EFFECTS OF MINE TAILING ON BENTHIC INFAUNAL COMPOSITION IN A BRITISH COLUMBIA INLET; WITH SPECIAL REFERENCE TO SAMPLING, INSTRUMENTATION, AND THE BIOLOGY OF *AMMOTRYPANE AULOGASTER* (POLYCHAETA, OPHELIIDAE).

by

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ABSTRACT

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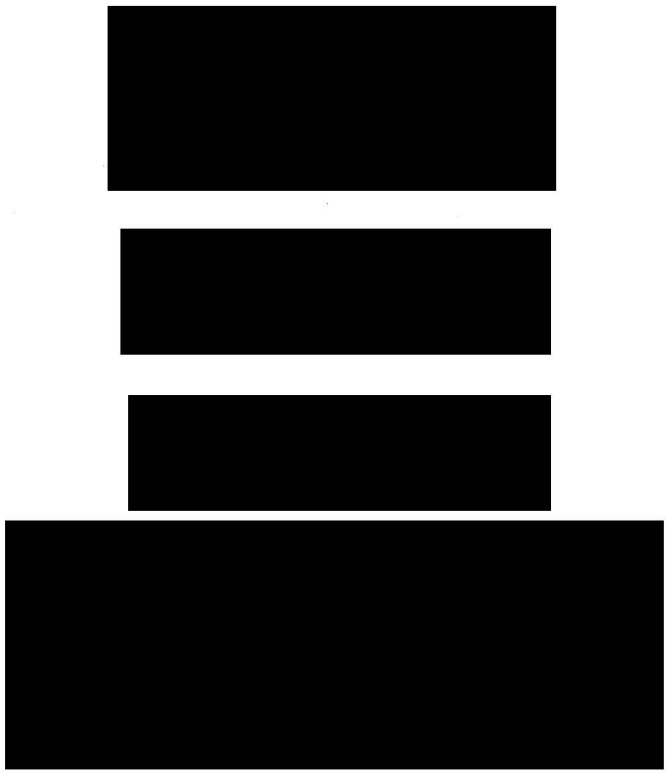
Preliminary results from a Government-required program monitoring the discharge of tailing into the Rupert-Holberg Inlet trough indicated localized smothering of the deep benthic infauna. The sub-obliterative effects of the tailing on the infauna, and the sampling efficiencies of the 0.052 m^2 Ponar grab and the 0.1 m^2 Van Veen grab were investigated by sampling seven environmentally similar stations at increasing distances from the outfall. The Inlet infauna was found to be very reduced, apparently naturally, and was similar to Thorson's (1957) arctic foraminiferan community. Stations up to a distance of 4.5 kilometers from the outfall and with more than 40 cm of tailing were very depauperate. Stations as close as 5.5 kilometers from the outfall and with less than 28 cm of tailing appeared to be able to support a relatively diverse infauna, though biomass and densities were reduced. Natural seasonal fluctuations and decrease of fauna as a function of distance from the open sea made it impossible to distinguish any tailing-derived differences between the other four stations. Species associational analysis (Cluster and modified Zürich-Montpellier) also showed no differences between the non-depauperate stations. Bivalves and possibly Maldanid polychaetes appear to be very sensitive to the tailing and the first to disappear. Slumping of tailing deposits from shallower areas is postulated as playing a significant role in the deep benthic infaunal obliteration. An exploratory production study on a benthic polychaete (*Ammotrypane aulogaster* Rathke, 1843) showed that crops and worm lengths decreased with increasing tailing. Some indication of reduced production rates can be deduced from the results.

Comparisons between the Ponar and Van Veen grabs showed that the former collected more planktonic and light interface benthic organisms and gave crop estimates considerably greater than the Van Veen grab. A randomizing effect by the smaller Ponar sample is suggested as the cause of its larger crop estimates.



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PART I. INTRODUCTION

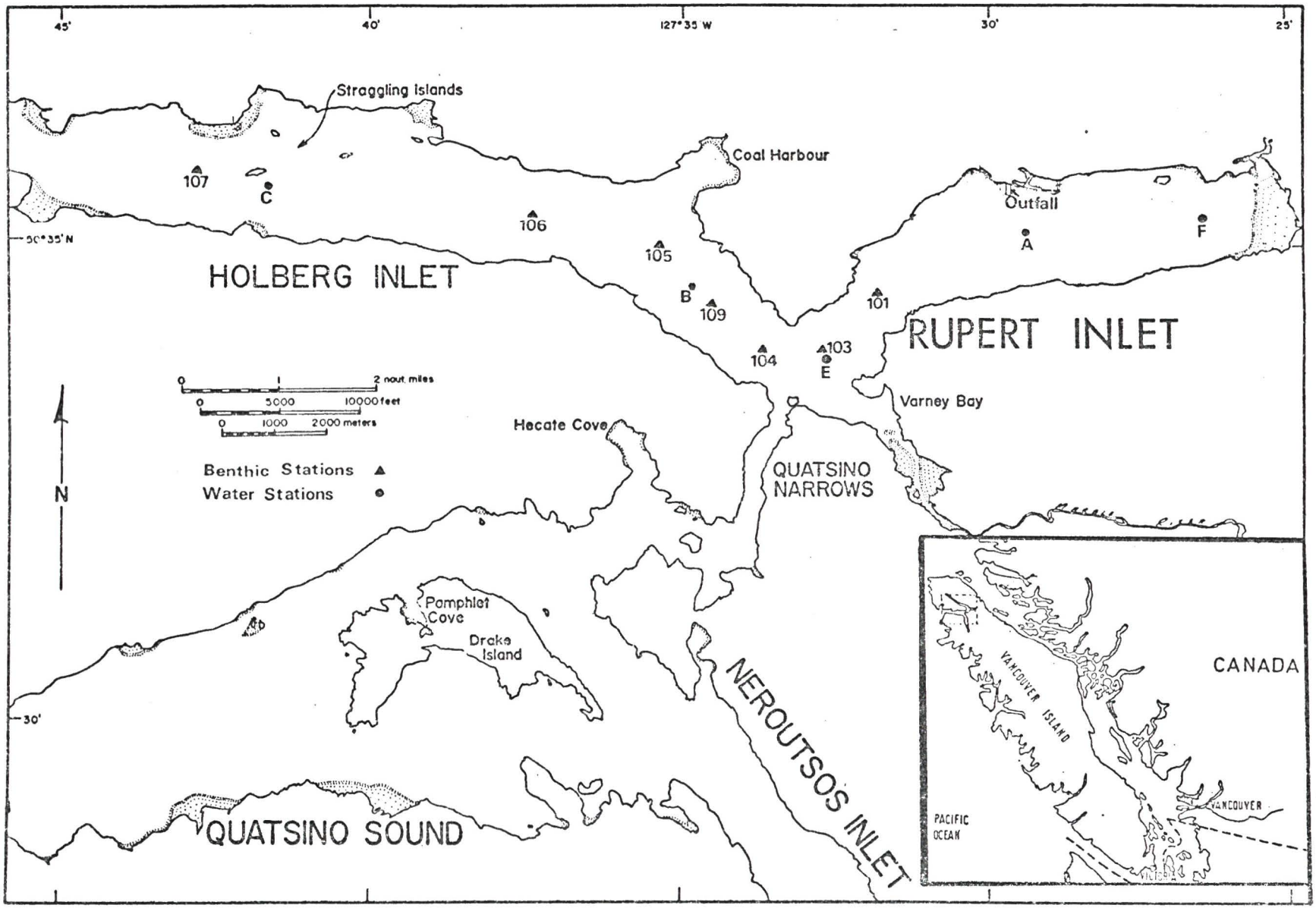
A. OBJECTIVE

This research project was initiated to study the effects of mine tailing on the marine-benthic ecosystem in the receiving area for the tailing discharge of the Island Copper mine.

In February 1972, a British Columbia Government Discharge permit was issued to Utah Mines Ltd allowing Island Copper mine to discharge mill tailing into Rupert Inlet, Northern Vancouver Island (Figure 1.1). The ore-bearing rock is mined from an open pit, and after milling the ore is extracted by a flotation process with a 30,000 metric ton per day capacity. The main end products are Copper and Molybdenite ore. The permit sanctions the discharge of mill tailing, mixed with sea water, into Rupert Inlet at a depth of 45 m below the inlet surface. Furthermore the permit directs Utah mines to establish an environmental program prior to discharge and throughout the initial five years of production. Part of this program was the bottom sampling of Rupert and Holberg Inlets by corers and mechanical grabs to give a "visual inspection of tailing and monitor of benthic organisms" (Evans *et al*, 1972).

By November 1972, Evans *et al* (1972) claimed that the sole environmental effect of the discharge of six million tons of tailing into Rupert Inlet (*ca* 41 million liters per day) was the systematic smothering of the benthic infauna along a section of the Rupert Inlet trough. The results of the mine benthic monitoring program (UBC MS, 1973) further indicated that there were extensive areas with small amounts of tailing deposition. The biological effects in these areas with little tailing deposition were undetermined to that time.

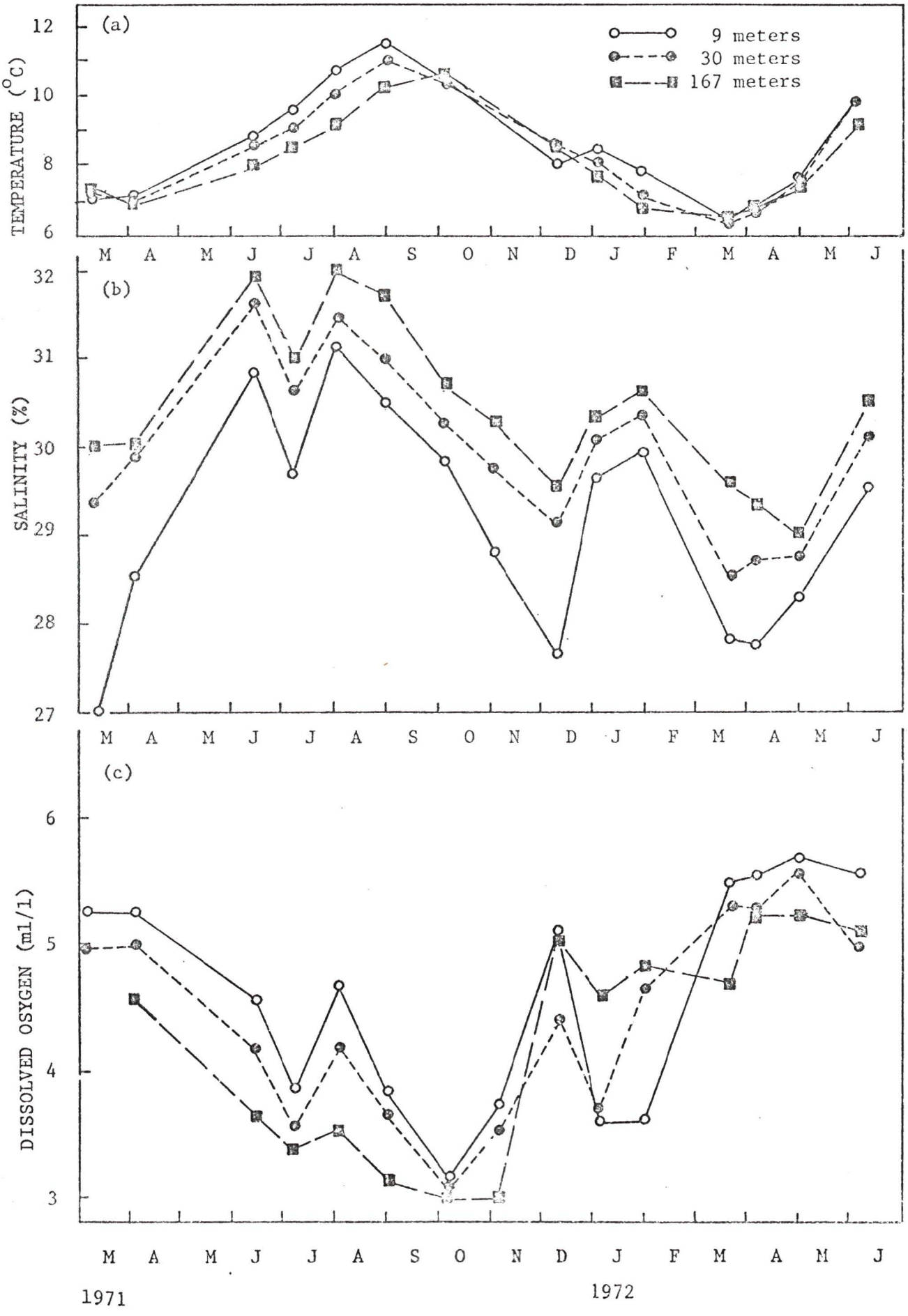
Figure 1.1. Map of Rupert and Holberg Inlets with location of water (Drinkwater MS, 1973) and benthic sampling stations. Benthic stations of the routine mine monitoring program are not shown.


45'
40'
127°35 W
30'
25'
Straggling Islands
Coal Harbour
107
C
106
105
Outfall
A
F
50°35'N
HOLBERG INLET
B
109
101
RUPERT INLET
104
103
E
Varney Bay
Hecate Cove
QUATSINO NARROWS
0 1 2 naut. miles
0 5000 10000 feet
0 1000 2000 meters
Benthic Stations
Water Stations
N
Pamphlet Cove
Drake Island
NEROUTSOS INLET
30'
QUATSINO SOUND
CANADA
VANCOUVER ISLAND
PACIFIC OCEAN
VANCOUVER

The results (UBC MS, 1973) also suggested that the benthic infauna in Rupert Inlet was sparse and was spatially quite variable. It could not be determined whether these faunal results accurately reflected the biological conditions or were an artifact of sampling, or taxonomic problems, or both (Appendix 1).

The present research project was designed to investigate two biological phenomena arising from, but not covered by, the Government-required monitoring program. Their investigation appeared to require a broader theoretical approach than an objective-oriented monitoring program could encompass. The first investigation was to determine whether or not the sparse and variable benthos, revealed by the routine monitoring was a biological characteristic of the inlet. After preliminary qualitative observations made on a cruise to the marine receiving area in June 1973 this objective was more concisely defined as: A comparison of the sampling efficiency of the Ponar grab and the Van Veen grab to establish the reliability of the routine sampling undertaken by the mine with the Ponar grab. The second problem of sub-obliterative effects on the benthos was also redefined as: A determination of spatial and temporal variation in the infauna between stations in the Rupert-Holberg Inlet trough, and the relationship of any variation to the thickness of a layer of deposited tailing at these stations.

A third study developed from the second cruise to the inlet in October, 1973. It had as its objective to determine whether or not large amounts of mine-derived tailing depositing on the benthos and in suspension in the water column could be disrupting benthic biological production. For this purpose benthic production was indicated by comparative crop and length measurements of a selected benthic organism, the polychaete


(a)
9 meters
30 meters
167 meters
TEMPERATURE (°C)
12
10
8
6
M A M J J A S O N D J F M A M J
(b)
SALINITY (%)
32
31
30
29
28
27
M A M J J A S O N D J F M A M J
(c)
DISSOLVED OSYGEN (ml/l)
6
5
4
3
M A M J J A S O N D J F M A M J
1971
1972

Ammotrypane aulogaster taken during one survey. There is sufficient indication of a production effect that a time-series investigation to measure production rates under tailing deposition is justified.

B. REVIEW OF THE EFFECTS OF MINE TAILING ON BENTHIC ECOSYSTEMS

The effects of discharge of mine-derived tailing in the marine ecosystem have been generalized into a simple scheme by Ellis and Littlepage (1972). They propose that it serve as a check list when developing a monitoring program. This list includes "acute poisoning-quick death, chronic poisoning-ill health, enrichment, suffocation, temperature effects, salinity effects, toxin bio-concentration, changed standing crops and production rates, changed species equilibria-species losses and population explosions". Any of these effects could be occurring in the infauna, but due to the relatively inert nature of tailing (B.C. Research MS, 1970), the most likely effects in Rupert Inlet were considered,at the initiation of this study, to be changed production rates, changed species "equilibria" and suffocation. However, heavy metal concentration in animal and plant tissues might also occur.

Large scale obliteration has already been documented by the mine monitoring program, and presumably is a result of suffocation by large amounts of tailing. Heavy metal concentration is being monitored by staff of the mine with a program of heavy metal analyses of crabs, clams, zooplankton, pelagic and demersal fish tissues. No concentration of heavy metals which unequivocally can be attributed to the tailing has yet been found (Ellis, 1974).

Changed species "equilibria", evidenced by species losses or large changes in the populations of particular species could be occurring as

the tailing changes the nature of the sediments. Jones (1973) summarizes the various physical and chemical factors associated with sediments of different particle size. He shows that with a decrease in sediment size from bedrock to colloidal particles there is variation in various physico-chemical gradients. These are: surface area, porosity, permeability, available oxygen and organic matter.

Changed production rates and standing crops would be closely associated with changes in the species of the area, as evidenced by changed longevity, growth, or some other metabolic effect, eg: tailing particles could clog the respiratory and feeding organs with subsequent suffocation or a change in the feeding capacity of an animal.

Production rates and species "equilibria" have necessarily changed where there has been large scale obliteration of the infauna. However, the existing mine monitoring program did not adequately monitor the benthos to determine what were the biological effects in areas which were receiving a steady, but relatively small influx of tailing. It was thus appropriate to study the fringe areas of tailing deposition to determine if there was any change in species "equilibria", or in production rates in those areas.

Furthermore, many industrial effluents have high suspended solid loads and the results of this investigation should have broad application to the problems of pollution control of such effluents. The results may also have relevance to studies of the biological consequences of naturally high sedimentation or slumping.

PART II. THE OCEANOGRAPHIC ENVIRONMENT IN RUPERT AND HOLBERG INLETS

Rupert and Holberg Inlets are located at the northern end of Vancouver Island, British Columbia (Figure 1.1) and are typical fjords of the British Columbia coast. The fjords are described by Pickard, (1963) as "having a deep basin and a sill or region towards the seaward end which is shallower than the basin and the sea outside, thus restricting the passage of deep water". Rupert Inlet is approximately 10 kilometers long and about 1.8 kilometers wide throughout and has a mean mid-channel depth of 110 meters. Holberg Inlet is 34 kilometers long, 1.3 kilometers wide at the mouth and about 1 kilometer wide at the head, with a mean mid-channel depth of 80 meters. The maximum depth of the Inlets is 170 meters opposite the shallow (18 meters) Quatsino Narrows. The Narrows separates Rupert and Holberg Inlets from Neroutsos Inlet and Quatsino Sound, their opening to the Pacific Ocean. Drinkwater, (MS, 1973) studied the physical oceanography of the waters in the basin formed by Rupert and Holberg Inlets. He found that for several depths monthly values of temperature, salinity and dissolved oxygen (Figure 2.1), had a uniform spatial distribution in the basin. The temperature throughout the water column changes steadily with a minimum of approximately 6.5°C in early spring and a maximum in late summer or early autumn of approximately 11°C. At a depth of 167 meters the maximum temperature is approximately 10°C. Sediment temperatures taken during benthic sampling in 1973 and 1974 were comparable to the deep water temperatures at all stations; 8.5°C in June 1973 and May 1974, and 10°C in October 1973. Salinity is more variable with highs in mid-summer and

Figure 2.1. Monthly values of temperature (a), salinity (b), and dissolved oxygen content (c) at station B in Holberg Inlet, representative of the uniform conditions throughout the Rupert-Holberg basin (Drinkwater MS, 1973).

late winter ranging from 32‰ to 31‰ at a depth of 9 meters and 31‰ to 30‰ at 167 meters. However, the lows present in early spring and late autumn range from 29.5‰ to 29‰ in the near surface waters (9 meters) and 28‰ at 167 meters depth. Dissolved oxygen content shows high values (5 to 5.5 ml/L) in winter and spring, with lower values (3 to 4.5 ml/L) during summer and autumn. Drinkwater, (MS, 1973) attributes the temperature changes throughout the water column to be the result of solar influences. The intrusions of denser water from Quatsino Sound, and rainfall runoff are responsible for the changes in salinity. He further suggests that there is frequent mixing of the water column within the basin as implied by the uniformity of the oxygen content. This mixing of the water is caused by the strong tidal currents associated with Quatsino Narrows. Farmer (personal communication) is studying the current patterns in the junction of Quatsino Narrows and Rupert-Holberg Inlets. He indicates that in the spring the dense water intrusions from Quatsino Sound (related to the incoming tide) rapidly sink to the Inlet bottom creating currents of at least 3 knots, 5 meters above the bottom. Johnson (MS, 1974) recorded currents of comparable speed in his studies in Rupert Inlet. He also noted that tailing are of uniform size from the outfall to Quatsino Narrows and that "natural sedimentation attempts to confine the tailing to Rupert Inlet".

PART III. METHODS: FIELD AND PRELIMINARY SORTING

i) Sampling design

After referring to the mine monitoring program results (UBC MS, 1973) and Canadian Hydrographic charts (Figure 3.1) a sampling program was developed. Samples were collected from seven stations along the soft-level-bottom of the Rupert-Holberg Inlet trough, and at one station in Quatsino Sound during a cruise in the week of June 4-8th, 1973. See Figure 1.1 for station locations. From preliminary results of that cruise, the station in Quatsino Sound was dropped from the program as the sediment data indicated that it was quite different from the stations in Rupert and Holberg Inlets. One of the stations (#107) in Holberg Inlet was also discontinued as it appeared to be biologically quite different (larger biomass, less diverse), and of shallower depth. During a second cruise in the week of October 29th to November 2nd, 1973, the five remaining stations were sampled again, and another station in Holberg Inlet (Stn #109) was sampled. A third cruise was undertaken in the week of May 6th to 10th, 1974, to check for any large scale changes in the infauna of the different stations and to collect data for a growth study. Ten replicated samples at each station were collected during each survey, except where the benthos seemed obliterated and fewer samples sufficed. Table 3.1 lists the stations and environmental data.

ii) Collecting techniques

In all three surveys biological samples were collected with a 0.1 m^2 Van Veen grab (Figure 3.2a) while a Phleger corer (Figure 3.2b) was used to determine tailing thickness. A 0.052 m^2 Ponar grab (Figure 3.2c) was also used at one of the stations (#105) to permit a comparison of results

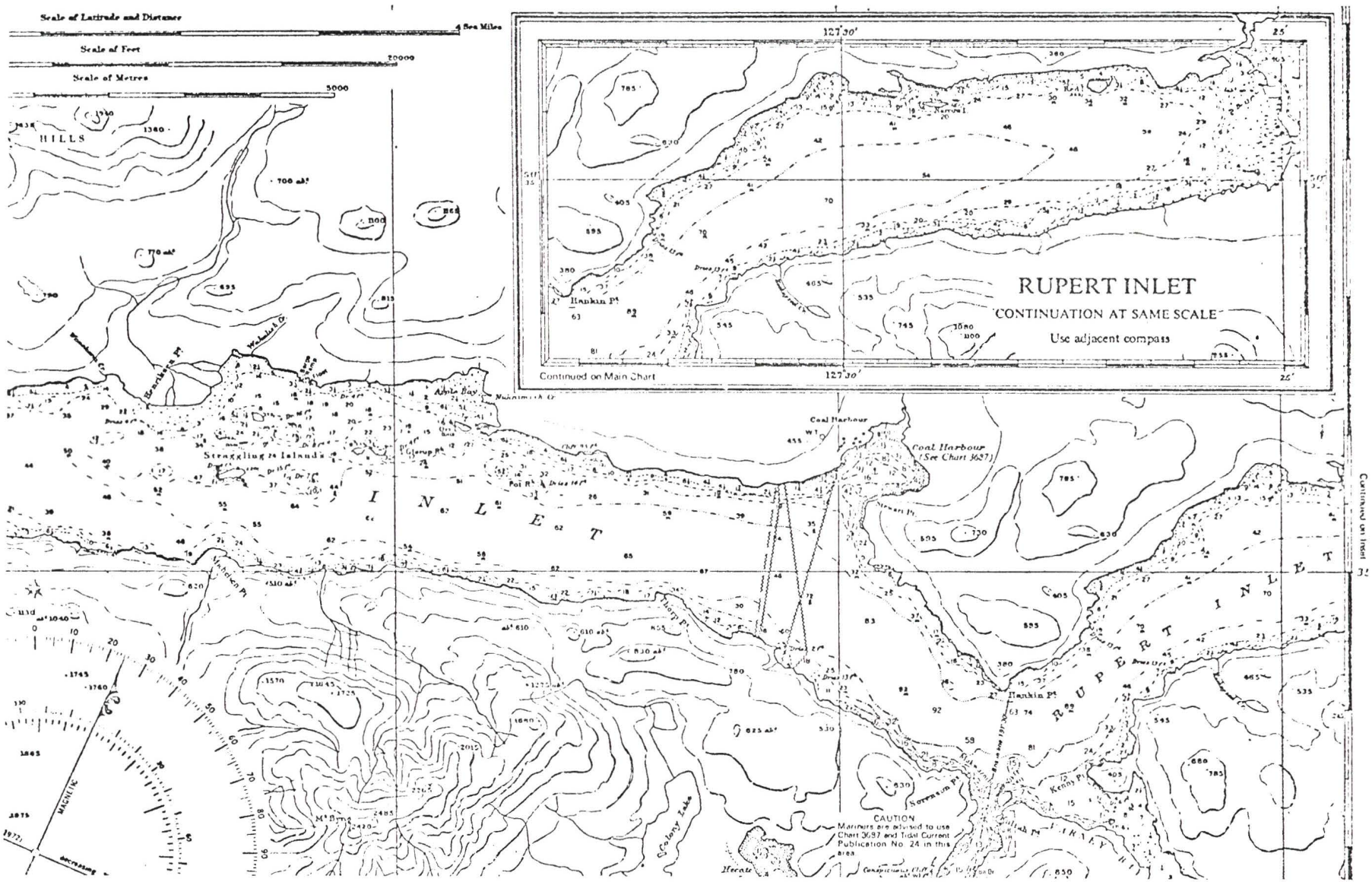


Figure 3.1 Section of Canadian Hydrographic Chart No.3617, showing study area and depths.

Table 3.1. Station list with depth, sediment types, tailing thickness and sampling dates.

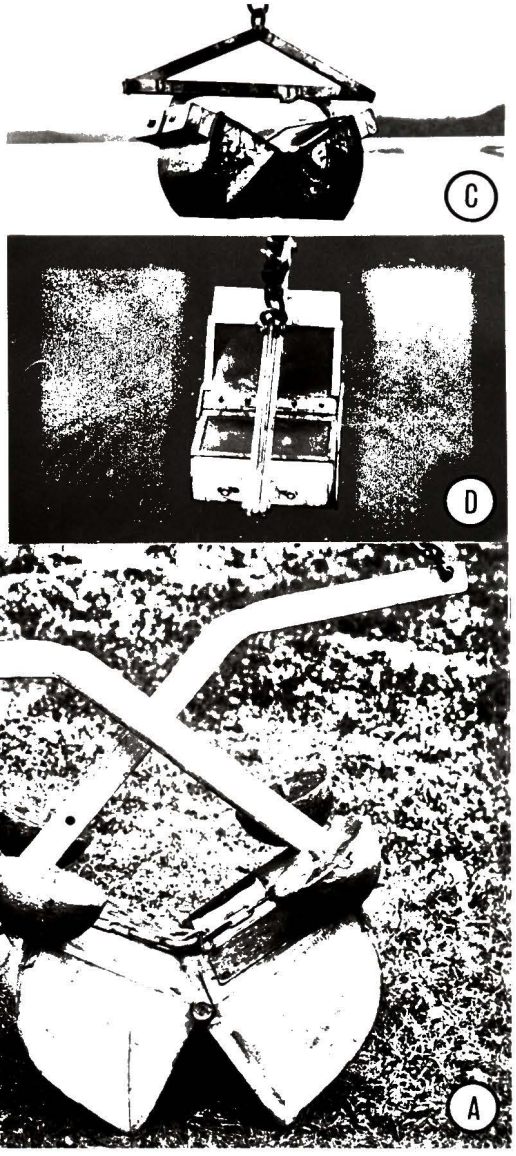
Numbers in brackets refer to comparable Utah mine monitoring stations.

Station No.	Latitude	Longitude	Depth(m)	%silt-clay fraction by weight	Median grain size (microns)	Tailing thickness (cm) June5-7/73	Oct30-31/73	May7-8/74
101 (13)	50°39.4'N	127°31.8'W	160	29*	76	16+	50	not sampled
103 (9)	50°33.8'N	127°32.8'W	180	35*	250	7	40	not sampled
104	50°33.9'N	127°33.7'W	180	97	7.0	26	28	not sampled
109	50°34.4'N	127°34.65'N	189	72	14.0		18	20
105 (6)	50°34.8'N	127°35.1'W	150	82.2	9.0	5	9	14
106 (4)	50°35.1'N	127°37.1'W	138	91.0	5.5	2	2	6
107 (2)	50°35.6'N	127°42.6'W	95	85.0	6.2	Trace	Station discontinued	

* Samples 100% tailing

Figure 3.2. a) The 0.1 m^2 Van Veen grab modified by addition of 4 x 20 lb. lead weights for greater sediment penetration. b) Phleger corer. c) The 0.052 m^2 Ponar grab. d) Notice the fully screened opening on the top of the Ponar as compared to the partial screen on the Van Veen.


B


C
D
A

obtained by the two different grabs. The Ponar grab is the sampling device used in the mine's routine benthic monitoring. All samples were screened through a 1-mm mesh screen and preserved in formalin neutralized with Hexamine. In addition, some samples from the first cruise were screened through a 0.5-mm mesh screen to determine which sieve size was most applicable in the survey. This size was selected for testing partly because the mine's program utilized a #30 mesh screen (0.59-mm mesh). Temperature measurements and sediment sub-samples were taken from the first three samples from each station through an opening in the top of the grab.

iii) Identification and quantification

In the laboratory the samples were transferred from the original 10% neutralized formalin to 40 per cent isopropanol, and stained with rhodamine B to aid in sorting. The organisms were then preliminarily sorted into major taxa (gastropods, pelecypods, errant polychaetes, sedentary polychaetes and others) and within major taxa into apparent species. A table-top matrix (Figure 3.3) of apparent species on one axis, versus hauls on the other, was constructed and scanned to pick out apparent inconsistancies or differences between stations and hauls. Identifications to species were undertaken at the same time for both surveys (June and October, 1973) to ensure consistency in the results. Since the taxonomy of the benthic infauna in the Northeast Pacific has not been satisfactorily worked out for all species, identifications were restricted to those species which were felt to be significant by their abundance or biomass as well as those whose identification was relatively straightforward (Appendix 2). The organisms were also counted and wet weighed (damp dried on a paper towel). Conversion to dry weight

was undertaken during computerized data processing following Thorson's (1957) conversion table.

Sediments were sub-sampled for mechanical analysis using a hydrometric technique which conforms to the standard methods of mechanical analysis of the American Society for Testing Materials (British Columbia Dept. of Highways, 1967).

Figure 3.3. Table-top matrix of apparent species versus hauls. The 11 hauls in the fore-ground are from heavy tailing areas (Stations 101 , 103) and clearly show reduced species diversity in that only 1-4 vials have been sorted out compared to the 10-20 vials in hauls with lighter tailing.

PART IV. THE EFFECTS OF MINE-DERIVED TAILING ON THE COMPOSITION OF THE INFAUNA OF THE RUPERT - HOLBERG INLET TROUGH

A. INTRODUCTION

Environmental monitoring using biological indicators requires a knowledge of the predischarge conditions in the receiving area. Ideally, both temporal and spatial patterns of the fauna and flora should be known prior to perturbation, so that any variation can then be detected.

In the last few years therehave been a large number of different techniques reported in the literature which detect ecosystem changes and relate them to environmental factors. Waldichuck (1973) gives a list of techniques which have been used for biological assesment of pollution effects and discusses their applicability. There have also been numerous studies dealing with the biological differences among communities and methods of classification and ordination of affected communities. The techniques often borrow methods originally developed for numerical taxonomy and terrestrial vegetation studies (see Sokal and Sneath, 1963; Sneath and Sokal, 1973; and Whittaker, 1973 for a discussion of the different methods). Likewise, many benthic synecological studies published in the last ten years use some sort of borrowed classification technique. For example,Ellis (1969), and Popham and Ellis (1971) have developed techniques to study and characterize faunal associations using qualitative and quantitative information. Buchanan and Lighthart (1973) have also used one of these methods (clustering) to characterize phytoplankton communities and relate them to water quality.

Diversity indices, from the simplest, which compares numbers of

species among environments, to more sophisticated techniques (using information theory-Poole, 1974-) have also been developed to describe communities. However the techniques suffer from various deficiencies, and there is still some doubt about the underlying theory of their meaning and use (Buchanan and Lighthart, 1973).

This investigation studies the temporal and spatial changes in the associations of some of the benthic animals of Rupert and Holberg Inlets by means of quantitative and qualitative techniques. In a study of this nature, information is collected on environmental factors, and on species populations. However, interpretation of this information is cumbersome due to the large number of samples, and species within each sample. Traditionally, classification and ordination have been the two research methods used to summarize this type of information. Classification groups the samples into units on the basis of shared characteristics (species and hauls). Once this has been achieved, these samples are related to environmental factors, species composition, and community characteristics. Ordination on the other hand deals with a more continuous type of relationship, like that found along an environmental gradient or along the length of a transect. In this investigation, clustering and Zürich-Montpellier (which includes ordination) techniques have been used to try to determine any trends or grouping in species composition along the length of the combined Rupert and Holberg Inlets.

B. ANALYTICAL METHODS

i) Data processing

The species numbers and wet weight data for each haul were punched onto computer cards. They were than grouped by stations from each

cruise and run in the University computer (IBM System 360). The computer programs were designed by Ellis (1968) to summarize benthic data. The programs used were: BENTH2; which calculates mean densities, mean wet and dry weights per m^2, as well as their variances, percentages and standard deviations, BENTH4; sorts numbers, wet weight data and taxa by hauls which permits quick scanning for any aberrant hauls, BENTH6; ranks taxa within a station (from each cruise) by frequency, density, and biomass, which permits selection of species which are possibly ecologically significant (see below.)

ii) Ecologically significant species

Despite the availability of computerized programs that permit summarizing large amounts of benthic synecological data, biological interpretation still has to be undertaken. Ellis (1969) used a number of indices which are easily quantifiable. From the ranking of species by these indices, some indication of the underlying ecological significance of the species can be implied. These rankings can also suggest species which warrant closer attention due to the role they play in the ecosystem.

In monitoring programs, the value of these rankings is to choose species for closer study and experimentation, and to point out a number of species whose distribution should be more closely followed.

Four indices (Ellis, 1969) were used (frequency, density, biomass and Pamatmat's respiration index) and a list of significant species prepared for each index.

Frequency: The percentage of replicate hauls in which the species occurs. This gives a measure of how widespread the species is. Only those species found in all the replicated hauls have been listed.

Density: The most numerous species per square meter; only those species whose densities together make up 50 per cent of the total organisms collected for the area were listed.

Biomass: The wet weight of a species in grams per square meter. Only the heaviest species whose weights make up more than 50 per cent of the total biomass collected were listed.

Pamatmat's Respiration Index: Calculated by weighting the dry weight of a species by its density. Pamatmat (1968) found that the species ranking produced by this index correlates with the ranking of respiration rates of the species. The top ten species with an index of at least 1 were listed.

iii) Zürich-Montpellier analysis

Classification of plant communities have been undertaken since the beginning of the century using a technique developed by Braun-Blanquet. It is based on the 'floristic and sociological characteristics' of communities. The underlying ideas of the methods are: i) plant communities are conceived as types of vegetation, recognized by their species composition, which express the relationship to one another better than any environmental or other characteristic. ii) Amongst these species some are more suited to express a relationship than others. The method tries to use these species (indicator or diagnostic species) to show ecological relationships. iii) These indicator species are then used to organize communities into a classification using species associations as the basic units. Popham and Ellis (1971) have showed how this method can be adapted for use in benthic synecological studies. Benthic associations are well suited for this type of analysis, which only requires that samples be taken from a homogeneous group of species. Mills (1969)

showed that some benthic marine communities can be characterized in terms of their dominant species (following Peterson's 1919 use of dominant or conspicuous species) while also allowing analysis of these species as part of a continuous distribution along gradients. In monitoring programs this technique could be used to separate areas with different species associations, to establish a species distribution gradient, and to relate these to environmental disturbances.

A computerized program for the Zürich-Montpellier analysis (Braun-Blanquet school) was developed by Češka and Roemer (1971) and has been modified to include an ordinating method developed by Hill (1973). Hill's method orders species groups following the main gradient. The Zürich-Montpellier analysis used follows a series of rules for group-forming of "diagnostic species". These rules increase in severity from 40% inside and 20% outside to 66% inside and 10% outside (ie: the species must occur in at least 40% of the hauls belonging to a particular group of hauls and in not more than 20% of the hauls outside this group). As the Zürich-Montpellier analysis groups hauls by species as well as species by hauls, the same rules were used for group forming of "diagnostic hauls". A haul belongs to a group of hauls if it contains at least 40% of the "diagnostic species". Samples from station 101 and 103 were not included in this analysis, since the low species diversity and biomass indicated a clearly distinct community.

iv) Clustering procedures

Buchanan and Lighthart (1973) clustered phytoplankton samples and species using Fager's (1963) index of similarity, and the unweighted pair-group method (Sokal and Sneath, 1963). In this study in Rupert-Holberg Inlets the samples were also clustered to see if any meaningful

groups were formed. Unweighted pair-group clustering by arithmetic averages was used to group samples by Jaccard's coefficient of Community:

$$\frac{\text{Number of species in common}}{\text{Total number of species}} \times 100$$

The results are presented in a dendrogram. The unweighted pair-group method is supposed to produce less distortion of the dendrogram when compared to the original similarity matrix, and is the most frequently used clustering technique (Sneath and Sokal, 1973). A computerized version of this method was used (Hagmeier, unpublished) on all the samples, except for those from station 101 and 103.

C. RESULTS AND DISCUSSION

i) Environmental

No predischarge sediment data was available. However Table 4.1 shows median grain size data from the mine monitoring program for March 1972 (five months after discharge commenced) and June and October 1972 tailing thickness data. All stations appear to have similar median grain size except for station 101. This could be explained by the tailing thickness data which shows this station as having the largest amount of tailing.

The environmental data collected during this study (tailing thickness, sediment type and depth; Table 3.1) show a trend of decreasing thickness of tailing proceeding from the station closest to the mine to the farthest. Furthermore the stations appear to be quite similar (except for 101 and 103) with regards to their silt-clay fraction (72-97%) and median grain size (5.5-14.0 microns). At stations 101 and 103 tailing deposition was so great that the grab did not penetrate to the original

Table 4.1. Median grain size, (March 1972) and tailing thickness (June and October, 1972) for selected benthic stations. From UBC (MS, 1973).

Stn. No.*	Median grain size(March/72) (in microns)	Tailing thickness (in cm) June 1972	October 1972
101(13)	350	44	48
103 (9)	28	6.5	8.0 approx.
105 (6)	18	2	6.5 mixed sed. & tailing
106 (4)	13	0	Trace
107 (2)	22	0	0

* Numbers in brackets refer to mine monitoring stations.

inlet bottom. By depths the stations can be arbitrarily divided into: deep stations; 101, 103, 104, 109 and 105 (150-180 meters), an intermediate station; 106 (138 meters), and a relatively shallow station; 107 (95 meters).

It would appear that the stations are environmentally quite similar except for the differences noted in depth and tailing thickness.

ii) Effects of mesh size on the data

Reish (1959) has pointed out the importance of screen size in benthic sampling programs. He showed that different sized screens collected different percentages of the biomass, number of species, number of specimens, and first appearance of species.

At three stations during the June 1973 cruise of this study, trial samples were screened through a 0.5-mm mesh screen (after first screening through a 1-mm mesh). The results showed: At station 101 one of the three tested samples gave 3 extra *Ammotrypane aulogaster* and 1 Euphausid in the 0.5-mm screen as compared to the 1-mm screen. At station 105 the screening of one sample through 0.5-mm mesh added 11 small *A. aulogaster* to the animals screened by the 1-mm mesh. At station 107, the sample screened through the 0.5-mm mesh did not add any animals to those already collected by the 1-mm mesh screen. These results did not indicate a significant increase in number of specimens as found by Reish (1959). The sparse fauna of the inlet, and the sampling season might be the reasons for the unexpected small increase in the number of specimens collected with the 0.5-mm mesh screen. Because a longer sorting and screening time is necessary when using the smaller mesh screen, a 1-mm mesh was used thereafter. The saving of time with the 1-mm mesh permitted the collection of more replicate samples.

iii) Infaunal statistics

Densities and biomasses recorded from the June and October 1973 cruise (Appendix 3) are summarized in Table 4.2, with plots in Figures 4.1 to 4.3. By checking the haul listings App. 3.1 to 3.14 and App. 3.40 to 3.51 one aberrant haul was found (73-7-22). This had already been noticed during sampling and sorting, and was a sample filled with rotting organic debris (primarily benthic algae). Therefore, this sample was removed from any further calculations. *Tharyx* sp. and Capitellidae (2 species: *Heteromastus filobranchus* and *Decomastus gracilis*) were quantified by a conventional numbering system of 999 where they were found in such abundance that counting was not feasible. This convention deals with small, usually easily fragmented species found in very large numbers. In this case they were not counted when there seemed to be more than approximately 20 worms. They were removed from the density summary (Table 4.2) but included in the biomass estimates.

a) Spatial differences

All three plots (Figures 4.1 to 4.3) show that stations 101 and 103 are quite depauperate, and organisms appear to have been virtually obliterated by the tailing. This confirmed the field decision to restrict the number of replicated samples collected at stations 101 and 103 and no further analyses seemed necessary.

There is a gradual increase (Station 104), followed by a drop (Station 105 and 106), in the densities and biomass of the remaining stations towards the head of Holberg Inlet. Biomass in station 107 (furthest from the mine) is much larger than the other stations because of the presence of the large pelecypod *Compsomyax subdiaphana*, the holothurian *Molpadia intermedia*, and large Nemertean worms. This high biomass

Table 4.2 Density and biomass summary for June and October 1973 cruises.

	Stn.	Total no. of organisms /m^2	*Tharyx* sp.	Capitellidae	Wet wt. biomass	Dry wt. biomass	No. of samples	Screen size (mm)	No. of species
	101	10	0	0	0.0	0.0	3	0.5	1
	103	0	0	5	1.0	0.0	1	1.0	1
	104	189	4	5030	83.2	8.19	10	1.0	39
June, 1973	---	----	----	----	-----	-----	--	---	--
	105	388	1	16	11.9	1.07	10	1.0	28
	106	86	0	1	10.5	1.27	10	1.0	20
	107	79	0	0	421.9	26.87	10	1.0	20
	101	90	10	20	5.4	0.7	5	1.0	6
	103	78	4	16	1.0	0.14	5	1.0	6
	104	1530	58	8991	67.0	7.69	10	1.0	41
Oct., 1973	109	4123	9001	9990	141.6	14.25	10	1.0	42
	105	3787	76	9990	107.5	13.35	10	1.0	41
	106	2377	2	12	52.2	6.52	10	1.0	29
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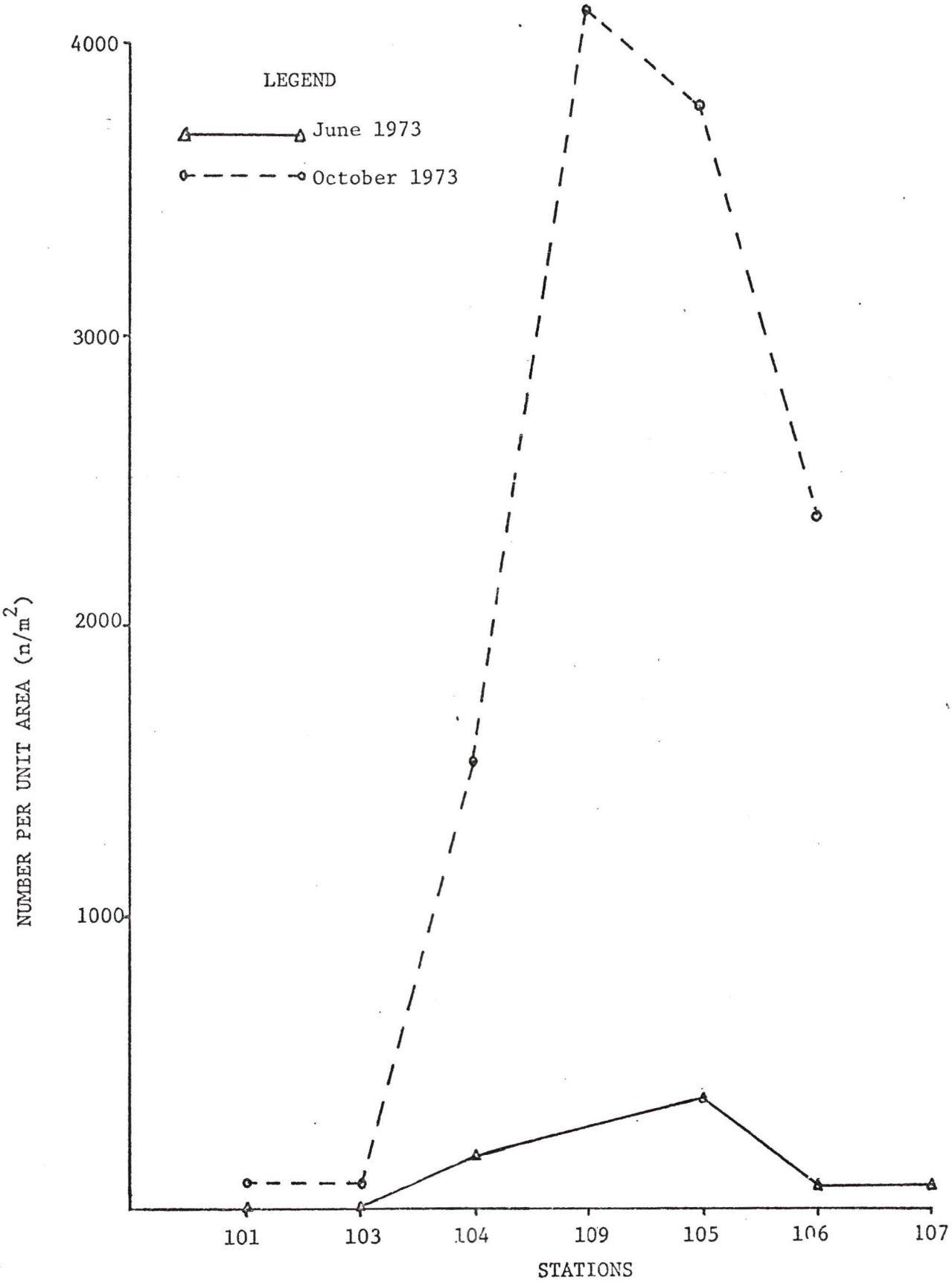


Figure 4.1. Number of infaunal organisms per sq. meter, at the different stations during June and October 1973 cruises.

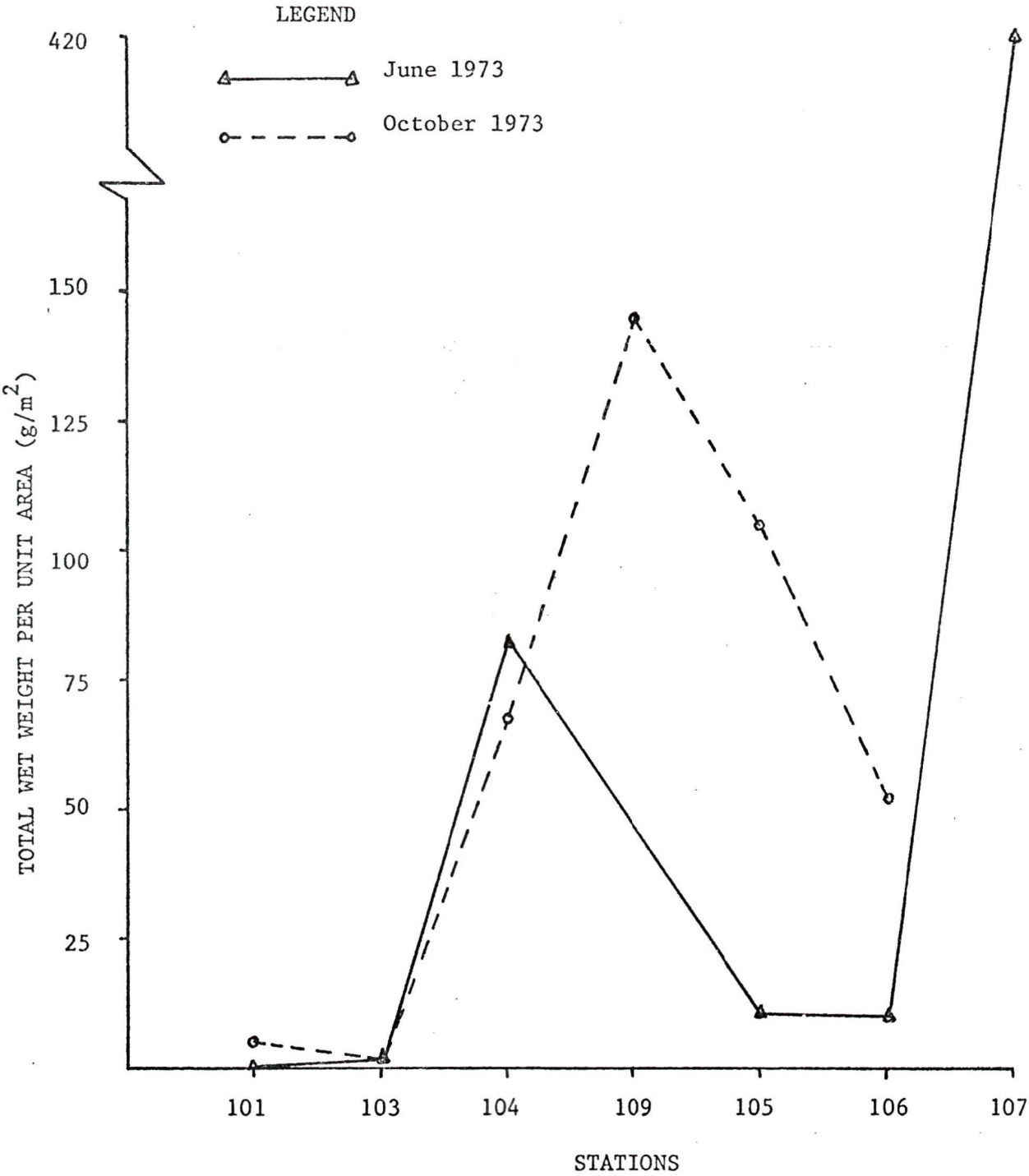


Figure 4.2. Wet weight biomass of the infauna per sq. meter, at the different stations during June and October 1973 cruises.

