CHAPTER 4

The Invertebrates

by

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SUMMARY AND CONCLUSIONS

Epibenthic invertebrate samples collected in Angun Lagoon, Beaufort Sea, Alaska, and adjacent nearshore marine waters on28 July 1982 were analyzed and compared with similar samples collected farther west in Simpson Lagoon in July of 1978 and in early August of 1982. From these comparisons, discussions of similarities and differences in epifaunal. use of semi-closed, pulsing types of lagoons (typical along the eastern Alaskan Beaufort "coast) versus that of open types of lagoons (typical along the central Alaskan Beaufort coast) were made.

The results of laboratory analyses of the Angun Lagoon samples indicated that the two species of mysid (*Mysis litoralis* and M. *relicta*) most common in the Simpson Lagoon area also predominated in the Angun Lagoon area. *Gammarus setosus* and *Corophium* sp. were the two dominant amphipods in the Angun Lagoon area; *Onisimus glacialis* was the predominant amphipod in the Simpson Lagoon area. Total biomass of epibenthic organisms was slightly lower in Angun Lagoon in 1982 than had been found in Simpson Lagoon in 1978 (1034 vs. 1553 mg wet weight/m2). Samples taken in Simpson Lagoon in 1982 were too few from which to make reliable biomass estimates.

INTRODUCTION

The present study was initiated to compare the use by epibenthic invertebrates of a relatively closed, pulsing type of lagoon located in the eastern portion of the Alaskan Beaufort Sea with epibenthic invertebrate use of more open types of lagoons, typified by Simpson Lagoon along the central Beaufort coast. The need for these types of comparisons has arisen primarily because of the rapid eastward expansion of petroleum development activities in the Alaskan Beaufort Sea and the need to better understand nearshore processes in these new areas. This Chapter presents the results of research conducted in Angun Lagoon (a pulsing lagoon) during a single summer sampling period in 1982 and compares these results with those of studies conducted in Simpson Lagoon (mostly previous to 1982) in the central Alaskan Beaufort Sea.

Invertebrate sampling conducted in the past ten years in the eastern Alaskan Beaufort Sea has been qualitative in nature, dealing primarily with community structure and composition. As a consequence, some information on the species composition of epibenthic and infaunal organisms in this region is available. The approach taken in this study was to use these available data to complement data collected in July 1982 in Angun Lagoon to develop estimates of relative abundance as well as composition.

The specific objectives of the study were to:

1. Quantitatively determine the abundance of tropically important invertebrates in a typical pulsing (semi-closed) lagoon and in adjacent coastal waters;
2. Compare compositions and distributions of epibenthic invertebrates between semi-closed and open lagoon systems; and
3. Compare the abundance of epibenthic invertebrates between semi-closed and open lagoon systems.

STUDY AREA

Figure 4-1 depicts the Angun Lagoon study area and the invertebrate sampling locations in and near Angun Lagoon. The lagoon itself has a maximum depth of about 3-4 m (10-13 ft). Samples were taken in the lagoon and also seaward of the lagoon to a depth of about 10 m (32 ft) at the farthest seaward station. The "PREFACE" of this volume provides more detailed discussions of the biological and physical aspects of the area of study.

METHODS

Epibenthic invertebrates were collected by LGL personnel conducting the fisheries sampling for this program. Samples were collected at seven stations in and adjacent to Angun Lagoon on 28 July 1982 (Fig. 4-1; Table 4-1) and, in addition, at two stations in the central portion of the Alaskan Beaufort Sea in Simpson Lagoon on4 August. The sampling gear

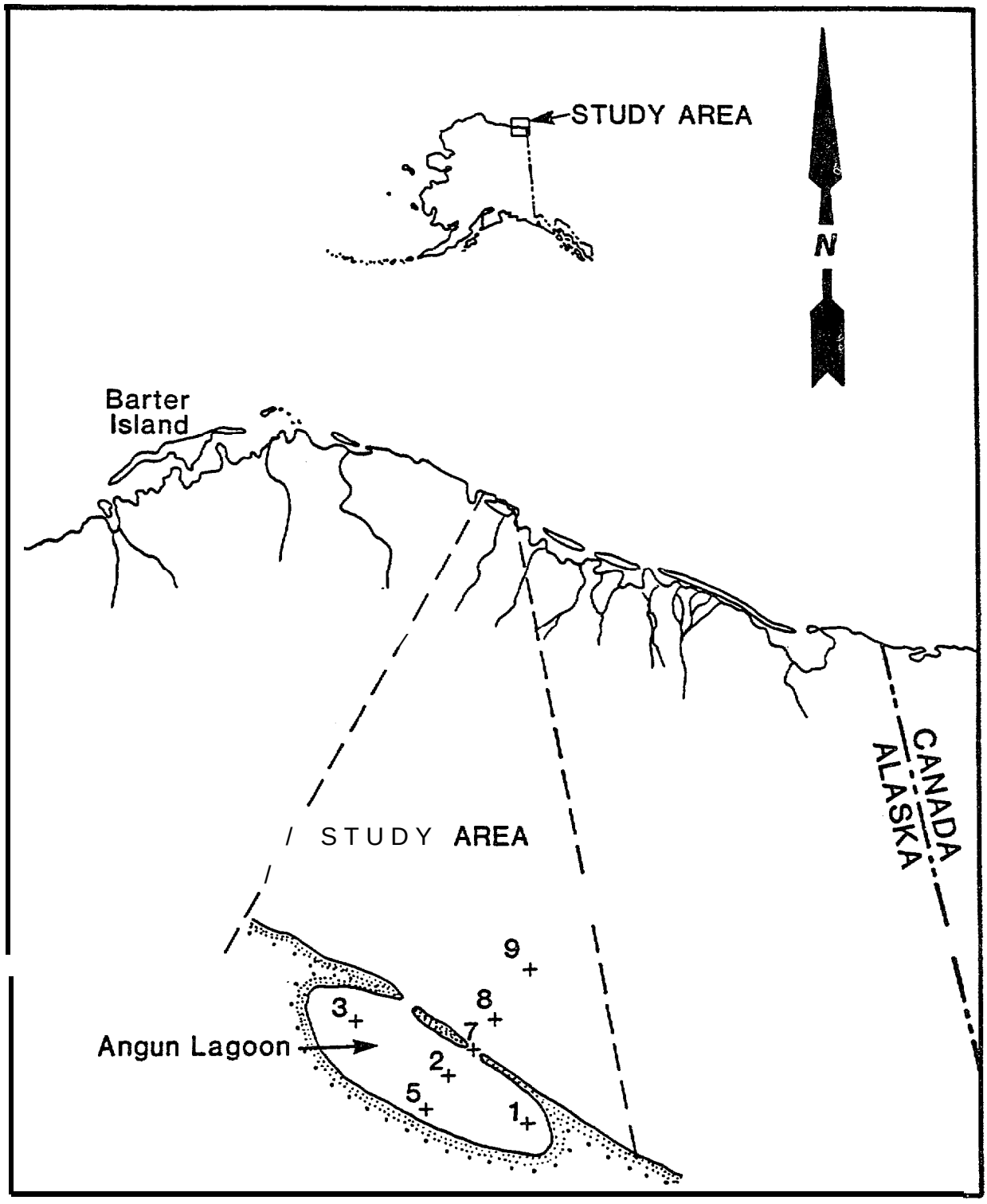

Figure 4-1. Angun Lagoon station locations where drop net samples were collected during 28 July 1982.

Table 4-1. Depth, bottom temperature and substrate of seven stations sampled by drop net in Angun Lagoon, 28 July 1983.

Station	Number of replicates	Depth (m)	Bottom temperature (“C)	Substrate
1	5	1.5	10.0	sand & gravel
2	5	3.0	10.0	mud
3	5	3.0	10.0	mud
5	5	1.5	9.0	sand & gravel
7	5	3.0	8.5	sand & gravel
8	5	2.0	6.0	sand & gravel
9	5	10.0	5.0	sand & gravel

used was a 0.2 m^2 drop net (0.5 m in diameter, 1 m long, 1 mm mesh size). This net is a weighted, central-pursing device that is dropped-from the surface of the water and pursed at the bottom (see Griffiths and Dillinger 1981 for a detailed description). Five replicate samples were collected at most stations. All samples were preserved in 10% neutral buffered formalin.

Laboratory analyses of the drop net samples consisted of identification, sorting, counting and weighing (wet) of all organisms present in the samples at the Institute of Marine Science Laboratory, Fairbanks. All organisms were identified to the lowest taxonomic level possible. Conversion of formalin wet weights to ash-free dry weights was made for three of the dominant species for which conversion values were available: Mysis litoralis, M. relicta, and Gammarus setosus (Griffiths and Dillinger 1981). Mysis relicta and M. litoralis from each station were measured (total length) following procedures outlined in Griffiths and Dillinger (1981). The total length of Gamarus setosus was measured.

A Kruskal-Wallis one-way analysis of variance test (ANOVA) (Zar 1974) was used to determine differences in dominant epifaunal species between stations in Angun Lagoon. Statistical tests were based on measurements of abundance and ash-free dry weights for the dominant species. For all Kruskal-Wallis tests a probability value (P-value) was calculated. If P was determined to be less than 0.05 multiple comparisons were made (Dunn *1964).*

RESULTS

Drop net samples from the seven Angun Lagoon stations comprised 95 taxa; 91 of these were invertebrates and four were vertebrates (fish). One plant also was identified. The data summaries for individual stations, as well as a summary of all Angun Lagoon data combined, are presented in Appendices 4-I and 4-II, respectively.

The total density and biomass of all taxa at all stations was 1006 individuals/m^2 and 4.383 g/m^2, respectively (Table 4-2). Eleven species accounted for 70.5% and 55.7% of the total number of organisms and wet weight of all organisms, respectively (Table 4-3). These eleven species consisted of five polychaete species (Prionospio cirrifera, Pholoe minuta,

Table 4-2. Summary of density and biomass data by phylum from seven Angun Lagoon stations, 28 July 1982.

Phylum	No. taxa	Abundance No.	Abundance %	Indiv/m² at occurring stations	Indiv/m² at all stations	Wet weight (g) No.[a]	Wet weight (g) %	g/m² at occurring stations	g/m² at all stations
Protozoa	3	26.2	1.9	44.5	19.1	0.046	0.8	0.078	0.033
Cnidaria	3	16.2	1.2	41.2	11.8	0.039	0.6	0.099	0.028
Rhynchocoela	1	3.2	0.2	8.1	2.4	0.001	<0.1	0.003	0.001
Nematoda	1	63.2	4.6	160.9	46.0	0.003	<0.1	0.008	0.002
Annelida	24	740.6	53.6	538.6	538.6	1.082	18.0	0.787	0.787
Mollusca	13	62.4	4.5	105.9	45.4	0.204	3.4	0.346	0.148
Arthropods (Arachnida)	2	0.4	<0.1	1.0	0.3	<0.001	<0.1	0.001	0.003
Arthropoda (Crustacea)	40	451.2	32.6	328.4	328.4	1.569	26.1	1.142	1.142
Priapulida	1	7.8	0.5	19.8	5.7	0.066	1.1	0.168	0.048
Ectoprocta	1	1.2	<0.1	6.1	0.9	0.064	1.1	0.326	0.047
Urochordata	2	7.4	0.5	12.5	5.4	1.476	24.5	2.506	1.074
Teleostei	4	1.4	0.1	2.4	1.0	0.025	0.4	0.042	0.018
TOTALS	95	1381			1006.0	6.023			4.383

[a]Sum of the station means.

Table 4-3. Summary of density and biomass data for 11 dominant species from Angun Lagoon, 28 July 1982.

	Abundance		Indiv/m^2 at	Indiv/m^2 at	Wet weight (g)		g/m^2 at	g/m^2 at
	No.[a]	%[b]	occurring stations	all stations	No.[a]	%[c]	occurring stations	all stations
Polychaeta								
Prionospio cirrifera	184.8	13.4	235.3	134.5	0.188	3.1	0.240	0.137
Pholoe minuta	163.2	11.8	277.1	118.8	0.062	1.0	0.106	0.045
Chone duneri	110.4	8.0	281.1	80.3	0.021	0.3	0.054	0.016
Nereimyra aphroditoides	109.2	7.9	278.1	79.5	0.421	7.0	1.073	0.306
Spio filicornis	45.4	3.2	46.2	33.0	0.032	0.5	0.033	0.023
Crustacea								
Diastylis sulcata	157.8	11.4	200.9	114.8	0.029	4.8	0.372	0.212
Mysis litoralis	140.4	10.2	143.0	102.2	0.372	6.2	0.379	0.271
Mysis relicts	22.4	1.6	19.0	16.3	0.197	3.3	0.167	0.143
Corophium sp.	18.8	1.3	47.9	13.7	0.013	0.2	0.034	0.009
Gammarus setosus	14.8	1.1	15.1	10.8	0.279	4.6	0.285	0.203
Urochordata								
Rhizomolgula globularis	7.1	0.5	18.3	5.2	1.476	24.5	3.758	1.074
TOTALS	974.0	70.5		709.0	3.355	55.7		2.439

[a]Sum of the station means.
[b]Percent of total abundance (1381 individuals) of all taxa from all stations.
[c]Percent of total weight (6.023g) of all taxa from all stations.

Chone duneri, Nereimyra aphroditoides, and Spio filicornis), five crustacean species (Diastylis sulcata, Mysis litoralis, M. relicta, Corophium sp. and Gammarus setosus), and one tunicate species (Rhizomolgula globularis). The density and biomass of these 11 species combined accounted for 709 individuals/m^2 and 2.439 g/m^2, respectively (Table 4-3). (The drop net is not an effective sampler for infaunal organisms, consequently the densities and biomasses of these organisms presented here probably have been underestimated.)

Because of the paucity of material collected from the Simpson Lagoon stations these data are not discussed in great detail. They are presented in Appendix 4-III.

SPECIES ACCOUNTS

Mysids and Amphipods

Mysis litoralis

Mysis litoralis was found at five stations (Stations 2, 3, 7, 8 and 9). The mean density and biomass of this mysid species at all stations was 102 individuals/m^2 and 0.271 g/m^2, respectively (Table 4-3). The density and biomass of this species was significantly different ($P<0.05$) between the five stations at which it occurred. Multiple comparisons showed that the density of this species was significantly greater at Stations 2 and 8 than at Stations 7 and 9 (Table 4-4). The biomass was significantly greater at Station 1 than at Stations 7 and 9, and the biomass at Station 8 was greater than at Station 9 (Table 4-5). The length frequency measurements indicated that nearly 64% of the total lengths were between 7.3 and 7.9 mm (Table 4-6).

Mysis relicta

This mysid was found at all but one (Station 9) of the seven stations sampled. The density and biomass of Mysis relicta at all stations sampled was 16 individuals/m^2 and 0.143 g/m^2, respectively (Table 4-3). Kruskal-Wallis ANOVA indicated that a significant difference ($P<0.05$) was apparent

Table 4-4. Kruskal-Wallis one-way ANOVA for the density of the mysid *Mysis litoralis* from Angun Lagoon, 28 July 1982.

