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NOAA Technical Memorandum ERL MESA-37



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THE INTERTIDAL AND SHALLOW SUBTIDAL BENTHOS  
OF THE WEST COAST OF WHIDBEY ISLAND  
SPRING 1977 TO WINTER 1978  
First Year Report

Herbert H. Webber

Marine Ecosystems Analysis Program  
Boulder, Colorado  
January 1979

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First Year Report

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January 1979



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DEPARTMENT OF COMMERCE**  
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NATIONAL OCEANIC AND  
ATMOSPHERIC ADMINISTRATION  
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Environmental Research  
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Completion Report Submitted to  
MESA Puget Sound Project  
MARINE ECOSYSTEMS ANALYSIS PROGRAM  
ENVIRONMENTAL RESEARCH LABORATORIES

BY

HUXLEY COLLEGE OF ENVIRONMENTAL STUDIES  
WESTERN WASHINGTON UNIVERSITY  
BELLINGHAM, WASHINGTON

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<u>West Beach</u>		<u>Page</u>
<u>Spring</u>	+6.0'	110
	+3.0'	111
	0.0'	112
	-1.5m	113
	-5.0m	114
	-10.0m	115
<u>Summer</u>	+6.0'	116
	+5.0'	117
	+4.0'	118
	+3.0'	119
	+2.0'	120
	+1.0'	121
	0.0'	122
	-1.0'	123
	-1.5m	124
	-2.5m	125
	-5.0m	126
	-7.5m	128
	-10.0m	130
<u>Fall</u>	+6.0'	132
	+3.0'	133
	0.0'	134
	-1.5m	135
	-5.0m	136
	-10.0m	138
<u>Winter</u>	+6.0'	140
	+5.0'	141
	+4.0'	142
	+3.0'	143
	+2.0'	144
	+1.0'	145
	0.0'	146
	-1.0m	147
	-1.5m	148



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-7.5m	.....	151
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<u>Spring</u>	+6.0'	.....	154
	+2.0'	.....	155
	0.0'	.....	156
	-1.5m	.....	158
	-5.0m	.....	160
	-10.0m	.....	162
<u>Summer</u>	+6.0'	.....	164
	+5.0'	.....	165
	+4.0'	.....	166
	+3.0'	.....	167
	+2.0'	.....	169
	+1.0'	.....	171
	0.0'	.....	173
	-1.0m	.....	175
	-1.5m	.....	178
	-2.5m	.....	180
	-5.0m	.....	182
	-7.5m	.....	184
	-10.0m	.....	186
<u>Fall</u>	+6.0'	.....	189
	+2.0'	.....	190
	0.0'	.....	192
	-1.5m	.....	195
	-5.0m	.....	197
	-10.0m	.....	199
<u>Winter</u>	+6.0'	.....	201
	+5.0'	.....	202
	+4.0'	.....	203
	+3.0'	.....	205
	+2.0'	.....	206
	+1.0'	.....	208
	0.0'	.....	210
	-1.0m	.....	212
	-1.5m	.....	214
	-2.5m	.....	216
	-5.0m	.....	218
	-7.5m	.....	220
	-10.0m	.....	222

Ebey's Landing

<u>Spring</u>	+6.0'	224
	+3.0'	225
	0.0'	226
	-1.5m	227
	-5.0m	228
	-10.0m	230
<u>Summer</u>	+6.0'	232
	+5.0'	233
	+4.0'	234
	+3.0'	235
	+2.0'	236
	+1.0'	237
	0.0'	238
	-1.0'	239
	-1.5m	240
	-2.5m	242
	-5.0m	244
	-7.5m	246
	-10.0m	248
<u>Fall</u>	+6.0'	250
	+3.0'	251
	0.0'	252
	-1.5m	253
	-5.0m	255
	-10.0m	257
<u>Winter</u>	+6.0'	259
	+5.0'	260
	+4.0'	261
	+3.0'	262
	+2.0'	263
	+1.0'	264
	0.0'	265
	-1.0'	266
	-1.5m	267
	-2.5m	269
	-5.0m	271
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## ABSTRACT

The intertidal and shallow subtidal (to -10.0m) flora and fauna from three sites on the west coast of Whidbey Island were sampled in the spring, summer and fall of 1977 and the winter of 1978. Sites were chosen to reflect the dominant intertidal habitats of sand, gravel and cobble substrate. Flora and fauna to a size of 1mm. were identified, counted, weighed, and placed in permanent storage.

Intertidally the species richness of the sand and gravel habitats was low (approximately 50 species) relative to the cobble habitat (200 species). Subtidally the species richness of the cobble and gravel sites was similar (300-350 species) while species richness of the sand site was lower (200 species).

Species composition intertidally showed little similarity between sites. Similarity indices between gravel and sand, gravel and cobble, and cobble and sand were all less than 50 percent. Subtidally species similarity at two sites was low (gravel and sand 39 percent, cobble and sand 38 percent). However, species similarity subtidally between the cobble and gravel sites was relatively higher (64 percent).

At the gravel and sand habitats most species found intertidally were also found subtidally. Only a few were predominantly intertidal. At the cobble habitat some species were found predominantly intertidally, but most were found as well subtidally.

Sample methods used resulted in data with high variability. Coefficients of Variation showed the majority of species sampled had inadequate sample size and/or replicate number. Seasonal changes evident from the data were not pronounced. At any given sample elevation generally less than 5 - 10 percent of species showed significant differences in number or size. Most species with significant seasonal differences were predominant in summer. About 30 percent of species with significant seasonal difference were predominant in winter.

Results from the three sites on the west coast of Whidbey Island agree in general with similar studies on the Strait of Juan de Fuca, the San Juan Islands, and southern Georgia Strait.

## INTRODUCTION

Puget Sound is a descriptive term used to describe the inland sea of northwestern Washington State and southwestern British Columbia (Fig. 1). It consists of the Strait of Juan de Fuca, the southern portion of the Strait of Georgia, channels of the San Juan Islands, numerous estuaries, and the southern inlets that are Puget Sound proper. The increased use of northern Puget Sound waters and shorelines for the transportation and refining of oil has increased concern about potential damage to marine resources of the area. In the last five years a number of studies have been initiated by industry and State and Federal government to document the components of the ecological systems of northern Puget Sound. The biological communities of southern Georgia Strait have been studied by Battelle Northwest (1976) for the Atlantic Richfield Oil Company. The Washington State Department of Ecology in 1974 initiated a baseline study of biological resources of Northern Puget Sound (D.O.E. 1978). In 1975 the National Oceanic and Atmospheric Administration initiated a MESA project (Marine Ecosystem Analysis) in Puget Sound that is designed to provide a data base on physical, chemical and biological components (MESA, 1978).

An important component of both the DOE baseline program and the NOAA MESA program is the characterization of the marine plants and animals of the intertidal and shallow subtidal areas of north Puget Sound. DOE studies have primarily focused on the geographical area from Anacortes to Blaine (Fig. 1) with major emphasis on the areas adjacent to oil shipping routes and refining activity, and similar "control" areas in the San Juan Islands. Results of these studies are available from the Washington State Department of Ecology (Nyblade 1977, Webber 1978).

NOAA's MESA project on the characterization of the intertidal and shallow subtidal benthos has focused on habitats of the Strait of Juan de Fuca (Nyblade, 1978). An important area of Puget Sound that is adjacent to oil shipping routes and has not had similar characterization studies of intertidal and shallow subtidal flora and fauna is the west coast of Whidbey Island from Admiralty Head to Deception Pass.

The objectives of the sampling program described in this report were to quantitatively characterize the benthos of the intertidal and shallow subtidal habitats of the west coast of Whidbey Island. Reported here are results for the first year's sampling on species richness, species diversity, community structure, seasonal changes and dominant forms.

A more detailed report will follow the completion of the second year of sampling.

The west coast of Whidbey Island is predominantly unconsolidated material deposited by glaciation. Moderate wave action has acted on the

material to form a shoreline composed of beaches. At headland areas erosion has created beaches composed of material that is too heavy for wave action to transport. These are cobble beaches and are found primarily at the base of actively eroding bluffs. Material eroded from the bluffs is carried by longshore drift to areas where wave action is reduced or some barrier results in deposition. These areas are accretional and are characterized by sandy beaches with extensive backshore areas composed of sand dunes. A third type of beach is that where material is not actively eroding or accreting, but is carried along by longshore drift. These are transport beaches. Transport beaches are mostly gravel or coarse sand. The southerly portion of the study area is mostly a series of erosional and transport beaches, while the northerly portion is primarily an area of accretion.

Three sites were chosen in this study to reflect the predominant beach types: Partridge Point, an erosional area with a cobble beach; Ebey's Landing, a transport area with a gravel beach; and West Beach, an accretional area with a sandy beach.

This study is based on an habitat approach. That is habitat types are named to reflect the dominant substrate type visible in the intertidal zone. By characterizing in detail the flora and fauna of a typical habitat type it is assumed that results can be extrapolated to other similar habitats.

Although the habitat type reflects the dominant substrate visible in the intertidal area, variability in substrate type exists. Substrate at most habitats at the +5 foot tide height and above often differs from the dominant substrate. Cobble beaches usually have a band of gravel at this height, mud beaches usually have a band of sand or cobbles. As well the substrate below the tide line changes from the dominant type. With increasing depth below the 0.0 tide height wave action decreases and the proportion of silt in the substrate increases. Except in rocky areas and areas of large tidal current, substrate type becomes a relatively uniform mud at a depth of 10m.

## 2. METHODS

### 2.1 Study Areas

The sample sites were established on the west coast of Whidbey Island from Deception Pass to Admiralty Head (Fig. 1). They were, from north to south, West Beach (sand habitat), Partridge Point (cobble habitat) and Ebey's Landing (gravel habitat).

#### 2.1.1 West Beach

West Beach sample site was approximately one mile west of State Highway 525 and was reached by travel west on Banta, Murray, and Powell Roads. The permanent reference marker consists of three spikes driven into the asphalt parking area. Each spike was located 15.8' above the 0.0 tide height. The specific location of the sample area is shown in Figure 2.

#### 2.1.2 Partridge Point

The cobble sample site was reached by travelling approximately three miles west on Libby Road from its intersection with State Highway 525. This intersection is approximately four miles southwest of Oak Harbor. On Libby Road approximately 200 feet before the public boat launch at Partridge Point, turn left into Padilla Estates. The sample location is at the foot of the private access beach road. The permanent reference marker at Partridge Point was the U.S.G.S. marker located on the top of a large boulder (Fig. 3). The tide height of the marker was 12.4' above the 0.0 tide height. The location of the specific sampling area is shown in Fig. 3.

#### 2.1.3 Ebey's Landing

The gravel site was located at Ebey's Landing. The site was reached by travelling west on Ebey road from its intersection with State Highway 525 approximately one mile north of Coupeville. The sample site was located adjacent to the road where it parallels the beach. The permanent reference marker was three spikes placed in the center of the road surface (Fig. 4). Each spike was 10.4' above the 0.0' tide height. The specific location of the sample site is indicated on Fig. 4.

#### 2.1.4 Sample Area

At each site the sample area was a 50m wide strip from the +6' to -1' tide height. At given strata samples were located along the 50m line by a table of random numbers.

Subtidal sample areas were located immediately offshore of the intertidal sites. Subtidal samples were located on depth contours in haphazard fashion along a line of approximately 30m width.

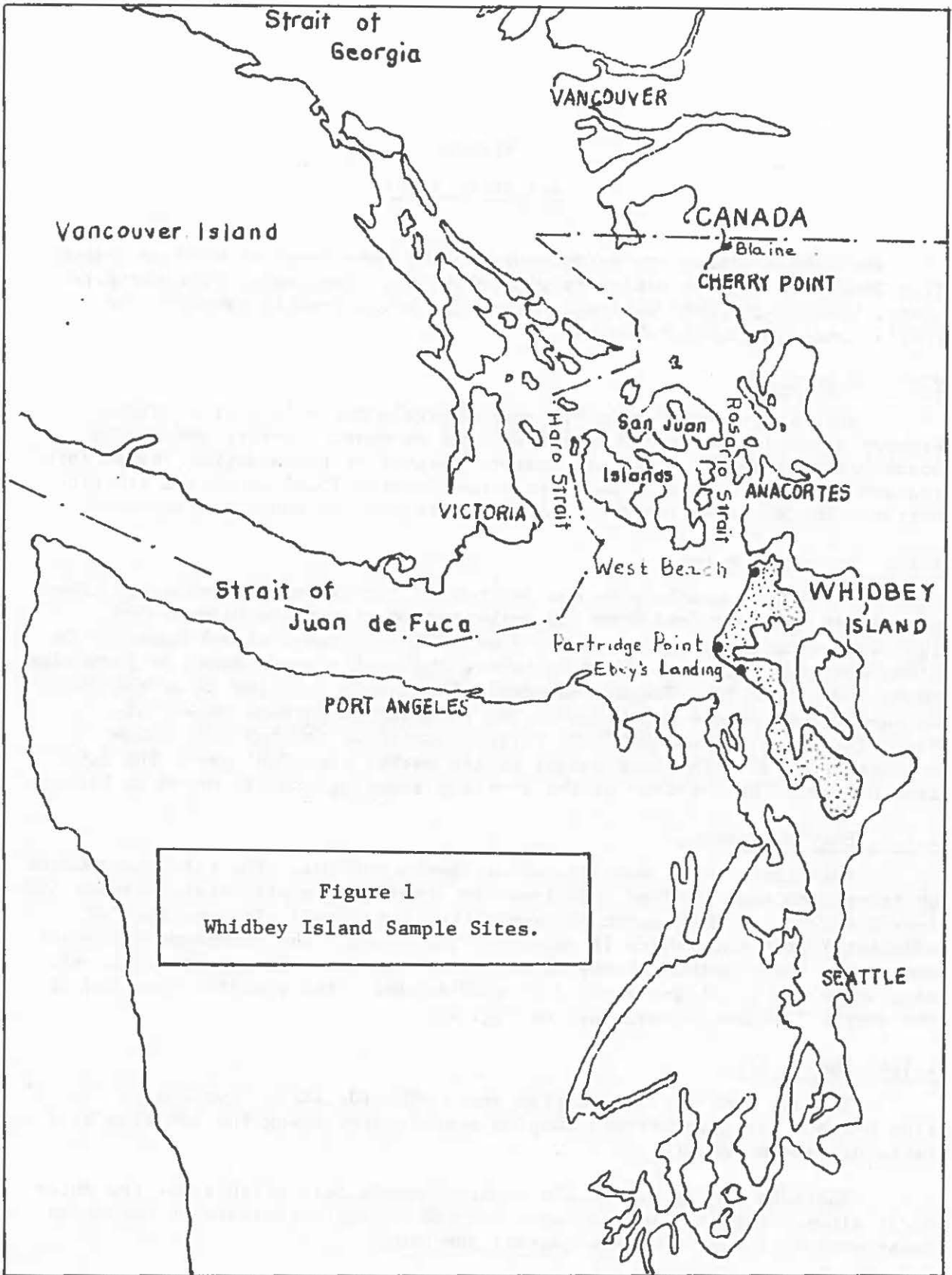


Figure 2. Site Diagram, West Beach (Sand)

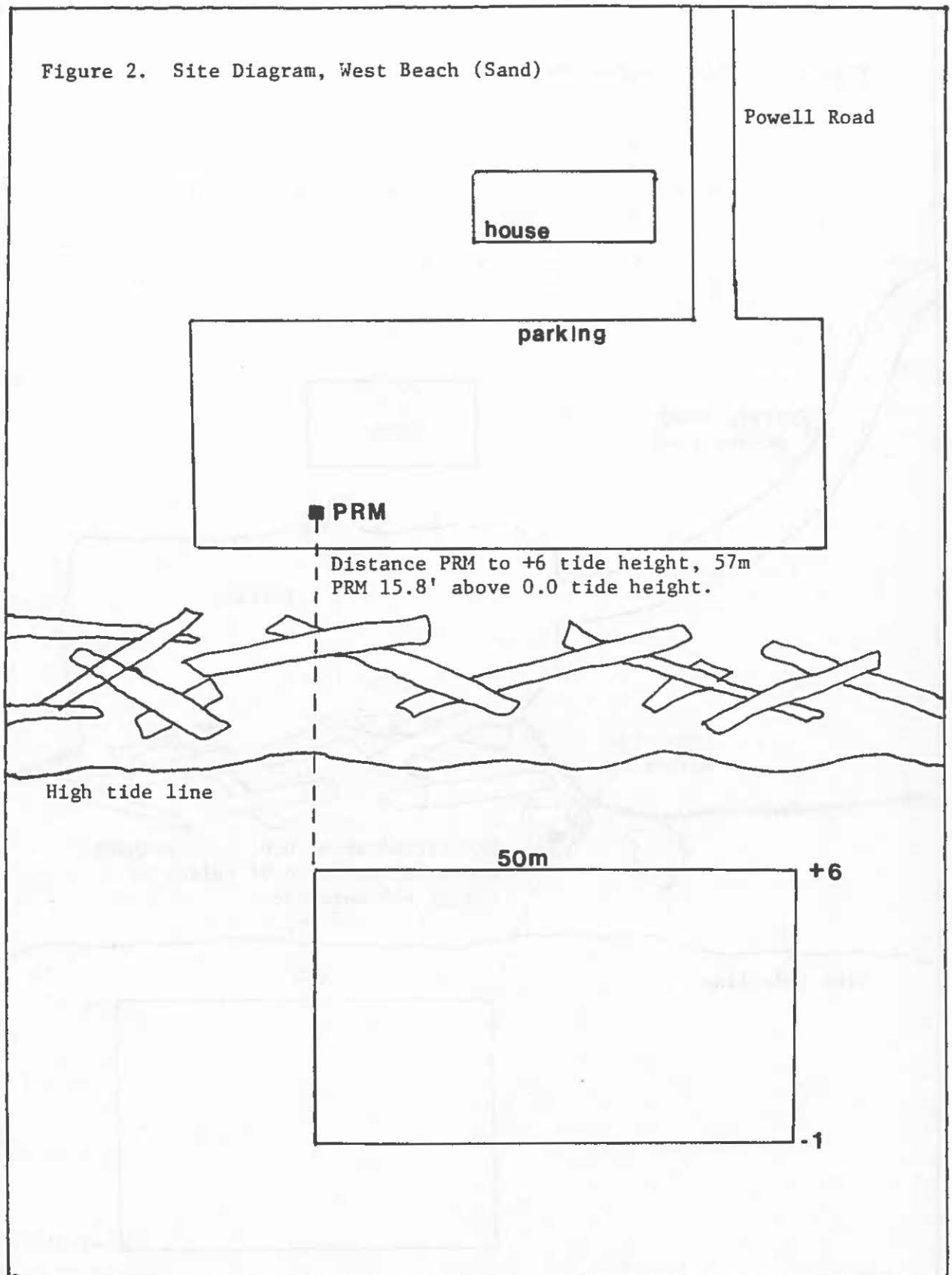




Figure 3. Site Diagram, Partridge Point, (Cobble).

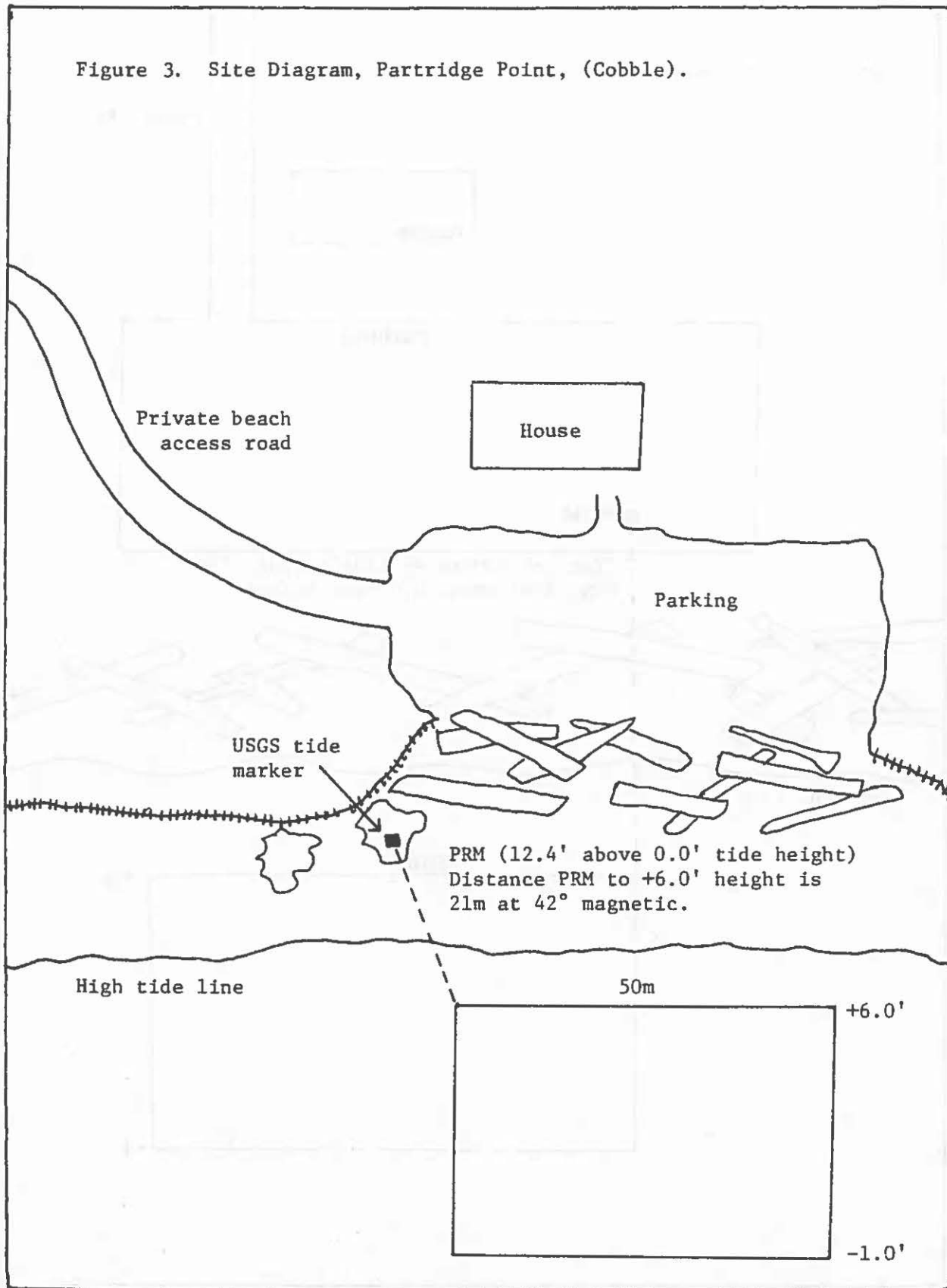
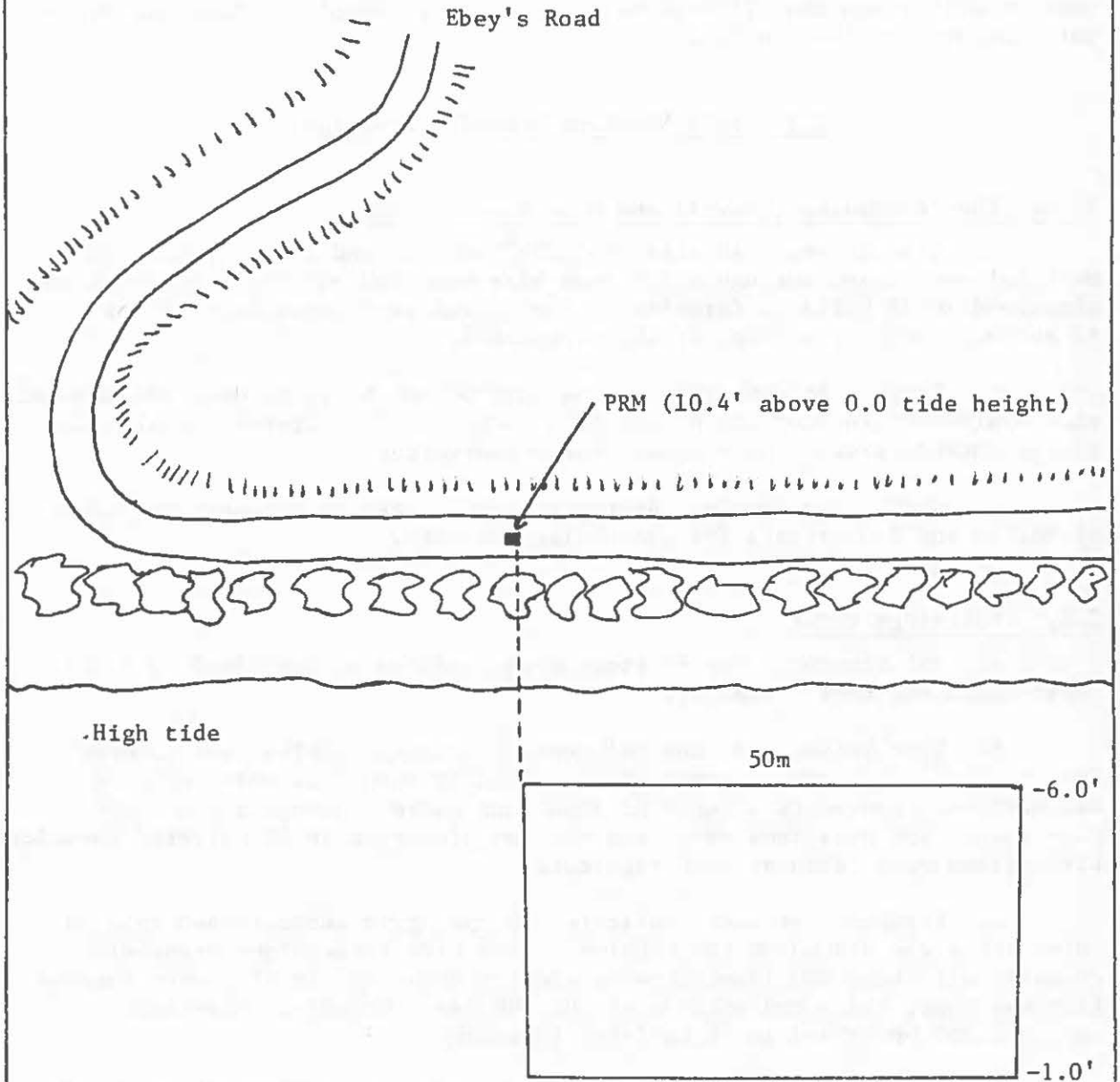


Figure 4. Site Diagram, Ebey's Landing (Gravel)



## 2.2 Sample Schedule

Sample effort varied at site and season. Intertidally one tide height in each of the upper, mid and lower tide areas was sampled in each of the four seasons (see Table 1). For Ebey's Landing and West Beach five replicates were located at each of the three tide heights. During summer and winter sampling periods each additional tide height between +6 and -1 feet was sampled with triplicates. For subtidal sampling triplicates were used at all strata and all seasons. A summary of sampling times and replicate numbers is given in Table 1.

## 2.3 Field Sampling Methods Intertidal

### 2.3.1 Ebey's Landing (gravel) and West Beach (sand).

a. Live Seives. An area of  $0.25\text{m}^2$  was removed to a depth of 30cm. Material was passed through a 0.5 inch wire mesh and all fauna retained and preserved in 5% buffered formalin. Live seives were taken only at the +6, +3 and 0.0' strata, at each of the replicates.

b. Cores. At each replicate a core  $0.05\text{m}^2$  by 15cm. deep was removed with minimum disruption and placed in a bucket. 12% buffered formalin was gently worked through the sediment for preservation.

c. Grain Size Sample. Approximately 1 liter of sediment was taken at +6, +3 and 0.0' strata for grain size analysis.

### 2.3.2 Partridge Point

a. +6' Stratum. The +6 stratum was sampled as described in 2.3.1 (West Beach and Ebey's Landing).

b. Live Seives. As the +2' and 0.0' strata cobbles were removed from a  $.25\text{m}^2$  area, mobile invertebrates greater than 1cm. were retained. Sediment was removed to a depth of 30cm. and passed through a  $0.5\text{ inch}^2$  wire mesh. Any organisms were retained and preserved in 5% buffered formalin. Live seives were taken at each replicate.

c. Scrapes. At each replicate a  $0.25\text{m}^2$  grid subsectioned into 25  $.01\text{m}^2$  areas was placed on the cobbles. From five subsections (randomly chosen), all algae and invertebrates greater than 1mm. in size were removed from the tops, sides and bottoms of the cobbles. Organisms were kept separate and preserved in 5% buffered formalin.

d. Algae. From the remaining  $0.2\text{m}^2$  area all surface algae macro-invertebrates larger than 1cm. was removed and preserved in 5 percent buffered formalin.

Table 1

A. Number of Replicates and Strata Sampled. +6' to -1' are tide heights in feet (Port Townsend tide tables). -1.5 m to -10 m are depths in meters below the 0.0' tide height. PP = Partridge Point, EL = Ebey's Landing, WB = West Beach.

	Spring, Fall	Summer, Winter
+6'	PP4, WB5, EL5	PP4, WB5, EL5
+5'	not sampled	PP3, WB3, EL3
+4'	not sampled	PP3, WB3, EL3
+3'	WB5, EL5	PP3, WB5, EL5
+2'	PP4	PP4, WB3, EL3
+1'	not sampled	PP3, WB3, EL3
0'	PP4, WB5, EL5	PP4, WB5, EL5
-1'	not sampled	PP3, WB3, EL3
-1.5 m	PP3, WB3, EL3	PP3, WB3, EL3
-2.5 m	not sampled	PP3, WB3, EL3
-5.0 m	PP3, WB3, EL3	PP3, WB3, EL3
-7.5 m	not sampled	PP3, WB3, EL3
-10.0 m	PP3, WB3, EL3	PP3, WB3, EL3

B. Sampling Dates.

	Spring		Summer		Fall		Winter	
	Int.	Sub.	Int.	Sub.	Int.	Sub.	Int.	Sub.
West Beach	4/6/77	4/19/77	7/2/77	8/10/77	10/15/77	11/18/77	1/6/78	1/24/78
Ebey's Landing	4/7/77	4/28/77	7/1/77	8/22/77	10/17/77	11/3/77	1/7/78	2/13/78
Partridge Point	4/8/77	4/30/77	6/30/77	8/26/77	10/18/77	11/8/77	1/8/78	2/6/78

e. Core. Cobbles were removed from the  $0.25\text{m}^2$  area and a  $0.05\text{m}^2$  by 15cm core was removed with minimum disruption. Sediment was preserved in 12% buffered formalin as described in 2.1.1.

#### 2.4 Subtidal Field Methods

Subtidal samples were taken with the aid of scuba equipment and a working platform that was placed over the sample site. A  $0.25\text{m}^2$  quadrat was placed on the bottom and all animals greater than 1cm. and all algae were removed and sucked by air lift into a cloth bag of 0.7mm. mesh size. Tests indicated that a 0.7mm mesh size retained organisms of a similar size to a 1.0mm mesh size used to sieve dead organisms. Once algae were removed, a  $0.05\text{m}^2$  by 15cm. core was removed and sucked by air lift into a bag of 0.7mm. mesh size. Organisms were preserved in 5% buffered formalin. One liter of sediment was taken from each subtidal stratum for grain size analysis.

#### 2.5 Laboratory Procedures

a. Live Seives. Organisms were sorted to species, identified, and number of individuals and total wet weight (0.01 gm.) recorded. Molluscs were weighed with shells. Each species was labelled and placed in 30% isopropyl alcohol buffered with hexamethylene tetramine for permanent storage.

b. Intertidal Scrapes. Organisms from the five  $0.01\text{m}^2$  scrapes were sorted to species. Wet weight (0.01g) biomass was recorded for algae. For animals, numbers of individuals and total wet weight (0.01g) were recorded. Each species was preserved and labelled for semi permanent storage. Algae were preserved in 6% buffered formalin. Animals were preserved as described above in a.

c.  $0.25\text{m}^2$  Algae. Algae were sorted to species, identified, wet weight (0.01g) taken, labelled and preserved as described above.

d. Cores. Sediment was washed through a 1.0mm. screen. The retained sediment and organisms were flooded with .02% rose bengal dye in 35% isopropyl alcohol. Material was left for at least 48 hours before sorting. (All algae fragments and animals were removed and sorted to species. Each species was identified, the number of individuals and biomass (0.01g) recorded, and preserved for permanent storage as described above.)

e. Subtidal Algae. Algae were sorted to species and treated as described above.

f. Subtidal Cores. Organisms were dyed in 0.02% rose bengal in 35% isopropyl alcohol, sorted to species and treated as described above.

g. Sediment Samples. Samples for grain size analysis were dried at 80° C for 24 hours then passed through a series of sieves into the following fractions: >0.065mm.; 0.065 to 0.125mm.; 0.125 to 0.5mm.; 0.5 to 1.0mm.; 1.0 to 2.0mm.; 2.0 to 4.0mm.; 4.0 to 64.0mm., and 64 to 256mm.

## 2.6 Taxonomy

Where possible organisms were identified to the species level. Some groups (i.e. Oligochaetes, Nemertean) are not well known and were identified to higher taxonomic levels. Some individuals were juveniles and not identifiable to species. The references used to identify species are listed in the bibliography.

## 2.7 Data Processing

Data for each species taken by each collection method were coded using the NOAA National Oceanographic Documentation Center (NODC) format. Data were stored on computer tape and are available from the NOAA Environmental Data and Information Service data library.

## 2.8 Data Manipulation

For this report all data on numbers of individuals (invertebrates) and biomass per species are given on the basis of 0.25m<sup>2</sup>. That is data from various collection methods (except data from live sieves) have been combined to reconstruct a 0.25m<sup>2</sup> area by 15cm. deep. Standard deviations were calculated on the original sample size and multiplied to bring up to 0.25m<sup>2</sup>. Standard deviation from the various collection methods expressed as 0.25m<sup>2</sup> were then added together.

Live sieve data were not recombined and were treated separately.

## 2.9 Dominance

In the description of the community groups at each site only dominant species were used. These data are reported in Tables 9 through 14. A definition of dominance that included the majority of species that appeared important in community structure was chosen. The definition took into account both numbers of individuals and total biomass for the species. Basically for each stratum the species that had either 5% or more of the total mean number of individuals per 0.25m<sup>2</sup> or 5% or more of the total mean biomass per 0.25m<sup>2</sup> were chosen as dominant species for that stratum. The following qualifications were applied. Algae were treated as a separate group. Those algae that had 5% or more of the mean total biomass per stratum were labelled dominant. With the invertebrates, any species that had 10.0 gm.

or more mean biomass were designated as dominant and that weight removed from the list. This was to remove the bias of large molluscs weighed with their shell.

Using these criteria a weight for algae that was 5% of the mean total, a number that was 5% of the total mean number of individuals, and a weight for invertebrates that was 5% of the mean total weight (excluding those species of 10.0 gms. or more), were calculated for each stratum.

To insure that the definition of dominance included the whole community from +6' to -10m's a minimum value for weight and number was calculated. This was the mean of weight or numbers for all strata at that season. For each stratum the weight or numbers had to exceed the mean value for all strata for a species to be labelled dominant.

### 2.10 Similarity Index

To compare the similarity in species composition between sites the index of similarity (Odum, 1971) was used.

$$S = \frac{2C}{A+B}$$

where: S = index of similarity, usually expressed as a percent.

C = number of species in common between two sites.

A = total number of species in sample A.

B = total number of species in sample B.

### 2.11 Species Diversity

Species diversity was calculated using the Shannon index of general diversity:

$$H = \epsilon \left( \frac{ni}{N} \right) \log \left( \frac{ni}{N} \right)$$

where: ni = number of individuals for each species

N = number of species

## 2.12 Coefficient of Variability

Numbers of replicates and sample size in this study were chosen to obtain information about community structure consistent with time and funds available. To examine the sampling effectiveness for each species the coefficient of variability (CV) was calculated. CV is determined by dividing the standard deviation by the mean (Ebelhart, 1978). Values of 0.5 to 0.8 are reported by Ebelhart for studies on benthos organisms.

## 2.13 Sources of Error

There are a number of sources of error that must be recognized in evaluation of results. They include:

a. Statistical Error. Sample effort was not designed for any specific species. Those with low population density, or those with patchy distribution had inadequate sample size or replicate number. The coefficient of variation was used as a measure for those species with inadequate sample effort.

b. Sample Methods. Sample methods used for the intertidal of cobble areas were difficult to apply in the field. The procedure required the removal from top, sides and bottoms of cobbles from five 0.01m<sup>2</sup> areas. It was extremely difficult under field conditions to accurately determine boundaries of the five subsampled areas.

c. Taxonomy. Taxonomic effort in some groups was not as great as others. Species identification was not attempted with Nematodes or Oligochaetes. Only common Nemertean were identified. As well, when juvenile or damaged specimens were encountered they were assigned to higher taxonomic categories. When species richness was examined these higher taxonomic categories were considered as single species. Considering higher taxa as single species resulted in an underestimation of species richness. Considering juveniles or fragments as single species resulted in an overestimation of species richness.



### 3. RESULTS

#### 3.1 Site Description

##### 3.1.1 West Beach, Sand Habitat

The location of the sand habitat is shown in Fig. 1. A detailed diagram of the site is given in Fig. 2. West Beach is an example of an accretion beach. Littoral drift sediment accumulates in this area resulting in a well established backshore berm. Wave action is moderate and sediment material moves frequently. The dominant visual feature of the intertidal area is sand with occasional patches of gravel. No algae are apparent offshore and when wave action is moderate, surf may be observed indicating an offshore bar. Beach slope is most gradual of the three habitats (Fig. 5). The sample area between +6' and -1' was over 52m during winter sampling. Beach slope with season changed dramatically. The width of the beach (+6' to -1') during summer sampling was only 22m (Fig. 5) which was less than one half the width during winter sampling.

Sediment composition data for the intertidal and subtidal areas are given in Table 2.

Subtidally the sediment of the sandy habitat was similar to the intertidal area. Basically the substrate type intertidally was sand that contained some silt at greater depths (Table 2). There was a seasonal difference noted however. During summer sampling when beach slope was steeper than in winter (Fig. 5), the -1.5m and -2.5m strata had patches of cobble in the sand (Table 2). These cobbles were approximately 20% of the cover at these depths. Cobbles had no attached flora or fauna. In winter when beach slope was more gradual, these cobble patches were not observed - the bottom was more uniform sand. The subtidal habitat at the sandy habitat was marked by an offshore sand bar. This bar was present during all sample periods between the -5.0m and -7.5m strata. In all cases the -5.0m sample was taken on the seaward side of the bar. The -1.5m and -2.5m samples were taken on the landward side of the bar.

The impact of wave action at the sand habitat were reduced at the -5.0m stratum. Wave ripples at this depth were much reduced compared with shallower strata and some silt was evident (Table 2).

Surface temperature and salinity values for West Beach are given in Table 4. Temperature ranged from 7.0 to 13.5°C through the year. Salinity ranged from 29.8 to 33.7 ‰.

##### 3.1.2 Partridge Point, Cobble Habitat

The location of the cobble habitat is shown in Figure 1. A detailed

Figure 5. Beach Slope, West Beach (Sand).

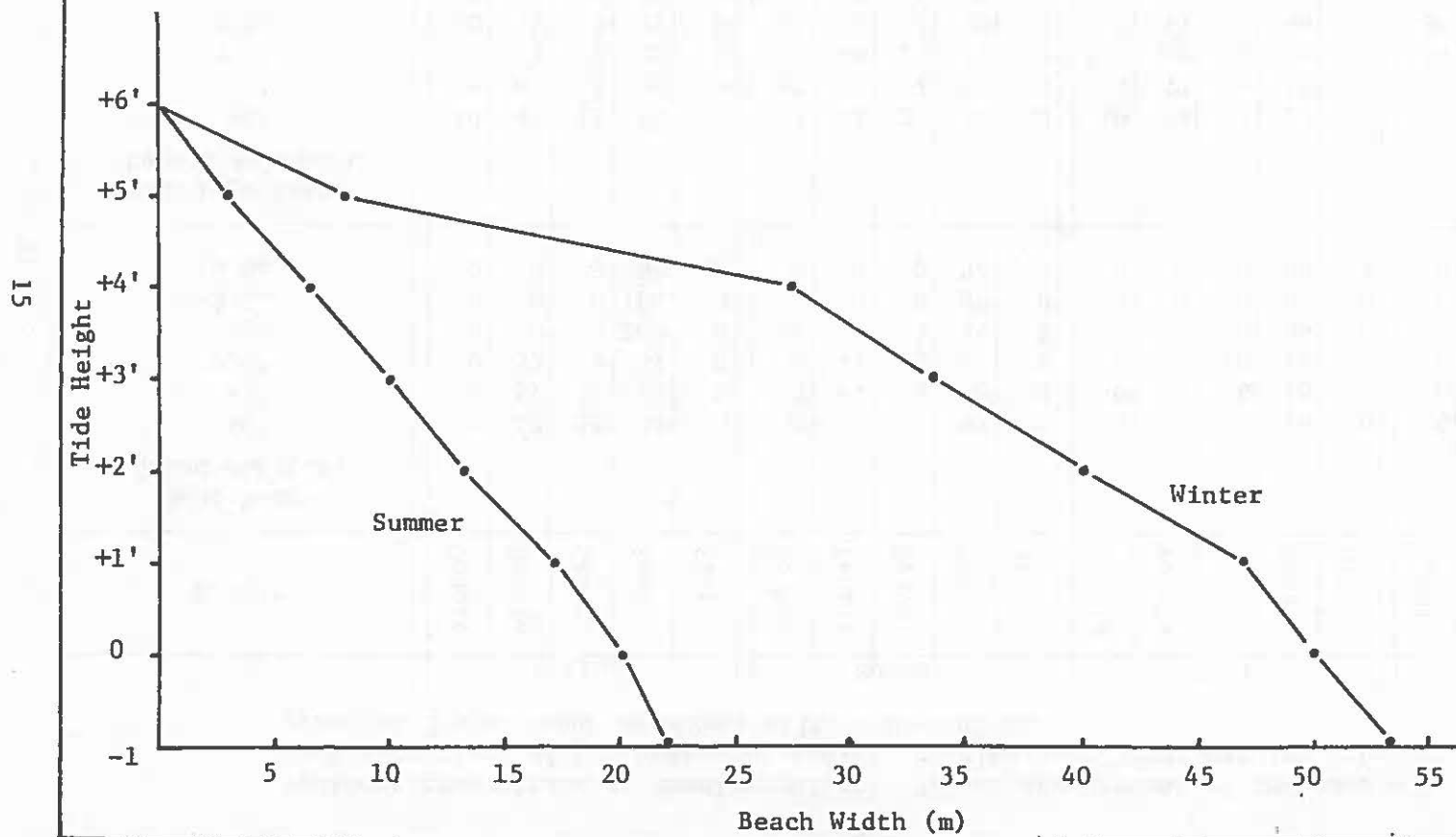


TABLE 2

Sediment composition at sampling sites. Values are percent of the sample in each size class of the Wentworth scale: cobbles, 64-256mm; pebbles 4-64mm; granules 2-4mm; sand .062-2mm; silt, .004-.062mm.

Height	Spring					Summer					Fall					Winter				
	Cobble	Pebble	Gravel	Sand	Silt	Cobble	Pebble	Gravel	Sand	Silt	Cobble	Pebble	Gravel	Sand	Silt	Cobble	Pebble	Gravel	Sand	Silt
<b>West Beach (Sand Habitat)</b>																				
+6'	0	49	11	34	0	0	4	1	95	0	0	5	1	94	0	0	19	4	77	0
+3'	0	57	11	28	0	0	64	6	30	0	0	76	6	18	0	0	24	5	70	0
0.0'	0	57	3	37	0	0	44	5	51	0	0	67	10	23	0	0	25	12	63	0
-1.5m	0	0	0	100	0	36	48	4	14	0	0	0	0	99	0	0	0	0	98	0
-5.0m	0	0	0	100	0	0	0	0	99	0	0	0	0	99	0	0	0	0	99	0
-10.0m	0	0	0	98	2	0	0	0	97	3	0	0	0	96	4	0	0	0	98	2
<b>Partridge Point (Cobble Habitat)</b>																				
+6'	20	48	11	16	0	0	44	25	30	0	10	59	7	23	0	0	33	28	39	0
+2'	0	68	6	22	0	30	37	7	26	0	24	50	6	19	0	0	71	7	22	0
0.0'	7	53	9	25	0	0	49	11	39	0	8.4	49	8	35	0	34	47	3	16	0
-1.5m	40	31	3	21	0	46	20	3	30	0	0	43	10	46	0	38	46	5	11	0
-5.0m	0	46	15	36	0	0	58	11	30	0	0	58	18	24	0	0	57	12	31	0
-10.0m	0	33	12	51	0	0	31	10	57	1	0	31	15	53	1	0	37	14	47	1
<b>Ebey's Landing (Gravel Habitat)</b>																				
+6'	0	59	9	28	0	0	38	10	52	0	0	33	2	65	0	0	67	12	20	0
+3'	0	57	15	23	0	0	79	11	11	0	0	55	10	35	0	0	70	11	19	0
0.0'	0	75	6	16	0	0	62	11	26	0	0	82	3	15	0	0	73	10	17	0
-1.5m	13	72	4	5	0	33	53	5	9	0	0	63	7	28	0	21	19	3	8	0
-5.0m	0	30	18	48	0	0	3	28	67	0	0	20	8	72	0	0	35	13	50	0
-10.0m	0	20	25	51	0	1	28	13	57	1	0	46	12	51	1.0	0	49	8	41	1

diagram of the site is given in Figure 3. Partridge Point is one of a series of erosional headlands along the west coast of Whidbey Island. Cobbles deposited by erosional activity form the dominant feature of the beach, although a gravel band is presented at the high tide area. Beach slope (Fig. 6) is relatively gradual, being between that of the sand and gravel habitats. The beach width between the +6' and -1' tide heights was 38m. Slope through the year was constant indicating little or no accumulation of sediment. In the mid to upper tide zone the cobbles are bare. In the lower tidal area however, cobbles are covered by algae. Data on algae cover through the year at the cobble habitat are given in Table 3. Cover was most dense at the 0' and -1' strata. Little algae was found above the +3' stratum. Algae cover was greater in summer than in the winter.

Beneath the cobble layer the sediments were relatively fine. Data on sediment composition is given in Table 2.

Subtidally the habitat at Partridge Point resembled the intertidal habitat. The -1.5m stratum was composed of cobbles (20-25cm. in diameter) with a pebble sand matrix between. Algae were common on the cobbles indicating the cobbles were relatively stable. In most areas Laminaria formed an overstory with red algae as common understory species. Patches of the eel grass Phyllospadix were also common at that depth.

The -2.5m stratum was similar to the -1.5m stratum with the exception that soft tubed polychaetes in the fines between the cobble indicated little movement of the sediment by wave action. From -2.5 to -5.0m pebble and sand began to predominate over cobbles. It was this area that Nereocystis became more frequent. From -5m to -10m depth a sand/pebble/silt substrate predominated (Table 2).

Surface temperature and salinity value for Partridge Point are given in Table 4. Temperature ranged from 7.0 to 13.0°C through the year. Salinity ranged from 30.1 to 32.7 ‰.

### 3.1.3 Gravel Habitat, Ebey's Landing

The location of the sample site at Ebey's Landing is shown in Fig. 1. A detailed diagram of the site is given in Fig. 4. This gravel habitat is located in a littoral drift transport area. The dominant visual feature of the intertidal zone is gravel and patches of coarse sand. In the shallow subtidal area occasional patches of Nereocystis can be seen in summer and fall. The site is located in an area that is rip-rapped to protect the roadway from wave action. North and South of the road area the bank is stable and covered with vegetation. Beach slope at the gravel site (Fig. 7) is steeper than the sand or cobble habitats. This is characteristic of beaches where there is little erosion of backshore cliffs nor accumulations of littoral drift material. There is a change in beach slope with season. The width of the beach from the +6' to -1' tide marks was 16m in summer and 20m in winter. Apparently there is an accumulation of sediment in winter months. Sediment material in the inter-tidal area was mostly gravel (Table 2). There was little change in composition of sediment with tide height or

Figure 6. Beach Slope, Partridge Point (Cobble).

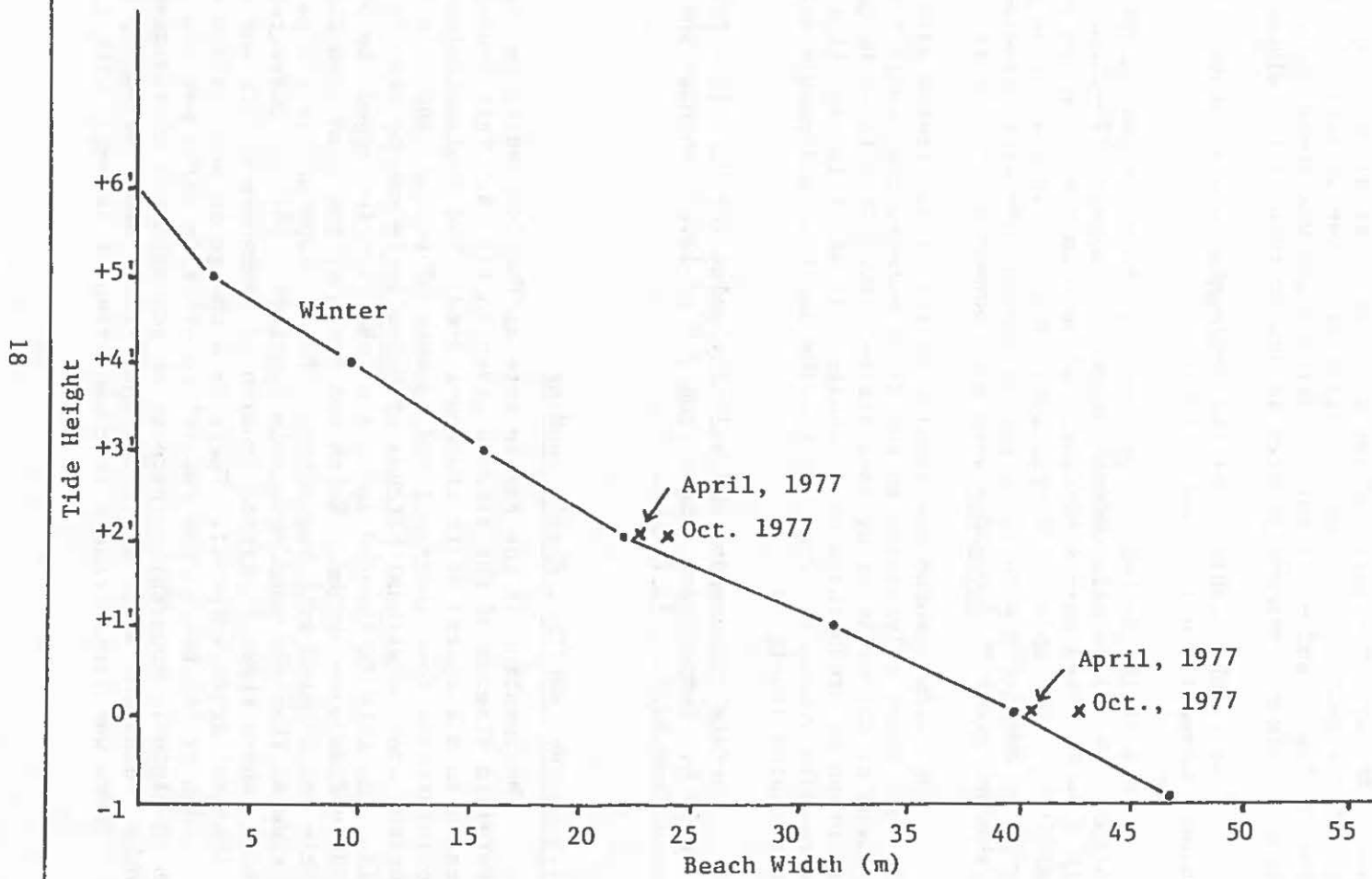


Table 3

Partridge Point Algae Cover (in percent). Strata are tide height in feet. Each value is the mean of eight observations of 0.25 M<sup>2</sup> areas. - indicates no observation was made.

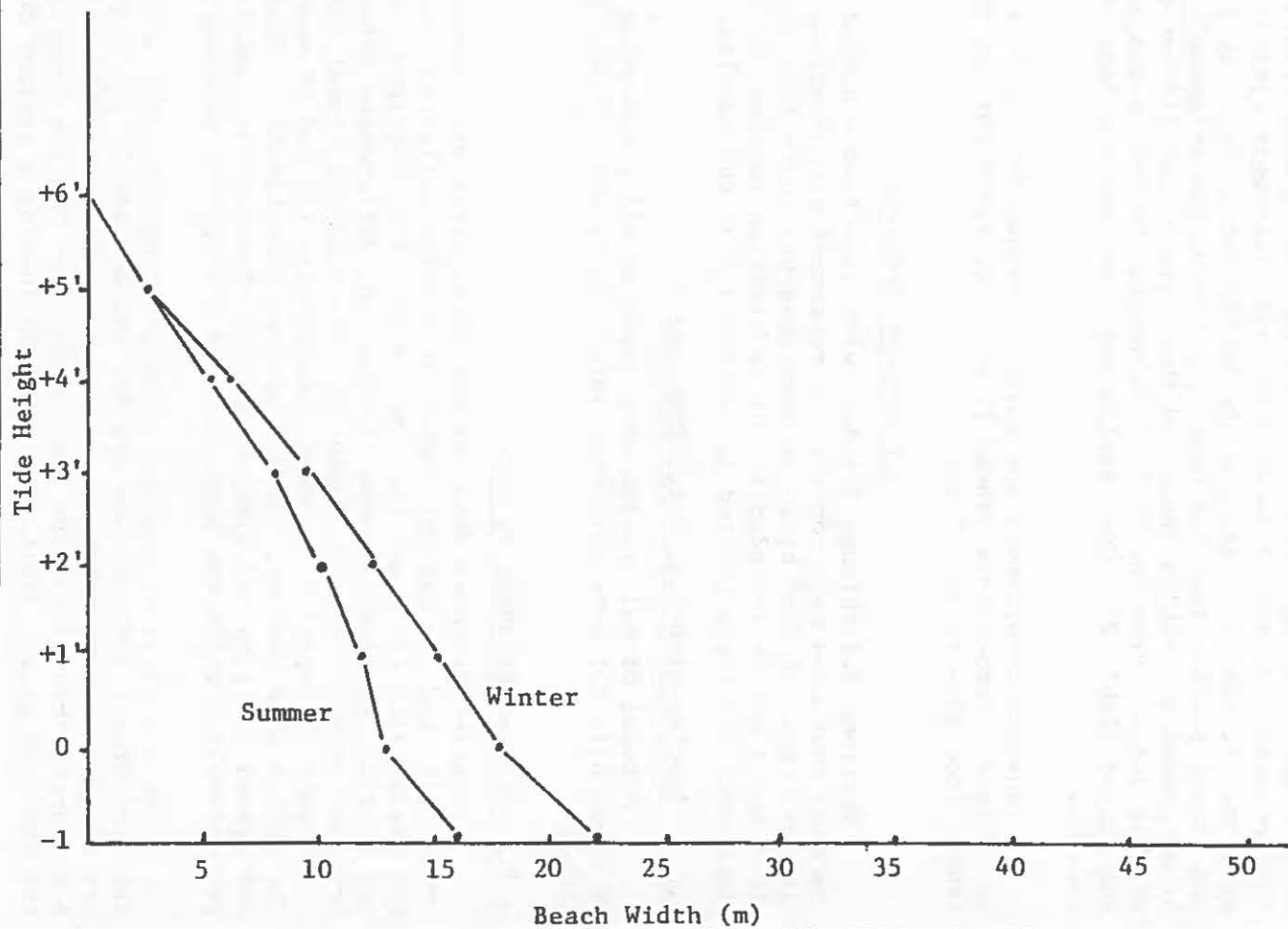
	Spring	Summer	Fall	Winter
+6.0	0	0	0	0
+5.0	-	0	-	0
+4.0	-	0	-	3
+3.0	-	0	-	1
+2.0	4	1	4	1
+1.0	-	18	-	2
0.0	67	76	68	5
-1.0	-	87	-	32

TABLE 4

Surface temperature (°C) and salinity (‰) for sites at times of sampling.

SITE	Spring		Summer		Fall		Winter	
	Temp.	Sal.	Temp.	Sal.	Temp.	Sal.	Temp.	Sal.
West Beach (Sand)								
Intertidal	9.0	29.8	13.5	29.1	9.0	33.7	7.0	32.1
Subtidal	8.5	30.7	12.5	--	8.5	32.3	8.0	30.4
Partridge Point (Cobble)								
Intertidal	9.0	30.4	13.5	30.1	9.0	31.2	7.0	31.6
Subtidal	9.0	30.7	12.0	--	8.0	32.1	7.0	32.7
Ebey's Landing (Gravel)								
Intertidal	9.0	30.4	13.0	31.1	9.0	33.1	7.0	32.1
Subtidal	8.5	31.0	12.0	--	9.0	31.4	8.0	30.4

Figure 7. Beach Slope, Ebey's Landing (Gravel).





season. During the summer sample period, a layer of cobbles was observed at the -1' stratum. These cobbles provided a substrata for the algae Enteromorpha linza.

Subtidally the habitat at the Ebey's Landing changed considerably from the gravel of the intertidal area (Table 2). At the 1.5m stratum cobbles of approximately 20cm. in size were common (approximately 90% cover). In the sample area observation indicated that wave action moved the cobbles. The only organisms observed were filamentous diatoms. Approximately 50m to the north of the sample site, more stable cobbles with up to ten species of red and brown algae were observed indicating more stable cobble conditions in that area. At the -2.5m stratum conditions were similar to the 1.5m stratum. At the -5.0m stratum the cobble bottom began to give way to sandy and gravel patches that had dense patches of the eelgrass Zostera marina. Algae growth on cobbles indicated that wave action did not turn over cobbles at this depth. From the -5 to -10m strata the bottom was almost totally sand and gravel (Table 2). Clam shells and worm castings indicated a stable infauna.

Surface temperature and salinity values for Ebey's Landing are given in Table 4. Temperature ranged from 7.0 to 9.0°C through the year. Salinity ranged from 30.4 to 32.1 ‰.

### 3.2 Species Richness

Sections 3.2 through 3.4 deal with data from a number of collection methods that have been combined to represent all organisms 1mm in size and larger, from a 0.25m<sup>2</sup> by 15 cm deep quadrat. Data from a collection method that could not be included in the combination (0.25cm<sup>2</sup> by 30cm deep, 0.5 inch mesh size) are treated in section 3.5 of the results.

#### 3.2.1 Species Richness, Sites Combined

A total of 641 species were taken at all these sites through the study. Of these 641, 251 were collected intertidally and 510 were collected subtidally.

#### 3.2.2 Species Richness by Site

Species richness data for the three sites are given in Table 5. The cobble site had the highest number of species collected (401) followed by the gravel site (367) and the sand habitat (230 species). When intertidal and subtidal species richness is examined, differences between the sites are even more pronounced (Table 5). The sand and gravel habitats had relatively low species richness intertidally (58 and 46 species respectively). The cobble site however, had 201 species intertidally. Subtidally the cobble and gravel habitats had similar species richness (313 and 354 species respectively), while the sand site had 208 species subtidally.

On the basis of species richness it appears that intertidally the sand and gravel habitats are similar and subtidally the gravel and cobble are similar. An examination of similarity indices (Table 5) however, does not support this view. The similarity index for the intertidal areas of the sand and gravel habitats was 42% indicating a greater degree of difference

Table 5

Species richness, intertidally and subtidally. Similarity indices between sites. (Similarity index is per cent species in common.)

A. Total Species Project 641:

Total intertidal species	251
Total subtidal species	510

B. Total Species by Site:

Ebey's Landing	367
Partridge Point	401
West Beach	230

C. Intertidal and Subtidal Species by Site:

	Intertidal	Subtidal
Ebey's Landing	46	354
Partridge Point	201	313
West Beach	58	208

D. Similarity Indices (EL = Ebey's Landing, PP = Partridge Point, WB = West Beach):

	EL-WB	EL-PP	PP-WB
Total species	42	64	37
Intertidal species	42	30	22
Subtidal species	39	63	38

EL - gravel

WB - sand

PP - cobble

than similarity. Subtidally, similarity indices showed the sand and gravel sites to be dissimilar while the gravel and cobble habitats had a relatively higher measure of similarity (63%).

### 3.2.3 Species Richness by Strata

Tidal height and subtidal depth have an important impact on the distribution of flora and fauna. Figure 8 shows the mean number of species collected through the study at each stratum for each habitat. At the gravel and sand habitats species richness from the +6' to -1' strata was relatively low (15 species or less per strata). At the cobble site however, species richness increased rapidly with decrease in tide height reaching a peak of 106 species at the -1' stratum. Subtidally the species richness at these three sites all showed a different pattern. At the cobble site species richness decreased at the -1.5m stratum and although gradually increased with increasing depth at -10.0m was still lower than species richness at the -1.0' stratum. At the gravel site species richness increased rapidly with depth subtidally from the -1.5m to -10m strata. Species richness at the cobble and gravel sites were relatively similar from the -1.5m to -10m strata. This similarity corresponds to the index of similarity for the two habitats subtidally (65%, Table 5). The sand habitat showed yet another pattern subtidally. At the -1.5m and -2.5 strata species richness was relatively low at approximately 15 species per stratum. At the -5.0m stratum species richness increased to 45 species and continued to increase through the -10m stratum. However, species richness at these depths at the sand habitat was lower than the gravel and cobble habitats. The reason for the relatively low species richness at the -1.5m and -2.5m strata of the sand habitat is probably the unstable nature of the substrate. These strata were inside of the offshore bar and were subjected to relatively high wave action. As well, Fig. 5 indicates that the shallow subtidal strata would also show a seasonal shift in substrate.

### 3.2.4 Species Richness by Season

Table 6 gives the number of species collected intertidally at each site for each of the four seasons. For the gravel and sand habitats species richness in summer and fall sample periods was higher than spring or winter. At the cobble habitat species richness was greatest in the summer.

Species richness subtidally (Table 6) also showed variation with season. For the sand habitat species richness varied from 62 to 106 species; for the gravel habitat from 156 to 208 species, and for the cobble habitat from 162 to 211 species. However, there was no consistent pattern of variation with season at any of the habitats.

### 3.2.5 Species Richness by Taxonomic Groups - Subtidally and Intertidally

Over 90% of species collected in the study belong to one or another of twelve taxonomic groups (Table 7). These taxonomic groups include three taxonomic groups of algae and nine groups of animals. The total number of species of each taxonomic group for the study is given in Table 7. The dominant taxonomic group was the polychaete worms with 168 species collected. In successive order of dominance followed the red algae, amphipods, gastro-

Table 6

Species richness by season, all sites. In spring approximately 20 species of amphipods were not identified to species level.

	Spring	Summer	Fall	Winter	Mean
WB					
Int.	9	26	36	12	20.7
Sub.	62	117	97	106	95.5
EL					
Int.	19	24	34	18	23.7
Sub.	156	187	190	208	185.2
PP					
Int.	124	194	145	165	157.2
Sub.	161	211	162	177	177.7

Table 7

Part A. Species richness in major taxonomic groups (sites, seasons, strata combined). For each site the percent of total species, percent of all intertidal species and percent of all subtidal species is given. PP = Partridge Point, cobble; EL = Ebey's Landing, gravel; WB = West Beach, sand.

	Total # sp. collected				Total Intertidal Species				Total Subtidal Species			
	% at PP	% at EL	% at WB		% at PP	% at EL	% at WB		% at PP	% at EL	% at WB	
Green Algae	18	67	61	28	8	100	0	0	16	100	69	31
Brown Algae	20	50	65	0	8	100	0	0	14	36	93	0
Red Algae	138	73	55	12	50	100	0	0	118	73	64	14
Polychaetes	168	69	73	49	71	93	30	23	140	66	85	56
Gastropods	40	70	50	23	18	94	6	0	19	96	100	47
Chitons	15	100	50	0	7	100	0	0	12	92	58	0
Bivalves	40	70	55	50	9	100	0	0	37	81	59	54
Barnacles	7	57	29	14	7	57	0	14	5	60	40	20
Isopods	24	63	50	46	15	87	33	20	17	47	66	59
Amphipods	59	68	21	66	21	100	38	50	56	64	70	59
Decapods	29	52	66	41	11	100	10	36	22	41	82	41
Echinoderms	12	50	67	33	5	83	0	0	9	33	89	44

poys, and bivalves. The percent of the total number of species in each taxonomic group collected at each habitat is also given in Table 7. For the polychaetes the gravel habitat had the highest representation with 73% of the total polychaetes collected. The cobble habitat had 69% while the sand habitat had 49%. For other taxonomic groups however, the highest representation was generally at the cobble habitat, followed by the gravel then sand habitat. In all taxonomic groups the sand habitat had the lowest representation.

The representation of taxonomic groups in the intertidal and subtidal portions of each habitat are given in Table 8. At the gravel site all taxonomic groups had richer representation subtidally than intertidally. At the sand site only barnacles had a greater intertidal representation.

At the cobble site, many taxonomic groups had more intertidal species than subtidal. Green algae, brown algae, barnacles, isopods, decapods, and echinoderms all had more species intertidally than subtidally. The remaining taxonomic groups at the cobble habitat had greater subtidal representation.

### 3.3 Numbers of Individuals and Biomass

The patterns of distribution of numbers of species with site, strata, and season have been examined above. To determine if total numbers of individuals and biomass (wet weight) followed a similar pattern, the mean number of individuals and the mean biomass per  $0.25\text{m}^2$  for each stratum and site were plotted (Fig. 9 and 10). In this analysis keep in mind that algae are represented only by biomass, animals by numbers of individuals and biomass.

#### 3.3.1 Numbers of Individuals

Figure 9 shows that intertidally there was a wide variability in numbers of individuals per  $0.25\text{m}^2$ . The cobble and gravel sites were more similar particularly at lower tide heights. The sand habitat had relatively low numbers of individuals throughout the intertidal zone. These patterns corresponded reasonably well with those of the distribution of species with tide height (Fig. 8).

For the cobble site the curve of mean number of individuals at each stratum (Fig. 9) shows that the greatest numbers of individuals is at the 0.0' and -1.0' strata. For the gravel site, however, the curve of species richness with strata (Fig. 8) does not correspond to the curve of numbers of individuals with strata (Fig. 9). At the gravel site numbers of species increased from the low intertidal to the subtidal but numbers of individuals decreased from the low intertidal to the subtidal. This difference is due almost solely to the distribution of the amphipod Paramoera mohri that occurred in large numbers at low intertidal strata at the gravel site.

At the sand habitat the mean number of individuals increased with

Table 8

Species richness in major taxonomic groups for each site. Given are total number of species per site and per cent intertidal and subtidal.

	Sand (West Beach)			Cobble (Part.Pt.)			Gravel (Ebey's Lnd)		
	Total Species	% Subtidal	% Intertidal	Total Species	% Subtidal	% Intertidal	Total Species	% Subtidal	% Intertidal
Total Species	199	93	30	400	76	57	354	98	12
Green Algae	5	100	0	12	67	75	11	100	0
Brown Algae	0	0	0	10	50	80	13	100	0
Red Algae	16	100	0	111	78	52	76	100	0
Polychaetes	83	94	20	116	79	57	123	97	23
Gastropods	9	100	0	28	64	61	20	95	5
Chitons	0	0	0	15	73	47	7	100	0
Bivalves	20	100	0	28	93	36	22	100	0
Barnacles	1	0	100	4	75	100	2	100	0
Isopods	11	91	28	15	53	87	12	91	41
Amphipods	39	85	28	40	91	53	42	93	19
Decapods	12	74	34	15	60	77	19	95	5
Echinoderms	4	100	0	6	50	100	8	100	0

Figure 8. Mean Number of species per stratum.

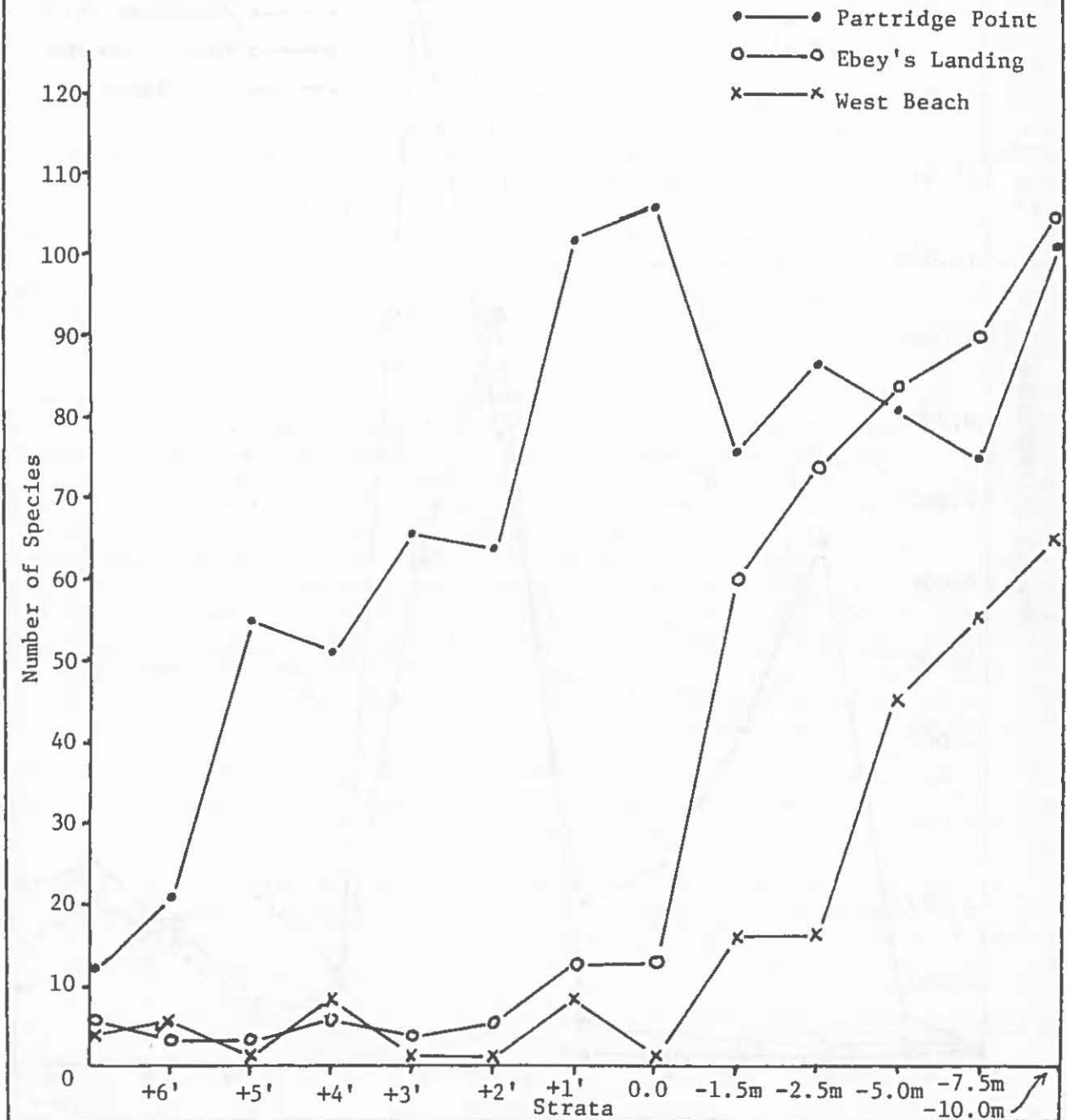
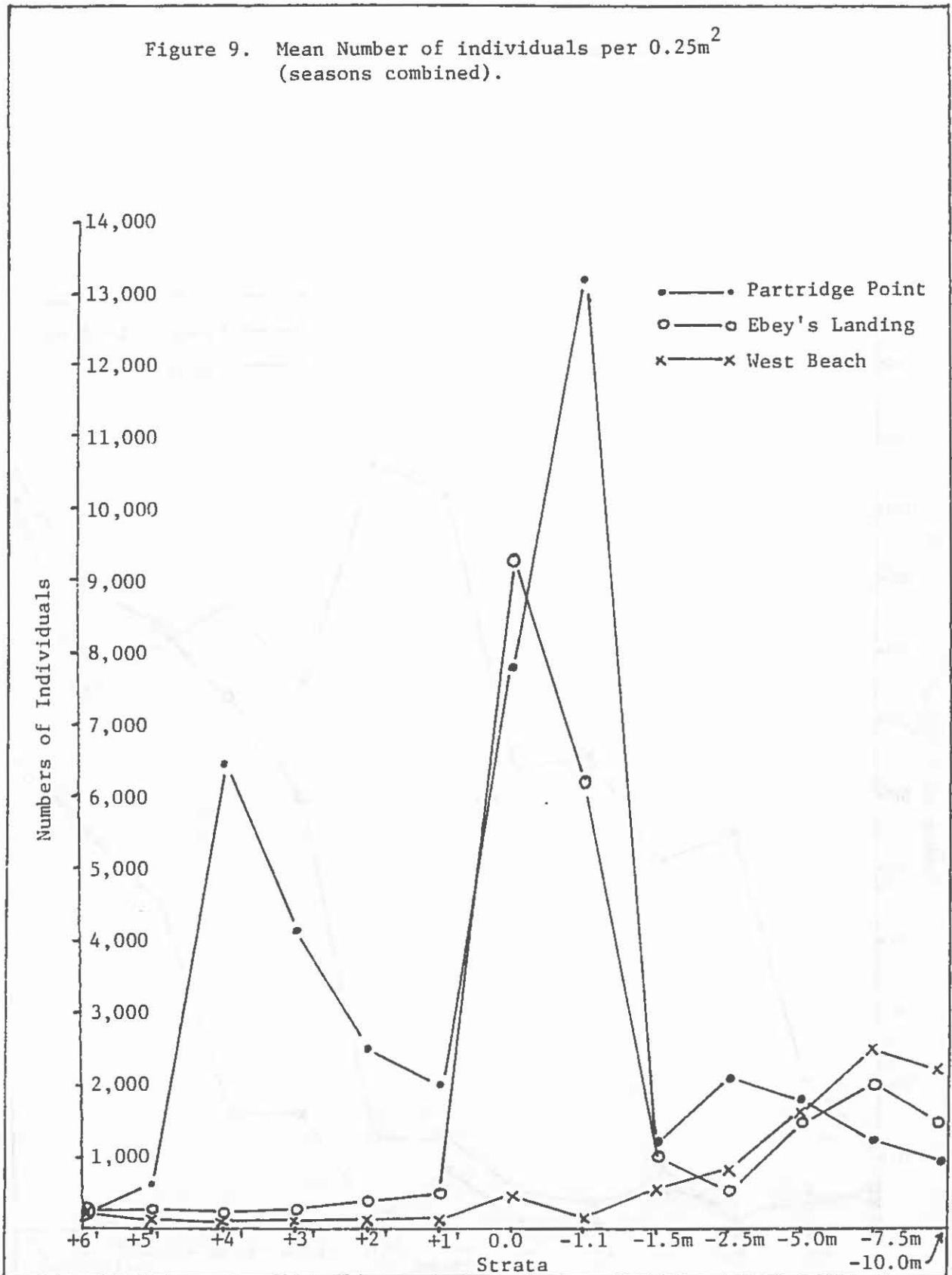




Figure 9. Mean Number of individuals per 0.25m<sup>2</sup>  
(seasons combined).



depth and at the -7.5m and -10.0m strata the sand habitat had greater numbers of individuals per 0.25m<sup>2</sup> than either the cobble or gravel habitats.

### 3.3.2 Biomass

Figure 10 shows the pattern of biomass for each stratum at the three habitats. There were marked differences between sites. The cobble site had much greater biomass intertidally and at shallow subtidal strata than the other habitats. The gravel and sand sites had similar biomass at intertidal strata. Subtidally the sand habitat had relatively low biomass at all strata. Comparing the cobble and gravel sites there was a difference in pattern of biomass in the shallow and deeper subtidal strata; the cobble site had a continual decrease in biomass with increasing depth. The gravel site however, (except for the -1.5m stratum) showed a continual increase in biomass with depth.

When the curves for biomass (Fig. 10) are compared with the curves for numbers of individuals (Fig. 9) a number of observations on the size of organisms can be inferred. Figure 9 shows that for both the cobble and gravel sites there was a large number of individuals at the 0.0' and -1.0' strata. However, the gravel site did not show a corresponding peak in biomass at the strata (Fig. 10). This means that the organisms at the gravel beach were smaller and those of the cobble beach relatively large. The sand habitat at the -7.5 and -10.0m strata showed a greater number of individuals per 0.25m<sup>2</sup> than did the cobble or gravel sites. However, the sand site at these depths (Fig. 8) had lowest relative biomass. Again the individuals at the sand site at these depths must have been relatively small. Examination of data in Appendix 1 supports this inference.

### 3.3.3 Change in Numbers of Individuals and Biomass with Season

The pattern of change with season of the numbers of individuals and biomass per 0.25m<sup>2</sup> is given in Figures 11 and 12. At each habitat the number of individuals was maximum in summer and minimum in fall and winter. The peaks in numbers of individuals however, was not reflected in peaks of biomass for the three sites (Fig. 12). The gravel site had a peak in biomass and numbers of individuals in summer. The cobble site however, had a peak in biomass in the fall, while the sand habitat had no evident peak in biomass with season.

## 3.4 Dominant Species

For a description of the importance of species in the community group at each habitat with change in season and depth only those species that were dominant at each site were considered. The criteria used to select dominant species are discussed in the methods.

### 3.4.1 Sand Habitat (West Beach) Dominant Species

The total number of dominant species in each taxonomic group is given for all strata in Table 9. Table 10 lists for each stratum and season the dominant species and their mean numbers and biomass per 0.25m<sup>2</sup>.

Figure 10. Mean Wet Weight Biomass per 0.25m<sup>2</sup>  
(Seasons combined).

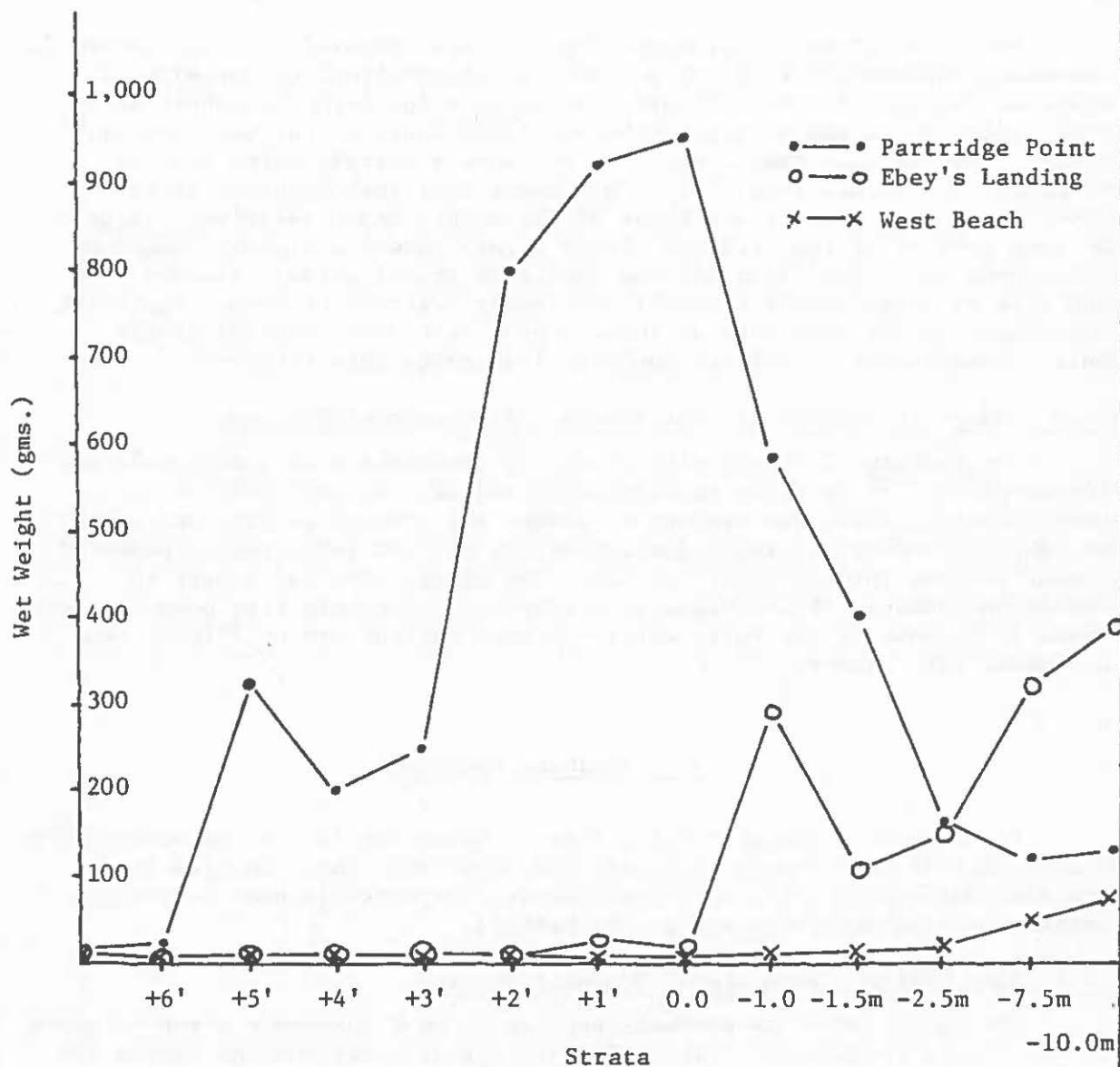


Figure 11. Mean Number of Individuals with Season. Data from +6.0, +3.0, 0.0, -1.5m, -5.0m, -10.0m combined.

