

FISHERIES RESEARCH BOARD OF CANADA  
BIOLOGICAL STATION  
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## Quantitative benthic investigations.

**I. Satellite Channel biomass  
summaries and major taxon  
rank orders,**

**February 1965 - May 1967**

by Derek V. Ellis

FISHERIES RESEARCH BOARD OF CANADA

**TECHNICAL REPORT NO. 25**

**1967**



FISHERIES RESEARCH BOARD OF CANADA

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FISHERIES RESEARCH BOARD OF CANADA

TECHNICAL REPORT NO. 25

QUANTITATIVE BENTHIC INVESTIGATIONS. I. SATELLITE CHANNEL

BIOMASS SUMMARIES AND MAJOR TAXON RANK ORDERS

FEBRUARY 1965 - MAY 1967

by

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FISHERIES RESEARCH BOARD OF CANADA

Biological Station, Nanaimo, B.C.

July, 1967

## INTRODUCTION

In 1964 an investigation of marine sediment faunas was initiated at the University of Victoria. The preliminary objective was to describe faunal associations related to sediment types and to estimate biomasses using rapid data processing techniques.

The raw quantitative data obtained will be distributed on a limited basis through the medium of the Technical Reports of the Fisheries Research Board of Canada. This report is the first of the series and gives total biomass estimates for one area, Satellite Channel, based on a preliminary sort of collections into major taxa (Phylum, Class or Order). Unless specifically stated on a particular table the collections reported here consist of 10 replicated hauls at each station made with an 0.1 sq. m. Van Veen grab and screened through a 1 mm mesh. Full locality and environmental data will be given in report III of the series. Other reports in preparation are:

Quantitative Benthic Investigations. II.  
Satellite Channel Species Data February 1965 - May 1967.

Quantitative Benthic Investigations. III. Locality and Environmental Data for Selected Stations (mainly from Satellite Channel, Straits of Georgia and adjacent inlets) February 1965 - August 1967

Quantitative Benthic Investigations. IV. Biomass summaries and Major Taxon Rank Orders for Selected Stations (mainly Straits of Georgia and adjacent inlets) February 1965 - August 1967.

Quantitative Benthic Investigations. V. Species Data from Selected Stations (mainly Straits of Georgia and adjacent inlets) February 1965 - August 1967.

The philosophy behind the investigation has been to modernise benthic survey techniques as much as possible with the objective of speeding data processing. Traditionally investigations of this type have proceeded slowly due to the practice of identifying all specimens to species, the use of hand calculators and hand preparation of tables and diagrams. The first is unnecessary since prime interest in a survey of this type, as opposed to a detailed study, is to expose distributional patterns of total biomass, and of species which may be oceanographically or ecologically important. The use of hand calculators and hand preparation of tables and diagrams in extensive surveys of this type is now undesirable since data processing by computer and offset or photocopying not only handles the data more rapidly but also more accurately.

Technical advances developed to date in the survey or adopted from other recent investigations are:

1. Use of mechanically-simple sampler, i.e. the 0.1 sq. m. VanVeen grab.
2. Measurement of sediment volume.
3. Bottom temperature obtained by hand thermometer from collected sediments or near bottom in situ thermistor probe.

4. Bottom salinity obtained by extrapolation from near bottom readings taken by in situ salinometer.
5. Total biomass estimates (wet weight) based on a preliminary sort into major taxa (Phyla, Class or Order). Dry weight conversion factors obtained from published literature.
6. Species identification for a limited number of species only.
7. Punch card keys developed for species identification replacing traditional dichotomous keys.
8. Quantitative data processing by computer with print-outs on offset masters for duplication.

#### COMPUTER PROGRAMS

- BENTH1. Lists environmental data by haul, i.e. haul no., latitude, longitude, depth, sediment volume, bottom temperature, bottom salinity, percentage composition by weight (or volume) of sand, silt and clay, calculates mean, variance and standard deviation for last 7 parameters, provides print-out and punches card summaries.
- BENTH2. Calculates for each taxon percentage of hauls in which occurs, mean number of animals/haul, variance and standard deviation, converts to density/sq.m., totals densities and calculates percentage each taxon represents of total. Calculates mean wet weight (specimens blotted dry)/haul, variance and standard deviation, converts to wet weight/sq.m., totals wet weights and calculates percentage each taxon represents of total, converts wet weight values to dry weight/sq.m., totals dry weights and calculates percentage each taxon represents of total.
- BENTH3. As BENTH2 but calculations for species within a major taxon, and all taxa within a station.
- BENTH4. Sorts number and weight data by haul within each station and lists taxa by hauls. Permits rapid scanning of hauls for aberrant results.
- BENTH5. Cancelled.
- BENTH6. Ranks taxa in a station by frequency (percentage of hauls in which taxon occurs), density and wet weight biomass.
- BENTH7. Ranks species in a station by frequency (percentage of hauls in which taxon occurs) density and wet weight biomass).

#### ACKNOWLEDGEMENTS

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and smaller launches by the West Coast Working Group of the Canadian Committee on Oceanography. Scientific and technical assistance has been given by many students, faculty and staff at the University of Victoria, and scientific and administrative staffs of the Biological Station, Nanaimo (Fisheries Research Board of Canada), the Pacific Naval Laboratory (Defense Research Board of Canada), and the Canadian Hydrographic Service, Victoria (Department of Energy, Mines and Resources).

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#### EXPLANATION OF TABLES

##### Biomass Summary Tables (Program BENTH2)

- Line 1 - Table number, program identification  
Line 2 - Locality, date (day, month, year), cruise number within year, haul number range, extra locality information (or blank), number of hauls  
Line 3 - Column headings

##### 1st data block Numbers data

- Col. 1: Taxon - major taxa used for sorting purposes and total biomass estimates  
Col. 2: Frequency. Per cent of Hauls - percentage of hauls in which taxa occurred.  
Col. 3: Av/haul - mean number of specimens per haul  
Col. 4: Var - variance of numbers per haul  
Col. 5: SD - standard deviation of numbers per haul  
Col. 6: Dens/sq.m. - density estimates per sq.m.  
Col. 7: Pct total - percentage of total density represented by each taxon  
  
Total: Density estimate for all animals collected and retained by screen

##### 2nd data block Weight data

(Where more than 20 taxa per station, the weight data are printed on the table immediately following the numbers data)

- Col. 1: Taxon - major taxa used  
Col. 2: Av/haul - mean wet wt.(animals blotted dry) of specimens per haul  
Col. 3: Var - variance of weights per haul  
Col. 4: SD - standard deviation of weights per haul  
Col. 5: Wet wt/sq.m. - biomass (wet weight) estimate per sq.m.  
Col. 6: Pct total - percentage of total wet weight represented by each taxon  
Col. 7: Dry wt/sq.m. - biomass (dry organic matter) estimate per sq.m.  
Col. 8: Pct tot - percentage of total dry weight represented by each taxon  
  
Totals: Estimates of wet weight and dry weight for all animals collected and retained by screen.

Rank Orders Tables (Program BENTH6)

Line 1 - Table number, program identification

Line 2 - Locality, date (day, month, year), cruise number within year, haul number range, extra locality information (or blank), number of hauls

1st data block

Frequency - ranking of taxa by decreasing percentage of hauls  
in which taxa occur.

2nd data block

Density - ranking of taxa by decreasing number of individuals  
per sq.m.

3rd data block

Biomass wet wt. - ranking of taxa by decreasing wet weight  
(specimens blotted dry) in grams per sq.m.

(Where more than 14 taxa per station, biomass rankings are printed  
on the table immediately following the frequency and density  
rankings)

LIST OF FIGURES

Figure 1

South-east British Columbia showing the location of Satellite Channel (heavy line)

Figure 2

Satellite Channel showing locations of collecting stations.

TABLE 1. BIOMASS SUMMARY

FULFORD HARBOUR

10 FEB 65 6 1-10

10 HAULS

TAXON	FREQUENCY OF HAULS	PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
ANTHOZOA	60.0	1.10	1.43	1.20	11	0.1	
POLYCHAETA-WITHOUT TUBES	100.0	164.10	4174.54	64.61	1641	16.0	
POLYCHAETA-WITH TUBES	100.0	702.00	228710.19	478.24	7020	68.5	
AMPHIPODA	100.0	6.90	18.32	4.28	69	0.7	
DECAPODA	10.0	0.10	0.10	0.32	1	0.0	
CUMACEA	80.0	3.10	5.21	2.28	31	0.3	
OSTRACODA	80.0	18.70	326.46	18.07	187	1.8	
OTHER ARTHROPODA	30.0	0.30	0.23	0.48	3	0.0	
PELECYPODA	100.0	70.00	133.56	11.56	700	6.8	
SCAPHOPODA	20.0	0.40	0.93	0.97	4	0.0	
GASTROPODA	100.0	50.40	177.60	13.33	504	4.9	
OPHIUROIDEA	90.0	5.10	15.66	3.96	51	0.5	
HOLOTHUROIDEA	30.0	0.30	0.23	0.48	3	0.0	
NEMERTEA	50.0	1.30	2.68	1.64	13	0.1	
TURBELLARIA	20.0	0.20	0.18	0.42	2	0.0	
FISHES	10.0	0.10	0.10	0.32	1	0.0	
UNIDENTIFIABLE	40.0	1.40	3.38	1.84	14	0.1	
TOTAL					10255		

TAXON

BIOMASS (WEIGHT)

	AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
ANTHOZOA	4.21	27.23	5.22	42.1	6.15	4.21	9.1
POLYCHAETA-WITHOUT TUBES	10.35	44.05	6.64	103.5	15.12	14.49	31.4
POLYCHAETA-WITH TUBES	0.53	0.08	0.28	5.3	0.77	0.05	0.1
AMPHIPODA	0.12	0.02	0.12	1.2	0.18	0.02	0.1
DECAPODA	0.01	0.00	0.03	0.1	0.01	0.00	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSTRACODA	0.02	0.00	0.04	0.2	0.03	0.00	0.0
OTHER ARTHROPODA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PELECYPODA	49.75	849.37	29.14	497.5	72.66	24.87	53.9
SCAPHOPODA	0.09	0.04	0.20	0.9	0.13	0.04	0.1
GASTROPODA	2.61	0.38	0.62	26.1	3.81	1.83	4.0
OPHIUROIDEA	0.24	0.10	0.31	2.4	0.35	0.07	0.2
HOLOTHUROIDEA	0.03	0.00	0.05	0.3	0.04	0.03	0.1
NEMERTEA	0.35	0.41	0.64	3.5	0.51	0.35	0.8
TURBELLARIA	0.01	0.00	0.03	0.1	0.01	0.01	0.0
FISHES	0.15	0.22	0.47	1.5	0.22	0.15	0.3
UNIDENTIFIABLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TOTALS

684.7

46.14

TABLE 2. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

FULFORD HARBOUR

10 FEB 65 6 1-10

10 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA-WITHOUT TUBES	100.00
POLYCHAETA-WITH TUBES	100.00
AMPHIPODA	100.00
PELECYPODA	100.00
GASTROPODA	100.00
OPIHUROIDEA	90.00
CUMACEA	80.00
OSTRACODA	80.00
ANTHOZOA	60.00
NEMERTEA	50.00
UNIDENTIFIABLE	40.00
OTHER ARTHROPODA	30.00
HOLOTHUROIDEA	30.00
SCAPHOPODA	20.00
TURBELLARIA	20.00
DECAPODA	10.00
FISHES	10.00

DENSITY  
(NO./SQ. M.)