Mysis litoralis

Station	No. replicate Samples	Rank Sum of Contents[a]	Average Rank Sum of Contents
2	5	110.0	22.0
3	5	68.0	13.6
7	5	40.5	8.1
8	5	91.0	18.2
9	5	15.5	3.1

Stations Significantly Different ($P<0.05$)[b]
Station 2 > Station 7
Station 2 > Station 9
Station 8 > Station 7
Station 8 > Station 9

[a]Calculated test statistic = 21.36. Calculated P-value ≈ 0 assuming a χ^2 distribution with 4 DF.

[b]Multiple comparison test (Dunn 1964).

Table 4-5. Kruskal-Wallis one-way ANOVA for the biomass of the mysid *Mysis litoralis* from Angun Lagoon, 28 July 1982.

Mysis litoralis

Station	No. replicate Samples	Rank Sum of Contents[a]	Average Rank Sum of Contents
2	5	112.0	22.4
3	5	71.5	14.3
7	5	42.0	8.4
8	5	84.5	16.9
9	5	15.0	3.0

Stations Significantly Different ($P<0.05$)[b]
Station 1 > Station 7
Station 1 > Station 9
Station 8 > Station 9

[a]Calculated test statistic = 20.99. Calculated P-value ≈ 0 assuming a X^2 distribution with 4 DF.

[b]Multiple comparison test (Dunn 1964).

Table 4-6. Length frequency of the mysid *Mysis litoralis* from Angun Lagoon, 28 July 1982. Length measurements were converted from telson lengths according to Griffiths and Dillinger (1980).

Converted Total length, mm	Angun Lagoon Stations 2	3	7	8	9	Measured Total	Percent
4.7			1			1	0.1
5.4				2		2	0.3
6.0	30	4	2	53		89	12.8
6.7	14	6		26		46	6.6
7.3	101	26	7	29		163	23.4
7.9	158	47	8	67	1	281	40.3
8.6	25	13	5	15		58	8.3
9.2	25	5	5	3		38	5.5
9.9	4	5	1	5		15	2.2
10.5	1	2				3	0.4
26.7	1					1	0.1
Total Measured	359	108	29	200	1	697	100
Percent Measured	100%	100%	100%	98%	100%		

between the density at the occurring stations but not the biomass (Tables 4-7 and 4-8). Multiple comparisons showed that the density of *M. relicta* was significantly greater at Station 5 than at Station 8 (Table 4-7). Approximately 76% of the *M. relicta* collected were between 5.2 mm and 8.5 mm in total length (Table 4-9).

Corophium sp.

Corophium sp. occurred only at Stations 2 and 3. The density and biomass at these two stations was only 48 individuals/m^2 and 0.034 g/m^2, respectively (Table 4-3). Similar density and biomass values for all stations sampled were 14 individuals/m^2 and 0.009 g/m^2, respectively. The density of *Corophium* sp. was highest at Station 3 (Table 4-10).

Gammarus setosus

Gammarus setosus occurred at five stations (Stations 1, 2, 3, 5 and 7). The density was low (11 individuals/m^2 at all stations); however, the biomass was relatively high (0.203 g/m^2 at all stations) (Table 4-3). Statistical analyses of the density and biomass of this species indicated that significant differences ($P<0.05$) occurred between stations. Multiple comparisons indicated that the density and biomass of *M. setosus* was greater at Station 1 than at Stations 2 and 5 (Tables 4-11 and 4-12). The total lengths of this species ranged from 1.6 mm to 17.4 mm and the average length was 9.4 mm (Table 4-13).

Tunicates

Rhizomolgula globularis

The tunicate *Rhizomolgula globularis* occurred only at Stations 2 and 3 in Angun Lagoon. Statistical analyses revealed that the density of this species was significantly greater at Station 3 (Table 4-14).

Table 4-7. Kruskal-Wallis one-way ANOVA for the density of the mysid *Mysis relicts* from Angun Lagoon, 28 July 1982.

Mysis relicts

Station	No. replicate Samples	Rank Sum of Contents[a]	Average Rank Sum of Contents
1	5	60.0	12.0
2	5	70.0	14.0
3	5	68.0	13.6
5	5	133.0	26.6
7	5	83.0	16.6
8	5	50.0	10.0

Stations Significantly Different ($P<0.05$)[b]

Station 5 > Station 8

[a]Calculated test statistic = 11.75. Calculated P-value = 0".03 assuming a χ^2 distribution with 5 DF.

[b]Multiple comparison test (Dunn 1964).

Table 4-8. Kruskal-Wallis one-way ANOVA for the biomass of the mysid *Mysis relicts* from Angun Lagoon, 28 July 1982.

Mysis relicta

Station	No. replicate Samples	Rank Sum of Contents[a]	Average Rank Sum of Contents
1	5	59.0	11.8
2	5	101.0	20.0
3	5	69.0	13.8
5	5	103.5	20.7
7	5	84.5	16.9
8	5	48.0	9.6

Stations Significantly Different ($P<0.05$)[b]

No difference between stations

[a]Calculated test statistic = 6.81. Calculated P-value = 0.25 assuming a χ^2 distribution with 5 DF.

[b]Multiple comparison test (Dunn 1964).

Table 4-9. Length frequency of the mysid *Mysis relicts* from Angun Lagoon, 28 July 1982. Length measurements were converted from telson lengths according to Griffiths and Dillinger (1980).

Converted Total length, mm	Angun Lagoon Stations 1	2	3	5	7	8	Measured Total	Percent
3.9				2			2	1.9
4.6				3			3	2.8
5.2	1			7			8	7.4
5.9	1		1	7	3	1	13	12.0
6.5	3	1	1	15	3	4	27	25.0
7.2			1	11	4	1	17	15.7
7.9			1	5	2		8	7.4
8.5	1		1	6	1		9	8.3
13.1			1				1	0.9
14.5					1		1	0.9
15.1		1	2			1	4	3.7
15.8		1		1	1		3	2.8
16.4	1	2			2		5	4.6
17.1		1	1				2	1.9
17.8	1			2	1		4	3.7
21.7		1					1	0.9
Total Measured	8	7	9	59	18	7	108	100
Percent Measured	88%	100%	82%	98%	100%	100%		

Table 4-10. Kruskal-Wallis one-way ANOVA for the density of the amphipod *Corophium* sp. from Angun Lagoon, 28 July 1982.

Corophium sp.

Station	No. replicate Samples	Rank Sum of Contents[a]	Average Rank Sum of Contents
2	5	15	3.0
3	5	40	8.0

Stations Significantly Different ($P<0.05$)[b]

Station 3 > Station 2

[a]Calculated test statistic = 6.99. Calculated P-value ≈ 0 assuming a χ^2 distribution with 1 DF.

[b]Multiple comparison test (Dunn, 1964).

Table 4-11. Kruskal-Wallis one-way ANOVA for the density of the amphipod *Gammarus setosus* from Angun Lagoon, 28 July 1982.

Gammarus setosus

Station	No. replicate Samples	Rank Sum of Contents[a]	Average Rank Sum of Contents
1	5	106.5	21.3
2	5	35.5	7.1
3	5	76.0	15.2
5	5	47.5	9.5
7	5	55.0	11.0

Stations Significantly Different ($P<0.05$)[b]

Station 1 > Station 2

Station 1 > Station 5

[a]Calculated test statistic = 10.06. Calculated P-value = 0.04 assuming a χ^2 distribution with 4 DF.

[b]Multiple comparison test (Dunn 1964).

Table 4-12. Kruskal-Wallis one-way ANOVA for the biomass of the amphipod *Gammarus setosus* from Angun Lagoon, 28 July 1982.

Gammarus setosus

Station	No. replicate Samples	Rank Sum of Contents[a]	Average Rank Sum of Contents
1	5	111.0	22.2
2	5	39.0	7.8
3	5	61.0	12.2
5	5	49.0	9.8
7	5	60.0	12.0

Stations Significantly Different ($P<0.05$)

Station 1 > Station 2

Station 1 > Station 5

[a]Calculated test statistic = 10.07. Calculated P-value = 0.041 assuming a χ^2 distribution with 4 DF.

[b]Multiple comparison test (Dunn 1964).

Table 4-13. Length frequency of the amphipod *Gammarus setosus* from Angun Lagoon, 28 July 1982.

Total length, mm	Angun Lagoon Stations 1	2	3	Measured Total	Percent
1.6			1	1	1.6
2.8			1	1	1.6
3.2			1	1	1.6
4.0			1	1	1.6
4.2	1		1	2	3.1
4.4	1			1	1.6
4.8	1			1	1.6
6.4			1	1	1.6
6.8	1			1	1.6
7.2	1		1	2	3.6
7.6	2		2	4	6.3
8.0	1		3	4	6.3
8.4	2		1	3	4.7
8.8	10		2	12	18.8
9.2	1			1	1.6
9.6	4			4	6.3
10.0	2	1		3	4.7
10.4	2			2	3.1
10.8			1	1	1.6
11.2	2			2	3.1
11.6	2			2	3.1
12.4	3			3	3.1
12.8	1			1	1.6
13.3		1		1	1.6
13.9	1			1	1.6
14.1	1			1	1.6
14.9	4			4	6.3
15.8	1			1	1.6
16.6	1			1	1.6
17.4	1			1	1.6
Total Measured	46	2	16	64	100
Percent Measured	100%	100%	80%		

Table 4-14. Kruskal-Wallis one-way ANOVA for the density of the tunicate *Rhizomolgula globularis* from Angun Lagoon, 28 July 1982.

Rhizomolgula globularis

Station	No. replicate Samples	Rank Sum of Contents[a]	Average Rank Sum of Contents
2	5	15	3.0
3	5	40	8.0

Stations Significantly Different ($P<0.05$)[b]

Station 3 > Station 2

[a]Calculated test statistic = 8.55. Calculated P-value = 0.005 assuming a x^2 distribution with 1 DF.

[b]Multiple comparison test (Dunn 1964).

Cumaceans

Diastylis sulcata

Diastylis sulcata was found at three (Stations 2, 3 and 9) of the seven stations sampled. The average density of D. sulcata at these three stations and all' stations was 201 individuals/m^2 and 115 individuals/m^2Y respectively. The average biomass of D. sulcata at StatIons 2, 3 and 9 and at all stations was 0.372 g/m^2 and 0.212 g/m^2, respectively (Table 4-3). Multiple comparison tests indicated that D. sulcata was most dense at Station 3 (Table 4-15).

Polychaetes

Prionospio cirrifera

Of the five dominant polychaetes, Prionospio cirrifera had the highest density (135 individuals/m^2) within the seven stations sampled; its biomass was 0.137 g/m^2. This species was found at four stations (Stations 1, 2, 3 and 9), three of which were within Angun Lagoon. The density of P. cirrifera was significantly different among these four stations (Table 4-16). The density of this species at Station 2 was significantly greater ($P<0.05$) than at Stations 1 and 9. Similarly the density at Station 3 was greater than at Station 1.

Pholoe minuta

Pholoe minuta was found at three (Stations 1, 2 and 3) of the seven stations and had an overall density and biomass of 119 individuals/m^2 and 0.045 g/m^2, respectively (Table 4-3). The density of P. minuta was significantly greater ($P<0.05$) at Station 2 thanat Station 1 (Table 4-17).

Table 4-15. Kruskal-Wallis one-way ANOVA for the density of the cumacean *Diastylis sulcata* from Angun Lagoon, 28 July 1982.

Diastylis sulcata

Station	No. replicate Samples	Rank Sum of Contents[a]	Average Rank Sum of Contents
2	5	27.5	5.5
3	5	65.0	13.0
9 ,	5	27.5	5*5

Station Significantly Different (P<0.05)[b]
Station 3 > Station 2
Station 3 > Station 9

[a]Calculated test statistic = 11.05. Calculated P-value ≈ 0 assuming a X^2 distribution with 2 DF.

[b]Multiple comparison test (Dunn 1964).

Table 4-16. Kruskal-Wallis one-way ANOVA for the density of the polychaete *Prionospio cirrifera* from Angun Lagoon, 28 July 1982.

Prionospio cirrifera

Station	No. replicate samples	Rank Sum of Contents[a]	Average Rank Sum of Contents
1	5	15.0	3.0
2	5	90.0	18.0
3	5	65.0	13.0
9	5	40.0	8.0

Stations Significantly Different ($P<0.05$)[b]

Station 2 > Station 1

Station 2 > Station 9

Station 3 > Station 1

[a]Calculated test statistic = 17.91. Calculated P-value ≈ 0 assuming a X^2 distribution with 3 DF.

[b]Multiple comparison test (Dunn 1964).

Table 4-17. Kruskal-Wallis one-way ANOVA for the density of the polychaete *Pholoe minuta* from Angun Lagoon, 28 July 1982.

Pholoe minuta

Station	No. replicate Samples	Rank Sum of Contents[a]	Average Rank Sum of Contents
1	5	18.0	3.6
2	5	57.0	11.4
3	5	45.0	9.0

Stations Significantly Different ($P<0.05$)[b]

Station 2 > Station 1

[a]Calculated test statistic = 8.29. Calculated P-value = 0.01 assuming a χ^2 distribution with 2 DF.

[b]Multiple comparison test (Dunn 1964).

Chone duneri

The polychaete Chone duneri was found at only two stations (Stations 2 and 3). The density and biomass values for C. duneri among Stations 2 and 3 combined and all stations were 281 individuals/m^2 and 0.054 g/m^2, and 80 individuals/m^2 and 0.016 g/m^2, respectively (Table 4-3). The Kruskal-Wallis test, using density of C. duneri, showed that Stations 2 and 3 were significantly different. Furthermore, the density of this species was significantly greater ($P<0.05$) at Station 3 than at Station 2 (Table 4-18).

Nereimyra aphroditoides

Nereimyra aphroditoides was found at only two stations (Stations 2 and 3). The overall density of this polychaete was 80 individuals/m^2; however, the biomass was the high value of 0.306 g/m^2. The respective density and biomass for this species at Stations 2 and 3 combined were 278 individuals/m^2 and 1.073 g/m^2 (Table 4-3). The density of N. aphroditoides at Station 2 was significantly greater ($P<0.05$) than Station 3 (Table 4-19).

Spio filicornis

The polychaete Spio filicornis was found at four stations, two inside Angun Lagoon (Stations 2 and 3) and two outside the lagoon (Stations 8 and 9). This species had the lowest density (33 individuals/m^2 among all stations sampled) of the five polychaete species. The mean density at the four stations where it occurred was 46 individuals/m^2. The mean biomass at stations where it occurred and at all stations was 0.033 g/m^2 and 0.023 g/m^2, respectively (Table 4-3). The density of this species was significantly different ($P<0.05$) among some stations at which it occurred. Multiple comparisons revealed that the density of S. filicornis *was* significantly greater at Station 3 than at Stations 8 and 9 (Table 4-20).