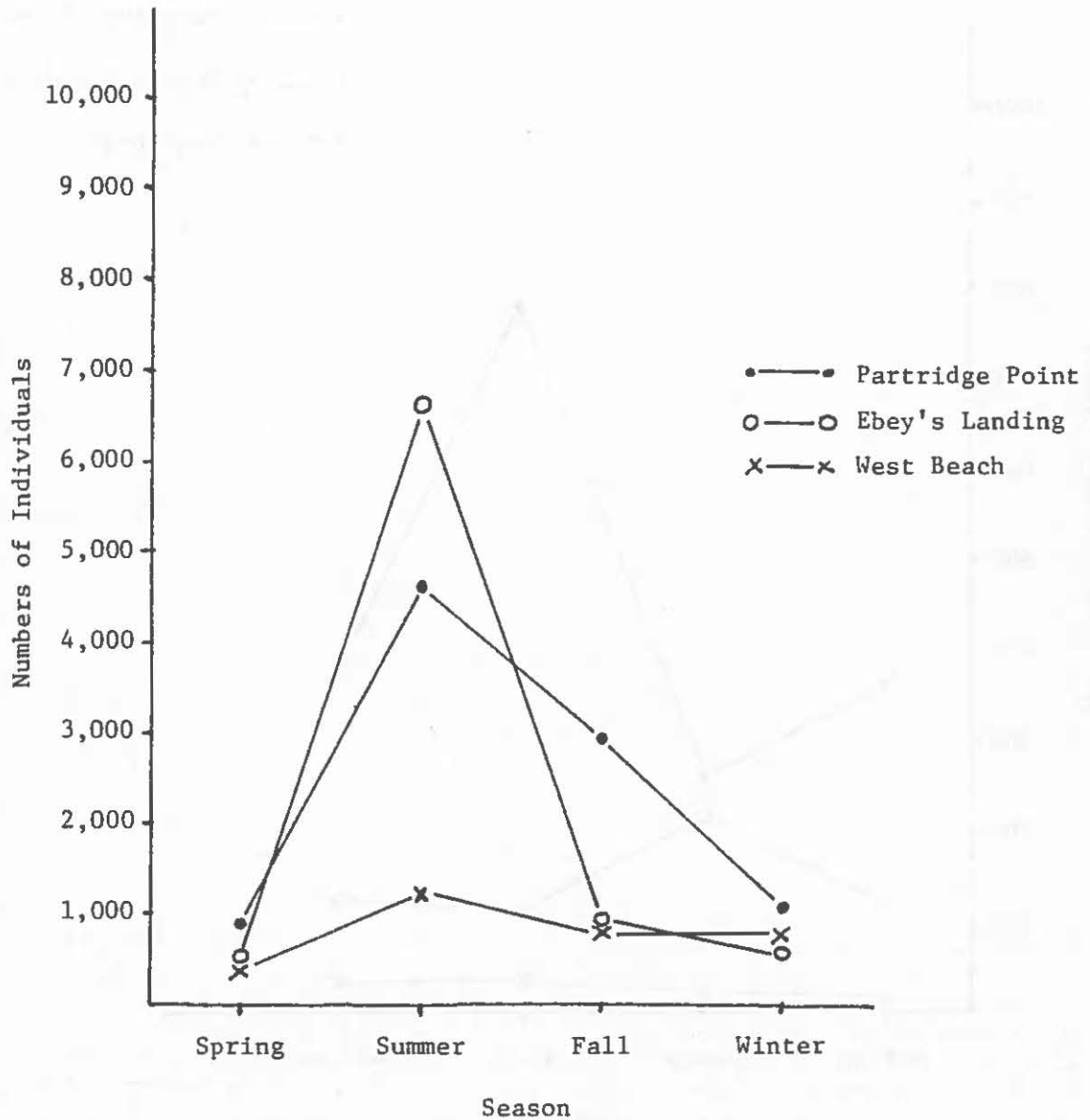


Figure 12. Mean Wet Weight Biomass with Season. +6.0, +3.0, 0.0, -1.5m, -5.0m and -10.0m strata combined.

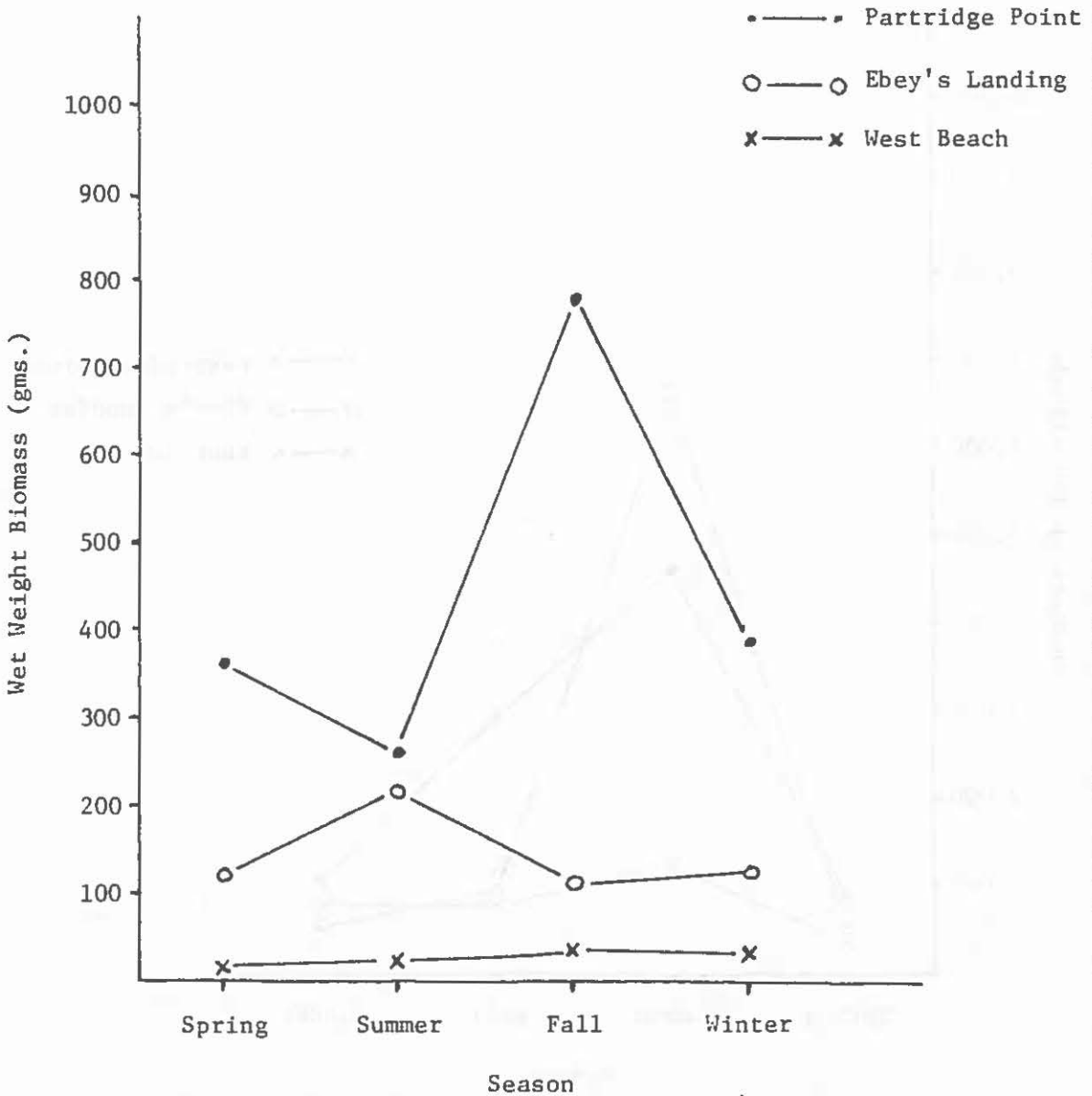


Table 9

Part A. Species richness of dominant species at each stratum. Sand site (West Beach). +6 to -1, tide height in feet. -1.5 to -10.0, depth below 0.0 tide in meters. - indicates no dominant species.

Part B. Mean species richness, mean number of individuals and mean biomass for all species at each stratum.

Taxonomic Group	STRATUM												
	+6	+5	+4	+3	+2	+1	0	-1	-1.5	-2.5	-5.0	-7.5	-10.0
PART A													
Green Algae	--	--	--	--	--	--	--	--	2	--	--	--	--
Brown Algae	--	--	--	--	--	--	--	--	--	--	--	--	--
Red Algae	--	--	--	--	--	--	--	--	--	--	2	3	--
Angiosperms	--	--	--	--	--	--	--	--	--	--	2	1	1
Nemertea	--	--	--	--	--	--	--	--	--	--	--	--	--
Nemetoda	--	--	--	--	--	--	--	--	--	--	--	--	--
Coelenterata	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychaeta	--	--	--	--	--	--	4	--	4	3	7	4	15
Oligochaetes	--	--	--	--	--	--	--	--	--	--	--	--	--
Gastropods	--	--	--	--	--	--	--	--	--	--	--	--	2
Chitons	--	--	--	--	--	--	--	--	--	--	--	--	--
Bivalves	--	--	--	--	--	--	--	--	1	1	3	4	10
Tanaeids	--	--	--	--	--	--	--	--	1	1	1	1	2
Isopods	--	--	--	--	--	--	--	--	--	--	--	--	--
Amphipods	--	--	--	--	--	--	1	--	6	2	4	1	2
Barnacles	--	--	--	--	--	--	--	--	--	--	--	--	--
Decapods	--	--	--	--	--	--	--	--	1	--	--	--	1
Echinoderms	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 9 (continued)

PART B	STRATUM													
	+6	+5	+4	+3	+2	+1	0	-1	-1.5	-2.5	-5.0	-7.5	-10.0	
Mean species Richness	5	6	1	7	2	0	8	2	21	23	46	57	64	
Mean number of Individuals	12	21	2	31	6	0	241	13	459	795	1,793	3,131	2,205	
Mean biomass	13	0	0	0	0	0	0.8	0	2.4	6.9	20	30	61	

TABLE 10

List of Dominant Species - Sand Site (West Beach). Blanks indicate the species was not dominant at that season.

	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Elevation +6.0', no dominant species								
Elevation +5.0', no dominant species								
Elevation +4.0', no dominant species								
Elevation +3.0', no dominant species								
Elevation +2.0', no dominant species								
Elevation +1.0', no dominant species								
Elevation 0.0', numbers and wet biomass (gms.) per 0.25m <sup>2</sup>								
Polychaetes								
<u>Nereis</u> sp.			1.0	.65				
<u>Nereis vexillosa</u>					1.0	0.47		
<u>Lumbrinris</u> sp.							1.0	0.31
<u>Protodorvillea gracilis</u>					129.0	0.02		
Amphipoda								
<u>Paramoera</u> sp.					660.0	1.45		
Elevation -1.0', no dominant species								
Elevation -1.5m, numbers and wet biomass (gms.) per 0.25m <sup>2</sup>								
Green Algae								
<u>Enteromorpha</u> sp.				0.06				
<u>Ulva lactuca</u>				0.10				
Polychaeta								
<u>Phyllodoce medipapill</u>	1.7	0.30						
<u>Glycinde picta</u>	3.3	0.98						



Table 10 (continued)

Page 2

Elevation -1.5m (cont'd), numbers and wet biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Polychaetta (con't)								
<u>Lumbrineris</u> <u>zonata</u>	3.3	0.98						
<u>Nephtys caeca</u>					1.7	0.50		
Bivalves								
<u>Psephidia lordi</u>					85.0	1.06		
Tanaied								
<u>Diastylopsis</u> sp.	40.0	0.17			126.7	0.67		
Amphipods								
<u>Paraphoxus</u> sp.	156.7	0.98						
<u>Paraphoxus</u> <u>spinosus</u>	156.7	0.25						
<u>Atylus</u> sp.			96.7	0.23				
<u>Anisogammarus</u> <u>pugettensis</u>			58.3	0.55				
<u>Ampelisca</u> sp.					236.7	0.85		
<u>Phoxocephalidae</u>					296.7	0.96	250.0	0.56
Decapods								
<u>Cragnon</u> sp.							13.0	0.26

Elevation -2.5m, numbers and wet biomass (gms.) per 0.25m<sup>2</sup>

Polychaeta	not sampled				not sampled			
<u>Scoloplos</u> <u>pugettensis</u>							13.3	
<u>Nephtys ferruginea</u>			1.67	17.75				
<u>Paronis lyra</u>			106.7	0.18				

Table 10 (continued)

Page 3

Elevation -2.5m (cont'd), numbers and wet biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Bivalves								
<u>Psephidia lordi</u>			126.7	1.18				
Tanaidacea								
<u>Leptostylis</u> sp.			70.0	0.07				
Amphipoda								
<u>Diastylopsis</u> sp.	90.0	0.14						
<u>Phoxocephalidae</u>	450.0	3.01	543.0	1.23				
Elevation -5.0m, numbers and wet biomass (gms.) per 0.25m <sup>2</sup>								
Red Algae								
<u>Porphyra</u> sp.				0.33				
<u>Hymenena</u> sp.				0.26				
Angiosperm								
<u>Zostera marina</u>				1.59				0.42
<u>Phyllospadix</u> <u>scouleri</u>				0.56				
Polychaeta								
<u>Nephtys caeca</u>			1.7	4.08	5.0	5.49		
<u>Nephtys ferruginea</u>			1.7	6.65				
<u>Onuphis</u> sp.			16.7	2.24	43.3	11.11		
<u>Scoloplos</u> <u>pugettensis</u>					28.3	1.22	21.7	2.29
<u>Glycinde picta</u>	6.7	0.31						
<u>Spiophanes bombyx</u>	26.7	0.36						
<u>Malacoceros</u> <u>glutaeus</u>					141.7	0.18		

Table 10 (continued)

Page 4

Elevation -5.0m, (cont'd.), numbers and wet biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
<b>Bivalves</b>								
<u>Tellina</u> sp.					25.0	0.66		
<u>Tellina modesta</u>	3.3	0.23					50.0	1.12
<u>Psephidia lordi</u>	23.3	0.35	1,131.7	9.76	836.7	10.79	161.7	2.03
<b>Tanaeid</b>								
<u>Leptochelia sarvignyi</u>					193.3	0.13		
<b>Amphipoda</b>								
<u>Ampelisca agassizi</u>							163.3	1.64
<u>Ampelisca</u> sp.					110.0	0.31		
Phoxocephalidae			536.7	1.14	145.0	0.16	598.3	0.96
<u>Paraphoxus</u> sp.	401.7	2.08						
Elevation -7.5m, numbers and wet biomass (gms.) per 0.25m <sup>2</sup>								
<b>Red Algae</b>								
<u>Ulothrix</u> sp.	not sampled			0.05	not sampled			
<u>Neogardhiella baileyi</u>				0.25				
<u>Plocamium</u> sp.				0.06				
<b>Angiosperms</b>								
<u>Zostera marina</u>				0.34				
<b>Polychaeta</b>								
<u>Onuphis</u> sp.			33.3	12.84			50.0	5.96
<u>Scoloplos armigra</u>			6.7	1.18				
<u>Scoloplos pugettensis</u>			10.0	0.53			71.7	1.52
<u>Orbina felix</u>			5.0	2.19				

Table 10 (continued)

Page 5

Elevation -7.5m, (cont'd.), numbers and wet biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
	not sampled				not sampled			
Bivalvia								
<u>Mysella tumida</u>							165.10	0.80
<u>Yoldia myalis</u>			1.7	0.55				
<u>Psephidia lordi</u>			2,416.7	13.98			901.6	9.83
<u>Tellina modesta</u>			43.3	0.64				
Tanaidacea								
<u>Leptochelia savignyi</u>							296.7	0.16
Amphipoda								
Phoxocephalidae			578.3	0.69			525.0	0.58
Elevation -10.0m, numbers and wet biomass (gms.) per 0.25m <sup>2</sup>								
Angiosperms								
<u>Zostera marina</u>								0.94
Polychaeta								
<u>Pholoe minuta</u>	48.3	0.57	120.0	1.27				
<u>Phyllodoce</u> sp.							11.7	2.24
<u>Onuphis conchylega</u>	1.7	1.35						
<u>Onuphis elegans</u>	28.3	0.83						
<u>Onuphis</u> sp.			23.3	3.18	43.3	19.83	26.7	6.23
<u>Nephtys longosetosa</u>			8.3	0.39				
<u>Glycinde picta</u>			45.0	0.64				
<u>Scoloplos armigera</u>	33.3	2.35	58.3	0.95			108.3	0.99
<u>Scoloplos pugettensis</u>			35.0	0.58	76.7	1.01		
<u>Lumbrineris</u> sp.					30.0	1.66		
<u>Orbinia michalelensis</u>	1.7	0.60			6.7	36.35		

Table 10 (continued)

Page 6

Elevation -10.0m (cont'd.), numbers and wet biomass (gms.) per 0.25m<sup>2</sup>

	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Polychaeta (cont'd.)								
<u>Laonice cirrata</u>					18.3	0.87	11.7	1.31
<u>Orbinia felix</u>			51.7	0.04				
<u>Prionospio cirrifera</u>			51.7	0.04				
<u>Chone</u> sp.							8.3	2.38
Gastropoda								
<u>Polinices lewisii</u>							1.7	2.11
<u>Gastroptenon</u> sp.					6.7	0.96		
Bivalves								
<u>Nucula tenuis</u>			51.7	0.71				
<u>Axinipsida serricata</u>			51.7	1.44				
<u>Mysella tumida</u>	10.33	0.29	201.7	0.64				
<u>Yoldia scissurata</u>					23.3	2.51	6.7	1.68
<u>Psephidia lordi</u>	273.3	2.13	2,131.7	15.04	886.7	10.23	370.0	3.58
<u>Solen sicarius</u>					15.0	1.21		
<u>Clinocardium</u> sp. juv.			61.7	0.22				
<u>Tellina modesta</u>			45.0	0.49				
<u>Macoma elimata</u>					1.7	2.06		
Tanaidacea								
<u>Leptochelia</u> sp.			65.0	0.04				
<u>Leptochelia savignyi</u>							85.0	0.04
Amphipoda								
<u>Paraphoxus</u> sp.	125.0	0.31						
Phoxocephalidae			738.3	1.01	193.3	0.14	235.10	0.17
Echinodermata								
Ophiuroidea			413.0	75.59	158.3	33.87		

Of the species dominant at the sand habitat virtually none were intertidal. Table 12 shows that only amphipods and Polychaetes had intertidal representation at the 0.0' stratum. Of the four intertidal polychaete species three had subtidal distribution. No seasonal pattern of numbers or biomass was evident with the intertidal polychaetes.

The one amphipod species was Paramoera mohri. This is the species that had an intensive dominant distribution at the gravel site intertidally. Its distribution intertidally at the sand site is relatively minor.

Subtidally at the sand site many taxonomic groups had no dominant species. Brown algae, Nematodes, Nemerteans, Coelenterates, Chitons, Barnacles and Echinoderms had no species that were dominant organisms. Subtidally other taxonomic groups had dominant species but the number were reduced compared to the subtidal cobble and gravel areas.

Algae were not commonly distributed at the sand site. Green algae were found as dominant only at the -1.5m stratum. Red algae were present at the -5.0m and -7.5m strata, but were dominant only during the summer.

Polychaetes were the most widely represented community group subtidally. One species, Scoloplos pugettensis, was found at all strata from -2.5m to -10m. It was dominant at all seasons most of the time and showed peak in numbers and biomass during the fall.

Subtidal zonation of the remaining species of polychaetes at the sand site was evident. Onuphis sp. was dominant only at deeper strata (-5.0m to -10.0m). In general the species dominant at shallower subtidal strata tended to not occur at deeper strata. A seasonal pattern for the remaining polychaete species was noted that was similar to that of Scoloplos pugettensis, that is a greater number of individuals and biomass in fall.

Bivalves were represented as dominant fauna at the sand site at all of the subtidal strata. One species in particular was well represented. The clam Psephidia lordi was dominant at all subtidal strata. This species was most common at deeper strata with over 2,000 individuals per 0.25m<sup>2</sup> at the -5.0m and -10.0m strata. This small clam showed seasonal changes, being most common in summer.

The number of dominant bivalves became more numerous with increasing depths with 10 species at the -10.0m stratum. There was no evident pattern of zonation. No seasonal pattern of occurrence of species, numbers of individuals, or biomass was evident.

Amphipod species were well represented as dominant species at the sand site. As at the gravel site (Table 14) the species group Phoxocephalidae was dominant at all subtidal strata. This group was more frequent at lower subtidal strata with over 500 individuals per 0.25m<sup>2</sup> from -5.0m to -10.0m. No clear pattern of distribution of numbers of individuals or biomass with season was evident.

### 3.4.2 Cobble Habitat (Partridge Point) Dominant Species

The total number of dominant species in each community group is given in Table 11. Table 12 lists for each stratum and season the dominant species with their mean numbers and biomass per 0.25m<sup>2</sup>.

Dominant species at the cobble habitat were well represented both intertidally and subtidally. Species richness was lowest in the high intertidal area. At the +6' stratum (which was an unstable gravel substrate) only one species was dominant. At the +5.0' stratum, where the cobble substrate started five dominant species were noted. Of the species found at the +0.5' stratum all but one (Paramoera mohri) had greater density and biomass per 0.25m<sup>2</sup> at lower strata. At the +4.0' stratum 20 dominant species were noted. Species number in general increased with decrease in tide height with a maximum of 50 dominant species at the 0.0 stratum. Of those dominant species at the +4.0' stratum, one half of them were species found only in the intertidal area, that is there were no individuals found below the -1.0' stratum. At the 0.0' stratum, 32% of the species were ones found only in the intertidal area.

Green algae were relatively uncommon as dominant species at the cobble habitat. These were noted only at the 0.0' stratum. Green algae species were most frequent as dominant in the fall, although there was no clear pattern of seasonal change in biomass.

Brown algae were dominant species at all strata from -1' to -10m. Species were most frequent at the -1.5m stratum. Some zonation was evident in the distribution of brown algae. Egregia Fucus and Alaria were found in the upper part of the range of brown algae, while species of Laminaria were found in dominant only subtidally from -1.5 to -7.5m in depths. Brown algae biomass was greater in fall and winter than spring or summer.

Red algae as dominant species were well represented at the cobble habitat over the range of +1.0' to -10.0m. Maximum species number was at the -1.0' stratum. Of the twelve species dominant in the intertidal area all but three were also distributed subtidally. Two species were common over the range of the red algae. Halymenia schizomenioides was found from the 1.0+ to -1.5m strata with maximum biomass at the 0.0' stratum. Odonthalia floccosa was found from the -1.0' to -5.0 strata with maximum biomass at -1.5 stratum. Seasonal changes in biomass differs between the two species. For H. schizomenioides maximum biomass was in fall while for O. floccosa it was in spring.

Other than the distribution of the two species discussed above no zonation of red algae species was evident over the range of distribution. For the most part, species dominant at one stratum were not dominant at other strata. For dominant red algae in the upper part of their range (+1.0' to -1.0') biomass was maximum in fall and winter. Lower in the range there was no apparent pattern of seasonal change in biomass.

Nemertean worms were dominant only at the 0.0 stratum, while Nematode worms occurred as dominant forms at most intertidal strata.

Table 11

Part A. Species richness of dominant species at each stratum. Cobble site (Partridge Point).  
+6 to -1, tide height in feet. -1.5 to -10.0 depth below 0.0 tide in meters.

Part B. Mean species richness, mean number of individuals and mean biomass for all species at each stratum.

Taxonomic Group	STRATUM												
	+6	+5	+4	+3	+2	+1	0	-1	-1.5	-2.5	-5.0	-7.5	-10.0
PART A													
Green Algae	--	--	--	--	--	--	5	--	--	--	--	--	--
Brown Algae	--	--	2	--	--	1	2	2	5	4	1	1	1
Red Algae	--	--	--	1	--	2	6	8	4	5	4	5	4
Angiosperms	--	--	--	--	--	--	--	--	1	1	--	--	--
Nemertea	--	--	--	--	--	--	1	--	--	--	--	--	--
Nemetoda	--	1	1	--	1	--	1	--	--	--	--	--	--
45 Coelenterata	--	--	--	1	1	1	1	1	--	--	--	--	--
Polychaeta	--	--	2	3	8	6	11	11	8	5	5	--	1
Oligochaete	--	1	1	1	1	1	1	1	1	1	1	--	--
Gastropods	1	2	8	7	7	3	8	3	1	--	1	1	2
Chitons	--	--	--	--	--	--	1	1	--	--	--	--	--
Bivalves	--	--	--	--	--	--	2	--	--	2	6	4	11
Tanaeids	--	--	--	--	--	--	--	--	--	--	--	--	1
Isopods	--	--	--	--	1	1	2	1	1	--	--	--	--
Amphipods	--	1	--	--	1	--	4	3	--	--	--	--	--
Barnacles	--	--	3	2	3	--	1	--	--	--	1	--	2
Decapods	--	--	1	1	1	3	3	4	2	2	1	--	1
Echinoderms	--	--	2	--	2	1	1	--	--	--	2	--	2



Table 11 (continued)

	STRATUM												
	+6	+5	+4	+3	+2	+1	0	-1	-1.5	-2.5	-5.0	-7.5	-10.0
<u>PART B</u>													
Mean species richness	13	20	56	51	66	65	102	107	77	88	82	78	101
Mean number of individuals	31	658	6,404	4,128	2,623	1,952	7,739	13,252	1,126	2,095	1,805	1,191	962
Mean biomass (gms)	0.7	16	328	199	243	807	1,239	1,406	571	407	140	126	128

TABLE 12

List of Dominant Species - Cobble Site (Partridge Point).  
Blank indicates the species was not dominant during that season.

Elevation +6.0', numbers and biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Gastropods	not sampled				not sampled			
<u>Littorina sitkana</u>			1.2	1.03				
Elevation +5.0, numbers and biomass (gms.) per 0.25m <sup>2</sup>								
Nematoda	not sampled		3.3	1.67	not sampled			
Oligochaeta			245.0	0.03				
Gastropods								
<u>Littorina sitkana</u>			86.7	13.04			30.0	4.84
<u>Littorina scutulata</u>			38.3	2.56			21.7	1.81
Amphipods								
<u>Paramoera mohri</u>			260.0	0.31				
Elevation +4.0', numbers and biomass (gms.) per 0.25m <sup>2</sup>								
Brown Algae	not sampled				not sampled			
<u>Laminaria</u> sp.								46.36
<u>Cymathere triplicata</u>								3.48
Nematoda			273.3	0.12				
Polychaeta								
<u>Onuphis</u> sp.			400.00	2.23			161.7	1.24
<u>Notomastus</u> sp.							1.7	1.17
<u>Oligochaeta</u>			275.0	0.07				
Gastropods								
<u>Collisella pelta</u>			41.7	2.67				
<u>Collisella digitalis</u>							8.3	1.92

Table 12 (continued)

Page 2

Elevation +4.0' (cont'd.), numbers and biomass (gm.s) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Gastropods (cont'd.)	not sampled				not sampled			
<u>Notoacmea scutum</u>							8.3	5.25
<u>Notoacmea persona</u>							160.0	23.05
<u>Littorina sitkana</u>			591.7	60.34			903.0	82.11
<u>Littorina scutulata</u>			120.0	7.76			888.0	61.17
<u>Nucella lamellosa</u>			10.0	5.59			8.3	28.42
<u>Nucella emarginata</u>			1.7	2.90			8.3	1.08
Barnacles								
<u>Chthamalus dalli</u>			685.0	9.00			510.0	4.85
<u>Balanus glandula</u>			2450.0	15,175.0			3570.0	235.46
<u>Balanus crenatus</u>								
Decapoda								
<u>Hemigrapsus nudus</u>			5.0	9.13			38.3	2.29
Echinodermata								
<u>Leptasterias hexactis</u>			8.3	3.67				
<u>Leptosynapta clarki</u>								
Elevation +3.0', numbers and biomass (gms.) per 0.25m <sup>2</sup>								
Red Algae	not sampled				not sampled			
<u>Rhodomela larix</u>				11.41				
Coelenterata or Anthozoa			10.0					
<u>Anthopleura elegantissima</u>			18.3	11.51			18.3	6.05
Polychaeta								
<u>Onuphis sp.</u>			571.7	5.96			396.7	3.04
<u>Protodorvillea gracilis</u>							406.7	0.11

Table 12 (continued)

Page 3

Elevation +3.0' (cont'd.), numbers and biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Polychaeta (cont'd.)	not sampled				not sampled			
<u>Thelepus crispus</u>			5.0	5.23				
<u>Oligochaeta</u>			351.7	0.11				
Gastropods								
<u>Notoacmea persona</u>			66.7	15.00			81.7	6.23
Acmaeidae juv.							93.3	1.51
<u>Collisella digitalis</u>							33.3	3.58
<u>Littorina sitkana</u>			211.7	20.74			1110.0	89.96
<u>Littorina scutulata</u>			100.0	4.71			815.0	45.71
<u>Nucella emarginata</u>			6.7	2.81				
<u>Nucella lamellosa</u>								
Barnacles								
<u>Balanus glandula</u>							828.3	16.13
<u>Chthamalus dalli</u>							1286.7	21.78
Decapoda								
<u>Hemigrapsus nudus</u>			1.7	5.63			56.7	98.3
Elevation +2.0', numbers and biomass (gms.) per 0.25m <sup>2</sup>								
Coelenterata								
<u>Anthopleura elegantissima</u>	6.2	13.63	12.5	6.25	83.7	59.63	77.5	41.19
Nematoda	96.25	0.13			255.0	0.33		
Polychaeta								
<u>Hemipodus borealis</u>			57.5	1.78				
<u>Onuphis</u> sp.			561.2	5.29	370.0	3.80	408.7	2184.0
<u>Lumbrineris</u> sp.					7.5	3.55		
<u>Lumbrineris zonata</u>			8.7	5.16				

Table 12 (continued)

Page 4

Elevation +2.0', numbers and biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Polychaeta (cont'd.)								
<u>Typosyllis</u> sp.							123.75	0.15
<u>Protodorvillea gracilis</u>					210.0	0.04	235.0	0.08
<u>Cirratulus cirratus</u>			11.2	2.30	8.7	3.90	16.2	1.99
<u>Thelepus crispus</u>							6.2	4.63
Oligochaeta	88.7	0.03	568.7	0.13	530.0	0.10	318.7	0.07
Gastropods								
<u>Notoacmea scutum</u>					202.5	149.98	20.0	5.30
<u>Notoacmea persona</u>	125.0	117.56	37.5	32.88			31.25	8.75
<u>Collisella pelta</u>	137.5	3.88						
<u>Littorina sitkana</u>	271.25	78.52					116.2	27.42
<u>Nucella lamellosa</u>	21.2	28.59	8.7	24.31			7.5	17.15
<u>Nucella emarginata</u>							6.2	22.50
<u>Searlesia dira</u>			1.25	4.92				
Barnacle								
<u>Chthamalus dalli</u>			225.0	2.56				
<u>Balanus glandula</u>			2668.7	16.63				
<u>Balanus cariosus</u>			56.2	3.13				
Isopoda								
<u>Gnorimosphaeroma orgeonensis</u>			183.7	2.19				
Amphipoda								
<u>Hyale</u> sp.					133.7	1.38		
Decapoda								
<u>Hemigrapsus nudus</u>	3.7	12.58			26.25	117.98	40.0	74.36

Table 12 (continued)

Page 5

Elevation +2.0' (cont'd.), numbers and biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Echinodermata								
<u>Leptosynapta clarki</u>								
<u>Leptastarius hexatis</u>	3.7	12.1			7.5	3.41		
Elevation +1.0', numbers and biomass (gms.) per 0.25m <sup>2</sup>								
Brown Algae	not sampled				not sampled			
<u>Egregia menziesii</u>								328.2
Red Algae								
<u>Porphyra perforata</u>				30.01				
<u>Halymenia schizymenioides</u>								42.81
Coelenterata								
<u>Anthopleura elegantissima</u>							66.7	116.50
Polychaeta								
<u>Halosydna brevisetosa</u>							8.3	10.92
<u>Onuphis</u> sp.							130.0	2.49
<u>Arabella iricolor</u>			1.7	1.70				
<u>Naineris uncinata</u>			10.0	43.68				
<u>Cirratulus cirratus</u>			16.7	4.86			2.00	2.31
<u>Thelepus crispus</u>							8.33	45.42
Oligochaeta							311.7	0.08
Gastropoda								
<u>Notoacmea scutum</u>			5.0	9.85			66.7	82.67
<u>Lacuna variegata</u>			1700.0	6.17				
<u>Nucella lanellosa</u>							1.7	3.38

Table 12 (continued)

Page 6

Elevation +1.0', (cont'd.), numbers and biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Isopoda	not sampled				not sampled			
<u>Idotea wosnesenskii</u>							16.7	11.92
Decapoda								
<u>Pagurus</u>							510.0	1.85
<u>hirsutiussculus</u>			16.7	6.83				
<u>Hemigrapsus nudus</u>							83.3	498.44
<u>Hemigrapsus oregonesis</u>							33.3	315.00
Echinodermata								
<u>Leptosynapta clarki</u>								
Elevation 0.0', numbers and biomass (gms.) per 0.25m <sup>2</sup>								
Green Algae								
<u>Monostroma fuscum</u>							130.39	
<u>Ulva sp.</u>							170.54	
<u>Ulva fenestrata</u>							138.13	
<u>Enteromorpha sp.</u>				17.30				
<u>Ulva lobata</u>		45.09						
Brown Algae								
<u>Fucus distichus</u>							629.18	
<u>Alaria sp.</u>		35.40						
Red Algae								
<u>Gigartina sp.</u>		59.34		30.27			162.90	18.34
<u>Gigartina papillatus</u>							165.88	
<u>Halymenia schizomenioides</u>							299.52	
<u>Prionitis lanceolata</u>								
<u>Microcladia borealis</u>				25.58				

Table 12 (continued)

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Elevation 0.0' (cont'd.), numbers and biomass (gms.) per 0.25m<sup>2</sup>

	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Red Algae (cont'd.)								
<u>Rhodobryopsis larix</u>		251.58		49.86		639.00		
Coelenterata								
<u>Anthopleura elegantissima</u>	25.0	21.25					26.2	18.28
Nemertea							75.0	4.18
Nematoda	145.0	0.10						
Polychaeta								
<u>Halosydna evisetosa</u>	3.7	3.93			7.5	7.01		
<u>Nereis vexillosa</u>			1.2	10.35	1.2	2.63	1.25	2.33
<u>Lumbrineris</u> sp.					76.2	4.64		
<u>Platynereis bicanaliculata</u>								
<u>Lumbrineris zonata</u>	10.0	2.43					13.7	2.74
<u>Cirratulus cirratus</u>	20.0	7.53	56.2	19.37			28.7	3.59
<u>Protodorivillea gracilis</u>							295.0	0.09
<u>Thelphusa crispus</u>	15.0	4.07	443.7	69.88	487.5	193.63	117.5	0.11
<u>Saccocirrus eroticus</u>								
<u>Terebellidae</u>	5.0	2.99						
Oligochaeta	181.2	0.13			921.2	0.14	238.7	0.08
Gastropoda								
<u>Notoacmea scutum</u>	6.2	14.94			25.0	44.1		
<u>Lacuna</u> sp.	100.0	27.06	2493.7	9.94	2006.2	19.58		
<u>Lacuna variegata</u>	1655.0	3.43						
<u>Collisella pelta</u>	6.2	1.75						
<u>Notoacmea persona</u>	12.5	14.38						
<u>Alvinia</u> sp.	135.0	0.14						



Table 12 (continued)

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Elevation 0.0' (cont'd.), numbers and biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Gastropoda (cont'd.)								
<u>Nucella lemellosa</u>	8.75	7.32						
<u>Searlesia dira</u>			1.25	7.03				
Chitons								
<u>Mopalia lignosa</u>					6.2	34.81		
Bivalves								
<u>Mytilus edulis</u>	18.7	6.4						
<u>Saxidomus giganteus</u>	1.2	80.7						
Barnacles								
<u>Balanus crenatus</u>	31.2	7.6						
Isopods								
<u>Idotea wosnesenskii</u>					38.7	37.25		
<u>Idotea ochotensis</u>		37.5						
Amphipod								
<u>Hyale frequens</u>	3.7	62.5						
<u>Amphithoe</u> sp.			676.2	4.69	581.25	2.88		
<u>Hyale</u> sp.			1502.5	4.64	2826.2	6.13		
<u>Parallorchestes</u> <u>ochotensis</u>			9040.0	17.32	531.2	6.02		
Decapoda								
<u>Pagurus</u> <u>hirsutiusculus</u>					6.2	7.75		
<u>Pugettia gracilis</u>		37.50	136.25	6.12	70.0	17.03		
<u>Cancer oregonensis</u>					12.5	336.38	1.2	1.82
Echinodermata								
<u>Leptasterias</u> <u>hexactis</u>	18.7	5.06			6.2	0.50	6.2	6.56

Table 12 (continued)

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Elevation -1.0', numbers and biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Brown Algae	not sampled				not sampled			
<u>Alaria marginata</u>				154.67				
<u>Ergregia menziesii</u>				100.28				469.9
Red Algae								
<u>Iridaea</u> sp.				239.31				
<u>Iridaea cordata</u>				129.53				
<u>Gigartina</u> sp.								141.57
<u>Rhodoglossum</u> sp.								244.10
<u>Halymenia</u> <u>schizyenioides</u>								186.98
<u>Rhodomela larix</u>								90.57
<u>Necagardhiella</u> <u>baileyi</u>								163.12
<u>Odonthalia floccosa</u>				194.40				
Coelenterata								
<u>Anthopleura</u> <u>elegantissima</u>							10.0	1.80
Polychaeta								
Polynoidae			26.7	12.61				
<u>Halosydna brevisetosa</u>							8.33	3.25
<u>Typosyllie</u> sp.							398.3	0.91
<u>Platynereis</u> <u>bicanaliculata</u>			83.3	5.83				
<u>Lumbrinereis</u> sp.							50.0	3.67
<u>Protodorvillea</u> <u>gracilis</u>							376.7	0.11
<u>Cirratulus cirratus</u>			50.0	6.49			133.3	12.1
Terebellidae			343.3	34.11			291.6	0.88
<u>Thelepus</u> sp.			383.3	128.1				
<u>Thelepus crispus</u>							535.0	213.23

Table 12 (continued)

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Elevation -1.0' (cont'd.), numbers and biomass (gms.) per 0.25m<sup>2</sup>

	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
	not sampled				not sampled			
Polychaeta (cont'd.)								
<u>Branchiomaldane</u>							68.3	0.14
<u>vicente</u>								
Oligochaeta							571.7	0.13
Gastropoda								
<u>Lacuna variegata</u>			3241.7	17.17			445.0	4.44
<u>Alvinia</u> sp.			1553.3	4.64			583.3	1.06
<u>Natica clausa</u>			50.0	0.25				
Chitons								
<u>Mopalia muscosa</u>			8.3	9.50				
Isopoda								
<u>Idotea</u> sp.			3925.0	8.93				
Amphipoda								
<u>Hyale</u> sp.			5031.7	9.78			821.7	2.36
<u>Paramoera mohri</u>			2170.0	1.58				
<u>Parallorchestes</u> sp.			1241.7	3.43				
Decapoda								
<u>Pagurus</u> sp.			8.3	9.00				
<u>Telmessus</u>								
<u>cheriragonus</u>			16.7	0.17				
<u>Pagurus</u>								
<u>granosimanus</u>							8.33	3.42
<u>Pugettia gracilis</u>			335.50	11.92				
Ectoprocta				6.58				

Table 12 (continued)

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Elevation -1.5m, numbers and biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Brown Algae								
<u>Laminaria</u> sp.				43.45		102.2		
<u>Laminaria</u> <u>groenlandica</u>								25.84
<u>Alaria marginata</u>		43.16		107.51				13.13
<u>Alaria nana</u>				75.83				
<u>Egregia menziesii</u>				25.25				
Red Algae								
<u>Halmenia</u> <u>schizyenioides</u>								16.94
<u>Rhodomela larix</u>						50.50		
<u>Prionitis lanceolata</u>				85.47				
<u>Odonthalia floccosa</u>		198.48						
Angiosperms								
<u>Phyllospadix</u> <u>scouleri</u>		473.6		128.08		401.42		139.93
Polychaeta								
<u>Platynereis</u> <u>bicanaliculata</u>					8.3	3.38		
<u>Lumbrineris zonata</u>	6.7	1.44						
<u>Cirratulus cirratus</u>	5.0	1.48						
<u>Onuphis</u> sp.					185.0	0.98		
<u>Naineris uncinata</u>					1.7	1.38		
<u>Protodorvillea</u> <u>gracilis</u>							128.3	0.03
<u>Armanda brevis</u>					143.0	0.33		
<u>Oligochaeta</u>					298.0	0.09	405.0	0.09
<u>Enchytraeidae</u>								
Gastropoda								
<u>Lacuna</u> sp.					25.0	1.56		

Table 12 (continued)

Page 12

Elevation -1.5m (cont'd.), numbers and biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Isopoda								
<u>Idotea aculeatea</u>					25.0	1.51		
Decapoda								
<u>Cancer oregonensis</u>			1.7	2.65			3.3	2.61
<u>Pugettia gracilis</u>			23.3	1.61	6.7	4.94		
Elevation -2.5m, numbers and biomass (gms.) per 0.25m <sup>2</sup>								
Brown Algae	not sampled				not sampled			
<u>Laminaria groenlandica</u>				150.51				
<u>Laminaria saccharina</u>				23.03				
<u>Pterygophora californica</u>				115.62				
<u>Laminaria setchelli</u>								18.79
Red Algae								
<u>Porphyra naiadum</u>								11.36
<u>Botryoglossum farlowianum</u>				20.76				
<u>Cryptopleura lobulifera</u>								24.53
<u>Laurencia spectabilis</u>								13.32
<u>Odonthalia floccosa</u>				18.8				
Angiosperm								
<u>Phyllospadix scouleri</u>				107.47				231.93
Polychaeta								
<u>Exogone</u> sp.							363.3	0.16
<u>Onuiphis</u> sp.			266.7	1.27			230.0	1.96

Table 12 (continued)

Page 13

Elevation -2.5m (cont'd.), numbers and biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Polychaeta (cont'd.)	not sampled				not sampled			
<u>Cirratulus cirratus</u>							53.3	3.38
<u>Thelepus crispus</u>							3.3	3.21
<u>Oligochaeta</u>							726.7	0.29
Bivalves								
<u>Psephidia lordi</u>							3.3	1.68
<u>Protothaca staminea</u>			1.7	1.85				
Decapoda								
<u>Pugettia gracilis</u>							6.7	1.50
<u>Cancer oregonesis</u>							13.3	2.09
Elevation -5.0m, numbers and biomass (gms.) per 0.25m <sup>2</sup>								
Brown Algae								
<u>Laminaria saccharina</u>				13.99				
Red Algae								
<u>Porphyra occidentalis</u>				53.07				
<u>Gracilariopsis sjoestdetti</u>				101.42				
<u>Iridaea cordata</u>				58.61				
<u>Odonthalia floccosa</u>		14.73						
Polychaeta								
<u>Micropodarice dubia</u>	70.0	0.12	250.0	0.42				
<u>Exogone</u> sp.			301.0	0.14				
<u>Sphaerosyllis</u> sp.			535.0	0.14	296.7	0.09		
<u>Hemipodus borealis</u>	11.7	1.78			13.3	1.21		
<u>Nicomache personata</u>	48.3	1.81						

Table 12 (continued)

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Elevation -5.0m (cont'd.), numbers and biomass (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Polychaeta (cont'd.)								
<u>Oligochaeta</u>			308.0	0.07	221.7	0.09		
Gastropoda								
<u>Margarites lirulatus</u>	30.0	0.71						
Bivalves								
<u>Glycymeris subobsoleta</u>	596.7	2.43			653.3	2.92	346.7	1.56
<u>Cyclocardia</u> sp.							3.3	0.83
<u>Humilaria kennerlyi</u>							1.7	200.46
<u>Psephidia lordi</u>	125.0	0.89						
<u>Saxidomus giganteus</u>							1.7	1.18
Barnacles								
<u>Balanus crenatus</u>	33.3	2.84						
Decapoda								
<u>Cancer oregonensis</u>					15.0	1.19		
Echinodermata								
<u>Eupentacta quinquesemita</u>							1.7	13.68
<u>Leptosynapta clarki</u>						?		
Elevation -7.5m, numbers and biomass (gms.) per 0.25m <sup>2</sup>								
Brown Algae	not sampled				not sampled			
<u>Laminaria setchellii</u>				68.99				
Red Algae								
<u>Pophyra miniata</u>				14.92				
<u>Neogardhiella baileyi</u>				18.17				

Table 12 (continued)

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Elevation -7.5m (cont'd.), numbers and biomass (gms.) per 0.25m<sup>2</sup>

	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Red Algae (cont'd.)	not sampled				not sampled			
<u>Gracilariopsis sjoestedtii</u>				59.31				
<u>Halymenia coccinea</u>				12.96				
<u>Laurencia spectabilis</u>				10.58				
Gastropoda								
<u>Margarites pupillus</u>			138.0	2.09				
Bivalves								
<u>Glycymeris sp.</u>			591.7	3.14			281.7	0.74
<u>Astarte alaskensis</u>			15.0	2.24				
<u>Astarte compacta</u>			5.0	2.33				

Elevation -10.0m, numbers and biomass, (gms.) per 0.25m<sup>2</sup>

Brown Algae								
<u>Desmarestia ligulata</u>				12.79				
Red Algae								
<u>Rhodymenia pertusa</u>		5.13						
<u>Polyneura atissima</u>		8.22		15.60				
<u>Callophyllis sp.</u>		12.31						
<u>Callophyllis flabellulata</u>				12.11				
Polychaeta								
<u>Nicomache personata</u>	36.7	2.66						
Gastropoda								
<u>Calyptraea fastigiata</u>			15.0	1.47	5.0	1.27	20.0	1.77
<u>Natica clausa</u>					5.0	1.43		



Table 12 (continued)

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Elevation -10.0m (cont'd.), numbers and biomass (gms.) per 0.25m<sup>2</sup>

	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Bivalves								
<u>Astarte alaskensis</u>			33.3	5.96	25.0	6.46	18.3	3.04
<u>Astarte compactor</u>	115.0	28.4	8.3	5.31	3.3	1.85	18.3	8.80
<u>Clinocardium ciliatum</u>			1.7	4.15			1.7	3.08
<u>Cyclocardia</u> sp.	61.7	2.59	33.3	2.51				
<u>Glycemeris</u> sp.	90.0	0.29						
<u>Modiolus rectus</u>	6.7	4.26						
<u>Tapes japonica</u>					1.7	117.01		
<u>Mya arenaria</u>							3.3	12.75
<u>Saxidomus giganteus</u>	5.0	1.26						
<u>Humilaria kennerlyi</u>			1.7	65.10				
Barnacles								
<u>Balanus glandula</u>							18.3	33.7
<u>Balanus crenatus</u>	71.7	8.89			11.7	2.45		
Tanaidacea								
<u>Leptochelia savignyi</u>					143.0	0.03	110.0	.01
Decapoda								
<u>Cancer oregonensis</u>							11.7	11.11
<u>Golfingia pugettensis</u>			3.3	2.70				
Spinucula								
Echinodermata								
<u>Eupentacta quinquesemita</u>							1.7	9.58
<u>Leptosynapta clarki</u>								

A single species of coelenterate, the anenome Anthopleura elegantissima was a dominant species from the +3.0' to -1.0' strata. No pattern of dominance of number of individuals and biomass was evident.

Polychaete worms were well represented at the cobble habitat ranging from the +4.0' to -5.0m strata, with a peak at the 0.0' and -1.0 strata. Of all polychaete species that occurred as dominants intertidally only one did not also have a subtidal distribution.

Five species were frequent through the range of polychaetes. Onuphis sp was found at all strata (except 0.0' and -1.0') between +4' and -2.5m. It had a peak of over 500 individuals per 0.25m<sup>2</sup> at the +3.0' stratum. Numbers of individuals and biomass tended to be greater in summer.

Thelepus crispus was found dominant in a range from +3.0 to -2.5m and was found at all strata except at -1.5m. Its peak of abundance was at 0.0' with more than 450 individuals per 0.25m<sup>2</sup>. Numbers and biomass tended to be greater in fall and winter.

Protodorvillea gracilis was found from +3.0' to -1.5m at all strata except +1.0'. It had no peak of abundance with over 400 individuals per 0.25m<sup>2</sup> at the high and low end of its range. A strong seasonal pattern of greater number of individuals and biomass in winter was evident.

Cirratulus cirratus was found at all strata from +2.0' to -2.5m. Its peak in numbers was at -1.0' with more than 130 individuals per 0.25m<sup>2</sup>. No seasonal pattern of abundance or biomass was evident.

The fifth common polychaete was Halosydna brevisetosa with distribution from +1.0' to -1.0 strata. No peak of abundance was noted. Nor was any seasonal pattern in numbers of individuals or biomass evident.

Except for the small degree of zonation in the five species discussed above there was no strong pattern of zonation evident in distribution of polychaetes at the cobble habitat. Species mostly occurred as dominant at one stratum or occurred infrequently over the range.

With remaining polychaete species, no seasonal pattern of frequency of species, numbers of individuals and biomass was evident.

Oligochaetes were well represented as dominants in both the intertidal and subtidal at the cobble habitat occurring at all strata from +5' to -5.0m. The peak of abundance of oligochaetes was 0.0' with numbers in excess of 900 per 0.25m<sup>2</sup>, although numbers were relatively high throughout the range.

In higher strata (+5.0' to +2.0') numbers and biomass of Oligochaetes tended to be higher in summer. At lower strata (+1.0' to -5.0m) numbers and biomass tended to be greater in winter.

Gastropods were the most frequent taxonomic (by number of species) group at the cobble site. Gastropods were dominant fauna at all strata

except -2.5m. Their greatest distribution of species was in the intertidal strata from +4' to 0'. Of the 13 species that were dominant gastropod intertidally at the cobble site, only 5 were also found subtidally.

Littorina sitkana was found at all strata from +6.0' to +2.0'. Its peak of distribution was the +3.0' stratum with 1,100 individuals per 0.25m<sup>2</sup>. L. sitkana was more frequent in winter than in summer. Zonation of Littorina scutulata was also evident. This species was found from +5.0' to +3.0' strata with peak of distribution at the +3.0' stratum with 8.5 individuals per 0.25m<sup>2</sup>. L. scutulata was also more frequent in winter than summer.

The limpets - species of Collisella and Notoacmea also showed zonation at the cobble habitat. Limpet distribution was primarily from the +4.0' to 0.0' strata. Limpets were not found as dominant organisms below the 0.0' stratum. The peak of distribution for most limpet species was the +3.0' stratum. No pattern of seasonal change in numbers or biomass of limpets was evident.

The whelks, Nucella lamellosa and Nucella emarginata also showed zonation in the range of gastropod species that were dominant fauna. N. lamellosa ranged from +4.0' to 0.0' strata with peak of distribution at the +2.0' with 21 individuals per 0.25m<sup>2</sup>. No pattern of seasonal peak in numbers or biomass was evident. Nucella emarginata was distributed from the +4.0 to 2.0' strata with no clear peak in distribution. Seasonal changes in biomass and numbers was evident for this species.

Subtidally gastropod species showed some zonation. Lacuna sp and Lacuna variegata were frequent at the upper subtidal strata and Margarites pupillus, Margarites lirulatus, Calyptraea fastigiata and Natica clausa were dominant forms at lower intertidal strata, Lacuna sp and Lacuna variegata showed seasonal patterns of greater numbers and biomass in summer. Other dominant subtidal gastropods showed no seasonal pattern of numbers or biomass.

Chitons were found dominant at the cobble site only at the 0.0' and -1.0' strata with no seasonal pattern of distribution.

Bivalves at the cobble site were dominant mostly at subtidal strata. Two species were dominant at the 0.0' stratum, the remainder were distributed below the -2.5m stratum. One of the intertidal species was Mytilus edulis. It was not found subtidally.

Bivalves at the cobble site were found primarily from the -2.5m to -10.0m strata. Species richness increased with increased depth and was greatest at -10m. There was no distinct zonation of bivalve species over this range. No pattern of seasonal change in numbers or biomass was evident.

Amphipods were dominant fauna at the cobble site only in the intertidal area, and did not show a consistent pattern of occurrence at all strata. Although amphipods were dominant only intertidally only one of the species had only an intertidal distribution. The others had some representation subtidally. No clear zonation pattern was observed. Paramoera mohri was

dominant at the +5.0' and -1.0' strata, although it was more numerous at the -1.0' stratum. As at the gravel site, P. mohri was more numerous in summer than winter.

Hyale sp was dominant at the +2.0, 0.0' and -1.0' strata. Its peak of distribution was the 0.0' tide mark with more than 2800 individuals per 0.25m<sup>2</sup>. No pattern of seasonal dominance in numbers or biomass was evident. In general though, numbers of individuals and biomass of amphipods tended to be greater in summer.

Barnacles as dominant fauna were more frequent in intertidal strata than subtidal strata. Intertidally their peak of distribution was from the +4.0' to 2.0' strata. Of the species found dominant intertidally all but one were also encountered subtidally. Chthamalus dalli was collected only intertidally.

Chthamalus dalli and Balanus glandula were found at each of the +4.0', +3.0' and +2.0' strata. C. dalli was most frequent at the +3.0' stratum, while B. glandula was most frequent at the +4.0' stratum. Numbers of individuals and biomass were higher in winter than summer. The barnacles that were dominant subtidally were Balanus glandula and Balanus crenatus, although numbers subtidally were much reduced compared to intertidal strata.

Decapods were well represented at the cobble habitat having a range of distribution at all strata (except -7.5m) from +4.0' to -10.0m. Five of the species of decapods that were dominant intertidally at the cobble site did not occur subtidally. Hemigrapsus nudus was distributed from the +4.0' to 1.0' strata. Its peak of distribution was the +1.0' stratum with 83 individuals per 0.25m<sup>2</sup>. H. nudus was more frequent in winter than in summer.

Zonation was evident with other decapod species. Hemigrapsus oregonensis, Pagurus hirsutiusculus, Telmessus cheiragonus and Pagurus granosimanus were all dominant fauna only in intertidal strata. Subtidally, Cancer oregonensis and Pugettia gracilis were the dominant decapod fauna. No seasonal pattern of numbers or biomass was evident.

Echinoderms were distributed as dominants both intertidally and subtidally. The sea star Leptasterius hexactis was found at the +4.0, +2.0, and 0.0' strata with a peak of distribution at the 0.0' stratum. No seasonal pattern in numbers or biomass was evident. Zonation of echinoderms was evident at the -5.0m and -10.0m strata. Eupentacta quinquesemita and Leptosynapta clarkii were dominant echinoderm fauna. No seasonal pattern in numbers or biomass was evident.

#### 3.4.3 Gravel Habitat (Ebey's Landing) Dominant Species

The total number of dominant species in each community group is given for all strata in Table 13. Table 14 lists for each stratum and season the dominant species and their mean numbers and biomass per 0.25m<sup>2</sup>.

There were no algae at the gravel site that were dominant in the intertidal zone (+6' to -1'). There was however, a consistent fauna con-

Table 13

Part A. Species Richness of dominant species at each stratum. Gravel Site (Ebey's Landing). +6 to -1, tide height in feet. -1.5 to -10.0 depth below 0.0 tide in meters.

Part B. Mean Species richness, mean number of individuals and mean biomass for all species at each stratum.

PART A	+6	+5	+4	+3	+2	+1	0	-1	-1.5	-2.5	-5.0	-7.5	-10.0
Taxonomic Group													
Green Algae	--	--	--	--	--	--	--	--	2	2	2	0	0
Brown Algae	--	--	--	--	--	--	--	--	5	1	2	2	5
Red Algae	--	--	--	--	--	--	--	--	3	3	4	6	12
Angiosperms	--	--	--	--	--	--	--	--	--	--	1	1	--
Nemertea	1	1	--	--	1	1	1	1	--	1	1	1	1
Nemetoda	--	--	--	--	--	--	--	--	--	--	1	--	1
Coelenterata	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychaeta	--	--	--	--	--	--	2	3	8	6	16	9	14
Oligochaeta	1	1	1	1		--	--	--	--	--	--	--	--
Gastropods	--	--	--	--	--	--	--	1	1	1	3	--	3
Chitons	--	--	--	--	--	--	--	--	--	--	--	--	--
Bivalves	--	--	--	--	--	--	--	--	--	1	7	5	10
Tanaeids	--	--	--	--	--	--	--	--	1	--	1	1	--
Isopods	--	--	--	--	--	--	--	1	--	--	--	--	--
Amphipods	2	1	1	1	1	2	1	1	6	5	1	2	--
Barnacles	--	--	--	--	--	--	--	--	--	--	--	--	--
Decapods	--	--	--	--	--	--	--	--	3	3	5	1	--
Echnioderms	--	--	--	--	--	--	--	--	--	1	1		--

Table 13 (continued)

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PART B													
Mean Species Richness	6	4	3	7	4	6	14	13	60	75	83	90	107
Mean Number of Individuals	50	94	30	199	334	355	9870	6339	1041	634	1585	2049	1483
Mean Biomass	0.3	0	0	0.1	0.4	0.2	24	11	290	107	141	333	386

Table 14

List of Dominant Species. Gravel Site (Ebey's Landing).  
Blank indicates that the species was not dominant during  
that season.

Elevation, +6.0', numbers and wet weight (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Nemertea sp.	25.0	0.0					8.0	0.0
Oligochaeta	15.0	0.0	42.0	0.0				
Amphipoda								
<u>Paramoera mohri</u>			20.0	0.03				
<u>Orchestia traskiana</u>					49.0	0.92	3.0	0.02
Elevation, +5.0', numbers and wet weight (gms.) per 0.25m <sup>2</sup>								
Nemertea	not sampled				not sampled		36.7	0.0
Oligochaeta			130.0	0.0				
<u>Paramoera mohri</u>							1.7	0.21
Elevation, +4.0', numbers and wet weight (gms.) per 0.25m <sup>2</sup>								
Amphipoda	not sampled				not sampled			
<u>Paramoera mohri</u>			3.3	0.05				

Table 14 (continued)

Page 2

Elevation, +3.0', numbers and wet weight (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Nemertea							11.0	0.0
Oligochaeta	9.0	0.0						
Amphipoda								
<u>Paramoera mohri</u>			2.50	0.17	387.0	0.76	45.0	0.05
Elevation, +2.0', numbers and wet weight (gms.) per 0.25m <sup>2</sup>								
	not sampled				not sampled			
Nemertea			73.3	0.14			38.3	0.01
Amphipoda								
<u>Paramoera mohri</u>			5.30	0.37			1.7	0.01
Elevation, +1.0', numbers and wet weight (gms.) per 0.25m <sup>2</sup>								
	not sampled				not sampled			
Nemertea			73.3	0.0			20.0	0.0
Amphipoda								
<u>Paramoera mohri</u>			53.5	0.39			17.0	0.0
<u>Pontogenia sp.</u>			45.0	0.01				



Table 14 (continued)

Page 3

Elevation 0.0', numbers and wet weight (gms.) per 0.25 <sup>2</sup>								
	<u>Spring</u>		<u>Summer</u>		<u>Fall</u>		<u>Winter</u>	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Nemertea	13.0	0.0	66.0	0.02			34.0	0.0
Polychaeta								
<u>Protodrilus flabelliger</u>					312	0.38		
<u>Hemipodus borealis</u>			13.0	1.27				
Amphipoda								
<u>Paramoera mohri</u>	262	0.76	37,621	46.13	1279.0	1.69		
Elevation -1.0', numbers and wet weight (gms.) 0.25m <sup>2</sup>								
Nemertea	not sampled		296.7	0.03	not sampled		296.7	0.03
Polychaeta								
<u>Capitella capitata</u>			5.0	0.15				
<u>Hemipodus borealis</u>			11.7	2.22				
<u>Saccocirrus eroticus</u>			660	0.86				
Gastropoda								
<u>Lacuna Variegata</u>			56.7	0.19				
Isopoda								
<u>Ligia pallasii</u>			85	0.65				
Amphipoda								
<u>Paramoera mohri</u>			9306	8.82			2085	3.42

Table 14 (continued)

Page 4

Elevation, -1.5m, number and wet weight (gms.) per 0.25m <sup>2</sup>								
	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Green Algae								
<u>Monostroma oxyspermum</u>			--	32.71				
<u>Spongomorpha spinescens</u>				257.1				
Brown Algae								
<u>Laminaria saccharina</u>					--	41.84		
<u>Laminaria farlowii</u>								
<u>Pleurophycus gardneri</u>						14.15		
<u>Pterygophora californ</u>							--	204.68
<u>Alaria marginata</u>						71.11		
Red Algae								
<u>Rhodymenia palmata</u>			--	26.76				
<u>Rhodymenia pertusa</u>				62.13				
<u>Odonthalia washingtoniensis</u>					--	89.49		
Polychaeta								
<u>Nereis vexillosa</u>							1.67	2.78
<u>Platynercis bicanaliculata</u>			13.3	3.36	161.7	19.57	36.7	5104
<u>Hemipodus borealis</u>	5.0	0.1						
<u>Lumbrineris zonata</u>	1.7	0.05						
<u>Spio filicornis</u>					136.67	0.74		
<u>Cirratulus cirratus</u>							1.7	0.13
<u>Armandia brevis</u>					188.33	0.83	155.0	0.59
<u>Saccocirrus eroticus</u>	188.3	1.37						

Table 14 (continued)

Page 5

Elevation, -1.5m, number and wet weight (gms.) per 0.25m <sup>2</sup>									
	Spring		Summer		Fall		Winter		
	#	Wt.	#	Wt.	#	Wt.	#	Wt.	
Gastropoda									
<u>Lacuna</u> sp.			725	7.16			43.3	0.89	
Tanaidacea									
<u>Leptochelia savignyi</u>						145.0	0.11		
Amphipoda									
<u>Melita</u> sp			321.67	0.96					
<u>Paramoera mohri</u>	13.3	0.06							
<u>Pontogeneia</u> sp.	10.0	0.03			106.7	0.21	48.3	0.11	
<u>Photis</u> sp.					81.7	0.14			
<u>Synchelidium shoemakeri</u>							48.3	0.01	
Phoxocephalidae					81.7	0.36			
Decapoda									
<u>Pugettia gracilis</u>					45.0	4.41	18.3	1.12	
<u>Cancer oregonensis</u>							5.0	7.82	
<u>Upogebia pugettensis</u>					1.7	4.73			

Table 14 (continued)

Page 6

Elevation, -2.5m, number and wet weight (gms.) per 0.25m <sup>2</sup>									
	<u>Spring</u>		<u>Summer</u>		<u>Fall</u>		<u>Winter</u>		
	#	Wt.	#	Wt.	#	Wt.	#	Wt.	
Green Algae	not sampled				not sampled				
<u>Monostroma</u> sp.									13.06
<u>Ulva</u> sp.									4.94
Brown Algae									
<u>Laminaria</u> sp.				34.25					
Red Algae									
<u>Iridaea</u> sp.									8.89
<u>Rhodymenia palmata</u>									59.84
<u>Rhodymenia pertusa</u>				12.29					
Nemertea								35.0	
Polychaete									
<u>Nereis</u> sp.							1.7	2.5	
<u>Nereis xexillosa</u>							1.7	5.08	
<u>Platynereis</u> <u>bicanaliculata</u>			10.0	2.79					
<u>Malacoceros</u> <u>glutaeus</u>			60.0	0.08					
<u>Cirratulus cirratus</u>			8.3	1.57					
<u>Armandia brevis</u>			51.7	0.29			66.7	0.81	
Gastropoda									
<u>Lacuna</u> sp.			35.0	0.51			51.7	0.39	
Bivalvia									
<u>Macoma obliqu</u>			5.0	2.61					

Table 14 (continued)

Page 7

Elevation, -2.5m, numbers and wet weight (gms.) per 0.25m<sup>2</sup>

	<u>Spring</u>		<u>Summer</u>		<u>Fall</u>		<u>Winter</u>	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Amphipoda	not sampled				not sampled			
<u>Synchelidium</u> <u>shoemakeri</u>							55.0	0.03
<u>Aoroides columbias</u>			75.0	0.09				
<u>Pontogeneia sp.</u>			83.3	0.21				
<u>Photis sp.</u>			55.0	.05				
Phoxocephalidae			93.3	0.13				
Decapoda								
<u>Pagurus sp.</u>							8.3	1.63
<u>Pugettia gracilis</u>							28.3	1.51
<u>Cancer oregonensis</u>			1.7	7.20				
Echinodermata								
<u>Leptasterias</u> <u>hexactis</u>			1.7	7.01				

Table 14 (continued)

Page 8

Elevation, -5.0m, numbers and wet weight (gms.) per 0.25m<sup>2</sup>

	<u>Spring</u>		<u>Summer</u>		<u>Fall</u>		<u>Winter</u>	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Maldanidae							60.0	0.42
<u>Travisia brevis</u>	8.3	3.24	33.2	2.40				
<u>Oligochaeta</u>					116.7	0.03	115.0	0.06
Gastropoda								
<u>Lacuna sp.</u>			140.0	2.11				
<u>Turbonilla sp.</u>			5.0	0.11				
<u>Searlesia dira</u>	1.67	2.06						
Bivalves								
<u>Mysella tumida</u>	25.0	0.04						
<u>Clinocardium californ</u>	607	50.27			1.7	0.71		
<u>Psephida lordi</u>	96.7	0.81	113.3	1.12	115.0	1.39		
<u>Macoma obliqua</u>			33.3	1.40				
<u>Macoma sp.</u>							6.7	0.79
<u>Saxidomus giganteus</u>							1.7	2.18
<u>Mya arenaria</u>					5.0	3.03		
Tanaidacea								
<u>Leptochelia savignyi</u>	300.0	0.94	428.3	.14	68.3	0.03	93.3	0.03
Amphipoda								
Phoxocephalidae	96.7	0.21						
Decapoda								
<u>Pugettia gracilis</u>			3.38	1.80				
<u>Cancer sp.</u>								
<u>Crangon sp.</u>					8.3	1.60		
<u>Cancer oregonensis</u>					6.7	0.71	8.3	0.78

Table 14 (continued)

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	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
<u>Crangon alaskensis</u>							1.7	1.18
Echinodermata								
<u>Leptosynapta clarki</u>			3.3	1.48				
Green Algae								
<u>Monostromum fuscum</u>			--	15.81				
<u>Spongomorpha spinescens</u>				18.64				
Brown Algae								
<u>Alaria marginata</u>				41.44				
<u>Laminaria saccharina</u>						57.91		
Red Algae								
<u>Gracilariopsis sjoestedti</u>						4.72	3.43	
<u>Iridaea sp.</u>				26.36				
<u>Iridaea cordata</u>				110.59				
<u>Odonthalia washingtoniensis</u>						4.71		
Angiosperms								
<u>Zostera marina</u>		61.59		33.96		11.66		19.41
Nemertea			43.3	4.24			58.3	0.78
Nematoda			15.0	0.78				
Polychaeta								
<u>Exogone sp.</u>			411	0.09				
<u>Exogone lourei</u>	75.0	.03						

Table 14 (continued)

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Elevation, -5.0m, numbers and wet weight (gms.) per 0.25m<sup>2</sup>

	<u>Spring</u>		<u>Summer</u>		<u>Fall</u>		<u>Winter</u>	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
<u>Nereis procera</u>	26.7	2.30						
<u>Protodorvillea gracilis</u>			158.3	0.11	71.7	0.03	58.3	0.01
<u>Prionospio steenstrupi</u>					63.3	0.67		
<u>Chaetezone</u> sp.					173.3	0.49		
<u>Nicomache personata</u>	65.0	3.39	121.7	5.78	13.3	0.71	51.7	1.66
<u>Praxillella affinis</u>	55.0	1.34						
<u>Owenia fusiformis</u>	60.0	1.11	40.0	1.29	33.3	0.74		
<u>Spiophanes bombyx</u>	121.7	0.92	98.3	1.01				
<u>Axiiothella rubrocincta</u>			81.7	1.59	63.3	1.61	3.33	0.48
<u>Mediomastus ambiseta</u>							70.0	0.21



Table 14 (continued)

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Elevation, -7.5m, numbers and wet weight (gms.) per 0.25m<sup>2</sup>

	<u>Spring</u>		<u>Summer</u>		<u>Fall</u>		<u>Winter</u>	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
	not sampled				not sampled			
Green Algae								
Brown Algae								
<u>Costaria Costata</u>				30.44				
<u>Alaria marginata</u>				116.90				
Red Algae								
<u>Gracilariopsis</u> <u>  sjoestedti</u>				64.30				7.98
<u>Iridaea cordata</u>				157.98				9.17
<u>Prionitis</u> <u>  lanceolata</u>				23.62				
<u>Constantinea</u> <u>  simplex</u>								
<u>Laurencia</u> <u>  spectabilis</u>				35.13				
<u>Odonthalia floccosa</u>								3.24
Angiosperm								
<u>Zostera marina</u>				20.63				5.04
Nemertea			55.0	3.66			90.0	0.43
Polychaeta								
<u>Platynereis</u> <u>  bicanaliculata</u>							16.7	1.19
<u>Exogone</u> sp.			68.3	0.03				
<u>Protodorvillea</u> <u>  gracilis</u>			198.3	0.13			86.7	0.03
<u>Spiophanes bombyx</u>			405.0	2.17			196.7	0.36
<u>Nicomache</u> <u>  personata</u>							15.0	0.67

Table 14 (continued)

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Elevation, -7.5m, numbers and wet weight (gms.) per 0.25m<sup>2</sup>

	<u>Spring</u>		<u>Summer</u>		<u>Fall</u>		<u>Winter</u>	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
	not sampled				not sampled			
<u>Mediomastus</u> sp.							15.0	0.67
<u>Axiothella</u> <u>rubrocincta</u>			70.0	4.31				
<u>Owenia fursiformis</u>			31.7	1.36				
<u>Oligochaeta</u>			46.7	0.0			343.0	0.07
Bivalves								
<u>Clinocardium</u> <u>nuttalli</u>			5.0	117.84				
<u>Glycymeris</u> <u>subobsoleta</u>							250.0	0.96
<u>Psephidia lordi</u>			696.7	3.84			88.0	0.64
<u>Macoma obliqua</u>			1.7	0.68			15.0	4.75
<u>Mya arenaria</u>			3.3	0.58				
Tanacid								
<u>Leptochelia</u> <u>savignyi</u>			75.0	0.06			98.3	0.05
Amphipoda								
<u>Corophium</u> sp.			51.7	0.03				
Phoxocephalidae			45.0	0.06				
Decapoda								
<u>Pugetti richii</u>							3.3	1.68

Table 14 (continued)

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Elevation -10.0m, numbers and wet weight (gms.) per 0.25m<sup>2</sup>

	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Green Algae								
Brown Algae								
<u>Desmarestia aculeata</u>				76.67				
<u>Desmarestia ligulata</u>		8.50		117.61		12.17		
<u>Desmarestia viridis</u>								
<u>Costaria costata</u>								
<u>Scytosiphon lomentaria</u>								
Red Algae								
<u>Iridaea heterocarpa</u>		2.65						
<u>Plocamium coccineum</u>				24.61				
<u>Plocamium cartilagineum</u>								1.71
<u>Cryptonemia sp.</u>								1.74
<u>Callophyllis pinnata</u>								13.41
<u>Callophyllis thompson</u>		15.39						
<u>Callophyllis flabellulata</u>		13.60		23.77				3.36
<u>Hymenena flabelligera</u>		27.36		18.40				
<u>Odonthalia floccosa</u>		17.43						
<u>Fauchea laciniata</u>				46.04				
<u>Neoptilota sp.</u>						17.28		

Table 14 (continued)

Page 14

Elevation -10.0m, numbers and wet weight (gms.) per 0.25m<sup>2</sup>

	Spring		Summer		Fall		Winter	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
<u>Botryoglossum farlowi</u>	18.3	1.66						5.62
Nematoda	46.7	0.20	45.0	0.03				
Polychaeta								
<u>Phloe minuta</u>	28.3	0.17						
<u>Exogone</u> sp.			86.7	0.04				
<u>Platyrenis bicanalculata</u>	5.0	0.92						
<u>Nephtys longosetosa</u>					3.3	1.26		
<u>Prionospio steenstrupi</u>	25.0	0.42					61.7	0.41
<u>Spio</u> sp.			71.7	0.31	53.3	0.26		
<u>Cirratulus cirratus</u>	1.7	1.43						
<u>Chaetozone setosa</u>	25.0	0.06						
<u>Chaetozone</u> sp.			46.7	0.24				
<u>Mediomastus</u> sp.	51.7	0.14	18.5	0.31			73.3	0.04
<u>Mediomastus ambiseta</u>					70.0	0.07		
<u>Nicomache personata</u>	43.3	1.49	31.6	1.54				
<u>Praxillella affinis</u>	46.7	0.28						
<u>Owenia fusiformis</u>							51.7	1.4
Gastropoda								
<u>Margarites lirulatus</u>	20.0	0.44						
<u>Lacuna</u> sp.			1.7	1.68				
<u>Calyptraea fastigiata</u>	100.0	2.46	38.3	4.49	40.0	2.17	26.7	4.41

Table 14 (continued)

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Elevation -10.0m, number and wet weight (gms.) per 0.25m<sup>2</sup>

	<u>Spring</u>		<u>Summer</u>		<u>Fall</u>		<u>Winter</u>	
	#	Wt.	#	Wt.	#	Wt.	#	Wt.
Chitons								
Bivalves								
<u>Glycymeris</u> sp.	95.0	0.31						
<u>Cyclocardia</u> sp.	28.3	2.86	18.3	3.06	26.7	1.21	10.0	2.13
<u>Musculus</u> sp.						5.0	4.31	
<u>Modiolus rectus</u>						8.3	118.05	
<u>Clinocardium californum</u>	6.7	5.61	1.70	2.30			6.7	1.18
<u>Macoma obliqua</u>	10.0	0.73	6.7	2.08	13.3	2.34		
<u>Saxidomus giganteus</u>	1.17	418.56	1.7	1.76			11.7	220.44
<u>Mya arenaria</u>								
<u>Mya truncata</u>			5.0	2.88			3.3	101.76
<u>Protothaca staminea</u>					1.7	28.7		
Tanaidacea								
<u>Leptochelia savignyi</u>	100.0	0.08					48.3	0.0
Decapoda								
<u>Cancer oregonensis</u>					1.7	2.83		
Echinoderms								
<u>Eupentacta quinquesemita</u>	3.3	12.46						
<u>Leptosynapta clarki</u>	20.0	2.17						

sisting of Nemertean worms, Oligochaete worms and amphipods. Nemerteans were distributed at almost all strata (Table 14). Oligochaetes were found dominant in the mid and upper tide levels. Nemerteans and Oligochaetes showed no seasonal pattern in frequency of distribution, although when dominant during the summer the numbers of individuals and biomass was greater than at other seasons.

Amphipods were a dominant group intertidally at the gravel site. This was due primarily to the presence of a single species--Paramoera mohri. This species was found dominant consistently through the intertidal area but showed a peak in numbers and biomass<sub>2</sub> at the 0.0' stratum. A summer density of over 37,000 individuals per 0.25m<sup>2</sup> was observed. Paramoera mohri showed a distinct seasonal change with highest number of individuals and biomass being found in the summer.

Polychaetes as dominant fauna were found only in the lower intertidal area and consisted of species that had a greater distribution at deeper subtidal strata.

Subtidally green algae were well represented but were patchy with season. Species at a stratum were generally dominant only once during the four seasons. Species of Spongomorpha and Monostroma were dominant during both summer and winter.

Brown algae were well represented at the gravel site although no species was consistently dominant at all four seasons. Some zonation of species was noted. Species of Laminaria were more frequent in shallower subtidal strata and Desmarestia and Costaria were dominant at deeper subtidal strata.

Red algae showed increasing numbers of species with increasing depth subtidally. Species changed at each stratum and no zonation pattern was evident. Few species were dominant in all four seasons and no peak in biomass with season was evident for the dominant red algae.

The eelgrasses, Zostera marina and Phyllospadix were dominant flora at the gravel habitat subtidally. At -5.0m and -7.5m strata eelgrass beds were predominant features of the substrate. At -5.0m Zostera marina was collected at all four seasons, with peak of biomass in the summer.

Polychaetes were well represented subtidally at the gravel habitat. Zonation of species with depth was evident. Platynereis bicanaliculata and Armandia brevis were found at shallower subtidal strata. At deeper strata Nicomache personata, Owenia fusiformis, Spiophanes bombyx, and Procodorvillea gracillis were most frequent. No consistent pattern of change in numbers or biomass with season was evident with polychaetes.

Gastropods had a relatively poor distribution subtidally at the gravel habitat with no pattern of zonation with decrease depth nor distinct seasonal abundance.

Bivalves were common at the gravel site only at the deeper subtidal

strata (-5.0m to -10.0m). There was no distinct pattern of zonation with depth. Nor was there any distinct pattern of change in numbers of individuals or biomass with change in season.

Amphipods were dominant fauna subtidally at the gravel site as well as intertidally. Paramoera mohri, the very common intertidal species was dominant only at the -1.5m stratum and in reduced numbers compared to the intertidal distribution. Synchelidium shoemakeri and Pontogeneia sp. were dominant at the shallow subtidal strata but were not found below -2.5m. The Phoxocephalidae group (about 3 species) was most common subtidally being found at most strata. No amphipods were dominant at the -10.0m stratum. No distinct seasonal pattern was noted although species numbers, numbers of individuals and biomass all tended to be greatest during summer.

Of the Decapods, Cancer oregonesis was the only species distributed throughout the subtidal strata. No pattern of zonation was evident. Decapods showed no pattern of seasonal distribution.

### 3.5 Live Seive Data

Data for live seive sampling are given in Table 15. At two sites (West Beach - sand, and Ebey's Landing - cobble) no flora or fauna were found in samples taken in the intertidal zone. At the third site however, (Partridge Point - cobble) fauna were regularly taken at the 0.0' and 2.0' tide height. Occasionally organisms would be found at the +6.0' tide height. Most of the species encountered were mobile forms found under the cobbles and on the surface of the fine sediment. Only one clam Saxidomus giganteus was found.

No apparent difference was noted in either species richness between the 0.0' and 2.0' tide height or the four seasons at a given tide height.

### 3.6 Species Diversity Indices

The species diversity index for each site, stratum, and season is given in Table 16. In general, diversity was greater subtidally than intertidally, and the cobble site (Partridge Point) had higher diversity than the gravel (Ebey's Landing) or sand site (West Beach). Highest diversity was found at the deepest sampling stratum (-10m).

There was no evident pattern of change in diversity with season although indices were generally greater in summer than winter.

Intertidally the species diversity indices of two of the three sites were similar. The sand site (West Beach) and the gravel site (Ebey's Landing) had relatively low species diversity intertidally. The third site (cobble, Partridge Point) had a relatively high species diversity intertidally.

TABLE 15

Data from live seives (0.25m<sup>2</sup> by 30cm. deep, passed through 0.5 inch screen). West Beach (sand) and Ebey's Landing (gravel) had no fauna.