POLYCHAETA-WITH TUBES	7020.00
POLYCHAETA-WITHOUT TUBES	1641.00
PELECYPODA	700.00
GASTROPODA	504.00
OSTRACODA	187.00
AMPHIPODA	69.00
OPIHUROIDEA	51.00
CUMACEA	31.00
UNIDENTIFIABLE	14.00
NEMERTEA	13.00
ANTHOZOA	11.00
SCAPHOPODA	4.00
OTHER ARTHROPODA	3.00
HOLOTHUROIDEA	3.00
TURBELLARIA	2.00
DECAPODA	1.00
FISHES	1.00

TABLE 3. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

FULFORD HARBOUR

10 FEB 65 6 1-10

10 HAULS

BIOMASS WET WT  
(GMS/SQ. M.)

PELECYPODA	497.50
POLYCHAETA-WITHOUT TUBES	103.50
ANTHOZOA	42.10
GASTROPODA	26.10
POLYCHAETA-WITH TUBES	5.30
NEMERTEA	3.50
OPIHIUROIDEA	2.40
FISHES	1.50
AMPHIPODA	1.20
SCAPHOPODA	0.90
HOLOTHUROIDEA	0.30
OSTRACODA	0.20
DECAPODA	0.10
TURBELLARIA	0.10
CUMACEA	0.0
OTHER ARTHROPODA	0.0
UNIDENTIFIABLE	0.0

TABLE 4. BIOMASS SUMMARY

PROGRAM BENTH2

SATELLITE CHANNEL<CENTRE<	TEST	30 SEPT 65			10 HAULS		
TAXON	FREQUENCY	NUMBERS			SD	DENS/	PCT
	PER CENT OF HAULS	AV/ HAUL	VAR		SQ.M.	TOTAL	
ANTHOZOA	20.0	0.30	0.46	0.67	3	0.0	
POLYCHAETA	100.0	999.00	0.0	0.0	9990	95.3	
AMPHIPODA	100.0	13.00	28.22	5.31	130	1.2	
OTHER ARTHROPODA	100.0	2.90	1.88	1.37	29	0.3	
PELECYPODA	100.0	20.90	64.77	8.05	209	2.0	
GASTROPODA	60.0	1.30	2.68	1.64	13	0.1	
OPHIUROIDA	100.0	8.80	8.18	2.86	88	0.8	
ECHINOIDEA	30.0	0.30	0.23	0.48	3	0.0	
HOLOTHUROIDEA	70.0	1.00	0.67	0.82	10	0.1	
UNIDENTIFIABLE	30.0	0.30	0.23	0.48	3	0.0	
<b>TOTAL</b>					<b>10478</b>		

TAXON	AV/ HAUL	VAR	BIOMASS (WEIGHT)				
			SD	WET WT	PCT	DRY WT	PCT
			/SQ.M.	TOTAL	/SQ.M.	TOT	
ANTHOZOA	0.12	0.12	0.35	1.2	0.08	0.12	0.1
POLYCHAETA	65.89	351.05	18.74	658.9	43.98	92.25	69.2
AMPHIPODA	0.17	0.02	0.15	1.7	0.11	0.07	0.1
OTHER ARTHROPODA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PELECYPODA	44.94	1063.69	32.61	449.4	30.00	22.47	16.9
GASTROPODA	0.25	0.24	0.49	2.5	0.17	0.17	0.1
OPIHUROIDA	2.96	1.57	1.25	29.6	1.98	0.89	0.7
ECHINOIDEA	22.76	1523.31	39.03	227.6	15.19	4.55	3.4
HOLOTHUROIDEA	12.72	234.76	15.32	127.2	8.49	12.72	9.5
UNIDENTIFIABLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTALS</b>				<b>1498.1</b>		<b>133.24</b>	

TABLE 5. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL%CENTRE&lt; TEST

30 SEPT 65

10 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA	100.00
AMPHIPODA	100.00
OTHER ARTHROPODA	100.00
PELECYPODA	100.00
OPIHIUROIDA	100.00
HOLOTHUROIDEA	70.00
GASTROPODA	60.00
ECHINOIDEA	30.00
UNIDENTIFIABLE	30.00
ANTHOZOA	20.00

DENSITY  
(NO./SQ. M.)

POLYCHAETA	9990.00
PELECYPODA	209.00
AMPHIPODA	130.00
OPIHIUROIDA	88.00
OTHER ARTHROPODA	29.00
GASTROPODA	13.00
HOLOTHUROIDEA	10.00
ANTHOZOA	3.00
ECHINOIDEA	3.00
UNIDENTIFIABLE	3.00

BIO MASS WET WT  
(GMS/SQ. M.)

POLYCHAETA	658.90
PELECYPODA	449.40
ECHINOIDEA	227.60
HOLOTHUROIDEA	127.20
OPIHIUROIDA	29.60
GASTROPODA	2.50
AMPHIPODA	1.70
ANTHOZOA	1.20
OTHER ARTHROPODA	0.0
UNIDENTIFIABLE	0.0

TABLE 6. BIOMASS SUMMARY

PROGRAM BENTH2

SATELLITE CHANNEL%CENTREC 30 SEPT 65 16 1-10 10 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
ANTHOZOA	10.0	0.20	0.40	0.63	2	0.0
POLYCHAETA WITHOUT TUBES	100.0	22.10	21.43	4.63	221	2.1
POLYCHAETA WITH TUBES	100.0	999.00	0.0	0.0	9990	93.5
AMPHIPODA	100.0	11.20	17.07	4.13	112	1.0
CUMACEA	100.0	2.60	1.60	1.26	26	0.2
OTHER ARTHROPODA	20.0	0.50	1.17	1.08	5	0.0
PELECYPODA	100.0	19.10	34.32	5.86	191	1.8
GASTROPODA	80.0	1.40	2.04	1.43	14	0.1
OPHIUROIDEA	100.0	9.30	11.79	3.43	93	0.9
ECHINOIDEA	30.0	0.30	0.23	0.48	3	0.0
HOLOTHUROIDEA	80.0	1.20	0.84	0.92	12	0.1
NEMERTEA	10.0	0.10	0.10	0.32	1	0.0
OTHER PHYLA	50.0	0.90	1.66	1.29	9	0.1
TOTAL					10679	

TAXON	BIOMASS (WEIGHT)						
	AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
ANTHOZOA	0.11	0.12	0.35	1.1	0.09	0.11	0.2
POLYCHAETA WITHOUT TUBES	2.56	1.88	1.37	25.6	2.04	3.58	8.0
POLYCHAETA WITH TUBES	54.46	146.19	12.09	544.6	43.30	5.45	12.1
AMPHIPODA	0.10	0.0	0.0	1.0	0.08	0.02	0.0
CUMACEA	0.01	0.00	0.03	0.1	0.01	0.00	0.0
OTHER ARTHROPODA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PELECYPODA	34.44	563.77	23.74	344.4	27.38	17.22	38.3
GASTROPODA	0.25	0.16	0.40	2.5	0.20	0.17	0.4
OPIHUROIDEA	2.74	1.19	1.09	27.4	2.18	0.82	1.8
ECHINOIDEA	16.85	972.38	31.18	168.5	13.40	3.37	7.5
HOLOTHUROIDEA	14.17	186.20	13.65	141.7	11.27	14.17	31.5
NEMERTEA	0.01	0.00	0.03	0.1	0.01	0.01	0.0
OTHER PHYLA	0.07	0.02	0.13	0.7	0.06	0.07	0.2
TOTALS				1257.7		45.00	

TABLE 7. PRELIMINARY SORT RANK ORDERS

SATELLITE CHANNEL%CENTRE&lt;

30 SEPT 65 16 1-10

10 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA WITHOUT TUBES	100.00
POLYCHAETA WITH TUBES	100.00
AMPHIPODA	100.00
CUMACEA	100.00
PELECYPODA	100.00
OPIHUROIDEA	100.00
GASTROPODA	80.00
HOLOTHUROIDEA	80.00
OTHER PHYLA	50.00
ECHINOIDEA	30.00
OTHER ARTHROPODA	20.00
ANTHOZOA	10.00
NEMERTEA	10.00

DENSITY  
(IND./SQ. M.)

POLYCHAETA WITH TUBES	9990.00
POLYCHAETA WITHOUT TUBES	221.00
PELECYPODA	191.00
AMPHIPODA	112.00
OPIHUROIDEA	93.00
CUMACEA	26.00
GASTROPODA	14.00
HOLOTHUROIDEA	12.00
OTHER PHYLA	9.00
OTHER ARTHROPODA	5.00
ECHINOIDEA	3.00
ANTHOZOA	2.00
NEMERTEA	1.00

BIOMASS WET WT  
(GMS/SQ. M.)

POLYCHAETA WITH TUBES	544.60
PELECYPODA	344.40
ECHINOIDEA	168.50
HOLOTHUROIDEA	141.70
OPIHUROIDEA	27.40
POLYCHAETA WITHOUT TUBES	25.60
GASTROPODA	2.50
ANTHOZOA	1.10
AMPHIPODA	1.00
OTHER PHYLA	0.70
CUMACEA	0.10
NEMERTEA	0.10
OTHER ARTHROPODA	0.0

TABLE 8. BIOMASS SUMMARY

PROGRAM BENTH2

SATELLITE CHANNEL-LONG SECTION 14 OCT 65 17 1-5 WEST 5 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	VAR	SD	DENS/ SQ.M.	PCT TOTAL
ANTHOZOA	20.0	0.20	0.20	0.45	2	0.0
POLYCHAETA WITHOUT TUBES	100.0	55.60	364.30	19.09	556	6.7
POLYCHAETA WITH TUBES	100.0	628.60	257530.75	507.47	6286	76.2
AMPHIPODA	100.0	21.60	155.80	12.48	216	2.6
ISOPODA	60.0	1.00	1.50	1.22	10	0.1
DECAPODA	40.0	0.40	0.30	0.55	4	0.0
CUMACEA	80.0	2.80	3.70	1.92	28	0.3
OSTRACODA	40.0	0.40	0.30	0.55	4	0.0
OTHER ARTHROPODA	40.0	0.40	0.30	0.55	4	0.0
PELECYPODA	100.0	93.00	3798.00	61.63	930	11.3
SCAPHOPODA	20.0	0.20	0.20	0.45	2	0.0
GASTROPODA	100.0	5.20	22.20	4.71	52	0.6
OPIHUROIDEA	60.0	7.20	62.70	7.92	72	0.9
ECHINOIDEA	60.0	0.60	0.30	0.55	6	0.1
HOLOTHUROIDEA	60.0	3.00	31.50	5.61	30	0.4
NEMERTEA	100.0	3.40	4.30	2.07	34	0.4
SIPUNCULOIDEA	40.0	0.40	0.30	0.55	4	0.0
OTHER PHYLA	40.0	0.80	1.70	1.30	8	0.1
TOTAL					8248	

TAXON	AV/ HAUL	VAR	BIOMASS (WEIGHT)				
			SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
ANTHOZOA	0.04	0.01	0.09	0.4	0.04	0.04	0.1
POLYCHAETA WITHOUT TUBES	6.86	15.22	3.90	68.6	6.98	9.60	20.1
POLYCHAETA WITH TUBES	12.18	179.78	13.41	121.8	12.39	1.22	2.6
AMPHIPODA	0.14	0.01	0.09	1.4	0.14	0.03	0.1
ISOPODA	0.02	0.00	0.04	0.2	0.02	0.00	0.0
DECAPODA	0.08	0.02	0.13	0.8	0.08	0.02	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSTRACODA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ARTHROPODA	0.04	0.00	0.05	0.4	0.04	0.01	0.0
PELECYPODA	61.32	5373.99	73.31	613.2	62.38	30.66	64.3
SCAPHOPODA	0.04	0.01	0.09	0.4	0.04	0.02	0.0
GASTROPODA	0.26	0.04	0.19	2.6	0.26	0.18	0.4
OPIHUROIDEA	1.22	3.41	1.85	12.2	1.24	0.37	0.8
ECHINOIDEA	13.18	184.86	13.60	131.8	13.41	2.64	5.5
HOLOTHUROIDEA	1.62	8.31	2.88	16.2	1.65	1.62	3.4
NEMERTEA	1.30	2.81	1.68	13.0	1.32	1.30	2.7
SIPUNCULOIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER PHYLA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS				983.0		47.70	

TABLE 9. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL-LONG SECTION 14 OCT 65 17 1-5 WEST

5 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA WITHOUT TUBES	100.00
POLYCHAETA WITH TUBES	100.00
AMPHIPODA	100.00
PELECYPODA	100.00
GASTROPODA	100.00
NEMERTEA	100.00
CUMACEA	80.00
ISOPODA	60.00
OPIHIUROIDEA	60.00
ECHINOIDEA	60.00
HOLOTHUROIDEA	60.00
DECAPODA	40.00
OSTRACODA	40.00
OTHER ARTHROPODA	40.00
SIPUNCULOIDEA	40.00
OTHER PHyla	40.00
ANTHOZOA	20.00
SCAPHOPODA	20.00

DENSITY  
(NO./SQ. M.)

