



PG&E Letter DCL-2015-523

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April 29, 2015

Mr. Kenneth A. Harris Jr., Executive Officer
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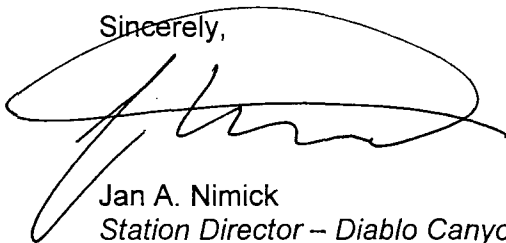
PG&E Diablo Canyon Power Plant (DCPP)
Receiving Water Monitoring Program 2014 Annual Report

Enclosed is a copy of the Receiving Water Monitoring Program (RWMP) 2014 Annual Report for DCPP. This report presents the physical and biological data collected in the RWMP during 2014. Per prior agreement, no analysis or interpretation of the data was performed. Tables in the appendices provide summary statistics for each program task.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or concerns regarding the enclosed report, or require additional information, please contact Bryan Cunningham at (805) 545-4439.

Sincerely,



Jan A. Nimick
Station Director – Diablo Canyon Power Plant

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Enclosure (1)

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nikk

PG&E Letter DCL-2015-523
Mr. Kenneth A. Harris Jr., Executive Officer
Central Coast Regional Water Quality Control Board
April 29, 2015
Page 2

cc w/enclosure: PDF Formatted Electronic File Copy:

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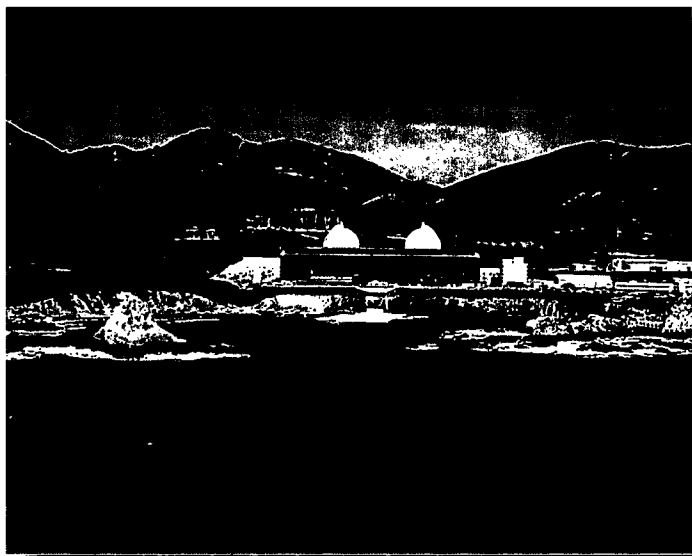
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*Pacific Gas and Electric Company
Diablo Canyon Power Plant*

NPDES RECEIVING WATER MONITORING PROGRAM: 2014 ANNUAL REPORT



April 21, 2015

Submitted to:

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1.0 Introduction

Monitoring of the marine environment near the Diablo Canyon Power Plant (DCPP) is required by WDR Order No. 90-09 (National Pollutant Discharge Elimination System (NPDES) Permit No. CA0003751), as revised in a letter from the Central Coast Regional Water Quality Control Board in December 1998. Changes in the marine environment in the vicinity of DCPP (**Figure 1**) are monitored by the Receiving Water Monitoring Program (RWMP) in accordance with the NPDES Permit.

This report presents seawater temperature and biological data collected in 2014 from the program's intertidal and subtidal monitoring tasks (**Table 1**). The sampling methods for each task are described, and the 2014 results are presented in the report's appendices.

The biological monitoring tasks were completed at fixed stations in areas that experience increased seawater temperatures from the DCPP thermal discharge, and in areas outside the influence of the discharge (**Table 1**). With the exception of the habitat-forming kelp survey task, the sampling frequency for the tasks was four surveys per year. A survey consisted of sampling several locations (stations) over a period of time, which varied depending on logistics, staffing resources, weather, sea state, and tide conditions. The survey date listed in the appendix tables for any particular task represents the mean date for the time period that each station was sampled for that survey. All monitoring tasks and surveys were completed in 2014 except for the fourth quarter fish surveys, which were completed in January 2015.

This report does not include analysis or discussion of the results of the biological or temperature monitoring. Comprehensive analyses of changes in the marine environment resulting from the DCPP discharge have been presented in Tenera (1988, 1997, 1999a, 1999b, 2002).



Table 1. Tasks, stations, and frequency of surveys for the DCPW RWMP, 2014. (See text for sampling method descriptions and station locations).

Task and Sampling Frequency	Stations
Temperature Monitoring	
Intertidal (recorded every 20 min)	NC 2, FC 1, FC 2, FC 3, NDC 1, NDC 2, NDC 3, SDC 1, SDC 2, SDC 3, SDP 1, SDP 2, SC 1, and SC 1V
Subtidal (recorded every 20 min)	NC 1 -3m, FC 1 -3m, NDC 2 -3m, NDC 3 -3m, NDC 4 -4m, SDC 1 -3m, SDC 4 -4m, SC 1 -3m, and SC 2 -6m
Intertidal Horizontal Band Transects (algae, seagrasses, invertebrates, substrate)	
4 surveys per year	NC 1, NC 2, FC 1, FC 2, FC 3, NDC 1, NDC 2, NDC 3, SDC 1, SDC 2, SDC 3, SDP 1, SDP 2, and SC 1
Intertidal Vertical Band Transects (fishes)	
4 surveys per year	NC 1V, FC 1V, NDC 1V, SDC 2V, and SC 1V
Subtidal Benthic Stations (algae, invertebrates, substrate)	
4 surveys per year	FC 1 -3m, NDC 2 -3m, NDC 3 -3m, NDC 4 -4m, SDC 2 -3m, SDC 3 -4m, SC 1 -3m, and SC 2 -6m
Subtidal Fish Observations (fishes)	
4 surveys per year	FC FO-1, FC FO-2, FC FO-3, NDC FO-1, NDC FO-2, NDC FO-3, SDC FO-1, SDC FO-2, SDC FO-3; SC FO-1, SC FO-2, and SC FO-3
Habitat-Forming Kelp Survey (bull kelp, giant kelp)	
1 survey per year	Diablo Cove



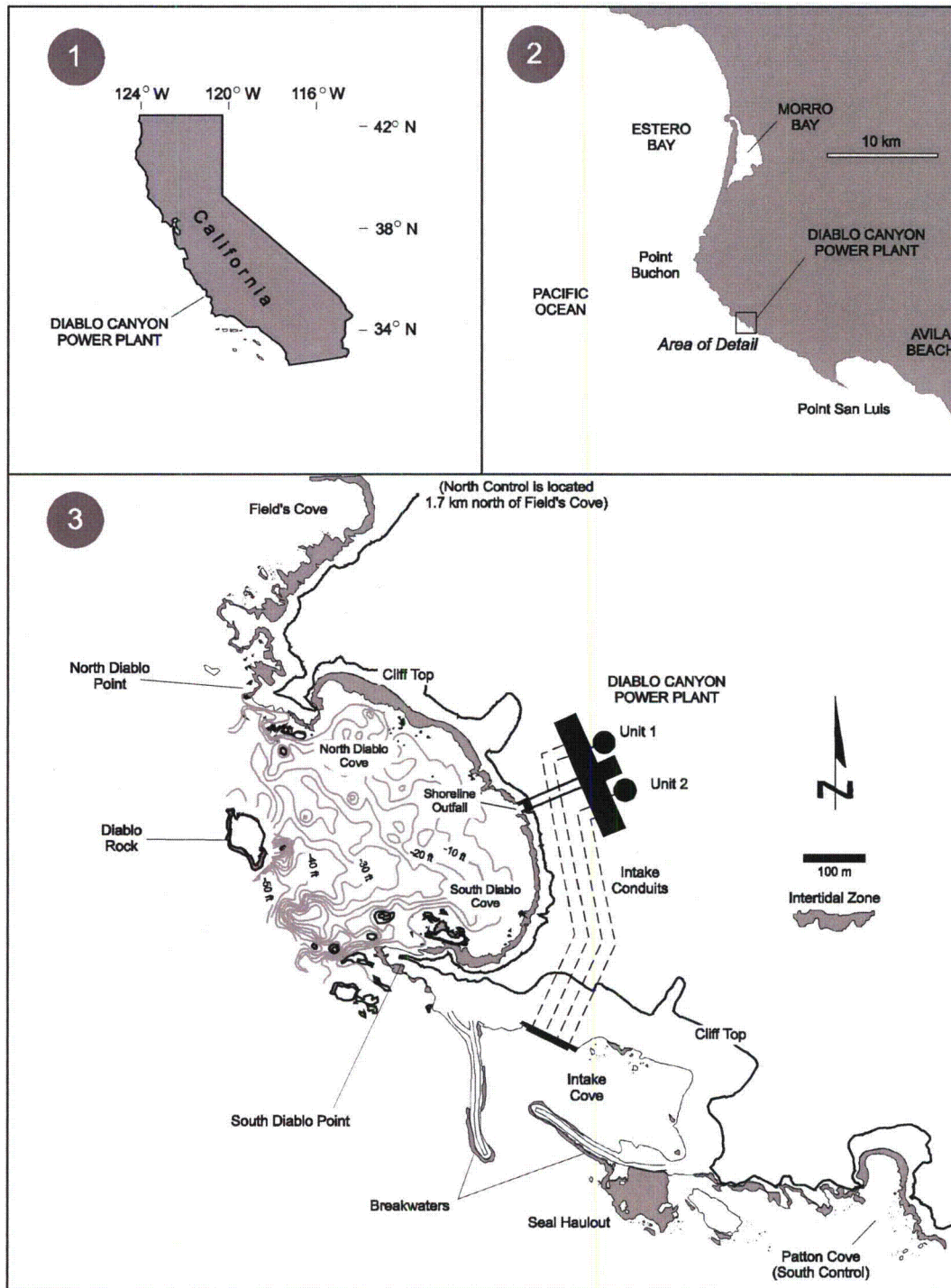


Figure 1. Location of the Diablo Canyon Power Plant.



2.0 Temperature Monitoring

Intertidal and subtidal seawater temperatures were recorded at permanent stations located along the Diablo Canyon coastline. Temperature units at intertidal stations were located along the rocky shore at the +0.6 m (+2.0 ft) mean lower low water (MLLW) elevation (**Figure 2**). Subtidal temperature recorders were located at depths from -3 m to -6 m (-10 ft to -20 ft) MLLW (**Figure 3**). The designations for individual stations reflects the area location and station number, and, for subtidal stations, includes the station's depth relative to MLLW (e.g., NDC 1 -3 m is north Diablo Cove subtidal Station 1 at a depth of -3 m (-10 ft) MLLW).

There were 13 stations in Diablo Cove regularly contacted by the discharge plume:

Intertidal: NDC 1, NDC 2, NDC 3, SDC 1, SDC 2, SDC 3, SDP 1, and SDP 2.

Subtidal: NDC 2 -3m, NDC 3 -3m, NDC 4 -4m, SDC 1 -3m, and SDC 4 -4m.

There were four stations in Field's Cove, approximately one kilometer upcoast from Diablo Cove, contacted intermittently by the discharge plume:

Intertidal: FC 1, FC 2, and FC 3.

Subtidal: FC 1 -3m.

There were six control stations beyond the influence of the discharge, which measured ambient ocean temperatures:

Intertidal: NC 2, SC 1, and SC 1V.

