#fdan	#mdan	#ftst	#mtst	#ftur
1	11.4	152.1	0.8	0.0	68.9	39.3	3.0	1.5	0.0
1	18.3	70.0	0.6	0.2	88.9	47.8	3.5	2.1	7.8
2	0.7	14.9	0.0	0.0	26.8	6.0	1.5	0.0	8.9
2	0.7	22.6	0.6	0.0	11.8	5.3	0.8	0.6	9.2
3	0.7	38.1	0.0	0.7	13.8	4.6	1.3	0.0	2.0
3	0.2	42.7	0.5	0.0	7.2	3.7	0.2	0.0	0.6
4	0.0	4.3	0.5	0.0	10.8	2.2	0.5	0.0	1.1
4	0.0	18.7	0.8	0.0	13.6	7.7	0.4	0.0	0.0
5	4.6	23.1	0.0	0.0	25.4	4.6	0.0	0.0	0.0
5	0.0	0.0	4.4	4.4	40.0	13.3	0.0	0.0	0.0

haul	#mtur	#fluc	#mluc	#cluc	#fbor	#fgra	#mpsm	#mpis	#cpsm
1	0.0	0.8	0.8	9.1	0.0	0.0	0.0	0.0	0.0
1	0.5	0.3	0.5	0.6	0.0	0.0	0.0	0.2	0.0
2	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	1.2	0.2	0.0	0.2	0.4	0.2	0.0	0.0	0.0
3	0.7	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.2	0.0	0.9	0.6	0.0	1.1
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	66.6	0.0	0.0	0.0	0.0	2.2



c217.int WCR-82H MOCNESS tow copepods

4e-3

haul	#mabd	#mrob	#cplg	#ftyp	#mtyp	#ffur	#mfur	#ccen	#fvio
1	0.0	0.8	1.5	0.0	0.8	1.5	1.5	2.3	0.8
1	0.0	0.0	0.5	1.3	0.4	1.3	0.7	1.2	2.3
2	0.0	0.0	0.0	4.5	0.7	1.5	3.0	-999.0	0.7
2	0.0	0.0	0.8	19.4	3.7	0.6	0.2	3.5	5.6
3	0.7	0.0	1.3	40.0	20.4	0.7	0.7	15.1	12.5
3	0.0	0.0	0.2	40.9	19.7	0.0	0.0	19.4	8.9
4	0.0	0.0	0.0	56.8	28.1	0.0	0.0	71.9	10.8
4	0.0	0.0	0.5	171.0	117.1	0.0	0.0	145.0	12.8
5	0.0	0.0	13.8	500.5	313.7	0.0	0.0	588.1	46.1
5	0.0	0.0	44.4	801.8	635.2	2.2	4.4	1126.1	128.8

haul	#mvio	#cvio	#luci	#fhal	#chal	#farm	#marm	#fbip	#fpak
1	1.5	0.0	27.2	0.0	0.8	0.0	0.0	0.0	15.1
1	1.3	2.1	40.5	3.0	4.2	0.0	0.0	0.0	3.1
2	0.7	1.5	15.6	0.0	1.5	0.0	0.0	0.0	1.5
2	2.4	2.4	36.5	2.1	2.7	0.0	0.0	0.0	3.5
3	3.3	8.5	15.1	2.6	1.3	0.0	0.0	0.0	4.6
3	9.1	5.6	20.9	0.9	1.2	1.2	0.5	0.0	0.2
4	5.4	18.4	31.4	2.2	1.6	0.5	0.5	0.0	0.0
4	11.7	4.2	42.9	5.4	0.8	1.6	0.9	0.4	0.1
5	20.8	18.5	25.4	4.6	6.9	4.6	4.6	0.0	0.0
5	106.6	91.1	157.7	13.3	33.3	6.7	8.9	0.0	2.2

haul	#mpak	#fpbi	#mpbi	#fsim	#msim	#ccan	#fpon	#mpon	#acar
1	18.2	0.8	0.0	2.3	0.0	108.2	0.8	1.5	5.3
1	2.4	0.4	0.0	2.9	3.2	5.9	0.5	1.0	55.6
2	3.0	0.0	0.0	0.0	0.0	8.9	2.2	0.0	2.2
2	4.3	0.0	0.5	0.0	0.0	9.5	0.7	0.0	19.9
3	5.3	0.0	0.0	1.3	0.7	4.6	1.3	0.0	32.2
3	0.0	0.2	0.2	0.0	0.0	2.3	0.0	0.0	51.1
4	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	77.9
4	0.0	0.1	0.0	0.4	0.0	4.9	0.4	0.0	7.7
5	0.0	0.0	0.0	2.3	0.0	18.5	0.0	0.0	50.7
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	191.0

c217.int WCR-82H MOCNESS tow copepods

4c-4

haul	#fmis	#mmis	#cmis	#oith	#cycl	#totl
1	27.2	8.3	141.5	12.9	623.5	1669.3
1	19.6	4.7	158.1	10.2	221.5	1289.2
2	27.5	5.2	74.4	10.4	171.9	668.3
2	15.3	7.4	100.7	8.9	81.6	713.3
3	19.7	6.6	84.7	28.2	107.6	818.5
3	13.6	7.7	89.1	64.8	41.5	746.2
4	25.4	4.9	80.0	43.3	47.1	705.2
4	35.6	17.4	210.1	41.8	36.8	1350.6
5	69.2	57.7	465.9	30.0	103.8	3392.7
5	322.1	124.4	1146.1	433.1	208.8	7542.8

c218.raw WCR-82H MOCNESS tow copepods

4d-1

net#	midd	depi	volf	aliq	ffin	vfin	cfin	fhyp	chyp
18	13	25	184	4	0	0	0	0	0
17	38	25	151	8	0	1	0	0	0
16	63	25	147	8	0	0	0	0	0
15	88	25	140	2	0	0	0	0	0
14	113	25	128	2	0	0	0	0	0
13	138	25	125	2	0	1	0	0	0
12	163	25	116	1	0	1	1	0	0
11	188	25	164	1	0	0	0	0	0
8	250	100	752	4	0	1	6	0	0
7	350	100	662	2	0	0	1	0	0
6	450	100	489	1	1	5	6	0	0
5	550	100	514	4	0	6	5	0	0
4	650	100	858	4	3	188	72	0	3
3	750	100	532	2	7	452	169	0	4
2	850	100	424	2	15	408	188	5	5
1	950	100	340	1	9	346	163	5	10

net#	ften	mten	cten	fngr	mngr	fnro	cneo	fund	mund
18	1	0	0	12	0	1	21	23	20
17	0	0	1	0	0	0	6	4	3
16	19	0	33	0	0	0	2	3	2
15	26	13	74	0	0	1	15	0	0
14	3	2	3	0	0	1	4	0	0
13	0	3	2	4	0	1	4	0	0
12	0	0	1	2	0	0	2	0	0
11	1	3	1	0	0	0	2	0	0
8	0	0	0	2	0	0	0	0	0
7	0	0	0	1	0	0	8	0	0
6	0	0	0	0	18	0	10	0	0
5	0	0	0	0	7	0	3	0	0
4	0	0	0	0	3	0	0	0	0
3	0	0	0	0	1	0	0	0	0
2	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0

c218.raw WCR-82H MOCNESS tow copepods

4d-2

net#	cund	ccal	fmin	mmin	cmin	felg	celg	fcor	mcor
18	260	26	55	25	75	0	0	0	0
17	87	3	12	5	47	0	0	0	0
16	27	10	10	6	21	0	0	0	0
15	1	28	0	1	0	0	0	0	0
14	0	13	3	1	3	1	1	1	0
13	0	7	1	0	0	0	0	1	0
12	0	7	2	0	1	0	0	0	0
11	0	9	0	0	3	0	0	0	1
8	0	12	0	0	1	0	0	2	0
7	1	2	0	0	0	0	0	2	0
6	0	1	0	0	0	0	2	6	0
5	0	0	0	0	0	0	8	13	1
4	0	0	0	0	1	7	8	39	8
3	0	0	0	0	0	48	10	26	4
2	0	2	0	0	3	9	3	2	0
1	0	1	2	0	1	4	6	4	0

net#	ccor	fnas	cnas	fmey	facr	fprv	farc	ffur	fege
18	3	0	0	0	72	11	61	14	0
17	1	0	0	1	14	5	28	11	0
16	0	0	0	0	7	2	29	0	0
15	0	0	0	0	0	1	47	3	3
14	1	0	0	0	0	1	16	0	4
13	0	0	0	0	0	0	8	0	0
12	0	0	0	0	0	0	4	1	1
11	2	0	0	0	0	1	4	0	1
8	8	0	0	0	0	0	5	0	0
7	28	0	0	0	0	0	0	0	0
6	56	0	0	0	0	0	0	0	0
5	53	0	0	0	0	0	0	0	0
4	49	0	0	0	0	0	2	0	0
3	15	0	2	0	0	0	0	0	0
2	4	0	4	0	0	0	0	0	1
1	5	2	2	0	0	0	0	0	1

c218.raw WCR-82H MOCNESS tow copepods

48-3

net#	feme	meme	fupl	mupl	fumj	fchi	fmed	mmed	fmar
18	2	0	13	8	0	0	4	0	4
17	1	1	1	0	0	0	5	0	3
16	1	0	0	0	0	0	5	0	1
15	4	1	0	2	1	0	14	11	0
14	1	1	5	0	0	1	2	1	0
13	4	2	14	2	1	3	4	3	0
12	1	1	4	0	1	3	1	1	0
11	0	0	2	1	0	2	1	1	0
8	0	0	2	0	0	1	1	0	0
7	0	0	1	1	0	3	0	0	0
6	0	0	1	0	0	2	1	3	0
5	0	0	0	0	0	0	2	1	0
4	8	0	4	5	0	4	7	0	0
3	3	0	10	1	0	0	0	0	0
2	1	0	6	2	1	1	0	0	2
1	2	0	6	7	0	0	0	0	0

net#	mmar	fsco	msco	fbra	mbra	fdan	mdan	fluc	mluc
18	0	0	0	2	0	24	29	0	0
17	3	0	0	1	0	3	1	0	0
16	1	0	0	4	0	0	0	0	0
15	0	0	1	6	2	4	0	0	0
14	0	2	1	1	0	0	0	0	0
13	0	2	1	3	0	1	0	0	0
12	0	1	1	1	2	1	0	0	0
11	0	1	1	0	0	0	0	0	0
8	0	2	0	0	0	0	0	0	0
7	0	1	0	1	0	0	0	0	0
6	0	2	0	1	0	0	1	0	0
5	0	0	0	1	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
3	0	1	0	0	0	1	0	0	1
2	0	0	0	0	0	4	0	0	1
1	0	0	0	0	0	0	0	4	22

c218.raw WCR-82H MOCNESS tow copepods

4d-4

net#	fven	mven	fbrv	mbrv	cmct	fgra	mgra	fpis	mpis
18	0	0	0	0	0	18	2	26	0
17	0	0	0	0	0	136	23	22	16
16	0	0	0	0	0	22	25	3	7
15	0	0	0	0	0	4	15	4	0
14	0	0	0	0	1	3	2	0	0
13	0	0	1	1	0	4	1	1	0
12	0	0	0	0	0	1	1	0	0
11	0	0	0	0	0	2	2	0	0
8	0	0	0	0	0	1	0	0	0
7	0	0	0	0	0	0	0	0	0
6	0	1	0	0	0	4	12	0	0
5	2	3	1	0	19	3	10	4	6
4	14	44	36	9	81	0	1	1	1
3	67	18	24	38	24	0	1	0	0
2	14	0	5	4	26	0	0	0	0
1	0	0	9	4	134	0	0	0	0

net#	cpsm	fabd	mabd	fxip	mxip	cplg	fvio	mvio	ftyp
18	40	22	1	0	0	30	23	18	5
17	77	6	2	0	0	86	7	2	15
16	40	8	9	0	0	45	1	1	4
15	7	6	12	13	9	60	0	0	2
14	4	1	0	17	10	17	0	1	0
13	2	2	2	63	10	1	0	0	2
12	2	0	2	11	3	2	0	1	0
11	2	0	0	2	3	1	1	1	9
8	3	0	0	0	0	0	0	1	2
7	27	0	0	2	0	74	0	0	0
6	118	0	0	0	0	69	0	0	2
5	22	0	3	0	0	32	0	0	0
4	2	2	7	1	10	32	0	0	0
3	0	9	2	7	9	28	0	0	0
2	0	0	3	0	1	4	0	0	2
1	0	0	0	0	1	0	0	0	0

c218.raw WCR-82H MOCNESS tow copepods

4-5

net#	mtyp	luci	fpap	mpap	fspi	mspi	fvip	mvip	fhal
18	8	244	3	4	0	0	0	0	1
17	9	114	4	5	0	0	0	0	0
16	3	64	9	6	0	0	0	0	18
15	1	170	11	7	1	0	0	0	40
14	5	95	6	8	0	4	0	0	9
13	3	63	24	18	4	5	0	0	31
12	0	31	18	9	2	3	0	0	42
11	4	95	15	3	2	0	0	0	56
8	3	116	9	4	3	0	3	1	65
7	1	98	12	2	2	1	4	6	242
6	0	72	29	32	1	0	10	6	163
5	0	6	6	0	1	2	2	3	18
4	0	14	6	2	5	1	3	5	3
3	0	23	0	0	1	0	5	2	0
2	3	12	0	0	0	0	1	0	0
1	5	5	0	0	0	0	0	0	2

net#	mhal	chal	fhel	mhel	fket	mket	fclo	mclo	fpak
18	0	1	0	1	0	0	0	0	1
17	0	1	0	0	0	0	0	0	0
16	0	0	0	0	0	0	1	0	1
15	3	33	1	0	0	0	4	1	0
14	1	89	0	5	0	0	2	4	0
13	0	301	6	7	0	0	2	3	0
12	1	244	4	3	1	1	0	0	0
11	0	369	6	7	0	0	0	0	0
8	0	302	6	8	0	1	0	0	0
7	5	103	2	0	0	1	0	0	0
6	1	86	5	2	0	0	3	0	0
5	0	10	3	0	0	0	0	0	0
4	0	0	19	19	0	0	0	0	0
3	0	0	11	13	0	0	0	0	0
2	0	1	0	1	0	0	0	0	0
1	0	0	0	1	0	0	0	0	0

c218.raw WCR-82H MOCNESS tow copepods

4-6

net#	mpak	fpbi	mpbi	mpsi	acar	fmis	mmis	cmis	cycl
18	0	7	6	0	103	43	12	479	523
17	1	2	3	0	24	19	9	301	192
16	1	10	10	0	15	31	2	210	156
15	0	3	5	0	7	71	12	316	320
14	0	0	0	0	6	34	14	231	256
13	0	0	0	1	1	27	6	213	106
12	0	0	0	0	4	37	10	180	71
11	0	0	0	0	3	26	9	212	123
8	0	0	0	0	1	41	17	236	105
7	0	0	0	0	1	85	24	282	111
6	0	0	0	0	1	149	47	629	57
5	0	0	0	0	0	105	28	335	82
4	0	0	0	0	0	199	87	453	57
3	0	0	0	0	0	120	29	334	18
2	0	0	0	0	0	88	18	277	30
1	0	0	0	0	2	103	18	362	34

net#	harp	totl
18	22	2408
17	6	1330
16	5	890
15	1	1399
14	0	898
13	1	983
12	0	725
11	1	991
8	2	973
7	2	1137
6	0	1617
5	2	808
4	6	1531
3	1	1545
2	0	1157
1	4	1287



c218.std WCR-82H MOCNESS tow copepods

4e1

net#	midd	depi	volf	aliq	#ffin	#vfin	#cfin	#fhyp	#chyp
18	13	25	184	4	0	0	0	0	0
17	38	25	151	8	0	53	0	0	0
16	63	25	147	8	0	0	0	0	0
15	88	25	140	2	0	0	0	0	0
14	113	25	128	2	0	0	0	0	0
13	138	25	125	2	0	16	0	0	0
12	163	25	116	1	0	9	9	0	0
11	188	25	164	1	0	0	0	0	0
8	250	100	752	4	0	5	32	0	0
7	350	100	662	2	0	0	3	0	0
6	450	100	489	1	2	10	12	0	0
5	550	100	514	4	0	47	39	0	0
4	650	100	858	4	14	877	336	0	14
3	750	100	532	2	26	1698	635	0	15
2	850	100	424	2	71	1925	887	24	24
1	950	100	340	1	26	1017	479	15	29

net#	#ften	#mten	#cten	#fngr	#mngr	#fnro	#cneo	#fund	#mund
18	22	0	0	261	0	22	457	501	435
17	0	0	53	0	0	0	318	212	159
16	1033	0	1794	0	0	0	109	163	109
15	371	186	1057	0	0	14	214	0	0
14	47	31	47	0	0	16	62	0	0
13	0	48	32	64	0	16	64	0	0
12	0	0	9	17	0	0	17	0	0
11	6	18	6	0	0	0	12	0	0
8	0	0	0	11	0	0	0	0	0
7	0	0	0	3	0	0	24	0	0
6	0	0	0	0	37	0	21	0	0
5	0	0	0	0	54	0	23	0	0
4	0	0	0	0	14	0	0	0	0
3	0	0	0	0	4	0	0	0	0
2	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0

c218.std WCR-82H MOCNESS tow copepods

4e-2

net#	#cund	#ccal	#fmin	#mmin	#cmin	#felg	#celg	#fcor	#mcor
18	5658	566	1197	544	1632	0	0	0	0
17	4612	159	636	265	2492	0	0	0	0
16	1467	544	544	326	1141	0	0	0	0
15	14	400	0	14	0	0	0	0	0
14	0	203	47	16	47	16	16	16	0
13	0	112	16	0	0	0	0	16	0
12	0	61	17	0	9	0	0	0	0
11	0	55	0	0	18	0	0	0	6
8	0	64	0	0	5	0	0	11	0
7	3	6	0	0	0	0	0	6	0
6	0	2	0	0	0	0	4	12	0
5	0	0	0	0	0	0	62	101	8
4	0	0	0	0	5	33	37	182	37
3	0	0	0	0	0	180	38	98	15
2	0	9	0	0	14	43	14	9	0
1	0	3	6	0	3	12	18	12	0

net#	#ccor	#fnas	#cnas	#fmey	#facr	#fprv	#farc	#ffur	#fege
18	65	0	0	0	1567	239	1328	305	0
17	53	0	0	53	742	265	1484	583	0
16	0	0	0	0	380	109	1576	0	0
15	0	0	0	0	0	14	671	43	43
14	16	0	0	0	0	16	250	0	62
13	0	0	0	0	0	0	128	0	0
12	0	0	0	0	0	0	35	9	9
11	12	0	0	0	0	6	24	0	6
8	43	0	0	0	0	0	27	0	0
7	85	0	0	0	0	0	0	0	0
6	115	0	0	0	0	0	0	0	0
5	412	0	0	0	0	0	0	0	0
4	229	0	0	0	0	0	9	0	0
3	56	0	8	0	0	0	0	0	0
2	19	0	19	0	0	0	0	0	5
1	15	6	6	0	0	0	0	0	3

c218.std WCR-82H MOCNESS tow copepods

42-3

net#	#feme	#meme	#fupl	#mupl	#fumj	#fchi	#fmed	#mmed	#fmar
18	44	0	283	174	0	0	87	0	87
17	53	53	53	0	0	0	265	0	159
16	54	0	0	0	0	0	272	0	54
15	57	14	0	29	14	0	200	157	0
14	16	16	78	0	0	16	31	16	0
13	64	32	224	32	16	48	64	48	0
12	9	9	35	0	9	26	9	9	0
11	0	0	12	6	0	12	6	6	0
8	0	0	11	0	0	5	5	0	0
7	0	0	3	3	0	9	0	0	0
6	0	0	2	0	0	4	2	6	0
5	0	0	0	0	0	0	16	8	0
4	37	0	19	23	0	19	33	0	0
3	11	0	38	4	0	0	0	0	0
2	5	0	28	9	5	5	0	0	9
1	6	0	18	21	0	0	0	0	0

net#	#mmar	#fsco	#msco	#fbra	#mbra	#fdan	#mdan	#fluc	#mluc
18	0	0	0	44	0	522	631	0	0
17	159	0	0	53	0	159	53	0	0
16	54	0	0	217	0	0	0	0	0
15	0	0	14	86	29	57	0	0	0
14	0	31	16	16	0	0	0	0	0
13	0	32	16	48	0	16	0	0	0
12	0	9	9	9	17	9	0	0	0
11	0	6	6	0	0	0	0	0	0
8	0	11	0	0	0	0	0	0	0
7	0	3	0	3	0	0	0	0	0
6	0	4	0	2	0	0	2	0	0
5	0	0	0	8	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
3	0	4	0	0	0	4	0	0	4
2	0	0	0	0	0	19	0	0	5
1	0	0	0	0	0	0	0	12	65

c218.std WCR-82H MOCNESS tow copepods

4e-4

net#	#fven	#mven	#fbrv	#mbrv	#cmet	#fgra	#mgra	#fpis	#mpis
18	0	0	0	0	0	392	44	566	0
17	0	0	0	0	0	7210	1219	1166	848
16	0	0	0	0	0	1196	1359	163	380
15	0	0	0	0	0	57	214	57	0
14	0	0	0	0	16	47	31	0	0
13	0	0	16	16	0	64	16	16	0
12	0	0	0	0	0	9	9	0	0
11	0	0	0	0	0	12	12	0	0
8	0	0	0	0	0	5	0	0	0
7	0	0	0	0	0	0	0	0	0
6	0	2	0	0	0	8	25	0	0
5	16	23	8	0	148	23	78	31	47
4	65	205	168	42	378	0	5	5	5
3	252	68	90	143	90	0	4	0	0
2	66	0	24	19	123	0	0	0	0
1	0	0	26	12	394	0	0	0	0

net#	#cpsm	#fabd	#mabd	#fxip	#mxip	#cplg	#fvio	#mvio	#ftyp
18	871	479	22	0	0	653	501	392	109
17	4082	318	106	0	0	4559	371	106	795
16	2174	435	489	0	0	2446	54	54	217
15	100	86	171	186	129	857	0	0	29
14	62	16	0	265	156	265	0	16	0
13	32	32	32	1010	160	16	0	0	32
12	17	0	17	95	26	17	0	9	0
11	12	0	0	12	18	6	6	6	55
8	16	0	0	0	0	0	0	5	11
7	82	0	0	6	0	223	0	0	0
6	241	0	0	0	0	141	0	0	4
5	171	0	23	0	0	249	0	0	0
4	9	9	33	5	47	149	0	0	0
3	0	34	8	26	34	105	0	0	0
2	0	0	14	0	5	19	0	0	9
1	0	0	0	0	3	0	0	0	0

c218.std WCR-82H MOCNESS tow copepods

4e-5

net#	#mtyp	#luci	#fpap	#mpap	#fsp	#mspi	#fvip	#mvip	#fhal
18	174	5310	65	87	0	0	0	0	22
17	477	6044	212	265	0	0	0	0	0
16	163	3478	489	326	0	0	0	0	978
15	14	2429	157	100	14	0	0	0	571
14	78	1482	94	125	0	62	0	0	140
13	48	1010	385	289	64	80	0	0	497
12	0	268	156	78	17	26	0	0	363
11	24	580	92	18	12	0	0	0	342
8	16	617	48	21	16	0	16	5	346
7	3	296	36	6	6	3	12	18	731
6	0	147	59	66	2	0	21	12	334
5	0	47	47	0	8	16	16	23	140
4	0	65	28	9	23	5	14	23	14
3	0	86	0	0	4	0	19	8	0
2	14	57	0	0	0	0	5	0	0
1	15	15	0	0	0	0	0	0	6

net#	#mhal	#chal	#fhel	#mhel	#fket	#mket	#fclo	#mclo	#fpak
18	0	22	0	22	0	0	0	0	22
17	0	53	0	0	0	0	0	0	0
16	0	0	0	0	0	0	54	0	54
15	43	471	14	0	0	0	57	14	0
14	16	1389	0	78	0	0	31	62	0
13	0	4824	96	112	0	0	32	48	0
12	9	2111	35	26	9	9	0	0	0
11	0	2254	37	43	0	0	0	0	0
8	0	1607	32	43	0	5	0	0	0
7	15	311	6	0	0	3	0	0	0
6	2	176	10	4	0	0	6	0	0
5	0	78	23	0	0	0	0	0	0
4	0	0	89	89	0	0	0	0	0
3	0	0	41	49	0	0	0	0	0
2	0	5	0	5	0	0	0	0	0
1	0	0	0	3	0	0	0	0	0

c218.std WCR-82H MOCNESS tow copepods

4e-6

net#	#mpak	#fpbi	#mpbi	#mpsi	#acar	#fmis	#mmis	#cmis	#cycl
18	0	152	131	0	2242	936	261	10424	11382
17	53	106	159	0	1272	1007	477	15958	10179
16	54	544	544	0	815	1685	109	11413	8478
15	0	43	71	0	100	1014	171	4514	4571
14	0	0	0	0	94	530	218	3604	3994
13	0	0	0	16	16	433	96	3414	1699
12	0	0	0	0	35	320	87	1557	614
11	0	0	0	0	18	159	55	1295	751
8	0	0	0	0	5	218	91	1256	559
7	0	0	0	0	3	257	73	851	335
6	0	0	0	0	2	305	96	1287	117
5	0	0	0	0	0	817	218	2606	638
4	0	0	0	0	0	928	406	2113	266
3	0	0	0	0	0	451	109	1255	68
2	0	0	0	0	0	415	85	1307	142
1	0	0	0	0	6	303	53	1064	100

net#	#harp	#totl
18	479	52405
17	318	70510
16	272	48370
15	14	19986
14	0	14009
13	16	15753
12	0	6272
11	6	6054
8	11	5178
7	6	3433
6	0	3308
5	16	6284
4	28	7142
3	4	5804
2	0	5460
1	12	3781