Table 4-18. Kruskal-Wallis one-way ANOVA for the density of the polychaete *Chone duneri* from Angun Lagoon, 28 July 1982.

Chone duneri

Station	No. replicate Samples	Rank Sum of Contents[a]	Average Rank Sum of Contents
2	5	15.0	3.0
3	5	40.0	8.0

Stations Significantly Different ($P<0.05$)[b]
Station 3 > Station 2

[a]Calculated test statistic = 6.99. Calculated P-value ≈ 0 assuming a χ^2 distribution with 1 DF.

[b]Multiple comparison test (Dunn 1964).

Table 4-19. Kruskal-Wallis one-way ANOVA for the density of the polychaete *Nereimyra* aphroditoides from Angun Lagoon, 28 July 1982.

Nereimyra aphroditoides

Station	No. replicate Samples	Rank Sum of Contents[a]	Average Rank Sum of Contents
2	5	40.0	8.0
3	5	15.0	3.0

Stations Significantly Different ($P<0.05$)[b]

Station 2 > Station 3

[a]Calculated test statistic = 6.82. Calculated P-value ≈ 0 assuming a χ^2 distribution with 1 DF.

[b]Multiple comparison test (Dunn 1964).

Table 4-20. Kruskal-Wallis one-way ANOVA for the density of the polychaete *Spio filicornis* from Angun Lagoon, 28 July 1982.

Spio filicornis

Station	No. replicate Samples	Rank Sum of Contents[a]	Average Rank Sum of Contents
2	5	65.0	***13.0***
3	5	***90.0***	18.0
8	5	32.0	6.4
9	5	22.5	**4.5**

Stations Significantly Different (P<0.05)[b]
Station 3 > Station 8
Station 3 > Station 9

[a]Calculated test statistic = 16.93. Calculated P-value ≈ 0 assuming a χ^2 distribution with 3 DF.

[b]Multiple comparison test (Dunn 1964).

DISCUSSION

Invertebrate samples were collected on only a single date during this study, thus preventing our making seasonal comparisons from the data. However, some useful comparisons of biomass and species composition among different sites along the coast can be made, particularly when the data collected are used in conjunction with the stomach analysis information provided in the fish and bird Chapters of this report (Griffiths, this volume; Johnson, this volume).

Mysids and Amphipods

Studies conducted in the nearshore waters at various locations along the Alaskan and Canadian Beaufort Sea coasts have shown that the mysid community is dominated by two species--*Mysis litoralis* and *M. relicta* (Galloway and Britch 1983; Feder and McGee 1982; Griffiths and Buchanan 1982; Griffiths and Dillinger 1981; Broad et al. 1979, 1980). In studies where comparable data are available, the length of mysids are similar among lagoons. For example, *M. litoralis* and *M. relicta* collected in the present study were similar in length to those found in Simpson Lagoon in 1978 and in 1982 (i.e. in all cases the majority of individuals of both species were between 6 and 8 mm). In contrast, some differences among years and study areas were noted for wet weights of mysids. For example, *M. litoralis* collected in Angun Lagoon in 1982 averaged 2.7 mg in wet weight; in Simpson Lagoon the average weights were 3.6 mg in 1978 and 4.3 mg in 1982. In *M. relicta* a reverse trend was documented. In Angun Lagoon in 1982 *M. relicta* averaged 8.9 mg; in Simpson Lagoon the mean wet weights were 3.4 mg in 1978 and 6.o mg in 1982.

These differences in wet weights may be caused at least partly by differences in dates the samples were collected. Even though all the values given in this report are from samples collected between the last week of July and the first week of August, it is important to understand that this is the period of most rapid growth for mysids along the Alaskan Beaufort coast, so that organisms collected 7-14 days apart may have

substantially different wet weights. Other potential reasons for observed differences in weights of individuals are unclear.

Comparisons of the biomass estimates (i.e. mg wet weight/m^2) of mysids (*M. litoralis* and *M. relicta* combined) among three samples--Simpson Lagoon on 3 August 1978 and 4 August 1982, and Angun Lagoon on 28 July 1982 (mg wet weight of 1130, 405 and 540, respectively)--showed a large difference between years but not between locations. The between-year difference In biomass per unit area in Simpson Lagoon (1130 vs. 405) was much larger than the difference between Simpson Lagoon in 1982 and Angun Lagoon in 1982 (405 vs. 540 mgwetweight/m^2). However, these results should be viewed with some caution because of the small sample size of the 1982 Simpson Lagoon collections.

The important point to be made here is that in both the open lagoon system (e.g. Simpson Lagoon) and the semi-closed system (Angun Lagoon) the mysid community is composed of two main species, *M. litoralis* and *M. relicta*. These two species form a major part of the diets of vertebrate consumers (fish and birds) in both systems (Griffiths, this volume; Johnson, this volume).

A comparison of the amphipod community of Simpson Lagoon with that of Angun Lagoon shows some differences between lagoons. The dominant amphipod species in Simpson Lagoon, in terms of both numbers and biomass, was *Onisimus glacialis*. In Angun Lagoon *Corophium* sp. and *Gammarus setosus* were most abundant numerically and *G. setosus* was dominant in terms of biomass. These differences may be due in part to the differences in the sources of available carbon in the two systems. In Simpson Lagoon the main source of carbon for invertebrates (mysids and amphipods) appears to be modern marine primary production but in Angun Lagoon terrestrial carbon (in the form of detritus from terrestrial sources) may be relatively more available (see Schell et al. 1982; Schell, this volume). Schneider (1980) showed that *Gammarus setosus* was one of the few epibenthic invertebrates that was able to assimilate peat detritus. He found that other species of epibenthic invertebrates (e.g. *Mysis litoralis*, *Onisimus glacialis*, etc.) were unable to assimilate peat detritus that they consumed.

The total amphipod biomass (mg wet weight/m^2) was similar in invertebrate collections made in Simpson Lagoon on 3 August 19?8 (423

mg/m^2) to that of collections from Angun Lagoon made on 28 July 1982 (493 mg/m^2). In"contrast, the biomass of amphipods from Simpson Lagoonon4 August 1982 (87 mg/m^2) was remarkably lower than at this same location in 1978 and *lower* than the Angun Lagoon samples taken in 1982. However, as mentioned earlier, the small number of samples collected on 4 August 1982 in Simpson Lagoon require% a cautious interpretation of these data.

The total epibenthic biomass (mysids and amphipods) from Simpson Lagoon in 1978 and from Angun Lagoon in 1982 (the two studies with adequate sample sizes) were of the same order of magnitude (1553 vs. 1034 mg wet weight/m^2), with differences in the mysid biomass being primarily responsible for the observed difference. In both of these systems it appears that food in the form of epibenthic invertebrates probably is not a limiting factor to the vertebrate consumers (fish and birds} that utilize these lagoon areas during the open-water season.

Infauna

Since the drop net does not provide an accurate estimate or index of densities or biomasses for infaunal organisms, no valid comparisons among sites are possible. However, it might be noted that the major species of polychaete worms found in Angun Lagoon (i.e. *Prionospio cirrifera*, *Pholoe minuta*, *Chone duneri*, *Nereimyra aphroditoides* and *Spio filicornis*) have been found at several other locations along the Beaufort Sea coast (Broad et al. 1979).

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APPENDIX 4-1

Summaries of Angun Lagoon Drop Net Data
July 1982

ANGUN LAGOON (BEAUFORT LAGOON) JULY 1982

TOW OR DREDGE MOUTH WIDTH = 0.5 m diameter drop net

Area = πr^2 = 0.1963 m^2

0.1963 m^2 x 5 replicates/station = 0.9815 m^2

$\bar{x}$ area sampled/station = 0,1963 m^2

Area for 7 stations sampled = 1.3741 m^2

04/08/83

CRUISE #	STAT #	ToW #	GEAR cODE	DATE YYMMDD	TIME HHMM	START LATITUDE DEG MIN	START LONGITUDE DEG MIN	FINISH LATITUDE DEG MIN	FINISH LONGITUDE DEG MIN	MIDPOINT LATITUDE DEG MIN	MIDPOINT LONGITUDE DEG MIN	TIME FISH MINS	DIST FISHED (KM)	DEPTH FISHED (METERS) MIN	MAX	AVG
8243R	AL01	1	D N	820728						69 56.2N	142 24.7W	****	1.000000	1.0	- 1.0	1.0
	7	2	DN	820728						69 56.2N	142 24.7W	****	1.000000	1.0	- 100	1.0
	3	3	DN	820728						69 56.2N	142 24.7W	****	1.000000	1.0	- 1.0	1.0
	4	4	DN	820728						69 56.2N	142 24.7W	****	1.000000	1*O	- 1.0	1.0
	5	5	O N	820728						69 56.2N	142 24.7W	****	1.000000	1.0	- 1.0	1*O

TAXON CODE	TAXONOMIC NAME	COUNTS RAW	%	/KM	/M SQ	WEIGHT (GRAMS) RAW	%	/KM	/M SQ
INVERTEBRATES									
4801050101	PHLOE MINUTA	0	1.0	0.2	1.01859	0.0002	00079	0.0002	0.00102
4801420502	PRIONOSPIO CIRRIFERA	1	3.0	0.6	3.05577	000004	0.158	0.0004	0.00204
4801421302	PYGOSPIO ELEGANS	0	1.0	0.2	1.01859	0.0002	0.079	0.0002	0.00102
5327031404	MYSIS RELICTA	2	9*1	1.8	9.16730	0.0210	8.320	000210	0.10695
5328050120	DIASTYI IS SULCATA	0	1.0	0.2	1.01859	0.0002	0.079	0.0002	0.00102
5330020101	SADURIA ENTOMON	1	5.1	1.0	5.09295	0.0062	2.456	0.0062	0.03158
5331210700	GAMMARUS	4	?102	4.2	21.39037	0.0064	2.536	0.0064	0.03259
5331210702	GAMMARUS SETOSA	9	43.4	8.6	43.79934	0.2112	83.677	0.2112	1.07563
5331220202	PONTOPOREIA AFFINIS	1	4.0	0.8	4.07436	0.0044	1.743	0.0044	0.02241
5331370907	MONOCUI OPSIS LONGICORNIS	2	1101	2*2	11.20448	0.0022	0.872	0.0022	0001120
	TOTAL			19.8	100.84034			0.2524	1.28546

CRUSE #	STAT #	TOW #	GEAR CODE	DATE YYMMDD	TIME HHMM	START LATITUDE DEG MIN	START LONGITUDE DEG MIN	FINISH LATITUDE DEG MIN	FINISH LONGITUDE DEG MIN	Midpoint LATITUDE DEG MIN	Midpoint LONGITUDE DEG MIN	TIME FISH MINS	DIST FISHED (KM)	DEPTH FISHED (METERS) MIN	MAX	AVG
8243R	A102	1	DN	820728						69 57.1N	142 27.0W	***it	1.000000	3.0 -	3.0	3.0
	2	2	DN	820728						69 57.1N	142 27.0W	****	1.000000	3*O -	3*O	3.0
	3	3	DN	820728						69 57.1N	142 27.0W	****	1.000000	3.0 -	3.0	3.0
	4	4	DN	820728						69 57.1N	142 27.0W	****	1.000000	3.0 -	3*O	3.0
	5	5	DN	820728						69 57.1N	142 27.0W	****	1.000000	300 -	3.0	3.0

TAXON CODE	TAXONOMIC NAME	COUNTS RAW	COUNTS %	COUNTS /KM	COUNTS /M SQ	WEIGHT (GRAMS) RAW	WEIGHT (GRAMS) %	WEIGHT (GRAMS) /KM	WEIGHT (GRAMS) /M SQ
INVERTEBRATES									
1303010502	NEODILSEA INTEGRA	0	O*1	0.4	2.03718	(3.8680	38.197	0.8680	4.42068
3104140100	CORNUSPIRA SPP.	1	0.2	1.0	5,09295	0.0020	0.088	0.0020	0.01019
3104140101	CORNUSPIRA INVOLVENS	0	001	0.4	2.03718	0.0042	0.185	0.0042	0.02139
3301000000	HYDROZOA	13	2.2	13.4	68.24548	0.0006	0.026	0.0006	0.00306
4000000000	RHYNCHOCOELA	3	0.5	3.0	15.27884	0.0010	0.044	0.0010	0.00509
4400000000	NEMATODA	38	6.3	38.0	193.53196	0.0014	0.062	0.0014	0.00713
4FIO1OOOOOO	POLYCHAETA				2.03718	0.0026	0.114	0.0026	0.01324
4801010202	ANTINOELLA SARSI	0	0*1	0.4	651.89717	0.1532	6.742	0.1532	0.78024
4801050101	PHLOE MINUTA	128	21.2	128.0	521.87384	0.0566	2.491	0.0566	0.28826
4801200301	NEREIMYRA APHRODITOIDES	107	17.8	107.2	545.96384	0.4138	18.210	0.4138	2.10746
4801250201	SPHAERODOROPSIS MINUTA	7	1.2	7.0	35.65062	0.0040	0.176	0.0040	0.02037
4801400200	ARICIDEA SPPO	2	0.4	2*2	11.20448	0.0010	0.044	0.0010	0.00509
4801420408	POLYDORA QUADRILOBATA	23	3.8	22.8	116.11917	0.0108	0.475	0.0108	0.05500
4801420502	PRIO)JOSP1O CIRRIFERA	139	73*1	139.2	708.93812	0.1404	6.178	0.1404	0.71505
4801420701	SPIO FILICORNIS	10	1.7	10.4	52.96664	0.0072	0.317	0.0072	0.03667
4801520202	FLABELLIGERA AFFINIS	0	0.0	0.2	1.01859	0.0354	1.558	0.0354	0.18029
4801580402	MEDIOMASTUS CAPENSIS	13	2.2	13*4	68.24548	0.0046	0.202	0.0046	0.02343
4801660000	TEREBELLIDAE	1	0.1	0.6	3.05577	0.0008	0.035	0.0008	0.00407
4801670101	TEREBELLIDES STROEMII	4	0.7	4.4	22.40896	0.0412	1.813	0.0412	0.20983
4801680104	CHONE DUNERI	4	0.7	4.2	21.39037	0.0014	0.062	0.0014	0.00713
4801681400	LAONOME SPP.	0	O*O	0.2	1.01859	0.0002	0.009	0.0002	0.00102
4801681401	LAONOME KROYERI	0	0.1	0.4	2.03718	0.0004	0.018	0.0004	0.00204
4802000000	OLIGOCHAETA	3	0.5	3.0	15.27884	000010	0.044	0.0010	0.00509
4904000000	PELECYPODA	3	0.6	3*4	17.31602	0.0046	0.202	0.0046	0.02343
4905000000	GASTROPODA	6	1.0	6.0	30.55768	0.0130	0.572	0.0130	0.06621
4905110100	ALVINIA SPP.	4	0.6	3.6	18.33461	0.0044	0.194	0.0044	0.02241
4905450101	RETUSA OBTUSA	0	0.0	002	1.01859	0.0002	0.009	0.0002	0.00102
4905490200	CYLICHNA SPP.	0	0.1	O*4	2.03718	000008	0.035	0.0008	0.00407
4905490201	CYLICHNA OCCULTA	0	0.1	0.4	2.03718	0.0002	0.009	0.0002	0.00102
5101010000	HALAcARIDAE	0	0.0	0.2	1.01859	0.0002	0.009	0.0002	0.00102
5310000000	HARPACTICOIDA	2	0.3	2.0	10.18589	000006	0.026	0.0006	0.00306
5327031400	MYSIS SPP.	1	0.1	0.8	4.07436	0.0014	0.062	0.0014	0.00713
5327031402	MYSIS LITTORALIS	72	11.9	71.8	365.67354	0.2130	9.373	0.2130	1.08480
5327031404	MYSIS RELICTA	1	0.2	1.4	7.13012	0.0492	2.165	0.0492	0.25057
5328050117	DIASTYLIS NUCELLA	1	0.2	1.2	6.11154	0.0166	0.731	0.0166	0.08454
5328050120	DIASTYLIS SULCATA	0	0.0	0.2	1.01859	090004	0.018	0.0004	0.00204
5331090104	ATYLUS CARINATUS	0	0.0	O*2	1.01859	0.0014	0.062	0.0014	0.00713
5331150200	COROPHIUM SPP.	1	0.1	0.6	3.05577	0.0014	0.062	0.0014	0.00713
53312107O2	GAMMARUS SETOSA	0	0.1	O*4	2.03718	0.0116	0.510	0.0116	0.05908
5331220201	PONTOPOREIA FEMORATA	6	1.0	6.2	31.57627	0.0492	2.165	0.0492	0.25057