Subtidal: NC 1 -3m, SC 1 -3m, and SC 2 -6m.

The intertidal stations in South Control and Stillwater Cove both use the same acronym, but are located in different locations as shown in **Figure 3**.

Each instrument synchronously logged temperatures every 20 minutes throughout its deployment period. Instrument precision was 0.025°C with an accuracy of $\pm 0.05^\circ\text{C}$. Temperature units were deployed at a station for approximately 60–90 days and then exchanged with a serviced, calibrated unit. Intertidal temperature units recorded water temperatures only when tide levels were higher than about +0.6 m (+2.0 ft) MLLW. Air temperatures were removed from the database by matching the temperature records with the times that the tide level dropped below +0.6 m (+2.0 ft) MLLW, using a tidal height database derived from NOAA tide gauges at Morro Bay and Port San Luis.

Seawater temperatures recorded at the intertidal and subtidal temperature monitoring stations in 2014 are presented in **Appendix A** and **Appendix B**, respectively. Below is a summary of seawater temperatures recorded in the year, based on data from a subset of the temperature recording stations in the control areas, north Diablo Cove, south Diablo Cove, and Field's Cove.



Intertidal monthly mean, maximum, and minimum temperatures recorded in 2014 at the +0.6 m (+2.0 ft) (MLLW) elevation at stations in Stillwater Cove (SC 1V), south Diablo Cove (SDC 2), north Diablo Cove (NDC 2), and Field's Cove (FC 2) are shown in **Figure 4a**. Data from the other two intertidal control areas were not used in the analysis because more than two months of data were missing due to instrument failure from stations NC 2 and SC 1 (**Appendices A1** and **A6**, respectively). Monthly mean ambient seawater temperatures at the Stillwater Cove control station ranged from a low of 12.5°C (54.4°F) in April to a high of 17.1°C (62.7°F) in July. Intertidal seawater temperatures are usually warmest at the Diablo Cove stations in late summer to early fall. However, in 2014 the warm water period extended from July through December. Compared to the control station, intertidal seawater temperatures averaged 2.9°C (5.2°F) warmer in south Diablo Cove and 2.8°C (5.1°F) warmer in north Diablo Cove. Intertidal seawater temperatures at the Field's Cove station were 0.2°C (0.3°F) warmer than the control station, on average.

Subtidal monthly mean, maximum, and minimum temperatures recorded in 2014 at -3 m MLLW in South Control (SC 1 -3m), south Diablo Cove (SDC 1 -3m), north Diablo Cove (NDC 2 -3m), and Field's Cove (FC 1 -3m) are shown in **Figure 4b**. Monthly mean ambient seawater temperatures at the South Control station ranged from a low of 11.3°C (52.3°F) in April to a high of 16.4°C (61.5°F) in October. Subtidal temperatures are usually warmest at the Diablo Cove stations in summer to early fall. However, in 2014 the warm water period extended from July through December. Compared to the control station, subtidal temperatures averaged 2.5°C (4.4°F) warmer in south Diablo Cove and 3.8°C (6.8°F) warmer in north Diablo Cove. Subtidal temperatures at the Field's Cove station were 0.9°C (1.6°F) warmer than the control station on average.

DCPP typically operates at full capacity, but there were several periods in 2014 when one or two of the four main circulating water pumps (CWP) were not in service due to scheduled and unscheduled outages or curtailments. This resulted in lower volumes of heated seawater flowing into Diablo Cove. The effects of these seven outages or curtailments can be seen in **Figure 5**:

- January 10 – 14, 2014: Unit 2 maintenance outage and curtailment to clean biofouling from the circulating water tunnels. One CWP removed from service.
- February 2 – 5, 2014: Unit 2 forced outage due to Main Bank Transformer flashover during rain storm. One CWP removed from service.
- February 9, 2014 – March 12, 2014: Unit 1 refueling outage (1R18). Two CWPs removed from service.
- March 17 – 24, 2014: Unit 1 forced outage to replace reactor coolant pump (RCP) seal. One CWP removed from service.
- August 18 – 21, 2014: Unit 2 forced outage. One CWP removed from service.



- October 5, 2014 – November 9, 2014: Unit 2 refueling outage (2R18). Two CWP's removed from service.
- December 4 – 8, 2014: Unit 1 maintenance outage and curtailment to clean biofouling from the circulating water tunnels. One CWP removed from service.

In addition to those activities that reduced the volume of heated seawater discharged by DCP, there were also maintenance outages and curtailments that reduced the amount of power being generated without necessitating any reduction in cooling water flow. These activities reduced the temperature of the discharge water without a corresponding decrease in the ambient seawater / intake temperature. Examples of these discharge temperature reductions can be seen in **Figure 5** on March 1, May 31, June 8, August 14, September 6, and December 31.



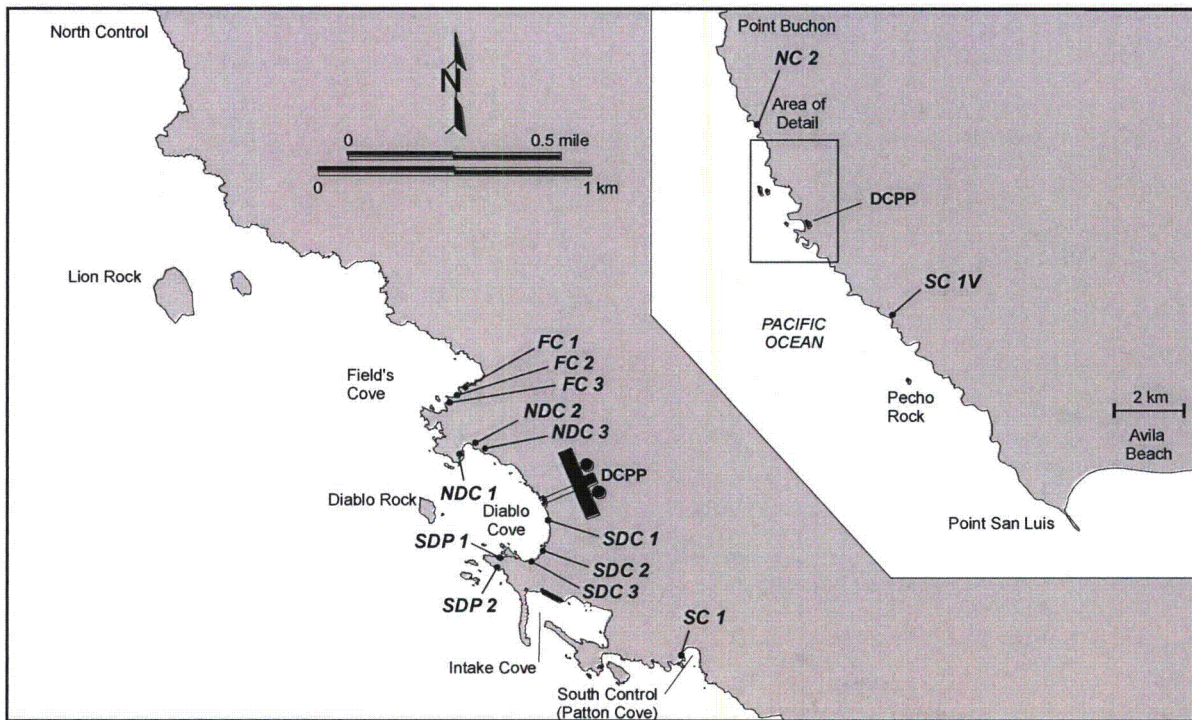


Figure 2. Locations of intertidal temperature monitoring stations.

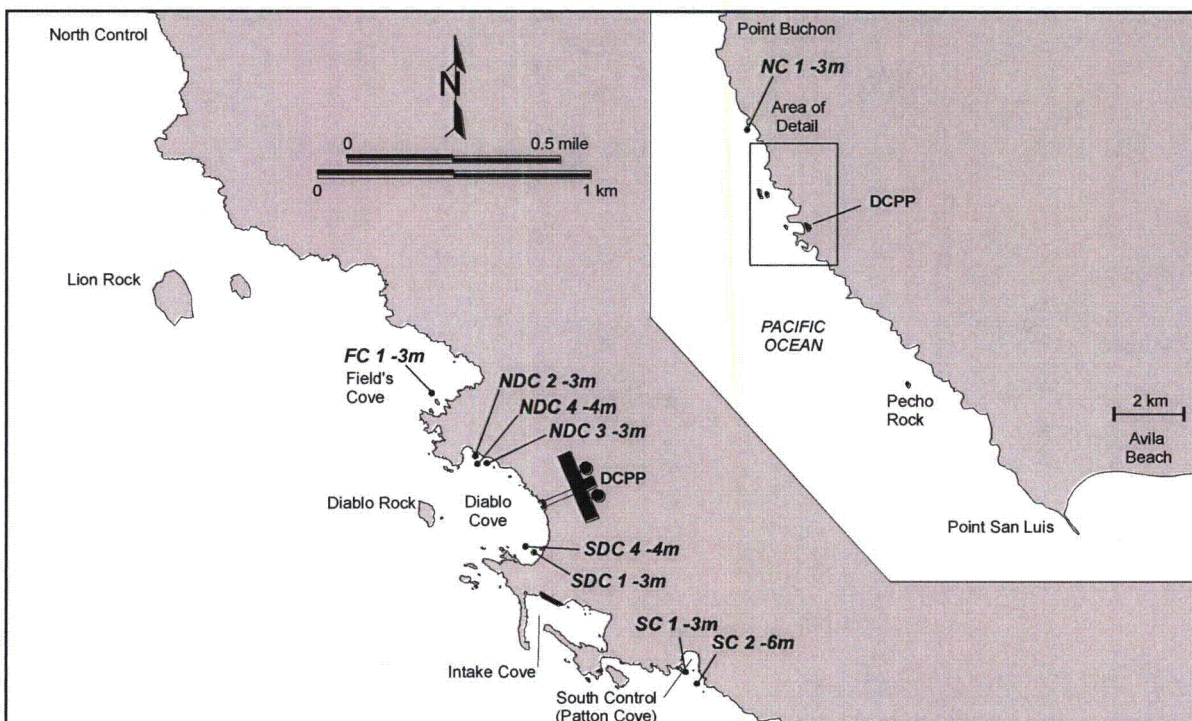


Figure 3. Locations of subtidal temperature monitoring stations.