c218.int WCR-82H MOCNESS tow copepods

4f-1

net#	midd	depi	volf	aliq	iffin	ivfin	icfin	ifhyp	ichyp
18	13	25	184	4	0	0	0	0	0
17	38	25	151	8	0	1	0	0	0
16	63	25	147	8	0	1	0	0	0
15	88	25	140	2	0	1	0	0	0
14	113	25	128	2	0	1	0	0	0
13	138	25	125	2	0	2	0	0	0
12	163	25	116	1	0	2	0	0	0
11	188	25	164	1	0	2	0	0	0
8	250	100	752	4	0	2	3	0	0
7	350	100	662	2	0	2	4	0	0
6	450	100	489	1	0	3	5	0	0
5	550	100	514	4	0	8	9	0	0
4	650	100	858	4	2	96	42	0	1
3	750	100	532	2	4	265	106	0	3
2	850	100	424	2	11	458	195	2	5
1	950	100	340	1	14	560	243	4	8

net#	iften	imten	icten	ifngr	imngr	ifnro	icneo	ifund	imund
18	1	0	0	7	0	1	11	13	11
17	1	0	1	7	0	1	19	18	15
16	26	0	46	7	0	1	22	22	18
15	36	5	73	7	0	1	27	22	18
14	37	5	74	7	0	1	29	22	18
13	37	7	75	8	0	2	31	22	18
12	37	7	75	9	0	2	31	22	18
11	37	7	75	9	0	2	31	22	18
8	37	7	75	10	0	2	31	22	18
7	37	7	75	10	0	2	34	22	18
6	37	7	75	10	4	2	36	22	18
5	37	7	75	10	9	2	38	22	18
4	37	7	75	10	11	2	38	22	18
3	37	7	75	10	11	2	38	22	18
2	37	7	75	10	11	2	38	22	18
1	37	7	75	10	11	2	38	22	18

c218.int WCR-82H MOCNESS tow copepods

4f-2

net#	icund	iccal	ifmin	immin	icmin	ifelg	icelg	ifcor	imcor
18	141	14	30	14	41	0	0	0	0
17	257	18	46	20	103	0	0	0	0
16	294	32	59	28	132	0	0	0	0
15	294	42	59	29	132	0	0	0	0
14	294	47	61	29	133	0	0	0	0
13	294	50	61	29	133	0	0	1	0
12	294	51	61	29	133	0	0	1	0
11	294	52	61	29	134	0	0	1	0
8	294	59	61	29	134	0	0	2	0
7	294	59	61	29	134	0	0	2	0
6	294	60	61	29	134	0	1	4	0
5	294	60	61	29	134	0	7	14	1
4	294	60	61	29	135	4	11	32	5
3	294	60	61	29	135	22	15	42	6
2	294	61	61	29	136	26	16	43	6
1	294	61	62	29	136	27	18	44	6

net#	iccor	ifnas	icnas	ifmey	ifacr	ifprv	ifarc	iffur	ifege
18	2	0	0	0	39	6	33	8	0
17	3	0	0	1	58	13	70	22	0
16	3	0	0	1	67	15	110	22	0
15	3	0	0	1	67	16	126	23	1
14	3	0	0	1	67	16	133	23	3
13	3	0	0	1	67	16	136	23	3
12	3	0	0	1	67	16	137	23	3
11	4	0	0	1	67	16	137	23	3
8	8	0	0	1	67	16	140	23	3
7	16	0	0	1	67	16	140	23	3
6	28	0	0	1	67	16	140	23	3
5	69	0	0	1	67	16	140	23	3
4	92	0	0	1	67	16	141	23	3
3	98	0	1	1	67	16	141	23	3
2	100	0	3	1	67	16	141	23	3
1	101	1	3	1	67	16	141	23	4



c218.int WCR-82H MOCNESS tow copepods

4f-3

net#	ifeme	imeme	ifupl	imupl	ifumj	ifchi	ifmed	immed	ifmar
18	1	0	7	4	0	0	2	0	2
17	2	1	8	4	0	0	9	0	6
16	4	1	8	4	0	0	16	0	8
15	5	2	8	5	0	0	21	4	8
14	6	2	10	5	0	0	21	4	8
13	7	3	16	6	1	2	23	6	8
12	7	3	17	6	1	2	23	6	8
11	7	3	17	6	1	3	23	6	8
8	7	3	18	6	1	3	24	6	8
7	7	3	19	6	1	4	24	6	8
6	7	3	19	6	1	4	24	7	8
5	7	3	19	6	1	4	26	7	8
4	11	3	21	9	1	6	29	7	8
3	12	3	24	9	1	6	29	7	8
2	13	3	27	10	1	7	29	7	8
1	13	3	29	12	1	7	29	7	8

net#	immar	ifsco	imsco	ifbra	imbra	ifdan	imdan	ifluc	imluc
18	0	0	0	1	0	13	16	0	0
17	4	0	0	2	0	17	17	0	0
16	5	0	0	8	0	17	17	0	0
15	5	0	0	10	1	18	17	0	0
14	5	1	1	10	1	18	17	0	0
13	5	2	1	12	1	19	17	0	0
12	5	2	1	12	1	19	17	0	0
11	5	2	2	12	1	19	17	0	0
8	5	3	2	12	1	19	17	0	0
7	5	3	2	12	1	19	17	0	0
6	5	4	2	12	1	19	17	0	0
5	5	4	2	13	1	19	17	0	0
4	5	4	2	13	1	19	17	0	0
3	5	4	2	13	1	19	17	0	0
2	5	4	2	13	1	21	17	0	1
1	5	4	2	13	1	21	17	1	7

c218.int WCR-82H MOCNESS tow copepods

4f-4

net#	ifven	imven	ifbrv	imbrv	icmet	ifgra	imgra	ifpis	impis
18	0	0	0	0	0	10	1	14	0
17	0	0	0	0	0	190	32	43	21
16	0	0	0	0	0	220	66	47	31
15	0	0	0	0	0	221	71	49	31
14	0	0	0	0	0	222	72	49	31
13	0	0	0	0	0	224	72	49	31
12	0	0	0	0	0	224	72	49	31
11	0	0	0	0	0	224	73	49	31
8	0	0	0	0	0	225	73	49	31
7	0	0	0	0	0	225	73	49	31
6	0	0	0	0	0	226	75	49	31
5	2	3	1	0	15	228	83	52	35
4	8	23	18	5	53	228	83	53	36
3	33	30	27	19	62	228	84	53	36
2	40	30	29	21	74	228	84	53	36
1	40	30	32	22	114	228	84	53	36

net#	icpsm	ifabd	imabd	ifxip	imxip	icplg	ifvio	imvio	iftyp
18	22	12	1	0	0	16	13	10	3
17	124	20	3	0	0	130	22	12	23
16	178	31	15	0	0	192	23	14	28
15	181	33	20	5	3	213	23	14	29
14	182	33	20	11	7	220	23	14	29
13	183	34	21	37	11	220	23	14	30
12	184	34	21	39	12	220	23	14	30
11	184	34	21	39	12	220	23	15	31
8	185	34	21	39	12	220	23	15	32
7	194	34	21	40	12	242	23	15	32
6	218	34	21	40	12	257	23	15	32
5	235	34	23	40	12	282	23	15	32
4	236	35	27	40	17	297	23	15	32
3	236	38	27	43	20	307	23	15	32
2	236	38	29	43	21	309	23	15	33
1	236	38	29	43	21	309	23	15	33

c218.int WCR-82H MOCNESS tow copepods

4f-5

net#	imtyp	iluci	ifpap	impap	ifspi	imspi	ifvip	imvip	ifhal
18	4	133	2	2	0	0	0	0	0
17	16	284	7	9	0	0	0	0	0
16	20	371	19	17	0	0	0	0	25
15	21	432	23	19	0	0	0	0	39
14	23	469	25	23	0	2	0	0	43
13	24	494	35	30	2	4	0	0	55
12	24	500	39	32	2	4	0	0	64
11	24	515	41	32	3	4	0	0	73
8	26	576	46	34	4	4	2	1	107
7	26	606	50	35	5	5	3	2	180
6	26	621	56	41	5	5	5	4	214
5	26	625	60	41	6	6	6	6	228
4	26	632	63	42	8	7	8	8	229
3	26	640	63	42	9	7	10	9	229
2	28	646	63	42	9	7	10	9	229
1	29	647	63	42	9	7	10	9	230

net#	imhal	ichal	ifhel	imhel	ifket	imket	ifclo	imclo	ifpak
18	0	0	0	1	0	0	0	0	1
17	0	2	0	1	0	0	0	0	1
16	0	2	0	1	0	0	1	0	2
15	1	14	0	1	0	0	3	0	2
14	1	49	0	2	0	0	4	2	2
13	1	169	3	5	0	0	4	3	2
12	2	222	4	6	0	0	4	3	2
11	2	278	5	7	0	0	4	3	2
8	2	439	8	11	0	1	4	3	2
7	3	470	8	11	0	1	4	3	2
6	3	487	9	12	0	1	5	3	2
5	3	495	12	12	0	1	5	3	2
4	3	495	20	21	0	1	5	3	2
3	3	495	25	25	0	1	5	3	2
2	3	496	25	26	0	1	5	3	2
1	3	496	25	26	0	1	5	3	2

c218.int WCR-82H MOCNESS tow copepods

4f-6

net#	impak	ifpbi	impbi	impsl	iacar	ifmis	immis	icmis	icycl
18	0	4	3	0	56	23	7	260	284
17	1	6	7	0	88	48	19	659	538
16	3	20	21	0	108	91	21	944	751
15	3	21	23	0	111	116	26	1058	865
14	3	21	23	0	113	129	31	1147	964
13	3	21	23	0	113	140	33	1232	1007
12	3	21	23	0	114	148	36	1271	1023
11	3	21	23	0	115	152	37	1304	1042
8	3	21	23	0	115	174	46	1430	1097
7	3	21	23	0	115	200	53	1514	1131
6	3	21	23	0	116	230	63	1643	1143
5	3	21	23	0	116	312	84	1903	1206
4	3	21	23	0	116	405	125	2114	1232
3	3	21	23	0	116	449	136	2240	1239
2	3	21	23	0	116	491	144	2372	1253
1	3	21	23	0	116	521	150	2478	1263

net#	iharp	itotl
18	12	1313
17	20	3080
16	27	4285
15	27	4788
14	27	5134
13	27	5529
12	27	5687
11	28	5835
8	29	6348
7	29	6694
6	29	7030
5	31	7661
4	34	8372
3	34	8955
2	34	9498
1	35	9873

c218.cum WCR-82H MOCNESS tow copepods

4g-1

net#	midd	depi	volf	aliq	%ffin	%vfin	%cfin	%fhyp	%chyp
18	13	25	184	4	0	0	0	0	0
17	38	25	151	8	0	0	0	0	0
16	63	25	147	8	0	0	0	0	0
15	88	25	140	2	0	0	0	0	0
14	113	25	128	2	0	0	0	0	0
13	138	25	125	2	0	0	0	0	0
12	163	25	116	1	0	0	0	0	0
11	188	25	164	1	0	0	0	0	0
8	250	100	752	4	0	0	1	0	0
7	350	100	662	2	0	0	2	0	0
6	450	100	489	1	1	1	2	0	0
5	550	100	514	4	1	1	4	0	0
4	650	100	858	4	11	17	17	0	17
3	750	100	532	2	30	47	44	0	35
2	850	100	424	2	81	82	80	62	64
1	950	100	340	1	100	100	100	100	100

net#	%ften	%mten	%cten	%fngr	%mngr	%fnro	%cneo	%fund	%mund
18	1	0	0	66	0	32	30	57	62
17	1	0	2	66	0	32	51	81	85
16	71	0	62	66	0	32	58	100	100
15	96	66	97	66	0	53	72	100	100
14	100	77	98	66	0	76	76	100	100
13	100	94	100	82	0	100	80	100	100
12	100	94	100	86	0	100	81	100	100
11	100	100	100	86	0	100	82	100	100
8	100	100	100	97	0	100	82	100	100
7	100	100	100	100	0	100	89	100	100
6	100	100	100	100	34	100	94	100	100
5	100	100	100	100	84	100	100	100	100
4	100	100	100	100	97	100	100	100	100
3	100	100	100	100	100	100	100	100	100
2	100	100	100	100	100	100	100	100	100
1	100	100	100	100	100	100	100	100	100

c218.cum WCR-82H MOCNESS tow copepods

4g-2

net#	%cund	%ccal	%fmin	%mmin	%cmin	%felg	%celg	%fcor	%mcor
18	48	23	48	47	30	0	0	0	0
17	87	30	74	69	76	0	0	0	0
16	100	52	96	97	97	0	0	0	0
15	100	68	96	99	97	0	0	0	0
14	100	77	98	100	98	1	2	1	0
13	100	81	98	100	98	1	2	2	0
12	100	84	99	100	98	1	2	2	0
11	100	86	99	100	98	1	2	2	2
8	100	97	99	100	98	1	2	4	2
7	100	98	99	100	98	1	2	6	2
6	100	98	99	100	98	1	5	8	2
5	100	98	99	100	98	1	40	31	15
4	100	98	99	100	99	13	61	73	76
3	100	98	99	100	99	80	82	95	100
2	100	100	99	100	100	96	90	97	100
1	100	100	100	100	100	100	100	100	100

net#	%ccor	%fnas	%cnas	%fmey	%facr	%fprv	%farc	%ffur	%fege
18	2	0	0	0	58	37	24	32	0
17	3	0	0	100	86	78	50	95	0
16	3	0	0	100	100	94	78	95	0
15	3	0	0	100	100	97	90	99	29
14	3	0	0	100	100	99	94	99	70
13	3	0	0	100	100	99	96	99	70
12	3	0	0	100	100	99	97	100	76
11	4	0	0	100	100	100	97	100	80
8	8	0	0	100	100	100	99	100	80
7	16	0	0	100	100	100	99	100	80
6	28	0	0	100	100	100	99	100	80
5	68	0	0	100	100	100	99	100	80
4	91	0	0	100	100	100	100	100	80
3	97	0	23	100	100	100	100	100	80
2	99	0	82	100	100	100	100	100	92
1	100	100	100	100	100	100	100	100	100

c218.cum WCR-82H MOCNESS tow copepods

4g-3

net#	%feme	%meme	%fupl	%mupl	%fumj	%fchi	%fmed	%mmed	%fmar
18	8	0	24	36	0	0	8	0	26
17	18	43	29	36	0	0	30	0	73
16	28	43	29	36	0	0	54	0	89
15	39	54	29	42	25	0	71	54	89
14	42	67	36	42	25	6	74	59	89
13	54	93	55	49	52	24	79	76	89
12	56	100	58	49	67	33	80	79	89
11	56	100	59	50	67	38	81	81	89
8	56	100	63	50	67	46	83	81	89
7	56	100	64	53	67	59	83	81	89
6	56	100	65	53	67	65	83	89	89
5	56	100	65	53	67	65	89	100	89
4	84	100	71	72	67	93	100	100	89
3	92	100	84	75	67	93	100	100	89
2	96	100	94	83	100	100	100	100	100
1	100	100	100	100	100	100	100	100	100

net#	%mmar	%fsco	%msco	%fbra	%mbra	%fdan	%mdan	%fluc	%mluc
18	0	0	0	8	0	61	91	0	0
17	75	0	0	18	0	80	99	0	0
16	100	0	0	60	0	80	99	0	0
15	100	0	24	76	62	86	99	0	0
14	100	19	49	79	62	86	99	0	0
13	100	39	76	89	62	88	99	0	0
12	100	44	90	90	100	89	99	0	0
11	100	48	100	90	100	89	99	0	0
8	100	73	100	90	100	89	99	0	0
7	100	81	100	93	100	89	99	0	0
6	100	91	100	94	100	89	100	0	0
5	100	91	100	100	100	89	100	0	0
4	100	91	100	100	100	89	100	0	0
3	100	100	100	100	100	91	100	0	5
2	100	100	100	100	100	100	100	0	12
1	100	100	100	100	100	100	100	100	100

c218.cum WCR-82H MOCNESS tow copepods

4g-4

net#	%fven	%mven	%fbrv	%mbrv	%cmet	%fgra	%mgra	%fpis	%mpis
18	0	0	0	0	0	4	1	27	0
17	0	0	0	0	0	83	38	82	59
16	0	0	0	0	0	96	78	90	86
15	0	0	0	0	0	97	85	92	86
14	0	0	0	0	0	97	86	92	86
13	0	0	1	2	0	98	86	93	86
12	0	0	1	2	0	98	86	93	86
11	0	0	1	2	0	98	87	93	86
8	0	0	1	2	0	99	87	93	86
7	0	0	1	2	0	99	87	93	86
6	0	1	1	2	0	99	90	93	86
5	4	8	4	2	13	100	99	99	99
4	20	77	56	21	47	100	100	100	100
3	83	100	84	86	55	100	100	100	100
2	100	100	92	95	65	100	100	100	100
1	100	100	100	100	100	100	100	100	100

net#	%cpsm	%fabd	%mabd	%fxip	%mxip	%cplg	%fvio	%mvio	%ftyp
18	9	31	2	0	0	5	54	65	8
17	53	52	11	0	0	42	94	82	68
16	76	80	54	0	0	62	99	91	84
15	77	86	69	11	15	69	99	91	86
14	77	87	69	26	34	71	99	94	86
13	78	89	71	85	53	71	99	94	89
12	78	89	73	91	56	71	99	95	89
11	78	89	73	91	58	71	100	96	93
8	79	89	73	91	58	71	100	100	96
7	82	89	73	93	58	79	100	100	96
6	92	89	73	93	58	83	100	100	97
5	100	89	81	93	58	91	100	100	97
4	100	91	92	94	80	96	100	100	97
3	100	100	95	100	96	99	100	100	97
2	100	100	100	100	99	100	100	100	100
1	100	100	100	100	100	100	100	100	100



c218.cum WCR-82H MOCNESS tow copepods

4g-5

net#	%mtyp	%luci	%fpap	%mpap	%rsp	%mspi	%fvip	%mvip	%fhal
18	15	20	3	5	0	0	0	0	0
17	56	44	11	21	0	0	0	0	0
16	70	57	30	40	0	0	0	0	11
15	71	67	37	46	4	0	0	0	17
14	77	72	40	53	4	24	0	0	19
13	82	76	56	70	23	54	0	0	24
12	82	77	62	75	28	64	0	0	28
11	84	79	65	76	31	64	0	0	32
8	89	89	73	81	50	64	16	6	47
7	90	94	79	82	57	69	28	26	79
6	90	96	88	98	59	69	48	40	93
5	90	97	96	98	68	93	63	66	99
4	90	98	100	100	96	100	77	92	100
3	90	99	100	100	100	100	95	100	100
2	95	100	100	100	100	100	100	100	100
1	100	100	100	100	100	100	100	100	100

net#	%mhal	%chal	%fhel	%mhel	%fket	%mket	%fclo	%mclo	%fpak
18	0	0	0	2	0	0	0	0	29
17	0	0	0	2	0	0	0	0	29
16	0	0	0	2	0	0	27	0	100
15	32	3	1	2	0	0	56	11	100
14	43	10	1	10	0	0	72	61	100
13	43	34	11	20	0	0	88	100	100
12	50	45	15	23	100	21	88	100	100
11	50	56	18	27	100	21	88	100	100
8	50	89	31	43	100	71	88	100	100
7	94	95	34	43	100	100	88	100	100
6	100	98	38	45	100	100	100	100	100
5	100	100	47	45	100	100	100	100	100
4	100	100	83	78	100	100	100	100	100
3	100	100	100	97	100	100	100	100	100
2	100	100	100	99	100	100	100	100	100
1	100	100	100	100	100	100	100	100	100

c218.cum WCR-82H MOCNESS tow copepods

Ag-6

net#	%mpak	%fpbi	%mpbi	%mpsi	%acar	%fmis	%mmis	%cmis	%cycl
18	0	18	14	0	48	4	4	11	23
17	49	31	32	0	75	9	12	27	43
16	100	95	92	0	93	17	14	38	59
15	100	100	100	0	95	22	17	43	68
14	100	100	100	0	97	25	21	46	76
13	100	100	100	100	97	27	22	50	80
12	100	100	100	100	98	28	24	51	81
11	100	100	100	100	99	29	25	53	82
8	100	100	100	100	99	33	31	58	87
7	100	100	100	100	99	38	35	61	89
6	100	100	100	100	99	44	42	66	90
5	100	100	100	100	99	60	56	77	95
4	100	100	100	100	99	78	84	85	98
3	100	100	100	100	99	86	91	90	98
2	100	100	100	100	99	94	96	96	99
1	100	100	100	100	100	100	100	100	100

net#	%harp	%totl
18	34	13
17	57	31
16	76	43
15	77	48
14	77	52
13	78	56
12	78	58
11	78	59
8	81	64
7	83	68
6	83	71
5	88	78
4	96	85
3	97	91
2	97	96
1	100	100

c219.raw WCR-82H MOCNESS tow copepods

4h-1

net#	midd	depi	volf	aliq	ffin	mfin	vfin	cfin	fhyp
18	13	25	221	4	0	0	0	0	0
17	38	25	206	4	0	0	0	0	0
16	63	25	135	4	0	0	0	0	0
15	88	25	130	2	0	0	0	0	0
14	113	25	130	1	0	0	0	0	0
13	138	25	153	1	0	0	0	0	0
12	163	25	181	1	0	0	0	0	0
11	188	25	204	1	0	0	0	0	0
8	250	100	559	4	0	0	0	0	0
7	350	100	567	4	0	0	1	0	0
6	450	100	507	4	0	0	1	1	0
5	550	100	495	2	0	0	2	1	0
4	650	100	494	4	0	0	2	1	0
3	750	100	823	4	4	0	92	36	0
2	850	100	430	2	5	1	227	68	3
1	950	100	424	2	5	0	222	99	2

net#	chyp	ften	mten	cten	fngr	mngr	cngr	fund	mund
18	0	2	0	2	0	0	7	16	25
17	0	12	0	6	2	0	18	1	3
16	0	29	7	39	0	0	5	1	0
15	0	27	28	67	1	0	1	0	0
14	0	19	10	4	0	0	1	0	0
13	0	6	11	1	0	0	3	0	0
12	0	1	8	1	0	0	15	0	0
11	0	0	0	0	1	0	26	0	0
8	0	0	0	0	1	0	13	0	0
7	0	0	0	0	0	0	14	0	0
6	0	0	0	0	2	0	10	0	0
5	1	0	0	0	2	7	2	0	0
4	1	0	0	0	1	6	1	0	0
3	1	0	0	0	1	7	0	0	0
2	3	0	0	0	0	0	0	0	0
1	10	0	0	0	0	0	1	0	1

c219.raw WCR-82H MOCNESS tow copepods

4h-2

net#	cund	ccal	fmin	mmin	cmin	fatt	fmon	felg	fcor
18	135	18	26	11	88	1	0	0	0
17	10	21	26	11	69	1	0	0	0
16	0	34	21	11	11	3	2	0	0
15	0	10	13	5	3	1	0	0	0
14	0	27	4	3	1	0	0	0	0
13	0	13	1	0	0	0	0	0	1
12	0	25	2	0	0	0	0	0	1
11	0	6	0	0	0	0	1	0	0
8	0	0	0	0	0	0	0	0	0
7	0	0	0	0	1	0	0	0	2
6	0	0	0	0	0	0	0	0	2
5	0	0	1	0	1	0	0	0	14
4	0	0	0	0	0	0	1	5	24
3	0	0	0	0	0	2	1	19	48
2	0	0	0	0	0	1	0	32	27
1	0	0	0	0	1	3	0	12	7

net#	mcor	ccor	fmey	facr	fprv	farc	furc	mcla	fss
18	0	0	0	28	1	53	1	3	0
17	0	1	1	14	0	88	0	8	0
16	0	1	1	7	6	8	0	0	0
15	0	0	0	0	0	0	2	3	0
14	0	1	0	0	0	2	1	0	0
13	0	1	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
11	1	2	0	0	0	0	0	0	0
8	0	2	0	0	0	6	0	0	0
7	1	5	0	0	0	20	0	0	1
6	0	9	0	0	0	6	0	0	10
5	3	56	0	0	0	16	1	0	178
4	2	52	0	0	0	4	0	0	68
3	10	78	0	0	0	1	1	0	63
2	2	19	0	0	0	0	0	0	21
1	1	9	0	0	0	0	1	0	31

c219.raw WCR-82H MOCNESS tow copepods

4h-3

net#	fmim	fnty	faar	maar	fege	fgmi	feme	meme	fupl
18	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	1	0	0
16	0	0	0	0	25	0	0	0	0
15	0	0	0	10	17	0	0	0	0
14	0	0	0	9	1	0	0	0	0
13	0	0	0	1	3	0	0	0	0
12	0	0	0	3	3	0	0	0	0
11	0	0	0	1	1	0	0	0	0
8	0	0	0	0	2	0	0	0	0
7	1	0	0	0	0	0	0	0	0
6	5	0	0	0	0	11	0	0	0
5	6	0	0	0	0	3	4	0	2
4	4	0	1	0	0	2	11	2	13
3	3	0	3	0	0	2	7	4	12
2	1	2	1	0	0	0	7	1	4
1	3	6	0	0	0	0	3	0	3

net#	mupl	fumj	fchi	fmed	mmed	fmar	mmar	finc	minc
18	0	0	0	0	0	3	1	0	0
17	0	0	0	0	0	2	0	0	0
16	0	0	0	0	0	3	1	0	0
15	0	0	0	1	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
12	0	0	0	1	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
8	0	0	0	1	0	0	0	0	0
7	0	0	0	1	0	0	0	0	0
6	1	0	0	2	3	0	0	0	0
5	1	0	0	27	15	0	0	0	0
4	3	2	2	6	2	0	0	0	0
3	5	1	5	0	0	0	0	1	4
2	2	0	2	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	0

c219.raw WCR-82H MOCNESS tow copepods

4h-4

net#	ceuk	fpsp	fslo	fsam	fscu	fsma	mscp	fbra	mbra
18	230	0	0	1	0	0	0	0	0
17	124	0	0	0	0	0	0	0	0
16	30	0	0	0	0	0	0	0	0
15	191	0	0	0	0	0	0	7	4
14	174	2	0	0	0	0	0	3	0
13	107	0	0	0	0	0	0	5	0
12	67	0	0	0	0	0	0	2	1
11	44	3	0	1	0	0	1	2	0
8	30	0	0	1	0	0	0	0	0
7	41	0	0	3	0	0	0	4	0
6	19	0	10	61	10	0	8	0	1
5	16	0	129	101	17	0	9	0	2
4	6	0	12	6	6	1	2	0	0
3	21	0	9	0	15	0	49	0	0
2	8	0	11	0	0	1	4	0	0
1	14	0	1	0	0	0	0	0	0