POLYCHAETA WITH TUBES	6286.00
PELECYPODA	930.00
POLYCHAETA WITHOUT TUBES	556.00
AMPHIPODA	216.00
OPIHIUROIDEA	72.00
GASTROPODA	52.00
NEMERTEA	34.00
HOLOTHUROIDEA	30.00
CUMACEA	28.00
ISOPODA	10.00
OTHER PHyla	8.00
ECHINOIDEA	6.00
DECAPODA	4.00
OSTRACODA	4.00
OTHER ARTHROPODA	4.00
SIPUNCULDIDEA	4.00
ANTHOZOA	2.00
SCAPHOPODA	2.00

TABLE 10. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL-LONG SECTION 14 OCT 65 17 1-5 WEST 5 HAULS

BIOMASS WET WT  
(GMS/SQ. M.)

PELECYPODA	613.20
ECHINOIDEA	131.80
POLYCHAETA WITH TUBES	121.80
POLYCHAETA WITHOUT TUBES	68.60
HOLOTHUROIDEA	16.20
NEMERTEA	13.00
OPHIUROIDEA	12.20
GASTROPODA	2.60
AMPHIPODA	1.40
DECAPODA	0.80
ANTHOZOA	0.40
SCAPHOPODA	0.40
OTHER ARTHROPODA	0.40
ISOPODA	0.20
CUMACEA	0.0
OSTRACODA	0.0
SIPUNCULOIDEA	0.0
OTHER PHYLA	0.0

TABLE 11. BIOMASS SUMMARY

PROGRAM BENTH2

SATELLITE CHANNEL-CROSS SECTION 27 OCT 65/19/1-5 SOUTH 5 HAULS

TAXON	FREQUENCY OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
ANTHOZOA	0.0	0.0	0.0	0.0	0	0.0
POLYCHAETA-WITHOUT TUBES	100.0	191.60	2640.80	51.39	1916	49.8
POLYCHAETA-WITH TUBES	60.0	4.20	28.70	5.36	42	1.1
AMPHIPODA	100.0	27.60	45.80	6.77	276	7.2
ISOPODA	20.0	0.20	0.20	0.45	2	0.1
DECAPODA	80.0	6.80	42.70	6.53	68	1.8
CUMACEA	60.0	0.60	0.30	0.55	6	0.2
OSTRACODA	0.0	0.0	0.0	0.0	0	0.0
OTHER ARTHROPODA	100.0	5.60	16.30	4.04	56	1.5
AMPHINEURA	20.0	0.20	0.20	0.45	2	0.1
PELECYPODA	100.0	83.40	333.80	18.27	834	21.7
GASTROPODA	100.0	59.80	610.70	24.71	598	15.5
OPIHUROIDEA	100.0	2.80	0.70	0.84	28	0.7
ECHINOIDEA	20.0	0.20	0.20	0.45	2	0.1
HOLOTHUROIDEA	0.0	0.0	0.0	0.0	0	0.0
NEMERTEA	60.0	0.80	0.70	0.84	8	0.2
SIPUNCHULOIDEA	20.0	0.40	0.80	0.89	4	0.1
ECHIUROIDEA	0.0	0.0	0.0	0.0	0	0.0
FISHES	20.0	0.40	0.80	0.89	4	0.1
UNIDENTIFIABLE	0.0	0.0	0.0	0.0	0	0.0
TOTAL						3846

TAXON	BIOMASS (WEIGHT)					
	AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.
ANTHOZOA	0.0	0.0	0.0	0.0	0.0	0.0
POLYCHAETA-WITHOUT TUBES	3.88	0.98	0.99	38.8	47.55	5.43
POLYCHAETA-WITH TUBES	0.32	0.10	0.31	3.2	3.92	0.03
AMPHIPODA	0.02	0.00	0.04	0.2	0.25	0.00
ISOPODA	0.0	0.0	0.0	0.0	0.0	0.0
DECAPODA	0.30	0.11	0.33	3.0	3.68	0.06
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0
OSTRACODA	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ARTHROPODA	0.0	0.0	0.0	0.0	0.0	0.0
AMPHINEURA	0.0	0.0	0.0	0.0	0.0	0.0
PELECYPODA	2.42	1.98	1.41	24.2	29.66	1.21
GASTROPODA	0.52	0.08	0.29	5.2	6.37	0.36
OPIHUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0
ECHINOIDEA	0.0	0.0	0.0	0.0	0.0	0.0
HOLOTHUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0
NEMERTEA	0.50	1.01	1.01	5.0	6.13	0.50
SIPUNCHULOIDEA	0.06	0.02	0.13	0.6	0.74	0.06
ECHIUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0
FISHES	0.14	0.10	0.31	1.4	1.72	0.14
UNIDENTIFIABLE	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS				81.6		7.80

## TABLE 12. PRELIMINARY SORT RANK ORDERS

SATELLITE CHANNEL-CROSS SECTION 27 OCT 65/19/1-5 SOUTH

PROGRAM BENTH6

5 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA-WITHOUT TUBES	100.00
AMPHIPODA	100.00
OTHER ARTHROPODA	100.00
PELECYPODA	100.00
GASTROPODA	100.00
OPHIUROIDEA	100.00
DECAPODA	80.00
POLYCHAETA-WITH TUBES	60.00
CUMACEA	60.00
NEMERTEA	60.00
ISOPODA	20.00
AMPHINEURA	20.00
ECHINOIDEA	20.00
SIPUNCHULOIDEA	20.00
FISHES	20.00
ANTHOZOA	0.0
OSTRACODA	0.0
HOLOTHURIDAE	0.0
ECHIUROIDEA	0.0
UNIDENTIFIABLE	0.0

DENSITY  
(NO./SQ. M.)

POLYCHAETA-WITHOUT TUBES	1916.00
PELECYPODA	834.00
GASTROPODA	598.00
AMPHIPODA	276.00
DECAPODA	68.00
OTHER ARTHROPODA	56.00
POLYCHAETA-WITH TUBES	42.00
OPHIUROIDEA	28.00
NEMERTEA	8.00
CUMACEA	6.00
SIPUNCHULOIDEA	4.00
FISHES	4.00
ISOPODA	2.00
AMPHINEURA	2.00
ECHINOIDEA	2.00
ANTHOZOA	0.0
OSTRACODA	0.0
HOLOTHURIDAE	0.0
ECHIUROIDEA	0.0
UNIDENTIFIABLE	0.0

TABLE 13. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL-CROSS SECTION 27 OCT 65/19/1-5 SOUTH

5 HAULS

BIOMASS WET WT  
(GMS/SQ. M.)

POLYCHAETA-WITHOUT TUBES	38.80
PELECYPODA	24.20
GASTROPODA	5.20
NEMERTEA	5.00
POLYCHAETA-WITH TUBES	3.20
DECAPODA	3.00
FISHES	1.40
SIPUNCHULOIDEA	0.60
AMPHIPODA	0.20
ANTHOZOA	0.0
ISOPODA	0.0
CUMACEA	0.0
OSTRACODA	0.0
OTHER ARTHROPODA	0.0
AMPHINEURA	0.0
OPIHIUROIDEA	0.0
ECHINOIDEA	0.0
HOLOTHUROIDEA	0.0
ECHIUROIDEA	0.0
UNIDENTIFIABLE	0.0

TABLE 14. BIOMASS SUMMARY

PROGRAM BENTH2

SATELLITE CHANNEL-CROSS SECTION 27 OCT 65 19 6-8 NORTH 3 HAULS

TAXON	FREQUENCY	PER CENT OF HAULS	AV/ HAUL	NUMBERS	SD	DENS/ SQ.M.	PCT TOTAL
ANTHOZOA	0.0	0.0	0.0	0.0	0.0	0	0.0
POLYCHAETA-WITHOUT TUBES	100.0	20.67	126.33	11.24	207	34.4	
POLYCHAETA-WITH TUBES	0.0	0.0	0.0	0.0	0.0	0	0.0
AMPHIPODA	100.0	1.33	0.33	0.58	13	2.2	
ISOPODA	0.0	0.0	0.0	0.0	0	0.0	
DECAPODA	100.0	11.33	2.33	1.53	113	18.9	
CUMACEA	0.0	0.0	0.0	0.0	0	0.0	
DSTRACODA	0.0	0.0	0.0	0.0	0	0.0	
OTHER ARTHROPODA	0.0	0.0	0.0	0.0	0	0.0	
AMPHINEURA	66.7	0.67	0.33	0.58	7	1.1	
PELECYPODA	100.0	3.33	6.33	2.52	33	5.6	
GASTROPODA	100.0	20.33	574.33	23.97	203	33.9	
OPIHUROIDEA	66.7	1.33	2.33	1.53	13	2.2	
ECHINOIDEA	0.0	0.0	0.0	0.0	0	0.0	
HOLOTHUROIDEA	0.0	0.0	0.0	0.0	0	0.0	
NEMERTEA	0.0	0.0	0.0	0.0	0	0.0	
SIPUNCHULOIDEA	0.0	0.0	0.0	0.0	0	0.0	
ECHIUROIDEA	0.0	0.0	0.0	0.0	0	0.0	
FISHES	66.7	1.00	1.00	1.00	10	1.7	
UNIDENTIFIABLE	0.0	0.0	0.0	0.0	0	0.0	
TOTAL				599			

TAXON	AV/ HAUL	VAR	BIOMASS (WEIGHT)				
			SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
ANTHOZOA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
POLYCHAETA-WITHOUT TUBES	0.57	0.30	0.55	5.7	15.60	0.79	43.8
POLYCHAETA-WITH TUBES	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHIPODA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOPODA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DECAPODA	2.27	3.20	1.79	22.7	62.39	0.45	25.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DSTRACODA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ARTHROPODA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHINEURA	0.07	0.00	0.06	0.7	1.83	0.03	1.8
PELECYPODA	0.27	0.02	0.15	2.7	7.34	0.13	7.4
GASTROPODA	0.23	0.06	0.25	2.3	6.42	0.16	9.0
OPIHUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ECHINOIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLOTHUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NEMERTEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SIPUNCHULOIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ECHIUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FISHES	0.23	0.04	0.21	2.3	6.42	0.23	12.9
UNIDENTIFIABLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS				36.3		1.81	

TABLE 15. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL-CROSS SECTION 27 OCT 65 19 6-8 NORTH

3 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA-WITHOUT TUBES	100.00
AMPHIPODA	100.00
DECAPODA	100.00
PELECYPODA	100.00
GASTROPODA	100.00
AMPHINEURA	66.67
OPHIUROIDEA	66.67
FISHES	66.67
ANTHOZOA	0.0
POLYCHAETA-WITH TUBES	0.0
ISOPODA	0.0
CUMACEA	0.0
OSTRACODA	0.0
OTHER ARTHROPODA	0.0
ECHINOIDEA	0.0
HOLOTHUROIDEA	0.0
NEMERTEA	0.0
SIPUNCHULOIDEA	0.0
ECHIUROIDEA	0.0
UNIDENTIFIABLE	0.0

DENSITY  
(NO./SQ. M.)