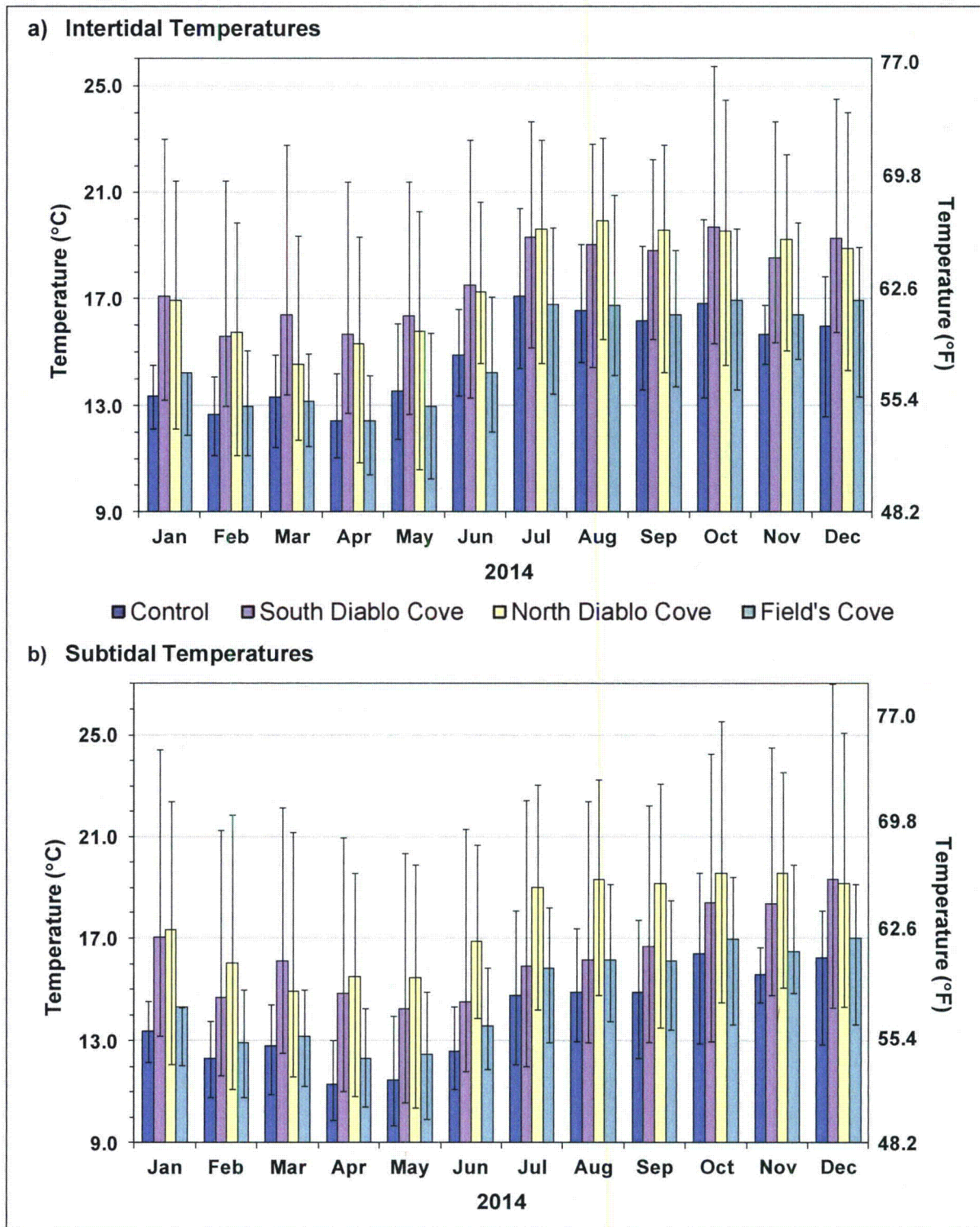


Figure 4. Seawater temperatures in 2014 recorded in control areas, south Diablo Cove, north Diablo Cove, and Field's Cove for: a) intertidal; and b) subtidal. Mean, maximum, and minimum temperatures are shown by month for each area. (See text for temperature recording stations used in this figure).



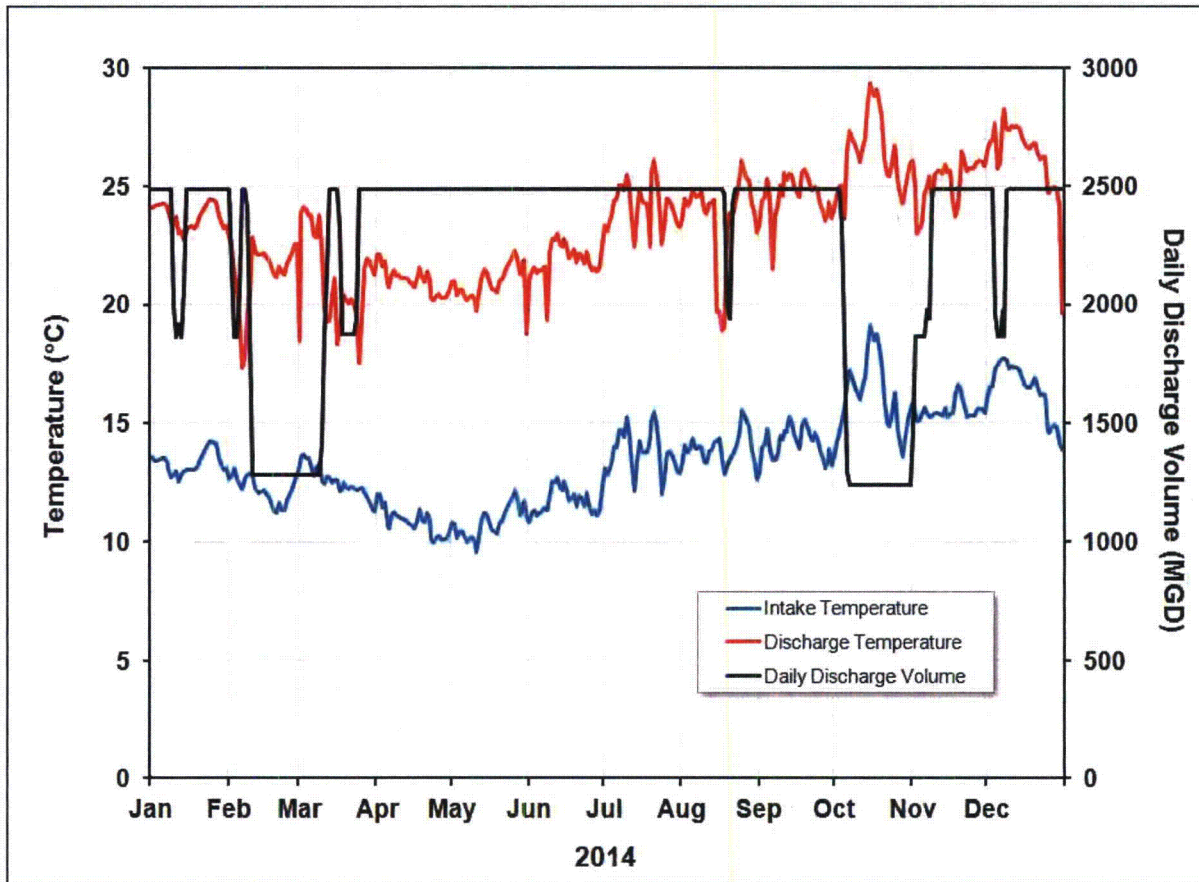


Figure 5. DCPD 2014 average daily intake and discharge seawater temperatures (°C) and the daily cooling water discharge volume (MGD).



3.0 Intertidal Algae and Invertebrates

Intertidal algae, seagrasses, and invertebrates were sampled using the horizontal band transect (HBT) sampling method at the locations shown in **Figure 6**. Most HBT stations consisted of two 30 m long transects oriented parallel to the waterline, one at the +0.9 m (+3 ft) MLLW tide level and the other at the +0.3 m (+1 ft) MLLW tide level. Stations SDP 1 and SDP 2 each consisted of one transect at the +0.9 m (+3 ft) tide level. The substrate at the +0.9 m (+3 ft) MLLW level at Station SDC 1 was mainly uncolonized cobble. Therefore, the upper transect at that station was located at a lower elevation at the +0.6 m (+2 ft) MLLW tide level on bedrock where intertidal species were more abundant. The sampling area of each transect consisted of ten 1.0 m² (10.8 ft²) permanent quadrats. The quadrats were mainly located on bedrock and boulders, but various amounts of cobble and sand that occurred seasonally were also sampled. Three control stations were located beyond the range of thermal discharges from DCPD, while the remaining 11 stations in Field's Cove, Diablo Cove, and on South Diablo Point (south headland of Diablo Cove) received varying levels of contact with warm water from the discharge.

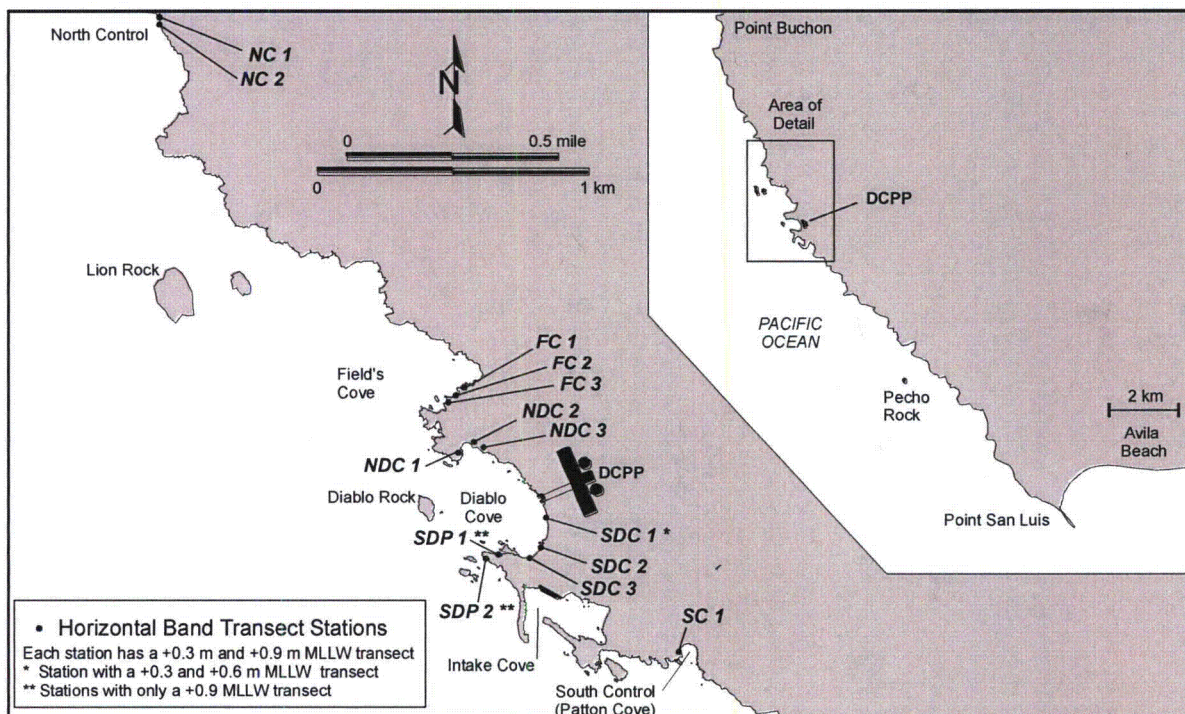


Figure 6. Locations of horizontal band transect stations.

The sampling was conducted by taking visual estimates of percent cover for all algal species, seagrasses, and bare substrate. Coverage estimates were first done for overstory species and then the overstory branches and blades were moved aside to allow estimation of the percent cover of the understory species and bare substrates. Species that occupied less than 0.7% of the area of the



quadrat were recorded as “present.” Due to the overlapping layers of multiple algal taxa, the total algal cover plus bare substrate cover almost always exceeded 100 percent in a quadrat.

Intertidal invertebrates were sampled concurrently in the same quadrats as the algae. In five of the ten quadrats, all species were recorded as either present or absent, except individuals that were larger than 2.5 cm (1 in.) in greatest dimension were counted. In the remaining five quadrats (“count quadrats”), the same method was used except that select species of invertebrates were counted regardless of size. The percent cover of sessile invertebrates, such as sponges and tunicates, was estimated using the same methods used for the algae. All invertebrates, algae, and seagrasses were identified to the lowest taxonomic level practical. All black abalone, regardless of size, were counted in the ten permanent quadrats and in five additional quadrats on each transect.