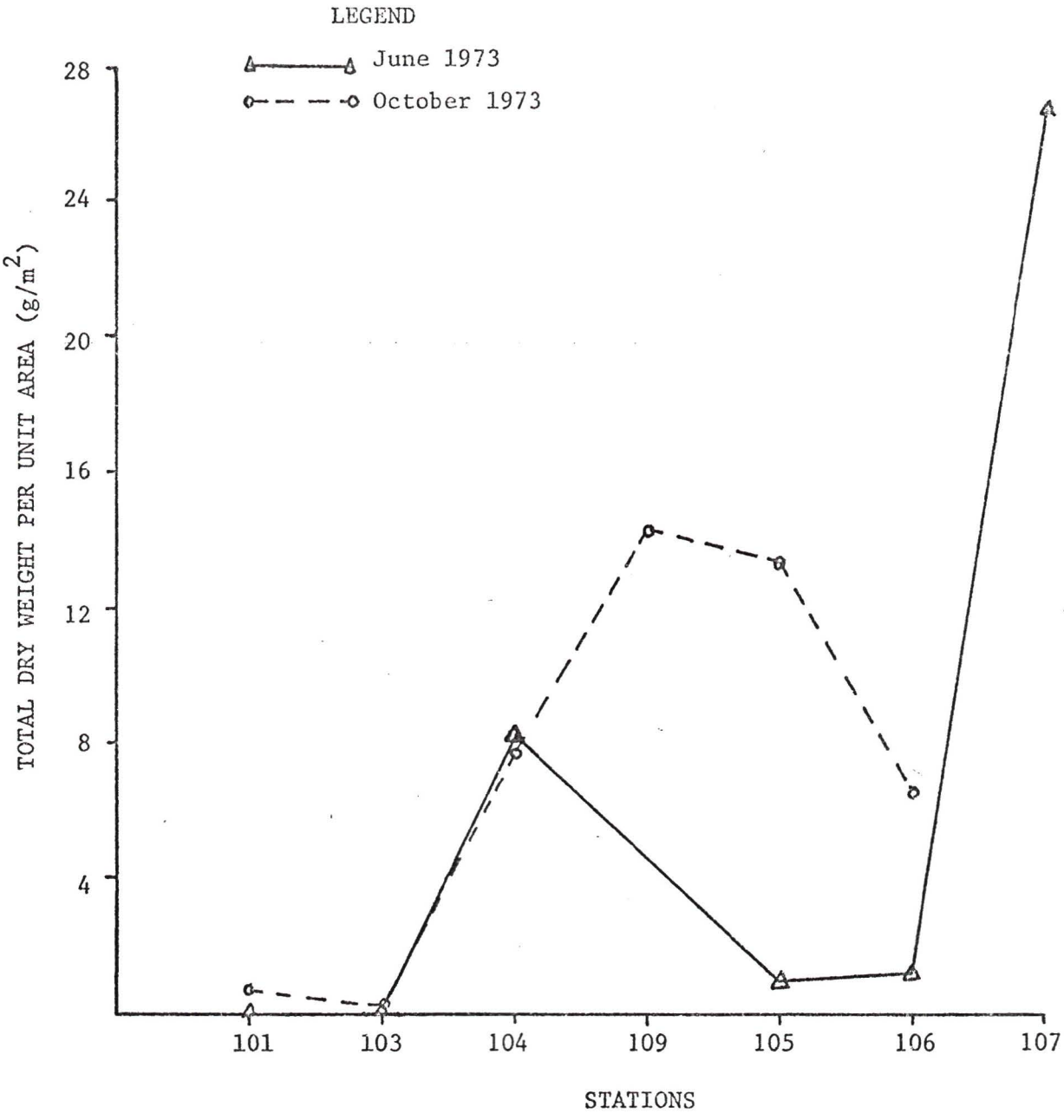


Figure 4.3. Dry weight biomass of the infauna per sq. meter, at the different stations during June and October 1973 cruises.

also confirms the earlier subjective decision to discontinue sampling the station during the October cruise. The large biomass could be attributed to the shallower depth. Like densities, number of species are lower in stations 106 and 107 (20) than at 104 and 105 (39-28).

The stations on the whole are quite similar with respect to numbers per unit area, biomass and number of species, except for the obliterated stations.

b) Temporal changes

A marked increase in numbers per unit area (density) was evident at all stations in the October cruise. Even stations 101 and 103 have had some of the infauna restored. This appears to be a normal increase for the time of the year (see discussion) and is caused by the summer breeding season. Wet and dry weight biomass also showed the increase except at station 104. This is particularly significant as it is the station closest to those already obliterated. Species numbers increased at all stations to 29-42 species per station. The cruises apparently coincided with a good hatch and spat-fall year for many of tne infaunal species. Densities (other than at the obliterated stations, 101 and 103) ranged from 79-388 organisms/m^2 during June 1973 and from 1530-4123 organisms/m^2 in the October 1973 cruise. This excludes numbers of *Tharyx* sp. and Capitellidae (*H. filobranchus* and *Decomastus gracilis*) which would raise the estimate if counted. Biomass wet weights ranged from 10.5-83.2 g/m^2 (excluding station 107 - 421.9) in June and 52.2-107.5 g/m^2 in October.

It would appear that at other than the obliterated stations, only station 104 shows a change in total values which might reflect a tailing influx, and that change consists of a lesser seasonal increase than expected.

At a station in Puget Sound comparable in depth to the ones in Rupert-Holberg Inlet, Lie and Evans (1973) have found little variability in number of species among sampling dates, and no significant seasonal trend. They did find considerable seasonal variability in the number of specimens, with the high being in winter. However, mean annual abundance of animals was fairly constant. Ellis (unpublished) found similar trends to these (densities and numbers of species) in data from a 9 year series of collections in Satellite Channel. Furthermore, he found that biomass (dry and wet weights) also showed similar seasonal fluctuations. The seasonal changes found in both of these studies were of approximately double the minimum values. In this study, seasonal density and biomass fluctuations seem to be greater (a maximum density increase of 17 times the minimum and biomass maximum increases of 6-7 times the minimum). These are abnormally high seasonal fluctuations compared to the above previous studies. However, they might be normal for inlets such as these, with very low densities and biomasses. Furthermore, these large seasonal variations in numbers and weights around the basically low values have the potential to mask other lesser but continuing changes which could be occurring due to tailing deposition.

iv) Species statistics

a) Ecologically significant species

Table 4.3 lists the species selected as possibly ecologically significant (Ellis 1969) by criteria of frequency, biomass, density and Pamatmat's Index. All the stations appear to be quite similar, except for station 107. However, both temporal and spatial changes are apparent, but there are difficulties in assessing their significance. The October cruise lists a greater number of species as ecologically significant than

Table 4.3. Species indicated as ecologically significant by at least one criterion. Ranked by the number of listings (of a possible four: frequency, density, biomass and Pamatmat's index).

June, 1973

Stations				
104	109	105	106	107
3 *Glycera capitata*		4 *Ammotrypane aulogaster*	4 *Ammotrypane aulogaster*	2 *Lucinoma tenuisculpta*
3 Capitellidae		4 *Axinopsida viridis*	3 *Laonice cirrata*	2 *Compsomyax subdiaphana*
3 Maldanidae unident.		2 *Axinopsida serricata*	1 *Axinopsida viridis*	1 *Axinopsida viridis*
2 *Lumbrinereis* spp.		2 *Bittium eschrichtii*		1 *Molpadia intermedia*
2 *Psephidia lordi*		1 Gammarid amph.No.1		1 Nemertinea
1 *Arhynchite inamoenus*		1 *Goniada annulata*		1 *Lumbrinereis* spp.
1 *Ammotrypane aulogaster*		1 *Daitrona* sp.		

October, 1973

4 Capitellidae	4 *Ammotrypane aulogaster*	4 *Ammotrypane aulogaster*	3 *Ammotrypane aulogaster*
3 *Ammotrypane aulogaster*	3 *Glycera capitata*	3 Capitellidae	2 *Daitrona* sp.
3 *Glycera capitata*	3 *Tharyx* sp.	2 *Lumbrinereis* spp.	1 Gammarid amph.No.2
2 *Lumbrinereis* spp.	2 Capitellidae	2 *Axinopsida serricata*	1 *Glycera capitata*
2 *Tharyx* sp.	1 *Ampharete* sp.	2 *Macoma carlottensis*	1 *Macoma carlottensis*
2 *Macoma carlottensis*	1 Gammarid amph.No.1	2 *Axinopsida viridis*	1 *Laonice cirrata*
1 *Prionospio cirrifera*	1 *Laonice cirrata*	1 *Tharyx* sp.	1 Nemertinea
1 *Arhynchite inamoenus*	1 *Macoma carlottensis*	1 *Glycera capitata*	
1 *Capitella capitata*	1 *Axinopsida viridis*	1 *Laonice cirrata*	
1 Maldanidae unident.	1 *Compsomyax subdiaphana*	1 *Glycinde*	
	1 *Bittium eschrichtii*	1 *Bittium eschrichtii*	
	1 Nemertinea		

the June cruise, which could be the result of a particularly good spat-fall. Some of the species changes between cruises which have occurred are: *Psephidia lordi*, a small bivalve, is no longer listed as significant in station 104; Gammarid amphipod No. 1, *Goniada annulata* (a large worm), and *Daitrona* sp., a foraminiferan, are no longer listed in Stn. 105; while *Axinopsida viridis*, a small bivalve, is no longer significant in station 106. On careful scrutiny of the haul listings, none of these changes would appear to be of importance, as they are apparently a direct result of more organisms present on the sea-bed. This reduces the rankings of the species below the significance level. The data on *Daitrona* sp., unfortunately is inaccurate, as a misidentification in the early stages of sorting resulted in discarding large numbers of them. *Daitrona* sp. would probably have been a good indicator species, as foraminiferans are apparently very sensitive to environmental disturbances (Cameron, personal communication).

b) Numbers and species of bivalves

Although there appears to have been a good hatch and spat-fall for most of the infauna it was noticed during sorting that there seemed to be an unusually large amount of recently dead bivalves in station 104. Furthermore it appeared that in the October cruise bivalve numbers and species had not increased when compared to polychaetes. Table 4.4 gives numbers of bivalves and number of bivalve species for the three stations which were sampled during both cruises. In the October cruise it is apparent that total numbers have markedly increased (from 129-267 and from 16-46) in both of the stations furthest from the tailing source (stations 105 and 106). On the other hand, station 104 (closest to the tailing other than the depauperate stations) shows a decrease in total

Table 4.4 Numbers and species of bivalves compared to polychaete numbers, species and total number of organisms (per sq. meter). From stations sampled in June and October 1973.

Station No.	104		105		106	
Cruise	June 1973	Oct. 1973	June 1973	Oct. 1973	June 1973	Oct. 1973
Species						
Acila castrensis	1	-	-	-	-	-
Nucula sp.	2	-	9	12	5	3
Lucinoma annulata	2	-	-	-	-	1
Lucinoma tenuisculpta	-	-	-	5	1	1
Axinopsida serricata	6	1	48	44	1	5
Axinopsida viridis	1	-	65	102	7	19
Thyasira sp.	-	1	-	-	-	1
Rocheforiia sp.	-	-	-	1	-	-
Venericardia paucicostata	3	-	-	-	-	-
Macoma carlottensis	7	19	1	87	2	16
Macoma elimata	3	-	-	-	-	-
Hiatella sp.	1	-	-	-	-	-
Psephidia lordi	9	11	6	16	-	-
Pandora biliriata	1	-	-	-	-	-
Total No. of bivalves	36	32	129	267	16	46
Total No. of bivalve species	11	4	5	7	5	7
*Total No. of polychetes	126	1331	89	3443	60	1906
Total No. of polychaete species	21	26	14	25	12	16
Total No. of all organisms	189	1530	388	3787	86	2377
Total No. of species of all organisms	39	41	28	41	20	29

* Excludes *Tharyx* sp. and Capitellidae, coded as 999.

numbers of bivalves, from 36 to 32. Number of species have also shown similar trends, though not as pronounced.

Bivalves are relatively sessile or slow moving animals, and have complex particle-sorting-feeding organs. In some species they react to large amounts of suspended material by retracting their siphons and closing their valves (Goddard, personal communication). This would probably make them very susceptible to burial by tailing deposits. Their relatively minor increase in numbers at a time of a major increase for polychaetes could be an effect of suspended and depositing tailing.

v) The benthic associations in Rupert and Holberg Inlets

a) Zürich-Montpellier analysis

Results of the Zürich-Montpellier analysis are shown in Appendix 4. The groups formed by the least severe rules used (40% inside, and 20% outside), were biologically the most meaningful (ie: the other rules either did not differentiate groupings, or gave too many small groups with no apparent relationship). However, these groups were all overlapping, and did not separate the samples into any meaningful sets.

Ordination of the samples by the program also showed no apparent trend. The samples within a station were then pooled, and run as one using the constancy version of the program but no groups were formed.

b) Clustering

The samples clustered at very low levels of similarity. Thus, the dendrogram (Appendix 4) gave no information regarding relationships between different groups of samples.

Comments

These results confirm what was already observed: the spatial differences and temporal changes in the inlets between stations 104, 109, 105,

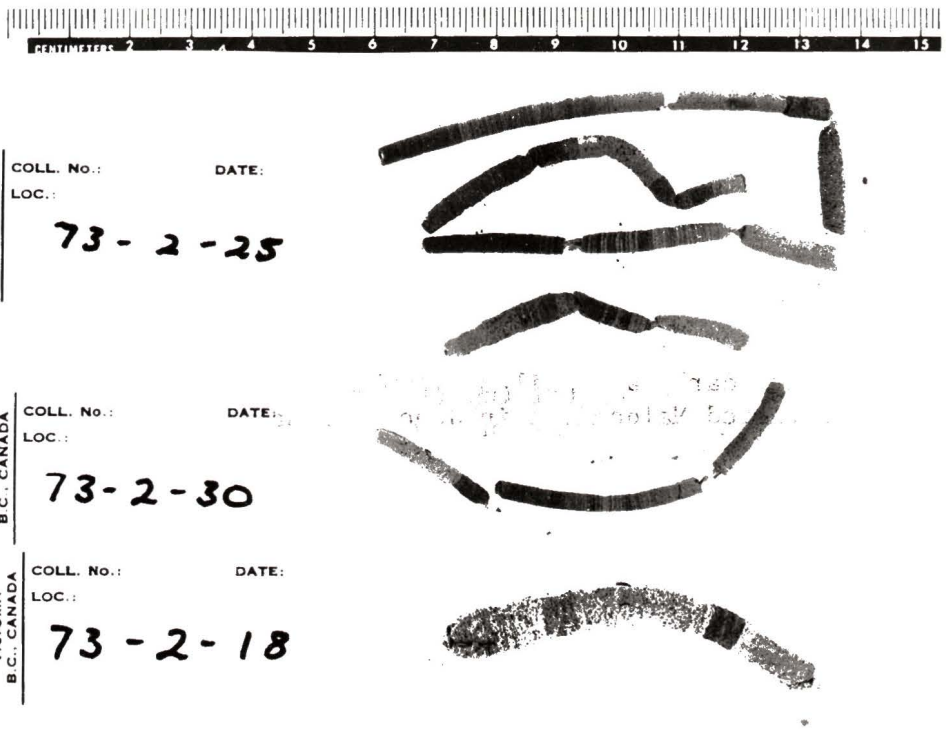
106, and 107 are slight. The reduced number of species in the inlets probably make it difficult for the quantitative techniques adopted to detect any differences.

Following Thorson's (1957) concept of parallel level-bottom communities, the inlets' fauna can be characterized by the foraminiferan species: *Daitrona* sp., *Phainogullmia* sp.; and the small bivalves *Axinopsida viridis*, *Axinopsida serricata*, and *Thyasira* sp. This is compatible with Thorson's foraminiferan communities inhabiting the deeper areas of Arctic and Boreal seas (50-700 m). Like Thorson's, the Rupert-Holberg Inlet communities are very poor, and with very low standing crops, of only a few grams per square meter, and presumably of very low productivity. It is particularly similar to Thorson's Arctic sea foraminiferan community, having many of the same genera (eg: *Thyasira*, *Axinopsida*). The communities differ in that the Rupert-Holberg Inlet community lacks many *Asychis* sp. (Maldanidae). This is an interesting point as large numbers of empty Maldanidae tubes were collected in the June cruise, but were absent in October. Furthermore, the tubes were banded with alternate tailing and natural sediment layers (Figure 4.4). This would indicate that they had died since tailing discharge commenced and might suggest that Maldanidae were suffocated by the tailings.

D. CONCLUSIONS

Tailing discharge into the inlets has already caused obliteration of the organisms in various benthic monitoring stations (UBC MS, 1973; Ellis MS, 1974). Station 101 and 103 were found practically barren although organisms can still be found in grab samples. Station 104 which is quite close to 103, appears to be slowly (ie: relatively small

Figure 4.4. Sediment (dark) and tailing (light) banding on tubes of unidentified Maldanidae in June 1973 samples from station 105.


CENTIMETERS 2 3 4 5 6 7 8 9 10 11 12 13 14 15
BIOLOGY DEPT.
UNIVERSITY OF
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B.C., CANADA
COLL. No.:
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73-2-25
BIOLOGY DEPT.
UNIVERSITY OF
VICTORIA
B.C., CANADA
COLL. No.:
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BIOLOGY DEPT.
UNIVERSITY OF
VICTORIA
B.C., CANADA
COLL. No.:
DATE:
LOC.:
73-2-18

seasonal biomass increase and a decrease in bivalves) undergoing changes in 1973 which may eventually lead to faunal obliteration. Bivalves would thus appear to be the species most affected by the tailings. This is presumably due to their relatively sessile nature (as compared to the more mobile polychaetes) and to their particular feeding methods.

There is no indication from these investigations that the other stations were showing effects from tailing in 1973. By the relatively slow nature of the postulated effects at station 104, it appears that obliteration probably comes about suddenly, perhaps when depositing rates reach a critical level, possibly through slumping of deposits from shallower areas to the depths of the inlet troughs. Some evidence for slumping was found at station 103, where mixed sediments and tailing were found in the core taken in October 1973. This has been postulated by Johnson (1974). This would also explain why station 104, which is spatially so close to 103, (approximately 1 kilometer), still has considerable numbers of infauna. Tailing clouds triggered by slumping could also be the cause of the alternate sediment and tailing banding seen in Maldanidae tubes (Figure 4.4). The rapid bottom currents flowing from Quatsino Narrows towards the head of both inlets (Farmer, personal communication; Johnson, MS 1974) might be keeping station 104 free of slumping. It may also be the reason for the marked differences between stations 103 and 104.

Thus the process of obliteration is probably quite complex, and not as straightforward as could be implied by gradual suffocation. There appears to be some capability for a reasonably diverse benthic ecosystem to survive under a region of light tailing deposition. Slumping in the junction of Rupert and Holberg inlets appears to obliterate the benthos.

It is postulated that the sediments in the areas closest to the outfall are in a state of flux, with succesive stages of slumping, reconditioning of the sediment (or tailing) and recolonization by the infauna.

PART V. COMPARISON OF THE SAMPLING PROPERTIES OF THE PONAR AND VAN VEEN GRABS

A. INTRODUCTION

The Ponar grab (Figure 3.1c) has been used in the Government-required pollution monitoring program. It is a convenient device for sampling lake and sea-bottom organisms quantitatively. The convenience arises from its size (0.54 ft^2 = 0.052 m^2), and weight, which is relatively small compared to those quantitative bottom samplers specifically developed for sea-bed surveys. Sea-beds tend to be sandier and harder. Sea-surface conditions are also rougher than the equivalent lake conditions, thus requiring larger and heavier equipment. With the extension of use of the Ponar grab to marine monitoring programs (eg: UBC MS, 1973), it is appropriate to compare its sampling efficiency with established sea-bed samplers.

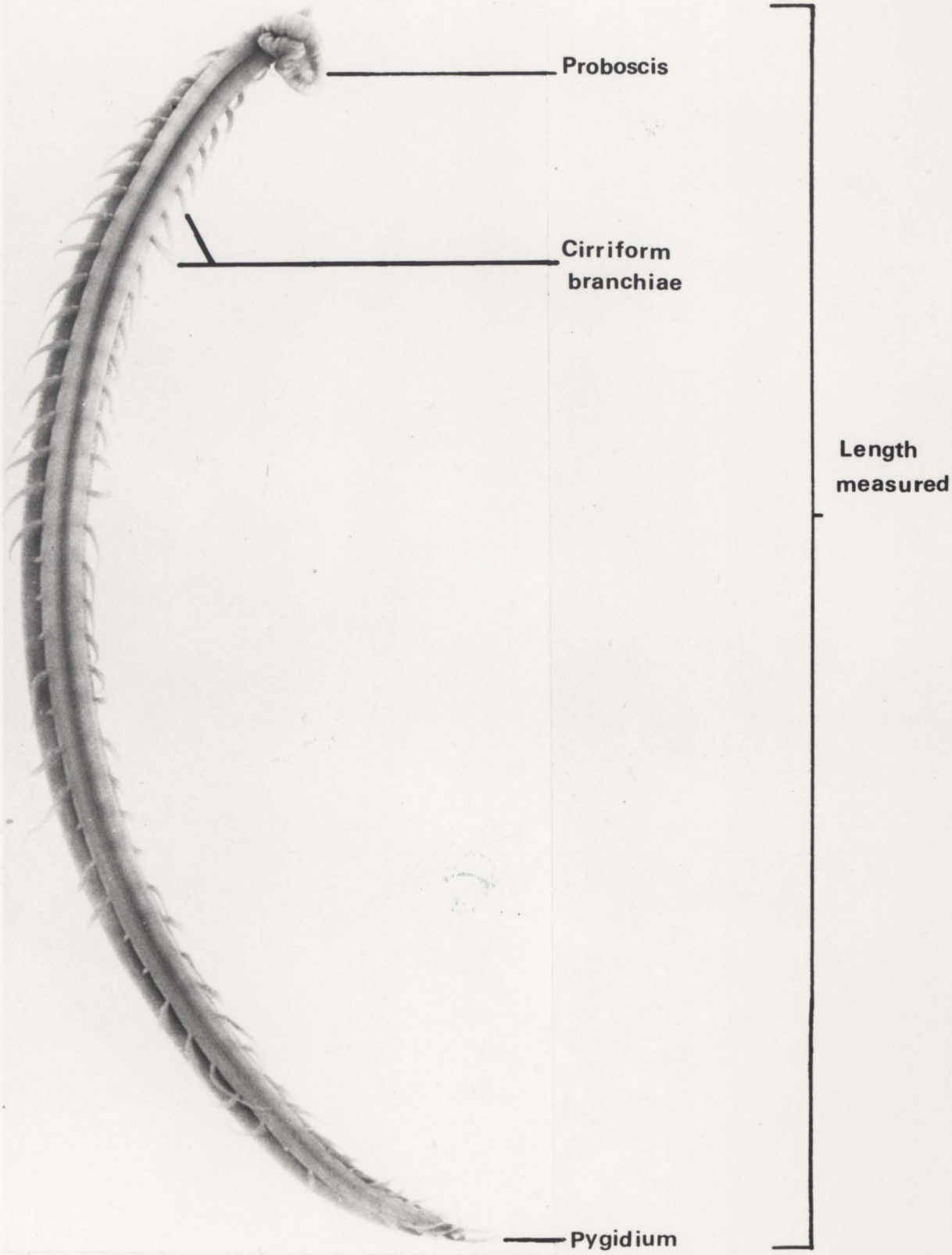
It is to be expected that the Ponar grab will suffer from the various problems common to other grabs of its general type. For example, insufficient depth penetration into the sediment to collect all burrowing organisms is a problem since penetration depends on substrate hardness and nature of the closing mechanism. Lie and Pamatmat (1965) have shown in the Van Veen grab (a sampler similar in mechanical operation to the Ponar grab), that volumes of sediment can be used to determine digging characteristics. Thus, samples of equal volume appear to have been obtained from equal penetrations into the sea-bed. Volumes of sediment obtained by a sampler should always be measured, and Lie and Pamatmat developed a suitable volumeter for this purpose.

It has been extensively documented by Wigley (1966), McIntyre (1971a), and others that a wave (pressure pulse) generated by a descending

sampler can disturb light benthic organisms. There has also been numerous studies comparing the sampling efficiency of various types of grabs, corers and dredges (Lie and Pamatmat, 1965; Longhurst, 1959; Wigley, 1967; Gallardo, 1965; Smith and Howard, 1972; Flannagan, 1970). It can be concluded from these studies that a good quantitative sampler for marine conditions, both from its mechanical dependability and sampling efficiency, is the Smith-McIntyre grab with a completely screened opening on top of the sampler jaws. However, this is a rather unwieldly device requiring a properly equipped oceanographic vessel with winch and cable. A simpler device is the Van Veen grab which is the routine sampler for the University of Victoria benthic program. Since this instrument is widely used and its sampling characteristics are known (Lie and Pamatmat, 1965), it was used as the basic sampling device for this project. This section provides a comparison between the two samplers.

B. METHODS

Ten samples were taken with each grab at benthic station 105 (Table 5.1). The Van Veen grab was additionally weighted with four 20 lb. lead hemispheres, adopted as standard weighting for the benthic research program in Rupert Inlet. The Ponar grab was not additionally weighted, as it already carried two 10 lb. weights. Penetration into the sediment was measured by a Lie volumeter, and was averaged as 15 cms for Van Veen samples, and 6 cms for the Ponar. Computerized data analysis was undertaken as for the other stations. (For details of procedure see part IV).


Proboscis
Cirriform branchiae
Length measured
Pygidium

C. RESULTS AND DISCUSSION

i) Plankton versus Benthos

Visual scrutiny of the matrix of hauls versus species showed differences in the number and distribution of small mobile organisms (largely crustaceans) present in the Ponar and Van Veen samples. These organisms were further sorted and where possible, identified. Table 5.1 presents the results of the more detailed sorting of these small, mobile organisms and their division into planktonic and benthic forms. Though most of these organisms probably spend time both as members of the plankton and the benthos, the divisions were nevertheless made on whichever was regarded the normal habitat of that particular animal.

Ten Ponar grabs collected a total of 13 planktonic and benthic forms totalling 299 organisms, while the Van Veen grab collected 9 of these forms totalling 37 organisms. All of the most numerous taxa: Gammarid amphipod No. 1, Gammarid amphipod No. 2, other Gammarid amphipods, *Calanus plumchrus*, *Calanus glacialis*, *Euphasia pacifica*, *Thyassonessa* sp. and Mysidacea were collected in greater numbers by the Ponar grab than the Van Veen. The less common taxa: Tanaidacea, Cumacea, Isopoda, unidentified decapods, and Chaetognatha, were collected in equal or greater numbers by the Ponar grab with the exception of unidentified decapods. In both the planktonic and benthic groups, the Ponar collected more taxa (7 versus 4, and 6 versus 5) and more organisms (218 versus 6, and 81 versus 31) than the Van Veen grab. On the other hand, the discrepancy between the number of benthic organisms collected (81 for the Van Veen to 31 for the Ponar) and the number of planktonic organisms collected (218 for the Ponar to 6 for the Van Veen) was less for the benthic group. This difference would probably be further accentuated if

Table 5.1. Numbers of small mobile organisms collected by the Van Veen and Ponar grabs at station 105 in June 1973.

	Van Veen										Totals	Ponar										Totals
Haul No.	11	12	13	14	15	16	17	18	19	20		23	25	26	27	28	29	30	31	32	34	
Benthic species																						
Isopoda	1	0	0	0	1	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	1
Gammarid amph.No.1	0	1	0	2	2	0	0	1	0	0	6	3	3	8	2	14	4	2	3	1	3	43
Gammarid amph.No.2	0	3	4	0	0	1	0	0	7	4	20	2	0	4	2	3	1	1	8	0	3	24
Gammarid amph. unid.	0	0	0	0	0	1	0	1	0	0	2	0	1	0	0	3	0	1	3	1	0	9
Tanaidacea	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
Cumacea	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	2
TOTAL											31											81
Planktonic species																						
Calanus plumchrus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	5	0	0	0	15
Calanus glacialis	0	0	0	1	0	0	0	0	0	0	1	12	2	11	3	12	0	15	7	5	9	76
Euphausia pacifica	0	0	0	0	1	0	0	2	0	0	2	23	10	8	8	10	15	19	7	6	7	113
Thysaonessa sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	4
Mysidacea	0	0	0	0	0	0	1	0	0	0	1	1	1	0	0	0	1	1	1	1	0	6
Decapoda unident.	0	1	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	1	1
Chaetognatha	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	3
TOTAL											6											218
GRAND TOTAL											37											299

the grouped gammarid amphipods (other gammarid amphipods), which are mostly planktonic species, were to be completely separated into component species.

The Ponar grab has a wire screen on its upper surface (Figure 3.1d) and thus the planktonic organisms were probably collected in the water column during descent rather than at the sediment interface. Ponar grab surveys will apparently contain data on water-column species not present in samples obtained by conventional marine bottom samples. This conclusion explains the number of planktonic species which have been collected by the mine's benthic program, even in areas where obliteration of the benthos has occurred (UBC MS, 1973). The plankton in these benthic results coincide with some of the abundant species listed from the mine's plankton monitoring program. (Table 5.2). Besides functioning as a plankton net on descent, the screen also reduces the build-up of a shock wave (Wigley, 1966) and facilitates collection of light interface organisms.

On the basis of these results, it would appear that Ponar surveys will include species from the plankton as well as a more efficient sampling of the light interface organisms than in some conventional marine samplers. It would be necessary to eliminate undoubted plankton species from biomass and diversity calculations where these latter statistics are significant objectives of a study. Alternatively, redesigning of the Ponar grab with lightweight hinged plates for jaw-tops, which would open on descent and close on ascent as suggested by Wigley (1966) should eliminate the problem.

ii) Infaunal statistics

Tables App. 3.4-5 and 3.11-12 present numbers and wet weight data

ZOOPLANKTON IDENTIFICATION

JUNE 1973 SURVEY

STATION B - HOLBERG INLET (COAL HARBOUR)

Species	Tax. Abbrev.	Horizontal Tows Depth in Feet 15	100	450	Vertical Haul 560
Crustacea larvae - nauplius		72,960	-	288	1,280
Microcalanus pygmaeus pusillus	Cal	22,406	8,640	1,080	1,920
Paracalanus parvus	Cal	22,406	2,880	360	-
Oithona helgolandica	Cal	14,592	5,760	1,248	960
Eggs - sp. indet.		11,520	160	288	64
Acartia clausi	Cal	6,164	1,638	-	128
Pseudocalanus minutus	Cal	4,608	2,112	4,704	4,480
Oikopleura dioica	Lar	80	-	1,248	192
Crustacea larvae - zoea		24	24	-	64
Metridia lucens	Cal	16	-	-	16
Proboscidactyla flavicirrata	Coe	9	-	-	-
Sagitta elegans	Cha	8	5	3	12
Calanus glacialis	Cal	1	100	96	1,104
Pisces larvae - sp. indet.	Cho	1	1	-	-
Tigriopus sp.	Har	1	-	-	-
Crustacea larvae - megalops		-	144	16	-
Antias hirsutas	Iso	-	1	8	16
Euphausia pacifica	Eup	-	1	3	54
Nematoda sp. indet.	Nem	-	-	64	-
Mysidacea sp. indet.	Mys	-	-	7	16
Synchelidium sp.	Oed	-	-	3	8
Cyphocaris challengeri	Lys	-	-	1	6
Total Number		154,796	21,466	9,417	10,330
Number of Taxa		15	13	16	16
Volume Filtered (m^3)		11.3	6.4	4.7	-
Number/m^3		13,699	3,354	2,004	-
Total Number (1)		143,276	21,306	9,129	10,266
Number of Taxa (1)		14	12	15	15
Volume Filtered (m^3) (1)		11.3	6.4	4.7	-
Number/m^3 (1)		12,679	3,329	1,942	-

(1) Values do not include the number of eggs

Table 5.2. List of zooplankton collected by the mine monitoring program (Utah MS, 1973 ; identifications by T.W.Beak Ltd.).

for Ponar and Van Veen hauls (minus the planktonic species). No aberrant hauls are apparent. Weight and number summaries for both grabs at station 105 are presented in Tables App. 3.16-17 and 3.21-22. Numbers per square meter estimates are 888 for the Ponar and 405 for the Van Veen. Wet weight estimates for the Ponar grab are 3.4 times those of the Van Veen (41.2 g. to 12.1 g.). Converted dry weight ratios have a similar relation (ratio = 3.5; 3.9 g. for the Ponar grab and 1.1 g. for the Van Veen).

Tables App. 3.26-27, 3.36-37 give rank orders of frequency, density and biomass estimates for both grabs. The species indicated as being ecologically significant by these criteria together with Pamatmat's Respiration Index (Ellis, 1969), are listed in Table 5.3. The Ponar grab lists more species than the Van Veen (10-7) and there are some differences in the species listed, but the comparison in the top rankings is quite good.

The large differences in the estimates of density and biomass, as well as the differences in the number of species indicated as ecologically significant, indicate that comparisons between samples collected with a Ponar grab and a Van Veen grab should be carefully assessed. The results of the Zurich-Montpellier analysis (Appendix 4) does not show any differences between samples collected by the two grabs. The larger density and biomass estimates could be due to a number of reasons; for example, reduced loss of animals during the shorter screening process necessary for the Ponar grab, or perhaps to the Ponar taking a different shaped bite of sediment than the Van Veen. However, another point must be considered. Angel and Angel (1967) studied the dispersion pattern of the benthos, and found that different sample sizes indicated different

Table 5.3 Species indicated as ecologically significant by either density, biomass, frequency, or Pamatmat's index criteria at station 105 during June, 1973. Ranked by their number of listings.

Ponar grab		Van Veen grab	
Ammotrypane aulogaster	4	*Ammotrypane aulogaster*	4
Axinopsida viridis	4	*Axinopsida viridis*	4
Axinopsida serricata	3	*Axinopsida serricata*	2
Nucula sp.	2	*Bittium eschrichtii*	2
Laonice cirrata	2	Gammarid amphipod No.1	1
Bittium eschrichtii	1	*Goniada annulata*	1
Glycera capitata	1	*Daitrona* sp.	1
Capitellidae	1		
Lumbrinereis spp.	1		
Onuphis sp.	1		

dispersions. Table 5.4 shows X^2 values for agreement with Poisson frequency distributions for the various species identified (Elliot, 1973). The Ponar estimates show 4 species with aggregated dispersions and one dispersed evenly. The Van Veen data show 5 species aggregated, (two of which agree with the Ponar results). These would appear to be significant differences, which affect the crop estimates provided by the two grabs, when they are converted to the common unit area, ie. 1 m^2. The higher mean X^2 for the Van Veen grab illustrates the expected greater tendency toward aggregation when a larger sampler is used. The very high X^2 value for "total number of organisms" also shows a pronounced clustering effect. Aggregation is believed to be the normal spatial pattern for benthos, but it appears that the Ponar grab is of a size which effectively randomizes the species frequency distributions. There are statistical advantages in the data from a sampler having this characteristic in that sample variability is reduced.

Figure 5.1 shows species recruitment curves for both grabs. It is apparent that 5-10 replicates are necessary to reach the asymptote which indicates that most species (50-70% according to Longhurst, 1959) have been collected.

Figure 5.2 shows percentage species similarities between samples collected with the Ponar (22-66%) and the Van Veen grab (31-64%). These values are higher than those previously calculated (Appendix 1) between samples from different stations and surveys, with data collected by the Ponar grab in the mine monitoring program. They are also higher than the values calculated with Van Veen samples from a University of Victoria benthic research area. These results indicate that the two grabs provide similar results in their estimates of sample similarities

Table 5.4 Comparison of X^2 values for agreement with Poisson frequency distribution for the species collected by the different grabs. Distribution random unless indicated. Aggregated (A), even (E).

Species	Ponar	Distr.	Van Veen	Distr.
Daitrona sp.	14.13		52.2	A
Podarke pugettensis	9		9	
Pilargis berkeleyi	-		9	
Syllidae unidentified	8.74		18	
Glycera capitata	4.77		13.95	
Glycinde sp.	7.38		8.1	
Goniada annulata	-		8.1	
Onuphis sp.	12.96		6.84	
Lumbrinereis spp.	5.04		12.96	
Dorvillea sp.	13.77		-	
Laonice cirrata	12.06		7.38	
Tharyx sp.	9		9	
Chaetozone setosa	8.1		27	A
Ammotrypane aulogaster	42.84	A	40.95	A
Capitellidae (*H. filobranchus*)	6.57		13.95	
Isocirrus sp.	-		9	
Maldanidae unidentified	8.1		-	
Ampharete sp.	9		-	
Gammarid amphipod No.1	10.62		31.59	A
Gammarid amphipod No. 2	28.89	A	20.97	A
Gammarid amphipod unident. No.3	8.1		14.31	
Isopoda	8.1		9	
Cumacea	0.9	E	8.1	
Tanaidacea			8.1	
Nucula sp.	4.77		12.06	
Lucinoma tenuisculpta	4.77		-	
Axinopsida serricata	20.97	A	10.71	
Axinopsida viridis	20.25	A	9.27	
Thyasira sp.	9		-	
Macoma carlottensis	13.77		9.0	
Tellina sp.	9		-	
Psephidia lordi	6.03		7.38	
Bittium eschrichtii	11.79		16.02	
Nemertinea	18		9	
Mean X^2 (species)	11.55		14.68	
X^2 value for frequency distr. of TOTAL NUMBERS OF ORGANISMS PER HAUL	16.67		244.6	
95% Limit (Aggregation)	19		19	
5% Limit (Evenness)	2.75		2.75	

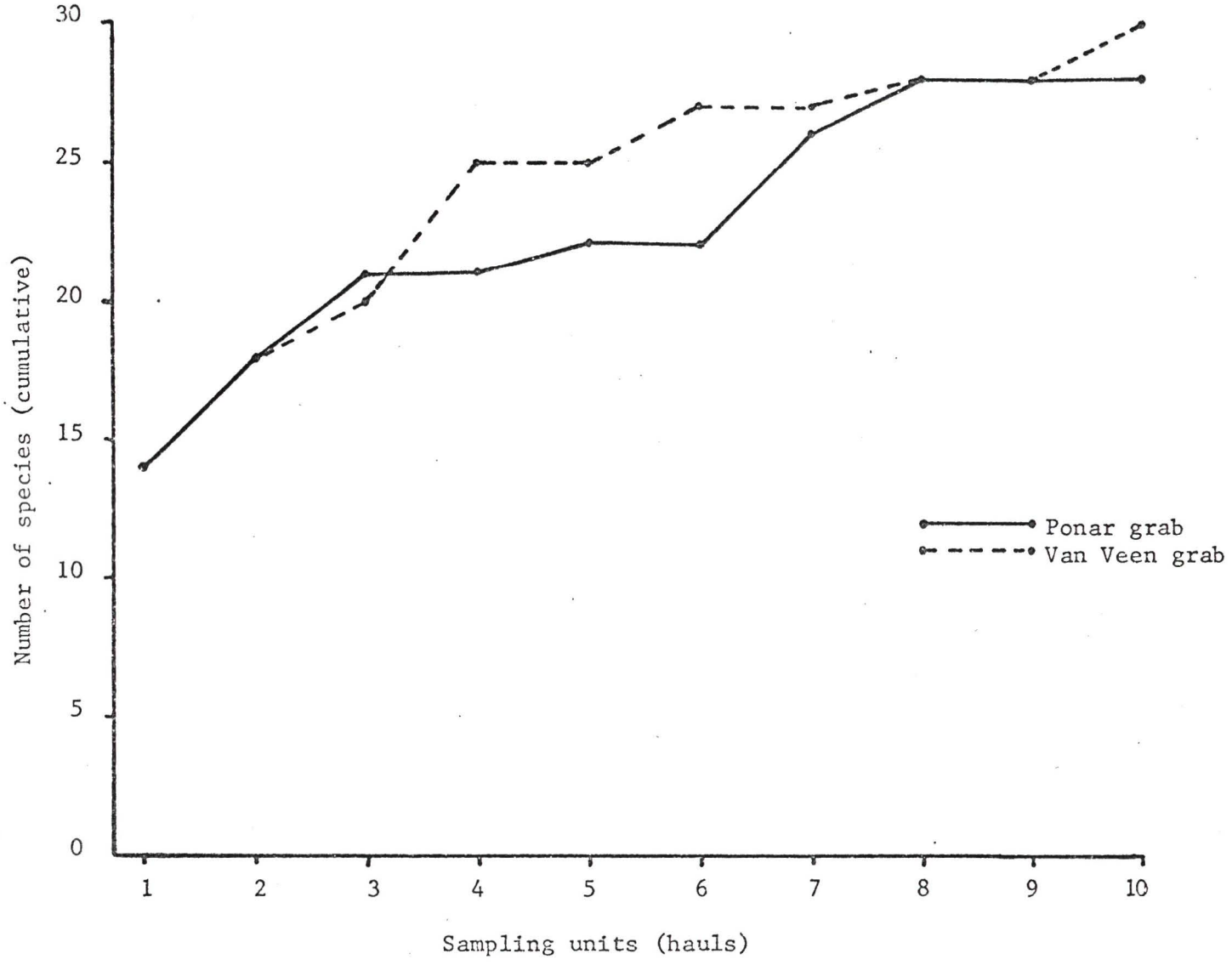


Figure 5.1 . Species recruitment curves for the 0.1 m^2 Van Veen grab and the 0.052 m^2 Ponar grab at station 105.

Figure 5.2. Trellis diagram of similarity values calculated by Jaccard's coefficient of community. June 1973 samples from station 105 collected by the 0.1 m^2 Van Veen and the 0.052 m^2 Ponar grab.

0.1 m^2 Van Veen grab.

11	12	13	14	15	16	17	18	19	20	Sample No.
0.000	0.444	0.647	0.476	0.389	0.409	0.471	0.444	0.500	0.500	11
	0.000	0.444	0.381	0.278	0.381	0.353	0.412	0.375	0.381	12
		0.000	0.550	0.316	0.550	0.471	0.368	0.600	0.579	13
			0.000	0.556	0.545	0.474	0.474	0.444	0.455	14
				0.000	0.400	0.375	0.467	0.333	0.300	15
					0.000	0.556	0.474	0.444	0.600	16
						0.000	0.643	0.400	0.556	17
							0.000	0.375	0.450	18
								0.000	0.500	19
									0.000	20

0.052 m^2 Ponar grab.

23	25	26	27	28	29	30	31	32	34	Sample No.
0.000	0.474	0.526	0.471	0.444	0.667	0.400	0.500	0.278	0.529	23
	0.000	0.350	0.438	0.533	0.571	0.563	0.600	0.538	0.353	25
		0.000	0.500	0.389	0.563	0.350	0.444	0.222	0.471	26
			0.000	0.615	0.750	0.438	0.467	0.385	0.500	27
				0.000	0.692	0.471	0.500	0.429	0.643	28
					0.000	0.471	0.600	0.333	0.643	29
						0.000	0.588	0.438	0.300	30
							0.000	0.467	0.389	31
								0.000	0.235	32
									0.000	34

by a clustering procedure based on Jaccard's coefficient (see part IV).

D. CONCLUSIONS

Ponar grab samples collected greater numbers of small mobile benthic organisms and planktonic species than the Van Veen grab. The fully screened grab-top in the Ponar would appear to be responsible by minimizing the wave generated in front of the grab on descent. This facilitates collection of light interface infauna and planktonic animals. The Ponar grab also gave estimates for density and biomass 3.5 times larger than the Van Veen. This may be due to the small size of the Ponar sample relative to the clustering pattern of the benthos, with a randomizing effect on species frequency distribution. However, both grabs seem to require a similar number of replicates to collect most species present.

Percentage species similarities between samples from each grab showed that both grabs give similar values. The values are both higher than those previously calculated for the mine monitoring samples (Appendix 1) and indicate that previous low faunal similarities between stations and surveys were due to procedural problems, not an unstable fauna.

The sampling characteristics of the Ponar grab indicate that it is probably a more efficient sampler than the Van Veen in sheltered areas with soft silty bottoms and with a sparse and predominantly shallow burrowing infauna. Despite the apparent greater efficiency of the Ponar, further studies should be done to determine its performance in other environments. This is particularly necessary as a 0.1 m^2 sample and 5-10 replicates have been traditionally regarded as a minimum requirement in benthic studies (eg: Longhurst, 1959; McIntyre, 1971).

PART VI. THE EFFECTS OF MINE TAILING ON THE ABUNDANCE, BIOMASS AND SIZE OF A BENTHIC POLYCHAETE (*AMMOTRYPANE AULOGASTER*).

A. INTRODUCTION

The prime relationship between organisms in the sea, as in the terrestrial environment, is that associated with nutrition. In this respect, the deep benthic ecosystem includes secondary producers feeding on the plankton and detrital material settling or migrating from the euphotic zone. Added to this is material resulting from the disintegration of benthic plants and animals, and also organic particulates of terrestrial origin. To a greater or lesser degree this material can be affected by the action of bacteria, but in terms of volume it is accepted that the euphotic zone produces most of the nutritional materials. Any disruption in the influx of food particles, either by reducing the amount of organic material in the water column (thereby having less to feed on), or by changing the proportion of organic to inorganic matter settling down (thus necessitating longer periods of sorting), could potentially bring about changes in the energy budget of the organisms present. Part IV of this study showed how large amounts of tailing affect the composition of the infauna. The object of Part VI is to explore whether or not tailing depositing on the benthos and in suspension in the water column was in a measurable way disrupting benthic production in addition to composition.

Chronic poisoning or ill health in response to low levels of pollutants can result in reduced productivity, which will be indicated by reduced growth, fecundity, longevity, or some other physiological sign (Ellis and Littlepage, 1972). The effects of a pollutant, as reflected

by 'condition factor' (meat to volume ratio) in pelecypods, have already been well documented. For example, Endosulfan, an organopesticide, heightens the seasonal rate of decline of condition factor in *Mytilus edulis* (Roberts, 1972). Oysters, as far as 2 miles down current from a pulp mill outfall were found to have a lowered condition factor (Ellis, 1970, based on Quayle, 1969). Brereton *et al* (1973) and Calabrese *et al* (1973) have shown that heavy metals affect the fecundity of the oysters *C. gigas*. However, most of the work has been done *in vitro* with invertebrates of economic value, and usually quite large animals. The present study on the other hand, was undertaken primarily to try to develop a technique which could be useful with other species, no matter what their size, by using an easily indexed parameter. Black (1973) provided such a method in his examination of nonlethal effects of pollutants by recording the growth rate of molluscs as reflected by the permanent seasonal growth marks on their shells.

The results obtained from the quantitative sampling program were used to indicate a suitable organism for a production study. *Ammotrypane aulogaster*, a sedentary polychaete, was the species chosen (Figure 6.1), since it alone met certain criteria: It was abundant throughout the study area, including the heavily polluted stations. It did not noticeably deform or break up due to handling and preservation, as did some of the other abundant organisms (many polychaetes, species of the Capitellidae and Cirratulidae families). Furthermore, the cruises apparently coincided with a good hatch and spat-fall year for *Ammotrypane*. In the June 1973 cruise, only a few specimens were found (maximum 27 per haul, Table App. 3.1 to 3.7) while in the October 1973 cruise hundreds were present (Tables App. 3.40 to 3.45). Thus it can be concluded that the October specimens were virtually all from the same year class (Figure 6.2).

Figure 6.1. Ventral view of *Ammotrypane aulogaster* showing length measured. 4x.

Figure 6.2. Preliminary sort of a sample from the October 1973 cruise showing the abundance of *Ammotrypane aulogaster* specimens (left dish) and the relatively few other species. Note also how well preserved are the *Ammotrypane aulogaster* specimens compared to pieces of other polychaete worms.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B. BIOLOGY OF *AMMOTRYPANE AULOGASTER*

Ammotrypane aulogaster Rathke, 1843, a member of the family Opheliidae, is commonly found in the benthos throughout the world. Its correct name is uncertain to date, as it was described by two persons in the same year. Usage on the West Coast of North America is *Ammotrypane aulogaster* (Berkeley and Berkeley, 1952; Hartman, 1969), though elsewhere it may be known as *Ophelina acuminata* Oersted, 1843 (Støp-Bowitz, 1945; Day, 1967). A description from Berkeley and Berkeley (1952) follows:

> Up to 60 mm. long, 5 mm. wide. Body long and slender, narrowed at both ends, about fifty setigers. Segments finely annulate, the annulations sometimes indistinct, intersegmental boundaries not clearly demarcated. Prostomium conical, terminating in an oval palpode. Peristomium with well developed nuchal organs. Long cirriform branchiae from the second to the forty-seventh or forty-eighth setiger. Two or three last setigers very small and abranchiate. Parapodia, setae, ventral furrow and lateral furrows as in *Armandia brevis*. Pygidium spoon-shaped, open ventrally, the rim fringed with slender papillae and, at its base, three stout papillae, the median of which bears a long cirrus. Coloration yellow to reddish brown as preserved.
>
> East coast Vancouver Island in 10 to 60 fathoms. Berry Point, near Vancouver, in 100 fathoms. Alaska. California. Japan. Cosmopolitan.

Little is known about its biology and natural history, despite it having such a widespread and abundant distribution. As far as the author has been able to ascertain, nothing is known about its form of reproduction.

The natural history and larval anatomy of *Armandia brevis*, another Opheliid, which together with the genus *Ammotrypane* make up the subfamily Polyophthalmus, has been studied by Hermans (1966). Many of his observations on *Armandia* have been tentatively confirmed in *Ammotrypane* by observations during this study.

Worm movement was observed in 32 oz. jars both in natural sediments and in tailing. The worms were very easy to keep alive in the jars for over a week without any special care other than refrigeration. Care must be taken to collect the worms unharmed, due to the harsh treatment involved in screening. In May, some worms were found to be tightly coiled. This was confirmed by the staff of the mine monitoring program as a common winter condition. Burrowing behaviour commenced with penetration of the sediment by the worm's anterior end, and continued with a thrashing side to side motion. The sinusoidal burrow formed was lined with a thin transparent tube of mucus produced by the prostomium. Burrowing completed, the worm remained with all but the pygidium buried. No difference was observed in its behaviour within tailing as opposed to natural sediments. Its growth in the Rupert Inlet area was rapid, from approximately 5 mm. length in June 1973 to 21 millimeters in October 1973. By May 1974, numbers had decreased drastically, from the hundreds present per sample in October to approximately 20-50 worms per sample, and lengths had increased to about 23 mm (ie: relatively slow winter growth of 2 mm. in 6 months). Worms as large as 50 mm. long were also found in June 1973, but by October they had mostly disappeared. It would appear that they live for a period of between 1 and 2 years.

Hermans (1966) found that *Armandia* has an epitokus reproductive stage with planktonic larvae, and a spawning season which starts in early May and ends in early September. He further observed that a period of three weeks was needed to develop from fertilization to settling, and less than six weeks to reproductive maturity, noting that in the breeding season there is time for at least two, and perhaps three generations of *Armandia*. The observations made on *Ammotrypane* in Rupert-Holberg Inlet

would indicate that May was probably when the hatch occurred. No evidence was found for the occurrance of more than one generation.

Despite the apparent similarities of some of the observations made on *Ammotrypane* with those of its close relative *Armandia*, care should be taken in making assumptions and extrapolations on the bidogy of one particular species based on that of another taxonomically close species. Clams within the same genera have been found to differ considerably in some aspects of their biology, eg: *Macoma*; Reid and Dunnill, 1969; Reid and Reid, 1969. Furthermore, polychaetes are well known for lability in their form of reproduction (Thorson, 1936), thus the observations on *Armandia* should only be used as a guide to further studies on the biology of *Ammotrypane aulogaster*.