net#	fdan	mdan	fden	fvit	msca	ftst	ftmt	fven	mven
18	10	1	0	0	0	1	0	0	0
17	4	0	0	0	0	2	0	0	0
16	0	0	0	0	2	1	0	0	0
15	0	0	0	0	3	0	0	0	0
14	0	0	1	3	5	0	0	0	0
13	0	0	0	2	3	0	0	0	0
12	0	0	2	1	3	0	0	0	0
11	0	0	2	2	8	0	0	0	0
8	0	0	0	2	1	0	0	0	0
7	0	0	1	1	2	0	0	0	0
6	0	0	7	0	9	0	0	0	0
5	0	0	6	0	12	0	0	1	1
4	0	0	3	0	29	0	0	2	1
3	0	0	0	0	17	0	1	37	29
2	0	0	0	0	0	0	1	27	10
1	0	0	0	0	4	0	1	18	2

c219.raw WCR-82H MOCNESS tow copepods

4h-5

net#	fbrv	mbrv	mlon	cmet	fgra	mgra	fpis	mpis	cpsm
18	0	0	0	0	0	0	0	0	0
17	0	0	0	0	4	0	0	1	2
16	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
14	0	1	0	0	1	2	2	0	4
13	0	0	0	0	0	0	0	0	5
12	0	0	0	0	0	0	0	0	16
11	0	0	0	0	2	4	5	0	106
8	0	0	0	0	121	38	64	30	152
7	0	0	0	0	67	11	39	11	37
6	0	0	0	0	37	67	0	1	30
5	0	0	0	3	52	80	9	4	28
4	0	0	0	59	2	1	7	9	14
3	35	4	1	134	0	0	0	0	0
2	20	39	1	7	0	0	0	0	0
1	15	1	1	17	0	0	0	0	0

net#	fabd	mabd	fxip	mxip	cplg	fvio	mvio	flcl	mlcl
18	1	0	0	0	1	1	2	0	0
17	1	0	0	0	16	0	1	0	0
16	0	0	0	0	5	1	0	0	0
15	0	0	0	0	23	0	0	0	0
14	0	1	0	1	117	0	0	0	0
13	0	0	1	0	32	0	0	1	0
12	0	0	0	0	21	0	0	10	4
11	1	0	0	0	24	0	0	21	8
8	1	1	1	0	68	0	0	14	1
7	15	1	0	1	199	0	0	45	45
6	26	13	0	0	53	0	0	34	32
5	32	13	122	23	45	0	1	0	0
4	4	7	5	4	45	0	0	0	0
3	3	1	5	3	53	0	0	0	0
2	5	4	4	7	19	0	0	0	0
1	0	5	1	0	6	0	0	0	0

c219.raw WCR-82H MOCNESS tow copepods

4h6

net#	flut	mlut	fpap	mpap	fspci	mspci	fvip	mvip	fhet
18	7	2	7	5	0	0	0	0	0
17	54	35	15	21	0	0	0	0	0
16	217	130	6	10	0	0	0	0	0
15	237	126	5	7	0	0	0	0	0
14	162	54	7	5	0	0	0	0	0
13	115	17	3	9	1	1	0	0	0
12	143	8	6	9	0	0	0	0	0
11	117	16	7	19	1	1	0	0	0
8	75	20	4	7	0	0	0	0	0
7	36	3	18	4	5	2	2	1	0
6	17	0	25	5	0	2	3	3	4
5	22	4	24	4	0	0	0	0	2
4	2	1	3	0	3	0	3	1	1
3	11	4	6	0	2	0	3	13	5
2	4	10	1	0	0	0	6	0	12
1	5	2	3	0	0	0	4	0	1

net#	mhet	chet	fhal	mhal	chal	forn	faug	fhel	mhel
18	0	0	0	0	0	0	0	0	0
17	0	19	0	0	0	0	0	0	0
16	0	38	205	9	15	1	5	0	0
15	0	20	34	7	112	2	0	0	0
14	0	35	29	7	777	1	7	0	0
13	0	13	27	3	396	0	8	0	0
12	0	29	13	1	139	0	3	0	0
11	0	62	6	0	200	0	0	0	0
8	0	45	10	0	124	1	1	0	0
7	0	37	70	1	24	1	21	0	0
6	1	44	54	0	64	8	2	0	0
5	0	20	48	0	36	17	7	8	6
4	1	0	10	0	2	2	10	16	12
3	7	21	3	0	0	0	42	17	5
2	5	0	0	0	0	0	15	2	1
1	1	6	0	0	1	0	4	2	2



c219.raw WCR-82H MOCNESS tow copepods

4h-7

net#	chel	fkct	mkct	fclo	mclo	fpak	mpak	fpbi	mpbi
18	0	0	0	0	0	0	2	0	5
17	0	0	0	0	0	1	0	15	13
16	0	0	0	0	0	0	0	12	6
15	0	0	0	0	0	1	0	2	0
14	0	0	0	0	0	0	0	1	0
13	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	1
11	0	0	0	0	1	0	1	0	0
8	0	0	0	0	0	0	0	0	0
7	2	0	0	0	0	0	0	0	0
6	17	4	1	0	0	0	0	1	0
5	42	3	3	17	18	0	0	0	0
4	12	0	0	0	0	1	0	0	0
3	39	0	0	0	0	0	0	0	0
2	1	0	0	0	0	0	0	0	0
1	8	0	0	0	0	0	0	0	0

net#	fpon	fada	fneg	fmis	mmis	cmis	oith	harp	totl
18	3	0	33	0	2	162	12	321	1230
17	1	0	9	3	0	221	15	246	1118
16	2	0	10	27	4	158	151	147	1407
15	0	0	0	6	0	111	159	187	1433
14	0	0	0	6	0	172	48	206	1917
13	0	0	3	0	3	50	3	127	976
12	0	1	1	3	1	62	6	88	701
11	0	0	2	2	3	90	32	64	897
8	0	0	0	1	3	94	6	28	969
7	0	0	0	9	0	92	28	13	940
6	0	0	0	5	5	413	21	18	1198
5	0	1	0	10	2	462	7	66	1878
4	0	0	0	9	2	217	3	80	832
3	0	0	0	13	15	317	2	35	1387
2	0	0	0	12	9	274	2	31	985
1	0	0	1	23	3	216	0	25	812

c219.std WCR-82H MOCNESS tow copepods

4i-1

net#	midd	depi	volf	aliq	#ffin	#mfin	#vfin	#cfin	#fhyp
18	13	25	221	4	0	0	0	0	0
17	38	25	206	4	0	0	0	0	0
16	63	25	135	4	0	0	0	0	0
15	88	25	130	2	0	0	0	0	0
14	113	25	130	1	0	0	0	0	0
13	138	25	153	1	0	0	0	0	0
12	163	25	181	1	0	0	0	0	0
11	188	25	204	1	0	0	0	0	0
8	250	100	559	4	0	0	0	0	0
7	350	100	567	4	0	0	7	0	0
6	450	100	507	4	0	0	8	8	0
5	550	100	495	2	0	0	8	4	0
4	650	100	494	4	0	0	16	8	0
3	750	100	823	4	19	0	447	175	0
2	850	100	430	2	23	5	1056	316	14
1	950	100	424	2	24	0	1048	467	9

net#	#chyp	#ften	#nten	#cten	#fngr	#mngr	#cngr	#fund	#mund
18	0	36	0	36	0	0	127	290	453
17	0	234	0	117	39	0	350	20	58
16	0	859	207	1156	0	0	148	30	0
15	0	415	431	1031	15	0	15	0	0
14	0	146	77	31	0	0	8	0	0
13	0	39	72	7	0	0	20	0	0
12	0	6	44	6	0	0	83	0	0
11	0	0	0	0	5	0	128	0	0
8	0	0	0	0	7	0	93	0	0
7	0	0	0	0	0	0	99	0	0
6	0	0	0	0	16	0	79	0	0
5	4	0	0	0	8	28	8	0	0
4	8	0	0	0	8	49	8	0	0
3	5	0	0	0	5	34	0	0	0
2	14	0	0	0	0	0	0	0	0
1	47	0	0	0	0	0	5	0	5

c219.std WCR-82H MOCNESS tow copepods

4:2

net#	#cund	#ccal	#fmin	#mmin	#cmin	#fatt	#fmon	#felg	#fcor
18	2448	326	471	200	1596	18	0	0	0
17	195	409	506	214	1342	20	0	0	0
16	0	1007	622	326	326	89	59	0	0
15	0	154	200	77	46	15	0	0	0
14	0	208	31	23	8	0	0	0	0
13	0	85	7	0	0	0	0	0	7
12	0	138	11	0	0	0	0	0	6
11	0	29	0	0	0	0	5	0	0
8	0	0	0	0	0	0	0	0	0
7	0	0	0	0	7	0	0	0	14
6	0	0	0	0	0	0	0	0	16
5	0	0	4	0	4	0	0	0	57
4	0	0	0	0	0	0	8	41	194
3	0	0	0	0	0	10	5	92	233
2	0	0	0	0	0	5	0	149	126
1	0	0	0	0	5	14	0	57	33

net#	#mcor	#ccor	#fmey	#facr	#fprv	#farc	#furc	#mcla	#fssp
18	0	0	0	508	18	961	18	54	0
17	0	20	20	272	0	1712	0	156	0
16	0	30	30	207	178	237	0	0	0
15	0	0	0	0	0	0	31	46	0
14	0	8	0	0	0	15	8	0	0
13	0	7	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
11	5	10	0	0	0	0	0	0	0
8	0	14	0	0	0	43	0	0	0
7	7	35	0	0	0	141	0	0	7
6	0	71	0	0	0	47	0	0	79
5	12	226	0	0	0	65	4	0	719
4	16	421	0	0	0	32	0	0	551
3	49	379	0	0	0	5	5	0	306
2	9	88	0	0	0	0	0	0	98
1	5	43	0	0	0	0	5	0	146

c219.std WCR-82H MOCNESS tow copepods

4i-3

net#	#fmim	#fnty	#faar	#maar	#fege	#fgmi	#feme	#meme	#fupl
18	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	20	0	0
16	0	0	0	0	741	0	0	0	0
15	0	0	0	154	262	0	0	0	0
14	0	0	0	69	8	0	0	0	0
13	0	0	0	7	20	0	0	0	0
12	0	0	0	17	17	0	0	0	0
11	0	0	0	5	5	0	0	0	0
8	0	0	0	0	14	0	0	0	0
7	7	0	0	0	0	0	0	0	0
6	39	0	0	0	0	87	0	0	0
5	24	0	0	0	0	12	16	0	8
4	32	0	8	0	0	16	89	16	105
3	15	0	15	0	0	10	34	19	58
2	5	9	5	0	0	0	33	5	19
1	14	28	0	0	0	0	14	0	14

net#	#mupl	#fumj	#fchi	#fmed	#mmed	#fmar	#mmar	#finc	#minc
18	0	0	0	0	0	54	18	0	0
17	0	0	0	0	0	39	0	0	0
16	0	0	0	0	0	89	30	0	0
15	0	0	0	15	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
12	0	0	0	6	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
8	0	0	0	7	0	0	0	0	0
7	0	0	0	7	0	0	0	0	0
6	8	0	0	16	24	0	0	0	0
5	4	0	0	109	61	0	0	0	0
4	24	16	16	49	16	0	0	0	0
3	24	5	24	0	0	0	0	5	19
2	9	0	9	0	0	0	0	0	5
1	0	0	0	0	0	0	0	0	0

c219.std WCR-82H MOCNESS tow copepods

4c 4

net#	#ceuk	#fsp	#fslo	#fsam	#fscu	#fsma	#mscp	#fbra	#mbra
18	4170	0	0	18	0	0	0	0	0
17	2413	0	0	0	0	0	0	0	0
16	889	0	0	0	0	0	0	0	0
15	2939	0	0	0	0	0	0	108	62
14	1341	15	0	0	0	0	0	23	0
13	701	0	0	0	0	0	0	33	0
12	371	0	0	0	0	0	0	11	6
11	216	15	0	5	0	0	5	10	0
8	215	0	0	7	0	0	0	0	0
7	289	0	0	21	0	0	0	28	0
6	150	0	79	481	79	0	63	0	8
5	65	0	521	408	69	0	36	0	8
4	49	0	97	49	49	8	16	0	0
3	102	0	44	0	73	0	238	0	0
2	37	0	51	0	0	5	19	0	0
1	66	0	5	0	0	0	0	0	0

net#	#fdan	#mdan	#fden	#fvit	#msca	#ftst	#ftmt	#fven	#mven
18	181	18	0	0	0	18	0	0	0
17	78	0	0	0	0	39	0	0	0
16	0	0	0	0	59	30	0	0	0
15	0	0	0	0	46	0	0	0	0
14	0	0	8	23	39	0	0	0	0
13	0	0	0	13	20	0	0	0	0
12	0	0	11	6	17	0	0	0	0
11	0	0	10	10	39	0	0	0	0
8	0	0	0	14	7	0	0	0	0
7	0	0	7	7	14	0	0	0	0
6	0	0	55	0	71	0	0	0	0
5	0	0	24	0	49	0	0	4	4
4	0	0	24	0	235	0	0	16	8
3	0	0	0	0	83	0	5	180	141
2	0	0	0	0	0	0	5	126	47
1	0	0	0	0	19	0	5	85	9

c219.std WCR-82H MOCNESS tow copepods

4-5

net#	#fbrv	#mbrv	#mlon	#cmet	#fgra	#mgra	#fpis	#mpis	#cpsm
18	0	0	0	0	0	0	0	0	0
17	0	0	0	0	78	0	0	20	39
16	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
14	0	8	0	0	8	15	15	0	31
13	0	0	0	0	0	0	0	0	33
12	0	0	0	0	0	0	0	0	89
11	0	0	0	0	10	20	25	0	520
8	0	0	0	0	865	272	458	215	1087
7	0	0	0	0	473	78	275	78	261
6	0	0	0	0	292	529	0	8	237
5	0	0	0	12	210	323	36	16	113
4	0	0	0	478	16	8	57	73	113
3	170	19	5	651	0	0	0	0	0
2	93	182	5	33	0	0	0	0	0
1	71	5	5	80	0	0	0	0	0

net#	#fabd	#mabd	#fxip	#mxip	#cplg	#fvio	#mvio	#flcl	#mlcl
18	18	0	0	0	18	18	36	0	0
17	20	0	0	0	311	0	20	0	0
16	0	0	0	0	148	30	0	0	0
15	0	0	0	0	354	0	0	0	0
14	0	8	0	8	901	0	0	0	0
13	0	0	7	0	210	0	0	7	0
12	0	0	0	0	116	0	0	55	22
11	5	0	0	0	118	0	0	103	39
8	7	7	7	0	486	0	0	100	7
7	106	7	0	7	1404	0	0	318	318
6	205	103	0	0	418	0	0	268	252
5	129	53	493	93	182	0	4	0	0
4	32	57	41	32	364	0	0	0	0
3	15	5	24	15	258	0	0	0	0
2	23	19	19	33	88	0	0	0	0
1	0	24	5	0	28	0	0	0	0

c219.std WCR-82H MOCNESS tow copepods

4i-6

net#	#flut	#mlut	#fpap	#mpap	#fsp	#mspi	#fvip	#mvip	#fhet
18	127	36	127	91	0	0	0	0	0
17	1051	681	292	409	0	0	0	0	0
16	6430	3852	178	296	0	0	0	0	0
15	3646	1939	77	108	0	0	0	0	0
14	1248	416	54	39	0	0	0	0	0
13	753	111	20	59	7	7	0	0	0
12	791	44	33	50	0	0	0	0	0
11	574	79	34	93	5	5	0	0	0
8	536	143	29	50	0	0	0	0	0
7	254	21	127	28	35	14	14	7	0
6	134	0	197	39	0	16	24	24	32
5	89	16	97	16	0	0	0	0	8
4	16	8	24	0	24	0	24	8	8
3	53	19	29	0	10	0	15	63	24
2	19	47	5	0	0	0	28	0	56
1	24	9	14	0	0	0	19	0	5

net#	#mhet	#chet	#fhal	#mhal	#chal	#forn	#faug	#fhel	#mhel
18	0	0	0	0	0	0	0	0	0
17	0	370	0	0	0	0	0	0	0
16	0	1126	6074	267	444	30	148	0	0
15	0	308	523	108	1723	31	0	0	0
14	0	270	223	54	5986	8	54	0	0
13	0	85	177	20	2593	0	52	0	0
12	0	161	72	6	769	0	17	0	0
11	0	304	29	0	981	0	0	0	0
8	0	322	72	0	887	7	7	0	0
7	0	261	494	7	169	7	148	0	0
6	8	347	426	0	505	63	16	0	0
5	0	81	194	0	145	69	28	32	24
4	8	0	81	0	16	16	81	130	97
3	34	102	15	0	0	0	204	83	24
2	23	0	0	0	0	0	70	9	5
1	5	28	0	0	5	0	19	9	9

c219.std WCR-82H MOCNESS tow copepods

4-7

net#	#chel	#fket	#mket	#fclo	#mclo	#fpak	#mpak	#fpbi	#mpbi
18	0	0	0	0	0	0	36	0	91
17	0	0	0	0	0	20	0	292	253
16	0	0	0	0	0	0	0	356	178
15	0	0	0	0	0	15	0	31	0
14	0	0	0	0	0	0	0	8	0
13	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	6
11	0	0	0	0	5	0	5	0	0
8	0	0	0	0	0	0	0	0	0
7	14	0	0	0	0	0	0	0	0
6	134	32	8	0	0	0	0	8	0
5	170	12	12	69	73	0	0	0	0
4	97	0	0	0	0	8	0	0	0
3	190	0	0	0	0	0	0	0	0
2	5	0	0	0	0	0	0	0	0
1	38	0	0	0	0	0	0	0	0

net#	#fpon	#fada	#fneg	#fmis	#mmis	#cmis	#oith	#harp	#totl
18	54	0	598	0	36	2937	218	5821	22303
17	20	0	175	58	0	4300	292	4786	21751
16	59	0	296	800	119	4682	4474	4356	41689
15	0	0	0	92	0	1708	2446	2877	22046
14	0	0	0	46	0	1325	370	1587	14769
13	0	0	20	0	20	327	20	832	6392
12	0	6	6	17	6	343	33	487	3879
11	0	0	10	10	15	442	157	314	4401
8	0	0	0	7	22	672	43	200	6930
7	0	0	0	64	0	649	198	92	6633
6	0	0	0	39	39	3258	166	142	9450
5	0	4	0	40	8	1866	28	267	7585
4	0	0	0	73	16	1757	24	648	6736
3	0	0	0	63	73	1540	10	170	6740
2	0	0	0	56	42	1275	9	144	4584
1	0	0	5	109	14	1019	0	118	3832



c219.int WCR-82H MOCNESS tow copepods

4j-1

net#	midd	depi	volf	aliq	ifin	imfin	ivfin	icfin	ifhyp
18	13	25	221	4	0	0	0	0	0
17	38	25	206	4	0	0	0	0	0
16	63	25	135	4	0	0	0	0	0
15	88	25	130	2	0	0	0	0	0
14	113	25	130	1	0	0	0	0	0
13	138	25	153	1	0	0	0	0	0
12	163	25	181	1	0	0	0	0	0
11	188	25	204	1	0	0	0	0	0
8	250	100	559	4	0	0	0	0	0
7	350	100	567	4	0	0	1	0	0
6	450	100	507	4	0	0	2	1	0
5	550	100	495	2	0	0	2	1	0
4	650	100	494	4	0	0	4	2	0
3	750	100	823	4	2	0	49	19	0
2	850	100	430	2	4	0	154	51	1
1	950	100	424	2	7	0	259	98	2

net#	ichyp	iften	imten	icten	ifngr	imngr	icngr	ifund	imund
18	0	1	0	1	0	0	3	7	11
17	0	7	0	4	1	0	12	8	13
16	0	28	5	33	1	0	16	8	13
15	0	39	16	58	1	0	16	8	13
14	0	42	18	59	1	0	16	8	13
13	0	43	20	59	1	0	17	8	13
12	0	43	21	60	1	0	19	8	13
11	0	43	21	60	1	0	22	8	13
8	0	43	21	60	2	0	31	8	13
7	0	43	21	60	2	0	41	8	13
6	0	43	21	60	4	0	49	8	13
5	0	43	21	60	5	3	50	8	13
4	1	43	21	60	5	8	51	8	13
3	2	43	21	60	6	11	51	8	13
2	3	43	21	60	6	11	51	8	13
1	8	43	21	60	6	11	51	8	13

c219.int WCR-82H MOCNESS tow copepods

4j-2

net#	icund	iccal	ifmin	immin	icmin	ifatt	ifmon	ifelg	ifcor
18	61	8	12	5	40	0	0	0	0
17	66	18	24	10	73	1	0	0	0
16	66	43	40	18	82	3	1	0	0
15	66	47	45	20	83	4	1	0	0
14	66	53	46	21	83	4	1	0	0
13	66	55	46	21	83	4	1	0	0
12	66	58	46	21	83	4	1	0	0
11	66	59	46	21	83	4	2	0	0
8	66	59	46	21	83	4	2	0	0
7	66	59	46	21	84	4	2	0	2
6	66	59	46	21	84	4	2	0	3
5	66	59	47	21	84	4	2	0	9
4	66	59	47	21	84	4	2	4	28
3	66	59	47	21	84	5	3	13	52
2	66	59	47	21	84	5	3	28	64
1	66	59	47	21	85	6	3	34	68

net#	imcor	iccor	ifmey	ifacr	ifprv	ifarc	ifurc	imcla	ifss
18	0	0	0	13	0	24	0	1	0
17	0	1	0	20	0	67	0	5	0
16	0	1	1	25	5	73	0	5	0
15	0	1	1	25	5	73	1	6	0
14	0	1	1	25	5	73	1	6	0
13	0	2	1	25	5	73	1	6	0
12	0	2	1	25	5	73	1	6	0
11	0	2	1	25	5	73	1	6	0
8	0	3	1	25	5	78	1	6	0
7	1	7	1	25	5	92	1	6	1
6	1	14	1	25	5	96	1	6	9
5	2	37	1	25	5	103	2	6	80
4	4	79	1	25	5	106	2	6	135
3	9	117	1	25	5	107	2	6	166
2	9	125	1	25	5	107	2	6	176
1	10	130	1	25	5	107	3	6	191

c219.int WCR-82H MOCNESS tow copepods

4j-3

net#	ifmim	ifmty	ifaar	imaar	ifege	ifgmi	ifeme	imeme	ifupl
18	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0
16	0	0	0	0	19	0	0	0	0
15	0	0	0	4	25	0	0	0	0
14	0	0	0	6	25	0	0	0	0
13	0	0	0	6	26	0	0	0	0
12	0	0	0	6	26	0	0	0	0
11	0	0	0	6	26	0	0	0	0
8	0	0	0	6	28	0	0	0	0
7	1	0	0	6	28	0	0	0	0
6	5	0	0	6	28	9	0	0	0
5	7	0	0	6	28	10	2	0	1
4	10	0	1	6	28	12	11	2	11
3	12	0	2	6	28	12	14	4	17
2	12	1	3	6	28	12	18	4	19
1	14	4	3	6	28	12	19	4	20

net#	imupl	ifumj	ifchi	ifmed	immed	ifmar	immar	ifinc	iminc
18	0	0	0	0	0	1	0	0	0
17	0	0	0	0	0	2	0	0	0
16	0	0	0	0	0	5	1	0	0
15	0	0	0	0	0	5	1	0	0
14	0	0	0	0	0	5	1	0	0
13	0	0	0	0	0	5	1	0	0
12	0	0	0	1	0	5	1	0	0
11	0	0	0	1	0	5	1	0	0
8	0	0	0	1	0	5	1	0	0
7	0	0	0	2	0	5	1	0	0
6	1	0	0	4	2	5	1	0	0
5	1	0	0	14	8	5	1	0	0
4	4	2	2	19	10	5	1	0	0
3	6	2	4	19	10	5	1	0	2
2	7	2	5	19	10	5	1	0	2
1	7	2	5	19	10	5	1	0	2

c219.int WCR-82H MOCNESS tow copepods

4j-4

net#	iceuk	ifpsp	ifslo	ifsam	ifscu	ifsma	imscp	ifbra	imbra
18	104	0	0	0	0	0	0	0	0
17	165	0	0	0	0	0	0	0	0
16	187	0	0	0	0	0	0	0	0
15	261	0	0	0	0	0	0	3	2
14	294	0	0	0	0	0	0	3	2
13	311	0	0	0	0	0	0	4	2
12	321	0	0	0	0	0	0	4	2
11	326	1	0	1	0	0	0	5	2
8	348	1	0	1	0	0	0	5	2
7	377	1	0	3	0	0	0	7	2
6	391	1	8	52	8	0	6	7	2
5	398	1	60	92	15	0	10	7	3
4	402	1	70	97	20	1	12	7	3
3	413	1	74	97	27	1	35	7	3
2	416	1	79	97	27	1	37	7	3
1	423	1	80	97	27	1	37	7	3

net#	ifdan	imdan	ifden	ifvit	imsca	iftst	iftmt	ifven	imven
18	5	0	0	0	0	0	0	0	0
17	6	0	0	0	0	1	0	0	0
16	6	0	0	0	1	2	0	0	0
15	6	0	0	0	3	2	0	0	0
14	6	0	0	1	4	2	0	0	0
13	6	0	0	1	4	2	0	0	0
12	6	0	0	1	5	2	0	0	0
11	6	0	1	1	5	2	0	0	0
8	6	0	1	3	6	2	0	0	0
7	6	0	1	3	8	2	0	0	0
6	6	0	7	3	15	2	0	0	0
5	6	0	9	3	20	2	0	0	0
4	6	0	12	3	43	2	0	2	1
3	6	0	12	3	51	2	0	20	15
2	6	0	12	3	51	2	1	33	20
1	6	0	12	3	53	2	1	41	21