The survey mean and standard deviation, and annual mean abundance for each taxon at each transect level are presented in **Appendix C**. Survey statistics for algae and substrates were calculated from all ten quadrats along the transect, while statistics for the invertebrates were calculated from the five “count” quadrats. If a taxon was only recorded as present in a quadrat, its abundance was given a value of 0.000001 for calculating summary statistics.



4.0 Intertidal Fishes

Intertidal fishes were sampled using the Vertical Band Transect (VBT) sampling method. At each of five stations (**Figure 7**), three transects were positioned perpendicular to the shoreline at fixed locations. Each transect originated in the high intertidal zone (approximately +1.5 m [4.9 ft] MLLW) and terminated in the low intertidal zone (approximately -0.2 m [0.6 ft] MLLW). Transects at each station were separated by approximately 3 m (9.8 ft). Each transect was used as a reference line to position twelve 1.0 m² (10.8 ft²) permanent sampling quadrats, for a total of thirty-six 1.0 m² (10.8 ft²) quadrats per station. Two control stations were located beyond the range of thermal discharges from DCPD, while the remaining three stations in Field's Cove and Diablo Cove received varying amounts of warm water influence from the discharge.

In sampling, moveable rocks were carefully lifted and any fishes seen were captured in small hand nets. Foliose algae were also searched for cryptic fishes. Fishes were identified to the lowest practical taxonomic level, measured, and returned to the quadrat following sampling. Newly settled juvenile fishes were not identified to the species level but were grouped into composite taxa (e.g., Pholididae/Stichaeidae, *Anoplarchus*/*Cebidichthys*).

The total numbers observed at each station during the four surveys of the year, and annual mean abundance and standard deviation of fishes for each taxon are presented in **Appendix D**.

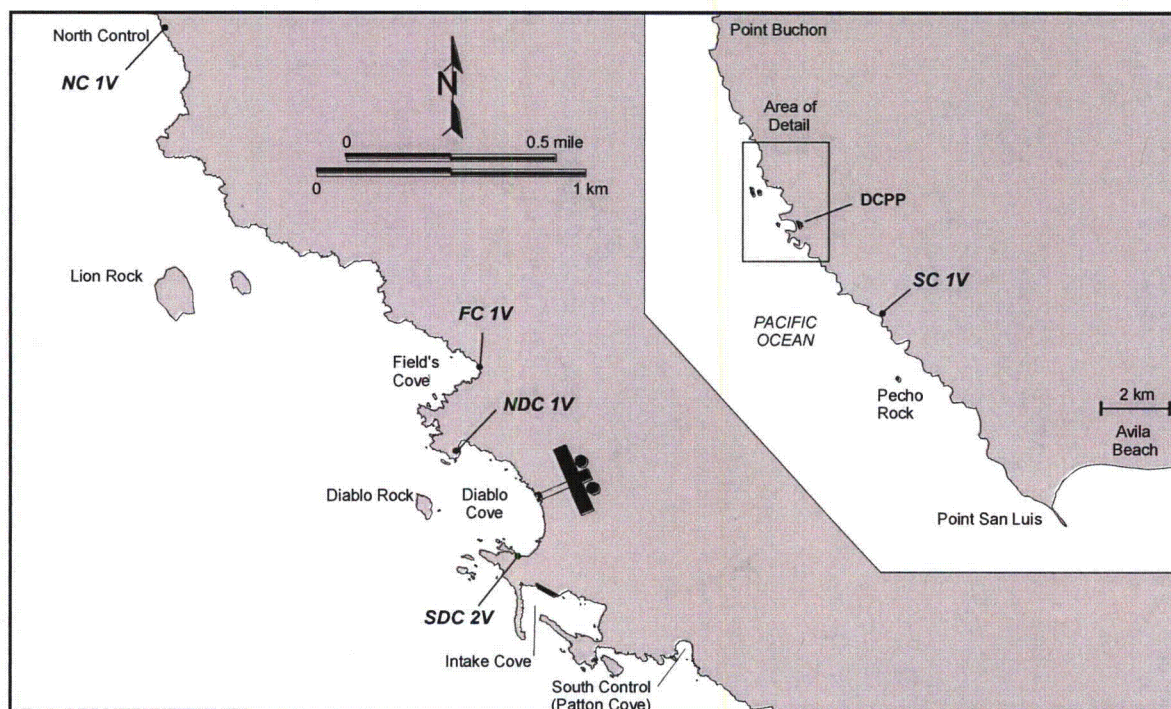


Figure 7. Locations of vertical band transect stations.



5.0 Subtidal Algae and Invertebrates

Eight permanent subtidal benthic sampling stations located in depths ranging from -3 m to -6 m (-10 ft to -20 ft) MLLW were sampled during the year (**Figure 8**). Two control stations were located in Patton Cove, beyond the range of thermal discharges from DCP, while the remaining six stations received varying amounts of warm water influence from the discharge. Stations were circular with a radius of 3.15 m (10.33 ft), and a sampling area of 28.0 m² (301.4 ft²). The center 3.1 m² (33.4 ft²) of each station, which surrounded a mooring anchor (railcar wheel), was not sampled in order to avoid any unnatural algal and invertebrate growth associated with the mooring. Each station was divided into four equal sections, or “arc quadrants,” 7.0 m² (75.3 ft²) in area. All stations were established primarily on substrates of mixed bedrock and boulders with small amounts of cobble and sand.

Divers used three sampling methods at each station to sample the benthic algae and invertebrates. In the first method, individual species of kelp (brown algae of the order Laminariales and Fucales) and macroinvertebrates were counted in each subtidal arc quadrant (SAQ sampling method). Kelp plants and individuals of select invertebrate taxa were counted regardless of their size. Individuals of other non-encrusting invertebrates were counted if they were larger than 2.5 cm (1.0 in.) (length or width). Juvenile kelp plants that could not be identified to the species level were counted and recorded as “Laminariales.” Five common species that generally occurred in numbers too high to accurately count in a large area were sampled in the same one-third area (2.33 m² [25.1 ft²]) of each quadrant, each survey. The count for each of these species was multiplied by three to provide an abundance estimate for the entire quadrant.

In the second sampling method, subtidal line contact, (or SLC) all understory algal species were quantified at the stations as percent cover using a series of pre-selected random points. A radius line with ten lead markers positioned at decreasing intervals toward the station perimeter was attached to the center of the station and used to locate sampling loci in each quadrant. Fifty random contact points were sampled within each quadrant (total of 200 points per station), and the same pre-selected set of points was used at all stations. Random sampling points were changed for each survey. The presence of all algal species, sessile invertebrates, and substrates observed directly under or over the points was recorded. Holdfasts of kelp species were also included when contacted by the sample points. The percent cover of each species and substrate type was calculated by dividing the number of “contacts” by the number of points sampled. All algal species on the station were identified to the lowest taxonomic level practical. In each quadrant, algal species that were present but not contacted by the sample points were noted separately as being ‘present’ in the quadrant.

In the third method, invertebrates were sampled using the subtidal fixed quadrat (SFQ) method in four permanent circular 0.25 m² (2.7 ft²) quadrats at each station. The method quantified species composition and abundance of all invertebrate taxa visible to the naked eye. One



permanent quadrat was located within each of the four SAQ quadrants, generally on bedrock or boulder substrate. Depending upon the degree of topographical relief, two quadrats were located on horizontal-aspect surfaces and two quadrats were located on vertical-aspect surfaces. All non-encrusting taxa were identified and counted. The coverage of encrusting taxa (e.g., colonial/social tunicates) was quantified in square inch units if the total equaled, or exceeded 6.5 cm^2 (1 square inch). Otherwise, the encrusting taxon was recorded as “present.”

The survey mean and standard deviation for each taxon at each station from the four surveys completed during the year are presented in **Appendices E** (SAQ), **F** (SLC), and **G** (SFQ). The means are based on the data from the four quadrats or quadrants at each station. The tables also list annual mean taxa abundances by station based on the average of all surveys sampled over the year. Algal taxa in the SLC study, and encrusting taxa in the SFQ study, that were recorded as only present (no numeric value) were given a value of 0.000001 for calculating abundance statistics.

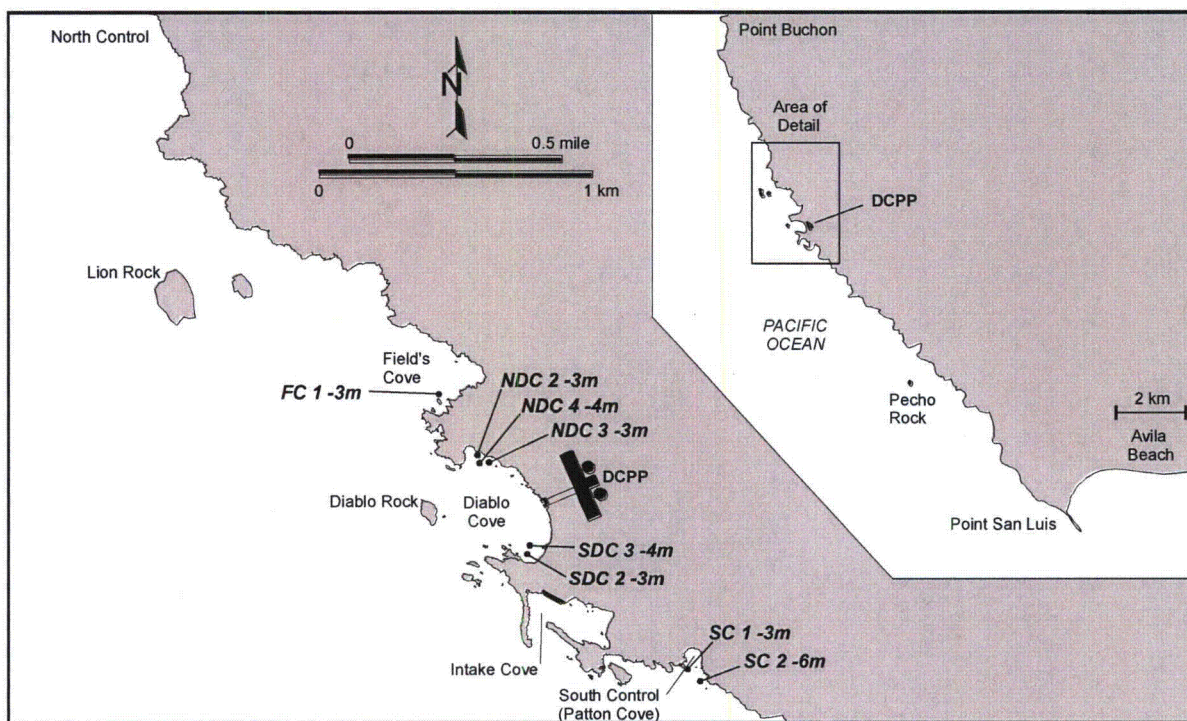


Figure 8. Locations of subtidal benthic stations.



6.0 Surface Canopy Kelps

The locations and extent of the surface kelp canopies of *Nereocystis luetkeana* (bull kelp) and *Macrocystis pyrifera* (giant kelp) in Diablo Cove within and outside the fixed benthic stations were mapped from direct observations. This task has been completed annually since the 1970s to document long-term changes in the annual maximum extent of the surface kelp canopies in Diablo Cove. Near the end of the annual growth cycle in October, nearly all bull kelp plants have reached the surface and can be counted. Surface canopies of giant kelp also tend to be abundant during this period. Two observers at the headland of north Diablo Cove and two observers at the headland of south Diablo Cove (south Diablo Point) counted and mapped the distribution of individual bull kelp plants and mapped the spatial extent of giant kelp canopies (**Figure 9**). Bull kelp plants with bare bulbs only and no attached fronds, indicating senescence in the plants, were noted when observed.