C. ANALYTICAL METHODS

Numbers, wet weights, and body length, were the three parameters chosen for quantification. Numbers and wet weights per haul were determined for all 10 of the hauls from the six stations sampled during the October 1973 cruise, except for stations 101 and 103, which had 5 hauls each. Because of the large number of worms per sample, three hauls from each station were randomly picked for measurement of the worms. Measurements to the nearest millimeter were made of all worms from the same year class. All the measurements were made by one person to ensure that variability between measurements were kept to a minimum. As the technique of measurement of worms to determine growth differences has not been used before (as far as the author has been able to ascertain), some preliminary trials were first run to see if it was a practical technique. To determine whether two different persons could get statistically similar results, measurements were made of the same sample of worms by different persons. Then, since the results were significantly different, each

person measured different samples twice, with a time interval of a few weeks, to see if each could repeat their earlier results. Also during the May 1974 cruise, samples were collected to check for differences between preserved and fresh worms. The worms were measured immediately after collection and then remeasured in the laboratory about a month later.

D. RESULTS AND DISCUSSION

i) Statistical analysis

a) Numbers

The mean number of *A. aulogaster* per sample for October 1973, plotted against stations, are shown in Figure 6.3. The range of two standard errors are plotted on each side of the means. This range gives a close approximation of the 95% confidence interval.

As the data did not meet all the assumptions of analysis of variance (ANOVA) (ie: normality, homogeniety of variances), a log (x + 1) transformation was undertaken as suggested by Elliot (1971). The transformed counts were analyzed by a Model I single classification Anova with unequal cell frequency (Table 6.1). As there was a highly significant ($P \ll 0.001$) difference between stations, a Student-Newman-Keuls test (SNK), a multiple comparison among means analysis, was performed to determine which means were significantly different from each other (Figure 6.4). Stations 104 and 106, as well as stations 105 and 109 were found not to be significantly different from each other.

b) Wet weights

The mean wet weights of *A. aulogaster* per sample for October 1973, plotted against stations are shown in Figure 6.5. Two standard errors

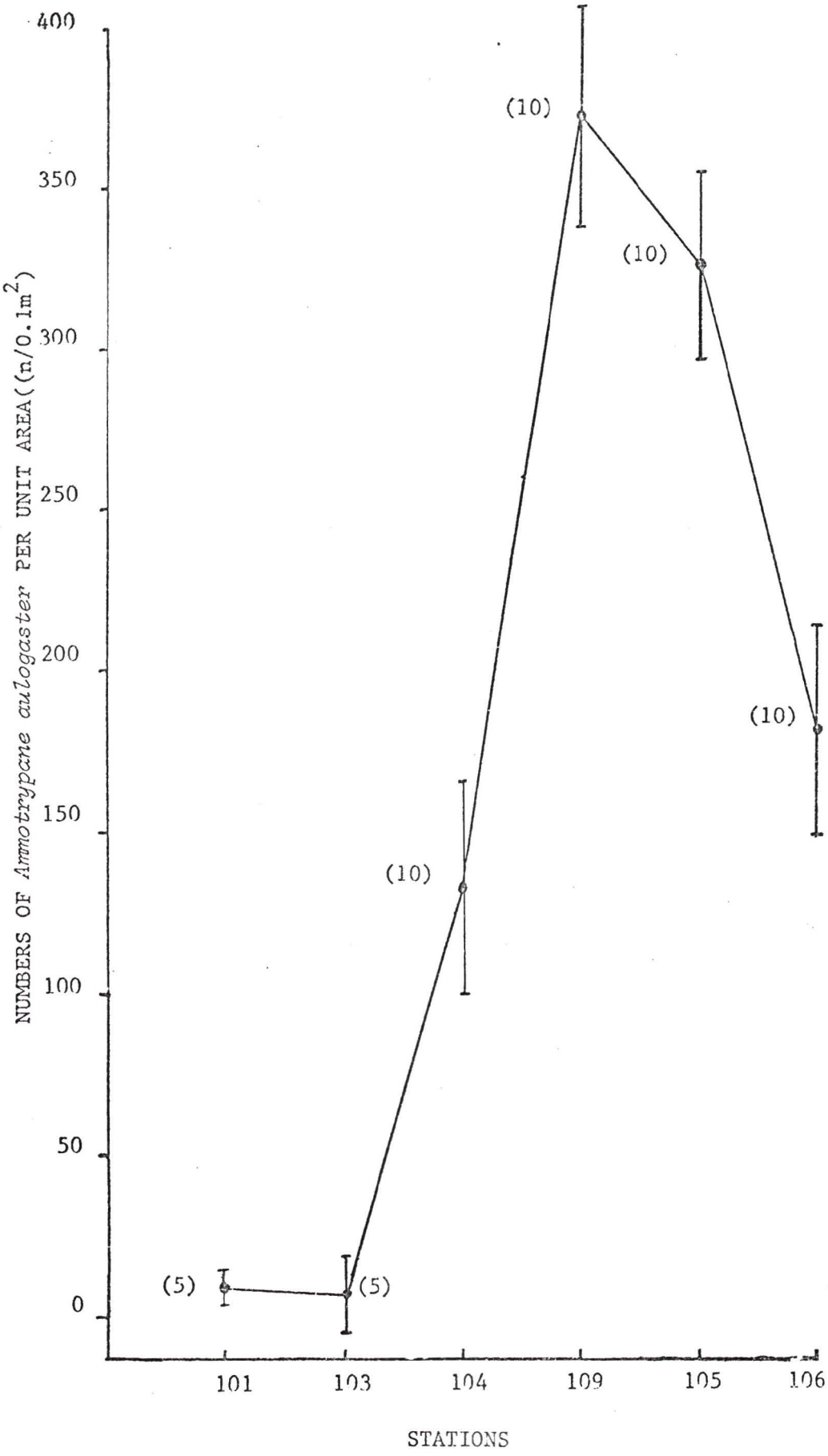

400
350
300
250
200
150
100
50
0
NUMBERS OF Ammotrypane aulogaster PER UNIT AREA((n/0.1m2)
(10)
(10)
(10)
(10)
(5)
(5)
101
103
104
109
105
106
STATIONS

Table 6.1. ANOVA table for numbers of *Ammotrypane aulogaster* per 0.1 m^2 sample after log(x+1) transformation. October 1973 data.

Source of variation	SS	df	MS	F
Among hauls	22.964	5	4.592	102.044***
Within station	1.970	43	0.045	

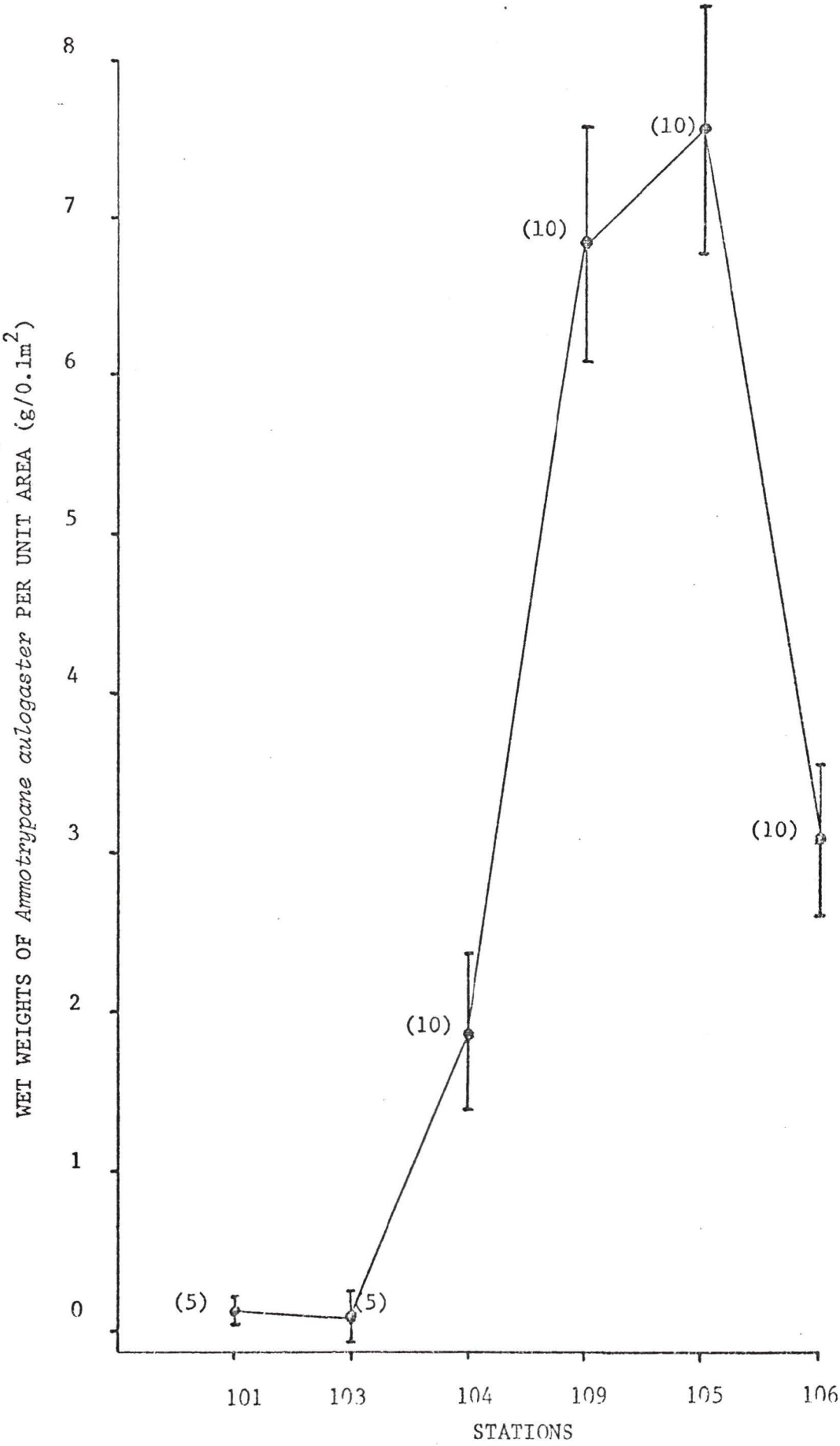
$F_{.05(5,43)}=2.00$ $F_{.01(5,43)}=3.51$ $F_{.001(5,43)}=5.13$

Conclusion: There is a highly significant ($P \ll .001$) added variance component between stations for numbers of *A. aulogaster*.

Figure 6.4. Array of means as determined by the SNK test for numbers of *Ammotrypane aulogaster* per 0.1 m^2 sample. October 1973 data.

Station numbers	103	101	104	106	105	109
Mean numbers	7.00	8.40	132.88	182.70	327.90	373.20
			———————		———————	

Means arrayed in order of ascending magnitude. Means underlined are not significantly different ($P < .05$)


WET WEIGHTS OF Ammotrypane aulogaster PER UNIT AREA (g/0.1m²)
8
7
6
5
4
3
2
1
0
(5)
(5)
(10)
(10)
(10)
(10)
101
103
104
109
105
106
STATIONS

are plotted on each side of the means. The data did not meet all the assumptions of ANOVA (normality, homogeneity of variances), so a log (x + 1) transformation was undertaken. Table 6.2 gives the results of the ANOVA; there is a highly significant ($P \ll 0.001$) difference between stations. A SNK test was then performed to determine which means were significantly different from each other (Figure 6.6). In this case stations 105, and 109 group together being not significantly different, as well as stations 101 and 103.

c) Lengths

Table 6.3 gives the results of ANOVA's run on the preliminary trials to develop the measurement technique. There was a significant difference ($P < 0.01$) between the measurements by different persons of the same sample, but no significant differences between samples remeasured by the same persons after an interval of time. An F test was run to determine whether or not there was a difference between the variances of worms measured alive and preserved. The results showed there was no significant difference ($P > 0.05$).

The mean lengths of *A. aulogaster* (in October 1973) together with $\pm$ two standard errors for each mean are plotted against the stations in Figure 6.7. Note that the variances in the stations closest to the outfall (101 and 103) are greater than at the other stations. This could indicate localized natural differences between individuals spread over a large area and enhanced by variable sample size. It could also indicate a lowered growth rate due to the unfavourable conditions, which then heightens differences between the groups of worms. Table 6.4 gives the results of a randomized complete block design analysis of variance with unequal cell size. There is a significant difference ($P < 0.05$) between

Table 6.2. ANOVA$_2$ table for wet weights of *Ammotrypane aulogaster* per 0.1 m^2 sample, after log(x+1) transformation . October 1973 data.

Source of variation	SS	df	MS	F
Among hauls	5.342	5	1.069	164.354***
Within hauls	0.280	43	0.006	

$F_{.05(5,43)}=2.00$ $F_{.01(5,43)}=3.51$ $F_{.001(5,43)}=5.13$

Conclusion: There is a highly significant ($P<<.001$) added variance component between stations for *A. aulogaster* wet weights.

Figure 6.6. Array of means as determined by the SNK test for wet weights of 0.1m^2 samples of *Ammotrypane aulogaster*. October 1973 data.

Station numbers	103	101	104	106	109	105
Mean wet weights	0.80	0.12	1.86	3.07	6.82	7.56
	<u>———————</u>				<u>———————</u>	

Means arrayed in order of ascending magnitude. Means underlined are not significantly different ($P<.05$).

Table 6.3. ANOVA tables for trial measurements of *Ammotrypane aulogaster* to develop a length measuring technique.

ANOVA table for lengths of *Ammotrypane aulogaster* from a 0.1 m^2 sample measured by two different persons (A and B). October 1973 data.

Source of variation	SS	df	MS	F
Among (persons)	80.196	1	80.196	7.560**
Within (worms in the trial)	4699.421	443	10.608	

$F_{.05(1,443)} = 3.84$ $F_{.01(1,443)} = 6.63$

Conclusion: There is a significant ($P<0.01$) added variance component among persons measuring the same sample of worms.

ANOVA table for length of *Ammotrypane aulogaster* from a 0.1 m^2 sample measured twice by the same person (A). October 1973 data.

Source of variation	SS	df	MS	F
Among (trials)	17.665	1	17.665	1.728 ns
Within (worms in a trial)	4569.711	447	10.223	

ANOVA table for lengths of *Ammotrypane aulogaster* from a 0.1 m^2 sample measured twice by the same person (B). October 1973 data.

Source of variation	SS	df	MS	F
Among (trials)	1.201	1	1.201	0.081 ns
Within (worms in a trial)	6689.55	450	14.866	

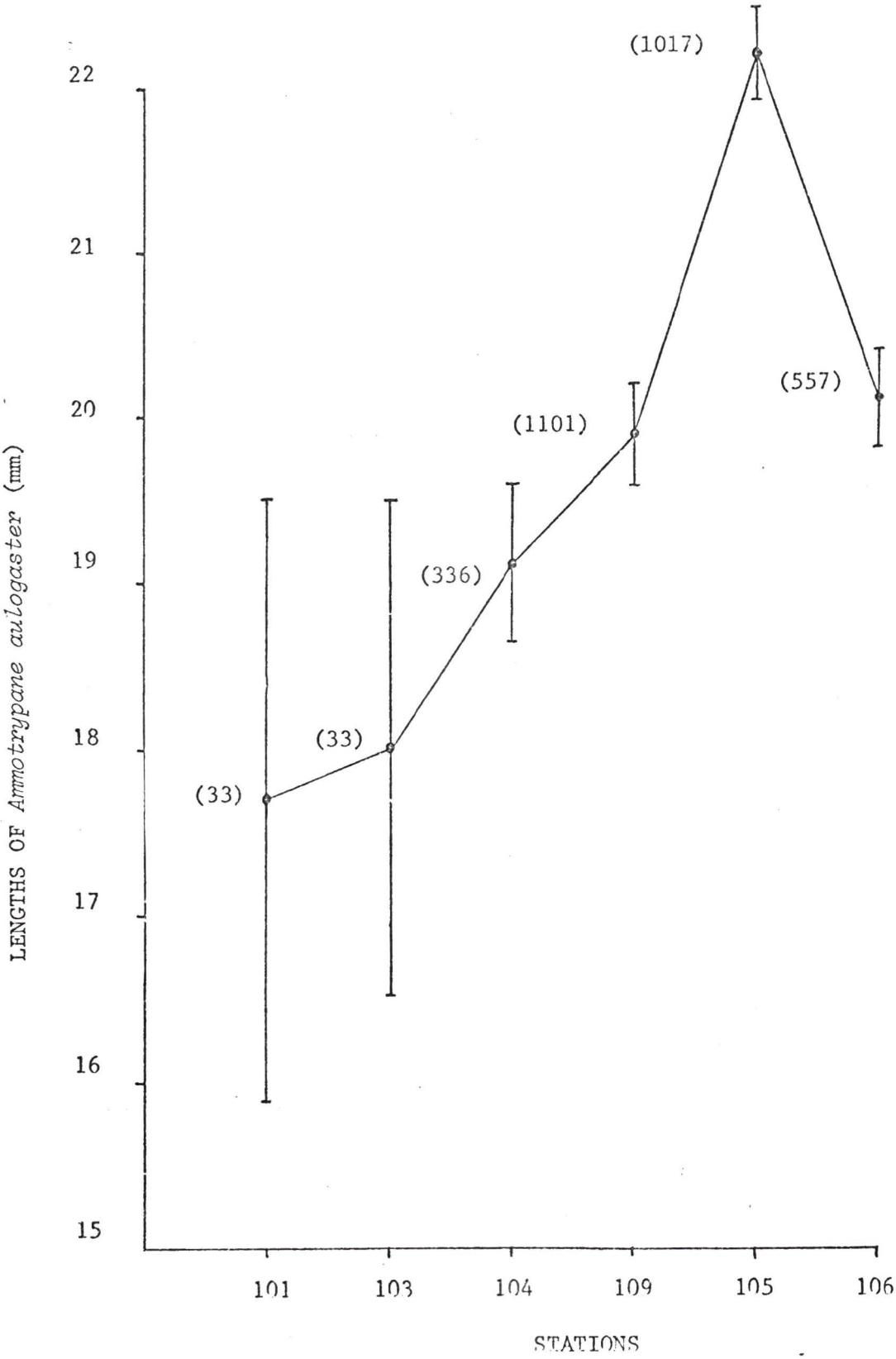

LENGTHS OF Ammotrypane aulogaster (mm)
22
21
20
19
18
17
16
15
(33)
(33)
(336)
(1101)
(1017)
(557)
101
103
104
109
105
106
STATIONS

Table 6.3. ANOVA tables for trial measurements of *Ammotrypane aulogaster* to develop a length measuring technique.

ANOVA table for lengths of *Ammotrypane aulogaster* from a 0.1 m^2 sample measured by two different persons (A and B). October 1973 data.

Source of variation	SS	df	MS	F
Among (persons)	80.196	1	80.196	7.560**
Within (worms in the trial)	4699.421	443	10.608	

$F_{.05(1,443)} = 3.84$ $F_{.01(1,443)} = 6.63$

Conclusion: There is a significant ($P<0.01$) added variance component among persons measuring the same sample of worms.

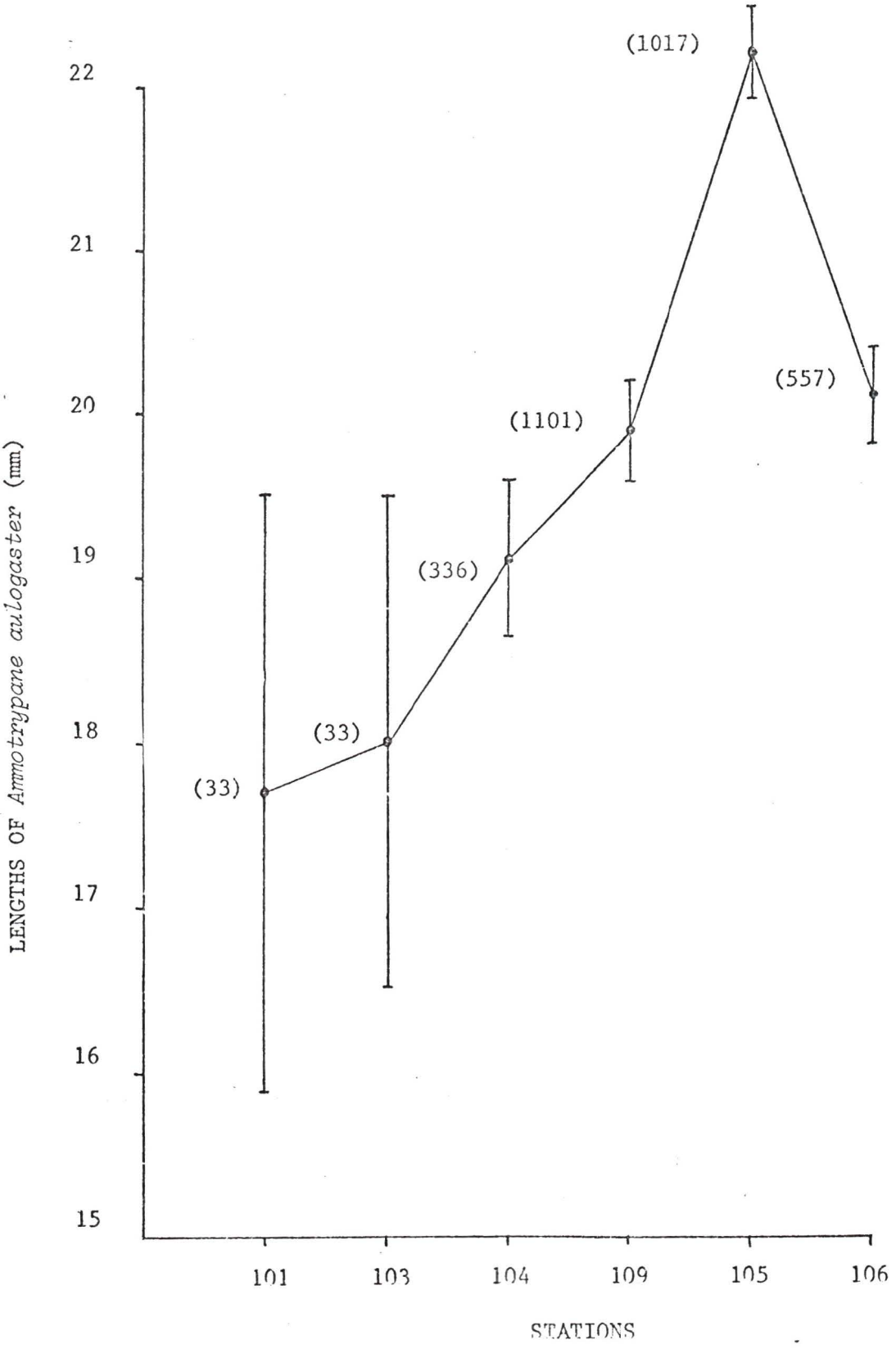
ANOVA table for length of *Ammotrypane aulogaster* from a 0.1 m^2 sample measured twice by the same person (A). October 1973 data.

Source of variation	SS	df	MS	F
Among (trials)	17.665	1	17.665	1.728 ns
Within (worms in a trial)	4569.711	447	10.223	

ANOVA table for lengths of *Ammotrypane aulogaster* from a 0.1 m^2 sample measured twice by the same person (B). October 1973 data.

Source of variation	SS	df	MS	F
Among (trials)	1.201	1	1.201	0.081 ns
Within (worms in a trial)	6689.55	450	14.866	

Figure 6.7. Mean lengths ($\pm$ two standard errors) of *Ammotrypane aulogaster* taken in October 1973 from different stations in the Rupert-Holberg Inlet trough. The number of observations upon which each mean is based is given in brackets beside each mean.


LENGTHS OF Ammotrypane aulogaster (mm)
22
21
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18
17
16
15
(33)
(33)
(336)
(1101)
(1017)
(557)
101
103
104
109
105
106
STATIONS

Table 6.4. ANOVA table for lengths of *Ammotrypane aulogaster*. October 1973 data.

Source of variation	SS	df	MS	F
Blocks (hauls)	131.83	2	65.97	ns(Error>Blocks)
Treatments (stations)	4353.07	5	870.61	4.858*
Experimental error	1792.07	10	179.21	
Sampling error	56004	3059	18.31	
Mean	1301795.29	1	1301795.29	
Total		3077		

$F_{.05(5,10)} = 3.33$ $F_{.01(5,10)} = 5.64$

Conclusion: There is a significant ($P<0.05$) added variance component between stations for lengths of *Ammotrypane aulogaster*.

Table 6.5. ANOVA table with regression for *Ammotrypane aulogaster* lengths. October 1973 data.

Source of variation	df	SS	MS	F
Explained- due to linear regression.	1	9.67	9.67	10.8957*
Unexplained- error aound regression line	4	3.55	0.8875	
Total	5	13.2185		

$F_{.05(1,4)} = 7.71$ $F_{.01(1,4)} = 21.2$

Regression coefficient= -0.0756 ; Y intercept= 21.36 ; Regression equation= $\hat{Y}=21.36-0.0756X$

stations.

The mean lengths were then subjected to regression analysis, in order to establish the dependance of the length of *A. aulogaster* on the amount of tailing present at the stations. The results (Table 6.5) show a significant ($P<0.05$) linear decrease in length with increasing tailing thickness. The regression line is plotted in Figure 6.8.

From the numbers and weight data, it is apparent that stations 101 and 103 are very similar, and quite different from the other stations. Station 104 and 106 group together, as well as 105 and 109. This is compatible with the results in Part IV. Length data does not differentiate between the stations, other than station 105, due to the very large variances. However a definite trend is apparent and confirmed by the regression analysis. Station 105 with apparently the most favourable environmental conditions for infauna growth (least tailing of the deep stations)also has the largest and heaviest worms. The low value for all three parameters at station 106 could be explained by its shallower depth and distance from the open sea. Further information is given by Thorson (1957) who claims that "In large fjord areas and in gulfs with narrow mouths the productivity as well as the weight of the standing crop will gradually decline with increase in distance from the open sea." He further asserts that this phenomenon is most pronounced in areas where the mouth has a sill. These conditions would seem to closely fit those present in Rupert-Holberg Inlet with due allowance for the tailing effects.

ii) Productivity

The methods for estimating population production of the benthic infauna have been well covered by Jensen(1919) and Thorson (1957). Both

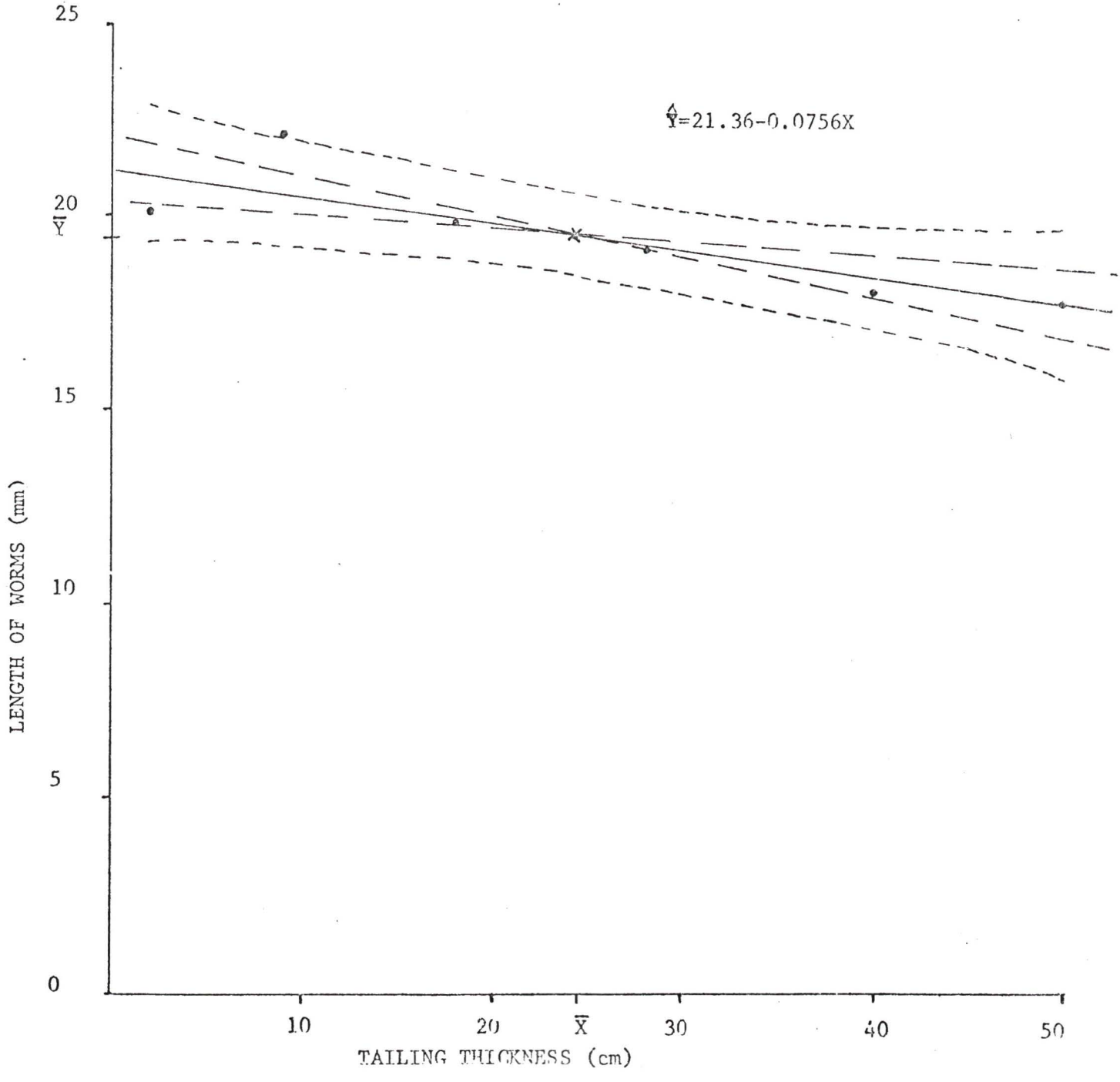

Figure 6.8. Linear regression (with 95% confidence limits) of *Ammotrypane aulogaster* length data for October 1973.

are careful to point out that standing crop or biomass should not be interpreted as production. More recently, Sanders (1956) and Peers (1970) have emphasized this point while studying the production of certain polychaete species.

Production measurements require estimates of the population size of the various species at different intervals, so that some estimate of the standing and settling stock, as well as their growth and mortality (natural or by predation), can be made. This requires some distinction between year classes, and also requires that the animals chosen for estimating production be abundant, so that statistically reliable estimates can be made. In this study, estimates of wet weights, numbers, and worm length (at one time, October 1973) were made and related to distance from the outfall. Initial estimates (June, 1973) of these three parameters are not statistically reliable, as the worms were not then abundant. Four months later, *Ammotrypane aulogaster* was abundant, indicating that considerable production had occurred. The lower crops and lengths of the worms closest to the outfall show that production under heavy tailing appears to have been less than under light tailing. The weight and density differences could be a result of differential larval settling. However the size differences are more likely to indicate differences in growth. If this is the case, even though no actual measurement of production was made, it is a reasonable conclusion that *Ammotrypane* production appears to be affected by the tailing. More detailed production studies should give a measure of the effect.

E. CONCLUSIONS

A decrease in standing crops, numbers, and lengths of *Ammotrypane*

aulogaster are related to increasing tailing deposition. Therefore the tailing discharge would appear to be responsible, and it is reasonable to conclude that there is a loss in production of *Ammotrypane* under tailing deposition. *Ammotrypane* makes up 16-70 per cent of the standing crop (wet weight). Thus a decrease in overall inlet benthic productivity could also be implied. The evidence is sufficient to justify the more detailed sampling required for production estimates.

PART VII. SUMMARY

1. A government-required pollution monitoring program in Rupert Inlet indicated that benthic obliteration is taking place as a result of disposal of mine tailing to the inlet. This thesis project was implemented to study the effects of tailing in areas where the fauna had not been obliterated. The seven sampling stations finally selected were environmentally similar in terms of depth and sediment type and differed in the amount of deposited tailing.
2. The inlet trough fauna was found to be very reduced and similar to Thorson's (1957) Arctic foraminiferan community. The two stations closest (4.5 kilometers) to the mine outfall with heavy tailing (more than 50 cms) were very depauperate, though they still supported a few species. These appear capable of surviving regular deposition of moderately heavy tailing. It is suggested that total obliteration might occur in this area by sudden slumping of tailing from shallower areas, followed by some recolonization. Bivalves, and some species of Maldanid polychaetes apparently disappear from the biological community under relatively light tailing deposition. Other than the two most depauperate stations, only one other (the next distant from the outfall at a distance of 5.5 kilometers) showed properties which could be attributed to tailing. These were a reduced summer seasonal increase in benthic crop estimates, and a decreased species diversity. The natural seasonal increase in benthic crop together with the expected decrease in crop as a function of distance from the open sea make it impossible to relate faunal statistics in the remaining four stations to the light tailing

deposition shown there. In addition to the crop estimates, species associational analysis (Cluster and modified Zürich-Montpellier) showed no differences between the four stations most distant from the outfall (5.5 to 10.5 kilometers). This lack of differences could be due to the low species diversity throughout the area as well as other reasons already mentioned.

In general sub-obliterative effects appear at distances from 3 to 5.5 kilometers from the outfall, but the techniques used were insensitive to any lesser effects, if occurring, at greater distances.

3. Comparisons between the Van Veen grab used in this project and the Ponar grab used in the government-required pollution monitoring program showed that the Ponar collected some plankton and more light interface benthic forms such as amphipods. Both of these effects apparently arise from the relatively reduced wave in front of the falling grab, and this in turn arises from the relatively great surface area of the upper plates of the grab being composed of metal screen. The Ponar grab also gave higher crop estimates in spite of lesser digging depth. This unexpected result may be explainable by the statistically randomizing effect of the sampler size relative to the size of clusters of the particular benthic species in the area investigated. Both grabs appear to sample the component species in relatively similar proportions according to percentage species similarities and species recruitment curves. It appears that numerical data on benthos from Ponar and Van Veen grabs should not be mixed or compared until the crop differences found in this survey are understood. It also appears that the Ponar grab has considerable merit arising from its size, and should be useful in marine areas which are sheltered, have soft silty bottoms, and a predominantly

shallow-burrowing community.

The survey confirmed that 5-10 samples were necessary for adequate benthic description at any one point. It was also found that a 0.5 mm screen added little in this survey to results over the 1 mm screen adopted for separating animals from sediments.

4. One species, the polychaete *Ammotrypane aulogaster* Rathke, 1843, was studied in some detail as an indicator species of potentially reduced benthic production in the area fringing total obliteration. For the October 1973 samples *Ammotrypane* standing crops were inversely related to greater tailing deposition. Length measurements also showed a similar decrease with increased tailing. These observations indicate that under light tailing, there is probably some loss in benthic production and more detailed time-series studies are now indicated. The potential production loss may be quite substantial in Rupert Inlet, where *Ammotrypane* in 1973-1974 was one of the most abundant species.

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Appendix I

Benthos and associated tailing deposition.

Data variability - Species similarity analysis.

Modified by A. Jones from the original report by A. Jones and D. Ellis (UBC MS, 1972).

INTRODUCTION

Preliminary assesment of a marine benthic program monitoring the effects of mine tailing on the benthic environment showed procedural inconsistencies at most stations. This was evident in the variability of samples in terms of depth and volume of sediment collected per sample. An objective appraisal to determine whether the benthic program was collecting data sufficiently accurately to be used to measure sublethal effects was essential. A simple analytical technique developed for classifying purposes (Sokal and Sneath, 1963) was applied to the species data available from these samples and compared to a reference set of data.

MATERIALS AND METHODS

A British Columbia inlet, the receiving area for mine derived tailing disposal, was the testing ground for the analytical technique.

Seven stations of the mine monitoring program were selected as representative of the extremes of environmental variation: three deep, fine-grained stations and three shallow, coarse-grained stations, as well as the mine's distant control station.

Maximum sample volumes obtained approximate 5 to 6 liters using a Ponar grab which samples .05 m^2 of surface area and with form of bite apparently similar to that of a Van Veen grab. The maximal sample volumes indicated digging depth of 10 to 12 cm. (Lie and Pamatmat, 1965).

Satellite Channel, near Victoria, was chosen as the environmentally comparable reference station. At that station considerable care has been taken to minimize procedural inconsistencies. All species were identified

by a research team within a four-month period, samples were taken from a radar and sight-line fixed station by the same vessel operator on all three occasions. All samples were full volume (15 liters) from a .1 m^2 Van Veen sampler, digging approximately 15 cms. (Ellis, 1967 and 1968). Table 1 compares the stations for depth and sediment.

Jaccard's coefficient of community was used as the measure of biological variability. It calculates the percentage species similarity between paired samples using the formula:

$$\frac{\text{Number of species in common}}{\text{Total number of species}} \times 100$$

Calculations were done by hand, and checked using a computerized procedure.

Table 1. Environmental comparison between deeper mine benthic stations and Satellite Channel (centre) control station.

	Depth in feet	Sand %	Silt and Clay %
Satellite Channel Centre (Table 55, Ellis 1968)	(72.9 M) 242	57	43
Island Copper			
Station No. 2	Approx. 300	65	35
Station No. 4	Approx. 380	70	30
Station No. 6	Approx. 440	63	37
Station No. 23	Approx. 380	22	78

RESULTS

Table 2 documents percentage species similarities between paired mine samples for June 1971. Species similarities range from 17-40% with highest values tending to lie in the shallower stations. Species similarities at each mine station through June 1971, December 1971, and June 1972 are given in Table 3. Values are lower for each station through time than between samples in the one survey, from 10--20% compared with 17-40%. Mine control station 23, remote from the outfall, also shows low similarities over 12 months. To check the source of species variation, percentage species similarities were calculated for three surveys over an 8-month period (30 September, 1965 - 24 May, 1966) from Satellite Channel. Table 4 shows values for three sample replicates selected by a table of random numbers from 10 Satellite Channel samples taken during one survey on January 10, 1966. Values show that 30-47% similarity can be achieved at any one time. Table 5 shows species similarity between paired samples from each of three surveys from the reference station with each sample selected randomly from the 10 replicates available.

Species similarities of 39-50% can be achieved between single samples over a period of approximately 8 months from a single station. In contrast, the monitoring program benthic similarities appear to reach 30-40% levels at some stations within, but not between, surveys. To determine the effect of replication on this form of analysis, percentage species similarities have been calculated for the reference station between grouped results for all replicates from the three surveys (Table 6). With grouping of replicates, surveys show similarities from 43-53%, illustrating a degree of species similarity which can potentially be

Table 2. Percentage species similarities between selected paired mine samples for June 1971.

	Total No. species	No. species in common	Percentage species similarities
Deep fine-grained stations			
2 - 4	15	5	33
4 - 6	33	8	24
6 - 2	30	5	17
Shallow coarse-grained stations			
7 - 10	42	17	40
10 - 12	47	14	30
12 - 7	47	15	32

Table 3. Percentage species similarities between mine surveys at selected stations.

	Total No. species	No. species in common	Percentage species similarities
Deep fine-grained stations			
2 - Jun 71 - Dec 71	21	3	14
Jun 71 - Jun 72	20	2	10
Dec 71 - Jun 72	28	4	14
4 - Jun 71 - Dec 71	29	5	17
Jun 71 - Jun 72	21	2	10
Dec 71 - Jun 72	27	4	15
6[1] - Jun 71 - Dec 71	55	8	15
Jun 71 - Jun 72	40	5	13
Dec 71 - Jun 72	46	6	13
Shallow coarse-grained stations			
7 - Jun 71 - Dec 71	62	10	16
Jun 71 - Jun 72	44	5	11
Dec 71 - Jun 72	54	9	17
10 - Jun 71 - Dec 71	71	14	20
Jun 71 - Jun 72	55	9	16
Dec 71 - Jun 72	79	10	13
12[1] - Jun 71 - Dec 71	60	9	15
Jun 71 - Jun 72	55	8	15
Dec 71 - Jun 72	57	11	19
Remotest Control Station			
23 - Jun 71 - Dec 71	100	15	15
Jun 71 - Jun 72	57	5	9
Dec 71 - Jun 72	85	6	7

[1] - Tailing present in small amounts in June 1972.

Table 4. Percentage species similarities between 3 randomly picked samples from a survey at a reference station in an area (Satellite Channel (Centre) sample nos. 66/1/3, 7 and 9) environmentally similar to the mine deeper benthic stations.

Sample Nos.	No. of species	No. of species in common	Percentage species similarity
3 : 9	30	14	47
3 : 7	34	13	38
7 : 9	33	10	30

Table 5. Species similarities between randomly picked samples from each of 3 surveys at the reference station in Satellite Channel (Centre) (Sample nos. 65/16/9, 66/1/6 and 66/12/10).

Station	Date	No. of species	No. of species in common	Percentage species similarity
1965 16 9 1966 1 6	30 Sept 65 10 Jan 66	32	16	50
1965 16 9 1966 12 10	30 Sept 65 24 May 66	39	15	39
1966 1 6 1966 12 10	10 Jan 66 24 May 66	40	18	45

Table 6. Percentage species similarity between surveys from Satellite Channel (Centre) over an 8 month period.

Stations			No. of species	No. of species in common	Percentage species similarity
30 Sept 1965	16	1-10	72	38	53
10 Jan 1966	1	1-10			
30 Sept 1965	16	1-10	93	40	43
24 May 1966	12	1-10			
10 Jan 1966	1	1-10	93	44	47
24 May 1966	12	1-10			

achieved in a faunistically rich and environmentally stable area (Ellis, 1971).

DISCUSSION

The results show an apparent greater consistency (of percentage species similarities) between the mine shallow samples than between the mine deep samples at one survey. However, there is low species constancy at all mine stations. It is also apparent that higher similarity values can be achieved for the reference station than for the mine stations, when comparing samples within a particular survey, between surveys, and single samples between surveys. These low similarities may be a real phenomena, or may reflect changes in sampling and identification procedures from survey to survey, as well as between stations and samples. Such low similarity values shown by the data from the mine monitoring program indicate it is not adequate for quantitative analysis. Therefore, the data is of limited use to document or predict ecosystem changes or both. Modification of the sampling program to determine whether data can be collected in such a way to permit their use as a measure of sub-lethal effects is necessary.

Subsequent preliminary results of a modified sampling program indicate that the variations shown in the mine benthic program are procedural and not natural phenomena. These results demonstrate the usefulness of this analytical technique in assessing benthic data from monitoring programs.

Appendix II

Annotated list of species with notes on taxonomic level of identification.

List of taxa recorded in study (each taxa an apparent species except were noted.

FORAMINIFERA

Daitrona sp. (1)
Phainogullmia sp. cf. P. aurat Nyholm, 1955

POLYCHAETA

Aphroditoidea (2 species)
Eteone longa (Fabricius)
Phyllodoce sp. Savigny
Phyllodocidae unidentified
Podarke pugettensis Johnson
Pilargis berkeleyi Monroe
Syllidae unidentified
Glycera americana Leidy
Glycera capitata Oersted
Glycera sp. Savigny
Glycinde sp. Müller
Goniada annulata Moore
Onuphis sp. Audouin and Milne-Edwards
Lumbrinereis spp. Blainville (3)
Ninoe gemmea Moore
Dorvillea sp. Parfitt
Aricidea sp. Webster
Laonice cirrata (Sars)
Prionospio cirrifera Wiren
Tharyx sp. Webster and Benedict
Chaetozone setosa Malmgren
Cirratulidae unidentified
Cossuridae unidentified
Ammotrypane aulogaster Rathke
Capitella capitata (Fabricius)
Capitellidae (4)
Asychis sp. Kinberg
Isocirrus sp. Arwidsson
Maldanidae unidentified
Ampharete sp. Malgrem
Terebellides stroemi Sars
Trichobranchus glacialis Malgrem
Pista cristata (Müller)
Pista fasciata (Grube)
Sabellidae unidentified

PYCNOGONIDA

Pycnogonida

AMPHIPODA

Gammarid amphipod No. 1
Gammarid amphipod No. 2
Gammarid amphipods Unidentified No. 3 (5)

ISOPODA

Isopoda

DECAPODA

Pinnixia faba (Dana)

CUMACEA

Cumacea

TANAIDACEA

Tanaidacea

PELECYPODA

Acila castrensis Hinds
Nucula sp. Lamarck (6)
Lucinoma annulata (Reeve)
Lucinoma tenuisculpta (Carpenter)
Axinopsida serricata (Carpenter) (7)
Axinopsida viridis (Dall) (7)
Thyasira sp. Lamarck
Rochefortia sp. Velain
Venericardia paucicostata Krause
Macoma carlottensis Whiteaves
Macoma elimata Dunnill and Coan
Tellina sp. Linnaeus
Compsomyax subdiaphana Carpenter
Psephidia lordi Baird (8)
Hiatella sp. Bosc
Pandora biliriata Conrad

GASTROPODA

Limpet
Bittium eschrichtii (Middendorff)
Mitrella sp. Risso

OPHIUROIDEA

Ophiuroidea

HOLOTHUROIDEA

Molpadia intermedia (Ludwig)
Holothuroidea

NEMERTINEA

Nemertinea

PRIAPULIDA

Priapulida

ECHIUROIDEA

Arhynchite inamoenus Fisher (9)

Notes:

1) Probably a new species. (Cameron, attached letter)
2) Close to *P. aurata* Nyholm, 1955. (Cameron, attached letter)
3) *Lumbrinereis bicirrata* Treadwell, plus one other species.
4) *Heteromastus filobranchus* Berkeley and Berkeley primarily, though some *Decomastus gracilis* Hartman.
5) Probably planktonic species.
6) Only one species, unidentified due to taxonomic problems.
7) Barnard (1970) groups these two species under *Axinopsida serricata*, both types (or species) were found in the same samples, which might indicate two different species.
8) Barnard (1970) grouped *P. lordi* and *P. ovalis*; the type found is definitely a *P. ovalis* type.
9) Usually found with *Pinnixia faba* in the same sample which would indicate that *P. faba* is living commensally with it.

Department of Energy, Mines and Resources
Ministère de l'Énergie, des Mines et des Ressources
6th Floor, 100 West Pender Street,
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Geological Survey of Canada
Commission géologique du Canada

File Number
N° à rappeler

May 8, 1974

Mr. Adrian Jones
Department of Biology
University of Victoria
Victoria, B.C.

Dear Mr. Jones:

My apologies for keeping you waiting for the foraminiferal identifications you requested from the two samples you submitted from Holberg Inlet (collected 1973, 64 fathoms depth). I have at last found time to examine them in detail and can provide you with the following information:

Sample 73-7-61
Phainogullmia sp. cf. P. aurata Nyholm, 1955 -- 1 specimen
Daitrona sp. (probably new species) -- abundant

Sample 73-7-60
Phainogullmia sp. cf. P. aurata Nyholm, 1955 -- 3 specimens
Daitrona sp. (probably new species) -- common

Both these forms are rarely reported from anywhere in the world. In fact this is the first time I have seen them on this coast. The result is that very little is known concerning their ecology or geographic distribution. I have included below a few notes which you may find of use.

Phainogullmia sp. cf. P. aurata Nyholm. The Holberg specimens differ from those described by Nyholm (1955, Studies on Recent Allogromiidae (4) Phainogullmia aurata n.gen. n.sp. Zool. Bidrag Uppsala, Uppsala, Sweden, 1955, Vol. 30, p.467) in slight variations in wall texture, wall color, and size. Otherwise they are remarkably similar. Unfortunately, little is known about their ecology or distribution. The Swedish forms are present in a similar situation as the Holberg -- ie Fjord or Inlet.

Daitrona sp. The Holberg specimens are somewhat similar to D. lens (Goes) (Crithionina lens Goes) which was described from the Pacific side of Central America (Goes,A. (1896) Reports on the dredging operations off the west coast of Central America to the Galapagos, to the west coast of Mexico, and in the Gulf of California... "Albatross"..., Part XX The Foraminifera. Harvard College, Mus. Comp. Zooll. Bull., Vol. 29). They differ however in having fewer pseudosepta and the inclusion of an abundance of sponge spicules in the agglutinated wall. I have been unable to find a favorably comparable species and conclude that the Holberg specimens represent a new species.

I hope this information will be of some use to you and I would like to retain the specimens for our collection. If I can be of further help please contact me.

Sincerely,

Appendix III

Computerized data reduction.