TAXON COOE	TAXONOMIC NAME	COUNTS RAW	COUNTS %	COUNTS /KM	COUNTS /M SQ	WEIGHT (GRAMS) RAW	WEIGHT (GRAMS) %	WEIGHT (GRAMS) /KM	WEIGHT (GRAMS) /M SQ
5331370201	ACEROIDES LATIPES	1	0.1	0.6	3.05577	0.0032	0.141	0.0032	0.01630
5331371201	PAROEDICEROS INTERMEDIUS	0	0.1	O*4	2.03718	0.0076	0.334	0.0076	0.03871
5331371202	PAROEDICEROS LYNCEUS	1	O*1	006	3.05577	0.0186	0.819	0.0186	0.09473
61000000000	PRIAPULIDA	2	0.3	1*8	9.16730	0.0548	2.412	0.0548	0.27909
6603010104	ALCYONIDIUM DISCIFORME	1	0.2	1.2	6.11154	0.0642	2.825	0.0642	0.32697
7203040201	RHIZOMOLGULA GLOBULARIS	o	0.1	O*4	2.03718	0.0040	0.176	0.0040	0.02037
	TOTAL			603.8	3075.12085			2.2724	11.57321

CRUSE #	STAT #	TOW #	GEAR CODE	DATE YYMMDD	TIME HHMN	STAR LATITUDE DEG MIN	STAR LONGITUDE DEG MIN	FINISH LATITUDE DEG MIN	FINISH LONGITUDE DEG MIN	MIDPOINT LATITUDE DEG MIN	MIDPOINT LONGITUDE DEG MIN	TIME FISH MINS	DIST FISHED (KM)	DEPTH FISHED (METERS) MIN	MAX	AVG
8243R	AI 03	1	DN	820728						69 57.6N	142 28.7W	****	1.000000	9.0 -	9.0	9*O
	2	2	DN	820728						69 57.6N	142 28.7W	****	1.000000	3.0 -	3.0	3.0
	3	3	DN	820728						69 57.6N	142 28.7W	****	1.000000	3*O -	3.0	3*O
	4	4	DN	820728						69 57.6N	142 28.7W	****	1.000000	3.0 -	390	3.0
	5	5	DN	820728						6 9 57.6N	142 28.7W	****	1.000000	3.0 -	3.0	3.0

TAXON CODE	TAXONOMIC NAME	COUNTS RAW	COUNTS %	COUNTS /KM	COUNTS /M SQ	WEIGHT (GRAMS) RAW	WEIGHT (GRAMS) %	WEIGHT (GRAMS) /KM	WEIGHT (GRAMS) /M SQ
INVERTEBRATES									
1303010502	NEODILSEA INTEGRA					0.5792	21.304	0.5792	2.94983
3104000000	SARCODINA RHIZOPODEA	4	0.6	3.8	19.35320	0.0005	0.018	0.0005	0.00255
3104140100	CORNUSPIRA SPP.	21	3.4	20.8	105.93328	0.0392	1.442	0.0392	0.19964
4000000000	RHYNCHOCOELA	0	0.0	0.2	1.01859	0.0004	0.015	0.0004	0.00204
4400000000	NEMATODA	25	4.2	25.2	128.34225	090015	0.055	0.0015	0.00764
4801000000	POLYCHAETA					0.0032	0.118	0.0032	0.01630
4801050101	PHLOE MINUTA	35	5.8	35*0	178.25312	0.0056	0.206	0.0056	0.02852
4801200301	NEREIMYRA APHRODITOIDES	2	0.3	2.0	10018589	090074	0.272	0.0074	0.03769
4801250201	SPHAERODOROPSIS MINUTA	15	2.5	1500	76.39419	0.0108	0.397	0.0108	0.05500
4801420408	POLYDORA QUADRILOBATA	3	0.4	2.0	13.24166	O*OO1O	0.037	0.0010	0.00509
4801420502	PRIONOSPIO CIRRIFERA	38	6.2	37.6	191.49478	0.0366	1.346	0.0366	0.18640
4801420701	SPIO FILICORNIS	34	5.6	33.8	172014158	0.0242	0.890	0.0242	0.12325
4801490300	THARYX SPP.	2	0.3	1.8	9.16730	000013	0.046	0.0013	0.00637
4801580400	MEDIOMASTUS SPP.	0	0.0	0.2	1.01859	0.0002	0.007	0.0002	0.00102
4801580402	MEDIOMASTUS CAPENSIS	0	0.0	0.2	1.01859	0.0002	0.007	0.0002	0.00102
4801650209	AMPHARETE VEGA	12	2*O	12.0	61011536	0.0140	0.515	0.0140	0.07130
4801660601	NICOLEA ZOSTERICOLA	11	1.8	10.8	55.00382	000186	0.684	0.0186	0.09473
4801670101	TEREBELLIDES STROEMII	6	0.9	5.6	28.52050	000364	1.339	0.0364	0.18538
4801680104	CHONE DUNERI	106	17.5	106.2	540.87090	0.0200	0.736	0.0200	0.10186
4801681400	LAONOME SPP.	1	0.1	0.8	4.07436	0.0006	0.022	0.0006	0.00306
4801681401	LAONOME KROYERI	4	0.7	400	20.37178	0.0074	0.272	0.0074	0.03769
4802000000	OLIGOCHAETA	0	0.1	0.4	2.03718	0.0002	0.007	0.0002	0.(30102
4904030307	PORTLANDIA INTERMEDIA	1	0.1	0.6	3.05577	0.0436	1.604	0.0436	0.22205
4904030503	YOLDIA MYALIS	1	0.2	1.0	5.09295	0.0038	0.140	0.0038	0.01935
4905000000	GASTROPODA	1	O*1	0.8	4.07436	0.0160	0.589	0.0160	0.08149
4905110100	ALVINIA SPP.	23	3.8	23.2	118.15635	0.0368	1.354	0.0368	0.18742
4905250101	AMAUROPSIS PURPUREA	0	0.1	0.4	2.03718	0.0042	0.156	0.0042	0.02165
4905410400	OENOPOTA SPP.	5	0.8	4.8	24.44614	0.0308	1.133	0.0308	0.15686
4905450101	RETUSA OBTUSA	2	004	2.4	12.22307	0.0026	0.096	0.0026	0.01324
4905490200	CYLICHNA SPP.	3	0.5	2.8	14.26025	0.0066	0.243	0.0066	0.03361
4905490201	CYLICHNA OCCULTA	3	0.6	3*4	17.31602	0.0086	0.316	0.0086	0.04380
5101000000	ACARINA	0	0.0	0.2	1.01859	0.0002	0.007	0.0002	0.00102
5300000000	CRUSTACEA	7	1.2	7.2	36.66921	0.0016	0.059	0.0016	0.00815
531OOOOODO	HARPACTICOIDA	9	1*4	8.0	43*79934	0.0008	0.029	0.0008	0.00407
5311010202	CALANUS HYPERBOREUS	0	0.0	0*2	1.01859	0.0008	0.029	000008	0.00407
5311010203	CALANUS GLACIALIS	0	0.1	0*4	2.03718	0.0004	0.015	0.0004	0.00204
5311040500	PSEUDOCALANUS SPP.	0	0.0	0.2	1.01859	0.0002	0.007	0.0002	0.00102
5311140201	LIMNOCALANUS GRIMALDII	0	0.1	0.4	2.03718	0.0002	0.007	000002	0.00102
5327031400	MYSIS SPP.	0	0.0	0.2	1001859	0.0006	0.022	0.0006	0.00306
5327031402	MYSIS LITTORALIS	22	3.6	21.6	110.00764	0,0604	2.222	0.0604	0.30761

TAXON CODE	TAXONOMIC NAME	COUNTS RAW	COUNTS %	COUNTS /KM	COUNTS /M SQ	WEIGHT(GRAMS) RAW	WEIGHT(GRAMS) %	WEIGHT(GRAMS) /KM	WEIGHT(GRAMS) /M SQ
5327031404	MYSIS RELICTA	2	0*4	2.2	11.20448	0.0276	1.015	0.0276	0.14057
5328050117	DIASTYLIS NUCELLA	2	0.3	2.0	10.18589	0.0080	0.294	0.0080	0.04074
5328050120	DIASTYLIS SULCATA	157	25.9	157.2	800.61115	0.2910	10.704	0.291O	1.48205
5330020101	SADURIA ENTOMON	1	0.1	O*6	3.05577	0.0054	0.199	0.0054	0.02750
5331000000	AMPHIPODA	0	0.1	0.4	2.03718	0.0004	0.015	0.0004	0.00204
5331090104	ATYLUS CARINATUS	0	0.0	002	1.01859	0.0038	0.140	0.0038	0.01935
5331120101	APHERUSA SARSI	0	000	0.2	1.01859	0.0008	0.029	0.0008	0.00407
5331150200	COROPHIUM SPP.	18	3.0	18.2	92.69162	0.0118	0.434	0.0118	0.06010
5331201401	ROZINANTE FRAGILLIS	0	001	O*4	2.03718	0,0006	0.022	0.0006	0.00306
5331210501	GAMMARACANTHUS LORICATUS	1	0.2	102	6.11154	0.0078	0.287	0.0078	0.03972
5331210700	GAMMARUS	3	0.5	3.2	16.29743	0.0032	0.118	0.0032	0.01630
5331210702	GAMMARUS SETOSA	4	0.7	4.0	20.37178	0.0216	0.794	0.0216	0.11001
5331220201	PONTOPOREIA FEMORATA	3	0.5	2.8	14.26025	0.0064	0.235	0.0064	0.03259
5331220202	PONTOPOREIA AFFINIS	1	0.1	0.6	3.05577	0.0006	0.022	0.0006	0.00306
5331340702	BOECKOSIMUS AFFINIS	0	0.0	0.2	1.01859	000002	0.007	0.0002	0.00102
5331371200	PAROEDICEROS SPP.	1	O*1	0.8	4.07436	0.0004	0.015	0.0004	0.00204
5331371202	PAROEDICEROS LYNCEUS	3	0.5	3.2	16.29743	0.0202	0.743	0.0202	0.10288
6100000000	PRIAPULIDA	6	1.0	6.0	30.55768	000108	0.397	0.0108	0.05500
7203040201	RHIZOMOLGULA GLOBULARIs	7	1.1	6.8	34.632o3	1.4720	54.144	1.4720	7.49682
	TOTAL			606.6	3089.38123			2.9193	14.86784

CRUSE #	STAT #	TOW #	GEAR CODE	DATE YYMMDD	TIME HHMM	START LATITUDE DEG MIN	START LONGITUDE DEG MIN	FINISH LATITUDE DEG MIN	FINISH LONGITUDE DEG MIN	MID POINT LATITUDE DEG MIN	MID POINT LONGITUDE DEG MIN	TIME FISH MINS	DIST FISHED (KM)	DEPTH FISHED (METERS) MIN	MAx	AVG
8243R	AI05	1	DN	820728						69 56.5N	142 26.4W	****	1.000000	1*O	100	1*O
	2	2	DN	820728						69 56.5N	142 26.4W	****	1.000000	1.0	1.0	1.0
	3	3	DN	820728						69 56.5N	142 26.4W	it***	1.000000	1.0	1.0	1.0
	4	4	DN	820728						69 56.5N	142 26.4W	****	1.000000	190	100	1.0
	5	5	0 N	820728						69 56.5N	142 26.4W	****	1.000000	O*1	0.1	O*1

TAXON CODE	TAXONOMIC NAME	COUNTS RAW	%	/KM	/M SQ	WEIGHT (GRAMS) RAW	%	/KM	/M SQ
INVERTEBRATES									
4801420601	SCOLECOLEPIDES ARCTIUS	5	10.0	5.2	26.48332	0.0010	0.812	0.0010	0.00509
4801420701	SPIO FILICORNIS	0	0.8	0.4	2.03718	0.0002	0.162	0.0002	0.00102
4801421302	PYGOSPIO ELEGANS	12	22*2	11.6	59.07818	0.0042	3.409	0.0042	0.02139
4802000000	OLIGOCHAETA	1	1*5	0.8	4.07436	0.0004	0.325	0.0004	0.00204
5311120200	EURYTEMORA SPP.	0	0.4	0.2	1.01859	0.0002	0.162	0.0002	0.00102
5327031400	MYSIS SPP.	0	0.8	0.4	2.03718	0.0006	0.487	0.0006	0.00306
5327031404	MYSIS RELICTA	12	23.0	12.0	61.11536	0.0514	41.721	0.0514	0.26178
5330020101	SADURIA ENTOMON	2	4.2	2.2	11.20448	0.0130	10.552	0.0130	0.06621
5331210702	GAMMARUS SETOSA	1	1*1	0.6	3.05577	0.0072	5.844	0.0072	0.03667
5331220202	PONTOPOREIA AFFINIS	10	19.9	10.4	52.96664	0.0272	22.078	0.0272	0.13853
5331342702	ONISIMUS GLACIALIS	2	3*4	1.8	9.16730	0.0106	8.604	0.0106	0.05399
5331370103	ACANTHOSTEPHEIA INCARINATA	0	0.4	092	1.01859	0.0008	0.649	0.0008	0.00407
5331370800	MONOCULODES SPP.	0	0.4	0.2	1.01859	0.0002	0.162	0.0002	0.00102
5331370804	MONOCULODES CRASSIROSTRIS	0	0.8	0.4	2.03718	0.0002	0.162	0.0002	0.00102
5331370907	MONOCULOPSIS LONGICORNIS	6	11*1	5*8	29.53909	0.0060	4.870	0.0060	0.03056
	TOTAL			52.2	265.85179			0.1232	0.62745