## PARTRIDGE POINT

		Mean Number	Mean Weight
<u>Spring</u>			
0.0'	<u>Notoacmea persona</u>	0.3	0.7
	<u>Searlesia dira</u>	0.3	1.4
	<u>Nucella lamellosa</u>	3.0	13.4
	<u>Saxidomus giganteus</u>	0.3	45.2
	<u>Pugettia gracilis</u>	1.3	7.2
	<u>Cancer orogonensis</u>	1.0	3.4
	<u>Hemigrapsis nudus</u>	2.7	15.8
	<u>Leptastarius hexactis</u>	0.3	0.9
+2.0'	<u>Anthopleura elegantissima</u>	0.3	0.3
	<u>Collisella pelta</u>	0.3	0.2
	<u>Notoacmea persona</u>	7.4	7.4
	<u>Searlesia dira</u>	1.3	2.7
	<u>Saxidomus giganteus</u>	0.3	20.6
	<u>Pagurus hirsutiusculus</u>	0.3	0.2
	<u>Hemigrapsus nudus</u>	4.0	27.1
	<u>Leptasterias hexactis</u>	2.0	1.9
	<u>Gobiesox meandricus</u>	0.3	3.9
+6.0'	<u>Notoacmea persona</u>	4.0	1.9
	<u>Searlesia dira</u>	0.3	0.24
	<u>Nucella lamellosa</u>	0.3	1.9
	<u>Leptasterias hexactis</u>	2.0	1.7



Table 15 (continued)

<u>Summer</u>		Mean Number	Mean Weight
0.0'	<u>Nucella lamellosa</u>	1.0	4.4
	<u>Hemigrapsus nudus</u>	1.3	9.9
	<u>Pugettia gracilis</u>	1.0	1.4
	<u>Pagurus hirsutiusculus</u>	0.3	0.39
	<u>Leptasterias hexactis</u>	0.3	1.7
	<u>Idotea wosnesenskii</u>	1.7	0.73
+2.0'	<u>Notoacmea sp.</u>	2.3	2.8
	<u>Saxidomus giganteus</u>	0.3	2.8
	<u>Nucella lamellosa</u>	1.0	1.4
	<u>Hemigrapsus nudus</u>	3.0	3.9
	<u>Leptasterias hexactis</u>	1.0	0.92
+6.0'	<u>Notoacmea sp.</u>	1.0	0.9
	<u>Nucella lamellosa</u>	2.3	11.5
	<u>Hemigrapsus nudus</u>	2.3	17.7
<u>Fall</u>			
0.0'	<u>Epiactis prolifera</u>	1.0	1.9
	<u>Nucella lamellosa</u>	0.3	2.4
	<u>Leptasterias hexactis</u>	1.7	3.4
	<u>Notoacmea scutum</u>	2.0	6.7
	<u>Hemigrapsus nudus</u>	0.3	2.1
	<u>Idotea wosesnskii</u>	2.0	1.8
	<u>Pugettia gracilis</u>	2.5	2.3
+2.0	<u>Nucella lamellosa</u>	0.3	0.9
	<u>Leptasterias hexactis</u>	0.7	0.4
	<u>Notoacmea scutum</u>	4.7	4.4
	<u>Notoacmea persona</u>	0.3	0.9

Table 15 (continued)

<u>Fall, +2.0' (continued)</u>		Mean Number	Mean Weight
	<u>Pagurus hirsutiusculus</u>	0.3	0.11
	<u>Hemigrapsus nudus</u>	0.7	5.1
	<u>Idotea wosnesenskii</u>	0.3	0.4
	<u>Anthopleura elegantis</u>	0.3	0.22
+6.0	none		
<u>Winter</u>			
0.0'	<u>Idotea wosnesenskii</u>	2.0	1.5
	<u>Anthopleura elegantissima</u>	0.3	0.22
	<u>Nucella lamellosa</u>	1.7	5.6
	<u>Notoacmea scutum</u>	1.3	4.4
	<u>Katharina tunicata</u>	0.3	8.1
	<u>Hemigrapsus nudus</u>	8.8	16.6
	<u>Pugettia gracilis</u>	0.3	0.3
	<u>Leptastarius hexactis</u>	0.5	0.1
	<u>Mopalia lignosa</u>	0.3	3.1
+2.0'	<u>Idotea wosnesenskii</u>	0.3	0.10
	<u>Anthopleura elegantissima</u>	0.8	1.5
	<u>Nucella lamellosa</u>	0.8	2.4
	<u>Notoacmea scutum</u>	0.8	1.1
	<u>Hemigrapsus nudus</u>	1.1	2.9
	<u>Nucella emarginata</u>	0.2	0.4
+6.0'	none		

TABLE 16

Species Diversity Indices (Shannon Index) for each site, season and stratum. W.B. - West Beach (sand habitat), P.P. - Partridge Point (cobble habitat) and E.L. - Ebey's Landing (gravel habitat). Blanks indicate no sample taken.

DEPTH	Spring			Summer			Fall			Winter		
	W.B.	P.P.	E.L.	W.B.	P.P.	E.L.	W.B.	P.P.	E.L.	W.B.	P.P.	E.L.
-10m	3.6	4.3	4.3	3.1	4.6	4.5	3.7	4.5	4.7	3.9	4.3	4.7
- 7.5m				2.6	3.4	3.8				3.2	3.3	3.8
- 5.0m	2.5	3.3	3.7	2.9	3.8	4.0	3.1	3.6	4.3	3.0	3.7	4.2
- 2.5m				2.3	3.8	4.0				2.5	3.9	3.7
- 1.5m	2.6	3.5	2.0	3.0	3.4	3.0	2.2	3.8	4.2	2.3	2.9	3.8
- 1.0'				1.2	3.3	1.3				0	3.9	1.0
0.0'	1.3	3.8	0.5	2.1	2.9	1.5	1.7	3.9	1.8	0.9	3.8	1.0
1.0'				0	2.1	1.5				0	3.6	0.4
2.0'		3.4		1.2	2.5	1.6		3.6		0.6	3.8	1.3
3.0'	2.1		1.8	2.4	3.5	1.0	3.2		0.6	0.7	3.0	2.2
4.0'				0.7	2.6	2.0				0.7	2.5	0.4
5.0'				2.0	2.5	1.2				1.9	3.1	0.3
6.0'	1.5	2.2	2.2	1.7	2.6	2.1	2.4	2.7	2.3	1.0	0.9	1.7

At all sites there was no evident pattern of diversity indices with change in stratum. For example the range of indices found at the +6' stratum was similar to the range found at the 0.0' stratum.

Subtidally there was less difference between the three sites than there was intertidally. At any given stratum the sand site (West Beach) had the lowest species diversity. The other two sites (Partridge Point and Ebey's Landing) had similar diversity indices subtidally.

The highest diversity indices were observed at the deepest stratum (-10m). Except for this, however, there was no evident pattern of change in diversity with change in depth subtidally.

### 3.7 Seasonal Variation, Statistical Analysis

Differences in mean number of individuals and mean weights for summer and winter were examined statistically with a t test. Each stratum at each site was examined. Table 17, 18, and 19 lists those species that had a significant difference in either mean weight or mean numbers ( $p = 0.05$ ), for each of the three sites.

West Beach. At the sand site there were no significant differences in numbers or weight for species found at the intertidal strata (Table 17). Subtidally the percent of species with significant differences ranged from 5% (-1.5m) to 17% (-2.5m). There was no evident pattern of percent of significant differences with depth. The bulk of species showed significant differences in mean number. Only a few showed differences in mean weight. Only two species showed significant differences in numbers and weight.

Table 17 shows that more species had higher numbers or weights in summer compared to winter. Twelve species had higher values of mean number or weight in summer. Eight species, however, had higher mean number or weights in winter. In particular the amphipod of the family Phoxocephalidae was significantly more numerous in winter than in summer.

Partridge Point. Unlike the sand or gravel site, Partridge Point had species with significant differences in mean number or weights at intertidal strata (Table 18). From +4 to -1' tidal heights between 1 and 5% of species showed significant differences. More species had significant differences in mean number than mean weight. Only a few species had significant differences in numbers and weights.

Subtidally there were fewer significant differences in numbers and weights at the cobble site compared to the gravel and sand site (Table 18). Percent of significant species at subtidal strata ranged from 0 to 6. Most species had significant differences in mean numbers. Fewer had significant differences in mean number. Only one species (Nematoda) showed significant differences in both numbers and weights.

Table 18 shows that at the cobble sites more species had greater mean

TABLE 17

Species with significant differences in mean number or weight between summer and winter. West Beach (sand habitat). X indicates a significant difference ("t" test,  $p = 0.05$ ). Under season S indicates mean number or weight was greatest in summer. W indicates significantly greater values in winter.

DEPTH	Season	Mean Number	Mean Weight	DEPTH	Season	Mean Number	Mean Weight
<u>-10.0m</u>				<u>-5.0 (con't.)</u>			
<u>Pholoe minuta</u>	S	X		<u>Photis sp.</u>	S	X	
<u>Phyllodoce sp.</u>	W	X		<u>Protomeleia sp.</u>	S	X	
<u>Prionospio cirrifera</u>	S	X		<u>Phoxocephalidae</u>	W	X	
<u>Spiophanes bombyx</u>	S	X		Total number of species:		23	
<u>Axinopsida serricata</u>	S		X	% Significant differences:		17	
<u>Tellina modesta</u>	S	X					
<u>Psephidia lordi</u>	S	X	X	<u>-2.5m</u>			
<u>Phoxocephalidae</u>	S	X		<u>Psephidia lordi</u>	W	X	X
Total number of species:		64		<u>Diastylis sp.</u>	S	X	
% Significant differences:		13		<u>Phoxocephalidae</u>		X	
<u>-7.5m</u>				Total number of species:		23	
<u>Scoloplos pugettensis</u>	W	X		% Significant differences:		13	
<u>Armadia brevis</u>	W	X					
<u>Owenia fusiformis</u>	W	X		<u>-1.5m</u>			
<u>Phoxocephalidae</u>	S	X		<u>Phoxocephalidae</u>	W	X	
Total number of species:		57		Total number of species:		21	
% Significant differences:		7		% Significant differences:		5	
<u>-5.0m</u>				<u>-1.0' to +6.0': none</u>			
<u>Psephidia lordi</u>	S	X	X				

TABLE 18

Species with significant differences in mean number or weight between summer and winter. Partridge Point (cobble habitat). X indicates a significant difference ("t" test, p = 0.05). Under season S indicates mean number or weight was greater in summer. W indicates significantly greater values in winter.

DEPTH	Season	Mean Number	Mean Weight	DEPTH	Season	Mean Number	Mean Weight
<u>-10m</u>				<u>-2.5 (con't.)</u>			
<u>Callophyllis flabellulata</u>	S		X	% Significant differences:		1	
<u>Protodorvillea gracilis</u>	S	X		<u>-1.5</u> - none			
Total number of species:		10		<u>-1.0</u>			
% Significant differences:		2		Nemertea	W	X	
<u>-7.5m</u> - none				<u>Chaetozone</u> sp	W	X	
				<u>Exosphaeroma ampli</u>	S	X	
				<u>Hyale</u> sp.	S		X
<u>-5.0m</u>				Total number of species:		107	
Nematoda	S	X	X	% Significant differences:		4	
<u>Hemipodus borealis</u>	W	X		<u>0.0</u>			
<u>Spio filicornis</u>	S		X	<u>Rhodomela larix</u>	S		X
Maldanidae	W	X		<u>Idotea</u> sp. juv.	S	X	
<u>Pinnixa occidentalis</u>	S	X		Total number of species:		102	
Total number of species:		82		% Significant differences:		2	
% Significant differences:		6					
<u>-2.5m</u>				<u>+1.0</u>			
Oligochaeta	S	X		<u>Notoacmea scutum</u>	W	X	X
Total number of species:		88					

Table 18 (continued)

DEPTH	Season	Mean Number	Mean Weight	DEPTH	Season	Mean Number	Mean Weight
<u>+1.0 (con't.)</u>				<u>+3.0'</u>			
Total number of species:		65		<u>Onuphis</u> sp.	S		X
% Significant differences:		0.7		<u>Protodorvillea gracilis</u>	W	X	
<u>+2.0</u>				Total number of species:		51	
Cirratulidae	W	X		% Significant differences:		4	
<u>Littorina sitkana</u>	W	X	X	<u>+4.0'</u>			
Total number of species:		66		<u>Typosyllis</u> sp.	S	X	
% Significant differences:		3		<u>Hemipodus borealis</u>	S	X	
				<u>Oligochaeta</u>	S	X	X
				Total number of species:		56	
				% Significant differences:		5	
				+5.0' - none			
				+6.0' - none			

TABLE 19

Species with significant differences in mean number or weight between summer and winter. Ebey's Landing (gravel habitat). X indicates a significant difference ("t" test, p = 0.05). Under season, S indicates mean number or weight was significantly greater in summer. W indicates significantly greater values in winter.

DEPTH	Season	Mean Number	Mean Weight	DEPTH	Season	Mean Number	Mean Weight
<u>-10m</u>				<u>-5.0m</u>			
<u>Desmarestia ligulata</u>	S		X	<u>Spio filicornis</u>	S	X	
<u>Callophyllis flabellulata</u>	S		X				
<u>Scalibregma inflatum</u>	S		X	Total number of species:		83	
<u>Armandia brevis</u>	S	X		% Significant differences:		1	
<u>Nicomache personata</u>	S		X				
<u>Owenia fusiformis</u>	W	X					
<u>Saxidomus giganteus</u>	W	X					
<u>Melita sp.</u>	W	X					
<u>Ophiuroidea</u>	W	X		<u>-2.5m</u>			
Total number of species:		107		<u>Prionospio steenstrupi</u>	S	X	
% Significant differences:		8.5		<u>Atylus sp.</u>	W	X	
<u>-7.5m</u>				Total number of species:		75	
<u>Nematoda</u>	W	X		% Significant differences:		3	
<u>Spiophanes bombyx</u>	S		X				
<u>Travisia brevis</u>	S	X		<u>-1.5m - none</u>			
<u>Oligochaeta</u>	W	X		<u>-1.0m - none</u>			
<u>Psephidia lordi</u>	S	X	X	<u>0.0'</u>			
<u>Corophium sp.</u>	S	X		<u>Paramoera mohri</u>	S	X	
<u>Leptosynapta clarki</u>	S		X	Total number of species:		14	
Total number of species:		90		% Significant differences:		7	
% Significant differences:		7.8		<u>+1.0' - none</u>			
				<u>+2.0' - none</u>			
				<u>+3.0' - none</u>			
				<u>+4.0' - none</u>			
				<u>+5.0' - none</u>			
				<u>+6.0' - none</u>			



numbers of individuals or weight in summer than in winter. Fourteen species had higher numbers or weights during the summer. Eight species however, had higher numbers or weights during the winter. There was no evident pattern of summer or winter dominance with tide height or subtidal depth. At both intertidal and subtidal strata the fraction of species with summer or winter dominance was similar.

Ebey's Landing. Intertidally the gravel site was similar to the sand in that almost no species showed significant differences between summer and winter (Table 19). At the 0.0' tide mark one species showed a significantly higher mean number in summer than winter.

Subtidally the percent of significant differences ranged from 0 to 8.5 (Table 19). At the site deeper subtidal strata showed relatively higher percent of significant differences than the shallower strata. More species had significant differences in mean number than mean weight. Only one species showed significant differences in numbers and weight.

Table 19 shows that at the gravel site more species had higher numbers or weights in summer compared to winter. Thirteen species had higher values of mean weight or number in summer. Seven species however, had higher mean numbers or weights in winter. The amphipod Paramoera mohri although numerous at most intertidal strata, only was significantly greater in summer at the 0.0' tide height.

### 3.8 Variability

Since standard deviation increases with the mean it is not a convenient relative measure of variability of data. The coefficient of variability (discussed by Eberhart, 1978) allows rapid comparison of variability in data sets. The C.V. is the standard deviation divided by the mean.

Eberhart has compiled C.V. data for a range of sampling methods for flora and faunal groups. For benthos he reports C.V. of between 0.4 and 0.8. To appraise variability of data in this study it was assumed that those species with a C.V. <1.0 had acceptable variability, that is the sample area and replicate number were adequate to provide data that could be used for statistical comparison. Those species that had C.V. of 1.0 or greater have unacceptable variability for statistical comparisons.

The C.V. for each species at each stratum, season and site are given in Appendix 1. A summary of C.V. data are given in Table 20. For the replicates at each site, season and strata, the percent of the number of species that had a C.V. of 1.0 or greater is given.

As the tables show the number of species with unacceptable variability is high, in almost all cases well above 50%. In the upper intertidal areas of the sand habitat, unacceptable variability was often 100% of the species.

Two factors should be kept in mind when examining Table 20. The +6,

Table 20

Summary of Coefficient of Variation (sd/mean). - indicates no sample.  
Percent values are the percent of species with a CV of 1.0 or greater.

<u>Sand (West Beach)</u>	+6	+5	+4	+3	+2	+1	0	-1	-1.5	-2.5	-5.0	-7.5	-10.0
Spring													
total # sp.	3	--	--	4	--	--	2	--	18	--	26	--	45
% C.V. $\geq$ 1.0	100	--	--	75	--	--	100	--	50	--	58	--	67
Summer													
total # sp	5	9	2	10	4	--	6	4	24	14	48	58	58
% C.V. $\geq$ 1.0	100	100	100	100	100	--	83	100	58	57	58	57	50
Fall													
total # sp	10	--	--	15	--	--	21	--	25	--	57	--	73
% C.V. $\geq$ 1.0	90	--	--	73	--	--	95	--	80	--	70	--	44
Winter													
total # sp	3	4	2	4	2	1	5	3	17	32	39	50	73
% C.V. $\geq$ 1.0	100	50	100	100	100	100	30	100	65	69	59	44	58

Table 20 (continued)

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<u>Cobble (Partridge Point)</u>	+6	+5	+4	+3	+2	+1	0	-1	-1.5	-2.5	-5.0	-7.5	-10.0
Spring													
total # sp	7	--	--	--	39	--	73	--	70	--	50	--	79
% C.V. $\geq$ 1.0	86	--	--	--	85	--	74	--	78	--	62	--	61
Summer													
total # sp	15	19	32	46	66	41	74	86	68	73	82	61	93
% C.V. $\geq$ 1.0	100	68	73	70	73	78	66	63	96	68	63	64	55
Fall													
total # sp	13	--	--	--	52	--	79	--	69	--	63	--	75
% C.V. $\geq$ 1.0	85	--	--	--	83	--	63	--	74	--	54	--	45
Winter													
total # sp	12	22	56	44	49	53	55	77	40	64	78	52	77
% C.V. $\geq$ 1.0	100	86	79	66	69	74	80	68	78	64	42	71	62

Table 20 (continued)

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<u>Gravel (Ebey's Landing)</u>	+6	+5	+4	+3	+2	+1	0	-1	-1.5	-2.5	-5.0	-7.5	-10.0
Spring													
total # sp	7	--	--	5	--	--	10	--	13	--	62	--	81
% C.V. $\geq$ 1.0	100	--	--	100	--	--	90	--	77	--	69	--	65
Summer													
total # sp	5	4	5	7	7	9	12	19	48	62	75	71	90
% C.V. $\geq$ 1.0	80	75	40	100	29	56	83	79	69	71	44	55	61
Fall													
total # sp	11	--	--	12	--	--	24	--	78	--	76	--	83
% C.V. $\geq$ 1.0	91	--	--	92	--	--	89	--	59	--	63	--	57
Winter													
total # sp	3	6	3	6	4	5	8	10	61	49	71	66	84
% C.V. $\geq$ 1.0	66	100	100	67	75	60	100	60	80	76	65	64	56

+3 and 0 strata, the sand and gravel habitats had a replicate number of 5. The +6, +2 and 0.0 strata at the cobble site had a replicate number of 4. All other strata at each of the sites had a replicate number of three. The difference between 3 and 5 replicates did not appear to have any pronounced effect on variability. In fact in general variability was generally lower in subtidal samples when sample size was 3. Quantitative applications of these data are limited by the high variability.

#### 4. DISCUSSION

##### 4.1 West Coast of Whidbey Island Beach System

The west coast of Whidbey Island is a series of beaches that are part of a unified beach system. Unconsolidated glacial deposits on uplands serve as sediment sources. Exposure to southerly and westerly winds provides moderate wave action from the Strait of Juan de Fuca. The result is a series of erosional, transport and accretion beaches. Generally the erosional beaches are cobble, the transport beaches gravel and the accretion beaches sand. The sampling sites were chosen to reflect the three primary habitats.

Subtidally the bottom characteristics are, in general, similar to the intertidal substrate, except that with increasing depth and decreased wave action the proportion of silt in the substrate increases.

At the three sites on the west coast of Whidbey Island, wave energy, temperature and salinity were all similar. Differences observed in intertidal and shallow subtidal communities are believed to be the result of different substrate types.

Species richness at the three intertidal habitats is related to substrate stability. At the gravel and sand habitats wave action causes movement of beach material through the year. Species richness is reflected by this. At the sand and gravel habitats there is a relatively poor species representation. (More species were found intertidally at the gravel habitat than the sand habitat). Only polychaetes and amphipods were dominant organisms intertidally at the sand site, and they were distributed at low intertidal strata. Species found at these strata were more widely distributed subtidally.

At the gravel site amphipods, oligochaete worms, polychaete worms, and nemertean were the only dominant intertidal organisms. The amphipods, oligochaetes and probably nemertean were a distinct intertidal fauna. The amphipod Paramoera mohri which was very common at the gravel site intertidally had virtually no subtidal distribution.

The sand site then had virtually no distinct intertidal community and that of the gravel site was relatively meager.

At the cobble site however, both algae and invertebrates were well represented in the intertidal area. Many community groups had a distinct intertidal presence. In the algae groups, red algae found intertidally were generally not found subtidally. Polychaetes at the cobble site were common at intertidal strata. Although all but one of the polychaetes species also had a subtidal distribution, a number had their peak of abundance in the intertidal strata. Gastropods, barnacles, decapods and echinoderms all had a distinctive intertidal distribution.

Species richness subtidally at the sand and gravel habitats was much greater than intertidally. At the cobble habitat species richness subtidally was lower than intertidally. There were distinct differences between the subtidal communities at the three habitats. The gravel and sand habitats subtidally had a similarity index of 39%. The similarity between the cobble and sand was also low (38%) but between cobble and gravel was relatively high (63%). The similarity is apparently related to substrate type. At the sand habitat the substrate subtidally continued as sand with increasing silt content. The gravel habitat however, had patches of cobble that made it more similar to the cobble habitat subtidally. At the cobble and gravel habitats algae that require a stable substrate for attachment were common. Algae were virtually absent at sand habitat.

At all habitats bivalve distribution increased with increasing depth. At the gravel and sand habitats polychaetes increased in number of species with depth. However, that pattern was not noted at the sand habitat. Gastropods were common subtidally at both the gravel and cobble sites but not the sand site. Amphipods were common subtidally at the gravel and sand habitats but not the cobble habitat. Cobble and sand habitats were most distinctly different with the gravel site being similar to the cobble with some community groups and similar to the sand with others.

There are then, distinct communities at the three habitats in the Whidbey Island beach system. At the sand and gravel the clearest defined communities are subtidally with only a meager intertidal representation. At the cobble site there is a well developed, distinct intertidal community as well as a distinct subtidal community.

Some species stand out as being associated with various habitats. The amphipod Paramoera mohri was very common only intertidally at the gravel habitat. Amphipods of the group Phoxocephalidae were very common subtidally at the sand and gravel sites. The clam Psephidia lordi was very common subtidally at the sand site. At the cobble site the snail Littorina sitkana was very common in the intertidal area.

#### 4.2 Seasonal Changes

At each site there was a maximum number of individuals in summer and in general maximum biomass in fall and winter. Seasonal patterns in separate community groups however, did not always agree with the general pattern. The amphipod Paramoera mohri did show a clear summer peak in numbers. However, for some community groups response differed according to strata. At the cobble site oligochaetes were more numerous in winter at lower strata. However, they were more numerous in winter in lower strata. In some groups different species varied in patterns of abundance. At the cobble habitat the polychaete Onuphis sp. had a peak in numbers in summer while Thelepus crispus had greater numbers in winter.

Seasonal changes then appear to be more complex than the general pattern and must be examined on a species by species basis.

#### 4.3 Evaluation of Sample Methods

As the data on coefficients of variability showed, the sampling procedures used in this study resulted in data with relatively high variability. Such is the difficulty of community analysis studies in the intertidal and shallow subtidal. These communities have a high degree of variability due primarily to variable environmental conditions. Limits of time and money restrict such community studies to basically a descriptive level. Any statistical comparison must take into account the high variability of the data so as to not lead to erroneous conclusions.

For one species at least, the sample size used was inadequate. At both the gravel and cobble sites the bull kelp Nereocystis was commonly observed. However, this species was not sampled at either habitat. Sample size was too small. Other subtidal macroalgae may also have been inadequately sampled for this reason.

Another probable sampling error was the procedure followed for sampling the cobble site intertidally. The procedure required the removal from top, sides and bottoms of cobbles organisms in 5, 0.01m<sup>2</sup> areas. It was extremely difficult under field conditions to accurately determine boundaries of the 5 subsample areas.

#### 4.4 Comparison with Other Areas

Similar intertidal and shallow subtidal community analysis have been done in recent years in other areas of Puget Sound. Nyblade (1978) studied areas along the Strait of Juan de Fuca, and Webber and Smith (1978) studied areas in Rosario Channel and southern Georgia Strait.

A summary of data on species richness, number of individuals and biomass for cobble, sand, and gravel habitats is given in Tables 21 through 23.

#### 4.4.1 Sand Habitat

Sand sites compared include North Beach Sand and Kydaka from the Strait of Juan de Fuca, West Beach on Whidbey Island and Birch Bay on southern Georgia Strait (Table 21).

Species richness intertidally at these sites is apparently affected by the degree of exposure. West Beach, North Beach Sand, and Kydaka are all exposed and have relatively low but similar species richness. Birch Bay, which is more protected, had relatively greater species richness. West Beach had the lowest species richness. As well as greater species richness, Birch Bay had greater numbers of individuals and biomass than the other three sites.

At all sand sites species number increased with decrease in tide height. This pattern was least evident at Birch Bay.

Subtidally species richness at West Beach and Kydaka were similar, but that of North Beach Sand was relatively higher and was more similar to the species richness of gravel and cobble habitats (Tables 22, 23).

Mean numbers of individuals, however, were similar between North Beach Sand and West Beach Sand. Kydaka had relatively lower mean numbers.

Kydaka also showed the lowest mean biomass of the three sites.

#### 4.4.2 Cobble Habitat

Cobble habitats compared included Morse Creek and North Beach from the Strait of Juan de Fuca, Shannon Point, near Anacortes, and Partridge Point on Whidbey Island (Table 22). All cobble habitats showed greater species richness intertidally than the sand or gravel habitats. At all cobble habitats there was an increase in species number with decrease in tide height. There was no clear pattern of dominance in species number comparing cobble habitats. The highest number of species (149) was noted at Morse Creek at the 0.0' stratum. However, at the +1' stratum the highest number of species was found at Shannon Point (116). At the +4.0' stratum, Shannon Point and Partridge Point had a greater number of species than did Morse Creek or North Beach. In general Shannon Point had the greatest number of species through the intertidal range.

When numbers of individuals are compared, however, Morse Creek and North Beach had greater numbers of individuals per  $0.25\text{m}^2$  at most strata than Shannon Point or Partridge Point. (Except the 0.0' strata where Partridge Point had the greatest number of individuals per  $0.25\text{m}^2$ .)

When biomass is examined, at the lower strata Partridge Point and Shannon Point had greater biomass per  $0.25\text{m}^2$  than Morse Creek and North Beach.



Table 21

Comparison of Sand Sites. North Beach Sand, Kydaka Beach - Strait of Juan de Fuca. West Beach - Whidbey Island. Birch Bay - Southern Georgia Strait.

per 0.25m<sup>2</sup>

Elevation	North Beach Sand (moderate exposure)			Kydaka Beach (exposed)			West Beach (moderate exposure)			Birch Bay (moderate protected)		
	# of species	# of individuals	biomass	# of species	# of individuals	biomass	# of species	# of individuals	biomass	# of species	# of individuals	biomass
+ 7.0 '	4	67	2	3	7	1						
+ 6.0 '	9	52	4	6	12	1.2	5	50	0.3			
+ 5.0 '	4	130	2	3	10	1	5	94	0	28	71	28
+ 4.0 '	7	37	3	3	10	1	1	30	0	32	78	31
+ 3.0 '	10	132	5	14	140	3	7	200	0	38	58	35
+ 2.0 '	11	1678	9	3	72	1	2	334	0.5	39	60	36
+ 1.0 '	9	887	6	7	25	2	0	355	0.2	40	112	39
0.0 '	18	298	8	11	12	3	8	9870	24	37	60	37
- 1.0 '							2	6339	11	38	125	37
- 5.0 m	163	1324	97	51	575	13	45	1700	25			
- 10.0 m	109	1470	15	53	1142	13	64	2200	56			

Table 22

Comparison of Cobble Sites. North Beach, Morse Creek - Strait of Juan de Fuca.  
Partridge Point - Whidbey Island. Shannon Point - Anacortes.

per 0.25m<sup>2</sup>

Elevation	North Beach (moderate exposure)			Morse Creek (moderate exposure)			Partridge Point (exposed)			Shannon Point (moderate exposure)		
	# of species	# of indiv- iduals	biomass	# of species	# of indiv- iduals	biomass	# of species	# of indiv- iduals	biomass	# of species	# of indiv- iduals	biomass
+ 7.0 '	8	45	1	6	101	0.5				20	400	50
+ 6.0 '	25	176	5	5	2167	1.0	13	31	0.7	35	700	150
+ 5.0 '	44	3432	138	9	842	10	20	658	16	43	1100	180
+ 4.0 '	23	1714	30	41	6844	104	55	6404	328	58	975	175
+ 3.0 '	54	13,387	591	62	6514	142	51	4128	199	70	1000	180
+ 2.0 '	49	9835	218	51	9096	223	66	2623	243	114	1050	630
+ 1.0 '	75	12,928	223	70	2981	328	64	1952	807	116	750	350
+ 0.0 '	78	2109	43	149	6950	1016	102	7749	1239	118	900	200
- 1.0 '							106	13,252	1406	45	1100	100
- 5.0 '				74	373	26	81	1805	140			
- 10.0 '				149	2215	9	101	962	128			

Table 23

Comparison of Gravel Sites. Dungeness Spit, Twin Rivers - Strait of Juan de Fuca.  
 Ebey's Landing - Whidbey Island. Lego Bay - Lummi Island.  
 per 0.25m<sup>2</sup>

Elevation	Dungeness Spit (exposed)			Twin Rivers (exposed)			Ebey's Landing (exposed)			Lego Bay (moderate exposure)		
	# of species	# of indiv- iduals	biomass	# of species	# of indiv- iduals	biomass	# of species	# of indiv- iduals	biomass	# of species	# of indiv- iduals	biomass
+ 7.0 '	2	10	1	2	30	1						
+ 6.0 '	6	15	3	4	76	2	6	50	0	13	175	4
+ 5.0 '	2	57	1	2	100	1	4	94	0	23	200	5
+ 4.0 '	3	10	1	3	227	1	3	30	0	13	200	13
+ 3.0 '	4	91	2	4	267	2	7	199	0.1	18	700	10
+ 2.0 '	2	520	1	2	27	1	5	334	0.4	18	900	13
+ 1.0 '	2	10	1	4	12	2	6	355	0.2	18	1800	28
+ 0.0 '	2	3	1	7	109	3	14	9970	24	14	600	16
- 1.0 '							13	6339	11	23	450	17
- 5.0 '	30	71	7	139	1320	5	83	1585	141			
- 10.0 '	90	957	34	65	1523	2	107	1483	386			

Since both Morse Creek and North Beach had greater numbers of individuals at the strata the size of organisms must have been relatively small at these habitats.

At the higher strata intertidally (+5.0' to +7.0') Shannon Point had greater biomass than the other cobble habitats. Since Morse Creek and North Beach had greater numbers of individuals at these strata, again the size of organisms must have been relatively small.

Subtidally at the cobble habitats of Morse Creek and Partridge Point there was no clear pattern of dominance in species number, number of individuals or biomass. At -5.0m Partridge Point had a greater number of species and individuals and greater biomass. At -10m Morse Creek had a greater number of species and individuals but lower biomass than Partridge Point. The size of organisms at Morse Creek must have been relatively small at this stratum.

#### 4.4.3 Gravel Habitat

Gravel sites compared included Dungeness Spit and Twin Rivers on the Strait of Juan de Fuca, Ebey's Landing on Whidbey Island and Legoe Bay on the Northwest side of Lummi Island (Table 23).

Intertidally species richness was relatively low. Of the sites Legoe Bay showed the greatest species richness with up to 23 species taken at the +5.0' stratum. Except for Ebey's Landing where the amphipod Paramoera mohri was so common, the numbers of individuals and biomass generally followed species richness. Legoe Bay had generally the greatest number of individuals and biomass per stratum.

There was no clear pattern of change in species numbers with change in tide height at any of the gravel habitats except Ebey's Landing where there was an increase in species richness at the 0.0' and -1.0' strata.

Subtidally there was no clear patterns of change in species richness, numbers of individuals or biomass at -5.0m and -10m at the three gravel sites: at the -5.0m stratum, Twin Rivers had the greatest number of species and individuals, but lowest biomass indicating relatively small organisms. At the -10.0m Ebey's Landing had the highest species number, number of individuals and biomass.

Species richness, numbers of individuals and biomass subtidally at the gravel habitat were similar to that of the cobble habitats.

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### Appendix 1

Species list, number of species (NSPEC), species diversity index (SDI), total mean count (TMEANC), and total mean weight (TMEANW), for each Site, Season and Stratum. Values are numbers and biomass per 0.25m<sup>2</sup> for animals, and biomass per 0.25m<sup>2</sup> for plants. Data for all collection methods (except live seive) were recombined to a 0.25m<sup>2</sup> format. Standard deviations are products of each collection method. The Coefficient of Variability is the standard deviation divided by the mean.



## WEST BEACH

SPRING 77

6FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		CCUNT			WEIGHT	
PHODOPHYTA DETRITUS	0.00	0.00	0.00	0.02	0.03	1.27
CAPITELLIDAE	1.00	2.24	2.24	0.00	0.00	0.00
PSEPHIDIA LORDI	1.00	2.24	2.24	0.00	0.00	0.00
ARCHAEOMYSIS GREBNITZ	5.00	5.00	1.00	0.02	0.04	2.24

NSPEC  
4.00

SDI  
1.55

TMEANC  
7.00

TMEANW  
0.04

## WEST BEACH

## SPRING 77

## 3FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
RHODOPHYTA DETRITUS	0.00	0.00	0.00	0.19	0.25	1.35
NEMERTEA	7.00	5.70	0.81	0.00	0.00	0.00
PARAMOERA MOHRI	4.00	5.48	1.37	0.02	0.04	2.24
ORCHESTOIDEA PUGETTEN	2.00	2.74	1.37	0.05	0.07	1.42
FISH EGG	1.00	2.24	2.24	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
5.00	2.11	14.00	0.25

## WEST BEACH

SPRING 77

OFT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
RHODOPHYTA DETRITUS	0.00	0.00	0.00	0.15	0.22	1.48
ZOSTERA MARINA	0.00	0.00	0.00	0.02	0.04	2.24
PSEPHIDIA LORDI	1.00	2.24	2.24	0.02	0.04	2.24
ORCHESTOIDEA PUGETTEN	4.00	4.18	1.05	0.03	0.04	1.09

NSPEC	SDI	TMEANC	TMEANW
4.00	1.33	5.00	0.22

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
RHYNCHOCOELA	1.67	2.89	1.73	0.03	0.05	1.73
CEREBRATULUS CALIFORN	3.33	2.89	0.87	0.08	0.10	1.31
PHYLLODOCE MEDIPAPILL	1.67	2.89	1.73	0.30	0.51	1.73
GLYCIDOE PICTA	8.33	2.99	0.35	0.37	0.24	0.63
LUMBRINERIS ZONATA	3.33	5.77	1.73	0.98	1.66	1.70
SCOLOPLOS ARMIGER	1.67	2.89	1.73	0.06	0.07	1.20
ADNIDES SP.	3.33	2.89	0.87	0.01	0.07	1.73
ARMANDIA BREVIS	1.67	2.89	1.73	0.03	0.05	1.73
ENCHYTRAEIDAE	1.67	2.89	1.73	0.01	0.02	1.73
MYSELLA TUMIDA	3.33	2.89	0.87	0.01	0.02	1.73
TPELLINA MODESTA	1.67	2.89	1.73	0.05	0.08	1.73
PSEPHIDIA LORDI	16.67	7.64	0.46	0.09	0.05	0.56
DIASTYLOPSIS SP.	40.00	26.46	0.66	0.17	0.14	0.83
GNORIMOSPHEROMA DREG	1.67	2.89	1.73	0.01	0.02	1.73
AMPHIPODA GAMMARIDAE	3.33	2.89	0.87	0.03	0.07	0.87
FOHAUSTOPIUS WASHINGT	10.00	10.00	1.00	0.04	0.05	1.04
PARAPHOXUS ARRONIUS-	156.67	31.75	0.20	0.98	0.46	0.47
PARAPHOXUS SPINOSUS	21.67	20.21	0.93	0.71	0.84	1.18

NSPEC	SDI	TMEANC	TMEANW
18.00	2.60	281.67	3.97

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
POLYCHAETA	273.33	473.43	1.73	0.01	0.02	1.73
NEREIS SP.	0.00	0.00	0.00	0.03	0.05	1.73
GLYCIDAE PICTA	6.67	2.89	0.43	0.31	0.38	1.24
SCOLOPIOS ARMIGER	11.67	5.77	0.49	0.09	0.05	0.56
SPIROPHANES ROMBYX	26.67	14.43	0.54	0.36	0.29	0.81
MALACOCERES GLUTAEUS	23.33	36.17	1.55	0.13	0.19	1.47
NUCULANA HAMATA	1.67	2.89	1.73	0.00	0.00	0.00
MYSELLA TUMIDA	1.67	2.89	1.73	0.00	0.00	0.00
CLINOCARDIUM NUTTALLI	1.67	2.89	1.73	0.06	0.11	1.73
TELLINA MODESTA	3.33	2.89	0.37	0.23	0.40	1.73
PSEPHIDIA LORDI	23.33	28.43	1.22	0.35	0.57	1.63
NERALIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
DIASTYLIS SP.	8.33	14.43	1.73	0.05	0.08	1.73
DIASTYLOPSIS SP.	10.00	17.32	1.73	0.05	0.08	1.73
LEPTOSTYLIS SP.	30.00	39.63	1.32	0.14	0.18	1.23
LEPTOCHELIA SAVIGNYI	1.67	2.89	1.73	0.00	0.00	0.00
SYNIDOTEA BICUSPIDA	5.00	8.66	1.73	0.05	0.08	1.73
AMPELISCA AGASSIZI	10.00	17.32	1.73	0.03	0.05	1.73
ATYLUS COLLINGI	3.33	2.89	0.87	0.06	0.07	1.20
AMPHIPODA GAMMARIDAE	96.67	142.24	1.47	0.13	0.11	0.87
PHOTIS SP.	30.00	22.91	0.76	0.09	0.05	0.56
HIPPOMEDON DENTICULAT	3.33	2.89	0.87	0.04	0.05	1.04
SYNCHELIDIUM SHOEMAKE	1.67	2.89	1.73	0.01	0.02	1.73
PARAPHOXUS SP. B	401.67	143.64	0.36	2.08	1.06	0.51
PARAPHOXUS SPINDSUS	10.00	8.66	0.87	0.17	0.15	0.88
TIPON SP.	11.67	10.41	0.89	0.24	0.22	0.92

NSPEC	SDI	TMEANC	TMEANW
26.00	2.48	998.33	4.71

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
RHYNCHOCELA	11.67	5.77	0.49	0.06	0.03	0.51
CERBRATULUS CALIFORN	11.67	5.77	0.49	0.08	0.07	0.93
POLYNOIDAE	1.67	2.89	1.73	0.01	0.02	1.73
PHOLOE MINUTA	48.33	40.10	0.83	0.57	0.55	0.96
PHYLLODOCE GROENLANDI	3.33	2.89	0.87	0.04	0.05	1.04
NEPHYTYS FERRUGINEA	8.33	5.77	0.69	0.14	0.13	0.94
GLYCINDE SP.	5.00	8.66	1.73	0.01	0.02	1.73
GLYCINDE PICTA	20.00	18.03	0.90	0.28	0.24	0.87
GONIADA BRUNNEA	1.67	2.89	1.73	0.00	0.00	0.00
GNUPHIS CONCHYLEGA	1.67	2.89	1.73	1.35	2.33	1.73
GNUPHIS ELEGANS	28.33	44.81	1.58	0.83	1.44	1.73
LUMBRINERIS ZONATA	10.00	17.32	1.73	0.11	0.20	1.73
LUMBRINERIS INFLATA	1.67	2.89	1.73	0.05	0.08	1.73
NAINERRIS LAEVIGATA	1.67	2.89	1.73	0.01	0.02	1.73
SCOLOPLOS ARMIGER	33.33	35.12	1.05	2.35	3.64	1.55
ORBINIA MICHAELSENT	1.67	2.89	1.73	0.60	1.03	1.73
SPIONIDAE	1.67	2.89	1.73	0.01	0.02	1.73
PRIONOSPION CIRRIFFERA	3.33	5.77	1.73	0.00	0.00	0.00
SPIOPHANES BOMBYX	10.00	13.23	1.32	0.03	0.05	1.73
CAULLERIELLA GRACILIS	1.67	2.89	1.73	0.00	0.00	0.00
SCALIBREGMA INFLATUM	15.00	15.00	1.00	0.16	0.20	1.28
ARMANDIA BREVIS	8.33	7.64	0.97	0.04	0.05	1.04
CAPITELLA CAPITATA	5.00	0.00	0.00	0.00	0.00	0.00
MEDIOMASTUS SP.	8.33	14.43	1.73	0.01	0.02	1.73
PRAXILLELLA AFFINIS P	3.33	5.77	1.73	0.01	0.02	1.73
OWENIA FUSIFORMIS	6.67	11.55	1.73	0.01	0.02	1.73
GOOSTOMIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
NUCULA TENUIS	3.33	5.77	1.73	0.05	0.08	1.73
NUCULANA HAMATA	11.67	12.58	1.08	0.16	0.20	1.28
YOLDIA MYALIS	5.00	8.66	1.73	1.08	1.88	1.73
AXINOPSIDA SERRICATA	18.33	31.75	1.73	0.30	0.00	0.00
MYSELLIA TUMIDA	103.33	85.05	0.87	0.29	0.26	0.91
CLINOCARDIUM NUTTALLI	8.33	14.43	1.73	0.05	0.08	1.73
TELLINA MODESTA	33.33	17.56	0.53	0.20	0.09	0.47
PSEPHIDIA LORDI	273.33	177.51	0.65	2.13	1.33	0.62
OSTRACODA	3.33	2.89	0.87	0.00	0.00	0.00
DIASTYLOPSIS SP.	8.33	5.77	0.69	0.06	0.03	0.51
LEPTOCHELIA SAVIGNYI	66.67	90.74	1.36	0.08	0.10	1.31
AMPELISCA AGASSIZI	13.33	2.89	0.27	0.07	0.03	0.39
PHOTIS SP.	6.67	7.64	1.15	0.03	0.02	0.87
SYNCHLIDIUM SHOEMAKE	1.67	2.89	1.73	0.01	0.02	1.73
PAPAPHOXUS SP. B	125.00	62.45	0.50	0.31	0.20	0.66
BRACHYURA	11.67	12.58	1.08	0.00	0.00	0.00
PINNIXA OCCIDENTALIS	15.00	21.79	1.45	0.05	0.08	1.73
OPHIUROIDEA	85.00	86.75	1.02	16.03	4.14	0.26

NSPEC	SDI	TMEANC	TMEANW
45.00	3.57	1048.33	27.35

## WEST BEACH

SUMMER 77

6FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
NEMERTEA	3.00	6.71	2.24	0.00	0.00	0.00
CLIGOCHEFTA	2.00	2.74	1.37	0.00	0.00	0.00
LACUNA VARIEGATA	1.00	2.24	2.24	0.00	0.00	0.00
PARALIORCHESTES DCHOT	2.00	4.47	2.24	0.01	0.02	2.24
EGG MASSES	1.00	2.24	2.24	0.00	0.00	0.00

NSPEC	SDI	TMFANC	TMEANW
5.00	1.68	9.00	0.01

## WEST BEACH

SUMMER 77

5FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NEMERTEA	6.67	11.55	1.73	0.00	0.00	0.00
IDOTEA SP.	1.67	2.89	1.73	0.01	0.02	1.73
ADROIDES COLUMBIAE	1.67	2.89	1.73	0.00	0.00	0.00
PARAMOERA MOHRI	1.67	2.89	1.73	0.00	0.00	0.00
HYALE FREQUENS	1.67	2.89	1.73	0.00	0.00	0.00
PARALLORCHESTES OCHOT	1.67	2.89	1.73	0.00	0.00	0.00
PHOTIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
PUGETTIA GRACILIS	1.67	2.89	1.73	0.00	0.00	0.00
STAPHYLINIDAE	1.67	2.39	1.73	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
9.03	2.02	20.00	0.01



WEST BEACH

SUMMER 77

4FT

PAGE 1

MEAN

S.D.

CVAR

MEAN

S.D.

CVAR

COUNT

WEIGHT

PSEPHIDIA LORDI  
PARAMOERA MOHRI

1.67

2.89

1.73

0.00

0.00

0.00

1.67

2.89

1.73

0.00

0.00

0.00

NSPEC  
2.00

SDI  
0.69

TMFANC  
3.33

TMEANW  
0.00

## WEST BEACH

SUMMER 77

3FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NEMERTEA	6.00	8.94	1.49	0.00	0.00	0.00
NEMATODA	1.00	2.24	2.24	0.00	0.00	0.00
SACCOCIRRUS EROTICUS	3.00	6.71	2.24	0.00	0.00	0.00
LACUNA VARIEGATA	1.00	2.24	2.24	0.00	0.00	0.00
CHTHAMALUS DALLI	1.00	2.24	2.24	0.01	0.02	2.24
ARCHAEOMYSIS GREBNITZ	1.00	2.24	2.24	0.01	0.02	2.24
IDOTEA SP.	3.00	4.47	1.49	0.00	0.00	0.00
PAPANOERA MOHRI	4.00	6.52	1.63	0.01	0.02	2.24
HYALE FREQUENS	2.00	4.47	2.24	0.00	0.00	0.00
CARABIDAE	1.00	2.24	2.24	0.01	0.02	2.24

NSPEC	SDI	TMFANC	TMEANW
10.00	2.43	23.00	0.03

## WEST BEACH

SUMMER 77

2FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
ZOSTERA MARINA	1.67	2.89	1.73	0.00	0.00	0.00
HYDROCOLOID	1.67	2.89	1.73	0.00	0.00	0.00
SACCOCIRRUS EROTICUS	5.00	8.66	1.73	0.00	0.00	0.00
POLYCHAETA	1.67	2.89	1.73	0.00	0.00	0.00
NSPEC	SDI	TMEANC	TMEANW			
4.00	1.24	10.00	0.00			

No species taken.

## WEST BEACH

SUMMER 77

OFT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
PHYLLODOCE SP.	1.00	2.24	2.24	0.00	0.00	0.00
NEREIS SP.	1.00	2.24	2.24	0.65	1.45	2.24
ARCHAFOMYSIS GREBNITZ	7.00	5.70	0.81	0.03	0.04	1.09
PARAMOERA MOHRI	1.00	2.24	2.24	0.00	0.00	0.00
PHOXOCEPHALIDAE	1.00	2.24	2.24	0.00	0.00	0.00
INSECTA	1.00	2.24	2.24	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
6.00	2.09	12.00	0.68

## WEST BEACH

SUMMER 77

-1FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		CCUNT			WEIGHT	
CHAETOZONE SP.	1.67	2.89	1.73	0.00	0.00	0.00
PSEPHIDIA LORDI	1.67	2.89	1.73	0.00	0.00	0.00
ARCHAEMYDIA GREBNITZ	20.00	20.00	1.00	0.09	0.08	0.87
HAUSTORIIDAE	1.67	2.89	1.73	0.00	0.00	0.00

NSPEC	SDI	TMFANC	TMEANW
4.00	1.23	25.00	0.09

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT		WEIGHT		
ENTEROMORPHA SP.	0.00	0.00	0.00	0.06	0.11	1.73
ULVA LACTUCA	0.00	0.00	0.00	0.10	0.18	1.73
PROTODORVILLEA GRACIL	1.67	2.89	1.73	0.00	0.00	0.00
PARANIS LYRA	6.67	5.77	0.87	0.00	0.00	0.00
SPIOPHANES BCMBYX	1.67	2.89	1.73	0.00	0.00	0.00
CAPITELLIDAE	1.67	2.89	1.73	0.00	0.00	0.00
MEDICMASTUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
AMPHARETE ARCTICA	1.67	2.89	1.73	0.00	0.00	0.00
PSEPHIDIA LORDI	5.00	5.00	1.00	0.03	0.02	0.87
ACANTHOMYSIS SP.	5.00	8.66	1.73	0.00	0.00	0.00
ARCHAEOMYSIS GREINITZ	6.67	5.77	0.87	0.00	0.09	0.00
LAMPROPS SP.	13.33	10.41	0.78	0.00	0.00	0.00
DIASTYLOPSIS SP.	13.33	12.58	0.94	0.00	0.00	0.00
SPHAEROMATIDAE	1.67	2.89	1.73	0.00	0.00	0.00
EXOSPHAEROMA AMPLICAU	16.67	20.82	1.25	0.01	0.07	1.73
IDOTEA SP.	3.33	2.89	0.87	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	1.67	2.89	1.73	0.00	0.00	0.00
ATYLUS SP.	96.67	158.85	1.64	0.23	0.40	1.73
PONTOGENEIA INERMIS	25.00	13.23	0.53	0.11	0.06	0.54
PONTOGENEIA ROSTRATA	103.33	70.06	0.68	0.29	0.72	0.75
ANISOGAMMARUS PUGETTE	58.33	51.07	0.88	0.55	0.51	0.93
ANISOGAMMARIUS CONFERV	25.00	10.00	0.40	0.17	0.10	0.60
PROTOMEDEIA (CHEIRIME	3.33	5.77	1.73	0.01	0.02	1.73
SYNHELIDIUM SHOEMAKE	15.00	21.79	1.45	0.01	0.02	1.73
PHOXOPHALICAE	15.00	10.00	0.67	0.03	0.02	0.87
CANCER SP. JUV.	1.67	2.89	1.73	0.03	0.05	1.73

NSPEC  
26.00

SDI  
2.97

TMEANC  
425.00

TMEANW  
1.64

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NEMERTEA	3.33	5.77	1.73	0.05	0.08	1.73
NEPHTYS FERRUGINFA	1.67	2.89	1.73	17.75	30.74	1.73
ONUPHIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
SCOLOPLOS ARMIGER	8.33	2.89	0.35	0.11	0.10	0.90
PARACNIS LYRA	106.67	37.53	0.35	0.18	0.06	0.36
SCOLELEPIS FOLIOSA	1.67	2.89	1.73	0.03	0.05	1.73
SPIOPHANES BCMBYX	1.67	2.89	1.73	0.00	0.00	0.00
MYSELLA TUMIDA	1.67	2.89	1.73	0.00	0.00	0.00
PSEPHIDIA LORDI	36.67	28.43	0.78	0.18	0.17	0.96
ARCHAEMYSIS GREBNITZ	21.67	10.41	0.48	0.06	0.07	1.20
DIASTYLOPSIS SP.	90.00	25.98	0.29	0.14	0.09	0.64
AMPHIPODA GAMMARIDEA	1.67	2.89	1.73	0.01	0.02	1.73
PHOXOCEPHALIDAE	450.00	105.83	0.24	3.01	0.60	0.20
CICADELLIDAE	3.33	5.77	1.73	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
14.00	2.31	730.00	21.51



	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
MONOSTROMA FLSCUM	0.00	0.00	0.00	0.14	0.20	1.43
ULVA SP.	0.00	0.00	0.00	0.01	0.02	1.73
RHODOPHYCEAF	0.00	0.00	0.00	0.02	0.03	1.32
PORPHYRA SP.	0.00	0.00	0.00	0.33	0.57	1.73
NECAGARDHIELLA BAILEY	0.00	0.00	0.00	0.06	0.10	1.73
PLUCAMTUM SP.	0.00	0.00	0.00	0.01	0.02	1.73
GRACILARIDOPSIS SP.	0.00	0.00	0.00	0.00	0.01	1.73
CRYPTOPLEURA SP.	0.00	0.00	0.00	0.02	0.04	1.73
HYMENENA SP.	0.00	0.00	0.00	0.26	0.45	1.73
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	0.01	0.01	1.00
ZOSTERA MARINA	0.00	0.00	0.00	1.59	1.42	0.89
PHYLLOSPADIX SCOULEPI	0.00	0.00	0.00	0.56	0.98	1.73
NEMERTEA	11.67	2.89	0.25	0.04	0.05	1.04
NEMATODA	3.33	2.89	0.87	0.00	0.00	0.00
APHRODITOIDEA	1.67	2.89	1.73	0.00	0.00	0.00
HARMOTHOE IMBRICATA	1.67	2.89	1.73	0.00	0.00	0.00
PHYLLODOCE MACULATA	1.67	2.89	1.73	0.00	0.00	0.00
TYPOSYLLIS SP.	3.33	5.77	1.73	0.00	0.00	0.00
NEREIS SP.	3.33	2.89	0.87	0.05	0.08	1.73
PLATYNEREIS BICANALIC	10.00	17.32	1.73	0.40	0.69	1.73
NEPHTYS CAECA	1.67	2.89	1.73	4.08	7.07	1.73
NEPHTYS LONGOSETOSA	1.67	2.89	1.73	0.35	0.60	1.73
NEPHTYS FERRUGINEA	1.67	2.89	1.73	6.65	11.51	1.73
GLYCEPA SP.	1.67	2.89	1.73	0.01	0.02	1.73
GLYCIDINE PICTA	21.67	12.58	0.58	0.32	0.06	0.18
ONUPHIS SP.	16.67	17.56	1.05	2.24	2.27	1.01
LUMBPINEPIS SP.	6.67	7.64	1.15	0.33	0.58	1.73
SCOLOPLOS PUGETTENSIS	20.00	5.00	0.25	0.91	0.24	0.27
ORBINIA FELIX	1.67	2.89	1.73	1.13	1.96	1.73
PAPAONIS LYRA	3.33	2.89	0.87	0.00	0.00	0.00
SPIOPHANES BOMBYX	58.33	22.55	0.39	0.34	0.09	0.25
MALACOCEROS GLUTAFUS	8.33	7.64	0.92	0.03	0.02	0.87
ARMANDIA BREVIS	3.33	5.77	1.73	0.00	0.00	0.00
MEDIOMASTUS SP.	8.33	7.64	0.92	0.03	0.02	0.87
AXIOTHELLA RUBROCTINCT	5.00	5.00	1.00	0.23	0.36	1.58
OWENIA FUSIFORMIS	3.33	2.89	0.87	0.05	0.08	1.73
AMPHARETE ARCTICA	21.67	28.87	1.33	0.03	0.05	1.73
LACUNA SP.	11.67	16.07	1.38	0.01	0.02	1.73
NUCULA TENUIS	1.67	2.89	1.73	0.05	0.08	1.73
CLINOCARDIUM SP. JUV.	3.33	2.89	0.87	0.00	0.00	0.00
TRESIUS CAPAX	1.67	2.89	1.73	0.01	0.02	1.73
TELLINA MODESTA	73.33	47.52	0.65	1.29	1.11	0.86
PSEPHIDIA LORDI	1131.67	390.07	0.34	9.76	3.25	0.33
NEBALIA PUGETTENSIS	1.67	2.89	1.73	0.00	0.00	0.00
DIASTYLIS SP.	3.33	5.77	1.73	0.00	0.00	0.00
DIASTYLOPSIS SP.	18.33	10.41	0.57	0.03	0.02	0.87
LEPTOCHELIA SP.	70.00	82.61	1.18	0.03	0.05	1.73
SYNIDOTEA BICUSPIDA	1.67	2.89	1.73	0.10	0.17	1.73
AMPELISCA SP.	48.33	27.54	0.57	0.48	0.45	0.94
ADRIIDES COLUMBIAE	1.67	2.89	1.73	0.00	0.00	0.00
PONTOGENEIA ROSTRATA	5.00	5.00	1.00	0.00	0.00	0.00
PHOTIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
PROTOMEDEIA (CHEIRIME	748.33	78.16	0.10	0.81	0.13	0.16
ANONYX NUGAX	11.67	16.07	1.38	0.03	0.02	0.87
SYNCHLIDIUM SHOEMAKE	3.33	2.89	0.87	0.00	0.00	0.00

## WEST BEACH

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	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
			COUNT		WEIGHT	
PHOXOCEPHALICAE	535.00	100.37	0.19	1.14	0.23	0.20
DECAPODA JUV.	6.67	5.77	0.87	0.01	0.07	1.73
PAGURUS SP. JUV.	1.67	2.89	1.73	0.00	0.00	0.00
PUGETTIA GRACILIS	1.67	2.89	1.73	0.01	0.07	1.73
CANCER SP. JUV.	5.00	8.66	1.73	0.01	0.02	1.73
OPHIUROIDEA	16.67	16.07	0.95	2.42	2.94	1.21

NSPEC	SD1	TMEANC	TMEANW
61.00	2.89	2976.66	36.42

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT		WEIGHT		
ULOTHRIX SP.	0.00	0.00	0.00	0.05	0.09	1.73
NEOGARDHIELLA RILEY	0.00	0.00	0.00	0.25	0.44	1.73
PLOCAMIIUM SP.	0.00	0.00	0.00	0.06	0.10	1.73
FARLOWIA SP.	0.00	0.00	0.00	0.03	0.09	1.73
ZOSTERA MARINA	0.00	0.00	0.00	0.34	0.59	1.73
NEMERTEA	5.00	0.00	0.00	0.09	0.10	1.02
AMPHIPORUS RIMACULATU	1.67	2.89	1.73	0.00	0.00	0.00
NEMATODA	1.67	2.89	1.73	0.00	0.00	0.00
HARMOTHOF IMBRICATA	6.67	5.77	0.87	0.00	0.00	0.00
PHOLOE MINUTA	15.00	8.66	0.59	0.14	0.13	0.94
PHYLLODOCE SP.	6.67	7.64	1.15	0.39	0.40	1.00
PHYLLODOCE MACULATA	1.67	2.89	1.73	0.01	0.02	1.73
HESIONURA COINEAUI DI	1.67	2.89	1.73	0.00	0.00	0.00
EXOgone SP.	1.67	2.89	1.73	0.00	0.00	0.00
NEREIS SP.	3.33	2.89	0.87	0.06	0.11	1.73
NEPHTYS LONGICSETOSA	3.33	2.89	0.87	0.08	0.10	1.31
GLYCIDAE PICTA	26.67	2.89	0.11	0.43	0.08	0.19
GNUPHIS SP.	33.33	2.89	0.09	12.84	4.99	0.39
LUMBRINERIS SP.	8.33	7.64	0.92	0.16	0.15	0.92
SCOLOPLOS ARMIGER	6.67	5.77	0.87	1.18	2.01	1.70
SCOLOPLOS PUGETTENSIS	10.00	17.37	1.73	0.53	0.92	1.73
CRBINIA FFLIX	5.00	5.00	1.00	2.19	1.93	0.88
ARICIDEA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PARAONIS LYRA	5.00	5.00	1.00	0.00	0.00	0.00
LAONICE CIRRATA	1.67	2.89	1.73	0.10	0.17	1.73
POLYDORA SP.	5.00	8.66	1.73	0.05	0.08	1.73
PRIONOSPID CIRRIFERA	5.00	5.00	1.00	0.00	0.00	0.00
PRIONOSPID STEENSTRUP	1.67	2.89	1.73	0.00	0.00	0.00
SPID FILICORNIS	1.67	2.89	1.73	0.01	0.02	1.73
SPIOPHANES BOMBYX	50.00	25.00	0.50	0.26	0.15	0.60
SPIOPHANES CIRRATA	1.67	2.89	1.73	0.00	0.00	0.00
MALACOCEROS GLUTAEUS	11.67	5.77	0.49	0.03	0.02	0.87
MAGELONA PITEKAI	1.67	2.89	1.73	0.01	0.02	1.73
CHAETOZONE SP.	1.67	2.89	1.73	0.00	0.00	0.00
SCALIBREGMA INFLATUM	5.00	5.00	1.00	0.11	0.13	1.12
ARMANDIA BREVIS	5.00	5.00	1.00	0.06	0.11	1.73
CAPITELLA CAPITATA	3.33	5.77	1.73	0.00	0.00	0.00
MEDIOMASTIS SP.	31.67	5.77	0.18	0.06	0.03	0.51
AXIOTHELLA RUBROCINCT	15.00	18.03	1.20	0.10	0.13	1.39
QWENIA FUSIFORMIS	5.00	0.00	0.00	0.00	0.00	0.00
PECTINARIA GRANULATA	1.67	2.89	1.73	0.21	0.37	1.73
LACUNA SP.	6.67	5.77	0.87	0.03	0.02	0.87
AMPHISSA SP.	1.67	2.89	1.73	0.01	0.02	1.73
MITRELLA TUBEROSA	1.67	2.89	1.73	0.28	0.48	1.73
NUCULA TENUIIS	18.33	5.77	0.31	0.11	0.08	0.72
YOLDIA MYALIS	1.67	2.89	1.73	0.55	0.95	1.73
AXINOPSIDA SERRICATA	3.33	2.89	0.87	0.18	0.16	0.87
MYSELLA TUMIDA	130.00	70.00	0.54	0.41	0.39	0.96
CLINOCARDIUM SP. JUV.	56.67	25.17	0.44	0.16	0.13	0.80
SOLEN SP.	1.67	2.89	1.73	0.01	0.02	1.73
TELLINA MODESTA	43.33	23.63	0.55	0.64	0.50	0.78
PSEPHIDIA LORDI	2416.67	1073.06	0.44	13.98	3.97	0.78
OSTRACODA	1.67	2.89	1.73	0.00	0.00	0.00
NEBALIA PUGETTENSIS	10.00	5.00	0.50	0.00	0.00	0.00
LAMPROPS SP.	1.67	2.89	1.73	0.00	0.00	0.00

## WEST BEACH

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	MEAN	S.D.	CVAR	MEAN	S.O.	CVAR
		COUNT			WEIGHT	
DIASTYLIS SP.	6.67	5.77	0.87	0.00	0.00	0.00
LEPTOCHELIA SP.	170.00	113.25	0.67	0.11	0.08	0.72
AMPHIPODA GAMMARIDEA	13.33	10.41	0.78	0.01	0.02	1.73
AMPELISCA SP.	5.00	5.00	1.00	0.01	0.02	1.73
PHOTIS SP.	56.67	37.86	0.67	0.01	0.02	1.73
PROTOMEDEIA (CHEIRIME	33.33	35.12	1.05	0.03	0.05	1.73
ANDONYX MUGAX	5.00	8.66	1.73	0.00	0.00	0.00
PHOXOCEPHALICAE	521.67	29.30	0.06	0.68	0.17	0.25
CANCER SP. JUV.	10.00	17.32	1.73	0.03	0.05	1.73
OPHIUROIDEA	45.00	18.03	0.40	5.53	2.48	0.45

NSPEC	SDI	TMEANC	TMEANW
65.00	2.66	3855.00	42.62

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NEMERTEA	11.67	5.77	0.49	0.14	0.05	0.36
HARMOTHOE IMBRICATA	1.67	2.89	1.73	0.01	0.02	1.73
PHOLOE MINUTA	120.00	42.72	0.36	1.27	0.43	0.33
PHYLLODOCE SP.	3.33	2.89	0.87	0.26	0.38	1.44
PHYLLODOCE MACULATA	5.00	5.00	1.00	0.01	0.02	1.73
HESIONURA COINEAUI DI	3.33	5.77	1.73	0.00	0.00	0.00
GYPTIS BREVIPALPA	3.33	2.89	0.87	0.00	0.00	0.00
NEPHTYS LONGOSETOSA	8.33	2.89	0.35	0.39	0.56	1.44
NEPHTYS FERUGINEA	5.00	8.66	1.73	0.10	0.17	1.73
GLYCIDAE PICTA	45.00	25.00	0.55	0.64	0.53	0.82
ONUPHIS SP.	23.33	5.77	0.25	3.18	0.86	0.27
LUMBRINERIS SP.	18.33	2.89	0.16	0.16	0.03	0.18
NAINERIS UNCINATA	1.67	2.89	1.73	0.03	0.05	1.73
SCOLOPLOS ARMIGER	58.33	57.52	0.99	0.95	1.43	1.51
SCOLOPLOS PUGETTENSIS	35.00	56.35	1.61	0.58	1.01	1.73
ORBINIA FELIX	3.33	2.89	0.87	0.14	0.21	1.50
POLYDORA SP.	18.33	5.77	0.31	0.21	0.13	0.61
PRIONOSPIO CIRRIFFERA	51.67	15.28	0.30	0.04	0.00	0.00
PRIONOSPIO PINNATA	1.67	2.89	1.73	0.18	0.31	1.73
PRIONOSPIO STEENSTUP	1.67	2.89	1.73	0.00	0.00	0.00
SPIO FILICORNIS	1.67	2.89	1.73	0.01	0.02	1.73
SPIOPHANES BCMBYX	45.00	17.32	0.39	0.16	0.13	0.80
SPIOPHANES CIRRATA	15.00	13.23	0.89	0.01	0.02	1.73
MALACOCEROS GLUTAEUS	1.67	2.89	1.73	0.00	0.00	0.00
MAGELONA PITELKAI	3.33	2.89	0.87	0.03	0.05	1.73
CHAETAZONE SP.	1.67	2.89	1.73	0.01	0.02	1.73
SCALIRPEGMA INFLATUM	1.67	2.89	1.73	0.06	0.11	1.73
ARMANDIA BREVIS	6.67	2.89	0.43	0.04	0.05	1.04
MEDIOMASTUS SP.	45.00	15.00	0.33	0.07	0.03	0.39
AXIOHELLA RUBROINCT	6.67	7.64	1.15	0.01	0.02	1.73
OWENIA FUSIFORMIS	16.67	11.55	0.69	0.03	0.02	0.87
AMPHARTE ARCTICA	1.67	2.89	1.73	0.00	0.00	0.00
POLYCIRRUS KERGUELENS	3.33	5.77	1.73	0.03	0.05	1.73
AMPHISSA SP.	1.67	2.89	1.73	0.00	0.00	0.00
MITRELLA TUBEROSA	8.33	7.64	0.92	0.18	0.23	1.32
NUCULA TENUIS	51.67	15.28	0.30	0.71	0.20	0.28
NUCULANA HAMATA	1.67	2.89	1.73	0.08	0.14	1.73
YOLDIA MYALIS	1.67	2.89	1.73	0.00	0.00	0.00
AXINOPSIDA SERRICATA	51.67	28.43	0.55	1.44	0.69	0.48
MYSELLA TUMIDA	201.67	107.28	0.53	0.64	0.39	0.61
CLINOCARDIUM SP. JUV.	61.67	37.86	0.61	0.22	0.28	1.23
MACOMA NASUTA	1.67	2.89	1.73	0.01	0.02	1.73
TELLINA MODESTA	45.00	10.00	0.22	0.49	0.09	0.18
PSEPHIDIA LORDI	2131.67	358.13	0.17	15.04	5.23	0.35
OSTRACODA	1.67	2.89	1.73	0.00	0.00	0.00
NEBALIA PUGETTENSIS	10.00	5.00	0.50	0.01	0.02	1.73
ACANTHOMYSIS SP.	1.67	2.89	1.73	0.01	0.02	1.73
LEPTOCHELIA SP.	65.00	21.79	0.34	0.04	0.00	0.00
AMPELISCA SP.	26.67	37.86	1.42	0.11	0.16	1.43
CALLIOPIUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
PHOTIS SP.	48.33	34.03	0.70	0.03	0.02	0.87
PROTOMEDEIA (CHEIRIME)	21.67	29.30	1.35	0.01	0.02	1.73
LYSIANASSIDAE	3.33	5.77	1.73	0.01	0.02	1.73
ANDONYX NUGAX	3.33	5.77	1.73	0.00	0.00	0.00
PHOXOCEPHALIDAE	690.00	120.10	0.17	0.97	0.15	0.16

## WEST BEACH

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	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
PINNIXA OCCIDENTALIS	5.00	5.00	1.00	0.05	0.08	1.73
HEMIGRAPSUS OREGONENS	1.67	2.89	1.73	0.00	0.00	0.00
OPHIUROIDEA	413.33	119.30	0.29	75.59	23.02	0.30
EUPENTACTA QUINQUESEM	1.67	2.89	1.73	0.00	0.00	0.00

NSPEC	SDI	TMFANC	TMEANW
59.00	3.11	4423.37	104.43

	MEAN	S.O.	CVAR	MEAN	S.D.	CVAR
		CCUNT			WEIGHT	
NEMERTEA	2.00	4.47	2.24	0.00	0.00	0.00
LACUNA VARIEGATA	13.00	15.65	1.20	0.07	0.07	1.02
NUCELLA LAMELLOSA	1.00	2.24	2.24	4.94	11.04	2.24
IDOTEA SP.	1.00	2.24	2.24	0.00	0.00	0.00
OPCHESTOIDEA	13.00	13.51	1.04	0.10	0.14	1.34
STAPHYLINIDAE	3.00	4.47	1.49	0.00	0.00	0.00
DIPTERA SP.	1.00	2.24	2.24	0.00	0.00	0.00
TACHINIDAE	1.00	2.24	2.24	0.00	0.00	0.00
ECTOPROCTA	0.00	0.00	0.00	0.04	0.08	2.24
FISH EGG	1.00	2.24	2.24	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
10.00	2.45	36.00	5.15

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
NEMERTEA	16.00	12.45	0.78	0.00	0.00	0.00
EXOGONE SP.	1.00	2.24	2.24	0.00	0.00	0.00
HEMIPODUS BOREALIS	1.00	2.24	2.24	0.01	0.02	2.24
PARAONIS SP.	1.00	2.24	2.24	0.00	0.00	0.00
CLIGOCHAETA	8.00	7.58	0.95	0.00	0.00	0.00
LACUNA VARIEGATA	15.00	15.00	1.00	0.07	0.10	1.35
DIASTYLOPSIS SP.	1.00	2.24	2.24	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	1.00	2.24	2.24	0.00	0.00	0.00
PARAMOERA SP.	9.00	6.52	0.72	0.02	0.02	1.37
MELITA SP.	2.00	4.47	2.24	0.01	0.02	2.24
HYALE SP.	1.00	2.24	2.24	0.00	0.00	0.00
PHOTIS SP.	1.00	2.24	2.24	0.00	0.00	0.00
ORCHESTOIDEA	9.00	6.52	0.72	0.10	0.11	1.09
HEPTACARPIUS SP.	1.00	2.24	2.24	0.01	0.02	2.24
CANCER SP.	1.00	2.24	2.24	0.42	0.93	2.24

NSPEC	SDI	TMEANC	TMEANW
15.00	3.20	68.00	0.63



	WFST BEACH	FALL	77	OFT	PAGE	1
	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NEMERTEA	17.00	29.92	1.76	0.01	0.07	2.74
NEMATODA	2.00	4.47	2.24	0.00	0.00	0.00
HESIONURA COINEAUI DI	8.00	17.89	2.24	0.00	0.00	0.00
TYPOSYLLIS SP.	2.00	6.71	2.24	0.00	0.00	0.00
EXOZONE SP.	2.00	2.74	1.37	0.01	0.02	2.24
SPHAEROSYLLIS PIRIFER	2.00	4.47	2.24	0.00	0.00	0.00
NEREIS VEXILLOSA	1.00	2.24	2.24	0.47	1.05	2.24
GNUPHIS SP.	2.00	4.47	2.24	0.02	0.04	2.24
PROTODORVILLEA GRACIL	129.00	285.67	2.21	0.02	0.04	2.24
MALACOCEROS GLUTAEUS	1.00	2.24	2.24	0.00	0.00	0.00
ARMANOIA BREVIS	4.00	6.57	1.63	0.00	0.00	0.00
MALDANIDAE	1.00	2.24	2.24	0.00	0.00	0.00
SACCOCIRRUS FROTICUS	22.00	49.19	2.24	0.01	0.02	2.24
CLIGOCHAETA	33.00	73.79	2.24	0.01	0.02	2.24
LACUNA VARIEGATA	20.00	13.23	0.66	0.13	0.13	0.96
DIASTYLOPSIS SP.	1.00	2.24	2.24	0.00	0.00	0.00
GNORIMOSPHAEROMA SP.	21.00	24.60	1.17	0.03	0.06	2.24
EXOSPHAEROMA AMPLICAU	1.00	2.24	2.24	0.01	0.02	2.24
AMPHIPODA GAMMARIDEA	1.00	2.24	2.24	0.01	0.02	2.24
PARAMOERA SP.	660.00	907.08	1.37	1.45	1.98	1.37
PINNIXA SP.	1.00	2.24	2.24	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
21.00	1.72	932.00	2.16

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NEHERTEA	3.33	5.77	1.73	0.03	0.05	1.73
NEMATODA	1.67	2.89	1.73	0.00	0.00	0.00
NEPHYS CAECA	1.67	2.89	1.73	0.50	0.87	1.73
GLYCINDE PICTA	1.67	2.89	1.73	0.01	0.02	1.73
SCOLOPLOS ARMIGER	1.67	2.89	1.73	0.03	0.05	1.73
PARANIS LYRA	1.67	2.89	1.73	0.00	0.00	0.00
TRIONIDAE	1.67	2.89	1.73	0.03	0.05	1.73
SCOLIEPIS FOIOSA	6.67	7.64	1.15	0.14	0.21	1.50
SPIOPHANES BOMBYX	3.33	2.89	0.87	0.00	0.00	0.00
MALACOCERPOS GLUTAFUS	1.67	2.89	1.73	0.00	0.00	0.00
MALDANIDAE	1.67	2.89	1.73	0.01	0.02	1.73
GWENIA FUSIFORMIS	1.67	2.89	1.73	0.00	0.00	0.00
CLINOCARDIUM CILIATUM	1.67	2.89	1.73	0.01	0.02	1.73
PSEPHIDIA LORDI	85.00	10.00	0.12	1.06	0.03	0.03
GUMACEA	1.67	2.89	1.73	0.00	0.00	0.00
LAMPROPIDAE	1.67	2.89	1.73	0.00	0.00	0.00
DIASTYLOPSIS SP.	126.67	72.86	0.59	0.67	0.42	0.62
IDOTEA ACULEATA	1.67	2.89	1.73	0.03	0.05	1.73
AMPHIPODA GAMMARIDEA	1.67	2.89	1.73	0.00	0.00	0.00
AMPELISCA SP.	236.67	405.60	1.71	0.85	1.47	1.73
ATYLUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
SYNCHELIIDIUM SHOEMAKE	25.67	10.41	0.39	0.01	0.02	1.73
PHOXOCEPHALIDAE	296.67	260.83	0.88	0.96	0.84	0.88
OPHIUROIDEA (AMPHIURI	1.67	2.89	1.73	0.23	0.40	1.73
DENDRASTER EXCENTRICU	1.67	2.89	1.73	138.48	239.85	1.73

NSPEC	SDI	TMEANC	TMEANW
25.00	2.24	913.33	143.06

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
NEMERTEA	5.00	5.00	1.00	0.03	0.05	1.73
HARMOHDE IMBRICATA	6.67	7.64	1.15	0.04	0.05	1.04
PHOLOE MINUTA	1.67	2.89	1.73	0.00	0.00	0.00
PHYLLODOCE SP.	3.33	2.89	0.87	0.23	0.20	0.89
PHYLLODOCE MACULATA	8.33	5.77	0.69	0.00	0.00	0.00
PTERONE LONGA	1.67	2.89	1.73	0.00	0.00	0.00
MICROPODARKE OURIA	3.33	2.89	0.87	0.00	0.00	0.00
FXOGONE SP.	3.33	2.89	0.87	0.00	0.00	0.00
NEREIS SP.	6.67	7.64	1.15	0.08	0.14	1.73
PLATYNEREIS BICANALIC	20.00	34.64	1.73	0.23	0.40	1.73
NEPHTYS CAECA	5.00	0.00	0.00	5.49	4.28	0.78
GLYCIDAE PICTA	25.00	20.00	0.83	0.16	0.12	0.74
ONUPHIS SP.	43.33	23.63	0.55	11.11	10.17	0.92
LUMBRINEPIS SP.	5.00	5.00	1.00	0.21	0.33	1.57
SCOLOPLOS PUGETTENSIS	28.33	5.77	0.20	1.22	0.60	0.49
CIRRINIA FELIX	1.67	2.89	1.73	0.17	0.29	1.73
AFICIDEA SP.	6.67	7.64	1.15	0.01	0.02	1.73
PARANIS LYRA	1.67	2.89	1.73	0.00	0.00	0.00
POLYDORA SP.	3.33	5.77	1.73	0.01	0.02	1.73
PRIONOSPID CIRRIFERA	3.33	5.77	1.73	0.00	0.00	0.00
SPID FILICORNIS	1.67	2.89	1.73	0.01	0.02	1.73
SPIOPHANES BOMBYX	48.33	35.47	0.73	0.16	0.13	0.80
SPIOPHANES CIRRATA	1.67	2.89	1.73	0.00	0.00	0.00
MALACOCEROS GLUTAEUS	141.67	118.46	0.84	0.18	0.17	0.96
ARMANDIA BREVIS	20.00	13.23	0.66	0.11	0.06	0.54
MEDIOMASTUS AMBISETA	13.33	14.43	1.03	0.01	0.02	1.73
BRANCHIOMALDANE VICEN	1.67	2.89	1.73	0.00	0.00	0.00
MALDANIDAE	1.67	2.89	1.73	0.00	0.00	0.00
OWENIA FUSIFORMIS	18.33	15.28	0.83	0.03	0.05	1.73
AMPHARETE ARCTICA	3.33	5.77	1.73	0.01	0.02	1.73
CLIGOCHAETA	1.67	2.89	1.73	0.00	0.00	0.00
LACUNA SP.	5.00	8.66	1.73	0.01	0.02	1.73
MUCULA TENUIS	6.67	7.64	1.15	0.06	0.07	1.70
MYSELLA TUMIDA	10.00	13.23	1.32	0.01	0.02	1.73
CLINOCARDIUM SP. JUV.	25.00	25.00	1.00	0.30	0.40	1.34
MACOMA SP. JUV.	3.33	5.77	1.73	0.01	0.02	1.73
TELLINA SP.	25.00	8.66	0.35	0.66	0.20	0.31
PSEPHIDIA LORDI	836.67	608.41	0.73	10.79	6.97	0.65
OSTRACODA	1.67	2.89	1.73	0.00	0.00	0.00
NEBALIA PUGETTENSIS	1.67	2.89	1.73	0.00	0.00	0.00
LAMPROPIIDAE	3.33	5.77	1.73	0.00	0.00	0.00
DIASTYLOPSIS SP.	56.67	64.29	1.13	0.24	0.23	0.96
TANAIDACEA SP. A	16.67	28.87	1.73	0.01	0.02	1.73
LEPTOCHELIA SAVIGNYI	193.33	334.86	1.73	0.13	0.23	1.73
AMPHIPODA GAMMARIDEA	6.67	7.64	1.15	0.00	0.00	0.00
AMPELISCA SP.	110.00	177.69	1.62	0.31	0.35	1.11
PONTOGENEIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PHOTIS SP.	8.33	14.43	1.73	0.00	0.00	0.00
PROTOMEDEIA (CHEIRIME	61.67	102.51	1.65	0.05	0.08	1.73
LYSTANASSIDAE	13.33	15.28	1.15	0.01	0.02	1.73
SYNCHLIDIUM SHOEMAKE	3.33	7.89	0.87	0.00	0.00	0.00
PHOXOCEPHALIDAE	145.00	134.26	0.93	0.16	0.15	0.92
PLFUSTRUS SECORRUS	6.67	11.55	1.73	0.00	0.00	0.00
HEPTACARPUS SP. JUV.	5.00	8.66	1.73	0.01	0.02	1.73
PAGURUS SP. JUV.	3.33	5.77	1.73	0.01	0.02	1.73

WEST BEACH

FALL 77

-5.0M

PAGE 2

MEAN

S.D.

CVAR

MEAN

S.O.

CVAR

COUNT

WEIGHT

CANCER SP.