POLYCHAETA-WITHOUT TUBES	207.00
GASTROPODA	203.00
DECAPODA	113.00
PELECYPODA	33.00
AMPHIPODA	13.00
OPHIUROIDEA	13.00
FISHES	10.00
AMPHINEURA	7.00
ANTHOZOA	0.0
POLYCHAETA-WITH TUBES	0.0
ISOPODA	0.0
CUMACEA	0.0
OSTRACODA	0.0
OTHER ARTHROPODA	0.0
ECHINOIDEA	0.0
HOLOTHUROIDEA	0.0
NEMERTEA	0.0
SIPUNCHULOIDEA	0.0
ECHIUROIDEA	0.0
UNIDENTIFIABLE	0.0

TABLE 16. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL-CROSS SECTION 27 OCT 65 19 6-8 NORTH

3 HAULS

BIOMASS WET WT  
(GMS/SQ. M.)

DECAPODA	22.67
POLYCHAETA-WITHOUT TUBES	5.67
PELECYPODA	2.67
GASTROPODA	2.33
FISHES	2.33
AMPHINEURA	0.67
ANTHOZOA	0.0
POLYCHAETA-WITH TUBES	0.0
AMPHIPODA	0.0
ISOPODA	0.0
CUMACEA	0.0
OSTRACODA	0.0
OTHER ARTHROPODA	0.0
OPIUROIDEA	0.0
ECHINOIDEA	0.0
HOLOTHUROIDEA	0.0
NEMERTEA	0.0
SIPUNCHULOIDEA	0.0
ECHIUROIDEA	0.0
UNIDENTIFIABLE	0.0

TABLE 17. BIOMASS SUMMARY

PROGRAM BENTH2

SATELLITE CHANNEL-CROSS SECTION 27 OCT 65/19/9-16 CENTRE 8 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
ANTHOZOA	12.5	0.38	1.12	1.06	4	0.0
POLYCHAETA-WITHOUT TUBES	100.0	73.75	1095.93	33.10	738	7.4
POLYCHAETA-WITH TUBES	100.0	764.62	188738.69	434.44	7646	77.1
AMPHIPODA	100.0	17.37	122.84	11.08	174	1.8
ISOPODA	12.5	0.13	0.13	0.35	1	0.0
DECAPODA	50.0	3.37	25.98	5.10	34	0.3
CUMACEA	62.5	4.12	36.98	6.08	41	0.4
OSTRACODA	50.0	6.50	86.29	9.29	65	0.7
OTHER ARTHROPODA	25.0	0.38	0.55	0.74	4	0.0
AMPHINEURA	12.5	0.63	3.13	1.77	6	0.1
PELECYPODA	100.0	84.62	6516.27	80.72	846	8.5
GASTROPODA	100.0	14.37	98.84	9.94	144	1.4
OPIHIUROIDEA	100.0	15.12	205.27	14.33	151	1.5
ECHINOIDEA	12.5	0.13	0.13	0.35	1	0.0
HOLOTHUROIDEA	50.0	2.00	14.29	3.78	20	0.2
NEMERTEA	50.0	1.50	5.71	2.39	15	0.2
SIPUNCHULOIDEA	25.0	1.00	4.57	2.14	10	0.1
ECHIUROIDEA	12.5	1.00	8.00	2.83	10	0.1
FISHES	0.0	0.0	0.0	0.0	0	0.0
UNIDENTIFIABLE	37.5	0.87	1.84	1.36	9	0.1
TOTAL					9919	

TAXON	BIOMASS (WEIGHT)					
	AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M. TOT
ANTHOZOA	0.10	0.08	0.28	1.0	0.09	0.10 0.2
POLYCHAETA-WITHOUT TUBES	14.91	848.50	29.13	149.1	14.15	20.88 42.7
POLYCHAETA-WITH TUBES	41.56	1265.44	35.57	415.6	39.44	4.16 8.5
AMPHIPODA	0.02	0.00	0.05	0.2	0.02	0.00 0.0
ISOPODA	0.0	0.0	0.0	0.0	0.0	0.0 0.0
DECAPODA	0.47	0.84	0.92	4.7	0.45	0.09 0.2
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0 0.0
OSTRACODA	0.0	0.0	0.0	0.0	0.0	0.0 0.0
OTHER ARTHROPODA	0.0	0.0	0.0	0.0	0.0	0.0 0.0
AMPHINEURA	0.05	0.02	0.14	0.5	0.05	0.02 0.1
PELECYPODA	41.95	3993.57	63.19	419.5	39.81	20.97 42.9
GASTROPODA	0.49	0.15	0.39	4.9	0.46	0.34 0.7
OPIHIUROIDEA	1.36	4.62	2.15	13.6	1.29	0.41 0.8
ECHINOIDEA	3.22	83.20	9.12	32.2	3.06	0.64 1.3
HOLOTHUROIDEA	0.86	3.88	1.97	8.6	0.82	0.86 1.8
NEMERTEA	0.15	0.08	0.28	1.5	0.14	0.15 0.3
SIPUNCHULOIDEA	0.05	0.01	0.11	0.5	0.05	0.05 0.1
ECHIUROIDEA	0.07	0.04	0.21	0.7	0.07	0.07 0.2
FISHES	0.0	0.0	0.0	0.0	0.0	0.0 0.0
UNIDENTIFIABLE	0.10	0.02	0.14	1.0	0.09	0.10 0.2
TOTALS				1053.9		48.87

## TABLE 18. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL-CROSS SECTION 27 OCT 65/19/9-16 CENTRE 8 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA-WITHOUT TUBES	100.00
POLYCHAETA-WITH TUBES	100.00
AMPHIPODA	100.00
PELECYPODA	100.00
GASTROPODA	100.00
OPHIUROIDEA	100.00
CUMACEA	62.50
DECAPODA	50.00
OSTRACODA	50.00
HOLOTHUROIDEA	50.00
NEMERTEA	50.00
UNIDENTIFIABLE	37.50
OTHER ARTHROPODA	25.00
SIPUNCHULOIDEA	25.00
ANTHOZOA	12.50
ISOPODA	12.50
AMPHINEURA	12.50
ECHINOIDEA	12.50
ECHIUROIDEA	12.50
FISHES	0.0

DENSITY  
(NO./SQ. M.)

POLYCHAETA-WITH TUBES	7646.00
PELECYPODA	846.00
POLYCHAETA-WITHOUT TUBES	738.00
AMPHIPODA	174.00
OPIHUROIDEA	151.00
GASTROPODA	144.00
OSTRACODA	65.00
CUMACEA	41.00
DECAPODA	34.00
HOLOTHUROIDEA	20.00
NEMERTEA	15.00
SIPUNCHULOIDEA	10.00
ECHIUROIDEA	10.00
UNIDENTIFIABLE	9.00
AMPHINEURA	6.00
ANTHOZOA	4.00
OTHER ARTHROPODA	4.00
ISOPODA	1.00
ECHINOIDEA	1.00
FISHES	0.0

TABLE 19. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL-CROSS SECTION 27 OCT 65/19/9-16 CENTRE 8 HAULS

BIOMASS WET WT  
(GMS/SQ. M.)

PELECYPODA	419.50
POLYCHAETA-WITH TUBES	415.62
POLYCHAETA-WITHOUT TUBES	149.12
ECHINOIDEA	32.25
OPHIUROIDEA	13.62
HOLOTHUROIDEA	8.62
GASTROPODA	4.87
DECAPODA	4.75
NEMERTEA	1.50
ANTHOZOA	1.00
UNIDENTIFIABLE	1.00
ECHIUROIDEA	0.75
AMPHINEURA	0.50
SIPUNCHULOIDEA	0.50
AMPHIPODA	0.25
ISOPODA	0.0
CUMACEA	0.0
OSTRACODA	0.0
OTHER ARTHROPODA	0.0
FISHES	0.0

TABLE 20. BIOMASS SUMMARY

PROGRAM BENTH2

SATELLITE CHANNEL-LONG SECTION 28 OCT 65 20 1-11 EAST 10 HAULS

TAXON	FREQUENCY		NUMBERS			
	PER CENT OF HAULS	AV/ HAUL	VAR	SD	DENS/ SQ.M.	PCT TOTAL
ANTHOZOA	10.0	0.10	0.10	0.32	1	0.0
POLYCHAETA WITHOUT TUBES	100.0	69.00	590.44	24.30	690	9.1
POLYCHAETA WITH TUBES	90.0	607.00	256373.50	506.33	6070	79.6
AMPHIPODA	80.0	27.00	467.21	21.62	270	3.5
ISOPODA	30.0	0.30	0.23	0.48	3	0.0
DECAPODA	30.0	1.90	14.98	3.87	19	0.2
CUMACEA	40.0	3.60	49.36	7.03	36	0.5
OSTRACODA	30.0	7.60	428.90	20.71	76	1.0
OTHER ARTHROPODA	20.0	1.30	14.22	3.77	13	0.2
PELECYPODA	90.0	34.71	657.03	25.63	347	4.6
GASTROPODA	80.0	4.10	27.85	5.28	41	0.5
OPHIUROIDEA	50.0	1.61	4.90	2.21	16	0.2
HOLOTHUROIDEA	40.0	0.71	1.11	1.05	7	0.1
NEMERTEA	20.0	0.61	1.81	1.35	6	0.1
SIPUNCULOIDEA	10.0	0.21	0.40	0.63	2	0.0
OTHER PHyla	30.0	2.40	35.60	5.97	24	0.3
TOTAL					7621	

TAXON	BIOMASS (WEIGHT)					
	AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M. TOT
ANTHOZOA	0.11	0.12	0.35	1.1	0.25	0.11 1.3
POLYCHAETA WITHOUT TUBES	4.78	12.87	3.59	47.8	10.86	6.69 82.1
POLYCHAETA WITH TUBES	13.23	413.69	20.34	132.3	30.05	1.32 16.2
AMPHIPODA	0.13	0.01	0.09	1.3	0.30	0.03 0.3
ISOPODA	0.0	0.0	0.0	0.0	0.0	0.0 0.0
DECAPODA	3.03	90.47	9.51	30.3	6.88	0.0 0.0
CUMACEA	0.02	0.00	0.04	0.2	0.05	0.0 0.0
OSTRACODA	0.01	0.00	0.03	0.1	0.02	0.0 0.0
OTHER ARTHROPODA	3.44	117.57	10.84	34.4	7.81	0.0 0.0
PELECYPODA	16.29	393.63	19.84	162.9	37.00	0.0 0.0
GASTROPODA	0.41	0.97	0.99	4.1	0.93	0.0 0.0
OPIHUROIDEA	1.39	7.48	2.74	13.9	3.16	0.0 0.0
HOLOTHUROIDEA	0.95	5.16	2.27	9.5	2.16	0.0 0.0
NEMERTEA	0.22	0.22	0.47	2.2	0.50	0.0 0.0
SIPUNCULOIDEA	0.0	0.0	0.0	0.0	0.0	0.0 0.0
OTHER PHyla	0.02	0.00	0.04	0.2	0.05	0.0 0.0
TOTALS				440.3		8.15

TABLE 21. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL-LONG SECTION 28 OCT 65 20 1-11 EAST

10 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA WITHOUT TUBES	100.00
POLYCHAETA WITH TUBES	90.00
PELECYPODA	90.00
AMPHIPODA	80.00
GASTROPODA	80.00
OPIHUROIDEA	50.00
CUMACEA	40.00
HOLOTHUROIDEA	40.00
ISOPODA	30.00
DECAPODA	30.00
OSTRACODA	30.00
OTHER PHyla	30.00
OTHER ARTHROPODA	20.00
NEMERTEA	20.00
ANTHOZOA	10.00
SIPUNCULOIDEA	10.00

DENSITY  
(NO./SQ. M.)