c219.int WCR-82H MOCNESS tow copepods

4j-5

net#	ifbrv	imbrv	imlon	icmet	ifgra	imgra	ifpis	impis	icpsm
18	0	0	0	0	0	0	0	0	0
17	0	0	0	0	2	0	0	0	1
16	0	0	0	0	2	0	0	0	1
15	0	0	0	0	2	0	0	0	1
14	0	0	0	0	2	0	0	0	2
13	0	0	0	0	2	0	0	0	3
12	0	0	0	0	2	0	0	0	5
11	0	0	0	0	2	1	1	0	18
8	0	0	0	0	89	28	47	22	126
7	0	0	0	0	136	36	74	30	153
6	0	0	0	0	165	89	74	31	176
5	0	0	0	1	186	121	78	32	188
4	0	0	0	49	188	122	84	39	199
3	17	2	0	114	188	122	84	39	199
2	26	20	1	117	188	122	84	39	199
1	33	21	1	125	188	122	84	39	199

net#	ifabd	imabd	ifxip	imxip	icplg	ifvio	imvio	iflcl	imlcl
18	0	0	0	0	0	0	1	0	0
17	1	0	0	0	8	0	1	0	0
16	1	0	0	0	12	1	1	0	0
15	1	0	0	0	21	1	1	0	0
14	1	0	0	0	43	1	1	0	0
13	1	0	0	0	49	1	1	0	0
12	1	0	0	0	52	1	1	2	1
11	1	0	0	0	55	1	1	4	2
8	2	1	1	0	103	1	1	14	2
7	12	2	1	1	244	1	1	46	34
6	33	12	1	1	286	1	1	73	59
5	46	17	50	10	304	1	2	73	59
4	49	23	54	13	340	1	2	73	59
3	50	23	57	15	366	1	2	73	59
2	53	25	59	18	375	1	2	73	59
1	53	28	59	18	378	1	2	73	59

c219.int WCR-82H MOCNESS tow copepods

4-6

net#	iflut	imlut	ifpap	impap	ifspi	imspi	ifvip	imvip	ifhet
18	3	1	3	2	0	0	0	0	0
17	30	18	11	12	0	0	0	0	0
16	190	114	15	20	0	0	0	0	0
15	282	163	17	23	0	0	0	0	0
14	313	173	18	24	0	0	0	0	0
13	331	176	19	25	0	0	0	0	0
12	351	177	20	26	0	0	0	0	0
11	365	179	20	29	0	0	0	0	0
8	419	193	23	34	0	0	0	0	0
7	444	195	36	36	4	2	1	1	0
6	457	195	56	40	4	3	4	3	3
5	467	197	65	42	4	3	4	3	4
4	468	198	68	42	6	3	6	4	5
3	473	200	71	42	7	3	8	10	7
2	475	205	71	42	7	3	10	10	13
1	478	206	73	42	7	3	12	10	13

net#	imhet	ichet	ifhal	imhal	ichal	iforn	ifaug	ifhel	imhel
18	0	0	0	0	0	0	0	0	0
17	0	9	0	0	0	0	0	0	0
16	0	37	152	7	11	1	4	0	0
15	0	45	165	9	54	2	4	0	0
14	0	52	171	11	204	2	5	0	0
13	0	54	175	11	269	2	6	0	0
12	0	58	177	11	288	2	7	0	0
11	0	66	177	11	313	2	7	0	0
8	0	98	184	11	402	2	7	0	0
7	0	124	234	12	419	3	22	0	0
6	1	158	276	12	469	9	24	0	0
5	1	167	295	12	484	16	27	3	2
4	2	167	304	12	485	18	35	16	12
3	5	177	305	12	485	18	55	24	15
2	7	177	305	12	485	18	62	25	15
1	8	180	305	12	486	18	64	26	16

c219.int WCR-82H MOCNESS tow copepods

4-7

net#	ichel	ifket	imket	ifclo	imclo	ifpak	impak	ifpbi	impbi
18	0	0	0	0	0	0	1	0	2
17	0	0	0	0	0	0	1	7	9
16	0	0	0	0	0	0	1	16	13
15	0	0	0	0	0	1	1	17	13
14	0	0	0	0	0	1	1	17	13
13	0	0	0	0	0	1	1	17	13
12	0	0	0	0	0	1	1	17	13
11	0	0	0	0	0	1	1	17	13
8	0	0	0	0	0	1	1	17	13
7	1	0	0	0	0	1	1	17	13
6	15	3	1	0	0	1	1	18	13
5	32	4	2	7	7	1	1	18	13
4	41	4	2	7	7	2	1	18	13
3	60	4	2	7	7	2	1	18	13
2	61	4	2	7	7	2	1	18	13
1	65	4	2	7	7	2	1	18	13

net#	ifpon	ifada	ifneg	ifmis	immis	icmis	ioith	iharp	itotl
18	1	0	15	0	1	74	5	146	555
17	2	0	19	1	1	181	13	266	1102
16	3	0	27	21	4	299	124	375	2144
15	3	0	27	24	4	342	186	447	2699
14	3	0	27	25	4	376	195	486	3073
13	3	0	27	25	4	384	195	507	3229
12	3	0	27	25	5	392	196	519	3324
11	3	0	28	26	5	403	200	527	3437
8	3	0	28	26	7	470	204	547	4131
7	3	0	28	33	7	535	224	556	4791
6	3	0	28	37	11	860	241	570	5737
5	3	1	28	41	12	1047	244	597	6492
4	3	1	28	48	13	1222	246	662	7169
3	3	1	28	54	21	1376	247	678	7846
2	3	1	28	60	25	1502	248	693	8306
1	3	1	28	71	26	1604	248	705	8688

c219.cum WCR-82H MOCNESS tow copepods

4k-1

net#	midd	depi	volf	aliq	%ffin	%mfin	%vfin	%cfin	%fhyp
18	13	25	221	4	0	0	0	0	0
17	38	25	206	4	0	0	0	0	0
16	63	25	135	4	0	0	0	0	0
15	88	25	130	2	0	0	0	0	0
14	113	25	130	1	0	0	0	0	0
13	138	25	153	1	0	0	0	0	0
12	163	25	181	1	0	0	0	0	0
11	188	25	204	1	0	0	0	0	0
8	250	100	559	4	0	0	0	0	0
7	350	100	567	4	0	0	0	0	0
6	450	100	507	4	0	0	1	1	0
5	550	100	495	2	0	0	1	1	0
4	650	100	494	4	0	0	2	2	0
3	750	100	823	4	29	0	19	20	0
2	850	100	430	2	64	100	60	52	60
1	950	100	424	2	100	100	100	100	100

net#	%chyp	%ften	%mten	%cten	%fngr	%mngr	%cngr	%fund	%mund.
18	0	2	0	2	0	0	6	86	85
17	0	16	0	6	17	0	23	91	96
16	0	65	25	55	17	0	31	100	96
15	0	89	77	98	23	0	31	100	96
14	0	97	86	99	23	0	32	100	96
13	0	100	95	100	23	0	33	100	96
12	0	100	100	100	23	0	37	100	96
11	0	100	100	100	25	0	43	100	96
8	0	100	100	100	37	0	61	100	96
7	0	100	100	100	37	0	80	100	96
6	0	100	100	100	64	0	96	100	96
5	5	100	100	100	78	26	97	100	96
4	15	100	100	100	92	69	99	100	96
3	22	100	100	100	100	100	99	100	96
2	40	100	100	100	100	100	99	100	96
1	100	100	100	100	100	100	100	100	100



c219.cum WCR-82H MOCNESS tow copepods

4k-2

net#	%cund	%ccal	%fmin	%mmin	%cmin	%fatt	%fmon	%felg	%fcor
18	93	14	25	24	47	7	0	0	0
17	100	31	52	49	87	15	0	0	0
16	100	74	86	88	97	49	51	0	0
15	100	80	97	97	98	55	51	0	0
14	100	89	98	100	98	55	51	0	0
13	100	93	99	100	98	55	51	0	0
12	100	99	99	100	98	55	51	0	0
11	100	100	99	100	98	55	55	0	0
8	100	100	99	100	98	55	55	0	0
7	100	100	99	100	99	55	55	0	3
6	100	100	99	100	99	55	55	0	5
5	100	100	100	100	99	55	55	0	13
4	100	100	100	100	99	55	83	12	42
3	100	100	100	100	99	71	100	39	77
2	100	100	100	100	99	78	100	83	95
1	100	100	100	100	100	100	100	100	100

net#	%mcor	%ccor	%fmev	%facr	%fprv	%farc	%fure	%mcla	%fssp
18	0	0	0	51	9	23	16	21	0
17	0	0	40	79	9	63	16	82	0
16	0	1	100	100	100	68	16	82	0
15	0	1	100	100	100	68	44	100	0
14	0	1	100	100	100	69	51	100	0
13	0	1	100	100	100	69	51	100	0
12	0	1	100	100	100	69	51	100	0
11	1	1	100	100	100	69	51	100	0
8	1	3	100	100	100	73	51	100	0
7	8	5	100	100	100	86	51	100	0
6	8	11	100	100	100	90	51	100	5
5	21	28	100	100	100	96	65	100	42
4	37	61	100	100	100	100	65	100	71
3	86	90	100	100	100	100	83	100	87
2	95	97	100	100	100	100	83	100	92
1	100	100	100	100	100	100	100	100	100

c219.cum WCR-82H MOCNESS tow copepods

4k-3

net#	%fmim	%fnty	%faar	%maar	%fege	%fgmi	%feme	%meme	%fupl
18	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	3	0	0
16	0	0	0	0	67	0	3	0	0
15	0	0	0	61	90	0	3	0	0
14	0	0	0	89	91	0	3	0	0
13	0	0	0	91	93	0	3	0	0
12	0	0	0	98	94	0	3	0	0
11	0	0	0	100	95	0	3	0	0
8	0	0	0	100	100	0	3	0	0
7	5	0	0	100	100	0	3	0	0
6	34	0	0	100	100	70	3	0	0
5	52	0	0	100	100	79	11	0	4
4	75	0	30	100	100	92	58	40	55
3	86	0	83	100	100	100	75	88	84
2	90	25	100	100	100	100	93	100	93
1	100	100	100	100	100	100	100	100	100

net#	%mupl	%fumj	%fchi	%fmed	%mmed	%fmar	%mmar	%finc	%minc
18	0	0	0	0	0	30	38	0	0
17	0	0	0	0	0	51	38	0	0
16	0	0	0	0	0	100	100	0	0
15	0	0	0	2	0	100	100	0	0
14	0	0	0	2	0	100	100	0	0
13	0	0	0	2	0	100	100	0	0
12	0	0	0	3	0	100	100	0	0
11	0	0	0	3	0	100	100	0	0
8	0	0	0	6	0	100	100	0	0
7	0	0	0	10	0	100	100	0	0
6	11	0	0	18	24	100	100	0	0
5	17	0	0	75	84	100	100	0	0
4	52	77	33	100	100	100	100	0	0
3	87	100	81	100	100	100	100	100	80
2	100	100	100	100	100	100	100	100	100
1	100	100	100	100	100	100	100	100	100

c219.cum WCR-82H MOCNESS tow copepods

4k-4

net#	%ceuk	%fpfp	%fslo	%fsam	%fscu	%fsma	%mscp	%fbra	%mbra
18	25	0	0	0	0	0	0	0	0
17	39	0	0	0	0	0	0	0	0
16	44	0	0	0	0	0	0	0	0
15	61	0	0	0	0	0	0	36	47
14	69	51	0	0	0	0	0	44	47
13	74	51	0	0	0	0	0	55	47
12	76	51	0	0	0	0	0	59	51
11	77	100	0	1	0	0	0	62	51
8	82	100	0	1	0	0	0	62	51
7	89	100	0	4	0	0	0	100	51
6	92	100	10	53	29	0	17	100	75
5	94	100	75	95	55	0	27	100	100
4	95	100	87	100	73	63	31	100	100
3	98	100	93	100	100	63	95	100	100
2	98	100	99	100	100	100	100	100	100
1	100	100	100	100	100	100	100	100	100

net#	%fdan	%mdan	%fden	%fvit	%msca	%ftst	%ftmt	%fven	%mven
18	70	100	0	0	0	21	0	0	0
17	100	100	0	0	0	66	0	0	0
16	100	100	0	0	3	100	0	0	0
15	100	100	0	0	5	100	0	0	0
14	100	100	2	17	7	100	0	0	0
13	100	100	2	26	8	100	0	0	0
12	100	100	4	30	8	100	0	0	0
11	100	100	6	38	10	100	0	0	0
8	100	100	6	79	12	100	0	0	0
7	100	100	12	100	14	100	0	0	0
6	100	100	59	100	28	100	0	0	0
5	100	100	79	100	37	100	0	1	2
4	100	100	100	100	81	100	0	5	6
3	100	100	100	100	96	100	34	49	73
2	100	100	100	100	96	100	67	79	96
1	100	100	100	100	100	100	100	100	100

c219.cum WCR-82H MOCNESS tow copepods

4k-5

net#	%fbrv	%mbrv	%mlon	%cmet	%fgra	%mgra	%fpis	%mpis	%cpsm
18	0	0	0	0	0	0	0	0	0
17	0	0	0	0	1	0	0	1	0
16	0	0	0	0	1	0	0	1	0
15	0	0	0	0	1	0	0	1	0
14	0	1	0	0	1	0	0	1	1
13	0	1	0	0	1	0	0	1	1
12	0	1	0	0	1	0	0	1	2
11	0	1	0	0	1	1	1	1	9
8	0	1	0	0	47	23	56	56	64
7	0	1	0	0	72	29	89	75	77
6	0	1	0	0	88	73	89	77	89
5	0	1	0	1	99	99	93	82	94
4	0	1	0	39	100	100	100	100	100
3	51	10	34	91	100	100	100	100	100
2	79	98	67	94	100	100	100	100	100
1	100	100	100	100	100	100	100	100	100

net#	%fabd	%mabd	%fxip	%mxip	%cplg	%fvio	%mvio	%flcl	%mlcl
18	1	0	0	0	0	38	51	0	0
17	2	0	0	0	2	38	78	0	0
16	2	0	0	0	3	100	78	0	0
15	2	0	0	0	6	100	78	0	0
14	2	1	0	1	11	100	78	0	0
13	2	1	0	1	13	100	78	0	0
12	2	1	0	1	14	100	78	2	1
11	2	1	0	1	14	100	78	6	3
8	3	3	1	1	27	100	78	19	4
7	23	6	1	5	65	100	78	63	57
6	62	43	1	5	76	100	78	100	100
5	87	62	85	56	80	100	100	100	100
4	93	83	92	74	90	100	100	100	100
3	96	85	96	82	97	100	100	100	100
2	100	91	99	100	99	100	100	100	100
1	100	100	100	100	100	100	100	100	100

c219.cum WCR-82H MOCNESS tow copepods

4k-6

net#	%flut	%mlut	%fpap	%mpap	%fsp	%mspi	%fvip	%mvip	%fhct
18	1	0	4	5	0	0	0	0	0
17	6	9	14	30	0	0	0	0	0
16	40	56	21	47	0	0	0	0	0
15	59	79	23	54	0	0	0	0	0
14	65	84	25	56	0	0	0	0	0
13	69	86	26	60	2	5	0	0	0
12	73	86	27	63	2	5	0	0	0
11	76	87	28	68	4	9	0	0	0
8	88	94	32	80	4	9	0	0	0
7	93	95	49	87	53	52	11	7	0
6	96	95	77	96	53	100	31	30	24
5	98	96	90	100	53	100	31	30	30
4	98	96	93	100	87	100	50	38	36
3	99	97	97	100	100	100	62	100	54
2	100	100	98	100	100	100	85	100	96
1	100	100	100	100	100	100	100	100	100

net#	%mhet	%chet	%fhal	%mhal	%chal	%forn	%faug	%fhel	%mhel
18	0	0	0	0	0	0	0	0	0
17	0	5	0	0	0	0	0	0	0
16	0	21	50	55	2	4	6	0	0
15	0	25	54	78	11	8	6	0	0
14	0	29	56	89	42	9	8	0	0
13	0	30	57	93	55	9	10	0	0
12	0	32	58	94	59	9	11	0	0
11	0	36	58	94	64	9	11	0	0
8	0	54	60	94	83	14	12	0	0
7	0	69	77	100	86	17	35	0	0
6	10	68	91	100	97	53	37	0	0
5	10	93	97	100	100	91	42	12	15
4	21	93	100	100	100	100	54	61	76
3	64	98	100	100	100	100	86	93	91
2	94	98	100	100	100	100	97	96	94
1	100	100	100	100	100	100	100	100	100

c219.cum WCR-82H MOCNESS tow copepods

4k-7

net#	%chel	%fket	%mket	%fclo	%mclo	%fpak	%mpak	%fpbi	%mpbi
18	0	0	0	0	0	0	88	0	17
17	0	0	0	0	0	29	88	41	65
16	0	0	0	0	0	29	88	90	99
15	0	0	0	0	0	52	88	95	99
14	0	0	0	0	0	52	88	96	99
13	0	0	0	0	0	52	88	96	99
12	0	0	0	0	0	52	88	96	100
11	0	0	0	0	2	52	100	96	100
8	0	0	0	0	2	52	100	96	100
7	2	0	0	0	2	52	100	96	100
6	23	72	40	0	2	52	100	100	100
5	49	100	100	100	100	52	100	100	100
4	64	100	100	100	100	100	100	100	100
3	93	100	100	100	100	100	100	100	100
2	94	100	100	100	100	100	100	100	100
1	100	100	100	100	100	100	100	100	100

net#	%fpon	%fada	%fneg	%fmis	%mmis	%cmis	%oith	%harp	%totl
18	41	0	53	0	3	5	2	21	6
17	55	0	69	2	3	11	5	38	13
16	100	0	95	30	15	19	50	53	25
15	100	0	95	34	15	21	75	63	31
14	100	0	95	35	15	23	79	69	35
13	100	0	97	35	17	24	79	72	37
12	100	26	97	36	17	24	79	74	38
11	100	26	98	36	19	25	81	75	40
8	100	26	98	37	27	29	82	78	48
7	100	26	98	46	27	33	90	79	55
6	100	26	98	52	42	54	97	81	66
5	100	100	98	57	45	65	98	85	75
4	100	100	98	68	51	76	99	94	83
3	100	100	98	77	79	86	100	96	90
2	100	100	98	85	95	94	100	98	96
1	100	100	100	100	100	100	100	100	100

mocness-1-cop220.raw WCR-82H MOCNESS tow copepods

41-1

net#	midd	depi	volf	aliq	ften	mten	cten	fnro	mnro
0	50	100	650	8	31	6	18	1	0
1	50	100	528	8	23	3	13	1	0
2	50	100	493	8	18	8	21	0	0
3	50	100	505	8	30	11	17	0	0
4	50	100	587	8	36	6	28	0	0
5	50	100	644	8	46	4	16	2	0
6	50	100	599	8	16	0	16	0	0
7	50	100	542	8	27	4	37	1	1
8	50	100	583	16	13	4	25	1	0
11	50	100	591	16	30	6	27	1	0
12	50	100	562	16	19	3	24	1	0
13	50	100	697	16	31	2	17	0	0
14	50	100	536	16	23	1	25	0	0
15	50	100	548	16	11	1	13	0	0
16	50	100	561	16	21	1	19	0	0
17	50	100	511	16	17	4	16	0	0
18	50	100	549	16	28	0	26	0	0
19	50	100	584	16	31	3	28	0	0

net#	fngr	cneo	fund	mund	cund	ccal	fmin	mmin	cmin
0	1	11	12	12	89	6	21	10	79
1	2	20	9	10	24	11	35	15	69
2	2	15	8	5	24	20	34	5	53
3	0	26	16	19	14	19	56	20	48
4	1	31	17	8	25	16	57	24	33
5	4	20	13	16	23	23	49	24	37
6	7	37	31	17	34	15	40	10	41
7	3	35	6	6	6	20	57	31	59
8	6	26	15	2	19	12	36	16	47
11	0	13	1	2	11	13	21	14	25
12	1	18	2	1	16	8	26	19	30
13	1	8	3	2	31	4	8	7	44
14	1	5	3	0	20	6	8	4	30
15	3	19	5	9	2	8	12	5	14
16	2	15	6	8	7	15	42	17	21
17	0	12	11	12	11	3	19	7	28
18	0	17	12	6	29	18	19	17	39
19	6	23	19	26	40	24	35	20	60

41-2

net#	fatt	matt	catt	fmon	cmon	fmey	fcor	ccor	facr
0	3	0	11	5	0	0	1	0	48
1	4	2	9	0	0	0	0	0	12
2	6	0	17	0	0	0	0	0	15
3	3	0	22	1	0	0	0	1	8
4	2	0	25	0	0	0	0	0	6
5	0	0	24	0	2	0	0	1	7
6	4	0	25	0	0	0	0	1	7
7	3	1	44	0	0	0	0	2	9
8	1	0	26	0	0	1	0	0	9
11	2	0	23	0	2	1	0	0	9
12	3	0	19	0	0	1	0	1	4
13	2	0	9	2	0	0	0	0	5
14	2	1	4	0	5	1	0	0	16
15	3	0	21	0	0	0	0	2	3
16	2	2	14	1	7	0	0	0	8
17	0	0	6	2	1	0	0	0	5
18	0	1	9	0	1	2	0	0	18
19	2	0	12	0	1	7	0	1	27

net#	faca	fprv	farc	marc	carc	furc	faar	maar	fege
0	0	0	58	1	17	1	0	3	5
1	2	0	47	6	12	1	0	1	5
2	2	1	41	0	12	0	0	1	5
3	3	0	31	2	9	0	0	0	10
4	3	1	43	4	7	1	0	3	5
5	0	0	46	2	14	1	0	0	11
6	2	0	34	0	1	1	0	1	4
7	1	0	57	2	5	1	0	2	3
8	0	2	65	1	17	3	0	1	5
11	0	0	28	1	3	1	0	4	3
12	0	0	48	3	4	0	0	1	4
13	1	0	16	0	6	0	0	8	6
14	0	1	48	2	13	0	0	3	3
15	1	0	13	2	1	0	0	2	0
16	0	2	20	0	1	0	1	0	10
17	0	0	23	0	0	0	0	0	3
18	0	0	21	0	4	1	1	0	2
19	0	8	72	5	24	8	0	0	3



4l-3

net#	cege	feme	meme	cuch	fchi	mchi	fupl	mupl	cupl
0	13	0	0	5	0	0	0	0	0
1	4	0	0	6	0	0	0	0	0
2	7	0	0	6	0	0	0	0	0
3	3	0	0	9	0	0	0	0	0
4	6	0	0	14	0	0	0	0	0
5	2	0	0	13	0	0	0	0	0
6	3	0	0	9	0	0	0	0	0
7	3	0	0	13	0	0	0	0	0
8	4	0	0	10	0	0	0	0	0
11	1	0	0	12	0	0	0	0	0
12	6	0	0	16	0	0	1	0	0
13	3	0	0	17	0	0	2	0	3
14	2	0	0	14	0	0	1	0	5
15	5	0	0	12	0	0	0	0	7
16	13	1	0	24	0	0	3	2	20
17	5	2	0	10	0	0	2	3	23
18	5	0	0	18	0	0	8	1	20
19	11	2	0	40	0	0	5	1	20

net#	fmar	mmar	feuk	meuk	ceuk	fpsp	cpsp	flop	clop
0	3	1	0	0	129	0	3	1	0
1	0	2	6	1	157	0	1	3	0
2	2	1	0	0	117	0	2	1	0
3	8	3	0	0	148	0	0	2	0
4	11	9	1	0	152	1	4	2	0
5	10	3	0	0	164	0	0	3	0
6	15	2	0	0	113	2	3	2	0
7	15	8	0	0	150	0	2	2	0
8	16	9	0	0	86	0	0	4	0
11	6	0	0	0	66	0	0	2	0
12	5	0	0	0	80	0	1	2	0
13	2	1	0	2	140	0	1	2	0
14	5	0	0	0	91	0	2	1	0
15	5	0	1	0	63	0	5	6	0
16	10	1	1	0	90	0	3	3	4
17	2	1	0	0	91	0	4	1	1
18	7	2	1	0	93	1	1	1	3
19	9	3	4	0	144	1	1	2	2

41-4

net#	fsam	csam	fslo	fbra	mbra	cbra	fdan	mdan	cdan
0	0	1	0	1	3	7	6	9	39
1	0	1	0	3	1	7	5	2	33
2	0	1	0	4	1	7	2	0	31
3	0	2	1	3	1	7	0	3	41
4	0	3	0	4	0	8	2	1	35
5	0	1	0	5	0	8	1	2	26
6	0	2	0	2	0	4	4	1	6
7	0	4	0	3	0	2	2	1	12
8	0	0	0	0	1	3	0	3	12
11	0	0	0	3	2	4	0	0	3
12	0	1	0	3	2	8	0	1	7
13	2	2	0	5	2	2	2	0	19
14	2	3	1	4	0	5	0	0	10
15	1	2	0	2	1	6	0	0	8
16	4	3	2	4	2	6	1	0	0
17	8	7	0	3	1	2	1	3	10
18	8	14	3	5	0	8	0	2	12
19	12	13	1	1	0	7	4	4	25

net#	flam	clam	fvit	fden	mden	cden	ftst	mtst	ctst
0	5	1	0	0	0	1	1	0	9
1	3	6	0	0	0	0	1	1	9
2	2	4	0	0	0	1	0	1	6
3	11	9	0	0	3	0	1	0	2
4	9	5	0	0	4	1	3	0	10
5	12	1	0	0	2	0	0	0	3
6	4	0	0	2	0	0	0	1	4
7	15	7	0	0	3	2	1	2	2
8	8	1	0	0	0	1	1	1	2
11	4	6	0	0	1	3	3	0	2
12	12	3	0	1	1	0	0	0	1
13	5	2	0	0	4	0	3	0	3
14	3	2	0	2	2	1	1	0	5
15	2	3	0	1	2	0	0	0	5
16	8	1	0	5	2	4	1	0	2
17	6	3	0	2	1	2	0	0	3
18	1	0	0	11	2	6	0	2	1
19	6	3	0	9	2	4	1	2	5