5.00

8.66

1.73

0.43

0.74

1.73

OPHIUROIDEA (AMPHIURI

18.33

7.64

0.47

2.89

2.77

0.96

NSPEC

SDI

TMEANC

TMEANW

57.00

3.12

2010.00

35.63

	WEST BEACH	FALL	77	-10M	PAGE	I
	MEAN	S.O.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
COONTHALIA FLOCCOSA	0.00	0.00	0.00	1.04	1.81	1.73
PHYLLOSPADIX SCOULERI	0.00	0.00	0.00	0.10	0.18	1.73
PLATYHELMINTHES	3.33	5.77	1.73	0.01	0.02	1.73
NEMERTEA	10.00	5.00	0.50	0.15	0.13	0.89
HARMOTHOE IMPRICATA	13.33	10.41	0.79	0.08	0.07	0.93
PHOLOE MINUTA	33.33	23.63	0.71	0.21	0.16	0.78
PHYLLODOCE SP.	1.67	2.89	1.73	0.35	0.60	1.73
PHYLLODOCE MACULATA	18.33	5.77	0.31	0.03	0.02	0.87
ETEONE LONGA	1.67	2.89	1.73	0.01	0.02	1.73
FULALIA SP.	3.33	5.77	1.73	0.00	0.00	0.00
MICROPODARKE DURIA	6.67	2.89	0.43	0.00	0.00	0.00
TYPOSYLLIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
NEREIS SP.	3.33	2.89	0.87	0.04	0.05	1.04
PLATYNEREIS BICANALIS	23.33	16.07	0.69	0.06	0.05	0.87
NEPHTYS CAECA	1.67	2.89	1.73	0.01	0.02	1.73
NEPHTYS LONGOSETOSA	3.33	2.89	0.87	0.38	0.58	1.53
SPHAERODOROPSIS SPHAE	3.33	5.77	1.73	0.00	0.00	0.00
GLYCIDAE PICTA	26.67	25.17	0.94	0.33	0.29	0.88
ONUPHIS SP.	43.33	34.03	0.79	19.33	19.49	0.98
LUMBRINERIS SP.	30.00	10.00	0.33	1.66	2.29	1.38
SCOLOPLOS PUGETTENSIS	76.67	24.66	0.32	1.01	0.46	0.45
CRBINIA FELIX	6.67	7.64	1.15	21.03	36.35	1.73
PAPANIS LYRA	3.33	2.89	0.87	0.00	0.00	0.00
LAONICE CIRRATA	18.33	11.55	0.63	0.87	0.95	1.08
POLYDORA SP.	1.67	2.89	1.73	0.01	0.02	1.73
POLYDORA SOCIALIS	5.00	0.00	0.00	0.03	0.05	1.73
PRIONOSPION CIRRIFERA	13.33	7.64	0.57	0.00	0.00	0.00
PRIONOSPION STEENSTRUP	3.33	2.89	0.87	0.23	0.25	1.10
SPIO FILICORNIS	3.33	2.89	0.87	0.01	0.02	1.73
SPIOPHANES BOMBYX	3.33	2.89	0.87	0.00	0.00	0.00
SPIOPHANES CIRRATA	1.67	2.89	1.73	0.00	0.00	0.00
MALACOCEROS GLUTAEUS	1.67	2.89	1.73	0.00	0.00	0.00
MAGELONA PITELKAI	10.00	5.00	0.50	0.06	0.03	0.51
CHAETAZONE SP.	10.00	0.00	0.00	0.03	0.05	1.73
APMANDIA BREVIS	5.00	8.66	1.73	0.05	0.08	1.73
STERNASPIS SCUTATA	1.67	2.89	1.73	0.26	0.46	1.73
CAPITELLA CAPITATA	1.67	2.89	1.73	0.00	0.00	0.00
MEDIOMASTUS AMBISETA	16.67	14.43	0.87	0.03	0.05	1.73
MALDANIDAE	1.67	2.89	1.73	0.00	0.00	0.00
AXIOHELLA PURROCTINCT	15.00	18.03	1.20	0.19	0.22	1.16
OWENIA FUSIFORMIS	21.67	10.41	0.48	0.01	0.02	1.73
PECTINARIA GRANULATA	10.00	5.00	0.50	0.46	0.76	1.66
AMPHARETE ARCTICA	6.67	2.89	0.43	0.01	0.02	1.73
PISTA SP.	1.67	2.89	1.73	0.05	0.08	1.73
SARCELLIDAE	1.67	2.89	1.73	0.01	0.02	1.73
FLIGOCHAETA	1.67	2.89	1.73	0.00	0.00	0.00
MITRELLA TUBEROSA	5.00	5.00	1.00	0.04	0.05	1.04
CYLICHAENA SP.	1.67	2.89	1.73	0.01	0.02	1.73
GASTROPTERON SP.	6.67	11.55	1.73	0.96	1.67	1.73
NUCULA TENUISS	60.00	21.79	0.35	0.72	0.47	0.65
YOLDIA SCISSURATA	23.33	12.58	0.54	2.51	2.18	0.87
AXINOPSIS SERRICATA	55.00	22.91	0.42	0.79	0.31	0.40
MYSELLA TUMIDA	68.33	18.93	0.28	0.09	0.10	1.02
CLINOCARDIUM SP. JUV.	56.67	12.58	0.22	0.52	0.35	0.68
SOLEN SICARIUS	15.00	5.00	0.33	1.21	0.28	0.24

	MEAN	S.D.	CVAR	MEAN	S.O.	CVAR
		CCUNT			WEIGHT	
MACOMA SP. JUV.	13.33	12.58	0.94	0.11	0.13	1.12
MACOMA ELIMATA	1.67	2.89	1.73	2.06	3.57	1.73
TELLINA SP.	21.67	7.64	0.35	0.28	0.21	0.74
PSEPHIDIA LORDI	886.67	114.49	0.13	10.23	1.18	0.12
MYA ARENARIA	1.67	2.89	1.73	0.01	0.02	1.73
LEPTOCHELIA SAVIGNYI	21.67	20.21	0.93	0.00	0.00	0.00
GAMMARIDEA SP. A	3.33	2.89	0.87	0.00	0.00	0.00
AMPELISCA SP.	10.00	5.00	0.50	0.06	0.03	0.51
PHOTIS SP.	30.00	22.91	0.76	0.00	0.00	0.00
PROTOMEDEIA SP.	5.00	5.00	1.00	0.00	0.00	0.00
SYNCHELIDIUM SHOEMAKE	1.67	2.89	1.73	0.00	0.00	0.00
WESTWOODILLA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PHOXOCEPHALIDAE	193.33	87.37	0.45	0.14	0.09	0.64
PLEUSIRUS SP.	5.00	5.00	1.00	0.00	0.00	0.00
PLEUSIRUS SECORRUS	1.67	2.89	1.73	0.00	0.00	0.00
UPOGEBIA PUGETTENSIS	1.67	2.89	1.73	0.00	0.00	0.00
PAGIRUS SP. JUV.	3.33	5.77	1.73	0.01	0.02	1.73
CANCER SP.	5.00	8.66	1.73	0.01	0.02	1.73
OPHIUROIDEA (AMPHIURI	158.33	53.46	0.34	33.97	14.45	0.43
EURENTACTA QUINQUESEM	6.67	2.89	0.43	0.29	0.40	1.35

NSPEC	SDI	TMEANC	TMEANW
75.00	3.66	2136.66	102.70

WEST REACH

WINTER 78

6FT

PAGE 1

MEAN

S.D.

CVAR

MEAN

S.D.

CVAR

COUNT

WEIGHT

NEMERTEA  
POLYCHAETA  
CLIGCHAETA

2.00

4.47

2.24

0.00

0.00

0.00

2.00

4.47

2.24

0.00

0.00

0.00

1.00

2.24

2.24

0.00

0.00

0.00

NSPEC  
3.00

SDI  
1.05

TMFANC  
5.00

TMEANW  
0.00

WEST BEACH

WINTER 78

5FT

PAGE 1

MEAN

S.D.

CVAR

MEAN

S.O.

CVAP

COUNT

WEIGHT

NEMERTEA	8.33	5.77	0.69	0.00	0.00	0.00
ARCHIANNELIDA	1.67	2.89	1.73	0.00	0.00	0.00
CLIGOCHAETA	15.00	10.00	0.67	0.00	0.00	0.00
PARAMOERA MOHRI	1.67	2.89	1.73	0.00	0.00	0.00

NSPEC  
4.00

SDI  
1.86

TMEANC  
26.67

TMEANW  
0.00



WEST BEACH

WINTER 78

4FT

PAGE 1

MEAN

S.D.

CVAR

MEAN

S.O.

CVAR

COUNT

WEIGHT

NEMERTEA  
ARCHIANNEL IDA

3.33

5.77

1.73

0.00

0.00

0.00

3.33

5.77

1.73

0.00

0.00

0.00

NSPEC  
2.00SDI  
0.69TMFANC  
6.67TMFANW  
0.00

MEAN

S.D.

CVAR

MEAN

S.D.

CVAR

COUNT

WEIGHT

ANTHOPEURA ELEGANTIS	1.00	2.24	2.24	0.02	0.04	2.24
PLATYHELMINTHES	1.00	2.24	2.24	0.00	0.00	0.00
NEMERTEA	20.00	41.98	2.10	0.00	0.00	0.00
ARCHIANNELIDA	1.00	2.24	2.24	0.00	0.00	0.00

NSPEC  
4.00

SDI  
0.70

TMEANC  
23.00

TMEANW  
0.02

WEST BEACH

WINTER 78

2FT

PAGE 1

MEAN

S.D.

CVAR

MEAN

S.D.

CVAR

COUNT

WEIGHT

NEMERTEA  
ARCHITANNELIDA

3.33

5.77

1.73

0.00

0.00

0.00

1.67

2.89

1.73

0.00

0.00

0.00

NSPEC  
2.00

SDI  
0.64

TMEANC  
5.00

TMEANW  
0.00

WEST BEACH

WINTER 78

1FT

PAGE 1

MEAN

S.D.

CVAR

MEAN

S.D.

CVAR

COUNT

WEIGHT

HEPTACARPUS SP.

1.67

2.89

1.73

0.03

0.05

1.73

NSPEC  
1.00

SDI  
0.00

TMFANC  
1.67

TMFANW  
0.03

## WEST BEACH

## WINTER 7B

## OFT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
NEMERTEA	19.00	42.49	2.24	0.00	0.00	0.00
EMPLECTONEMA GRACILE	1.00	2.24	2.24	0.15	0.34	2.24
LUMBPINERIS SP.	1.00	2.24	2.24	0.31	0.69	2.24
PARAONELLA PLATYBRANC	1.00	2.24	2.24	0.00	0.00	0.00
PHOXOCEPHALIDAE	3.00	2.74	0.91	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
5.00	0.98	25.00	0.46

## WEST BEACH

WINTER 78

-1FT

PAGE 1

MEAN

S.D.

CVAR

MEAN

S.D.

CVAR

COUNT

WEIGHT

NEMERTEA	1.67	2.89	1.73	0.00	0.00	0.00
POLYCHAETA	1.67	2.89	1.73	0.00	0.00	0.00
PARADNELLA PLATYBRANC	5.00	5.00	1.00	0.01	0.02	1.73

NSPEC  
3.00

SDI  
1.33

TMEANC  
8.33

TMEANW  
0.01

## WEST BEACH

WINTER 78

-1.5M

PAGE 1

MEAN

S.D.

CVAR

MEAN

S.D.

CVAR

C CUNT

WEIGHT

TYPOSYLLIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
HEMIPODUS BOREALIS	1.67	2.89	1.73	0.01	0.02	1.73
ARICIDEA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PARANELLA PLATYBRANC	16.67	28.87	1.73	0.01	0.02	1.73
SPIOPHANES BOMBYX	5.00	5.00	1.00	0.00	0.00	0.00
ARMANDIA BREVIS	1.67	2.89	1.73	0.01	0.02	1.73
MYSELLA TUMIDA	1.67	2.89	1.73	0.00	0.00	0.00
PSEPHIDIA LORDI	3.33	2.89	0.87	0.01	0.02	1.73
DIASTYLIS SP.	5.00	8.66	1.73	0.01	0.02	1.73
DIASTYLOPSIS SP.	13.33	7.64	0.57	0.03	0.02	0.87
LEPTOCHELIA SAVIGNYI	3.33	2.89	0.87	0.00	0.00	0.00
EGGS (CRUSTACEA: ISOPD	26.67	46.19	1.73	0.00	0.00	0.00
TECTICEPS PUGETTENSIS	5.00	8.66	1.73	0.01	0.02	1.73
PHOTIS BREVIPES	3.33	5.77	1.73	0.00	0.00	0.00
SYNCHEIIDIDIUM SHOEMAKE	16.67	11.55	0.69	0.00	0.00	0.00
PHOXOCEPHALIDAE	250.00	31.22	0.12	0.56	0.10	0.19
CRANGON SP.	13.33	10.41	0.78	0.26	0.33	1.30

NSPEC  
17.00SDI  
2.27TMEANC  
370.00TMEANW  
0.92

## WEST BEACH

WINTER 78

-2.5M

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NEMERTEA	1.67	2.89	1.73	0.00	0.00	0.00
TYPOSYLLIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
GLYCIDINDE PICTA	1.67	2.89	1.73	0.01	0.02	1.73
GNUPHIS SP.	5.00	5.00	1.00	0.00	0.00	0.00
LUMBRICIFORMIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
SCOLOPLOS ARMIGER	8.33	14.43	1.73	0.15	0.25	1.73
SCOLOPLOS PUGETTENSIS	13.33	7.64	0.57	3.14	1.95	0.62
SPIOPHONES BOMBYX	6.67	5.77	0.87	0.01	0.02	1.73
MALACOCEROS GLUTAEUS	11.67	7.64	0.65	0.03	0.02	0.87
ARMANDIA BREVIS	1.67	2.89	1.73	0.00	0.00	0.00
CAPITELLA CAPITATA	1.67	2.89	1.73	0.00	0.00	0.00
LACUNA VARIEGATA	1.67	2.89	1.73	0.00	0.00	0.00
MYSELIA TUMIDA	6.67	11.55	1.73	0.01	0.02	1.73
CLINOCARDIUM SP.	1.67	2.89	1.73	0.00	0.00	0.00
TELLINA SP.	1.67	2.89	1.73	0.17	0.29	1.73
PSEPHIDIA LORDI	126.67	40.41	0.32	1.18	0.60	0.51
CEPHALASPIDEA	3.33	2.89	0.87	0.05	0.08	1.73
DIASTYLIS SP.	30.00	5.00	0.17	0.12	0.03	0.23
LEPTOSTYLIS SP.	70.00	18.03	0.25	0.07	0.03	0.39
TECTICEPS PUGETTENSIS	1.67	2.89	1.73	0.00	0.00	0.00
SYNIDOTEA SP.	3.33	2.89	0.87	0.03	0.02	0.87
AMPELISCA MACROCEPHAL	3.33	2.89	0.87	0.08	0.14	1.73
AMPELISCA AGASSIZI	1.67	2.89	1.73	0.00	0.00	0.00
HAUSTORIIDAE	1.67	2.89	1.73	0.00	0.00	0.00
PHOTIS BREVIPES	5.00	5.00	1.00	0.00	0.00	0.00
PROTOMEDEIA (CHEIRIME)	1.67	2.89	1.73	0.00	0.00	0.00
ORCHOMENE SP.	1.67	2.89	1.73	0.00	0.00	0.00
SYNCHLIDIUM SHOEMAKE	1.67	2.89	1.73	0.00	0.00	0.00
PHOXOCEPHALIDAE	543.33	63.31	0.12	1.23	0.03	0.03
CRANGON SP.	1.67	2.89	1.73	0.05	0.08	1.73
OPHIUROIDEA	1.67	2.89	1.73	0.21	0.37	1.73
ECHINOIDEA SP. JUV.	3.33	5.77	1.73	0.01	0.02	1.73

NSPEC	SDI	TMEANC	TMEANW
32.00	2.50	868.33	6.55



	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
GRACILARIA SP.	0.00	0.00	0.00	0.01	0.02	1.73
NEOPTILOTA ASPLENIODI	0.00	0.00	0.00	0.00	0.00	0.00
CRYPTOPLEURA SP.	0.00	0.00	0.00	0.02	0.03	1.73
PTEPOCHONDRIA SP.	0.00	0.00	0.00	0.00	0.00	0.00
ZOSTERA MARINA	0.00	0.00	0.00	0.42	0.73	1.73
NEMERTEA	5.00	5.00	1.00	0.03	0.02	0.87
POLYCHAETA	0.00	0.00	0.00	0.11	0.20	1.73
HARMOThOE IMBRICATA.	3.33	2.89	0.87	0.00	0.00	0.00
PHYLLODOCE SP.	15.00	15.00	1.00	0.09	0.10	1.02
EULALIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
MICROPDARKE DUBIA	1.67	2.89	1.73	0.00	0.00	0.00
TYPOSYLLIS SP.	3.33	5.77	1.73	0.00	0.00	0.00
NEREIS SP.	3.33	2.89	0.87	0.03	0.05	1.73
NEPHTYS LONGOSETOSA	1.67	2.89	1.73	0.00	0.00	0.00
GLYCIDAE PICTA	21.67	20.21	0.93	0.28	0.36	1.32
GNUPHIS SP.	10.00	17.32	1.73	0.23	0.40	1.73
LUMBRINERIS SP.	0.00	0.00	0.00	0.01	0.02	1.73
NAINERIS SP.	1.67	2.89	1.73	0.03	0.05	1.73
SCOLIPODS PUGETTENSIS	21.67	7.64	0.35	2.29	2.65	1.16
CRBINIA FELIX	1.67	2.89	1.73	0.03	0.05	1.73
ARICIDEA SP.	1.67	2.89	1.73	0.00	0.00	0.00
SPIDOPHANES BOMBYX	45.00	39.69	0.88	0.18	0.20	1.12
MALACOCEROS GLUTAEUS	50.00	55.68	1.11	0.03	0.05	1.73
ARMANDIA BREVIS	5.00	5.00	1.00	0.00	0.00	0.00
MEDIOMASTUS AMBISETA	18.33	10.41	0.57	0.03	0.02	0.87
OWENIA FUSIFORMIS	3.33	5.77	1.73	0.00	0.00	0.00
TEREBELLIDAE	3.33	5.77	1.73	0.03	0.05	1.73
TELLINA MODESTA	50.00	10.00	0.20	1.12	0.41	0.36
PSEPHIDIA LORDI	161.67	105.70	0.68	2.03	1.34	0.66
GSTRACODA	1.67	2.89	1.73	0.00	0.00	0.00
CALANOIDA	1.67	2.89	1.73	0.00	0.00	0.00
NEBALIA PUGETTENSIS	3.33	2.89	0.87	0.03	0.02	0.87
DIASTYLOPSIS SP.	5.00	5.00	1.00	0.03	0.02	0.87
TANAIDACEA SP. A	3.33	2.89	0.87	0.00	0.00	0.00
LEPTOCHELIA SAVIGNYI	41.67	23.63	0.57	0.03	0.02	0.87
AMPHIPODA GAMMARIDEA	5.00	5.00	1.00	0.01	0.02	1.73
AMPELISCA MACROCEPHAL	20.00	5.00	0.25	0.36	0.46	1.29
AMPELISCA AGASSIZI	163.33	66.40	0.41	1.64	1.08	0.66
PONTOGENEIA SP.	3.33	2.89	0.87	0.00	0.00	0.00
PROTOMEDEIA (CHETRIME	18.33	23.63	1.29	0.00	0.00	0.00
CRCHOMENE SP.	5.00	5.00	1.00	0.00	0.00	0.00
SYNCHLIDIUM SHOEMAKE	1.67	2.89	1.73	0.00	0.00	0.00
PHOXOCEPHALIDAE	598.33	235.07	0.39	0.96	0.28	0.29
PARAPLEUSTES SP.	3.33	2.89	0.87	0.00	0.00	0.00
PUGETTIA RICHII	1.67	2.89	1.73	0.10	0.17	1.73
OPHIUROIDEA	5.00	5.00	1.00	0.24	0.39	1.59

NSPEC  
46.00

SDI  
3.05

TMEANC  
1311.66

TMEANW  
10.39

## WEST BEACH

WINTER 78

-7.5M

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
	CCUNT			WEIGHT		
NEMERTEA	13.33	10.41	0.78	0.13	0.15	1.17
HARMOTHOF IMBRICATA	5.00	5.00	1.00	0.00	0.00	0.00
PHOLOE MINUTA	21.67	18.93	0.87	0.28	0.26	0.91
PHYLLODOCE SP.	6.67	7.64	1.15	0.01	0.02	1.73
MICROPORARKE DIRIA	5.00	8.66	1.73	0.00	0.00	0.00
TYPSYLLIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
NEPEIS SP.	3.33	5.77	1.73	0.01	0.02	1.73
NEPHTYS LONGOSETOSA	1.67	2.89	1.73	0.06	0.11	1.73
SPHAERODOOPSIS SPHAE	1.67	2.89	1.73	0.00	0.00	0.00
GLYCIDAE PICTA	36.67	23.63	0.64	0.41	0.25	0.62
ONUPHIS SP.	50.00	36.06	0.72	5.96	5.85	0.98
LUMBRINERIS SP.	3.33	2.89	0.87	0.06	0.05	0.87
SCOLOPLOS PUGETTENSIS	71.67	20.21	0.28	1.52	0.69	0.46
CRBINIA FELIX	3.33	2.89	0.87	0.11	0.16	1.43
ARICIDEA SP.	6.67	5.77	0.87	0.00	0.00	0.00
POLYDORA SP.	1.67	2.89	1.73	0.01	0.02	1.73
POLYDORA SOCIALIS	1.67	2.89	1.73	0.01	0.02	1.73
PRIONOSPID CIRRIFERA	13.33	7.64	0.57	0.00	0.00	0.00
PRIONOSPID PINNATA	1.67	2.89	1.73	0.00	0.00	0.00
SPIOPHANES BOMBIX	33.33	30.14	0.00	0.06	0.05	0.87
MALACOCEROS GLUTAEUS	6.67	2.89	0.43	0.00	0.00	0.00
ARMANDIA BREVIS	18.33	5.77	0.31	0.13	0.11	0.87
MEDICMASTUS AMRISETA	20.00	18.03	0.90	0.04	0.05	1.04
MALDANIDAE	21.67	18.93	0.87	0.13	0.13	0.96
GWENIA FUSIFORMIS	6.67	7.64	1.15	0.00	0.00	0.00
GASTROPTERON PACIFICU	1.67	2.89	1.73	0.38	0.66	1.73
NUCULA TENNIS	13.33	7.64	0.57	0.36	0.31	0.86
YOLDA SCISSURATA	3.33	5.77	1.73	0.03	0.05	1.73
AXINOPSISIA SEPRICATA	10.00	17.32	1.73	0.38	0.66	1.73
MYSELLA TUMIDA	165.00	154.03	0.93	0.80	0.82	1.03
CLINOCARDIUM SP.	13.33	2.89	0.22	0.28	0.23	0.83
SPISSILA FALCATA	3.33	2.89	0.87	0.11	0.10	0.90
SOLENI SICARIUS	1.67	2.89	1.73	0.01	0.02	1.73
TELLINA SP.	40.00	69.28	1.73	0.53	0.92	1.73
TELLINA MODESTA	30.00	30.00	1.00	0.49	0.45	0.92
SEPHIDIA LORDI	901.67	375.24	0.42	9.83	4.22	0.43
NEBRIA PUGETTENSIS	5.00	5.00	1.00	0.01	0.02	1.73
DIASTYLIS SP.	3.33	2.89	0.87	0.00	0.00	0.00
LEPTOSTYLIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
TANAIDACEA SP. A	13.33	15.28	1.15	0.00	0.00	0.00
LEPTOCHELIA SAVIGNYI	296.67	256.63	0.87	0.16	0.15	0.92
AMPELISCA MACROCEPHAL	10.00	0.00	0.00	0.00	0.00	0.00
AMPELISCA AGASSIZI	31.67	25.17	0.79	0.13	0.11	0.87
PONTOGENIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PROTOMEFIA (CHEIRIME	15.00	13.23	0.89	0.00	0.00	0.00
CRCHOMENE SP.	3.33	2.89	0.87	0.00	0.00	0.00
SYNHELIDIUM SHOEMAKE	3.33	2.89	0.87	0.00	0.00	0.00
PHOXOCEPHALIDAE	525.00	160.00	0.30	0.58	0.10	0.17
PARAPLEUSTES SP.	3.33	5.77	1.73	0.00	0.00	0.00
OPHIUROIDEA	55.00	39.05	0.71	12.11	10.08	0.83

NSPEC	SDI	TMEANC	TMEANW
50.00	3.20	2508.33	35.12

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
GRACILARIOPSIS SJOEST	0.00	0.00	0.00	0.02	0.04	1.73
AHNFEITIA PLICATA	0.00	0.00	0.00	0.00	0.01	1.73
CORALLINA SP.	0.00	0.00	0.00	0.00	0.01	1.73
NEOPTILOTA ASPLENIOTID	0.00	0.00	0.00	0.03	0.05	1.73
POLYNEURA LATISSIMA	0.00	0.00	0.00	0.02	0.03	1.73
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	0.03	0.05	1.73
PTEROCHONDRIA SP.	0.00	0.00	0.00	0.00	0.00	0.00
ZOSTERA MARINA	0.00	0.00	0.00	0.94	1.63	1.73
PLATYHELMINTHES	3.33	5.77	1.73	0.00	0.00	0.00
NEMERTEA	16.67	2.89	0.17	0.04	0.05	1.04
NEMATODA	3.33	5.77	1.73	0.00	0.00	0.00
POLYCHAETA	0.00	0.00	0.00	0.08	0.14	1.73
HARMOTHOE IMBRICATA	10.00	8.66	0.87	0.01	0.02	1.73
PHOLOE MINUTA	11.67	16.07	1.39	0.05	0.08	1.73
PHYLLODOCE SP.	11.67	2.89	0.25	2.24	3.55	1.58
ETEONE LONGA	1.67	2.89	1.73	0.00	0.00	0.00
EULALIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
MICROPPODARKE DUMIA	6.67	7.64	1.15	0.00	0.00	0.00
TYPOSYLIS SP.	6.67	5.77	0.87	0.00	0.00	0.00
EXOGONE SP.	1.67	2.89	1.73	0.00	0.00	0.00
NERFIS SP.	5.00	8.66	1.73	0.18	0.31	1.73
PLATYNEREIS BICANALIC	6.67	11.55	1.73	0.06	0.11	1.73
NEPHTYS LONGOSETOSA	10.00	8.66	0.87	0.24	0.31	1.27
NEPHTYS FERRUGINEA	1.67	2.89	1.73	0.03	0.05	1.73
GLYCINDE PICTA	26.67	16.07	0.44	0.31	0.21	0.67
ONUPHIS SP.	26.67	11.55	0.43	6.23	3.69	0.59
LUMBRINEFIS SP.	30.00	21.79	0.73	0.19	0.22	1.15
DORVILLEA SP.	1.67	2.89	1.73	0.00	0.00	0.00
SCOLOPLOS PUGETTENSIS	108.33	2.89	0.03	0.99	0.39	0.40
CRBINIA FFLIX	5.00	5.00	1.00	0.84	0.93	1.10
ARICIDEA SP.	3.33	2.89	0.87	0.00	0.00	0.00
PAPAONELLA PLATYBRANC	18.33	27.54	1.50	0.00	0.00	0.00
LADNICE CIRRATA	11.67	7.64	0.65	1.31	1.01	0.77
POLYDORA SP.	6.67	7.64	1.15	0.11	0.16	1.43
PRIONOSPIO CIRRIFERA	16.67	10.41	0.62	0.00	0.00	0.00
SPIO FILICORNIS	1.67	2.89	1.73	0.03	0.05	1.73
SPIOPHANES BCMBYX	6.67	5.77	0.87	0.01	0.02	1.73
SPIOPHANES CIRRATA	1.67	2.89	1.73	0.00	0.00	0.00
MAGELONA SP.	1.67	2.89	1.73	0.00	0.00	0.00
CHAETOZONE SP.	5.00	8.66	1.73	0.00	0.00	0.00
ARMANDIA BREVIS	8.33	10.41	1.25	0.03	0.05	1.73
CAPITELLA CAPITATA	6.67	2.89	0.43	0.00	0.00	0.00
MEDIOMASTUS AMRISETA	6.67	2.89	0.43	0.00	0.00	0.00
MALDANIDAE	16.67	7.64	0.45	0.11	0.12	1.10
AXIOTHELLA RUBRODISTICT	1.67	2.89	1.73	0.00	0.00	0.00
OWENTIA FUSIFORMIS	10.00	5.00	0.50	0.01	0.02	1.73
PECTINARIA GRANULATA	1.67	2.89	1.73	0.06	0.11	1.73
TEREBELLIDAE	3.33	2.89	0.87	0.09	0.05	0.56
PISTA CRISTATA	6.67	7.64	1.15	0.23	0.25	1.10
CHONE SP.	8.33	7.64	0.92	2.38	2.40	1.01
CLIGOCCHAETA	3.33	5.77	1.73	0.00	0.00	0.00
POLINICES LEWISII	1.67	2.89	1.73	2.11	3.66	1.73
CYLICHA NA SP.	1.67	2.89	1.73	0.01	0.02	1.73
GASTROPTERON PACIFICU	1.67	2.89	1.73	0.15	0.25	1.73
NUCULA TENUIS	28.33	2.89	0.10	0.49	0.10	0.20

## WEST BEACH

## WINTER 78

-10M

PAGE 2

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
YOLDIA SCISSURATA	6.67	11.55	1.73	1.68	2.91	1.73
AXINOPSIS SERRICATA	11.67	7.64	0.65	0.09	0.05	0.56
MYSELLA TUMIDA	18.33	5.77	0.31	0.06	0.03	0.51
CLINOCARDIUM SP.	6.67	11.55	1.73	0.03	0.05	1.73
SPISULA FALCATA	1.67	2.89	1.73	0.06	0.11	1.73
SOLEN SICARTUS	5.00	8.66	1.73	0.05	0.08	1.73
TELLINA SP.	28.33	12.58	0.44	0.46	0.20	0.43
PSEPHIDIA LOROI	370.00	185.20	0.50	3.58	1.97	0.55
CALANOIDA	1.67	2.89	1.73	0.00	0.00	0.00
NEBALIA PUGETTENSIS	1.67	2.89	1.73	0.00	0.00	0.00
LEPTOSTYLIS SP.	3.33	5.77	1.73	0.00	0.00	0.00
TANAIDACEA SP. A	5.00	0.00	0.00	0.00	0.00	0.00
LEPTOCHELIA SAVIGNYI	85.00	73.65	0.87	0.04	0.05	1.04
AMPELISCA AGASSIZI	15.00	5.00	0.33	0.08	0.07	0.93
AORDIDES COLUMBIAE	1.67	2.89	1.73	0.00	0.00	0.00
PHOTIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
PHOTIS BREVIPES	1.67	2.89	1.73	0.00	0.00	0.00
CRCHOMENE SP.	5.00	5.00	1.00	0.00	0.00	0.00
SYNHELIDIUM SHOEMAKE	1.67	2.89	1.73	0.00	0.00	0.00
WESTWOODILLA SP.	3.33	2.89	0.87	0.00	0.00	0.00
PHOXOCEPHALICAE	235.00	44.44	0.19	0.17	0.03	0.17
HEPTACARPUS BREVIROST	1.67	2.89	1.73	0.06	0.11	1.73
PUGETTIA PICHII	3.33	5.77	1.73	0.40	0.69	1.73
CANCER SP.	1.67	2.89	1.73	0.10	0.17	1.73
PINNIXA OCCIDENTALIS	6.67	7.64	1.15	0.06	0.07	1.20
OPHIURCIDEA	120.00	39.05	0.33	10.06	7.59	0.75

NSPEC	SDI	TMEANC	TMFANW
81.00	3.87	1429.99	36.67

## PARTRIDGE POINT

SPRING 77

6FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
RHYNCHOCCELA	5.00	7.07	1.41	0.00	0.00	0.00
LITTORINA SITKANA	1.25	2.50	2.00	1.03	2.07	2.00
LITTORINA SCUTULATA	7.50	5.00	0.67	0.41	0.32	0.78
NUCELLA LAMELLOSA	1.25	2.50	2.00	0.05	0.10	2.00
PLICIFUSUS SP. A	1.25	2.50	2.00	0.03	0.07	2.00
ODOSTOMIA SP.	1.25	2.50	2.00	0.01	0.02	2.00
PARAMOERA MOHRI	6.25	12.50	2.00	0.01	0.02	2.00

NSPFC  
7.00SDI  
2.17TMEANC  
23.75TMEANW  
1.55

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
POPPHYRA SP.	0.00	0.00	0.00	1.34	1.33	0.99
MICROCLADIA BOREALIS	0.00	0.00	0.00	0.01	0.02	2.00
DELFSSERIACEAE	0.00	0.00	0.00	0.02	0.04	2.00
GONIMOPHYLLUM SKOTSRF	0.00	0.00	0.00	0.00	0.00	0.00
ODONTHALIA WASHINGTON	0.00	0.00	0.00	1.02	2.04	2.00
LOPHOSIPHONIA SP.	0.00	0.00	0.00	0.76	0.72	0.95
PTEROCHONDRIA WOODII	0.00	0.00	0.00	3.68	7.36	2.00
PHYLLOSPADIX SCOULERI	0.00	0.00	0.00	0.01	0.02	2.00
ANTHOPLEURA ELEGANTIS	6.25	12.50	2.00	13.63	27.25	2.00
EMPLECTONEMA GRACILE	6.25	12.50	2.00	0.50	1.00	2.00
NEMATODA	96.25	114.63	1.19	0.13	0.16	1.16
TYPOSYLLIS SP.	2.50	5.00	2.00	0.00	0.00	0.00
TYPOSYLLIS HYALINA	30.00	21.21	0.71	0.07	0.07	1.15
SPHAEROSYLLIS PIRIFER	5.00	7.07	1.41	0.00	0.00	0.00
EHLERSIA HETEROCH	10.00	11.55	1.15	0.01	0.02	2.00
ODONTOSYLLIS PARVA	1.25	2.50	2.00	0.00	0.00	0.00
NERFIS NEONEANTHES	1.25	2.50	2.00	0.01	0.02	2.00
HEMIPODUS BOREALIS	15.00	14.77	0.99	0.71	0.83	1.17
GONIADIDAE	1.25	2.50	2.00	0.01	0.02	2.00
ONUPHIS SP.	21.25	42.50	2.00	0.22	0.44	2.00
ONUPHIS IRIDESCENS	45.00	52.12	1.16	0.34	0.52	1.49
ONUPHIS STIGMATIS	15.00	26.77	1.78	0.03	0.07	2.00
LUMBRINERIS ZONATA	1.25	2.50	2.00	0.40	0.79	2.00
PROTODORVILLEA GRACIL	12.50	15.00	1.20	0.01	0.02	2.00
CIPRATULIDAE	0.00	0.00	0.00	0.20	0.39	2.00
CIPRATULUS CIPRATUS	1.25	2.50	2.00	0.31	0.56	1.81
CAPITELLIDAE	1.25	2.50	2.00	0.00	0.00	0.00
TEREBELLIDAE	1.25	2.50	2.00	0.38	0.75	2.00
SACCOCIRRUS FROTIUS	1.25	2.50	2.00	0.00	0.00	0.00
CLIGOCHAETA	88.75	96.21	1.08	0.03	0.04	1.31
ACMAEIDAE JUV.	38.75	74.20	1.91	0.00	0.00	0.00
COLLISELLA PELTA	137.50	275.00	2.00	3.88	7.75	2.00
COLLISELLA DIGITALIS	6.25	12.50	2.00	0.13	0.25	2.00
NOTOACMEA PERSONA	125.00	84.16	0.67	117.54	75.77	0.64
LITTORINA SITKANA	271.25	190.28	0.70	78.52	70.79	0.90
LITTORINA SCUTULATA	56.25	112.50	2.00	2.75	5.50	2.00
ALVINIA SP.	25.00	28.87	1.15	0.00	0.00	0.00
NUCELLA LAMELIOSA	21.25	14.36	0.68	28.59	39.25	1.37
GLYCYMERIS SP.	6.25	12.50	2.00	0.02	0.04	2.00
MYTILUS EDULIS	6.25	12.50	2.00	0.06	0.13	2.00
MYSELLA TUMIDA	3.75	7.50	2.00	0.01	0.02	2.00
GONIMOSPHAEROMA OREG	2.50	2.89	1.15	0.00	0.00	0.00
IDOTEA SP.	6.25	12.50	2.00	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	1.25	2.50	2.00	0.00	0.00	0.00
PARAMOERA MOHRI	7.50	11.90	1.59	0.01	0.02	2.00
HEMIGRAPUS NUDUS	3.75	7.50	2.00	12.58	25.17	2.00
LEPTASTEPIAS HEXACTIS	6.25	12.50	2.00	0.00	0.00	0.00

NSPEC  
47.00SDI  
2.36TMFANG  
1088.75TMEANW  
267.91

	PARTRIDGE POINT			SPRING 77			OFT			PAGE I		
	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT							
FILAMENTOUS DIATOMS	0.00	0.00	0.00	6.29	6.47	1.03						
MONOSTROMA FUSCUM	0.00	0.00	0.00	23.64	16.18	0.68						
ENTEROMORPHA LINZA	0.00	0.00	0.00	0.03	0.06	2.00						
ULVA LACTUCA	0.00	0.00	0.00	0.01	0.01	2.00						
ULVA LOBATA	0.00	0.00	0.00	45.09	39.04	0.87						
HALICYSTIS OVALIS	0.00	0.00	0.00	0.00	0.01	2.00						
LAMINARIA SP.	0.00	0.00	0.00	8.85	17.70	2.00						
CYMATHERE TRIPLICATA	0.00	0.00	0.00	2.47	4.94	2.00						
ALAPIA SP.	0.00	0.00	0.00	35.40	40.60	1.15						
FUCUS DISTICHUS	0.00	0.00	0.00	7.17	7.70	1.07						
GIGARTINA SP.	0.00	0.00	0.00	59.34	48.72	0.82						
IRIDAEA CORDATA	0.00	0.00	0.00	13.87	13.29	0.96						
IRIDAEA HETEROCARPA	0.00	0.00	0.00	10.73	12.25	1.14						
CRYPTOSIPHONIA WOODII	0.00	0.00	0.00	2.84	3.54	1.24						
BOSSIELLA CALIFORNICA	0.00	0.00	0.00	0.03	0.06	2.00						
MICROCLADIA BOREALIS	0.00	0.00	0.00	5.36	5.82	1.09						
MICROCLADIA COULTERI	0.00	0.00	0.00	0.14	0.27	2.00						
ANTITHAMNIONELLA GL.	0.00	0.00	0.00	0.02	0.05	2.00						
HOLLERNBERGIA SUBULATA	0.00	0.00	0.00	0.27	0.50	2.00						
DELESSERIACEAE	0.00	0.00	0.00	0.01	0.02	2.00						
POLYSIPHONIA PACIFICA	0.00	0.00	0.00	0.66	0.79	1.20						
POLYSIPHONIA HENDRYI	0.00	0.00	0.00	1.53	2.85	1.86						
LAURENCIA SPECTABILIS	0.00	0.00	0.00	2.68	4.34	1.62						
RHODOMELA LARIX	0.00	0.00	0.00	251.58	207.91	0.83						
ODONTHALIA WASHINGTON	0.00	0.00	0.00	1.06	1.50	1.41						
LOPHOSIPHONIA SP.	0.00	0.00	0.00	3.07	4.11	1.34						
PTERODONDRIA WOODII	0.00	0.00	0.00	0.04	0.05	1.24						
PHYLLOSPADIX SCOLLERI	0.00	0.00	0.00	1.10	1.38	1.26						
ANTHOPLEURA ELEGANTIS	25.00	35.36	1.41	21.25	31.27	1.47						
RHYNCHOCOFLA	2.50	2.89	1.15	0.01	0.02	2.00						
EMPLECTONEMA GRACILE	1.25	2.50	2.00	0.01	0.02	2.00						
NEMATODA	145.00	80.10	0.55	0.10	0.10	0.95						
HALOSYDNA BREVISETOSA	3.75	4.79	1.28	3.93	4.85	1.23						
FILALIA SP.	12.50	16.58	1.33	0.07	0.14	2.00						
HESIONURA COINEAUI DI	5.00	10.00	2.00	0.00	0.00	0.00						
TYPOSYLLIS SP.	53.75	28.69	0.53	0.13	0.09	0.69						
TYPOSYLLIS ARMILLARIS	25.00	19.15	0.77	0.06	0.07	1.21						
TYPOSYLLIS HYALINA	20.00	24.83	1.24	0.01	0.02	2.00						
EXOGONE LOUREI	12.50	2.89	0.23	0.02	0.02	1.15						
SPHAEROSYLLIS PIRIFER	5.00	7.07	1.41	0.00	0.00	0.00						
PHLEPSIA HETEROCY	3.75	7.50	2.00	0.00	0.00	0.00						
NEREIS SP.	3.75	4.79	1.28	0.00	0.00	0.00						
NEREIS NEONEANTHES	2.50	5.00	2.00	0.02	0.04	2.00						
HEMIPODUS BOREALIS	7.50	8.66	1.15	0.28	0.51	1.81						
ONUPHIS STIGMATIS	3.75	4.79	1.28	0.04	0.07	1.47						
LUMBRINERIS SP.	0.00	0.00	0.00	0.78	1.04	1.33						
LUMBRINERIS ZONATA	10.00	7.07	0.71	2.43	3.18	1.31						
LUMBRINERIS INFLATA	1.25	2.50	2.00	0.00	0.00	0.00						
DORVILLEA SP.	2.50	5.00	2.00	0.00	0.00	0.00						
PROTODORVILLEA GRACIL	30.00	50.17	1.67	0.01	0.02	2.00						
SPIOPHANES BCMBYX	1.25	2.50	2.00	0.00	0.00	0.00						
MALACOEPOS GLUTAEUS	1.25	2.50	2.00	0.00	0.00	0.00						
CIRRATULIDAE	2.50	5.00	2.00	0.38	0.42	1.10						
CIRRATULUS CIRRATUS	20.00	9.13	0.46	7.53	4.31	0.57						
CAULLERIELLA SP.	1.25	2.50	2.00	0.00	0.00	0.00						

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
CHAETAZONE SETOSA	1.25	2.50	2.00	0.00	0.00	0.00
ARMANDIA BREVIS	10.00	14.14	1.41	0.04	0.05	1.15
CAPITELLIDAE	0.00	0.00	0.00	0.89	0.87	0.98
CAPITELLA SP.	2.50	5.00	2.00	0.01	0.02	2.00
CAPITELLA CAPITATA	2.50	5.00	2.00	0.01	0.02	2.00
MEDIOMASTUS SP.	1.25	2.50	2.00	0.01	0.02	2.00
BRANCHIOMALDANE SP.	1.25	2.50	2.00	0.01	0.02	2.00
AXIOTHELLA RUBROCINCT	1.25	2.50	2.00	0.01	0.02	2.00
AMPHARETE ARCTICA	1.25	2.50	2.00	0.00	0.00	0.00
TEREBELLIDAE	5.00	4.08	0.82	7.99	4.23	1.41
THELEPUS CRISPUS	15.00	20.00	1.33	4.07	3.28	0.81
SACCOCIRRUS ERGATICUS	5.00	4.08	0.82	0.00	0.00	0.00
CLIGOCHAETA	181.25	64.86	0.35	0.13	0.12	0.93
ACMAEIDAE JUV.	46.25	73.30	1.58	0.57	1.14	2.00
COLLISELLA PELTA	6.25	12.50	2.00	1.75	3.50	2.00
NOTOACMEA SCUTUM	6.25	12.50	2.00	14.94	29.88	2.00
NOTOACMEA PERSONA	12.50	14.43	1.15	14.38	17.56	1.22
MARGARITES HEIICINUS	6.25	12.50	2.00	0.00	0.00	0.00
LACUNA SP.	100.00	168.33	1.68	27.06	48.69	1.80
LACUNA VARIFGATA	413.75	220.85	0.53	3.43	2.23	0.65
LITTORINA SITKANA	1.25	2.50	2.00	0.23	0.47	2.00
LITTORINA SCUTULATA	6.25	12.50	2.00	0.00	0.00	0.00
ALVINIA SP.	135.00	240.31	1.78	0.14	0.26	1.82
NATICA CLAUSA	6.25	12.50	2.00	0.00	0.00	0.00
NUCFELLA LAMELLOSA	8.75	11.81	1.35	7.32	8.95	1.22
PLICTIFUSUS SP. A	3.75	4.79	1.28	0.09	0.14	1.44
CYANOPLAX DENTIENS	16.25	13.15	0.81	0.32	0.62	1.92
TONICELLA LINEATA	6.25	12.50	2.00	0.00	0.00	0.00
GLYCYMERIS SP.	20.00	19.58	0.98	0.02	0.04	2.00
MYTILUS EDULIS	18.75	23.94	1.28	6.44	12.38	1.92
MYSELLA TUMIDA	1.25	2.50	2.00	0.00	0.00	0.00
SAXIDOMUS GIGANTEUS	1.25	2.50	2.00	80.66	161.32	2.00
BALANUS CREATUS	31.25	37.50	1.20	7.63	8.80	1.15
EXOSPHAEROMA AMPLICAU	1.25	2.50	2.00	0.00	0.00	0.00
EXOSPHAEROMA MEDIA	3.75	7.50	2.00	0.00	0.00	0.00
IDOTEA OCHOTENSIS	0.00	0.00	0.00	37.50	75.00	2.00
IDOTEA ACULEATA	8.75	10.31	1.18	0.02	0.02	1.15
AMPHIPODA GAMMARIDEA	0.00	0.00	0.00	3.75	7.50	2.00
PARAMERA MOHRI	1.25	2.50	2.00	0.00	0.00	0.00
HYALE FREQUENS	3.75	4.79	1.28	62.51	124.99	2.00
PUGETTIA GRACILIS	0.00	0.00	0.00	37.50	75.00	2.00
CANCER OREGONENSIS	2.50	5.00	2.00	0.53	1.07	2.00
SIPUNCULA	5.00	7.07	1.41	0.03	0.04	1.31
ECTOPROCTA CHEILOSTOM	0.00	0.00	0.00	0.15	0.29	2.00
LEPTASTERIAS HEXACTIS	18.75	37.50	2.00	5.06	10.13	2.00
EGG MASSES	0.00	0.00	0.00	9.38	18.75	2.00

NSPEC	SDI	TMEANC	TMEANW
101.00	3.80	1522.50	849.99



	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT		WEIGHT		
FILAMENTOUS DIATOMS	0.00	0.00	0.00	0.65	1.12	1.73
UIVA SP.	0.00	0.00	0.00	6.93	12.00	1.73
ALARIA MARGINATA	0.00	0.00	0.00	43.16	40.88	0.95
PORPHYRA SP.	0.00	0.00	0.00	1.97	2.33	1.18
SARCODIOTHECA FURCATA	0.00	0.00	0.00	0.48	0.49	1.01
AHNFELTIA SP.	0.00	0.00	0.00	0.56	0.98	1.73
GIGARTINACEA	0.00	0.00	0.00	2.21	3.82	1.73
GIGARTINA SP.	0.00	0.00	0.00	2.13	3.68	1.73
SCHIZYMENTIA SP.	0.00	0.00	0.00	1.97	3.41	1.73
COPALLINACEAE	0.00	0.00	0.00	0.43	0.74	1.73
RHODYMENTIA PERTUSA	0.00	0.00	0.00	0.39	0.67	1.73
MICROCLADIA SP.	0.00	0.00	0.00	0.18	0.16	0.90
CRYPTOPLEURA SP.	0.00	0.00	0.00	13.09	21.32	1.63
DELESSEPIA DECIPIENS	0.00	0.00	0.00	2.65	4.60	1.73
HYMENENA SP.	0.00	0.00	0.00	20.04	32.71	1.63
ROTRYOGLOSSUM FARLOWI	0.00	0.00	0.00	14.99	21.80	1.45
LAURENCIA SPECTABILIS	0.00	0.00	0.00	22.32	38.00	1.70
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	198.48	339.23	1.71
PHYLLIDSPADIX SCOLEPTI	0.00	0.00	0.00	473.60	818.12	1.73
IRIOACEAE	0.00	0.00	0.00	107.33	94.99	0.89
RHYNCHOCOELE	13.33	11.55	0.87	0.04	0.05	1.04
NEMATODA	21.67	17.56	0.81	0.00	0.00	0.00
HALOSYDNA BREVISETOSA	1.67	2.89	1.73	0.01	0.02	1.73
PHYLLODOCE CITRINA	1.67	2.89	1.73	0.00	0.00	0.00
ETFONE SP.	16.67	10.41	0.62	0.01	0.02	1.73
MICROPORARKE DURIA	3.33	2.89	0.87	0.00	0.00	0.00
TYPOSYLLIS SP.	8.33	7.64	0.92	0.01	0.02	1.73
TYPOSYLLIS HYALINA	18.33	20.21	1.10	0.03	0.05	1.73
EXOONE LOUREI	5.00	5.00	1.00	0.00	0.00	0.00
NEPESIS SP.	3.33	2.89	0.87	0.28	0.36	1.32
NEPESIS PROCERA	3.33	5.77	1.73	0.03	0.05	1.73
HEMIPODUS BOREALIS	10.00	5.00	0.50	0.16	0.24	1.52
ONUPHIS STIGMATIS	6.67	7.64	1.15	0.06	0.05	0.87
LUMBRINERIS ZONATA	6.67	5.77	0.87	1.44	1.28	0.89
LUMBRINERIS INFLATA	1.67	2.89	1.73	0.00	0.00	0.00
PROTODORVILLEA GRACIL	21.67	25.66	1.18	0.01	0.02	1.73
SPIOPHANES BOMBYX	1.67	2.89	1.73	0.00	0.00	0.00
CIRRIPULUS CIRRATUS	5.00	5.00	1.00	1.48	2.27	1.54
CAULLERIELLA SP.	6.67	11.55	1.73	0.00	0.00	0.00
CAULLERIELLA ALATA	3.33	5.77	1.73	0.00	0.00	0.00
CAULLERIELLA GRACILIS	3.33	5.77	1.73	0.00	0.00	0.00
ARMANDIA BREVIS	3.33	5.77	1.73	0.01	0.02	1.73
MEDIOMASTUS SP.	3.33	5.77	1.73	0.00	0.00	0.00
THELEPUS CRISPUS	23.33	40.41	1.73	0.25	0.43	1.73
CHONE GRACILIS	1.67	2.89	1.73	0.00	0.00	0.00
SACCOCIRRUS EROTICUS	26.67	20.21	0.75	0.01	0.02	1.73
ELIGOCHAFTA	5.00	8.66	1.73	0.00	0.00	0.00
ENCHYTRAEIDAE	176.67	171.56	0.97	0.04	0.05	1.04
LACUNA VARIEGATA	8.33	14.43	1.73	0.06	0.11	1.73
ALVINIA SP.	26.67	30.55	1.15	0.08	0.07	0.93
NATICA CLAUSA	1.67	2.89	1.73	0.00	0.00	0.00
ODOSTOMIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
TONICELLA LINEATA	1.67	2.89	1.73	0.01	0.02	1.73
GLYCYMERIS SP.	35.00	37.75	1.09	0.09	0.10	1.02
MYSELLA TUMIDA	1.67	2.89	1.73	0.00	0.00	0.00

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
CYCLOCARDIA SP.	1.67	2.39	1.73	0.00	0.00	0.00
CLINOCARDIUM CALIFORN	1.67	2.89	1.73	0.00	0.00	0.00
PSEPHIDIA LORDI	3.33	5.77	1.73	0.01	0.02	1.73
EXOSPHAEROMA AMPLICAU	5.00	5.00	1.00	0.01	0.02	1.73
IDOTEA SP.	1.67	2.89	1.73	0.10	0.17	1.73
IDOTEA ACULEATA	3.33	2.89	0.87	0.00	0.00	0.00
PONTOGENEIA INERMIS	3.33	5.77	1.73	0.03	0.05	1.73
AMPHIPODA GAMMARIDAE	1.67	2.89	1.73	0.01	0.02	1.73
HIPPOMEDON DENTICULAT	3.33	5.77	1.73	0.01	0.02	1.73
ORCHOMENE CF. PINQUIS	3.33	5.77	1.73	0.11	0.20	1.73
PARAPHOXUS SPINOSUS	1.67	2.89	1.73	0.01	0.02	1.73
PANDULUS SP.	1.67	2.89	1.73	0.01	0.02	1.73
CRYPTOLITHODES SITCHE	1.67	2.89	1.73	0.45	0.77	1.73
PUGETTIA GRACILIS	5.00	5.00	1.00	0.36	0.38	1.03
LOPHORANOEPEUS BFLUS	1.67	2.89	1.73	0.13	0.23	1.73

NSPEC  
70.00

SDI  
3.46

TMEANC  
520.00

TMEANW  
918.93

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT		WEIGHT		
RHODOPHYCEAE	0.00	0.00	0.00	1.38	1.20	0.87
SARCODIOTHECA FURCATA	0.00	0.00	0.00	0.18	0.31	1.73
GRACILARIOPSIS SJOST	0.00	0.00	0.00	1.84	0.23	0.12
RHODOGLOSSUM SP.	0.00	0.00	0.00	0.15	0.27	1.73
CRYPTONEMIA SP.	0.00	0.00	0.00	0.22	0.39	1.73
CALLOPHYLLIS SP.	0.00	0.00	0.00	1.44	1.39	0.96
RHODYMENIA PERTUSA	0.00	0.00	0.00	0.59	0.80	1.37
ANTITHAMNION SP.	0.00	0.00	0.00	8.64	11.20	1.30
CFRANIUM SP.	0.00	0.00	0.00	0.01	0.01	1.73
PTILOTA SP.	0.00	0.00	0.00	0.34	0.59	1.73
DELESSERIA DECIPIENS	0.00	0.00	0.00	0.54	0.94	1.73
POLYNEURA LATISSIMA	0.00	0.00	0.00	1.08	1.86	1.73
PHODOPTILUM SP.	0.00	0.00	0.00	0.99	1.71	1.73
PTEROSIPHONIA DENDROI	0.00	0.00	0.00	0.78	0.71	0.91
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	14.73	12.76	0.87
LOPHOSIPHONIA VILLUM	0.00	0.00	0.00	0.02	0.03	1.73
IPIIDACEAE	0.00	0.00	0.00	0.54	0.94	1.73
RHYNCHOCOELA	10.00	13.23	1.32	0.10	0.17	1.73
NEMATODA	23.33	17.56	0.75	0.01	0.02	1.73
HALOSYDNA BREVISETOSA	1.67	2.89	1.73	0.00	0.00	0.00
ETEONE SP.	5.00	5.00	1.00	0.05	0.08	1.73
HESIONURA COINEAUI DI	1.67	2.89	1.73	0.17	0.29	1.73
MICROPODARKE DUBIA	70.00	26.46	0.38	0.12	0.06	0.47
TYPOSYLLIS SP.	3.33	2.89	0.87	0.00	0.00	0.00
TYPOSYLLIS HYALINA	6.67	11.55	1.73	0.00	0.00	0.00
EXOGONE LOUPEI	23.33	11.55	0.49	0.00	0.00	0.00
HEMIPODIUS BOREALIS	11.67	10.41	0.89	1.78	2.79	1.57
ONUPHIS STIGMATIS	6.67	2.89	0.43	0.04	0.05	1.04
LUMBRINEPIS ZONATA	1.67	2.89	1.73	0.00	0.00	0.00
PROTODORVILLEA GRACIL	1.67	2.89	1.73	0.00	0.00	0.00
SCOLOPLOS ARMIGER	13.33	15.28	1.15	0.06	0.05	0.87
PRIONOSPIO STEENSTRUP	3.33	5.77	1.73	0.01	0.02	1.73
SPIOPHANES BOMBYX	5.00	5.00	1.00	0.00	0.00	0.00
SPIOPHANES BERKELEYOP	6.67	7.64	1.15	0.06	0.11	1.73
MALACOCEROS GLUTAEUS	1.67	2.89	1.73	0.00	0.00	0.00
CIRRATULUS CIRRATUS	1.67	2.89	1.73	0.03	0.05	1.73
CAULLERIELLA SP.	6.67	11.55	1.73	0.01	0.02	1.73
ARMANDIA BREVIS	3.33	5.77	1.73	0.05	0.08	1.73
MEDIOMASTUS SP.	18.33	15.28	0.83	0.04	0.05	1.04
NICOMACHE PERSONATA	43.33	29.30	0.68	1.81	1.25	0.69
PRAXILLELLA AFFINIS P	3.33	5.77	1.73	0.00	0.00	0.00
TEREBELLIOAE	16.67	20.82	1.25	0.13	0.19	1.47
SABELLIDAE	1.67	2.89	1.73	0.00	0.00	0.00
SACCOCIRPUS FROTICUS	5.00	8.66	1.73	0.00	0.00	0.00
CLIGOCHAETA	8.33	14.43	1.73	0.00	0.00	0.00
FNCHYTRAEIDAE	30.00	27.34	0.93	0.01	0.02	1.73
MARGARITES PUPILLUS	1.67	2.89	1.73	0.00	0.00	0.00
MARGARITES LIRULATUS	30.00	13.23	0.44	0.71	0.51	0.72
LACUNA VARIEGATA	10.00	17.32	1.73	0.10	0.17	1.73
ALVINIA SP.	10.00	13.23	1.32	0.01	0.02	1.73
CYANOPLAX DENTIENS	3.33	2.89	0.87	0.04	0.05	1.04
GLYCYMERIS SP.	596.67	175.52	0.29	2.43	0.83	0.34
MODIOLUS RECTUS	1.67	2.89	1.73	0.05	0.08	1.73
MYSELLA TUMIDA	13.33	15.28	1.15	0.01	0.02	1.73
CYCLOCARDIA SP.	5.00	0.00	0.00	0.01	0.02	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
ASTARTE COMPACTA	6.67	5.77	0.87	0.11	0.13	1.12
MACOMA OBLIQUA	1.67	2.89	1.73	0.13	0.23	1.73
PSEPHIDIA LORDI	125.00	84.11	0.67	0.89	0.50	0.56
CALANIDAE	1.67	2.89	1.73	0.01	0.02	1.73
PALANUS CREMATUS	33.33	20.82	0.62	2.84	1.88	0.66
LEPTOCHELIA SAVIGNYI	26.67	33.29	1.25	0.01	0.02	1.73
EXOSPHAEROMA AMPLICAU	33.33	20.21	0.61	0.13	0.13	0.96
AMPHIPODA GAMMARIDAE	3.33	2.89	0.87	0.03	0.02	0.87
ELASMOPUS ANTENNATUS	1.67	2.89	1.73	0.01	0.02	1.73
MELITA DENTATA	1.67	2.89	1.73	0.01	0.02	1.73
LOPHOPANDPEUS BELLUS	5.00	5.00	1.00	0.73	0.75	1.03
LEPTOSYNAPTA CLARKI	13.33	7.64	0.57	0.79	0.30	0.37

NSPEC	SDI	TMEANC	TMEANW
67.00	3.28	1260.00	47.02

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT		WEIGHT		
DESMARESTIA LIGULATA	0.00	0.00	0.00	0.54	0.94	1.73
NEOGARDHIELLA BAILEY	0.00	0.00	0.00	0.81	1.29	1.60
SARCODIOTHECA FURCATA	0.00	0.00	0.00	0.50	0.87	1.73
PLOCAMIMUM PACIFICUM	0.00	0.00	0.00	0.55	0.95	1.73
PLOCAMIMUM VIOLACEUM	0.00	0.00	0.00	0.17	0.30	1.73
CRYPTONEMIA SP.	0.00	0.00	0.00	0.35	0.61	1.73
CALLOPHYLLIS SP.	0.00	0.00	0.00	12.31	10.51	0.85
RHOODYMENIA SP.	0.00	0.00	0.00	1.19	2.06	1.73
PHOODYMENIA PERTUSA	0.00	0.00	0.00	5.13	8.89	1.73
CERAMIAEAE	0.00	0.00	0.00	0.62	1.07	1.73
NIEENBURGIA ANDERSONIA	0.00	0.00	0.00	0.13	0.22	1.73
PTILOTA SP.	0.00	0.00	0.00	1.30	2.25	1.73
HOLLENBERGIA SP.	0.00	0.00	0.00	0.92	1.59	1.73
DELESSERIAEAE	0.00	0.00	0.00	0.21	0.36	1.73
MEMBRANOPTERA SP.	0.00	0.00	0.00	0.70	0.39	0.55
PHYCODYRS SP.	0.00	0.00	0.00	0.04	0.08	1.73
POLYNEURA LATISSIMA	0.00	0.00	0.00	8.22	3.14	0.38
PTEROSIPHONIA DENDRODI	0.00	0.00	0.00	0.80	0.86	1.08
LOPHOSIPHONIA VILLUM	0.00	0.00	0.00	0.03	0.05	1.73
RHYNCHOCOELA	13.33	12.58	0.94	0.24	0.39	1.59
CERERRATULUS CALIFORN	13.33	2.89	0.22	0.27	0.28	1.01
NEMATODA	3.33	2.89	0.87	0.00	0.00	0.00
PHOLOE MINUTA	5.00	0.00	0.00	0.01	0.02	1.73
PHYLLODOCE CITRINA	1.67	2.89	1.73	0.11	0.20	1.73
ETEONE SP.	5.00	0.00	0.00	0.00	0.00	0.00
MICROPODARKE DURIA	5.00	5.00	1.00	0.00	0.00	0.00
TYPOSYLLIS HYALINA	5.00	5.00	1.00	0.00	0.00	0.00
EXOGONE LOURET	5.00	5.00	1.00	0.00	0.00	0.00
NEPHTYS FERRUGINEA	3.33	5.77	1.73	0.25	0.43	1.73
HEMIPODUS BOREALIS	13.33	7.64	0.57	0.18	0.20	1.12
GLYCINDE PICTA	1.67	2.89	1.73	0.00	0.00	0.00
LUMBRINERIS ZONATA	3.33	5.77	1.73	0.13	0.23	1.73
LUMBRINERIS INFLATA	3.33	5.77	1.73	0.01	0.02	1.73
DORVILLEA JAPONICA	1.67	2.89	1.73	0.08	0.14	1.73
PROTODORVILLEA GRACIL	5.00	5.00	1.00	0.00	0.00	0.00
PRIONOSPION CIRRIFFERA	1.67	2.89	1.73	0.00	0.00	0.00
PRIONOSPION STEENSTPUP	8.33	2.89	0.35	0.06	0.03	0.51
SPIOPHANES DECMBYX	15.00	13.23	0.88	0.03	0.05	1.73
CIRRATULUS CIRRIATUS	1.67	2.89	1.73	0.01	0.02	1.73
CAULLERIFLLA SP.	5.00	8.66	1.73	0.00	0.00	0.00
CAULLERIELLA ALATA	5.00	8.66	1.73	0.00	0.00	0.00
CAULLERIFLLA GRACILIS	3.33	2.89	0.87	0.00	0.00	0.00
THARYX MULTIFILIS	1.67	2.89	1.73	0.03	0.05	1.73
SCALIBREGMA INFLATUM	6.67	7.64	1.15	0.24	0.39	1.59
ARMANDIA BREVIS	1.67	2.89	1.73	0.00	0.00	0.00
CAPITELLA CAPITATA	1.67	2.89	1.73	0.00	0.00	0.00
MEDICMASTUS SP.	15.00	10.00	0.67	0.03	0.02	0.87
NICOMACHE PERSONATA	36.67	29.30	0.80	2.66	2.42	0.91
PRAXILLELLA AFFINIS P	8.33	7.64	0.92	0.01	0.02	1.73
AMPHARETE ARCTICA	10.00	13.23	1.32	0.00	0.00	0.00
TEREBELLIDAE	5.00	0.00	0.00	0.01	0.02	1.73
THELSPUS CRISPIUS	10.00	13.23	1.32	0.08	0.14	1.73
TEREBELLIDES STROEMI	1.67	2.89	1.73	0.00	0.00	0.00
SABELLIDAE	15.00	13.23	0.88	0.04	0.05	1.04
CHONE GRACILIS	3.33	2.89	0.87	0.00	0.00	0.00

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
SABELLA CRASSICORNIS	1.67	2.89	1.73	0.03	0.05	1.73
CLIGOCHAETA	5.00	5.00	1.00	0.00	0.00	0.00
ENCHYTRAEIDAE	10.00	13.23	1.32	0.00	0.00	0.00
ACMAEIDAE JUV.	1.67	2.89	1.73	0.00	0.00	0.00
NOTOACMEA SCUTUM	1.67	2.89	1.73	0.01	0.02	1.73
MARGARITES IPIULATUS	13.33	7.64	0.57	0.18	0.17	0.96
ALVINIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
CALYPTRAEA FASTIGIATA	13.33	2.89	0.22	0.24	0.35	1.42
PLICIFUSUS SP.	1.67	2.89	1.73	0.03	0.05	1.73
TURRONILLA SP.	1.67	2.89	1.73	0.03	0.05	1.73
BASILIOCHITON HEATHII	1.67	2.89	1.73	0.00	0.00	0.00
CYANOPLAX DENTIFENS	11.67	7.64	0.65	0.11	0.08	0.72
TONICELLA LINEATA	1.67	2.89	1.73	0.00	0.00	0.00
LEPIDOZONA MERTENSII	8.33	7.64	0.92	0.15	0.25	1.73
CHAETOPLEURA GEMMA	3.33	2.89	0.87	0.00	0.00	0.00
MOPALIA SP. JUV.	1.67	2.89	1.73	0.00	0.00	0.00
GLYCYMERIS SP.	90.00	55.63	0.62	0.29	0.18	0.62
MODIOLUS RECTUS	6.67	5.77	0.87	4.26	7.35	1.72
MYSELLA TUMIDA	5.00	8.66	1.73	0.01	0.02	1.73
CYCLOCARTIA SP.	61.67	25.17	0.41	2.59	1.05	0.41
MIODONTISCUS PROLONGA	5.00	5.00	1.00	0.03	0.02	0.87
ASTARTE COMPACTA	115.00	49.24	0.43	28.42	12.88	0.45
CLINOCARDIUM CALIFORN	3.33	2.89	0.87	0.09	0.10	1.07
MACOMA SP.	3.33	5.77	1.73	0.01	0.02	1.73
TELLINA MODESTA	11.67	7.64	0.65	0.21	0.11	0.50
SAXIDOMUS GIGANTEUS	5.00	5.00	1.00	1.26	1.32	1.05
PSEPHIDIA LORDI	1.67	2.89	1.73	0.20	0.34	1.73
CYCLOPIDAE	1.67	2.89	1.73	0.01	0.02	1.73
BALANUS CRENATUS	71.67	67.88	0.95	8.99	11.94	1.33
LEPTOCHELIA SAVIGNYI	13.33	7.64	0.57	0.00	0.00	0.00
IDONEA ACULEATA	6.67	7.64	1.15	0.01	0.02	1.73
AMPHIPODA GAMMARIDAE	10.00	10.00	1.00	0.06	0.07	1.20
HIPPOMEDON DENTICULAT	1.67	2.89	1.73	0.01	0.02	1.73
TIRON SP.	1.67	2.89	1.73	0.08	0.14	1.73
CREGONIA GRACILIS	1.67	2.89	1.73	0.26	0.46	1.73
PUGETTIA GRACILIS	1.67	2.89	1.73	0.43	0.74	1.73
LOPHOPANOPAEUS BELLUS	3.33	2.89	0.87	0.39	0.45	1.15
PINNIXA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PINNIXA OCCIDENTALIS	1.67	2.89	1.73	0.00	0.00	0.00
GOLFINGIA PUGETTENSIS	3.33	2.89	0.87	2.70	2.52	0.94
OPHIUROIDEA	13.33	15.28	1.15	0.24	0.27	1.13
EUPENTACTA QUINQUESEM	1.67	2.89	1.73	0.03	0.05	1.73
LEPTOSYNAPTA CLARKI	6.67	5.77	0.87	0.16	0.24	1.52

NSPEC  
98.00

SDI  
4.31

TMEANC  
774.99

TMEANW  
90.56

## PARTRIDGE POINT

SUMMER 77

6FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NEMATODA	1.25	2.50	2.00	0.00	0.00	0.00
TYPOSYLLIS SP.	1.25	2.50	2.00	0.00	0.00	0.00
TREBELLIOAE	1.25	2.50	2.00	0.01	0.02	2.00
SACCOCIRRUS EROTICUS	1.25	2.50	2.00	0.00	0.00	0.00
CLIGCHAETA	2.50	5.00	2.00	0.00	0.00	0.00
LACUNA SP.	3.75	7.50	2.00	0.02	0.04	2.00
LITTORINA SITKANA	2.50	5.00	2.00	0.33	0.67	2.00
MODIOLUS RECTUS	3.75	7.50	2.00	0.02	0.04	2.00
IDOTEA SP.	1.25	2.50	2.00	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	1.25	2.50	2.00	0.00	0.00	0.00
HYALE SP.	5.00	10.00	2.00	0.01	0.02	2.00
PARALORCHESTES SP.	1.25	2.50	2.00	0.00	0.00	0.00
ORCHESTIA TRASKIANA	1.25	2.50	2.00	0.00	0.00	0.00
SIPUNCULA	1.25	2.50	2.00	0.00	0.00	0.00
EGG MASSES	2.50	5.00	2.00	0.00	0.00	0.00

NSPEC  
15.00SDI  
2.57TMEANC  
31.25TMFANW  
0.40

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT		WEIGHT		
GIGARTINA PAPILLATA	0.00	0.00	0.00	8.76	15.18	1.73
GIGARTINA LATISSIMA	0.00	0.00	0.00	1.97	3.41	1.73
NEMERTEA	5.00	5.00	1.00	0.00	0.00	0.00
NEMATODA	3.33	5.77	1.73	1.67	2.89	1.73
RHIZOE MINUTA	6.67	11.55	1.73	0.00	0.00	0.00
MICROPODARKE DUBIA	3.33	2.89	0.87	0.00	0.00	0.00
TYPOSYLLIS SP.	26.67	12.58	0.47	0.06	0.03	0.51
GLYCERA SP.	1.67	2.89	1.73	0.13	0.23	1.73
HEMIPHOUS BOREALIS	11.67	2.89	0.25	0.61	0.20	0.33
ONUPHIS SP.	195.00	238.48	1.22	0.54	0.67	1.23
TEPEBELLIDAE	16.67	28.87	1.73	0.08	0.14	1.73
SACCOCIIRIUS EROTICUS	3.33	5.77	1.73	0.00	0.00	0.00
CLIGOCCHAFTA	245.00	349.32	1.43	0.03	0.02	0.87
LITTORINA SITKANA	86.67	36.86	0.43	13.04	5.89	0.45
LITTORINA SCUTULATA	38.33	11.55	0.30	2.56	0.25	0.10
LEPTOCHELIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
EXOSPHEROMA AMPLICAU	73.33	127.02	1.73	0.20	0.34	1.73
AMPHIPODA GAMMARIDEA	30.00	51.96	1.73	0.03	0.05	1.73
PARAMOERA MOHPI	260.00	359.48	1.38	0.31	0.42	1.37
ECTOPROCTA	0.00	0.00	0.00	0.06	0.11	1.73
LEPTOSYNAPTA CLARKI	1.67	2.89	1.73	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
21.00	2.51	1010.00	30.04



	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WFIGHT		
CYMATHERE TRIPLICATA	0.00	0.00	0.00	2.95	5.12	1.73
GRACILARIOPSIS SJOEST	0.00	0.00	0.00	0.00	0.00	0.00
ENDOCIALIA MURICATA	0.00	0.00	0.00	2.19	3.79	1.73
ODONTHALIA WASHINGTON	0.00	0.00	0.00	2.10	3.63	1.73
ANTHOPLURA ELEGANTIS	8.33	14.43	1.73	1.17	2.02	1.73
NEMERTEA	1.67	2.89	1.73	0.03	0.02	0.87
NEMATODA	273.33	255.36	0.93	0.12	0.03	0.23
POLYCHAETA	8.33	14.43	1.73	0.06	0.11	1.73
PHOLOE MINUTA	5.00	8.66	1.73	0.00	0.00	0.00
HESIONURA COINEAUI DI	3.33	5.77	1.73	0.00	0.00	0.00
HESIONIDAE	1.67	2.89	1.73	0.00	0.00	0.00
TYPOSYLLIS SP.	100.00	37.75	0.38	0.17	0.10	0.60
EXOGONE LOUREI	8.33	2.89	0.35	0.00	0.00	0.00
SPHAEROSYLLIS PIRIFER	1.67	2.89	1.73	0.00	0.00	0.00
HEMIPODUS BOREALIS	20.00	8.66	0.43	1.44	1.12	0.78
OMUPHIS SP.	400.00	244.34	0.61	2.23	1.74	0.78
PROTODORVILLEA GRACIL	55.00	17.32	0.31	0.00	0.00	0.00
POLYDORA SP.	1.67	2.89	1.73	0.01	0.02	1.73
CIRRATULUS CIRRATUS	6.67	11.55	1.73	2.35	4.06	1.73
THARYX SP.	3.33	5.77	1.73	0.00	0.00	0.00
MEDIOMASTUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
TEREBELLIDAE	8.33	5.77	0.69	0.03	0.02	0.87
SACCOIRRUS EROTICUS	10.00	8.66	0.87	0.00	0.00	0.00
CLIGOCHAETA	275.00	114.35	0.42	0.07	0.03	0.39
COLLISFLIA DELTA	41.67	52.04	1.25	2.67	2.63	0.98
LACUNA SP.	1.67	2.89	1.73	0.01	0.02	1.73
LITTORINA SITKANA	591.67	516.24	0.87	60.34	51.46	0.85
LITTORINA SCUTULATA	361.67	306.65	0.85	25.01	24.59	0.98
ALVINIA SP.	1.67	2.89	1.73	0.01	0.02	1.73
NUCELLA LAMELLOSA	10.00	10.00	1.00	5.59	6.96	1.24
NUCELLA EMARGINATA	1.67	2.89	1.73	2.90	5.02	1.73
GLYCYMESIS SUPORSOLET	8.33	7.64	0.92	0.03	0.02	0.87
CHTHAMALUS DALLI	685.00	1160.57	1.69	9.00	14.31	1.59
BALANUS GLANDULA/CREN	2485.00	3300.60	1.33	15.95	22.03	1.38
BALANUS CARTOSUS	8.33	14.43	1.73	0.25	0.43	1.73
BALANUS CRENATUS	25.00	43.30	1.73	0.17	0.29	1.73
BALANUS GLANDULA	183.33	317.54	1.73	1.17	2.02	1.73
GNORIMOSPHAEROMA OREG	30.00	51.96	1.73	0.60	1.03	1.73
EXOSPHAEROMA AMPLICAU	3.33	5.77	1.73	0.01	0.02	1.73
IDOTEA SP.	1.67	2.89	1.73	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	1.67	2.89	1.73	0.00	0.00	0.00
PARAMERA MOHRI	15.00	21.79	1.45	0.00	0.00	0.00
HEMIGRAPSUS NUDUS	5.00	5.00	1.00	9.13	13.19	1.44
SIPUNCULA	5.00	8.66	1.73	0.03	0.05	1.73
LEPTASTEPIAS HEXACTIS	8.33	14.43	1.73	3.67	6.35	1.73
LEPTOSYNAPTA CLARKI	3.33	5.77	1.73	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
46.00	2.56	5671.65	151.44

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT		WEIGHT		
ENTEROMORPHA LINZA	0.00	0.00	0.00	0.13	0.23	1.73
ULVA FENESTRATA	0.00	0.00	0.00	0.04	0.06	1.73
SPONGOMORPHA SP.	0.00	0.00	0.00	0.00	0.00	0.00
GRACILARIOPSIS SJOEST	0.00	0.00	0.00	0.42	0.73	1.73
CRYPTOPLEURA SP.	0.00	0.00	0.00	0.95	1.64	1.73
POLYSIPHONIA HENDRYI	0.00	0.00	0.00	2.45	4.24	1.73
RHODOMELA LAPID	0.00	0.00	0.00	11.41	19.76	1.73
ANTHROPLEURA ELEGANTIS	18.33	27.54	1.50	11.51	17.99	1.56
NEMERTEA	0.00	0.00	0.00	0.01	0.02	1.73
NEMATODA	143.33	59.65	0.42	0.16	0.13	0.80
POLYCHAETA	1.67	2.89	1.73	0.03	0.05	1.73
HESIONURA COINEAUI DI	10.00	13.23	1.32	0.00	0.00	0.00
TYRISYLLIS SP.	200.00	134.44	0.67	0.44	0.39	0.88
EXOGONE LOUPEI	1.67	2.89	1.73	0.00	0.00	0.00
NEREIS SP.	1.67	2.89	1.73	0.08	0.14	1.73
HEMIPODUS BOREALIS	21.67	10.41	0.48	1.40	1.04	0.74
ONUPHIS SP.	571.67	312.53	0.55	5.96	0.22	0.04
LUMBRINEFIS ZONATA	1.67	2.89	1.73	0.86	1.50	1.73
PROTODORVILLFA GRACIL	30.00	36.06	1.20	0.00	0.00	0.00
SPIID FILICORNIS	1.67	2.89	1.73	0.01	0.02	1.73
CIRRATULIDAE	11.67	16.07	1.38	0.00	0.00	0.00
CIRRATULUS CIRRATUS	15.00	8.66	0.58	1.08	0.76	0.71
ACTOMASTUS TENUIS	1.67	2.89	1.73	0.01	0.02	1.73
FRANCHIOMALDANE SP.	10.00	17.32	1.73	0.06	0.11	1.73
TEREBELLIDAE	11.67	7.64	0.65	0.16	0.08	0.51
THELPSUS CRISPUS	5.00	8.66	1.73	5.23	9.06	1.73
SACCO CIRPUS EROTICUS	30.00	13.23	0.44	0.00	0.00	0.00
CLIGOCHEFTA	351.67	48.05	0.14	0.11	0.03	0.27
ACMAEIDAE JUV. <4MM	3.33	2.89	0.87	0.03	0.02	0.87
COLLISELLA PELTA	18.33	27.54	1.50	1.00	1.00	1.00
NOTOACMEA SCUTUM	16.67	28.87	1.73	0.00	0.00	0.00
NOTOACMEA PERSONA	66.67	115.47	1.73	15.00	25.98	1.73
LACUNA SP.	8.33	7.64	0.92	0.04	0.05	1.04
LITTORINA SITKANA	211.67	41.63	0.20	20.74	7.35	0.35
LITTORINA SCUTULATA	141.67	41.63	0.29	8.71	5.04	0.58
NUCELLA LAMELIOSA	6.67	7.64	1.15	2.81	4.24	1.51
MITRELLA SP.	1.67	2.89	1.73	0.33	0.58	1.73
SFARLESTIA DIPA	8.33	14.43	1.73	0.00	0.00	0.00
GLYCYMERIS SUBORSOLET	50.00	35.00	0.70	0.39	0.48	1.24
MODIOLUS RECTUS	1.67	2.89	1.73	0.01	0.02	1.73
MYSELLA TUMIDA	1.67	2.89	1.73	0.01	0.02	1.73
MYSIDAE	3.33	5.77	1.73	0.05	0.08	1.73
GNOPIMOSPHAEROMA OPEG	71.67	72.34	1.01	0.43	0.41	0.95
EXOSPHAEROMA AMPLICAU	6.67	11.55	1.73	0.01	0.02	1.73
AMPHIPODA GAMMARIDEA	10.00	13.23	1.32	0.01	0.02	1.73
PARAMOEPA MOHPI	56.67	58.38	1.03	0.04	0.05	1.04
HYALE SP.	116.67	202.07	1.73	0.33	0.58	1.73
PAGURUS SP. JUV.	6.67	11.55	1.73	0.01	0.02	1.73
PUGFTTIA GRACILIS	41.67	72.17	1.73	0.17	0.29	1.73
HEMIGRAPSUS NUDUS	1.67	2.89	1.73	5.63	9.75	1.73
SIPUNCULA	8.33	10.41	1.25	0.06	0.07	1.20
LEPTOSYNAPTA CLARKI	5.00	5.00	1.00	0.05	0.08	1.73

PARTRIDGE POINT

SUMMER 77

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NSPEC

SDI

TMEANC

TMEANW

CVAP

52.0J

5.50

2305.00

98.41

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
DIATOMACEAE	0.00	0.00	0.00	0.01	0.01	2.00
MONOSTROMA FUSCUM	0.00	0.00	0.00	1.34	1.56	1.16
ENTEROMORPHA LINZA	0.00	0.00	0.00	0.18	0.20	1.15
ULVA FENESTRATA	0.00	0.00	0.00	0.01	0.02	2.00
ULVA LACTUCA	0.00	0.00	0.00	0.07	0.14	2.00
SPONGOMORPHA COALITA	0.00	0.00	0.00	0.00	0.00	0.00
PORPHYRA SP.	0.00	0.00	0.00	0.34	0.39	1.17
NEOGARDHIELLA BAILLY	0.00	0.00	0.00	0.83	1.66	2.00
GIGARTINA SP.	0.00	0.00	0.00	0.44	0.74	1.66
RHODOGLOSSUM SP.	0.00	0.00	0.00	2.07	4.15	2.00
POLYSIPHONIA HENDRYI	0.00	0.00	0.00	0.76	1.53	2.00
ODONTHALIA WASHINGTON	0.00	0.00	0.00	2.29	4.58	2.00
LOPHOSIPHONIA REPTABIL	0.00	0.00	0.00	0.28	0.56	2.00
ANTHOPLEURA ELEGANTIS	12.50	25.00	2.00	6.25	12.50	2.00
NEMERTEA	130.00	236.85	1.82	0.16	0.26	1.64
NEMATODA	110.00	107.16	0.97	0.10	0.07	0.67
POLYCHAETA	12.50	25.00	2.00	0.00	0.00	0.00
PHOLOE MINUTA	6.25	7.50	1.20	0.00	0.00	0.00
HESIONURA COINEAUI DI	8.75	8.54	0.98	0.00	0.00	0.00
HESIONIDAE	1.25	2.50	2.00	0.01	0.02	2.00
MICROPODARKE DURIA	5.00	4.08	0.82	0.00	0.00	0.00
TYPOSYLLIS SP.	197.50	76.76	0.41	0.24	0.18	0.74
EXOZONE LOUREI	7.50	6.45	0.86	0.00	0.00	0.00
SPHAEROSYLLIS PIRIFER	3.75	7.50	2.00	0.00	0.00	0.00
NEREIS SP.	2.50	5.00	2.00	0.52	1.04	2.00
HEMIPODUS BOREALIS	57.50	35.24	0.61	1.78	1.15	0.65
OMUPHIS SP.	561.25	362.11	0.65	5.29	3.41	0.64
LUMBRINERIS ZONATA	8.75	8.54	0.98	5.16	5.95	1.15
DORVILLEA SP.	2.50	5.00	2.00	0.00	0.00	0.00
PROTODORVILLEA GRACIL	31.25	26.58	0.85	0.00	0.00	0.00
ARICIDEA SP.	1.25	2.50	2.00	0.00	0.00	0.00
POLYDORA SP.	2.50	2.89	1.15	0.01	0.02	2.00
SPIO FILICORNIS	3.75	4.79	1.28	0.02	0.02	1.15
SPIOPHANES BOMBYX	1.25	2.50	2.00	0.00	0.00	0.00
CIRRATULIDAE	3.75	7.50	2.00	0.01	0.02	2.00
CIRRATULUS CIRPRATUS	11.25	10.31	0.92	2.30	1.86	0.81
THARYX SP.	2.50	2.89	1.15	0.00	0.00	0.00
CHAETOZONE SP.	1.25	2.50	2.00	0.00	0.00	0.00
NOTOMASTIUS TENUIS	13.75	27.50	2.00	0.76	1.52	2.00
TERRELLIDAE	5.00	7.07	1.41	0.01	0.02	2.00
SACCOCIRRUS FRODICUS	21.25	20.16	0.95	0.00	0.00	0.00
CLIGOCOAETA	568.75	400.86	0.70	0.13	0.11	0.82
COLLISELLA PFLTA	6.25	12.50	2.00	0.81	1.63	2.00
NOTOACMEA SCUTUM	31.25	47.32	1.51	1.44	1.90	1.32
NOTOACMEA PERSONA	37.50	75.00	2.00	32.88	65.75	2.00
LACUNA SP.	11.25	19.31	1.72	0.27	0.54	2.00
LACUNA VARIEGATA	12.50	25.00	2.00	0.00	0.00	0.00
LITTORINA SITKANA	2.50	5.00	2.00	0.13	0.27	2.00
LITTORINA SCUTULATA	17.50	25.33	1.45	1.13	1.66	1.47
NUCELLA LAMELLOSA	8.75	17.50	2.00	24.31	48.63	2.00
SEARLESTIA DIRA	1.25	2.50	2.00	4.92	9.84	2.00
GLYCYMERIS SUBOBSOLET	16.25	18.87	1.16	0.06	0.09	1.57
AXINOPSIDA SEPRICATA	1.25	2.50	2.00	0.01	0.02	2.00
MYSELLA TUMIDA	3.75	2.50	0.67	0.02	0.02	1.15
CHTHAMALUS DALLI	225.00	450.00	2.00	2.56	5.13	2.00