POLYCHAETA WITH TUBES	6070.00
POLYCHAETA WITHOUT TUBES	690.00
PELECYPODA	347.00
AMPHIPODA	270.00
OSTRACODA	76.00
GASTROPODA	41.00
CUMACEA	36.00
OTHER PHyla	24.00
DECAPODA	19.00
OPIHUROIDEA	16.00
OTHER ARTHROPODA	13.00
HOLOTHUROIDEA	7.00
NEMERTEA	6.00
ISOPODA	3.00
SIPUNCULOIDEA	2.00
ANTHOZOA	1.00

TABLE 22. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL-LONG SECTION 28 OCT 65 20 1-11 EAST 10 HAULS

BIOMASS WET WT  
(GMS/SQ. M.)

PELECYPODA	162.90
POLYCHAETA WITH TUBES	132.30
POLYCHAETA WITHOUT TUBES	47.80
OTHER ARTHROPODA	34.40
DECAPODA	30.30
OPIHUROIDEA	13.90
HOLOTHUROIDEA	9.50
GASTROPODA	4.10
NEMERTEA	2.20
AMPHIPODA	1.30
ANTHOZOA	1.10
CUMACEA	0.20
OTHER PHyla	0.20
OSTRACODA	0.10
ISOPODA	0.0
SIPUNCULOIDEA	0.0

TABLE 23. BIOMASS SUMMARY

SATELLITE CHANNEL%CENTRE<	10 JAN	66	1	1- 10	10 HAULS	
TAXON	FREQUENCY OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
POLYCHAETA WITHOUT TUBES	100.0	40.60	93.82	9.69	406	3.7
POLYCHAETA WITH TUBES	100.0	999.00	0.0	0.0	9990	90.0
AMPHIPODA	100.0	33.60	262.93	16.22	336	3.0
ISOPODA	10.0	0.10	0.10	0.32	1	0.0
DECAPODA	10.0	0.10	0.10	0.32	1	0.0
CUMACEA	100.0	3.20	8.18	2.86	32	0.3
OSTRACODA	20.0	0.20	0.18	0.42	2	0.0
PELECYPODA	100.0	16.20	8.84	2.97	162	1.5
GASTROPODA	100.0	6.90	39.43	6.28	69	0.6
CEPHALOPODA	10.0	0.10	0.10	0.32	1	0.0
OPIHIUROIDEA	100.0	7.80	15.73	3.97	78	0.7
ECHINOIDEA	20.0	0.20	0.18	0.42	2	0.0
HOLOTHUROIDEA	30.0	0.30	0.23	0.48	3	0.0
NEMERTEA	60.0	1.60	2.93	1.71	16	0.1
SIPUNCULOIDEA	10.0	0.10	0.10	0.32	1	0.0
OTHER PHYLA	10.0	0.10	0.10	0.32	1	0.0
<b>TOTAL</b>					11101	

TAXON	BIOMASS (WEIGHT)					
	AV/ HAUL	VAR	SD /SQ.M.	WET WT TOTAL	PCT /SQ.M.	DRY WT TOTD
POLYCHAETA WITHOUT TUBES	4.12	11.18	3.34	41.2	3.05	5.77
POLYCHAETA WITH TUBES	41.08	114.88	10.72	410.8	30.45	4.11
AMPHIPODA	0.29	0.11	0.34	2.9	0.21	0.06
ISOPODA	0.0	0.0	0.0	0.0	0.0	0.0
DECAPODA	0.01	0.00	0.03	0.1	0.01	0.00
CUMACEA	0.01	0.00	0.03	0.1	0.01	0.00
OSTRACODA	0.0	0.0	0.0	0.0	0.0	0.0
PELECYPODA	60.18	1891.70	43.49	601.8	44.61	30.09
GASTROPODA	1.09	2.04	1.43	10.9	0.81	0.76
CEPHALOPODA	0.36	1.30	1.14	3.6	0.27	0.36
OPIHIUROIDEA	3.74	3.72	1.93	37.4	2.77	1.12
ECHINOIDEA	9.97	925.38	30.42	99.7	7.39	1.99
HOLOTHUROIDEA	13.98	823.39	28.69	139.8	10.36	13.98
NEMERTEA	0.08	0.04	0.19	0.8	0.06	0.08
SIPUNCULOIDEA	0.0	0.0	0.0	0.0	0.0	0.0
OTHER PHYLA	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTALS</b>				1349.1		58.33

TABLE 24. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL%CENTREK 10 JAN 66 1 1- 10 10 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA WITHOUT TUBES	100.00
POLYCHAETA WITH TUBES	100.00
AMPHIPODA	100.00
CUMACEA	100.00
PELECYPODA	100.00
GASTROPODA	100.00
OPIHUROIDEA	100.00
NEMERTEA	60.00
HOLOTHUROIDEA	30.00
OSTRACODA	20.00
ECHINOIDEA	20.00
ISOPODA	10.00
DECAPODA	10.00
CEPHALOPODA	10.00
SIPUNCULOIDEA	10.00
OTHER PHYLA	10.00

DENSITY  
(NO./SQ. M.)

POLYCHAETA WITH TUBES	9990.00
POLYCHAETA WITHOUT TUBES	406.00
AMPHIPODA	336.00
PELECYPODA	162.00
OPIHUROIDEA	78.00
GASTROPODA	69.00
CUMACEA	32.00
NEMERTEA	16.00
HOLOTHUROIDEA	3.00
OSTRACODA	2.00
ECHINOIDEA	2.00
ISOPODA	1.00
DECAPODA	1.00
CEPHALOPODA	1.00
SIPUNCULOIDEA	1.00
OTHER PHYLA	1.00

TABLE 25. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL%CENTRE< 10 JAN 66 1 1- 10 10 HAULS

BIOMASS WET WT  
(GMS/SQ. M.)

PELECYPODA	601.80
POLYCHAETA WITH TUBES	410.80
HOLOTHUROIDEA	139.80
ECHINOIDEA	99.70
POLYCHAETA WITHOUT TUBES	41.20
OPHIUROIDEA	37.40
GASTROPODA	10.90
CEPHALOPODA	3.60
AMPHIPODA	2.90
NEMERTEA	0.80
DECAPODA	0.10
CUMACEA	0.10
ISOPODA	0.0
OSTRACODA	0.0
SIPUNCULOIDEA	0.0
OTHER PHYLA	0.0

TABLE 26. BIOMASS SUMMARY

PROGRAM BENTH2

COWICHAN BAY	11 JAN 66	2 1- 10	10 HAULS			
TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
POLYCHAETA-WITHOUT TUBES	100.0	55.80	349.51	18.70	558	40.6
POLYCHAETA-WITH TUBES	80.0	6.10	21.66	4.65	61	4.4
AMPHIPODA	100.0	7.20	11.96	3.46	72	5.2
ISOPODA	30.0	0.30	0.23	0.48	3	0.2
DECAPODA	10.0	0.20	0.40	0.63	2	0.1
CUMACEA	70.0	1.10	0.77	0.88	11	0.8
AMPHINEURA	50.0	0.60	0.49	0.70	6	0.4
PELECYPODA	100.0	63.30	524.01	22.89	633	46.0
GASTROPODA	90.0	1.80	1.51	1.23	18	1.3
OPHIUROIDEA	30.0	0.30	0.23	0.48	3	0.2
NEMERTEA	20.0	0.20	0.18	0.42	2	0.1
UNIDENTIFIABLE	30.0	0.60	1.60	1.26	6	0.4
TOTAL					1375	

TAXON	BIOMASS (WEIGHT)						
	AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
POLYCHAETA-WITHOUT TUBES	8.05	10.83	3.29	80.5	24.19	11.27	47.3
POLYCHAETA-WITH TUBES	0.13	0.01	0.12	1.3	0.39	0.01	0.1
AMPHIPODA	0.04	0.00	0.05	0.4	0.12	0.01	0.0
ISOPODA	0.07	0.04	0.19	0.7	0.21	0.01	0.1
DECAPODA	0.02	0.00	0.06	0.2	0.06	0.00	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHINEURA	0.02	0.00	0.04	0.2	0.06	0.01	0.0
PELECYPODA	24.86	878.70	29.64	248.6	74.70	12.43	52.2
GASTROPODA	0.09	0.02	0.13	0.9	0.27	0.06	0.3
OPIHUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NEMERTEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNIDENTIFIABLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS				332.8		23.81	

TABLE 27. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

COWICHAN BAY

11 JAN 66 2 1- 10

10 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA-WITHOUT TUBES	100.00
AMPHIPODA	100.00
PELECYPODA	100.00
GASTROPODA	90.00
POLYCHAETA-WITH TUBES	80.00
CUMACEA	70.00
AMPHINEURA	50.00
ISOPODA	30.00
OPIHUROIDEA	30.00
UNIDENTIFIABLE	30.00
NEMERTEA	20.00
DECAPODA	10.00

DENSITY  
(NO./SQ. M.)

PELECYPODA	633.00
POLYCHAETA-WITHOUT TUBES	558.00
AMPHIPODA	72.00
POLYCHAETA-WITH TUBES	61.00
GASTROPODA	18.00
CUMACEA	11.00
AMPHINEURA	6.00
UNIDENTIFIABLE	6.00
ISOPODA	3.00
OPIHUROIDEA	3.00
DECAPODA	2.00
NEMERTEA	2.00

BIOMASS WET WT  
(GMS/SQ. M.)