The annual habitat-forming kelp survey was conducted on October 6, 2014. No bull kelp plants were observed in Diablo Cove during the survey; giant kelp canopies occurred in both north and south Diablo Cove (**Figure 9**). There are no appendix figures or data tables associated with this task.

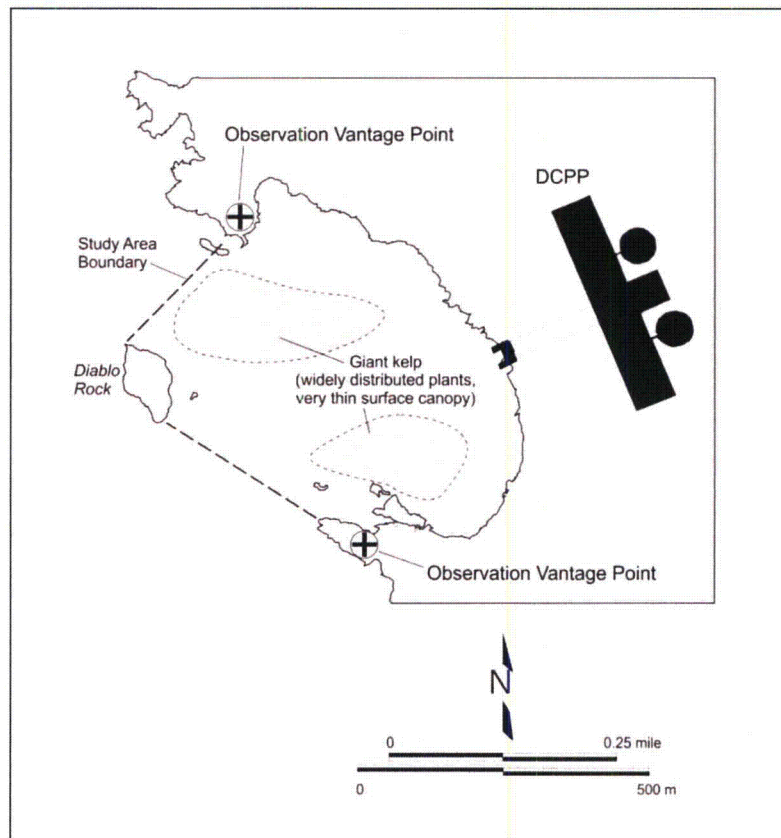


Figure 9. Map of surface kelp in Diablo Cove on October 6, 2014.



7.0 Subtidal Fishes

Visual counts of fishes were conducted by divers at 12 permanent subtidal stations (three stations in each of four areas) located within and outside of Diablo Cove (**Figure 10**). Three control stations located in Patton Cove were beyond the range of thermal discharges from DCPD, while the remaining nine stations in Field's Cove, north Diablo Cove, and south Diablo Cove received varying amounts of warm water influence from the discharge.

Each station consisted of a benthic transect 50 m (164 ft) long by 4 m (13 ft) wide by 1 m (3.3 ft) above the bottom, and a 50 m (164 ft) long by 4 m (164 ft) diameter midwater transect located above and parallel to the benthic transect approximately midway between the surface and the bottom. A station was sampled by first deploying a fiberglass measuring tape to delineate the centerline of the benthic transect, beginning at a permanent station buoy and extending 50 m (164 ft) away from the buoy along a pre-determined compass course. Some transects crossed over each other where a transect parallel to the depth contour crossed over a transect positioned perpendicular to the depth contour. The area common to both transects in these cases was approximately 2%. This small overlap did not affect the data summaries because the numbers of fish counted were averaged by area, and the mobility of most fish added to the independence of transects.

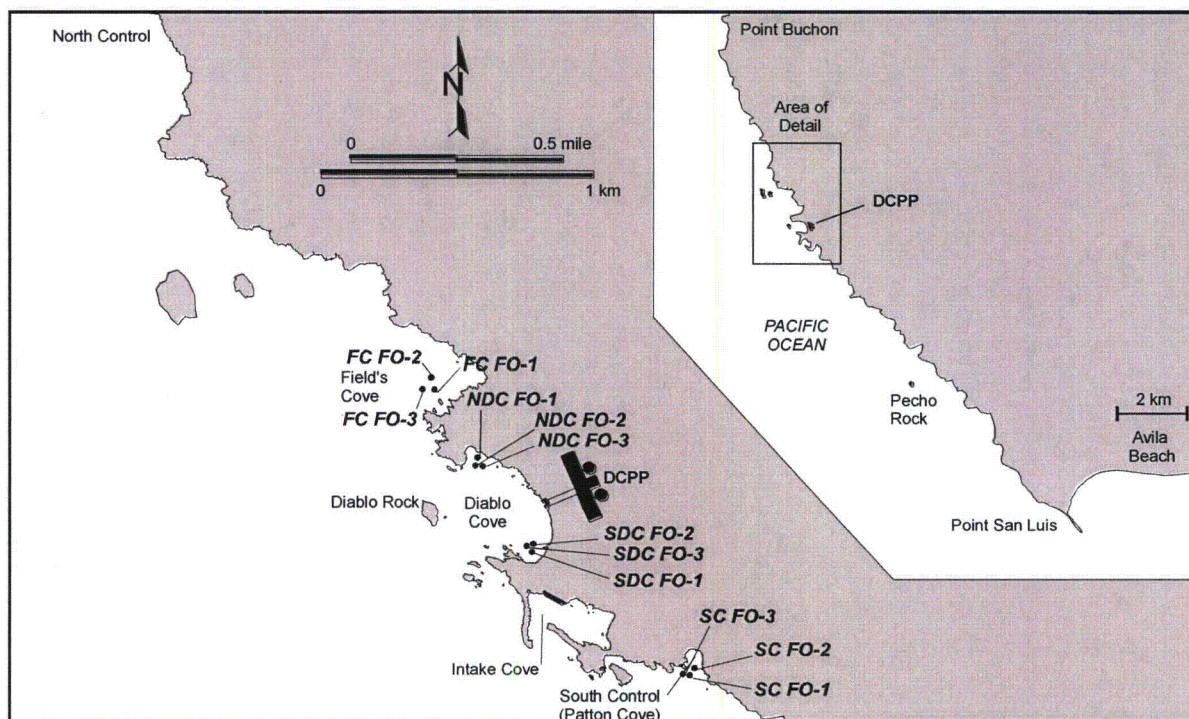


Figure 10. Locations of subtidal fish observation transects.



A survey team consisted of two divers. Each diver counted fish along the benthic and midwater transect sampling areas, swimming in opposite directions along the transect lines. This sampling technique allowed a more thorough inspection of potential fish habitats from all angles of view than would have been possible by a single diver progressing along a transect in only one direction. Fish were identified to species if possible, but juveniles of some species with similar appearances were combined into broader categories if necessary.

The resulting survey data per transect were the combined species counts of both divers, divided by two. This yielded an average count for each taxon per 50 m (164 ft) by 4 m (13 ft) benthic transect and per 50 m (164 ft) long by 4 m (13 ft) diameter midwater transect. During each survey, the stations (midwater and benthic transects) were usually sampled a second time (replicate two) within two weeks of the initial sampling effort (replicate one), unless adverse sea conditions precluded a second replicate. The data from the two replicates for each area were pooled separately for the three midwater transects, and the three benthic transects for each survey.

The survey mean abundance and standard deviation for each taxon within each of the four sampling areas for the four surveys during the year are presented in **Appendix H**. The tables are further divided according to midwater and benthic transects in each area. The tables also show overall mean abundances for the entire year. The survey dates shown for each area in the tables represent the average date of the combined stations sampled in replicates one and two.



8.0 RWMP Project Personnel

Project Personnel 2014

Tenera Environmental

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Project Manager: Mr. John Steinbeck

Project Scientists: Mr. Jay Carroll
Mr. Gery Cox
Mr. Dan Dugan
Mr. Chris Ehrler
Mr. Andrew Harmer
Ms. Tessa Lange
Mr. Scott Kimura
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Mr. Steve Pengilley
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Diablo Canyon Power Plant

Appendix A

Intertidal Temperatures

Table A1. Monthly statistical summary of intertidal temperatures (°C), January–December 2014, North Control Station NC 2 +0.6m (2+2).

Month	Max	Min	Mean	Std. Dev	N
Station: NC 2 +0.6m					
Jan	14.60	11.90	13.30	0.60	1150
Feb	13.73	10.77	12.34	0.64	1006
Mar	14.73	11.18	12.92	0.65	1087
Apr	13.88	10.07	11.77	0.80	1036
May	14.68	9.95	12.35	1.00	1080
Jun	15.70	11.93	13.57	0.75	1102
Jul	19.27	13.15	15.87	1.14	1191
Aug	17.40	14.52	15.99	0.68	436
Sep	-	-	-	-	-
Oct	16.15	13.80	14.93	0.61	188
Nov	16.63	14.30	15.46	0.50	1183
Dec	18.02	12.20	16.10	1.35	1186



Table A2. Monthly statistical summary of intertidal temperatures (°C), January–December 2014, Field's Cove Stations FC 1 +0.6m (4+2), FC 2 +0.6m (5+2) and FC 3 +0.6m (6+2).

Month	Max	Min	Mean	Std. Dev	N
Station: FC 1 +0.6m					
Jan	16.27	11.75	14.18	0.83	1395
Feb	14.75	11.00	12.96	0.81	1231
Mar	15.20	11.40	13.20	0.73	1315
Apr	15.55	10.35	12.52	1.04	1257
May	16.35	10.27	13.14	1.32	1324
Jun	17.45	11.98	14.41	1.08	1334
Jul	21.60	13.55	16.99	1.47	1456
Aug	19.75	14.27	16.91	1.09	1462
Sep	19.23	13.70	16.44	1.22	1436
Oct	20.42	13.55	16.91	1.57	1462
Nov	18.33	14.77	16.35	0.65	1378
Dec	19.48	12.93	16.87	1.24	1402
Station: FC 2 +0.6m					
Jan	16.33	11.90	14.24	0.83	1150
Feb	14.75	11.15	12.96	0.80	1006
Mar	14.88	11.48	13.16	0.71	1087
Apr	15.18	10.43	12.42	0.98	1036
May	15.75	10.25	12.96	1.20	1080
Jun	17.13	12.02	14.25	0.97	1102
Jul	20.95	13.45	16.79	1.37	1191
Aug	19.17	14.13	16.72	1.02	1228
Sep	19.08	13.73	16.37	1.14	1237
Oct	20.38	13.60	16.91	1.56	1275
Nov	18.40	14.77	16.39	0.63	1183
Dec	19.50	13.32	16.92	1.20	1186
Station: FC 3 +0.6m					
Jan	16.27	11.85	14.22	0.82	1150
Feb	14.75	11.13	12.94	0.79	1006
Mar	14.88	11.43	13.14	0.71	1087
Apr	14.88	10.40	12.36	0.95	1036
May	15.40	10.25	12.86	1.14	1080
Jun	16.63	12.00	14.12	0.90	1102
Jul	20.58	13.35	16.64	1.33	1191
Aug	18.92	15.50	16.96	0.84	516
Sep	-	-	-	-	-
Oct	-	-	-	-	-
Nov	18.48	15.00	16.49	0.61	932
Dec	19.48	13.32	16.93	1.19	1186



Table A3. Monthly statistical summary of intertidal temperatures (°C), January–December 2014, North Diablo Cove Stations NDC 1 +0.6m (7+2), NDC 2 +0.6m (8+2) and NDC 3 +0.6m (9+2).