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
BALANUS GIANDULA/CREN	2668.75	5237.50	2.00	16.63	33.25	2.00
BALANUS CARIOSUS	56.25	112.50	2.00	3.13	6.25	2.00
ACANTHOMYSIS SP.	2.50	5.00	2.00	0.13	0.27	2.00
CUMACFA	1.25	2.50	2.00	0.00	0.00	0.00
DIASTYLOPSIS SP.	1.25	2.50	2.00	0.00	0.00	0.00
GNORIMOSPHAEROMA OREG	183.75	169.63	0.92	2.19	3.01	1.37
EXOSPHAEROMA AMPLICAU	26.25	42.70	1.63	0.01	0.02	2.00
IDOTEA SP.	26.25	37.72	1.44	0.06	0.13	2.00
AMPHIPODA GANMARIDEA	6.25	7.50	1.20	0.00	0.00	0.00
AMPITHOE SP.	6.25	12.50	2.00	0.00	0.00	0.00
COROPHIUM SP.	25.00	50.00	2.00	0.00	0.00	0.00
PARAMOERA MOHRI	21.25	19.31	0.91	0.07	0.02	1.15
HYALE SP.	6.25	12.50	2.00	0.00	0.00	0.00
PARALLORCHESTES SP.	1.25	2.50	2.00	0.00	0.00	0.00
PHOXOCEPHALICAE	1.25	2.50	2.00	0.00	0.00	0.00
DECAPODA MEGALOPS	1.25	2.50	2.00	0.01	0.02	2.00
PAGURUS SP. JUV.	11.25	19.31	1.72	0.02	0.04	2.00
PAGURUS HIRSUTIUSCULU	6.25	12.50	2.00	0.13	0.25	2.00
STPUNCULA	11.25	7.50	0.67	0.03	0.02	0.67
LEPTASTERIAS HEXACTIS	1.25	2.50	2.00	0.45	0.89	2.00
OPHIUROIDEA (AMPHIURI	1.25	2.50	2.00	0.13	0.25	2.00
EUPENTACTA QUINQUESEM	7.50	11.90	1.59	0.21	0.36	1.73
LEPTOSYNAPTA CLAPKI	5.00	4.08	0.82	0.62	0.72	1.16

NSPEC	SDI	TMEANC	TMEANW
78.00	2.46	5238.75	123.71

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
MONOSTROMA FUSCUM	0.00	0.00	0.00	0.08	0.14	1.73
ENTEROMORPHA LINZA	0.00	0.00	0.00	5.15	5.70	1.11
ENTEROMORPHA INTESTI	0.00	0.00	0.00	0.85	1.47	1.73
ULVA SP.	0.00	0.00	0.00	9.01	15.60	1.73
ULVA LACTUCA	0.00	0.00	0.00	1.12	1.93	1.73
SPONGOMORPHA SP.	0.00	0.00	0.00	1.85	3.20	1.73
SPONGOMORPHA COALITA	0.00	0.00	0.00	0.88	1.52	1.73
CYMATHEPE TRIPPLICATA	0.00	0.00	0.00	4.56	7.90	1.73
FUCIIS DISTICHUS	0.00	0.00	0.00	0.16	0.27	1.73
PORPHYRA PERFORATA	0.00	0.00	0.00	30.01	51.97	1.73
GIGARTINA SP.	0.00	0.00	0.00	4.39	6.08	1.38
MICROCLADIA BOREALIS	0.00	0.00	0.00	0.01	0.02	1.73
PTEROSIPHONIA SP.	0.00	0.00	0.00	0.00	0.00	0.00
RHODOMELA LARIX	0.00	0.00	0.00	4.06	7.03	1.73
NEMERTEA	81.67	84.61	1.04	0.99	1.38	1.39
NEMATODA	6.67	11.55	1.73	0.00	0.00	0.00
POLYCHAETA	16.67	20.82	1.25	0.04	0.05	1.04
HESIONURA COINEAUI DI	5.00	5.00	1.00	0.00	0.00	0.00
HESIONIDAE	3.33	5.77	1.73	0.00	0.00	0.00
MICROPODARKE DUBIA	13.33	18.93	1.42	0.03	0.02	0.87
TYPOSYLLIS SP.	28.33	17.56	0.62	0.03	0.02	0.87
EXOgone LOUREI	3.33	5.77	1.73	0.00	0.00	0.00
HEMIPODUS BOREALIS	6.67	5.77	0.87	0.28	0.24	0.87
GNUPHIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
LUMBRINEPIS ZONATA	3.33	2.89	0.87	0.86	1.42	1.64
ARABELLA IRICOLOR	1.67	2.89	1.73	1.70	2.94	1.73
PROTODOPVILLEA GRACIL	141.67	130.42	0.92	0.03	0.05	1.73
NAUPERIS UNCINATA	10.00	17.32	1.73	43.68	75.66	1.73
SPIO FILICORNIS	1.67	2.89	1.73	0.00	0.00	0.00
MALACOCEROS GLUTAEUS	1.67	2.89	1.73	0.00	0.00	0.00
CIRRATULIDAE	6.67	11.55	1.73	0.00	0.00	0.00
CIRRATULUS CIRRATUS	16.67	17.56	1.05	4.86	5.29	1.09
THARYX SP.	1.67	2.89	1.73	0.00	0.00	0.00
MEDIOMASTUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
TEREBELLIDAE	10.00	13.23	1.32	0.40	0.69	1.73
SACCOCIPRUS EPOTICUS	151.67	160.65	1.05	0.19	0.22	1.15
CLIGOCCHAETA	130.00	73.99	0.57	0.04	0.05	1.04
ACMAEIDAE JUV. <4MM	3.33	5.77	1.73	0.03	0.05	1.73
NOTOACMEA SCUTUM	5.00	8.66	1.73	9.85	17.05	1.73
NOTOACMEA PERSONA	8.33	14.43	1.73	0.08	0.14	1.73
LACUNA SP.	21.67	20.21	0.93	0.06	0.03	0.51
LACUNA VARIEGATA	1700.00	2298.23	1.35	6.17	7.32	1.19
LITTORINA SITKANA	1.67	2.89	1.73	0.01	0.02	1.73
LITTORINA SCUTULATA	5.00	8.66	1.73	0.13	0.23	1.73
GLYCYMERIS SUBSOLFT	18.33	2.89	0.15	0.04	0.00	0.00
GNORIMOSPHAEROMA OREG	16.67	14.43	0.87	0.06	0.11	1.73
EXOSPHAEROMA AMPLICAU	20.00	8.66	0.43	0.14	0.11	0.73
IDOTEA SP.	113.33	196.30	1.73	0.96	1.67	1.73
PARAMOERA MOHRI	11.67	20.21	1.73	0.01	0.02	1.73
MELITA CALIFORNICA	3.33	5.77	1.73	0.00	0.00	0.00
HYALE SP.	1.67	2.89	1.73	0.00	0.00	0.00
PARALLORCHESTES SP.	3.33	5.77	1.73	0.00	0.00	0.00
PARALLORCHESTES OCHOT	8.33	14.43	1.73	0.00	0.00	0.00
DECAPODA MEGALOPS	8.33	14.43	1.73	0.08	0.14	1.73
PAGURUS HIRSUTIUSCULU	16.67	28.87	1.73	6.83	11.84	1.73

PARTRIDGE POINT

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	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
LEPTOSYNAPTA CLARKI	1.67	COUNT 2.89	1.73	0.00	WEIGHTY 0.00	0.00
NSPEC	SDI	TMEANC	TMEANW			
56.00	2.11	2613.33	139.71			

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
DIATOMACEAE	0.00	0.00	0.00	0.05	0.10	2.00
MONOSTROMA FUSCUM	0.00	0.00	0.00	1.03	2.06	2.00
ENTEROMORPHA SP.	0.00	0.00	0.00	17.30	23.37	1.35
ENTEROMORPHA LINZA	0.00	0.00	0.00	0.06	0.13	2.00
ENTEROMORPHA INTESTI	0.00	0.00	0.00	0.19	0.38	2.00
ULVA SP.	0.00	0.00	0.00	9.90	14.43	1.46
ULVA FENESTRATA	0.00	0.00	0.00	5.87	11.73	2.00
ULVA LACTUCA	0.00	0.00	0.00	6.69	13.39	2.00
SPONGOMORPHA SP.	0.00	0.00	0.00	0.39	0.77	2.00
SPONGOMORPHA COALITA	0.00	0.00	0.00	10.32	20.50	1.99
SPONGOMORPHA SPINESCE	0.00	0.00	0.00	0.62	1.24	2.00
ALAPIA SP.	0.00	0.00	0.00	8.57	17.15	2.00
ALAPIA MARGINATA	0.00	0.00	0.00	1.41	2.83	2.00
FUCUS OISTICHUS	0.00	0.00	0.00	8.61	7.53	0.87
PORPHYRA SP.	0.00	0.00	0.00	12.10	9.98	0.74
PLOCAMIMUM SP.	0.00	0.00	0.00	0.00	0.00	2.00
GIGARTINA SP.	0.00	0.00	0.00	30.27	17.53	0.58
GIGARTINA EXASPERATA	0.00	0.00	0.00	2.85	5.69	2.00
IRIDAEA SP.	0.00	0.00	0.00	118.19	126.86	1.07
PRIONITIS LANCEOLATA	0.00	0.00	0.00	2.38	4.76	2.00
CALLOPHYLLIS SP.	0.00	0.00	0.00	0.04	0.09	2.00
MICROCLADIA BOREALIS	0.00	0.00	0.00	25.58	17.50	0.68
HOLLENBERGIA SP.	0.00	0.00	0.00	0.02	0.03	2.00
CRYPTOPLEURA SP.	0.00	0.00	0.00	1.12	1.87	1.66
ROTRYNGLOSSUM FARLOWI	0.00	0.00	0.00	0.15	0.29	2.00
POLYSIPHONIA SP.	0.00	0.00	0.00	10.01	17.97	1.79
PTEROSIPHONIA SP.	0.00	0.00	0.00	0.23	0.47	2.00
RHODOMELA LARIK	0.00	0.00	0.00	49.86	18.52	0.37
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	12.27	17.14	1.40
ODONTHALIA WASHINGTON	0.00	0.00	0.00	0.06	0.13	2.00
LOPHOSIPHONIA VILLUM	0.00	0.00	0.00	0.07	0.14	2.00
PHYLLOSPADIX SCOULERI	0.00	0.00	0.00	1.11	1.37	1.23
HALICLYSTUS AURICULA	6.25	12.50	2.00	0.63	1.25	2.00
NEMERTEA	53.75	51.05	0.95	0.33	0.35	1.05
NEMATODA	82.50	71.36	0.85	0.01	0.02	2.00
POLYCHAETA	2.50	5.00	2.00	0.00	0.00	0.00
POLYNOIDAE	1.25	2.50	2.00	0.01	0.02	2.00
PHOLOE MINUTA	2.50	5.00	2.00	0.03	0.07	2.00
EULALIA SP.	58.75	24.96	0.42	0.13	0.14	1.15
HESIONURA COINEAUI DI	60.00	43.01	0.72	0.01	0.02	2.00
MICROPODARKE DURIA	1.25	2.50	2.00	0.00	0.00	0.00
TYPOSYLLIS SP.	295.00	223.49	0.75	0.59	0.41	0.70
EUSYLLIS ASSIMILIS	1.25	2.50	2.00	0.00	0.00	0.00
EXOGONE LOUREI	67.50	75.99	1.13	0.00	0.00	0.00
SPHAEROSYLLIS PIRIFER	2.50	5.00	2.00	0.00	0.00	0.00
NEREIS SP.	61.25	41.91	0.68	0.93	0.81	0.87
NEREIS VEXILLOSA	1.25	2.50	2.00	10.35	20.69	2.00
PLATYNEREIS BICANALIC	621.25	950.64	1.53	4.70	6.61	1.41
GLYCERA SP.	1.25	2.50	2.00	1.44	2.88	2.00
HEMIPODUS BOREALIS	38.75	17.97	0.45	1.73	1.33	0.77
ONUPHIS SP.	3.75	4.79	1.28	0.01	0.02	2.00
LUMBRINERIS ZONATA	28.75	27.50	0.95	2.18	2.02	0.92
PROTODORVILLEA GRACIL	92.50	70.77	0.86	0.01	0.02	2.00
ORBINIIDAE (PROTOARI)	6.25	12.50	2.00	0.00	0.00	0.00
NAINERIS UNCINATA	1.25	2.50	2.00	0.00	0.00	0.00



	MEAN	S.O.	CVAR	MEAN	S.O.	CVAR
		COUNT			WEIGHT	
CIRRATULIDAE	46.25	42.70	0.92	0.04	0.05	1.15
CIRRATULUS CIRPRATUS	55.25	29.55	0.53	19.37	15.36	0.79
CAULLFRIELLA SP.	81.25	162.50	2.00	0.06	0.13	2.00
THARYX SP.	35.00	70.00	2.00	0.01	0.02	2.00
CHAETIZONE SP.	25.00	28.87	1.15	0.06	0.13	2.00
CAPITELLIDAE	3.75	4.79	1.28	0.00	0.00	0.00
NOTOMASTUS TENUIS	10.00	9.13	0.91	0.78	1.03	1.31
MEDIOMASTUS SP.	8.75	14.36	1.64	0.00	0.00	0.00
BRANCHIOMALDANE SP.	7.50	11.90	1.59	0.00	0.00	0.00
TEREBELLIDAE	46.25	37.05	0.80	8.49	14.21	1.67
THELEPUS SP.	443.75	248.64	0.56	69.88	85.71	1.23
SACCOCIRRUS EROTICUS	23.75	28.10	1.13	0.00	0.00	0.00
CLIGOCHAETA	493.75	298.93	0.61	0.15	0.12	0.78
ACMAETIDAE JUV. <4MM	1.25	2.50	2.00	0.01	0.02	2.00
COLLISELLA PELTA	6.25	12.50	2.00	1.38	2.75	2.00
NOTOACMEA SCUTUM	18.75	23.94	1.28	2.31	3.84	1.66
LACUNA SP.	80.00	89.54	1.12	0.68	1.00	1.48
LACUNA VARIEGATA	2493.75	1370.88	0.55	9.94	9.59	0.97
LITTORINA SCUTULATA	6.25	12.50	2.00	0.31	0.63	2.00
ALVINIA SP.	30.00	21.21	0.71	0.52	0.02	1.15
NUCELLA LAMELIOSA	6.25	12.50	2.00	0.00	0.00	0.00
SEARLESTIA DIRA	1.25	2.50	2.00	7.03	14.07	2.00
TONICELLA LINEATA	1.25	2.50	2.00	0.16	0.32	2.00
MUCULANA HAMATA	1.25	2.50	2.00	0.01	0.02	2.00
GLYCYMERIS SUBOBSOLET	10.00	12.25	1.22	0.02	0.02	1.15
MODIOLUS RECTUS	13.75	13.15	0.96	0.00	0.00	0.00
MYSELLA TUMIDA	1.25	2.50	2.00	0.00	0.00	0.00
BALANUS CRENATUS/GLAN	2.50	5.00	2.00	0.01	0.02	2.00
MYSIDAE	3.75	7.50	2.00	0.08	0.17	2.00
ANATANAIS NORMANI	1.25	2.50	2.00	0.00	0.00	0.00
GNORIMOSPHAEROMA OREG	1.25	2.50	2.00	0.01	0.02	2.00
EXOSPHAEROMA AMILICAU	175.00	141.13	0.81	0.74	0.60	0.82
DYNAMIDELLA SHEARERI	12.50	14.43	1.15	0.00	0.00	0.00
IDOTEA SP.	53.75	27.80	0.52	0.14	0.15	1.01
IDOTEA WOSNESENSKII	6.25	6.29	1.01	1.34	1.30	0.96
AMPHIPODA GAMMARIDEA	87.50	56.05	0.64	0.21	0.25	1.20
AMPITHOE SP.	676.25	561.92	0.83	4.69	4.26	0.91
PARAMOERA MOHRI	12.50	14.43	1.15	0.00	0.00	0.00
AMPHIPODA GAMMARIDAE	12.50	25.00	2.00	0.00	0.00	0.00
HYALE SP.	1502.50	952.59	0.63	4.64	2.45	0.53
PARALLORCHESTES SP.	27.50	25.98	0.94	0.25	0.25	0.98
PARALLORCHESTES OCHOT	9012.50	11203.31	1.24	17.06	10.93	0.64
DECAPODA MEGALOPS	6.25	12.50	2.00	0.00	0.00	0.00
PAGURUS HIRSUTIUSCULU	3.75	4.79	1.28	0.01	0.02	2.00
PUGETTIA GRACILIS	136.25	96.64	0.71	6.12	7.53	1.23
CANCER OREGONENSIS	1.25	2.50	2.00	0.91	1.92	2.00
TELMATOGETON SP.	293.75	587.50	2.00	0.06	0.13	2.00
SIPUNCULA	33.75	52.18	1.55	0.22	0.44	2.00
ECTOPPOCTA	0.00	0.00	0.00	0.07	0.14	2.00
LEPTASTERIAS HEXACTIS	15.00	23.80	1.59	1.90	2.49	1.31
LEPTOSYNAPTA CLARKI	1.25	2.50	2.00	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
106.00	2.94	17512.50	519.67

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT		WEIGHT		
DIATOMACEAE	0.00	0.00	0.00	0.73	0.37	1.59
MONOSTROMA FUSCUM	0.00	0.00	0.00	0.15	0.26	1.73
MONOSTROMA ZOSTERICOL	0.00	0.00	0.00	0.12	0.20	1.73
ENTEROMORPHA LINZA	0.00	0.00	0.00	0.12	0.21	1.73
ENTEROMORPHA INTESTI	0.00	0.00	0.00	0.61	1.06	1.73
ULVA SP.	0.00	0.00	0.00	7.73	17.57	1.73
ULVA LACTUCA	0.00	0.00	0.00	9.83	16.49	1.68
SPONGOMORPHA SP.	0.00	0.00	0.00	0.46	0.80	1.73
LAMINARIA SP.	0.00	0.00	0.00	1.24	2.15	1.73
PLEUROPHYCUS GARDNERI	0.00	0.00	0.00	10.02	17.36	1.73
ALARIA MARGINATA	0.00	0.00	0.00	154.67	161.93	1.05
EGREGIA MENZIESII	0.00	0.00	0.00	100.28	170.47	1.29
GRACILARIOPSIS SJOEST	0.00	0.00	0.00	0.06	0.10	1.73
GIGARTINA SP.	0.00	0.00	0.00	8.69	7.90	0.91
GIGARTINA PAPILLATA	0.00	0.00	0.00	2.15	3.72	1.73
IPIDAEA SP.	0.00	0.00	0.00	239.31	207.26	0.87
IPIDAEA CORDATA	0.00	0.00	0.00	129.53	274.35	1.73
CORALLINACEAE	0.00	0.00	0.00	3.16	4.17	1.32
RHODYMENIA PALMATA	0.00	0.00	0.00	0.08	0.14	1.73
MICROCLADIA BOREALIS	0.00	0.00	0.00	14.20	15.82	1.11
CRYPTOPLURA SP.	0.00	0.00	0.00	2.94	1.73	0.11
GONIMOPHYLLUM SKOTTSB	0.00	0.00	0.00	0.01	0.02	1.73
HYMENENA SETCHELLII	0.00	0.00	0.00	0.30	0.51	1.73
PTEROSIPHONIA DENDROI	0.00	0.00	0.00	0.00	0.00	0.00
LAURENCIA SPECTABILIS	0.00	0.00	0.00	1.94	3.17	1.63
RHODOMELA LARIX	0.00	0.00	0.00	11.50	2.91	0.25
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	194.40	153.03	0.79
PHYLLOSPADIX SCOULERI	0.00	0.00	0.00	7.71	12.97	1.68
HALICLYSTUS AURICULA	8.33	14.43	1.73	0.42	0.72	1.73
NEMERTEA	25.00	8.66	0.35	0.03	0.02	0.87
NEMATODA	48.33	20.21	0.42	0.00	0.00	0.00
POLYDORAE	26.67	27.55	0.85	12.67	21.51	1.70
HALOSYONA BREVISETOSA	8.33	14.43	1.73	2.50	4.33	1.73
HARMOTHOE IMBRICATA	16.67	14.43	0.87	0.08	0.14	1.73
PHYLLODOCE MEDIPAPILL	8.33	14.43	1.73	0.00	0.00	0.00
FULALIA SP.	71.67	36.86	0.51	0.00	0.00	0.00
HESIONURA COINEAUI DI	38.33	46.46	1.21	0.00	0.00	0.00
OPHIODROMUS PUGETTENS	8.33	14.43	1.73	0.08	0.14	1.73
MICROPODARKE DUBIA	11.67	10.41	0.89	0.04	0.05	1.04
TYPOSYLLIS SP.	288.33	172.14	0.60	0.73	0.47	0.65
EXOGONE LOUREI	36.67	38.84	1.06	0.00	0.00	0.00
SPHAEROSYLLIS PIRIFER	10.00	10.00	1.00	0.00	0.00	0.00
ODONTOSYLLIS PARVA	25.00	25.00	1.00	0.00	0.00	0.00
NEPHEIS SP.	25.00	25.00	1.00	0.50	0.87	1.73
PLATYNERFIS RICANALIC	83.33	72.17	0.87	5.83	9.67	1.66
HEMIPODUS BOREALIS	18.33	17.56	0.96	0.45	0.40	0.88
ONUPHIS SP.	5.00	8.66	1.73	0.01	0.02	1.73
LUMBRINERIS ZONATA	66.67	22.55	0.34	4.16	5.15	1.24
PROTODORVILLEA GRACIL	60.00	55.00	0.92	0.01	0.02	1.73
NATERIS UNGINATA	8.33	14.43	1.73	0.00	0.00	0.00
SCOLOPLOS PUGETTENSIS	1.67	2.89	1.73	0.00	0.00	0.00
POLYDORA SP.	1.67	2.89	1.73	0.00	0.00	0.00
POLYDORA COLUMBIANA	8.33	14.43	1.73	0.08	0.14	1.73
SPIOPHANES BCMBYX	1.67	2.89	1.73	0.00	0.00	0.00
CIRRATULIDAE	43.33	27.54	0.64	0.03	0.02	0.87

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
CIRRATULUS CIRRATUS	50.00	8.66	0.17	6.49	4.03	0.62
CAULLERIELLA SP.	25.00	43.30	1.73	0.00	0.00	0.00
CHAETAZONE SP.	25.00	0.00	0.00	0.00	0.00	0.00
SCALIBREGMA INFLATUM	1.67	2.89	1.73	0.01	0.02	1.73
CAPITELLIDAE	25.00	25.00	1.00	0.17	0.29	1.73
CAPITELLA CAPITATA	8.33	14.43	1.73	0.00	0.00	0.00
NOTOMASTUS TENUIS	6.67	5.77	0.87	0.18	0.17	0.96
MEDIOMASTUS SP.	10.00	13.23	1.32	0.00	0.00	0.00
BRANCHIOMALDANE SP.	1.67	2.89	1.73	0.00	0.00	0.00
TREBELLIDAE	343.33	237.93	0.69	34.11	41.17	1.71
THELEPUS SP.	393.33	112.73	0.27	128.08	52.71	0.41
THELEPUS CRISPUS	3.33	5.77	1.73	2.70	4.67	1.73
LAONOME KROYERI	8.33	14.43	1.73	0.00	0.00	0.00
SACCOCIRRUS EROTICUS	55.00	90.97	1.65	0.11	0.20	1.73
OLIGOCHAETA	310.00	208.03	0.67	0.06	0.07	1.20
LACUNA SP.	76.67	70.06	0.91	0.81	0.71	0.87
LACUNA VARIEGATA	3241.67	757.19	0.23	17.17	5.08	0.30
ALVINIA SP.	1553.33	1101.77	0.71	4.64	3.41	0.73
NATICA CLAUSA	50.00	66.14	1.32	0.25	0.25	1.00
CLOROCYDIA PERCRASSA	8.33	14.43	1.73	1.67	2.89	1.73
MOPALIA MUSCOSA	8.33	14.43	1.73	9.50	16.45	1.73
GLYCYMERIS SP.	8.33	14.43	1.73	0.00	0.00	0.00
GLYCYMERIS SUBOBSOLET	8.33	14.43	1.73	0.03	0.05	1.73
MODIOLUS RECTUS	16.67	14.43	0.87	0.08	0.14	1.73
MYSILLA TUMIDA	5.00	5.00	1.00	0.04	0.05	1.04
MYA ARENARIA	1.67	2.89	1.73	0.01	0.02	1.73
ANATANAIS NORMANI	25.00	43.30	1.73	0.00	0.00	0.00
EXOSPHEPOMA AMPLICAU	76.67	33.29	0.43	0.38	0.30	0.78
DYNAMENELLA SHEARFII	8.33	14.43	1.73	0.00	0.00	0.00
LIMNORIA ALGARUM	16.67	28.87	1.73	0.00	0.00	0.00
IDOTEA SP.	3925.00	1952.08	0.50	8.93	2.40	0.27
IANIROPSIS KINCAIDI D	90.00	151.58	1.68	0.17	0.29	1.73
LIGIA PALLASI	41.67	72.17	1.73	0.08	0.14	1.73
AMPHIPODA GAMMARIDAE	96.67	92.78	0.96	0.10	0.13	1.39
AMPITHOE SP.	210.00	30.41	0.14	2.88	2.18	0.76
AOROIDES COLUMBIAE	58.33	52.04	0.89	0.08	0.14	1.73
PARAMERA MOHRI	2170.00	2722.60	1.25	1.58	1.94	1.23
AMPHIPODA GAMMARIDAE	8.33	14.43	1.73	0.00	0.00	0.00
MELITA CALIFORNICA	3.33	2.89	0.87	0.00	0.00	0.00
HYALE SP.	5031.66	2190.92	0.44	9.78	1.76	0.18
PARALLORCHESTES SP.	8.33	14.43	1.73	0.01	0.02	1.73
PARALLORCHESTES OCHOT	1233.33	2028.91	1.65	3.42	5.70	1.67
PHOTIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
PROTOMEDEIA SP.	5.00	8.66	1.73	0.01	0.02	1.73
PHOXOCEPHALIDAE	1.67	2.89	1.73	0.00	0.00	0.00
PAPAPLEUSTES NAUTILUS	33.33	57.74	1.73	0.00	0.00	0.00
CAPRELLIOEA	18.33	11.55	0.63	0.08	0.14	1.73
DECAPODA MEGALOPS	16.67	28.87	1.73	0.00	0.00	0.00
PAGURUS SP.	8.33	14.43	1.73	9.00	15.59	1.73
PUGETTIA GRACILIS	335.00	268.47	0.80	11.92	7.78	0.65
TELMESSUS CHEIRAGONUS	16.67	28.87	1.73	0.17	0.29	1.73
CANCER OREGONENSIS	21.67	33.29	1.54	4.19	7.23	1.72
SIPUNCULA	13.33	23.09	1.73	0.11	0.20	1.73
ECTOPROCTA	0.00	0.00	0.00	6.58	11.40	1.73
DEPMASTERIAS IMBRICAT	8.33	14.43	1.73	0.17	0.29	1.73
EVASTERIAS TROSCHELI	1.67	2.89	1.73	0.08	0.14	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
LEPTASTERIAS HEXACTIS	41.67	52.04	1.25	0.17	0.14	0.87
OPHIUROIDEA (AMPHIURI	8.33	14.43	1.73	0.08	0.14	1.73
LEPTOSYNAPTA CLARKI	1.67	2.89	1.73	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
114.00	3.32	20726.60	1194.67

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
LAMINARIA SP.	0.00	0.00	0.00	43.45	49.25	1.13
LAMINARIA SACCHARINA	0.00	0.00	0.00	0.58	1.00	1.73
ALARIA MARGINATA	0.00	0.00	0.00	107.51	152.34	1.42
ALARIA NANA	0.00	0.00	0.00	75.83	70.56	0.93
EGREGIA MENZIESII	0.00	0.00	0.00	25.25	43.73	1.73
PLOCAMUM PACIFICUM	0.00	0.00	0.00	0.54	0.93	1.73
TRIDAEA CORDATA	0.00	0.00	0.00	8.11	14.05	1.73
PRIONITIS LANCEOLATA	0.00	0.00	0.00	85.47	148.04	1.73
CRYPTOPLEURA VIOLACEA	0.00	0.00	0.00	0.75	1.30	1.73
HYMENENA FLABELLIGERA	0.00	0.00	0.00	1.40	2.17	1.55
BOTRYOGLOSSUM FARLOWI	0.00	0.00	0.00	1.91	3.30	1.73
LAURENCIA SPECTABILIS	0.00	0.00	0.00	6.93	12.00	1.73
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	9.69	13.61	1.40
PHYLLOSPADIX SCOULERI	0.00	0.00	0.00	128.08	217.92	1.70
NEMERTEA	8.33	14.43	1.73	0.01	0.02	1.73
NEMATODA	36.67	43.51	1.73	0.01	0.02	1.73
POLYCHAETA	6.67	11.55	1.73	0.00	0.00	0.00
HARMOTHODE IMBRICATA	1.67	2.89	1.73	0.00	0.00	0.00
HESIONURA COINEAUI DE	3.33	5.77	1.73	0.00	0.00	0.00
MICROPODARKE DURIA	11.67	20.21	1.73	0.01	0.02	1.73
TYPOSYLLIS SP.	53.33	83.86	1.57	0.10	0.17	1.73
EXOZONE SP.	181.67	314.66	1.73	0.10	0.17	1.73
SPHAEROSYLLIS SP.	11.67	20.21	1.73	0.00	0.00	0.00
PLATYNEREIS BICANALIC	5.00	8.66	1.73	0.06	0.11	1.73
HEMIPODUS BOREALIS	1.67	2.89	1.73	0.01	0.02	1.73
GLYCIDAE PICTA	1.67	2.89	1.73	0.01	0.02	1.73
ONUPHIS SP.	196.67	340.64	1.73	0.11	0.20	1.73
LUMBRINERIS SP.	6.67	11.55	1.73	0.01	0.02	1.73
PROTODORVILLEA GRACIL	51.67	72.86	1.41	0.01	0.02	1.73
NAINERIS QUADRICUSPID	1.67	2.89	1.73	0.00	0.00	0.00
POLYDORA SP.	1.67	2.89	1.73	0.00	0.00	0.00
SPID FILICORNIS	5.00	8.66	1.73	0.01	0.02	1.73
MALACOCEPS GLUTAFUS	10.00	17.32	1.73	0.01	0.02	1.73
CHAETAZONE SP.	20.00	34.64	1.73	0.01	0.02	1.73
ARMANDIA BREVIS	6.67	11.55	1.73	0.01	0.02	1.73
CAPITELLA CAPITATA	11.67	20.21	1.73	0.01	0.02	1.73
BRANCHIDMALOANE SP.	20.00	34.64	1.73	0.05	0.08	1.73
AXIOTHELLA PUBROCINCT	10.00	10.00	1.00	0.03	0.05	1.73
PISTA SP.	11.67	20.21	1.73	0.03	0.05	1.73
POLYCIRRUS KERGUELENS	8.33	14.43	1.73	0.03	0.05	1.73
SABELLIDAE	1.67	2.89	1.73	0.00	0.00	0.00
SACCOCIIRIUS EROTICUS	18.33	31.75	1.73	0.01	0.02	1.73
CLIGOCHAETA	105.00	156.60	1.49	0.03	0.05	1.73
MARGARITIS PUPILLUS	10.00	17.32	1.73	1.28	2.22	1.73
LACUNA SP.	173.33	291.60	1.68	1.56	2.67	1.68
ALVINIA SP.	81.67	137.14	1.68	0.05	0.08	1.73
AMPHISSA COLUMBIANA	13.33	23.09	1.73	0.67	1.15	1.73
GLYCYMERIS SP.	8.33	5.77	0.69	0.01	0.02	1.73
TANYSTYLUM OCCIDENTAL	3.33	5.77	1.73	0.00	0.00	0.00
ANOPLODACTYLUS ERCTU	1.67	2.89	1.73	0.00	0.00	0.00
ACANTHOMYSIS SP.	1.67	2.89	1.73	0.01	0.02	1.73
LEPTOCHELIA SP.	5.00	8.66	1.73	0.00	0.00	0.00
IDOTEA OCHOTENSIS	3.33	5.77	1.73	0.05	0.08	1.73
IDOTEA ACULEATA	10.00	13.23	1.32	0.06	0.11	1.73
IANIROPSIS KINCAIDI D	3.33	2.89	0.87	0.00	0.00	0.00

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT		WEIGHT		
AMPHIPODA GAMMARIDEA	28.33	40.41	1.43	0.01	0.02	1.73
AMPHITHOE SP.	1.67	2.89	1.73	0.00	0.00	0.00
ACROIDES COLUMBIAE	20.00	34.64	1.73	0.03	0.05	1.73
ATYLUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
PONTOGENEIA INEPMIS	45.00	69.46	1.54	0.08	0.14	1.73
PONTOGENEIA ROSTRATA	41.67	52.04	1.25	0.08	0.10	1.31
HYALF SP.	8.33	10.41	1.25	0.01	0.02	1.73
PARALLORCHESTES OCHOT	1.67	2.89	1.73	0.00	0.00	0.00
ISCHYROCRUS ANGUIPES	20.00	34.64	1.73	0.01	0.02	1.73
ANONYX NUGAX	6.67	7.64	1.15	0.01	0.02	1.73
SYNHELIDIUM SHOEMAKE	3.33	5.77	1.73	0.00	0.00	0.00
PHOXOCEPHALIDAE	1.67	2.89	1.73	0.03	0.05	1.73
FARAPLEUSTES NAUTILUS	1.67	2.89	1.73	0.00	0.00	0.00
PLEUSIRUS SECCORUS	8.33	14.43	1.73	0.01	0.02	1.73
PODOCRUS SP.	3.33	5.77	1.73	0.03	0.05	1.73
CAPRELLIDEA	3.33	2.89	0.87	0.00	0.00	0.00
CAPRELLA SP.	13.33	23.09	1.73	0.01	0.02	1.73
HEPTACARPUS SP.	5.00	5.00	1.00	0.01	0.02	1.73
PAGURUS SP.	8.33	14.43	1.73	0.00	0.00	0.00
OREGONIA GRACILIS	1.67	2.89	1.73	0.01	0.02	1.73
PUGETTIA GRACILIS	23.33	40.41	1.73	1.61	2.79	1.73
CANCER SP.	18.33	31.75	1.73	0.31	0.54	1.73
CANCER OREGONENSIS	1.67	2.89	1.73	2.65	4.58	1.73
PINNIXA OCCIDENTALIS	1.67	2.89	1.73	0.01	0.02	1.73
SIPUNCULA	6.67	11.55	1.73	0.01	0.02	1.73
OPHIOUROIDEA	1.67	2.89	1.73	0.00	0.00	0.00

NSPEC	SOI	TMEANC	TMFANW
81.00	3.35	1403.33	504.85

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
MONOSTROMA ZOSTERICOL	0.00	0.00	0.00	1.89	2.57	1.36
LAMINARIA SETCHELLII	0.00	0.00	0.00	18.79	32.54	1.73
CYTOSEIPA GEMINATA	0.00	0.00	0.00	7.20	11.76	1.63
PORPHYRA NAIADIUM	0.00	0.00	0.00	11.36	19.68	1.73
PLOCAMIMUM CUCCINEUM	0.00	0.00	0.00	0.11	0.18	1.73
PLOCAMIMUM VIOLACEUM	0.00	0.00	0.00	1.92	3.33	1.73
IRIDAEA CRDATA	0.00	0.00	0.00	2.64	2.40	0.91
RHODOGLOSSUM ROSEUM	0.00	0.00	0.00	1.30	1.29	0.99
MELOBESIA MEDIOCRIS	0.00	0.00	0.00	1.33	1.15	0.87
PRIONITIS LANCEOLATA	0.00	0.00	0.00	4.04	6.99	1.73
CALLOPHYLLIS FLABELLUM	0.00	0.00	0.00	0.05	0.08	1.73
CRYPTOPLEURA LOBULIFERA	0.00	0.00	0.00	24.53	36.53	1.49
GONIMOPHYLLUM SKOTTSII	0.00	0.00	0.00	0.51	0.48	0.94
ROTRYOGLOSSUM FARLOWI	0.00	0.00	0.00	2.96	5.13	1.73
LAURENCIA SPECTABILIS	0.00	0.00	0.00	13.32	14.88	1.12
NOONTHALIA FLOCCOSA	0.00	0.00	0.00	18.83	32.62	1.73
PHYLLOSPADIX SCOULEI	0.00	0.00	0.00	231.93	203.05	0.88
HALICLYSTUS SP.	1.67	2.89	1.73	0.45	0.77	1.73
NEMERTEA	26.67	14.43	0.54	0.61	0.77	1.19
NEMATODA	85.00	88.88	1.05	0.04	0.05	1.04
HARMOTHOE IMBRICATA	3.33	2.89	0.87	0.08	0.10	1.31
PHYLLODOCE MACULATA	5.00	5.00	1.00	0.00	0.00	0.00
EULALIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
HESIONURA COINEAUI DI	33.33	49.33	1.48	0.01	0.02	1.73
MICROPODARKE DUBIA	43.33	33.29	0.77	0.08	0.07	0.93
TYPOSYLLIS SP.	176.67	77.51	0.44	0.21	0.12	0.56
EXOGONE SP.	363.33	404.42	1.11	0.16	0.20	1.29
SPHAEROSYLLIS SP.	31.67	42.52	1.34	0.01	0.02	1.73
NERFIS SP.	1.67	2.89	1.73	0.01	0.02	1.73
PLATYNERFIS BICANALIC	15.00	17.32	1.15	1.18	0.80	0.68
ONUPHIS SP.	230.00	285.44	1.24	1.96	3.07	1.57
LUMBRINERIS SP.	23.33	18.93	0.81	0.95	1.06	1.12
DORVILLEA SP.	3.33	5.77	1.73	0.00	0.00	0.00
PROTODORVILLEA GRACIL	61.67	55.08	0.89	0.04	0.05	1.04
PARAONIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
SPIO FILICORNIS	10.00	10.00	1.00	0.14	0.21	1.50
MALACOCEROS GLUTAEUS	13.33	10.41	0.78	0.01	0.02	1.73
CIRRATULUS CIRRATUS	53.33	75.72	1.42	3.38	5.56	1.65
CHAETOGONE SP.	75.00	39.69	0.53	0.36	0.43	1.19
ARMANDIA BREVIS	1.67	2.89	1.73	0.00	0.00	0.00
CAPITELLA CAPITATA	13.33	18.93	1.42	0.00	0.00	0.00
NOTOMASTUS TENUIS	3.33	2.89	0.87	0.04	0.05	1.04
MEDICMASTUS SP.	21.67	20.21	0.93	0.06	0.07	1.20
BRANCHIOMALDANE SP.	58.33	84.31	1.45	0.14	0.21	1.50
MALDANIDAE	1.67	2.89	1.73	0.01	0.02	1.73
AXIOHELLA RUBROINCT	10.00	17.32	1.73	0.31	0.54	1.73
TEREBELLIDAE	70.00	82.61	1.18	1.17	1.08	0.92
PISTA SP.	8.33	14.43	1.73	0.05	0.08	1.73
THELEPUS CRISPUS	3.33	5.77	1.73	3.21	5.57	1.73
CHONE INFUNDIBULIFORM	3.33	2.89	0.87	0.01	0.02	1.73
SACCOGIRPUS EPOTICUS	40.00	43.30	1.08	0.00	0.00	0.00
CLIGOCHEFTA	726.67	197.76	0.27	0.29	0.18	0.61
LACUNA SP.	160.00	151.74	0.95	1.44	1.47	1.02
ALVINIA SP.	1.67	2.89	1.73	0.01	0.02	1.73
TONICELLA LINEATA	3.33	5.77	1.73	0.08	0.14	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
AMPHISSA COLUMBIANA	6.67	5.77	0.87	0.46	0.53	1.15
SPARLESIA DINA	1.67	2.89	1.73	0.75	1.30	1.73
GLYCYMERIS SP.	20.00	10.00	0.50	0.06	0.03	0.51
MYSELLA TUMIDA	1.67	2.89	1.73	0.00	0.00	0.00
PSEPHIDIA LORDI	3.33	5.77	1.73	1.68	2.91	1.73
MYSIDAE	1.67	2.89	1.73	0.00	0.00	0.00
ACANTHOMYSIS SP.	1.67	2.89	1.73	0.01	0.02	1.73
ARCHAEOMYSIS GREBNITZ	1.67	2.89	1.73	0.00	0.00	0.00
EXOSPHAEROMA AMPLICAU	20.00	30.41	1.52	0.11	0.20	1.73
IDOTEA OCHOTENSIS	3.33	5.77	1.73	0.01	0.02	1.73
IDOTEA ACULEATA	28.33	22.55	0.80	0.16	0.20	1.28
IANIROPSIS KINCAIDI D	11.67	20.21	1.73	0.01	0.02	1.73
AMPHIPODA GAMMARIDEA	16.67	17.56	1.05	0.03	0.02	0.87
AMPHITHE SP.	3.33	2.89	0.87	0.00	0.00	0.00
AORDIOS COLUMBIAE	6.67	11.55	1.73	0.00	0.00	0.00
PONTOGENEIA INERMIS	95.00	21.79	0.23	0.12	0.06	0.47
PONTOGENEIA ROSTRATA	211.67	200.40	0.95	0.36	0.42	1.18
AMPHIPODA GAMMARIDAE	11.67	16.07	1.38	0.01	0.02	1.73
MELITA CALIFORNICA	3.33	5.77	1.73	0.00	0.00	0.00
HYALE SP.	10.00	13.23	1.32	0.03	0.05	1.73
PHOTIS SP.	6.67	7.64	1.15	0.00	0.00	0.00
PROTOMEDEIA SP.	8.33	10.41	1.25	0.00	0.00	0.00
ANONYX NUGAX	3.33	5.77	1.73	0.01	0.02	1.73
PHOXOCEPHALIDAE	1.67	2.89	1.73	0.01	0.02	1.73
PIFUSIPUS SECCOPUS	10.00	10.00	1.00	0.00	0.00	0.00
CAPPELLIDEA	3.33	2.89	0.87	0.01	0.02	1.73
CAPPELLA SP.	6.67	11.55	1.73	0.01	0.02	1.73
HEPTACARPUS SP.	1.67	2.89	1.73	0.05	0.08	1.73
PAGURUS SP.	3.33	2.89	0.87	0.00	0.00	0.00
PUGETTIA PRODUCTA	3.33	5.77	1.73	0.60	1.03	1.73
PUGETTIA GRACILIS	5.00	8.66	1.73	0.08	0.14	1.73
CANCER SP.	20.00	13.23	0.66	0.28	0.41	1.48
PINNIXA OCCIDENTALIS	15.00	21.79	1.45	0.33	0.58	1.73
SIPUNCULA	50.00	55.68	1.11	0.14	0.18	1.23

NSPEC	SDI	TMEANC	TMEANW
89.00	3.80	2984.99	364.57



	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NAVICULA SP.	0.00	0.70	0.00	0.31	0.54	1.73
MONOSTROMA FLSCUM	0.00	0.00	0.00	0.59	1.02	1.73
ENTEROMORPHA LINZA	0.00	0.00	0.00	0.50	0.83	1.66
ULVA LOBATA	0.00	0.00	0.00	0.32	0.55	1.73
CLADOPHORA TRICHOTOMA	0.00	0.00	0.00	0.25	0.43	1.73
LAMINARIA SACCHARINA	0.00	0.00	0.00	13.99	18.79	1.34
DESMARESTIA ACULEATA	0.00	0.00	0.00	0.31	0.54	1.73
PORPHYRA MINIATA	0.00	0.00	0.00	1.13	1.96	1.73
PORPHYRA OCCIDENTALIS	0.00	0.00	0.00	53.07	46.40	0.87
GRACILARIOPSIS SJOFST	0.00	0.00	0.00	101.42	47.75	0.47
STENOGRAMME INTERRUPT	0.00	0.00	0.00	0.57	0.70	1.23
IRIDAFIA CORDATA	0.00	0.00	0.00	58.61	101.52	1.73
RHODYMENIA PALMATA	0.00	0.00	0.00	15.76	2.57	0.16
SCAGELIA OCCIDENTALE	0.00	0.00	0.00	5.11	3.36	0.66
POLYNEURA LATISSIMA	0.00	0.00	0.00	0.37	0.32	0.87
POLYSIPHONIA HENOPYI	0.00	0.00	0.00	3.49	2.05	0.59
LAURENCIA SPECTABILIS	0.00	0.00	0.00	4.56	6.90	1.51
PTERONCHONDRIA WOODII	0.00	0.00	0.00	0.22	0.29	1.26
NEMERTEA	40.00	15.00	0.38	0.20	0.09	0.47
NEMATODA	228.33	79.74	0.35	0.28	0.10	0.37
POLYCHAETA	0.00	0.00	0.00	0.23	0.13	0.56
HARMOTHOE IMBRICATA	5.00	5.00	1.00	0.03	0.05	1.73
PHOLOE MINUTA	1.67	2.89	1.73	0.01	0.02	1.73
PHYLLODOCE MACULATA	1.67	2.89	1.73	0.01	0.02	1.73
ETEONE SP.	8.33	10.41	1.25	0.10	0.13	1.39
EULALIA SP.	1.67	2.89	1.73	0.01	0.02	1.73
HESIONURA COINEAUI DI	26.67	20.21	0.75	0.01	0.02	1.73
CPHIDROMUS PUGETTENS	1.67	2.89	1.73	0.00	0.00	0.00
MICROPODARKE DUBIA	250.00	51.96	0.21	0.42	0.10	0.25
TYPOSYLLIS SP.	6.67	7.64	1.15	0.00	0.00	0.00
EXOGONE SP.	301.67	311.82	1.03	0.14	0.13	0.94
SPHAEROSYLLIS SP.	535.00	654.43	1.22	0.14	0.17	1.24
PLATYNEREIS BICANALIC	6.67	7.64	1.15	0.11	0.16	1.43
GLYCERA SP.	1.67	2.89	1.73	0.08	0.14	1.73
HEMIPODUS BOREALIS	25.00	0.00	0.00	0.36	0.14	0.40
GNUPHIS SP.	198.33	109.13	0.55	0.89	0.40	0.44
DIOPATRA ORNATA	1.67	2.89	1.73	1.15	1.99	1.73
LUMBRINERIS SP.	1.67	2.89	1.73	0.05	0.08	1.73
PROTODOPVILLEA GRACIL	26.67	7.64	0.29	0.01	0.02	1.73
SCOLOPLOS ARMIGER	3.33	5.77	1.73	0.08	0.14	1.73
PARADNIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
POLYDORA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PRIONOSPION STEENSTRUP	1.67	2.89	1.73	0.05	0.08	1.73
SPIO FILICORNIS	53.33	29.30	0.55	0.31	0.03	0.09
SPIOPHANES BCMBYX	5.00	5.00	1.00	0.04	0.05	1.04
MALACOCERPS GLUTAEUS	3.33	5.77	1.73	0.00	0.00	0.00
CIRRATULUS CIRRATUS	13.33	7.64	0.57	0.26	0.29	1.12
SCALIBREGMA INFLATUM	1.67	2.89	1.73	0.00	0.00	0.00
ARMANDIA BREVIS	3.33	5.77	1.73	0.00	0.00	0.00
CAPITELLA CAPITATA	1.67	2.89	1.73	0.00	0.00	0.00
NOTOMASTUS GIGANTIFUS	3.33	2.89	0.87	0.26	0.30	1.16
MEDIOMASTUS SP.	23.33	7.64	0.33	0.12	0.03	0.23
MALDANIDAE	1.67	2.89	1.73	0.00	0.00	0.00
NICOMACHE PERSONATA	23.33	11.55	0.49	0.76	0.60	0.79
AXIOHELLA RUBROGINCT	1.67	2.89	1.73	0.01	0.02	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
CWFNIA FUSIFORMIS	1.67	2.89	1.73	0.03	0.05	1.73
TERRELLIDAE	41.67	35.12	0.84	0.24	0.22	0.92
SACCOCIRRUS FRONTICUS	8.33	10.41	1.25	0.00	0.00	0.00
CLIGCHAETA	308.33	156.87	0.51	0.07	0.03	0.39
MARGARITES PUPILLUS	13.33	18.93	1.42	0.16	0.24	1.52
LACUNA SP.	11.67	16.07	1.38	0.03	0.05	1.73
ALVINIA SP.	3.33	5.77	1.73	0.01	0.02	1.73
NATICA CLAUSA	1.67	2.89	1.73	0.01	0.02	1.73
AMPHISSA COLUMBIANA	1.67	2.89	1.73	0.00	0.00	0.00
GLYCYMERIS SP.	210.00	108.51	0.52	0.36	0.03	0.08
AXINOPSIDA SERRICATA	1.67	2.89	1.73	0.03	0.05	1.73
MYSELLIA TUMIDA	11.67	7.64	0.65	0.03	0.02	0.87
ASTARTE ALASKENSIS	3.33	5.77	1.73	0.01	0.02	1.73
MACOMA SP.	5.00	8.66	1.73	0.80	1.38	1.73
SAXIDOMUS GIGANTEUS	1.67	2.89	1.73	0.96	1.67	1.73
PSEPHODIA LORDI	78.33	5.77	0.07	1.03	0.02	0.02
MYA ARENARIA	1.67	2.89	1.73	0.17	0.29	1.73
LEPTOCHELIA SP.	35.00	32.79	0.94	0.01	0.02	1.73
EXOSPHAEROMA AMPLICAU	16.67	16.07	0.95	0.11	0.12	1.10
IDOTEA OCHOTENSIS	1.67	2.89	1.73	0.03	0.05	1.73
IDOTEA ACULEATA	5.00	8.66	1.73	0.18	0.31	1.73
AMPHIRODA GAMMARIDEA	5.00	8.66	1.73	0.03	0.05	1.73
AMPHIROE SP.	1.67	2.89	1.73	0.00	0.00	0.00
ABRIDES COLUMBIAE	20.00	13.23	0.65	0.01	0.02	1.73
COROPHIUM SP.	3.33	2.89	0.87	0.00	0.00	0.00
PARAMERA MOHRI	35.00	30.41	0.87	0.03	0.05	1.73
PONTOGENEIA INERMIS	5.00	5.00	1.00	0.00	0.00	0.00
PONTOGENEIA ROSTRATA	3.33	5.77	1.73	0.00	0.00	0.00
HYALE SP.	5.00	8.66	1.73	0.03	0.05	1.73
PHOTIS SP.	5.00	8.66	1.73	0.01	0.02	1.73
PROTOMEDEIA SP.	36.67	31.75	0.87	0.04	0.05	1.04
ISCHYROCERUS ANGUIPES	1.67	2.89	1.73	0.00	0.00	0.00
ANDONYX NUGAX	1.67	2.89	1.73	0.05	0.08	1.73
SYNCHLIDIUM SHOEMAKE	1.67	2.89	1.73	0.00	0.00	0.00
PHOXOCEPHALIDAE	3.33	2.89	0.87	0.00	0.00	0.00
PLEUSTIRUS SECCORUS	8.33	14.43	1.73	0.01	0.02	1.73
CAPRELLIDEA	3.33	2.89	0.87	0.00	0.00	0.00
CAPRELLA SP.	10.00	17.32	1.73	0.03	0.05	1.73
PUGETTIA GRACILIS	6.67	11.55	1.73	0.03	0.05	1.73
CANCE" SP.	35.00	22.91	0.65	0.53	0.48	0.92
PINNACA OCCIDENTALIS	5.00	0.00	0.00	0.04	0.00	0.00
STIPUCULA	20.00	30.41	1.52	0.10	0.17	1.73
LEPTOSYNAPTA CLARKI	20.00	8.66	0.43	0.77	0.33	0.42

NSPEC	SDI	TMEANC	TMEANW
98.00	3.81	2813.33	272.69

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
LAMINARIA SACCHARINA	0.00	0.00	0.00	8.04	13.93	1.73
LAMINARIA SETCHELLII	0.00	0.00	0.00	68.79	119.49	1.73
DESMARESTIA ACULFATA	0.00	0.00	0.00	5.09	6.44	1.26
PORPHYRA MINIATA	0.00	0.00	0.00	14.92	21.28	1.43
PORPHYRA PERFORATA	0.00	0.00	0.00	0.76	1.31	1.73
PORPHYRA OCCIDENTALIS	0.00	0.00	0.00	4.69	8.13	1.73
NEOGARDMIELLA BAILEY	0.00	0.00	0.00	18.17	31.47	1.73
GRACILARIOPSIS SJOEST	0.00	0.00	0.00	59.31	50.96	0.86
STENOGRAMME INTERRUPT	0.00	0.00	0.00	1.69	1.82	1.08
GIGARTINA HARVEYANA	0.00	0.00	0.00	0.80	1.38	1.73
RHODOGLOSSUM ROSFUM	0.00	0.00	0.00	4.78	4.88	1.07
CRYPTONEMIA OVALIFOLI	0.00	0.00	0.00	1.08	1.86	1.73
GRATELOUPIA DORYPHORA	0.00	0.00	0.00	1.19	2.06	1.73
HALYMENTIA COCCINEA	0.00	0.00	0.00	12.96	20.87	1.61
CALLOPHYLLIS FLABELLUM	0.00	0.00	0.00	0.13	0.23	1.73
CALLOPHYLLIS HAENOPHY	0.00	0.00	0.00	0.70	1.21	1.73
RHODYMENTIA PALMATA	0.00	0.00	0.00	2.98	3.14	1.05
ANTITHAMNION DENDROID	0.00	0.00	0.00	0.01	0.02	1.73
CERAMIVM PROCUMBENS	0.00	0.00	0.00	0.21	0.36	1.73
PTILODA FILICINA	0.00	0.00	0.00	0.09	0.16	1.73
HOLLENBERGIA SURULATA	0.00	0.00	0.00	1.13	1.58	1.40
SCAGELIA OCCIDENTALE	0.00	0.00	0.00	1.61	1.60	1.00
POLYNEURA LATISSIMA	0.00	0.00	0.00	0.50	0.46	0.91
POLYSIPHONIA HENDRYI	0.00	0.00	0.00	0.40	0.69	1.73
LAURENCIA SPECTABILIS	0.00	0.00	0.00	10.58	6.58	0.62
PTEROCHONDRIA WOODII	0.00	0.00	0.00	0.68	0.75	1.09
NEMERTEA	20.00	10.00	0.50	0.56	0.57	1.07
NEMATODA	15.00	19.03	1.20	0.03	0.05	1.73
HARMOTHOE IMBRICATA	1.67	2.89	1.73	0.03	0.05	1.73
HESIONURA COINEAUI DI	78.33	77.84	0.99	0.03	0.02	0.87
MICROPORARKE DURIA	151.67	100.17	0.65	0.21	0.13	0.61
TYPOSYLLIS SP.	11.67	10.41	0.89	0.00	0.00	0.00
FXOGONE SP.	8.33	5.77	0.69	0.00	0.00	0.00
SPHAEROSYLLIS SP.	158.33	127.12	0.80	0.04	0.05	1.04
PLATYNEREIS RICANALIC	3.33	2.89	0.87	0.01	0.02	1.73
NEPHTYS SP.	1.67	2.89	1.73	0.01	0.02	1.73
HEMIPODUS BOREALIS	8.33	2.89	0.35	0.06	0.07	1.20
GNUPHIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
DORVILLEA RUDOLPHI	1.67	2.89	1.73	0.20	0.34	1.73
PROTODORVILLEA GRACIL	28.33	20.21	0.71	0.00	0.00	0.00
SCOLOPLOS ARMIGER	1.67	2.89	1.73	0.01	0.02	1.73
SCOLOPLOS PUGETTENSIS	1.67	2.89	1.73	0.00	0.00	0.00
SPIO FILICORNIS	3.33	5.77	1.73	0.01	0.02	1.73
SPIOPHANES BOMBYX	1.67	2.89	1.73	0.01	0.02	1.73
CIPRATULUS CIPRATUS	3.33	2.89	0.87	0.13	0.13	0.96
CHAETAZONE SP.	20.00	15.00	0.75	0.01	0.02	1.73
CAPITELLA CAPITATA	1.67	2.89	1.73	0.00	0.00	0.00
MEDIOMASTUS SP.	13.33	7.64	0.57	0.01	0.02	1.73
AXIOHELLA RUBROINCT	8.33	7.64	0.92	0.06	0.07	1.20
TEPEBELLIDAE	3.33	2.89	0.87	0.00	0.00	0.00
SACCOCIROPUS FRODICUS	1.67	2.89	1.73	0.00	0.00	0.00
CLIGCHAETA	175.00	47.70	0.27	0.03	0.02	0.87
MARGARITES PUPILLUS	138.33	153.32	1.11	2.09	3.08	1.47
LACUNA SP.	3.33	5.77	1.73	0.01	0.02	1.73
ALVINIA SP.	11.67	12.58	1.08	0.01	0.02	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		CCOUNT			WEIGHT	
CALYPTRAEA FASTIGIATA	5.00	5.00	1.00	0.06	0.07	1.20
TONICELLA LINFATA	1.67	2.89	1.73	0.01	0.02	1.73
AMPHISSA COLUMBIANA	10.00	17.32	1.73	0.10	0.17	1.73
HANLEYA HANLEYI	1.67	2.89	1.73	0.01	0.02	1.73
GLYCYMERIS SP.	591.67	714.39	1.21	3.14	4.45	1.42
CYCLOCARDIA SP.	13.33	15.28	1.15	0.49	0.82	1.66
ASTARTE ALASKENSIS	15.00	21.79	1.45	2.24	1.91	0.87
ASTARTE COMPACTA	5.00	8.66	1.73	2.33	4.04	1.73
CLINOCARDIUM SP. JUV.	1.67	2.89	1.73	0.00	0.00	0.00
TELLINA MODESTA	5.00	5.00	1.00	0.06	0.07	1.20
PSEPHIDIA LORDI	65.00	58.95	0.91	0.46	0.47	1.02
HUMILARIA KENNERLYI	1.67	2.89	1.73	0.03	0.05	1.73
TAPES JAPONICA	1.67	2.89	1.73	0.01	0.02	1.73
BALANUS CRENATUS	10.00	10.00	1.00	0.36	0.40	1.11
LEPTOCHELIA SP.	6.67	5.77	0.87	0.00	0.00	0.00
EXOSPHAEPOMA AMPLICAU	40.00	40.93	1.02	0.28	0.30	1.06
ROCINELA BELLICEPS	1.67	2.89	1.73	0.05	0.08	1.73
IDOTEA ACULEATA	1.67	2.89	1.73	0.01	0.02	1.73
AMPHIPODA GAMMARIDEA	11.67	7.64	0.65	0.01	0.02	1.73
AMPHITHOE SP.	3.33	5.77	1.73	0.01	0.02	1.73
AORRIDES COLUMBIAE	16.67	14.43	0.87	0.01	0.02	1.73
PARAMOERA MOHRI	5.00	5.00	1.00	0.00	0.00	0.00
PONTOGNEIA INERMIS	16.67	23.87	1.73	0.18	0.31	1.73
MELITA CALIFORNICA	6.67	5.77	0.87	0.01	0.02	1.73
PROTOMEDEIA SP.	23.33	36.86	1.30	0.01	0.02	1.73
PLEUSIRUS SECCOPUS	5.00	8.66	1.73	0.00	0.00	0.00
CAPPILLIDEA	1.67	2.89	1.73	0.00	0.00	0.00
HEPTACARPIUS SP.	1.67	2.89	1.73	0.01	0.02	1.73
CANCEP SP.	23.33	20.21	0.87	0.63	0.55	0.97
LEPTOSYNAPTA CLARKI	11.67	7.64	0.65	0.49	0.82	1.66

NSPFC  
85.00

SDI  
3.37

TMEANC  
1788.33

TMEANW  
236.10

	MEAN	S.D.	CVAR	MFAN	S.D.	CVAR
	COUNT				WEIGHT	
LAMINARIA SP.	0.00	0.00	0.00	1.23	2.13	1.73
DESMARESTIA LIGULATA	1.00	0.00	0.00	12.79	10.67	0.83
PLOCAMIMUM COCCINUM	0.00	0.00	0.00	7.67	10.17	1.33
GRACILARIOPSIS SJOEST	0.00	0.00	0.00	0.67	1.16	1.73
STENOGRAMME INTERRUPT	0.00	0.00	0.00	0.88	0.58	0.65
RHODOGLOSSUM ROSEUM	0.00	0.00	0.00	0.40	0.69	1.73
CRYPTONEMIA OVALIFOLI	0.00	0.00	0.00	0.66	1.14	1.73
HALYMENTIA SCHIZYMENTO	0.00	0.00	0.00	0.51	0.88	1.73
CALLOPHYLLIS FLARELLU	0.00	0.00	0.00	12.11	7.79	0.23
WEEKSIA HOWELLI	0.00	0.00	0.00	0.15	0.26	1.73
RHODYMENTIA PACIFICA	0.00	0.00	0.00	1.56	2.48	1.59
ANTITHAMNION DENDROID	0.00	0.00	0.00	0.40	0.63	1.58
PLEONOSPORIUM VANCOUV	0.00	0.00	0.00	0.11	0.19	1.73
PTILOTA FILICINA	0.00	0.00	0.00	2.99	2.02	0.68
PLATYTHAMNION PECTINA	0.00	0.00	0.00	0.14	0.24	1.73
HOLLENBERGIA SUBULATA	0.00	0.00	0.00	0.03	0.05	1.73
CRYPTOPLEURA VIOLACEA	0.00	0.00	0.00	0.08	0.14	1.73
MEMBRANOPTERA WEEKSIA	0.00	0.00	0.00	0.28	0.17	0.60
POLYNEURA LATISSIMA	0.00	0.00	0.00	15.60	9.48	0.61
ANISOCLADELLA PACIFIC	0.00	0.00	0.00	3.58	1.91	0.53
PTEROSIPHONIA DENDROI	0.00	0.00	0.00	0.55	0.41	0.74
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	0.14	0.25	1.73
LOPHOSIPHONIA VILLUM	0.00	0.00	0.00	0.46	0.26	0.57
PTEROCHEONOTIA WOODII	0.00	0.00	0.00	4.66	3.54	0.76
NEMERTEA	18.13	10.41	0.57	0.16	0.11	0.68
NEMATODA	11.67	7.64	0.65	0.01	0.02	1.73
HARMOTHOE IMBRICATA	10.00	5.00	0.50	0.13	0.15	1.17
PHOLOE MINUTA	11.67	7.64	0.65	0.04	0.05	1.04
PHYLLODOCE MACULATA	3.33	2.89	0.87	0.00	0.00	0.00
HESTONURA CONINEAHI DI	1.67	2.89	1.73	0.00	0.00	0.00
MICROPONDARKE DUBIA	31.67	7.64	0.24	0.03	0.02	0.87
TYPOSYLLIS SP.	20.00	10.00	0.50	0.01	0.02	1.73
EXOGONE SP.	1.67	2.89	1.73	0.00	0.00	0.00
SPHAEROSYLLIS SP.	26.67	24.66	0.92	0.00	0.00	0.00
PLATYNEREIS BICANALIC	3.33	2.89	0.87	0.03	0.02	0.87
GLYCERA SP.	1.67	2.89	1.73	0.90	1.55	1.73
HEMIPODUS BOREALIS	5.00	5.00	1.00	0.03	0.05	1.73
LUMBPINERIS SP.	1.67	2.89	1.73	0.03	0.05	1.73
DORVILLEA RUDOLPHI	3.33	5.77	1.73	0.01	0.02	1.73
PROTODORVILLEA GRACIL	40.00	10.00	0.25	0.03	0.02	0.87
POLYDORA SP.	6.67	5.77	0.87	0.03	0.02	0.87
PRIONOSPID CIRRIFERA	3.33	5.77	1.73	0.00	0.00	0.00
PRIONOSPID STEENSTPUP	11.67	7.64	0.65	0.14	0.21	1.50
SPID FILICORNIS	40.00	35.00	0.88	0.13	0.13	0.96
SPIOPHANES POMBYX	6.67	5.77	0.87	0.03	0.02	0.87
SPIOPHANES CIRRATA	3.33	2.89	0.87	0.00	0.00	0.00
CHAETAZONE SP.	33.33	16.07	0.48	0.16	0.08	0.51
SCALIBREGMA INFLATUM	16.67	5.77	0.35	0.14	0.15	1.01
ARMANDIA BREVIS	8.33	10.41	1.25	0.03	0.05	1.73
NOTOMASTUS GIGANTEUS	1.67	2.89	1.73	0.01	0.02	1.73
MEIDIOMASTUS SP.	53.33	32.15	0.60	0.07	0.03	0.39
NICOMACHE PERSONATA	21.67	20.21	0.93	1.08	1.15	1.07
AXIOTHELLA RUBROINCT	21.67	5.77	0.27	0.21	0.37	1.73
OWENIA FUSIFORMIS	1.67	2.89	1.73	0.03	0.05	1.73
AMPHARETE ARCTICA	6.67	7.64	1.15	0.05	0.08	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
TEREBELLIDAE	23.33	20.21	0.87	0.14	0.13	0.94
TEREBELLIDES STROEMI	1.67	2.89	1.73	0.51	0.89	1.73
SABELLIDAE	56.67	33.29	0.59	0.21	0.11	0.50
CHONE INFUNDIBULIFORM	5.00	5.00	1.00	0.89	1.51	1.69
PSUDOPOTAMILLA OCCEL	1.67	2.89	1.73	0.00	0.00	0.00
CLIGOCHAETA	16.67	12.58	0.75	0.00	0.00	0.00
MARGARITES PUPILLUS	11.67	16.07	1.39	0.19	0.30	1.56
LACUNA SP.	1.67	2.89	1.73	0.00	0.00	0.00
ALVINIA SP.	10.00	8.66	0.87	0.04	0.05	1.04
CALYPTRAEA FASTIGIATA	15.00	5.00	0.33	1.47	2.35	1.60
TONICELLA LINEATA	1.67	2.89	1.73	0.01	0.02	1.73
AMPHISSA COLUMBIANA	5.00	8.66	1.73	0.20	0.34	1.73
DOTO SP.	1.67	2.89	1.73	0.00	0.00	0.00
HANLEYA HANLEYI	15.00	5.00	0.33	0.24	0.13	0.55
CYANOPLAX DENTIENS	5.00	8.66	1.73	0.05	0.08	1.73
ISCHNOCHITON PETIPORO	8.33	7.64	0.92	0.30	0.40	1.34
KATHARINA TUNICATA	1.67	2.89	1.73	0.03	0.05	1.73
MOPALIA SP. JUV.	1.67	2.89	1.73	0.01	0.02	1.73
NUCULANA HAMATA	1.67	2.89	1.73	0.01	0.02	1.73
GLYCYMERIS SP.	60.00	73.99	1.23	0.17	0.23	1.33
MUSCULUS SP. JUV.	3.33	5.77	1.73	0.01	0.02	1.73
MOOIOLUS RECTUS	1.67	2.89	1.73	0.01	0.02	1.73
CYCLOCARDIA SP.	33.33	20.21	0.61	2.51	2.40	0.96
GLANS SUBQUADRATA	1.67	2.89	1.73	0.01	0.02	1.73
ASTARTE ALASKENSIS	33.33	15.28	0.46	5.96	3.32	0.56
ASTARTE COMPACTA	8.33	2.89	0.35	5.31	2.64	0.50
CLINOCARDIUM CILIATUM	1.67	2.89	1.73	4.15	7.18	1.73
CLINOCARDIUM CALIFORN	3.33	2.89	0.87	1.86	1.69	0.91
MACOMA SP.	1.67	2.89	1.73	0.01	0.02	1.73
PSEPHIDIA LORDI	1.67	2.89	1.73	0.00	0.00	0.00
HUMILARIA KENNEPLYI	1.67	2.89	1.73	65.11	112.78	1.73
MYA ARENARIA	3.33	2.89	0.87	0.06	0.07	1.20
BALANUS CRENATUS	5.00	5.00	1.00	0.51	0.81	1.58
LEPTOCHELIA SP.	50.00	26.46	0.53	0.04	0.00	0.00
EXOSPHAEROMA AMPLICAU	3.33	5.77	1.73	0.03	0.05	1.73
IDOTEA ACULEATA	5.00	8.66	1.73	0.01	0.02	1.73
TANTOOPSIS KINCAIDII D	3.33	2.89	0.87	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	3.33	5.77	1.73	0.00	0.00	0.00
AMPELISCA SP.	1.67	2.89	1.73	0.00	0.00	0.00
AMPITHOE SP.	1.67	2.89	1.73	0.00	0.00	0.00
ADRIDES COLUMBIAE	5.00	5.00	1.00	0.00	0.00	0.00
ATYLIUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
COROPHIUM SP.	85.00	112.69	1.33	0.08	0.14	1.73
PONTOGENEIA INERMIS	3.33	2.89	0.87	0.00	0.00	0.00
MELITA CALIFORNICA	30.00	32.79	1.09	0.09	0.08	0.87
HAUSTORIIDAE SP. A	1.67	2.89	1.73	0.00	0.00	0.00
HYALE SP.	5.00	5.00	1.00	0.01	0.02	1.73
PHOTIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
PROTOMEDEIA SP.	75.00	47.70	0.64	0.14	0.18	1.23
PHOXOCEPHALICAE	1.67	2.89	1.73	0.00	0.00	0.00
CAPRELLA SP.	6.67	11.55	1.73	0.01	0.02	1.73
DECAPODA CARIDEA	3.33	2.89	0.87	0.08	0.10	1.31
HEPTACARPUS SP.	11.67	2.89	0.25	0.09	0.02	0.25
PAGURUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
PUGETTIA GRACILIS	3.33	5.77	1.73	0.03	0.05	1.73
CANCEP SP.	35.00	15.00	0.43	0.64	0.30	0.48

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		CCUNT			WEIGHT	
PINNIYA OCCIDENTALIS	13.33	23.09	1.73	0.05	0.08	1.73
SIPUNCULA	3.33	2.89	0.87	0.00	0.00	0.00
OPHIUROIDEA	1.67	2.89	1.73	0.01	0.02	1.73
LEPTOSYNAPTA CLARKI	3.33	2.89	0.87	0.21	0.22	1.05

NSPEC	SDI	TMEANC	TMEANW
115.00	4.63	1134.99	152.71

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
DELSSERTACEAE	0.00	0.00	0.00	0.01	0.03	2.00
ZOSTERA MARINA	0.00	0.00	0.00	0.35	0.70	2.00
PHYLLOSPADIX SCOULEI	0.00	0.00	0.00	0.25	0.50	2.00
PLATYHELMINTHES	11.25	22.50	2.00	0.01	0.02	2.00
NEMERTEA	1.25	2.50	2.00	0.00	0.00	0.00
NEMATODA	5.00	7.07	1.41	0.00	0.00	0.00
POLYCHAETA	6.25	6.29	1.01	0.00	0.00	0.00
SPIO FILICORNIS	1.25	2.50	2.00	0.00	0.00	0.00
POLYDORA COLUMBIANA	1.25	2.50	2.00	0.01	0.02	2.00
CHAETOZONE SP.	1.25	2.50	2.00	0.00	0.00	0.00
ARMANDIA BREVIS	1.25	2.50	2.00	0.01	0.02	2.00
CLIGOCHAETA	17.50	8.66	0.49	0.00	0.00	0.00
ACMAEIDAE JUV. <4MM	1.25	2.50	2.00	0.01	0.02	2.00
LITTORINA SCUTULATA	2.50	5.00	2.00	0.03	0.07	2.00
IDOTEA SP. JUV.	1.25	2.50	2.00	0.00	0.00	0.00
OPCHESTIA TRASKIANA	5.00	4.08	0.82	0.04	0.07	1.47

NSPEC  
16.00

SDI  
2.73

TMEANC  
56.25

TMEANW  
0.74



	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT		WEIGHT		
MONOSTROMA FUSCUM	0.00	0.00	0.00	3.12	5.90	1.89
ENTROMORPHA LINZA	0.00	0.00	0.00	0.13	0.26	2.00
ULVA SP.	0.00	0.00	0.00	1.10	1.71	1.55
ULVA FENESTRATA	0.00	0.00	0.00	2.48	2.97	1.19
PORPHYRA SP.	0.00	0.00	0.00	1.69	3.38	2.00
PLOCANIUM VIOLACEUM	0.00	0.00	0.00	0.02	0.03	2.00
CRYPTONEMIA SP.	0.00	0.00	0.00	0.19	0.38	2.00
GIGARTINA SP.	0.00	0.00	0.00	1.54	1.73	1.12
GIGARTINA PAPILLATA	0.00	0.00	0.00	0.19	0.38	2.00
RHODOGLOSSUM ROSEUM	0.00	0.00	0.00	5.34	10.68	2.00
CALLOPHYLLIS SP.	0.00	0.00	0.00	0.05	0.10	2.00
NEOPTILOTA SP.	0.00	0.00	0.00	0.58	1.16	2.00
POLYSIPHONIA HENDRYI	0.00	0.00	0.00	2.26	4.24	1.87
PTEROSIPHONIA SP.	0.00	0.00	0.00	0.00	0.00	2.00
LOPHOSIPHONIA VILLUM	0.00	0.00	0.00	0.00	0.00	0.00
PTEROSIPHONIA RIPINNA	0.00	0.00	0.00	0.08	0.16	2.00
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	0.47	0.90	1.93
ODONTHALIA WASHINGTON	0.00	0.00	0.00	0.04	0.08	2.00
LOPHOSIPHONIA REPTABU	0.00	0.00	0.00	2.33	2.97	1.27
PTERODONDRIA WOODII	0.00	0.00	0.00	0.00	0.00	0.00
ZOSTERA MARTINA	0.00	0.00	0.00	0.06	0.13	2.00
PHYLLOSPADIX SCOULEPI	0.00	0.00	0.00	1.85	3.29	1.78
ANTHOPLEURA FLEGANTIS	83.75	147.89	1.77	59.63	78.80	1.32
PLATYHELMINTHES	2.50	5.00	2.00	0.00	0.00	0.00
NEMERTEA	30.00	30.82	1.03	0.09	0.11	1.15
NEMATODA	255.00	438.37	1.72	0.33	0.67	2.00
HAPMOTHOF SP.	1.25	2.50	2.00	0.01	0.02	2.00
PHOLOE MINUTA	2.50	5.00	2.00	0.00	0.00	0.00
ETHEME LONGA	1.25	2.50	2.00	0.00	0.00	0.00
HESTONURA COINEAUI DI	22.50	25.98	1.15	0.00	0.00	0.00
TYPOSYLLIS SP.	107.50	51.23	0.48	0.09	0.04	0.45
EXOGONE SP.	7.50	11.90	1.59	0.00	0.00	0.00
SPHAEROSYLLIS SP.	2.50	5.00	2.00	0.00	0.00	0.00
SPHAEROSYLLIS PIRIFER	6.25	12.50	2.00	0.00	0.00	0.00
NERFIS VEXILLOSA	1.25	2.50	2.00	0.67	1.34	2.00
PLATYNERFIS BICANAIC	2.50	5.00	2.00	0.03	0.07	2.00
HEMIPODUS BOREALIS	23.75	21.36	0.90	0.58	0.60	1.04
GNUPHIS SP.	370.00	313.82	0.85	3.80	3.48	0.92
LUMBRINERIS SP.	7.50	6.45	0.86	7.55	6.28	1.77
DORVILLEA SP.	2.50	2.89	1.15	0.00	0.00	0.00
PROTODORVILLEA GRACIL	210.00	156.47	0.75	0.04	0.04	0.87
SPIO FILICORNIS	2.50	2.89	1.15	0.02	0.02	1.15
SPIOPHANES SP.	2.50	2.89	1.15	0.00	0.00	0.00
PYGOSPIO ELEGANS	1.25	2.50	2.00	0.00	0.00	0.00
MALACOCEROS GLUTAEUS	6.25	9.46	1.51	0.00	0.00	0.00
CIRRATULUS CIRRATUS	8.75	7.50	0.86	3.90	7.46	1.91
CHAETONE SP.	52.50	22.17	0.42	0.03	0.02	0.67
ARMANDIA PRAEVIS	1.25	2.50	2.00	0.00	0.00	0.00
CAPITELLA CAPITATA	6.25	9.46	1.51	0.01	0.02	2.00
BRANCHIOMALDANE VICEN	6.25	9.46	1.51	0.01	0.02	2.00
TEREBELLIDAE	17.50	22.17	1.27	0.56	0.55	0.99
SABELLIDAE	1.25	2.50	2.00	0.00	0.00	0.00
SACCOCIPIRUS FROTICUS	32.50	51.72	1.59	0.00	0.00	0.00
CLIGOCHEFTA	530.00	382.34	0.72	0.10	0.05	0.47
ACMAEIDAE JUV. <4MM	6.25	7.50	1.20	0.06	0.09	1.57

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NOTOACMEA SCUTUM	207.50	93.67	0.46	149.98	18.33	0.12
LACUNA SP.	13.75	16.01	1.16	0.01	0.02	2.00
SEAPLESIA DIRA	1.25	2.50	2.00	1.31	2.63	2.00
GLYCYMERIS SUBORSOLET	2.50	5.00	2.00	0.01	0.02	2.00
MYSELLA TUNICA	2.50	5.00	2.00	0.01	0.02	2.00
TANAIDACEA	3.75	7.50	2.00	0.00	0.00	0.00
GNORIMOSPHAEROMA DREG	2.50	5.00	2.00	0.00	0.00	0.00
EXOSPHAEROMA AMPLICAU	10.00	10.00	1.00	0.00	0.00	0.00
TROTEA SP. JUV.	6.25	12.50	2.00	0.06	0.13	2.00
AMPHIPODA GAMMARIDFA	2.50	2.89	1.15	0.00	0.00	0.00
PONTOGENEIA SP.	51.25	60.19	1.17	0.05	0.04	0.79
MELITA SP.	7.50	8.66	1.15	0.01	0.02	2.00
HYALE SP.	133.75	221.03	1.65	1.38	2.42	1.75
ISCHYOCERUS ANGIPIES	38.75	74.20	1.91	0.00	0.00	0.00
PAGURUS HIRSUTIUSCULU	2.50	2.89	1.15	0.45	0.52	1.17
HEMIGRAPUS NIJUS	26.25	30.92	1.13	117.98	158.82	1.35
SIPHUNCULA	7.50	15.00	2.00	0.01	0.02	2.00
LEPTASTERIAS HEXACTIS	7.50	15.00	2.00	3.41	6.82	2.00
LEPTOSYNAPTA CLARKI	2.50	5.00	2.00	0.27	0.54	2.00