PELECYPODA	248.60
POLYCHAETA-WITHOUT TUBES	80.50
POLYCHAETA-WITH TUBES	1.30
GASTROPODA	0.90
ISOPODA	0.70
AMPHIPODA	0.40
DECAPODA	0.20
AMPHINEURA	0.20
CUMACEA	0.0
OPIHUROIDEA	0.0
NEMERTEA	0.0
UNIDENTIFIABLE	0.0

TABLE 28. BIOMASS SUMMARY

PROGRAM BENTH2

SATELLITE CHANNEL - WEST

11 JAN 66/2/13-22

10 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
ANTHOZOA	10.0	0.30	0.90	0.95	3	0.0
POLYCHAETA-WITHOUT TUBES	100.0	62.70	181.57	13.47	627	5.3
POLYCHAETA-WITH TUBES	100.0	999.00	0.0	0.0	9990	84.6
AMPHIPODA	100.0	12.50	12.28	3.50	125	1.1
ISOPODA	10.0	0.10	0.10	0.32	1	0.0
DECAPODA	10.0	0.10	0.10	0.32	1	0.0
CUMACEA	80.0	1.80	1.73	1.32	18	0.2
AMPHINEURA	10.0	0.20	0.40	0.63	2	0.0
PELECYPODA	100.0	83.00	570.67	23.89	830	7.0
SCAPHOPODA	10.0	0.10	0.10	0.32	1	0.0
GASTROPODA	90.0	2.10	2.54	1.60	21	0.2
OPHIUROIDEA	100.0	14.70	64.68	8.04	147	1.2
ECHINOIDEA	90.0	1.60	1.16	1.07	16	0.1
HOLOTHUROIDEA	70.0	1.10	0.77	0.88	11	0.1
NEMERTEA	60.0	1.20	2.40	1.55	12	0.1
FISHES	10.0	0.10	0.10	0.32	1	0.0
UNIDENTIFIABLE	10.0	0.10	0.10	0.32	1	0.0
TOTAL					11807	

TAXON	BIOMASS (WEIGHT)						
	AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT	DRY WT /SQ.M.	PCT
ANTHOZOA	0.42	1.59	1.26	4.2	0.28	0.42	0.6
POLYCHAETA-WITHOUT TUBES	8.81	10.82	3.29	88.1	5.82	12.33	17.1
POLYCHAETA-WITH TUBES	2.67	1.49	1.22	26.7	1.76	0.27	0.4
AMPHIPODA	0.09	0.00	0.03	0.9	0.06	0.02	0.0
ISOPODA	0.01	0.00	0.03	0.1	0.01	0.00	0.0
DECAPODA	0.03	0.01	0.09	0.3	0.02	0.01	0.0
CUMACEA	0.12	0.01	0.08	1.2	0.08	0.02	0.0
AMPHINEURA	0.01	0.00	0.03	0.1	0.01	0.00	0.0
PELECYPODA	101.25	4082.27	63.89	1012.5	66.91	50.62	70.4
SCAPHOPODA	0.02	0.00	0.06	0.2	0.01	0.01	0.0
GASTROPODA	0.20	0.02	0.13	2.0	0.13	0.14	0.2
OPIHUROIDEA	3.64	3.96	1.99	36.4	2.41	1.09	1.5
ECHINOIDEA	33.82	1092.30	33.05	338.2	22.35	6.76	9.4
HOLOTHUROIDEA	0.11	0.01	0.09	1.1	0.07	0.11	0.2
NEMERTEA	0.07	0.01	0.08	0.7	0.05	0.07	0.1
FISHES	0.04	0.02	0.13	0.4	0.03	0.04	0.1
UNIDENTIFIABLE	0.01	0.00	0.03	0.1	0.01	0.01	0.0
TOTALS				1513.2		71.94	

TABLE 29. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL - WEST

11 JAN 66/2/13-22

10 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA-WITHOUT TUBES	100.00
POLYCHAETA-WITH TUBES	100.00
AMPHIPODA	100.00
PELECYPODA	100.00
OPHIUROIDEA	100.00
GASTROPODA	90.00
ECHINOIDEA	90.00
CUMACEA	80.00
HOLOTHUROIDEA	70.00
NEMERTEA	60.00
ANTHOZOA	10.00
ISOPODA	10.00
DECAPODA	10.00
AMPHINEURA	10.00
SCAPHOPODA	10.00
FISHES	10.00
UNIDENTIFIABLE	10.00

DENSITY  
(NO./SQ. M.)

POLYCHAETA-WITH TUBES	9990.00
PELECYPODA	830.00
POLYCHAETA-WITHOUT TUBES	627.00
OPHIUROIDEA	147.00
AMPHIPODA	125.00
GASTROPODA	21.00
CUMACEA	18.00
ECHINOIDEA	16.00
NEMERTEA	12.00
HOLOTHUROIDEA	11.00
ANTHOZOA	3.00
AMPHINEURA	2.00
ISOPODA	1.00
DECAPODA	1.00
SCAPHOPODA	1.00
FISHES	1.00
UNIDENTIFIABLE	1.00

TABLE 30. PRELIMINARY SORT RANK ORDERS

SATELLITE CHANNEL - WEST

11 JAN 66/2/13-22

PROGRAM BENTH6

10 HAULS

BIOMASS WET WT  
(GMS/SQ. M.)

PELECYPODA	1012.50
ECHINOIDEA	338.20
POLYCHAETA-WITHOUT TUBES	88.10
OPHIUROIDEA	36.40
POLYCHAETA-WITH TUBES	26.70
ANTHOZOA	4.20
GASTROPODA	2.00
CUMACEA	1.20
HOLOTHUROIDEA	1.10
AMPHIPODA	0.90
NEMERTEA	0.70
FISHES	0.40
DECAPODA	0.30
SCAPHOPODA	0.20
ISOPODA	0.10
AMPHINEURA	0.10
UNIDENTIFIABLE	0.10

TABLE 31. BIOMASS SUMMARY

SATELLITE CHANNEL - EAST

12 JAN 66/3/1-13

13 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
POLYCHAETA-WITHOUT TUBES	100.0	86.31	311.73	17.66	863	7.1
POLYCHAETA-WITH TUBES	100.0	999.00	0.0	0.0	9990	82.3
AMPHIPODA	100.0	20.92	24.41	4.94	209	1.7
ISOPODA	30.8	0.31	0.23	0.48	3	0.0
DECAPODA	7.7	0.08	0.08	0.28	1	0.0
CUMACEA	53.8	0.85	0.97	0.99	8	0.1
OSTRACODA	100.0	19.31	85.40	9.24	193	1.6
OTHER ARTHROPODA	38.5	0.46	0.44	0.66	5	0.0
PELECYPODA	100.0	75.69	416.23	20.40	757	6.2
GASTROPODA	100.0	7.15	9.97	3.16	72	0.6
OPIHUROIDEA	46.2	0.92	1.41	1.19	9	0.1
HOLOTHUROIDEA	23.1	0.31	0.40	0.63	3	0.0
NEMERTEA	76.9	1.46	1.60	1.27	15	0.1
SIPUNCULOIDEA	30.8	0.38	0.42	0.65	4	0.0
UNIDENTIFIABLE	23.1	0.46	1.27	1.13	5	0.0
TOTAL					12137	

TAXON	AV/ HAUL	BIOMASS (WEIGHT)				
		SD	WET WT /SQ.M.	PCT	DRY WT /SQ.M.	PCT TOTD
POLYCHAETA-WITHOUT TUBES	5.38	7.28	2.70	53.8	13.80	7.53 33.7
POLYCHAETA-WITH TUBES	6.28	9.50	3.08	62.8	16.13	0.63 2.8
AMPHIPODA	0.04	0.00	0.07	0.4	0.10	0.01 0.0
ISOPODA	0.0	0.0	0.0	0.0	0.0	0.0 0.0
DECAPODA	0.11	0.15	0.39	1.1	0.28	0.02 0.1
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0 0.0
OSTRACODA	0.0	0.0	0.0	0.0	0.0	0.0 0.0
OTHER ARTHROPODA	0.0	0.0	0.0	0.0	0.0	0.0 0.0
PELECYPODA	25.91	650.52	25.51	259.1	66.48	12.95 58.0
GASTROPODA	0.25	0.32	0.57	2.5	0.63	0.17 0.8
OPIHUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0 0.0
HOLOTHUROIDEA	0.87	3.34	1.83	8.7	2.23	0.87 3.9
NEMERTEA	0.11	0.01	0.12	1.1	0.28	0.11 0.5
SIPUNCULOIDEA	0.02	0.00	0.04	0.2	0.06	0.02 0.1
UNIDENTIFIABLE	0.01	0.00	0.03	0.1	0.02	0.01 0.0
TOTALS				389.7		22.32

TABLE 32 • PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL - EAST

12 JAN 66/3/1-13

13 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA-WITHOUT TUBES	100.00
POLYCHAETA-WITH TUBES	100.00
AMPHIPODA	100.00
OSTRACODA	100.00
PELECYPODA	100.00
GASTROPODA	100.00
NEMERTEA	76.92
CUMACEA	53.85
OPHIUROIDEA	46.15
OTHER ARTHROPODA	38.46
ISOPODA	30.77
SIPUNCULOIDEA	30.77
HOLOTHUROIDEA	23.08
UNIDENTIFIABLE	23.08
DECAPODA	7.69

DENSITY  
(NO./SQ. M.)

POLYCHAETA-WITH TUBES	9990.00
POLYCHAETA-WITHOUT TUBES	863.00
PELECYPODA	757.00
AMPHIPODA	209.00
OSTRACODA	193.00
GASTROPODA	72.00
NEMERTEA	15.00
OPHIUROIDEA	9.00
CUMACEA	8.00
OTHER ARTHROPODA	5.00
UNIDENTIFIABLE	5.00
SIPUNCULOIDEA	4.00
ISOPODA	3.00
HOLOTHUROIDEA	3.00
DECAPODA	1.00

TABLE 33 - PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL - EAST

12 JAN 66/3/1-13

13 HAULS

BIOMASS WET WT  
(GMS/SQ. M.)

PELECYPODA	259.08
POLYCHAETA-WITH TUBES	62.85
POLYCHAETA-WITHOUT TUBES	53.77
HOLOTHUROIDEA	8.69
GASTROPODA	2.46
DECAPODA	1.08
NEMERTEA	1.08
AMPHIPODA	0.38
SIPUNCULOIDEA	0.23
UNIDENTIFIABLE	0.08
ISOPODA	0.0
CUMACEA	0.0
OSTRACODA	0.0
OTHER ARTHROPODA	0.0
OPHIUROIDEA	0.0

TABLE 34. BIOMASS SUMMARY

PROGRAM BENTH2

BOSUN BANK	4 MAR	66	6	1-16	10 HAULS			
TAXON	FREQUENCY	NUMBERS						
	PER CENT OF HAULS	AV/ HAUL	VAR	SD	DENS/ SQ.M.	PCT	TOTAL	
FORAMINIFERA	10.0	0.10	0.10	0.32	1	0.0		
POLYCHAETA-WITHOUT TUBES	100.0	68.80	1593.73	39.92	688	6.0		
POLYCHAETA-WITH TUBES	100.0	999.00	0.0	0.0	9990	86.7		
PYCGNOGONIDA	10.0	0.10	0.10	0.32	1	0.0		
AMPHIPODA	100.0	14.50	61.39	7.84	145	1.3		
ISOPODA	10.0	0.10	0.10	0.32	1	0.0		
DECAPODA	90.0	3.50	2.72	1.65	35	0.3		
CUMACEA	20.0	0.20	0.18	0.42	2	0.0		
OSTRACODA	10.0	0.10	0.10	0.32	1	0.0		
PELECYPODA	100.0	43.70	425.12	20.62	437	3.8		
GASTROPODA	100.0	18.00	62.67	7.92	180	1.6		
OPIHUROIDEA	30.0	1.40	7.16	2.67	14	0.1		
HOLOTHUROIDEA	80.0	1.30	1.12	1.06	13	0.1		
NEMERTEA	20.0	0.30	0.46	0.67	3	0.0		
SIPUNCULOIDEA	20.0	0.20	0.18	0.42	2	0.0		
UNIDENTIFIABLE	30.0	0.50	0.94	0.97	5	0.0		
TOTAL					11518			

TAXON	AV/ HAUL	VAR	BIOMASS (WEIGHT)					
			SD	WET WT /SQ.M.	WT TOTAL	PCT	DRY WT /SQ.M.	TOT
FORAMINIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
POLYCHAETA-WITHOUT TUBES	1.33	0.44	0.66	13.3	2.54	1.86	22.3	
POLYCHAETA-WITH TUBES	48.37	291.53	17.07	483.7	92.36	4.84	57.9	
PYCGNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHIPODA	0.06	0.00	0.07	0.6	0.11	0.01	0.0	0.1
ISOPODA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DECAPODA	0.38	0.10	0.32	3.8	0.73	0.08	0.9	
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSTRACODA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PELECYPODA	0.95	0.45	0.67	9.5	1.81	0.47	5.7	
GASTROPODA	0.61	0.39	0.62	6.1	1.16	0.43	5.1	
OPIHUROIDEA	0.01	0.00	0.03	0.1	0.02	0.00	0.0	0.0
HOLOTHUROIDEA	0.41	0.22	0.47	4.1	0.78	0.41	4.9	
NEMERTEA	0.01	0.00	0.03	0.1	0.02	0.01	0.1	
SIPUNCULOIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNIDENTIFIABLE	0.24	0.18	0.42	2.4	0.46	0.24	2.9	
TOTALS				523.7			8.35	

TABLE 35 • PRELIMINARY SORT RANK ORDERS

BOSUN BANK

4 MAR 66 6 1-16

10 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA-WITHOUT TUBES	100.00
POLYCHAETA-WITH TUBES	100.00
AMPHIPODA	100.00
PELECYPODA	100.00
GASTROPODA	100.00
DECAPODA	90.00
HOLOTHUROIDEA	80.00
OPHIUROIDEA	30.00
UNIDENTIFIABLE	30.00
CUMACEA	20.00
NEMERTEA	20.00
SIPUNCULOIDEA	20.00
FORAMINIFERA	10.00
PYCGONOGONIDA	10.00
ISOPODA	10.00
OSTRACODA	10.00

DENSITY  
(NO./SQ. M.)