Month	Max	Min	Mean	Std. Dev	N
Station: NDC 1 +0.6m					
Jan	21.80	12.05	16.77	1.77	1395
Feb	19.45	11.10	15.37	1.64	1231
Mar	19.25	11.55	14.31	1.63	1315
Apr	18.70	10.85	14.90	1.61	1257
May	19.83	10.48	15.30	1.80	1324
Jun	20.77	13.23	16.97	1.32	1334
Jul	23.00	15.05	19.40	1.38	1456
Aug	23.27	14.73	19.55	1.33	1462
Sep	23.05	14.10	19.32	1.46	1436
Oct	24.55	14.07	19.24	2.11	1462
Nov	22.20	14.90	19.05	1.26	1378
Dec	23.90	14.38	18.81	1.90	1402
Station: NDC 2 +0.6m					
Jan	21.42	12.13	16.93	1.75	1118
Feb	19.85	11.15	15.74	1.64	982
Mar	19.38	11.73	14.56	1.77	1051
Apr	19.33	10.88	15.30	1.67	996
May	20.27	10.63	15.77	1.74	1044
Jun	20.63	14.60	17.25	1.20	1062
Jul	22.95	14.60	19.60	1.39	1152
Aug	23.05	15.50	19.90	1.31	1194
Sep	22.77	14.27	19.59	1.40	1192
Oct	24.45	14.52	19.54	2.09	1245
Nov	22.45	15.07	19.22	1.23	1152
Dec	24.02	14.35	18.87	1.93	1150
Station: NDC 3 +0.6m					
Jan	22.13	12.07	17.08	1.81	1425
Feb	20.88	11.20	15.95	1.58	1247
Mar	20.48	11.80	14.72	1.88	1324
Apr	19.55	10.88	15.45	1.68	1266
May	20.17	10.48	15.71	1.71	1345
Jun	20.75	14.52	17.21	1.13	1349
Jul	22.98	14.48	19.49	1.33	1468
Aug	23.10	15.27	19.71	1.37	1481
Sep	22.92	14.38	19.53	1.43	1444
Oct	25.00	14.77	19.59	2.14	1476
Nov	23.52	15.07	19.35	1.26	1392
Dec	24.55	14.35	18.98	1.97	1423



Table A4. Monthly statistical summary of intertidal temperatures (°C), January–December 2014, South Diablo Cove Stations SDC 1 +0.6m (10+2), SDC 2 +0.6m (11+2) and SDC 3 +0.6m (12+2).

Month	Max	Min	Mean	Std. Dev	N
Station: SDC 1 +0.6m					
Jan	24.48	14.18	18.07	2.15	1442
Feb	22.92	12.95	15.85	1.96	1262
Mar	23.60	13.70	17.44	2.36	1339
Apr	22.02	12.50	16.00	1.98	1281
May	21.63	12.57	16.22	1.95	1356
Jun	22.98	13.07	17.27	1.72	1365
Jul	23.85	15.38	19.11	1.61	1493
Aug	22.70	14.35	18.78	1.71	1507
Sep	23.73	15.43	18.73	1.43	1454
Oct	26.17	15.27	19.93	2.17	1488
Nov	25.48	15.60	18.95	1.76	1406
Dec	27.38	15.70	20.74	2.60	1438
Station: SDC 2 +0.6m					
Jan	23.02	13.23	17.06	1.31	1150
Feb	21.45	12.98	15.60	1.73	1006
Mar	22.77	13.43	16.37	1.85	1087
Apr	21.38	12.73	15.64	1.66	1036
May	21.38	12.68	16.36	1.91	1080
Jun	22.98	13.30	17.51	1.76	1102
Jul	23.65	15.18	19.30	1.63	1191
Aug	22.80	14.45	19.02	1.63	1228
Sep	22.23	15.48	18.82	1.33	1237
Oct	25.75	15.35	19.67	2.15	1275
Nov	23.65	15.38	18.52	1.24	1183
Dec	24.52	15.77	19.28	1.31	1186
Station: SDC 3 +0.6m					
Jan	19.08	12.93	16.59	0.94	1275
Feb	18.30	12.18	14.80	1.06	1131
Mar	18.73	12.70	15.22	1.14	1211
Apr	17.83	12.05	14.56	0.97	1153
May	18.85	12.18	15.09	1.30	1220
Jun	21.52	12.73	16.25	1.40	1228
Jul	22.20	15.02	18.42	1.49	1326
Aug	21.75	14.00	18.13	1.54	1358
Sep	21.58	15.02	18.15	1.30	1350
Oct	24.00	15.18	19.30	2.06	1376
Nov	20.63	15.35	18.25	0.97	1292
Dec	22.17	15.40	19.02	1.27	1307



Table A5. Monthly statistical summary of intertidal temperatures (°C), January–December 2014, South Diablo Point Stations SDP 1 +0.6m (22+2) and SDP 2 +0.6m (14+2).

Month	Max.	Min	Mean	Std. Dev.	N
Station: SDP 1 +0.6m					
Jan	19.42	12.90	16.55	0.98	1506
Feb	18.45	11.77	14.81	1.13	1303
Mar	18.85	12.43	15.17	1.14	1386
Apr	17.38	12.00	14.51	0.98	1318
May	18.85	12.15	14.90	1.23	1405
Jun	19.63	12.45	15.95	1.33	1417
Jul	21.35	14.82	18.17	1.41	1551
Aug	21.88	13.90	17.82	1.55	1499
Sep	21.33	14.77	18.02	1.35	1496
Oct	24.13	15.15	19.28	2.08	1522
Nov	21.15	15.55	18.27	0.99	1450
Dec	22.50	15.57	19.00	1.28	1511
Station: SDP 2 +0.6m					
Jan	18.02	12.60	15.40	0.76	1395
Feb	16.77	11.23	13.71	0.82	1231
Mar	16.83	12.18	14.23	0.84	1315
Apr	16.23	10.93	13.72	0.83	1257
May	17.33	10.25	13.75	1.13	1324
Jun	18.27	12.48	14.87	0.87	1334
Jul	20.08	13.57	16.70	1.31	1456
Aug	20.40	13.45	15.91	1.24	1462
Sep	20.35	12.65	16.61	1.48	1436
Oct	22.02	13.90	17.52	1.80	1462
Nov	19.77	15.38	17.55	0.77	1378
Dec	20.98	15.07	17.99	1.04	1402



Table A6. Monthly statistical summary of intertidal temperatures (°C), January–December 2014, South Control Stations SC 1 +0.6m (19+2) and SC 1V.

Month	Max	Min	Mean	Std. Dev	N
Station: SC 1 +0.6m					
Jan	14.30	12.18	13.30	0.51	1262
Feb	13.35	11.00	12.29	0.56	1109
Mar	14.35	10.88	12.74	0.69	1189
Apr	12.95	9.93	11.27	0.65	1136
May	13.98	9.68	11.59	0.86	1197
Jun	15.25	11.27	12.97	0.79	1216
Jul	18.27	12.57	15.16	1.01	1306
Aug	16.48	13.55	15.13	0.70	311
Sep	-	-	-	-	-
Oct	-	-	-	-	-
Nov	16.63	14.85	15.55	0.44	877
Dec	17.98	13.00	16.23	1.16	1293
Station: SC 1V					
Jan	14.90	12.13	13.35	0.62	1615
Feb	15.18	10.88	12.66	0.74	1396
Mar	15.85	11.20	13.31	0.88	1477
Apr	16.63	9.93	12.45	1.23	1414
May	18.25	10.23	13.53	1.69	1501
Jun	18.58	12.07	14.88	1.38	1519
Jul	21.77	13.73	17.08	1.45	1654
Aug	19.17	14.30	16.53	0.95	1666
Sep	18.92	13.32	16.14	1.07	1571
Oct	20.50	13.43	16.80	1.61	1598
Nov	17.20	14.00	15.64	0.63	1532
Dec	18.25	12.02	15.96	1.26	1606



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Appendix B

Subtidal Temperatures

Table B1. Monthly statistical summary of subtidal temperatures (°C), January–December 2014, North Control Station NC 1 -3m (1-10).

Month	Max	Min	Mean	Std. Dev	N
Station: NC 1 -3m					
Jan	14.82	11.93	13.38	0.57	2231
Feb	14.00	10.60	12.32	0.67	2016
Mar	14.57	11.10	12.89	0.65	2232
Apr	13.50	10.07	11.50	0.71	2160
May	14.00	9.93	11.77	0.85	2232
Jun	14.95	11.50	12.81	0.66	2160
Jul	18.42	12.75	15.23	1.02	2231
Aug	17.98	13.52	15.50	0.80	2232
Sep	17.77	13.15	15.32	1.05	2160
Oct	19.77	13.10	16.47	1.52	2232
Nov	16.67	14.32	15.55	0.47	2159
Dec	18.15	12.73	16.19	1.26	2232

Table B2. Monthly statistical summary of subtidal temperatures (°C), January–December 2014, Field's Cove Station FC 1 -3m (22-10).

Month	Max	Min	Mean	Std. Dev	N
Station: FC 1 -3m					
Jan	16.35	12.05	14.31	0.84	2231
Feb	14.77	10.80	12.95	0.84	2016
Mar	15.13	11.23	13.18	0.72	2232
Apr	14.73	10.43	12.32	0.92	2159
May	14.77	9.93	12.50	0.99	2232
Jun	15.93	11.88	13.57	0.72	2159
Jul	18.85	12.95	15.83	1.05	2232
Aug	18.52	13.77	16.13	0.96	2232
Sep	18.55	13.45	16.09	1.09	2160
Oct	20.42	13.65	16.95	1.52	2232
Nov	18.60	14.85	16.46	0.66	2160
Dec	19.65	13.63	17.00	1.20	2232



Table B3. Monthly statistical summary of subtidal temperatures (°C), January–December 2014, North Diablo Cove Stations NDC 2 -3m (8-10), NDC 3 -3m (9-10), and NDC 4 -4m (9-15).

Month	Max	Min	Mean	Std. Dev	N
Station: NDC 2 -3m					
Jan	22.38	12.10	17.33	1.89	2231
Feb	21.88	11.10	16.04	1.72	2016
Mar	21.17	11.60	14.91	2.01	2232
Apr	19.58	10.85	15.49	1.62	2160
May	19.90	10.38	15.46	1.60	2232
Jun	20.70	13.88	16.87	1.14	2160
Jul	23.05	14.20	19.01	1.35	2232
Aug	23.27	14.77	19.33	1.41	2232
Sep	23.08	13.52	19.17	1.45	2160
Oct	25.52	14.50	19.56	2.22	2232
Nov	23.55	15.07	19.56	1.37	2160
Dec	25.08	14.32	19.18	2.11	2232
Station: NDC 3 -3m					
Jan	23.27	12.15	17.74	2.03	2231
Feb	22.63	11.30	16.17	1.79	2016
Mar	22.08	11.80	15.25	2.18	2232
Apr	20.02	10.93	15.65	1.63	2160
May	19.70	10.38	15.54	1.59	2232
Jun	20.65	13.77	16.82	1.16	2160
Jul	22.55	14.27	18.74	1.42	2232
Aug	23.27	14.82	19.16	1.49	2232
Sep	23.15	13.63	19.06	1.46	2160
Oct	25.63	14.48	19.59	2.27	2232
Nov	24.70	15.30	19.75	1.48	2160
Dec	25.50	14.38	19.53	2.22	2232
Station: NDC 4 -4m					
Jan	22.50	12.13	17.17	1.84	2232
Feb	22.27	11.13	15.45	1.77	2015
Mar	20.98	11.55	14.80	1.91	2232
Apr	19.33	10.85	15.25	1.56	2160
May	19.17	10.35	15.01	1.50	2232
Jun	20.23	13.25	16.14	1.22	2160
Jul	21.92	12.88	17.71	1.54	2232
Aug	23.13	14.45	18.29	1.68	2231
Sep	22.95	13.30	18.30	1.57	2160
Oct	25.13	14.13	18.87	2.17	2232
Nov	24.02	14.93	19.20	1.54	2159
Dec	25.23	14.38	19.07	2.04	2232



Table B4. Monthly statistical summary of subtidal temperatures (°C), January–December 2014, South Diablo Cove Stations SDC 1 -3m (11-10) and SDC 4 -4m (11-15).