VSPEC	SDI	TMEANC	TMEANW
74.00	3.58	2340.00	372.06

	MEAN	S.D.	CVAP	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
MONOSTROMA FUSCUM	0.00	0.00	0.00	130.39	72.46	0.56
ENTEROMORPHA LINZA	17.50	25.00	2.00	0.55	1.09	1.99
ULVA SP.	0.00	0.00	0.00	170.54	178.71	1.05
ULVA FENESTRATA	0.00	0.00	0.00	138.13	176.28	1.28
RHODOMELA LARIX	0.00	0.00	0.00	87.40	74.76	0.86
DESMARESTIA ACULFATA	0.00	0.00	0.00	0.00	0.01	2.00
FUCUS DISTICHUS	0.00	0.00	0.00	629.18	612.88	0.97
PORPHYRA SP.	0.00	0.00	0.00	4.16	8.32	2.00
NEODAGARDIELLA BAILEY	0.00	0.00	0.00	3.64	7.11	1.95
SARCODIOTHECA FURCATA	0.00	0.00	0.00	6.69	13.39	2.00
PLOCAMIIUM SP.	0.00	0.00	0.00	0.00	0.00	0.00
CRYPTONEMIA SP.	0.00	0.00	0.00	0.06	0.13	2.00
GIGARTINA SP.	0.00	0.00	0.00	162.90	289.90	1.78
GIGARTINA PAPILLATA	0.00	0.00	0.00	165.88	172.11	1.04
IRIDAEA SP.	0.00	0.00	0.00	3.46	4.80	1.39
RHODOGLOSSUM SP.	0.00	0.00	0.00	7.54	5.99	0.80
RHODOGLOSSUM ROSEUM	0.00	0.00	0.00	33.29	47.72	1.43
NEODILSEA SP.	0.00	0.00	0.00	0.07	0.14	2.00
PRIONITIS LANCEOLATA	0.00	0.00	0.00	14.00	28.00	2.00
CORALLINACEAE	0.00	0.00	0.00	0.01	0.02	2.00
CRYPTONEMIA SP.	0.00	0.00	0.00	0.00	0.00	2.00
PRIONITIS SP.	0.00	0.00	0.00	0.07	0.15	2.00
PRIONITIS LANCEOLATA	0.00	0.00	0.00	6.53	11.23	1.72
HALYMENTIA SCHIZYMENTI	0.00	0.00	0.00	299.52	368.20	1.23
CALLOPHYLLIS FLABELLII	0.00	0.00	0.00	0.01	0.01	2.00
MICROGLADIA BOREALIS	0.00	0.00	0.00	80.61	110.48	1.37
CRYPTOPLEURA SP.	0.00	0.00	0.00	2.92	3.82	1.31
CRYPTOPLEURA LORULIFE	0.00	0.00	0.00	0.53	1.06	2.00
CRYPTOPLEURA VIOLACEA	0.00	0.00	0.00	2.58	5.16	2.00
HYMENENA SP.	0.00	0.00	0.00	0.25	0.50	2.00
POLYSIPHONIA PACIFICA	0.00	0.00	0.00	1.92	3.23	1.68
POLYSIPHONIA HENDRYI	0.00	0.00	0.00	10.94	17.60	1.61
LAURENCIA SP.	0.00	0.00	0.00	0.01	0.02	2.00
LAURENCIA SPECTABILIS	0.00	0.00	0.00	33.41	66.82	2.00
RHODOMELA LARIX	0.00	0.00	0.00	639.00	736.64	1.15
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	15.29	29.37	1.92
LOPHOSIPHONIA REPTARU	0.00	0.00	0.00	0.00	0.01	2.00
ZOSTERA MARINA	0.00	0.00	0.00	9.38	16.71	1.99
PHYLLOSPADIX SCULFRI	0.00	0.00	0.00	9.72	13.35	1.37
HYDROZOA	0.00	0.00	0.00	0.31	0.63	2.00
ANTHOPLEURA ELEGANTIS	6.25	12.50	2.00	0.25	0.50	2.00
NEMERTEA	57.50	23.98	0.35	0.15	0.13	0.86
NEMATODA	111.25	110.93	1.00	0.02	0.04	2.00
POLYCHAETA	50.00	40.82	0.82	0.06	0.13	2.00
HALOSYDNA BREVISETOSA	7.50	11.90	1.59	7.01	12.54	1.79
HARMOTHOF SP.	2.50	5.00	2.00	0.02	0.04	2.00
HARMOTHOF IMBRICATA	6.25	12.50	2.00	0.13	0.25	2.00
PHYLLODOCE MACULATA	27.50	48.56	1.77	0.01	0.02	2.00
FILIALIA SP.	40.00	31.36	0.78	0.13	0.27	2.00
HESIONURA COINEAUI DI	28.75	25.94	0.90	0.00	0.00	0.00
MICROPORARKE DUBIA	2.50	5.00	2.00	0.00	0.00	0.00
TYPOSYLLIS SP.	441.25	110.48	0.25	0.58	0.33	0.57
FXOGONE SP.	61.25	16.52	0.27	0.02	0.02	1.15
SPHAEROSYLLIS SP.	32.50	10.41	0.32	0.00	0.00	0.00
NEREIS VEXILLOSA	1.25	2.50	2.00	2.63	5.25	2.00

	MEAN	S.D.	CVAR	MFAN	S.D.	CVAP
		COUNT			WEIGHT	
PLATYNERFIS RICANALIC	65.00	49.67	0.76	0.87	0.73	0.84
GLYCERA SP.	1.25	2.50	2.00	0.91	1.82	2.00
HEMIPODUS BOREALIS	20.00	21.21	1.05	0.38	0.52	1.38
ONUPHIS SP.	8.75	11.81	1.35	0.05	0.10	2.00
LUMBRINERIS SP.	76.25	21.75	0.29	4.64	4.79	1.03
DORVILLEA SP.	10.00	10.80	1.08	0.00	0.00	0.00
PROTODORVILLEA GRACIL	506.25	316.08	0.62	0.10	0.06	0.61
NAIWERIS DENDRITICA	2.50	5.00	2.00	0.44	0.88	2.00
NAIWERIS UNCINATA	1.25	2.50	2.00	0.00	0.00	0.00
SPTO FILICORNIS	8.75	4.79	0.55	0.04	0.07	1.47
MALACOCEROS GLUTAFUS	7.50	8.66	1.15	0.00	0.00	0.00
CIRRATULUS CIRRATUS	120.00	94.25	0.79	13.45	16.14	1.20
CHAETAZONE SP.	282.50	126.92	0.45	0.44	0.49	1.11
ARMANDIA BREVIS	10.00	12.25	1.22	0.01	0.02	2.00
CAPITELLA CAPITATA	47.50	53.93	1.14	0.07	0.12	1.65
NOTOMASTUS TENUIS	22.50	13.23	0.59	1.61	0.64	0.40
MEDIOMASTUS AMBISETA	1.25	2.50	2.00	0.00	0.00	0.00
BRANCHIOMALDANE VICEN	36.25	46.97	1.30	0.27	0.49	1.80
TEREBELLIDAE	6.25	7.50	1.20	0.06	0.07	1.21
THELEPUS SP.	78.75	141.33	1.79	28.38	50.15	1.77
THELEPUS CRISPUS	487.50	510.51	1.05	193.63	169.11	0.87
SACCOCIERPUS EROTICUS	43.75	68.97	1.58	0.03	0.04	1.31
CLIGOCHAETA	921.25	611.37	0.65	0.14	0.07	0.51
ACMAEIDAE JUV. <4MM	12.50	25.00	2.00	0.06	0.13	2.00
NOTOACMEA SCUTUM	25.00	20.41	0.82	44.06	44.00	1.00
MARGARITES PUPILLUS	2.50	5.00	2.00	0.01	0.02	2.00
LACUNA SP.	2006.25	2237.92	1.12	19.58	24.84	1.27
ALVINIA SP.	80.00	44.91	0.56	0.20	0.13	0.67
ODOSTOMIA SP.	2.50	5.00	2.00	0.02	0.04	2.00
ISCHNOCHITON SP.	1.25	2.50	2.00	0.02	0.04	2.00
MOPALIA LIGNOSA	6.25	12.50	2.00	34.81	69.63	2.00
GLYCYMERIS SUBORSOLET	1.25	2.50	2.00	0.00	0.00	0.00
MODIOLUS RECTUS	6.25	12.50	2.00	0.13	0.25	2.00
SAXIDOMUS GIGANTEUS	6.25	7.50	1.20	0.14	0.26	1.82
EXOSPHAEROMA AMPLICAU	26.25	27.50	1.05	0.13	0.14	1.15
IDOTEA SP. JUV.	82.50	70.53	0.85	0.13	0.27	2.00
IDOTEA WOSNESENSKII	38.75	46.61	1.20	37.25	59.60	1.60
IDOTEA ACULEATA	31.25	31.46	1.01	1.75	2.53	1.45
AMPHIPODA GAMMARIDEA	41.25	33.26	0.91	0.06	0.13	2.00
AMPITHOE SP.	581.25	140.50	0.24	2.88	1.25	0.43
AMPITHOE SIMULANS	6.25	12.50	2.00	0.19	0.38	2.00
AOROIDES COLUMBIAE	86.25	63.95	0.74	0.00	0.00	0.00
PAPAMOERA MOHRI	37.50	75.00	2.00	0.00	0.00	0.00
PONTOGENEIA SP.	33.75	26.89	0.80	0.18	0.16	0.90
MELITA SP.	1.25	2.50	2.00	0.00	0.00	0.00
HYALE SP.	2826.25	1326.84	0.47	6.13	3.28	0.53
PAPALLORCHESTES OGHOT	531.25	320.87	0.60	6.02	3.71	0.62
ISCHYROCERUS SP. B	23.75	22.87	0.95	0.00	0.00	0.00
ISCHYROCERUS ANGUIPES	182.75	219.56	1.19	0.13	0.25	2.00
CRCYDOME CF. PINGUIS	7.50	11.90	1.59	0.02	0.04	2.00
PHOXOCEPHALICAE	6.25	12.50	2.00	0.00	0.00	0.00
PARAPLEUSTES SP.	6.25	12.50	2.00	0.00	0.00	0.00
PLEUSTES DEPRESSA	6.25	12.50	2.00	0.00	0.00	0.00
PAGURUS SP. JUV.	102.50	41.33	0.40	1.16	1.05	0.91
PAGURUS HIRSUTUSCULU	6.25	12.50	2.00	7.75	15.50	2.00
PUGETTIA GRACILIS	70.00	104.16	1.49	17.03	19.11	1.12

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
CANCER OREGONENSIS	12.50	14.43	1.15	336.38	671.08	2.00
PINNIXA OCCIDENTALIS	6.25	12.50	2.00	0.00	0.00	0.00
SIPUNCULA	26.25	22.50	0.86	0.17	0.12	0.69
ECTOPROCTA	0.00	0.00	0.00	0.63	1.25	2.00
LEPTASTERIAS HEXACTIS	35.00	33.42	0.95	29.04	36.75	1.27
LEPTOSYNAPTA CLARKI	2.50	2.89	1.15	0.08	0.12	1.39
GORTESOX MEANDRICUS	6.25	12.50	2.00	0.50	1.00	2.00
CLIGOCOTTUS MACULOSUS	6.25	12.50	2.00	8.19	15.38	2.00

NSPEC	SDI	TMEANC	TMEANW
119.00	3.86	10645.00	3481.31

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
LAMINARIA SP.	0.00	0.00	0.00	102.20	177.02	1.73
LAMINARIA SACCHARINA	0.00	0.00	0.00	10.54	17.16	1.63
EGREGIA MENZIESII	0.00	0.00	0.00	15.03	26.03	1.73
SARGODIOTHECA FURCATA	0.00	0.00	0.00	1.32	1.47	1.12
PLUCANIUM PACIFICUM	0.00	0.00	0.00	8.16	7.22	0.88
IRIDAEA LINEARA	0.00	0.00	0.00	0.52	0.90	1.73
RHODOGLOSSUM SP.	0.00	0.00	0.00	4.43	7.67	1.73
ETLSEA CALIFORNICA	0.00	0.00	0.00	1.35	2.34	1.73
CONSTANTINEA SUBULIF	0.00	0.00	0.00	8.57	9.57	1.12
NEOPTILOTA SP.	0.00	0.00	0.00	2.57	4.46	1.73
CRYPTOPLURA SP.	0.00	0.00	0.00	1.51	1.40	0.92
HYMENENA FLABELLIGERA	0.00	0.00	0.00	10.07	17.44	1.73
ROTRYGLOSSUM FARLOWI	0.00	0.00	0.00	0.50	0.87	1.73
RHODOMELA SP.	0.00	0.00	0.00	50.50	38.80	0.77
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	2.94	5.04	1.71
PHYLLOSPADIX SCOULEI	0.00	0.00	0.00	401.42	276.66	0.69
NEMERTEA	20.00	15.00	0.75	0.01	0.02	1.73
NEMATODA	65.00	47.70	0.73	0.04	0.05	1.04
HARMOHOE IMBRICATA	3.33	5.77	1.73	0.01	0.02	1.73
HESIONURA COINEAUTI	15.00	13.23	0.88	0.00	0.00	0.00
MICROPODARKE DUBIA	15.00	5.00	0.33	0.04	0.00	0.00
TYPOSYLLIS SP.	55.00	73.65	1.34	0.13	0.13	0.96
EXOGONE SP.	36.67	25.66	0.70	0.00	0.00	0.00
SPHAEROSYLLIS SP.	45.00	26.46	0.59	0.00	0.00	0.00
NEPHEIS SP.	1.67	2.89	1.73	0.10	0.17	1.73
PLATYNERFIS BICANALIC	8.33	7.64	0.92	3.38	5.22	1.54
HEMIPODUS BOREALIS	5.00	5.00	1.00	0.54	1.08	1.68
OMUPHIS SP.	185.00	155.24	0.84	0.98	1.13	1.16
LUMBRINERFIS SP.	5.00	8.66	1.73	0.03	0.05	1.73
PROTODORVILLEA GRACII	28.33	16.07	0.57	0.00	0.00	0.00
NAINERIS UNCINATA	1.67	2.89	1.73	1.38	2.39	1.73
PARANIS LYRA	1.67	2.89	1.73	0.00	0.00	0.00
POLYDORA SOCIALIS	1.67	2.89	1.73	0.01	0.02	1.73
PRIONOSPID CIRRIFERA	1.67	2.89	1.73	0.00	0.00	0.00
SPID FILICORNIS	73.33	53.46	0.73	0.32	0.12	0.36
SPIDOPHANE BOMAYX	1.67	2.89	1.73	0.00	0.00	0.00
MALACOCEROS GLUTAEUS	15.00	21.79	1.45	0.01	0.02	1.73
CIRRATULUS CIRRATUS	3.33	5.77	1.73	0.10	0.17	1.73
CHAETOGONE SP.	21.67	11.55	0.53	0.01	0.02	1.73
ACROCIROPUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
SCALIBREGMA INFLATUM	1.67	2.89	1.73	0.00	0.00	0.00
ARMANDIA BREVIS	143.33	231.16	1.61	0.33	0.53	1.63
CAPITELLA CAPITATA	6.67	11.55	1.73	0.00	0.00	0.00
MEDIOMASTUS AMBISETA	5.00	8.66	1.73	0.00	0.00	0.00
BRANCHIOMALDANE VICEN	3.33	5.77	1.73	0.00	0.00	0.00
TREBELLIDAE	33.33	30.55	0.92	0.90	0.85	0.95
PISTA SP.	5.00	8.66	1.73	0.08	0.14	1.73
THELEPUS CRISPUS	3.33	5.77	1.73	0.86	1.50	1.73
PROTODRILUS FLABELLIG	5.00	8.66	1.73	0.01	0.02	1.73
SACCOCIROPUS FROTICUS	108.33	153.32	1.42	0.03	0.05	1.73
CLIGOCHEFTA	298.33	67.88	0.23	0.09	0.07	0.25
ACMAEIDAE JUV. <4MM	1.67	2.89	1.73	0.03	0.05	1.73
MARGARITES PUPILLUS	10.00	10.00	1.00	0.20	0.27	1.36
LACUNA SP.	36.67	42.52	1.16	0.51	0.85	1.67
ALVINIA SP.	126.67	193.99	1.53	0.53	0.84	1.59

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
VELUTINA PROLONGATA	1.67	2.89	1.73	0.08	0.14	1.73
NATICA CLAUSA	6.67	11.55	1.73	0.01	0.02	1.73
NUCELLA LAMELLOSA	1.67	2.89	1.73	0.05	0.08	1.73
AMPHISSA COLUMBIANA	5.00	5.00	1.00	0.06	0.07	1.20
GLYCYMERIS SUBOBSOLET	31.67	24.66	0.78	0.07	0.03	0.39
MYSELLA TUMIDA	3.33	2.89	0.87	0.00	0.00	0.00
SAXIDOMUS GIGANTEUS	3.33	5.77	1.73	0.03	0.05	1.73
PSEPHIDIA LORDI	1.67	2.89	1.73	0.01	0.02	1.73
ARCHAEOMYSIS GREENITZ	1.67	2.89	1.73	0.08	0.14	1.73
TANAIDACEA SP. A	1.67	2.89	1.73	0.00	0.00	0.00
ANATANAIS NORMANI	1.67	2.89	1.73	0.00	0.00	0.00
EXOSPHEROMA SP.	5.00	5.00	1.00	0.02	0.02	1.73
IDOTEA ACULFATA	25.00	35.00	1.40	1.51	1.45	0.96
IANIROPSIS KINCAIDI D	16.67	28.87	1.73	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	3.33	2.89	0.87	0.00	0.00	0.00
AMPHITHE SP.	1.67	2.89	1.73	0.00	0.00	0.00
ATYLUS SP.	1.67	2.89	1.73	0.01	0.02	1.73
POLYCHERIA OSBORNI	33.33	57.74	1.73	0.01	0.02	1.73
PONTOGENEIA SP.	18.33	5.77	0.31	0.04	0.00	0.00
CERADOCUS SPINICAUDIS	16.67	28.87	1.73	0.06	0.11	1.73
HYALE SP.	8.33	10.41	1.25	0.03	0.05	1.73
PHOTIS SP.	16.67	24.66	1.48	0.14	0.21	1.50
ISCHYROCERUS ANGUIPES	5.00	8.66	1.73	0.00	0.00	0.00
ORCHOMENE CF. PINGUIS	1.67	2.89	1.73	0.00	0.00	0.00
PHOXOPHALIDAE	10.00	13.23	1.32	0.05	0.08	1.73
PLEUSTES DEPRESSA	3.33	2.89	0.87	0.00	0.00	0.00
PAGURIUS SP. JUV.	1.67	2.89	1.73	0.01	0.02	1.73
PUGETTIA GRACILIS	6.67	7.64	1.15	4.94	8.44	1.71
STIPUNCULA	20.00	22.91	1.15	0.13	0.11	0.87
OPHTHURIDEA	3.33	5.77	1.73	0.01	0.02	1.73

NSPEC	SDI	TMEANC	TMEANW
85.00	3.84	1658.33	639.78

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT		WEIGHT		
MONOSTROMA SP.	0.00	0.00	0.00	0.02	0.03	1.73
LAMINARIA SP.	0.00	0.00	0.00	0.31	0.39	1.28
NEODAGARDHIELLA BILLEY	0.00	0.00	0.00	1.13	1.96	1.73
GRACILARIOPSIS SJOFST	0.00	0.00	0.00	6.65	2.69	0.40
STENOGRAMME INTERRUPT	0.00	0.00	0.00	0.30	0.27	0.88
ANTITHAMNION SP.	0.00	0.00	0.00	0.03	0.05	1.48
CERAMIVM GARDNERI	0.00	0.00	0.00	0.60	0.35	0.58
PLEONOSPORIUM APYSICM	0.00	0.00	0.00	0.00	0.00	0.00
POLYNEURA LATISSIMA	0.00	0.00	0.00	0.67	1.07	1.60
PTEPOSIPHONIA BIPINNA	0.00	0.00	0.00	0.05	0.09	1.73
ODONTHALIA WASHINGTON	0.00	0.00	0.00	0.02	0.03	1.38
LOPHOSIPHONIA REPTABU	0.00	0.00	0.00	0.01	0.01	1.73
NEMERTEA	8.33	5.77	0.69	0.03	0.05	1.73
NEMATODA	33.33	20.82	0.62	0.03	0.02	0.87
HARMOTHOE IMPPLICATA	6.67	5.77	0.87	0.08	0.07	0.93
PHOLOE MINUTA	1.67	2.89	1.73	0.00	0.00	0.00
PHYLLODOCE SP.	1.67	2.89	1.73	0.00	0.00	0.00
PTEONE SP.	6.67	5.77	0.87	0.04	0.05	1.04
HESIONURA COINEAUI DT	46.67	50.58	1.08	0.00	0.00	0.00
HESIONIDAE	1.67	2.89	1.73	0.00	0.00	0.00
MICROPODARKE DUBIA	108.33	36.86	0.34	0.14	0.09	0.64
TYPOSYLLIS SP.	6.67	7.64	1.15	0.00	0.00	0.00
EXOGONE SP.	43.33	28.43	0.66	0.00	0.00	0.00
SPHAEROSYLLIS SP.	296.67	137.69	0.45	0.09	0.05	0.56
PLATYMERIS BICANALIC	1.67	2.89	1.73	0.01	0.02	1.73
NEPHTYS LONGOSETOSA	5.00	5.00	1.00	0.21	0.33	1.57
HEMIPHOUS BOPEALIS	13.33	2.89	0.22	1.21	1.48	1.23
GLYCIDAE PICTA	1.67	2.89	1.73	0.01	0.02	1.73
ONUPHIS SP.	3.33	2.89	0.87	0.00	0.00	0.00
LUMBRINERIS SP.	1.67	2.89	1.73	0.10	0.17	1.73
DORVILLFA SP.	3.33	5.77	1.73	0.00	0.00	0.00
PROTODORVILLEA GRACIL	30.00	32.79	1.09	0.01	0.02	1.73
SCOLOPLOS ARMIGER	15.00	5.00	0.33	0.11	0.06	0.54
SCOLOPLOS PUGETTENSIS	3.33	2.89	0.87	0.00	0.00	0.00
PARAONIS LYRA	1.67	2.89	1.73	0.00	0.00	0.00
SPIO FILICORNIS	11.67	2.89	0.25	0.11	0.08	0.72
SPIOPHANES BOMBYX	1.67	2.89	1.73	0.00	0.00	0.00
AMNIDES SP.	3.33	2.89	0.87	0.00	0.00	0.00
CIRRATULUS CIRRHATUS	10.00	5.00	0.50	0.13	0.19	1.47
CHAETAZONE SP.	6.67	5.77	0.87	0.01	0.02	1.73
ACROCIRRUS SP.	3.33	2.89	0.87	0.00	0.00	0.00
ARMANDIA BREVIS	6.67	7.64	1.15	0.00	0.00	0.00
MEDIOMASTUS AMBISETA	38.33	40.10	1.05	0.28	0.41	1.46
NICOMACHE PERSONATA	13.33	10.41	0.78	0.66	0.77	1.17
AXIOHELLA RUBROINCT	1.67	2.89	1.73	0.00	0.00	0.00
AMPHAPETE ARCTICA	5.00	8.66	1.73	0.00	0.00	0.00
TERREBELLIDAE	31.67	5.77	0.18	0.32	0.12	0.36
SABELLIDAE	8.33	5.77	0.69	0.04	0.05	1.04
SAGGOCIPRUS FROTICUS	20.00	22.91	1.15	0.03	0.02	0.87
CLIGOCHEFTA	221.67	152.75	0.69	0.09	0.05	0.56
MARGARITES PUPILLUS	36.67	51.07	1.39	0.74	1.21	1.63
MARGARITES LIRULATUS	6.67	11.55	1.73	0.03	0.05	1.73
LACUNA SP.	1.67	2.89	1.73	0.01	0.02	1.73
ALVINIA SP.	31.67	32.53	1.03	0.08	0.07	0.93
CREPIOLA NUMMATA	1.67	2.89	1.73	0.00	0.00	0.00



	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
GLYCYMERIS SUBORSOLET	653.33	356.73	0.55	2.92	1.27	0.44
MYSELLA TUMIDA	20.00	10.00	0.50	0.06	0.03	0.51
CYCLOCARDIA SP.	1.67	2.89	1.73	0.05	0.08	1.73
MACOMA SP.	1.67	2.89	1.73	0.01	0.02	1.73
PSEPHIDIA LORDI	123.33	63.31	0.51	0.99	0.66	0.66
LEPTOCHELIA SAVIGNYI	46.67	37.86	0.81	0.01	0.02	1.73
EXOSPHEROMA SP.	15.00	15.00	1.00	0.09	0.10	1.02
TANIROPSIS KINCAIDI D	1.67	2.89	1.73	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	1.67	2.89	1.73	0.00	0.00	0.00
ANDROIDES COLUMBIAN	26.67	25.17	0.94	0.01	0.02	1.73
PONTOGENEIA SP.	10.00	5.00	0.50	0.00	0.00	0.00
MELITA SP.	3.33	2.89	0.87	0.00	0.00	0.00
PHOTIS SP.	3.33	5.77	1.73	0.00	0.00	0.00
PLEUSTRUS SECORRUS	3.33	5.77	1.73	0.00	0.00	0.00
HEPTACARPUS BREVIROST	1.67	2.89	1.73	0.18	0.31	1.73
PAGURUS SP. JUV.	1.67	2.89	1.73	0.01	0.02	1.73
PAGURUS BERINGANUS	1.67	2.89	1.73	0.05	0.08	1.73
PUGETTIA GRACILIS	1.67	2.89	1.73	0.01	0.02	1.73
CANCER OREGONENSIS	15.00	5.00	0.33	1.19	0.72	0.61
LEPTOSYNAPTA CLARKI	46.67	25.66	0.55	1.62	1.30	0.80

NSPEC	SDI	TMEANC	TMEANW
75.00	3.62	2083.33	21.60

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
DESMAFESTIA LIGULATA	0.00	0.00	0.00	0.17	0.29	1.73
RHODOPHYTA	0.00	0.00	0.00	1.25	1.87	1.50
SARCODIOTHECA FURCATA	0.00	0.00	0.00	0.00	0.01	1.73
PLOCAMIMUM PACIFICUM	0.00	0.00	0.00	0.70	0.87	0.96
STENOGRAMME INTERRUPT	0.00	0.00	0.00	2.12	1.12	0.53
GIGARTINA SP.	0.00	0.00	0.00	1.15	1.99	1.73
CRYPTONEMIA SP.	0.00	0.00	0.00	1.06	1.84	1.73
CALLOPHYLLIS FLABELLU	0.00	0.00	0.00	1.80	1.08	0.60
FAUCHEA SP.	0.00	0.00	0.00	0.80	1.38	1.73
NIENBURGIA ANDERSONIA	0.00	0.00	0.00	0.77	0.55	0.77
PLEONOSPORIUM SP.	0.00	0.00	0.00	0.02	0.03	1.73
PLATYTHAMNION SP.	0.00	0.00	0.00	0.00	0.00	0.00
NEOPTILOTA SP.	0.00	0.00	0.00	1.68	1.19	0.71
MEMBRANOPTERA MULTIPA	0.00	0.00	0.00	0.04	0.04	0.93
POLYNEURA LATISSIMA	0.00	0.00	0.00	1.73	2.04	1.18
PTEROCHONDRIA WOODII	0.00	0.00	0.00	0.05	0.05	0.97
PLATYHELMINTHUS	1.67	2.89	1.73	0.00	0.00	0.00
NEMERTEA	16.67	7.64	0.45	0.08	0.07	0.93
NEMATODA	20.00	8.66	0.43	0.00	0.00	0.00
HARMOTHOE IMPRICATA	6.67	7.64	1.15	0.16	0.24	1.52
PHOLOE MINUTA	11.67	12.58	1.08	0.07	0.06	0.79
ETERNE SP.	3.33	5.77	1.73	0.03	0.05	1.73
MICROPPODARKE DURIA	38.33	33.29	0.87	0.04	0.05	1.04
SYLLIDAE	3.33	2.89	0.87	0.00	0.00	0.00
TYPOSYLLIS SP.	20.00	8.66	0.43	0.01	0.02	1.73
EXOGONE SP.	5.00	0.00	0.00	0.00	0.00	0.00
SPHAEROSYLLIS SP.	41.67	18.93	0.45	0.00	0.00	0.00
NEPHTYS LONGOSETOSA	1.67	2.89	1.73	0.25	0.43	1.73
HEMIPODUS BOREALIS	8.33	2.89	0.35	0.05	0.08	1.73
GLYCINDE PICTA	1.67	2.89	1.73	0.05	0.08	1.73
PROTODORVILLEA GRACIL	15.00	5.00	0.33	0.00	0.00	0.00
PARADNIS LYRA	3.33	5.77	1.73	0.00	0.00	0.00
SPIONIDAE	0.00	0.00	0.00	0.28	0.27	0.98
PRIONOSPION CIRRIFERA	1.67	2.89	1.73	0.00	0.00	0.00
PRIONOSPION STEENSTRUP	11.67	2.89	0.25	0.09	0.05	0.56
SPION SP.	30.00	18.03	0.60	0.16	0.08	0.51
SPIOPHANES BOMBYX	11.67	10.41	0.89	0.03	0.02	0.87
ACONIDES SP.	6.67	2.89	0.43	0.01	0.02	1.73
CHAETAZONE SP.	8.33	2.89	0.35	0.04	0.00	0.00
ACROCIPIRUS SP.	18.33	14.43	0.79	0.01	0.02	1.73
SCALIBREGMA INFLATUM	21.67	10.41	0.48	0.21	0.18	0.87
NOTOMASTUS GIGANTEUS	3.33	5.77	1.73	0.03	0.05	1.73
MEDIOMASTUS AMBISETA	48.33	18.93	0.39	0.06	0.03	0.51
NICOMACHE PERSONATA	3.33	5.77	1.73	0.11	0.20	1.73
AXIOTHELLA PUBROCTINCT	15.00	5.00	0.33	0.00	0.00	0.00
OWENTIA FUSIFORMIS	1.67	2.89	1.73	0.01	0.02	1.73
AMPHARETE ARCTICA	10.00	8.66	0.87	0.00	0.00	0.00
TEREBELLIDAE	35.00	5.00	0.14	0.11	0.12	1.10
SABELLIDAE	65.00	35.00	0.54	0.29	0.23	0.80
CHONE INFUNDIBULIFORM	26.67	29.30	1.13	0.08	0.10	1.31
SERPULA VERMICULARIS	1.67	2.89	1.73	0.00	0.00	0.00
CLIGOCOAETA	45.00	43.59	0.97	0.00	0.00	0.00
TECTUPA ROSACEA	1.67	2.89	1.73	0.03	0.05	1.73
MARGARITES PUPILLUS	8.33	2.89	0.35	0.36	0.55	1.52
MARGARITES LIRIULATUS	13.33	7.64	0.57	0.07	0.06	0.79

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
CALYPTRAEA FASTIGIATA	10.00	5.00	0.50	1.27	1.64	1.28
NATICA CLAUSA	5.00	5.00	1.00	1.43	2.44	1.71
AMPHISSA COLUMBIANA	1.67	2.89	1.73	0.03	0.05	1.73
HANLEYA HANLEYI	35.00	21.79	0.62	0.29	0.25	0.86
LEPIDOZONA MERTENSI	10.00	17.32	1.73	0.80	1.38	1.73
MOPALIA SP.	3.33	5.77	1.73	0.00	0.00	0.00
GLYCYMERIS SUBORSOLET	25.00	8.66	0.35	0.04	0.00	0.00
MUSCULUS SP.	3.33	2.89	0.87	0.01	0.02	1.73
MYSELLA TIMIDA	1.67	2.89	1.73	0.00	0.00	0.00
CYCLOCARDIA SP.	15.00	13.23	0.89	0.09	0.05	0.56
ASTARTE ALASKENSIS	25.00	0.00	0.00	6.46	2.56	0.40
ASTARTE COMPACTA	3.33	5.77	1.73	1.85	3.20	1.73
MACOMA SP.	3.33	2.89	0.87	0.03	0.02	0.87
SAXIDOMUS GIGANTEUS	1.67	2.89	1.73	0.17	0.29	1.73
TAPES JAPONICA	1.67	2.89	1.73	117.00	202.65	1.73
MYA ARENARIA	5.00	0.00	0.00	0.54	0.87	1.60
BALANUS OPENATUS	11.67	20.21	1.73	2.45	4.24	1.73
TANAIDACEA SP. A	3.33	5.77	1.73	0.00	0.00	0.00
LEPTOCHELIA SAVIGNYI	143.33	94.52	0.66	0.03	0.05	1.73
AMPHIPODA GAMMARIDEA	1.67	2.89	1.73	0.00	0.00	0.00
AMPELISCA SP.	1.67	2.89	1.73	0.08	0.14	1.73
AMPITHOE SP.	5.00	8.66	1.73	0.11	0.20	1.73
AMPOIDES COLUMBIAE	25.00	21.79	0.87	0.01	0.02	1.73
COROPHIUM SP.	106.67	10.41	0.10	0.04	0.00	0.00
PONTOGENEIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
MELITA SP.	6.67	2.89	0.43	0.00	0.00	0.00
HYALE SP.	3.33	5.77	1.73	0.00	0.00	0.00
PARALLORCHESTES OCHOT	1.67	2.89	1.73	0.01	0.02	1.73
PHOTIS SP.	3.33	2.89	0.87	0.00	0.00	0.00
PLEUSIRUS SECORRUS	1.67	2.89	1.73	0.00	0.00	0.00
HEPTACARPUS SP.	1.67	2.89	1.73	0.15	0.25	1.73
UPOGEBIA PUGETTENSIS	1.67	2.89	1.73	0.18	0.31	1.73
CANCER OREGONENSIS	8.33	2.89	0.35	0.36	0.16	0.44
STIPUNCULA	8.33	7.64	0.92	3.31	3.32	1.00
OPHIUROIDEA	6.67	5.77	0.87	0.06	0.07	1.20
LEPTOSYNAPTA CLARKI	1.67	2.89	1.73	0.17	0.29	1.73

NSPEC  
91.00

SDI  
4.47

TMEANC  
1081.66

TMEANW  
153.17

## PARTRIDGE POINT

WINTER 78

6FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT		WEIGHT		
NEMERTEA	6.25	6.29	1.01	0.00	0.00	0.00
NEMATODA	2.50	2.89	1.15	0.00	0.00	0.00
TYPOSYLLIS SP.	2.50	2.89	1.15	0.00	0.00	0.00
DORVILLEA SP.	1.25	2.50	2.00	0.00	0.00	0.00
PROTODORVILLEA GRACIL	1.25	2.50	2.00	0.00	0.00	0.00
CAPITELLIDAE	1.25	2.50	2.00	0.00	0.00	0.00
CAPITELLA CAPITATA	1.25	2.50	2.00	0.00	0.00	0.00
CLIGOCHAETA	6.25	7.50	1.20	0.00	0.00	0.00
LITTORINA SITKANA	3.75	4.79	1.28	0.28	0.48	1.69
AMPHISSA COLUMBIANA	1.25	2.50	2.00	0.06	0.13	2.00
AMPHIPODA GAMMARIDEA	1.25	2.50	2.00	0.00	0.00	0.00
PARAMOERA MOHPI	690.00	1010.37	1.46	1.69	2.69	1.58

NSPEC	SDI	TMEANC	TMEANW
12.00	0.92	718.75	2.04

## PARTRIDGE POINT

WINTER 78

5FT

PAGE 1

MEAN

S.D.

CVAR

MEAN

S.D.

CVAR

COUNT

WEIGHT

ANTHOPELURA ELEGANTIS	1.67	2.89	1.73	0.08	0.14	1.73
NEMERTEA	18.33	18.93	1.03	0.10	0.13	1.39
NEMATODA	10.00	8.66	0.87	0.00	0.00	0.00
PHOLOE MINUTA	20.00	30.41	1.52	0.00	0.00	0.00
TYPOSYLLIS SP.	13.33	23.09	1.73	0.01	0.02	1.73
SPHAEROSYLLIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
NEREIS SP.	5.00	0.00	0.00	0.01	0.02	1.73
HEMIPODUS BOREALIS	6.67	7.64	1.15	0.44	0.73	1.65
GNUPHIS SP.	38.33	62.12	1.62	0.09	0.10	1.07
PROTODORVILLEA GRACIL	25.00	39.05	1.56	0.00	0.00	0.00
TEREBELIIDAE	5.00	8.66	1.73	0.01	0.02	1.73
POLYCYRRUS KERGUELENS	6.67	11.55	1.73	0.06	0.11	1.73
CLIGOCHAETA	58.33	42.52	0.73	0.03	0.02	0.87
NOTIACMEA PERSONA	1.67	2.89	1.73	0.25	0.43	1.73
LITTORINA SITKANA	30.00	30.00	1.00	4.84	4.27	0.88
LITTORINA SCUTULATA	21.67	22.55	1.04	1.81	1.71	0.94
MYSELLA TUMIDA	1.67	2.89	1.73	0.00	0.00	0.00
LEPTOCHELIA SAVIGNYI	1.67	2.89	1.73	0.00	0.00	0.00
GNORIMOSPHAEROMA OREG	5.00	5.00	1.00	0.08	0.10	1.31
EXOSPHAEROMA AMPLICAU	10.00	13.23	1.32	0.01	0.02	1.73
PARAMOERA MOHRI	26.67	34.03	1.28	0.06	0.07	1.20
LEPTOSYNAPTA CLARKI	1.67	2.89	1.73	0.01	0.02	1.73

NSPEC  
22.00SDI  
3.13TMEANC  
310.00TMEANW  
7.91

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
MONOSTROMA SP.	0.00	0.00	0.00	0.08	0.14	1.73
LAMINARIA SP.	0.00	0.00	0.00	46.76	80.30	1.73
CYMATHERE TRIPLICATA	0.00	0.00	0.00	3.48	6.03	1.73
ENDOCCLADIA MURICATA	0.00	0.00	0.00	3.39	4.94	1.46
CALLOPHYLLIS SP.	0.00	0.00	0.00	0.00	0.00	0.00
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	0.26	0.44	1.73
ANTHOPLURA ELEGANTIS	1.67	2.89	1.73	0.31	0.54	1.73
PLATYHELMINTHES	98.33	102.02	1.15	0.08	0.14	1.73
NEMERTEA	40.00	37.75	0.94	0.08	0.07	0.93
EMPLECTONEMA GRACILE	68.33	93.59	1.37	0.90	1.19	1.33
NEMATODA	13.33	15.28	1.15	0.00	0.00	0.00
PHOLOE MINUTA	6.67	7.64	1.15	0.00	0.00	0.00
PHYLLODOCE MACULATA	8.33	14.43	1.73	0.00	0.00	0.00
SYLLIDAE	10.00	13.23	1.32	0.00	0.00	0.00
TYPOSYLLIS SP.	25.00	31.22	1.25	0.00	0.00	0.00
TYPOSYLLIS ACAMANTEA	50.00	86.60	1.73	0.17	0.29	1.73
EXOGENE SP.	1.67	2.89	1.73	0.00	0.00	0.00
NERFIDAE	1.67	2.89	1.73	0.03	0.05	1.73
NERFIS SP.	8.33	7.64	0.92	0.08	0.14	1.73
HEMIPODUS BOREALIS	1.67	2.89	1.73	0.05	0.08	1.73
GNUPHIS SP.	161.67	113.72	0.70	1.24	0.94	0.76
DORVILLEA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PROTODORVILLEA GRACIL	21.67	25.66	1.18	0.00	0.00	0.00
POLYDORA COLUMBIANA	8.33	14.43	1.73	0.00	0.00	0.00
POLYDORA PROROSCIDEA	1.67	2.89	1.73	0.01	0.02	1.73
PYGOSPIO ELEGANS	3.33	5.77	1.73	0.00	0.00	0.00
MALACOCEROS GLUTAFUS	1.67	2.89	1.73	0.00	0.00	0.00
CIRRATULIDAE	1.67	2.89	1.73	0.00	0.00	0.00
CAPITELLA CAPITATA	1.67	2.89	1.73	0.00	0.00	0.00
NOTOMASTUS SP.	1.67	2.89	1.73	1.17	2.02	1.73
CLIGOCHAETA	53.33	58.59	1.10	0.01	0.02	1.73
ACMAEIDAE JUV. <4MM	11.67	12.58	1.08	0.10	0.13	1.39
COLLISELLA PELTA	8.33	14.43	1.73	0.17	0.29	1.73
COLLISELLA DIGITALIS	8.33	14.43	1.73	1.92	3.32	1.73
NOTOACMEA SCUTUM	8.33	14.43	1.73	5.25	9.09	1.73
NOTOACMEA PERSONA	160.00	40.93	0.26	23.05	20.07	0.87
LACUNA SP.	3.33	5.77	1.73	0.01	0.02	1.73
LITTORINA SITKANA	903.33	596.79	0.66	82.11	29.50	0.36
LITTORINA SCUTULATA	888.33	495.34	0.55	61.17	30.76	0.50
NUCELLA LAMFLIOSA	8.33	14.43	1.73	28.42	49.22	1.73
NUCELLA EMARGINATA	8.33	14.43	1.73	1.08	1.88	1.73
MITRELLA TUBIFROSA	1.67	2.89	1.73	0.03	0.05	1.73
EGGS (GASTROPODA)	0.00	0.00	0.00	0.08	0.14	1.73
GLYCYMERIS SUBOBSOLET	8.33	7.64	0.92	0.03	0.02	0.87
MYTILUS EDULIS	16.67	14.43	0.87	1.42	2.24	1.58
MYSELLA TUMIDA	1.67	2.89	1.73	0.00	0.00	0.00
CHTHAMALUS DALLI	510.00	619.21	1.21	4.85	4.96	1.02
BALANUS GLANDULA	3570.00	5126.99	1.44	235.46	349.15	1.48
LEPTOCHEILIA SAVIGNYI	1.67	2.89	1.73	0.00	0.00	0.00
GNORIMOSPHAEROMA OREG	18.33	27.54	1.50	0.10	0.13	1.39
EXOSPHAEROMA SP.	125.00	216.51	1.73	0.08	0.14	1.73
EXOSPHAEROMA AMPLICAU	15.00	17.32	1.15	0.01	0.02	1.73
AMPHIPODA GAMMARIDEA	5.00	5.00	1.00	0.00	0.00	0.00
PARAMOERA MOHRI	130.00	174.36	1.34	0.13	0.15	1.17
PARALLORCHESTES SP.	8.33	14.43	1.73	0.00	0.00	0.00

## PARTRIDGE POINT

WINTER 78

4FT

PAGE 2

MEAN

S.D.

CVAR

MEAN

S.D.

CVAR

COUNT

WEIGHT

ORCHESTIA SP.	6.67	11.55	1.73	0.01	0.07	1.73
ORCHESTOIDEA SP.	83.33	144.34	1.73	0.17	0.29	1.73
PAGURUS HIRSUTIUSCULU	1.67	2.89	1.73	0.08	0.14	1.73
HEMIGRAPSUS NUDUS	38.33	18.93	0.49	2.79	1.34	0.59
DIPTERA LARVA	8.33	14.43	1.73	0.08	0.14	1.73
LEPTOSYNAPTA CLARKI	3.33	2.89	0.87	0.08	0.07	0.93

NSPEC

SDI

TMFANC

TMFANW

61.00

2.50

7144.98

505.87

	MEAN	S.D.	CVAP	MEAN	S.D.	CVAP
	COUNT			WEIGHT		
ENDOCLEADIA MURICATA	0.00	0.00	0.00	2.55	4.42	1.73
CORALLINACEAE	0.00	0.00	0.00	0.00	0.01	1.73
BOONTHALIA FLOCCOSA	0.00	0.00	0.00	0.26	0.43	1.67
ANTHOPLLEURA ELEGANTIS	18.33	16.07	0.88	6.05	5.30	0.88
PLATYHELMINTHES	100.00	114.56	1.15	0.18	0.16	0.87
NEMERTEA	38.33	27.54	0.72	0.04	0.00	0.00
NEMATODA	53.33	45.37	0.85	0.03	0.02	0.87
PHOLOE MINUTA	8.33	14.43	1.73	0.00	0.00	0.00
PHYLLODOCE MACULATA	1.67	2.89	1.73	0.00	0.00	0.00
TYPOSYLLIS SP.	70.00	31.22	0.45	0.06	0.03	0.51
SPHAEROSYLLIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
NERFIS SP.	1.67	2.89	1.73	0.01	0.07	1.73
NERFIS VEXILLOSA	3.33	5.77	1.73	0.63	1.09	1.73
HEMIPODUS BOFFALIS	0.33	2.89	0.35	0.15	0.13	0.89
CNUPHIS SP.	396.67	297.76	0.75	3.04	1.26	0.41
LUMBRINEFIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
DOPVILLEA SP.	3.33	5.77	1.73	0.00	0.00	0.00
PROTODORVILLEA GRACIL	406.67	108.90	0.27	0.11	0.03	0.27
MALACOCEROS GLUTAEUS	1.67	2.89	1.73	0.00	0.00	0.00
CIRRATULIDAE	15.00	10.00	0.67	0.00	0.00	0.00
CIRRATULUS CIRRATUS	1.67	2.89	1.73	0.00	0.00	0.00
CAPITELLIDAE	1.67	2.89	1.73	0.03	0.05	1.73
NOTOMASTUS SP.	3.33	5.77	1.73	0.06	0.11	1.73
THELEPUS CRISPUS	3.33	5.77	1.73	0.03	0.05	1.73
PROTODRIIUS FLABELLIG	3.33	5.77	1.73	0.00	0.00	0.00
SACCOGIRBUS SPOTICUS	10.00	5.00	0.50	0.00	0.00	0.00
CLIGOCHAFTA	258.33	231.53	0.90	0.04	0.05	1.04
ACMAEIDAE JUV. <4MM	93.33	136.50	1.46	1.51	1.80	1.19
COLIISFLLA DIGITALIS	33.33	57.74	1.73	3.58	6.21	1.73
NOTACMEA PERSONA	91.67	93.85	1.15	6.23	6.71	1.08
LITTORINA SITKANA	1110.00	1327.77	1.20	89.96	85.61	0.95
LITTORINA SCUTULATA	815.00	1055.07	1.29	45.71	54.81	1.20
NUCFILA EMARGINATA	1.67	2.89	1.73	3.70	6.40	1.73
GLYCYMERIS SUBROSEIF	3.33	5.77	1.73	0.00	0.00	0.00
CHTHAMALUS DALLI	1286.67	1926.92	1.50	21.78	36.86	1.69
BALANUS GLANDULA	828.33	715.29	0.86	16.13	13.47	0.84
SPHAEROMATIDA	3.33	5.77	1.73	0.00	0.00	0.00
GNORIMOSPHAEROMA OREG	26.67	24.66	0.92	0.21	0.12	0.56
EXOSPHAEROMA SP.	33.33	57.74	1.73	0.08	0.14	1.73
EXOSPHAEROMA AMPLICAU	70.00	99.62	1.42	0.08	0.14	1.73
AMPHIPODA GAMMARIDEA	1.67	2.89	1.73	0.00	0.00	0.00
PARAMPERA MOHPI	98.33	116.23	1.32	0.06	0.07	1.20
PONTOGENEIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
ORCHESTIA SP.	8.33	14.43	1.73	0.00	0.00	0.00
PAGUPUS HIRSIUSCULU	1.67	2.89	1.73	0.05	0.09	1.73
HEMIGRAPUS NUDUS	56.67	45.09	0.80	98.29	157.41	1.60
SIPUNCULA	6.67	5.77	0.87	0.03	0.02	0.87

NSPEC	SDI	TMEANC	TMEANW
47.00	3.02	5963.30	300.67



## PARTRIDGE POINT

WINTER 78

2FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
LAMINARIA SACCHARINA	0.00	0.00	0.00	0.42	0.85	2.00
FUCUS DISTICHUS	0.00	0.00	0.00	0.25	0.50	2.00
DONTHALIA FLOCCOSA	0.00	0.00	0.00	0.06	0.13	2.00
ANTHOPLURA ELEGANTIS	77.50	132.07	1.70	41.19	70.44	1.71
PLATYHELMINTHES	7.50	9.57	1.28	0.01	0.02	2.00
NEMERTEA	36.25	16.52	0.46	0.04	0.00	0.00
NEMATODA	72.50	74.67	1.03	0.04	0.07	1.47
HARMOTHOE IMBRICATA	1.25	2.50	2.00	0.00	0.00	0.00
PHOLOE MINUTA	1.25	2.50	2.00	0.00	0.00	0.00
HESTIONURA COINEAUZI DI	10.00	20.00	2.00	0.00	0.00	0.00
OPHOIDROMUS PUGETTENS	1.25	2.50	2.00	0.00	0.00	0.00
MICROPODAPKE DUBIA	5.00	7.07	1.41	0.00	0.00	0.00
TYPOSYLLIS SP.	123.75	80.35	0.65	0.15	0.13	0.86
FXGDONE SP.	5.00	7.07	1.41	0.00	0.00	0.00
SPHAEROSYLLIS SP.	5.00	4.08	0.82	0.00	0.00	0.00
NEPHEIS SP.	1.25	2.50	2.00	0.00	0.00	0.00
HEMIPODUS BOREALIS	22.50	6.45	0.29	0.81	0.63	0.77
ONUPHIS SP.	408.75	162.91	0.40	2.84	1.49	0.52
LUMBRINEPES SP.	6.25	7.50	1.20	1.03	1.54	1.48
DORVILLEA SP.	7.50	15.00	2.00	0.00	0.00	0.00
PROTODORVILLEA GRACIL	235.00	345.52	1.47	0.08	0.11	1.37
SPIO FILICORNIS	1.25	2.50	2.00	0.01	0.02	2.00
MALACOCERES GLUTAEUS	1.25	2.50	2.00	0.00	0.00	0.00
CIRRATULIDAE	25.00	8.16	0.33	0.01	0.07	2.00
CIRRATULUS CIRRATUS	16.25	14.36	0.88	1.99	1.40	0.70
NOTOMASTUS SP.	3.75	4.70	1.28	0.11	0.19	1.76
TEREBELLIDAE	22.50	28.72	1.28	0.23	0.27	1.16
THELEPUS CRISPUS	6.25	12.50	2.00	4.63	9.25	2.00
ARCHIANNELIDA	6.25	12.50	2.00	0.00	0.00	0.00
SACCOCIRPUS EFOTICUS	62.50	30.14	0.48	0.04	0.04	0.87
CILIGCHAFTA	318.75	210.37	0.66	0.07	0.09	1.29
NOTOACMEA SCUTUM	20.00	26.14	1.31	5.30	8.02	1.51
NOTOACMEA PERSONA	31.25	37.50	1.20	8.75	10.45	1.19
LACUNA SP.	1.25	2.50	2.00	0.00	0.00	0.00
LITTORINA SITKANA	116.25	38.16	0.33	27.42	15.76	0.57
LITTORINA SCUTULATA	25.00	27.73	0.91	1.64	1.29	0.78
MUCFLA LAMELLOSA	7.50	15.00	2.00	17.15	34.29	2.00
MUCFLA FARGINATA	6.25	12.50	2.00	22.50	45.00	2.00
GLYCYMERIS SUBOBSOLET	6.25	4.79	0.77	0.00	0.00	0.00
CHTHAMALUS DALLI	6.25	12.50	2.00	0.00	0.00	0.00
PALANUS CRENATUS	1.25	2.50	2.00	0.02	0.04	2.00
GNORIMOSPHAEROMA OREG	6.25	7.50	1.20	0.11	0.16	1.49
EXOSPHAEROMA AMPLICAU	7.50	9.57	1.28	0.01	0.02	2.00
AMPHIPODA GAMMARIDEA	10.00	13.54	1.35	0.02	0.02	1.15
AMPITHOE SP.	1.25	2.50	2.00	0.00	0.00	0.00
ANDROIDES COLUMBIAE	2.50	5.00	2.00	0.00	0.00	0.00
PARAMOERA MOHRI	32.50	18.48	0.57	0.00	0.00	0.00
PAGURUS HIRSIUTUSCULII	6.25	12.50	2.00	0.19	0.38	2.00
HEMIGRAPSUS NUDUS	40.00	39.37	0.98	74.36	77.73	1.05
SIPUNCULA	6.25	6.29	1.01	0.02	0.02	1.15
LEPTOSYNAPTA CLARKI	17.50	21.79	1.25	0.73	1.06	1.45
ASCIDIACFA	0.00	0.00	0.00	0.91	1.82	2.00

NSPEC

SDI

TMEANC

TMEANW

PARTRIDGE POINT

WINTER 78

2FT

PAGE 2

MEAN

S.D.

CVAR

MEAN

S.D.

CVAR

52.00

3.78

1942.50

COUNT  
213.17

WEIGHT

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT		WEIGHT		
LAMINARIA SP.	0.00	0.00	0.00	0.08	0.14	1.73
EGREGIA MENZIESII	0.00	0.00	0.00	328.30	568.63	1.73
NEOGARDIELLA RAILLEY	0.00	0.00	0.00	0.08	0.14	1.73
GIGARTINA SP.	0.00	0.00	0.00	0.16	0.26	1.62
CORALLINA SP.	0.00	0.00	0.00	0.08	0.14	1.73
PRIONITIS SP.	0.00	0.00	0.00	0.52	0.89	1.73
HALYMENIA SCHIZYMENTO	0.00	0.00	0.00	42.81	74.15	1.73
GALLOPHYLLIS FLABELLU	0.00	0.00	0.00	0.04	0.08	1.73
POLYSIPHONIA SP.	0.00	0.00	0.00	0.08	0.14	1.73
POLYSIPHONIA HENDRYI	0.00	0.00	0.00	2.17	3.75	1.73
RHODOMELA LARIX	0.00	0.00	0.00	0.94	1.63	1.73
PDONTHALIA FLOCCOSA	0.00	0.00	0.00	4.94	8.55	1.73
PHYLLOSPADIX SCULERI	0.00	0.00	0.00	0.86	1.50	1.73
ANTHOPLEURA ELEGANTIS	66.67	28.87	0.43	116.50	96.35	0.83
NEMERTEA	30.00	26.46	0.88	0.06	0.07	1.20
EMPLECTONEMA GRACILE	1.67	2.89	1.73	0.01	0.02	1.73
NEMATODA	56.67	76.87	1.35	0.01	0.02	1.73
HALOSYDNA BREVISSETOSA	8.33	14.43	1.73	10.92	18.91	1.73
HESIONURA COINEAUI DI	3.33	2.89	0.87	0.00	0.00	0.00
MICROPODARKE CURIA	1.67	2.89	1.73	0.00	0.00	0.00
SYLLIDAE	1.67	2.89	1.73	0.00	0.00	0.00
TYPOSYLLIS SP.	88.33	98.78	1.12	0.06	0.07	1.20
EXOGENE SP.	10.00	8.66	0.87	0.00	0.00	0.00
SPHAEROSYLLIS SP.	13.33	23.09	1.73	0.00	0.00	0.00
NEMERIS SP.	3.33	2.89	0.87	0.30	0.26	0.89
HEMIPODIUS HOPEALIS	28.33	31.75	1.12	0.59	0.82	1.40
CNUPHIS SP.	130.00	181.93	1.40	2.49	4.20	1.69
LIMBRINERIS SP.	6.67	2.89	0.43	0.51	0.81	1.58
DORVILLEA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PROTODORVILLEA GRACIL	66.67	61.71	0.93	0.01	0.02	1.73
NAINERIS UNGINATA	1.67	2.89	1.73	0.00	0.00	0.00
MALACOCEROS GLUTAEUS	1.67	2.89	1.73	0.00	0.00	0.00
CIRRATULIDAE	50.00	30.41	0.61	0.01	0.02	1.73
CIRRATULUS CIRRATUS	20.00	26.46	1.32	2.31	3.54	1.53
ARMANDIA BREVIS	3.33	5.77	1.73	0.01	0.02	1.73
CAPITELLIDAE	5.00	5.00	1.00	0.03	0.05	1.73
NOTOMASTUS SP.	6.67	11.55	1.73	0.40	0.69	1.73
BRANCHIOMALDANE VICEN	10.00	13.23	1.32	0.03	0.05	1.73
AXIOHELLA RUBROINCT	1.67	2.89	1.73	0.00	0.00	0.00
TEREBILIDAE	1.67	2.89	1.73	0.01	0.02	1.73
THELEPIUS CRISPIUS	8.33	14.43	1.73	45.42	78.66	1.73
SACCOCIRPUS EROTICUS	68.33	88.08	1.29	0.05	0.08	1.73
CLIGOCCHAETA	311.67	200.08	0.64	0.08	0.10	1.31
NOTOACMEA SCUTUM	66.67	28.87	0.43	82.67	23.55	0.28
NOTOACMEA PERSONA	10.00	17.32	1.73	0.60	1.03	1.73
LACUNA SP.	6.67	5.77	0.87	0.03	0.02	0.87
LITTORINA SCUTULATA	1.67	2.89	1.73	0.03	0.05	1.73
NUCELLA LAMELLOSA	1.67	2.89	1.73	3.38	5.85	1.73
SEARLESTIA OIRA	1.67	2.89	1.73	0.86	1.50	1.73
GLYCYMERIS SUBORSOLET	13.33	5.77	0.43	0.04	0.00	0.00
MYSELLA TUMICA	1.67	2.89	1.73	0.00	0.00	0.00
ASTARTE SP.	1.67	2.89	1.73	0.00	0.00	0.00
SAXIDOMUS GIGANTEUS	1.67	2.89	1.73	0.30	0.51	1.73
GNORIMOSPHAEROMA OREG	3.33	5.77	1.73	0.03	0.05	1.73
EXOSPHAEROMA AMPLICAU	5.00	5.00	1.00	0.01	0.02	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
IDOTFA WOSNESENSKII	16.67	28.87	1.73	11.92	20.64	1.73
IANIROPSIS KINCAIDII D	1.67	2.89	1.73	0.00	0.00	0.00
AMPHIPODA GAMMARIDFA	3.33	5.77	1.73	0.00	0.00	0.00
PARAMOERA MOHRI	10.00	5.00	0.50	0.00	0.00	0.00
MELITA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PAGURUS HIRSUTIUSCULU	5.00	5.00	1.00	1.85	2.58	1.40
HEMIGRAPUS NUDIUS	83.33	135.77	1.63	498.44	862.21	1.73
HEMIGRAPUS OREGONENS	33.33	28.87	0.87	315.00	426.62	1.35
STIPUNCULA	12.33	15.28	1.15	0.05	0.08	1.73
EUPENTACTA QUINQUESEM	1.67	2.89	1.73	0.05	0.08	1.73
GORIESOX MEANDRICUS	8.33	14.43	1.73	5.08	8.80	1.73

NSPEC	SDI	TMEANC	TMEANW
66.00	3.62	1301.66	1481.20

	PARTRIDGE POINT			WINTER 78			OFT			PAGE 1		
	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT							
MONOSTROMA SP.	0.00	0.00	0.00	0.02	0.05	2.00						
ULVA SP.	0.00	0.00	0.00	4.67	6.71	1.44						
FUCUS DISTICHUS	0.00	0.00	0.00	3.92	4.61	1.17						
GIGARTINA SP.	0.00	0.00	0.00	18.34	70.21	1.10						
GIGARTINA PAPILLATA	0.00	0.00	0.00	1.04	1.37	1.31						
IRIDAEA HETEROCARPA	0.00	0.00	0.00	0.19	0.38	2.00						
RHODOGLOSSUM SP.	0.00	0.00	0.00	0.37	0.73	2.00						
MICROCLADIA BOREALIS	0.00	0.00	0.00	0.15	0.30	1.96						
POLYSIPHONIA SP.	0.00	0.00	0.00	1.75	2.71	1.55						
PTEROSIPHONIA SP.	0.00	0.00	0.00	0.34	0.68	2.00						
RHODOMELA LARIY	0.00	0.00	0.00	5.94	9.04	1.52						
OPONTHALIA FLOCCOSA	0.00	0.00	0.00	2.01	2.81	1.40						
LOPHOSIPHONIA REPTABU	0.00	0.00	0.00	0.01	0.02	2.00						
ANTHOPLURA ELEGANTIS	26.25	49.22	1.88	18.28	35.32	1.93						
NEMERTEA	75.00	44.16	0.59	4.18	8.11	1.94						
NEMATODA	27.50	16.58	0.60	0.00	0.00	0.00						
HARMOTHOE IMBRICATA	2.50	2.89	1.15	0.06	0.07	1.21						
HESIONURA COINEAUI DI	15.00	15.83	1.12	0.00	0.00	0.00						
MICROPODARKE DUBIA	1.25	2.50	2.00	0.00	0.00	0.00						
TYPOSYLLIS SP.	82.50	46.99	0.57	0.08	0.06	0.73						
EXOGONE SP.	3.75	4.79	1.28	0.00	0.00	0.00						
SPHAEROSYLLIS SP.	2.50	2.89	1.15	0.00	0.00	0.00						
NEREIS SP.	10.00	13.54	1.35	0.04	0.04	0.87						
NEREIS VEXILLOSA	1.25	2.50	2.00	2.33	4.67	2.00						
GLYCERA SP.	1.25	2.50	2.00	0.55	1.09	2.00						
HEMIPODUS BOREALIS	16.25	6.22	0.39	0.34	0.19	0.55						
ONUPHIS SP.	8.75	11.81	1.35	0.07	0.12	1.65						
LUMBRINERIS SP.	20.00	16.83	0.84	3.36	3.94	1.17						
DOPVILLEA SP.	3.75	7.50	2.00	0.00	0.00	0.00						
PROTODORVILLEA GRACIL	295.00	272.12	0.92	0.09	0.08	0.84						
NANERIS SP.	1.25	2.50	2.00	0.07	0.14	2.00						
MALACOCEROS GLUTAEUS	1.25	2.50	2.00	0.00	0.00	0.00						
CIRRATULIDAE	53.75	39.02	0.73	0.01	0.02	2.00						
CIRRATULUS CIRRATUS	28.75	15.48	0.54	3.59	2.37	0.66						
ARMANDIA BREVIS	5.00	4.08	0.82	0.01	0.02	2.00						
CAPITELLIDAE	2.50	5.00	2.00	0.00	0.00	0.00						
NOTOMASTUS SP.	3.75	7.50	2.00	0.44	0.88	2.00						
MEGIOMASTUS AMBISETA	2.50	5.00	2.00	0.00	0.00	0.00						
BRANCHIOMALDANE VICEN	2.50	5.00	2.00	0.00	0.00	0.00						
TREBELLIDAE	1.25	2.50	2.00	0.08	0.17	2.00						
THELEPIS CRISPUS	25.00	35.36	1.41	35.31	57.05	1.62						
ARCHIANNELIDA	6.25	12.50	2.00	0.00	0.00	0.00						
SACCOCIPIUS EROTICUS	117.50	121.42	1.03	0.11	0.16	1.49						
FLIGOCHAETA	238.75	113.83	0.48	0.08	0.02	0.32						
MARGARITES PUPILLUS	2.50	5.00	2.00	0.01	0.02	2.00						
LACUNA SP.	18.75	23.94	1.28	0.13	0.25	2.00						
ALVINIA SP.	33.75	35.21	1.04	0.03	0.04	1.31						
NATICA CLAUSA	2.50	2.89	1.15	0.00	0.00	0.00						
MOPALIA LIGNOSA	1.25	2.50	2.00	0.55	1.09	2.00						
GLYCYMERIS SUBORSOLET	16.25	16.01	0.99	0.02	0.02	1.15						
MYSELLA TUMIDA	1.25	2.50	2.00	0.00	0.00	0.00						
BALANUS GLANDULA	1.25	2.50	2.00	0.00	0.00	0.00						
GNORIMOSPHAEROMA OPEG	1.25	2.50	2.00	0.02	0.04	2.00						
EXOSPHAEROMA AMPLICAU	12.50	18.48	1.48	0.02	0.04	2.00						
TOXTEA SP. JUV.	1.25	2.50	2.00	0.00	0.00	0.00						

## PARTRIDGE POINT

WINTER 78

OFT

PAGE 2

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
IDOTFA WOSNESFNSKIT	1.25	2.50	2.00	0.06	0.13	2.00
AMPHIPODA GAMMARIDEA	2.50	5.00	2.00	0.01	0.02	2.00
AMPITHOE SP.	25.00	35.36	1.41	0.19	0.24	1.28
PARAMOERA MOHRI	1.25	2.50	2.00	0.00	0.00	2.00
HYALE SP.	23.75	24.28	1.02	0.00	0.00	0.00
PAGURUS HIRSUTIUSCULU	5.00	5.77	1.15	0.94	1.83	1.94
PUGETTIA GRACILIS	1.25	2.50	2.00	0.08	0.17	2.00
CANCER OREGONENSIS	1.25	2.50	2.00	1.82	3.64	2.00
HEMIGRAPSUS NUDUS	10.00	16.83	1.68	8.73	13.33	1.53
SIPUNCULA	2.50	5.00	2.00	0.00	0.00	0.00
LEPTASTEPIAS HEXACTIS	6.25	12.50	2.00	6.56	13.13	2.00
LEPTOSYNAPTA CLARKI	1.25	2.50	2.00	0.03	0.07	2.00

NSPEC  
67.00SDI  
3.77TMEANC  
1256.25TMEANW  
127.09

	PARTRIDGE POINT			WINTER 78			-1FT			PAGE 1		
	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT							
MONOSTROMA SP.	0.00	0.00	0.00	0.40	0.69	1.73						
ULVA SP.	0.00	0.00	0.00	0.32	0.37	1.13						
EGREGIA MENZIESII	0.00	0.00	0.00	469.88	713.26	1.52						
FUCUS DISTICHUS	0.00	0.00	0.00	0.58	1.00	1.73						
PORPHYRA SP.	0.00	0.00	0.00	1.12	1.95	1.73						
NEOGARDHIELLA BAILEY	0.00	0.00	0.00	0.57	0.99	1.73						
PLOCAMTUM CARTILAGINE	0.00	0.00	0.00	0.09	0.15	1.73						
GIGARTINA SP.	0.00	0.00	0.00	141.57	174.36	1.23						
IPIDAEA SP.	0.00	0.00	0.00	2.73	4.73	1.73						
RHODOGLOSSUM SP.	0.00	0.00	0.00	244.10	370.50	1.31						
CORALLINACEAE	0.00	0.00	0.00	0.72	0.51	0.71						
CORALLINA SP.	0.00	0.00	0.00	5.37	5.24	1.16						
ROSSIELLA SP.	0.00	0.00	0.00	2.85	2.85	1.00						
HALYMENIA SCHIZYMENTO	0.00	0.00	0.00	186.98	152.44	0.82						
MICROCLADIA BOREALIS	0.00	0.00	0.00	1.74	1.50	0.86						
CRYPTOPLURA SP.	0.00	0.00	0.00	4.27	4.42	1.04						
HYMENENA SP.	0.00	0.00	0.00	7.62	2.51	0.96						
LAURENCIA SPECTABILIS	0.00	0.00	0.00	5.42	2.48	0.46						
RHODOMELA LARIX	0.00	0.00	0.00	90.57	111.17	1.23						
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	163.05	128.05	0.79						
PHYLLOSPADIX SCOUFRI	0.00	0.00	0.00	0.77	0.88	1.14						
PORIFERA	0.00	0.00	0.00	30.42	52.68	1.73						
ANTHOPLURA ELEGANTIS	10.00	13.23	1.32	1.80	2.78	1.55						
NEMERTEA	60.00	17.32	0.29	0.41	0.55	1.35						
EMPLECTONEMA GRACILE	16.67	14.43	0.87	0.08	0.14	1.73						
NEMATODA	105.00	42.72	0.41	0.01	0.02	1.73						
HALOSYDNA BREVISETOSA	8.33	14.43	1.73	3.25	5.63	1.73						
FULALIA SP.	40.00	26.46	0.66	0.03	0.05	1.73						
HESTIONOPA COINEAUI DI	25.00	13.23	0.53	0.00	0.00	0.00						
HESTIONIDAE	8.33	14.43	1.73	0.00	0.00	0.00						
EPHIODROMUS PUGETTENS	3.33	5.77	1.73	0.01	0.02	1.73						
SYLLIDAE	1.67	2.89	1.73	0.00	0.00	0.00						
TYPOSYLLIS SP.	799.33	281.62	0.71	0.91	0.71	0.78						
EXOGONE SP.	156.67	140.74	0.90	0.01	0.02	1.73						
SPHAEROSYLLIS SP.	46.67	23.63	0.51	0.00	0.00	0.00						
ODONTOSYLLIS PARVA	1.67	2.89	1.73	0.00	0.00	0.00						
NEPESIS SP.	26.67	22.55	0.85	0.08	0.14	1.73						
PLATYNEPESIS BICANALIC	25.00	43.30	1.73	0.67	1.15	1.73						
HEMIPEDUS BOREALIS	6.67	2.89	0.43	0.14	0.11	0.73						
ONUPHIS SP.	3.33	5.77	1.73	0.00	0.00	0.00						
LUMBRINERIS SP.	125.00	74.67	0.60	10.98	9.14	0.83						
DORVILLEA SP.	6.67	7.64	1.15	0.00	0.00	0.00						
PROTODORVILLEA GRACIL	376.67	204.04	0.54	0.11	0.08	0.72						
NAUPERIS SP.	1.67	2.89	1.73	0.00	0.00	0.00						
NAUPERIS UNCINATA	1.67	2.89	1.73	0.21	0.37	1.73						
SPIONIDAE	1.67	2.89	1.73	0.00	0.00	0.00						
SPIO SP.	3.33	5.77	1.73	0.01	0.02	1.73						
PYGOSPID FLEGANS	1.67	2.89	1.73	0.00	0.00	0.00						
MALACOEPEIS GLUTAEUS	6.67	5.77	0.87	0.01	0.02	1.73						
CIRRATULIDAE	151.67	167.73	1.11	0.06	0.07	1.20						
CIRRATULUS CIRRATUS	133.33	193.28	1.45	12.09	17.48	1.45						
THAPYX SP.	8.33	14.43	1.73	0.00	0.00	0.00						
ARMANDIA BREVIS	5.00	5.00	1.00	0.01	0.02	1.73						
CAPITELLA CAPITATA	28.33	30.14	1.06	0.05	0.08	1.73						
MEDIOMASTUS AMBICETA	30.00	51.96	1.73	0.03	0.05	1.73						

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
FRANCHIOMALDANE VICEN	68.33	84.31	1.23	0.14	0.17	1.24
TEREBELLIDAE	291.67	222.05	0.76	0.88	0.68	0.78
THELEPUS CRISPUS	535.00	535.28	1.03	213.23	195.30	0.92
POTAMILLA SP.	8.33	14.43	1.73	0.00	0.00	0.00
SCHIZOBRANCHIA INSIGN	8.33	14.43	1.73	0.08	0.14	1.73
SACCOCIRRUS EROTICUS	10.00	5.00	0.50	0.00	0.00	0.00
OLIGOCHAETA	571.67	452.14	0.79	0.13	0.13	0.96
CHAETIZONE SP.	50.00	86.60	1.73	0.17	0.29	1.73
MARGARITES PUPILLUS	1.67	2.89	1.73	0.00	0.00	0.00
LACUNA SP.	445.00	227.87	0.51	4.44	2.79	0.63
ALVINIA SP.	583.33	307.01	0.53	1.06	0.45	0.43
NATICA CLAUSA	26.67	2.89	0.11	0.08	0.14	1.73
AMPHISSA COLUMBIANA	8.33	14.43	1.73	0.00	0.00	0.00
NITRELLA TUBEPOSA	16.67	28.87	1.73	0.08	0.14	1.73
CHAETOPLEURA GEMMA	3.33	5.77	1.73	0.26	0.46	1.73
MOPALIA LIGNOSA	8.33	14.43	1.73	0.17	0.29	1.73
GLYCYMERIS SUBORSOLET	18.33	23.63	1.29	0.04	0.05	1.04
MYTILUS EDULIS	1.67	2.89	1.73	0.03	0.05	1.73
MYSELLA TUMICA	1.67	2.89	1.73	0.00	0.00	0.00
BALANUS GLANDULA	1.67	2.89	1.73	0.11	0.20	1.73
ANATANAIS NORMANI	25.00	43.30	1.73	0.00	0.00	0.00
EXOSPHAEROMA AMPLICAU	6.67	11.55	1.73	0.01	0.02	1.73
IDOTEA SP. JUV.	8.33	14.43	1.73	0.00	0.00	0.00
IDOTEA ACULFATA	16.67	14.43	0.87	0.58	1.01	1.73
TANIROPSIS KINCAIDI	8.33	14.43	1.73	0.00	0.00	0.00
TANIROPSIS KINCAIDI D	3.33	2.89	0.87	0.00	0.00	0.00
AMPITHOE SP.	150.00	217.94	1.45	1.83	1.66	0.91
AOROIDES COLUMBIAE	8.33	14.43	1.73	0.00	0.00	0.00
PARAMOERA WHERI	16.67	28.87	1.73	0.00	0.00	0.00
HYALE SP.	821.67	834.72	1.02	2.36	2.43	1.03
PARALLORCHESTES SP.	16.67	14.43	0.87	0.42	0.52	1.25
PHOTIS SP.	8.33	14.43	1.73	0.00	0.00	0.00
ISCHYROCERUS ANGIPTES	53.33	20.21	0.38	0.00	0.00	0.00
PARAPELUSTES NAUTILUS	1.67	2.89	1.73	0.00	0.00	0.00
PAGURUS GRANOSIMANUS	8.33	14.43	1.73	3.42	5.92	1.73
PAGURUS HIRSIUTUSCULU	36.67	38.84	1.06	0.79	0.94	1.18
PUGETTIA GRACILIS	43.33	38.19	0.88	1.26	0.85	0.68
CANCER SP. JUV.	8.33	14.43	1.73	0.67	1.15	1.73
PINNIXA OCCIDENTALIS	1.67	2.89	1.73	0.00	0.00	0.00
HEMIGRAPSIUS NIJDUS	3.33	5.77	1.73	0.18	0.31	1.73
HEMIGRAPSIUS OREGONENS	8.33	14.43	1.73	0.17	0.29	1.73
SIPHUNCULA	33.33	29.30	0.88	0.18	0.17	0.96
EVASTERIAS TROSCHELII	8.33	14.43	1.73	0.17	0.29	1.73
LEPTASTERIAS HEXACTIS	5.00	0.00	0.00	3.14	5.03	1.60

NSPEC	SDI	TMEANC	TMEANW
99.00	3.86	5786.61	1623.17



	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT		WEIGHT		
LAMINARIA GROENLANDIC	0.00	0.00	0.00	75.84	44.76	1.73
LAMINARIA SACCHARINA	0.00	0.00	0.00	3.17	5.50	1.73
ALARIA MARGINATA	0.00	0.00	0.00	13.13	11.58	0.88
PLOCAMTUM VIOLACEUM	0.00	0.00	0.00	8.00	13.86	1.73
GIGARTINA SP.	0.00	0.00	0.00	0.09	0.16	1.73
RHODOGLOSSUM SP.	0.00	0.00	0.00	0.58	1.01	1.73
ROSSIELLA SP.	0.00	0.00	0.00	0.03	0.05	1.73
PRIONITIS SP.	0.00	0.00	0.00	0.25	0.43	1.73
HALYMENIA SCHIZYMENTO	0.00	0.00	0.00	16.94	15.47	0.91
CALLOPHYLLIS SP.	0.00	0.00	0.00	0.01	0.01	1.73
CONSTANTINEA SIMPLEX	0.00	0.00	0.00	0.82	1.42	1.73
CRYPTOPLEURA SP.	0.00	0.00	0.00	0.31	0.54	1.73
ROTRYOGLOSSUM FARLOWI	0.00	0.00	0.00	6.96	12.06	1.73
LAURENCIA SPECTABILIS	0.00	0.00	0.00	0.06	0.10	1.73
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	1.81	1.58	0.87
PHYLLOSPADIX SCOLEPTI	0.00	0.00	0.00	139.93	241.86	1.73
NEMERTEA	3.33	5.77	1.73	0.00	0.00	0.00
NEMATODA	25.00	21.79	0.87	0.00	0.00	0.00
PHYLLODOCE GROENLANDI	1.67	2.89	1.73	0.38	0.66	1.73
FTEONE SP.	1.67	2.89	1.73	0.00	0.00	0.00
FTEONE PACIFICA	1.67	2.89	1.73	0.17	0.29	1.73
FULALIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
HESIONURA COINEAUI DI	81.67	59.65	0.73	0.03	0.02	0.87
TYPOSYLLIS SP.	41.67	42.5	1.02	0.06	0.07	1.20
EXOGONE SP.	1.67	2.89	1.73	0.00	0.00	0.00
SPHAEROSYLLIS SP.	6.67	5.77	0.97	0.00	0.00	0.00
NEREIS SP.	1.67	2.89	1.73	0.03	0.05	1.73
HEMIPODUS BOPEALIS	1.67	2.89	1.73	0.03	0.05	1.73
ONUPHIS SP.	11.67	7.64	0.65	0.05	0.08	1.73
LUMBRINERIS SP.	5.00	8.66	1.73	0.11	0.20	1.73
PROTODORVILLEA GRACIL	128.33	135.31	1.05	0.03	0.02	0.87
SPID FILICORNIS	1.67	2.89	.73	0.00	0.00	0.00
CIRRATULUS CIRPRATUS	1.67	2.89	1.73	0.01	0.02	1.73
CHAETZONE SP.	6.67	11.55	1.73	0.03	0.05	1.73
ARMANDIA BREVIS	3.33	5.77	1.73	0.00	0.00	0.00
CAPITELLIDAE	1.67	2.89	1.73	0.00	0.00	0.00
SACCOCIRRUS FFOTICUS	81.67	67.14	0.82	0.09	0.10	1.02
POLYGORDIUS SP.	1.67	2.89	1.73	0.01	0.02	1.73
CLIGOCHAETA	405.00	307.45	0.75	0.09	0.10	1.02
ALVINIA SP.	26.67	41.93	1.57	0.04	0.05	1.04
TONICELLA LINFATA	1.67	2.89	1.73	0.03	0.05	1.73
GLYCYMERIS SUBORSOLET	36.67	15.28	0.42	0.06	0.03	0.51
LEPTOCHELIA SAVIGNYI	3.33	5.77	1.73	0.00	0.00	0.00
EXOSPHAEROMA SP.	6.67	5.77	0.87	0.03	0.05	1.73
MUNNA SP.	1.67	2.89	1.73	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	6.67	7.64	1.15	0.00	0.00	0.00
ADROIDES COLUMBIAE	3.33	5.77	1.73	0.00	0.00	0.00
PONTOGENEIA SP.	8.33	10.41	1.25	0.01	0.02	1.73
PAPALLORESTES OCHOT	1.67	2.89	1.73	0.05	0.08	1.73
ANDONYX NUGAX	3.33	5.77	1.73	0.17	0.29	1.73
PHOXOCEPHALIDAE	1.67	2.89	1.73	0.00	0.00	0.00
PARAPIFUSTES SP.	1.67	2.89	1.73	0.00	0.00	0.00
PAGURIUS SP. JUV.	3.33	2.89	0.87	0.01	0.02	1.73
PUGETTIA GRACILIS	1.67	2.89	1.73	0.06	0.11	1.73
CANCER OREGONENSIS	3.33	5.77	1.73	2.61	4.53	1.73

PAPTRIDGE POINT

WINTER 78

-1.5M

PAGE 2

MEAN

S.O.

CVAR

MEAN

S.O.