TABLE 1 HAUL LISTINGS

RUPERT INLET STN.101 VAN VEEN 5-7 JUNE 1973 2 8-10

TAXON	HAUL NO.	NUMBERS PER HAUL 8	9	10
DAITRONA SP.		0	0	0
PHAINEGULEMIA SP.		0	0	0
APHRODITOIDEA (2 SPECIES)		0	0	0
ETLEPIS LONGA		0	0	0
POLYNOIDAE SP.		0	1	0
POLYNOIDAE UNIDENTIFIED		0	1	0
POLARIS PUGETTENSIS		0	0	0
POLARGIS TERRELEYI		0	0	0
SYLLIDAE UNIDENTIFIED		0	0	0
GLYCERA AMERICANA		0	0	0
GLYCERA CAPITATA		0	0	0
GLYCERA SP.		0	0	0
GLYCINDE		0	0	0
GONIADA ANNULATA		0	0	0
ONUPHIS SP.		0	0	0
LUMBRINERIS SP.(L.BICIRRATA)		0	0	0
NINOE GEMMEA		0	0	0
DORVILLEA SP.		0	0	0
ARICIDEA SP.		0	0	0
LACNICE CIRRATA		0	0	0
PRIONOSPIO CIRRIFERA		0	0	0
THARYX SP.		0	0	0
CHAETOZONE SETOSA		0	0	0
CIRRATULIDAE UNIDENTIFIED		0	0	0
CAPITELLIDAE UNIDENTIFIED		0	0	0
AMPHITRYPANE AUDOUINIEI		0	0	0
CAPITELLA CAPITATA		0	0	0
CAPITELLIDAE (H.FILOBRANCHUS)		0	0	0
ASYCHIS SP.		0	0	0
ISOCIRRUS SP.		0	0	0
MALDANIDAE UNIDENTIFIED		0	0	0
AMPHARETE SP.		0	0	0
TEREBELLIDES STROEMI		0	0	0
TRICHOBRANCHUS GLACIALIS		0	0	0
PISTA CRISTATA		0	0	0
PISTA FASCIATA		0	0	0
SABELLIDAE UNIDENTIFIED		0	0	0
PYCNOGONIDA		0	0	0
GAMMARID AMPHIPOD NO.1		0	0	0
GAMMARID AMPHIPOD NO.2		0	0	0
GAMMARID AMPHIPODS UNIDENT NO3		0	0	0
ISOPODA		0	0	0
MINNIXIA RAPA		0	0	0
CUMACEA		0	0	0
TANAIDACEA		0	0	0
ACILA CASTRENSIS		0	0	0
NUCULA SP.		0	0	0
LUCINOMA ANNULATA		0	0	0
LUCINOMA TENUISCULPTA		0	0	0
AXINOPSIDA SERRICATA		0	0	0
AXINOPSIDA VIRIDIS		0	0	0
THYASIRA SP.		0	0	0
MODIOLARIA SP.		0	0	0
VENERICARDIA PAUCICOSTATA		0	0	0
MACOMA CARLOTTENSIS		0	0	0
MACOMA ELIMATA		0	0	0
TELLINA SP.		0	0	0
CERASTODERMA SUBQUADRANA		0	0	0
PUSEMIDIA LORDI		0	0	0
HIATELLA SP.		0	0	0
PANDORA MILIARIATA		0	0	0
LIMIDAE		0	0	0
BITTIUM ESCHRICHTII		0	0	0
MITRELLA SP.		0	0	0
GASTROPODA		0	0	0
MOLPADIA INTERMEDIA		0	0	0
MOLPADIOIDEA		0	0	0
NEMERTINEA		0	0	0
PRIAPULIDA		0	0	0
ARHYNCHITE INAMOENUS		0	0	0
TOTALS		0	0	0

TABLE 2 HAUL LISTINGS

RUPERT INLET STN.103 VAN VEEN 5-7 JUNE 1973 2 82-

NUMBERS PER HAUL

TAXON	HAUL NO. 82
DAITRENA SP.	0
PHAINEGOULEMIA SP.	0
APHRODITOIDEA (2 SPECIES)	0
ETEONE LONGA	0
PHYLLODOCE SP.	0
PHYLLODOCIDAE UNIDENTIFIED	0
PODARKE PUGETTENSIS	0
PILARGIS BERKELEYI	0
SYLLIDAE UNIDENTIFIED	0
GLYCERA AMERICANA	0
GLYCERA CAPITATA	0
GLYCERA SP.	0
GLYCINDE	0
GONIADA ANNULATA	0
ONUPHIS SP.	0
LUMBRINERIS SP.(L.BICIRRATA)	0
NINOE GEMMEA	0
DORVILLEA SP.	0
ARICIDEA SP.	0
LAONICE CIRRATA	0
PRIONOSPIO CIRRIFERA	0
THARYX SP.	0
CHAETOZONE SETOSA	0
CIRRATULIDAE UNIDENTIFIED	0
COSSURIDAE UNIDENTIFIED	0
AMMOTRYPANE AULOGASTER	0
CAPITELLA CAPITATA	0
CAPITELLIDAE (H.FILOBRANCHUS)	0
ASYCHIS SP	0
ISOCIRRUS SP	0
MALDANIDAE UNIDENTIFIED	0
AMPHARETE SP.	0
TEREBELLIDES STROEMI	0
TRICHOBRANCHUS GLACIALIS	0
PISTA CRISTATA	0
PISTA FASCIATA	0
SABELLIDAE UNIDENTIFIED	0
PYCNOGONIDA	0
GAMMARID AMPHIPOD NO.1	0
GAMMARID AMPHIPOD NO.2	0
GAMMARID AMPHIPODS UNIDENT NO3	0
ISOPODA	0
PINNIXIA FABA	0
CUMACEA	0
TANAIDACEA	0
ACILA CASTRENSIS	0
NUCULA SP.	0
LUCINOMA ANNULATA	0
LUCINOMA TENUISCULPTA	0
AXINOPSIDA SERICATA	0
AXINOPSIDA VIRIDIS	0
THYASIRA SP.	0
ROCHEFORTIA SP.	0
VENERICARDIA PAUCICOSTATA	0
MACOMA CARLOTTENSIS	0
MACOMA ELIMATA	0
TELLINA SP	0
COMPSOMYAX SUBDIAPHANA	0
PSEPHIDIA LORDI	0
HIATELLA SP.	0
PANDORA BILIRATA	0
LIMPET	0
BITTIUM ESCHRICHTII	0
MITRELLA SP	0
OPHIUROIDEA	0
MOLPADIA INTERMEDIA	0
HOLOTHUROIDEA	0
NEMERTINEA	0
PRIAPULIDA	0
ARHYNCHITE INAMOENUS	0
TOTALS	0

TABLE 3 HAUL LISTINGS PROGRAM BENTH4

RUPERT INLET STN.104 VAN VEEN 5-7JUNE 73 2 35-44

TAXON	NUMBERS PER HAUL									
HAUL NO.	35	36	37	38	39	40	41	42	43	44
BAITHONA SP.	0	0	0	0	0	0	0	0	0	0
PRAINOGULLMIA SP.	0	0	0	0	0	0	0	0	0	0
APHRODITOIDEA (2SPECIES)	0	0	0	0	1	0	1	0	0	1
ETHOSE LONGA	1	0	0	0	0	0	0	0	0	1
PHYLLODOCE SP.	0	0	0	0	0	0	0	0	1	0
PHYLLODOCIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
POLARKE PUGETTENSIS	0	1	0	0	0	0	0	0	1	0
PILARGIS BERKELEYI	0	0	0	0	0	0	0	0	0	0
SYLLIDAE UNIDENTIFIED	1	1	0	0	0	0	0	3	0	0
GLYCERA AMERICANA	0	0	0	0	0	0	0	0	0	0
GLYCERA CAPITATA	4	10	0	4	3	1	7	1	5	2
GLYCERA SP.	0	0	0	0	0	0	0	0	0	0
GLYCINDE SP.	0	1	0	1	1	0	0	1	0	0
GONIADA ANNULATA	0	0	0	0	0	0	0	0	0	0
ONUPHIS SP.	0	0	0	0	0	0	0	0	0	0
EUNICE INERMIS SP. (L.BICIRRATA)	1	1	0	0	1	1	1	2	3	0
NINOE GEMMEA	0	0	0	0	0	0	0	0	0	0
DENVILLEA SP.	0	0	0	1	0	0	0	0	0	0
ARICIDEA SP.	0	0	0	0	0	0	0	0	0	0
LACNICE CIRRATA	1	1	0	0	0	0	0	0	1	0
PRIONOSPIO CIRRIFERA	0	0	0	0	0	0	0	0	0	0
THARYX SP.	1	0	1	0	0	0	0	1	0	1
CHAETOZONE SETOSA	0	1	0	0	0	0	0	1	0	0
CIRRATULIDAE UNIDENTIFIED	0	0	0	0	0	0	0	1	0	0
COSSURIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
AXIOTHYPANE AULOGASTER	2	3	1	0	0	0	1	0	0	0
CAPITELLA CAPITATA	2	0	1	0	0	0	0	0	0	0
CAPITELLIDAE (H. FILOBRANCHUS)	8	9	999	11	999	4	3	999	999	999
ASYCHIS SP.	0	0	0	0	0	0	0	0	0	0
ISOCIRRUS SP.	0	0	0	1	0	0	0	0	0	0
MALDANIDAE UNIDENTIFIED	1	3	2	2	4	3	3	3	1	3
AMPHARETE SP.	0	1	0	1	0	0	0	1	0	0
TEREBELLIDES STROEMI	0	0	0	0	0	0	0	1	0	0
TRICHOBRANCHUS GLACIALIS	0	0	0	0	0	0	0	0	0	0
PISTA CRISTATA	0	0	0	0	0	0	0	0	0	1
PISTA FASCIATA	0	0	0	0	0	0	0	0	0	0
SABELLIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
PYCNOGONIDA	0	0	0	0	0	0	0	0	0	0
GAMMARID AMPHIPOD NO.1	0	0	0	0	0	0	0	0	0	0
GAMMARID AMPHIPOD NO.2	0	0	0	0	0	0	0	1	0	0
GAMMARID AMPHIPODS UNIDENT NO3	0	0	0	0	0	0	0	0	0	0
ISOPODA	0	0	0	0	0	0	0	0	0	0
PINNIXIA FABA	1	0	1	0	0	0	2	0	1	0
CUMACEA	0	0	0	0	0	0	0	0	0	0
TANAIDACEA	0	0	0	0	0	0	0	0	0	0
ACILA CASTRENSIS	0	0	0	1	0	0	0	1	0	1
NUCULA SP.	0	1	0	0	0	0	0	1	0	1
LUCINOMA ANNULATA	0	1	0	0	0	0	1	0	0	0
LUCINOMA TENUISCULPTA	0	0	0	0	0	0	0	0	0	0
AXINOPSIDA SERRICATA	1	1	0	0	1	0	1	1	1	0
AXINOPSIDA VIRIDIS	0	0	0	0	0	0	0	0	0	0
THYASIRA SP.	0	0	0	0	0	0	1	0	0	0
ROCHEFORTIA SP.	0	0	0	0	0	0	0	0	0	0
VENERICARDIA PAUCICOSTATA	0	0	0	1	0	2	0	0	0	0
MACOMA CARLOTTENSIS	3	2	0	1	0	0	1	0	0	0
MACOMA ELIMATA	1	0	0	0	0	0	0	0	1	0
TELLINA SP.	0	0	0	0	0	1	0	0	0	0
CONFOLMYAX SUBDIAPHANA	0	0	0	0	0	0	0	0	0	0
PSEPHIDIA LORDI	0	0	0	1	0	2	0	0	0	0
HIATELLA SP.	0	0	0	0	0	0	0	6	0	1
PANOPEA BILIRIATA	0	0	0	0	0	0	0	0	0	0
LIMEET	0	0	0	0	0	0	0	0	1	0
CRYPTOMYA ESCHRICHTII	1	0	0	0	1	0	0	0	0	0
MYTHELLA SP.	0	0	0	0	1	0	0	0	1	0
OPHIUROIDEA	0	0	0	0	0	0	0	0	0	0
MOLPADIA INTERMEDIA	0	0	0	0	0	0	0	0	0	0
HOLOTHUROIDEA	0	0	0	0	0	0	0	0	0	0
NEMERTINEA	0	2	0	0	0	0	1	0	0	0
PRIAPULIDA	0	0	1	0	0	0	0	0	0	0
ARHYNCHITE INAMOENUS	1	0	1	0	0	0	1	1	1	1
TOTALS	30	40	1020	28	1014	11	24	1086	1019	1011

TABLE 4 HAUL LISTINGS PROGRAM BENTHA

HOLLERG INLET STN.105 PONAR 5-7 JUNE 7311-20

NUMBERS PER HAUL

TAXON HAUL NO.	11	12	13	14	15	16	17	18	19	20
DAITHENA SP.	0	0	0	2	4	1	1	4	2	4
PHAINOGULEMIA SP.	0	0	0	0	0	0	0	0	0	0
APHRODITEIDEA (2SPECIES)	0	0	0	0	0	0	0	0	0	0
EISONE LONGA	0	0	0	0	0	0	0	0	0	0
PHYLLODOCE SP.	0	0	0	0	0	0	0	0	0	0
PHYLLODOCIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
POLARNE PUGETTENSIS	0	0	0	1	1	2	0	0	0	1
PILARGIS BERKELEYI	0	0	0	1	1	2	0	0	0	1
SYLLIDAE UNIDENTIFIED	2	0	1	1	2	1	0	0	0	0
GLYCERA AMERICANA	0	0	1	0	2	0	0	1	0	0
GLYCERA CAPITATA	3	0	2	1	1	2	3	1	2	2
GLYCERA SP.	0	0	0	0	0	0	0	0	0	0
GLYCINDE SP.	1	0	2	0	0	1	0	0	1	1
GONIADA ANNULATA	0	0	0	0	0	0	0	0	0	0
ONUPHIS SP.	0	2	1	0	0	1	0	0	0	2
LUMBRINERIS SP.(L.BICIRRATA)	0	0	1	1	0	1	1	0	0	1
NICOLEA GEMMEA	0	0	0	0	0	0	0	0	0	0
[illegible]ILLEA SP.	0	0	0	0	0	0	1	0	0	0
AMPHICTEIS SP.	0	0	0	0	0	0	0	0	0	0
EASTONIA CIRRATA	1	0	1	2	0	0	0	0	1	3
MELINNAMPE CIRRIFERA	0	0	0	0	0	0	0	0	0	0
THARYX SP.	0	0	0	0	0	0	0	0	0	1
CHAETOZONE SETOSA	0	0	0	1	0	1	0	0	0	1
CIRRATULIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
OPHELIIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
ANCISTRYMAE AULEOGASTER	7	4	15	9	7	16	11	6	4	27
CAPITELLA CAPITATA	0	0	0	0	0	0	0	0	0	0
CAPITELLIDAE (M. FILOBRANCHUS)	2	0	1	1	0	2	4	1	1	0
ASYCHIS SP.	0	0	0	0	0	0	0	0	0	0
INCISIBUS SP.	0	0	0	0	0	0	0	0	0	0
MALDANIDAE UNIDENTIFIED	0	0	0	1	0	0	0	0	0	0
AXIOTHELLA SP.	0	0	0	0	0	0	0	1	0	0
TEREBELLIDES STROEMI	0	0	0	0	0	0	0	0	0	0
TRICHOBRANCHUS GLACIALIS	0	0	0	0	0	0	0	0	0	0
PISTA COSTATA	0	0	0	0	0	0	0	0	0	0
PISTA FASCIATA	0	0	0	0	0	0	0	0	0	0
SABELLIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
OEDICEROTIDA	0	0	0	0	0	0	0	0	0	0
GAMMARID AMPHIPOD NO.1	0	1	2	0	0	0	1	0	0	0
GAMMARID AMPHIPOD NO.2	0	3	4	0	0	1	0	1	0	0
GAMMARID AMPHIPODS UNIDENT NO3	0	0	0	0	0	0	1	0	0	0
ISOPODA	1	0	0	0	1	0	0	0	0	0
PINNIXIA FABA	0	0	0	0	0	0	0	0	0	0
CUMACEA	0	0	0	0	0	0	0	0	0	1
TANAIDACEA	0	0	0	0	0	0	0	0	0	0
ACILA CASTRENSIS	5	2	1	0	0	0	2	0	0	0
NUCULA SP.	3	2	1	1	0	2	2	2	1	3
LUCINOMA ANNULATA	0	0	0	0	0	0	0	0	0	0
LUCINOMA TENUISCULPTA	1	1	1	1	0	0	0	1	0	0
AXINOPSIDA SERRICATA	5	5	7	15	4	1	6	8	6	13
AXINOPSIDA VIRIDIS	20	9	6	3	7	8	14	10	11	17
THYASIRA SP.	0	0	1	0	0	0	0	0	0	0
MUCRESCHTIA SP.	0	0	0	0	0	0	0	0	0	0
VERTICARDIA PAUCICOSTATA	0	0	0	0	0	0	0	0	0	0
MACOMA CARLOTTENSIS	2	1	0	0	0	0	0	0	0	0
MACOMA ELIMATA	0	0	0	0	0	0	0	0	0	0
TELLINA SP.	0	0	0	1	0	0	0	0	0	0
CLINOCARDIUM SUBDIAPHANA	0	0	0	0	0	0	0	0	0	0
PSEPHIDIA LORDI	1	0	0	0	0	0	1	0	0	1
MIATELLA SP.	0	0	0	0	0	0	0	0	0	0
PANOPEA PILIATA	0	0	0	0	0	0	0	0	0	0
LIMPET	0	0	0	0	0	0	0	0	0	0
MYTILUS ESCHRICHTII	5	1	3	3	0	2	3	2	0	5
MYTELLA SP.	0	0	0	0	0	0	0	0	0	0
OPHIUROIDEA	0	0	0	0	0	0	0	0	0	0
MOLPADIA INTERMEDIA	0	0	0	0	0	0	0	0	0	0
HOLOTHUROIDEA	0	0	0	0	0	0	0	0	0	0
NEMERTINEA	0	0	0	0	0	0	0	0	0	0
PRIAPULIDA	0	0	0	0	0	0	0	0	0	0
ANNYNCHITE INAMOENUS	0	0	0	0	0	0	0	0	0	0
TOTALS	54	33	46	46	32	47	44	38	36	83

TABLE 5 HAUL LISTINGS PROGRAM BENTHA

HOLBERG INLET STN.105 VAN VEEN 5-7 JUNE 7323-34

TAXON	HAUL NO.	23	25	26	27	28	29	30	31	32	34
		NUMBERS PER HAUL									
DAITRONA SP.		7	15	5	11	10	1	0	0	0	15
PHAINOGUILLMIA SP.		0	0	0	0	0	0	0	0	0	0
APHRODITOIDEA (2SPECIES)		0	0	0	0	0	0	0	0	0	0
ETEONE LONGA		0	0	0	0	0	0	0	0	0	0
PHYLLODOCE SP.		0	0	0	0	0	0	0	0	0	0
PHYLLODOCIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
PODARKE PUGETTENSIS		0	0	0	0	0	0	0	1	0	0
PILARGIS BERKELEYI		0	1	0	0	0	0	0	0	0	0
SYLLIDAE UNIDENTIFIED		0	0	0	0	0	0	2	0	0	0
GLYCERA AMERICANA		0	0	0	0	0	0	0	0	0	0
GLYCERA CAPITATA		1	1	1	0	1	4	1	2	0	1
GLYCERA SP.		0	0	0	0	0	0	0	0	0	0
GLYCINDE SP.		0	0	0	0	1	0	0	0	0	1
GONIADA ANNULATA		0	1	0	0	0	0	0	0	1	0
ONUPHIS SP.		1	1	0	0	0	0	0	0	0	1
LUMBRINERIS SP.(L.BICIRRATA)		0	0	1	2	0	0	0	0	2	0
NINOE GEMMEA		0	0	0	0	0	0	0	0	0	0
DORVILLEA SP.		0	0	0	0	0	0	0	0	0	0
ARICIDEA SP.		0	0	0	0	0	0	0	0	0	0
LAONICE CIRRATA		0	2	1	0	0	0	1	1	1	0
PRIONOSPIO CIRRIFERA		0	0	0	0	0	0	0	0	0	0
THARYX SP.		0	0	1	0	0	0	0	0	0	0
CHAETOZONE SETOSA		0	0	0	0	0	0	3	0	0	0
CIRRATULIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
COSSURIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
AMMOTRYPANE AULOGASTER		12	6	1	3	13	2	10	1	2	1
CAPITELLA CAPITATA		0	0	0	0	0	0	0	0	0	0
CAPITELLIDAE (H. FILOBRANCHUS)		4	2	1	1	0	3	4	1	0	0
ASYCHIS SP.		0	0	0	0	0	0	0	0	0	0
ISOCIRRUS SP.		0	0	0	0	0	0	0	1	0	0
MALDANIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
AMPHARETE SP.		0	0	0	0	0	0	0	0	0	0
TEREBELLIDES STROEMI		0	0	0	0	0	0	0	0	0	0
TRICHOBRANCHUS GLACIALIS		0	0	0	0	0	0	0	0	0	0
PISTA CRISTATA		0	0	0	0	0	0	0	0	0	0
PISTA FASCIATA		0	0	0	0	0	0	0	0	0	0
SABELLIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
PYCNOGONIDA		0	0	0	0	0	0	0	0	0	0
GAMMARID AMPHIPOD NO.1		3	3	8	2	14	4	2	3	1	3
GAMMARID AMPHIPOD NO.2		2	0	4	2	3	1	1	8	0	3
GAMMARID AMPHIPODS UNIDENT NO3		0	1	0	0	3	0	1	3	1	0
ISOPODA		1	0	0	0	0	0	0	0	0	0
PINNIXIA FABA		0	0	0	0	0	0	0	0	0	0
CUMACEA		1	0	1	0	0	0	0	0	0	0
TANAIDACEA		1	0	1	0	0	0	0	0	0	0
ACILA CASTRENSIS		0	0	0	0	0	0	0	0	0	0
NUCULA SP.		0	0	1	3	2	2	0	0	0	1
LUCINOMA ANNULATA		0	0	0	0	0	0	0	0	0	0
LUCINOMA TENUISCULPTA		0	0	0	0	0	0	0	0	0	0
AXINOPSIDA SERRICATA		7	3	0	5	3	6	7	5	4	8
AXINOPSIDA VIRIDIS		9	6	10	10	3	4	6	5	4	8
THYASIRA SP.		0	0	0	0	0	0	0	0	0	0
ROCHEFORTIA SP.		0	0	0	0	0	0	0	0	0	0
VENERICARDIA PAUCICOSTATA		0	0	0	0	0	0	0	0	0	0
MACOMA CARLOTTENSIS		0	0	0	0	0	0	1	0	0	0
MACOMA ELIMATA		0	0	0	0	0	0	0	0	0	0
TELLINA SP.		0	0	0	0	0	0	0	0	0	0
COMPSOMYAX SUBDIAPHANA		0	0	0	0	0	0	0	0	0	0
PSEPHIDIA LORDI		1	0	1	0	0	1	0	2	0	1
HIATELLA SP.		0	0	0	0	0	0	0	0	0	0
PANDORA BILIRATA		0	0	0	0	0	0	0	0	0	0
LIMPET		0	0	0	0	0	0	0	0	0	0
BITTIUM ESCHRICHTII		7	3	0	4	1	2	2	2	3	0
MITRELLA SP.		0	0	0	0	0	0	0	0	0	0
OPHIUROIDEA		0	0	0	0	0	0	0	0	0	0
MOLPADIA INTERMEDIA		0	0	0	0	0	0	0	0	0	0
HOLOTHUROIDEA		0	0	0	0	0	0	0	0	0	0
NEMERTINEA		0	0	0	0	0	0	1	0	0	0
PRIAPULIDA		0	0	0	0	0	0	0	0	0	0
ARHYNCHITE INAMOENUS		0	0	0	0	0	0	0	0	0	0
TOTALS		57	45	37	43	54	30	42	35	19	43

TABLE 6 HAUL LISTINGS PROGRAM BENTH4

HOLBERG INLET STN.106 VAN VEEN 5-7JUNE 73 2 66-75

TAXON	HAUL NO.	66	67	68	69	70	71	72	73	74	75
		NUMBERS PER HAUL									
GAIMARDIA SP.		0	0	0	0	0	0	0	0	0	0
PHAINOGULLMIA SP.		0	0	0	0	0	0	0	0	0	0
AMPHILITOIDEA (2SPECIES)		0	0	0	0	0	0	0	0	0	0
ETEONE LONGA		0	0	0	0	0	0	0	0	0	0
PHYLLODOCE SP.		0	0	0	0	0	0	0	0	0	0
PHYLLODOCIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
POLARKE PUGETTENSIS		1	0	0	1	0	0	0	1	0	0
PILARGIS BERKELEYI		0	0	0	1	0	0	0	0	0	0
SYLLIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
GLYCERA AMERICANA		0	0	0	0	0	0	0	0	0	0
GLYCERA CAPITATA		0	0	0	0	0	0	1	1	1	2
GLYCERA SP		0	0	0	0	0	0	0	0	0	0
GLYCINDE SP.		0	0	0	1	0	0	0	0	0	1
GONIADA ANNULATA		0	0	0	0	1	0	0	0	0	0
UNDINIS SP.		0	1	0	0	0	0	0	1	0	0
LUMBRINERIS SP.(L.BICIRRATA)		0	0	0	0	0	0	1	0	0	0
NINOE GEMMEA		0	1	0	0	0	0	0	1	0	0
DERVILLEA SP.		0	0	2	0	0	0	0	0	0	1
APICILLEA SP.		0	1	0	0	0	0	0	0	0	0
LACNICE CIRRATA		1	0	2	0	1	1	2	0	1	0
PRIONOSPIO CIRRIFERA		0	0	0	0	0	0	0	0	0	1
TRAVIX SP.		0	0	0	0	0	0	0	0	0	0
CHAETOZONE SETOSA		0	1	0	0	0	0	0	0	0	0
CIRRATULIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
CLYMENIDAE UNIDENTIFIED		0	0	2	0	0	0	0	0	0	0
AMPHITRYPANE AULOGASTER		7	0	2	5	3	3	1	1	4	2
CAPITELLA CAPITATA		0	1	0	0	0	0	0	0	0	0
CAPITELLIDAE (NO. FILOBRANCHUS)		1	0	0	0	0	0	0	0	0	0
ASYCHIS SP.		0	0	0	0	0	0	0	0	0	0
ISOCIRRUS SP.		0	0	0	0	0	0	0	0	0	0
MALDANIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
AMPHARETE SP.		0	0	0	0	0	0	0	0	0	0
TEREBELLIDES STROEMI		0	0	0	0	0	0	0	0	0	0
TRICHOBRANCHUS GLACIALIS		0	0	0	0	0	0	0	0	0	0
PISTA CRISTATA		0	0	0	0	0	0	0	0	0	0
PISTA FASCIATA		0	0	0	0	0	0	0	0	0	0
SABELLIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
PYENOGONIDA		0	0	0	0	0	0	0	0	0	0
GAMMARID AMPHIPOD NO.1		0	0	0	0	0	0	0	0	2	1
GAMMARID AMPHIPOD NO.2		0	1	0	0	0	0	3	1	0	0
GAMMARID AMPHIPODS UNIDENT NO3		0	0	0	0	0	0	0	0	0	1
ISOPODA		0	0	0	0	0	0	0	0	0	0
PINNIXIA FABA		0	0	0	0	0	0	0	0	0	0
CUMACEA		0	0	0	0	0	0	0	0	0	0
TANAIDACEA		0	0	0	0	0	0	0	0	0	0
ACILA CASTRENSIS		0	0	0	0	0	0	0	2	1	0
NUCULA SP.		1	1	0	0	0	0	0	0	0	0
LUCINOMA ANNULATA		0	0	0	0	0	0	0	0	0	1
LUCINOMA TENUISCULPTA		0	0	0	0	0	0	0	0	0	0
AXINOPSIDA SERRICATA		1	2	0	0	0	0	0	1	0	3
AXINOPSIDA VIRIDIS		1	0	0	0	0	0	1	0	0	0
THYASIRA SP.		0	0	0	0	0	0	0	0	0	0
HECKELFURTIA SP.		0	0	0	0	0	0	0	0	0	1
VENERICARDIA PAUCICOSTATA		0	0	0	0	0	0	0	0	0	0
MACOMA CARLOTTENSIS		0	0	0	0	0	0	0	1	0	0
MACOMA ELIMATA		0	0	0	0	0	0	0	0	0	1
TELLINA SP.		0	0	0	0	0	0	0	0	0	0
CERASONYAX SUBDIAPHANA		0	0	0	0	0	0	0	0	0	0
PSEPHIDIA LOREI		0	0	0	0	0	0	0	0	0	0
MIATELLA SP.		0	0	0	0	0	0	0	0	0	0
PANOPEA BILIRIATA		0	0	0	0	0	0	0	0	0	0
LIMEET		0	0	0	0	0	0	0	0	0	0
BITTIUM ESCHRICHTII		0	0	0	0	0	0	0	0	0	0
MITRELLA SP.		0	0	0	0	0	0	0	0	0	0
OPHIUROIDEA		0	0	0	0	0	0	0	0	0	0
MYRIACIA INTERMEDIA		0	0	0	0	0	0	0	0	0	0
HOLOTHUROIDEA		0	0	0	0	0	0	0	0	0	0
NEMERTINEA		0	0	0	0	0	0	0	0	0	0
PRIAPULIDA		0	0	0	0	0	0	0	0	0	0
ARMYNCHITE INAMOENUS		0	0	0	0	0	0	0	0	0	0
TOTALS		8	4	20	9	8	12	7	11	5	5

TABLE 7 HAUL LISTINGS PROGRAM BENTH4

HOLBERG INLET STN.107 VAN VEEN 5-7 JUNE 73 2 45-54

TAXON	HAUL NO.	45	46	47	48	49	50	51	52	53	54
		NUMBERS PER HAUL									
LAITHONA SP.		0	0	0	0	0	0	0	0	0	0
PRAINOGULLMIA SP.		0	0	0	0	0	0	0	0	0	0
APHELLITOIDEA (2SPECIES)		0	0	0	0	0	0	0	0	0	0
ETEONE LONGA		0	0	0	0	0	0	0	0	0	0
PHYLLODOCE SP.		0	0	0	0	0	0	0	0	0	0
PHYLLODOCIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
PODARKE PUGETTENSIS		0	0	0	0	1	0	0	0	0	0
MILAPSIS FERRELEYI		1	0	1	0	0	0	0	0	0	1
SYLLIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
GLYCERA AMERICANA		0	0	0	0	0	0	0	0	0	0
GLYCERA CAPITATA		0	0	0	0	0	0	0	0	0	1
GLYCERA SP.		0	0	0	0	0	0	0	0	0	0
GLYCINDE SP.		0	0	0	0	0	0	0	1	0	0
GONIADA ANNULATA		0	0	0	0	0	0	0	0	0	0
GONIADIDES SP.		0	1	0	0	0	0	0	3	0	0
LUMBRINERIS SP.(L.BICIRRATA)		1	0	2	0	0	2	0	0	0	0
NINOE GEMMEA		0	0	0	0	0	0	0	3	0	0
LEHVILLEA SP.		0	0	0	0	0	0	0	0	0	0
ARICIDEA SP.		0	0	0	0	0	0	2	0	0	0
CAPNICA CIRRATA		0	0	0	0	0	0	0	0	0	0
PRIONOSPIO CIRRIFERA		0	0	0	0	0	0	0	0	0	0
THARYX SP.		0	0	0	0	0	0	0	0	0	0
CHAETOZONE SETOSA		0	0	0	0	0	0	0	0	0	0
CIRRATULIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
COSSURIDAE UNIDENTIFIED		0	0	0	0	0	0	1	0	0	0
AMPHARETE ARCTICA		0	0	0	0	0	0	0	0	0	0
AMPHARETE SP.		0	0	0	0	0	0	0	0	0	0
TEREBELLIDES STROEMI		0	0	0	0	0	0	0	0	0	0
THELEPUS CRISTATUS		0	0	0	0	0	0	0	0	0	0
TRICHOBRANCHUS GLACIALIS		0	0	0	0	0	0	0	0	0	0
MISTA CRISTATA		0	0	0	0	0	0	0	0	0	0
MISTA FASCIATA		0	0	0	0	0	0	0	0	0	0
SABELLIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
PYCNOGONIDA		0	0	0	0	0	0	0	0	0	0
GAMMARID AMPHIPOD NO.1		0	0	0	0	0	0	0	0	0	0
GAMMARID AMPHIPOD NO.2		1	0	0	0	0	0	1	1	0	0
GAMMARID AMPHIPODS UNIDENT NO3		0	0	0	0	0	0	0	0	0	0
ISOPODA		0	0	0	0	0	0	0	0	0	0
PINNIXIA FABA		0	0	0	0	0	0	0	1	0	0
CUMACEA		0	0	0	0	0	0	0	0	0	0
TANAIDACEA		0	0	0	0	0	0	0	0	0	0
ACILA CASTRENSIS		0	0	0	0	0	0	0	0	0	0
NUCULA SP.		1	0	0	1	0	1	1	1	1	0
LUCINOMA ANNULATA		0	0	0	0	0	0	0	0	0	0
LUCINOMA TENUISCULPTA		2	2	4	4	4	5	2	3	3	3
AXINOPSIDA SERRICATA		0	1	6	1	0	1	0	0	0	0
AXINOPSIDA VIRIDIS		0	1	3	2	1	3	1	1	0	0
THYASIRA SP.		0	0	0	0	0	0	0	0	0	0
ASCHELMINTHIA SP.		0	0	0	0	0	0	0	0	0	0
VENERICARDIA PAUCICOSTATA		0	0	0	0	0	0	0	0	0	0
MACOMA CARLOTTENSIS		0	0	0	0	0	0	0	0	0	0
MACOMA ELIMATA		0	0	0	0	0	0	0	0	0	0
TELLINA SP.		0	0	0	0	0	0	0	0	0	0
CREPIDULA SUBDIAPHANA		0	0	0	0	2	0	1	0	0	0
PSEPHIDIA LORDI		0	0	0	0	0	0	0	0	0	0
MIATELLA SP.		0	0	0	0	0	0	0	0	0	0
PANDORA BILIRIATA		0	0	0	0	0	0	0	0	0	0
LIMEL T		0	0	0	0	0	0	0	0	0	0
BITTIUM ESCHRICHTII		0	0	0	0	0	0	0	0	0	0
MITRELLA SP.		0	0	0	0	0	0	0	0	0	0
OPHIUROIDEA		0	0	0	0	0	0	0	0	0	0
AOLEPADIA INTERMEDIA		0	0	0	0	0	0	0	1	0	0
HOLOTHUROIDEA		0	0	0	0	0	0	0	0	0	0
NEMERTINEA		2	0	0	1	0	0	0	0	0	0
PRIAPULIDA		0	0	0	0	0	0	0	0	0	0
ARHYNCHITE INAMOENUS		0	0	0	0	0	0	0	0	0	0
TOTALS		8	4	10	9	8	12	7	11	5	5

TABLE 8 HAUL LISTINGS

RUPERT INLET STN.101 VAN VEEN 5-7 JUNE 1973 2 8-10

TAXON	HAUL NO.	WEIGHTS PER HAUL 8	9	10
DAITRENA SP.		0.0	0.0	0.0
PHAINCOLLYRIA SP.		0.0	0.0	0.0
APHRODITOIDEA (2 SPECIES)		0.0	0.0	0.0
ETEONE LONGA		0.0	0.0	0.0
PHYLLODOCE SP.		0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED		0.0	0.0	0.0
PODARKE PUGETTENSIS		0.0	0.0	0.0
PILARGIS BERKELEYI		0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED		0.0	0.0	0.0
GLYCERA AMERICANA		0.0	0.0	0.0
GLYCERA CAPITATA		0.0	0.0	0.0
GLYCERA SP.		0.0	0.0	0.0
GLYCINDE		0.0	0.0	0.0
GONIADA ANNULATA		0.0	0.0	0.0
GONIADIS SP.		0.0	0.0	0.0
LUMBRINERIS SP.(L.BICIRRATA)		1.0	0.0	1.0
NINOE GEMMEA		0.0	0.0	0.0
OPHELLIA SP.		0.0	0.0	0.0
AMICIDEA SP.		0.0	0.0	0.0
CAPITELLA CIRRATA		0.0	0.0	0.0
DECAMASTUS GRACILIS		0.0	0.0	0.0
BRANCHIOMMA SP.		0.0	0.0	0.0
CHAETOZONE SETOSA		0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED		0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED		0.0	0.0	0.0
AMPHITRITE ANNULOSTER		0.0	0.0	0.0
CAPITELLA CAPITATA		1.0	0.0	1.0
CAPITELLIDAE (P.FILOBRANCHUS)		0.0	0.0	0.0
ASYCHIS SP.		0.0	0.0	0.0
ISOCIRRUS SP.		0.0	0.0	0.0
MALDANIDAE UNIDENTIFIED		0.0	0.0	0.0
AMPHARETE SP.		0.0	0.0	0.0
TEREBELLIDES STROEMI		0.0	0.0	0.0
THELEPUS CRISTATA		0.0	0.0	0.0
PISTA CRISTATA		0.0	0.0	0.0
PISTA FASCIATA		0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED		0.0	0.0	0.0
EXCIROLANIDA		0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1		0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2		0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3		0.0	0.0	0.0
ISOPODA		0.0	0.0	0.0
PINNIXIA FAFA		0.0	0.0	0.0
CUMACEA		0.0	0.0	0.0
TANAIDACEA		0.0	0.0	0.0
ACILA CASTRENSIS		0.0	0.0	0.0
NUCULA SP.		0.0	0.0	0.0
LUCINOMA ANNULATA		0.0	0.0	0.0
LUCINOMA TENUISCULPTA		0.0	0.0	0.0
AXINOPSIDA SERRICATA		0.0	0.0	0.0
AXINOPSIDA VIRIDIS		0.0	0.0	0.0
THYASIRA SP.		0.0	0.0	0.0
MACOMETTA SP.		0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA		0.0	0.0	0.0
MACOMA CARLOTTENSIS		0.0	0.0	0.0
MACOMA ELIMATA		0.0	0.0	0.0
TELLINA SP.		0.0	0.0	0.0
CERASTODERMA SUBCIRCULARE		0.0	0.0	0.0
PSEPHIDIA LORDI		0.0	0.0	0.0
HIATELLA SP.		0.0	0.0	0.0
PANOPEA ABRUPTA		0.0	0.0	0.0
LIMPET		0.0	0.0	0.0
SITTIUM ESCHRICHTII		0.0	0.0	0.0
MITRELLA SP.		0.0	0.0	0.0
OPHIUROIDEA		0.0	0.0	0.0
MOLPADIA INTERMEDIA		0.0	0.0	0.0
HOLOTHUROIDEA		0.0	0.0	0.0
NEMERTINEA		0.0	0.0	0.0
PRIAPULIDA		0.0	0.0	0.0
APHRYNCHITE INAEQUENUS		0.0	0.0	0.0
TOTALS		0.0	0.0	0.0

TABLE 9 HAUL LISTINGS

RUPERT INLET STN.103 VAN VEEN 5-7 JUNE 1973 2 82-

WEIGHTS PER HAUL

TAXON HAUL NO.	82
DAITRENA SP.	0.0
PHAINOCULLMIA SP.	0.0
APHRODITIDEA (2 SPECIES)	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PODARKE PUGETTENSIS	0.0
PILARGIS BERKELEYI	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
GLYCERA CAPITATA	0.0
GLYCERA SP.	0.0
GLYCINDE	0.0
GONIADA ANNULATA	0.0
ONUPHIS SP.	0.0
LUMBRINERIS SP.(L.BICIRRATA)	0.0
NINOE GEMMEA	0.0
DORVILLEA SP.	0.0
ARICIDEA SP.	0.0
LAONICE CIRRATA	0.0
PRIONOSPIO CIRRIFERA	0.0
THARYX SP.	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
AMMOTRYPANE AULOGASTER	0.0
CAPITELLA CAPITATA	0.0
CAPITELLIDAE (H.FILOBRANCHUS)	0.1
ASYCHIS SP	0.0
ISOCIRRUS SP	0.0
MALDANIDAE UNIDENTIFIED	0.0
AMPHARETE SP.	0.0
TEREBELLIDES STROEMI	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPOD NO.2	0.0
GAMMARID AMPHIPODS UNIDENT NO3	0.0
ISOPODA	0.0
PINNIXIA FABA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
NUCULA SP.	0.0
LUCINOMA ANNULATA	0.0
LUCINOMA TENUISCULPTA	0.0
AXINOPSIDA SERRICATA	0.0
AXINOPSIDA VIRIDIS	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA CARLOTTENSIS	0.0
MACOMA ELIMATA	0.0
TELLINA SP	0.0
COMPSOMYAX SUBDIAPHANA	0.0
PSEPHIDIA LORDI	0.0
HIATELLA SP.	0.0
PANDORA BILIRATA	0.0
LIMPET	0.0
BITTIUM ESCHRICHTII	0.0
MITRELLA SP	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
NEMERTINEA	0.0
PRIAPULIDA	0.0
ARHYNCHITE INAMOENUS	0.0
TOTALS	0.1

TABLE 10 HAUL LISTINGS PROGRAM BENTHA

RUPERT INLET STN.104 VAN VEEN 5-7JUNE 73 2 35-44

TAXON / HAUL NO.	35	36	37	38	39	40	41	42	43	44
	WEIGHTS PER HAUL									
BAITHONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2SPECIES)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
POLARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA	0.3	0.7	0.3	0.4	0.0	0.0	0.4	0.0	0.1	0.1
GLYCERA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE SP.	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GONIADIS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUMBRINERIS SP.(L.BICIRRATA)	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAONICE CIRRATA	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHITRYPANE AULOGASTER	0.3	0.3	0.2	0.2	0.0	0.0	0.1	0.0	0.0	0.0
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (PR. FILOBRANCHUS)	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.2	0.1	0.2
ASYCHIS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTIFIED	0.2	2.0	0.3	0.7	1.0	1.0	1.0	0.7	0.2	1.0
AMPHARETS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	0.0	0.0	0.0	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	0.0	0.0	0.0
PINNIXIA FABA	0.1	0.0	0.1	0.0	0.0	0.0	0.4	0.1	0.1	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1
LUCINOMA ANNULATA	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA SERRICATA	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA VIRIDIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYASIRA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS	0.1	0.6	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0
MACOMA ELIMATA	3.3	0.0	0.0	0.0	0.0	1.4	0.0	0.0	3.5	0.0
TELLINA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CLINOCARDIUM SUBDIAPHANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEUDIDIA LORDI	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
PANDORA BILIRIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
LIMIFI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SITTIUM ESCHRICHTII	0.1	0.2	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.0
MITRELLA SP.	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	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	0.0	0.0	0.0
NEMERTINEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS	8.2	0.0	12.3	0.0	0.0	0.0	0.4	5.1	15.6	14.1
TOTALS	12.7	4.3	13.8	2.6	1.4	2.6	2.7	6.6	20.7	15.4

TABLE 11 HAUL LISTINGS PROGRAM BENTH4

HOLBERG INLET STN.105 PONAR 5-7 JUNE 7311-20

WEIGHTS PER HAUL

TAXON HAUL NO.	11	12	13	14	15	16	17	18	19	20
DAITRONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAENOGALLMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2SPECIES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PUDARKE RUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA	0.3	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.2	0.0
GLYCERA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE SP.	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUMBRINERIS SP.	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
LUMBRINERIS SP.(L.BICIRRATA)	0.0	0.2	0.2	0.0	0.0	0.4	0.0	0.0	0.0	0.0
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ONUPHIDAE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHICTEIS SP.	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
LAONICE CIRRATA	0.8	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.4	0.5
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXYSTHYPANE AULOGASTER	0.3	0.2	0.5	0.4	0.4	0.4	0.2	0.4	0.6	0.7
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H. FILOBRANCHUS)	0.2	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
ASYCHIS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCISEUS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYENOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	0.0	0.0	0.0	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	0.0	0.0	0.0
PINNIXIA FABA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.	0.6	0.9	0.5	0.4	0.0	0.3	0.6	0.2	0.4	0.0
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2
AXINOPSIDA SERRICATA	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.3
AXINOPSIDA VIRIDIS	0.5	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.3
THYASIRA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP.	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
CRASSOMYAX SUBQUADRANA	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
PSEUDILIA LORDI	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1
HIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA FILIFIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMPET	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RITTIUM ESCHRICHTII	0.4	0.1	0.2	0.2	0.0	0.1	0.2	0.2	0.0	0.4
MITRELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ORBIDELLOIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	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	0.0	0.0	0.0
NEMERTINEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	3.7	1.3	2.6	2.9	0.8	1.9	1.8	1.7	2.3	2.8

TABLE 12 HAUL LISTINGS PROGRAM BENTH4

MOLEERG INLET STN.105 VAN VEEN 5-7 JUNE 7323-34

TAXON	HAUL NO.	23	25	26	27	28	29	30	31	32	34
		WEIGHTS PER HAUL									
DAITRONA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAINOGULLMIA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2SPECIES)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEPIDONOTUS SQUAMATUS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PODARKE PUGETTENSIS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI		0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA		0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0
GLYCERA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE SP.		0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
GONIADA ANNULATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
GONIADIS SP.		0.1	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1
LUMBRINERIS SP.(L.PICIRRATA)		0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
NEREIS GRAYEA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NEREIS SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ANTICIDEA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITICA CIRRATA		0.0	0.5	1.4	0.6	0.0	0.0	0.0	0.1	0.1	0.0
PRIONOSPIO CIRRIFERA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHITRYPANE AULOGASTER		0.0	0.3	0.0	0.3	0.1	0.0	0.1	0.0	0.2	0.0
CAPITELLA CAPITATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H. FILOBRANCHUS)		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
ASYCHIS SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUCLYMENA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
AXIOTHELLA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EYDNOCNIDA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1		0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3		0.0	0.0	0.0	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	0.0	0.0	0.0
PINNIXIA FABA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMACEA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.		0.0	0.0	0.1	0.4	0.2	0.3	0.0	0.0	0.0	0.1
LUCINOMA ANNULATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA SERRICATA		0.2	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.1	0.1
AXINOPSIDA VIRIDIS		0.2	0.2	0.4	0.2	0.1	0.1	0.1	0.1	0.2	0.1
THYASIRA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KUCHEFERTIA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
MACOMA PLIMATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COMPSOMYAX SUBDIAPHANA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
PSEPHIDIA LORDI		0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1
MYATELLA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANOPEA PILIPIATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMIFT		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SIPTIUM ESCHRICHTII		0.5	0.2	0.0	0.3	0.1	0.1	0.1	0.2	0.3	0.0
MITHLLA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPHIUROIDEA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA		0.0	0.0	0.0	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	0.0	0.0	0.0
NEMERTINEA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIAPULIDA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ANHYNCHITE INAMOENUS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS		1.1	2.2	3.4	1.5	0.8	1.0	0.7	1.3	1.2	0.9

TABLE 13 HAUL LISTINGS PROGRAM BENTH4

EGLEBERG INLET STN.106 VAN VEEN 5-7JUNE 73 2 66-75

TAXON	HAUL NO.	66	67	68	69	70	71	72	73	74	75
		WEIGHTS PER HAUL									
BAITHONA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAINOGULIMIA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHICTEIDAE (2SPECIES)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ETEONE LONGA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PODARKE PUGETTENSIS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERIDAE SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GONIADA ANNULATA		0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
GRUBEIS SP.		0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUMBRINERIS SP.(L.BICIRRATA)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NINOE GEMMEA		0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0
DORVILLEA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARICIDEA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LACNICE CIRRATA		1.8	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.5	0.0
PRIONOSPIO CIRRIFERA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHARETE ACUTICASTER		0.7	0.4	0.5	0.5	0.4	0.2	0.2	0.5	0.3	0.5
CAPITELLA CAPITATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H. FILOBRANCHUS)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ASYCHIS SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HYDROIDA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3		0.0	0.0	0.0	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	0.0	0.0	0.0
PINNIXIA FABA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMACEA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.		0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA ANNULATA		0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.0	0.0
LUCINOMA TENUISCULPTA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
AXINOPSIDA SERRICATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA VIRIDIS		0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
THYASIRA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CALCAREA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA LIMATA		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
TELLINA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CRYPTOMYAX SULDIAPHANA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESPHIOIA LORDI		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HIATELLA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA BILIRIATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMPET		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BITTIUM ESCHRICHTII		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MITRELLA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPHIUROIDEA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHIODIA INTERMEDIA		0.0	0.0	0.0	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	0.0	0.0	0.0
NEMERTINEA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIAPULIDA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS		2.6	1.0	0.5	0.5	0.6	0.2	0.7	1.0	2.1	1.3

TABLE 14 HAUL LISTINGS PROGRAM BENTH4

HOLEERG INLET STN.107 VAN VEEN 5-7 JUNE 73 2 45-54

WEIGHTS PER HAUL

TAXON / HAUL NO.	45	46	47	48	49	50	51	52	53	54
DAIPHONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2SPECIES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
POLARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
GLYCINDE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
ONUPHIS SP.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUMBRINERIS SP.(L.BICIRRATA)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEPIDE CIRRATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHOLOSPIS CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMOTRYPANE AULOGASTER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H. FILOBRANCHUS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ASYCHIS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	0.0	0.0	0.0	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	0.0	0.0	0.0
PINNIXIA FABA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.	0.2	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.7	0.4	0.5	0.6	0.8	0.4	0.0	0.5	0.5	0.6
AXINOPSIDA SERRICATA	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA VIRIDIS	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
THYASIRA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CLAUSINYAX SUBTRAPHANA	0.0	0.0	0.0	0.0	217.5	0.0	83.4	0.0	0.0	0.0
PSEUDIDIA LORDI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA BILIRIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMEET	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LITTIUM ESCHRICHTII	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MITRELLA SP.	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CEMIURIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLOTHURIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	97.7	0.0
NEMERTINEA	15.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	16.6	0.6	0.6	0.9	218.3	1.1	83.5	1.3	98.3	0.7

TABLE 15 BIOMASS SUMMARY PROGRAM BENTH2

RUPERT INLET STN.104 VAN VEEN 5-7JUNE 73 2 35-44 10 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
DAITRONA SP.	0.0	0.0	0.0	0.0	0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0	0.0
APHRODITOIDEA (2SPECIES)	30.0	0.30	0.23	0.48	3	0.1
ETEONE LONGA	20.0	0.20	0.18	0.42	2	0.0
PHYLLODOCE SP.	10.0	0.10	0.10	0.32	1	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PODARKE PUGETTENSIS	20.0	0.20	0.18	0.42	2	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0	0.0
SYLLIDAE UNIDENTIFIED	30.0	0.50	0.94	0.97	5	0.1
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0	0.0
GLYCERA CAPITATA	100.0	4.30	8.01	2.83	43	0.8
GLYCERA SP	0.0	0.0	0.0	0.0	0	0.0
GLYCINDE SP.	40.0	0.40	0.27	0.52	4	0.1
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
ONUPHIS SP.	0.0	0.0	0.0	0.0	0	0.0
LUMBRINERIS SP.(L.BICIRRATA)	80.0	1.60	3.16	1.78	16	0.3
NINOE GEMMEA	0.0	0.0	0.0	0.0	0	0.0
DORVILLEA SP.	10.0	0.10	0.10	0.32	1	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0	0.0
LACNICE CIRRATA	30.0	0.30	0.23	0.48	3	0.1
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0	0.0
THARYX SP.	40.0	0.40	0.27	0.52	4	0.1
CHAETOZONE SETOSA	20.0	0.20	0.18	0.42	2	0.0
CIRRATULIDAE UNIDENTIFIED	10.0	0.10	0.10	0.32	1	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMMOTRYPANE AULOGASTER	50.0	0.80	1.07	1.03	8	0.2
CAPITELLA CAPITATA	20.0	0.30	0.46	0.67	3	0.1
CAPITELLIDAE (H. FILOBRANCHUS)	100.0	503.00	273356.19	522.83	5030	96.3
ASYCHIS SP	0.0	0.0	0.0	0.0	0	0.0
ISOCIRRUS SP.	10.0	0.10	0.10	0.32	1	0.0
MALDANIDAE UNIDENTIFIED	100.0	2.50	0.94	0.97	25	0.5
AMPHARETE SP.	40.0	0.40	0.27	0.52	4	0.1
TEREBELLIDES STROEMI	10.0	0.10	0.10	0.32	1	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0	0.0
PISTA CRISTATA	10.0	0.10	0.10	0.32	1	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPOD NO.2	10.0	0.10	0.10	0.32	1	0.0
GAMMARID AMPHIPODS UNIDENT NO3	0.0	0.0	0.0	0.0	0	0.0
ISOPODA	0.0	0.0	0.0	0.0	0	0.0
PINNIXIA FABA	40.0	0.50	0.50	0.71	5	0.1
CUMACEA	0.0	0.0	0.0	0.0	0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0	0.0
ACILA CASTRENSIS	10.0	0.10	0.10	0.32	1	0.0
NUCULA SP.	20.0	0.20	0.18	0.42	2	0.0
LUCINOMA ANNULATA	20.0	0.20	0.18	0.42	2	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.0	0.0	0	0.0
AXINOPSIDA SERRICATA	60.0	0.60	0.27	0.52	6	0.1
AXINOPSIDA VIRIDIS	10.0	0.10	0.10	0.32	1	0.0
THYASIRA SP.	0.0	0.0	0.0	0.0	0	0.0
RUCHEFORTIA SP.	0.0	0.0	0.0	0.0	0	0.0
VENERICARDIA PAUCICOSTATA	20.0	0.30	0.46	0.67	3	0.1
MACOMA CARLOTTENSIS	40.0	0.70	1.12	1.06	7	0.1
MACOMA ELIMATA	30.0	0.30	0.23	0.48	3	0.1
TELLINA SP.	0.0	0.0	0.0	0.0	0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0	0.0
PSEPHIDIA LORDI	30.0	0.90	3.66	1.91	9	0.2
HIATELLA SP.	10.0	0.10	0.10	0.32	1	0.0
PANDORA FILIPIATA	10.0	0.10	0.10	0.32	1	0.0
LIMPET	0.0	0.0	0.0	0.0	0	0.0
BITTIUM ESCHRICHTII	60.0	0.70	0.46	0.67	7	0.1
MITRELLA SP.	30.0	0.30	0.23	0.48	3	0.1
OPHIUROIDEA	0.0	0.0	0.0	0.0	0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0	0.0
HOLOTHUROIDEA	0.0	0.0	0.0	0.0	0	0.0
NEMERTINEA	30.0	0.40	0.49	0.70	4	0.1
PRIAPULICA	10.0	0.10	0.10	0.32	1	0.0
ARHYNCHITE INAMOENUS	60.0	0.60	0.27	0.52	6	0.1
TOTAL					5223	