41-5

net#	fttu	mttu	fven	mven	fbrv	mbrv	mlon	fbor	fgra
0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	1	0	0	0	0	0	0	0	0
4	0	1	0	0	0	0	0	0	1
5	0	0	0	0	0	0	0	0	2
6	0	0	0	0	0	0	0	0	0
7	1	0	0	0	0	0	0	0	2
8	1	0	0	0	0	0	0	0	6
11	0	0	0	0	0	0	0	0	9
12	1	0	0	0	0	0	0	0	19
13	0	0	0	0	0	0	0	0	27
14	1	0	0	0	0	0	0	0	30
15	0	0	0	0	0	0	0	0	12
16	0	0	0	0	0	0	0	0	29
17	1	0	0	0	0	0	0	0	32
18	0	0	0	0	0	0	0	0	38
19	2	0	0	0	0	0	0	0	55

net#	mpsm	fpis	mpis	cpsm	fabd	mabd	fxip	mxip	cplg
0	0	0	0	0	0	0	0	0	16
1	0	0	0	0	0	0	0	0	53
2	0	0	0	0	0	0	0	0	23
3	0	0	0	0	0	0	0	0	19
4	0	1	0	0	0	0	0	0	24
5	0	0	0	1	0	0	0	0	30
6	0	0	0	0	0	0	0	0	13
7	1	0	0	1	0	0	0	0	0
8	1	5	0	12	0	0	0	0	15
11	0	0	0	13	0	0	0	0	17
12	8	2	1	23	8	1	0	0	6
13	13	9	6	34	5	0	0	0	27
14	10	9	6	29	8	0	0	0	27
15	5	12	6	29	12	0	0	0	31
16	15	8	6	30	8	4	1	0	33
17	14	11	3	35	13	1	2	1	41
18	17	9	4	56	9	3	5	1	33
19	18	10	11	79	23	10	3	2	62

4l-6

net#	fvio	mvio	cvio	ftyp	mtyp	flut	mlut	clut	fpap
0	1	0	4	0	0	87	36	1	6
1	4	3	2	0	0	100	67	0	18
2	1	0	1	0	0	78	60	1	4
3	0	0	4	0	0	119	81	0	21
4	2	0	0	0	0	81	65	1	23
5	1	0	2	0	0	78	61	1	19
6	0	0	0	0	0	35	27	0	11
7	2	1	1	0	0	101	76	3	12
8	0	1	0	0	0	78	44	1	7
11	0	0	0	0	0	78	58	0	6
12	1	0	0	0	0	82	66	2	4
13	0	0	2	0	0	44	54	0	5
14	1	1	2	0	0	57	31	1	6
15	0	2	0	0	0	56	41	1	5
16	0	0	1	0	0	49	52	1	5
17	0	0	2	0	0	59	41	1	3
18	0	2	3	0	0	82	40	2	0
19	2	1	3	0	0	123	66	5	9

net#	mpap	cpap	fspi	mspi	cspi	fhal	mhal	chal	augs
0	9	8	0	0	0	110	3	12	0
1	13	11	0	0	0	74	3	19	3
2	17	19	0	0	0	63	4	21	8
3	16	47	0	0	0	177	0	15	5
4	18	35	0	0	0	115	7	17	6
5	16	35	0	0	0	134	2	22	9
6	6	11	0	0	0	67	1	12	6
7	6	25	0	0	2	54	0	20	3
8	6	8	0	0	0	31	3	20	6
11	4	10	0	0	0	43	1	12	4
12	5	13	0	0	0	46	2	10	9
13	8	5	0	0	4	63	0	9	2
14	5	8	0	0	0	30	1	7	4
15	6	11	0	0	0	29	0	6	0
16	3	6	0	0	5	32	0	11	6
17	3	7	0	0	2	21	1	8	1
18	5	10	0	0	1	15	0	15	2
19	5	21	0	0	1	32	4	23	6

4l-7

net#	fhel	mhel	fcurl	mcurl	feth	meth	fpak	mpak	fpbi
0	0	0	0	0	0	0	2	1	9
1	0	0	0	0	0	0	2	2	27
2	0	0	0	0	0	0	0	1	19
3	0	0	0	0	0	0	0	1	18
4	0	0	0	0	1	0	0	1	8
5	0	0	0	0	2	0	3	0	19
6	0	0	0	0	1	0	0	0	24
7	0	0	0	0	0	0	0	0	5
8	0	0	0	0	0	0	2	2	16
11	0	0	0	0	0	0	0	0	9
12	0	0	0	0	0	0	1	1	14
13	0	0	0	0	0	0	1	0	18
14	0	0	0	0	0	0	0	0	9
15	0	0	0	0	0	0	0	0	9
16	0	0	0	0	0	0	0	0	16
17	0	0	0	1	0	0	0	0	6
18	0	0	0	0	0	0	2	0	16
19	0	0	0	1	0	1	1	3	14

net#	mpbi	fsim	msim	ccan	fpon	mpon	cpon	fneg	mneg
0	12	0	0	54	1	0	8	2	0
1	30	0	1	80	2	1	9	0	0
2	17	0	0	60	1	0	5	0	0
3	12	0	1	60	4	0	8	0	0
4	3	1	0	43	1	0	7	0	0
5	12	0	0	52	2	2	9	1	0
6	25	3	1	41	0	2	7	1	0
7	20	0	0	50	2	1	2	2	0
8	8	1	0	44	1	0	5	1	0
11	16	1	0	27	0	0	1	0	0
12	12	0	0	42	1	0	2	1	0
13	15	0	1	51	2	0	2	2	0
14	15	0	3	28	1	0	3	2	1
15	10	0	1	21	0	1	2	0	0
16	12	0	0	30	0	0	5	1	0
17	7	0	0	20	1	0	4	2	0
18	7	0	0	34	0	0	4	5	0
19	11	0	2	66	0	0	4	36	0

mocness-1-cop220.raw WCR-82H MOCNESS tow copepods

4L-8

net#	cneg	misc	oith	cycl	totl
0	0	0	13	477	1560
1	0	4	11	336	1464
2	0	2	26	253	1193
3	0	1	30	251	1515
4	0	2	21	261	1413
5	0	1	24	281	1461
6	0	0	9	181	1007
7	0	0	32	262	1362
8	0	1	55	204	1103
11	0	1	30	120	819
12	0	0	22	177	989
13	0	1	8	293	1149
14	0	4	33	186	947
15	0	1	23	125	740
16	0	3	43	162	1039
17	0	2	31	149	905
18	0	6	64	211	1210
19	2	20	171	376	2103

4m-1

net#	midd	dep	volf	aliq	#ften	#mten	#cten	#fnro	#mnro
0	50	100	650	8	381	74	221	12	0
1	50	100	528	8	348	45	197	15	0
2	50	100	493	8	292	130	341	0	0
3	50	100	505	8	475	174	269	0	0
4	50	100	587	8	490	82	381	0	0
5	50	100	644	8	572	50	199	25	0
6	50	100	599	8	214	0	214	0	0
7	50	100	542	8	399	59	547	15	15
8	50	100	583	16	357	110	686	27	0
11	50	100	591	16	813	163	731	27	0
12	50	100	562	16	541	85	683	28	0
13	50	100	697	16	712	46	391	0	0
14	50	100	536	16	687	30	746	0	0
15	50	100	548	16	322	29	380	0	0
16	50	100	561	16	599	29	542	0	0
17	50	100	511	16	532	125	501	0	0
18	50	100	549	16	816	0	758	0	0
19	50	100	584	16	849	82	767	0	0

net#	#fngr	#cneo	#fund	#mund	#cund	#ccal	#fmin	#mmin	#cmin
0	12	135	148	148	1095	74	258	123	972
1	30	303	136	151	363	167	530	227	1045
2	32	243	130	81	389	324	551	81	860
3	0	412	253	301	222	301	887	317	760
4	14	422	232	109	341	218	776	327	450
5	50	249	162	199	286	286	609	298	460
6	94	495	414	227	454	201	535	134	548
7	44	517	89	89	89	295	842	458	872
8	165	714	412	55	521	329	988	439	1290
11	0	352	27	54	298	352	569	379	677
12	28	512	57	28	455	228	740	541	854
13	23	184	69	46	712	92	184	161	1011
14	30	149	90	0	597	179	239	119	896
15	88	555	146	263	58	234	351	146	409
16	57	428	171	228	200	428	1198	485	599
17	0	375	344	375	344	94	594	219	876
18	0	495	350	175	845	525	554	495	1136
19	164	630	520	712	1095	657	958	548	1643

4m.2

net#	#fatt	#matt	#catt	#fmon	#cmon	#fmey	#fcor	#ccor	#facr
0	37	0	135	62	0	0	12	0	591
1	61	30	136	0	0	0	0	0	182
2	97	0	276	0	0	0	0	0	243
3	48	0	348	16	0	0	0	16	127
4	27	0	341	0	0	0	0	0	82
5	0	0	298	0	25	0	0	12	87
6	54	0	334	0	0	0	0	13	94
7	44	15	650	0	0	0	0	30	133
8	27	0	714	0	0	27	0	0	247
11	54	0	623	0	54	27	0	0	244
12	85	0	541	0	0	28	0	28	114
13	46	0	207	46	0	0	0	0	115
14	60	30	119	0	149	30	0	0	478
15	88	0	614	0	0	0	0	58	88
16	57	57	399	29	200	0	0	0	228
17	0	0	188	63	31	0	0	0	156
18	0	29	262	0	29	58	0	0	525
19	55	0	329	0	27	192	0	27	739

net#	#faca	#fprv	#farc	#marc	#carc	#furc	#faar	#maar	#fege
0	0	0	714	12	209	12	0	37	62
1	30	0	712	91	182	15	0	15	76
2	32	16	665	0	195	0	0	16	81
3	48	0	491	32	143	0	0	0	158
4	41	14	586	55	95	14	0	41	68
5	0	0	572	25	174	12	0	0	137
6	27	0	454	0	13	13	0	13	54
7	15	0	842	30	74	15	0	30	44
8	0	55	1784	27	467	82	0	27	137
11	0	0	758	27	81	27	0	108	81
12	0	0	1366	85	114	0	0	28	114
13	23	0	368	0	138	0	0	184	138
14	0	30	1433	60	388	0	0	90	90
15	29	0	380	58	29	0	0	58	0
16	0	57	570	0	29	0	29	0	285
17	0	0	720	0	0	0	0	0	94
18	0	0	612	0	117	29	29	0	58
19	0	219	1972	137	657	219	0	0	82



4m-3

net#	#cege	#feme	#meme	#cuch	#fchi	#mchi	#fupl	#mupl	#cupl
0	160	0	0	62	0	0	0	0	0
1	61	0	0	91	0	0	0	0	0
2	114	0	0	97	0	0	0	0	0
3	48	0	0	143	0	0	0	0	0
4	82	0	0	191	0	0	0	0	0
5	25	0	0	162	0	0	0	0	0
6	40	0	0	120	0	0	0	0	0
7	44	0	0	192	0	0	0	0	0
8	110	0	0	274	0	0	0	0	0
11	27	0	0	325	0	0	0	0	0
12	171	0	0	455	0	0	28	0	0
13	69	0	0	391	0	0	46	0	69
14	60	0	0	418	0	0	30	0	149
15	146	0	0	351	0	0	0	0	205
16	371	29	0	684	0	0	86	57	570
17	156	63	0	313	0	0	63	94	720
18	146	0	0	525	0	0	233	29	583
19	301	55	0	1095	0	0	137	27	548

net#	#fmar	#mmar	#feuk	#meuk	#ceuk	#fpsp	#cpsp	#flop	#clop
0	37	12	0	0	1587	0	37	12	0
1	0	30	91	15	2377	0	15	45	0
2	32	16	0	0	1897	0	32	16	0
3	127	48	0	0	2344	0	0	32	0
4	150	123	14	0	2071	14	55	27	0
5	124	37	0	0	2039	0	0	37	0
6	201	27	0	0	1510	27	40	27	0
7	222	118	0	0	2216	0	30	30	0
8	439	247	0	0	2360	0	0	110	0
11	163	0	0	0	1787	0	0	54	0
12	142	0	0	0	2276	0	28	57	0
13	46	23	0	46	3216	0	23	46	0
14	149	0	0	0	2716	0	60	30	0
15	146	0	29	0	1841	0	146	175	0
16	285	29	29	0	2566	0	86	86	114
17	63	31	0	0	2847	0	125	31	31
18	204	58	29	0	2710	29	29	29	87
19	246	82	110	0	3943	27	27	55	55

4m-4

net#	#fsam	#csam	#fslo	#fbra	#mbra	#cbra	#fdan	#mdan	#cdan
0	0	12	0	12	37	86	74	111	480
1	0	15	0	45	15	106	76	30	500
2	0	16	0	65	16	114	32	0	503
3	0	32	16	48	16	111	0	48	649
4	0	41	0	55	0	109	27	14	477
5	0	12	0	62	0	100	12	25	323
6	0	27	0	27	0	54	54	13	80
7	0	59	0	44	0	30	30	15	177
8	0	0	0	0	27	82	0	82	329
11	0	0	0	81	54	108	0	0	81
12	0	28	0	85	57	228	0	28	199
13	46	46	0	115	46	46	46	0	437
14	60	90	30	119	0	149	0	0	299
15	29	58	0	58	29	175	0	0	234
16	114	86	57	114	57	171	29	0	0
17	250	219	0	94	31	63	31	94	313
18	233	408	87	146	0	233	0	58	350
19	329	356	27	27	0	192	110	110	685

net#	#flam	#clam	#fvit	#fden	#mden	#cden	#ftst	#mtst	#ctst
0	62	12	0	0	0	12	12	0	111
1	45	91	0	0	0	0	15	15	136
2	32	65	0	0	0	16	0	16	97
3	174	143	0	0	48	0	16	0	32
4	123	68	0	0	55	14	41	0	136
5	149	12	0	0	25	0	0	0	37
6	54	0	0	27	0	0	0	13	54
7	222	103	0	0	44	30	15	30	30
8	220	27	0	0	0	27	27	27	55
11	108	163	0	0	27	81	81	0	54
12	341	85	0	28	28	0	0	0	28
13	115	46	0	0	92	0	69	0	69
14	90	60	0	60	60	30	30	0	149
15	58	88	0	29	58	0	0	0	146
16	228	29	0	143	57	114	29	0	57
17	188	94	0	63	31	63	0	0	94
18	29	0	0	321	58	175	0	58	29
19	164	82	0	246	55	110	27	55	137

4m-5

net#	#fttu	#mttu	#fven	#mven	#fbrv	#mbrv	#mlon	#fbor	#fgra
0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	16	0	0	0	0	0	0	0	0
4	0	14	0	0	0	0	0	0	14
5	0	0	0	0	0	0	0	0	25
6	0	0	0	0	0	0	0	0	0
7	15	0	0	0	0	0	0	0	30
8	27	0	0	0	0	0	0	0	165
11	0	0	0	0	0	0	0	0	244
12	28	0	0	0	0	0	0	0	541
13	0	0	0	0	0	0	0	0	620
14	30	0	0	0	0	0	0	0	896
15	0	0	0	0	0	0	0	0	351
16	0	0	0	0	0	0	0	0	827
17	31	0	0	0	0	0	0	0	1001
18	0	0	0	0	0	0	0	0	1107
19	55	0	0	0	0	0	0	0	1506

net#	#mpsm	#fpis	#mpis	#cpsm	#fabd	#mabd	#fxip	#mxip	#cplg
0	0	0	0	0	0	0	0	0	197
1	0	0	0	0	0	0	0	0	803
2	0	0	0	0	0	0	0	0	373
3	0	0	0	0	0	0	0	0	301
4	0	14	0	0	0	0	0	0	327
5	0	0	0	12	0	0	0	0	373
6	0	0	0	0	0	0	0	0	174
7	15	0	0	15	0	0	0	0	0
8	27	137	0	329	0	0	0	0	412
11	0	0	0	352	0	0	0	0	460
12	228	57	28	654	228	28	0	0	171
13	299	207	138	781	115	0	0	0	620
14	299	269	179	866	239	0	0	0	806
15	146	351	175	848	351	0	0	0	906
16	428	228	171	856	228	114	29	0	941
17	438	344	94	1095	407	31	63	31	1283
18	495	262	117	1632	262	87	146	29	962
19	493	274	301	2163	630	274	82	55	1698

4m-6

net#	#fvio	#mvio	#cvio	#ftyp	#mtyp	#flut	#mlut	#clut	#fpap
0	12	0	49	0	0	1070	443	12	74
1	61	45	30	0	0	1514	1015	0	273
2	16	0	16	0	0	1265	973	16	65
3	0	0	63	0	0	1885	1283	0	333
4	27	0	0	0	0	1103	885	14	313
5	12	0	25	0	0	970	758	12	236
6	0	0	0	0	0	468	361	0	147
7	30	15	15	0	0	1492	1123	44	177
8	0	27	0	0	0	2141	1208	27	192
11	0	0	0	0	0	2112	1571	0	163
12	28	0	0	0	0	2333	1878	57	114
13	0	0	46	0	0	1011	1241	0	115
14	30	30	60	0	0	1702	925	30	179
15	0	58	0	0	0	1637	1198	29	146
16	0	0	29	0	0	1397	1483	29	143
17	0	0	63	0	0	1846	1283	31	94
18	0	58	87	0	0	2389	1166	58	0
19	55	27	82	0	0	3368	1807	137	246

net#	#mpap	#cpap	#fsp	#mspi	#cspi	#fhal	#mhal	#chal	#aug
0	111	98	0	0	0	1353	37	148	0
1	197	167	0	0	0	1121	45	288	45
2	276	308	0	0	0	1022	65	341	130
3	253	744	0	0	0	2803	0	238	79
4	245	477	0	0	0	1567	95	232	82
5	199	435	0	0	0	1666	25	274	112
6	80	147	0	0	0	895	13	160	80
7	89	369	0	0	30	798	0	295	44
8	165	220	0	0	0	851	82	549	165
11	108	271	0	0	0	1165	27	325	108
12	142	370	0	0	0	1309	57	285	256
13	184	115	0	0	92	1447	0	207	46
14	149	239	0	0	0	896	30	209	119
15	175	322	0	0	0	848	0	175	0
16	86	171	0	0	143	913	0	314	171
17	94	219	0	0	63	657	31	250	31
18	146	291	0	0	29	437	0	437	58
19	137	575	0	0	27	876	110	630	164

4m-7

net#	#fhel	#mhel	#fcur	#mcur	#feth	#meth	#fpak	#mpak	#fpbi
0	0	0	0	0	0	0	25	12	111
1	0	0	0	0	0	0	30	30	409
2	0	0	0	0	0	0	0	16	308
3	0	0	0	0	0	0	0	16	285
4	0	0	0	0	14	0	0	14	109
5	0	0	0	0	25	0	37	0	236
6	0	0	0	0	13	0	0	0	321
7	0	0	0	0	0	0	0	0	74
8	0	0	0	0	0	0	55	55	439
11	0	0	0	0	0	0	0	0	244
12	0	0	0	0	0	0	28	28	398
13	0	0	0	0	0	0	23	0	414
14	0	0	0	0	0	0	0	0	269
15	0	0	0	0	0	0	0	0	263
16	0	0	0	0	0	0	0	0	456
17	0	0	0	31	0	0	0	0	188
18	0	0	0	0	0	0	58	0	466
19	0	0	0	27	0	27	27	82	383

net#	#mpbi	#fsim	#msim	#ccan	#fpon	#mpon	#cpon	#fneg	#mneg
0	148	0	0	664	12	0	98	25	0
1	454	0	15	1211	30	15	136	0	0
2	276	0	0	973	16	0	81	0	0
3	190	0	16	950	63	0	127	0	0
4	41	14	0	586	14	0	95	0	0
5	149	0	0	647	25	25	112	12	0
6	334	40	13	548	0	27	94	13	0
7	295	0	0	739	30	15	30	30	0
8	220	27	0	1208	27	0	137	27	0
11	433	27	0	731	0	0	27	0	0
12	341	0	0	1195	28	0	57	28	0
13	345	0	23	1172	46	0	46	46	0
14	448	0	90	836	30	0	90	30	30
15	292	0	29	614	0	29	58	0	0
16	342	0	0	856	0	0	143	29	0
17	219	0	0	626	31	0	125	63	0
18	204	0	0	991	0	0	117	146	0
19	301	0	55	1807	0	0	110	986	0

mocness-1-cop220.std WCR-82H MOCNESS tow copepods

4m8

net#	#cneg	#misc	%oith	#cycl	#totl
0	0	0	160	5868	19191
1	0	61	167	5088	22169
2	0	32	422	4103	19347
3	0	16	475	3976	23995
4	0	27	286	3555	19247
5	0	12	298	3493	18163
6	0	0	120	2419	13458
7	0	0	473	3870	20118
8	0	27	1509	5599	30271
11	0	27	813	3250	22180
12	0	0	626	5036	28137
13	0	23	184	6731	26395
14	0	119	985	5552	28269
15	0	29	672	3653	21626
16	0	86	1226	4620	29628
17	0	63	970	4662	28314
18	0	175	1865	6148	35258
19	55	548	4683	10296	57587

4n-1

net#	midd	depi	volf	aliq	iften	imten	icten	ifnro	imnro
0	50	100	650	8	38	7	22	1	0
1	50	100	528	8	35	5	20	2	0
2	50	100	493	8	29	13	34	0	0
3	50	100	505	8	48	17	27	0	0
4	50	100	587	8	49	8	38	0	0
5	50	100	644	8	57	5	20	2	0
6	50	100	599	8	21	0	21	0	0
7	50	100	542	8	40	6	55	1	1
8	50	100	583	16	36	11	69	3	0
11	50	100	591	16	81	16	73	3	0
12	50	100	562	16	54	9	68	3	0
13	50	100	697	16	71	5	39	0	0
14	50	100	536	16	69	3	75	0	0
15	50	100	548	16	32	3	38	0	0
16	50	100	561	16	60	3	54	0	0
17	50	100	511	16	53	13	50	0	0
18	50	100	549	16	82	0	76	0	0
19	50	100	584	16	85	8	77	0	0

net#	ifngr	icneo	ifund	imund	icund	iccal	ifmin	immin	icmin
0	1	14	15	15	109	7	26	12	97
1	3	30	14	15	36	17	53	23	104
2	3	24	13	8	39	32	55	8	86
3	0	41	25	30	22	30	89	32	76
4	1	42	23	11	34	22	78	33	45
5	5	25	16	20	29	29	61	30	46
6	9	49	41	23	45	20	53	13	55
7	4	52	9	9	9	30	84	46	87
8	16	71	41	5	52	33	99	44	129
11	0	35	3	5	30	35	57	38	68
12	3	51	6	3	46	23	74	54	85
13	2	18	7	5	71	9	18	16	101
14	3	15	9	0	60	18	24	12	90
15	9	56	15	26	6	23	35	15	41
16	6	43	17	23	20	43	120	48	60
17	0	38	34	38	34	9	59	22	88
18	0	50	35	17	85	52	55	50	114
19	16	63	52	71	110	66	96	55	164

4m-2

net#	ifatt	imatt	icatt	ifmon	icmon	ifmey	ifcor	iccor	ifacr
0	4	0	14	6	0	0	1	0	59
1	6	3	14	0	0	0	0	0	18
2	10	0	28	0	0	0	0	0	24
3	5	0	35	2	0	0	0	2	13
4	3	0	34	0	0	0	0	0	8
5	0	0	30	0	2	0	0	1	9
6	5	0	33	0	0	0	0	1	9
7	4	1	65	0	0	0	0	3	13
8	3	0	71	0	0	3	0	0	25
11	5	0	62	0	5	3	0	0	24
12	9	0	54	0	0	3	0	3	11
13	5	0	21	5	0	0	0	0	11
14	6	3	12	0	15	3	0	0	48
15	9	0	61	0	0	0	0	6	9
16	6	6	40	3	20	0	0	0	23
17	0	0	19	6	3	0	0	0	16
18	0	3	26	0	3	6	0	0	52
19	5	0	33	0	3	19	0	3	74

net#	ifaca	ifprv	ifarc	imarc	icarc	ifurc	ifaar	imaar	ifege
0	0	0	71	1	21	1	0	4	6
1	3	0	71	9	18	2	0	2	8
2	3	2	66	0	19	0	0	2	8
3	5	0	49	3	14	0	0	0	16
4	4	1	59	5	10	1	0	4	7
5	0	0	57	2	17	1	0	0	14
6	3	0	45	0	1	1	0	1	5
7	1	0	84	3	7	1	0	3	4
8	0	5	178	3	47	8	0	3	14
11	0	0	76	3	8	3	0	11	8
12	0	0	137	9	11	0	0	3	11
13	2	0	37	0	14	0	0	18	14
14	0	3	143	6	39	0	0	9	9
15	3	0	38	6	3	0	0	6	0
16	0	6	57	0	3	0	3	0	29
17	0	0	72	0	0	0	0	0	9
18	0	0	61	0	12	3	3	0	6
19	0	22	197	14	66	22	0	0	8



mocness-1-cop220.int WCR-82H MOCNESS tow copepods

4n-3

net#	icege	ifeme	imeme	icuch	ifchi	imchi	ifupl	imupl	icupl
0	16	0	0	6	0	0	0	0	0
1	6	0	0	9	0	0	0	0	0
2	11	0	0	10	0	0	0	0	0
3	5	0	0	14	0	0	0	0	0
4	8	0	0	19	0	0	0	0	0
5	2	0	0	16	0	0	0	0	0
6	4	0	0	12	0	0	0	0	0
7	4	0	0	19	0	0	0	0	0
8	11	0	0	27	0	0	0	0	0
11	3	0	0	33	0	0	0	0	0
12	17	0	0	46	0	0	3	0	0
13	7	0	0	39	0	0	5	0	7
14	6	0	0	42	0	0	3	0	15
15	15	0	0	35	0	0	0	0	20
16	37	3	0	68	0	0	9	6	57
17	16	6	0	31	0	0	6	9	72
18	15	0	0	52	0	0	23	3	58
19	30	5	0	110	0	0	14	3	55

net#	ifmar	immar	ifeuk	imeuk	iceuk	ifpsp	icpsp	iflop	iclop
0	4	1	0	0	159	0	4	1	0
1	0	3	9	2	238	0	2	5	0
2	3	2	0	0	190	0	3	2	0
3	13	5	0	0	234	0	0	3	0
4	15	12	1	0	207	1	5	3	0
5	12	4	0	0	204	0	0	4	0
6	20	3	0	0	151	3	4	3	0
7	22	12	0	0	222	0	3	3	0
8	44	25	0	0	236	0	0	11	0
11	16	0	0	0	179	0	0	5	0
12	14	0	0	0	228	0	3	6	0
13	5	2	0	5	322	0	2	5	0
14	15	0	0	0	272	0	6	3	0
15	15	0	3	0	184	0	15	18	0
16	29	3	3	0	257	0	9	9	11
17	6	3	0	0	285	0	13	3	3
18	20	6	3	0	271	3	3	3	9
19	25	8	11	0	394	3	3	5	5