Month	Max	Min	Mean	Std. Dev	N
Station: SDC 1 -3m					
Jan	24.42	13.18	17.04	1.97	2232
Feb	21.25	11.65	14.69	1.74	2016
Mar	22.17	12.55	16.11	1.71	2232
Apr	20.98	11.05	14.84	1.83	2160
May	20.35	10.60	14.23	1.77	2231
Jun	21.30	11.82	14.51	1.79	2160
Jul	22.45	12.00	15.89	1.71	2232
Aug	22.38	12.93	16.15	1.83	2231
Sep	22.23	12.95	16.69	1.74	2160
Oct	24.27	13.00	18.38	2.31	2232
Nov	24.50	14.80	18.36	1.75	2160
Dec	26.98	14.30	19.34	2.00	2232
Station: SDC 4 -4m					
Jan	23.25	12.90	15.92	2.00	2232
Feb	18.25	11.02	13.70	1.37	2016
Mar	20.75	11.20	15.28	1.61	2232
Apr	19.73	9.98	13.34	1.90	2160
May	18.77	9.73	12.43	1.56	2232
Jun	17.90	11.02	12.70	1.25	2160
Jul	18.60	11.63	14.29	1.11	2232
Aug	19.10	12.35	14.68	1.09	2231
Sep	21.63	12.35	15.11	1.46	2160
Oct	23.33	12.50	17.35	2.21	2232
Nov	23.83	14.50	17.28	1.73	2160
Dec	25.90	13.75	18.59	2.16	2232



Table B5. Monthly statistical summary of subtidal temperatures (°C), January–December 2014, South Control Stations SC 1 -3m (19-10) and SC 2 -6m (20-20).

Month	Max	Min	Mean	Std. Dev	N
Station: SC 1 -3m					
Jan	14.55	12.18	13.37	0.51	2232
Feb	13.75	10.80	12.32	0.59	2016
Mar	14.40	10.93	12.80	0.71	2232
Apr	13.05	9.90	11.29	0.68	2160
May	13.98	9.68	11.45	0.83	2232
Jun	14.35	11.10	12.62	0.65	2160
Jul	18.08	12.10	14.77	1.03	2232
Aug	17.38	13.00	14.87	0.85	2232
Sep	17.73	12.35	14.90	0.90	2160
Oct	19.58	12.90	16.39	1.61	2232
Nov	16.67	14.50	15.57	0.44	2160
Dec	18.08	12.85	16.22	1.16	2231
Station: SC 2 -6m					
Jan	14.40	12.18	13.36	0.49	2232
Feb	13.35	10.82	12.22	0.56	2015
Mar	14.02	10.75	12.67	0.70	2232
Apr	12.65	9.73	11.02	0.62	2160
May	13.43	9.40	11.01	0.74	2232
Jun	13.77	10.52	11.96	0.64	2160
Jul	17.38	11.23	14.12	1.05	2232
Aug	17.17	12.20	14.38	0.91	2231
Sep	17.52	12.13	14.51	0.89	2160
Oct	19.52	12.55	16.27	1.63	2232
Nov	16.85	14.57	15.53	0.43	2159
Dec	17.92	13.32	16.25	1.11	2232



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Appendix C

Intertidal Algae, Invertebrates and Substrates

Table C1. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Control Station NC 1+0.3m (1+1).

Survey	176		177		178		179		Annual Mean
Survey Date	16-Jan-14		12-May-14		12-Aug-14		27-Oct-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
<i>Phyllospadix</i> spp.	22.0	24.7	21.6	27.9	29.1	31.0	40.1	36.5	28.2
<i>Mazzaella flaccida</i>	13.3	8.3	37.9	15.8	22.6	11.2	14.9	14.5	22.2
non-coraline crust	22.2	18.7	10.3	12.1	16.9	16.7	10.2	9.3	14.9
<i>Gastroclonium subarticulatum</i>	10.8	11.3	7.7	7.1	9.4	6.9	17.2	13.1	11.3
<i>Chondracanthus canaliculatus</i>	7.5	7.2	12.0	8.4	6.9	5.0	11.6	10.3	9.5
<i>Mazzaella affinis</i>	11.0	8.0	11.5	13.2	9.5	8.2	5.1	4.4	9.3
<i>Gelidium coulteri</i>	6.7	6.1	2.3	3.3	8.3	7.5	4.5	6.6	5.5
coralline crust	3.7	3.2	8.6	8.7	3.1	3.1	3.7	4.8	4.8
<i>Cryptopleura violacea</i>	0.5	0.9	3.0	3.6	4.0	3.6	5.6	6.6	3.3
<i>Codium setchellii</i>	3.7	7.6	1.7	3.8	3.2	5.8	4.2	6.8	3.2
<i>Mastocarpus papillatus</i>	0.8	1.3	3.1	2.0	1.9	1.8	2.0	4.7	1.9
<i>Smithora naiadum</i>	-	-	<0.1	<0.1	5.5	8.7	1.7	2.5	1.8
<i>Egregia menziesii</i>	0.6	1.2	0.9	2.9	5.0	15.8	0.1	0.4	1.7
<i>Pterosiphonia dendroidea</i>	1.8	1.5	3.5	6.9	0.3	1.1	<0.1	0.2	1.4
filamentous red algae complex	3.4	5.7	1.8	4.0	<0.1	0.2	-	-	1.3
<i>Prionitis</i> spp.	1.6	3.2	1.8	4.4	0.4	1.3	0.7	1.5	1.1
<i>Mastocarpus jardinii</i>	0.8	1.0	0.9	1.5	1.2	2.8	1.0	1.3	1.0
<i>Corallina vancouveriensis</i>	1.7	3.2	1.0	1.5	0.4	0.7	0.2	0.7	0.8
<i>Calliarthron/Bossiella</i> spp.-complex	1.8	5.0	0.4	0.9	0.2	0.7	0.3	0.7	0.7
<i>Mazzaella oregona</i>	<0.1	0.2	2.6	2.1	<0.1	<0.1	-	-	0.7
<i>Endocladia muricata</i>	0.8	2.6	1.6	5.1	0.1	0.4	-	-	0.6
<i>Ulva</i> spp.	<0.1	<0.1	<0.1	<0.1	0.6	1.3	0.8	1.7	0.3
<i>Melobesia mediocris</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.2	1.2	0.3
<i>Gelidium pusillum</i>	0.3	0.6	0.5	1.5	<0.1	<0.1	0.3	0.7	0.3
<i>Mazzaella splendens</i>	-	-	0.2	0.7	0.5	1.5	-	-	0.2
<i>Microcladia coulteri</i>	<0.1	<0.1	-	-	0.2	0.7	0.3	0.5	0.1
<i>Sarcoditheca gaudichaudii</i>	-	-	0.3	0.9	0.2	0.5	<0.1	0.2	0.1
<i>Corallina chilensis</i>	<0.1	<0.1	<0.1	<0.1	0.1	0.4	0.3	0.8	0.1
<i>Osmundea</i> spp.	-	-	<0.1	<0.1	<0.1	<0.1	0.4	0.7	0.1
Chrysophyta	-	-	0.4	1.3	-	-	-	-	0.1
Chlorophyta (filamentous)	-	-	0.3	0.9	-	-	-	-	<0.1
<i>Callithamnion pikeanum</i>	<0.1	<0.1	0.2	0.5	-	-	-	-	<0.1
<i>Cryptopleura ruprechtiana</i>	-	-	-	-	-	-	0.2	0.5	<0.1
<i>Grateloupia californica</i>	-	-	-	-	0.2	0.7	-	-	<0.1
<i>Neorhodomela larix</i>	-	-	-	-	0.1	0.4	-	-	<0.1
juv. articulated coralline algae	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Mazzaella leptorhynchus</i>	<0.1	<0.1	<0.1	0.2	-	-	-	-	<0.1
<i>Cryptosiphonia woodii</i>	-	-	-	-	-	-	<0.1	0.2	<0.1
<i>Erythrophyllum delesserioides</i>	-	-	<0.1	0.2	-	-	-	-	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Porphyra</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Callophyllis</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Polyneura latissima</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
Delesseriaceae (juv.)	-	-	<0.1	<0.1	-	-	-	-	<0.1

(table continued)



Table C1 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Control Station NC 1+0.3m (1+1).

Survey Survey Date Taxon	176 16-Jan-14		177 12-May-14		178 12-Aug-14		179 27-Oct-14		Annual Mean
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts									
<i>Pagurus</i> spp.	11.8	9.6	8.8	11.6	12.4	10.8	11.0	5.6	11.0
<i>Chlorostoma funebris</i>	12.2	8.4	12.2	10.0	3.8	4.1	13.2	7.3	10.4
<i>Tetracita rubescens</i>	3.4	5.0	16.2	33.0	-	-	8.4	18.8	7.0
<i>Chlorostoma brunnea</i>	3.0	6.2	3.4	4.2	0.4	0.5	0.8	0.8	1.9
<i>Leptasterias</i> spp.	1.0	1.2	1.4	2.2	1.8	2.5	0.8	0.4	1.3
<i>Fissurella volcano</i>	1.0	1.7	0.2	0.4	0.6	1.3	0.6	0.9	0.6
<i>Pugettia</i> spp.	0.4	0.9	0.6	0.9	0.6	0.5	-	-	0.4
<i>Epiactis prolifera</i>	0.2	0.4	0.2	0.4	0.6	1.3	0.4	0.9	0.4
<i>Lottia pelta</i>	-	-	0.6	0.9	0.4	0.9	0.4	0.9	0.4
<i>Lottia scutum</i>	-	-	0.2	0.4	0.6	1.3	0.4	0.5	0.3
<i>Ocenebrina</i> spp.	0.2	0.4	0.2	0.4	0.2	0.4	0.6	0.5	0.3
Nemertea	<0.1	<0.1	-	-	0.8	1.3	0.2	0.4	0.3
<i>Pachygrapsus crassipes</i>	0.2	0.4	0.4	0.9	<0.1	<0.1	0.4	0.9	0.3
<i>Lottia limatula</i>	0.4	0.9	-	-	0.2	0.4	0.2	0.4	0.2
<i>Anthopleura elegantissima</i>	0.4	0.5	-	-	-	-	0.2	0.4	0.2
<i>Mopalia</i> spp.	-	-	0.2	0.4	0.2	0.4	0.2	0.4	0.2
<i>Lottia scabra</i>	-	-	-	-	-	-	0.4	0.9	0.1
<i>Romaleon antennarius</i>	-	-	0.2	0.4	-	-	0.2	0.4	0.1
<i>Balanus</i> spp.	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Mitra idae</i>	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Lacuna</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1
<i>Alia</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Crepidula</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lottiidae	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Heptacarpus</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sipuncula	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Barleeia</i> spp.	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Onchidella borealis</i>	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Epitonium/Opalia</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Pycnogonida	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Petrolisthes</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
Ischnochitonidae	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Lirobittium</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
Pelecypoda boring	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Eulithidium</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Lissothuria nutriens</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Romaleon jordani</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
Grapsidae	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Homolo. luridum/Lirularia succincta</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Betaeus</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1

(table continued)



Table C1 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Control Station NC 1+0.3m (1+1).