TABLE 16 BIOMASS SUMMARY PROGRAM BENTH2

HOLBERG INLET STN.105 PONAR 5-7 JUNE 7311-20 10 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
DAITRONA SP.	70.0	1.80	2.84	1.69	35	3.9
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0	0.0
APHRODITOIDEA (2SPECIES)	0.0	0.0	0.0	0.0	0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PODARKE PUGETTENSIS	40.0	0.50	0.50	0.71	10	1.1
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0	0.0
SYLLIDAE UNIDENTIFIED	50.0	0.70	0.68	0.82	13	1.5
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0	0.0
GLYCERA CAPITATA	90.0	1.70	0.90	0.95	33	3.7
GLYCERA SP	0.0	0.0	0.0	0.0	0	0.0
GLYCINDE SP.	50.0	0.60	0.49	0.70	12	1.3
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
ONUPHIS SP.	30.0	0.50	0.72	0.85	10	1.1
LUMBRINERIS SP.(L.BICIRRATA)	50.0	0.50	0.28	0.53	10	1.1
NINOE GEMMEA	0.0	0.0	0.0	0.0	0	0.0
DORVILLEA SP.	20.0	0.30	0.46	0.67	6	0.7
ARICIDEA SP.	0.0	0.0	0.0	0.0	0	0.0
LAONICE CIRRATA	50.0	0.80	1.07	1.03	15	1.7
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0	0.0
THARYX SP.	10.0	0.10	0.10	0.32	2	0.2
CHAETOZONE SETOSA	20.0	0.20	0.18	0.42	4	0.4
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMMOTRYPANE AULOGASTER	100.0	10.60	50.49	7.11	204	23.1
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0	0.0
CAPITELLIDAE (H. FILOBRANCHUS)	90.0	1.60	1.16	1.07	31	3.5
ASYCHIS SP	0.0	0.0	0.0	0.0	0	0.0
ISOCIRRUS SP.	0.0	0.0	0.0	0.0	0	0.0
MALDANIDAE UNIDENTIFIED	20.0	0.20	0.18	0.42	4	0.4
AMPHARETE SP.	10.0	0.10	0.10	0.32	2	0.2
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPOD NO.1	40.0	0.60	0.71	0.84	12	1.3
GAMMARID AMPHIPOD NO.2	50.0	1.90	6.10	2.47	37	4.1
GAMMARID AMPHIPODS UNIDENT NO3	20.0	0.20	0.18	0.42	4	0.4
ISOPODA	20.0	0.20	0.18	0.42	4	0.4
PINNIXIA FABA	0.0	0.0	0.0	0.0	0	0.0
CUMACEA	10.0	0.10	0.10	0.32	2	0.2
TANAIDACEA	0.0	0.0	0.0	0.0	0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0	0.0
NUCULA SP.	90.0	1.70	0.90	0.95	33	3.7
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
LUCINOMA TENUISCULPTA	50.0	0.50	0.28	0.53	10	1.1
AXINOPSIDA SERRICATA	100.0	6.90	16.10	4.01	133	15.0
AXINOPSIDA VIRIDIS	100.0	10.10	22.77	4.77	194	22.0
THYASIRA SP.	10.0	0.10	0.10	0.32	2	0.2
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0	0.0
MACOMA CALCTTENSIS	30.0	0.30	0.46	0.67	6	0.7
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0	0.0
TELLINA SP.	10.0	0.10	0.10	0.32	2	0.2
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0	0.0
PSEPHIDIA LORDI	40.0	0.40	0.27	0.52	8	0.9
HIATELLA SP.	0.0	0.0	0.0	0.0	0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0	0.0
LIMPET	0.0	0.0	0.0	0.0	0	0.0
BITTIUM ESCHRICHTII	80.0	2.40	3.16	1.78	46	5.2
MITRELLA SP.	0.0	0.0	0.0	0.0	0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0	0.0
HOLOTHUROIDEA	0.0	0.0	0.0	0.0	0	0.0
NEMERTINEA	10.0	0.20	0.40	0.63	4	0.4
PRIAPULIDA	0.0	0.0	0.0	0.0	0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0	0.0
TOTAL					988	

TABLE 17 BIOMASS SUMMARY PROGRAM BENTH2

HOLBERG INLET STN.105 VAN VEEN 5-7 JUNE 7323-34 10 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
DAITRONA SP.	70.0	6.40	37.38	6.11	64	15.8
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0	0.0
APHRODITOIDEA (2SPECIES)	0.0	0.0	0.0	0.0	0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PODARKE PUGETTENSIS	10.0	0.10	0.10	0.32	1	0.2
PILARGIS BERKELEYI	10.0	0.10	0.10	0.32	1	0.2
SYLLIDAE UNIDENTIFIED	10.0	0.20	0.40	0.63	2	0.5
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0	0.0
GLYCERA CAPITATA	80.0	1.20	1.29	1.14	12	3.0
GLYCERA SP	0.0	0.0	0.0	0.0	0	0.0
GLYCINDE SP.	20.0	0.20	0.18	0.42	2	0.5
GONIADA ANNULATA	20.0	0.20	0.18	0.42	2	0.5
ONUPHIS SP.	30.0	0.30	0.23	0.48	3	0.7
LUMBRINERIS SP.(L.PICIFRATA)	30.0	0.50	0.72	0.85	5	1.2
NINOE GEMMEA	0.0	0.0	0.0	0.0	0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0	0.0
LAONICE CIRRATA	50.0	0.60	0.49	0.70	6	1.5
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0	0.0
THARYX SP.	10.0	0.10	0.10	0.32	1	0.2
CHAETOZONE SETOSA	10.0	0.30	0.90	0.95	3	0.7
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMMOTRYPANE AULOGASTER	100.0	5.10	23.21	4.82	51	12.6
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0	0.0
CAPITELLIDAE (H. FILOBRANCHUS)	70.0	1.60	2.49	1.58	16	4.0
ASYCHIS SP	0.0	0.0	0.0	0.0	0	0.0
ISOCIRRUS SP.	10.0	0.10	0.10	0.32	1	0.2
MALDANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPOD NO.1	100.0	4.30	15.12	3.89	43	10.6
GAMMARID AMPHIPOD NO.2	80.0	2.40	5.60	2.37	24	5.9
GAMMARID AMPHIPODS UNIDENT NO3	50.0	0.90	1.43	1.20	9	2.2
ISOPODA	10.0	0.10	0.10	0.32	1	0.2
PINNIXIA FABA	0.0	0.0	0.0	0.0	0	0.0
CUMACEA	20.0	0.20	0.18	0.42	2	0.5
TANAIDACEA	20.0	0.20	0.18	0.42	2	0.5
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0	0.0
NUCULA SP.	50.0	0.90	1.21	1.10	9	2.2
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.0	0.0	0	0.0
AXINOPSIDA SERRICATA	90.0	4.80	5.73	2.39	48	11.9
AXINOPSIDA VIRIDIS	100.0	6.50	6.72	2.59	65	16.0
THYASIRA SP.	0.0	0.0	0.0	0.0	0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0	0.0
MACOMA CARLOTTENSIS	10.0	0.10	0.10	0.32	1	0.2
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0	0.0
TELLINA SP.	0.0	0.0	0.0	0.0	0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0	0.0
PSEPHIDIA LORDI	50.0	0.60	0.49	0.70	6	1.5
HIATELLA SP.	0.0	0.0	0.0	0.0	0	0.0
PANDORA BILIRIATA	0.0	0.0	0.0	0.0	0	0.0
LIMPET	0.0	0.0	0.0	0.0	0	0.0
BITTIUM ESCHRICHTII	80.0	2.40	4.27	2.07	24	5.9
MITRELLA SP.	0.0	0.0	0.0	0.0	0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0	0.0
HOLOTHUROIDEA	0.0	0.0	0.0	0.0	0	0.0
NEMERTINEA	10.0	0.10	0.10	0.32	1	0.2
PRIAPULIDA	0.0	0.0	0.0	0.0	0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0	0.0
TOTAL					405	

TABLE 18 BIOMASS SUMMARY PROGRAM PENTH2

HOLBERG INLET STN.106 VAN VEEN 5-7JUNE 73 2 66-75 10 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
DAITRONA SP.	0.0	0.0	0.0	0.0	0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0	0.0
APHRODITIDEA (2SPECIES)	0.0	0.0	0.0	0.0	0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PODARKE PUGETTENSIS	40.0	0.40	0.27	0.52	4	4.6
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0	0.0
GLYCERA CAPITATA	40.0	0.50	0.50	0.71	5	5.7
GLYCERA SP	0.0	0.0	0.0	0.0	0	0.0
GLYCINDE SP.	20.0	0.20	0.18	0.42	2	2.3
GONIADA ANNULATA	10.0	0.10	0.10	0.32	1	1.1
ONUPHIS SP.	10.0	0.10	0.10	0.32	1	1.1
LUMBRINERIS SP.(L.BICIRRATA)	30.0	0.30	0.23	0.48	3	3.4
NINOE GEMMEA	0.0	0.0	0.0	0.0	0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0	0.0
ARICIDEA SP.	30.0	0.40	0.49	0.70	4	4.6
LACNICE CIRRATA	50.0	0.60	0.49	0.70	6	6.9
PRIONOSPIO CIRRIFERA	10.0	0.10	0.10	0.32	1	1.1
THARYX SP.	0.0	0.0	0.0	0.0	0	0.0
CHAETOZONE SETOSA	10.0	0.10	0.10	0.32	1	1.1
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
OSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMMOTRYPANE AULOGASTER	100.0	3.20	3.51	1.87	32	36.8
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0	0.0
CAPITELLIDAE (H. FILOBRANCHUS)	10.0	0.10	0.10	0.32	1	1.1
ASYCHIS SP	0.0	0.0	0.0	0.0	0	0.0
ISOCIRRUS SP.	0.0	0.0	0.0	0.0	0	0.0
MALDANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPOD NO.1	20.0	0.30	0.46	0.67	3	3.4
GAMMARID AMPHIPOD NO.2	40.0	0.60	0.93	0.97	6	6.9
GAMMARID AMPHIPODS UNIDENT NO3	10.0	0.10	0.10	0.32	1	1.1
ISOPODA	0.0	0.0	0.0	0.0	0	0.0
PINNIXIA FABA	0.0	0.0	0.0	0.0	0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0	0.0
NUCULA SP.	40.0	0.50	0.50	0.71	5	5.7
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
LUCINOMA TENUISCULPTA	10.0	0.10	0.10	0.32	1	1.1
AXINOPSIDA SERRICATA	10.0	0.10	0.10	0.32	1	1.1
AXINOPSIDA VIRIDIS	40.0	0.70	1.12	1.06	7	8.0
THYASIRA SP.	0.0	0.0	0.0	0.0	0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0	0.0
MACOMA CARLOTTENSIS	20.0	0.20	0.18	0.42	2	2.3
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0	0.0
TELLINA SP.	0.0	0.0	0.0	0.0	0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0	0.0
PSEPHIDIA LORDI	0.0	0.0	0.0	0.0	0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0	0.0
LIMPET	0.0	0.0	0.0	0.0	0	0.0
BITTIUM ESCHRICHTII	0.0	0.0	0.0	0.0	0	0.0
MITRELLA SP.	0.0	0.0	0.0	0.0	0	0.0
OPHIURCIDEA	0.0	0.0	0.0	0.0	0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0	0.0
HOLOTHURCIDEA	0.0	0.0	0.0	0.0	0	0.0
NEMERTINEA	0.0	0.0	0.0	0.0	0	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0	0.0
TOTAL					87	

TABLE 19 BIOMASS SUMMARY PROGRAM BENTH2

HOLBERG INLET STN.107 VAN VEEN 5-7 JUNE 73 2 45-54 10 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	NUMBERS AV/ HAUL	VAR	SD	DENS/ SQ.M.	PCT TOTAL
DAITRONA SP.	0.0	0.0	0.0	0.0	0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0	0.0
APHRODITOIDEA (2SPECIES)	0.0	0.0	0.0	0.0	0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
EUDARKE PUGETTENSIS	10.0	0.10	0.10	0.32	1	1.3
PILARGIS BERKELEYI	30.0	0.30	0.23	0.48	3	3.8
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0	0.0
GLYCERA CAPITATA	10.0	0.10	0.10	0.32	1	1.3
GLYCERA SP	0.0	0.0	0.0	0.0	0	0.0
GLYCINDE SP.	10.0	0.10	0.10	0.32	1	1.3
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
ONUPHIS SP.	10.0	0.10	0.10	0.32	1	1.3
LUMBRINERIS SP.(L.BICIRRATA)	40.0	0.80	1.29	1.14	8	10.1
NINOE GEMMEA	0.0	0.0	0.0	0.0	0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0	0.0
ARICIDEA SP.	10.0	0.20	0.40	0.63	2	2.5
LAONICE CIRRATA	0.0	0.0	0.0	0.0	0	0.0
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0	0.0
THARYX SP.	0.0	0.0	0.0	0.0	0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
COSSURIDAE UNIDENTIFIED	10.0	0.10	0.10	0.32	1	1.3
AMMOTRYPANE AULOGASTER	0.0	0.0	0.0	0.0	0	0.0
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0	0.0
CAPITELLIDAE (H. FILOBRANCHUS)	0.0	0.0	0.0	0.0	0	0.0
ASYCHIS SP	0.0	0.0	0.0	0.0	0	0.0
ISOCIRRUS SP.	0.0	0.0	0.0	0.0	0	0.0
MALDANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPOD NO.2	30.0	0.30	0.23	0.48	3	3.8
GAMMARID AMPHIPODS UNIDENT NO3	0.0	0.0	0.0	0.0	0	0.0
ISOPODA	0.0	0.0	0.0	0.0	0	0.0
PINNIXIA FABA	10.0	0.10	0.10	0.32	1	1.3
CUMACEA	0.0	0.0	0.0	0.0	0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0	0.0
NUCULA SP.	60.0	0.60	0.27	0.52	6	7.6
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
LUCINOMA TENUISCULPTA	90.0	3.00	2.00	1.41	30	38.0
AXINOPSIDA SERRICATA	30.0	0.30	0.23	0.48	3	3.8
AXINOPSIDA VIRIDIS	60.0	1.10	1.43	1.20	11	13.9
THYASIRA SP.	0.0	0.0	0.0	0.0	0	0.0
MOCHEFORTIA SP.	0.0	0.0	0.0	0.0	0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0	0.0
MACOMA CARLOTTENSIS	0.0	0.0	0.0	0.0	0	0.0
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0	0.0
TELLINA SP.	0.0	0.0	0.0	0.0	0	0.0
COMPSOMYAX SUBDIAPHANA	20.0	0.30	0.46	0.67	3	3.8
PSEPHIDIA LORDI	0.0	0.0	0.0	0.0	0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0	0.0
LIMPET	0.0	0.0	0.0	0.0	0	0.0
BITTIUM ESCHRICHTII	0.0	0.0	0.0	0.0	0	0.0
MITRELLA SP.	0.0	0.0	0.0	0.0	0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0	0.0
MOLPADIA INTERMEDIA	10.0	0.10	0.10	0.32	1	1.3
HOLOTHUROIDEA	0.0	0.0	0.0	0.0	0	0.0
NEMERTINEA	20.0	0.30	0.46	0.67	3	3.8
PRIAPULIDA	0.0	0.0	0.0	0.0	0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0	0.0
TOTAL					79	

TABLE 20 BIOMASS SUMMARY — PROGRAM BENTH2

RUPERT INLET STN.104 VAN VEEN 5-7JUNE 73 2 35-44 — 10 HAULS

TAXON	BIOMASS (WEIGHT) AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
DAITRONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2SPECIES)	0.02	0.00	0.04	0.2	0.24	0.03	0.3
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PODARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA	0.23	0.05	0.23	2.3	2.76	0.32	3.9
GLYCERA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE SP.	0.01	0.00	0.03	0.1	0.12	0.01	0.2
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GNUPHIS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUMBRINERIS SP.(L.BICIRRATA)	0.07	0.02	0.13	0.7	0.84	0.10	1.2
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAONICE CIRRATA	0.04	0.01	0.08	0.4	0.48	0.06	0.7
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMOTRYPANE AULOGASTER	0.10	0.02	0.13	1.0	1.20	0.14	1.7
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H. FILOBRANCHUS)	0.09	0.01	0.09	0.9	1.08	0.13	1.5
ASYCHIS SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTIFIED	0.81	0.29	0.54	8.1	9.74	1.13	13.9
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI	0.01	0.00	0.03	0.1	0.12	0.01	0.2
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	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
PINNIXIA FABA	0.07	0.02	0.13	0.7	0.84	0.01	0.2
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.04	0.02	0.13	0.4	0.48	0.02	0.2
NUCULA SP.	0.03	0.00	0.07	0.3	0.36	0.01	0.2
LUCINOMA ANNULATA	0.04	0.01	0.08	0.4	0.48	0.02	0.2
LUCINOMA TENUISCULPTA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA SERRICATA	0.01	0.00	0.03	0.1	0.12	0.00	0.1
AXINOPSIDA VIRIDIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYASIRA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.06	0.02	0.13	0.6	0.72	0.03	0.4
MACOMA CARLOTTENSIS	0.11	0.04	0.19	1.1	1.32	0.05	0.7
MACOMA ELIMATA	0.82	2.04	1.43	8.2	9.86	0.41	5.0
TELLINA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEPHIDIA LORDI	0.04	0.00	0.07	0.4	0.48	0.02	0.2
HIATELLA SP.	0.02	0.00	0.06	0.2	0.24	0.01	0.1
PANDORA FILIRIATA	0.03	0.01	0.09	0.3	0.36	0.01	0.2
LIMPET	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BITTIUM ESCHRICHTII	0.07	0.00	0.07	0.7	0.84	0.05	0.6
MITRELLA SP.	0.03	0.00	0.07	0.3	0.36	0.02	0.3
OPHIUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLOTHURCIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NEMERTINEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS	5.57	41.85	6.47	55.7	66.95	5.57	68.0
TOTALS				83.2		8.19	

TABLE 21 BIOMASS SUMMARY — PROGRAM BENTH2

HOLBERG INLET STN.105 PONAR 5-7 JUNE 7311-20 — 10 HAULS

TAXON	BIOMASS (WEIGHT) AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
DAITRONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2SPECIES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EUDARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA	0.10	0.01	0.12	1.9	4.67	0.27	6.9
GLYCERA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE SP.	0.03	0.00	0.05	0.6	1.40	0.08	2.1
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ONUPHIS SP.	0.04	0.00	0.07	0.8	1.87	0.11	2.8
LUMBRINERIS SP.(L.PICIREATA)	0.06	0.02	0.13	1.2	2.80	0.16	4.1
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAONICE CIRRATA	0.30	0.20	0.45	5.8	14.02	0.81	20.7
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMOTRYPANE AULOGASTER	0.41	0.03	0.18	7.9	19.16	1.10	28.3
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H. FILOBRANCHUS)	0.05	0.01	0.11	1.0	2.34	0.13	3.4
ASYCHIS SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTIFIED	0.02	0.00	0.04	0.4	0.93	0.05	1.4
AMPHARETE SP.	0.02	0.00	0.06	0.4	0.93	0.05	1.4
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.01	0.00	0.03	0.2	0.47	0.00	0.1
GAMMARID AMPHIPODS UNIDENT NO3	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
PINNIXIA FABA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.	0.34	0.04	0.19	6.5	15.89	0.33	8.4
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.07	0.01	0.08	1.3	3.27	0.07	1.7
AXINOPSIDA SERRICATA	0.14	0.01	0.10	2.7	6.54	0.13	3.4
AXINOPSIDA VIRIDIS	0.26	0.02	0.13	5.0	12.15	0.25	6.4
THYASIRA SP.	0.02	0.00	0.06	0.4	0.93	0.02	0.5
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS	0.04	0.01	0.08	0.8	1.87	0.04	1.0
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP.	0.01	0.00	0.03	0.2	0.47	0.01	0.2
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEPHIDIA LORDI	0.04	0.00	0.05	0.8	1.87	0.04	1.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA BILIRIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMPET	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BITTIUM ESCHRICHTII	0.18	0.02	0.14	3.5	8.41	0.24	6.2
MITRELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	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
NEMERTINEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS				41.2		3.90	

TABLE 22 BIOMASS SUMMARY PROGRAM BENTH2

HOLBERG INLET STN.105 VAN VEEN 5-7 JUNE 7323-34 10 HAULS

TAXON	BIOMASS (WEIGHT) AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
DAITRONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2SPECIES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PODARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.01	0.00	0.03	0.1	2.83	0.01	1.3
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA	0.03	0.00	0.07	0.3	2.48	0.04	3.8
GLYCERA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE SP.	0.01	0.00	0.03	0.1	0.83	0.01	1.3
GONIADA ANNULATA	0.11	0.07	0.26	1.1	9.09	0.15	14.0
GNUPHIS SP.	0.03	0.00	0.05	0.3	2.48	0.04	3.8
LUMBRINERIS SP.(L.BICIRRATA)	0.05	0.01	0.11	0.5	4.13	0.07	6.4
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAONICE CIRRATA	0.11	0.03	0.10	1.1	9.09	0.15	14.0
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMOTRYPANE AULOGASTER	0.12	0.02	0.12	1.2	9.92	0.17	15.3
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H. FILOBRANCHUS)	0.02	0.00	0.04	0.2	1.65	0.03	2.5
ASYCHIS SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP.	0.03	0.01	0.09	0.3	2.48	0.04	3.8
MALDANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYENOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.02	0.00	0.04	0.2	1.65	0.00	0.4
GAMMARID AMPHIPOD NO.2	0.01	0.00	0.03	0.1	0.83	0.00	0.2
GAMMARID AMPHIPODS UNIDENT NO3	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
PINNIXIA FABA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.	0.11	0.02	0.14	1.1	9.09	0.15	5.0
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA SERRICATA	0.11	0.01	0.07	1.1	9.09	0.15	5.0
AXINOPSIDA VIRIDIS	0.19	0.01	0.10	1.9	15.70	0.09	8.6
THYASIRA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS	0.02	0.00	0.06	0.2	1.65	0.01	0.9
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEPHIDIA LORDI	0.05	0.00	0.05	0.5	4.13	0.02	2.3
HIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA BILIRIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMPET	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BITTIUM ESCHRICHTII	0.18	0.02	0.15	1.8	14.88	0.13	11.5
MITRELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	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
NEMERTINEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS				12.1		1.10	

TABLE 23 BIOMASS SUMMARY PROGRAM BENTH2

HOLBERG INLET STN.106 VAN VEEN 5-7JUNE 73 2 66-75 10 HAULS

TAXON	BIOMASS (WEIGHT) AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
DAITRONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2SPECIES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PODARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GONIADA ANNULATA	0.01	0.00	0.03	0.1	0.95	0.01	1.1
ONUPHIS SP.	0.02	0.00	0.06	0.2	1.90	0.03	2.2
LUMBRINERIS SP.(L.BICIRRATA)	0.04	0.02	0.13	0.4	3.81	0.06	4.4
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LACNICE CIRRATA	0.34	0.48	0.69	3.4	32.38	0.48	37.4
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMOTRYPANE AULOGASTER	0.42	0.02	0.15	4.2	40.00	0.59	46.2
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H. FILOBRANCHUS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ASYCHIS SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	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
PINNIXIA FABA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.	0.11	0.03	0.16	1.1	10.48	0.05	4.3
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.01	0.00	0.03	0.1	0.95	0.00	0.4
AXINOPSIDA SERRICATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA VIRIDIS	0.04	0.00	0.07	0.4	3.81	0.02	1.6
THYASIRA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS	0.06	0.02	0.16	0.6	5.71	0.03	2.4
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEPHIDIA LORDI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMPET	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BITTIUM ESCHRICHTII	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MITRELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	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
NEMERTINEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS				10.5		1.27	

TABLE 24 BIOMASS SUMMARY PROGRAM BENTH2

HOLBERG INLET STN.107 VAN VEEN 5-7 JUNE 73 2 45-54 10 HAULS

TAXON	BIOMASS (WEIGHT) AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
DAITRONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2SPECIES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PODARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA	0.01	0.00	0.03	0.1	0.02	0.01	0.1
GLYCERA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE SP.	0.03	0.01	0.09	0.3	0.07	0.04	0.2
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ONUPHIS SP.	0.01	0.00	0.03	0.1	0.02	0.01	0.1
LUMBRINERIS SP.(L.BICIRRATA)	0.09	0.04	0.20	0.9	0.21	0.13	0.5
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAONICE CIRRATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMOTRYPANE AULOGASTER	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H. FILOBRANCHUS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ASYCHIS SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	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
PINNIXIA FABA	0.01	0.00	0.03	0.1	0.02	0.00	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.	0.07	0.00	0.07	0.7	0.17	0.03	0.1
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.55	0.06	0.25	5.5	1.30	0.27	1.0
AXINOPSIDA SERRICATA	0.01	0.00	0.03	0.1	0.02	0.00	0.0
AXINOPSIDA VIRIDIS	0.02	0.00	0.04	0.2	0.05	0.01	0.0
THYASIRA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COMPSOMYAX SUBDIAPHANA	30.09	5023.08	70.87	300.9	71.32	15.04	56.0
PSEPHIDIA LORDI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMPET	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BITTIUM ESCHRICHTII	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MITRELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPHIURCIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	9.77	954.53	30.90	97.7	23.16	9.77	36.4
HOLOTHUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NEMERTINEA	1.53	22.74	4.77	15.3	3.63	1.53	5.7
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS				421.9		26.87	

TABLE 25 • PRELIMINARY SORT RANK ORDERS PROGRAM BENT

RUPERT INLET STN.104 VAN VEEN 5-7JUNE 73 2 35-44 10 HAU

	FREQUENCY (PER CENT OF HAULS)
GLYCERA CAPITATA	100.0
CAPITELLIDAE (H. FILOBRANC	100.0
MALDANIDAE UNIDENTIFIED	100.0
LUMBRINERIS SP.(L.BICIRRAT	80.0
AXINOPSIDA SERRICATA	60.0
BITTIUM ESCHRICHTII	60.0
ARHYNCHITE INAMOENUS	60.0
AMMOTRYPANE AULOGASTER	50.0
GLYCINDE SP.	40.0
THARYX SP.	40.0
AMPHARETE SP.	40.0
PINNIXIA FABA	40.0
MACOMA CARLOTTENSIS	40.0
APHRODITOIDEA (2SPECIES)	30.0
SYLLIDAE UNIDENTIFIED	30.0
LAONICE CIRRATA	30.0
MACOMA ELIMATA	30.0
PSEPHIDIA LORDI	30.0
MITELLA SP.	30.0
NEMERTINEA	30.0
ETEONE LONGA	20.0
PODARKE PUGETTENSIS	20.0
CHAETOZONE SETOSA	20.0
CAPITELLA CAPITATA	20.0
NUCULA SP.	20.0
LUCINOMA ANNULATA	20.0
VENERICARDIA PAUCICOSTATA	20.0
PHYLLODOCE SP.	10.0
DORVILLEA SP.	10.0
CIRRATULIDAE UNIDENTIFIED	10.0
ISOCIRRUS SP.	10.0
TEREBELLIDES STROEMI	10.0
PISTA CRISTATA	10.0
GAMMARID AMPHIPOD NO.2	10.0
ACILA CASTRENSIS	10.0
AXINOPSIDA VIRIDIS	10.0
HIATELLA SP.	10.0
PANDORA BILIRIATA	10.0
PRIAPULIDA	10.0
DAITRONA SP.	0.0
PHAINOGULLMIA SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PILARGIS BERKELEYI	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP	0.0
GONIADA ANNULATA	0.0
ONUPHIS SP.	0.0
NINOE GEMMEA	0.0
ARICIDEA SP.	0.0
PRIONOSPIO CIRRIFERA	0.0
COSSURIDAE UNIDENTIFIED	0.0
ASYCHIS SP	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
LUCINOMA TENUISCULPTA	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
TELLINA SP.	0.0
COMPSOMYAX SUBDIAPHANA	0.0
LIMPET	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0

TABLE 26 • PRELIMINARY SORT RANK ORDERS — PROGRAM BENTH

HOLBERG INLET STN.105 PONAR 5-7 JUNE 7311-20 — 10 HAUL

	FREQUENCY (PER CENT OF HAULS)
AMMOTRYPANE AULOGASTER	100.0
AXINOPSIDA SERRICATA	100.0
AXINOPSIDA VIRIDIS	100.0
GLYCERA CAPITATA	90.0
CAPITELLIDAE (H. FILOBRANC	90.0
NUCULA SP.	90.0
BITTIUM ESCHRICHTII	80.0
DAITEGNA SP.	70.0
SYLLIDAE UNIDENTIFIED	50.0
GLYCINDE SP.	50.0
LUMBRINERIS SP.(L.BICIRRAT	50.0
LACNICE CIRRATA	50.0
GAMMARID AMPHIPOD NO.2	50.0
LUCINOMA TENUISCULPTA	50.0
RODARKE RUGETTENSIS	40.0
GAMMARID AMPHIPOD NO.1	40.0
PSERHIDIA LORDI	40.0
ONUPHIS SP.	30.0
DORVILLEA SP.	20.0
CHAETOZONE SETOSA	20.0
MALDANIDAE UNIDENTIFIED	20.0
GAMMARID AMPHIPODS UNIDENT	20.0
ISOPODA	20.0
MACOMA CARLOTTENSIS	20.0
THARYX SP.	10.0
AMPHARETE SP.	10.0
CUMACEA	10.0
THYASIRA SP.	10.0
TELLINA SP.	10.0
NEMERTINEA	10.0
PHAINOGULLMIA SP.	0.0
APHRODITOIDEA (2SPECIES)	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PILARGIS BERKELEYI	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP	0.0
GONIADA ANNULATA	0.0
NINOE GEMMEA	0.0
ARICIDEA SP.	0.0
PRIONOSPIO CIRRIFERA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
CAPITELLA CAPITATA	0.0
ASYCHIS SP	0.0
ISOCIRRUS SP.	0.0
TEREBELLIDES STROEMI	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
PINNIXIA FABA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
LUCINOMA ANNULATA	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA ELIMATA	0.0
COMPSOMYAX SUBDIAPHANA	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
MITRELLA SP.	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
PRIAPULIDA	0.0
APHYNCHITE INAMOENUS	0.0

TABLE 27. PRELIMINARY SORT RANK ORDERS — PROGRAM BENTH

HOLBERG INLET STN.105 VAN VEEN 5-7 JUNE 7323-34 — 10 HAUL

	FREQUENCY (PER CENT OF HAULS)
AMMOTRYPANE AULOGASTER	100.0
GAMMARID AMPHIPOD NO.1	100.0
AXINOPSIDA VIRIDIS	100.0
AXINOPSIDA SERRICATA	90.0
GLYCERA CAPITATA	80.0
GAMMARID AMPHIPOD NO.2	80.0
BITTIUM ESCHRICHTII	80.0
DAITRONA SP.	70.0
CAPITELLIDAE (H. FILOBRANC	70.0
LAONICE CIRRATA	50.0
GAMMARID AMPHIPODS UNIDENT	50.0
NUCULA SP.	50.0
PSEPHIDIA LORDI	50.0
ONUPHIS SP.	30.0
LUMBRINERIS SP.(L.BICIRRAT	30.0
GLYCINDE SP.	20.0
GONIADA ANNULATA	20.0
CUMACEA	20.0
TANAIDACEA	20.0
PODARKE PUGETTENSIS	10.0
PILARGIS BERKELEYI	10.0
SYLLIDAE UNIDENTIFIED	10.0
THARYX SP.	10.0
CHAETOZONE SETOSA	10.0
ISOCIRRUS SP.	10.0
ISOPODA	10.0
MACOMA CARLOTTENSIS	10.0
NEMERTINEA	10.0
PHAINOGULLYIA SP.	0.0
APHRODITOIDEA (2SPECIES)	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP	0.0
NINOE GEMMEA	0.0
DOEVILLEA SP.	0.0
APICIDEA SP.	0.0
PRIONOSPIO CIRRIFERA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
OSSURIDAE UNIDENTIFIED	0.0
CAPITELLA CAPITATA	0.0
ASYCHIS SP	0.0
MALDANIDAE UNIDENTIFIED	0.0
AMPHARETE SP.	0.0
TEREBELLIDES STROEMI	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
PINNIXIA FABA	0.0
ACILA CASTRENSIS	0.0
LUCINOMA ANNULATA	0.0
LUCINOMA TENUISCULPTA	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA ELIMATA	0.0
TELLINA SP.	0.0
CRYPTOMYAX SUBDIAPHANA	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMEET	0.0
MITRELLA SP.	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
PRIAPULIDA	0.0
ARHYNCHITE INAMOENUS	0.0

TABLE 28 • PRELIMINARY SORT RANK ORDERS PROGRAM BENT

HOLBERG INLET STN.166 VAN VEEN 5-7JUNE 73 2 66-75 10 HAU

	FREQUENCY (PER CENT OF HAULS)
AMMOTRYPANE AULOGASTER	100.0
LACNICE CIRRATA	50.0
PODARKE PUGETTENSIS	40.0
GLYCERA CAPITATA	40.0
GAMMARID AMPHIPOD NO.2	40.0
NUCULA SP.	40.0
AXINOPSIDA VIRIDIS	40.0
LUMBRINERIS SP.(L.BICIRRAT	30.0
ARICIDEA SP.	30.0
GLYCINDE SP.	20.0
GAMMARID AMPHIPOD NO.1	20.0
MACOMA CARLOTTENSIS	20.0
GONIADA ANNULATA	10.0
ONUPHIS SP.	10.0
PRIONOSPIO CIRRIFERA	10.0
CHAETOZONE SETOSA	10.0
CAPITELLIDAE (H. FILOBRANC	10.0
GAMMARID AMPHIPODS UNIDENT	10.0
LUCINOMA TENUISCULPTA	10.0
AXINOPSIDA SERRICATA	10.0
DAITRONA SP.	0.0
PHAINOGULLMIA SP.	0.0
APHRODITOIDEA (2SPECIES)	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PILARGIS BERKELEYI	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP	0.0
NINOE GEMMEA	0.0
DORVILLEA SP.	0.0
THARYX SP.	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
CAPITELLA CAPITATA	0.0
ASYCHIS SP	0.0
ISOCIRRUS SP.	0.0
MALDANIDAE UNIDENTIFIED	0.0
AMPHARETE SP.	0.0
TEREBELLIDES STROEMI	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
ISOPODA	0.0
PINNIXIA FABA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
LUCINOMA ANNULATA	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA ELIMATA	0.0
TELLINA SP.	0.0
COMPSOMYAX SUBDIAPHANA	0.0
PSEPHIDIA LORDI	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
BITTIUM ESCHRICHTII	0.0
MITRELLA SP.	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
NEMERTINEA	0.0
PRIAPULIDA	0.0
ARHYNCHITE INAMGENUS	0.0

TABLE 29 . PRELIMINARY SORT RANK ORDERS PROGRAM BENT

HOLBERG INLET STN.107 VAN VEEN 5-7 JUNE 73 2 45-54 10 HAU

	FREQUENCY (PER CENT OF HAULS)
LUCINOMA TENUISCULPTA	90.0
NUCULA SP.	60.0
AXINOPSIDA VIRIDIS	60.0
LUMBRINERIS SP.(L.BICIRRAT	40.0
PILARGIS BERKELEYI	30.0
GAMMARID AMPHIPOD NO.2	30.0
AXINOPSIDA SERRICATA	30.0
COMPSOMYAX SUBDIAPHANA	20.0
NEMERTINEA	20.0
PODARKE PUGETTENSIS	10.0
GLYCERA CAPITATA	10.0
GLYCINDE SP.	10.0
ONUPHIS SP.	10.0
ARICIDEA SP.	10.0
COSSURIDAE UNIDENTIFIED	10.0
PINNIXIA FABA	10.0
MOLPADIA INTERMEDIA	10.0
DAITRONA SP.	0.0
PHAINOGULLMIA SP.	0.0
APHRODITOIDEA (2SPECIES)	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP	0.0
GONIADA ANNULATA	0.0
NINOE GEMMEA	0.0
DORVILLEA SP.	0.0
LACNICE CIRRATA	0.0
PRIONOSPIO CIRRIFERA	0.0
THARYX SP.	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
AMMOTRYPANE AULOGASTER	0.0
CAPITELLA CAPITATA	0.0
CAPITELLIDAE (H. FILOBRANC	0.0
ASYCHIS SP	0.0
ISOCIRRUS SP.	0.0
MALDANIDAE UNIDENTIFIED	0.0
AMPHARETE SP.	0.0
TEREBELLIDES STROEMI	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
LUCINOMA ANNULATA	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA CALCOTTENSIS	0.0
MACOMA ELIMATA	0.0
TELLINA SP.	0.0
PSEPHIDIA LORDI	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
BITTIUM ESCHRICHTII	0.0
MITRELLA SP.	0.0
OPHIUROIDEA	0.0
HOLOTHUROIDEA	0.0
PELAGOLIDA	0.0
APHYNCHITE INAMOENUS	0.0

TABLE 30. PRELIMINARY SORT RANK ORDERS PROGRAM BENT

RUPERT INLET STN.104 VAN VEEN 5-7JUNE 73 2 35-44 10 HAU

	DENSITY (NO./SQ. M.)
CAPITELLIDAE (H. FILOBRANC	5030
GLYCERA CAPITATA	43
MALDANIDAE UNIDENTIFIED	25
LUMBRINERIS SP.(L.BICIRRAT	16
PSEPHIDIA LORDI	9
AMMOTRYPANE AULOGASTER	8
MACOMA CARLOTTENSIS	7
BITTIUM ESCHRICHTII	7
AXINOPSIDA SERRICATA	6
ARHYNCHITE INAMOENUS	6
SYLLIDAE UNIDENTIFIED	5
PINNIXIA FABA	5
GLYCINDE SP.	4
TrIARYX SP.	4
AMPHARETE SP.	4
NEMERTINEA	4
APHRODITOIDEA (2SPECIES)	3
LACMICE CIRRATA	3
CAPITELLA CAPITATA	3
VENERICARDIA PAUCICOSTATA	3
MACOMA ELIMATA	3
MITRELLA SP.	3
ETEONE LONGA	2
PODARKE PUGETTENSIS	2
CHAETOZONE SETOSA	2
NUCULA SP.	2
LUCINOMA ANNULATA	2
PHYLLODOCE SP.	1
DORVILLEA SP.	1
CIRRATULIDAE UNIDENTIFIED	1
ISOCIRRUS SP.	1
TEREBELLIDES STROEMI	1
PISTA CRISTATA	1
GAMMARID AMPHIPOD NO.2	1
ACILA CASTRENSIS	1
AXINOPSIDA VIRIDIS	1
HIATELLA SP.	1
PANOPEA BILIRIATA	1
PRIAPULIDA	1
DAITRONA SP.	0
PHAINOGULLMIA SP.	0
PHYLLODOCIDAE UNIDENTIFIED	0
PILARGIS BERKELEYI	0
GLYCERA AMERICANA	0
GLYCERA SP	0
GONIADA ANNULATA	0
ONUPHIS SP.	0
NINOE GEMMEA	0
ARICIDEA SP.	0
PRIONOSPIO CIRRIFERA	0
COSSURIDAE UNIDENTIFIED	0
ASYCHIS SP	0
TRICHOBRANCHUS GLACIALIS	0
PISTA FASCIATA	0
SABELLIDAE UNIDENTIFIED	0
PYCNOGONIDA	0
GAMMARID AMPHIPOD NO.1	0
GAMMARID AMPHIPODS UNIDENT	0
ISOPODA	0
CUMACEA	0
TANAIDACEA	0
LUCINOMA TENUICULPTA	0
THYASIRA SP.	0
PECTINORTIA SP.	0
TELLINA SP.	0
COMPSOMYAX SUBDIAPHANA	0
LIMPET	0
OPHIUROIDEA	0
MOLPADIA INTERMEDIA	0
HOLOTHUROIDEA	0

TABLE 31 . PRELIMINARY SORT RANK ORDERS PROGRAM BENTH

HOLBERG INLET STN.105 PONAR 5-7 JUNE 7311-20 10 HAUL

	DENSITY (NO./SQ. M.)
AMMOTRYPANE AULOGASTER	204
AXINOPSIDA VIRIDIS	194
AXINOPSIDA SERRICATA	133
BITTIUM ESCHRICHTII	46
GAMMARID AMPHIPOD NO.2	37
DAITRONA SP.	35
GLYCERA CAPITATA	33
NUCULA SP.	33
CAPITELLIDAE (H. FILOBRANC	31
LAONICE CIRRATA	15
SYLLIDAE UNIDENTIFIED	13
GLYCINDE SP.	12
GAMMARID AMPHIPOD NO.1	12
PODARKE PUGETTENSIS	10
ONUPHIS SP.	10
LUMBRINERIS SP.(L.BICIRRAT	10
LUCINOMA TENUISCULPTA	10
PSEPHIDIA LORDI	8
DORVILLEA SP.	6
MACOMA CARLOTTENSIS	6
CHAETOZONE SETOSA	4
MALDANIDAE UNIDENTIFIED	4
GAMMARID AMPHIPODS UNIDENT	4
ISOPODA	4
NEMERTINEA	4
THARYX SP.	2
AMPHARETE SP.	2
CUMACEA	2
THYASIRA SP.	2
TELLINA SP.	2
PHAINOGULLMIA SP.	0
APHRODITOIDEA (2SPECIES)	0
ETEONE LONGA	0
PHYLLODOCE SP.	0
PHYLLODOCIDAE UNIDENTIFIED	0
PILARGIS BERKELEYI	0
GLYCERA AMERICANA	0
GLYCERA SP	0
GONIADA ANNULATA	0
NINOE GEMMEA	0
ARICIDEA SP.	0
PRIONOSPIO CIRRIFERA	0
CIRRATULIDAE UNIDENTIFIED	0
OPHELIIDAE UNIDENTIFIED	0
CAPITELLA CAPITATA	0
ASYCHIS SP	0
ISOCIRRUS SP.	0
TEREBELLIDES STROEMI	0
TRICHOBRANCHUS GLACIALIS	0
PISTA CRISTATA	0
PISTA FASCIATA	0
SABELLIDAE UNIDENTIFIED	0
PYCNOGONIDA	0
PINNIXIA FABA	0
TANAIDACEA	0
ACILA CASTRENSIS	0
LUCINOMA ANNULATA	0
ROCHEFORTIA SP.	0
VENERICARDIA PAUCICOSTATA	0
MACOMA ELIMATA	0
COMPSOMYAX SUBDIAPHANA	0
HIATELLA SP.	0
PANDORA BILIRIATA	0
LIMPET	0
MITRELLA SP.	0
OPHIUROIDEA	0
MOLPADIA INTERMEDIA	0
HOLOTHUROIDEA	0
PRIAPULIDA	0
ARHYNCHITE INAMOENUS	0

TABLE 32. PRELIMINARY SORT RANK ORDERS — PROGRAM BENTH

HOLBERG INLET STN.105 VAN VEEN 5-7 JUNE 7323-34 — 10 HAUL

	DENSITY (NO./SQ. M.)
AXINOPSIDA VIRIDIS	65
DAITRONA SP.	64
AMMOTRYPANE AULOGASTER	51
AXINOPSIDA SERRICATA	48
GAMMARID AMPHIPOD NO.1	43
GAMMARID AMPHIPOD NO.2	24
RITTIUM ESCHRICHTII	24
CAPITELLIDAE (H. FILOBRANC	16
GLYCERA CAPITATA	12
GAMMARID AMPHIPODS UNIDENT	9
NUCULA SP.	9
LAONICE CIRRATA	6
PSEPHIDIA LORDI	6
LUMBRINERIS SP.(L.BICIRRAT	5
ONUPHIS SP.	3
CHAETOZONE SETOSA	3
SYLLIDAE UNIDENTIFIED	2
GLYCINDE SP.	2
GONIADA ANNULATA	2
CUMACEA	2
TANAIDACEA	2
PODARKE PUGETTENSIS	1
PILARGIS BERKELEYI	1
THARYX SP.	1
ISOCIRRUS SP.	1
ISOPODA	1
MACOMA CARLOTTENSIS	1
NEMERTINEA	1
PHAINOGULIMIA SP.	0
APHRODITOIDEA (2SPECIES)	0
ETEONE LONGA	0
PHYLLODOCE SP.	0
PHYLLODOCIDAE UNIDENTIFIED	0
GLYCERA AMERICANA	0
GLYCERA SP	0
NINOE GEMMEA	0
DOEVILLEA SP.	0
ARICIDEA SP.	0
PRIONOSPIO CIRRIFERA	0
CIRRATULIDAE UNIDENTIFIED	0
OSSURIDAE UNIDENTIFIED	0
CAPITELLA CAPITATA	0
ASYCHIS SP	0
MALDANIDAE UNIDENTIFIED	0
AMPHARETE SP.	0
TEREBELLIDES STROEMI	0
TRICHOBRANCHUS GLACIALIS	0
PISTA CRISTATA	0
PISTA FASCIATA	0
SABELLIDAE UNIDENTIFIED	0
PYCNOGONIDA	0
PINNIXIA FABA	0
ACILA CASTRENSIS	0
LUCINOMA ANNULATA	0
LUCINOMA TENUISCULPTA	0
THYASIRA SP.	0
ROCHEFORTIA SP.	0
VENERICARDIA PAUCICOSTATA	0
MACOMA ELIMATA	0
TELLINA SP.	0
COMPSOMYAX SUBDIAPHANA	0
HIATELLA SP.	0
PANDORA BILIRIATA	0
LIMPET	0
MITRELLA SP.	0
OPHIUROIDEA	0
MOLPADIA INTERMEDIA	0
HOLOTHUROIDEA	0
PRIAPULIDA	0
ARHYNCHITE INAMOENUS	0

TABLE 33. PRELIMINARY SORT RANK ORDERS PROGRAM BENTI

HOLBERG INLET STN.106 VAN VEEN 5-7JUNE 73 2 66-75 10 HAUL

	DENSITY (NO./SQ. M.)
AMMOTRYPANE AULOGASTER	32
AXINOPSIDA VIRIDIS	7
LACNICE CIRRATA	6
GAMMARID AMPHIPOD NO.2	6
GLYCERA CAPITATA	5
NUCULA SP.	5
PODARKE PUGETTENSIS	4
APICIDEA SP.	4
LUMBRINERIS SP.(L.BICIRRAT	3
GAMMARID AMPHIPOD NO.1	3
GLYCINDE SP.	2
MACOMA CARLOTTENSIS	2
GONIADA ANNULATA	1
ONUPHIS SP.	1
PRIONOSPIO CIRRIFERA	1
CHAETOZONE SETOSA	1
CAPITELLIDAE (H. FILOBRANC	1
GAMMARID AMPHIPODS UNIDENT	1
LUCINOMA TENUISCULPTA	1
AXINOPSIDA SERRICATA	1
DAITRONA SP.	0
PHAINOGULLMIA SP.	0
APHRODITOIDEA (2SPECIES)	0
ETEONE LONGA	0
PHYLLODOCE SP.	0
PHYLLODOCIDAE UNIDENTIFIED	0
PILARGIS BERKELEYI	0
SYLLIDAE UNIDENTIFIED	0
GLYCERA AMERICANA	0
GLYCERA SP	0
NINOE GEMMEA	0
DORVILLEA SP.	0
THARYX SP.	0
CIRRATULIDAE UNIDENTIFIED	0
COSSURIDAE UNIDENTIFIED	0
CAPITELLA CAPITATA	0
ASYCHIS SP	0
ISOCIRRUS SP.	0
MALDANIDAE UNIDENTIFIED	0
AMPHARETE SP.	0
TEREBELLIDES STROEMI	0
TRICHOBRANCHUS GLACIALIS	0
PISTA CRISTATA	0
PISTA FASCIATA	0
SABELLIDAE UNIDENTIFIED	0
PYCNOGONIDA	0
ISOPODA	0
PINNIXIA FABA	0
CUMACEA	0
TANAIDACEA	0
ACILA CASTRENSIS	0
LUCINOMA ANNULATA	0
THYASIRA SP.	0
ROCHEFORTIA SP.	0
VENERICARDIA PAUCICOSTATA	0
MACOMA ELIMATA	0
TELLINA SP.	0
COMPSOMYAX SUBDIAPHANA	0
PSEPHIDIA LORDI	0
HIATELLA SP.	0
PANDORA BILIRIATA	0
LIMPET	0
BITTIUM ESCHRICHTII	0
MITRELLA SP.	0
OPHIUROIDEA	0
MOLPADIA INTERMEDIA	0
HOLOTHUROIDEA	0
NEMERTINEA	0
PRIAPULIDA	0
APHYNCHITE INAMOENUS	0

TABLE 34 . PRELIMINARY SORT RANK ORDERS PROGRAM BENTI

HOLBERG INLET STN.107 VAN VEEN 5-7 JUNE 73 2 45-54 10 HAUI

	DENSITY (NO./SQ. M.)
LUCINOMA TENUISCULPTA	30
AXINOPSIDA VIRIDIS	11
LUMBRINERIS SP.(L.BICIRRAT	8
NUCULA SP.	6
PILARGIS BERKELEYI	3
GAMMARID AMPHIPOD NO.2	3
AXINOPSIDA SERRICATA	3
COMPSOMYAX SUBDIAPHANA	3
NEMERTINEA	3
ARICIDEA SP.	2
PODARKE PUGETTENSIS	1
GLYCERA CAPITATA	1
GLYCINDE SP.	1
ONUPHIS SP.	1
COSSURIDAE UNIDENTIFIED	1
PINNIXIA FABA	1
MOLPADIA INTERMEDIA	1
DAITRONA SP.	0
PHAINOGULMIA SP.	0
APHRODITOIDEA (2SPECIES)	0
ETEONE LONGA	0
PHYLLODOCE SP.	0
PHYLLODOCIDAE UNIDENTIFIED	0
SYLLIDAE UNIDENTIFIED	0
GLYCERA AMERICANA	0
GLYCERA SP	0
GONIADA ANNULATA	0
NINOE GEMMEA	0
DORVILLEA SP.	0
LAONICE CIRRATA	0
PRIONOSPIO CIRRIFERA	0
THARYX SP.	0
CHAETOZONE SETOSA	0
CIRRATULIDAE UNIDENTIFIED	0
AMMOTRYPANE AULOGASTER	0
CAPITELLA CAPITATA	0
CAPITELLIDAE (H. FILOBRANC	0
ASYCHIS SP	0
ISOCIRRUS SP.	0
MALDANIDAE UNIDENTIFIED	0
AMPHARETE SP.	0
TEREBELLIDES STROEMI	0
TRICHOBRANCHUS GLACIALIS	0
PISTA CRISTATA	0
PISTA FASCIATA	0
SABELLIDAE UNIDENTIFIED	0
PYCNOGONIDA	0
GAMMARID AMPHIPOD NO.1	0
GAMMARID AMPHIPODS UNIDENT	0
ISOPODA	0
CUMACEA	0
TANAIDACEA	0
ACILA CASTRENSIS	0
LUCINOMA ANNULATA	0
THYASIRA SP.	0
ROCHEFORTIA SP.	0
VENERICARDIA PAUCICOSTATA	0
MACOMA CARLOTTENSIS	0
MACOMA ELIMATA	0
TELLINA SP.	0
PSEPHIDIA LORDI	0
HIATELLA SP.	0
PANDORA BILIRIATA	0
LIMPET	0
BITTIUM ESCHRICHTII	0
MITRELLA SP.	0
OPHIUROIDEA	0
HOLOTHUROIDEA	0
PRIAPULIDA	0
ARHYNCHITE INAMOENUS	0

TABLE 35. PRELIMINARY SORT RANK ORDERS PROGRAM BENT

RUPERT INLET STN.104 VAN VEEN 5-7JUNE 73 2' 35-44 10 HAU

BIOMASS WET WT
(GMS/SQ. M.)