4n-4

net#	ifsam	icsam	ifslo	ifbra	imbra	icbra	ifdan	imdan	icdan
0	0	1	0	1	4	9	7	11	48
1	0	2	0	5	2	11	8	3	50
2	0	2	0	6	2	11	3	0	50
3	0	3	2	5	2	11	0	5	65
4	0	4	0	5	0	11	3	1	48
5	0	1	0	6	0	10	1	2	32
6	0	3	0	3	0	5	5	1	8
7	0	6	0	4	0	3	3	1	18
8	0	0	0	0	3	8	0	8	33
11	0	0	0	8	5	11	0	0	8
12	0	3	0	9	6	23	0	3	20
13	5	5	0	11	5	5	5	0	44
14	6	9	3	12	0	15	0	0	30
15	3	6	0	6	3	18	0	0	23
16	11	9	6	11	6	17	3	0	0
17	25	22	0	9	3	6	3	9	31
18	23	41	9	15	0	23	0	6	35
19	33	36	3	3	0	19	11	11	68

net#	iflam	iclam	ifvit	ifden	imden	icden	iftst	imtst	ictst
0	6	1	0	0	0	1	1	0	11
1	5	9	0	0	0	0	2	2	14
2	3	6	0	0	0	2	0	2	10
3	17	14	0	0	5	0	2	0	3
4	12	7	0	0	5	1	4	0	14
5	15	1	0	0	2	0	0	0	4
6	5	0	0	3	0	0	0	1	5
7	22	10	0	0	4	3	1	3	3
8	22	3	0	0	0	3	3	3	5
11	11	16	0	0	3	8	8	0	5
12	34	9	0	3	3	0	0	0	3
13	11	5	0	0	9	0	7	0	7
14	9	6	0	6	6	3	3	0	15
15	6	9	0	3	6	0	0	0	15
16	23	3	0	14	6	11	3	0	6
17	19	9	0	6	3	6	0	0	9
18	3	0	0	32	6	17	0	6	3
19	16	8	0	25	5	11	3	5	14

4n-5

net#	ifttu	imttu	ifven	imven	ifbrv	imbrv	imlon	ifbor	ifgra
0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	2	0	0	0	0	0	0	0	0
4	0	1	0	0	0	0	0	0	1
5	0	0	0	0	0	0	0	0	2
6	0	0	0	0	0	0	0	0	0
7	1	0	0	0	0	0	0	0	3
8	3	0	0	0	0	0	0	0	16
11	0	0	0	0	0	0	0	0	24
12	3	0	0	0	0	0	0	0	54
13	0	0	0	0	0	0	0	0	62
14	3	0	0	0	0	0	0	0	90
15	0	0	0	0	0	0	0	0	35
16	0	0	0	0	0	0	0	0	83
17	3	0	0	0	0	0	0	0	100
18	0	0	0	0	0	0	0	0	111
19	5	0	0	0	0	0	0	0	151

net#	impsm	ifpis	impis	icpsm	ifabd	imabd	ifxip	imxip	icplg
0	0	0	0	0	0	0	0	0	20
1	0	0	0	0	0	0	0	0	80
2	0	0	0	0	0	0	0	0	37
3	0	0	0	0	0	0	0	0	30
4	0	1	0	0	0	0	0	0	33
5	0	0	0	1	0	0	0	0	37
6	0	0	0	0	0	0	0	0	17
7	1	0	0	1	0	0	0	0	0
8	3	14	0	33	0	0	0	0	41
11	0	0	0	35	0	0	0	0	46
12	23	6	3	65	23	3	0	0	17
13	30	21	14	78	11	0	0	0	62
14	30	27	18	87	24	0	0	0	81
15	15	35	18	85	35	0	0	0	91
16	43	23	17	86	23	11	3	0	94
17	44	34	9	110	41	3	6	3	128
18	50	26	12	163	26	9	15	3	96
19	49	27	30	216	63	27	8	5	170

4n-6

net#	ifvio	imvio	icvio	iftyp	imtyp	iflut	imlut	iclut	ifpap
0	1	0	5	0	0	107	44	1	7
1	6	5	3	0	0	151	101	0	27
2	2	0	2	0	0	127	97	2	6
3	0	0	6	0	0	188	128	0	33
4	3	0	0	0	0	110	89	1	31
5	1	0	2	0	0	97	76	1	24
6	0	0	0	0	0	47	36	0	15
7	3	1	1	0	0	149	112	4	18
8	0	3	0	0	0	214	121	3	19
11	0	0	0	0	0	211	157	0	16
12	3	0	0	0	0	233	188	6	11
13	0	0	5	0	0	101	124	0	11
14	3	3	6	0	0	170	93	3	18
15	0	6	0	0	0	164	120	3	15
16	0	0	3	0	0	140	148	3	14
17	0	0	6	0	0	185	128	3	9
18	0	6	9	0	0	239	117	6	0
19	5	3	8	0	0	337	181	14	25

net#	impap	icpap	ifspi	imspi	icspi	ifhal	imhal	ichal	iaugs
0	11	10	0	0	0	135	4	15	0
1	20	17	0	0	0	112	5	29	5
2	28	31	0	0	0	102	6	34	13
3	25	74	0	0	0	280	0	24	8
4	25	48	0	0	0	157	10	23	8
5	20	44	0	0	0	167	2	27	11
6	8	15	0	0	0	90	1	16	8
7	9	37	0	0	3	80	0	30	4
8	16	22	0	0	0	85	8	55	16
11	11	27	0	0	0	116	3	33	11
12	14	37	0	0	0	131	6	28	26
13	18	11	0	0	9	145	0	21	5
14	15	24	0	0	0	90	3	21	12
15	18	32	0	0	0	85	0	18	0
16	9	17	0	0	14	91	0	31	17
17	9	22	0	0	6	66	3	25	3
18	15	29	0	0	3	44	0	44	6
19	14	58	0	0	3	88	11	63	16

4n-7

net#	ifhel	imhel	ifcur	imcur	ifeth	imeth	ifpak	impak	ifpbi
0	0	0	0	0	0	0	2	1	11
1	0	0	0	0	0	0	3	3	41
2	0	0	0	0	0	0	0	2	31
3	0	0	0	0	0	0	0	2	29
4	0	0	0	0	1	0	0	1	11
5	0	0	0	0	2	0	4	0	24
6	0	0	0	0	1	0	0	0	32
7	0	0	0	0	0	0	0	0	7
8	0	0	0	0	0	0	5	5	44
11	0	0	0	0	0	0	0	0	24
12	0	0	0	0	0	0	3	3	40
13	0	0	0	0	0	0	2	0	41
14	0	0	0	0	0	0	0	0	27
15	0	0	0	0	0	0	0	0	26
16	0	0	0	0	0	0	0	0	46
17	0	0	0	3	0	0	0	0	19
18	0	0	0	0	0	0	6	0	47
19	0	0	0	3	0	3	3	8	38

net#	impbi	ifsim	imsim	iccan	ifpon	impon	icpon	ifneg	imneg
0	15	0	0	66	1	0	10	2	0
1	45	0	2	121	3	2	14	0	0
2	28	0	0	97	2	0	8	0	0
3	19	0	2	95	6	0	13	0	0
4	4	1	0	59	1	0	10	0	0
5	15	0	0	65	2	2	11	1	0
6	33	4	1	55	0	3	9	1	0
7	30	0	0	74	3	1	3	3	0
8	22	3	0	121	3	0	14	3	0
11	43	3	0	73	0	0	3	0	0
12	34	0	0	119	3	0	6	3	0
13	34	0	2	117	5	0	5	5	0
14	45	0	9	84	3	0	9	6	3
15	29	0	3	61	0	3	6	0	0
16	34	0	0	86	0	0	14	3	0
17	22	0	0	63	3	0	13	6	0
18	20	0	0	99	0	0	12	15	0
19	30	0	5	181	0	0	11	99	0

mocness-1-cop220.int WCR-82H MOCNESS tow copepods

4n-8

net#	icneg	imisc	ioith	icycl	itotl
0	0	0	16	587	1919
1	0	6	17	509	2217
2	0	3	42	410	1935
3	0	2	48	398	2400
4	0	3	29	356	1925
5	0	1	30	349	1816
6	0	0	12	242	1346
7	0	0	47	387	2012
8	0	3	151	560	3027
11	0	3	81	325	2218
12	0	0	63	504	2814
13	0	2	18	673	2639
14	0	12	99	555	2827
15	0	3	67	365	2163
16	0	9	123	462	2963
17	0	6	97	466	2831
18	0	17	186	615	3526
19	5	55	468	1030	5759

40-1

net#	midd	depi	volf	aliq	ften	mten	cten	fnro	mnro
18	5	10	244	8	0	0	0	10	0
17	15	10	177	8	0	0	0	1	0
16	25	10	185	8	0	0	0	5	0
15	35	10	227	8	1	0	2	4	0
14	45	10	265	8	4	0	8	3	0
13	55	10	220	8	2	0	3	0	0
12	65	10	231	8	81	1	34	10	0
11	75	10	339	8	114	6	82	3	0
8	85	10	218	4	20	26	42	2	0
7	95	10	225	4	3	6	3	1	0
6	105	10	217	2	0	12	2	0	0
5	115	10	167	1	0	21	1	2	0
4	125	10	282	1	3	14	4	0	0
3	135	10	284	1	0	5	0	3	0
2	145	10	221	1	0	4	1	1	0
1	155	10	181	1	1	3	3	0	1

net#	cneo	fund	mund	cund	ccal	fmin	mmin	cmin	felg
18	1	39	29	40	13	83	43	21	0
17	14	8	11	57	47	57	36	37	0
16	16	3	7	99	36	52	32	105	0
15	55	4	2	53	31	45	47	109	0
14	42	5	7	18	94	79	59	106	0
13	20	7	2	2	31	31	23	26	0
12	23	9	6	0	33	28	21	15	0
11	25	6	1	0	40	24	9	15	0
8	5	0	0	0	7	1	0	4	0
7	3	0	0	0	5	1	0	0	0
6	5	0	0	0	2	0	0	0	0
5	11	0	0	0	13	0	0	0	0
4	6	0	0	1	24	0	0	0	0
3	10	0	0	1	32	0	0	0	0
2	11	0	0	1	6	0	1	1	0
1	5	1	0	2	26	2	0	3	0

40-2

net#	celg	fatt	matt	catt	fmey	facr	fpav	farc	marc
18	0	1	0	7	0	16	11	26	0
17	0	5	1	9	0	37	10	17	4
16	0	6	0	21	0	0	3	27	1
15	0	2	2	15	0	5	3	45	4
14	0	2	0	39	0	13	1	104	2
13	0	3	5	14	5	0	0	47	2
12	0	4	5	26	6	0	3	66	2
11	0	3	1	17	5	0	3	162	4
8	0	1	0	1	0	0	27	51	0
7	0	1	0	0	0	0	0	3	0
6	0	0	0	0	0	0	1	9	0
5	0	0	0	0	0	0	0	8	0
4	0	2	0	0	0	0	1	19	0
3	1	0	0	1	1	0	0	16	0
2	0	0	0	0	0	0	1	10	0
1	0	0	0	0	1	0	0	4	0

net#	carc	furc	faar	maar	fege	cege	fgmi	cgmi	feme
18	13	18	0	0	0	0	0	0	0
17	22	10	0	0	0	0	0	0	1
16	12	4	0	0	0	0	0	0	5
15	12	1	0	0	0	0	0	0	4
14	3	0	0	0	0	0	0	0	2
13	4	1	0	0	0	0	0	0	0
12	2	1	0	0	8	2	1	1	2
11	4	0	0	1	37	44	7	4	1
8	12	5	1	6	10	111	15	16	0
7	0	2	1	6	4	5	2	9	0
6	0	1	0	3	1	8	8	23	0
5	4	2	0	1	3	2	9	58	0
4	0	2	3	0	3	2	15	176	0
3	0	0	8	0	5	1	4	97	0
2	0	1	0	11	1	0	3	58	0
1	0	20	0	7	1	0	2	89	1



40-3

net#	meme	fros	cuch	fchi	mchi	fupl	mupl	feuk	meuk
18	0	0	0	0	0	5	0	17	12
17	0	0	1	0	0	7	0	15	2
16	2	0	11	0	0	1	0	4	4
15	0	0	30	0	0	8	0	4	4
14	2	0	267	0	0	4	0	7	3
13	0	0	144	0	0	3	0	5	1
12	1	0	27	1	0	2	0	11	4
11	1	0	5	3	0	3	0	10	2
8	0	0	5	3	0	2	0	6	4
7	0	1	1	1	1	3	0	4	0
6	0	0	1	2	5	2	0	1	0
5	0	0	10	0	5	0	0	5	0
4	0	0	18	2	3	3	0	2	1
3	0	0	0	2	2	2	0	1	0
2	0	0	26	1	0	0	0	3	0
1	0	0	-999	0	0	1	0	1	1

net#	ceuk	fpsp	cpSP	fsco	flop	fsam	csam	fslo	cslo
18	44	0	0	0	0	2	4	0	0
17	43	0	1	0	0	4	5	1	3
16	76	0	1	0	0	8	22	10	11
15	55	1	1	0	0	4	16	11	33
14	216	0	0	0	0	42	19	21	52
13	139	0	0	0	0	24	5	13	27
12	64	2	6	1	2	34	25	17	35
11	232	2	6	2	5	27	26	39	45
8	86	1	2	2	0	25	32	9	8
7	19	0	3	0	0	1	7	5	4
6	56	0	5	1	0	3	13	4	9
5	62	1	1	0	0	10	14	9	18
4	101	1	4	2	1	38	58	12	27
3	93	2	1	2	0	12	12	13	20
2	47	0	2	0	0	9	6	9	21
1	24	0	0	0	0	7	1	8	27

mocness-1-cop222.raw WCR-82H MOCNESS tow copepods

40-4

net#	fbra	mbra	cbra	fdan	mdan	cdan	flam	clam	fvit
18	0	0	0	10	2	9	0	0	0
17	0	0	2	7	5	13	0	0	0
16	0	0	0	11	5	27	0	0	0
15	1	0	0	3	3	27	5	7	0
14	6	0	4	2	3	11	73	26	0
13	3	3	3	0	0	6	53	17	0
12	3	2	8	0	0	10	22	6	0
11	18	5	24	5	0	8	9	7	0
8	5	0	2	0	0	1	2	1	0
7	3	1	0	0	0	0	0	0	0
6	3	0	0	0	0	0	0	10	2
5	1	0	0	0	0	0	1	17	7
4	3	0	0	1	0	0	3	32	10
3	3	0	1	0	0	0	8	17	7
2	4	0	0	0	0	0	8	0	9
1	0	0	1	0	0	0	3	37	6

net#	fden	msca	csca	ftst	mtst	ctst	fven	mven	fbor
18	5	1	2	6	5	6	0	0	0
17	9	2	6	0	1	2	0	0	0
16	4	5	2	5	0	1	0	0	0
15	4	3	3	1	0	2	0	0	0
14	2	5	1	0	0	12	0	0	0
13	1	11	2	0	0	2	0	0	0
12	2	2	8	0	0	0	0	0	0
11	3	8	10	0	0	0	0	0	1
8	2	0	17	0	0	0	0	0	0
7	1	2	1	0	0	0	0	0	0
6	7	1	3	0	0	0	0	0	0
5	4	5	1	0	0	0	0	0	0
4	1	20	5	0	0	0	0	0	0
3	5	24	4	0	0	0	0	0	0
2	0	4	1	0	0	0	0	0	0
1	0	5	10	0	0	0	0	2	0

4-5

net#	fgra	mposm	fpis	mpis	cposm	fabd	mabd	fxip	mxip
18	76	2	47	10	10	17	4	9	0
17	59	5	16	7	23	4	3	2	0
16	47	31	11	3	30	19	5	5	1
15	24	30	6	6	66	18	2	5	0
14	20	94	5	3	88	38	9	9	2
13	14	27	2	2	13	18	5	5	3
12	6	28	1	1	13	14	1	7	3
11	3	32	2	1	2	10	5	24	9
8	6	124	1	0	0	2	16	5	12
7	1	4	0	0	1	0	1	0	0
6	4	9	0	0	1	0	0	1	3
5	8	14	1	1	0	6	2	4	1
4	11	63	0	0	1	2	3	3	2
3	6	13	0	0	5	3	3	2	0
2	8	8	0	0	1	3	0	0	1
1	7	3	0	0	3	3	2	0	0

net#	cplg	fvio	mvio	cvio	flut	mlut	clut	fpap	mpap
18	9	3	3	7	167	94	0	5	1
17	17	4	2	4	123	66	0	14	8
16	51	3	0	1	108	42	2	9	13
15	76	0	0	1	78	47	2	9	8
14	267	0	0	0	160	100	12	14	8
13	96	0	0	0	65	24	10	4	8
12	45	0	0	0	71	54	2	5	5
11	30	0	0	0	97	49	5	6	1
8	34	0	0	0	108	18	12	4	7
7	16	0	0	0	11	5	3	7	11
6	0	0	0	0	32	9	27	8	6
5	12	0	0	0	36	12	32	12	32
4	23	0	0	0	82	21	60	15	30
3	11	0	0	0	68	9	11	16	18
2	7	0	0	0	43	3	4	14	14
1	9	0	0	0	45	22	8	10	11

4b-6

net#	fspi	mspi	chet	fhal	mhal	chal	aug	fhel	mhel
18	0	0	0	1	0	0	0	0	0
17	0	0	10	0	0	1	0	0	0
16	1	1	19	0	0	0	1	0	0
15	0	0	36	0	0	0	1	0	0
14	0	0	83	50	0	1	9	0	0
13	0	0	63	48	0	0	22	0	0
12	0	0	28	218	1	1	14	0	0
11	0	0	15	62	5	8	13	0	0
8	4	1	20	25	1	88	10	4	0
7	0	1	20	17	1	173	6	0	0
6	1	2	46	9	5	200	11	1	0
5	3	4	34	31	9	510	14	7	19
4	8	7	43	23	4	736	51	17	30
3	10	10	40	45	3	617	17	7	6
2	5	4	35	30	0	168	38	8	0
1	3	0	33	20	0	213	22	5	41

net#	fcur	mcur	meth	fkct	mkct	flon	mlon	fpak	mpak
18	0	0	0	0	0	0	0	1	2
17	0	0	1	0	0	0	0	1	0
16	0	0	0	0	0	4	0	0	1
15	0	0	0	0	0	6	4	1	1
14	0	0	0	0	0	4	4	1	1
13	0	0	0	0	0	3	3	0	1
12	0	0	0	0	0	0	1	1	1
11	1	0	0	0	0	2	0	0	0
8	0	0	0	0	0	2	1	0	0
7	0	0	0	0	0	2	0	0	0
6	1	0	0	4	0	0	0	0	0
5	1	0	0	6	0	0	0	0	0
4	0	0	0	4	1	0	0	0	0
3	0	0	0	0	3	0	0	0	0
2	0	0	0	0	1	0	0	0	0
1	0	0	0	2	2	0	0	0	0

40-7

net#	fpbi	mpbi	ccan	fpon	mpon	cpon	fadn	mada	fneg
18	11	8	13	1	0	2	45	1	0
17	7	17	19	0	0	3	17	1	0
16	12	6	16	0	2	2	4	0	0
15	14	7	21	0	1	1	4	0	0
14	8	2	31	1	0	8	7	0	0
13	5	6	0	1	1	6	16	0	0
12	11	12	65	5	3	1	3	0	0
11	11	9	42	5	2	0	7	0	0
8	11	13	20	0	0	0	1	0	3
7	6	2	1	0	0	0	0	0	0
6	0	3	1	0	0	0	0	0	1
5	0	0	1	0	0	0	0	0	1
4	0	0	3	0	0	0	0	0	2
3	0	0	2	0	0	0	0	0	1
2	0	0	3	0	0	0	0	0	0
1	0	0	1	0	0	0	0	0	2

net#	mneg	misc	oith	cycl	totl
18	0	18	8	142	1218
17	0	4	29	218	1198
16	0	15	34	259	1401
15	0	13	14	280	1454
14	0	175	304	455	3341
13	0	101	158	170	1590
12	0	47	100	193	1646
11	0	70	133	148	1934
8	2	71	232	132	1568
7	0	40	43	151	636
6	0	94	18	110	808
5	0	82	17	84	1302
4	0	104	16	146	2134
3	0	87	40	135	1604
2	0	47	12	81	799
1	0	54	44	84	955

4p1

net#	midd	depi	volf	aliq	#ften	#mten	#cten	#fnro	#mnro
18	5	10	244	8	0	0	0	327	0
17	15	10	177	8	0	0	0	45	0
16	25	10	185	8	0	0	0	216	0
15	35	10	227	8	35	0	70	141	0
14	45	10	265	8	121	0	242	91	0
13	55	10	220	8	73	0	109	0	0
12	65	10	231	8	2811	35	1180	347	0
11	75	10	339	8	2690	142	1935	71	0
8	85	10	218	4	367	477	771	37	0
7	95	10	225	4	53	107	53	18	0
6	105	10	217	2	0	111	18	0	0
5	115	10	167	1	0	126	6	12	0
4	125	10	282	1	11	50	14	0	0
3	135	10	284	1	0	18	0	11	0
2	145	10	221	1	0	18	5	5	0
1	155	10	181	1	6	17	17	0	6

net#	#cneo	#fund	#mund	#cund	#ccal	#fmin	#mmin	#cmin	#felg
18	33	1277	949	1309	426	2717	1408	687	0
17	634	362	498	2579	2127	2579	1629	1674	0
16	690	129	302	4272	1553	2244	1381	4531	0
15	1937	141	70	1866	1092	1585	1655	3838	0
14	1268	151	211	543	2838	2385	1781	3200	0
13	729	255	73	73	1130	1130	838	948	0
12	798	312	208	0	1145	972	729	521	0
11	590	142	24	0	944	566	212	354	0
8	92	0	0	0	128	18	0	73	0
7	53	0	0	0	89	18	0	0	0
6	46	0	0	0	18	0	0	0	0
5	66	0	0	0	78	0	0	0	0
4	21	0	0	4	85	0	0	0	0
3	35	0	0	4	113	0	0	0	0
2	50	0	0	5	27	0	5	5	0
1	28	6	0	11	143	11	0	17	0

4-2

net#	#celg	#fatt	#matt	#catt	#fmey	#facr	#fpav	#farc	#marc
18	0	33	0	229	0	524	360	851	0
17	0	226	45	407	0	1674	453	769	181
16	0	259	0	906	0	0	129	1165	43
15	0	70	70	528	0	176	106	1585	141
14	0	60	0	1177	0	393	30	3140	60
13	0	109	182	510	182	0	0	1713	73
12	0	139	174	902	208	0	104	2291	69
11	0	71	24	401	118	0	71	3822	94
8	0	18	0	18	0	0	495	936	0
7	0	18	0	0	0	0	0	53	0
6	0	0	0	0	0	0	9	83	0
5	0	0	0	0	0	0	0	48	0
4	0	7	0	0	0	0	4	68	0
3	4	0	0	4	4	0	0	56	0
2	0	0	0	0	0	0	5	45	0
1	0	0	0	0	6	0	0	22	0

net#	#carc	#furc	#faar	#maar	#fege	#cege	#fgmi	#cgmi	#feme
18	426	589	0	0	0	0	0	0	0
17	996	453	0	0	0	0	0	0	45
16	518	173	0	0	0	0	0	0	216
15	423	35	0	0	0	0	0	0	141
14	91	0	0	0	0	0	0	0	60
13	146	36	0	0	0	0	0	0	0
12	69	35	0	0	278	69	35	35	69
11	94	0	0	24	873	1038	165	94	24
8	220	92	18	110	184	2037	275	294	0
7	0	36	18	107	71	89	36	160	0
6	0	9	0	28	9	74	74	212	0
5	24	12	0	6	18	12	54	347	0
4	0	7	11	0	11	7	53	625	0
3	0	0	28	0	18	4	14	342	0
2	0	5	0	50	5	0	14	262	0
1	0	110	0	39	6	0	11	491	6

4p.3

net#	#meme	#fros	#cuch	#fchi	#mchi	#fupl	#mupl	#feuk	#meuk
18	0	0	0	0	0	164	0	557	393
17	0	0	45	0	0	317	0	679	91
16	86	0	475	0	0	43	0	173	173
15	0	0	1056	0	0	282	0	141	141
14	60	0	8060	0	0	121	0	211	91
13	0	0	5248	0	0	109	0	182	36
12	35	0	937	35	0	69	0	382	139
11	24	0	118	71	0	71	0	236	47
8	0	0	92	55	0	37	0	110	73
7	0	18	18	18	18	53	0	71	0
6	0	0	9	18	46	18	0	9	0
5	0	0	60	0	30	0	0	30	0
4	0	0	64	7	11	11	0	7	4
3	0	0	0	7	7	7	0	4	0
2	0	0	118	5	0	0	0	14	0
1	0	0	-999	0	0	6	0	6	6

net#	#ceuk	#fppsp	#cpssp	#fsco	#flop	#fsam	#csam	#fslo	#cslo
18	1440	0	0	0	0	66	131	0	0
17	1946	0	45	0	0	181	226	45	136
16	3279	0	43	0	0	345	949	432	475
15	1937	35	35	0	0	141	563	387	1162
14	6521	0	0	0	0	1268	574	634	1570
13	5066	0	0	0	0	875	182	474	984
12	2221	69	208	35	69	1180	868	590	1215
11	5473	47	142	47	118	637	613	920	1062
8	1578	18	37	37	0	459	587	165	147
7	338	0	53	0	0	18	125	89	71
6	516	0	46	9	0	28	120	37	83
5	371	6	6	0	0	60	84	54	108
4	359	4	14	7	4	135	206	43	96
3	328	7	4	7	0	42	42	46	71
2	213	0	9	0	0	41	27	41	95
1	132	0	0	0	0	39	6	44	149