POLYCHAETA-WITH TUBES	9990.00
POLYCHAETA-WITHOUT TUBES	688.00
PELECYPODA	437.00
GASTROPODA	180.00
AMPHIPODA	145.00
DECAPODA	35.00
OPHIUROIDEA	14.00
HOLOTHUROIDEA	13.00
UNIDENTIFIABLE	5.00
NEMERTEA	3.00
CUMACEA	2.00
SIPUNCULOIDEA	2.00
FORAMINIFERA	1.00
PYCGONOGONIDA	1.00
ISOPODA	1.00
OSTRACODA	1.00

TABLE 36. PRELIMINARY SORT RANK ORDERS

BOSUN BANK

4 MAR 66 6 1-16

PROGRAM BENTH6

10 HAULS

BIOMASS WET WT  
(GMS/SQ. M.)

POLYCHAETA-WITH TUBES	483.70
POLYCHAETA-WITHOUT TUBES	13.30
PELECYPODA	9.50
GASTROPODA	6.10
HOLOTHUROIDEA	4.10
DECAPODA	3.80
UNIDENTIFIABLE	2.40
AMPHIPODA	0.60
OPHIUROIDEA	0.10
NEMERTEA	0.10
FORAMINIFERA	0.0
PYCGNOCIONIDA	0.0
ISOPODA	0.0
CUMACEA	0.0
OSTRACODA	0.0
SIPUNCULOIDEA	0.0

TABLE 37. BIOMASS SUMMARY

PROGRAM BENTH2

SATELLITE CHANNEL - CENTRE

24 MAY 66 12 1-10

10 HAULS

TAXON	FREQUENCY OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
ANTHOZOA	10.0	0.10	0.10	0.32	1	0.0
POLYCHAETA-WITHOUT TUBES	100.0	33.80	54.84	7.41	338	3.4
POLYCHAETA-WITH TUBES	100.0	901.00	96040.00	309.90	9010	90.0
AMPHIPODA	100.0	14.00	9.33	3.06	140	1.4
DECAPODA	20.0	0.20	0.18	0.42	2	0.0
CUMACEA	90.0	2.70	4.90	2.21	27	0.3
OSTRACODA	100.0	8.50	7.39	2.72	85	0.8
OTHER ARTHROPODA	30.0	0.50	0.94	0.97	5	0.0
PELECYPODA	100.0	18.40	80.27	8.96	184	1.8
GASTROPODA	100.0	5.30	2.90	1.70	53	0.5
OPIHUROIDEA	100.0	14.20	32.62	5.71	142	1.4
ECHINOIDEA	60.0	0.70	0.46	0.67	7	0.1
HOLOTHUROIDEA	70.0	1.30	1.79	1.34	13	0.1
NEMERTEA	20.0	0.30	0.46	0.67	3	0.0
SIPUNCULOIDEA	20.0	0.30	0.46	0.67	3	0.0
FISHES	20.0	0.20	0.18	0.42	2	0.0
OTHER PHYLA	10.0	0.10	0.10	0.32	1	0.0
TOTAL					10016	

TAXON	AV/ HAUL	VAR	BIOMASS (WEIGHT)				
			SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
ANTHOZOA	0.02	0.00	0.06	0.2	0.01	0.02	0.0
POLYCHAETA-WITHOUT TUBES	4.63	8.41	2.90	46.3	3.22	6.48	9.2
POLYCHAETA-WITH TUBES	7.15	15.87	3.98	71.5	4.97	0.71	1.0
AMPHIPODA	0.10	0.00	0.05	1.0	0.07	0.02	0.0
DECAPODA	0.03	0.00	0.07	0.3	0.02	0.01	0.0
CUMACEA	0.01	0.00	0.03	0.1	0.01	0.00	0.0
OSTRACODA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ARTHROPODA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PELECYPODA	67.45	3122.43	55.88	674.5	46.86	33.72	47.9
GASTROPODA	0.28	0.08	0.27	2.8	0.19	0.20	0.3
OPIHUROIDEA	2.98	1.14	1.07	29.8	2.07	0.89	1.3
ECHINOIDEA	41.16	2913.07	53.97	411.6	28.60	8.23	11.7
HOLOTHUROIDEA	17.73	975.34	31.23	177.3	12.32	17.73	25.2
NEMERTEA	1.68	28.22	5.31	16.8	1.17	1.68	2.4
SIPUNCULOIDEA	0.01	0.00	0.03	0.1	0.01	0.01	0.0
FISHES	0.71	2.25	1.50	7.1	0.49	0.71	1.0
OTHER PHYLA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS				1439.4		70.42	

TABLE 38. PRELIMINARY SORT RANK ORDERS

SATELLITE CHANNEL - CENTRE

24 MAY 66 12 1-10

PROGRAM BENTH6

10 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA-WITHOUT TUBES	100.00
POLYCHAETA-WITH TUBES	100.00
AMPHIPODA	100.00
OSTRACODA	100.00
PELECYPODA	100.00
GASTROPODA	100.00
OPIHIUROIDEA	100.00
CUMACEA	90.00
HOLOTHUROIDEA	70.00
ECHINOIDEA	60.00
OTHER ARTHROPODA	30.00
DECAPODA	20.00
NEMERTEA	20.00
SIPUNCULOIDEA	20.00
FISHES	20.00
ANTHOZOA	10.00
OTHER PHYLA	10.00

DENSITY  
(NO./SQ. M.)

POLYCHAETA-WITH TUBES	9010.00
POLYCHAETA-WITHOUT TUBES	338.00
PELECYPODA	184.00
OPIHIUROIDEA	142.00
AMPHIPODA	140.00
OSTRACODA	85.00
GASTROPODA	53.00
CUMACEA	27.00
HOLOTHUROIDEA	13.00
ECHINOIDEA	7.00
OTHER ARTHROPODA	5.00
NEMERTEA	3.00
SIPUNCULOIDEA	3.00
DECAPODA	2.00
FISHES	2.00
ANTHOZOA	1.00
OTHER PHYLA	1.00

TABLE 39. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL - CENTRE

24 MAY 66 12 1-10

10 HAULS

BIOMASS WET WT  
(GMS/SQ. M.)

PELECYPODA	674.50
ECHINOIDEA	411.60
HOLOTHUROIDEA	177.30
POLYCHAETA-WITH TUBES	71.50
POLYCHAETA-WITHOUT TUBES	46.30
OPIHIUROIDEA	29.80
NEMERTEA	16.80
FISHES	7.10
GASTROPODA	2.80
AMPHIPODA	1.00
DECAPODA	0.30
ANTHOZOA	0.20
CUMACEA	0.10
SIPUNCULOIDEA	0.10
OSTRACODA	0.0
OTHER ARTHROPODA	0.0
OTHER PHyla	0.0

TABLE 40. BIOMASS SUMMARY

PROGRAM BENTH2

SATELLITE CHANNEL %CENTREC 29 NOV 66 24 1-5 2 MM SCREEN 5 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
ANTHOZOA	20.0	0.20	0.20	0.45	2	0.0
POLYCHAETA WITHOUT TUBES	100.0	17.00	18.50	4.30	170	1.6
POLYCHAETA WITH TUBES	100.0	999.00	0.0	0.0	9990	96.3
AMPHIPODA	100.0	3.40	1.30	1.14	34	0.3
ISOPODA	20.0	0.20	0.20	0.45	2	0.0
DECAPODA	20.0	0.20	0.20	0.45	2	0.0
PELECYPODA	100.0	9.00	6.00	2.45	90	0.9
GASTROPODA	80.0	1.20	0.70	0.84	12	0.1
OPHIUROIDEA	100.0	6.00	3.00	1.73	60	0.6
ECHINOIDEA	20.0	0.20	0.20	0.45	2	0.0
HOLOTHUROIDEA	80.0	1.20	1.20	1.10	12	0.1
<b>TOTAL</b>					<b>10376</b>	

TAXON	AV/ HAUL	VAR	BIOMASS (WEIGHT)				
			SD	WET WT /SQ.M.	PCT	DRY WT /SQ.M.	TOT
ANTHOZOA	0.06	0.02	0.13	0.6	0.05	0.12	0.2
POLYCHAETA WITHOUT TUBES	6.80	23.43	4.84	68.0	5.81	13.60	17.2
POLYCHAETA WITH TUBES	33.40	179.20	13.39	334.0	28.53	6.68	8.5
AMPHIPODA	0.10	0.0	0.0	1.0	0.09	0.20	0.3
ISOPODA	0.02	0.00	0.04	0.2	0.02	0.04	0.1
DECAPODA	0.12	0.07	0.27	1.2	0.10	0.24	0.3
PELECYPODA	52.14	1687.35	41.08	521.4	44.53	36.50	46.3
GASTROPODA	0.16	0.04	0.19	1.6	0.14	0.13	0.2
OPHIUROIDEA	2.42	0.96	0.98	24.2	2.07	1.45	1.8
ECHINOIDEA	14.86	1104.10	33.23	148.6	12.69	5.94	7.5
HOLOTHUROIDEA	7.00	42.86	6.55	70.0	5.98	14.00	17.7
<b>TOTALS</b>				<b>1170.8</b>		<b>78.90</b>	

TABLE 41. PRELIMINARY SORT RANK ORDERS

PROGRAM BENTH6

SATELLITE CHANNEL %CENTRE&lt; 29 NOV 66 24 1-5 2MM SCREEN 5 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA WITHOUT TUBES	100.00
POLYCHAETA WITH TUBES	100.00
AMPHIPODA	100.00
PELECYPODA	100.00
OPHIUROIDEA	100.00
GASTROPODA	80.00
HOLOTHUROIDEA	80.00
ANTHOZOA	20.00
ISOPODA	20.00
DECAPODA	20.00
ECHINOIDEA	20.00

DENSITY  
(NO./SQ. M.)

POLYCHAETA WITH TUBES	9990.00
POLYCHAETA WITHOUT TUBES	170.00
PELECYPODA	90.00
OPHIUROIDEA	60.00
AMPHIPODA	34.00
GASTROPODA	12.00
HOLOTHUROIDEA	12.00
ANTHOZOA	2.00
ISOPODA	2.00
DECAPODA	2.00
ECHINOIDEA	2.00

BIOMASS WET WT  
(GMS/SQ. M.)