APHRYNCHITE INAMOENUS	55.7
MACOMA ELIMATA	8.2
MALDANIDAE UNIDENTIFIED	8.1
GLYCERA CAPITATA	2.3
MACOMA CARLOTTENSIS	1.1
AMMOTRYPANE AULOGASTER	1.0
CAPITELLIDAE (H. FILOBRANC	0.9
LUMBRINERIS SP.(L.BICIRRAT	0.7
PINNIXIA FABA	0.7
BITTIUM ESCHRICHTII	0.7
VENERICARDIA PAUCICOSTATA	0.6
LAONICE CIRRATA	0.4
ACILA CASTRENSIS	0.4
LUCINOMA ANNULATA	0.4
PSEPHIDIA LORDI	0.4
NUCULA SP.	0.3
PANDORA BILIRIATA	0.3
MITRELLA SP.	0.3
HIATELLA SP.	0.2
APHRODITOIDEA (2SPECIES)	0.2
GLYCINDE SP.	0.1
TEREBELLIDES STROEMI	0.1
AXINOPSIDA SERRICATA	0.1
DAITRONA SP.	0.0
PRAINOGULLMIA SP.	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PODARKE PUGETTENSIS	0.0
PILARGIS BERKELEYI	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP	0.0
GONIADA ANNULATA	0.0
ONUPHIS SP.	0.0
NINOE GEMMEA	0.0
DORVILLEA SP.	0.0
APICIDEA SP.	0.0
PRIONOSPIO CIRRIFERA	0.0
THARYX SP.	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
CAPITELLA CAPITATA	0.0
ASYCHIS SP	0.0
ISOCIRRUS SP.	0.0
AMPHARETE SP.	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYENOGONIDA	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPOD NO.2	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
LUCINOMA TENUISCULPTA	0.0
AXINOPSIDA VIRIDIS	0.0
THYASIRA SP.	0.0
RUCHEFORTIA SP.	0.0
TELLINA SP.	0.0
COMPSOMYAX SUBDIAPHANA	0.0
LIMPET	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
NEMERTINEA	0.0
PRIAPULIDA	0.0

TABLE 36 . PRELIMINARY SORT RANK ORDERS PROGRAM BENTH

HOLBERG INLET STN.105 PONAR 5-7 JUNE 7311-20 10 HAUL

BIOMASS WET WT
(GMS/SQ. M.)

AMMOTRYPANE AULOGASTER	7.9
NUCULA SP.	6.5
LAONICE CIRRATA	5.8
AXINOPSIDA VIRIDIS	5.0
BITTIUM ESCHRICHTII	3.5
AXINOPSIDA SERRICATA	2.7
GLYCERA CAPITATA	1.9
LUCINOMA TENUISCULPTA	1.3
LUMBRINERIS SP.(L.BICIRRAT	1.2
CAPITELLIDAE (H. FILOBRANC	1.0
MACOMA CARLOTTENSIS	0.8
ONUPHIS SP.	0.8
PSEPHIDIA LORDI	0.8
GLYCINDE SP.	0.6
AMPHARETE SP.	0.4
THYASIRA SP.	0.4
MALDANIDAE UNIDENTIFIED	0.4
GAMMARID AMPHIPOD NO.2	0.2
TELLINA SP.	0.2
DAITRONA SP.	0.0
PHAINOGULLMIA SP.	0.0
APHRODITOIDEA (2SPECIES)	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PODARKE PUGETTENSIS	0.0
PILARGIS BERKELEYI	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP	0.0
GONIADA ANNULATA	0.0
NINOE GEMMEA	0.0
DORVILLEA SP.	0.0
APISTOBRANCHUS SP.	0.0
PRIONOSPIO CIRRIFERA	0.0
THARYX SP.	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
CAPITELLA CAPITATA	0.0
ASYCHIS SP	0.0
ISOCIRRUS SP.	0.0
TEREBELLIDES STROEMI	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYENOGONIDA	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
PINNIXIA FABA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
LUCINOMA ANNULATA	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA ELIMATA	0.0
COMPSOMYAX SUBDIAPHANA	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
MITRELLA SP.	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
NEMERTINEA	0.0
PRIAPULIDA	0.0
ARHYNCHITE INAMOENUS	0.0

TABLE 37. PRELIMINARY SORT RANK ORDERS — PROGRAM BENTHA

HOLBERG INLET STN.105 VAN VEEN 5-7 JUNE 7323-34 — 10 HAUL

BIOMASS WET WT
(GMS/SQ. M.)

AXINOPSIDA VIRIDIS	1.9
BITTIUM ESCHRICHTII	1.8
AMMOTRYPANE AULOGASTER	1.2
GONIADA ANNULATA	1.1
LAONICE CIRRATA	1.1
NUCULA SP.	1.1
AXINOPSIDA SERRICATA	1.1
LUMBRINERIS SP.(L.BICIRRAT	0.5
PSEPHIDIA LORDI	0.5
GLYCERA CAPITATA	0.3
ISOCIRRUS SP.	0.3
ONUPHIS SP.	0.3
MACOMA CARLOTTENSIS	0.2
CAPITELLIDAE (H. FILOBRANC	0.2
GAMMARID AMPHIPOD NO.1	0.2
PILARGIS BERKELEYI	0.1
GLYCINDE SP.	0.1
GAMMARID AMPHIPOD NO.2	0.1
DAITRONA SP.	0.0
PHAINOGULLMIA SP.	0.0
APHRODITOIDEA (2SPECIES)	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PODARKE PUGETTENSIS	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP	0.0
NINOE GEMMEA	0.0
DORVILLEA SP.	0.0
ARICIDEA SP.	0.0
PRIONOSPIO CIRRIFERA	0.0
THARYX SP.	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
CAPITELLA CAPITATA	0.0
ASYCHIS SP	0.0
MALDANIDAE UNIDENTIFIED	0.0
AMPHARETE SP.	0.0
TEREBELLIDES STROEMI	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
PINNIXIA FABA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
LUCINOMA ANNULATA	0.0
LUCINOMA TENUISCULPTA	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA ELIMATA	0.0
TELLINA SP.	0.0
COMPSOMYAX SUBDIAPHANA	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
MITRELLA SP.	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
NEMERTINEA	0.0
PRIAPULIDA	0.0
APHYNCHITE INAMOENUS	0.0

TABLE 38. PRELIMINARY SORT RANK ORDERS PROGRAM BENT

HOLBERG INLET STN.106 VAN VEEN 5-7JUNE 73 2 66-75 10 HAU

BIOMASS WET WT
(GMS/SQ. M.)

AMMOTRYPANE AULOGASTER	4.2
LAONICE CIRRATA	3.4
NUCULA SP.	1.1
MACOMA CARLOTTENSIS	0.6
LUMBRINERIS SP.(L.BICIRRAT	0.4
AXINOPSIDA VIRIDIS	0.4
ONUPHIS SP.	0.2
GONIADA ANNULATA	0.1
LUCINOMA TENUISCULPTA	0.1
DAITRONA SP.	0.0
PHAINOGULLMIA SP.	0.0
APHRODITOIDEA (2SPECIES)	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PODARKE PUGETTENSIS	0.0
PILARGIS BERKELEYI	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
GLYCERA CAPITATA	0.0
GLYCERA SP	0.0
GLYCINDE SP.	0.0
NINOE GEMMEA	0.0
DORVILLEA SP.	0.0
ARICIDEA SP.	0.0
PRIONOSPIO CIRRIFERA	0.0
THARYX SP.	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
CAPITELLA CAPITATA	0.0
CAPITELLIDAE (N. FILOBRANC	0.0
ASYCHIS SP	0.0
ISOCIRUS SP.	0.0
MALDANIDAE UNIDENTIFIED	0.0
AMPHARETE SP.	0.0
TEREBELLIDES STROEMI	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPOD NO.2	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
PINNIXIA FABA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
LUCINOMA ANNULATA	0.0
AXINOPSIDA SERRICATA	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA ELIMATA	0.0
TELLINA SP.	0.0
COMPSOMYAX SUBDIAPHANA	0.0
PSEPHIDIA LORDI	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
BITTIUM ESCHRICHTII	0.0
MITRELLA SP.	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
NEMERTINEA	0.0
PRIAPULIDA	0.0
ARHYNCHITE INAMOENUS	0.0

TABLE 39 . PRELIMINARY SORT RANK ORDERS PROGRAM BENT

HOLBERG INLET STN.107 VAN VEEN 5-7 JUNE 73 2 45-54 10 HAU

BIOMASS WET WT
(GMS/SQ. M.)

COMPSOMYAX SUBDIAPHANA	300.9
MOLPADIA INTERMEDIA	97.7
NEMERTINEA	15.3
LUCINOMA TENUISCULPTA	5.5
LUMBRINERIS SP.(L.BICIRRAT	0.9
NUCULA SP.	0.7
GLYCINDE SP.	0.3
AXINOPSIDA VIRIDIS	0.2
GLYCERA CAPITATA	0.1
ONUPHIS SP.	0.1
PINNIXIA FABA	0.1
AXINOPSIDA SERRICATA	0.1
DAITRONA SP.	0.0
PHAINOGULLMIA SP.	0.0
APHRODITOIDEA (2SPECIES)	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PODARKE PUGETTENSIS	0.0
PILARGIS BERKELEYI	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP	0.0
GONIADA ANNULATA	0.0
NINOE GEMMEA	0.0
DORVILLEA SP.	0.0
ARICIDEA SP.	0.0
LAONICE CIRRATA	0.0
PRIONOSPIO CIRRIFERA	0.0
THARYX SP.	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
AMMOTRYPANE ALLOGASTER	0.0
CAPITELLA CAPITATA	0.0
CAPITELLIDAE (H. FILOBRANC	0.0
ASYCHIS SP	0.0
ISOCIRRUS SP.	0.0
MALDANIDAE UNIDENTIFIED	0.0
AMPHARETE SP.	0.0
TEREBELLIDES STROEMI	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPOD NO.2	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
LUCINOMA ANNULATA	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA CARLOTTENSIS	0.0
MACOMA ELIMATA	0.0
TELLINA SP.	0.0
PSEPHIDIA LORDI	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
BITTIUM ESCHRICHTII	0.0
MITRELLA SP.	0.0
OPHIUROIDEA	0.0
HOLOTHUROIDEA	0.0
PRIAPULIDA	0.0
APHYNCHITE INAMOENUS	0.0

TABLE 40 HAUL LISTINGS PROGRAM BENTH4

RUPERT INLET STN.101 VAN VEEN 30-31OCT 73 7 5-9

TAXON	HAUL NO.	NUMBERS PER HAUL 5	6	7	8	9
CAITRONA SP.		0	0	0	0	0
PHAINGOLLEMIA SP.		0	0	0	0	0
AMPHIDITOIDEA (2 SPECIES)		0	0	0	0	0
ETIONE LONGA		0	0	0	0	0
PHYLLODOCE SP.		0	0	0	0	0
PHYLLODOCIDAE UNIDENTIFIED		0	0	0	0	0
PODARKE PUGETTENSIS		0	0	0	0	0
PILARGIS BERKELEYI		0	0	0	0	0
SYLLIDAE UNIDENTIFIED		0	0	0	0	0
GLYCERA AMERICANA		1	0	0	0	0
GLYCERA CAPITATA		0	0	0	0	0
GLYCERA SP.		0	0	0	0	0
GLYCINDE		0	0	0	0	0
GONIADA ANNULATA		0	0	0	0	0
ONUPHIS SP.		0	0	0	0	0
LUMBRINERIS SP.(L.BICIRRATA)		0	0	0	0	0
NINOE GEMMEA		0	0	0	0	0
DORVILLEA SP.		0	0	0	0	0
ARICIDEA SP.		0	0	0	0	0
LACYDE CIRRATA		0	0	0	0	0
PRIONOSPIO CIRRIFERA		0	0	0	0	0
THARYX SP.		5	0	0	0	0
CHAETOZONE SETOSA		0	0	0	0	0
CIRRATULIDAE UNIDENTIFIED		0	0	0	0	0
COSSURIDAE UNIDENTIFIED		0	0	0	0	0
AMAGETYPANE AULOGASTER		20	0	4	0	7
CAPITELLA CAPITATA		0	0	0	0	1
CAPITELLIDAE (H.FILOBRANCHUS)		6	0	1	0	3
ASYCHIS SP.		0	0	0	0	0
ISOCIRRUS SP.		0	0	0	0	0
MALDANIDAE UNIDENTIFIED		0	0	0	0	0
AXIOTHELLA SP.		0	0	0	0	0
TRAUMATOPHALES STREEMI		0	0	0	0	0
TRICHOBRANCHUS GLACIALIS		0	0	0	0	0
PISTA CRISTATA		0	0	0	0	0
PISTA FASCIATA		0	0	0	0	0
SABELLIDAE UNIDENTIFIED		0	0	0	0	0
PYCNOGONIDA		0	0	0	0	0
GAMMARID AMPHIPOD NO.1		0	0	0	0	0
GAMMARID AMPHIPOD NO.2		0	0	0	0	0
GAMMARID AMPHIPODS UNIDENT NO3		0	0	0	0	0
ISOPODA		0	0	0	0	0
PINNIXIA FABA		0	0	0	0	0
CUMACEA		0	0	0	0	0
TAGELIDAE		0	0	0	0	0
AGILA CASTRENSIS		0	0	0	0	0
NUCULA SP.		0	0	0	0	0
LUCINOLA ANNULATA		0	0	0	0	0
LUCINOLA TENUISCULPTA		0	0	0	0	0
AXINOPSIDA SERRICATA		0	0	0	0	0
AXINOPSIDA VIRIDIS		0	0	0	0	0
THYASIRA SP.		0	0	0	0	0
MACOMETIA SP.		0	0	0	0	0
VENERICARDIA PAUCICOSTATA		0	0	0	0	0
MACOMA CARLOTTENSIS		1	0	0	0	0
MACOMA ELIMATA		0	0	0	0	0
TELLINA SP.		0	0	0	0	0
CERASTODERMA SUBQUADRANA		1	0	0	0	0
MYOPHORIDIA LORDI		0	0	0	0	0
MYTILUS SP.		0	0	0	0	0
MODIOLUS MILITARIS		0	0	0	0	0
LIMEY		0	0	0	0	0
CRYPTOMYA ESCHSCHOLTII		0	0	0	0	0
MYTILUS SP		0	0	0	0	0
OPHIUROIDEA		0	0	0	0	0
PELADIA INTERMEDIA		0	0	0	0	0
NEMERTINEA		0	0	0	0	0
PRIAPULIDA		0	0	0	0	0
ARMYNCHITE ANGENUS		0	0	0	0	0
TOTALS		33	5	5	6	11

TABLE 41 HAUL LISTINGS PROGRAM BENTH4

RUPERT INLET STN.103 VAN VEEN 30-31 OCT73 7 10-16

TAXON	HAUL NO.	NUMBERS PER HAUL 10	11	14	15	16
DAITRONA SP.		0	0	0	0	0
PRAXILLELLA SP.		0	0	0	0	0
APHELOCHAETOIDEA (2 SPECIES)		0	0	0	0	0
ETTESE LONGA		0	0	0	0	0
PHYLLODOCE SP.		0	1	0	0	0
PHYLLODOCIDAE UNIDENTIFIED		0	0	0	0	0
PLEASE PUGETTENSIS		0	0	0	0	0
PILARGIS BERKELEYI		0	0	0	0	0
SYLLIDAE UNIDENTIFIED		0	0	0	0	0
GLYCERA AMERICANA		0	0	0	0	0
GLYCERA CAPITATA		0	0	1	0	0
GLYCERA SP.		0	0	0	0	0
GLYCINDE		0	0	0	0	0
GONIADA ANNULATA		0	0	0	0	0
GNUPHIS SP.		0	0	0	0	0
LUMBRINERIS SP.(L.BICIRRATA)		0	0	0	0	0
NINOE GEMMEA		0	0	0	0	0
DORVILLEA SP.		0	0	0	0	0
APICIDEA SP.		0	0	0	0	0
LAONICE CIRRATA		0	0	0	0	0
PRIONOSPIO CIRRIFERA		0	0	0	0	0
THARYX SP.		0	1	1	0	0
CHAETOZONE SETOSA		0	0	0	0	0
CIRRATULIDAE UNIDENTIFIED		0	0	0	0	0
LEPIDONOTUS UNIDENTIFIED		0	0	0	0	0
AMPHITRYTE AUDOUINI		1	0	20	2	0
CAPITELLA CAPITATA		1	0	1	0	0
CAPITELLIDAE (H.FILIBRANCHUS)		2	2	3	1	2
ASYCHIS SP.		0	0	0	0	0
ISOCIRRUS SP.		0	0	0	0	0
MALDANIDAE UNIDENTIFIED		0	0	0	0	0
AMPHARETE SP.		0	0	0	0	0
TEREBELLIDES STROEMI		0	0	0	0	0
THELEPUS GLACIALIS		0	0	0	0	0
PISTA CRISTATA		0	0	0	0	0
PISTA FASCIATA		0	0	0	0	0
SABELLIDAE UNIDENTIFIED		0	0	0	0	0
PYCNOGONIDA		1	0	0	0	0
GAMMARID AMPHIPOD NO.1		0	0	0	0	0
GAMMARID AMPHIPOD NO.2		0	0	0	0	0
GAMMARID AMPHIPODS UNIDENT NO3		0	0	0	0	0
ISOPODA		0	0	0	0	0
PINNIXIA FAFA		0	0	0	0	0
CUMACEA		0	0	0	0	0
TANAIDACEA		0	0	0	0	0
ACILA CASTRENSIS		0	0	0	0	0
NUCULA SP.		0	0	0	0	0
LUCINOMA ANNULATA		0	0	0	0	0
LUCINOMA TENUISCULPTA		0	0	0	0	0
AXINOPSIDA SERRICATA		0	0	0	0	0
AXINOPSIDA VIRIDIS		0	0	0	0	0
THYASIRA SP.		0	0	0	0	0
MONTACUTIA SP.		0	0	0	0	0
VENERICARDIA PAUCICOSTATA		0	0	0	0	0
MACOMA CARLOTTENSIS		0	0	0	0	0
MACOMA ELIMATA		0	0	0	0	0
TELLINA SP.		0	0	0	0	0
CERASTODERMA SUBQUADRANA		0	0	0	0	0
PSEPHIDIA LORDI		0	0	0	0	0
MACOMA SP.		0	0	0	0	0
PASCHA BILIRIATA		0	0	0	0	0
LIMIT		0	0	0	0	0
BITTIUM ESCHRICHTII		0	0	0	0	0
MITRELLA SP.		0	0	0	0	0
CRYPTOGIDEA		0	0	0	0	0
NOLEPADIA INTERMEDIA		0	0	0	0	0
NOLETMOIDEA		0	0	0	0	0
NEMERTINEA		0	0	0	0	0
PRIAPULIDA		0	0	0	0	0
ANHYNCHITE INAMOENUS		0	0	0	0	0
TOTALS		5	3	36	3	2

TABLE 42 HAUL LISTINGS PROGRAM BENTH4

RUPERT INLET STN.104 VAN VEEN 30-31 OCT73 7 19-28

TAXON	HAUL NO.	19	20	21	22	23	24	25	26	27	28
		NUMBERS PER HAUL									
DAITHONA SP.		0	0	0	0	0	0	0	0	0	0
PHAINGULLMIA SP.		0	0	0	0	0	0	0	0	0	0
APHELOCHOIDA (2 SPECIES)		1	0	2	0	0	0	1	0	1	0
ETEONE LONGA		1	0	0	0	0	1	1	1	1	1
PHYLLODOCE SP.		1	0	0	0	0	0	0	0	0	0
PHYLLODOCIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	2
POLARAE PUGETTENSIS		0	0	0	0	0	0	0	0	0	2
PILARGIS BERKELEYI		0	1	0	0	0	0	0	1	0	0
SYLLIDAE UNIDENTIFIED		1	0	1	0	0	0	0	1	0	1
GLYCERA AMERICANA		0	0	0	0	0	0	0	0	0	0
GLYCERA CAPITATA		4	5	2	0	4	0	2	2	5	2
GLYCERA SP.		0	0	0	0	0	0	0	0	0	0
GLYCINDE		0	0	0	0	0	0	0	0	0	0
GONIADA ANNULATA		0	0	0	0	0	0	0	0	0	0
ONUPHIS SP.		0	0	0	0	0	0	1	0	0	0
LUMBRINERIS SP. (L.CICIRRATA)		2	0	0	0	0	0	1	0	2	0
NINOE GEMMEA		0	0	0	0	1	0	1	0	1	0
DERVILLEA SP.		0	0	0	0	0	0	0	1	0	0
AEDICIRA SP.		0	0	1	0	0	0	0	0	0	0
LAONICE CIRRATA		1	0	2	0	0	0	1	0	0	1
SPIONIDAE CIRRIFERA		1	1	4	1	1	0	0	4	4	0
PARAONIDAE SETOSA		9	2	3	1	0	10	0	7	23	4
CHAETOZONE SETOSA		1	0	0	0	0	0	0	0	0	0
CIRRATULIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
COSSURIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
AMPHITRITE AULOGASTER		199	127	129	2	96	182	79	58	195	135
CAPITELLA CAPITATA		3	2	1	182	1	5	3	4	4	0
CAPITELLIDAE (N.FILIBRANCHUS)		999	999	599	0	999	999	999	999	999	999
ASYCHIS SP.		0	0	0	0	0	0	0	0	0	0
ISOCIRRUS SP.		0	0	1	0	0	0	0	1	2	2
MALDANIDAE UNIDENTIFIED		0	1	1	0	0	4	3	0	1	0
AMPHARETE SP.		0	1	5	0	0	3	1	0	1	0
TEREBELLIDES STROEMI		0	0	0	0	0	0	0	0	0	0
TRICHOBRANCHUS GLACIALIS		0	0	0	0	0	0	0	1	0	0
PISTA CRISTATA		0	0	0	0	0	0	0	0	0	0
PISTA FASCIATA		0	0	0	0	0	0	0	1	0	0
SABELLIDAE UNIDENTIFIED		1	0	0	0	0	0	0	0	0	0
PYCNOGONIDA		0	0	0	0	0	0	0	0	0	0
GAMMARID AMPHIPOD NO.1		1	0	1	0	0	0	0	0	0	1
GAMMARID AMPHIPOD NO.2		1	1	0	0	0	0	0	0	0	0
GAMMARID AMPHIPODS UNIDENT NO3		0	1	0	0	0	0	0	0	0	0
ISOPODA		0	0	0	1	0	0	0	0	0	1
PINNIXIA FABA		0	0	2	0	0	0	3	0	0	2
CUMACEA		0	0	0	11	1	1	0	0	0	0
TANAIDACEA		0	0	0	0	0	0	0	0	0	0
ACILA CASTRENSIS		0	0	0	0	0	0	0	0	0	0
NUCULA SP.		0	0	0	0	0	0	0	0	0	0
LUCINOMA ANNULATA		0	0	0	0	0	0	0	0	0	0
LUCINOMA TENUISCULPTA		0	0	0	0	0	0	0	0	0	0	0
AXINOPSIDA SERRICATA		0	1	0	0	0	0	0	0	0	0
AXINOPSIDA VIRIDIS		0	0	0	0	0	0	0	0	0	0
THYASIRA SP.		1	0	0	0	0	0	0	0	0	0
ROCHEFORTIA SP.		0	0	0	0	0	0	0	0	0	0
VENERICARDIA PAUCICOSTATA		0	0	0	0	0	0	0	0	0	0
MACOMA CARLOTTENSIS		1	0	0	1	5	0	0	0	7	0
MACOMA ELIMATA		0	0	0	0	0	0	0	0	0	0
TELLINA SP.		0	0	0	0	0	0	0	0	0	0
CONFSORBAX SUBDIAPHANA		0	0	0	0	0	0	0	0	0	0
PSEPHIDIA LORDI		1	0	1	0	0	0	0	0	0	1
HIATELLA SP.		0	0	0	0	0	0	0	0	0	0
PANOPEA MILIARIATA		0	0	0	0	0	0	0	0	0	0
LIMEI		0	0	0	0	0	0	0	0	0	0
BITTIUM ESCHRICHTII		0	0	0	0	0	0	0	0	0	0
MITRELLA SP.		2	0	0	0	0	0	0	1	0	0
OPHIURIDEA		0	0	0	0	0	0	0	0	0	0
MOLPADIA INTERMEDIA		0	0	0	0	0	0	0	0	0	0
MOLGULIDAE		0	1	0	0	0	0	0	0	0	0
NEMERTINEA		0	0	0	0	0	0	1	0	0	0
PRIAPULIDA		0	0	0	0	0	0	0	0	0	0
ARHYNCHITE INAMOENUS		0	0	2	0	0	0	1	0	0	1
TOTALS		1226	1156	1161	199	1114	1217	1094	1080	1246	1157

TABLE 43 HAUL LISTINGS PROGRAM BENTH4

HOLBERG INLET STN.109 VAN VEEN 30-31 OCT73 7 40-49

NUMBERS PER HAUL

TAXON HAUL NO.	40	41	42	43	44	45	46	47	48	49
DAITHONA SP.	0	0	0	0	0	0	0	0	0	0
PHAINGOLLEMIA SP.	0	0	0	0	0	0	0	0	0	0
APHRODITOIDEA (2 SPECIES)	0	0	0	0	1	0	0	0	0	0
ETEONE LONGA	1	0	0	0	1	0	1	0	2	1
PHYLLODOCE SP.	0	0	1	0	0	0	1	0	0	1
PHYLLODOCIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
POLARIS PUGETTENSIS	0	1	1	0	0	3	1	2	0	2
PILARGIS BERKELEYI	0	0	0	0	0	3	0	1	0	0
SYLLIDAE UNIDENTIFIED	0	3	0	0	0	1	0	2	0	2
GLYCERA AMERICANA	0	0	0	0	2	0	0	0	0	0
GLYCERA CAPITATA	4	1	1	2	0	6	4	0	1	0
GLYCERA SP.	0	1	1	0	0	0	0	0	0	0
GLYCINDE SP.	2	0	0	0	0	2	0	0	0	1
GONIADA ANNULATA	0	0	0	0	0	0	0	0	0	0
GONIADIDAE UNIDENTIFIED	0	0	0	0	0	1	0	0	1	0
LUMBRINERIS SP. (L. BICIRRATA)	1	0	0	0	1	0	2	0	1	0
NINOE GEMMEA	0	0	0	0	0	1	0	3	1	1
DORVILLEA SP.	0	0	0	0	0	1	0	0	0	0
ARICIDEA SP.	0	0	0	0	1	0	0	0	0	0
LACNICE CIRRATA	1	0	1	1	3	3	3	1	1	1
PRIONOSPIO CIRRIFERA	1	0	0	0	0	4	0	1	0	0
THARYX SP.	999	999	999	999	999	10	999	999	999	999
CHAETOZONE SETOSA	0	0	1	0	0	2	0	0	1	0
CIRRATULIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
COSSURIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
AMPHIPHOLIS SQUAMATA	311	472	336	423	416	327	419	368	333	327
CAPITELLA CAPITATA	0	0	0	14	9	0	1	1	0	0
CAPITELLIDAE (N.FILOBRANCHUS)	999	999	999	999	999	999	999	999	999	999
ASYCHIS SP.	0	0	0	0	1	0	0	0	0	0
ISOCIRRUS SP.	0	1	0	0	1	0	0	0	0	0
MALDANIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
AMPHARETE SP.	1	2	1	1	2	0	2	2	3	3
TEREBELLIDES STROEMI	1	1	0	0	2	0	2	0	0	0
TRICHOBRANCHUS GLACIALIS	0	0	2	0	0	0	0	0	0	0
PISTA CRISTATA	0	0	0	0	0	0	1	0	0	0
PISTA FASCIATA	0	0	0	0	0	0	0	0	0	1
SABELLIDAE UNIDENTIFIED	1	0	0	0	2	0	0	0	0	1
PYCNOGONIDA	0	0	0	0	0	0	0	0	0	0
GAMMARID AMPHIPOD NO.1	4	4	7	3	1	0	1	2	1	1
GAMMARID AMPHIPOD NO.2	1	1	0	0	0	1	0	0	0	0
GAMMARID AMPHIPODS UNIDENT NO3	0	0	0	0	0	0	0	1	0	1
ISOPODA	0	0	0	0	0	0	0	0	0	0
PINNIXIA FABA	0	0	0	0	0	0	0	0	0	0
CUMACEA	0	2	1	1	0	0	1	1	0	0
TASEIDACEA	0	0	0	0	0	0	0	0	0	0
ACILA CASTRENSIS	3	2	3	3	2	0	0	2	8	2
NUCULA SP.	3	2	1	0	0	1	0	0	2	0
LUCINOMA ANNULATA	0	0	0	0	0	0	0	0	0	0
LUCINOMA TENUISCULPTA	0	0	0	0	0	0	0	0	0	0
AXINOPSIDA SERRICATA	8	3	0	1	1	1	5	2	2	4
AXINOPSIDA VIRIDIS	3	5	0	1	1	8	4	11	5	17
THYASIRA SP.	0	0	0	0	1	0	0	0	0	0
ESCHERICHTIA SP.	0	0	0	0	0	0	0	0	0	0
VENERICARDIA PAUCICOSTATA	0	0	1	0	0	0	0	0	0	0
MACOMA CARLOTTENSIS	0	2	0	3	0	0	3	5	5	0
MACOMA ELIMATA	0	0	0	0	0	4	0	0	0	1
TELLINA SP.	0	0	0	0	0	0	0	0	0	0
CREPIDULA SUBPLANA	0	0	0	0	0	1	0	0	0	0
NEPHTYS LORDI	4	4	0	0	0	1	1	1	3	2
NATICA SP.	0	0	0	0	0	1	0	0	0	0
PANDORA MILITATA	0	0	0	0	0	0	0	0	0	0
LIMIFER	0	0	0	0	0	0	0	0	0	0
PITTIUM ESCHRICHTII	0	3	0	0	0	0	2	0	0	0
MITRELLA SP.	0	0	0	0	0	0	0	0	0	0
CRYPTOMYA	0	0	0	0	0	1	0	0	0	0
MOLPADIA INTERMEDIA	0	0	0	0	0	0	0	0	0	0
HOLOTHUROIDEA	0	0	0	0	0	0	0	0	0	0
NEMERTINEA	0	0	0	0	0	0	0	0	0	0
PRIAPULIDA	0	0	0	0	0	0	0	0	0	0
ARHYNCHITE INAMOENUS	0	0	0	0	0	0	0	0	0	0
TOTALS	2348	2513	2358	2451	2462	1384	2450	2405	2373	2370

TABLE 44 HAUL LISTINGS PROGRAM BENTH

HOLBERG INLET STN.105 VAN VEEN 30-31 OCT73 7 30-39

TAXON	HAUL NO.	30	31	32	33	34	35	36	37	38	39
		NUMBERS PER HAUL									
LAITENA SP.		0	0	0	0	0	0	0	0	0	0
PHAENOGULLMIA SP.		0	0	0	0	0	0	0	0	0	0
APHRODITOIDEA (2 SPECIES)		0	1	0	0	0	0	0	0	0	0
CIRRIFORMIA TENUIS		0	0	0	0	0	0	0	0	0	0
CIRRATULIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
CIRRATULUS CIRRATUS		0	0	0	0	0	0	0	0	0	0
CIRRATULUS SP.		0	0	0	0	0	0	0	0	0	0
CIRRATULUS SPECTABILIS		0	0	0	0	0	0	0	0	0	0
CIRRIFORMIA SP.		0	0	0	0	0	0	0	0	0	0
CIRRIFORMIA TENTACULATA		0	0	0	0	0	0	0	0	0	0
CIRRIFORMIA TENUIS		0	0	0	0	0	0	0	0	0	0
TAUBERIA GRACILIS		0	0	0	0	0	0	0	0	0	0
TAUBERIA SP.		0	0	0	0	0	0	0	0	0	0
CAPITELLIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
DECAMASTUS SP.		0	0	0	0	0	0	0	0	0	0
HETEROMASTUS FILIFORMIS		0	0	0	0	0	0	0	0	0	0
MEDIOMASTUS CALIFORNIENSIS		0	0	0	0	0	0	0	0	0	0
MEDIOMASTUS SP.		0	0	0	0	0	0	0	0	0	0
NOTOMASTUS LATERICEUS		0	0	0	0	0	0	0	0	0	0
NOTOMASTUS SP.		0	0	0	0	0	0	0	0	0	0
CAPITELLIDAE (NO.FILOBRANCHUS)		999	999	999	999	999	999	999	999	999	999
ARICIDEA SP.		0	0	0	0	0	0	0	0	0	0
ISOCIRRUS SP.		0	0	1	0	0	0	0	0	0	0
MALDANIDAE UNIDENTIFIED		0	0	0	0	0	0	0	0	0	0
ASPHARETE SP.		0	0	0	0	0	0	0	0	0	0
TEREBELLIDES STROEMI		0	0	0	0	0	0	0	0	0	0
TRICHOBRANCHUS GLACIALIS		1	0	0	0	0	0	0	0	0	0
PISTA CRISTATA		0	0	0	0	0	0	0	0	0	0
PISTA FASCIATA		0	0	0	0	0	0	0	0	0	0
SABELLIDAE UNIDENTIFIED		0	0	1	0	0	0	0	0	0	0
PYCNOGONIDA		0	0	0	0	0	0	0	0	0	0
GAMMARID AMPHIPOD NO.1		0	0	3	0	0	1	0	0	0	1
GAMMARID AMPHIPOD NO.2		2	3	4	0	0	7	0	0	0	1
GAMMARID AMPHIPODS UNIDENT NO3		0	0	0	1	0	0	0	1	0	0
ISOPODA		0	0	0	0	0	0	0	0	0	0
PINNIXIA FABA		0	0	0	0	0	0	0	0	0	0
CUMACEA		0	0	1	0	0	0	0	0	0	0
TANAIDACEA		0	0	0	0	0	0	0	0	0	0
ACILA CASTRENSIS		0	0	0	0	0	0	0	0	0	0
NUCULA SP.		0	1	0	0	0	0	0	1	0	0
LUCINOMA ANNULATA		0	0	0	0	0	0	0	0	0	0
LUCINOMA TENUISCULPTA		0	0	1	0	0	0	0	1	0	0
AXINOPSIDA SERRICATA		3	4	5	3	3	5	7	4	8	2
AXINOPSIDA VIRIDIS		6	6	6	12	7	13	13	13	20	6
THYASIRA SP.		0	0	0	0	0	0	0	0	0	0
MOCHELETTIA SP.		0	0	0	0	0	0	0	0	0	0
VENERICARDIA PAUCICOSTATA		0	0	0	0	0	0	0	0	0	0
MACOMA CARLOTTENSIS		10	10	7	8	0	11	6	13	8	6
MACOMA ELIMATA		0	0	0	0	0	0	0	0	0	0
TELLINA SP.		0	0	0	0	0	0	0	0	0	0
CERASOMYAX SUBTRUNCANA		0	0	0	0	0	0	0	0	0	0
PSEPHIDIA LORDI		2	1	2	0	0	2	0	1	1	2
MYATELLA SP.		0	0	0	0	0	0	0	0	0	0
PANOMYA FILIFIATA		0	0	0	0	0	0	0	0	0	0
LIMIFER		0	0	0	0	0	0	0	0	0	0
MYTILUS EDULIS		0	0	0	0	0	0	0	0	0	0
MYTILUS ESCHRICHTII		1	0	1	0	1	0	0	0	0	0
MYTELLA SP.		1	0	0	0	0	0	0	0	0	0
OPHIUROIDEA		0	0	0	0	0	0	0	0	0	0
MOLPADIA INTERMEDIA		0	0	0	0	0	0	0	0	0	0
MOLPADIODA		0	1	0	0	0	0	0	0	0	0
NEMERTINEA		2	1	0	0	0	0	0	0	0	0
PRIAPULIDA		0	0	0	0	0	0	0	0	0	0
APHRONCHITE INAEQUENUS		0	0	0	0	0	0	0	0	0	0
TOTALS		1401	1359	1329	1385	1381	1488	1398	1403	1428	1283

TABLE 45 HAUL LISTINGS PROGRAM BENTHA

HOLLERG INLET STN.106 VAN VEEN 30-31 OCT73 7 52-61

TAXON	HAUL NO. 52	53	54	55	56	57	58	59	60	61
	NUMBERS PER HAUL									
DAITRONA SP.	14	4	38	7	33	21	51	30	54	104
PHAINOCOULEMIA SP.	0	0	2	2	0	1	0	0	3	1
APHRODITOIDEA (2 SPECIES)	0	0	0	0	0	0	1	0	0	0
ETEONE LONGA	0	0	0	0	0	0	0	0	0	0
PHYLLODOCE SP.	0	0	0	0	0	0	0	0	0	0
PHYLLODOCIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
PODARKE PUGETTENSIS	0	0	0	0	0	1	0	1	0	0
PILARGIS BERKELEYI	0	0	0	0	0	0	1	0	0	0
SYLLIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
GLYCERA AMERICANA	0	0	0	0	0	0	0	0	0	0
GLYCERA CAPITATA	1	0	1	1	1	1	1	1	0	2
GLYCERA SP.	0	0	0	0	0	0	1	0	0	0
GLYCINDE	0	1	0	0	1	1	0	1	1	1
GONIADA ANNULATA	0	0	0	1	1	0	0	0	0	0
ONUPHIS SP.	0	0	0	0	0	0	0	0	0	0
LUMBRINERIS SP.(L.BICIRRATA)	0	1	1	0	3	1	0	0	1	2
NINOE GEMMEA	0	0	0	0	0	0	0	0	0	0
DORVILLEA SP.	0	0	0	0	0	0	0	0	0	0
ARICIDEA SP.	0	0	3	0	0	0	0	0	0	0
LAONICE CIRRATA	1	0	1	1	0	0	1	1	0	0
PRIONOSPIO CIRRIFERA	0	0	0	0	0	0	0	0	0	0
THARYX SP.	0	0	0	0	1	0	1	0	0	0
CHAETOZONE SETOSA	0	1	0	0	1	3	0	1	0	2
CIRRATULIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
COSSURIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
AMMOTRYPANE AULOGASTER	210	133	205	134	215	107	263	132	202	226
CAPITELLA CAPITATA	0	0	0	0	0	0	0	0	0	0
CAPITELLIDAE (H.FILOBRANCHUS)	1	2	1	0	0	1	3	2	1	1
ASYCHIS SP.	0	0	0	0	0	0	0	0	0	0
ISOCIRRUS SP	0	0	0	0	0	0	0	0	0	0
MALDANIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
AMPHARETE SP.	0	2	0	0	1	0	0	0	1	0
TEREBELLIDES STROEMI	1	2	3	6	4	4	0	4	2	2
TRICHOBRANCHUS GLACIALIS	0	0	0	0	0	0	0	0	0	0
PISTA CRISTATA	0	0	0	0	0	0	0	0	0	0
PISTA FASCIATA	0	0	0	0	0	0	0	0	0	0
SABELLIDAE UNIDENTIFIED	0	0	0	0	0	0	0	0	0	0
PYCNOGONIDA	0	0	0	0	0	0	0	0	0	0
GAMMARID AMPHIPOD NO.1	0	0	0	0	1	1	2	3	0	0
GAMMARID AMPHIPOD NO.2	6	3	5	4	5	3	4	7	5	6
GAMMARID AMPHIPODS UNIDENT NO3	0	0	0	0	0	0	0	0	0	0
ISOPODA	0	0	0	0	0	0	0	0	0	0
PINNIXIA FABA	0	0	0	0	0	0	0	0	0	0
CUMACEA	1	0	0	0	0	1	1	0	0	1
TANAIDACEA	0	0	0	0	0	0	0	0	0	0
ACILA CASTRENSIS	0	0	0	0	0	0	0	0	0	0
NUCULA SP.	0	0	0	0	0	0	2	1	0	0
LUCINOMA ANNULATA	0	0	0	0	0	0	0	0	0	1
LUCINOMA TENUISCULPTA	0	0	1	0	0	0	0	0	0	0
AXINOPSIDA SERICATA	1	1	0	0	0	1	0	0	2	0
AXINOPSIDA VIRIDIS	3	1	2	2	1	1	0	4	4	1
THYASIRA SP.	0	0	0	0	0	0	0	0	0	1
[illegible]CELERORTIA SP.	0	0	0	0	0	0	0	0	0	0
VENERICARDIA PAUCICOSTATA	0	0	0	0	0	0	0	0	0	0
MACOMA CARLOTTENSIS	0	2	0	0	3	1	3	2	1	4
MACOMA ELIMATA	0	0	0	0	0	0	0	0	0	0
TELLINA SP	0	0	0	0	0	0	0	0	0	0
COMPSOMYAX SUBDIAPHANA	0	0	0	0	0	0	0	0	0	0
PSEPHIDIA LORDI	0	0	0	0	0	0	0	0	0	0
HIATELLA SP.	0	0	0	0	0	0	0	0	0	0
PANDORA FILIRIATA	0	0	0	0	0	0	0	0	0	0
LIMPET	0	0	0	0	0	0	0	0	0	0
BITTIUM ESCHRICHTII	0	0	0	0	0	0	0	0	0	0
MITRELLA SP	0	0	0	0	0	0	0	0	0	0
OPHIUROIDEA	0	0	0	0	0	0	0	0	0	0
MOLPADIA INTERMEDIA	0	0	0	0	0	0	0	0	0	0
HOLOTHUROIDEA	0	0	0	0	0	0	0	0	0	0
NEMERTINEA	0	0	1	0	0	0	0	0	0	0
PRIAPULIDA	0	0	0	0	0	0	0	0	0	0
ARHYNCHITE INAMOENUS	0	0	0	0	0	0	0	0	0	0
TOTALS	239	153	264	158	271	149	335	190	277	355

TABLE 46 HAUL LISTINGS PROGRAM BENTH4

RUPERT INLET STN.101 VAN VEEN 30-31OCT 73 7 5-9

TAXON	HAUL NO.	WEIGHTS PER HAUL 5	6	7	8	9
DAITRONA SP.		0.0	0.0	0.0	0.0	0.0
PHAIROCULLMIA SP.		0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2 SPECIES)		0.0	0.0	0.0	0.0	0.0
ETEONE LONGA		0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.		0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0
POLYNOE PLGETTENSIS		0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI		0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA		1.8	0.0	0.0	0.0	0.0
GLYCERA CAPITATA		0.0	0.0	0.0	0.0	0.0
GLYCERA SP.		0.0	0.0	0.0	0.0	0.0
GLYCINDE		0.0	0.0	0.0	0.0	0.0
GONIADA ANNULATA		0.0	0.0	0.0	0.0	0.0
ONUPHIS SP.		0.0	0.0	0.0	0.0	0.0
LUMBRINERIS SP.(L.PICIPEATA)		0.0	0.0	0.0	0.0	0.0
NICOLE GENITA		0.0	0.0	0.0	0.0	0.0
DODVILLEA SP.		0.0	0.0	0.0	0.0	0.0
AMICIDEA SP.		0.0	0.0	0.0	0.0	0.0
LAONICE CIRRATA		0.0	0.0	0.0	0.0	0.0
PRIONOSPIO CIRRIFERA		0.0	0.0	0.0	0.0	0.0
THARYX SP.		0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA		0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0
CLYMENIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0
AMPHITRYONE AUDOUINI		0.2	0.1	0.1	0.1	0.1
CAPITELLA CAPITATA		0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (D.FILOBRANCHUS)		1.7	0.0	0.0	0.0	0.0
AXYCHIS SP.		0.0	0.0	0.0	0.0	0.0
ISCHIDIUS SP.		0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.		0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STREENI		0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS		0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA		0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA		0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA		0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1		0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2		0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3		0.0	0.0	0.0	0.0	0.0
ISOPODA		0.0	0.0	0.0	0.0	0.0
PINNIXIA FABA		0.0	0.0	0.0	0.0	0.0
CUMACEA		0.0	0.0	0.0	0.0	0.0
TANAIDACEA		0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS		0.0	0.0	0.0	0.0	0.0
NUCULA SP.		0.0	0.0	0.0	0.0	0.0
LUCINOMA ANNULATA		0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA		0.0	0.0	0.0	0.0	0.0
AXINOPSIDA SERICATA		0.0	0.0	0.0	0.0	0.0
AXINOPSIDA VIRIDIS		0.0	0.0	0.0	0.0	0.0
THYASIRA SP.		0.0	0.0	0.0	0.0	0.0
MICHELOTTIA SP.		0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA		0.0	0.0	0.0	0.0	0.0
MACOMA CALCTTENSIS		0.3	0.0	0.0	0.0	0.0
MACOMA CLIMATA		0.0	0.0	0.0	0.0	0.0
TELLINA SP.		0.0	0.0	0.0	0.0	0.0
CRENOSCAVA SUBDIAPHANA		0.0	0.0	0.0	0.0	0.0
ASEPHEIDIA LORDI		0.0	0.0	0.0	0.0	0.0
HIATELLA SP.		0.0	0.0	0.0	0.0	0.0
PANDORA SILICIATA		0.0	0.0	0.0	0.0	0.0
LIMIFT		0.0	0.0	0.0	0.0	0.0
DITTIUM ESCHRICHTII		0.0	0.0	0.0	0.0	0.0
MITRELLA SP.		0.0	0.0	0.0	0.0	0.0
OPHIUROIDEA		0.0	0.0	0.0	0.0	0.0
MELFADIA INTERMEDIA		0.0	0.0	0.0	0.0	0.0
HELETHURCIDEA		0.0	0.0	0.0	0.0	0.0
NEMERTINEA		0.0	0.0	0.0	0.0	0.0
PHIAROLIDA		0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS		0.0	0.0	0.0	0.0	0.0
TOTALS		4.0	0.1	0.1	0.1	0.1

TABLE 47 HAUL LISTINGS PROGRAM BENTH4

RUPERT INLET STN.103 VAN VEEN 30-31 OCT73 7 10-16

TAXON	HAUL NO.	WEIGHTS PER HAUL 10	11	14	15	16
DAITHENA SP.		0.0	0.0	0.0	0.0	0.0
PRAINCOLLYRIA SP.		0.0	0.0	0.0	0.0	0.0
APHRODITEIDEA (2 SPECIES)		0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE		0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.		0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0
POLYNOE PUGETTENSIS		0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI		0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA		0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA		0.0	0.0	0.1	0.0	0.0
GLYCERA SP.		0.0	0.0	0.0	0.0	0.0
GLYCINDE		0.0	0.0	0.0	0.0	0.0
GONIADA ANNULATA		0.0	0.0	0.0	0.0	0.0
ONUPHIS SP.		0.0	0.0	0.0	0.0	0.0
LUMBRINERIS SP.(L.BICIRRATA)		0.0	0.0	0.0	0.0	0.0
NINOE GEMMEA		0.0	0.0	0.0	0.0	0.0
DERVILLEA SP.		0.0	0.0	0.0	0.0	0.0
ARICIDEA SP.		0.0	0.0	0.0	0.0	0.0
LAONICE CIRRATA		0.0	0.0	0.0	0.0	0.0
PRIONOSPIO CIRRIFERA		0.0	0.0	0.0	0.0	0.0
THARYX SP.		0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA		0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0
CLYMENIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0
AMPHITRYMAE ZILLOIDES		0.0	0.0	0.4	0.0	0.0
CAPITELLA CAPITATA		0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (N.FILOBRANCHUS)		0.0	0.0	0.0	0.0	0.0
ASYCHIS SP.		0.0	0.0	0.0	0.0	0.0
ISOCHRUS SP.		0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.		0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI		0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS		0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA		0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA		0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA		0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1		0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2		0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3		0.0	0.0	0.0	0.0	0.0
ISOPODA		0.0	0.0	0.0	0.0	0.0
MINNIXIA FABA		0.0	0.0	0.0	0.0	0.0
CUMACEA		0.0	0.0	0.0	0.0	0.0
TANAIDACEA		0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS		0.0	0.0	0.0	0.0	0.0
NUCULA SP.		0.0	0.0	0.0	0.0	0.0
LUCINOMA ANNULATA		0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA		0.0	0.0	0.0	0.0	0.0
AXINOPSIDA SERICATA		0.0	0.0	0.0	0.0	0.0
AXINOPSIDA VIRIDIS		0.0	0.0	0.0	0.0	0.0
THYASIRA SP.		0.0	0.0	0.0	0.0	0.0
KELLIELLA SP.		0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA		0.0	0.0	0.0	0.0	0.0
MACOMA CALCAREA		0.0	0.0	0.0	0.0	0.0
MACOMA CALCULATA		0.0	0.0	0.0	0.0	0.0
MACOMA ELIMATA		0.0	0.0	0.0	0.0	0.0
TELLINA SP.		0.0	0.0	0.0	0.0	0.0
CREMESOMYAX SUBTARTANA		0.0	0.0	0.0	0.0	0.0
PSEUDIDIA LORDI		0.0	0.0	0.0	0.0	0.0
PHAIELLA SP.		0.0	0.0	0.0	0.0	0.0
PANOPEA BILIRATA		0.0	0.0	0.0	0.0	0.0
LIMPET		0.0	0.0	0.0	0.0	0.0
DITTUS ESCHRICHTII		0.0	0.0	0.0	0.0	0.0
MITRELLA SP.		0.0	0.0	0.0	0.0	0.0
OPHIUROIDEA		0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA		0.0	0.0	0.0	0.0	0.0
HOLOTHUROIDEA		0.0	0.0	0.0	0.0	0.0
NEMERTINEA		0.0	0.0	0.0	0.0	0.0
PRIAPULIDA		0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAEQUUS		0.0	0.0	0.0	0.0	0.0
TOTALS		0.0	0.0	0.5	0.0	0.0

TABLE 48 HAUL LISTINGS PROGRAM BENTH4

RUPERT INLET STN.104 VAN VEEN 30-31 OCT73 7 19-28

WEIGHTS PER HAUL

TAXON	HAUL NO.	19	20	21	22	23	24	25	26	27	28
DAITHOA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHOXINOCEPHALA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHILOCHIDEA (2 SPECIES)		0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ETHONE LONGA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PLEARKE PUGETTENSIS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA		0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	4.5
GLYCERA CAPITATA		0.3	0.3	0.2	0.0	0.5	0.8	0.4	0.3	0.5	0.1
GLYCERA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GONIADA ANNULATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ONUPHIS SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0
LUMBRINERIS SP.(L.BICIRRATA)		0.2	0.2	0.1	0.0	0.0	0.2	0.2	0.0	0.0	0.0
NINOE GEMMEA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AEDICIDEA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LACINIDE CIRRATA		0.3	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0
MESOSPIO CIRRIFERA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.		0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.1	0.2	0.0
CHAETOZONE SETOSA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED		0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHITRYPANE AUDOUINIER		2.9	1.7	1.9	0.0	1.5	2.5	1.1	0.6	2.6	2.0
CAPITELLA CAPITATA		0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H.FILIBRANCHUS)		6.5	6.9	5.8	0.0	5.8	2.1	8.1	2.0	6.2	4.5
ASYCHIS SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	1.4
MALDANIDAE UNIDENTIFIED		0.0	0.5	0.3	0.0	0.5	0.5	0.0	0.0	0.4	0.5
AMPHARETE SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELEPELLIDES STROEMI		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
PISTA CRISTATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3		0.0	0.0	0.0	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	0.0	0.0	0.0
PINNIXIA FARA		0.0	0.0	1.2	0.0	0.0	0.0	1.8	0.0	0.0	0.2
CUMACEA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA ANNULATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA SERICATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA VIRIDIS		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYASIRA SP.		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KELLETTIA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS		0.1	0.1	0.1	0.3	0.6	0.0	0.0	0.0	1.5	0.3
MACOMA ELIMATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CRYPTOMYAX SUNDIAPHANA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEPHIDIA LORDI		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HIATELLA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA BILIRATA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMEA?		0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
GITTIDIA ESCHRICHTII		0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0
MITRELLA SP.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CRUSTACEA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLOTHUROIDEA		0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NEMERTINEA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIAPULIDA		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS		0.0	0.0	10.6	0.0	0.0	0.0	9.3	0.0	1.0	3.5
TOTALS		10.6	10.6	21.6	5.0	8.9	6.2	21.5	4.0	11.8	16