4p-4

net#	#fbra	#mbra	#cbra	#fdan	#mdan	#cdan	#flam	#clam	#fvit
18	0	0	0	327	66	295	0	0	0
17	0	0	91	317	226	588	0	0	0
16	0	0	0	475	216	1165	0	0	0
15	35	0	0	106	106	951	176	247	0
14	181	0	121	60	91	332	2204	785	0
13	109	109	109	0	0	219	1932	620	0
12	104	69	278	0	0	347	764	208	0
11	425	118	566	118	0	189	212	165	0
8	92	0	37	0	0	18	37	18	0
7	53	18	0	0	0	0	0	0	0
6	28	0	0	0	0	0	0	92	18
5	6	0	0	0	0	0	6	102	42
4	11	0	0	4	0	0	11	114	36
3	11	0	4	0	0	0	28	60	25
2	18	0	0	0	0	0	36	0	41
1	0	0	6	0	0	0	17	204	33

net#	#fden	#msca	#csca	#ftst	#mtst	#ctst	#fven	#mven	#fbor
18	164	33	66	196	164	196	0	0	0
17	407	91	272	0	45	91	0	0	0
16	173	216	86	216	0	43	0	0	0
15	141	106	106	35	0	70	0	0	0
14	60	151	30	0	0	362	0	0	0
13	36	401	73	0	0	73	0	0	0
12	69	69	278	0	0	0	0	0	0
11	71	189	236	0	0	0	0	0	24
8	37	0	312	0	0	0	0	0	0
7	18	36	18	0	0	0	0	0	0
6	65	9	28	0	0	0	0	0	0
5	24	30	6	0	0	0	0	0	0
4	4	71	18	0	0	0	0	0	0
3	18	85	14	0	0	0	0	0	0
2	0	18	5	0	0	0	0	0	0
1	0	28	55	0	0	0	0	11	0

4p 5

net#	#fgra	#mpsm	#fpis	#mpis	#cpsm	#fabd	#mabd	#fxip	#mxip
18	2488	66	1539	327	327	557	131	295	0
17	2670	226	724	317	1041	181	136	91	0
16	2028	1338	475	129	1295	820	216	216	43
15	845	1056	211	211	2324	634	70	176	0
14	604	2838	151	91	2657	1147	272	272	60
13	510	984	73	73	474	656	182	182	109
12	208	972	35	35	451	486	35	243	104
11	71	755	47	24	47	236	118	566	212
8	110	2275	18	0	0	37	294	92	220
7	18	71	0	0	18	0	18	0	0
6	37	83	0	0	9	0	0	9	28
5	48	84	6	6	0	36	12	24	6
4	39	224	0	0	4	7	11	11	7
3	21	46	0	0	18	11	11	7	0
2	36	36	0	0	5	14	0	0	5
1	39	17	0	0	17	17	11	0	0

net#	#cplg	#fvio	#mvio	#cvio	#flut	#mlut	#clut	#fpap	#mpap
18	295	98	98	229	5466	3077	0	164	33
17	769	181	91	181	5566	2986	0	634	362
16	2201	129	0	43	4660	1812	86	388	561
15	2676	0	0	35	2747	1655	70	317	282
14	8060	0	0	0	4830	3019	362	423	242
13	3499	0	0	0	2369	875	365	146	292
12	1562	0	0	0	2464	1874	69	174	174
11	708	0	0	0	2288	1156	118	142	24
8	624	0	0	0	1982	330	220	73	128
7	285	0	0	0	196	89	53	125	196
6	0	0	0	0	295	83	249	74	55
5	72	0	0	0	216	72	192	72	192
4	82	0	0	0	291	75	213	53	107
3	39	0	0	0	240	32	39	56	63
2	32	0	0	0	194	14	18	63	63
1	50	0	0	0	248	121	44	55	61

4p-6

net#	#fspi	#mspi	#chet	#fhal	#mhal	#chal	#aug	#fhel	#mhel
18	0	0	0	33	0	0	0	0	0
17	0	0	453	0	0	45	0	0	0
16	43	43	820	0	0	0	43	0	0
15	0	0	1268	0	0	0	35	0	0
14	0	0	2506	1509	0	30	272	0	0
13	0	0	2296	1749	0	0	802	0	0
12	0	0	972	7566	35	35	486	0	0
11	0	0	354	1463	118	189	307	0	0
8	73	18	367	459	18	1615	184	73	0
7	0	18	356	303	18	3081	107	0	0
6	9	18	424	83	46	1842	101	9	0
5	18	24	204	186	54	3054	84	42	114
4	28	25	153	82	14	2615	181	60	107
3	35	35	141	159	11	2175	60	25	21
2	23	18	158	136	0	760	172	36	0
1	17	0	182	110	0	1174	121	28	226

net#	#fcur	#mcur	#meth	#fket	#mket	#flon	#mlon	#fpak	#mpak
18	0	0	0	0	0	0	0	33	66
17	0	0	45	0	0	0	0	45	0
16	0	0	0	0	0	173	0	0	43
15	0	0	0	0	0	211	141	35	35
14	0	0	0	0	0	121	121	30	30
13	0	0	0	0	0	109	109	0	36
12	0	0	0	0	0	0	35	35	35
11	24	0	0	0	0	47	0	0	0
8	0	0	0	0	0	37	18	0	0
7	0	0	0	0	0	36	0	0	0
6	9	0	0	37	0	0	0	0	0
5	6	0	0	36	0	0	0	0	0
4	0	0	0	14	4	0	0	0	0
3	0	0	0	0	11	0	0	0	0
2	0	0	0	0	5	0	0	0	0
1	0	0	0	11	11	0	0	0	0

4p-7

net#	#fpbi	#mpbi	#ccan	#fpon	#mpon	#cpon	#fadn	#mada	#fneg
18	360	262	426	33	0	66	1473	33	0
17	317	769	860	0	0	136	769	45	0
16	518	259	690	0	86	86	173	0	0
15	493	247	739	0	35	35	141	0	0
14	242	60	936	30	0	242	211	0	0
13	182	219	0	36	36	219	583	0	0
12	382	417	2256	174	104	35	104	0	0
11	260	212	991	118	47	0	165	0	0
8	202	239	367	0	0	0	18	0	55
7	107	36	18	0	0	0	0	0	0
6	0	28	9	0	0	0	0	0	9
5	0	0	6	0	0	0	0	0	6
4	0	0	11	0	0	0	0	0	7
3	0	0	7	0	0	0	0	0	4
2	0	0	14	0	0	0	0	0	0
1	0	0	6	0	0	0	0	0	11

net#	#mneg	#misc	#oith	#cycl	#totl
18	0	589	262	4648	39869
17	0	181	1312	9864	54208
16	0	647	1467	11176	60453
15	0	458	493	9859	51197
14	0	5283	9177	13736	100860
13	0	3681	5759	6196	57950
12	0	1631	3471	6699	57128
11	0	1651	3138	3492	45627
8	37	1303	4257	2422	28771
7	0	712	766	2689	11327
6	0	866	166	1013	7440
5	0	491	102	503	7796
4	0	369	57	519	7581
3	0	307	141	476	5654
2	0	213	54	366	3612
1	0	298	243	463	5265

4q-1

net#	midd	depi	volf	aliq	iften	imten	icten	ifnro	imnro
18	5	10	244	8	0	0	0	3	0
17	15	10	177	8	0	0	0	4	0
16	25	10	185	8	0	0	0	6	0
15	35	10	227	8	0	0	1	7	0
14	45	10	265	8	2	0	3	8	0
13	55	10	220	8	2	0	4	8	0
12	65	10	231	8	30	0	16	12	0
11	75	10	339	8	57	2	35	12	0
8	85	10	218	4	61	7	43	13	0
7	95	10	225	4	62	8	44	13	0
6	105	10	217	2	62	9	44	13	0
5	115	10	167	1	62	10	44	13	0
4	125	10	282	1	62	10	44	13	0
3	135	10	284	1	62	11	44	13	0
2	145	10	221	1	62	11	44	13	0
1	155	10	181	1	62	11	44	13	0

net#	icneo	ifund	imund	icund	iccal	ifmin	immin	icmin	ifelg
18	0	13	9	13	4	27	14	7	0
17	7	16	14	39	26	53	30	24	0
16	14	18	17	82	41	75	44	69	0
15	33	19	18	100	52	91	61	107	0
14	46	21	20	106	80	115	79	139	0
13	53	23	21	107	92	126	87	149	0
12	61	26	23	107	103	136	94	154	0
11	67	28	23	107	113	142	96	158	0
8	68	28	23	107	114	142	96	158	0
7	68	28	23	107	115	142	96	158	0
6	69	28	23	107	115	142	96	158	0
5	69	28	23	107	116	142	96	158	0
4	70	28	23	107	117	142	96	158	0
3	70	28	23	107	118	142	96	158	0
2	70	28	23	107	118	142	96	158	0
1	71	28	23	107	119	142	96	158	0

Ag 2

net#	icelg	ifatt	imatt	icatt	ifmey	ifacr	ifpav	ifarc	imarc
18	0	0	0	2	0	5	4	8	0
17	0	3	0	6	0	22	8	16	2
16	0	5	0	15	0	22	9	28	2
15	0	6	1	21	0	24	10	44	4
14	0	6	1	32	0	28	11	75	4
13	0	8	3	38	2	28	11	92	5
12	0	9	5	47	4	28	12	115	6
11	0	10	5	51	5	28	13	153	7
8	0	10	5	51	5	28	17	163	7
7	0	10	5	51	5	28	17	163	7
6	0	10	5	51	5	28	18	164	7
5	0	10	5	51	5	28	18	165	7
4	0	10	5	51	5	28	18	165	7
3	0	10	5	51	5	28	18	166	7
2	0	10	5	51	5	28	18	166	7
1	0	10	5	51	5	28	18	166	7

net#	icarc	ifurc	ifaar	imaar	ifege	icege	ifgmi	icgmi	ifeme
18	4	6	0	0	0	0	0	0	0
17	14	10	0	0	0	0	0	0	0
16	19	12	0	0	0	0	0	0	3
15	24	12	0	0	0	0	0	0	4
14	25	12	0	0	0	0	0	0	5
13	26	13	0	0	0	0	0	0	5
12	27	13	0	0	3	1	0	0	5
11	28	13	0	0	12	11	2	1	6
8	30	14	0	1	13	31	5	4	6
7	30	14	0	2	14	32	5	6	6
6	30	15	0	3	14	33	6	8	6
5	30	15	0	3	14	33	6	11	6
4	30	15	0	3	14	33	7	18	6
3	30	15	1	3	15	33	7	21	6
2	30	15	1	3	15	33	7	24	6
1	30	16	1	4	15	33	7	29	6

4q-3

net#	imeme	ifros	icuch	ifchi	imchi	ifupl	imupl	ifeuk	imeuk
18	0	0	0	0	0	2	0	6	4
17	0	0	0	0	0	5	0	12	5
16	1	0	5	0	0	5	0	14	7
15	1	0	16	0	0	8	0	15	8
14	1	0	96	0	0	9	0	18	9
13	1	0	149	0	0	10	0	19	9
12	2	0	158	0	0	11	0	23	11
11	2	0	159	1	0	12	0	26	11
8	2	0	160	2	0	12	0	27	12
7	2	0	161	2	0	13	0	27	12
6	2	0	161	2	1	13	0	27	12
5	2	0	161	2	1	13	0	28	12
4	2	0	162	2	1	13	0	28	12
3	2	0	162	2	1	13	0	28	12
2	2	0	163	2	1	13	0	28	12
1	2	0	153	2	1	13	0	28	12

net#	iceuk	ifpsp	icpsp	ifsco	iflop	ifsam	icsam	ifslo	icslo
18	14	0	0	0	0	1	1	0	0
17	34	0	0	0	0	2	4	0	1
16	66	0	1	0	0	6	13	5	6
15	86	0	1	0	0	7	19	9	18
14	151	0	1	0	0	20	24	15	33
13	202	0	1	0	0	29	26	20	43
12	224	1	3	0	1	41	35	26	56
11	279	2	5	1	2	47	41	35	66
8	295	2	5	1	2	52	47	36	68
7	298	2	6	1	2	52	48	37	68
6	303	2	6	1	2	52	49	38	69
5	307	2	6	1	2	53	50	38	70
4	311	2	6	1	2	54	52	39	71
3	314	2	6	1	2	54	53	39	72
2	316	2	6	1	2	55	53	40	73
1	317	2	6	1	2	55	53	40	74

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net#	ifbra	imbra	icbra	ifdan	imdan	icdan	iflam	iclam	ifvit
18	0	0	0	3	1	3	0	0	0
17	0	0	1	6	3	9	0	0	0
16	0	0	1	11	5	20	0	0	0
15	0	0	1	12	6	30	2	2	0
14	2	0	2	13	7	33	24	10	0
13	3	1	3	13	7	35	43	16	0
12	4	2	6	13	7	39	51	19	0
11	9	3	12	14	7	41	53	20	0
8	9	3	12	14	7	41	53	20	0
7	10	3	12	14	7	41	53	20	0
6	10	3	12	14	7	41	53	21	0
5	10	3	12	14	7	41	53	22	1
4	10	3	12	14	7	41	53	23	1
3	11	3	12	14	7	41	54	24	1
2	11	3	12	14	7	41	54	24	2
1	11	3	12	14	7	41	54	26	2

net#	ifden	imsca	icsca	iftst	imtst	ictst	ifven	imven	ifbor
18	2	0	1	2	2	2	0	0	0
17	6	1	3	2	2	3	0	0	0
16	7	3	4	4	2	3	0	0	0
15	9	4	5	4	2	4	0	0	0
14	9	6	6	4	2	8	0	0	0
13	10	10	6	4	2	8	0	0	0
12	11	11	9	4	2	8	0	0	0
11	11	13	11	4	2	8	0	0	0
8	12	13	15	4	2	8	0	0	0
7	12	13	15	4	2	8	0	0	0
6	12	13	15	4	2	8	0	0	0
5	13	13	15	4	2	8	0	0	0
4	13	14	15	4	2	8	0	0	0
3	13	15	15	4	2	8	0	0	0
2	13	15	15	4	2	8	0	0	0
1	13	15	16	4	2	8	0	0	0



4.5

net#	ifgra	impsm	ifpis	impis	icpsm	ifabd	imabd	ifxip	imxip
18	25	1	15	3	3	6	1	3	0
17	52	3	23	6	14	7	3	4	0
16	72	16	27	8	27	16	5	6	0
15	80	27	29	10	50	22	6	8	0
14	86	55	31	11	77	33	8	10	1
13	91	65	32	11	81	40	10	12	2
12	94	75	32	12	86	45	10	15	3
11	94	82	33	12	86	47	12	20	5
8	95	105	33	12	86	48	15	21	7
7	95	106	33	12	86	48	15	21	7
6	96	106	33	12	86	48	15	21	8
5	96	107	33	12	86	48	15	22	8
4	97	110	33	12	86	48	15	22	8
3	97	110	33	12	87	48	15	22	8
2	97	110	33	12	87	48	15	22	8
1	98	110	33	12	87	48	15	22	8

net#	icplg	ifvio	imvio	icvio	iflut	imlut	iclut	ifpap	impap
18	3	1	1	2	55	31	0	2	0
17	11	3	2	4	110	61	0	8	4
16	33	4	2	5	157	79	1	12	10
15	60	4	2	5	185	95	2	15	12
14	140	4	2	5	233	126	5	19	15
13	175	4	2	5	257	134	9	21	18
12	191	4	2	5	281	153	10	22	19
11	198	4	2	5	304	165	11	24	20
8	204	4	2	5	324	168	13	25	21
7	207	4	2	5	326	169	13	26	23
6	207	4	2	5	329	170	16	27	23
5	208	4	2	5	331	170	18	27	25
4	209	4	2	5	334	171	20	28	26
3	209	4	2	5	336	171	20	28	27
2	210	4	2	5	338	172	21	29	28
1	210	4	2	5	341	173	21	30	28

mocness-1-cop222.int WCR-82H MOCNESS tow copepods

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net#	ifspi	imspi	ichet	ifhal	imhal	ichal	iaugs	ifhel	imhel
18	0	0	0	0	0	0	0	0	0
17	0	0	4	0	0	0	0	0	0
16	0	0	13	0	0	0	0	0	0
15	0	0	25	0	0	0	1	0	0
14	0	0	50	15	0	1	4	0	0
13	0	0	73	33	0	1	12	0	0
12	0	0	83	108	0	1	16	0	0
11	0	0	87	123	2	3	19	0	0
8	1	1	90	128	2	19	21	1	0
7	1	1	94	131	2	50	22	1	0
6	1	1	98	132	2	68	23	1	0
5	1	1	100	133	3	99	24	1	1
4	2	1	102	134	3	125	26	2	2
3	2	2	103	136	3	147	27	2	2
2	2	2	104	137	3	154	28	2	2
1	2	2	106	138	3	166	29	3	5

net#	ifcur	imcur	imeth	ifket	imket	iflon	imlon	ifpak	impak
18	0	0	0	0	0	0	0	0	1
17	0	0	0	0	0	0	0	1	1
16	0	0	0	0	0	2	0	1	1
15	0	0	0	0	0	4	1	1	1
14	0	0	0	0	0	5	3	1	2
13	0	0	0	0	0	6	4	1	2
12	0	0	0	0	0	6	4	2	2
11	0	0	0	0	0	7	4	2	2
8	0	0	0	0	0	7	4	2	2
7	0	0	0	0	0	7	4	2	2
6	0	0	0	0	0	7	4	2	2
5	0	0	0	1	0	7	4	2	2
4	0	0	0	1	0	7	4	2	2
3	0	0	0	1	0	7	4	2	2
2	0	0	0	1	0	7	4	2	2
1	0	0	0	1	0	7	4	2	2

4q-7

net#	ifpbi	impbi	iccan	ifpon	impon	icpon	ifadn	imada	ifneg
18	4	3	4	0	0	1	15	0	0
17	7	10	13	0	0	2	22	1	0
16	12	13	20	0	1	3	24	1	0
15	17	15	27	0	1	3	26	1	0
14	19	16	37	1	1	6	28	1	0
13	21	18	37	1	2	8	33	1	0
12	25	22	59	3	3	8	35	1	0
11	28	24	69	4	3	8	36	1	0
8	30	27	73	4	3	8	36	1	1
7	31	27	73	4	3	8	36	1	1
6	31	27	73	4	3	8	36	1	1
5	31	27	73	4	3	8	36	1	1
4	31	27	73	4	3	8	36	1	1
3	31	27	73	4	3	8	36	1	1
2	31	27	73	4	3	8	36	1	1
1	31	27	73	4	3	8	36	1	1

net#	imneg	imisc	ioith	icycl	itotl
18	0	6	2	47	398
17	0	8	16	145	942
16	0	14	31	257	1547
15	0	19	35	356	2059
14	0	72	127	493	3067
13	0	109	185	555	3644
12	0	125	219	622	4216
11	0	141	251	657	4674
8	0	154	294	681	4963
7	0	162	301	708	5077
6	0	170	303	718	5153
5	0	175	304	723	5229
4	0	179	304	729	5306
3	0	182	306	733	5360
2	0	184	306	737	5398
1	0	187	309	741	5453

4r-1

net#	midd	depi	volf	aliq	%ften	%mten	%cten	%fnro	%mnro
18	5	10	244	8	0	0	0	25	0
17	15	10	177	8	0	0	0	28	0
16	25	10	185	8	0	0	0	45	0
15	35	10	227	8	1	0	2	55	0
14	45	10	265	8	3	0	7	62	0
13	55	10	220	8	4	0	10	62	0
12	65	10	231	8	49	3	36	88	0
11	75	10	339	8	93	16	80	94	0
8	85	10	218	4	99	59	97	97	0
7	95	10	225	4	100	69	99	98	0
6	105	10	217	2	100	79	99	98	0
5	115	10	167	1	100	91	99	99	0
4	125	10	282	1	100	95	100	99	0
3	135	10	284	1	100	97	100	100	0
2	145	10	221	1	100	98	100	100	0
1	155	10	181	1	100	100	100	100	100

net#	%cneo	%fund	%mund	%cund	%ccal	%fmin	%mmin	%cmin	%felg
18	0	46	41	12	4	19	15	4	0
17	9	59	62	36	21	37	32	15	0
16	19	64	75	77	34	53	46	43	0
15	47	69	78	94	44	64	63	68	0
14	65	74	87	99	67	81	81	88	0
13	75	83	90	100	77	89	90	94	0
12	86	95	99	100	86	96	98	97	0
11	94	100	100	100	94	100	100	99	0
8	96	100	100	100	95	100	100	100	0
7	97	100	100	100	96	100	100	100	0
6	97	100	100	100	96	100	100	100	0
5	98	100	100	100	97	100	100	100	0
4	98	100	100	100	98	100	100	100	0
3	99	100	100	100	99	100	100	100	0
2	100	100	100	100	99	100	100	100	0
1	100	100	100	100	100	100	100	100	0

4r.2

net#	%celg	%fatt	%matt	%catt	%fmey	%facr	%fpav	%farc	%marc
18	0	3	0	5	0	19	20	5	0
17	0	26	9	13	0	79	46	10	27
16	0	51	9	30	0	79	53	17	34
15	0	58	23	41	0	86	59	26	55
14	0	64	23	64	0	100	61	45	64
13	0	75	60	74	35	100	61	55	75
12	0	89	95	92	75	100	67	69	86
11	0	96	100	100	98	100	71	92	100
8	0	98	100	100	98	100	99	98	100
7	0	99	100	100	98	100	99	98	100
6	0	99	100	100	98	100	100	99	100
5	0	99	100	100	98	100	100	99	100
4	0	100	100	100	98	100	100	99	100
3	100	100	100	100	99	100	100	100	100
2	100	100	100	100	99	100	100	100	100
1	100	100	100	100	100	100	100	100	100

net#	%carc	%furc	%faar	%maar	%fege	%cege	%fgmi	%cgmi	%feme
18	14	37	0	0	0	0	0	0	0
17	47	65	0	0	0	0	0	0	8
16	65	76	0	0	0	0	0	0	47
15	79	79	0	0	0	0	0	0	72
14	82	79	0	0	0	0	0	0	82
13	86	81	0	0	0	0	0	0	82
12	89	83	0	0	19	2	5	1	95
11	92	83	0	7	78	33	27	5	99
8	99	89	24	37	91	94	65	15	99
7	99	91	48	66	96	97	70	20	99
6	99	92	48	74	96	99	80	28	99
5	100	92	48	76	97	100	87	40	99
4	100	93	62	76	98	100	95	62	99
3	100	93	100	76	99	100	97	74	99
2	100	93	100	89	100	100	98	83	99
1	100	100	100	100	100	100	100	100	100

4r-3

net#	%meme	%fros	%cuch	%fchi	%mchi	%fupl	%mupl	%feuk	%meuk
18	0	0	0	0	0	13	0	20	33
17	0	0	0	0	0	37	0	44	41
16	42	0	3	0	0	40	0	50	55
15	42	0	10	0	0	62	0	55	67
14	72	0	63	0	0	71	0	63	74
13	72	0	97	0	0	79	0	69	77
12	88	0	103	16	0	85	0	83	89
11	100	0	104	49	0	90	0	91	93
8	100	0	105	75	0	93	0	95	99
7	100	100	105	83	16	97	0	98	99
6	100	100	105	91	57	98	0	98	99
5	100	100	105	91	84	98	0	99	99
4	100	100	106	95	94	99	0	99	100
3	100	100	106	98	100	100	0	99	100
2	100	100	107	100	100	100	0	100	100
1	100	100	100	100	100	100	0	100	100

net#	%ceuk	%fppsp	%cpcsp	%fsco	%flp	%fsam	%csam	%fslo	%cslo
18	5	0	0	0	0	1	2	0	0
17	11	0	7	0	0	4	7	1	2
16	21	0	14	0	0	11	25	12	8
15	27	19	19	0	0	13	35	22	24
14	48	19	19	0	0	36	46	37	45
13	64	19	19	0	0	52	50	49	58
12	71	56	52	24	36	74	66	64	75
11	88	81	74	58	98	85	77	87	89
8	93	91	79	84	98	93	89	91	91
7	94	91	88	84	98	94	91	93	92
6	96	91	95	90	98	94	93	94	93
5	97	94	96	90	98	95	95	96	94
4	98	96	98	95	100	98	99	97	96
3	99	100	99	100	100	99	99	98	97
2	100	100	100	100	100	99	100	99	98
1	100	100	100	100	100	100	100	100	100