CRUSE #	STAT #	TOW #	GEAR CODE	DATE YYMMDD	START TIME HHMM	START LATITUDE DEG MIN	START LONGITUDE DEG MIN	FINISH LATITUDE DEG MIN	FINISH LONGITUDE DEG MIN	MIDPOINT LATITUDE DEG MIN	MIDPOINT LONGITUDE DEG MIN	TIME FISH MINS	DIST FISHED (KM)	DEPTH FISHED (METERS) MIN	MAX	AVG
8243R	AI07	1	DN	820728						69 56.7N	142 24.7W	****	1.000000	3.0 -	3.0	3.0
	2	2	DN	820728						69 56.7N	142 24.7W	****	1.000000	3.0 -	3.0	3.0
	3	3	DN	820728						69 56.7N	142 24.7W	****	1.000000	3.0 -	3.0	3.0
	4	4	DN	820728						69 56.7N	142 24.7W	****	1.000000	3.0 -	3.0	3.0
	5	5	DN	820728						69 56.7N	142 24.7W	****	1.000000	3.0 -	3.0	3.0

TAXON CODE	TAXONOMIC NAME	COUNTS RAW	%	/KM	/M SQ	WEIGHT (GRAMS) RAW	%	/KM	/M SQ
INVERTEBRATES									
4801220600	EUSYLLIS SPP.	0	0.9	0.2	1.01859	0.0002	0.180	0.0002	0.00102
5327031402	MYSIS LITTORALIS	6	26.6	5.8	29.53909	0.0162	14.595	0.0162	0.08251
5327031404	MYSIS RELICTA	4	16.5	3.6	18.33461	000390	35.135	0.0390	0.19862
5330020101	SADURIA ENTOMON	0	1.8	0.4	2.03718	0.0006	0.541	0.0006	0.00306
5331170102	APHERUSA MEGALOPS	8	35.8	7.8	39.72498	0.0086	7.748	0.0086	0.04380
5331201401	ROZINANTE FRAGILLIS	0	0.9	0.2	1.01859	0*0002	0.180	0.0002	0.00102
5331210501	GAMMARACANTHUS LORICA us	0	1.8	0.4	2.03718	0.0012	1.081	0.0012	0.00611
5331210700	GAMMARUS	1	3.7	0.8	4.07436	0.0042	3.784	0.0042	0.02139
5331210702	GAMMARUS SETOSA	1	5.5	1.2	6.11154	0.0278	25.045	0.0278	0.14158
5331340000	LYSIANASSIDAE	0	O*9	0.2	1.01859	0.0002	0.180	0.0002	0.00102
5331342702	ONISIMUS GLACIALIS	0	0.9	0.2	1.01859	0.0008	0.721	0.0008	0.00407
5331342703	ONISIMUS LITORALIS	0	1.8	O*4	2.03718	0.0026	2.342	0.0026	0.01324
5331370103	ACANTHOSTEPHEIA INCAR NATA	0	0.9	0.2	1.01859	0.0006	0.541	0.0006	0.00306
5331371200	PAROEDICEROS SPP.	0	0.9	0.2	1.01859	0.0002	0.180	0.0002	0.00102
7915042200	MYOXOCEPHALUS SPP.	0	0.9	O*2	1.01859	0.0086	7.748	0.0086	0.04380
	TOTAL			21.8	111,02623			0.1110	0.56532
VERTEBRATES									
7915042206	MYOXOCEPHALUS QUADRICORNIS	0	100.0	0*2	1.01859	0.0042	1009000	0.0042	0.02139
	TOTAL			0.2	1.01859			0.0042	0.02139

CRUSE #	STAT #	TOW #	GEAR cOPE	DATE YYMMDD	TIME HHMM	START LATITUDE DEG MIN	START LONGITUDE DEG MIN	Finish LATITUDE DEG MIN	Finish LONGITUDE DEG MIN	MIDPOINT LATITUDE DEG MIN	MIDPOINT LONGITUDE DEG MIN	TIME FISH MINS	DIST FISHED (KM)	DEPTH FISHED (METERS) MIN	MAX	AVG
8243R	AL08	1	0 N	820728						69 56.8N	142 24.2W	****	1.000000	2.0 -	2.0	2*O
	7	2	DN	820728						69 56.8N	142 24.2W	****	1.000000	2.0 -	2.0	2.0
	3	3	DN	820728						69 56.8N	142 24.2W	****	1.000000	2.0 -	2.0	2*O
	4	4	ON	820728						69 56.8N	142 24.2W	****	1.0(JOOOO	2.0 -	2.0	2*O
	5	5	DN	820728						69 56.8N	142 24.2W	****	1.000000	2*O -	2.0	2.0

TAX(JN CODE	TAxONOMIC NAME	COUNTS RAW	%	/KM	/M SQ	WEIGHT (GRAMS) RAW	%	/KM	/M SQ
INVERTEBRATES									
4801420701	SPIO FILICORNIS	1	1.3	0.6	3.05577	0.0006	0.620	0.0006	0.00306
4FJ02000000	OLIGOCHAETA	0	0.9	0.4	2.03718	0.0002	0.207	0.0002	0.00102
5327031402	MYSIS I ITTORALIS	41	91.1	41.0	208.81080	0.0820	84.711	0.0820	0.41762
5327031404	MYSIS RELICTA	1	3.1	1.4	7.13012	0*0090	9.298	0.0090	0.04584
5331340000	LYSIANASSIDAE	o	0.4	0.2	1.01859	0.0004	0.413	0.0004	0.00204
5331342703	ONISIMUS LITORALIS	0	0.4	0.2	1.01859	0.0014	1.446	0.0014	0.00713
5331370103	ACANTHOSTEPHEIA INCARINATA	0	0.9	0.4	2.03718	0.0024	2.479	0.0024	0.01222
5331370907	MONOCUI OPSIS LONGICORNIS	1	1.8	0.8	4.07436	0.0008	0.826	0.0008	0.00407
	TOTAL			45.0	229.18258			0.0960	0.49300
VERTEBRATES									
7900000000	TELEOSTEI	0	100.0	0.2	1.01859	0.0002	100.000	0.0002	0.00102
	TOTAL			0.2	1.01859			0.0002	0.00102

CRUSE #	STAT #	TOW #	GEAR CODE	DATE YYMMDD	TIME HHMM	START LATITUDE DEG MIN	START LONGITUDE DEG MIN	FINISH LATITUDE DEG MIN	FINISH LONGITUDE DEG MIN	MIDPOINT LATITUDE DEG MIN	MIDPOINT LONGITUDE DEG MIN	TIME FISH MINS	DIST FISHED (KM)	DEPTH FISHED (METERS) MIN	MAX	AVG
8243R	AL09	1	DN	820728						69 57.6N	142 23.1W	****	1.000000	10.0 -	10.0	10.0
	7	2	DN	820728						69 57.6N	142 23.1W	****	1.000000	10.0 -	10.0	10.0
	3	3	LJN	820728						69 57.6N	142 23.1W	****	1.000000	10.0 -	10.0	10.0
	4	4	DN	820728						69 57.6N	142 23.1W	****	1.000000	10.0 -	10.0	10.0
	5	5	DN	820728						69 57.6N	142 23.1W	****	1.000000	10.0 -	10.0	10.0

TAXON CODE	TAXONOMIC NAME	COUNTS RAW	%	/KM	/M SQ	WEIGHT (GRAMS) RAW	%	/KM	/M SQ
INVERTEBRATES									
3104000000	SARCODINA RHIZOPODEA	0	0.6	0*2	1.01859	0.0002	0.087	0.0002	0.00102
3301020101	PERIGONIMUS YOLDIA-ARCTICAE	0	0.6	0.2	1.01859	0.0044	1.903	0.0044	0.02241
3301270201	AGLANTHA DIGITALE	3	8.3	2.6	13.24166	0.0342	14.792	0.0342	0.17418
4801250201	SPHAERODOROPSIS MINUTA	1	3.2	1.0	5.09295	0.0008	0.346	0.0008	0.00407
4801420502	PRIONOSPIO CIRRIFERA	7	73.7	7.4	37.68780	0.0110	4.758	0.0110	0.05602
4801420701	SPIO FILICORNIS	0	0.6	0.2	1.01859	0.0002	0.087	0.0002	0.00102
4802000000	OLIGOCHAETA	0	0.6	0.2	1.01859	0.0002	0.087	0.0002	0.00102
4904030502	YOLDIA HYPERBOREA	0	0.6	0.2	1.01859	0.0048	2.076	0.0048	0.02445
4904180401	BOREACOLA VADOSA	8	?6.3	8*2	41.76216	0.0130	5.623	0.0130	0.06621
4904210401	LIOCYMA FLUCTUOSA	0	0.6	0.2	1.01859	0.0084	3.633	0.0084	0.04278
4905410400	OENOPOTA SPP.	0	0.6	0.2	1.01859	0.0008	0.346	0.0008	0.00407
4905490201	CYLICHNA OCCULTA	0	0.6	0.2	1.01859	0.0004	0.173	0.0004	0.00204
5311010202	CALANUS HYPERBOREUS	0	0.6	O*2	1.01859	0.0016	0.692	0.0016	0.00815
5311130200	METRIDIA SPP.	0	0.6	0.2	1.01859	0.0002	0.087	0.0002	0.00102
5311140201	LIMNOCALANUS GRIMALDII	0	1.3	().4	2.03718	0.0004	0.173	0.0004	0.00204
5327031402	MYSIS LITTORALIS	0	0.6	O*2	1.01859	0.0006	0.260	0.0006	0.00306
5328020100	LAMPROPS SPP.	2	7.1	2.2	11.20448	0.0018	08779	0.0018	0.00917
5328050120	DIASTYLIS SULCATA	0	0.6	0.2	1.01859	0.0004	0.173	0.0004	0.00204
5331120101	APHERUSA SARSI	1	4.5	1.4	7.13012	0.0018	0.779	0.0018	0.00917
5331120102	APHERUSA MEGALOPS	0	0.6	0.2	1.01859	0.0002	0.087	0.0002	0.00102
5331201401	ROZINANTE FRAGILLIS	1	3.2	1*O	5.09295	0.0044	1.903	0.0044	0.02241
5331211402	WEYPRECHTIA PINGUIS	0	0.6	0.2	1.01859	0.0022	0.952	0.0022	0.01120
5331340704	BOECKOSIMUS DERJUGINI	2	7.7	2.4	12.22307	0.1316	56.920	0.1316	0.67023
5331370103	ACANTHOSTEPHEIA INCARINATA	1	4.5	1.4	7.13012	0.0072	3.114	0.0072	0.03667
5331370907	MONOCULOPSIS LONGICORNIS	0	006	0.2	1.01859	0.0002	0.087	0.0002	0.00102
7205020100	OIKOPLEURA SPP.	0	0.6	0.2	1.01859	0.0002	0.087	0.0002	0.00102
	TOTAL			31.2	158.89992			0.2312	1.17749
VERTEBRATES									
7900000000	TELEOSTEI	0	25.0	0.2	1.01859	0.0026	21.311	0.0026	0.01324
7915061200	LIPARIS SPP.	1	75.0	0.6	3.05577	0.0096	78.689	0.0096	0.04889
	TOTAL			0.8	4.07436			0.0122	0.06213

APPENDIX 4-11

Summary of all Angun Lagoon Station Data
July 1982

ANGUN LAGOON (BEAUFORT LAGOON) JULY 1982

TOW OR DREDGE MOUTH WIDTH = 0.5 m diameter drop *net*

Area = nr^2 = **0.1963 m^2**

0.1963 m^2 x 5 replicates/station = 0.9815 m^2

$\bar{x}$ area sampled/station = 0.1963 m^2

Area for 7 stations sampled = 1.3741 m^2

04/08/83

CRUSE #	STAT #	TOW #	GEAR CODE	DATE YYMMDD	TIME HHMM	START LATITUDE DEG MIN	START LONGITUDE DEG MIN	FINISH LATITUDE DEG MIN	FINISH LONGITUDE GEG MIN	MIDPOINT LATITUDE DEG MIN	MIDPOINT LONGITUDE DEG MIN	TIME FISH MINS	DIST FISHED (KM)	DEPTH FISHED (METERS) MIN	MAX	AVG
8243R	AI 01	1	DN	820728						69 56.2N	142 24.7W	****	1.000000	1.0 -	1*0	1.0
	7	2	DN	820728						69 56.2N	142 24.7W	****	1.000000	1.0 -	1.0	1.0
	3	3	DN	820728						69 56.2N	142 24.7W	****	1.000000	1.0 -	1.0	1.0
	4	4	DN	820728						69 56.2N	142 24.7W	****	1.000000	1.0 -	1.0	1.0
	5	5	DN	820728						69 56.2N	142 24.7W	****	1.000000	100 -	1*0	1.0
8243R	AL02	1	DM	820728						69 57.1N	142 27.0W	****	1.000000	3.0 -	3.0	3.0
	7	2	DN	820728						69 57.1N	142 27.0W	****	1.000000	3.0 -	300	3.0
	3	3	DN	820728						69 57.1N	142 27.0W	****	1.000000	3.0 -	3.0	3.0
	4	4	DN	820728						69 57.1N	142 27.0W	****	1.000000	3.0 -	3.0	3,0
	5	5	DN	820728						69 57.1N	142 27.0W	****	1.000000	3.0 -	3.0	3.0
8243R	A103	1	DN	820728						69 57.6N	142 28.7W	****	1.000000	9*O -	9.0	9.0
	?	2	DN	820728						69 57.6N	142 28.7W	****	1.000000	3.0 -	3.0	3.0
	3	3	DN	820728						69 57.6N	142 28.7W	****	1.000000	3.0 -	3*O	3.0
	4	4	DN	820728						69 57.6N	142 28.7W	****	1.000000	3.0 -	3.0	3.0
	5	5	DN	820728						69 57.6N	142 28.7W	****	1.000000	3.0 -	3.0	3.0
8243R	AL05	1	DN	820728						69 56.5N	142 26.4W	****	1.000000	1.0 -	1.0	1.0
	7	2	DN	820728						69 56.5N	142 26.4W	****	1.000000	1.0 -	1.0	1.0
	3	3	DN	820728						69 56.5N	142 26.4W	****	1.000000	1*0 -	100	100
	4	4	DN	820728						69 56.5N	142 26.4W	****	1.000000	0.1 -	0.1	0.1
	5	5	DN	820728						69 56.5N	142 26.4W	****	1.000000			
8243R	AL07	1	DN	820728						69 56.7N	142 24.7W	****	1.000000	3*0 -	3.0	3*O
	?	2	DN	820728						69 56.7N	142 24.7W	****	1.000000	3.0 -	3.0	3.0
	3	3	DN	820728						69 56.7N	142 24.7W	****	1.000000	3.0 -	3.0	3.0
	4	4	DN	820728						69 56.7N	142 24.7W	****	1.000000	3*0 -	300	3.0
	5	5	DN	820728						69 56.7N	142 24.7W	****	1.000000	3.0 -	3.0	3.0
8243R	AL08	1	DN	820728						69 56.8N	142 24.2W	****	1.000000	2.0 -	2.0	2*O
	?	2	DN	820728						69 56.8N	142 24.2W	****	1.000000	2.0 -	2.0	2.0
	3	3	DN	820728						69 56.8N	142 24.2W	****	1.000000	2.0 -	2.0	2.0
	4	4	DN	820728						69 56.8N	142 24.2W	****	1.000000	2*O -	2.0	2.0
	5	5	DN	820728						69 56.8N	142 24.2W	****	1.000000	2.0 -	2.0	2.0
8243R	AI(I9	1	DN	820728						69 57.6N	142 23.1W	****	10000000	10.0 -	10.0	10.0
	7	2	DN	820728						69 57.6N	142 23.1W	****	10000000	10*0 -	10.0	10*0
	3	3	DN	820728						69 57.6N	142 23.1W	****	1.000000	10.0 -	10.0	10.0
	4	4	DN	820728						69 57.6N	142 23.1W	****	1.000000	10.0 -	10.0	10.0
	5	5	DN	820728						69 57.6N	142 23.1W	****	1.000000	10.0 -	10.0	10.0