TABLE 49 HAUL LISTINGS PROGRAM BENTH4

HOLEERG INLET STN.109 VAN VEEN 30-31 OCT73 7 40-49

WEIGHTS PER HAUL

TAXON HAUL NO.	40	41	42	43	44	45	46	47	48	49
CAITPONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
PHAINOCULLINIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2 SPECIES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ETEONE LONGA	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
POLYNOE PUGETTENSIS	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AFRICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA	1.0	0.2	0.0	0.1	0.4	0.4	0.2	0.2	0.4	0.2
GLYCERA SP.	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ONUPHIS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
EUNEREIS SP. (E.RICIPRATA)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.0
NICE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DERVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APISTOBRANCHUS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAONICE CIRRATA	0.1	0.0	0.5	0.3	0.6	0.5	0.6	0.2	0.4	0.1
PARONOSPIO STRIPILEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.1	0.1	0.1	0.3	0.3	0.0	0.1	0.1	0.1	0.1
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXIOTHYMUS ZULCGASTER	5.2	8.6	6.5	8.4	7.1	6.7	8.0	6.3	6.0	5.4
CAPITELLA CAPITATA	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H.FILOBRANCHUS)	1.5	3.5	2.2	1.3	1.3	2.7	2.2	2.2	1.5	1.7
ASYCHIS SP.	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP.	0.0	0.4	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
MALLANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	0.0	0.0	0.0	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	0.0	0.0	0.0
PENNIXIA BADA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	1.5	1.3	1.1	0.0	0.0	0.7	0.6	0.0
NUCULA SP.	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.3	0.1
LUCINOMA ANNULATA	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA SERRICATA	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1
AXINOPSIDA VIRIDIS	0.1	0.2	0.0	0.0	0.0	0.2	0.1	1.3	0.2	0.4
THYASIRA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CALCTTENSIS	0.0	0.3	0.1	0.2	0.9	0.5	0.2	0.5	0.3	0.0
MACOMA LIMATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
CRASSOSTRAX SPITZBERGENSIS	0.0	0.0	0.0	0.0	0.0	44.7	0.0	0.0	0.0	0.0
PSEUDIDIA LORDI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA GILLETTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMIDAE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BITTIUM ESCHRICHTII	0.3	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
MITRELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPHIURIDEA	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	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	0.0	0.0	0.0
NEMERTINEA	0.0	0.1	0.0	0.0	1.2	0.0	0.0	0.0	0.2	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARMYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	8.8	13.9	11.0	11.5	13.8	57.1	11.9	11.3	14.8	8.4

TABLE 50 HAUL LISTINGS PROGRAM BENTH4

MCLEERG INLET STN.105 VAN VEEN 30-31 OCT73 7 30-39

WEIGHTS PER HAUL

TAXON HAUL NO.	30	31	32	33	34	35	36	37	38	39
DAITRONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRAINOGULLYIA SP.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2 SPECIES)	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PECTARIA HUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
GLYCERA CAPITATA	0.4	0.7	0.0	0.2	0.2	0.3	1.2	1.3	0.2	0.7
GLYCERA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE	0.1	0.0	0.4	0.4	0.0	0.5	0.3	0.1	0.0	0.0
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ONUPHIS SP.	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
LUMBRINERIS SP. (L. FICIPRATA)	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DEFVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
AEDICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAONICE CIRRATA	0.6	0.4	0.0	0.8	0.7	0.6	0.0	0.1	0.4	0.0
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TARYX SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CLOSTOBIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHITRYMAE AULOGASTER	9.2	6.8	6.5	8.1	7.2	8.7	7.6	8.4	8.1	5.0
CAPITELLA CAPITATA	0.4	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
CAPITELLIDAE (N.FILOBRANCHUS)	0.1	0.7	2.0	1.9	2.0	0.3	1.1	0.1	0.8	0.2
ASYCHIS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
ISOCIRRUS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
MALDANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
TRICHOBRANCHUS GLACIALIS	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	0.1	0.0	0.0	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	0.1	0.0	0.0	0.0
PINNIXIA FABA	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.	0.0	0.1	0.3	0.2	0.2	0.0	0.0	0.1	0.0	0.1
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.3	0.0	0.4	0.0	0.0	0.1	0.0	0.2
AXINOPSIDA SERRICATA	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.1
AXINOPSIDA VIRIDIS	0.2	0.2	0.2	0.3	0.2	0.4	0.3	0.3	0.2	0.2
THYASIRA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PALLICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS	1.7	1.0	0.8	0.9	1.2	1.0	1.3	1.5	0.9	0.2
MACOMA LIMATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CORBULOMYA SUBDIAPHANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEPHIDIA LORDI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANOPEA MILIPIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMIFT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
DITTUM ESCHRICHTII	0.0	0.0	0.1	0.0	0.1	0.0	0.2	0.3	0.4	0.0
MITRELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CONCHOECIA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROLFADIA INTERMEDIA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLOTHUROIDEA	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NEMERTINEA	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ANHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	12.5	11.0	11.9	13.1	12.4	14.1	12.3	12.4	11.7	6.8

TALLE 51 HAUL LISTINGS PROGRAM BENTH4

HOLBERG INLET STN.106 VAN VEEN 30-31 OCT73 7 52-61

WEIGHTS PER HAUL

TAXON HAUL NO.	52	53	54	55	56	57	58	59	60	61
DAITRENA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2 SPECIES)	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
POLARKE POLYCTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EULALIS BERKELEYI	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
GLYCERA CAPITATA	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.4
GLYCERA SP.	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0
GLYCINDE	0.0	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.3
GONIADA ANNULATA	0.0	0.0	0.0	0.7	0.4	0.0	0.0	0.0	0.0	0.0
GONIADIS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUMBRINERIS SP.(L.FRICIRRATA)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
NEREIS GRUBEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
LAONICE CIRRATA	0.5	0.0	0.5	0.0	0.0	0.0	0.7	0.0	0.0	0.0
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CLESTOSIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHITRYPANE AULOGASTER	3.0	2.4	3.4	2.2	4.0	2.2	4.4	2.4	3.2	3.5
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H.FILIBRANCHUS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ASYCHIS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MALLANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STREENI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	0.0	0.0	0.0	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	0.0	0.0	0.0
PINNIXIA FABA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.	0.0	0.6	0.6	0.0	0.0	0.0	0.5	0.3	0.0	0.4
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA SERRICATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA VIRIDIS	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0
THYASIRA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CALCOTTENSIS	0.8	1.2	1.0	0.0	0.9	0.0	0.1	1.1	0.0	0.3
MACOMA LIMATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEUDIDIA LORDI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MYATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA FILIPIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LINEPT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BITTIUM ESCHRICHTII	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MITRELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	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	0.0	0.0	0.0
NEMERTINEA	0.0	0.0	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARCHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	3.7	3.0	15.6	3.2	5.5	2.3	7.2	2.9	3.7	5.1

TABLE 52 BIOMASS SUMMARY — PROGRAM BENTH2

RUPERT INLET STN.101 VAN VEEN 30-31OCT 73 7 5-9 — 5 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
DAITRUNA SP.	0.0	0.0	0.0	0.0	0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0	0.0
APHRODITOIDEA (2 SPECIES)	0.0	0.0	0.0	0.0	0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PODARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
GLYCERA AMERICANA	20.0	0.20	0.20	0.45	2	1.7
GLYCERA CAPITATA	0.0	0.0	0.0	0.0	0	0.0
GLYCERA SP.	0.0	0.0	0.0	0.0	0	0.0
GLYCINDE	0.0	0.0	0.0	0.0	0	0.0
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
ONUPHIS SP.	0.0	0.0	0.0	0.0	0	0.0
LUMBRINERIS SP.(L.BICIRRATA)	0.0	0.0	0.0	0.0	0	0.0
NINOE GEMMEA	0.0	0.0	0.0	0.0	0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0	0.0
LAONICE CIRRATA	0.0	0.0	0.0	0.0	0	0.0
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0	0.0
THARYX SP.	20.0	1.00	5.00	2.24	10	8.3
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMMOTRYPANE AULOGASTER	100.0	8.40	43.30	6.58	84	70.0
CAPITELLA CAPITATA	20.0	0.20	0.20	0.45	2	1.7
CAPITELLIDAE (H.FILOBRANCHUS)	60.0	2.00	6.50	2.55	20	16.7
ASYCHIS SP	0.0	0.0	0.0	0.0	0	0.0
ISOCIRPUS SP	0.0	0.0	0.0	0.0	0	0.0
MALDANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	0.0	0.0	0.0	0.0	0	0.0
ISOPODA	0.0	0.0	0.0	0.0	0	0.0
PINNIXIA FABA	0.0	0.0	0.0	0.0	0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0	0.0
NUCULA SP.	0.0	0.0	0.0	0.0	0	0.0
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.0	0.0	0	0.0
AXINOPSIDA SERRICATA	0.0	0.0	0.0	0.0	0	0.0
AXINOPSIDA VIRIDIS	0.0	0.0	0.0	0.0	0	0.0
THYASIRA SP.	0.0	0.0	0.0	0.0	0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0	0.0
MACOMA CARLOTTENSIS	20.0	0.20	0.20	0.45	2	1.7
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0	0.0
TELLINA SP	0.0	0.0	0.0	0.0	0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0	0.0
PSEPHIDIA LORDI	0.0	0.0	0.0	0.0	0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0	0.0
LIMPET	0.0	0.0	0.0	0.0	0	0.0
BITTIUM ESCHRICHTII	0.0	0.0	0.0	0.0	0	0.0
MITRELLA SP	0.0	0.0	0.0	0.0	0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0	0.0
HOLOTHURCIDEA	0.0	0.0	0.0	0.0	0	0.0
NEMERTINEA	0.0	0.0	0.0	0.0	0	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0	0.0
ARHYNCITE INAMOENUS	0.0	0.0	0.0	0.0	0	0.0
TOTAL					120	

TABLE 53 BIOMASS SUMMARY — PROGRAM BENTH2

RUPERT INLET STN.103 VAN VEEN 30-31 OCT73 7 10-16 — 5 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
DAITRONA SP.	0.0	0.0	0.0	0.0	0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0	0.0
APHRODITOIDEA (2 SPECIES)	0.0	0.0	0.0	0.0	0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PODARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0	0.0
GLYCERA CAPITATA	20.0	0.20	0.20	0.45	2	2.0
GLYCERA SP.	0.0	0.0	0.0	0.0	0	0.0
GLYCINDE	0.0	0.0	0.0	0.0	0	0.0
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
ONUPHIS SP.	0.0	0.0	0.0	0.0	0	0.0
LUMBRINERIS SP.(L.BICIRRATA)	0.0	0.0	0.0	0.0	0	0.0
NINOE GEMMEA	0.0	0.0	0.0	0.0	0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0	0.0
LAONICE CIRRATA	0.0	0.0	0.0	0.0	0	0.0
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0	0.0
THARYX SP.	40.0	0.40	0.30	0.55	4	4.1
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMMOTRYPANE AULOGASTER	80.0	7.00	166.00	12.88	70	71.4
CAPITELLA CAPITATA	40.0	0.40	0.30	0.55	4	4.1
CAPITELLIDAE (H.FILOBRANCHUS)	80.0	1.60	1.30	1.14	16	16.3
ASYCHIS SP	0.0	0.0	0.0	0.0	0	0.0
ISOCIRRUS SP	0.0	0.0	0.0	0.0	0	0.0
MALDANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PYCNOGONIDA	20.0	0.20	0.20	0.45	2	2.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	0.0	0.0	0.0	0.0	0	0.0
ISOPODA	0.0	0.0	0.0	0.0	0	0.0
PINNIXIA FABA	0.0	0.0	0.0	0.0	0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0	0.0
NUCULA SP.	0.0	0.0	0.0	0.0	0	0.0
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.0	0.0	0	0.0
AXINOPSIDA SERRICATA	0.0	0.0	0.0	0.0	0	0.0
AXINOPSIDA VIRIDIS	0.0	0.0	0.0	0.0	0	0.0
THYASIRA SP.	0.0	0.0	0.0	0.0	0	0.0
RUCHEBURTIA SP.	0.0	0.0	0.0	0.0	0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0	0.0
MACOMA CARLOTTENSIS	0.0	0.0	0.0	0.0	0	0.0
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0	0.0
TELLINA SP	0.0	0.0	0.0	0.0	0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0	0.0
PSEPHIDIA LORDI	0.0	0.0	0.0	0.0	0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0	0.0
LIMPET	0.0	0.0	0.0	0.0	0	0.0
BITTIUM ESCHRICHTII	0.0	0.0	0.0	0.0	0	0.0
MITRELLA SP	0.0	0.0	0.0	0.0	0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0	0.0
HOLOTHUROIDEA	0.0	0.0	0.0	0.0	0	0.0
NEMERTINEA	0.0	0.0	0.0	0.0	0	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0	0.0
TOTAL					98	

TABLE 54 BIOMASS SUMMARY — PROGRAM BENTH2

RUPERT INLET STN.104 VAN VEEN 30-31 OCT73 7 19-28 — 10 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
DAITRENA SP.	0.0	0.0	0.0	0.0	0	0.0
PHAINOGULLEMIA SP.	0.0	0.0	0.0	0.0	0	0.0
APHRODITCIDEA (2 SPECIES)	10.0	0.20	0.40	0.63	2	0.0
ETEONE LONGA	60.0	0.60	0.27	0.52	6	0.1
PHYLLODOCE SP.	10.0	0.10	0.10	0.32	1	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PODARKE PUGETTENSIS	10.0	0.20	0.40	0.63	2	0.0
PILARGIS BERKELEYI	10.0	0.10	0.10	0.32	1	0.0
SYLLIDAE UNIDENTIFIED	30.0	0.30	0.23	0.48	3	0.0
GLYCERA AMERICANA	10.0	0.10	0.10	0.32	1	0.0
GLYCERA CAPITATA	90.0	3.20	3.51	1.87	32	0.3
GLYCERA SP.	0.0	0.0	0.0	0.0	0	0.0
GLYCINDE	10.0	0.10	0.10	0.32	1	0.0
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
ONUPHIS SP.	10.0	0.10	0.10	0.32	1	0.0
LUMBRINERIS SP.(L.BICIRRATA)	90.0	1.60	0.93	0.97	16	0.2
NINOE GEMMEA	0.0	0.0	0.0	0.0	0	0.0
DORVILLEA SP.	30.0	0.40	0.49	0.70	4	0.0
AFICIDEA SP.	10.0	0.10	0.10	0.32	1	0.0
LAONICE CIRRATA	40.0	0.50	0.50	0.71	5	0.0
PRIONOSPIO CIRRIFERA	70.0	1.70	3.57	1.89	17	0.2
THARYX SP.	70.0	5.80	50.18	7.08	58	0.5
CHAETOZONE SETOSA	20.0	0.30	0.46	0.67	3	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMMOTRYPANE AULOGASTER	100.0	119.80	3041.51	62.78	1198	11.2
CAPITELLA CAPITATA	80.0	20.10	3238.76	56.91	201	1.9
CAPITELLIDAE (H.FILOBRANCHUS)	90.0	899.10	99800.06	315.91	8991	84.4
ASYCHIS SP	0.0	0.0	0.0	0.0	0	0.0
ISOCIRRUS SP	30.0	0.50	0.72	0.85	5	0.0
MALDANIDAE UNIDENTFIED	60.0	1.20	1.96	1.40	12	0.1
AMPHARETE SP.	50.0	1.10	2.77	1.66	11	0.1
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0	0.0
TRICHOBRANCHUS GLACIALIS	10.0	0.10	0.10	0.32	1	0.0
PISTA CRISTATA	10.0	0.10	0.10	0.32	1	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0	0.0
SABELLIDAE UNIDENTIFIED	10.0	0.10	0.10	0.32	1	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPOD NO.1	20.0	0.20	0.18	0.42	2	0.0
GAMMARID AMPHIPOD NO.2	30.0	0.30	0.23	0.48	3	0.0
GAMMARID AMPHIPODS UNIDENT NO3	10.0	0.10	0.10	0.32	1	0.0
ISOPODA	0.0	0.0	0.0	0.0	0	0.0
PINNIXIA FABA	30.0	0.70	1.34	1.16	7	0.1
CUMACEA	30.0	1.30	11.79	3.43	13	0.1
TANAIDACEA	0.0	0.0	0.0	0.0	0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0	0.0
NUCULA SP.	0.0	0.0	0.0	0.0	0	0.0
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.0	0.0	0	0.0
AXINOPSIDA SERRICATA	10.0	0.10	0.10	0.32	1	0.0
AXINOPSIDA VIRIDIS	0.0	0.0	0.0	0.0	0	0.0
THYASIRA SP.	10.0	0.10	0.10	0.32	1	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0	0.0
MACOMA CARLOTTENSIS	60.0	1.70	5.79	2.41	17	0.2
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0	0.0
TELLINA SP	0.0	0.0	0.0	0.0	0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0	0.0
PSEPHIDIA LORDI	70.0	1.00	0.67	0.82	10	0.1
HIATELLA SP.	0.0	0.0	0.0	0.0	0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0	0.0
LIMPET	10.0	0.10	0.10	0.32	1	0.0
BITTIUM ESCHRICHTII	30.0	0.50	0.72	0.85	5	0.0
MITRELLA SP	20.0	0.80	3.73	1.93	8	0.1
OPHIUROIDEA	0.0	0.0	0.0	0.0	0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0	0.0
HOLOTHUROIDEA	10.0	0.10	0.10	0.32	1	0.0
NEMERTINEA	10.0	0.10	0.10	0.32	1	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0	0.0
ARHYNCHITE INAEQUUS	30.0	0.40	0.49	0.70	4	0.0
TOTAL					10650	

TABLE 55 BIOMASS SUMMARY PROGRAM BENTH2

HOLBERG INLET STN.109 VAN VEEN 30-31 OCT73 7 40-49 10 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
DAITRONA SP.	0.0	0.0	0.0	0.0	0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0	0.0
APHRODITOIDEA (2 SPECIES)	20.0	0.20	0.18	0.42	2	0.0
ETEONE LONGA	50.0	0.60	0.49	0.70	6	0.0
PHYLLODOCE SP.	20.0	0.20	0.18	0.42	2	0.0
PHYLLODOCIDAE UNIDENTIFIED	10.0	0.10	0.10	0.32	1	0.0
PODARKE PUGETTENSIS	60.0	1.00	1.11	1.05	10	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0	0.0
SYLLIDAE UNIDENTIFIED	50.0	1.00	1.33	1.15	10	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0	0.0
GLYCERA CAPITATA	100.0	2.70	3.12	1.77	27	0.1
GLYCERA SP.	0.0	0.0	0.0	0.0	0	0.0
GLYCINDE	40.0	0.70	0.90	0.95	7	0.0
GONIADA ANNULATA	10.0	0.10	0.10	0.32	1	0.0
ONUPHIS SP.	10.0	0.10	0.10	0.32	1	0.0
LUMBRINERIS SP.(L.BICIRRATA)	80.0	1.20	0.84	0.92	12	0.1
NINOE GEMMEA	0.0	0.0	0.0	0.0	0	0.0
DORVILLEA SP.	20.0	0.20	0.18	0.42	2	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0	0.0
LACNICE CIRRATA	90.0	1.50	1.17	1.08	15	0.1
PRIONOSPIO CIRRIFERA	30.0	0.60	1.60	1.26	6	0.0
THARYX SP.	100.0	900.10	97812.06	312.75	9001	38.9
CHAETOZONE SETOSA	40.0	0.50	0.50	0.71	5	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMMOTRYPANE AULOGASTER	100.0	373.20	3037.29	55.11	3732	16.1
CAPITELLA CAPITATA	50.0	3.10	24.32	4.93	31	0.1
CAPITELLIDAE (H.FILOBRANCHUS)	100.0	999.00	0.0	0.0	9990	43.2
ASYCHIS SP	10.0	0.10	0.10	0.32	1	0.0
ISOCIRRUS SP	20.0	0.20	0.18	0.42	2	0.0
MALDANIDAE UNIDENTFIED	0.0	0.0	0.0	0.0	0	0.0
AMPHARETE SP.	100.0	1.80	0.62	0.79	18	0.1
TERSEBELLIDES STROEMI	20.0	0.30	0.46	0.67	3	0.0
TRICHOBRANCHUS GLACIALIS	10.0	0.20	0.40	0.63	2	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0	0.0
PISTA FASCIATA	20.0	0.20	0.18	0.42	2	0.0
SABELLIDAE UNIDENTIFIED	20.0	0.30	0.46	0.67	3	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPOD NO.1	100.0	2.50	4.06	2.01	25	0.1
GAMMARID AMPHIPOD NO.2	40.0	0.40	0.27	0.52	4	0.0
GAMMARID AMPHIPODS UNIDENT NO3	20.0	0.20	0.18	0.42	2	0.0
ISOPODA	0.0	0.0	0.0	0.0	0	0.0
PINNIXIA FABA	0.0	0.0	0.0	0.0	0	0.0
CUMACEA	50.0	0.60	0.49	0.70	6	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0	0.0
ACILA CASTRENSIS	50.0	1.80	6.40	2.53	18	0.1
NUCULA SP.	60.0	1.10	1.21	1.10	11	0.0
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.0	0.0	0	0.0
AXINOPSIDA SERRICATA	70.0	2.50	6.72	2.59	25	0.1
AXINOPSIDA VIRIDIS	90.0	5.50	27.61	5.25	55	0.2
THYASIRA SP.	0.0	0.0	0.0	0.0	0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0	0.0
VENERICARDIA PAUCICOSTATA	10.0	0.10	0.10	0.32	1	0.0
MACOMA CARLOTTENSIS	80.0	2.60	3.16	1.78	26	0.1
MACOMA ELIMATA	10.0	0.10	0.10	0.32	1	0.0
TELLINA SP	0.0	0.0	0.0	0.0	0	0.0
CENTROMYAX SUBDIAPHANA	10.0	0.10	0.10	0.32	1	0.0
PSEPHIDIA LORDI	80.0	1.70	2.23	1.49	17	0.1
HIATELLA SP.	0.0	0.0	0.0	0.0	0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0	0.0
LIMPET	0.0	0.0	0.0	0.0	0	0.0
BITTIUM ESCHRICHTII	50.0	2.00	8.22	2.87	20	0.1
MITRELLA SP	0.0	0.0	0.0	0.0	0	0.0
OPHIUROIDEA	10.0	0.10	0.10	0.32	1	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0	0.0
HOLOTHUROIDEA	0.0	0.0	0.0	0.0	0	0.0
NEMERTINEA	50.0	0.90	1.21	1.10	9	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0	0.0

TOTAL 23114

TABLE 56 BIOMASS SUMMARY — PROGRAM BENTH2

HOLBERG INLET STN.105 VAN VEEN 30-31 OCT73 7 30-39 — 10 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
DAITRONA SP.	0.0	0.0	0.0	0.0	0	0.0
PHAINOGONIMIA SP.	0.0	0.0	0.0	0.0	0	0.0
APHRODITOIDEA (2 SPECIES)	10.0	0.10	0.10	0.32	1	0.0
ETEONE LONGA	40.0	0.50	0.50	0.71	5	0.0
PHYLLODOCE SP.	30.0	0.50	0.72	0.85	5	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PODARKE PUGETTENSIS	10.0	0.10	0.10	0.32	1	0.0
PILARGIS BERKELEYI	10.0	0.10	0.10	0.32	1	0.0
SYLLIDAE UNIDENTIFIED	50.0	0.70	0.68	0.82	7	0.1
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0	0.0
GLYCERA CAPITATA	90.0	3.20	3.29	1.81	32	0.2
GLYCERA SP.	0.0	0.0	0.0	0.0	0	0.0
GLYCINDE	80.0	1.70	1.34	1.16	17	0.1
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
GNUPHIS SP.	10.0	0.10	0.10	0.32	1	0.0
LUMBRINERIS SP.(L.BICIRRATA)	100.0	2.70	3.34	1.83	27	0.2
NINOE GEMMEA	10.0	0.10	0.10	0.32	1	0.0
ORVILLEA SP.	30.0	0.70	2.46	1.57	7	0.1
ARICIDEA SP.	10.0	0.10	0.10	0.32	1	0.0
LAONICE CIRRATA	80.0	1.40	0.93	0.97	14	0.1
PRIONOSPIO CIRRIFERA	10.0	0.10	0.10	0.32	1	0.0
THARYX SP.	100.0	7.60	14.93	3.86	76	0.5
CHAETOZONE SETOSA	10.0	0.10	0.10	0.32	1	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMMOTRYPANE AULOGASTER	100.0	327.90	2219.43	47.11	3279	23.7
CAPITELLA CAPITATA	40.0	1.40	6.49	2.55	14	0.1
CAPITELLIDAE (H.FILOBRANCHUS)	100.0	999.00	0.0	0.0	9990	72.1
ASYCHIS SP	0.0	0.0	0.0	0.0	0	0.0
ISOCIRRUS SP	10.0	0.10	0.10	0.32	1	0.0
MALDANIDAE UNIDENTFIED	0.0	0.0	0.0	0.0	0	0.0
AMPHARETE SP.	60.0	1.60	4.27	2.07	16	0.1
TEREBELLIDES STROEMI	40.0	0.60	0.93	0.97	6	0.0
TRICHOBRANCHUS GLACIALIS	10.0	0.10	0.10	0.32	1	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0	0.0
SABELLIDAE UNIDENTIFIED	30.0	0.40	0.49	0.70	4	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPOD NO.1	40.0	0.60	0.93	0.97	6	0.0
GAMMARID AMPHIPOD NO.2	90.0	3.70	5.34	2.31	37	0.3
GAMMARID AMPHIPODS UNIDENT NO3	10.0	0.10	0.10	0.32	1	0.0
ISOPODA	10.0	0.20	0.40	0.63	2	0.0
PINNIXIA FABA	10.0	0.10	0.10	0.32	1	0.0
CUMACEA	30.0	0.40	0.49	0.70	4	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0	0.0
NUCULA SP.	60.0	1.20	1.96	1.40	12	0.1
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0	0.0
LUCINOMA TENUISCULPTA	40.0	0.50	0.50	0.71	5	0.0
AXINOPSIDA SERRICATA	100.0	4.40	3.60	1.90	44	0.3
AXINOPSIDA VIRIDIS	100.0	10.20	22.62	4.76	102	0.7
THYASIRA SP.	0.0	0.0	0.0	0.0	0	0.0
KOCHEFORTIA SP.	10.0	0.10	0.10	0.32	1	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0	0.0
MACOMA CARLOTTENSIS	100.0	8.70	5.12	2.26	87	0.6
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0	0.0
TELLINA SP	0.0	0.0	0.0	0.0	0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0	0.0
PSEPHIDIA LORDI	90.0	1.60	1.16	1.07	16	0.1
HIATELLA SP.	0.0	0.0	0.0	0.0	0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0	0.0
LIMPET	0.0	0.0	0.0	0.0	0	0.0
DITTIUM ESCHRICHTII	70.0	1.90	4.99	2.23	19	0.1
MITRELLA SP	0.0	0.0	0.0	0.0	0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0	0.0
NOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0	0.0
HOLOTHUROIDEA	10.0	0.10	0.10	0.32	1	0.0
NEMERTINEA	50.0	0.60	0.49	0.70	6	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0	0.0
TOTAL					13853	

TABLE 57 BIOMASS SUMMARY PROGRAM BENTH2

HOLBERG INLET STN.106 VAN VEEN 30-31 OCT73 7 52-61 10 HAULS

TAXON	FREQUENCY PER CENT OF HAULS	AV/ HAUL	NUMBERS VAR	SD	DENS/ SQ.M.	PCT TOTAL
DAITRONA SP.	100.0	35.60	866.04	29.43	356	14.9
PHAINOGULLEMIA SP.	50.0	0.90	1.21	1.10	9	0.4
APHRODITIDAE (2 SPECIES)	10.0	0.10	0.10	0.32	1	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PEDARSE PUGETTENSIS	20.0	0.20	0.18	0.42	2	0.1
PILARGIS BERKELEYI	10.0	0.10	0.10	0.32	1	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0	0.0
GLYCERA CAPITATA	80.0	0.90	0.32	0.57	9	0.4
GLYCERA SP.	10.0	0.10	0.10	0.32	1	0.0
GLYCINDE	60.0	0.60	0.27	0.52	6	0.3
GONIADA ANNULATA	20.0	0.20	0.18	0.42	2	0.1
ONUPHIS SP.	0.0	0.0	0.0	0.0	0	0.0
LUMBRINERIS SP.(L.BICIRRATA)	60.0	0.90	0.99	0.99	9	0.4
NINOE GEMMEA	0.0	0.0	0.0	0.0	0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0	0.0
AMICIDEA SP.	10.0	0.30	0.90	0.95	3	0.1
LAONICE CIRRATA	50.0	0.50	0.28	0.53	5	0.2
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0	0.0
THARYX SP.	20.0	0.20	0.18	0.42	2	0.1
CHAETOZONE SETOSA	50.0	0.80	1.07	1.03	8	0.3
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMMOTRYPANE AULOGASTER	100.0	182.70	2680.45	51.77	1827	76.4
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0	0.0
CAPITELLIDAE (H.FILOBRANCHUS)	80.0	1.20	0.84	0.92	12	0.5
ASYCHIS SP	0.0	0.0	0.0	0.0	0	0.0
ISOCIRRUS SP	0.0	0.0	0.0	0.0	0	0.0
MALDANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
AMPHARETE SP.	30.0	0.40	0.49	0.70	4	0.2
TEREBELLIDES STROEMI	90.0	2.80	3.07	1.75	28	1.2
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0	0.0
GAMMARID AMPHIPOD NO.1	40.0	0.70	1.12	1.06	7	0.3
GAMMARID AMPHIPOD NO.2	100.0	4.80	1.73	1.32	48	2.0
GAMMARID AMPHIPODS UNIDENT NO3	0.0	0.0	0.0	0.0	0	0.0
ISOPODA	0.0	0.0	0.0	0.0	0	0.0
PINNIXIA FABA	0.0	0.0	0.0	0.0	0	0.0
CUMACEA	40.0	0.40	0.27	0.52	4	0.2
TANAIDACEA	0.0	0.0	0.0	0.0	0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0	0.0
NUCULA SP.	20.0	0.30	0.46	0.67	3	0.1
LUCINOMA ANNULATA	10.0	0.10	0.10	0.32	1	0.0
LUCINOMA TENUISCULPTA	10.0	0.10	0.10	0.32	1	0.0
AXINOPSIDA SERRICATA	40.0	0.50	0.50	0.71	5	0.2
AXINOPSIDA VIRIDIS	90.0	1.90	1.88	1.37	19	0.8
THYASIRA SP.	10.0	0.10	0.10	0.32	1	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0	0.0
MACOMA CARLOTTENSIS	70.0	1.60	2.04	1.43	16	0.7
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0	0.0
TELLINA SP	0.0	0.0	0.0	0.0	0	0.0
COMPSORYZA SUBDIAPHANA	0.0	0.0	0.0	0.0	0	0.0
PSEPHIDIA LORDI	0.0	0.0	0.0	0.0	0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0	0.0
LIMPET	0.0	0.0	0.0	0.0	0	0.0
BITTIUM ESCHRICHTII	0.0	0.0	0.0	0.0	0	0.0
MITRELLA SP	0.0	0.0	0.0	0.0	0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0	0.0
HOLOTHUROIDEA	0.0	0.0	0.0	0.0	0	0.0
NEMERTINEA	10.0	0.10	0.10	0.32	1	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0	0.0
TOTAL					2391	

TABLE 58 BIOMASS SUMMARY — PROGRAM BENTH2

RUPERT INLET STN.101 VAN VEEN 30-31OCT 73 7 5-9 — 5 HAULS

TAXON	BIOMASS (WEIGHT) AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
DAITRONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITIDEA (2 SPECIES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PODARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.36	0.65	0.80	3.6	40.91	0.50	42.8
GLYCERA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GNUPHIS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUMBRINERIS SP.(L.BICIRRATA)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAONICE CIRRATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMOTRYPANE AULOGASTER	0.12	0.00	0.04	1.2	13.64	0.17	14.3
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H.FILOBRANCHUS)	0.34	0.58	0.76	3.4	38.64	0.48	40.4
ASYCHIS SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	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
PINNIXIA FABA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA SERRICATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA VIRIDIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYASIRA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS	0.06	0.02	0.13	0.6	6.82	0.03	2.5
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEPHIDIA LORDI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA BILIRIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMPET	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BITTIUM ESCHRICHTII	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MITRELLA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLOTHURCIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NEMERTINEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS				8.8		1.18	

TABLE 59 BIOMASS SUMMARY PROGRAM BENTH2

RUPERT INLET STN.103 VAN VEEN 30-31 OCT73 7 10-16 5 HAULS

TAXON	BIOMASS (WEIGHT) AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
DAITRONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAENOGULLMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2 SPECIES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PODARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA	0.02	0.00	0.04	0.2	20.00	0.03	20.0
GLYCERA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ONUPHIS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUMBRINERIS SP.(L.BICIRRATA)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAONICE CIRRATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMOTRYPANE AULOGASTER	0.06	0.03	0.18	0.8	80.00	0.11	80.0
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H.FILOBRANCHUS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ASYCHIS SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	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
PINNIXIA FABA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA SERRICATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA VIRIDIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYASIRA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEPHIDIA LORDI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMPET	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BITTIUM ESCHRICHTII	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MITRELLA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	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
NEMERTINEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIAPULICA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS				1.0		0.14	

TABLE 60 BIOMASS SUMMARY — PROGRAM BENTH2

RUPERT INLET STN.104 VAN VEEN 30-31 OCT73 7 19-28 — 10 HAULS

TAXON	BIOMASS (WEIGHT) AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
DAITRONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAINOGULLMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITIDEA (2 SPECIES)	0.05	0.02	0.16	0.5	0.43	0.07	0.5
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.01	0.00	0.03	0.1	0.09	0.01	0.1
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PODARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.01	0.00	0.03	0.1	0.09	0.01	0.1
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.45	2.02	1.42	4.5	3.87	0.63	4.3
GLYCERA CAPITATA	0.34	0.05	0.23	3.4	2.93	0.48	3.3
GLYCERA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ONUPHIS SP.	0.05	0.02	0.16	0.5	0.43	0.07	0.5
LUMBRINERIS SP.(L.BICIRRATA)	0.09	0.01	0.10	0.9	0.77	0.13	0.9
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAONICE CIRRATA	0.07	0.02	0.13	0.7	0.60	0.10	0.7
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.07	0.02	0.13	0.7	0.60	0.10	0.7
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMOTRYPANE AULOGASTER	1.68	0.84	0.91	16.8	14.47	2.35	16.1
CAPITELLA CAPITATA	0.45	2.02	1.42	4.5	3.87	0.63	4.3
CAPITELLIDAE (H.FILOBRANCHUS)	4.85	6.38	2.53	48.5	41.74	6.79	46.6
ASYCHIS SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP	0.11	0.03	0.18	1.1	0.95	0.15	1.1
MALDANIDAE UNIDENTFIED	0.27	0.06	0.24	2.7	2.32	0.38	2.6
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS	0.01	0.00	0.03	0.1	0.09	0.01	0.1
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	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
PINNIXIA FABA	0.32	0.41	0.64	3.2	2.75	0.06	0.4
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA SERRICATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA VIRIDIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THYASIRA SP.	0.02	0.00	0.06	0.2	0.17	0.01	0.1
RUCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS	0.30	0.21	0.46	3.0	2.58	0.15	1.0
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEPHIDIA LORDI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMPET	0.02	0.00	0.06	0.2	0.17	0.01	0.1
BITTIUM ESCHRICHTII	0.05	0.01	0.08	0.5	0.43	0.03	0.2
MITRELLA SP	0.03	0.01	0.09	0.3	0.26	0.02	0.1
OPHIURCIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLOTHURCIDEA	0.03	0.01	0.09	0.3	0.26	0.03	0.2
NEMERTINEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS	2.34	17.37	4.17	23.4	20.14	2.34	16.1
TOTALS				116.2		14.58	

TABLE 61 BIOMASS SUMMARY PROGRAM BENTH2

HOLBERG INLET STN.109 VAN VEEN 30-31 OCT73 7 40-49 10 HAULS

TAXON	BIOMASS (WEIGHT) AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
DAITRONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAINOGONEMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2 SPECIES)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.01	0.00	0.03	0.1	0.06	0.01	0.1
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PODARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA	0.31	0.08	0.28	3.1	1.90	0.43	2.5
GLYCERA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE	0.04	0.01	0.08	0.4	0.25	0.06	0.3
GONIADA ANNULATA	0.06	0.04	0.19	0.6	0.37	0.08	0.5
ONUPHIS SP.	0.04	0.02	0.13	0.4	0.25	0.06	0.3
LUMBRINERIS SP.(L.BICIRRATA)	0.08	0.02	0.14	0.8	0.49	0.11	0.6
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAONICE CIRRATA	0.33	0.05	0.22	3.3	2.02	0.46	2.7
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.13	0.01	0.09	1.3	0.80	0.18	1.1
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMOTRYPANE AULOGASTER	6.82	1.43	1.19	68.2	41.84	9.55	55.4
CAPITELLA CAPITATA	0.01	0.00	0.03	0.1	0.06	0.01	0.1
CAPITELLIDAE (H.FILOBRANCHUS)	2.01	0.49	0.70	20.1	12.33	2.81	16.3
ASYCHIS SP	0.01	0.00	0.03	0.1	0.06	0.01	0.1
ISOCIRRUS SP	0.07	0.02	0.15	0.7	0.43	0.10	0.6
MALDANIDAE UNIDENTFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI	0.06	0.02	0.13	0.6	0.37	0.08	0.5
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EYCNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	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
PINNIXIA FABA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.92	2.04	1.43	9.2	5.64	0.46	2.7
NUCULA SP.	0.08	0.01	0.09	0.8	0.49	0.04	0.2
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA SERRICATA	0.05	0.01	0.08	0.5	0.31	0.02	0.1
AXINOPSIDA VIRIDIS	0.15	0.02	0.14	1.5	0.92	0.07	0.4
THYASIRA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS	0.30	0.08	0.27	3.0	1.84	0.15	0.9
MACOMA ELIMATA	0.01	0.00	0.03	0.1	0.06	0.00	0.0
TELLINA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COMPSOMYAX SUBDIAPHANA	4.47	199.81	14.14	44.7	27.42	2.23	13.0
PSEPHIDIA LORDI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMPET	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BITTIUM ESCHRICHTII	0.13	0.04	0.19	1.3	0.80	0.09	0.5
MITRELLA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPHIUROIDEA	0.03	0.01	0.09	0.3	0.18	0.01	0.1
MOLPADIA INTERMEDIA	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
NEMERTINEA	0.18	0.16	0.40	1.8	1.10	0.18	1.0
BRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS				163.0		17.24	

TABLE 62 BIOMASS SUMMARY PROGRAM BENTH2

HOLBERG INLET STN.10E VAN VEEN 30-31 OCT73 7 30-39 10 HAULS

TAXON	BIOMASS (WEIGHT) AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
DAITRONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAINOGULLEMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2 SPECIES)	0.02	0.00	0.06	0.2	0.17	0.03	0.2
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.02	0.00	0.06	0.2	0.17	0.03	0.2
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PODARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.01	0.00	0.03	0.1	0.09	0.01	0.1
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA	0.52	0.20	0.44	5.2	4.44	0.73	4.9
GLYCERA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCINDE	0.16	0.04	0.21	1.6	1.37	0.22	1.5
GONIADA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ONUPHIS SP.	0.02	0.00	0.06	0.2	0.17	0.03	0.2
LUMBRINERIS SP.(L.BICIRRATA)	0.07	0.02	0.13	0.7	0.60	0.10	0.7
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.	0.01	0.00	0.03	0.1	0.09	0.01	0.1
ARICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAONICE CIRRATA	0.36	0.10	0.31	3.6	3.07	0.50	3.4
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMOTRYPANE AULOGASTER	7.56	1.52	1.23	75.6	64.51	10.58	71.9
CAPITELLA CAPITATA	0.01	0.00	0.03	0.1	0.09	0.01	0.1
CAPITELLIDAE (H.FILOBRANCHUS)	0.97	0.58	0.76	9.7	8.28	1.36	9.2
ASYCHIS SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI	0.02	0.00	0.06	0.2	0.17	0.03	0.2
TRICHOBRANCHUS GLACIALIS	0.01	0.00	0.03	0.1	0.09	0.01	0.1
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	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
PINNIXIA FABA	0.01	0.00	0.03	0.1	0.09	0.00	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.	0.10	0.01	0.11	1.0	0.85	0.05	0.3
LUCINOMA ANNULATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUCINOMA TENUISCULPTA	0.10	0.02	0.15	1.0	0.85	0.05	0.3
AXINOPSIDA SERRICATA	0.12	0.00	0.04	1.2	1.02	0.06	0.4
AXINOPSIDA VIRIDIS	0.28	0.01	0.10	2.8	2.39	0.14	1.0
THYASIRA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BUCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS	1.11	0.20	0.45	11.1	9.47	0.55	3.8
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEPHIDIA LORDI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA BILIRIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMPET	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BITTIUM ESCHRICHTII	0.16	0.03	0.18	1.6	1.37	0.11	0.8
MITRELLA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HOLOTHUROIDEA	0.03	0.01	0.09	0.3	0.26	0.03	0.2
NEMERTINEA	0.05	0.00	0.07	0.5	0.43	0.05	0.3
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAEQUENUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS				117.2		14.71	

TABLE 63 BIOMASS SUMMARY — PROGRAM BENTH2

HOLBERG INLET STN.106 VAN VEEN 30-31 OCT73 7 52-61 — 10 HAULS

TAXON	BIOMASS (WEIGHT) AV/ HAUL	VAR	SD	WET WT /SQ.M.	PCT TOTAL	DRY WT /SQ.M.	PCT TOT
DAITRONA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHAINOGULMIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APHRODITOIDEA (2 SPECIES)	0.02	0.00	0.06	0.2	0.38	0.03	0.4
ETEONE LONGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PODARKE PUGETTENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PILARGIS BERKELEYI	0.01	0.00	0.03	0.1	0.19	0.01	0.2
SYLLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA AMERICANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GLYCERA CAPITATA	0.11	0.01	0.12	1.1	2.11	0.15	2.4
GLYCERA SP.	0.11	0.12	0.35	1.1	2.11	0.15	2.4
GLYCINDE	0.11	0.03	0.18	1.1	2.11	0.15	2.4
GONIADA ANNULATA	0.11	0.06	0.24	1.1	2.11	0.15	2.4
ONUPHIS SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LUMBRINERIS SP.(L.BICIRRATA)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NINOE GEMMEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DORVILLEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APICIDEA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LACNICE CIRRATA	0.17	0.08	0.28	1.7	3.26	0.24	3.6
PRIONOSPIO CIRRIFERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THARYX SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHAETOZONE SETOSA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CIRRATULIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COSSURIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMMOTRYPANE AULOGASTER	3.07	0.60	0.77	30.7	58.81	4.30	65.9
CAPITELLA CAPITATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CAPITELLIDAE (H.FILOBRANCHUS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ASYCHIS SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ISOCIRRUS SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MALDANIDAE UNIDENTFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AMPHARETE SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEREBELLIDES STROEMI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRICHOBRANCHUS GLACIALIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA CRISTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PISTA FASCIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABELLIDAE UNIDENTIFIED	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PYCNOGONIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPOD NO.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GAMMARID AMPHIPODS UNIDENT NO3	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
PINNIXIA FABA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANAIDACEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACILA CASTRENSIS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NUCULA SP.	0.08	0.03	0.18	0.8	1.53	0.04	0.6
LUCINOMA ANNULATA	0.04	0.02	0.13	0.4	0.77	0.02	0.3
LUCINOMA TENUISCULPTA	0.02	0.00	0.04	0.2	0.38	0.01	0.2
AXINOPSIDA SERRICATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AXINOPSIDA VIRIDIS	0.04	0.00	0.05	0.4	0.77	0.02	0.3
THYASIRA SP.	0.02	0.00	0.06	0.2	0.38	0.01	0.2
ROCHEFORTIA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VENERICARDIA PAUCICOSTATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MACOMA CARLOTTENSIS	0.16	0.08	0.28	1.6	3.07	0.08	1.2
MACOMA ELIMATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TELLINA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COMPSOMYAX SUBDIAPHANA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSEPHIDIA LORDI	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HIATELLA SP.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PANDORA FILIRIATA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIMPET	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BITTIUM ESCHRICHTII	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MITRELLA SP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPHIUROIDEA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLPADIA INTERMEDIA	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
NEMERTINEA	1.15	13.22	3.64	11.5	22.03	1.15	17.6
PRIAPULIDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARHYNCHITE INAMOENUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS				52.2		6.52	

TABLE 64. PRELIMINARY SORT RANK ORDERS PROGRAM BENT

RUPERT INLET STN.101 VAN VEEN 30-31OCT 73 7 5-9 5 HAU

	FREQUENCY (PER CENT OF HAULS)
AMMOTRYPANE AULOGASTER	100.0
CAPITELLIDAE (H.FILOBRANCH	60.0
GLYCERA AMERICANA	20.0
THARYX SP.	20.0
CAPITELLA CAPITATA	20.0
MACOMA CARLOTTENSIS	20.0
DAITRONA SP.	0.0
PHAINOGULLMIA SP.	0.0
APHRODITOIDEA (2 SPECIES)	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PODARKE PUGETTENSIS	0.0
PILARGIS BERKELEYI	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA CAPITATA	0.0
GLYCERA SP.	0.0
GLYCINDE	0.0
GONIADA ANNULATA	0.0
ONUPHIS SP.	0.0
LUMBRINERIS SP.(L.BICIRRAT	0.0
NINOE GEMMEA	0.0
DORVILLEA SP.	0.0
APICIDEA SP.	0.0
LAONICE CIRRATA	0.0
PRIONOSPIO CIRRIFERA	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
ASYCHIS SP	0.0
ISOCIRRUS SP	0.0
MALDANIDAE UNIDENTFIED	0.0
AMPHARETE SP.	0.0
TEREBELLIDES STROEMI	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPOD NO.2	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
PINNIXIA FABA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
NUCULA SP.	0.0
LUCINOMA ANNULATA	0.0
LUCINOMA TENUISCULPTA	0.0
AXINOPSIDA SERRICATA	0.0
AXINOPSIDA VIRIDIS	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA ELIMATA	0.0
TELLINA SP	0.0
COMPSOMYAX SUBDIAPHANA	0.0
PSEPHIDIA LORDI	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMEY	0.0
BITTIUM ESCHRICHTII	0.0
MITRELLA SP	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
NEMERTINEA	0.0
PRIAPULIDA	0.0
APHYNCHITE INAMOENUS	0.0

TABLE 65. PRELIMINARY SORT RANK ORDERS — PROGRAM PENTH

RUPERT INLET STN.103 VAN VEEN 30-31 OCT73 7 10-16 — 5 HAUL

	FREQUENCY (PER CENT OF HAULS)
AMMOTHYPANE AULOGASTER	80.0
CAPITELLIDAE (H.FILOBRANCH	80.0
THAEYX SP.	40.0
CAPITELLA CAPITATA	40.0
GLYCERA CAPITATA	20.0
PYCNOGONIDA	20.0
DAITRONA SP.	0.0
PHAINOGULMIA SP.	0.0
APHRODITOIDEA (2 SPECIES)	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PODARKE PUGETTENSIS	0.0
PILARGIS BERKELEYI	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP.	0.0
GLYCINDE	0.0
GONIADA ANNULATA	0.0
ONUPHIS SP.	0.0
LUMBRINERIS SP.(L.BICIRRAT	0.0
MINOE GEMMEA	0.0
DORVILLEA SP.	0.0
ARICIDEA SP.	0.0
LAONICE CIRRATA	0.0
PRIONOSPIO CIRRIFERA	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
OPHELIIDAE UNIDENTIFIED	0.0
ASYCHIS SP	0.0
ISOCIRRUS SP	0.0
MALDANIDAE UNIDENTFIED	0.0
AMPHARETE SP.	0.0
TEREBELLIDES STROEMI	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPOD NO.2	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
PINNIXIA FABA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
NUCULA SP.	0.0
LUCINOMA ANNULATA	0.0
LUCINOMA TENUISCULPTA	0.0
AXINOPSIDA SERRICATA	0.0
AXINOPSIDA VIRIDIS	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA CARLOTTENSIS	0.0
MACOMA ELIMATA	0.0
TELLINA SP	0.0
CYMPSOMYAX SUBDIAPHANA	0.0
PSEPHIDIA LORDI	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
BITTIUM ESCHRICHTII	0.0
MITRELLA SP	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
NEMERTINEA	0.0
PRIAPULIDA	0.0
ARTHYNCHITE TEAMOENUS	0.0

	FREQUENCY (PER CENT OF HAULS)
AMMOTHYPANE AULOGASTER	100.0
GLYCERA CAPITATA	90.0
LUMBRINERIS SP.(L.BICIRRAT	90.0
CAPITELLIDAE (H.FILOBRANCH	90.0
CAPITELLA CAPITATA	80.0
PRIONOSPIO CIRRIFERA	70.0
THARYX SP.	70.0
PSEPHIDIA LORDI	70.0
ETEONE LONGA	60.0
MALDANIDAE UNIDENTIFIED	60.0
MACOMA CARLOTTENSIS	60.0
AMPHARETE SP.	50.0
LACINICE CIRRATA	40.0
SYLLIDAE UNIDENTIFIED	30.0
DORVILLEA SP.	30.0
ISOCIRRUS SP	30.0
GAMMARID AMPHIPOD NO.2	30.0
PINNIXIA FABA	30.0
CUMACEA	30.0
RITTIUM ESCHRICHTII	30.0
APHYNCHITE INAMOENUS	30.0
CHAETOZONE SETOSA	20.0
GAMMARID AMPHIPOD NO.1	20.0
MITRELLA SP	20.0
APHRODITOIDEA (2 SPECIES)	10.0
PHYLLODOCE SP.	10.0
PODARKE PUGETTENSIS	10.0
PILARGIS BERKELEYI	10.0
GLYCERA AMERICANA	10.0
GLYCINDE	10.0
ONUPHIS SP.	10.0
APICIDEA SP.	10.0
TRICHOBRANCHUS GLACIALIS	10.0
PISTA CRISTATA	10.0
SABELLIDAE UNIDENTIFIED	10.0
GAMMARID AMPHIPODS UNIDENT	10.0
AXINOPSIDA SERRICATA	10.0
THYASIRA SP.	10.0
LIMPET	10.0
HOLOTHUROIDEA	10.0
NEMERTINEA	10.0
DAITEINA SP.	0.0
PHAINOGULLMIA SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
GLYCERA SP.	0.0
GONIADA ANNULATA	0.0
NINOE GEMMEA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
ASYCHIS SP	0.0
TEREBELLIDES STROEMI	0.0
PISTA FASCIATA	0.0
PYCNOGONIDA	0.0
ISOPODA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
NUCULA SP.	0.0
LUCINOMA ANNULATA	0.0
LUCINOMA TENUISCULPTA	0.0
AXINOPSIDA VIRIDIS	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA ELIMATA	0.0
TELLINA SP	0.0
COMPSOMYAX SUBDIAPHANA	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
PETAPOLIDA	0.0