CVAR

OPHIUROIDEA

1.67

CGUNT  
2.89

1.73

0.00

WEIGHT  
0.00

0.00

NSPEC  
56.00

SDI  
2.88

TMFANC  
931.66

TMEANW  
222.14

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
LAMINARIA GROENLANDIC	0.00	0.00	0.00	150.51	211.86	1.41
LAMINARIA SACCHARINA	0.00	0.00	0.00	23.03	27.44	1.19
PTERYGOPHORA CALIFORN	0.00	0.00	0.00	115.62	171.02	1.48
OPUNTIELLA CALIFORNIC	0.00	0.00	0.00	0.69	1.20	1.73
PILOCAMTUM COCCINEUM	0.00	0.00	0.00	0.26	0.44	1.73
PLOCAMTUM VIOLACEUM	0.00	0.00	0.00	0.00	0.01	1.73
CALLOPHYLLIS SP.	0.00	0.00	0.00	1.44	2.50	1.73
HOLLENBERGIA SP.	0.00	0.00	0.00	0.00	0.00	0.00
CRYPTOPLEURA SP.	0.00	0.00	0.00	0.04	0.06	1.73
DELESSERIA ORCIPENS	0.00	0.00	0.00	0.33	0.42	1.28
BOTRYOGLOSSUM FARLOWI	0.00	0.00	0.00	20.76	17.57	0.85
PTEROSIPHONIA SP.	0.00	0.00	0.00	0.00	0.00	0.00
LAURENCIA SPECTABILIS	0.00	0.00	0.00	1.92	3.33	1.73
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	14.78	12.81	0.87
LOPHOSIPHONIA LILLUM	0.00	0.00	0.00	0.00	0.00	0.00
PHYLLOSPADIX SCOULERI	0.00	0.00	0.00	107.47	126.14	1.73
PLATYHELMINTHES	5.00	8.66	1.73	0.01	0.02	1.73
NEMERTEA	6.67	2.89	0.43	0.26	0.42	1.60
EMPLECTONEMA GRACILE	3.33	2.89	0.87	0.00	0.00	0.00
NEMATODA	50.00	32.79	0.66	0.03	0.02	0.87
HARMOTHOE IMBRICATA	1.67	2.89	1.73	0.00	0.00	0.00
PALEONOTUS BELLIS	1.67	2.89	1.73	0.00	0.00	0.00
HESIONURA COINEAUI DI	3.33	2.89	0.87	0.00	0.00	0.00
CPHIDROMUS PUGETTENS	1.67	2.89	1.73	0.00	0.00	0.00
MICROPONDARKE DUBIA	26.67	16.07	0.60	0.06	0.03	0.51
TYPOSYLLIS SP.	101.67	46.46	0.46	0.14	0.09	0.62
EXOGENE SP.	23.33	32.15	1.38	0.00	0.00	0.00
SPHAEROSYLLIS SP.	30.00	18.03	0.60	0.01	0.02	1.73
NERFIS SP.	1.67	2.89	1.73	0.01	0.02	1.73
PLATYNEREIS BICANALIC	20.00	20.00	1.00	0.85	1.22	1.45
GLYCERA SP.	1.67	2.89	1.73	0.36	0.63	1.73
HEMIPODUS BOREALIS	1.67	2.89	1.73	0.03	0.05	1.73
GLYCINDE PICTA	8.33	10.41	1.25	0.04	0.05	1.04
OMUPHIS SP.	266.67	90.74	0.34	1.24	0.84	0.68
LUMBRINERIS SP.	23.33	7.64	0.33	0.73	0.20	0.28
DORVILLEA SP.	3.33	2.89	0.87	0.01	0.02	1.73
PROTODORVILLEA GRACIL	8.33	10.41	1.25	0.00	0.00	0.00
PRIONOSPIO STEENSTRUP	3.33	5.77	1.73	0.01	0.02	1.73
SPIO FILICORNIS	23.33	20.21	0.87	0.12	0.14	1.17
MALACOCEROS GLUTAEUS	5.00	8.66	1.73	0.00	0.00	0.00
CIPRATULUS CIPRATUS	8.33	10.41	1.25	0.36	0.47	1.30
CHAETAZONE SP.	8.33	5.77	0.69	0.05	0.08	1.73
ARMANDIA BREVIS	56.67	59.65	1.05	0.11	0.12	1.10
CAPITELLA CAPITATA	11.67	16.07	1.39	0.01	0.02	1.73
NOTOMASTUS TENUIS	6.67	11.55	1.73	0.08	0.14	1.73
MEDIOMASTUS ANBISETA	10.00	13.23	1.32	0.03	0.05	1.73
MALDANIDAE	1.67	2.89	1.73	0.00	0.00	0.00
AXIOTHELLA RUBROINCT	3.33	5.77	1.73	0.10	0.17	1.73
TEREBELLIDAE	50.00	20.00	0.40	0.23	0.13	0.56
PISTA SP.	10.00	10.00	1.00	0.18	0.17	0.96
PROTODRILUS FIABELLIG	10.00	13.23	1.32	0.00	0.00	0.00
CLIGOCOAETA	216.67	154.95	0.72	0.07	0.03	0.39
CALLINOSTOMA LIGATUM	1.67	2.89	1.73	0.18	0.31	1.73
MARGARITES PUPILLUS	6.67	11.55	1.73	0.06	0.11	1.73
LACUNA SP.	10.00	17.32	1.73	0.08	0.14	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
ALVINIA SP.	45.00	44.44	0.99	0.08	0.10	1.31
AMPHISSA COLUMBIANA	1.67	2.89	1.73	0.05	0.08	1.73
GLYCYMERIS SUBORSOLET	38.33	18.93	0.49	0.11	0.08	0.72
ASTARTE ALASKENSIS	1.67	2.89	1.73	0.00	0.00	0.00
MACOMA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PROTOTHACA STAMINEA	1.67	2.89	1.73	1.95	3.20	1.73
EXOSPHAEROMA SP.	1.67	2.89	1.73	0.01	0.02	1.73
IDOTEA ACULEATA	1.67	2.89	1.73	0.13	0.23	1.73
AMPHIPODA GAMMARIDEA	13.33	10.41	0.78	0.03	0.02	0.87
HEMIGRAPSIUS NUDUS	3.33	5.77	1.73	0.90	1.55	1.73
AYYLUS SP.	1.67	2.89	1.73	0.03	0.05	1.73
PONTOGENEIA SP.	3.33	2.89	0.87	0.00	0.00	0.00
CFRADOCUS SP.	1.67	2.89	1.73	0.01	0.02	1.73
MELITA SP.	1.67	2.89	1.73	0.00	0.00	0.00
CRCHOMENE CF. PINGUIS	1.67	2.89	1.73	0.00	0.00	0.00
PHOXOCEPHALIDAE	8.33	10.41	1.25	0.01	0.02	1.73
PARAPLUFUSTES SP.	3.33	2.89	0.87	0.00	0.00	0.00
PLEUSIRUS SECORRUS	3.33	2.89	0.87	0.00	0.00	0.00
PAGUPUS SP. JUV.	1.67	2.89	1.73	0.01	0.02	1.73
PETROLISTHES FRIGMERU	6.67	11.55	1.73	0.55	0.95	1.73
PUGETTIA GRACILIS	6.67	11.55	1.73	1.50	2.60	1.73
CANCER OREGONENSIS	13.33	7.64	0.57	2.09	2.59	1.24
SIPUNCULA	31.67	22.09	0.73	0.31	0.39	1.24
ECTOPROCTA	0.00	0.00	0.00	0.23	0.40	1.73
LEPTOSYNAPTA CLARKI	1.67	2.89	1.73	0.06	0.11	1.73

NSPEC	SDI	TMEANC	TMEANW
80.00	3.86	1229.99	450.27

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
	COUNT			WEIGHT		
SARCOIDIOTHECA FURCATA	0.00	0.00	0.00	0.02	0.03	1.73
GRACILARIOPSIS SJÖFST	0.00	0.00	0.00	0.43	0.19	0.43
AHNFELTIA GIGARTINOID	0.00	0.00	0.00	0.45	0.77	1.73
STENOGRAMME INTERRUPT	0.00	0.00	0.00	0.34	0.16	0.47
RHODOGLOSSUM SP.	0.00	0.00	0.00	0.60	1.03	1.73
CALLOPHYLLIS SP.	0.00	0.00	0.00	0.00	0.01	1.73
RHODYMENIA SP.	0.00	0.00	0.00	0.00	0.01	1.73
HOLLENBERGIA SP.	0.00	0.00	0.00	0.00	0.00	0.00
POLYNEURA LATISSIMA	0.00	0.00	0.00	0.09	0.11	1.20
PTEROSIPHONIA SP.	0.00	0.00	0.00	0.03	0.05	1.73
ODONTHALIA WASHINGTON	0.00	0.00	0.00	0.02	0.04	1.73
NEMERTEA	8.33	2.89	0.35	0.09	0.10	1.02
NEMATODA	65.00	43.59	0.67	0.06	0.07	1.20
HARMOTHODE IMPRICATA	1.67	2.89	1.73	0.01	0.02	1.73
PHOLOE MINUTA	1.67	2.89	1.73	0.01	0.02	1.73
HESIONURA COINEAUI OI	10.00	5.00	0.50	0.00	0.00	0.00
MICROPODARKE DUBIA	65.00	35.00	0.54	0.09	0.05	0.56
TYPOSYLLIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
EXOGENE SP.	8.33	7.64	0.92	0.00	0.00	0.00
SPHAEROSYLLIS SP.	11.67	5.77	0.49	0.00	0.00	0.00
PLATYNEREIS BICANALIC	1.67	2.89	1.73	0.00	0.00	0.00
NEPHTYS LONGOSETOSA	1.67	2.89	1.73	0.17	0.29	1.73
HEMIPODUS BOREALIS	33.33	16.07	0.48	0.66	0.75	1.14
PNUPHIS SP.	26.67	22.55	0.85	0.09	0.08	0.87
PROTOPORVILLEA GRACIL	10.00	13.23	1.32	0.00	0.00	0.00
SPIO SP.	1.67	2.89	1.73	0.01	0.02	1.73
SPIO FILICOPNIS	13.33	12.58	0.94	0.03	0.02	0.87
ANNIDES SP.	6.67	7.64	1.15	0.01	0.02	1.73
CHAETONE SP.	15.00	8.66	0.58	0.03	0.02	0.87
SCALIBREGMA INFLATUM	3.33	2.89	0.87	0.06	0.11	1.73
ARMANDIA BREVIS	1.67	2.89	1.73	0.00	0.00	0.00
CAPITELLA CAPITATA	5.00	8.66	1.73	0.01	0.02	1.73
NOTOMASTUS GIGANTEUS	1.67	2.89	1.73	0.06	0.11	1.73
NOTOMASTUS TENUIS	1.67	2.89	1.73	0.06	0.11	1.73
MEDIOMASTUS ANBISETA	11.67	7.64	0.65	0.04	0.05	1.04
MALDANIDAE	8.33	2.89	0.35	0.01	0.02	1.73
NICOMACHE PERSONATA	16.67	16.07	0.96	0.19	0.22	1.15
AXIOTHELLA RUBROINCT	1.67	2.89	1.73	0.00	0.00	0.00
TEREBELLIDAE	40.00	21.79	0.54	0.39	0.20	0.51
CHONE SP.	3.33	5.77	1.73	0.01	0.02	1.73
SACCOCYRUS EROTICUS	5.00	5.00	1.00	0.00	0.00	0.00
POLYGORDIUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
CLIGOCHAETA	73.33	40.41	0.55	0.03	0.02	0.87
MARGARITES PUPILLUS	5.00	8.66	1.73	0.01	0.02	1.73
MARGARITES LIRULATUS	63.33	46.19	0.73	0.54	0.44	0.81
ALVINIA SP.	23.33	15.28	0.65	0.06	0.03	0.51
NATICA CLAUSA	1.67	2.89	1.73	0.05	0.08	1.73
FUSITRITON OREGONENSI	1.67	2.89	1.73	0.01	0.02	1.73
AMPHISSA COLUMBIANA	1.67	2.89	1.73	0.03	0.05	1.73
GLYCYMERIS SUBOSOLET	346.67	278.85	0.80	1.56	1.33	0.86
MODIOLUS RECTUS	1.67	2.89	1.73	0.03	0.05	1.73
MYSELLA TUMIDA	40.00	31.22	0.78	0.04	0.05	1.04
CYCLOGARDIA SP.	3.33	5.77	1.73	0.93	1.61	1.73
ASTARTE COMPACTA	1.67	2.89	1.73	0.36	0.63	1.73
MACOMA SP.	3.33	2.89	0.87	0.04	0.05	1.04

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
SAXIDOMUS GIGANTEUS	1.67	2.89	1.73	1.18	2.04	1.73
PSEPHIDIA LORDI	106.67	44.81	0.42	0.62	0.43	0.68
HUMILARIA KENNERLYI	1.67	2.89	1.73	200.46	347.21	1.73
PROTOTHACA STAMINEA	1.67	2.89	1.73	0.01	0.02	1.73
TANAIDACEA SP. A	1.67	2.89	1.73	0.00	0.00	0.00
LEPTOCHELIA SAVIGNYI	10.00	13.23	1.32	0.00	0.00	0.00
EXOSPHAEROMA SP.	11.67	10.41	0.89	0.04	0.05	1.04
ISCHYROCERUS ANGUIPES	1.67	2.89	1.73	0.00	0.00	0.00
ANONYX NUGAX	1.67	2.89	1.73	0.55	0.95	1.73
CANCER OREGONENSIS	6.67	2.89	0.43	0.67	0.45	0.72
FUPENTACTA QUINQUESEM	1.67	2.89	1.73	13.68	23.69	1.73
LEPTOSYNAPTA CLARKI	25.00	17.32	0.69	0.53	0.63	1.19
ENTEROPNEUSTA	3.33	5.77	1.73	0.00	0.00	0.00
SAGITTA FLEGANS	1.67	2.89	1.73	0.00	0.00	0.00

NSPEC  
69.00

SDI  
3.68

TMEANC  
1128.33

TMEANW  
225.51

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT		WEIGHT		
LAMINARIA GROENLANDIC	0.00	0.00	0.00	2.75	4.76	1.73
LAMINARIA SACCHARINA	0.00	0.00	0.00	8.45	13.93	1.65
SARCODIOTHECA FURCATA	0.00	0.00	0.00	0.04	0.04	0.93
PLUCAMTUM VIOLACEUM	0.00	0.00	0.00	0.60	1.04	1.73
GRACILARIA SP.	0.00	0.00	0.00	0.02	0.04	1.73
GRACILARIOPSIS SJOEST	0.00	0.00	0.00	0.03	0.05	1.73
GYMNOGONGRUS SP.	0.00	0.00	0.00	0.01	0.02	1.73
IRIDAEA SP.	0.00	0.00	0.00	1.09	1.88	1.73
RHODOGLOSSUM SP.	0.00	0.00	0.00	0.93	1.59	1.70
CERAMTUM STRICTUM	0.00	0.00	0.00	0.00	0.00	0.00
ANTITHAMNIONELLA SP.	0.00	0.00	0.00	0.00	0.00	0.00
HOLLENBERGIA SP.	0.00	0.00	0.00	0.01	0.01	1.73
MEMBRANOPTERA MULTIRA	0.00	0.00	0.00	0.01	0.01	1.73
POLYNEURA LATISSIMA	0.00	0.00	0.00	0.21	0.34	1.61
ODONTHALIA WASHINGTON	0.00	0.00	0.00	0.86	1.49	1.73
NEMERTEA	5.00	5.00	1.00	0.00	0.00	0.00
NEMATODA	10.00	8.66	0.87	0.00	0.00	0.00
ETEONE SP.	1.67	2.89	1.73	0.01	0.02	1.73
HESIONURA COINEAUTI DI	8.33	7.64	0.92	0.00	0.00	0.00
MICROPODARKE DUBIA	36.67	42.52	1.16	0.03	0.05	1.73
TYPOSYLLIS SP.	5.00	8.66	1.73	0.01	0.02	1.73
EXOGONE SP.	6.67	7.64	1.15	0.00	0.00	0.00
SPHAEROSYLLIS SP.	6.67	7.64	1.15	0.00	0.00	0.00
HEMIPODUS BOREALIS	6.67	7.64	1.15	0.28	0.41	1.46
PROTODORVILLEA GRACIL	1.67	2.89	1.73	0.00	0.00	0.00
SCOLOPLOS PUGETTENSIS	1.67	2.89	1.73	0.00	0.00	0.00
SPIO SP.	3.33	2.89	0.87	0.01	0.02	1.73
SPIOPHANES BOMBIX	1.67	2.89	1.73	0.00	0.00	0.00
ACRIDES SP.	3.33	5.77	1.73	0.01	0.02	1.73
CHAETAZONE SP.	13.33	11.55	0.87	0.06	0.05	0.87
ACROCIRPUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
SCALIRREGMA INFLATUM	1.67	2.89	1.73	0.01	0.02	1.73
MALDANIDAE	10.00	17.32	1.73	0.03	0.05	1.73
NICOMACHE PERSONATA	1.67	2.89	1.73	0.05	0.08	1.73
AMPHARETE SP.	1.67	2.89	1.73	0.03	0.05	1.73
TEREBELLIDAE	6.67	5.77	0.87	0.06	0.05	0.87
CHONE SP.	10.00	10.00	1.00	0.01	0.02	1.73
PROTODRILUS FLABELLIG	3.33	2.89	0.87	0.00	0.00	0.00
POLYGORDIUS SP.	11.67	10.41	0.89	0.04	0.05	1.04
CLIGOCCHAFTA	30.00	25.00	0.83	0.00	0.00	0.00
MARGARITES PUPILLUS	3.33	2.89	0.87	0.01	0.02	1.73
MARGARITES LIPULATUS	11.67	7.64	0.65	0.31	0.24	0.77
LACUNA SP.	3.33	5.77	1.73	0.01	0.02	1.73
CALYPTRAEA FASTIGIATA	13.33	10.41	0.78	0.41	0.30	0.73
NATICA CLAUSA	1.67	2.89	1.73	0.05	0.08	1.73
AMPHISSA COLUMBIANA	1.67	2.89	1.73	0.00	0.00	0.00
HANLEYA HANLEYI	6.67	7.64	1.15	0.06	0.07	1.20
ISCHNOCHITON PETIPOPC	5.00	5.00	1.00	0.83	0.72	0.87
GLYCYMERIS SUBSOLET	281.67	130.80	0.45	0.74	0.44	0.59
MODIOLUS RECTUS	1.67	2.89	1.73	0.08	0.14	1.73
CYCLOCARDIA SP.	11.67	5.77	0.49	0.17	0.23	1.33
ASTARTE ALASKENSIS	3.33	5.77	1.73	0.05	0.08	1.73
TELLINA SP.	1.67	2.89	1.73	0.03	0.05	1.73
PSEPHIDIA LORDI	15.00	10.00	0.67	0.09	0.05	0.56
BALANUS GLANDULA	15.00	25.98	1.73	0.55	0.95	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
EXOSPHEROMA SP.	1.67	2.89	1.73	0.00	0.00	0.00
AMPITHOE SP.	1.67	2.89	1.73	0.00	0.00	0.00
ANDROIDES COLUMBIAE	1.67	2.89	1.73	0.00	0.00	0.00
PARAMERA MOHRI	1.67	2.89	1.73	0.00	0.00	0.00
MELITA SP.	3.33	5.77	1.73	0.00	0.00	0.00
PUGETTIA GRACILIS	1.67	2.89	1.73	0.03	0.05	1.73
CANCER OREGONENSIS	8.33	10.41	1.25	0.43	0.45	1.05
ECTOPROCTA	0.00	0.00	0.00	0.01	0.02	1.73
OPHIUROIDEA	1.67	2.89	1.73	0.06	0.11	1.73
EUPENTACTA QUINQUESEM	1.67	2.89	1.73	0.06	0.11	1.73
LEPTOSYNAPTA CLARKI	5.00	5.00	1.00	0.16	0.15	0.92
SAGITTA ELEGANS	11.67	12.58	1.08	0.04	0.05	1.04

NSPEC	SOT	TMEANC	TMEANW
67.00	3.34	606.66	19.87



	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
PLUCCAMIMUM COCCINFUM	0.00	0.00	0.00	1.13	1.75	1.54
FRACILARIA SP.	0.00	0.00	0.00	0.00	0.00	0.00
STENOGRAMME INTERRUPT	0.00	0.00	0.00	1.99	3.32	1.67
GYMNOGONGRUS SP.	0.00	0.00	0.00	8.39	14.13	1.68
CALLOPHYLLIS FLABELLU	0.00	0.00	0.00	3.93	3.58	0.91
WFEKSIA DIGITATA	0.00	0.00	0.00	0.33	0.58	1.73
RHODYMENIA SP.	0.00	0.00	0.00	2.00	3.46	1.73
HALOSACCION GLANDIFOR	0.00	0.00	0.00	0.04	0.07	1.73
FAUCHEA SP.	0.00	0.00	0.00	0.82	1.41	1.73
NIENBURGIA ANDERSONIA	0.00	0.00	0.00	1.28	1.99	1.56
CRYPTOPLEURA SP.	0.00	0.00	0.00	0.02	0.03	1.73
POLYNEURA LATISSIMA	0.00	0.00	0.00	0.17	0.27	1.63
PTEROSIPHONIA SP.	0.00	0.00	0.00	0.07	0.12	1.73
ZOSTERA MARINA	0.00	0.00	0.00	0.00	0.01	1.73
NEMERTEA	15.00	0.00	0.00	0.17	0.23	1.33
NEMATODA	6.67	5.77	0.97	0.00	0.00	0.00
HARMOTHOF IMBRICATA	5.00	5.00	1.00	0.03	0.05	1.73
PHOLOE MINUTA	1.67	2.89	1.73	0.01	0.07	1.73
ETEONE SP.	3.33	2.89	0.97	0.00	0.00	0.00
HESTONUPA COINEAUI DI	5.00	5.00	1.00	0.00	0.00	0.00
MICROPODARKE DUBIA	20.00	15.00	0.75	0.01	0.02	1.73
PIONOSYLLIS URAGA	6.67	7.64	1.15	0.00	0.00	0.00
TYPOSYLLIS SP.	10.00	0.00	0.00	0.00	0.00	0.00
SPHAEROSYLLIS SP.	5.00	0.00	0.00	0.00	0.00	0.00
PLATYNEREIS BICANALIC	3.33	2.89	0.87	0.06	0.05	0.87
SPHAERODORUM PAPILLIF	1.67	2.89	1.73	0.00	0.00	0.00
GLYCERA SP.	1.67	2.89	1.73	0.01	0.02	1.73
HEMIPODUS BOREALIS	25.00	0.00	0.00	0.11	0.08	0.72
ONUPHIS SP.	5.00	5.00	1.00	0.20	0.34	1.73
LUMBRINERIS SP.	1.67	2.89	1.73	0.05	0.08	1.73
NOUVILLEA SP.	1.67	2.89	1.73	0.01	0.02	1.73
PROTODORVILLEA GRACIL	10.00	13.23	1.32	0.00	0.00	0.00
ARICIDEA LOPEZI	1.67	2.89	1.73	0.00	0.00	0.00
PRIONOSPID STEENSTRUP	13.33	7.64	0.57	0.10	0.13	1.39
SPID SP.	18.33	17.56	0.96	0.08	0.07	0.93
SPIOPHANES BOMBYX	5.00	0.00	0.00	0.00	0.00	0.00
AONIDES SP.	5.00	5.00	1.00	0.00	0.00	0.00
CHAETOZONE SP.	10.00	0.00	0.00	0.07	0.03	0.39
ACROCIRRUS SP.	6.67	11.55	1.73	0.00	0.00	0.00
SCALIBREGMA INFLATUM	6.67	2.89	0.43	0.03	0.02	0.87
ARMANDIA BREVIS	1.67	2.89	1.73	0.00	0.00	0.00
NOTOMASTUS GIGANTEUS	3.33	2.89	0.87	0.06	0.05	0.87
MEDICMASTUS ANBISFTA	48.33	32.15	0.67	0.06	0.05	0.87
MALONIDAE	8.33	2.89	0.35	0.01	0.02	1.73
NICOMACHE PERSONATA	5.00	8.66	1.73	0.21	0.37	1.73
NOTOPROCTUS PACIFICUS	1.67	2.89	1.73	0.03	0.05	1.73
OWENIA FUSIFORMIS	3.33	5.77	1.73	0.03	0.05	1.73
AMPHAPETE SP.	1.67	2.89	1.73	0.01	0.02	1.73
MELINEXIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
TEREBELLIDAE	11.67	10.41	0.89	0.04	0.05	1.04
SABELLIDAE	1.67	2.89	1.73	0.15	0.25	1.73
CHONE SP.	66.67	76.87	1.15	0.10	0.13	1.39
PSEUDOPOTAMILIA OCELL	1.67	2.89	1.73	0.00	0.00	0.00
POLYGORDIUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
CLIGOCCHAETA	16.67	7.64	0.46	0.00	0.00	0.00

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
PUNCTURELLA CUCULLATA	1.67	2.89	1.73	1.38	2.39	1.73
ACMAEIDAE JUV. <4MM	1.67	2.89	1.73	0.00	0.00	0.00
MARGARITES PUPILLUS	1.67	2.89	1.73	0.06	0.11	1.73
MARGARITES LIRULATUS	3.33	2.89	0.87	0.04	0.05	1.04
ALVINIA SP.	8.33	5.77	0.69	0.01	0.02	1.73
CALYPTRAEA FASTIGIATA	20.00	15.00	0.75	1.77	1.61	0.91
AMPHISSA COLUMBIANA	5.00	8.66	1.73	0.30	0.51	1.73
HANLEYA HANLEYI	6.67	11.55	1.73	0.05	0.08	1.73
ISCHNOCHITON RETIPORO	8.33	10.41	1.25	0.19	0.17	0.87
TONICELLA LINEATA	1.67	2.89	1.73	0.01	0.02	1.73
GLYCYMERIS SUBORSOLET	50.00	78.10	1.55	0.11	0.16	1.43
MUSCULUS SP.	3.33	2.89	0.87	0.00	0.00	0.00
CYCLOCARDIA SP.	48.33	75.06	1.55	1.16	1.81	1.56
MIDDONTISCUS PPOLONGA	23.33	40.41	1.73	0.92	1.59	1.73
ASTARTE ALASKENSIS	18.33	17.56	0.95	3.04	2.65	0.87
ASTARTE COMPACTA	18.33	17.56	0.95	8.80	8.26	0.94
CLINOCARDIUM CILIATUM	1.67	2.89	1.73	3.08	5.34	1.73
NEMOCARDIUM CENTIFOLI	1.67	2.89	1.73	0.01	0.02	1.73
MACOMA SP.	1.67	2.89	1.73	0.01	0.02	1.73
TELLINA SP.	1.67	2.89	1.73	0.26	0.46	1.73
MYA ARENARIA	3.33	5.77	1.73	12.75	27.08	1.73
BALANUS GLANDULA	18.33	31.75	1.73	33.70	58.36	1.73
NEBALIA PUGETTENSIS	1.67	2.89	1.73	0.00	0.00	0.00
TANAIDACEA SP. A	3.33	5.77	1.73	0.00	0.00	0.00
LEPTOCHELIA SAVIGNYI	110.00	97.60	0.84	0.01	0.02	1.73
AORIDES COLUMBIAE	5.00	0.00	0.00	0.00	0.00	0.00
COPEPHIUM SP.	61.67	63.71	1.03	0.01	0.02	1.73
MELITA SP.	18.33	7.64	0.42	0.03	0.02	0.87
ISAEIDAE	6.67	5.77	0.87	0.00	0.00	0.00
SYNHELIDIUM SHOEMAKE	1.67	2.89	1.73	0.00	0.00	0.00
HEPTACARPUS BREVIROST	1.67	2.89	1.73	0.03	0.05	1.73
PUGETTIA GRACILIS	5.00	8.66	1.73	0.11	0.20	1.73
CANCER OREGONENSIS	11.67	7.64	0.65	11.10	18.75	1.69
SIPUNCULA	3.33	5.77	1.73	0.15	0.25	1.73
OPHIUROIDEA	18.33	27.54	1.50	0.41	0.68	1.65
EUPENTACTA QUINQUESEM	1.67	2.89	1.73	9.58	16.60	1.73
LEPTOSYNAPTA CLARKI	3.33	2.89	0.87	0.08	0.07	0.93

NSPEC	SDI	TMFANC	TMEANW
92.00	4.27	971.66	111.00

## FREY'S LANDING

SPRING 77

6FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
RHODOPHYTA DETRITUS	0.00	0.00	0.00	0.16	0.34	2.10
ZOSTERA DETRITUS	0.00	0.00	0.00	0.00	0.00	2.24
NEMERTEA	25.00	25.25	1.01	0.00	0.00	0.00
NEMATODA	1.00	2.24	2.24	0.00	0.00	0.00
POLYDORA SP.	1.00	2.24	2.24	0.00	0.00	0.00
CLIGOCCHAETA	15.00	16.20	1.08	0.00	0.00	0.00
LACUNA VARIEGATA	1.00	2.24	2.24	0.00	0.00	0.00
AMPHIROA GAMMARIDEA	1.00	2.24	2.24	0.00	0.00	0.00
HYALF PLUMULOSA	1.00	2.24	2.24	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
9.00	2.19	45.00	0.16

## EBEY'S LANDING

SPRING 77

3FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
RHODOPHYTA DETRITUS	0.00	0.00	0.00	0.04	0.04	1.16
SYLLIDAE	1.00	2.24	2.24	0.00	0.00	0.00
CLIGOCHAFTA	9.00	10.25	1.14	0.00	0.00	0.00
LACUNA VARIEGATA	1.00	2.24	2.24	0.00	0.00	0.00
PARAMOERA MUHRI	2.00	2.74	1.37	0.00	0.00	0.00
HEMIGRAPSUS SP.	1.00	2.24	2.24	0.00	0.00	0.00

NSPEC	SDI	TMFANC	TMEANW
6.00	1.85	14.00	0.04

EBEY'S LANDING

SPRING 77

OFT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
RHODOPHYTA DETRITUS	0.00	0.00	0.00	0.02	0.02	1.14
ZOSTERA DETRITUS	0.00	0.00	0.00	0.00	0.00	0.00
NEMERTEA	13.00	10.95	0.84	0.00	0.00	0.00
EXOGONE VERRUGERA	1.00	2.24	2.24	0.00	0.00	0.00
PROTODORVILLEA GRACIL	1.00	2.24	2.24	0.00	0.00	0.00
CAPITELLA CAPITATA	1.00	2.24	2.24	0.00	0.00	0.00
SABELLIDAE	2.00	4.47	2.24	0.00	0.00	0.00
SACCOCIFFUS EROTICUS	1.00	2.24	2.24	0.00	0.00	0.00
CLIGOCHEAETA	2.00	4.47	2.24	0.00	0.00	0.00
ISOPODA FLABELLIFERA	2.00	2.74	1.37	0.01	0.02	2.24
PARAMOERA MOHRI	262.00	577.48	2.20	0.76	1.69	2.24
LEPTOSYNAPTA CLARKI	1.00	2.24	2.24	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
12.00	0.55	296.00	0.78

## FREY'S LANDING

SPRING 77

-1.5M

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
FILAMENTOUS DIATOMS	0.00	0.00	0.00	2.09	3.57	1.71
ENTEROMORPHA LINZA	0.00	0.00	0.00	0.00	0.00	0.00
PHAEOPHYCEAE	0.00	0.00	0.00	0.00	0.00	0.00
RHYNCHOCEFLA	8.33	7.64	0.92	0.01	0.02	1.73
HEMIPODUS BOREALIS	5.00	5.00	1.00	0.10	0.13	1.39
LUMBINERIS ZONATA	1.67	2.89	1.73	0.05	0.08	1.73
CIRRATULUS CIRRATUS	1.67	2.89	1.73	0.01	0.02	1.73
CAULLERIELLA GRACILIS	3.33	2.89	0.87	0.00	0.00	0.00
SACCOCIIRRUS EROTICUS	188.33	112.51	0.60	1.37	0.52	0.38
GNORTMOSPHEROMA OREG	8.33	14.43	1.73	0.25	0.43	1.73
EXOSPHEROMA AMPLICAU	5.00	5.00	1.00	0.03	0.02	0.87
AMPHIPODA GAMMARIDEA	1.67	2.89	1.73	0.01	0.02	1.73
PARAMOERA MOHRI	13.33	18.93	1.42	0.06	0.11	1.73
PONTOGENEIA SP.	10.00	10.00	1.00	0.03	0.05	1.73
PONTOGENEIA ROSTRATA	3.33	5.77	1.73	0.01	0.02	1.73
AMPHIPODA GAMMARIDAE	1.67	2.89	1.73	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
16.00	1.96	251.67	4.03

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
MONOSTROMA FUSCUM	0.00	0.00	0.00	0.12	0.21	1.73
ZOSTERA MARINA	0.00	0.00	0.00	61.59	40.13	0.65
ANTHOPLEURA ELEGANTIS	1.67	2.89	1.73	0.02	0.14	1.73
RHYNCHOCOFLA	6.67	7.64	1.15	0.11	0.16	1.43
CEREBRATULUS CALIFORN	20.00	22.91	1.15	0.14	0.18	1.23
HALOSYDNA BREVISETOSA	3.33	5.77	1.73	0.03	0.05	1.73
TYPOSYLLIS ARMATILLIS	1.67	2.89	1.73	0.00	0.00	0.00
TYPOSYLLIS HYALINA	1.67	2.89	1.73	0.00	0.00	0.00
EXOGONE LOURFI	75.00	65.38	0.87	0.03	0.02	0.87
NERFIS PROCERA	26.67	27.54	1.03	2.30	2.52	1.10
NEPHTYS FERUGINEA	1.67	2.89	1.73	0.10	0.17	1.73
GLYCERA AMERICANA	3.33	2.89	0.87	0.49	0.82	1.66
GLYCINDE PICTA	15.00	13.23	0.88	0.09	0.08	0.87
GNUPHIS IRIDESCENS	1.67	2.89	1.73	0.01	0.02	1.73
PROTODORVILLEA GRACIL	10.00	10.00	1.00	0.00	0.00	0.00
SCOLOPLOS ARMIGER	15.00	8.66	0.58	0.79	0.43	0.55
LAONICE CIRRATA	5.00	0.00	0.00	0.01	0.02	1.73
PRIONOSPID STEENSTRUP	15.00	25.98	1.73	0.25	0.43	1.73
SPIOPHANES BOMBYX	121.67	57.95	0.48	0.92	0.52	0.57
SPIOPHANES BERKELFYOP	1.67	2.89	1.73	0.11	0.20	1.73
MALACOCEROS GLUTAEUS	16.67	20.82	1.25	0.04	0.05	1.04
CAULLEPIELLA GRACILIS	20.00	13.23	0.66	0.01	0.02	1.73
THARYX MULTIFILIS	1.67	2.89	1.73	0.03	0.05	1.73
CHAETOZONE SETOSA	1.67	2.89	1.73	0.05	0.08	1.73
SCALIPREGMA INFLATUM	3.33	5.77	1.73	0.06	0.11	1.73
ARMANDIA BREVIS	1.67	2.89	1.73	0.03	0.05	1.73
TRAVISIA BREVIS	8.33	2.89	0.35	3.24	2.68	0.83
CAPITELLA CAPITATA	1.67	2.89	1.73	0.00	0.00	0.00
NICOMACHE PERSONATA	65.00	83.22	1.28	3.39	5.80	1.71
AXINOTHELLA PUBROCINCT	1.67	2.89	1.73	0.95	1.64	1.73
PRAXILLELLA AFFINIS	55.00	44.44	0.81	1.34	1.74	1.30
OWENIA FUSIFORMIS	60.00	13.23	0.22	1.11	0.52	0.47
ASABELLIDES LINEATA	1.67	2.89	1.73	0.01	0.02	1.73
CLIGOCHAETA	3.33	5.77	1.73	0.00	0.00	0.00
MARGARITES LIPULATUS	5.00	5.00	1.00	0.08	0.07	0.93
LACUNA VARIEGATA	8.33	14.43	1.73	0.10	0.17	1.73
SEARLESIA DIRA	1.67	2.89	1.73	2.06	3.57	1.73
TURRONILLA SP.	1.67	2.89	1.73	0.03	0.05	1.73
MODIOLUS RECTUS	1.67	2.89	1.73	0.00	0.00	0.00
VENEROIDA SP. JUV.	1.67	2.89	1.73	0.00	0.00	0.00
MYSELLA TUMIDA	25.00	20.00	0.80	0.04	0.05	1.04
CLINOCARDIUM CALIFORN	6.67	2.89	0.43	50.27	86.44	1.72
MACOMA SP.	6.67	7.64	1.15	0.49	0.70	1.41
MACOMA OBLIQUA	1.67	2.89	1.73	0.03	0.05	1.73
PSEPHIDIA LOROI	26.67	34.03	0.35	0.81	0.26	0.32
MYA ARENARIA	8.33	2.89	0.35	0.20	0.27	1.36
LAMPROPS SP.	1.67	2.89	1.73	0.01	0.02	1.73
DIASTYLOPSIS SP.	3.33	5.77	1.73	0.03	0.05	1.73
LEPTOCHELIA SAVIGNYI	300.00	279.15	0.93	0.94	0.90	0.95
IDOTEA SP.	1.67	2.89	1.73	0.01	0.02	1.73
AMPELISCA SP.	6.67	7.64	1.15	0.00	0.00	0.00
PONTOGENEIA INERMIS	3.33	2.89	0.87	0.01	0.02	1.73
PHOTIS SP.	8.33	14.43	1.73	0.00	0.00	0.00
PHOTIS BREVIPES	6.67	7.64	1.15	0.01	0.02	1.73
PROTOMEDEIA SP.	13.33	7.64	0.57	0.01	0.02	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
ISCHYROCFRUS ANGUIPES	1.67	2.89	1.73	0.01	0.02	1.73
LYSIANASSIDAE SP. A	5.00	5.00	1.00	0.00	0.00	0.00
SYNCHELIDIUM SHOEMAKE	3.33	5.77	1.73	0.00	0.00	0.00
PHOXOCEPHALIDAE	96.67	68.25	0.71	0.21	0.25	1.20
AMPHIPODA CAPRELLIDAE	1.67	2.89	1.73	0.00	0.00	0.00
PINNIXA SP.	1.67	2.89	1.73	0.01	0.02	1.73
PINNIXA OCCIDENTALIS	1.67	2.89	1.73	0.05	0.08	1.73
OPHIUROIDEA	1.67	2.89	1.73	0.01	0.02	1.73
LEPTOSYNAPTA CLARKI	10.00	8.66	0.87	2.66	3.36	1.27

NSPEC	SDI	TMEANC	TMEANW
64.00	3.70	1201.66	135.56



	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
FILAMENTOUS DIATOMS	0.00	0.00	0.00	0.01	0.02	1.73
DESMARESTIA ACULEATA	0.00	0.00	0.00	5.96	10.33	1.73
DESMARESTIA LIGULATA	0.00	0.00	0.00	8.50	10.18	1.20
DESMARESTIA VIRIDIS	0.00	0.00	0.00	29.62	49.86	1.68
SCYTOSIPHON LOMENTARI	0.00	0.00	0.00	0.01	0.02	1.73
RHODOPHYCEAE	0.00	0.00	0.00	0.39	0.56	1.45
TRIDAEA HETEROCARPA	0.00	0.00	0.00	2.65	4.58	1.73
KALLYMENTACEAE	0.00	0.00	0.00	1.05	1.10	1.04
CALLOCOLAX NEGLECTUS	0.00	0.00	0.00	0.04	0.07	1.73
CALLOPHYLLIS SP.	0.00	0.00	0.00	14.10	24.42	1.73
CALLOPHYLLIS FLABELLU	0.00	0.00	0.00	0.65	0.92	1.41
CALLOPHYLLIS PINNATA	0.00	0.00	0.00	13.60	23.55	1.73
CALLOPHYLLIS THOMPSON	0.00	0.00	0.00	1.30	2.25	1.73
CALLITHAMNION PIKEANU	0.00	0.00	0.00	0.02	0.03	1.73
POLYNEURA LATISSIMA	0.00	0.00	0.00	0.89	0.68	0.76
HYMENENA FLABELLIGERA	0.00	0.00	0.00	27.36	47.39	1.73
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	17.43	15.63	0.90
LOPHOSIPHONIA SP.	0.00	0.00	0.00	0.11	0.13	1.15
HERPOSIPHONIA GRANDIS	0.00	0.00	0.00	0.01	0.01	1.73
PTEPOCHONDRIA WOODII	0.00	0.00	0.00	0.95	0.99	1.16
RHYNCHOCOELA	11.67	12.58	1.08	0.08	0.10	1.31
CERERRATULUS CALIFORN	18.33	10.41	0.57	1.66	2.28	1.38
NEMATODA	46.67	76.54	1.64	0.20	0.34	1.73
PHOLOE MINUTA	28.33	20.82	0.73	0.17	0.13	0.73
ETHEOE TUBERCULATA	1.67	2.89	1.73	0.00	0.00	0.00
OPHIODROMUS PUGETTENS	3.33	2.89	0.87	0.01	0.02	1.73
TYPOSYLLIS HYALINA	6.67	5.77	0.87	0.00	0.00	0.00
EUSYLLIS JAPONICA	1.67	2.89	1.73	0.00	0.00	0.00
EXOGONE LOURFI	10.00	13.23	1.32	0.00	0.00	0.00
PLATYNEPES BICANALIC	5.00	8.66	1.73	0.92	1.59	1.73
HEMIPODUS HOPEALIS	8.33	5.77	0.69	0.49	0.09	0.18
DORVILLEA PUDOLPHI	1.67	2.89	1.73	0.00	0.00	0.00
PROTODORVILLEA GRACIL	1.67	2.89	1.73	0.00	0.00	0.00
SPIONIDAE	3.33	2.89	0.87	0.04	0.05	1.04
PRIONOSPIDO CIPRIFERA	5.00	0.00	0.00	0.04	0.00	0.00
PRIONOSPIDO STEENSTRUP	25.00	13.23	0.53	0.42	0.15	0.36
SPIDO FILICORNIS	3.33	5.77	1.73	0.03	0.05	1.73
SPIOPHANES BOMBYX	3.33	5.77	1.73	0.01	0.02	1.73
MALACOCERDS GLUTAEUS	1.67	2.89	1.73	0.01	0.02	1.73
CIRRATILUS CIPRATUS	1.67	2.89	1.73	1.43	2.48	1.73
CAULLERIELLA GRACILIS	1.67	2.89	1.73	0.03	0.05	1.73
CHAETZONE SETOSA	25.00	30.41	1.22	0.06	0.03	0.51
SCALIBREGMA INFLATUM	8.33	2.89	0.35	0.28	0.02	0.08
MEDIOMASTUS SP.	51.67	7.64	0.15	0.14	0.09	0.62
NICOMACHE PERSONATA	43.33	10.41	0.24	1.49	0.90	0.61
PRAXILLELLA AFFINIS	46.67	53.46	1.15	0.28	0.24	0.87
OWENTIA FUSIFORMIS	10.00	8.66	0.87	0.46	0.45	0.96
PECTINARIA BELGICA	3.33	2.89	0.87	0.25	0.25	1.00
AMPHARETIDAE	6.67	5.77	0.87	0.03	0.02	0.87
AMPHARETE ARCTICA	8.33	14.43	1.73	0.03	0.05	1.73
TEREBELLIDES STROEMI	1.67	2.89	1.73	0.05	0.08	1.73
SABELLIDAE	0.00	0.00	0.00	0.10	0.17	1.73
CHONE GRACILIS	1.67	2.89	1.73	0.00	0.00	0.00
PSEUDOPOTAMILLA OCCEL	1.67	2.89	1.73	0.08	0.14	1.73
DISTYLIOTIA RUGOSA	1.67	2.89	1.73	0.35	0.60	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
FABRICIA PACIFICA	1.67	2.89	1.73	0.00	0.00	0.00
FLIGDCHAETA	1.67	2.89	1.73	0.00	0.00	0.00
ACMAEIDAE JUV.	1.67	2.89	1.73	0.00	0.00	0.00
COLLISELIA PEITA	1.67	2.89	1.73	0.01	0.02	1.73
NOTOACMEA SCUTUM	6.67	2.89	0.43	0.11	0.08	0.72
MARGARITES PUPILLUS	6.67	7.64	1.15	0.51	0.81	1.58
MARGARITES LIPULATUS	20.00	30.41	1.52	0.44	0.61	1.38
LACUNA VARIEGATA	1.67	2.89	1.73	0.00	0.00	0.00
ALVINIA SP.	5.00	5.00	1.00	0.00	0.00	0.00
CALYPTRAEA FASTIGIATA	100.00	20.00	0.20	2.46	1.97	0.80
PLICIFUSUS SP.	3.33	5.77	1.73	0.03	0.05	1.73
TURBONILLA SP.	8.33	2.89	0.35	0.04	0.05	1.04
CYANOPLEX DENTIENS	16.67	2.89	0.17	0.09	0.05	0.56
LEPIDOZONA MERTENSII	5.00	5.00	1.00	0.11	0.20	1.73
NUCULANA HAMATA	1.67	2.89	1.73	0.01	0.02	1.73
GLYCYMERTIS SP.	95.00	22.91	0.24	0.31	0.11	0.35
MODIOLUS RECTUS	11.67	2.89	0.25	0.12	0.08	0.62
CYCLOCARDIA SP.	28.33	7.64	0.27	2.86	2.23	0.78
CLINOCARDIUM CALIFORN	6.67	7.64	1.15	5.61	9.72	1.73
MACOMA SP.	1.67	2.89	1.73	0.00	0.00	0.00
MACOMA OBLIQUA	10.00	8.66	0.87	0.73	0.77	1.06
SAXIDOMUS GIGANTEUS	11.67	2.89	0.25	418.56	424.16	1.01
PSEPHIDIA LORDI	1.67	2.89	1.73	0.01	0.02	1.73
MYA ARENARIA	3.33	5.77	1.73	0.06	0.11	1.73
OSTRACODA	1.67	2.89	1.73	0.00	0.00	0.00
BALANUS CRENATUS	1.67	2.89	1.73	0.20	0.34	1.73
LEPTOCHELIA SAVIGNYI	100.00	73.65	0.74	0.08	0.07	0.93
IDOTEA RESECATA	1.67	2.89	1.73	0.01	0.02	1.73
IDOTEA FEWKESI	1.67	2.89	1.73	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	8.33	7.64	0.92	0.01	0.02	1.73
AMPELISCA SP.	1.67	2.89	1.73	0.01	0.02	1.73
AMPITHOE SP.	3.33	5.77	1.73	0.03	0.05	1.73
AMPITHOE VALIDA	1.67	2.89	1.73	0.17	0.29	1.73
ACROIDES COLUMBIAE	1.67	2.89	1.73	0.00	0.00	0.00
MELITA SP. A	1.67	2.89	1.73	0.00	0.00	0.00
ISCHYROCEPUS ANGUIPES	3.33	5.77	1.73	0.01	0.02	1.73
ANDONYX NUGAX	1.67	2.89	1.73	0.06	0.11	1.73
SYNCHLIDTIUM SHOEMAKE	6.67	11.55	1.73	0.01	0.02	1.73
SCLEROPHANGON ALATA	1.67	2.89	1.73	0.00	0.00	0.00
PUGETTIA GRACILIS	1.67	2.89	1.73	0.23	0.40	1.73
PINNIXA OCCIDENTALIS	10.00	5.00	0.50	0.17	0.13	0.73
GOLFINGIA PUGETTENSIS	1.67	2.89	1.73	2.00	3.46	1.73
OPHIUROIDEA	6.67	7.64	1.15	0.13	0.19	1.47
EUPENTACTA QUINQUESEM	3.33	5.77	1.73	12.46	21.59	1.73
LEPTOSYNAPTA CLAPKI	20.00	10.00	0.50	2.17	1.91	0.88
PHOLIS LAETA	1.67	2.89	1.73	0.71	1.24	1.73

MSPEC      SDI      TMEANC      TMEANW  
 101.00      4.30      924.99      584.25

## ERFY'S LANDING

SUMMER 77

6FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
NEMERTEA	5.00	7.07	1.41	0.00	0.00	0.00
CLIGOCHAETA FNCHYTRAF	42.00	27.06	0.64	0.00	0.00	0.00
LACUNA VARIEGATA	1.00	2.24	2.24	0.01	0.02	2.24
PARAMOERA MOHRI	20.00	31.42	1.57	0.03	0.04	1.09
EGG MASSES	6.00	13.42	2.24	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
5.00	2.13	74.00	0.04

EBEY'S LANDING

SUMMER 77

5FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NEMERTEA	8.33	14.43	1.73	0.00	0.00	0.00
CLIGOCCHAETA ENCHYTRAE	130.00	78.58	0.60	0.03	0.02	0.87
LACUNA VARIEGATA	1.67	2.89	1.73	0.00	0.00	0.00
PARAMOERA MOHRI	1.67	2.89	1.73	0.01	0.02	1.73

NSPEC	SDI	TMEANC	TMEANW
4.00	1.22	141.67	0.04

105

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
LUMBRINERIS ZONATA	1.67	2.89	1.73	0.01	0.02	1.73
CLIGOCHAETA ENCHYTRAE	40.00	15.00	0.38	0.00	0.00	0.00
LACUNA VARILEGATA	6.67	2.89	0.43	0.01	0.02	1.73
PARAMOERA MOHRI	8.33	14.43	1.73	0.01	0.02	1.73
EGG MASSES	6.67	5.77	0.87	0.00	0.00	0.00

NSPEC	SOI	TMFANC	TMFANW
5.00	1.97	63.33	0.04

## EBFY'S LANDING

SUMMER 77

3FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
PLATYHELMINTHES	1.00	2.24	2.24	0.00	0.00	0.00
NEMERTEA	1.00	2.24	2.24	0.00	0.00	0.00
CLIGOCHAETA FNCHYTRAE	34.00	44.50	1.31	0.01	0.02	2.24
LACUNA VARIEGATA	10.00	10.00	1.00	0.03	0.06	2.24
PARAMOERA MOHPI	250.00	497.23	1.99	0.17	0.28	1.67
DECAPODA ZOEAE	1.00	2.24	2.24	0.01	0.02	2.24
FGG MASSES	2.00	2.74	1.37	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
7.00	1.00	299.00	0.21

## FREY'S LANDING

SUMMER 77

2FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NEMERTEA	73.33	20.21	0.28	0.14	0.17	1.24
HEMIPODUS DORFALIS	3.33	2.89	0.87	0.24	0.21	0.87
CLIGDCHAETA ENCHYTRAE	6.67	2.89	0.43	0.00	0.00	0.00
LACUNA VARIFGATA	11.67	5.77	0.49	0.17	0.29	1.73
PARAMOERA MOHRI	530.00	305.49	0.58	0.37	0.45	1.20
PUGETTIA GRACILIS	1.67	2.89	1.73	0.00	0.00	0.00
EGG MASSES	5.00	8.66	1.73	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
7.00	1.58	631.67	0.92

FREV'S LANDING

SUMMER 77

IFT

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NEMERTEA	73.33	72.86	0.99	0.00	0.00	0.00
NEMATODA	3.33	5.77	1.73	0.00	0.00	0.00
CLIGOCHAETA FNCHYTRAE	3.33	5.77	1.73	0.00	0.00	0.00
LACUNA VARIEGATA	16.67	2.89	0.17	0.09	0.09	0.96
GNORIMOSPHAEROMA OREG	1.67	2.89	1.73	0.00	0.00	0.00
PARAMOERA MOHRI	535.00	507.67	0.95	0.39	0.56	1.43
PONTOPENIA SP.	45.00	77.94	1.73	0.01	0.02	1.73
PUGETTIA GRACILIS	5.00	5.00	1.00	0.01	0.02	1.73
EGG MASSES	3.33	2.89	0.97	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
9.00	1.46	686.67	0.51



EBREY'S LANDING

SUMMER 77

OFT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NEMERTEA	66.00	117.65	1.78	0.02	0.02	1.37
NEREIS SP.	1.00	2.24	2.24	0.01	0.02	2.24
HEMIPODUS BOREALIS	13.00	10.95	0.84	1.27	1.05	0.83
PROTODORVILLEA GRACIL	1.00	2.24	2.24	0.00	0.00	0.00
CAPITELLA CAPITATA	2.00	4.47	2.24	0.00	0.00	0.00
SACCOCIRRUS EROTICUS	1.00	2.24	2.24	0.00	0.00	0.00
LACUNA VARIIFGATA	38.00	47.25	1.24	0.35	0.42	1.20
GNORIMOSPHEROMA OREG	1.00	2.24	2.24	0.01	0.02	2.24
PARAMERA MOHRI	37621.00	24374.45	0.65	46.13	35.50	0.77
PUGETTIA GRACILIS	4.00	8.94	2.24	0.03	0.06	2.24
TELMESSUS CHEIRAGONUS	1.00	2.24	2.24	0.01	0.02	2.24
FGG MASSES	4.00	6.52	1.63	0.00	0.00	0.00

NSPEC	SBI	TMEANC	TMEANW
12.00	1.47	37753.00	47.82

## EBEY'S LANDING

SUMMER 77

-1FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT		WEIGHT		
NEMERTEA	31.67	32.53	1.03	0.03	0.02	0.87
NEMATODA	1.67	2.89	1.73	0.00	0.00	0.00
HEMIPODUS BOREALIS	11.67	7.64	0.65	2.22	1.76	0.79
PROTODORVILLEA GRACIL	3.33	5.77	1.73	0.00	0.00	0.00
SPIOPHANES BOMBYX	1.67	2.89	1.73	0.00	0.00	0.00
CIRRATULUS CIRRATUS	1.67	2.89	1.73	0.01	0.02	1.73
CAULLERIELLA SP.	1.67	2.89	1.73	0.00	0.00	0.00
CAPITELLA CAPITATA	5.00	8.66	1.73	5.00	8.66	1.73
SACCOCIRRUS FROTICUS	660.00	1134.50	1.72	0.86	1.50	1.73
CLIGOCHAETA ENCHYTRAE	3.33	5.77	1.73	0.00	0.00	0.00
LACUNA VARIEGATA	56.67	51.32	0.91	0.19	0.30	1.56
GNORIMOSPHAEROMA OREG	23.33	32.15	1.38	0.14	0.19	1.23
IDOTEA SP.	1.67	2.89	1.73	0.00	0.00	0.00
LIGIA PALLASI	85.00	147.22	1.73	0.65	1.12	1.73
PARAMOERA MOHRI	9306.66	5366.40	0.58	8.82	6.95	0.79
MELITA CALIFORNICA	25.00	43.30	1.73	0.10	0.17	1.73
PUGETTIA GRACILIS	30.00	10.00	0.33	0.07	0.06	0.79
DECAPODA ZOEAE	6.67	11.55	1.73	0.03	0.05	1.73
EGG MASSES	8.33	14.43	1.73	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
19.00	1.34	10264.99	18.13

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
NAVICULA SP.	0.00	0.00	0.00	0.04	0.06	1.73
MONOSTROMA OXYSPERMUM	0.00	0.00	0.00	23.02	39.88	1.73
MONOSTROMA FUSCUM	0.00	0.00	0.00	32.71	56.66	1.73
MONOSTROMA GREVILLEI	0.00	0.00	0.00	15.86	16.64	1.05
ENTROMORPHA LINZI	0.00	0.00	0.00	12.53	17.50	1.40
ULVA SP.	0.00	0.00	0.00	15.55	23.73	1.53
ULVA LOBATA	0.00	0.00	0.00	6.83	11.84	1.73
SPONGOMORPHA SPINESCE	0.00	0.00	0.00	257.14	172.45	0.67
TRIDAEA CORDATA	0.00	0.00	0.00	23.30	36.02	1.55
RHODYMENTIA PALMATA	0.00	0.00	0.00	26.76	46.34	1.73
RHODYMENTIA PERTUSA	0.00	0.00	0.00	62.13	85.98	1.38
POLYSTIPHONIA HENDRYI	0.00	0.00	0.00	10.85	18.80	1.73
HALICLYSTUS SP.	1.67	2.89	1.73	0.03	0.05	1.73
NEMERTEA	15.00	8.66	0.58	0.07	0.06	0.79
NEMATODA	1.67	2.89	1.73	0.00	0.00	0.00
PHYLLODOCE SP.	1.67	2.89	1.73	0.00	0.00	0.00
EULALIA SP.	5.00	5.00	1.00	0.00	0.00	0.00
TYPOSYLLIS SP.	10.00	0.00	0.00	0.01	0.02	1.73
EXOGENE SP.	5.00	8.66	1.73	0.00	0.00	0.00
PLATYNEPEIS RICANALIC	13.33	15.28	1.15	3.36	4.87	1.45
NEPHTYS SP.	1.67	2.89	1.73	0.13	0.23	1.73
HEMIPODUS BOREALIS	8.33	10.41	1.25	0.10	0.13	1.39
GLYCIDIA PICTA	6.67	11.55	1.73	0.08	0.14	1.73
GNUPHIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
PROTODORVILLEA GRACIL	6.67	5.77	0.87	0.00	0.00	0.00
SCOLOPIOS ARMIGER	1.67	2.89	1.73	0.00	0.00	0.00
SPIO SP.	11.67	16.07	1.38	0.06	0.11	1.73
SPIO FILICORNIS	20.00	22.91	1.15	0.21	0.29	1.38
PYGOSPIO ELEGANS	28.33	44.81	1.58	0.01	0.02	1.73
MALACOCEROS GLUTAEUS	36.67	22.55	0.61	0.04	0.05	1.04
CIRRATULUS CIRRATUS	5.00	5.00	1.00	0.39	0.61	1.54
THARYX SP.	8.33	14.43	1.73	0.01	0.02	1.73
ARMANDIA BREVIS	13.33	2.89	0.22	0.05	0.08	1.73
CAPITELLA CAPITATA	28.33	22.55	0.80	0.06	0.07	1.20
MEDIOMASTUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
BRANCHIOMALDANI SP.	5.00	8.66	1.73	0.00	0.00	0.00
AMPHARETE ARCTICA	1.67	2.89	1.73	0.01	0.02	1.73
SACCOCIRRUS EPOTICUS	11.67	20.21	1.73	0.00	0.00	0.00
OLIGCHAETA	5.00	5.00	1.00	0.00	0.00	0.00
LACUNA SP.	725.00	343.84	0.47	7.16	2.54	0.36
OSTRACODA	1.67	2.89	1.73	0.00	0.00	0.00
BALANUS CARIOSUS	1.67	2.89	1.73	0.21	0.37	1.73
BALANUS CRENATUS	3.33	2.89	0.87	0.03	0.05	1.73
TONTEA SP.	8.33	7.64	0.92	0.03	0.02	0.87
AMPHIPODA GAMMARIDEA	5.00	5.00	1.00	0.00	0.00	0.00
AOROIDES COLUMBIAE	20.00	5.00	0.25	0.00	0.00	0.00
PONTOGENEIA SP.	53.33	23.09	0.43	0.09	0.05	0.56
MELITA SP.	321.67	277.05	0.86	0.96	0.91	0.95
HYALE SP.	3.33	5.77	1.73	0.01	0.02	1.73
PARALORCHESTES NOTOT	13.33	7.64	0.57	0.04	0.05	1.04
PROTOMEDEIA (CHEIPIE)	1.67	2.89	1.73	0.00	0.00	0.00
TSCHYRO CERUS ANGUIPES	58.33	88.08	1.51	0.01	0.02	1.73
CRCHOMENE CF. PINGUIS	1.67	2.89	1.73	0.00	0.00	0.00
PHOXOCEPHALIDAE	1.67	2.89	1.73	0.00	0.00	0.00
PLEUSTES DEPRESSA	1.67	2.89	1.73	0.00	0.00	0.00

EREY'S LANDING

SUMMER 77

-1.5M

PAGE 2

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COINT			WEIGHT	
METACAPRELLA KENNERL	1.67	2.89	1.73	0.03	0.05	1.73
HEPTACARPIJS SP.	16.67	5.77	0.35	0.14	0.05	0.36
PAGURUS SP.	5.00	5.00	1.00	0.09	0.10	1.02
PUGETTIA GRACILIS	15.00	18.03	1.20	0.28	0.45	1.61
CANCER SP.	66.67	17.56	0.26	3.63	2.61	0.72

NSPEC	SDI	TMEANC	TMEANW
60.00	3.02	1583.33	504.08

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT		WEIGHT		
NAVICULA SP.	0.00	0.00	0.00	0.10	0.17	1.73
MONOSTROMA FUSCUM	0.00	0.00	0.00	3.51	6.08	1.73
ENTEROMORPHA LINZA	0.00	0.00	0.00	7.32	6.40	0.87
ULVA LORATA	0.00	0.00	0.00	6.43	11.14	1.73
SPONGOMORPHA SPINESCE	0.00	0.00	0.00	4.42	7.65	1.73
HALICYSTIS OVALIS	0.00	0.00	0.00	0.03	0.05	1.73
LAMINARIA SP.	0.00	0.00	0.00	34.25	59.32	1.73
GRACILARIOPSIS SJOFST	0.00	0.00	0.00	2.44	4.22	1.73
HALYMENIA COCCINEA	0.00	0.00	0.00	7.20	12.46	1.73
RHOODYMENIA PERTUSA	0.00	0.00	0.00	12.29	21.29	1.73
ANTITHAMNION DENDROID	0.00	0.00	0.00	0.47	0.81	1.73
SCAGELIA OCCIDENTALE	0.00	0.00	0.00	1.14	1.14	1.00
LAURENCIA SPECTABILIS	0.00	0.00	0.00	0.30	0.35	1.18
PTEROCHONDRIA WOODII	0.00	0.00	0.00	0.24	0.08	1.73
ZOSTERA MARINA	0.00	0.00	0.00	0.38	0.66	1.73
HALICLYSTUS SP.	3.33	2.89	0.87	0.03	0.02	0.87
NEMERTEA	25.00	25.00	1.00	0.28	0.36	1.32
HARMOTHOE IMBRICATA	1.67	2.89	1.73	0.00	0.00	0.00
PHYLLOOCE SP.	11.67	20.21	1.73	0.13	0.23	1.73
FTFONE SP.	5.00	0.00	0.00	0.08	0.07	0.93
MICROPODARKE DURIA	5.00	8.66	1.73	0.01	0.02	1.73
TYPOSYLLIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
EXOgone SP.	10.00	8.66	0.87	0.00	0.00	0.00
NEREIS SP.	5.00	5.00	1.00	0.28	0.48	1.73
PLATYNEREIS BICANALIC	10.00	13.23	1.32	2.79	4.76	1.70
GLYCINDE PICTA	15.00	5.00	0.33	0.14	0.05	0.36
PROTODOPVILLEA GRACIL	6.67	11.55	1.73	0.01	0.02	1.73
SCOLOPLOS ARMIGER	16.67	24.66	1.49	0.10	0.17	1.73
SCOLOPLOS PUGETTENSIS	6.67	5.77	0.87	0.06	0.07	1.20
POLYDORA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PRIONOSPID STEENSTRUP	16.67	5.77	0.35	0.21	0.18	0.85
SPID SP.	1.67	2.89	1.73	0.00	0.00	0.00
SPID FILICORNIS	11.67	12.58	1.08	0.10	0.13	1.39
SPIDPHANES ROMBYX	1.67	2.89	1.73	0.00	0.00	0.00
MALACOCYPRUS GLUTAEUS	60.00	55.68	0.93	0.08	0.10	1.31
CIRRATULUS CIRRHATUS	8.33	2.89	0.35	1.57	1.97	1.25
SCALIBREGMA INFLATUM	1.67	2.89	1.73	0.40	0.69	1.73
ARMANDIA BREVIS	51.67	25.66	0.50	0.29	0.10	0.34
TRAVISIA BREVIS	3.33	5.77	1.73	0.03	0.05	1.73
CAPITELLA CAPITATA	11.67	20.21	1.73	0.05	0.08	1.73
BRANCHIOMALDANE SP.	1.67	2.89	1.73	0.00	0.00	0.00
NICOMACHE PERSONATA	1.67	2.89	1.73	0.01	0.02	1.73
AXIOTHELLA PUBESCENS	1.67	2.89	1.73	0.06	0.11	1.73
AMPHARETE ARCTICA	8.33	7.64	0.92	0.03	0.05	1.73
PISTA SP.	3.33	5.77	1.73	0.21	0.37	1.73
CLIGOCCHAETA	10.00	8.66	0.87	0.00	0.00	0.00
LACUNA SP.	35.00	40.93	1.17	0.51	0.81	1.58
MYSELLA TUMIDA	5.00	8.66	1.73	0.01	0.02	1.73
MACOMA SP.	5.00	8.66	1.73	0.03	0.05	1.73
MACOMA OBLIQUA	5.00	8.66	1.73	2.61	4.53	1.73
OSEPHIDIA LORDI	35.00	52.20	1.49	0.24	0.39	1.59
NERALIA PUGETTENSIS	5.00	5.00	1.00	0.00	0.00	0.00
LAMPROPIDAE	5.00	5.00	1.00	0.00	0.00	0.00
DIASTYLOPSIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
TANAID CEA SP. A	1.67	2.89	1.73	0.00	0.00	0.00

	MEAN	S.D.	CVAR	MEAN	S.D.	CV4P
		COUNT			WEIGHT	
LEPTOCHELIA SP.	15.00	15.00	1.00	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	6.67	7.64	1.15	0.00	0.00	0.00
AMPITHOE SP.	3.33	5.77	1.73	0.06	0.11	1.73
AGROIDES COLUMBIAE	75.00	72.63	0.97	0.09	0.08	0.87
ATYLUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
PONTOGENEIA SP.	83.33	63.31	0.75	0.21	0.13	0.61
CERADOCUS SP.	3.33	5.77	1.73	0.06	0.11	1.73
MELITA SP.	16.67	28.87	1.73	0.03	0.05	1.73
PHOTIS SP.	55.00	86.75	1.58	0.05	0.08	1.73
PHOTIS BREVIPEFS	10.00	17.32	1.73	0.01	0.02	1.73
TSCHYPOCERUS ANGUIPES	6.67	7.64	1.15	0.00	0.00	0.00
CRCHOMENE CF. PINGUIS	15.00	13.23	0.88	0.01	0.02	1.73
SYNCHLIDIUM SHOEMAKE	11.67	2.89	0.25	0.01	0.02	1.73
PHOXOCEPHALIDAE	93.33	72.17	0.77	0.13	0.13	0.96
PLEUSTES DEPRESSA	1.67	2.89	1.73	0.01	0.02	1.73
PLEUSTRUS SECORRUS	3.33	2.89	0.87	0.00	0.00	0.00
HEPTACARPUS SP.	1.67	2.89	1.73	0.01	0.02	1.73
PUGETTIA GRACILIS	1.57	2.89	1.73	0.03	0.05	1.73
CANCER SP.	5.00	8.66	1.73	0.08	0.14	1.73
CANCER OREGONENSIS	1.67	2.89	1.73	7.23	12.52	1.73
LEPTASTERIAS HEXACTIS	1.67	2.89	1.73	7.01	12.15	1.73
STRONGYLOCENTROTUS SP	1.67	2.89	1.73	0.01	0.02	1.73
LEPTOSYNAPTA CLARKI	5.00	0.00	0.00	0.21	0.18	0.85

NSPEC	SDI	TMEANC	TMEANW
78.00	4.02	838.33	105.94

## FREY'S LANDING

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	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT		WEIGHT		
NAVICULA SP.	0.00	0.00	0.00	0.64	0.87	1.36
MONOSTROMA FUSCUM	0.00	0.00	0.00	15.81	25.47	1.61
ENTEROMORPHA CLATHRAT	0.00	0.00	0.00	0.00	0.01	1.73
ENTEROMORPHA LINZA	0.00	0.00	0.00	10.46	9.28	0.89
SPONGOMORPHA SPINESCE	0.00	0.00	0.00	18.64	16.27	0.87
HALICYSTIS OVALIS	0.00	0.00	0.00	0.03	0.05	1.73
CYMATHERE TRIPLICATA	0.00	0.00	0.00	5.38	9.32	1.73
ALARIA MARGINATA	0.00	0.00	0.00	41.44	71.77	1.73
DESMARESTIA ACULEATA	0.00	0.00	0.00	0.20	0.34	1.73
GRACILARIOPSIS SJOST	0.00	0.00	0.00	2.92	4.16	1.47
GYMNOGONGRUS LEPTOPHY	0.00	0.00	0.00	0.96	1.66	1.73
IRIDAEA SP.	0.00	0.00	0.00	26.36	27.55	1.05
IRIDAEA CORDATA	0.00	0.00	0.00	110.59	191.55	1.73
SCAGELIA OCCIDENTALE	0.00	0.00	0.00	1.55	1.04	0.67
ZOSTERA MARINA	0.00	0.00	0.00	33.96	58.81	1.73
NEMERTEA	43.33	18.93	0.44	4.24	7.10	1.67
NEMATODA	15.00	13.23	0.88	0.78	1.35	1.73
HARMOTHOE IMBRICATA	3.33	5.77	1.73	0.03	0.05	1.73
HESIONIDAE	15.00	15.00	1.00	0.03	0.05	1.73
MICROPODARKE DURIA	1.67	2.89	1.73	0.00	0.00	0.00
TYPOSYLLIS SP.	33.33	28.87	0.87	0.08	0.07	0.93
FUSYLLIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
EXOgone SP.	411.67	456.22	1.11	0.09	0.10	1.02
NEREIS SP.	23.33	20.21	0.87	0.28	0.26	0.91
PLATYNEREIS BICANALIC	16.67	20.82	1.25	0.49	0.78	1.58
NEPHTYS SP.	1.67	2.89	1.73	0.06	0.11	1.73
GLYCINDE PICTA	6.67	7.64	1.15	0.04	0.05	1.04
ONUPHIS SP.	1.67	2.89	1.73	0.01	0.02	1.73
PROTODORVILLEA GRACIL	158.33	104.92	0.66	0.11	0.06	0.54
SCOLOPLOS ARMIGER	5.00	8.66	1.73	0.17	0.29	1.73
SCOLOPLOS PUGETTENSIS	13.33	5.77	0.43	0.24	0.26	1.10
ARICIDEA SP.	50.00	39.69	0.77	0.04	0.05	1.04
POLYDORA SP.	6.67	7.64	1.15	0.01	0.02	1.73
PRIONOSPION CIRRIFERA	3.33	2.89	0.87	0.00	0.00	0.00
PRIONOSPION STEENSTRUP	20.00	18.03	0.90	0.51	0.50	0.98
SPIO SP.	66.67	27.54	0.41	0.14	0.05	0.36
SPIO FILICORNIS	16.67	7.64	0.46	0.07	0.03	0.39
SPIOPHANES BOMBYX	98.33	93.85	0.95	1.01	0.77	0.76
SPIOPHANES CIRRATA	3.33	5.77	1.73	0.03	0.05	1.73
MALACOCERUS GLUTAEUS	46.67	34.03	0.73	0.04	0.00	0.00
MAGELONA PITELKAI	3.33	2.89	0.87	0.13	0.11	0.87
THARYX SP.	10.00	17.32	1.73	0.01	0.02	1.73
CHAETAZONE SP.	63.33	51.07	0.81	0.33	0.33	1.02
ARMANDIA BREVIS	15.00	13.23	0.88	0.08	0.07	0.93
TRAVISIA BREVIS	32.33	23.63	0.71	2.40	2.53	1.05
MEDIOMASTUS SP.	25.00	31.22	1.25	0.10	0.13	1.39
NICOMACHE PERSONATA	121.67	105.40	0.87	5.78	5.02	0.87
AXIOTHELLA RUBROINCT	81.67	71.82	0.88	1.59	2.00	1.26
OWENIA FUSIFORMIS	40.00	31.22	0.78	1.29	1.41	1.09
AMPHARTE ARCTICA	3.33	5.77	1.73	0.01	0.02	1.73
CLIGOCCHAETA	133.33	119.30	0.89	0.03	0.05	1.73
LACUNA SP.	140.00	101.49	0.72	2.11	1.12	0.53
THIRSONILLA SP.	5.00	8.66	1.73	0.11	0.20	1.73
MYSELLA TUMIDA	21.67	15.28	0.71	0.06	0.05	0.87
CYCLOCARDIA SP.	5.00	8.66	1.73	0.10	0.17	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
MACOMA SP.	3.33	5.77	1.73	0.33	0.58	1.73
MACOMA OBLIQUA	3.33	5.77	1.73	1.40	2.42	1.73
PSEPHIDIA LORDI	113.33	40.72	0.36	1.12	0.63	0.56
LAMPROPIDAE	5.00	5.00	1.00	0.01	0.02	1.73
TANAIDACEA	10.00	8.66	0.87	0.00	0.00	0.00
TANAIDACEA SP. A	10.00	13.23	1.32	0.01	0.02	1.73
LEPTOCHELIA SP.	428.33	446.02	1.04	0.14	0.15	1.01
TECTICEPS PUGETTENSIS	1.67	2.89	1.73	0.21	0.37	1.73
EXOSPHAEROMA AMPLICAU	1.67	2.89	1.73	0.00	0.00	0.00
IDOTEA SP.	6.67	5.77	0.87	0.00	0.00	0.00
IDOTEA RUFESCENS	3.33	2.89	0.87	0.09	0.10	1.02
AMPHIPODA GAMMARIDAE	8.33	7.64	0.92	0.00	0.00	0.00
AMPITHOE SP.	1.67	2.89	1.73	0.42	0.72	1.73
GORRIDES COLUMBIAE	70.00	57.66	0.82	0.06	0.07	1.20
COROPHIUM SP.	3.33	5.77	1.73	0.00	0.00	0.00
PONTOGENEIA SP.	35.00	15.00	0.43	0.06	0.03	0.51
MELITA CALIFORNICA	5.00	8.66	1.73	0.01	0.02	1.73
HYALE SP.	3.33	2.89	0.87	0.00	0.00	0.00
PHOTIS SP.	11.67	20.21	1.73	0.01	0.02	1.73
PHOTIS BREVIPES	116.67	108.67	0.93	0.13	0.13	0.96
PROTOMEDEIA (CHEIRIME	26.67	33.29	1.25	0.01	0.02	1.73
ISCHYROCERUS ANGUIPES	6.67	5.77	0.87	0.00	0.00	0.00
ORCHOMENE CF. PINGUIS	3.33	2.89	0.87	0.00	0.00	0.00
SYNCHELIDIUM SHOEMAKE	21.67	16.07	0.74	0.03	0.02	0.87
PHOXOCEPHALIDAE	21.67	90.74	0.92	0.17	0.19	1.09
CAPRELLA SP.	1.67	2.89	1.73	0.01	0.02	1.73
METACAPRELLA KENNEPL	15.00	8.66	0.58	0.27	0.36	1.32
HEPTACARPUS SP.	6.67	11.55	1.73	0.03	0.05	1.73
UPOGERTIA PUGETTENSIS	1.67	2.89	1.73	0.03	0.05	1.73
PAGURUS SP.	5.00	0.00	0.00	0.01	0.02	1.73
PUGETTIA GRACILIS	3.33	2.89	0.87	1.80	2.99	1.67
CANCER SP.	11.67	7.64	0.65	0.21	0.13	0.61
LEPTOSYNAPTA CLARKI	3.33	2.89	0.87	1.48	2.52	1.71
EGG MASSES	0.00	0.00	0.00	0.03	0.05	1.73

NSPEC	SDI	TMFANC	TMFANW
89.00	4.05	2804.99	299.67



## ERFY'S LANDING

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	MEAN	S.D.	CVAR	MEAN	S.O.	CVAR
	COUNT			WEIGHT		
NAVICULA SP.	0.00	0.00	0.00	0.42	0.73	1.73
VONSTROMA GREVILLI	0.00	0.00	0.00	1.25	2.17	1.73
COSTARIA COSTATA	0.00	0.00	0.00	30.44	52.73	1.73
ALARIA MARGINATA	0.00	0.00	0.00	116.90	202.48	1.73
GRACILARIOPSIS SJOEST	0.00	0.00	0.00	64.30	96.91	1.51
AHNFELTIA PPLICATA	0.00	0.00	0.00	2.64	4.57	1.73
TRIDAPA CORDATA	0.00	0.00	0.00	157.98	273.62	1.73
PRIONITIS LANCEOLATA	0.00	0.00	0.00	23.62	40.91	1.73
HALYMENTIA CALIFORNICA	0.00	0.00	0.00	10.17	17.61	1.73
SCAGELIA OCCIDENTALE	0.00	0.00	0.00	9.45	14.93	1.58
POLYNEURA LATISSIMA	0.00	0.00	0.00	8.43	14.60	1.73
PTEROSIPHONIA SP.	0.00	0.00	0.00	2.95	5.12	1.73
LAURENCIA SPECTABILIS	0.00	0.00	0.00	35.13	45.04	1.28
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	1.59	2.43	1.53
PTERODHONDRIA WOODII	0.00	0.00	0.00	0.21	0.36	1.73
ZOSTERA MARINA	0.00	0.00	0.00	20.63	35.74	1.73
NEMERTEA	55.00	30.00	0.55	3.66	6.09	1.67
NEMATODA	6.67	7.64	1.15	0.00	0.00	0.00
HARMOTHOE IMBRICATA	3.33	2.89	0.87	0.00	0.00	0.00
PHOLOE MINUTA	1.67	2.89	1.73	0.00	0.00	0.00
PHYLLODOCE SP.	5.00	5.00	1.00	0.05	0.08	1.73
ETEONE SP.	1.67	2.89	1.73	0.00	0.00	0.00
MESIONIDAE	25.00	21.79	0.87	0.00	0.00	0.00
MICROPODARKE DUBIA	5.00	5.00	1.00	0.00	0.00	0.00
TYPOSYLLIS SP.	43.33	35.47	0.82	0.06	0.05	0.87
EXOgone SP.	68.33	38.19	0.56	0.03	0.02	0.87
SPHAEROSYLLIS SP.	15.00	21.79	1.45	0.00	0.00	0.00
MEREIS SP.	10.00	8.66	0.87	0.26	0.38	1.44
GLYCINDE PICTA	1.67	2.89	1.73	0.05	0.08	1.73
DORVILLEA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PROTODORVILLEA GRACIL	198.33	142.95	0.72	0.13	0.11	0.87
SCOLOPLOS PUGETTENSIS	6.67	7.64	1.15	0.01	0.02	1.73
ARICIDEA SP.	31.67	14.43	0.45	0.01	0.02	1.73
POLYDORA SP.	3.33	2.89	0.87	0.01	0.02	1.73
PRIONOSPION CIRRIFFERA	1.67	2.89	1.73	0.00	0.00	0.00
PRIONOSPION STEENSTRUP	18.33	18.93	1.03	0.36	0.38	1.06
SPION SP.	5.00	8.66	1.73	0.00	0.00	0.00
SPION FILICORNIS	10.00	8.66	0.87	0.04	0.05	1.04
SPIOPHANES BCMBYX	405.00	148.58	0.37	2.17	0.25	0.12
SPIOPHANES CIRRIATA	3.33	5.77	1.73	0.01	0.02	1.73
MAGELONA PITELKAI	1.67	2.89	1.73	0.03	0.05	1.73
CHAETAZONE SP.	11.67	2.89	0.25	0.04	0.00	0.00
SCALIBREGMA INFLATUM	1.67	2.89	1.73	0.21	0.37	1.73
ARMANDIA BREVIS	1.67	2.89	1.73	0.01	0.02	1.73
TRAVISIA BREVIS	16.67	5.77	0.35	0.43	0.62	1.46
CAPITELLA CAPITATA	1.67	2.89	1.73	0.00	0.00	0.00
NOTOMASTUS GIGANTEUS	1.67	2.89	1.73	0.00	0.00	0.00
MEDIOMASTUS SP.	65.00	43.59	0.67	0.17	0.13	0.73
AXIOTHELLA RUBROCINCT	70.00	8.66	0.12	4.31	3.81	0.88
OWENIA FUSIFORMIS	31.67	7.64	0.24	1.36	0.66	0.49
AMPHAPETE ARCTICA	6.67	7.64	1.15	0.03	0.05	1.73
TEREBELLIDAE	35.00	18.03	0.52	0.24	0.13	0.55
CLIGOCOAETA	46.67	14.43	0.31	0.00	0.00	0.00
MARGARITES PUPILLUS	3.33	5.77	1.73	1.20	2.07	1.73
LACUNA SP.	20.00	13.23	0.66	0.26	0.25	0.96

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
CALYPTRAFA FASTIGIATA	1.67	2.89	1.73	0.21	0.37	1.73
GLYCYMERIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
MYSELLA TUMIDA	41.67	15.28	0.37	0.09	0.02	0.25
CYCLOCARDIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
CLIVOCARDIUM NUTTALLI	5.00	5.00	1.00	117.84	203.95	1.73
MACOMA SP.	8.33	5.77	0.69	0.11	0.08	0.72
MACOMA OBLIQUA	1.67	2.89	1.73	0.68	1.18	1.73
TELLINA SP.	10.00	5.00	0.50	0.04	0.05	1.04
PSEPHIDIA LORDI	696.67	219.62	0.32	3.84	1.65	0.43
MYA ARENARIA	3.33	2.89	0.87	0.58	0.80	1.38
TANAIDACEA	1.67	2.89	1.73	0.00	0.00	0.00
TANAIDACEA SP. A	20.00	20.00	1.00	0.01	0.02	1.73
LEPTOCHELIA SP.	75.00	39.69	0.53	0.06	0.05	0.87
IDOTEA SP.	1.67	2.89	1.73	0.00	0.00	0.00
IDOTEA RUFESCENS	3.33	5.77	1.73	0.08	0.14	1.73
AMPHIPODA GAMMARIDEA	3.33	5.77	1.73	0.00	0.00	0.00
AMPELISCA SP.	1.67	2.89	1.73	0.05	0.08	1.73
AMPOIDES COLUMBIAE	10.00	10.00	1.00	0.00	0.00	0.00
COROPHIUM SP.	51.67	18.93	0.37	0.03	0.02	0.87
PONTOGENEIA SP.	5.00	5.00	1.00	0.05	0.08	1.73
MELITA CALIFORNICA	1.67	2.89	1.73	0.00	0.00	0.00
PHOTIS BREVIPES	28.33	27.54	0.97	0.04	0.05	1.04
PROTOMEDEIA (CHEIRIME	26.67	15.28	0.57	0.01	0.02	1.73
ISCHYROCERUS ANGUIPES	6.67	7.64	1.15	0.00	0.00	0.00
PHOXOCEPHALICAE	45.00	26.46	0.59	0.06	0.03	0.51
PLEUSTES DEPRESSA	1.67	2.89	1.73	0.00	0.00	0.00
PLEUSIRUS SECORRUS	1.67	2.89	1.73	0.00	0.00	0.00
METACAPRELLA KENNERL	1.67	2.89	1.73	0.00	0.00	0.00
HEPTACARPIUS SP.	3.33	5.77	1.73	0.03	0.05	1.73
CRANGON SP.	3.33	5.77	1.73	0.35	0.60	1.73
CANCEP SP.	1.67	2.89	1.73	0.10	0.17	1.73
LEPTOSYNAPTA CLARKI	13.33	7.64	0.57	0.36	0.21	0.58

NSPFC	SDI	TMEANC	TMEANW
87.00	3.76	2321.66	625.86

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
COSTARIA COSTATA	0.00	0.00	0.00	8.18	14.16	1.73
DESMARESTIA ACULEATA	0.00	0.00	0.00	77.67	134.53	1.73
DESMARESTIA LIGULATA	0.00	0.00	0.00	117.61	28.60	0.24
PORPHYRA OCCIDENTALIS	0.00	0.00	0.00	11.23	19.46	1.73
OPUNTIELLA CALIFORNIC	0.00	0.00	0.00	2.52	4.36	1.73
PLOCAMIMUM COCCINEUM	0.00	0.00	0.00	24.61	38.81	1.58
HALYMENTIA CALIFORNICA	0.00	0.00	0.00	2.26	3.91	1.73
CALLOPHYLLIS FLABELLU	0.00	0.00	0.00	23.77	8.60	0.36
CONSTANTINEA SIMPLEX	0.00	0.00	0.00	3.76	6.51	1.73
CONSTANTINEA SURULIFE	0.00	0.00	0.00	7.61	13.18	1.73
FAUCHEA LACINIATA	0.00	0.00	0.00	46.04	52.14	1.13
PLEONOSPORIUM VANDOUV	0.00	0.00	0.00	0.02	0.03	1.73
PTILOTA FILICINA	0.00	0.00	0.00	16.92	20.08	1.19
GONIMOPHYLLUM SKOTTSB	0.00	0.00	0.00	0.26	0.46	1.73
MEMBRANOPTERA WERKSIA	0.00	0.00	0.00	0.01	0.02	1.73
HYMENENA FLABELLIGERA	0.00	0.00	0.00	18.40	16.47	0.99
PTEROCHONDRIA WOODII	0.00	0.00	0.00	0.01	0.01	1.73
NEMERTEA	23.33	7.64	0.33	0.16	0.06	0.37
NEMATODA	43.00	36.06	0.80	0.03	0.02	0.87
HARMOTHOE IMBRICATA	1.67	2.89	1.73	0.01	0.02	1.73
PHOLOE MINUTA	11.67	10.41	0.89	0.04	0.05	1.04
PHYLLODOCE SP.	1.67	2.89	1.73	0.21	0.37	1.73
ETEONE SP.	3.33	2.89	0.87	0.01	0.02	1.73
HESIONURA COINEAUI DI	3.33	5.77	1.73	0.00	0.00	0.00
MICROPODARKE DUBIA	5.00	8.66	1.73	0.00	0.00	0.00
TYPOSYLLIS SP.	20.00	10.00	0.50	0.00	0.00	0.00
EXOONE SP.	86.67	2.89	0.03	0.04	0.00	0.00
SPHACROSYLLIS SP.	15.00	15.00	1.00	0.00	0.00	0.00
PLATYNEREIS RICANALIC	3.33	5.77	1.73	0.00	0.00	0.00
GLYCERA SP.	1.67	2.89	1.73	0.01	0.02	1.73
HEMIPPIDUS BOREALIS	11.67	10.41	0.89	0.53	0.71	1.34
LUMBPINERIS SP.	3.33	2.89	0.87	0.00	0.00	0.00
PROTODORVILLEA GRACIL	31.67	24.66	0.78	0.01	0.02	1.73
ARICIDEA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PARADISI SP.	6.67	11.55	1.73	0.00	0.00	0.00
POLYDORA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PRIONOSPID CIRRIFERA	6.67	7.64	1.15	0.00	0.00	0.00
PRIONOSPID STEENSTRUP	33.33	11.55	0.35	0.47	0.20	0.58
SPID SP.	71.67	63.31	0.88	0.31	0.30	0.96
SPID FILICORNIS	5.00	8.66	1.73	0.01	0.02	1.73
SPIOPHANES BOMBIX	13.33	12.58	0.94	0.05	0.08	1.73
SPIOPHANES CIRRATA	6.67	11.55	1.73	0.01	0.02	1.73
THARYX SP.	5.00	8.66	1.73	0.00	0.00	0.00
CHAETOXONE SP.	46.67	12.58	0.27	0.24	0.17	0.72
ACROCIRRUS SP.	3.33	2.89	0.87	0.00	0.00	0.00
SCALIPREGMA INFLATUM	30.00	18.03	0.60	0.51	0.19	0.37
ARMANDIA BREVIS	10.00	0.00	0.00	0.04	0.00	0.00
CAPITELLA CAPITATA	1.67	2.89	1.73	0.00	0.00	0.00
NOTOMASTUS GIGANTEUS	5.00	8.66	1.73	0.06	0.11	1.73
MEDIOMASTUS SP.	185.00	31.22	0.17	0.31	0.03	0.09
BRANCHIOMALDANE SP.	3.33	5.77	1.73	0.01	0.02	1.73
NICOMACHE PERSONATA	31.67	20.82	0.66	1.54	0.26	0.17
AXIOHELLA RUBROINCT	45.00	44.44	0.99	0.21	0.29	1.40
OWENIA FUSIFORMIS	10.00	10.00	1.00	0.31	0.30	0.96
AMPHARETE ARCTICA	5.00	0.00	0.00	0.00	0.00	0.00