ANGUN LAGOON (BEAUFORT LAGOON) JULY 1982. BA6B 04/08/83

OCCURRENCES OF EACH SPECIES

SPECIES CODE	TAXONOMIC NAME	OCCURS	% OF ALL OCCUR	% OF ALL STATIONS
1303o1o5o2	NEODILSEA INTEGRA	2	1.093	28.571
3104000000	SARCODINARHIZOPODEA	2	1.093	28.571
31041401(?0	CORNUSPIRA SPP.	2	1.093	28.571
3104140101	CORNUSPIRA INVOLVENS	1	0.546	14.286
3301000000	HYDROZOA	1	0.546	14.286
3301020101	PERIGONIMUS YOLDIA-ARCTICAE	1	0.546	14.286
3301270201	AGLANTHA DIGITALE	1	0.546	14.286
4000000000	RHYNCHOCOELA	2	1.093	28.571
4400000000	NEMATODA	2	1.093	28.571
4801OOOGOO	POLYCHAETA	2	1.093	28.571
4801o1o2o2	ANTINOELLA SARSI	1	0.546	14.286
4801050101	PHLOE MINUTA	3	1.639	42.857
41301200301	NEREIMYRA APHRODITOIDES	2	1.093	28.571
4801220600	EUSYLLIS SPP.	1	0.546	14.286
4801250201	SPHAERODOROPSIS MINUTA	3	1.639	42.857
4801400200	ARICIDEA SPP.	1	0.546	14.286
4801420408	POLYDORA QUADRILOBATA	2	1.093	28.571
4801420502	PRIONOSPIO CIRRIFERA	4	2.186	57.143
4801420601	SCOLECOLEPIDES ARCTIUS	1	0.546	14.286
4801420701	SPIO FILICORNIS	5	2.732	71.429
4801421302	PYGOSPIO ELEGANS	2	1.093	28.571
4801490300	THARYX SPP.	1	0.546	14.286
4801520202	FLABELLIGERA AFFINIS	1	0.546	14.286
4801580400	MEDIOMASTUS SPP.	1	0.546	14.286
4801580402	MEDIOMASTUS CAPENSIS	2	1.093	28.571
4801650209	AMPHARETE VEGA	1	0.546	14.286
4801660000	TEREBELLIDAE	1	0.546	14.286
4801660601	NICOLEA ZOSTERICOLA	1	0.546	14.286
4EIO167O1O1	TEREBELLIDES STROEMII	2	1.093	28.571
480168O1O4	CHONE DUNERI	2	1.093	28.571
4801681400	LAONOME SPP.	2	1.093	28.571
4801681401	LAONOME KROYERI	2	1.093	28.571
4802000000	OLIGOCHAETA	5	2.732	71.429
4904000000	PELECYPODA	1	0.546	14.286
4904030307	PORTLANDIA INTERMEDIA	1	0.546	14.286
4904030502	YOLDIA HYPERBOREA	1	0.546	14.286
4904030503	YOLDIA MYALIS	1	0.546	14.286
4904180401	BOREACOLA VADOSA	1	0.546	14.286
490421O4O1	LIOCYMA FLUCTUOSA	1	0.546	14.286
4905000000	GASTROPODA	2	1.093	28.571
4905110100	ALVINIA SPP.	2	1.093	28.571
4905250101	AMAUROPSIS PURPUREA	1	0.546	14.286
4905410400	OENOPOTA SPP.	2	1.093	28.571
4905450101	RETUSA OBTUSA	2	1.093	28.571
4905490200	CYLICHNA SPP.	2	1.093	28.571
4905490201	CYLICHNA OCCULTA	3	1.639	42.857
5101000000	ACARINA	1	0.546	14.286
5101010000	HALACARIDAE	1	0.546	14.286
5300000000	CRUSTACEA	1	0.546	14.286
5310000000	HARPACTICOIDA	2	1.093	28.571
531101O2O2	CALANUS HYPERBOREUS	2	1.093	28.571
5311010203	CALANUS GLACIALIS	1	0.546	14.286
5311040500	PSEUDOCALANUS SPP.	1	0.546	14.286

ANGUNIAGOON(BEAUFORT LAGOON) JULY 1982 BA6B 04108183

OCCURRENCES OF EACH SPECIES

SPECIES CODE	TAXONOMIC NAME	OCCURS	% OF ALL OCCUR	% OF ALL STATIONS
5311120200	EURYTEMORA SPP.	1	0.546	14.286
5311130200	METRIDIA SPP.	1	0.546	14.286
5311140201	LIMNOCALANUS GRIMALDII	2	1.093	28.571
5327031400	MYSIS SPP*	3	1.639	42.857
5327031402	MYSIS LITORALIS	5	2.732	71.429
5327031404	MYSIS RELICTA	6	3.279	85.714
5378020100	LAMPROPS SPP.	1	0.546	14.286
5328050117	DIASTYLIS NUCELLA	2	1.093	28.571
5328050120	DIASTYLIS SULCATA	4	2.186	57.143
5332020101	SADURIA ENTOMON	4	2.186	57.143
5331000000	AMPHIPODA	1	0.546	14.286
5331090104	ATYLUS CARINATUS	2	1.093	28.571
53311201o1	APHERUSA SARSI	2	1.093	28.571
5331120102	APHERUSA MEGALOPS	2	1.093	28.571
5331150200	COROPHIUM SPP.	2	1.093	28.571
5331201401	ROZINANTE FRAGILLIS	3	1.639	42.857
5331210501	GAMMARACANTHUS LORICATUS	2	1.093	28.571
5331210700	GAMMARUS	3	1.639	42.857
53312107o2	GAMMARUS SETOSUS	5	2.732	71.429
5331211402	WEYPRECHTIA PINGUIS	1	0.546	14.286
5331220201	PONTOPOREIA FEMORATA	2	1.093	28.571
5331220202	PONTOPOREIA AFFINIS	3	1.639	42.857
5331340000	LYSIANASSIDAE	2	1.093	28.571
5331340702	BOECKOSIMUS AFFINIS	1	0.546	14.286
5331340704	BOECKOSIMUS DERJUGINI	1	0.546	14.286
5331342702	ONISIMUS GLACIALIS	2	1.093	28.571
53313427o3	ONISIMUS LITORALIS	2	1.093	28.571
5331370103	ACANTHOSTEPHEIA INCARINATA	4	2.186	57.143
5331370201	ACEROIDES LATIPES	1	0.546	14.286
5331370800	MONOCULODES SPP.	1	0.546	14.286
5331370804	MONOCULODES CRASSIROSTRIS	1	0.546	14.286
5331370907	MONOCULOPSIS LONGICORNIS	4	2.186	57.143
5331371200	PAROEDICEROS SPP.	2	1.093	28.571
5331371201	PAROEDICEROS INTERMEDIUS	1	0.546	14.286
5331371202	PAROEDICEROS LYNCEUS	2	1.093	28.571
6100000000	PRIAPULIDA	2	1.093	28.571
6603o1O1O4	ALCYONIDIUM DISCIFORME	1	0.546	14.286
7203040201	RHIZOMOLGULA GLOBULARIS	2	1.093	28.571
7205020100	OIKOPLEURA SPP.	1	0.546	14.286
7900000000	TELEOSTEI	2	1.093	26.571
7915042200	MYOXOCEPHALUS SPP.	1	0.546	14.286
7915042206	MYOXOCEPHALUS QUADRICORNIS	1	0.546	14.286
7915061200	LIPARIS SPP.	1	0.546	14.286

ANGUNIAGOON (B EAUFORT LAGOON) JULY 1982 BA6B 04/08/83

SUMMARY BY PHYLUM

TAXON CODE		COUNT	% COUNT	COUNT/M SQ OCC STA	COUNT/M SQ ALL STA	WEIGHT	% WEIGHT	GM/M SQ ALL STA
13	RHODOPHYTA	0.40	0.0290	1.0186	0.2911	1.4472	24.0283	1.05293
31	PROTOZOA	26.20	1.8964	44.4897	19.0670	0.0461	0.7654	0003354
33	CNIDARIA	16.20	1.1726	41.2634	11.7895	0.0392	0.6508	0.0?852
40	RHYNCHOCOELA	3.20	0.2316	8.1487	2.3288	0*0014	0.0232	0000102
44	NEMATODA	63.20	4.5744	160.9371	45.9937	0.0029	0.0481	0.00211
48	ANNELIDA	740.60	53.6045	538.5735	538.5710	10082O	17.9656	0.78726
49	MOLLUSCA	62.40	4.5165	105.9603	45.4115	0.2036	3.3813	0.14817
51	ARACHNIDA	0.40	0.0290	1.0186	0.2911	0.0004	0.0066	0.00029
53	CRUSTACEA	451.20	32.6578	328.3843	328.3604	1.5688	26.0473	1.14140
61	PRIAPULIDA	7.80	0.5646	19.8625	5.6764	0.0656	1.0892	0.04773
66	ECTOPROCTA	1.20	0.0869	6.1115	0.8733	0.0642	1.0659	0.04671
72	UROCHORDATA	7.40	0.5356	12.5626	5.3853	1.4762	24.5098	1.07403
79	TELEOSTEI	1.40	0.1013	2.3773	1.0188	0.0252	0.4184	0.01833
			TOTALS			6.0229		4.3820

ANGUN I AGOON(BFAUFORT LAGOON) JULY 1982 BA6B 04/08/83

SUMMARY BY FAMII Y

TAXON cODE		COUNT	%COUNT	COUNT/M SQ	WEIGHT	% WEIGHT	GM/M SQ ALL STA
130301	DUMONTIACEAE	0.40	0.0290	1.01859	1.4472	24.0283	1.05293
310400	SARCODINA RHIZOPODEA	4.00	0.2895	10.18589	0.0007	0.0116	0000051
310414	FORAMINIFERA OPHTHALMIDIIDAE	22.20	1.6068	37.68780	0.0454	0.7538	0.03303
330100	HYDROZOA	13.40	0.9699	68.24548	0.0006	0.0100	0,00044
330102	BOUGAINVILLIDAE	0.20	0.0145	1.01859	0.0044	0.0731	0.00320
330127	TRACHYNEMIDAE	2.60	0.1882	13.24166	0.0342	0.5678	0.02488
400000	RHYNCHOCOELA	3.20	0.2316	8.14871	0.0014	0.0232	0.00102
440000	NEMATOOA	63.20	4*5744	160.93710	0.0029	0.0481	0.00211
480100	POLYCHAETA				0.0058	0.0963	0.00422
480101	POLYNOIDAE	0.40	0.0290	2.03718	0.1532	2.5436	0.11146
480105	SIGALIONIDAE	163.20	11.8124	277.05628	0.0624	1.0360	0.04540
480120	HESIONIDAE	10902o	7.9039	278.07487	0.4212	6,9933	0,30645
480122	SYLI IDAE	0.20	0.0145	1.01859	0.0002	0.0033	0.00015
480125	5PHAERODOR1OAE	23.00	1.6647	39.04592	0.0156	0.2590	0.01135
480140	PARAONIDAE	2.20	0.1592	11.20448	0.0010,	0.0166	0.00073
480142	SPIONIDAE	272.60	19.7307	99.16694	0.2380	3.9516	0.17316
480149	CIRRATULIDAE	1.80	0.1303	9.16730	0.0013	0.0208	0,00091
480152	FLABELLIGERIDAE	0.20	0.0145	1.01859	0.0354	0.5878	0.02576
480158	CAPITELLIDAE	13.80	0.9988	23.42755	0.0050	0.0830	0.00364
480165	AMPHARETIDAE	12.00	0.8686	61.11536	0.0140	0.2324	0.01019
480166	TEREBELLIDAE	11.40	0.8251	29.02979	0.0194	0.3221	0.01411
480167	TRICHOBRANCHIDAE	10.00	0.7238	25.46473	0.0776	1.2884	0.05646
480168	SABELLIDAE	115.80	8.3816	98.29386	0.0300	0.4981	0.02183
480200	OI IGOCHAETA	4.80	0.3474	4.88923	0.0020	0.0332	0.00146
490400	PELECYPODA	3.40	0.2461	17.31602	0.0046	0.0764	0.00335
490403	NUCULANIDAE	1.80	0.1303	3.05577	0.0522	0.8667	0.03798