TABLE 67. PRELIMINARY SORT RANK ORDERS PROGRAM BENTH

HOLBERG INLET STN.109 VAN VEEN 30-31 OCT73 7 40-49 10 HAUL

	FREQUENCY (PER CENT OF HAULS)
GLYCERA CAPITATA	100.0
THARYX SP.	100.0
AMPHITRYPANE AULOGASTER	100.0
CAPITELLIDAE (H.FILIBRANCH	100.0
AMPHARETE SP.	100.0
GAMMARID AMPHIPOD NO.1	100.0
LACNICE CIRRATA	90.0
AXINOPSIDA VIRIDIS	90.0
LUMBRINERIS SP.(L.BICIRRAT	80.0
MACOMA CARLOTTENSIS	80.0
PSEPHIDIA LORDI	80.0
AXINOPSIDA SERRICATA	70.0
RUDARKE PUGETTENSIS	60.0
NUCULA SP.	60.0
ETEONE LONGA	50.0
SYLLIDAE UNIDENTIFIED	50.0
CAPITELLA CAPITATA	50.0
COMACEA	50.0
ACILA CASTRENSIS	50.0
BITTIUM ESCHRICHTII	50.0
NEMERTINEA	50.0
GLYCINDE	40.0
CHAETOZONE SETOSA	40.0
GAMMARID AMPHIPOD NO.2	40.0
PRIONOSPIO CIRRIFERA	30.0
APHRODITOIDEA (2 SPECIES)	20.0
PHYLLODOCE SP.	20.0
DORVILLEA SP.	20.0
ISOCIRRUS SP	20.0
TEREBELLIDES STROEMI	20.0
PISTA FASCIATA	20.0
SABELLIDAE UNIDENTIFIED	20.0
GAMMARID AMPHIPODS UNIDENT	20.0
PHYLLODOCIDAE UNIDENTIFIED	10.0
GONIADA ANNULATA	10.0
ONUPHIS SP.	10.0
ASYCHIS SP	10.0
TRICHOBRANCHUS GLACIALIS	10.0
VENERICARDIA PAUCICOSTATA	10.0
MACOMA ELIMATA	10.0
CRASSOMYAX SUBDIAPHANA	10.0
CRENELLIDEA	10.0
DAITRONA SP.	0.0
PHAINOGULLMIA SP.	0.0
PILARGIS BERKELEYI	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP.	0.0
NINOE GEMMEA	0.0
ARICIDEA SP.	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
MALDANIDAE UNIDENTFIED	0.0
PISTA CRISTATA	0.0
PYCNOGONIDA	0.0
ISOPODA	0.0
PINNIXIA FABA	0.0
TANAIDACEA	0.0
LUCINOMA ANNULATA	0.0
LUCINOMA TENUISCULPTA	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
TELLINA SP	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
MITELLA SP	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
PRIAPULIDA	0.0
AMPHICHITE INAMBENUS	0.0

TABLE 68. PRELIMINARY SORT RANK ORDERS PROGRAM BENT

HOLBERG INLET STN.105 VAN VEEN 30-31 OCT73 7 30-39 10 HAU

	FREQUENCY (PER CENT OF HAULS)
LUMBRINERIS SP.(L.BICIRRAT	100.0
TRAFYX SP.	100.0
AMMOTRYPANE AULOGASTER	100.0
CAPITELLIDAE (H.FILOBRANCH	100.0
AXINOPSIDA SERRICATA	100.0
AXINOPSIDA VIRIDIS	100.0
MACOMA CALCTTENSIS	100.0
GLYCERA CAPITATA	90.0
GAMMARID AMPHIPOD NO.2	90.0
PSEPHIDIA LORDI	90.0
GLYCINDE	80.0
LAONICE CIRRATA	80.0
RITTIUM ESCHRICHTII	70.0
AMPHARETE SP.	60.0
NUCULA SP.	60.0
SYLLIDAE UNIDENTIFIED	50.0
NEMERTINEA	50.0
ETECNE LONGA	40.0
CAPITELLA CAPITATA	40.0
TEREBELLIDES STROEMI	40.0
GAMMARID AMPHIPOD NO.1	40.0
LUCINOMA TENUISCULPTA	40.0
PHYLLODOCE SP.	30.0
DORVILLEA SP.	30.0
SABELLIDAE UNIDENTIFIED	30.0
CUMACEA	30.0
APHRODITOIDEA (2 SPECIES)	10.0
PODARKE PUGETTENSIS	10.0
PILARGIS BERKELEYI	10.0
ONUPHIS SP.	10.0
NINOE GEMMEA	10.0
ARICIDEA SP.	10.0
PRIONOSPIO CIRRIFERA	10.0
CHAETOZONE SETOSA	10.0
ISOCIRRUS SP	10.0
TRICHOBRANCHUS GLACIALIS	10.0
GAMMARID AMPHIPODS UNIDENT	10.0
ISOPODA	10.0
PINNIXIA FABA	10.0
ROCHEFORTIA SP.	10.0
HOLOTHUROIDEA	10.0
CAITENA SP.	0.0
PHAINOGULMIA SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP.	0.0
GONIADA ANNULATA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
ASYCHIS SP	0.0
MALDANIDAE UNIDENTFIED	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
PYCNOGONIDA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
LUCINOMA ANNULATA	0.0
TRYASIRA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA ELIMATA	0.0
TELLINA SP	0.0
CONESOMYAX SUBDIAPHANA	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
MITRELLA SP	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
PRIAPULIDA	0.0
ARRHYNCHITE INAMOENUS	0.0

	FREQUENCY (PER CENT OF HAULS)
DAITRONA SP.	100.0
AMACTRYPANE AULOGASTER	100.0
GAMMARID AMPHIPOD NO.2	100.0
TEREBELLIDES STROEMI	90.0
AXINOPSIDA VIRIDIS	90.0
GLYCERA CAPITATA	80.0
CAPITELLIDAE (H.FILOBRANCH	80.0
MACOMA CARLOTTENSIS	70.0
GLYCINDE	60.0
LUMBRINERIS SP.(L.BICIRRAT	60.0
PHAINOGULLMIA SP.	50.0
LACNICE CIRRATA	50.0
CHAETOZONE SETOSA	50.0
GAMMARID AMPHIPOD NO.1	40.0
CUMACEA	40.0
AXINOPSIDA SERRICATA	40.0
AMPHARETE SP.	30.0
PODARKE PUGETTENSIS	20.0
GONIADA ANNULATA	20.0
THARYX SP.	20.0
NUCULA SP.	20.0
APHRODITOIDEA (2 SPECIES)	10.0
PILARGIS BERKELEYI	10.0
GLYCERA SP.	10.0
ARICIDEA SP.	10.0
LUCINOMA ANNULATA	10.0
LUCINOMA TENUISCULPTA	10.0
THYASIRA SP.	10.0
NEMERTINEA	10.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
ONUPHIS SP.	0.0
NINOE GEMMEA	0.0
CERVILLEA SP.	0.0
PRIONOSPIO CIRRIFERA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
CAPITELLA CAPITATA	0.0
ASYCHIS SP.	0.0
ISOCIRRUS SP	0.0
MALDANIDAE UNIDENTFIED	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
PINNIXIA FABA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA ELIMATA	0.0
TELLINA SP	0.0
COMPSOMYAX SUBDIAPHANA	0.0
PSEPHIDIA LORDI	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
BITTIUM ESCHRICHTII	0.0
MITRELLA SP	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
PRIAPULIDA	0.0
APHYNCHITE INAMOENUS	0.0

TABLE 70. PRELIMINARY SORT RANK ORDERS PROGRAM BENTF

RUPERT INLET STN.101 VAN VEEN 30-31OCT 73 7 5-9 5 HAUL

	DENSITY (NO./SQ. M.)
AMMOTRYPANE AULOGASTER	84
CAPITELLIDAE (H.FILOBRANCH	20
THARYX SP.	10
GLYCERA AMERICANA	2
CAPITELLA CAPITATA	2
MACOMA CARLOTTENSIS	2
DAITRONA SP.	0
PRAINOGULLMIA SP.	0
APHRODITOIDEA (2 SPECIES)	0
ETOLNE LONGA	0
PHYLLODOCE SP.	0
PHYLLODOCIDAE UNIDENTIFIED	0
PODARKE PUGETTENSIS	0
PILARGIS BERKELEYI	0
SYLLIDAE UNIDENTIFIED	0
GLYCERA CAPITATA	0
GLYCERA SP.	0
GLYCINDE	0
GONIADA ANNULATA	0
ONUPHIS SP.	0
LUMBRINERIS SP.(L.BICIRRAT	0
NINOE GEMMEA	0
DORVILLEA SP.	0
ARICIDEA SP.	0
LAONICE CIRRATA	0
PRIONOSPIO CIRRIFERA	0
CHAETOZONE SETOSA	0
CIRRATULIDAE UNIDENTIFIED	0
COSSURIDAE UNIDENTIFIED	0
ASYCHIS SP	0
ISOCIRRUS SP	0
MALDANIDAE UNIDENTFIED	0
AMPHARETE SP.	0
TEREBELLIDES STROEMI	0
TRICHOBRANCHUS GLACIALIS	0
PISTA CRISTATA	0
PISTA FASCIATA	0
SABELLIDAE UNIDENTIFIED	0
PYCNOGONIDA	0
GAMMARID AMPHIPOD NO.1	0
GAMMARID AMPHIPOD NO.2	0
GAMMARID AMPHIPODS UNIDENT	0
ISOPODA	0
PINNIXIA FABA	0
CUMACEA	0
TANAIDACEA	0
ACILA CASTRENSIS	0
NUCULA SP.	0
LUCINOMA ANNULATA	0
LUCINOMA TENUISCULPTA	0
AXINOPSIDA SERRICATA	0
AXINOPSIDA VIRIDIS	0
THYASIRA SP.	0
ROCHEFORTIA SP.	0
VENERICARDIA PAUCICOSTATA	0
MACOMA ELIMATA	0
TELLINA SP	0
COMPSOMYAX SUBDIAPHANA	0
PSEPHIDIA LORDI	0
HIATELLA SP.	0
PANDORA BILIRIATA	0
LIMPET	0
BITTIUM ESCHRICHTII	0
MITRELLA SP	0
OPHIUROIDEA	0
MOLPADIA INTERMEDIA	0
HOLOTHUROIDEA	0
NEMERTINEA	0
PRIAPULIDA	0
APHRYNCHITE INAMOENUS	0

TABLE 7. PRELIMINARY SORT RANK ORDERS PROGRAM BENTH

RUPERT INLET STN.103 VAN VEEN 30-31 OCT73 7 10-16 5 HAUL

	DENSITY (NO./SQ. M.)
AMMOTRYPANE AULOGASTER	70
CAPITELLIDAE (F.FILOBRANCH	16
THARYX SP.	4
CAPITELLA CAPITATA	4
GLYCERA CAPITATA	2
PYCNOGONIDA	2
DAITRONA SP.	0
PHAINOGULLMIA SP.	0
APHRODITOIDEA (2 SPECIES)	0
ETEONE LONGA	0
PHYLLODOCE SP.	0
PHYLLODOCIDAE UNIDENTIFIED	0
PODARKE PUGETTENSIS	0
PILARGIS BERKELEYI	0
SYLLIDAE UNIDENTIFIED	0
GLYCERA AMERICANA	0
GLYCERA SP.	0
GLYCINDE	0
GONIADA ANNULATA	0
ONUPHIS SP.	0
LUMBRINERIS SP.(L.BICIRRAT	0
NINOE GEMMEA	0
DORVILLEA SP.	0
ARICIDEA SP.	0
LAONICE CIRRATA	0
PRIONOSPIO CIRRIFERA	0
CHAETOZONE SETOSA	0
CIRRATULIDAE UNIDENTIFIED	0
COSSURIDAE UNIDENTIFIED	0
ASYCHIS SP	0
ISOCIRRUS SP	0
MALDANIDAE UNIDENTFIED	0
AMPHARETE SP.	0
TEREBELLIDES STROEMI	0
TRICHOBRANCHUS GLACIALIS	0
PISTA CRISTATA	0
PISTA FASCIATA	0
SABELLIDAE UNIDENTIFIED	0
GAMMARID AMPHIPOD NO.1	0
GAMMARID AMPHIPOD NO.2	0
GAMMARID AMPHIPODS UNIDENT	0
ISOPODA	0
PINNIXIA FABA	0
CUMACEA	0
TANAIDACEA	0
ACILA CASTRENSIS	0
NUCULA SP.	0
LUCINOMA ANNULATA	0
LUCINOMA TENUISCULPTA	0
AXINOPSIDA SERRICATA	0
AXINOPSIDA VIRIDIS	0
THYASIRA SP.	0
ROCHEFORTIA SP.	0
VENERICARDIA PAUCICOSTATA	0
MACOMA CARLOTTENSIS	0
MACOMA ELIMATA	0
TELLINA SP	0
CONESOMYAX SUBDIAPHANA	0
PSEPHIDIA LORDI	0
HIATELLA SP.	0
PANDORA BILIRIATA	0
LIMPET	0
BITTIUM ESCHRICHTII	0
MITRELLA SP	0
OPHIUROIDEA	0
MOLPADIA INTERMEDIA	0
HOLOTHUROIDEA	0
NEMERTINEA	0
PRIAPULIDA	0
APHRYNCHITE INFLATUS	0

TABLE 72. PRELIMINARY SORT RANK ORDERS PROGRAM BEN

RUPERT INLET STN.164 VAN VEEN 30-31 OCT73 7 19-28 10 HA

	DENSITY (NO./SQ. M.)
CAPITELLIDAE (H.FILOBRANCH	8991
AMPHITRYPANE AULOGASTER	1198
CAPITELLA CAPITATA	201
THARYX SP.	58
GLYCERA CAPITATA	32
PRIONOSPIO CIRRIFERA	17
MACOMA CARLOTTENSIS	17
LUMBRINERIS SP.(L.BICIRRAT	16
CUMACEA	13
MALDANIDAE UNIDENTFIED	12
AMPHARETE SP.	11
PSEPHIDIA LORDI	10
MITRELLA SP	8
PINNIXIA FABA	7
ETERONE LONGA	6
LAONICE CIRRATA	5
ISOCIRRUS SP	5
BITTIUM ESCHRICHTII	5
DORVILLEA SP.	4
ARHYNCHITE INAMOENUS	4
SYLLIDAE UNIDENTIFIED	3
CHAETOZONE SETOSA	3
GAMMARID AMPHIPOD NO.2	3
APHRODITOIDEA (2 SPECIES)	2
PODARKE PUGETTENSIS	2
GAMMARID AMPHIPOD NO.1	2
PHYLLODOCE SP.	1
PILARGIS BERKELEYI	1
GLYCERA AMERICANA	1
GLYCINDE	1
ONUPHIS SP.	1
APICIDEA SP.	1
TRICHOBRANCHUS GLACIALIS	1
PISTA CRISTATA	1
SABELLIDAE UNIDENTIFIED	1
GAMMARID AMPHIPODS UNIDENT	1
AXINOPSIDA SERRICATA	1
THYASIRA SP.	1
LIMPET	1
HOLOTHUROIDEA	1
NEMERTINEA	1
DAITERA SP.	0
PHAINOGULMIA SP.	0
PHYLLODOCIDAE UNIDENTIFIED	0
GLYCERA SP.	0
GONIADA ANNULATA	0
NINOE GEMMEA	0
CIRRATULIDAE UNIDENTIFIED	0
COSSURIDAE UNIDENTIFIED	0
ASYCHIS SP	0
TEREBELLIDES STROEMI	0
PISTA FASCIATA	0
PYCNOGONIDA	0
ISOPODA	0
TANAIDACEA	0
ACILA CASTRENSIS	0
NUCULA SP.	0
LUCINOMA ANNULATA	0
LUCINOMA TENUISCULPTA	0
AXINOPSIDA VIRIDIS	0
ROCHEFORTIA SP.	0
VENERICARDIA PAUCICOSTATA	0
MACOMA ELIMATA	0
TELLINA SP	0
COMPSOMYAX SUBDIAPHANA	0
HIATELLA SP.	0
PANOPEA BILIRIATA	0
OPHIUROIDEA	0
NOLEPADIA INTERMEDIA	0
PRIAPULIDA	0

TABLE 73. PRELIMINARY SORT RANK ORDERS PROGRAM BENT

HOLBERG INLET STN.109 VAN VEEN 30-31 OCT73 7 40-49 10 HAU

	DENSITY (NO./SQ. M.)
CAPITELLIDAE (H.FILOBRANCH	9900
THARYX SP.	9001
AMMOTRYPANE AULOGASTER	3732
AXINOPSIDA VIRIDIS	55
CAPITELLA CAPITATA	31
GLYCERA CAPITATA	27
MACOMA CARLOTTENSIS	26
GAMMARID AMPHIPOD NO.1	25
AXINOPSIDA SERRICATA	25
BITTIUM ESCHRICHTII	20
AMPHARETE SP.	18
ACILA CASTRENSIS	18
PSEPHIDIA LORDI	17
LAONICE CIRRATA	15
LUMBRINERIS SP.(L.BICIRRAT	12
NUCULA SP.	11
PODARKE PUGETTENSIS	10
SYLLIDAE UNIDENTIFIED	10
NEMERTINEA	9
GLYCINDE	7
ETEONE LONGA	6
PRIONOSPIO CIRRIFERA	6
CUMACEA	6
CHAETOZONE SETOSA	5
GAMMARID AMPHIPOD NO.2	4
TEREBELLIDES STROEMI	3
SABELLIDAE UNIDENTIFIED	3
APHRODITOIDEA (2 SPECIES)	2
PHYLLODOCE SP.	2
DORVILLEA SP.	2
ISOCIRRUS SP	2
TRICHOBRANCHUS GLACIALIS	2
PISTA FASCIATA	2
GAMMARID AMPHIPODS UNIDENT	2
PHYLLODOCCIDAE UNIDENTIFIED	1
GONIADA ANNULATA	1
ONUPHIS SP.	1
ASYCHIS SP	1
VENERICARDIA PAUCICOSTATA	1
MACOMA ELIMATA	1
CRYPTOMYAX SUBDIAPHANA	1
OPHIUROIDEA	1
DAITRONA SP.	0
PHAENOGULLMIA SP.	0
PILARGIS BERKELEYI	0
GLYCERA AMERICANA	0
GLYCERA SP.	0
NINOE GEMMEA	0
ARICIDEA SP.	0
CIRRATULIDAE UNIDENTIFIED	0
COSSURIDAE UNIDENTIFIED	0
MALDANIDAE UNIDENTFIED	0
PISTA CRISTATA	0
PYCNOGONIDA	0
ISOPODA	0
PINNIXIA FABA	0
TANAIDACEA	0
LUCINOMA ANNULATA	0
LUCINOMA TENUISCULPTA	0
THYASIRA SP.	0
ROCHEFORTIA SP.	0
TELLINA SP	0
HIATELLA SP.	0
PANDORA BILIRIATA	0
LIMPET	0
MITRELLA SP	0
MOLPADIA INTERMEDIA	0
HOLOTHUROIDEA	0
PRIAPULIDA	0
APHYNCHITE INAMOENUS	0

TABLE 74. PRELIMINARY SORT RANK ORDERS PROGRAM BENT

HOLBERG INLET STN.105 VAN VEEN 30-31 OCT73 7 30-39 10 HAUL

	DENSITY (NO./50. M.)
CAPITELLIDAE (H.FILOBRANCH	9990
AMPHITRYPANE AULOGASTER	3279
AXINOPSIDA VIRIDIS	102
MACOMA CARLOTTENSIS	87
THARYX SP.	76
AXINOPSIDA SERRICATA	44
GAMMARID AMPHIPOD NO.2	37
GLYCERA CAPITATA	32
LUMBRINERIS SP.(L.BICIRRAT	27
BITTIUM ESCHRICHTII	19
GLYCINDE	17
AMPHARETE SP.	16
PSEPHIDIA LORDI	16
LAONICE CIRRATA	14
CAPITELLA CAPITATA	14
NUCULA SP.	12
SYLLIDAE UNIDENTIFIED	7
DORVILLEA SP.	7
TEREBELLIDES STROEMI	6
GAMMARID AMPHIPOD NO.1	6
NEMERTINEA	6
ETEONE LONGA	5
PHYLLODOCE SP.	5
LUCINOMA TENUISCULPTA	5
SABELLIDAE UNIDENTIFIED	4
COMACEA	4
ISOPODA	2
APHRODITOIDEA (2 SPECIES)	1
PLEUROMYA PUGETTENSIS	1
PILARGIS BERKELEYI	1
ONUPHIS SP.	1
NINOE GEMMEA	1
AFICIDEA SP.	1
PRIONOSPIO CIRRIFERA	1
CHAETOZONE SETOSA	1
ISOCIRRUS SP	1
TRICHOBRANCHUS GLACIALIS	1
GAMMARID AMPHIPODS UNIDENT	1
PINNIXIA FABA	1
ROCHEFORTIA SP.	1
HOLOTHUROIDEA	1
DAITYRA SP.	0
PHAINOGULLMIA SP.	0
PHYLLODOCIDAE UNIDENTIFIED	0
GLYCERA AMERICANA	0
GLYCERA SP.	0
GONIADA ANNULATA	0
CIRRATULIDAE UNIDENTIFIED	0
COSSURIDAE UNIDENTIFIED	0
ASYCHIS SP	0
MALDANIDAE UNIDENTFIED	0
PISTA CRISTATA	0
PISTA FASCIATA	0
PYCNOGONIDA	0
TANAIDACEA	0
ACILA CASTRENSIS	0
LUCINOMA ANNULATA	0
TRYASIRA SP.	0
VENERICARDIA PAUCICOSTATA	0
MACOMA ELIMATA	0
TELLINA SP	0
COMPSOMYAX SUBDIAPHANA	0
HIATELLA SP.	0
PANDORA BILIRIATA	0
LIMPET	0
MITRELLA SP	0
OPHIUROIDEA	0
NOLEDIA INTERMEDIA	0
PELAPULIDA	0
ARHYNCHITE INAEQUENS	0

TABLE 75. PRELIMINARY SORT RANK ORDERS — PROGRAM BENTH

HOLBERG INLET STN.106 VAN VEEN 30-31 OCT73 7 52-61 — 10 HAUL

	DENSITY (NO./SQ. M.)
AMMOTRYPANE AULOGASTER	1827
DAITRONA SP.	356
GAMMARID AMPHIPOD NO.2	48
TEREBELLIDES STROEMI	28
AXINOPSIDA VIRIDIS	19
MACOMA CARLOTTENSIS	16
CAPITELLIDAE (H.FILOBRANCH	12
PHAINOGULLMIA SP.	9
GLYCERA CAPITATA	9
LUMBRINERIS SP.(L.BICIRRAT	9
CHAETOZONE SETOSA	8
GAMMARID AMPHIPOD NO.1	7
GLYCINDE	6
LAONICE CIRRATA	5
AXINOPSIDA SERRICATA	5
AMPHARETE SP.	4
CUMACEA	4
APICIDEA SP.	3
NUCULA SP.	3
PODARKE PUGETTENSIS	2
GONIADA ANNULATA	2
THARYX SP.	2
APHRODITOIDEA (2 SPECIES)	1
PILARGIS BERKELEYI	1
GLYCERA SP.	1
LUCINOMA ANNULATA	1
LUCINOMA TENUISCULPTA	1
THYASIRA SP.	1
NEMERTINEA	1
ETEONE LONGA	0
PHYLLODOCE SP.	0
PHYLLODOCIDAE UNIDENTIFIED	0
SYLLIDAE UNIDENTIFIED	0
GLYCERA AMERICANA	0
ONUPHIS SP.	0
NINOE GEMMEA	0
DORVILLEA SP.	0
PRIONOSPIO CIRRIFERA	0
CIRRATULIDAE UNIDENTIFIED	0
COSSURIDAE UNIDENTIFIED	0
CAPITELLA CAPITATA	0
ASYCHIS SP.	0
ISOCIRRUS SP.	0
MALDANIDAE UNIDENTFIED	0
TRICHOBRANCHUS GLACIALIS	0
PISTA CRISTATA	0
PISTA FASCIATA	0
SABELLIDAE UNIDENTIFIED	0
PYCNOGONIDA	0
GAMMARID AMPHIPODS UNIDENT	0
ISOPODA	0
PINNIXIA FABA	0
TANAIDACEA	0
ACILA CASTRENSIS	0
ROCHEFORTIA SP.	0
VENERICARDIA PAUCICOSTATA	0
MACOMA ELIMATA	0
TELLINA SP.	0
COMPSOMYAX SUBDIAPHANA	0
PSEPHIDIA LORDI	0
HIATELLA SP.	0
PANOPEA BILIRIATA	0
LIMPET	0
BITTIUM ESCHRICHTII	0
MITRELLA SP.	0
OPHIUROIDEA	0
MOLPADIA INTERMEDIA	0
HOLOTHUROIDEA	0
PELAPUDIDA	0
APHRYNCHITE INAEQUUS	0

TABLE 76. PRELIMINARY SORT RANK ORDERS PROGRAM BENT

RUPERT INLET STN.101 VAN VEEN 30-31OCT 73 7 5-9 5 HAU

	BIOMASS WET WT (GMS/SQ. M.)
GLYCERA AMERICANA	3.6
CAPITELLIDAE (H.FILOBRANCH	3.4
AMPHITRYPANE AULOGASTER	1.2
MACOMA CARLOTTENSIS	0.6
DAITRONA SP.	0.0
PHAINOGULLMIA SP.	0.0
APHRODITOIDEA (2 SPECIES)	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PODARKE PUGETTENSIS	0.0
EULAGIS BERKELEYI	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA CAPITATA	0.0
GLYCERA SP.	0.0
GLYCINDE	0.0
GONIADA ANNULATA	0.0
ONUPHIS SP.	0.0
LUMBRINERIS SP.(L.BICIRRAT	0.0
NINOE GEMMEA	0.0
DORVILLEA SP.	0.0
ARICIDEA SP.	0.0
LAONICE CIRRATA	0.0
PRIONOSPIO CIRRIFERA	0.0
THARYX SP.	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
CAPITELLA CAPITATA	0.0
ASYCHIS SP	0.0
ISOCIRRUS SP	0.0
MALDANIDAE UNIDENTFIED	0.0
AMPHARETE SP.	0.0
TEREBELLIDES STROEMI	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPOD NO.2	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
PINNIXIA FABA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
NUCULA SP.	0.0
LUCINOMA ANNULATA	0.0
LUCINOMA TENUISCULPTA	0.0
AXINOPSIDA SERRICATA	0.0
AXINOPSIDA VIRIDIS	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA ELIMATA	0.0
TELLINA SP	0.0
COMPSOMYAX SUBDIAPHANA	0.0
PSEPHIDIA LORDI	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
BITTIUM ESCHRICHTII	0.0
MITRELLA SP	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
NEMERTINEA	0.0
PRIAPULIDA	0.0
ARTHROCHITE INAMOENUS	0.0

TABLE 77 . PRELIMINARY SORT RANK ORDERS PROGRAM BENT

RUPERT INLET STN.103 VAN VEEN 30-31 OCT73 7 10-16 5 HAU

BIOMASS WET WT
(GMS/SQ. M.)

AMMOTRYPANE AULOGASTER	0.8
GLYCERA CAPITATA	0.2
DAITRONA SP.	0.0
PHAINOGULLMIA SP.	0.0
APHRODITOIDEA (2 SPECIES)	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PODARKE PUGETTENSIS	0.0
PILARGIS BERKELEYI	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP.	0.0
GLYCINDE	0.0
GONIADA ANNULATA	0.0
ONUPHIS SP.	0.0
LUMBRINERIS SP.(L.BICIRRAT	0.0
NINOE GEMMEA	0.0
DORVILLEA SP.	0.0
ARICIDEA SP.	0.0
LAONICE CIRRATA	0.0
PRIONOSPIO CIRRIFERA	0.0
THARYX SP.	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
CAPITELLA CAPITATA	0.0
CAPITELLIDAE (H.FILOBRANCH	0.0
ASYCHIS SP	0.0
ISOCIRRUS SP	0.0
MALDANIDAE UNIDENTIFIED	0.0
AMPHARETE SP.	0.0
TEREBELLIDES STROEMI	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPOD NO.2.	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
PINNIXIA FABA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
NUCULA SP.	0.0
LUCINOMA ANNULATA	0.0
LUCINOMA TENUISCULPTA	0.0
AXINOPSIDA SERRICATA	0.0
AXINOPSIDA VIRIDIS	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA CARLOTTENSIS	0.0
MACOMA ELIMATA	0.0
TELLINA SP	0.0
CLINOCARDIUM SUBDIAPHANA	0.0
PSEPHIDIA LORDI	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
RITTIUM FSCHRICHTII	0.0
MITRELLA SP	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
NEMERTINEA	0.0
PRIAPULIDA	0.0
ARHYNCHITE INAMOENUS	0.0

TABLE 78. PRELIMINARY SORT RANK ORDERS PROGRAM DENT

RUPERT INLET STN.104 VAN VEEN 30-31 OCT73 7 19-28 10 HAU

	BIOMASS WET WT (GMS/SQ. M.)
CAPITELLIDAE (H.FILOBRANCH	48.5
APHELOCHAETA INAMOENUS	23.4
AMMOTHYPANE AULOGASTER	16.8
GLYCERA AMERICANA	4.5
CAPITELLA CAPITATA	4.5
GLYCERA CAPITATA	3.4
PINNIXIA FABA	3.2
MACOMA CARLOTTENSIS	3.0
MALDANIDAE UNIDENTIFIED	2.7
ISCHYROCERUS SP.	1.1
LUMBRINERIS SP.(L.BICIRRAT	0.9
THARYX SP.	0.7
LAONICE CIRRATA	0.7
APHRODITOIDEA (2 SPECIES)	0.5
ONUPHIS SP.	0.5
RITTIUM ESCHRICHTII	0.5
MITRELLA SP	0.3
POLYCHAETOIDEA	0.3
THYASIRA SP.	0.2
LIMPET	0.2
PHYLLODOCE SP.	0.1
PILARGIS BERKELEYI	0.1
TRICHOBRANCHUS GLACIALIS	0.1
DAITRONA SP.	0.0
PHAINOGULLMIA SP.	0.0
ETEONE LONGA	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PODARKE PUGETTENSIS	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA SP.	0.0
GLYCINDE	0.0
GONIADA ANNULATA	0.0
NINOE GEMMEA	0.0
DORVILLEA SP.	0.0
APISTOBRANCHUS SP.	0.0
PRIONOSPIO CIRRIFERA	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
ASYCHIS SP	0.0
AMPHARETE SP.	0.0
TEREBELLIDES STROEMI	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPOD NO.2	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
NUCULA SP.	0.0
LUCINOMA ANNULATA	0.0
LUCINOMA TENUISCULPTA	0.0
AXINOPSIDA SERRICATA	0.0
AXINOPSIDA VIRIDIS	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA.PAUCICOSTATA	0.0
MACOMA ELIMATA	0.0
TELLINA SP	0.0
COMPSOMYAX SUBDIAPHANA	0.0
PSEPHIDIA LORDI	0.0
HIATELLA SP.	0.0
PANDORA FILIPIATA	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
NEMERTINEA	0.0
PRIAPULIDA	0.0

TABLE 79. PRELIMINARY SORT RANK ORDERS PROGRAM BENTH

HOLBERG INLET STN.109 VAN VEEN 30-31 OCT73 7 40-49 10 HAUL

	BIOMASS WET WT (GMS/SQ. M.)
AMMOTRYPANE AULOGASTER	68.2
CONSOMYAX SUBDIAPHANA	44.7
CAPITELLIDAE (H.FILOBRANCH	20.1
ACILA CASTRENSIS	9.2
LAONICE CIRRATA	3.3
GLYCERA CAPITATA	3.1
MACOMA CALCTTENSIS	2.0
NEMERTINEA	1.8
AXINOPSIDA VIRIDIS	1.5
THAFYX SP.	1.3
BITTIUM ESCHRICHTII	1.3
LUMBRINERIS SP.(L.BICIRRAT	0.8
NUCULA SP.	0.8
ISOCIRRUS SP	0.7
GONIADA ANNULATA	0.6
TEREBELLIDES STROEMI	0.6
AXINOPSIDA SERRICATA	0.5
GLYCINDE	0.4
ONUPHIS SP.	0.4
OPHIUROIDEA	0.3
PHYLLODOCE SP.	0.1
CAPITELLA CAPITATA	0.1
ASYCHIS SP	0.1
MACOMA ELIMATA	0.1
DAITRONA SP.	0.0
PRAINOGULLMIA SP.	0.0
APHRODITOIDEA (2 SPECIES)	0.0
ETEONE LONGA	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PODARKE PUGETTENSIS	0.0
PILARGIS BERKELEYI	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP.	0.0
NINOE GEMMEA	0.0
DORVILLEA SP.	0.0
AFICIDEA SP.	0.0
PRIONOSPIO CIRRIFERA	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
MALDANIDAE UNIDENTIFIED	0.0
AMPHARETE SP.	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPOD NO.2	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
PINNIXIA FABA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
LUCINOMA ANNULATA	0.0
LUCINOMA TENUISCULPTA	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
TELLINA SP	0.0
PSEPHIDIA LORDI	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
MITRELLA SP	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
PRIAPULIDA	0.0
APHYNCHITE INAEQUUS	0.0

TABLE 80. PRELIMINARY SORT RANK ORDERS PROGRAM BENT

HOLBERG INLET STN.105 VAN VEEN 30-31 OCT73 7 30-39 10 HAL

BIOMASS WET WT
(GMS/SQ. M.)

AMNOTRYPANE AULOGASTER	75.6
MACOMA CARLOTTENSIS	11.1
CAPITELLIDAE (H.FILOBRANCH	9.7
GLYCERA CAPITATA	5.2
LAONICE CIRRATA	3.6
AXINOPSIDA VIRIDIS	2.8
GLYCINDE	1.6
BITTIUM ESCHRICHTII	1.6
AXINOPSIDA SERRICATA	1.2
NUCULA SP.	1.0
LUCINOMA TENUISCULPTA	1.0
LUMBRINERIS SP.(L.BICIRRAT	0.7
NEMERTINEA	0.5
HOLOTHUROIDEA	0.3
APHRODITOIDEA (2 SPECIES)	0.2
PHYLLODOCE SP.	0.2
ONUPHIS SP.	0.2
TEREBELLIDES STROEMI	0.2
PILARGIS BERKELEYI	0.1
DOEVILLEA SP.	0.1
CAPITELLA CAPITATA	0.1
TRICHOBRANCHUS GLACIALIS	0.1
PINNIXIA FABA	0.1
DAITRONA SP.	0.0
PHAINOGULLMIA SP.	0.0
ETEONE LONGA	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
POLARKE PUGETTENSIS	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
GLYCERA SP.	0.0
GONIADA ANNULATA	0.0
NINOE GEMMEA	0.0
ARICIDEA SP.	0.0
PRIONOSPIO CIRRIFERA	0.0
THARYX SP.	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
COSSURIDAE UNIDENTIFIED	0.0
ASYCHIS SP	0.0
ISOCIRRUS SP	0.0
MALDANIDAE UNIDENTFIED	0.0
AMPHARETE SP.	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPOD NO.2	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
LUCINOMA ANNULATA	0.0
THYASIRA SP.	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA ELIMATA	0.0
TELLINA SP	0.0
COMPSOMYAX SUBDIAPHANA	0.0
PSEPHIDIA LORDI	0.0
HIATELLA SP.	0.0
PANDORA BILIRIATA	0.0
LIMPET	0.0
MITELLA SP	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
PRIAPULIDA	0.0
APHRYNCHITE INAEQUUS	0.0

TABLE 81. PRELIMINARY SORT RANK ORDERS — PROGRAM BENT

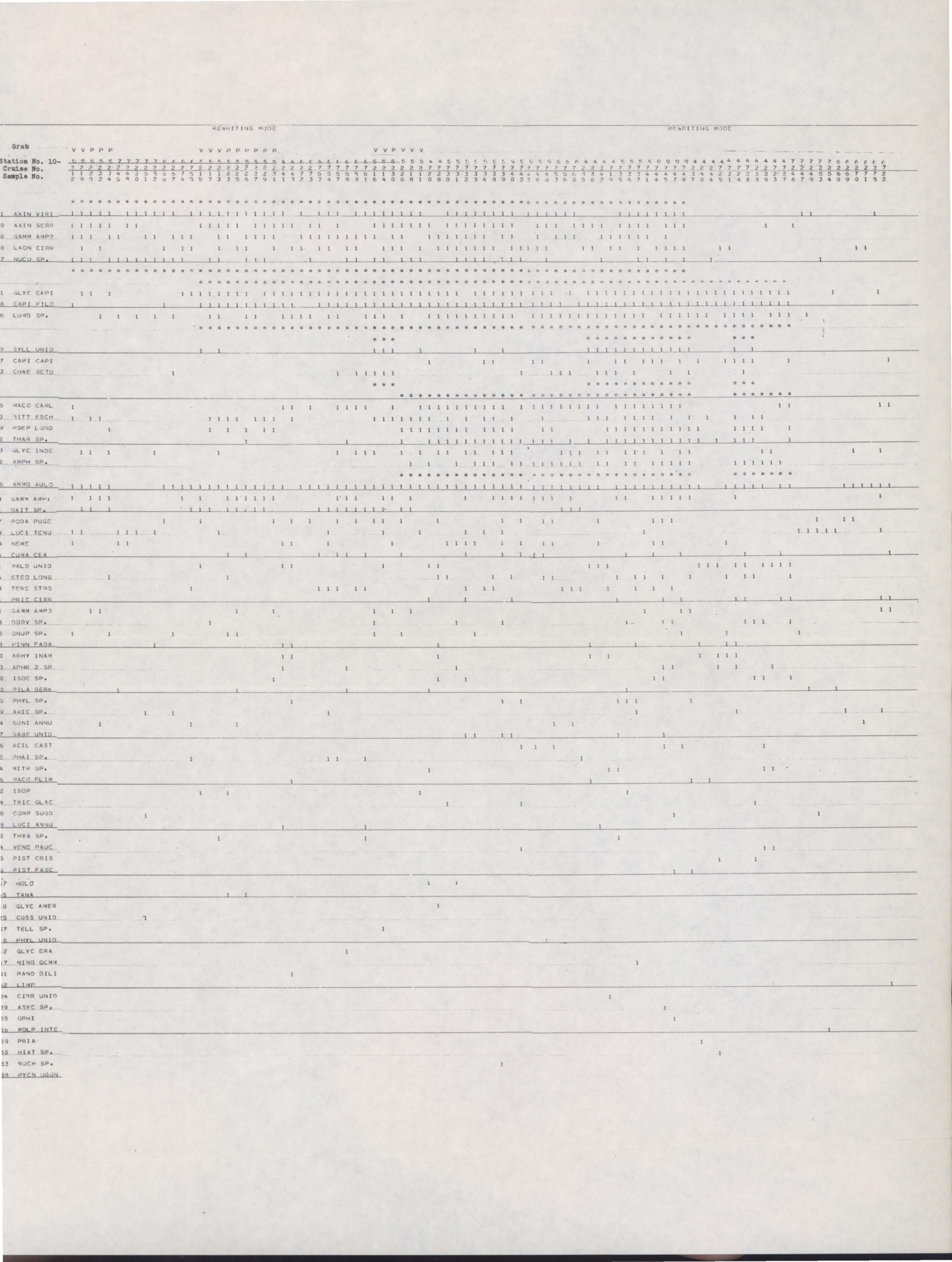
HOLBERG INLET STN.106 VAN VEEN 30-31 OCT73 7 52-61 — 10 HAU

BIOMASS WET WT
(GMS/SQ. M.)

AMMOTRYPANE AULOGASTER	30.7
NEMERTINEA	11.5
LAONICE CIRRATA	1.7
MACOMA CARLOTTENSIS	1.6
GLYCERA CAPITATA	1.1
GLYCERA SP.	1.1
GLYCINDE	1.1
GONIADA ANNULATA	1.1
NUCULA SP.	0.8
LUCINOMA ANNULATA	0.4
AXINOPSIDA VIRIDIS	0.4
APHRODITOIDEA (2 SPECIES)	0.2
THYASIRA SP.	0.2
LUCINOMA TENUISCULPTA	0.2
PILARGIS BERKELEYI	0.1
DAITERNA SP.	0.0
PHAINOGULLMIA SP.	0.0
ETEONE LONGA	0.0
PHYLLODOCE SP.	0.0
PHYLLODOCIDAE UNIDENTIFIED	0.0
PODARKE PUGETTENSIS	0.0
SYLLIDAE UNIDENTIFIED	0.0
GLYCERA AMERICANA	0.0
ONUPHIS SP.	0.0
LUMBRINERIS SP.(L.BICIRRAT	0.0
NINOE GEMMEA	0.0
DORVILLEA SP.	0.0
APICIDEA SP.	0.0
PRIONOSPIO CIRRIFERA	0.0
THARYX SP.	0.0
CHAETOZONE SETOSA	0.0
CIRRATULIDAE UNIDENTIFIED	0.0
OSSUARIDAE UNIDENTIFIED	0.0
CAPITELLA CAPITATA	0.0
CAPITELLIDAE (F.FILOBRANCH	0.0
ASYCHIS SP	0.0
ISOCIRRUS SP	0.0
MALDANIDAE UNIDENTIFIED	0.0
AMPHARETE SP.	0.0
TEREBELLIDES STROEMI	0.0
TRICHOBRANCHUS GLACIALIS	0.0
PISTA CRISTATA	0.0
PISTA FASCIATA	0.0
SABELLIDAE UNIDENTIFIED	0.0
PYCNOGONIDA	0.0
GAMMARID AMPHIPOD NO.1	0.0
GAMMARID AMPHIPOD NO.2	0.0
GAMMARID AMPHIPODS UNIDENT	0.0
ISOPODA	0.0
PINNIXIA FABA	0.0
CUMACEA	0.0
TANAIDACEA	0.0
ACILA CASTRENSIS	0.0
AXINOPSIDA SERRICATA	0.0
ROCHEFORTIA SP.	0.0
VENERICARDIA PAUCICOSTATA	0.0
MACOMA ELIMATA	0.0
TELLINA SP	0.0
CUMINGIA SUBDIAPHANA	0.0
PSEPHIDIA LORDI	0.0
HIATELLA SP.	0.0
PANDORA BILIRATA	0.0
LIMPET	0.0
BITTIUM ESCHRICHTII	0.0
MITRELLA SP	0.0
OPHIUROIDEA	0.0
MOLPADIA INTERMEDIA	0.0
HOLOTHUROIDEA	0.0
PRIAPULICA	0.0
ARHYNCHITE INANGENUS	0.0

Appendix IV

Computer print out of Zürich-Montpellier analysis and clustering.


REWRITING MODE
REWRITING MODE
Grab
Station No. 10-
Cruise No.
Sample No.
1 AXIN VIRI
0 AXIN SERR
0 GAMM AMP2
0 LAON CIRR
7 NUCU SP.
1 GLYC CAPI
8 CAPI FILO
6 LUMB SP.
9 SYLL UNID
7 CAPI CAPI
3 CHAE SCTO
5 MACO CARL
3 NITT ESCH
9 PSEP LORD
2 THAR SP.
3 GLYC INDE
2 AMPH SP.
6 AMMO AULO
GAMM AMP1
DAIT SP.
7 PODA PUGE
9 LUCI TENU
6 NEME
CUMA CEA
MALD UNID
6 ETEO LONG
8 TERE STRO
1 PRIC CIRR
1 GAMM AMP3
8 ORRV SP.
5 ONUP SP.
8 PINN FABA
0 ARMY INAM
3 APHR 2 SP
0 ISOC SP.
9 PILA BERK
5 PHYL SP.
9 AMIC SP.
4 GONI ANNU
7 SABE UNID
6 ACIL CAST
2 PHAI SP.
4 MITR SP.
6 MACO ELIM
2 ISOP
4 TRIC GLAC
8 COMP SUBD
8 LUCI ANNU
2 THYA SP.
4 VENE PAUC
5 PIST CRIS
6 PIST FASC
17 HOLO
15 TANA
10 GLYC AMER
15 CUSS UNID
17 TELL SP.
16 PHYL UNID
12 GLYC ERA
17 NINO GEMM
51 PAND BILI
12 LIMP
24 CIRR UNID
29 ASYC SP.
55 OPHI
10 MOLP INTE
59 PRIA
50 HIAT SP.
53 RUCH SP.
58 PYCN UGUN

Presence or absence of species in all samples arranged in an "Orderly Extract Table" by Zürich-Montpellier method.

VITA

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Place of Birth: BUENOS AIRES, ARGENTINA Date of Birth: JULY 17, 1949

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University of Redlands Fellowship, 1967/71

Publications:

Contribution in:

Austin, A. and R. Adams. 1972. Development of a method for surveying red algal resources in Canadian Pacific waters. 1st Interim Report. A report submitted to the Minister of Fisheries and the Provincial Minister of Recreation and Conservation. 30 pp.

Austin, A., R. Adams, A. Jones, and K. Anders. 1972. Development of a method for surveying red algal resources in Canadian Pacific waters. 2nd Interim Report. A report submitted to the Minister of Fisheries and the Provincial Minister of Recreation and Conservation. 130 pp.

Contribution in:

Ellis, D.V. 1972. Island Copper Mine Monitoring Program, Annual review. Biological Parameters, Section 4. 226 pp.

Austin, A., R. Adams, A. Jones, and K. Anders. 1973. Development of a method for surveying red algal resources in Canadian Pacific waters. Annual Report. A report submitted to the Minister of Fisheries and the Provincial Minister of Recreation and Conservation. 172 pp.

Dendogram of cluster analysis based on Jaccard's coefficient. Samples are clustered by number of species in common.

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Author: _____

Signature

Adrián Alejandro Jones

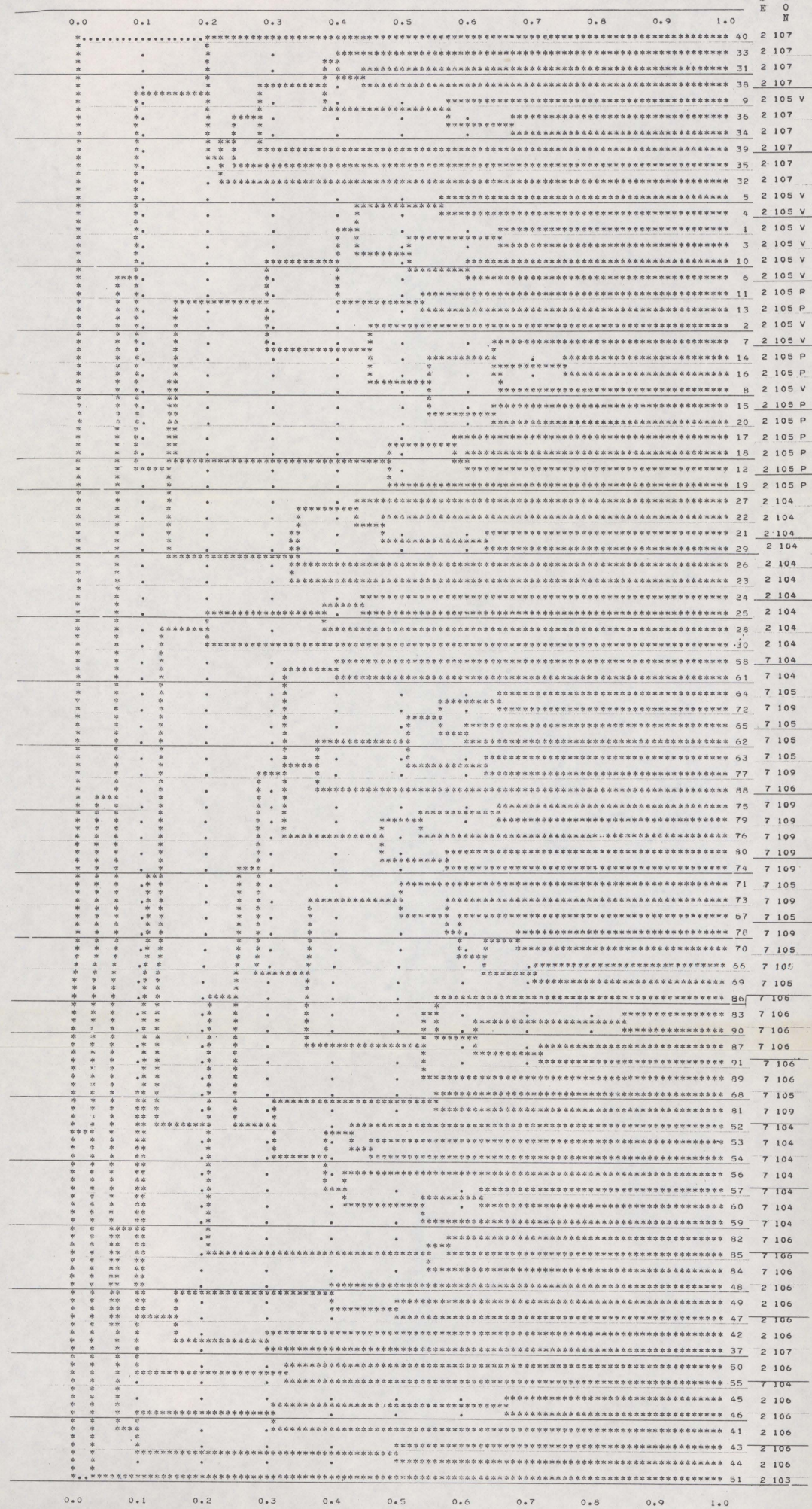
Name

October 11, 1974

date

JACCARD COEFFICIENT OF COMMUNITY

UNWEIGHTED PAIR-GROUP CLUSTERING



CRUISE	STATION
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33	2 107
31	2 107
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9	2 105 V
36	2 107
34	2 107
39	2 107
35	2 107
32	2 107
5	2 105 V
4	2 105 V
1	2 105 V
3	2 105 V
10	2 105 V
6	2 105 V
11	2 105 P
13	2 105 P
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7	2 105 V
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17	2 105 P
18	2 105 P
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22	2 104
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29	2 104
26	2 104
23	2 104
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25	2 104
28	2 104
30	2 104
58	7 104
61	7 104
64	7 105
72	7 109
65	7 105
62	7 105
63	7 105
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91	7 106
89	7 106
68	7 105
81	7 109
52	7 104
53	7 104
54	7 104
56	7 104
57	7 104
60	7 104
59	7 104
82	7 106
85	7 106
84	7 106
48	2 106
49	2 106
47	2 106
42	2 106
37	2 107
50	2 106
55	7 104
45	2 106
46	2 106
41	2 106
43	2 106
44	2 106
51	2 103