PELECYPODA	521.40
POLYCHAETA WITH TUBES	334.00
ECHINOIDEA	148.60
HOLOTHUROIDEA	70.00
POLYCHAETA WITHOUT TUBES	68.00
OPHIUROIDEA	24.20
GASTROPODA	1.60
DECAPODA	1.20
AMPHIPODA	1.00
ANTHOZOA	0.60
ISOPODA	0.20

TABLE 42. BIOMASS SUMMARY

PROGRAM BENTH2

SATELLITE CHANNEL%CENTRE&lt; 9 MAY 67 25 1-10 2 MM SCREEN 10 HAULS

TAXON	FREQUENCY		NUMBERS			
	PER CENT OF HAULS	AV/ HAUL	VAR	SD	DENS/ SQ.M.	PCT TOTAL
ANTHOZOA	40.0	0.40	0.27	0.52	4	0.1
POLYCHAETA WITHOUT TUBES	100.0	18.70	64.90	8.06	187	4.8
POLYCHAETA WITH TUBES	100.0	341.20	206140.50	454.03	3412	88.0
AMPHIPODA	50.0	1.10	2.10	1.45	11	0.3
CUMACEA	70.0	2.00	3.33	1.83	20	0.5
PELECYPODA	100.0	11.10	13.66	3.70	111	2.9
SCAPHOPODA	20.0	0.20	0.18	0.42	2	0.1
GASTROPODA	90.0	3.20	8.84	2.97	32	0.8
OPHIUROIDEA	100.0	9.00	13.56	3.68	90	2.3
ECHINOIDEA	10.0	0.10	0.10	0.32	1	0.0
HOLOTHUROIDEA	40.0	0.60	0.71	0.84	6	0.2
TOTAL					3876	

TAXON	BIOMASS (WEIGHT)						
	AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
ANTHOZOA	0.05	0.00	0.07	0.5	0.06	0.05	0.1
POLYCHAETA WITHOUT TUBES	4.51	10.09	3.18	45.1	5.51	6.31	14.1
POLYCHAETA WITH TUBES	1.16	0.19	0.44	11.6	1.42	0.12	0.3
AMPHIPODA	0.02	0.00	0.04	0.2	0.02	0.00	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PELECYPODA	65.50	3403.59	58.34	655.0	80.07	32.75	73.1
SCAPHOPODA	0.03	0.00	0.07	0.3	0.04	0.01	0.0
GASTROPODA	1.07	5.22	2.28	10.7	1.31	0.75	1.7
OPHIUROIDEA	2.81	3.63	1.90	28.1	3.44	0.84	1.9
ECHINOIDEA	3.34	111.56	10.56	33.4	4.08	0.67	1.5
HOLOTHUROIDEA	3.31	38.44	6.20	33.1	4.05	3.31	7.4
TOTALS				818.0		44.82	

TABLE 43. PRELIMINARY SORT RANK ORDERS

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PROGRAM BENTH6

SATELLITE CHANNEL%CENTREK 9 MAY 67 25 1-10 2 MM SCREEN 10 HAULS

FREQUENCY  
(PER CENT OF HAULS)

POLYCHAETA WITHOUT TUBES	100.00
POLYCHAETA WITH TUBES	100.00
PELECYPODA	100.00
OPIHUROIDEA	100.00
GASTROPODA	90.00
CUMACEA	70.00
AMPHIPODA	50.00
ANTHOZOA	40.00
HOLOTHUROIDEA	40.00
SCAPHOPODA	20.00
ECHINOIDEA	10.00

DENSITY  
(NO./SQ. M.)

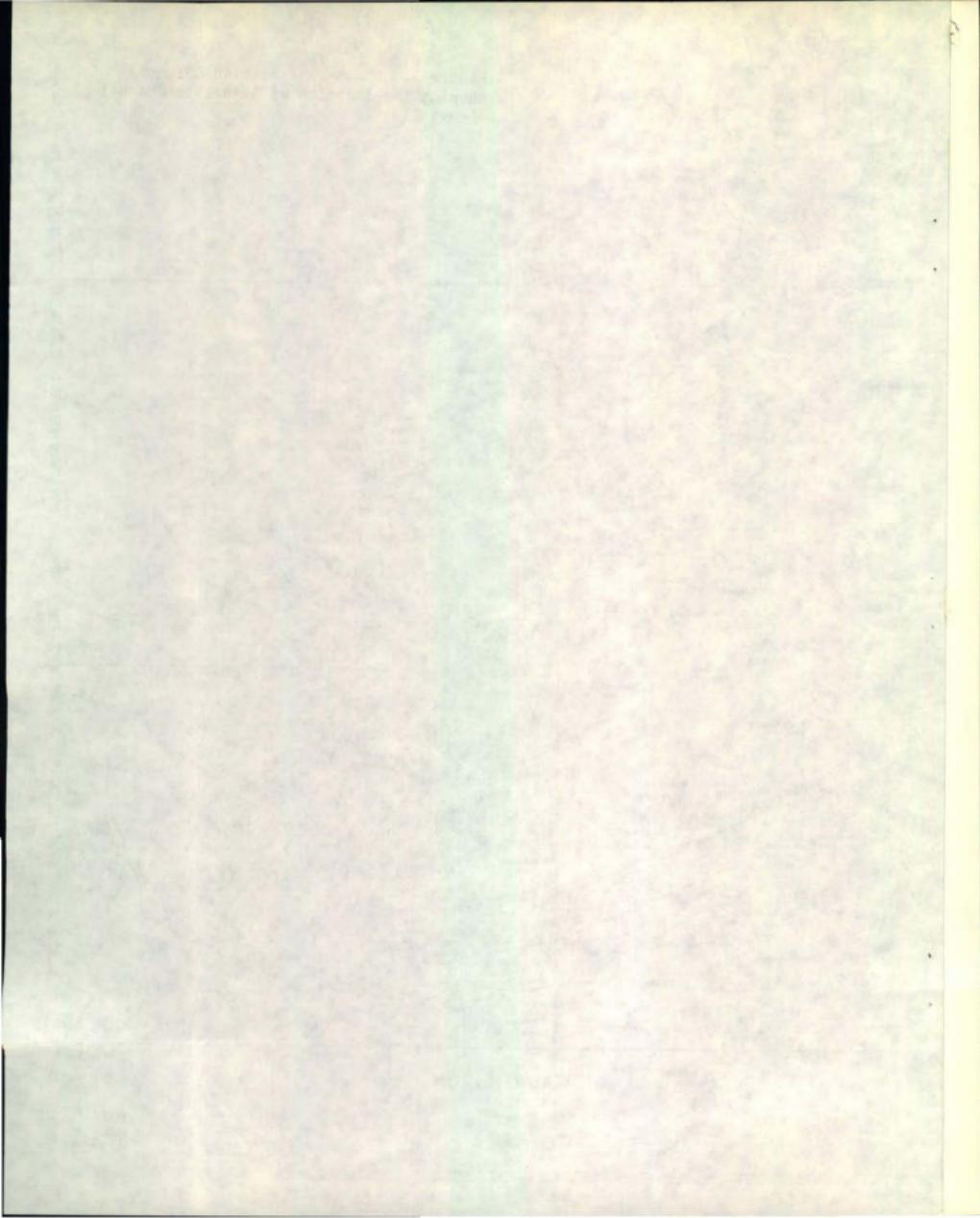
POLYCHAETA WITH TUBES	3412.00
POLYCHAETA WITHOUT TUBES	187.00
PELECYPODA	111.00
OPIHUROIDEA	90.00
GASTROPODA	32.00
CUMACEA	20.00
AMPHIPODA	11.00
HOLOTHUROIDEA	6.00
ANTHOZOA	4.00
SCAPHOPODA	2.00
ECHINOIDEA	1.00

BIOMASS WET WT  
(GMS/SQ. M.)

PELECYPODA	655.00
POLYCHAETA WITHOUT TUBES	45.10
ECHINOIDEA	33.40
HOLOTHUROIDEA	33.10
OPIHUROIDEA	28.10
POLYCHAETA WITH TUBES	11.60
GASTROPODA	10.70
ANTHOZOA	0.50
SCAPHOPODA	0.30
AMPHIPODA	0.20
CUMACEA	0.0



Figure 1. South-east British Columbia showing the location of Satellite Channel (heavy line).



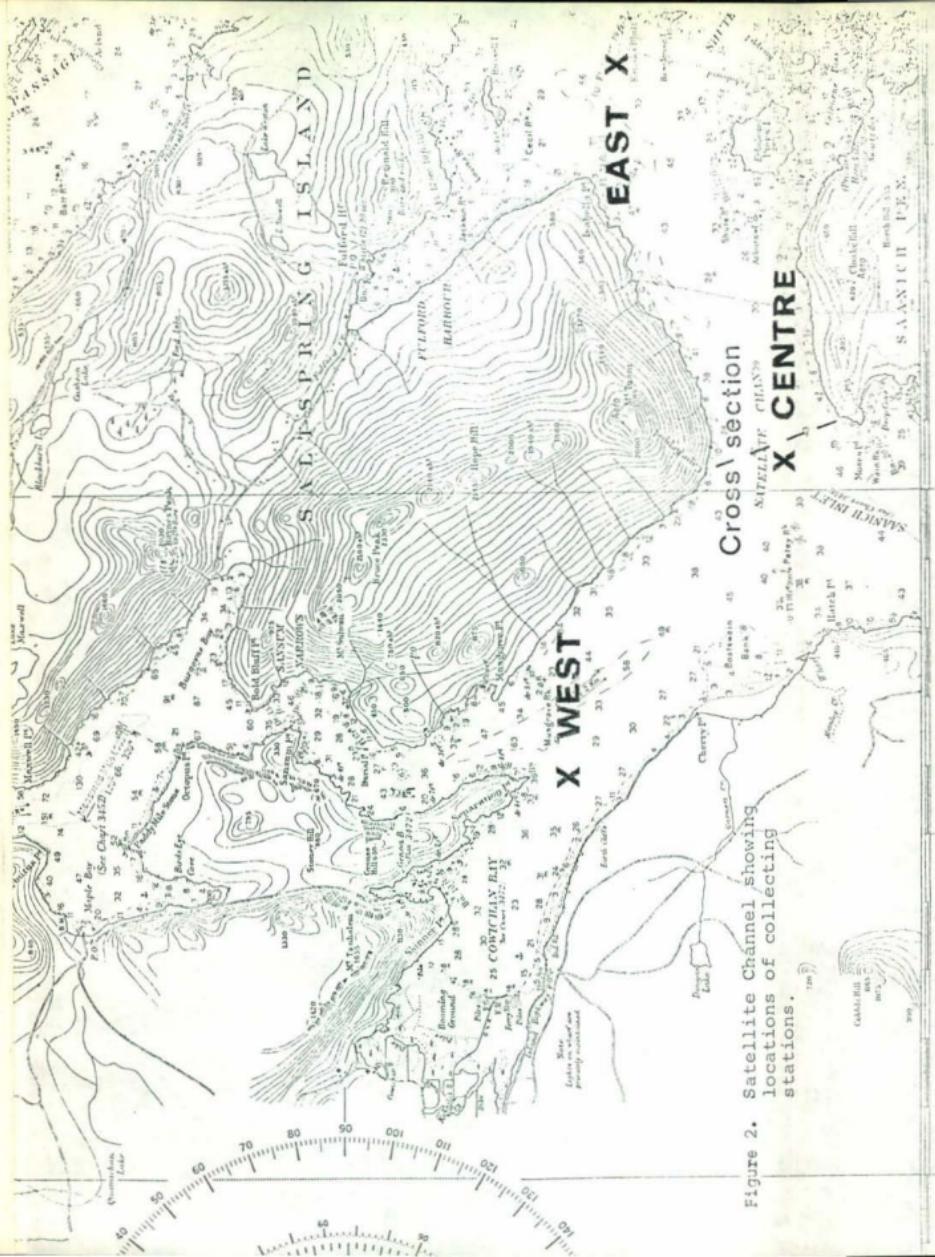


Figure 2. Satellite Channel showing locations of collecting stations.