ANGUNI AGOON (BEAUFORT LAGOON) JULY 1982 BA6B 04/08/83

TAxON CODE		COUNT	%COUNT	COUNT/M SQ	wEIGHT	% WEIGHT	GM/M SQ ALL STA
490418	MONTACUTIDAE	8*2Q	0.5935	41.76216	0.0130	0.2158	0.00946
490421	VENERIDAE	0.20	0.0145	1.01859	0.0084	0.1395	0.00611
490500	GASTROPODA	6*8O	0.4922	17.31602	0.0290	0.4815	0902110
490511	RISSOIDAE	26.80	1.9398	68.24548	0.0412	0.6841	0.02998
490525	NATICIDAE	0.40	0.0290	2.03718	0.0042	0.0706	0.00309
490541	TURRIDAE	5.00	0.3619	12.73237	0.0316	0.5247	0.02299
490545	RETUSIDAE	2.60	0.1882	6.62083	0.0028	0.0465	0.00204
490549	SCAPHANDRIDAE	7.20	0.5211	7.33384	0.0166	0.2756	0.01208
5101QO	ACARINA	0.20	0.0145	1.01859	0.0002	000033	0.00015
510101	HALACARIDAE	0.20	0.0145	1.01859	0.0002	000033	0.00015
530000	CRUSTACEA	7.20	0.5211	36.66921	0.0016	0.0266	0.00116
531000	HARPACTICOIDA	10.60	0,7672	26.99262	0.0014	0.0232	0000102
531101	CALANIDAE	0.80	0.0579	1.35812	0.0028	0.0465	0.00204
531104	PSEUDOCALANIDAE	0.20	0.0145	1.01859	0.0002	0.0033	0.00015
531112	TEMORIDAE	O*2O	0.0145	1.01859	0.0002	0.0033	0.00015
531113	METRIDIIDAE COPOPODA	0.20	0.0145	1.01859	0.0002	090033	0000015
531114	CENTROPAGIDAE	0.80	0.0579	2.03718	0.0006	0.0100	0.00044
537703	MYSIDAE	164.20	1108848	59.73298	0.5720	9.4971	0.41617
53?802	LAMPROPIDAE	2.20	0.1592	11.20448	0.0018	0.0299	0.00131
532605	DIASTYLIDAE	161.00	11*6532	136.66072	0.3166	5.2566	0.23035
533007	IDOTEIDAE	4.20	0.3040	5.34759	0,0252	0.4184	0.01833
533100	AMPHIPODA	0.40	000290	2.03718	0.0004	000066	0.00029
533109	ATYLIDAE	0.40	0.0290	1.01859	0.0052	0.0863	0.00378
533117	CALI 10PIIDAE	9.60	0.6948	12.22307	0.0114	0.1893	0.00829
533115	COROPHIIDAE	18.80	1.3607	47.87369	0.0132	0.2192	0.00960
533120	EUSIRIDAE	1.6(I	0.1158	2.71624	0.0052	0.0863	0.00378
533121	GAMMARIDAE	24.80	1.7950	11.48228	0.3044	5.0540	0.22147
533122	HAUSTORIIDAE	20.80	1.5055	21.18666	0,0878	104578	0.06388
533134	LYSIANASSIDAE	5.6o	0.4053	3.56506	0.1478	2.4540	O*1O753

ANGUNI AGOON(BFAUFORT LAGOON) JULY 1982 BA6B 04/08/83

TAXON CODE		COUNT	%COUNT	COUNT/M SQ	WEIGHT	% WEIGHT	GM/Pi SQ ALL STA
533137	OEDICEROTIDAE	17.60	102739	5.60224	0.0708	1.1755	0.05151
61OGOO	PRIAPULIDA	7.80	0.5646	19.86249	0.0656	1.0892	0.04773
660301	AICYONIDI1OAE	1.20	0.0869	6.11154	0.0642	1.0659	0.04671
720304	MOLGULIDAE	7.2D	0.5211	18.33461	1.4760	24.5065	1.07388
720502	OIKOPLEURIDAE	0.20	0.0145	1.01859	0.0002	0.0033	0.00015
790000	TELEOSTEI	0.40	0.0290	1.01859	0.0028	0.0465	0.00204
791504	COTTIDAE	O*4O	0.0290	1.01859	0.0128	0.2125	0.00931
791506	CYCIOPTERIDAE	0.60	0.0434	3.05577	0.0096	0.1594	0.00698

SUMMARY 8Y SPECIES

TAXON COOE	TAXONOMIC NAME	COUNTS RAW	COUNTS /KM	COUNTS /M SQ	WEIGHT (GRAMS) RAW	WEIGHT (GRAMS) %	WEIGHT (GRAMS) /KM	WEIGHT (GRAMS) /M SQ OCC ST	WEIGHT (GRAMS) /M SQ ALL STA	-% PHYLUM BY- COUNT	-% PHYLUM BY- WT
I303D10502	NEODILSEA INTEGRA	0.4	0.2	1.01859	1.44724.028		0.724	3.6853	1.05293	100.00	100.00
3104000000	SARCODINA RHI7OPODEA	4.0	2.0	10.18589	0.001	0.012	0.000	0.0018	0.00051	15.27	1.51
3104140100	CORNUSPIRA SPP.	21.8	10.9	55051311	0.041	0.684	0.021	0.1049	0.02998	83.21	89.37
3104140101	CORNUSPIRA INVOLVENS	0.4	0.4	2.03718	0.004	0.070	0.004	0.0214	0.00306	1.53	9.11
3301000000	HYDROZOA	13.4	13.4	68.24548	0.001	0.010	0.001	0.0031	0.00044	82.72	1*53
3301o20101	PERIGONIMUS YOLDIA-ARCTICAE	0.2	0.2	1.01859	00004	0.073	0.004	0.0224	0.00320	1.23	11.22
3301270201	AGLANTHA DIGITALE	2.6	2.6	13.24166	0.034	0.568	0.034	0.1742	0.02488	16.05	87.24
4000000000	RHYNCHOCOELA	3.2	1.6	8.14871	0.001	0.023	0.001	0.0036	0000102	100.00	100.00
4400000000	NEMATODA	63.2	31.6	160.93710	0.003	00048	0.001	0.0074	0.00211	100.00	100.00
4801oOOOOO	PoI YcHAETA				0.006	0.096	00003	0.0148	0.00422		0.5?
4801010202	ANTINOELLA SARSI	0.4	0,4	2.03718	0.153	2.544	0.153	0.7802	0.11146	0.05	14.15
4801050101	PHLOE MINUTA	163.2	54.4	277.05628	0.062	1.036	0.021	0.1059	0.04540	22.04	5.76
4801200301	NEREIMYRA APHRODITOIDES	109.2	54.6	278.07487	0.421	6.993	0.211	1,0726	0,30645	14.74	38.92
4801220600	EUSYLLIS SPP.	0.2	0.2	1.01859	0.000	0.003	00000	0.0010	0.00015	0.03	0001
4801250201	SPHAERODOROPSIS MINUTA	.?3.0	7.7	39.04592	0.016	0.259	0.005	0,0265	0.01135	3*11	1.44
4801400200	ARICIDEA SPP.	2.2	2.2	11.20448	0.001	0.017	0.001	0.0051	0.00073	0.30	0.09
4801420408	POI YDORA QUADRILOBATA	25.4	12.7	64.68042	0.012	0.196	0.006	0.0300	0.00859	3.43	1.09
4801620502	PR1ONOSPIO CIRRIFERA	184.8	46.2	235.29412	0.188	3.128	0.047	0.2399	0.13707	24.95	17.41
4801420601.	SCOLECOLEPIDES ARCTIUS	5.2	5.2	26.48332	0.001	().017	0.001	0.0051	0.00073	0.70	0.09
4801420701	s P1o FILICORNIS	45*4	9.1	46.24395	0.032	0.538	0,006	0.0330	0.02357	6.13	2.99
4801421302	PYGOSPIO ELEGANS	11.8	5.9	30.04838	0.004	0.073	0.002	0.0112	0.00320	1059	0040
4801490300	THARYX spp.	1.8	1.8	9.16730	0.001	0.021	0.001	0.0064	0.00091	0.24	0.11
4801520202	FLABELLIGERA AFFINIS	082	0.2	1.01859	0.035	0.588	0.035	0.1803	0.02576	0*03	3.27

AI I_ PHYLA BY SPECIES, CONTINUED.

TAxON CODE	TAXONOMIC NAME	COUNTS RAW	COUNTS /KM	COUNTS /M SQ	WEIGHT (GRAMS) RAW	WEIGHT (GRAMS) %	WEIGHT (GRAMS) /KM	WEIGHT (GRAMS) /M SQ OCC ST	WEIGHT (GRAMS) /M SQ ALL STA	-% PHYLUM BY- COUNT	WT
4801580400	MEDIOMASTUS SPP.	0.2	0.2	1.01859	0.000	0.003	0.000	0.0010	0.00015	O*O3	0.01
4801580402	?.IE01OMASTUS CAPENSIS	13.6	6.8	34.632o3	0.005	0.080	0.002	0.0122	0.00349	1.84	0.44
4801650209	ANPHARETE VEGA	12*0	12.0	61.11536	0.014	0.232	0.014	0.0713	0*01019	1.62	1.29
4801660000	TEREBELLIDAE	0.6	0.6	3.05577	0.001	0.013	0.001	0.0041	0.00058	0.08	0.07
4801660601	NICOI EA ZOSTERICOI A	10*8	10.8	55.00382	0.019	0.309	0.019	0.0947	0.01353	1.46	1.71
4801670101	TEREBELLIDES STROEMII	10*0	5.0	25.46473	0.078	10288	0.039	0.1976	0.05646	1.35	7.17
4801680104	CHONE DUNERI	110.4	55.2	281.13063	0.021	0.355	0.011	0.0545	0901557	14.91	1.97
4801681400	LAONOME SPP.	1.0	0.5	2.54647	0.001	0.013	0.000	0.0020	0.00058	0.14	0.07
4801681401	LAONOME KROYERI	4.4	2.2	11.20448	0.008	00130	0.004	0.0199	0.00567	0.59	0.72
4802000000	OLIGOCHAETA	4.8	1.0	4.88923	0.002	0.033	0.000	0,0020	0.00146	0.65	0.18
4904000000	PELECYPODA	3.4	3.4	17.31602	0.005	0,076	0.005	0.0234	0.00335	5.45	2.25
4904030307	PORTI ANDIA INTERMEDIA	0.6	0.6	3.05577	0.044	0.724	0.044	0.2221	0.03172	0.96	21.40
4904030502	YOLDIA HYPERBOREA	0.2	0.2	1.01859	00005	0.080	00005	0.0244	0.00349	0.32	2.35
4904030503	YOLDIA MYALIS	1.0	1.0	5.09295	0.004	0.063	0.004	0.(3194	0.00276	1.60	1.86
4904180401	BOREACOLA VADOSA	8.2	8.2	41.76216	0.013	0.216	0.013	0.0662	0.00946	13.14	6.38
4904210401	LIOCYMA FLUCTUOSA	0.2	0.2	1.01859	0.008	0.139	0.008	0.0428	0.00611	0.32	4.12
4905000000	GASTROPODA	6*8	3.4	17.31602	0.029	0.481	0.014	0.0738	0*02110	10.90	14.24
4905110100	ALVINIA SPP.	26.8	13.4	68.24548	0.041	0.684	0.021	0.1049	0.02998	42.95	20.23
4905250101	AMAUROPSIS PURPUREA	0.4	0.4	2.03718	0.004	0.071	0.004	0.0216	0.00309	0.64	2.08
4905410400	OENOPOTA SPP.	5.0	2.5	12.73237	0.032	0.525	0.016	0.0805	0.02299	8,01	15.51
4905450101	RETUSA OBTUSA	2.6	1*3	6.62o83	0.003	0.046	0.001	0.0071	0.00204	4*17	1.37
4905490700	CYLICHNA SPP.	3.2	1.6	8.14871	0.007	0.123	00004	0.0188	0.00538	5.13	3.63
4905490201	CYLICHNA OCCUI T A	4.0	1.3	6.79059	0.009	0.153	0.003	0.0156	0.00669	6.41	4.51
5101000000	ACARINA	0.2	0.2	1.01859	0.000	0.003	0.000	0.0010	0.00015	50.00	50.00
5101010000	HALACARIDAE	0.2	O*2	1.01859	0.000	0.003	0.000	0.0010	0.00015	50.00	50.00

ALL PHYLA BY SPECIES, CONTINUED.

TAXON CODE	TAXONOMIC NAME	COUNTS RAW	COUNTS /KM	COUNTS /M SQ	WEIGHT (GRAMS) RAW	WEIGHT (GRAMS) %	WEIGHT (GRAMS) /KM	WEIGHT (GRAMS) /M SQ OCC ST	WEIGHT (GRAMS) /M SQ ALL STA	% PHYLUM BY- COUNT	% PHYLUM BY- WT
5300000000	CRUSTACEA	7.2	7.2	36.66921	0.002	0.027	0.002	0.0081	0.00116	1.60	0.10
5310000000	HARPACTICOIDA	10.6	5.3	26.99262	0.001	0.023	0.001	0.0036	OQOO1O2	2.35	0.08
5311010202	CALANUS HYPERBOREUS	0.4	0.2	1.01859	0.002	0.040	0.001	0.0061	0.00175	0009	0.15
5311oIO2O3	CALANUS GLACIALIS	0.4	0.4	2.03718	0.000	0.007	0.000	0.0020	0.00029	0009	().02
5311040500	PSEUDOCALANUS SPP.	0.2	0.2	1.01859	0.000	0.003	0.000	0.0010	0.00015	0.04	0.01
5311120200	EURYTEMORA SPP.	0.2	0..2	1.01859	0.000	0.003	0.000	0.0010	0.00015	0.04	0.01
5311130200	METR101A SPP.	0.2	0.2	1.01859	0.000	().0()3	0.000	0.0010	0.00015	0.04	0.01
5311140201	LIMNOCALANUS GRIMALDII	0.8	O*4	2.03718	00001	0.010	0.000	00001"5	0000044	0.18	0.03
53?7031400	MYSIS SPP.	1.4	0.5	2.37671	0.003	0.043	0.001	0.0044	0.00189	O*31	0.16
5327031402	MYSIS LITORALIS	140.4	28.1	143.00993	0.372	6.180	0.074	0.3791	0.27080	31.12	23,72
5327031404	MYSIS RELICTA	22.4	3.7	19.01367	0.197	3.274	0.033	0.1674	0.14348	4.96	12.57
5328020100	LAMPROPS SPP.	2.2	2.2	11.20448	0.002	0.030	0.002	0.0092	0.00131	0049	0.11
5328050117	DIASTYLIS NUCELLA	3.2	1.6	8.14871	0.025	0.408	0.012	0.0626	0.01790	0.71	1.56
53?8050120	DIASTYLIS SULCATA	157.8	39.4	200.91673	0.292	4.848	0.073	0.3718	0.21245	34.97	18061
5330020101	SADURIA ENTOMON	4.2	1.0	5*34759	0.025	0.418	0s006	0.0321	0.01833	0.93	1.60
5331000000	AMPHIPODA	O*4	O*4	2.03718	0.000	0.007	0.000	0.0020	0.00029	0009	0002
5331090104	ATYLUS CARINATUS	0.4	0.2	1.01859	0.005	0.086	0.003	0.0132	0.00378	0.09	0.33
53311201C1	APHERUSA SARSI	1.6	0.8	4.07436	0.003	0.043	0*001	0*0066	0.00189	0.35	0.16
53311201o2	APHERUSA MEGALOPS	8.0	4.0	20.37178	0.009	0.146	0.004	0.0224	0.00640	1*77	0.56
5331150200	COROPHIUM SPP.	18*8	9.4	47.87369	0.013	0.219	0.007	0.0336	0.00960	4.17	0.84
5331201401	ROZINANTE FRAGILLIS	1.6	0.5	2.71624	0.005	0.086	0.002	0.0088	0.00378	0.35	0.33
5331210501	GAMMARACANTHUS LORICATUS	1.6	0.8	4.07436	0.009	0.149	0.004	0.0229	0.00655	O*35	0.57
5331210700	GAMMARUS	8.2	2.7	13.92072	0.014	0.229	0.005	0.0234	0*01004	1.82	0.88
5331210702	GAMMARUS SETOSUS	14.8	3.0	15.07512	0.279	4.639	0.056	0.2846	0.20328	3.28	17.81
5331211402	WEYPRECHTIA PING(JIS	0.2	0.2	1.01859	0.002	0.037	0.002	0.0112	0.00160	0.04	0.14
5331220201	PONTOPOREIA FEMORATA	9.0	4.5	22.91826	0.056	0.923	0.028	0.1416	0.04045	1.99	3.54

AIL PHYLA BY SPECIES, CONTINUED.