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
TEREBELLIDAE	20.00	15.00	0.75	0.28	0.36	1.32
SABELLIDAE	5.00	5.00	1.00	0.01	0.02	1.73
POTAMILLA NEGLECTA	6.67	11.55	1.73	0.01	0.02	1.73
CLIGOCHAETA	41.67	37.53	0.90	0.00	0.00	0.00
MARGARITES PUPILLUS	5.00	8.66	1.73	0.18	0.31	1.73
LACUNA SP.	1.67	2.89	1.73	1.68	2.91	1.73
ALVINIA SP.	3.33	5.77	1.73	0.01	0.02	1.73
CALYPTRAFA FASTIGIATA	38.33	23.63	0.62	4.49	1.60	0.36
TURBONILLA SP.	1.67	2.89	1.73	0.06	0.11	1.73
ISCHNOCHITON RETIPORO	5.00	0.00	0.00	1.02	0.35	0.35
MOPALIA CILIATA	1.67	2.89	1.73	0.25	0.43	1.73
GLYCYMERIS SP.	10.00	5.00	0.50	0.03	0.02	0.87
MODIOLUS RECTUS	1.67	2.89	1.73	0.00	0.00	0.00
MYSELLA TUMIDA	5.00	5.00	1.00	0.01	0.02	1.73
CYCLOCARDIA SP.	18.33	7.64	0.42	3.06	3.24	1.06
CLINOCARDIUM CALIFORN	1.67	2.89	1.73	2.30	3.98	1.73
MACOMA SP.	25.00	27.24	1.11	0.15	0.13	0.89
MACOMA OBLIQUA	6.67	11.55	1.73	2.08	3.61	1.73
MACOMA BALTHICA	3.33	5.77	1.73	0.45	0.77	1.73
SAXIDOMUS GIGANTEUS	1.67	2.89	1.73	1.76	3.05	1.73
MYA ARENARIA	5.00	5.00	1.00	2.88	3.03	1.05
TANAIDACEA	1.67	2.89	1.73	0.00	0.00	0.00
TANAIDACEA SP. A	1.67	2.89	1.73	0.00	0.00	0.00
LEPTOCHELIA SP.	16.67	7.64	0.45	0.00	0.00	0.00
IDUTEA SP.	5.00	5.00	1.00	0.01	0.02	1.73
PHYLLODURUS ABDOMINAL	3.33	5.77	1.73	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	5.00	5.00	1.00	0.01	0.02	1.73
AMPELISCA SP.	5.00	5.00	1.00	0.03	0.05	1.73
AMPITHOE SP.	1.67	2.89	1.73	0.75	1.30	1.73
ACROIDES COLUMBIAE	31.67	14.43	0.46	0.00	0.00	0.00
COROPHIUM SP.	1.67	2.89	1.73	0.00	0.00	0.00
FUSIRIDAE	3.33	2.89	0.87	0.00	0.00	0.00
CERADOCUS SP.	3.33	5.77	1.73	0.01	0.02	1.73
MELITA CALIFORNICA	11.67	10.41	0.89	0.01	0.02	1.73
PHOTIS BREVIPES	1.67	2.89	1.73	0.00	0.00	0.00
ISCHYROCERUS ANGUIPES	1.67	2.89	1.73	0.00	0.00	0.00
CRICOMENE CF. PINGUIS	3.33	5.77	1.73	0.00	0.00	0.00
SYNCHELIDIUM SHOEMAKE	5.00	8.66	1.73	0.00	0.00	0.00
PHOXOCEPHALIDAE	3.33	5.77	1.73	0.00	0.00	0.00
PLEUSTES DEPRESSA	1.67	2.89	1.73	0.00	0.00	0.00
PLEUSIRUS SECORRUS	1.67	2.89	1.73	0.00	0.00	0.00
TIRON BINCELLATA	3.33	2.89	0.87	0.00	0.00	0.00
HEPTACARPUS SP.	6.67	7.64	1.15	0.03	0.02	0.87
SCLEROCRANGON ALATA	1.67	2.89	1.73	0.08	0.14	1.73
UPOGERIA PUGETTENSIS	1.67	2.89	1.73	0.51	0.89	1.73
PAGURIUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
OREGONIA GRACILIS	1.67	2.89	1.73	0.01	0.02	1.73
PUGETTIA GRACILIS	10.00	10.00	1.00	0.33	0.59	1.50
CANCER SP.	6.67	2.89	0.43	0.06	0.03	0.51
FABIA SUBQUADRATA	3.33	2.89	0.87	0.09	0.10	1.02
OPHIUROIDEA	1.67	2.89	1.73	0.00	0.00	0.00
LEPTOSYNAPTA CLARKI	6.67	2.89	0.43	0.71	1.15	1.62

NSPEC	SDI	TMEANC	TMEANW
107.00	4.48	1159.99	389.38

## EBEY'S LANDING

FALL 77

6FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
NEMERTEA	1.00	2.24	2.24	0.00	0.00	0.00
POLYCHAETA	1.00	2.24	2.24	0.00	0.00	0.00
ONUPHIS SP.	1.00	2.24	2.24	0.00	0.00	0.00
THARYX SP.	1.00	2.24	2.24	0.00	0.00	0.00
PROTODRILUS FLABELLIG	1.00	2.24	2.24	0.00	0.00	0.00
CLIGOCHAETA	2.00	2.74	1.37	0.00	0.00	0.00
LACUNA VARIEGATA	12.00	10.37	0.85	0.12	0.13	1.05
PARAMOERA MOHPI	2.00	2.74	1.37	0.00	0.00	0.00
ORCHESTIA TRASKIANA	49.00	53.67	1.10	0.92	1.03	1.12
ORCHESTOIDEA PUGETTEN	7.00	13.04	1.85	0.29	0.59	2.06
PUGETTIA GRACILIS	1.00	2.24	2.24	0.04	0.08	2.24

NSPEC  
11.00

SDI  
2.29

TMEANC  
78.00

TMEANW  
1.37

## EBEY'S LANDING

FALL 77

3FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NEMERTEA	14.00	23.29	1.66	0.01	0.02	2.24
NEMATODA	1.00	2.24	2.24	0.00	0.00	0.00
POLYCHAETA	4.00	8.94	2.24	0.01	0.02	2.24
HEMIPODUS BOREALIS	1.00	2.24	2.24	0.08	0.17	2.24
PROTODORVILLEA GRACIL	1.00	2.24	2.24	0.00	0.00	0.00
CAPITELLA CAPITATA	3.00	6.71	2.24	0.00	0.00	0.00
PROTODRILUS FLABELLIC	1.00	2.24	2.24	0.00	0.00	0.00
CLIGOCHAETA	5.00	8.66	1.73	0.00	0.00	0.00
LACUNA VARIEGATA	5.00	2.54	0.71	0.05	0.04	0.74
PARAMOERA MOHRI	397.00	851.39	2.20	0.76	1.69	2.24
DECAPODA BRACHYURA	2.00	4.47	2.24	0.02	0.04	2.24
EGG MASSES	2.00	4.47	2.24	0.01	0.02	2.24

NSPEC	SDI	TMEANC	TMEANW
12.00	0.61	426.00	0.93

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WFIGHT		
NEMERTEA	66.00	72.32	1.10	0.06	0.08	1.24
HARMOTHOE IMBRICATA	1.00	2.24	2.24	0.04	0.08	2.24
PHYLLODOCE MACULATA	3.00	6.71	2.24	0.01	0.02	2.24
FTEONE SP.	1.00	2.24	2.24	0.01	0.02	2.24
MICROPODARKE DURIA	1.00	2.24	2.24	0.00	0.00	0.00
TYPOSYLLIS SP.	2.00	2.74	1.37	0.00	0.00	0.00
NEREIS SP.	2.00	2.74	1.37	0.01	0.02	2.24
PLATYNERFIS BICANALIC	3.00	6.71	2.24	0.02	0.04	2.24
PROTODORVILLEA GRACIL	1.00	2.24	2.24	0.00	0.00	0.00
MALACOCEROS GLUTAEUS	3.00	4.47	1.49	0.00	0.00	0.00
ARMANDIA BREVIS	11.00	10.84	0.99	0.02	0.02	1.37
CAPITELLA CAPITATA	11.00	10.84	0.99	0.02	0.02	1.37
THELEPUS SP.	1.00	2.24	2.24	0.02	0.04	2.24
PROTODRILIUS FLABELLIG	312.00	393.46	1.25	0.38	0.43	1.11
SACCO CIRRUS EROTICUS	47.00	67.60	1.44	0.10	0.15	1.55
CLIGOCHAETA	1.00	2.24	2.24	0.00	0.00	0.00
LACUNA VARIEGATA	29.00	23.82	0.82	0.18	0.15	0.82
GNORIMOSPHAEROMA OREG	1.00	2.24	2.24	0.03	0.06	2.24
EXOSPHAEROMA AMPLICAU	1.00	2.24	2.24	0.00	0.00	0.00
IDOTEA SP.	1.00	2.24	2.24	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	4.00	6.94	2.24	0.00	0.00	0.00
PARAMOERA MOHRI	1279.00	2257.20	1.75	1.69	3.13	1.85
MELITA SP.	1.00	2.24	2.24	0.00	0.00	0.00
DECAPODA BRACHYURA	4.00	4.18	1.05	0.02	0.02	0.91
PUGETTIA GRACILIS	2.00	4.47	2.24	0.02	0.04	2.24
CANCER OREGONENSIS	1.00	2.24	2.24	0.05	0.13	2.24
EGG MASSES	2.00	4.47	2.24	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
27.00	1.77	1791.00	2.67

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
MONOSTROMA FLSCUM	0.00	0.00	0.00	0.40	0.70	1.73
LAMINARIA SP.	0.00	0.00	0.00	8.73	15.17	1.73
LAMINARIA SACCHARINA	0.00	0.00	0.00	41.84	72.47	1.73
LAMINARIA FARLOWII	0.00	0.00	0.00	0.26	0.46	1.73
PLEUROPHYCUS GARDNERI	0.00	0.00	0.00	14.15	24.51	1.73
ALARIA MARGINATA	0.00	0.00	0.00	71.11	123.16	1.73
RHODOPHYCEAE	0.00	0.00	0.00	0.08	0.14	1.73
SARCODIOTHECA FURCATA	0.00	0.00	0.00	5.53	9.53	1.72
AMPHELTIA GIGARTINOID	0.00	0.00	0.00	0.03	0.06	1.73
TRIDAEA HETEROCARPA	0.00	0.00	0.00	0.85	1.47	1.73
RHODOGLOSSUM SP.	0.00	0.00	0.00	2.61	4.52	1.73
RHODOGLOSSUM ROSFUM	0.00	0.00	0.00	3.94	6.82	1.73
HALYMENTIA SP.	0.00	0.00	0.00	0.23	0.39	1.73
CALLOPHYLLIS ENDENTAT	0.00	0.00	0.00	5.13	8.89	1.73
CONSTANTINEA SP.	0.00	0.00	0.00	0.03	0.05	1.73
FAUCHEA LACINIATA	0.00	0.00	0.00	6.52	11.29	1.73
ANTITHAMNION SP.	0.00	0.00	0.00	0.00	0.01	1.73
NEOPTILOTA SP.	0.00	0.00	0.00	0.09	0.16	1.73
CRYPTOPLEURA SP.	0.00	0.00	0.00	0.26	0.26	0.99
CRYPTOPLEURA VIOLACEA	0.00	0.00	0.00	3.43	5.94	1.73
POLYNEURA LATISSIMA	0.00	0.00	0.00	0.48	0.64	1.34
HYMENENA FLABELLIGERA	0.00	0.00	0.00	2.67	4.01	1.50
ROTRYOGLOSSUM FARLOWI	0.00	0.00	0.00	3.68	3.97	1.08
PTEROSIPHONIA BIPINNA	0.00	0.00	0.00	0.03	0.05	1.73
LAURENCIA SPECTABILIS	0.00	0.00	0.00	0.54	0.42	0.77
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	9.48	13.81	1.46
ODONTHALIA WASHINGTON	0.00	0.00	0.00	89.49	109.18	1.22
LOPHOSIPHONIA VILUM	0.00	0.00	0.00	0.00	0.00	0.00
PHYLLOSPADIX SCOULERI	0.00	0.00	0.00	0.23	0.40	1.73
NEMERTEA	45.00	8.66	0.17	1.05	0.98	0.94
NEMATODA	1.67	2.89	1.73	0.00	0.00	0.00
HARMOTHOE IMBRICATA	1.67	2.89	1.73	0.05	0.08	1.73
PALEANOTUS BELLIS	1.67	2.89	1.73	0.00	0.00	0.00
PHYLLODOCE MACULATA	11.67	10.41	0.89	0.04	0.05	1.04
TYPOSYLLIS SP.	48.33	2.89	0.06	0.07	0.03	0.39
EXOGONE SP.	61.67	46.19	0.75	0.01	0.02	1.73
PLATYNEREIS BICANALIC	161.67	98.28	0.61	19.57	5.43	0.28
GLYCERA SP.	1.67	2.89	1.73	0.90	1.55	1.73
HEMIPODUS ROPEALIS	1.67	2.89	1.73	0.05	0.08	1.73
GLYCINDE PICTA	26.67	5.77	0.22	0.13	0.11	0.87
ONUPHIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
LUMBRINEPIS SP.	5.00	0.00	0.00	0.40	0.49	1.23
DORVILLEA SP.	8.33	14.43	1.73	0.06	0.11	1.73
PROTODORVILLEA GRACIL	36.67	63.51	1.73	0.08	0.14	1.73
NAINERPIS UNCTINATA	1.67	2.89	1.73	0.00	0.00	0.00
SCOLOPLOS PUGETTENSIS	6.67	7.64	1.15	0.01	0.07	1.73
ARCTIDEA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PRIONOSPID CIRRIFFERA	1.67	2.89	1.73	0.00	0.00	0.00
PRIONOSPID STEENSTRUP	1.67	2.89	1.73	0.00	0.00	0.00
SPID FILICORNIS	136.67	79.11	0.58	0.74	0.35	0.47
SPIOPHANES COMBYX	1.67	2.89	1.73	0.00	0.00	0.00
MALACOCFPOS GLUTAFUS	16.67	11.55	0.69	0.01	0.02	1.73
CIRRATULUS CIRRATUS	20.00	8.66	0.43	0.49	0.17	0.35
CHAETAZONE SP.	5.00	5.00	1.00	0.01	0.02	1.73
ARMANDIA BREVIS	198.33	52.93	0.29	0.83	0.23	0.28



	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
CAPITELLA CAPITATA	6.67	5.77	0.87	0.00	0.00	0.00
NOTOMASTUS TENUIS	3.33	5.77	1.73	0.06	0.11	1.73
MEDICMASTUS AMBISETA	1.67	2.89	1.73	0.00	0.00	0.00
MALDANIDAE	1.67	2.89	1.73	0.00	0.00	0.00
NICOMACHE PERSONATA	6.67	11.55	1.73	0.21	0.37	1.73
OWENIA FUSIFORMIS	13.33	2.89	0.22	0.06	0.05	0.87
TEREBELLIDAE	1.67	2.89	1.73	0.00	0.00	0.00
PISTA SP.	1.67	2.89	1.73	0.06	0.11	1.73
POLYCIRRUS MERGUELENS	1.67	2.89	1.73	0.03	0.05	1.73
SABELLIDAE	1.67	2.89	1.73	0.00	0.00	0.00
PSEUDOPOTAMILLA RENIE	3.33	5.77	1.73	0.00	0.00	0.00
CLIGOCHAETA	21.67	16.07	0.74	0.00	0.00	0.00
MARGARITES PUPILLUS	6.67	2.89	0.43	0.32	0.49	1.52
LACUNA SP.	8.33	7.64	0.92	0.03	0.02	0.87
ALVINIA SP.	16.67	14.43	0.97	0.03	0.02	0.87
AMPHISSA COLUMBIANA	3.33	2.89	0.87	0.03	0.02	0.87
MYSELLA TUMIDA	10.00	5.00	0.50	0.03	0.02	0.87
MACOMA SP. JUV.	1.67	2.89	1.73	0.01	0.02	1.73
MACOMA NASUTA	1.67	2.89	1.73	0.05	0.08	1.73
PSEPHIDIA LOPDI	1.67	2.89	1.73	0.01	0.02	1.73
TANAIDACEA SP. A	8.33	7.64	0.92	0.00	0.00	0.00
LEPTOCHELIA SAVIGNYI	145.00	37.75	0.25	0.11	0.03	0.27
EXOSPHAEROMA AMPLICAU	3.33	2.89	0.87	0.00	0.00	0.00
IDOTEA ACULEATA	1.67	2.89	1.73	0.31	0.54	1.73
AMPHIPODA GAMMARIDEA	8.33	2.89	0.35	0.00	0.00	0.00
AMPITHOE SP.	3.33	2.89	0.87	0.13	0.23	1.73
ADRIDES COLUMBIAE	20.00	5.00	0.25	0.00	0.00	0.00
ATYLUS SP.	3.33	5.77	1.73	0.03	0.05	1.73
PONTOGENEIA SP.	106.67	15.28	0.14	0.21	0.08	0.37
CERADOCUS SP.	6.67	11.55	1.73	0.01	0.02	1.73
MELITA SP.	43.33	70.77	1.63	0.28	0.48	1.73
HYALE SP.	1.67	2.89	1.73	0.00	0.00	0.00
PARALLORCHESTES OCHOT	1.67	2.89	1.73	0.03	0.05	1.73
PHOTIS SP.	81.67	53.46	0.65	0.14	0.09	0.64
LYSIANASSIDAE	15.00	25.98	1.73	0.03	0.05	1.73
CPCHOMENE CF. PINGUIS	1.67	2.89	1.73	0.00	0.00	0.00
SYNCHLIDTIUM SHOEMAKE	18.33	10.41	0.57	0.00	0.00	0.00
PHOXOCEPHALIDAE	81.67	51.07	0.63	0.36	0.25	0.71
PLEUSIRIUS SFCORPUS	6.67	11.55	1.73	0.00	0.00	0.00
ORCHESTIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
HEPTACARPUS PREVIRNST	5.00	8.66	1.73	0.76	1.32	1.73
UPOGEBIA PUGETTENSIS	1.67	2.89	1.73	4.73	8.19	1.73
PAGURUS SP. JUV.	45.00	25.98	0.58	0.34	0.36	1.04
PUGETTIA GRACILIS	45.00	31.22	0.67	4.41	4.44	1.01
CANCER OREGONENSIS	1.67	2.89	1.73	0.51	0.89	1.73
ECTOPROCTA	0.00	0.00	0.00	0.10	0.17	1.73
OPHIUROIDEA (AMPHIURI	1.67	2.89	1.73	0.38	0.66	1.73
HOLOTHUROIDEA	1.67	2.89	1.73	0.06	0.11	1.73
CUCUMARIA MINIATA	1.67	2.89	1.73	0.51	0.89	1.73
LEPTOSYNAPTA CLARKI	5.00	5.00	1.00	1.21	2.06	1.70
SAGITTA FLEGANS	1.67	2.89	1.73	0.00	0.00	0.00
GORTESOX MEANDRICUS	1.67	2.89	1.73	0.26	0.46	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
MONOSTROMA FUSCUM	0.00	0.00	0.00	0.18	0.32	1.73
LAMINARIA SACCHARINA	0.00	0.00	0.00	57.91	50.43	0.87
LAMINARIA FARLOWII	0.00	0.00	0.00	2.92	5.06	1.73
GRACILARIDOPSIS SJOEST	0.00	0.00	0.00	4.72	4.05	0.86
STENOGRAMME INTERRUPT	0.00	0.00	0.00	0.13	0.23	1.73
CERAMIMUM STRICTUM	0.00	0.00	0.00	0.05	0.09	1.73
NEOPTILOTA SP.	0.00	0.00	0.00	0.14	0.24	1.73
PTEROSIPHONIA BIPINNA	0.00	0.00	0.00	0.02	0.03	1.73
ODONTHALIA WASHINGTON	0.00	0.00	0.00	4.71	4.29	0.91
ZOSTERA MARINA	0.00	0.00	0.00	11.66	18.40	1.59
NEMERTEA	35.00	13.23	0.38	0.29	0.30	1.05
NEMATODA	6.67	5.77	0.87	0.00	0.00	0.00
HARMOTHOE IMBRICATA	5.00	5.00	1.00	0.00	0.00	0.00
PHOLOE MINUTA	3.33	5.77	1.73	0.01	0.02	1.73
GYPTIS BREVIPALPA	1.67	2.89	1.73	0.00	0.00	0.00
MICROPODARKE DURIA	3.33	2.89	0.87	0.00	0.00	0.00
TYPOSYLLIS SP.	61.67	25.66	0.42	0.07	0.06	0.79
EXOgone SP.	38.33	62.12	1.62	0.01	0.02	1.73
PLATYNEREIS BICANALIC	10.00	5.00	0.50	0.48	0.67	1.41
NEPHTYS LONGOSETOSA	6.67	2.89	0.43	0.31	0.25	0.82
GLYCERA SP.	3.33	5.77	1.73	0.42	0.72	1.73
GLYCINDE PICTA	1.67	2.89	1.73	0.01	0.02	1.73
PROTODORVILLEA GRACIL	71.67	35.12	0.49	0.03	0.02	0.87
SCOLOPLOS ARMIGER	1.67	2.89	1.73	0.00	0.00	0.00
SCOLOPLOS PUGETTENSIS	6.67	5.77	0.87	0.20	0.18	0.90
ARICIDEA SP.	10.00	5.00	0.50	0.00	0.00	0.00
PARANIS LYPA	11.67	10.41	0.89	0.00	0.00	0.00
PRIONOSPID CIRRIFERA	1.67	2.89	1.73	0.00	0.00	0.00
PRIONOSPID STEENSTRUP	63.33	2.89	0.05	0.67	0.14	0.22
SPID SP.	23.33	5.77	0.75	0.11	0.03	0.27
SPID FILICORNIS	3.33	5.77	1.73	0.01	0.02	1.73
SPIOPHANES BOMBYX	25.00	0.00	0.00	0.16	0.13	0.80
MALACOCERDS GLUTAEUS	8.33	14.43	1.73	0.01	0.02	1.73
AONIDES SP.	1.67	2.89	1.73	0.00	0.00	0.00
MAGFLONA PITELAI	6.67	7.64	1.15	0.13	0.13	0.96
CHAETOZONE SP.	172.33	75.88	0.44	0.49	0.49	1.00
SCALIRREGMA INFLATUM	1.67	2.89	1.73	0.00	0.00	0.00
ARMANDIA BREVIS	8.33	10.41	1.25	0.03	0.02	0.87
TRAVISIA BREVIS	5.00	5.00	1.00	0.39	0.45	1.15
CAPITELLA CAPITATA	5.00	8.66	1.73	0.01	0.02	1.73
MEDIOMASTUS AMBISETA	61.67	64.29	1.04	0.21	0.15	0.73
MALDANIDAE	1.67	2.89	1.73	0.13	0.23	1.73
NICOMACHE PERSONATA	13.33	15.28	1.15	0.71	0.95	1.34
AXIOTHELLA PUBROCINCT	63.33	27.54	0.43	1.61	1.97	1.23
OWENTIA FUSIFORMIS	33.33	25.66	0.77	0.74	0.96	1.29
MYRIOCHELE OCULATA	1.67	2.89	1.73	0.00	0.00	0.00
PECTINARIA GRANULATA	1.67	2.89	1.73	0.06	0.11	1.73
AMPHARETE ARCTICA	1.67	2.89	1.73	0.00	0.00	0.00
CLIGOGHAETA	116.67	76.54	0.65	0.03	0.02	0.87
LIRULARIA SP.	6.67	7.64	1.15	0.04	0.05	1.04
MARGARITES PUPILLUS	11.67	12.58	1.08	0.09	0.08	0.87
ALVINIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
HANLEYA HANLEYI	1.67	2.89	1.73	0.00	0.00	0.00
LEPIDOZONA HEPTENSII	1.67	2.89	1.73	0.25	0.43	1.73
GLYCYMERIS SP.	1.67	2.89	1.73	0.00	0.00	0.00

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
MYSELLA TUMIDA	23.33	11.55	0.49	0.04	0.00	0.00
CYCLOCARDIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
CLINOCARDIUM CALIFORN	1.67	2.89	1.73	0.71	1.24	1.73
MACOMA SP. JUV.	3.33	2.89	0.87	0.04	0.05	1.04
MACOMA OBLIQUA	3.33	5.77	1.73	0.36	0.63	1.73
TELLINA SP.	1.67	2.89	1.73	0.03	0.05	1.73
SAXIDOMUS GIGANTEUS	1.67	2.89	1.73	0.36	0.63	1.73
PSEPHIDIA LORDI	115.00	57.66	0.50	1.39	1.09	0.78
MYA APENARTA	5.00	5.00	1.00	3.03	5.03	1.66
LEPTOCHELIA SAVIGNYI	68.33	45.09	0.66	0.03	0.05	1.73
EXOSPHAFROMA AMPLICAU	1.67	2.89	1.73	0.00	0.00	0.00
AMPHIPODA GAMMARTIDEA	11.67	2.89	0.25	0.01	0.02	1.73
AMPELISCA SP.	1.67	2.89	1.73	0.01	0.02	1.73
AMPITHOE SP.	5.00	5.00	1.00	0.21	0.29	1.38
AORRIDES COLUMBIAE	15.00	8.66	0.58	0.00	0.00	0.00
COROPHIUM SP.	3.33	5.77	1.73	0.00	0.00	0.00
PONTOGENEIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
MELITA SP.	26.67	25.66	0.96	0.04	0.05	1.04
PHOTIS SP.	8.33	5.77	0.69	0.00	0.00	0.00
LYSIANASSIDAE	3.33	2.89	0.87	0.00	0.00	0.00
ARCHOMENE CF. PINGUIS	3.33	2.89	0.87	0.00	0.00	0.00
PHOXOCEPHALIDAE	20.00	20.00	1.00	0.01	0.02	1.73
CRANGON SP.	8.33	14.43	1.73	1.60	2.77	1.73
UROGEBIA PUGETTENSIS	1.67	2.89	1.73	0.18	0.31	1.73
PAGURUS SP. JUV.	6.67	7.64	1.15	0.05	0.08	1.73
PUGETTIA GRACILIS	5.00	5.00	1.00	0.08	0.07	0.93
CANCER OREGONENSIS	6.67	7.64	1.15	0.71	1.03	1.44
FABIA SUBQUADRATA	1.67	2.89	1.73	0.10	0.17	1.73
PHORONOPSIS HARME?I	1.67	2.89	1.73	0.01	0.02	1.73
OPHIUROIDEA (AMPHIURI	1.67	2.89	1.73	0.00	0.00	0.00
LEPTOSYNAPTA CLARKI	8.33	7.64	0.92	0.44	0.61	1.38

NSPEC	SDI	TMEANC	TMEANW
86.00	4.26	1293.33	99.62

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
DESMARESTIA LTGULATA	0.00	0.00	0.00	12.17	14.80	1.22
RHOOPHYCEAE	0.00	0.00	0.00	0.11	0.20	1.73
PLOCANTUM PACIFICUM	0.00	0.00	0.00	0.37	0.39	1.06
AHNFFELTIA PLICATA	0.00	0.00	0.00	0.01	0.02	1.73
STENOGRAMME INTERRUPT	0.00	0.00	0.00	1.20	0.70	0.59
GYMNOGONGRUS SP.	0.00	0.00	0.00	0.16	0.27	1.73
CALLOPHYLLIS SP.	0.00	0.00	0.00	0.69	0.84	1.21
CALLOPHYLLIS FLABELLU	0.00	0.00	0.00	3.36	5.56	1.66
FRYTHROPHYLLIUM SP.	0.00	0.00	0.00	0.77	1.33	1.73
CALLITHAMNION SP.	0.00	0.00	0.00	0.00	0.00	0.00
NIENBURGIA ANDERSONIA	0.00	0.00	0.00	2.62	3.43	1.31
PLEONOSPORIUM SP.	0.67	1.15	1.73	0.16	0.15	0.94
NEOPTILOTA SP.	0.00	0.00	0.00	17.28	23.12	1.34
CRYPTOPLEURA SP.	0.00	0.00	0.00	0.11	0.20	1.73
MEMBRANOPTERA MULTIRA	0.00	0.00	0.00	0.00	0.01	1.73
POLYNEURA LATISSIMA	0.00	0.00	0.00	1.52	1.01	0.66
POLYSIPHONIA HENDRYI	0.00	0.00	0.00	0.17	0.29	1.73
PTEROCHONDRIA WOODII	0.00	0.00	0.00	0.04	0.07	1.73
NEMERTEA	23.33	7.64	0.33	0.11	0.03	0.27
NEMATODA	15.00	15.00	1.00	0.00	0.00	0.00
HARMOTHOE IMBRICATA	3.33	2.89	0.87	0.03	0.05	1.73
PHOLOE MINUTA	15.00	13.23	0.89	0.03	0.02	0.97
ETEONE LONGA	13.33	2.89	0.27	0.01	0.02	1.73
HESTONURA COINEAUI DI	1.67	2.89	1.73	0.00	0.00	0.00
MICROPODARKE DURIA	5.00	8.66	1.73	0.00	0.00	0.00
PIONOSYLLIS URAGA	1.67	2.89	1.73	0.00	0.00	0.00
TYPOSYLLIS SP.	10.00	5.00	0.50	0.00	0.00	0.00
EXOGONE SP.	23.33	2.89	0.12	0.00	0.00	0.00
SPHAPOSYLLIS SP.	5.00	0.00	0.00	0.00	0.00	0.00
NEREIS SP.	1.67	2.89	1.73	0.01	0.02	1.73
NEPHTYS LONGOSETOSA	3.33	2.89	0.87	1.26	1.94	1.54
HEMIPODUS BOREALIS	3.33	2.89	0.87	0.05	0.08	1.73
GLYCIDAE PICTA	3.33	5.77	1.73	0.03	0.05	1.73
PROTODORVILLEA GRACII	10.00	5.00	0.50	0.00	0.00	0.00
PRIONOSPID STEENSTRUP	25.00	8.66	0.35	0.12	0.06	0.47
SPID SP.	53.33	29.30	0.55	0.26	0.08	0.29
SPIOPHANES BOMBYX	3.33	2.89	0.87	0.00	0.00	0.00
ADONIDES SP.	6.67	2.89	0.43	0.00	0.00	0.00
SPIOCHAETOPTERUS COST	1.67	2.89	1.73	0.03	0.05	1.73
CHAETOZONE SP.	28.33	7.64	0.27	0.06	0.05	0.87
ACROCIRPUS SP.	1.67	2.89	1.73	0.00	0.00	0.00
SCALIBREGMA INFLATUM	11.67	16.07	1.38	0.18	0.16	0.87
ARMANDIA BREVIS	6.67	5.77	0.87	0.01	0.02	1.73
NOTOMASTUS GIGANTEUS	1.67	2.89	1.73	0.17	0.29	1.73
MEDIOMASTUS AMBISETA	70.00	17.37	0.25	0.07	0.03	0.39
NICOMACHE PERSONATA	5.00	5.00	1.00	0.26	0.42	1.60
PETALOPROCTUS SP.	1.67	2.89	1.73	0.03	0.05	1.73
AXIOTHELLA RUBROINCT	16.67	17.56	1.05	0.13	0.11	0.87
OWENIA FUSIFORMIS	16.67	2.89	0.17	0.06	0.07	1.20
AMPHARETE ARCTICA	13.33	15.28	1.15	0.00	0.00	0.00
TEREBELLIDAE	1.67	2.89	1.73	0.03	0.05	1.73
POLYCIRRUS KERGUELENS	16.67	20.87	1.25	0.10	0.13	1.39
TEREBELLIDES STROEMI	1.67	2.89	1.73	0.06	0.11	1.73
CHONE INFUNDIBULIFORM	1.67	2.89	1.73	0.01	0.02	1.73
PSEUDOPOTAMILLA RENIF	1.67	2.89	1.73	0.00	0.00	0.00

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
OLIGOCHAETA	20.00	5.00	0.25	0.00	0.00	0.00
TECTURA ROSACEA	5.00	8.66	1.73	0.01	0.02	1.73
LIRULARIA SP.	10.00	10.00	1.00	0.04	0.05	1.04
MARGARITES PUPILLUS	1.67	2.89	1.73	0.01	0.02	1.73
ALVINIA SP.	30.00	30.41	1.01	0.06	0.03	0.51
TRICHOTROPIS CANCELLA	1.67	2.89	1.73	0.01	0.02	1.73
CALYPTRAEA FASTIGIATA	40.00	18.03	0.45	2.17	1.40	0.65
NATICA CLAUSA	3.33	2.89	0.87	0.03	0.02	0.87
AMPHISSA COLUMBIANA	5.00	5.00	1.00	0.01	0.02	1.73
ODOSTOMIA SP.	5.00	5.00	1.00	0.04	0.05	1.04
TURBONILIA SP.	6.67	11.55	1.73	0.05	0.08	1.73
HANLEYA HANLEYI	16.67	10.41	0.62	0.23	0.24	1.07
CYANOPLAX DENTIENS	1.67	2.89	1.73	0.03	0.05	1.73
NUCULANA HAMATA	1.67	2.89	1.73	0.01	0.02	1.73
GLYCYMERIS SP.	3.33	2.89	0.87	0.00	0.00	0.00
MUSCILIUS SP.	5.00	5.00	1.00	4.31	4.00	0.93
MODIOLUS RECTUS	8.33	2.89	0.35	118.05	93.08	0.79
MYSEILA TUMIDA	8.33	10.41	1.25	0.01	0.02	1.73
CYCLOCARDIA SP.	26.67	11.55	0.43	1.21	2.02	1.67
MACOMA SP. JUV.	18.33	7.64	0.42	0.09	0.05	0.56
MACOMA OBLIQUA	13.33	2.89	0.22	2.34	1.65	0.71
SAXIDOMUS GIGANTEUS	1.67	2.89	1.73	0.17	0.29	1.73
PSEPHIDIA LORDI	6.67	5.77	0.87	0.03	0.02	0.87
PROTOTHACA STAMINEA	1.67	2.89	1.73	28.70	49.70	1.73
TAPES JAPONICA	6.67	11.55	1.73	0.71	1.24	1.73
MYA ARENARIA	3.33	2.89	0.87	0.03	0.02	0.87
NEBALIA PUGETTENSIS	3.33	2.89	0.87	0.01	0.02	1.73
TANAIDACEA SP. A	1.67	2.89	1.73	0.00	0.00	0.00
LEPTOCHELIA SAVIGNYI	46.67	2.89	0.06	0.01	0.02	1.73
IANIROPSIS KINCAIDI D	1.67	2.89	1.73	0.00	0.00	0.00
AMPELISCA SP.	5.00	5.00	1.00	0.01	0.02	1.73
AOROIDES COLUMBIAN	5.00	5.00	1.00	0.00	0.00	0.00
PONTOGENEIA SP.	5.00	5.00	1.00	0.00	0.00	0.00
MELITA SP.	23.33	7.64	0.33	0.01	0.02	1.73
PHOTIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
PROTOMEDEIA ICHEIRIME	1.67	2.89	1.73	0.00	0.00	0.00
ANONYX NUGAX	1.67	2.89	1.73	0.05	0.08	1.73
SYNCHELIDIUM SHOEMAKE	3.33	2.89	0.87	0.00	0.00	0.00
PHOXOCEPHALICAE	5.00	5.00	1.00	0.05	0.08	1.73
UPOGERIA PUGETTENSIS	8.33	7.64	0.92	0.44	0.38	0.87
PAGURIS SP. JUV.	1.67	2.89	1.73	0.01	0.02	1.73
PUGETTIA GRACILIS	3.33	2.89	0.97	0.04	0.05	1.04
CANCER OREGONENSIS	1.67	2.89	1.73	2.83	4.91	1.73
FABIA SUBQUADRATA	1.67	2.89	1.73	0.17	0.29	1.73
PHIUROIDEA (AMPHIURI	6.67	7.64	1.15	0.06	0.07	1.20
LEPTOSYNAPTA CLARKI	11.67	11.55	0.99	1.01	1.08	1.07

NSPEC	SDI	TMEANC	TMEANW
101.00	4.71	817.33	206.93

## FREY'S LANDING

WINTER 78

6FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NFMERTEA	8.00	11.51	1.44	0.00	0.00	0.00
LACUNA SP.	3.00	6.71	2.24	0.02	0.04	2.24
PARAMOEPA MOHP I	66.00	52.13	0.79	0.09	0.09	0.94

NSPEC	SDI	TMEANC	TMEANW
3.00	1.68	77.00	0.11

## EBEY'S LANDING

WINTER 78

5FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
NEMERTEA	36.67	37.53	1.02	0.00	0.00	0.00
NEMATODA	3.33	5.77	1.73	0.00	0.00	0.00
CAPITELLIDAE	1.67	2.89	1.73	0.01	0.02	1.73
LACUNA SP.	5.00	5.00	1.00	0.04	0.05	1.04
AMPHISSA COLUMBIANA	1.67	2.89	1.73	0.21	0.37	1.73
PARAMOERA MONTI	2783.33	4529.08	1.63	5.21	8.73	1.68

NSPEC	SDI	TMEANC	TMEANW
6.00	0.28	2931.67	5.48

CREY'S LANDING

WINTER 78

4FT

PAGE 1

MEAN

S.D.

CVAR

MEAN

S.O.

CVAP

COUNT

WEIGHT

NEMFRTFA	1.67	2.89	1.73	0.00	0.00	0.00
LACUNA SP.	3.33	5.77	1.73	0.05	0.08	1.73
PARAMDERA MOHRI	291.67	453.47	1.55	0.56	0.94	1.67

NSPEC  
3.00

SDI  
0.38

TMEANC  
296.67

TMEANW  
0.61



## FREY'S LANDING

WINTER 78

3FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
FRAGMENT	1.00	2.24	2.24	0.00	0.00	0.00
NEMERTEA	11.00	9.62	0.87	0.00	0.00	0.00
SACCOCIRRIUS EPOTICUS	1.00	2.24	2.24	0.00	0.00	0.00
LACUNA SP.	2.00	2.74	1.37	0.00	0.00	0.00
PARAMOERA MOHRI	45.00	18.71	0.42	0.05	0.05	1.00
HYALE SP.	2.00	4.47	2.24	0.01	0.02	2.24

NSPEC	SDI	TMEANC	TMEANW
6.00	2.25	62.00	0.06

## FREY'S LANDING

WINTER 78

2FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
NEMERTEA	38.33	28.87	0.75	0.01	0.02	1.73
POLYCHAETA FRAGMENTS	1.67	2.89	1.73	0.00	0.00	0.00
ONUPHIS SP.	1.67	2.89	1.73	0.01	0.02	1.73
PARAMOERA MOHRI	140.00	157.40	1.12	0.24	0.21	0.87

NSPEC	SDI	TMEANC	TMEANW
4.00	1.29	181.67	0.27

EBEY'S LANDING

WINTER 78

1FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
NEMERTEA	20.00	18.03	0.90	0.00	0.00	0.00
PROTODORVILLEA GRACIL	1.67	2.89	1.73	0.00	0.00	0.00
SACCOCIROPUS EPOTICUS	3.33	2.89	0.87	0.00	0.00	0.00
LACUNA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PARAMOERA MOHPI	1875.00	2732.35	1.45	3.20	4.70	1.47

NSPEC	SDI	TMFANC	TMEANW
5.00	0.43	1901.67	3.20

## FREY'S LANDING

WINTER 78

OFT

PAGE 1

MEAN

S.D.

CVAR

MEAN

S.D.

CVAR

COUNT

WEIGHT

NEMERTEA	34.00	56.94	1.67	0.00	0.00	0.00
NEMATODA	1.00	2.24	2.24	0.00	0.00	0.00
PROTODORVILLEA GRACIL	1.00	2.24	2.24	0.00	0.00	0.00
MALACCOCEROS GLUTAFUS	1.00	2.24	2.24	0.00	0.00	0.00
PROTODRILUS FIABELLIG	1.00	2.24	2.24	0.00	0.00	0.00
SACCOCIPIRUS EROTICUS	18.00	18.91	1.05	0.02	0.02	1.37
LACUNA SP.	1.00	2.24	2.24	0.00	0.00	0.00
PARAMOERA MOHR I	1419.00	2309.01	1.63	2.70	4.68	1.73

NSPEC  
8.00

SDI  
0.98

TMFANC  
1476.00

TMEANW  
2.72

## FBFY'S LANDING

WINTER 78

-1FT

PAGE 1

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
NEMERTEA	296.67	397.94	1.34	0.03	0.02	0.87
ONIPHIDAE	1.67	2.89	1.73	0.00	0.00	0.00
ORVILLEA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PROTODORVILLEA GRACIL	3.33	2.89	0.87	0.00	0.00	0.00
ARMANDIA BREVIS	3.33	2.89	0.87	0.00	0.00	0.00
SACCOCIRRIUS EROTICUS	19.33	15.28	0.83	0.03	0.02	0.87
LACUNA SP.	11.67	10.41	0.89	0.11	0.13	1.12
PARAMOERA MOHRI	2085.00	2478.86	1.19	3.42	3.79	1.11
MELITA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PARATHEMISTO ABYSSORU	1.67	2.89	1.73	0.00	0.00	0.00

NSPEC	SDI	TMEANC	TMEANW
10.00	1.03	2425.00	3.58

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
	COUNT			WEIGHT		
FECAL PELLETS	90.00	69.46	0.77	0.36	0.42	1.18
BACILLARIOPHYTA	0.00	0.00	0.00	0.00	0.00	0.00
MONOSTROMA SP.	0.00	0.00	0.00	9.12	7.06	0.77
ULVA SP.	0.00	0.00	0.00	1.95	3.39	1.73
PTERYGOPHORA CALIFORN	0.00	0.00	0.00	204.68	354.57	1.73
DESMARESTIA LIGULATA	0.00	0.00	0.00	0.30	0.53	1.73
DESMARESTIA VIRIDIS	0.00	0.00	0.00	0.00	0.00	0.00
PLOCAMIMUM VIOLACEUM	0.00	0.00	0.00	0.00	0.00	0.00
AHNFELTIA Plicata	0.00	0.00	0.00	0.03	0.03	0.94
GIGARTINA PAPILLATA	0.00	0.00	0.00	0.46	0.80	1.73
TRIDAPA SP.	0.00	0.00	0.00	15.70	8.87	0.57
RHODYMENIA PALMATA	0.00	0.00	0.00	81.64	37.84	0.46
ANTITHAMNION SP.	0.00	0.00	0.00	1.22	0.80	0.66
MICROCLADIA COULTERI	0.00	0.00	0.00	0.00	0.00	0.00
PLATYTHAMNION SP.	0.00	0.00	0.00	0.00	0.01	1.73
POLYNEURA LATISSIMA	0.00	0.00	0.00	0.68	0.93	1.37
POLYSIPHONIA PACIFICA	0.00	0.00	0.00	0.23	0.40	1.73
POLYSIPHONIA HENDRYI	0.00	0.00	0.00	0.15	0.17	1.19
LAURENCIA SPECTABILIS	0.00	0.00	0.00	0.01	0.01	1.73
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	5.07	4.50	0.89
ODONTHALIA WASHINGTON	0.00	0.00	0.00	6.28	10.87	1.73
ZOSTERA MARINA	0.00	0.00	0.00	0.24	0.42	1.73
PHYLLOSPADIX SCOULERI	0.00	0.00	0.00	0.01	0.02	1.73
NEMERTEA	23.33	18.73	0.81	0.24	0.30	1.27
PAPANEMERTES PEPEGRIN	1.67	2.89	1.73	0.10	0.17	1.73
NEMATODA	1.67	2.89	1.73	0.00	0.00	0.00
HARMOTHOE IMBRICATA	3.33	2.89	0.87	0.03	0.05	1.73
PHYLLIDOCE SP.	3.33	2.89	0.87	0.08	0.07	0.93
HESIONIDAE	1.67	2.89	1.73	0.00	0.00	0.00
MICROPODARKE DUPIA	6.67	11.55	1.73	0.00	0.00	0.00
PIONOSYLLIS URAGA	1.67	2.89	1.73	0.00	0.00	0.00
TYPOSYLLIS SP.	18.33	23.09	1.26	0.00	0.00	0.00
EXOGONE SP.	1.67	2.89	1.73	0.00	0.00	0.00
NEREIS SP.	5.00	5.00	1.00	0.71	0.95	1.34
NEREIS VEXILLIOSA	1.67	2.89	1.73	2.78	4.82	1.73
PLATYNEREIS BICANALIC	36.67	41.93	1.14	5.04	3.87	0.77
HEMIPODUS ROEALIS	6.67	2.89	0.43	0.14	0.15	1.01
GLYCIDAE PICTA	35.00	21.79	0.62	0.17	0.19	1.09
LUMBRINEPIS SP.	5.00	8.66	1.73	0.01	0.02	1.73
DORVILLEA SP.	3.33	5.77	1.73	0.00	0.00	0.00
PROTODORVILLEA GRACIL	5.00	5.00	1.00	0.00	0.00	0.00
SCOLOPLOS PUGETTENSIS	1.67	2.89	1.73	0.00	0.00	0.00
ARICIDEA LOPEZI	1.67	2.89	1.73	0.00	0.00	0.00
POLYDORA SOCIALIS	1.67	2.89	1.73	0.00	0.00	0.00
PRIONOSPIO CIRRIFEPA	1.67	2.89	1.73	0.00	0.00	0.00
PRIONOSPIO STEENSTRUP	6.67	7.64	1.15	0.06	0.11	1.73
SPIO FILICORNIS	10.00	13.23	1.32	0.03	0.05	1.73
SPIOPHANES BOMBYX	1.67	2.89	1.73	0.00	0.00	0.00
MALACOCEROS GLUTAEUS	1.67	2.89	1.73	0.00	0.00	0.00
CIRRATULUS CIRRATUS	1.67	2.89	1.73	0.13	0.23	1.73
CHAETAZONE SP.	1.67	2.89	1.73	0.00	0.00	0.00
ARMANDIA BREVIS	155.00	213.37	1.38	0.59	0.75	1.27
CAPITELLA CAPITATA	70.00	52.20	0.75	0.06	0.07	1.20
OWENIA FUSIFORMIS	3.33	2.89	0.87	0.00	0.00	0.00
AMPHISAMYTHA BIOCULAT	1.67	2.89	1.73	0.01	0.02	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
TERRELLIDAE	1.67	2.89	1.73	0.00	0.00	0.00
FABRICIINAE	3.33	5.77	1.73	0.00	0.00	0.00
SACCOCIRRUS FROTICUS	1.67	2.89	1.73	0.00	0.00	0.00
ACMAEIDAE JUV. <4MM	3.33	5.77	1.73	0.05	0.08	1.73
MARGARITES PUPILLUS	3.33	5.77	1.73	0.01	0.02	1.73
LACUNA SP.	43.33	32.15	0.74	0.89	0.87	0.97
ALVINIA SP.	3.33	5.77	1.73	0.01	0.02	1.73
CYLICHA SP.	1.67	2.89	1.73	0.01	0.02	1.73
LEPTOCHELIA SAVIGNYI	1.67	2.89	1.73	0.00	0.00	0.00
GNORIMOSPHAEROMA OREG	3.33	5.77	1.73	0.03	0.05	1.73
EXOSPHAEROMA AMPLICAU	1.67	2.89	1.73	0.00	0.00	0.00
MUNNA SP.	1.67	2.89	1.73	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	5.00	8.66	1.73	0.00	0.00	0.00
AORRIDES COLUMBIAE	6.67	7.64	1.15	0.00	0.00	0.00
PONTOGENEIA SP.	48.33	53.93	1.12	0.11	0.08	0.72
AMPHIPODA GAMMARIDAE	1.67	2.89	1.73	0.01	0.02	1.73
MELITA SP.	51.67	55.30	1.07	0.08	0.10	1.31
PHOTIS SP.	5.00	8.66	1.73	0.00	0.00	0.00
ISCHYROCEPUS SP. B	5.00	8.66	1.73	0.00	0.00	0.00
ORCHOMENE CF. PINGUIS	25.00	17.32	0.69	0.04	0.00	0.00
SYNCHELIDIUM SHOEMAKE	48.33	17.56	0.36	0.01	0.02	1.73
PHOXOCEPHALIDAE	6.67	7.64	1.15	0.00	0.00	0.00
PLEUUSTES DEPRESSA	1.67	2.89	1.73	0.01	0.02	1.73
PLEUSIRUS SECORPIUS	8.33	10.41	1.25	0.00	0.00	0.00
HEPTACARPUS BREVIROST	1.67	2.89	1.73	0.10	0.17	1.73
PAGURUS SP.	1.67	2.89	1.73	0.01	0.02	1.73
PUGETTIA GRACILIS	18.33	5.77	0.31	1.12	0.45	0.40
CANCER OREGONENSIS	5.00	5.00	1.00	4.66	7.82	1.68
ECTOPROCTA	0.00	0.00	0.00	0.08	0.14	1.73

NSPEC	SDI	TMEANC	TMEANW
84.00	3.77	821.66	345.57

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT		WEIGHT		
FECAL PELLETS	3.33	5.77	1.73	0.00	0.00	0.00
MONOSTROMA SP.	0.00	0.00	0.00	13.06	7.86	0.22
ULVA SP.	0.00	0.00	0.00	4.94	6.88	1.39
SPONGOMORPHA COALITA	0.00	0.00	0.00	0.00	0.00	0.00
AHNFELTIA PLICATA	0.00	0.00	0.00	0.03	0.05	1.73
STENOGRAMME INTERRUPT	0.00	0.00	0.00	0.09	0.16	1.73
IRIDACEA SP.	0.00	0.00	0.00	8.89	14.31	1.61
RHODOGLOSSIUM SP.	0.00	0.00	0.00	1.37	2.38	1.73
RHODYMENIA PALMATA	0.00	0.00	0.00	59.84	33.42	0.56
ANTITHAMNION SP.	0.00	0.00	0.00	0.00	0.00	0.00
MICROCLADIA COULTERI	0.00	0.00	0.00	0.00	0.01	1.73
PLATYTHAMNION SP.	0.00	0.00	0.00	0.00	0.00	0.00
CRYPTOPLEURA SP.	0.00	0.00	0.00	0.03	0.05	1.73
POLYSIPHONIA HENDRYI	0.00	0.00	0.00	0.20	0.31	1.52
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	3.42	5.93	1.73
ODONTHALIA WASHINGTON	0.00	0.00	0.00	3.19	4.99	1.56
PHYLLOSPADIX SCOULEI	0.00	0.00	0.00	0.49	0.54	1.10
NEMERTEA	35.00	21.79	0.62	1.09	1.61	1.47
PAPANEMERTES PEPEGIN	1.67	2.89	1.73	0.03	0.05	1.73
PHYLLODOCF SP.	1.67	2.89	1.73	0.00	0.00	0.00
ETENE LONGA	1.67	2.89	1.73	0.08	0.14	1.73
MICROPODARKE DUBIA	5.00	8.66	1.73	0.01	0.02	1.73
PIONOSYLLIS URAGA	3.33	5.77	1.73	0.00	0.00	0.00
EXOGONE SP.	1.67	2.89	1.73	0.00	0.00	0.00
NEREIS SP.	1.67	2.89	1.73	2.55	4.41	1.73
NEREIS VEXILLOSA	1.67	2.89	1.73	5.08	8.80	1.73
PLATYNEREIS BICANALIS	3.33	2.89	0.87	0.01	0.02	1.73
HEMIPODUS BOREALIS	1.67	2.89	1.73	0.11	0.20	1.73
GLYCINDE PICTA	28.33	10.41	0.37	0.73	0.03	0.15
CNUPHIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
LUMBRINERIS SP.	1.67	2.89	1.73	0.58	1.01	1.73
PROTODORVILLEA GRACIL	5.00	5.00	1.00	0.00	0.00	0.00
SCOLOPLOS ARMIGER	3.33	5.77	1.73	0.11	0.20	1.73
PRIONOSPION STEENSTRUP	3.33	5.77	1.73	0.03	0.05	1.73
SPION SP.	1.67	2.89	1.73	0.00	0.00	0.00
SPIOPHANES REMBYX	3.33	5.77	1.73	0.00	0.00	0.00
SPIOPHANES CIRREATA	1.67	2.89	1.73	0.00	0.00	0.00
CHAETZONE SP.	1.67	2.89	1.73	0.00	0.00	0.00
ARMANDIA BREVIS	66.67	60.07	0.90	0.81	1.05	1.29
CAPITELLA CAPITATA	5.00	5.00	1.00	0.00	0.00	0.00
MALDANIDAE	1.67	2.89	1.73	0.00	0.00	0.00
QWENIA FUSIFORMIS	1.67	2.89	1.73	0.00	0.00	0.00
CLIGOCHAETA	5.00	8.66	1.73	0.00	0.00	0.00
MARGARITES PUPILLUS	1.67	2.89	1.73	0.01	0.02	1.73
LACUNA SP.	51.67	76.87	1.49	0.39	0.61	1.54
NUCELLA LAMELLOSA	1.67	2.89	1.73	0.18	0.31	1.73
NEBALIA PUGETTENSIS	1.67	2.89	1.73	0.00	0.00	0.00
LAMPROPS SP.	1.67	2.89	1.73	0.00	0.00	0.00
LEPTOCHELIA SAVIGNYI	1.67	2.89	1.73	0.00	0.00	0.00
EXOSPHAEROMA AMPLIGAU	5.00	5.00	1.00	0.01	0.02	1.73
AORRIDES COLUMBIAE	3.33	5.77	1.73	0.00	0.00	0.00
ATYLUS SP.	5.00	0.00	0.00	0.04	0.00	0.00
PONTOGENEIA SP.	28.33	15.28	0.54	0.06	0.03	0.51
MEGALUROFIUS SP.	8.33	5.77	0.69	0.01	0.02	1.73
MELITA SP.	1.67	2.89	1.73	0.00	0.00	0.00



	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
PHOTIS SP.	3.33	5.77	1.73	0.00	0.00	0.00
ISCHYROCEPUS SP. R	1.67	2.89	1.73	0.00	0.00	0.00
ISCHYROCEPUS ANGUIPES	1.67	2.89	1.73	0.00	0.00	0.00
CRCHOMENE CF. PINGUIS	6.67	7.64	1.15	0.01	0.02	1.73
SYNHELIDIUM SHOEMAKE	55.00	40.00	0.73	0.03	0.02	0.87
PHOXOCEPHALICAE	18.33	10.41	0.57	0.04	0.05	1.04
PLEUSTRUS SECORRUS	5.00	5.00	1.00	0.00	0.00	0.00
PAGURUS SP.	8.33	5.77	0.69	1.53	2.70	1.66
PUGETTIA GRACILIS	28.33	20.21	0.71	1.51	1.51	1.00
CANCER OREGONENSIS	3.33	2.89	0.87	0.61	0.94	1.54
EGG MASSES	3.33	5.77	1.73	0.05	0.08	1.73

NSPEC	SDI	TMEANC	TMEANW
66.00	3.73	440.00	110.89

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAP
		COUNT			WEIGHT	
GRACILARIOPSIS SJOEST	0.00	0.00	0.00	3.43	2.06	0.60
STENOGRAMME INTERRUPT	0.00	0.00	0.00	0.00	0.00	0.00
CERAMNUM STRICTUM	0.00	0.00	0.00	0.00	0.01	1.73
PLATYTHAMNION SP.	0.00	0.00	0.00	0.10	0.18	1.73
HOLLENBERGIA SP.	0.00	0.00	0.00	0.00	0.00	0.00
CRYPTOPIEURA SP.	0.00	0.00	0.00	0.02	0.03	1.73
POLYNEURA LATISSIMA	0.00	0.00	0.00	0.08	0.14	1.73
PTEROSIPHONIA RIPINNA	0.00	0.00	0.00	0.00	0.00	0.00
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	0.00	0.00	0.00
ZOSTERA MARINA	0.00	0.00	0.00	19.41	33.62	1.73
PHYLLOSPADIX SCULPEI	0.00	0.00	0.00	0.08	0.13	1.73
NEMERTEA	58.33	17.56	0.30	0.79	1.06	1.36
NEMATODA	0.33	7.64	0.92	0.00	0.00	0.00
POLYNIDAE	1.67	2.89	1.73	0.00	0.00	0.00
HARMOTHOE IMBRICATA	1.67	2.89	1.73	0.00	0.00	0.00
PTERONE LONGA	3.33	2.89	0.97	0.00	0.00	0.00
HEMIONIDAE	15.00	25.98	1.73	0.00	0.00	0.00
MICROPONARKE DURIA	5.00	5.00	1.00	0.00	0.00	0.00
TYPSYLLIS SP.	35.00	27.91	0.65	0.01	0.02	1.73
EXOGONE SP.	25.00	30.41	1.22	0.00	0.00	0.00
SPHAEROSYLLIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
NEREIS SP.	10.00	0.00	0.00	0.09	0.05	0.56
PLATYNERFIS BICANALIC	6.67	2.89	0.43	0.16	0.11	0.68
NEPHTYS LONGISETOSA	1.67	2.89	1.73	0.11	0.20	1.73
HEMIPODUS BOREALIS	1.67	2.89	1.73	0.00	0.00	0.00
GLYCIDINE PICTA	6.67	2.89	0.43	0.00	0.00	0.00
PROTODRIVILLA GRACIL	58.33	42.52	0.73	0.01	0.02	1.73
SCOLOPLOS ARMIGER	5.00	8.66	1.73	0.01	0.02	1.73
SCOLOPLOS PUGETTENSIS	8.33	7.64	0.92	0.33	0.45	1.38
ARICIDEA LOPEZI	13.33	12.58	0.94	0.00	0.00	0.00
PARAONEIA PLATYBRANC	3.33	2.89	0.87	0.00	0.00	0.00
PRIONOSPID STEENSTRUP	28.33	20.82	0.73	0.35	0.27	0.77
SPID SP.	3.33	5.77	1.73	0.01	0.02	1.73
SPIOPHANES BOMBYX	21.67	11.55	0.53	0.05	0.08	1.73
SPIOPHANES CIRRATA	13.33	18.93	1.42	0.01	0.02	1.73
MALACOCEROS GLUTAEUS	1.67	2.89	1.73	0.00	0.00	0.00
CHAETONZE SP.	36.67	20.21	0.55	0.07	0.03	0.39
SCALIBREGMA INFLATUM	1.67	2.89	1.73	0.08	0.14	1.73
ARMANDIA BREVIS	6.67	2.89	0.43	0.03	0.02	0.87
TRAVISIA BREVIS	1.67	2.89	1.73	0.13	0.23	1.73
CAPITELLA CAPITATA	1.67	2.89	1.73	0.00	0.00	0.00
MEDICMASTUS AMBISETA	70.00	10.00	0.14	0.21	0.11	0.50
MALDANIDAE	60.00	21.79	0.36	0.42	0.32	0.76
NICOMACHE PERSONATA	51.67	63.71	1.23	1.66	2.30	1.39
AXIOHELLA RUBROCINCT	3.33	5.77	1.73	0.48	0.83	1.73
GWENIA FUSIFORMIS	31.67	7.64	0.24	0.36	0.19	0.54
PECTINARIA GRANULATA	1.67	2.89	1.73	0.31	0.54	1.73
TEREBELLIDAE	3.33	5.77	1.73	0.00	0.00	0.00
CLIGOCHAETA	115.00	72.11	0.63	0.06	0.03	0.51
TECTUPA ROSACEA	1.67	2.89	1.73	0.05	0.08	1.73
MARGARITES PUPILLUS	21.67	22.55	1.04	0.38	0.34	0.89
MARGARITES LIPIKATUS	5.00	8.66	1.73	0.05	0.09	1.73
LACUNA SP.	1.67	2.89	1.73	0.01	0.02	1.73
CALYPTAPEA FASTIGIATA	1.67	2.89	1.73	0.05	0.08	1.73
TURBONILLA SP.	3.33	5.77	1.73	0.06	0.11	1.73

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT		WEIGHT		
GLYCYMERIS SUBORSOLET	1.67	2.89	1.73	0.00	0.00	0.00
MYSELLA TUMIDA	16.67	7.64	0.46	0.03	0.02	0.87
CLINOCARDIUM CILIATUM	1.67	2.89	1.73	0.17	0.29	1.73
MACOMA SP.	6.67	7.64	1.15	0.79	1.34	1.69
SAXIDOMUS GIGANTEUS	1.67	2.89	1.73	2.18	3.78	1.73
PSEPHIDIA LORDI	48.33	24.66	0.51	0.37	0.22	0.56
NEBALIA PUGETTENSIS	15.00	25.98	1.73	0.00	0.00	0.00
LEPTOCHELIA SAVIGNYI	93.33	106.93	1.15	0.03	0.02	0.87
PARANTHURA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PARANTHURA ELEGANS	1.67	2.89	1.73	0.00	0.00	0.00
CRUSTACEA (ISOPODA)	35.00	60.62	1.73	0.00	0.00	0.00
TANIROPSIS SP.	2.33	5.77	1.73	0.00	0.00	0.00
COROPHIUM SP.	1.67	2.89	1.73	0.00	0.00	0.00
PONTOGENEIA SP.	1.67	2.89	1.73	0.00	0.00	0.00
MELITA SP.	23.33	25.17	1.08	0.01	0.02	1.73
PHOTIS SP.	10.00	8.66	0.87	0.01	0.02	1.73
PROTOMEDEIA (CHEIRIME	1.67	2.89	1.73	0.00	0.00	0.00
LYSIANASSIDAE	1.67	2.89	1.73	0.00	0.00	0.00
CRCHOMENE CF. PINGUIS	5.00	5.00	1.00	0.00	0.00	0.00
WESTWOODILLA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PHOXOCEPHALIDAE	6.67	2.89	0.43	0.00	0.00	0.00
HEPTACARPUS BREVIROST	1.67	2.89	1.73	0.05	0.08	1.73
CRANGON ALASKENSIS	1.67	2.89	1.73	1.18	2.04	1.73
PAGURUS SP.	1.67	2.89	1.73	0.01	0.02	1.73
CANCER OREGONENSIS	8.33	5.77	0.69	0.78	0.50	0.64
EUPENTACTA QUINQUESEM	1.67	2.89	1.73	0.13	0.23	1.73
LEPTOSYNAPTA CLARKI	8.33	7.64	0.92	0.18	0.23	1.32
HOLOTHUROIDEA (MOLPAD	1.67	2.89	1.73	0.03	0.05	1.73

NSPEC	SDI	TMEANC	TMEANW
83.00	4.24	1063.33	35.44

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
UVA SP.	0.00	0.00	0.00	0.00	0.01	1.73
NEBAGARDHIELIA BAILEY	0.00	0.00	0.00	0.89	1.54	1.73
GRACILAPIOPSIS SJOEST	0.00	0.00	0.00	7.06	7.98	1.13
MYFELTIA PLICATA	0.00	0.00	0.00	0.06	0.10	1.73
STENOGRAMME INTERRUPT	0.00	0.00	0.00	0.20	0.25	1.22
GRATELOUPIA SP.	0.00	0.00	0.00	0.13	0.22	1.73
CALLOPHYLLIS FLABELLUM	0.00	0.00	0.00	0.37	0.56	1.73
CALLOPHYLLIS PINNATA	0.00	0.00	0.00	0.08	0.13	1.73
CONSTANTINEA SIMPLEX	0.00	0.00	0.00	9.17	15.89	1.73
ANTITHAMNION SP.	0.00	0.00	0.00	0.00	0.01	1.73
CEPAMIUM STRICTUM	0.00	0.00	0.00	0.01	0.01	0.87
MICROCLAGIA BOREALIS	0.00	0.00	0.00	0.00	0.00	0.00
PLEONOSPORIUM SP.	0.00	0.00	0.00	0.00	0.01	1.73
PLATYTHAMNION SP.	0.00	0.00	0.00	0.00	0.00	0.00
NEOPTILOTA SP.	0.00	0.00	0.00	0.34	0.21	0.62
POLYNEURA LATISSIMA	0.00	0.00	0.00	0.14	0.24	1.73
PTEROSIPHONIA BIPINNA	0.00	0.00	0.00	0.01	0.02	1.15
ODONTHALIA FLOCCOSA	0.00	0.00	0.00	3.24	5.60	1.73
ZOSTERA MARINA	0.00	0.00	0.00	5.04	7.87	1.56
NEMERTEA	90.00	45.83	0.51	0.43	0.31	0.73
NEMATODA	65.00	27.84	0.43	0.01	0.02	1.73
HARMOTHOE IMBRICATA	1.67	2.89	1.73	0.00	0.00	0.00
PHOLOE MINUTA	1.67	2.89	1.73	0.00	0.00	0.00
STEFNE LONGA	1.67	2.89	1.73	0.00	0.00	0.00
HESIONURA COINEAUI OI	5.00	5.00	1.00	0.00	0.00	0.00
MICROPODARKE DUBIA	6.67	5.77	0.87	0.00	0.00	0.00
PIDNOSYLLIS UPAGA	5.00	0.00	0.00	0.00	0.00	0.00
TYDOSYLLIS SP.	25.00	10.00	0.40	0.01	0.02	1.73
EXOGONE SP.	33.33	20.87	0.37	0.00	0.00	0.00
SPHAEROSYLLIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
NERFIS SP.	10.00	5.00	0.50	0.03	0.02	0.87
PLATYNEPETS BICANALIC	16.67	17.56	1.05	1.19	1.70	1.42
NEPHTYS CAECA	1.67	2.89	1.73	0.11	0.20	1.73
NEPHTYS LONGOSETOSA	3.33	2.89	0.87	0.10	0.17	1.73
GLYCERA SP.	3.33	2.89	0.87	0.26	0.34	1.29
HEMIPPODUS BOREALIS	5.00	5.00	1.00	0.01	0.02	1.73
GLYCINDE PICTA	1.67	2.89	1.73	0.05	0.08	1.73
ONUPHIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
PROTODORVILLEA GRACIL	86.67	20.05	1.04	0.03	0.05	1.73
SCOLOPLOS PUGETTENSIS	3.33	2.89	0.87	0.09	0.10	1.02
PRIONOSPION STEENSTUP	6.67	2.89	0.43	0.26	0.42	1.60
SPID SP.	1.67	2.89	1.73	0.01	0.02	1.73
SPIROPHANES BOMBIX	196.67	95.04	0.48	0.36	0.06	0.16
SPIROPHANES CIRRATA	1.67	2.89	1.73	0.00	0.00	0.00
ADNIDES SP.	5.00	5.00	1.00	0.00	0.00	0.00
MAGELONA PITELKAI	1.67	2.89	1.73	0.03	0.05	1.73
CHAETOZONE SP.	16.67	2.89	0.17	0.04	0.00	0.00
SCALIPREGMA INFLATUM	1.67	2.89	1.73	0.00	0.00	0.00
AMMOTRYPANE SP.	1.67	2.89	1.73	0.03	0.05	1.73
ARMANDIA BREVIS	3.33	5.77	1.73	0.00	0.00	0.00
TRAVISIA BREVIS	1.67	2.89	1.73	0.00	0.00	0.00
NOTOMASTUS GIGANTEUS	3.33	5.77	1.73	0.05	0.08	1.73
MEDIOMASTUS AMBISETA	80.00	68.74	0.86	0.13	0.11	0.87
MALDANIDAE	46.67	80.83	1.73	0.23	0.32	1.40
NICOMACHE PERSONATA	15.00	21.79	1.45	0.67	0.88	1.31

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
AXIOTHELLA RUBROINCT	20.00	26.46	1.32	0.04	0.05	1.04
EUCLYMENE CF. ZONALIS	5.00	8.66	1.73	0.01	0.02	1.73
OWENIA FUSIFORMIS	48.33	12.59	0.26	0.61	0.32	0.52
PECTINARIA GRANULATA	1.67	2.89	1.73	0.05	0.08	1.73
TERRACELLIDAE	20.00	10.00	0.50	0.13	0.11	0.87
POLYGORDIUS SP.	16.67	7.64	0.46	0.03	0.02	0.97
CLIGOCHAETA	343.33	102.75	0.30	0.07	0.03	0.39
MARGARITES PUPILLUS	30.00	47.70	1.59	0.63	0.58	0.92
CALYPTRAEA FASTIGIATA	3.33	5.77	1.73	0.11	0.20	1.73
GLYCYMERIS SUBORSOLET	250.00	141.77	0.57	0.96	0.76	0.79
MYSELIA TUMIDA	58.33	27.54	0.47	0.09	0.05	0.56
CLINOCARDIUM CILIATUM	1.67	2.89	1.73	0.42	0.72	1.73
MACOMA SP.	6.67	5.77	0.87	0.13	0.13	0.96
MACOMA OBIQUA	15.00	21.79	1.45	4.75	7.38	1.55
TELLINA SP.	3.33	2.89	0.87	0.08	0.14	1.73
PSEPHIDIA LOPDI	88.33	66.58	0.75	0.64	0.48	0.75
TANAIDACEA SP. A	1.67	2.89	1.73	0.00	0.00	0.00
LEPTOCHELIA SAVIGNYI	98.33	108.90	1.11	0.05	0.08	1.73
PAPANTHURA ELEGANS	1.67	2.89	1.73	0.00	0.00	0.00
AMPHIPODA GAMMARIDEA	1.67	2.89	1.73	0.00	0.00	0.00
COROPHIUM SP.	5.00	5.00	1.00	0.00	0.00	0.00
MELITA SP.	1.67	2.89	1.73	0.00	0.00	0.00
PHOTIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
PROTOMEDEIA (CHEIRIME	3.33	2.89	0.87	0.00	0.00	0.00
ISCHYROCERUS SP. B	1.67	2.89	1.73	0.00	0.00	0.00
SYNCHELIDIUM SHOEMAKE	1.67	2.89	1.73	0.00	0.00	0.00
PIGETTIA RICHII	3.33	5.77	1.73	1.68	2.91	1.73
CANCER OREGONENSIS	1.67	2.89	1.73	0.10	0.17	1.73
LEPTOSYNAPTA CLARKI	3.33	5.77	1.73	0.01	0.02	1.73
SAGITTA ELEGANS	1.67	2.89	1.73	0.01	0.02	1.73

NSPEC	SDI	TMEANC	TMEANW
85.00	3.84	1793.33	41.44

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
		COUNT			WEIGHT	
PLUAMNIUM COCCINEUM	0.00	0.00	0.00	1.71	2.91	1.70
STENOGRAMME INTERRUPT	0.00	0.00	0.00	0.11	0.20	1.73
CRYPTONENIA SP.	0.00	0.00	0.00	1.74	3.01	1.73
CALLOPHYLLIS SP.	0.00	0.00	0.00	0.50	0.87	1.73
CALLOPHYLLIS FLABELLU	0.00	0.00	0.00	3.36	2.89	0.86
CALLOPHYLLIS PINNATA	0.00	0.00	0.00	13.41	16.26	1.21
RHOODYMENIA PACIFICA	0.00	0.00	0.00	0.02	0.03	1.73
NIEBURGIA ANDERSONIA	0.00	0.00	0.00	0.11	0.18	1.73
PLEONOSPORIUM SP.	0.00	0.00	0.00	0.00	0.01	1.73
NEOPTILOTA SP.	0.00	0.00	0.00	0.92	0.89	0.97
CRYPTOPLEURA SP.	0.00	0.00	0.00	0.13	0.23	1.73
POLYNEURA LATISSIMA	0.00	0.00	0.00	0.34	0.31	0.91
POTRYOGLOSSUM FARLOWI	0.00	0.00	0.00	5.62	9.74	1.73
RHOLOPTILUM PLUMOSUM	0.00	0.00	0.00	0.00	0.00	0.00
PTEROCHONDRIA WOODII	0.00	0.00	0.00	0.04	0.07	1.54
NEMERTEA	35.00	13.23	0.38	0.41	0.55	1.35
NEMATODA	23.33	15.28	0.65	0.00	0.00	0.00
HARMOTHOE IMBRICATA	3.33	2.89	0.87	0.01	0.02	1.73
PHOLOE MINUTA	10.00	8.66	0.87	0.03	0.05	1.73
PHYLLODOCE SP.	1.67	2.89	1.73	0.08	0.14	1.73
ETHEME LONGA	16.67	7.64	0.46	0.01	0.02	1.73
HESIONURA COINEAUI DI	1.67	2.89	1.73	0.00	0.00	0.00
MICROPODARKE DURIA	10.00	8.66	0.87	0.00	0.00	0.00
PIONOSYLLIS UPAGA	10.00	5.00	0.50	0.00	0.00	0.00
TYPOSYLLIS SP.	18.33	2.89	0.16	0.01	0.02	1.73
EXOGONE SP.	5.00	8.66	1.73	0.00	0.00	0.00
SPHAEROSYLLIS SP.	1.67	2.89	1.73	0.00	0.00	0.00
NEREIS SP.	1.67	2.89	1.73	0.03	0.05	1.73
NEPHTYS LONGOSETOSA	5.00	5.00	1.00	0.84	0.80	0.95
GLYCERA SP.	5.00	0.00	0.00	0.21	0.20	0.98
HEMIPODUS BOPEALIS	3.33	2.89	0.87	0.00	0.00	0.00
LUMBRINEPIS SP.	1.67	2.89	1.73	0.03	0.02	0.87
PROTODORVILLA GRACIL	33.33	27.54	0.83	0.00	0.00	0.00
SCOLOPLOS PUGETTENSIS	1.67	2.89	1.73	0.06	0.11	1.73
PRIONOSPID STEENSTRUP	61.67	20.82	0.34	0.41	0.42	1.03
SPIO SP.	13.33	18.93	1.42	0.08	0.14	1.73
SPIOPHANES BOMBYX	5.00	5.00	1.00	0.01	0.02	1.73
SPIOPHANES CIRRATA	1.67	2.89	1.73	0.00	0.00	0.00
AGNIDES SP.	15.00	19.03	1.20	0.01	0.02	1.73
CHAETOZONE SP.	21.67	7.64	0.35	0.03	0.02	0.87
ACROCIRRUS SP.	3.33	2.89	0.87	0.00	0.00	0.00
SPHERUSA PLUMCSA	1.67	2.89	1.73	0.00	0.00	0.00
SCALIPREGMA INFLATUM	16.67	12.58	0.75	0.10	0.13	1.39
ARMANDIA BREVIS	3.33	2.89	0.87	0.00	0.00	0.00
CAPITELLA CAPITATA	1.67	2.89	1.73	0.00	0.00	0.00
NOTOMASTUS GIGANTEUS	1.67	2.89	1.73	0.23	0.40	1.73
MEDIOMASTUS AMBISETA	73.33	25.17	0.34	0.04	0.05	1.04
MAILDANIDAE	28.33	25.66	0.91	0.06	0.05	0.87
NICOMACHE PERSONATA	15.00	8.66	0.58	0.21	0.12	0.56
EUCLYMENE CF. ZONALIS	1.67	2.89	1.73	0.00	0.00	0.00
GWENIA FUSIFORMIS	51.67	10.41	0.20	1.11	0.71	0.64
ASABELLIDES LINEATA	6.67	11.55	1.73	0.00	0.00	0.00
TEPERELLIDAE	20.00	13.23	0.65	0.09	0.05	0.56
PISTA SP.	1.67	2.89	1.73	0.01	0.02	1.73
FABRICIINAE	1.67	2.89	1.73	0.00	0.00	0.00

	MEAN	S.D.	CVAR	MEAN	S.D.	CVAR
	COUNT			WEIGHT		
CHONE SP.	23.33	17.56	0.75	0.03	0.02	0.87
CHITINOPOMA SP.	1.67	2.89	1.73	0.00	0.00	0.00
CLIGOCHEFTA	36.67	15.28	0.42	0.01	0.02	1.73
TECTURA ROSACEA	1.67	2.89	1.73	0.01	0.02	1.73
COLLISELLA OCHRACEA	6.67	7.64	1.15	0.10	0.13	1.39
MARGARITES PUPILLUS	5.00	0.00	0.00	0.16	0.16	1.03
MARGARITES LIRIOLATUS	11.67	10.41	0.89	0.17	0.14	0.87
ALVINIA SP.	30.00	22.91	0.76	0.03	0.02	0.87
CALYPTRAEA FASTIGIATA	26.67	17.56	0.66	4.41	3.94	0.89
CREPIPATELLA LINGULAT	16.67	24.66	1.48	0.01	0.02	1.73
AMPHISSA COLUMBIANA	5.00	5.00	1.00	0.11	0.16	1.43
HANLEYA HANLEYI	16.67	15.28	0.92	0.16	0.17	1.07
ISCHNOCHITON SP.	3.33	5.77	1.73	0.53	0.92	1.73
STENOPLAX FALLAX	1.67	2.89	1.73	0.00	0.00	0.00
KATHAPINA TUNICATA	1.67	2.89	1.73	0.05	0.08	1.73
GLYCYMERIS SUBORSOLET	1.67	2.89	1.73	0.01	0.02	1.73
MODIOLUS RECTUS	3.33	5.77	1.73	0.01	0.02	1.73
CYCILOCARDIA SP.	10.00	5.00	0.50	2.13	1.90	0.89
CLINOCARDIUM CALIFORN	6.67	7.64	1.15	1.18	1.83	1.55
MACOMA SP.	10.00	10.00	1.00	0.63	0.97	1.54
MACOMA OBLIQUA	1.67	2.89	1.73	0.30	0.51	1.73
SAXIDOMUS GIGANTEUS	11.67	2.89	0.25	220.44	201.83	0.92
PSEPHIDIA LORDI	5.00	8.66	1.73	0.10	0.17	1.73
MYA TRUNCATA	3.33	5.77	1.73	101.76	176.26	1.73
HARPACTICOIDEA	1.67	2.89	1.73	0.00	0.00	0.00
NEPALIA PUGETTENSIS	1.67	2.89	1.73	0.00	0.00	0.00
TANAIDACEA SP. A	1.67	2.89	1.73	0.00	0.00	0.00
LEPTOCHELIA SAVIGNYI	48.33	54.85	1.13	0.00	0.00	0.00
IDOTEA SP. JUV.	1.67	2.89	1.73	0.00	0.00	0.00
AMPELISCA SP.	1.67	2.89	1.73	0.00	0.00	0.00
MELITA SP.	38.33	15.28	0.40	0.04	0.00	0.00
ISAEIDAE	8.33	7.64	0.92	0.00	0.00	0.00
ISCHYROCERUS SP. B	1.67	2.89	1.73	0.00	0.00	0.00
PHOXOCEPHALIDAE	3.33	2.89	0.87	0.00	0.00	0.00
HEPTACARPUS BREVIROST	15.00	5.00	0.33	0.30	0.08	0.27
PANDALUS STENOLEPSIS	1.67	2.89	1.73	0.76	1.32	1.73
UPOGEBIA PUGETTENSIS	5.00	5.00	1.00	0.65	0.77	1.19
PAGURIUS SP.	1.67	2.89	1.73	0.01	0.02	1.73
CANCER OREGONENSIS	3.33	2.89	0.87	0.49	0.59	1.19
PHOPONOPSIS HARMER	5.00	5.00	1.00	0.01	0.02	1.73
OPHIUROIDEA	21.67	10.41	0.48	0.22	0.15	0.68
LEPTOSYNAPTA CLARKI	10.00	5.00	0.50	0.49	0.47	0.96
PHOLIS LAETA	1.67	2.89	1.73	0.05	0.08	1.73
EGG MASSES	6.67	11.55	1.73	0.05	0.08	1.73

NSPEC	SDI	TMEANC	TMEANW
19.00	4.67	956.66	367.54