4r 4

net#	%fbra	%mbra	%cbra	%fdan	%mdan	%cdan	%flam	%clam	%fvit
18	0	0	0	23	9	7	0	0	0
17	0	0	7	46	41	22	0	0	0
16	0	0	7	80	72	50	0	0	0
15	3	0	7	87	87	73	3	9	0
14	20	0	17	91	100	81	44	39	0
13	30	35	26	91	100	86	80	63	0
12	40	57	49	91	100	95	94	71	0
11	80	94	96	100	100	100	98	77	0
8	88	94	99	100	100	100	98	78	0
7	93	100	99	100	100	100	98	78	0
6	96	100	99	100	100	100	98	82	9
5	96	100	99	100	100	100	98	86	31
4	97	100	99	100	100	100	99	90	49
3	98	100	100	100	100	100	99	92	62
2	100	100	100	100	100	100	100	92	83
1	100	100	100	100	100	100	100	100	100

net#	%fden	%msca	%csca	%ftst	%mtst	%ctst	%fven	%mven	%fbor
18	13	2	4	44	78	24	0	0	0
17	44	8	21	44	100	34	0	0	0
16	58	22	26	92	100	39	0	0	0
15	69	29	33	100	100	48	0	0	0
14	73	39	35	100	100	91	0	0	0
13	76	65	39	100	100	100	0	0	0
12	82	70	57	100	100	100	0	0	0
11	87	82	72	100	100	100	0	0	100
8	90	82	91	100	100	100	0	0	100
7	91	84	92	100	100	100	0	0	100
6	96	85	94	100	100	100	0	0	100
5	98	87	94	100	100	100	0	0	100
4	99	91	95	100	100	100	0	0	100
3	100	97	96	100	100	100	0	0	100
2	100	98	97	100	100	100	0	0	100
1	100	100	100	100	100	100	0	100	100

4r-5

net#	%fgra	%mpsm	%fpis	%mpis	%cpsm	%fabd	%mabd	%fxip	%mxip
18	25	1	47	27	4	12	9	13	0
17	53	3	69	53	16	15	18	18	0
16	74	15	83	64	31	32	32	28	5
15	82	24	90	81	57	45	36	36	5
14	88	50	95	89	88	69	54	48	13
13	94	59	97	95	93	83	66	56	27
12	96	68	98	98	99	93	69	68	40
11	96	74	99	100	99	98	77	93	67
8	98	95	100	100	99	98	96	98	94
7	98	96	100	100	99	98	97	98	94
6	98	96	100	100	100	98	97	98	98
5	99	97	100	100	100	99	98	99	99
4	99	99	100	100	100	99	99	100	99
3	99	100	100	100	100	99	99	100	99
2	100	100	100	100	100	100	99	100	100
1	100	100	100	100	100	100	100	100	100

net#	%cplg	%fvio	%mvio	%cvio	%flut	%mlut	%clut	%fpap	%mpap
18	1	24	52	47	16	18	0	6	1
17	5	68	100	84	32	35	0	27	14
16	16	100	100	93	46	46	4	40	34
15	28	100	100	100	54	55	7	51	44
14	67	100	100	100	68	73	25	65	52
13	84	100	100	100	75	78	42	70	63
12	91	100	100	100	83	89	45	76	69
11	94	100	100	100	89	95	51	81	69
8	97	100	100	100	95	97	62	83	74
7	99	100	100	100	96	98	64	87	81
6	99	100	100	100	97	98	76	90	83
5	99	100	100	100	97	99	85	92	90
4	99	100	100	100	98	99	95	94	93
3	100	100	100	100	99	99	97	96	96
2	100	100	100	100	99	99	98	98	98
1	100	100	100	100	100	100	100	100	100



4r-6

net#	%fspi	%mspi	%chet	%fhal	%mhal	%chal	%aug	%fhel	%mhel
18	0	0	0	0	0	0	0	0	0
17	0	0	4	0	0	0	0	0	0
16	17	22	12	0	0	0	1	0	0
15	17	22	24	0	0	0	3	0	0
14	17	22	47	11	0	0	12	0	0
13	17	22	69	24	0	0	39	0	0
12	17	22	78	78	11	1	55	0	0
11	17	22	81	89	49	2	66	0	0
8	47	31	85	92	55	12	72	27	0
7	47	40	88	95	60	30	76	27	0
6	51	49	92	95	75	41	79	30	0
5	58	61	94	96	92	60	82	46	24
4	70	73	95	97	97	75	88	68	47
3	84	91	97	98	100	88	90	77	52
2	93	100	98	99	100	93	96	90	52
1	100	100	100	100	100	100	100	100	100

net#	%fcur	%mcur	%meth	%fket	%mket	%flon	%mlon	%fpak	%mpak
18	0	0	0	0	0	0	0	18	27
17	0	0	100	0	0	0	0	44	27
16	0	0	100	0	0	24	0	44	44
15	0	0	100	0	0	52	33	64	59
14	0	0	100	0	0	69	62	81	71
13	0	0	100	0	0	84	87	81	86
12	0	0	100	0	0	84	96	100	100
11	61	0	100	0	0	90	96	100	100
8	61	0	100	0	0	95	100	100	100
7	61	0	100	0	0	100	100	100	100
6	85	0	100	38	0	100	100	100	100
5	100	0	100	74	0	100	100	100	100
4	100	0	100	89	12	100	100	100	100
3	100	0	100	89	48	100	100	100	100
2	100	0	100	89	63	100	100	100	100
1	100	0	100	100	100	100	100	100	100

4r-7

net#	%fpbi	%mpbi	%ccan	%fpon	%mpon	%cpon	%fadr	%mada	%fneg
18	12	10	6	8	0	8	40	42	0
17	22	38	18	8	0	25	62	100	0
16	39	47	27	8	28	35	66	100	0
15	55	56	37	8	39	39	70	100	0
14	63	58	50	16	39	69	76	100	0
13	69	66	50	25	51	96	92	100	0
12	81	81	81	70	85	100	95	100	0
11	90	89	94	100	100	100	99	100	0
8	97	98	99	100	100	100	100	100	60
7	100	99	99	100	100	100	100	100	60
6	100	100	99	100	100	100	100	100	70
5	100	100	99	100	100	100	100	100	76
4	100	100	100	100	100	100	100	100	84
3	100	100	100	100	100	100	100	100	88
2	100	100	100	100	100	100	100	100	88
1	100	100	100	100	100	100	100	100	100

net#	%mneg	%misc	%oith	%cycl	%totl
18	0	3	1	6	7
17	0	4	5	20	17
16	0	8	10	35	28
15	0	10	11	48	38
14	0	38	41	66	56
13	0	58	60	75	67
12	0	67	71	84	77
11	0	76	81	89	86
8	100	83	95	92	91
7	100	86	98	95	93
6	100	91	98	97	95
5	100	94	98	98	96
4	100	96	99	98	97
3	100	97	99	99	98
2	100	98	99	99	99
1	100	100	100	100	100

## Appendix 1: Miscellaneous Calanoids:

The following lists some of the animals included under the 'misc' heading in the abundance tables. It is not complete but gives abundances and sex/stage (female=f, male=m, copepodite=c) where available. The values are for the number of individuals found in the aliquot sorted ('raw data'). Some notes on relative abundance, appearance, and body length are also given.

### MOC 217

*Mecynocera*, *Calocalanus parvo*, *Clausocalanus arcuicornis*, *C.furcatus*, *Scolecithrix* spp., *Temora* spp. copepodites were always included in 'misc' in this tow.

Net 0 (0-123 m): *Acrocalanus longicornis*, *Clausocalanus furcatus*, 57 *Scolecithrix* spp. copepodites

Net 1 (123-73 m): *Acrocalanus longicornis*, *Clausocalanus furcatus*, 1 m *Euchaeta spinosa*, 1 f *Euaetideus giesbrechti*, 1 *Megacalanus longicornis*, 56 c *Scolecithrix danae* and *S. bradyi*

Net 2 (73-44 m): 22 c *Scolecithrix danae* and *S. bradyi*

Net 3 (44-0 m): 32 f *Acrocalanus longicornis*, 44 c *Scolecithrix danae* and *S. bradyi*, 9 c *Temora* spp., 1 c *Pontellina plumata*

Net 4 (0-126 m): many c *Scolecithrix* spp.

Net 5 (126-77 m): f *Clausocalanus furcatus*, 1 m *Euchaeta* sp., many c *Scolecithrix danae* and *S. bradyi*

Net 6 (77-39 m): 2 f and 3 c *Eucalanus attenuatus*, 1 f *Acrocalanus longicornis*, 6 c *Scolecithrix danae*

Net 7 (39-0 m): 11 f *Acrocalanus longicornis*, c *Scolecithrix danae* and *S. bradyi*, c *Temora* spp.

Net 8 (0-120 m): 2 f *Aetideus armatus*, 28 c *Scolecithrix danae*, 1 c *Pontellina plumata*

Net 11 (120-74 m): 2 f *Acrocalanus longicornis*, many c *Scolecithrix* spp.

Net 12 (74-27 m): 1 f and c *Eucalanus attenuatus*, f *Clausocalanus furcatus*, c *Scolecithrix* spp.

Net 17 (23-0 m): f *Clausocalanus furcatus*

Net 19 (134-0 m): 4 f *Aetideus armatus*, 1 f *Scolecithricella vittata*

## MOC 218

Copepodites of *Euchaeta* spp., *Scolecithrix danae* and *S. bradyi*, *Heterorhabdus* spp., *Metridia* spp., *Candacia* spp. were always included in 'misc'.

Net 18 (0-25 m): *Eucalanus attenuatus*, *Eucalanus* nr. *monachus*, *Clausocalanus arcuicornis*, 209 c *Euchaeta* spp., 4 c *Phaenna spinifera*, *Scaphocalanus* nr. *amplius*, *S.* nr. *longifurcus*, *Scolecithricella dentata*, 3 f *Temora stylifera*, 3 f *Temora turbinata*, 29 c *Centropages violaceus*, 17 c *Centropages typicus*, 1 m *Candacia ethiopica*, 1 f *Pontella* sp., 53 c *Candacia* spp., 22 c *Pontellina plumata*

Net 17 (25-50 m): 1 f *Temora stylifera*, 1 *Candacia paenelongimana*

Net 16 (50-75 m): f *Eucalanus* sp., 1 *Euchaeta paraconcinna*, f *Scaphocalanus* nr. *longifurcus*, f *Scolecithricella dentata*, c *Centropages* spp., 1 f *Pontellina plumata*

Net 15 (75-100 m): many f and some m *Aetideus armatus*, 2 f *Euchirella rostrata*, f *Lophothrix latipes*, f *Scaphocalanus* nr. *longifurcus*, c *Scolecithrix danae* and *S. bradyi*

Net 14 (100-125 m): 1 *Euchirella rostrata*, 1 f *Eucheata bitumida*

Net 13 (125-150 m): 4 f *Scottocalanus* sp. nr. *australis* (compared with *S. securifrons*, these females are smaller, the genital segment does not overhang the next segment and corners of 5th thoracic segment are less pointed), 1 m *Pontellina plumata*

Net 12 (150-175 m): f *Aetideus armatus*, 1 f *Euchirella rostrata*, 1 f *Scottocalanus* sp. nr. *australis*, f *Scaphocalanus* spp., f *Scolecithricella vittata*, f *S.* spp.

Net 11 (175-200 m): f sp. nr. *Mimocalanus* (not seen in upper nets), f *Gaetanus miles*, f *Amallothrix* nr. *laminata*, f *Scaphocalanus* nr. *amplius*, f *S.* nr. *curtus*, f *S.* nr. *longifurcus*, f *Scolecithricella vittata*, f *S. dentata*

Net 8 (200-300 m): f sp. nr. *Mimocalanus*, f *Euaetideus giesbrechti*, f *Gaetanus miles*, f *Scaphocalanus* nr. *longifurcus*, f *S.* nr. *curtus*, f *S.* nr. *amplius*, f *Scolecithricella dentata*, f *S. vittata*, (f *Neocalanus robustior* found in sample but not present in this aliquot)

Net 7 (300-400 m): many m *Clausocalanus* spp., 2 f *Gaetanus miles*, 1 f *Euchaeta intermedia*, f *Scaphocalanus* spp., f *Augaptilidae* spp.

Net 6 (400-500 m): 2 c *Eucalanus attenuatus*, f sp. nr. *Mimocalanus*, 3 f *Gaetanus miles*, 1 m *Euchirella* nr. *curticauda*, *Spinocalanus* nr. *spinosus*, *Scaphocalanus* spp., *Scolecithricella* spp., c *Heterorhabdus* spp., *Augaptilidae* spp.

Net 5 (500-600 m): 4 c *Eucalanus attenuatus*, mostly f *Spinocalanus* nr. *spinosus*, 1 f *Eucalanus* nr. *monachus*, f *Scaphocalanus* nr. *longifurcus*, *Augaptilidae* spp.

Net 4 (600-700 m): 23 c *Eucalanus attenuatus*, 2 f *Gaetanus miles*, 2 f *G. pileatus*, 1 f *Euchaeta pseudotonsa*, 2 *E. incisa*, 1 m *Scottocalanus persecans*, 1 cIV *Metridia princeps*, 2 m *Heterorhabdus abyssallis*, 1 f *Pachyptilus eurygnathus*, many f *Spinocalanus* nr. *spinosus*

Net 3 (700-800 m): 35 c *Eucalanus attenuatus*, 3 f and c *Eucalanus* nr. *monachus*, 3 m *Chirundina Ostreetsi*, 1 *Euchaeta hansenii* (red mouthparts, 8.1 mm), 53 f and m and c *Spinocalanus* nr. *spinosus*, 6 f and 4 m *Heterorhabdus abyssallis*

Net 2 (800-900 m): 1 f and 36 c *Eucalanus attenuatus*, 3 f *E. monachus*, 1 f (4.6 mm) and 1 m *Gaetanus kruppi*, 1 m *Undeuchaeta major*, 22 *Spinocalanus* nr. *spinosus*, 1 f *Temora turbinata*, 1 c *Centropages typicus*, 3 f and 3 m *Heterorhabdus abyssallis*, 1 f *Phyllopus impar*

Net 1 (900-1000 m): 6 f and many c *Eucalanus* nr. *monachus*, 20 f *Eucalanus attenuatus*, 2 f *Gaetanus kruppi* (4.87, 5.03 mm), 2 f *Euchaeta bisinuata* (5.03, 5.36 mm), 4 m *E. norvegica* (5.03, 5.85(2), 6.01 mm), 1 f *Pseudochirella* sp.(red, 6.09 mm, leg 4-basipod 1 has 6 strong spines), f *Scaphocalanus* spp., 15 f *Spinocalanus* nr. *spinosus*, 1 f *Metridia princeps*, 4 f *Heterorhabdus abyssallis*, *Augaptilidae* spp., 1 m *Candacia armata* (? - missing antenna 1), many exoskeletons - not counted.

## MOC 219

copepodites of *Eucalanus attenuatus* and *Eucalanus elongatus* were always included in miscellaneous.

Net 18 (0-25 m): c *Scolecithrix danae*, 2 m *Temora stylifera*, c *Temora* spp., c *Centropages violaceus*, c *Candacia* spp., c *Pontellina plumata*

Net 17 (25-50 m): c *Clausocalanus arcuicornis*, c *Acrocalanus longicornis*, 1 *Euchaeta paraconcinna* (2.43 mm), 2 f *Amallothrix* nr. *laminata*, c *Scolecithrix danae*, c *Temora stylifera*, c *Lucicutia* spp., many c *Candacia* spp.

Net 16 (50-75 m): c *Eucalanus attenuatus*, c *Acrocalanus longicornis*, c *Euaetideus giesbrechti*, 5 f *Scolecithricella ctenopus*, 22 f *Amallothrix* nr. *laminata*, 1 m *Temora stylifera*, c *Temora* spp., c *Candacia* spp., 3 m *Pontellina plumata*

Net 15 (75-100 m): 1 c *Eucalanus elongatus*, c *Euaetideus giesbrechti*, 1 f *Euchaeta pubera*, c *Lophothrix latipes*. 5 f and c *Amallothrix* nr. *laminata*, c *Lucicutia* spp., many *Sapphirina*

Net 14 (100-125 m): c *Euaetideus giesbrechti*, 2 f *Amallothrix* nr. *laminata* (0.98 mm - smaller than other *Amallothrix* nr. *laminata*, 2.3 mm but similar morphology), 1 f *Scolecithricella ctenopus*, 1 f *Centropages typicus*, 1 f *Paracandacia simplex*

Net 13 (125-150 m): c *Euaetideus giesbrechti*

Net 12 (150-175 m): 1 f nr. *Ctenocalanus* sp.(0.98 mm), 1 f nr. *Farrania oblonga* (1.78mm), 1 f nr. *Aetideidae* (1.27 mm), c *Euaetideus giesbrechti*, c *Gaetanus minor*, c *Phaenna spinifera*

Net 11 (175-200 m): 1 m *Eucalanus attenuatus*, c *Gaetanus minor*, c *Phaenna spinifera*, 1 m *Scaphocalanus magnus* ? (3.73 mm; poor cond.), 1 m *S. sp.*, 1 m nr. *Xanthocalanus* (2.16 mm), 1 f *Scolecithricella ctenopus* (1.3 mm), 1 f *Arietellus setosus*

Net 8 (200-300 m): c *Gaetanus minor*, 1 m *Phaenna spinifera*, c *Lucicutia* spp.

Net 7(300-400 m): 4 f and 1 c *Gaetanus miles*, 1 c *Phaenna spinifera*, 2 f *Lophothrix latipes* (3.07 mm), 3 f *Scolecithricella* nr. *abyssalis* (1.96 mm), c *Scolecithrix bradyi*, c *Augaptilidae* spp., 1 f nr. *Heterorhabdus*

Net 6(400-500 m): many c *Spinocalanus* nr. *spinosus*, 4 f *Gaetanus miles*, c *Gaetanus minor*, 1 f *Racovitzanus* sp. (1.78 mm), many c *Scaphocalanus* sp., 2 m and c *Haloptilus ornatus*, 1 m *Paraugaptilus* sp.(2.83 mm)

Net 5 (500-600 m): 2 c *Eucalanus elongatus*, c *Spinocalanus* nr. *spinosus*, c *Gaetanus minor*, c *Euchirella* spp., c *Scottocalanus securifrons*, c *Scolecithricella* spp., 1 f sp. nr. *Metridia/Pleuromamma* (poor cond.), c *Haloptilus ornatus*, c *Augaptilidae* spp., 1 f *Candacia* spp. *paenelongimana*, 8 c *C. spp.*

Net 4 (600-700 m): c *Eucalanus* nr. *monachus*, 6 c *Eucalanus elongatus*, 1 f and c *Spinocalanus* sp., 1 f sp. nr. *Farrania oblonga* (1.33 mm), c *Gaetanus minor*, 2 f *Scottocalanus securifrons*, 1 c *Candacia* spp.

Net 3 (700-800 m): 17 c *Eucalanus elongatus*, c *Spinocalanus* nr. *spinosus*, c sp. nr. *Mimocalanus*, 5 f *Spinocalanus* spp., 1 f *Gaetanus miles*, 7 m *Gaidius tenuispinus* (these may be *Gaetanus minor* which is undescribed. 5th legs of both genera are very similar; no female *G. tenuispinus* found), 1 m *Scottocalanus helena*e, 2 f *S. securifrons*, 2 f (1.7, 1.86 mm) and 2 m (2.15 mm) *Scolecithridae* spp., 1 f *Amallothrix emarginata*, 1 m *Augaptilidae* spp.

Net 2 (800-900 m): 38 c *Eucalanus attenuatus/monachus*, 11 c *Eucalanus elongatus*, 14 c *Spinocalanus* nr. *spinosus*, 3 c *Monacilla typica*, 28 c *Euchirella/Chirundina/Undeuchaeta*, 3 f and 10 c *Aetideopsis multiserrata*, 3 m *Gaidius tenuispinus*, 1 m *Gaetanus pileatus*, 5 c *Gaetanus* spp., 1 c *Lophothrix frontalis*, 2 f *Amallothrix emarginata*, 4 c *Lucicutia* spp., 2 f and 1 m and 3 c *Disseta palumboi*, 5 c *Augaptilidae* spp., 13 f/m/c spp. (very poor)

Net 1 (900-1000 m): 44 c *Eucalanus attenuatus/monachus*, 2 c *Eucalanus elongatus*, 12 c *Spinocalanus* nr. *spinosus*, 7 c sp. nr. *Mimocalanus*, 11 c *Monacilla typica*, 1 f sp. nr. *Farrania oblonga*, 1 c *Gaetanus* sp., 3 c *Euchirella* spp., 6 c *Undeuchaeta plumosa*, 2 c *Aetideopsis multiserrata*, 12 c *Euchaeta* spp., 1 f (7.8 mm) and 2 c *Euchaeta barbata*, 1 f *Euchaeta tonsa*, 1 f and 6 c *Lophothrix frontalis*, 1 f sp. nr. *Lophothrix*, c *Scaphocalanus* nr. *longifurcus*, 3 f *S. spp.*, 2 f *Amallothrix* nr. *valida*, 1 m *Temorites* sp.(1.75 mm), 1 c *Centropages violaceus*, 1 m and 5 c *Disseta palumboi*, 1 f sp. nr. *Mesorhabdus brevicaudatus*, 5 c *Augaptilidae* spp., 1 f *Centraugaptilus horidus*, 24 f/m/c spp. (very poor)

## MOC 220

- Net 1 (0-100 m): 1 *Euchaeta amoena*  
Net 4 (0-100 m): 1 c *Eucalanus elongatus*, 1 c *Acrocalanus longicornis*  
Net 5 (0-100 m): 1 c probably *Scolecithrix danae* (molting)  
Net 13 (0-100 m): 1 f nr. *Farrania oblonga*  
Net 14 (0-100 m): 1 f *Arietellus plumifer*  
Net 17 (0-100 m): 1 m *Mecynocera clausi*  
Net 18 (0-100 m): 2 c *Scaphocalanus* nr. *longifurcus*  
Net 19 (0-100 m): 1 *Calanus finmarchicus* CV, 2 *C. finmarchicus* CIV, 1 c *Calocalanus parvoninus*, 1 f *Undeuchaeta major*, 1 f *Euchirella bitumida*, 6 c *Scaphocalanus* nr. *longifurcus*

## MOC 222

- Net 18 (0-10 m): 1 c *Eucalanus* nr. *monachus*, 1 m (0.74 mm) and 1 c *Clausocalanus furcatus*, 13 f and 1 m *Temora turbinata*
- Net 17 (10-20 m): 1 c *Acrocalanus longicornis* (?), 1 c *Temora* spp.
- Net 16 (20-30 m): 1 f *Eucalanus* nr. *monachus*, 9 c *Undeuchaeta plumosa*, 1 m *Arietellus plumifer*
- Net 15 (30-40 m): 11 c *Chirundina/Undeuchaeta*
- Net 14 (40-50 m): 1 c *Mecynocera clausi*, 171 c *Chirundina/Undeuchaeta*, 3 f and 1 m and 5 c *Augaptilidae* spp.
- Net 13 (50-60 m): 1 c *Mecynocera clausi*, 1 f sp.nr. *Ctenocalanus*, 90 c *Chirundina/Undeuchaeta*, 1 c *Lophothrix* sp.
- Net 12 (60-70 m): 1 f nr. *Ctenocalanus*, 34 c *Chirundina/Undeuchaeta*, 1 c *Scottocalanus securifrons*, 5 c *Lophothrix* spp., 1 m *Paraugaptilus buchani*, 1 m *Arietellus plumifer*
- Net 11 (70-80 m): 1 f and 1 c sp. nr. *Mimocalanus*, 36 c *Chirundina/Undeuchaeta*, 1 f *Euchirella curticauda*, 1 f sp. nr. *Xanthocalanus agilis*, 1 f nr. *Xanthocalanus/Amallothrix*, 16 c *Lophothrix latipes*, 1 c *Metridia* sp.?, 1 f *Arietellus plumifer*, 1 m *Candacia bipinnata*
- Net 8 (80-90 m): 1 f sp. nr. *Mimocalanus*, 1 c sp. nr. *Farrania oblonga*, 1 f sp. A, 57 c *Chirundina /Undeuchaeta*, 1 m *Phaenna spinifera*, 1 f *Scaphocalanus* nr. *curtus* (1.02 mm), 2 m and 1 c *Scottocalanus securifrons*, 2 f *Scolecithricella minor*
- Net 7 (90-100 m): 2 c sp. A, 34 c *Chirundina/Undeuchaeta*, 1 c *Aetideus armatus*, 1 f *Temora turbinata*
- Net 6 (100-110 m) : 1 f sp. nr. *Mimocalanus*, 2 f and 1 c *Farrania oblonga*, 5 f and 6 c sp. A, 76 c *Chirundina/Undeuchaeta*, 1 c *Lophothrix latipes*, 1 m *Scaphocalanus* nr. *longifurcus*

Net 5 (110-120 m): 1 f and 2 c *Farrania oblonga*, 4 f and 3 c sp. A, 71 c *Chirundina/Undeuchaeta*, 1 f *Scolecithricella minor*

Net 4 (120-130 m): 2 m sp. nr. *Ctenocalanus*, 4 f sp. nr. *Mimocalanus*, 5 f sp. nr. *Farrania oblonga*, 10 f sp. A, 1 c *Aetideus armatus*, 77 c *Chirundina/Undeuchaeta*, 2 m *Scaphocalanus* nr. *longifurcus*

Net 3 (130-140 m): 10 m sp. nr. *Ctenocalanus* (1.04, 1.08 mm), 5 f sp. nr. *Mimocalanus*, 1 f sp. nr. *Farrania oblonga* (1.52 mm), 2 c *Aetideus armatus* (1.8 mm), 1 f and 4 c sp. A, 50 c *Chirundina/Undeuchaeta*, 1 f *Euchaeta intermedia*, 2 f *Scolecithricella minor*

Net 2 (140-150 m): 1 m *Calocalanus parvoninus* (1.26 mm), 1 c sp. nr. *Microcalanus*, 7 f and 1 c sp. nr. *Mimocalanus*, 2 f sp. A, 7 c *Chirundina/Undeuchaeta*, 1 f *Undeuchaeta major*, 1 f *Euchaeta intermedia*, 15 c *Phyllopus helgae*, 1 f sp.? (10.3 mm)

Net 1 (150-160 m): 1 c *Eucalanus* nr. *monachus*, 1 c *Eucalanus* sp., 1 f sp. nr. *Microcalanus* (0.7 mm), 1 m sp. nr. *Ctenocalanus*, 5 f sp. nr. *Mimocalanus*, 1 c *Aetideus armatus*, 1 c *Euchirella messinensis*, 1 c sp. A, 33 c *Euchirella/Chirundina/Undeuchaeta*, 2 f and 1 m *Pseudochirella* sp., 3 m *Scaphocalanus* nr. *longifurcus*, 3 c nr. *Metridia brevicauda*



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