TAxON COOE	TAXONOMIC NAME	COUNTS RAW	COUNTS /KM	COUNTS /M SQ	WEIGHT (GRAMS) RAW	WEIGHT (GRAMS) %	WEIGHT (GRAMS) /KM	WEIGHT (GRAMS) /M SQ OCC ST	WEIGHT (GRAMS) /M SQ ALL STA	-% PHYLUM BY- COUNT	-% PHYLUM BY- WT
5331220202	PONTOPOREIA AFFINIS	11.8	3.9	20.03226	0,032	0.535	0.011	0.0547	0.02343	2.62	2.05
5331340000	LYSIANASSIDAE	0.4	0.2	1.01859	0.001	0.010	0.000	0.0015	0.00044	0.09	0.03
5331340702	BOECKOSIMUS AFFINIS	0.2	0.2	1,01859	0.000	0.003	0.000	0.0010	0.00015	0*04	0.01
5331340704	BOECKOSIMUS DERJUGINI	2.4	2.4	12.22307	0.132	2.185	0.132	0.6702	0.09575	0*53	8.38
5331342702	ONISIMUS GLACIALIS	2*O	1.0	5.09295	0.011	0.189	0.006	0.0290	0.00829	0.44	0.72
5331342703	ONISIMUS LITORALIS	0.6	O*3	1.52788	0.004	0.066	0.002	0.0102	0.00291	0.13	0.25
5331370103	ACANTHOSTEPHEIA INCARINATA	2*2	0.6	2.80112	0.011	0.183	0.003	0.0140	0.00800	0949	0.70
5331370201	ACEROIDES LATIPES	0.6	0.6	3.05577	0.003	0.053	0.003	0.0163	0.00233	0*13	0*20
5331370800	MONOCULODES SPP.	0.2	O*Z	1.01859	0.000	0.003	0.000	0.0010	0.00015	0*04	0.01
5331370804	MONOCULODES CRASSIROSTRIS	0.4	0.4	2.03718	0.000	0.003	0.000	0.0010	0.00015	0*09	0.01
5331370907	MONOCULOPSIS LONGICORNIS	9.0	2.3	11.45913	0.009	0.153	0.002	0.0117	0.00669	1.99	0.58
5331371200	PAROEDICEROS SPP.	1.0	0.5	2.54647	0.001	00010	0.000	0.0015	0.00044	0*22	0.03
5331371201	PAROEDICEROS INTERMEDIUS	0.4	0.4	2.03718	0.008	0.126	0.008	0.0387	0.00553	0.09	0.48
5331371202	PAROEDICEROS LYNCEUS	3.8	1.9	9.67660	0.039	0.644	0.019	0.0988	0.02823	0.84	2.47
6100000000	PRIAPULIDA	7.8	3.9	19.86249	0.066	1.089	0.033	0.1670	0004773	100.00	100.00
6603010104	ALCYONIDIUM DISCIFORME	1*2	1.2	6.11154	0.064	1.066	0.064	0.3270	0.04671	100*00	100.00
7203040201	RHIZOMOLGULA GLOBULARIS	7.2	3.6	18.33461	1.47624	.506	0.738	3.7586	1.07388	97.30	99.98
7205020100	OIKOPLEURA SPP.	0.2	0.2	1.01859	0.000	00003	0*000	0.0010	0.00015	2.70	0*01
7900000000	TELEOSTEI	0.4	0.2	1.01859	0.003	0.046	0.001	0.0071	0.00204	28.57	11.11
7915042200	MYOXOCEPHALUS SPP.	0.2	0.2	1.01859	0.009	00143	0.009	0.0438	0.00626	14.29	34.12
7915042206	MYOXOCEPHALUS QUADRICORNIS	0.2	0.2	1.01859	0.004	0.070	0.004	0.0214	0.00306	14.29	16.66
7915061200	LIPARIS SPP.	0.6	0.6	3.05577	0.010	0.159	0.010	0.0489	0.00698	42.86	38.09

APPENDIX 4-III

Simpson Lagoon Drop Net Data
July-August 1982

BENTHIC TRAWL DATA

Ship	Cruise No	Station Number	Tow Number	Gear Code	Date Start Year	Date Start Mo	Date Start Day	Start Time:	Start Lat Deg	Start Lat Min	Start Long Deg	Start Long Min
82	43R	CL11	5	DN	82	08	04		70°	30.3'	149°	27.5'

Date Finish | Finish | Finish Lat | Finish Long | OTime | Distance | Carc

100

Comments:

150 m NE of Pt. Lobos at Milne Pt

Collector:

	TAXON	COMMON NAME	SPECIES CODE	Count	Wet Weight (Kg/g)	Dry Weight (lbs)			
1	Mysis relicta		532703140[illegible]	3	009		A		P
2	Mysis litoralis		532703140[illegible]	3	012		A		P
3	Onisimus litoralis		533134270[illegible]	5	011		A		P
4									P
5									P
6									P
7									P
8									P
9									P
10									P
11									P
12									P
13									P
14									P
15									P
16									P
17									P
18									P
19									P
20									P
21									P

(Record additional comments on reverse side)

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BENTHIC TRAWL DATA

Ship	Cruise No	Station Number	Tow Number	Gear Code	Date Start Year	Mo	Day	Start Time:	Start Lat Deg	Min	Start Long Deg	Min
82	43	SL11	4	DN	82	08	04		70°	30.3'	149°	27.5'

Date Finish	Finish	Finish Lat	Finish Long	Time	Distance	Depth Fished (M)	%
							100

Comments:

M.

Collector:

	TAXON	COMMON NAME	SPECIES CODE	Count	Wet Weight (Kg)	Wet Weight (Kg)		Cast	Card
1	Mysis litoralis		5327031402	1	032			A	P
2	Mysis relicta		5327031404	4	007			A	P
3	Lysianassidae		5332 34		001			A	P
4	Acanthostepheia incarinata		5331370103	1	009			A	P
5	Cyrtod[illegible]		4904290101	1	001			A	P
6									P
7									P
8									P
9									P
10									P
11									P
12									P
13									P
14									P
15									P
16									P
17									P
18									P
19									P
20									P
21									P

(Record additional comments on reverse side)

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IMSUAWBK

BENTHIC TRAWL DATA

Ship	Cruise No	Station Number	Tow Number	Gear Code	Date Start Year	Date Start Mo	Date Start Day	Start Time:	Start Lat Deg	Start Lat Min	Start Long Deg	Start Long Min
82	435	SL11	3	DN	82	08	04		70°	30.3'	147°	27.5'

Date Finish Year	Date Finish Mo	Date Finish Day	Finish Time	Finish Lat Deg	Finish Lat Min	Finish Long Deg	Finish Long Min	OL	Time Zone	Distance Fished (Km)	Depth Fished (M)	% Samp	Card
				°	'	°	'					100	

Comments:
~150m NE of Building at Milne Pt.

	TAXON	COMMON NAME	SPECIES CODE	Count	(Kg)	(lbs)	Co	La	Ca
1	Mysis relicta		5327031404	031			H		P
2	My[illegible]		5327031[illegible]				A		P
3	On[illegible] litoralis		5331342703	1			A		P
4									P
5									P
6									P
7									P
8									P
9									P
10									P
11									P
12									P
13									P
14									P
15									P
16									P
17									P
18									P
19									P
20									P
21									P

(Record additional comments on reverse side)

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BENTHIC TRAWL DA' A

Ship	Cruise No	Station Number	Tow Number	Gear Code	Date Start Year	Date Start Mo	Date Start Day	Start Time:	Start Lat Deg	Start Lat Min	Start Long Deg	Start Long Min
82	43R	SL11	2	DN	82	02	04		70°	30.3'	149°	27.5'

Date Finish Year	Date Finish Mo	Date Finish Day	Finish Time	Finish Lat Deg	Finish Lat Min	Finish Long Deg	Finish Long Min	OL	Time Zone	Distance Fished (Km)	Depth Fished (M)	% Samp		Card
				°	'	°	'					100		H

Comments:
150 m NE of Building at Milne Pt.

	TAXON	COMMON NAME	SPECIES CODE	Count	~~(Kg)~~ (g)	(lbs)		Last Card
1	Mysis litoralis		5327031402	2	.008		A	P
2	Mysis relicta		5327031404	2	.005		A	P
3	Pontoporeia affin		5331220202	2	.014		A	P
4	Onisimus li lis		5331340703	4	.011		A	P
5								P
6								P
7								P
8								P
9								P
10								P
11								P
12								P
13								P
14								P
15								P
16								P
17								P
18								P
19								P
20								P
21								P

(Record additional comments on reverse side)

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BENTHIC TRAWL DATA

Ship	Cruise No	Station Number	Tow Number	Gear Code	Date Start Year	Date Start Mo	Date Start Day	Start Time:	Start Lat Deg	Start Lat Min	Start Long Deg	Start Long Min
7	4 R	SL 11	1	DN	82	08	04		70°	30.3'	149°	27.5'

Date Finish Year	Date Finish Mo	Date Finish Day	Finish Time	Finish Lat Deg	Finish Lat Min	Finish Long Deg	Finish Long Min	Q L	Time Zone	Distance Fished (Km)	Depth Fished (M)	% Samp		Card
				°	'	°	'					100	100	H

Comments:

~150 m NE of Building at Milne Pt.
1 of 5, 4-Aug-82 SL-11

Collector:

	TAXON	COMMON NAME	SPECIES CODE	Count	Wet "Weight" (Kg) (g)	Wet "Weight" (lbs)	Code	Last	Card
1	Mysis reicta		53270 1402	11	.030		A		P
2									P
3									P
4									P
5									P
6									P
7									P
8									P
9									P
10									P
11									P
12									P
13									P
14									P
15									P
16									P
17									P
18									P
19									P
20									P
21									P

14151 S17181

(Record additional comments on reverse side)

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IMSUAWBK

BENTHIC TRAWL DATA

Ship	Cruise No	Station Number	Tow Number	Gear Code	Date Start Year	Mo	Day	Start Time:	Start Lat Deg	Min	Start Long Deg	Min
-	4 3 6	5 2 1 0	2	DW	8 2	0 7	2 8		70°	30.6'	147°	27.1'

Date Finish Year	Mo	Day	Finish Time	Finish Lat Deg	Min	Finish Long Deg	Min	O L	Time Zone	Distance Fished (Km)	Depth Fished (M)	% Samp	Card
				°	'	°	'				+	100	H

Comments:

4-Aug-82, Mid Lagoon between Milne Pt and Pt Is.

St. 10

Collector:

	TAXON	COMMON NAME	SPECIES CODE	count	Wet "Wght" (kg)	Wet "Weight" (lbs)	Code	Last Card
1	Mysis litoralis		5 3 2 7 0 3 1 1 0 2	41	1.53		A	P
2	Mysis relicta		5 3 2 7 0 3 1 1 0 4	10	.058		A	P
3	Mysis (damaged)		5 3 2 7 0 2 1 4	11	.040		A	P
4	Acanthostepheia incarinata		5 3 3 1 3 7 0 1 0 3	2	.017		A	P
5	Aphecusa megalops		5 3 3 1 1 2 0 1 0 2	4	.005		A	P
6	Onisimus glacialis		5 3 3 1 3 4 2 7 0 2	4	.011		A	P
7	Diastylis sulcata		5 3 2 8 0 5 0 1 2 0	3	.007		A	P
8	Saduria entomon		5 3 3 0 0 2 0 1 0 1	1	.003		A	P
9	Pygospio elegans		4 8 0 1 4 2 1 3 0 2	1			A	P
10	Ampharete vega		4 8 0 1 6 5 0 2 0 7	11	.002		A	P
11	Tubularia sp.		3 3 0 1 0 3 0 2 0 0	9	.237		A	P
12								P
13								P
14								P
15								P
16								P
17								P
18								P
19								P
20								P
21								P

Record additional comments on reverse side)

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IMSUAWBK

BENTHIC TRAWL DATA

Ship	Cruise No	Station Number	Tow Number	Gear Code	Date Start Year	Mo	Day	Start Time:	Start Lat Deg	Min	Start Long Deg	Min
[illegible]	12E	SL10	1	DN	82	07	28		70°	30.6'	149°	25.1'

Date Finish Year	Mo	Day	Finish Time	Finish Lat Deg	Min	Finish Long Deg	Min	O/L	Time Zone	Distance Fished (Km)	Depth Fished (M)	% Samp	Card
												100	H

38394041 4243444.5464748495051 525354555657 58 59 60 61 62 63 64 65 66 67 68 69 70 71 7273147 S7677 787980

Comments:
4-Aug-82, Mud Lagoon between Milne Pt. and Beaufort Is.
SL-10

Collector:

	TAXON	COMMON NAME	SPECIES CODE	Count	Wet "Weight" (kg)	Wet "Weight" (lbs)	Code	Last Card
1	Mysis relicta		53270310401	4	.067		A	P
2	Mysis litoralis		53270314023	23	.100		A	P
3	Mysis sp. (damaged)		53270314	4	.011		A	P
4	Acanthostepheia incarinata		53313701003	2	.010		A	P
5	Gammarus setosa		53312107002	1	.007		A	P
6	Aceroides latipes		53313702001	1	.007		A	P
7	Onisimus glacialis		53313427002	2	.009		A	P
8	Apherusa megalops		53311201002	2	.009		A	P
9	Diastylis sulcata		53280501220	5	.011		A	P
10	Ampharete vega		48016502001	15	.007			P
11								P
12								P
13								P
14								P
15								P
16								P
17								P
18								P
19								P
20								P
21								P

(Record additional comments on reverse side)

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IMSUAWBK