Survey Survey Date	176 16-Jan-14		177 12-May-14		178 12-Aug-14		179 27-Oct-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Cover									
<i>Pista</i> spp.	20.2	18.7	5.9	7.0	23.1	17.4	20.5	13.9	17.4
tunicates, compound/social	0.2	0.7	0.1	0.4	<0.1	<0.1	0.3	0.9	0.2
<i>Phragmatopoma californica</i>	<0.1	<0.1	-	-	<0.1	<0.1	0.6	1.8	0.1
bryozoa (encrusting)	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Porifera (encrusting)	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Spirorbidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Chthamalus fissus</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Salmacina tribranchiata</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
Substrate Cover									
sand (shell gravel)	7.8	8.1	23.5	27.4	7.1	5.5	14.8	13.3	13.3
rock	1.4	1.4	7.1	7.7	3.8	4.1	6.4	6.4	4.7
cobble	1.4	1.8	0.4	1.3	0.3	0.9	0.3	0.8	0.6



Table C2. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Control Station NC 1+0.9m (1+3).

Survey	176		177		178		179		Annual Mean
Survey Date	16-Jan-14		12-May-14		12-Aug-14		27-Oct-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
<i>Mazzaella flaccida</i>	18.5	13.0	20.7	11.3	37.2	16.0	19.1	11.0	23.9
<i>Endocladia muricata</i>	19.3	17.7	24.0	12.0	16.0	13.4	25.2	24.7	21.1
non-coralline crust	28.1	15.8	17.9	8.7	14.6	12.2	23.8	11.8	21.1
<i>Mastocarpus papillatus</i>	11.2	8.3	20.3	6.5	21.0	9.0	21.0	10.7	18.4
coralline crust	10.6	9.2	13.0	7.6	5.3	4.9	9.8	8.8	9.7
<i>Silvetia compressa</i>	6.7	16.2	4.2	8.9	6.7	13.5	9.1	22.9	6.7
<i>Gelidium coulteri</i>	3.5	4.5	1.0	1.3	5.3	7.3	5.8	4.6	3.9
<i>Mazzaella affinis</i>	6.3	8.6	2.4	5.6	3.7	5.2	2.8	4.0	3.8
<i>Codium setchellii</i>	4.6	10.0	3.5	7.3	3.5	8.4	3.5	7.6	3.8
<i>Mastocarpus jardinii</i>	2.0	2.6	0.4	0.9	3.1	6.6	2.4	1.6	2.0
<i>Chondracanthus canaliculatus</i>	1.7	2.2	1.8	3.1	0.5	0.8	1.7	1.7	1.4
<i>Gelidium pusillum</i>	2.4	2.3	1.5	2.6	0.4	1.3	1.0	1.6	1.3
<i>Cryptopleura violacea</i>	0.3	1.1	<0.1	0.2	0.8	2.4	1.9	5.9	0.8
<i>Corallina vancouveriensis</i>	0.3	0.5	1.1	1.5	0.1	0.4	0.4	0.7	0.5
<i>Analipus japonicus</i>	<0.1	0.2	<0.1	0.2	0.4	1.3	0.5	1.5	0.3
<i>Mazzaella oregona</i>	<0.1	0.2	0.7	1.0	<0.1	<0.1	0.1	0.4	0.2
<i>Phyllospadix</i> spp.	-	-	0.8	1.7	-	-	-	-	0.2
<i>Prionitis</i> spp.	0.5	1.1	<0.1	<0.1	0.1	0.4	<0.1	0.2	0.2
<i>Mazzaella leptorhynchus</i>	<0.1	<0.1	<0.1	<0.1	0.1	0.4	0.3	0.6	0.1
juv. articulated coralline algae	0.3	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Porphyra</i> spp.	-	-	<0.1	<0.1	0.2	0.5	<0.1	0.2	<0.1
<i>Gastroclonium subarticulatum</i>	-	-	<0.1	<0.1	<0.1	<0.1	0.2	0.7	<0.1
<i>Ulva</i> spp.	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Callithamnion pikeanum</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Calliarthron/Bossiella</i> spp.-complex	-	-	<0.1	<0.1	-	-	-	-	<0.1
filamentous red algae complex	-	-	<0.1	<0.1	-	-	-	-	<0.1
Invertebrate Counts									
<i>Chlorostoma funebris</i>	61.4	66.2	52.6	65.1	43.0	44.4	20.8	20.0	44.5
<i>Pagurus</i> spp.	9.0	12.4	9.4	14.5	4.6	4.6	7.0	8.9	7.5
<i>Pollicipes polymerus</i>	2.0	4.5	5.2	11.6	5.2	11.6	6.4	14.3	4.7
<i>Tetraclita rubescens</i>	0.6	0.9	5.4	8.1	1.8	2.5	2.8	5.2	2.7
<i>Anthopleura elegantissima</i>	2.8	2.4	0.2	0.4	1.0	1.4	5.6	7.3	2.4
<i>Lottia scabra</i>	0.8	1.8	2.2	4.9	0.8	1.3	4.4	9.8	2.1
<i>Lottia limatula</i>	1.0	1.2	1.0	0.7	2.6	3.1	0.8	0.8	1.4
<i>Lottia scutum</i>	-	-	1.6	3.0	2.4	4.8	1.2	2.2	1.3
<i>Nuttallina californica</i>	0.4	0.9	1.4	2.6	1.4	1.5	0.8	1.8	1.0
<i>Pachygrapsus crassipes</i>	0.6	0.5	1.4	1.1	0.8	1.3	0.2	0.4	0.8
<i>Leptasterias</i> spp.	-	-	0.6	0.5	0.6	1.3	-	-	0.3
Nemertea	0.2	0.4	0.2	0.4	0.2	0.4	-	-	0.2
<i>Hemigrapsus nudus</i>	0.2	0.4	0.2	0.4	-	-	0.2	0.4	0.2
<i>Ocinebrina</i> spp.	-	-	0.2	0.4	0.4	0.5	-	-	0.2
<i>Lottia pelta</i>	-	-	0.4	0.9	-	-	-	-	0.1

(table continued)



Table C2 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Control Station NC 1+0.9m (1+3).

Survey Survey Date	176		177		178		179		Annual Mean
Taxon	16-Jan-14 Mean	Std. Dev.	12-May-14 Mean	Std. Dev.	12-Aug-14 Mean	Std. Dev.	27-Oct-14 Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Fissurella volcano</i>	0.2	0.4	0.2	0.4	-	-	-	-	0.1
<i>Haliotis</i> spp.	0.1	0.3	0.1	0.3	0.1	0.3	-	-	<0.1
<i>Epiactis prolifera</i>	-	-	-	-	0.2	0.4	-	-	<0.1
Cancridae	-	-	-	-	-	-	0.2	0.4	<0.1
Lottiidae	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Crepidula</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pelecypoda boring	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
Grapsidae	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Homolo. luridum/Lirularia succincta</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
Ischnochitonidae	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1
Sipuncula	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1
<i>Alia</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Littorina</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Petrolisthes</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Lirobittium</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Cryptolithodes sitchensis</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Lacuna</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Pugettia</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Cover									
<i>Phragmatopoma californica</i>	0.2	0.7	0.2	0.5	0.3	0.9	0.3	0.9	0.2
Spirorbidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Chthamalus fissus</i>	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
tunicates, compound/social	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Haliclona</i> spp.	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1
<i>Salmacina tribranchiata</i>	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Porifera (encrusting)	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
bryozoa (encrusting)	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Substrate Cover									
rock	7.6	6.9	13.2	8.4	13.8	12.8	8.8	10.6	10.9
cobble	1.9	4.2	2.8	8.8	3.8	8.3	1.4	3.9	2.5
sand (shell gravel)	<0.1	<0.1	<0.1	<0.1	0.2	0.7	0.1	0.3	<0.1



Table C3. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Control Station NC 2+0.3m (2+1).

Survey	176		177		178		179		Annual Mean
Survey Date	13-Feb-14		30-May-14		24-Jul-14		4-Nov-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
<i>Phyllospadix</i> spp.	14.0	16.7	16.5	11.7	21.5	20.0	27.6	21.6	19.9
<i>Mazzaella flaccida</i>	11.9	3.0	29.4	13.6	22.5	12.2	13.0	12.3	19.2
<i>Chondracanthus canaliculatus</i>	11.0	8.8	21.0	6.6	19.7	8.5	11.7	7.1	15.9
non-coraline crust	18.7	7.1	15.0	9.7	12.3	10.6	16.5	8.4	15.6
<i>Gastroclonium subarticulatum</i>	11.7	8.4	8.7	8.0	21.9	20.6	14.1	7.5	14.1
<i>Mazzaella affinis</i>	16.3	7.8	9.4	6.2	5.7	5.5	7.6	5.3	9.8
<i>Egregia menziesii</i>	0.7	1.1	8.3	16.2	12.2	13.5	0.3	0.9	5.4
<i>Gelidium coulteri</i>	3.1	2.8	3.4	6.3	5.1	2.9	3.1	3.5	3.7
<i>Codium setchellii</i>	5.6	8.0	3.3	7.3	1.4	3.3	2.4	4.7	3.2
filamentous red algae complex	4.5	5.8	5.8	8.3	2.3	5.1	<0.1	0.2	3.2
coralline crust	2.4	2.6	1.5	1.3	2.9	3.4	2.4	2.2	2.3
<i>Mastocarpus papillatus</i>	3.0	6.8	3.1	4.0	2.5	3.3	<0.1	0.2	2.2
<i>Mastocarpus jardinii</i>	0.9	1.7	2.1	3.9	1.1	2.1	1.1	1.5	1.3
<i>Ulva</i> spp.	0.3	0.5	0.7	2.0	1.6	2.6	1.7	2.0	1.1
<i>Neorhodomela larix</i>	1.0	2.0	1.1	2.2	0.8	1.6	0.1	0.4	0.7
<i>Cryptopleura violacea</i>	0.1	0.4	0.8	1.5	0.8	1.1	1.0	1.1	0.7
<i>Pterosiphonia dendroidea</i>	<0.1	<0.1	<0.1	<0.1	-	-	2.4	2.8	0.6
<i>Prionitis</i> spp.	0.3	0.9	0.1	0.4	0.4	0.7	1.3	2.6	0.5
<i>Smithora naiadum</i>	<0.1	<0.1	0.4	1.3	1.5	1.7	<0.1	<0.1	0.5
<i>Corallina vancouveriensis</i>	0.6	1.0	<0.1	0.2	<0.1	<0.1	0.7	1.0	0.3
<i>Mazzaella oregona</i>	0.1	0.3	0.8	1.0	0.3	0.4	<0.1	0.2	0.3
<i>Microcladia coulteri</i>	<0.1	<0.1	<0.1	<0.1	0.6	0.7	0.3	0.8	0.2
<i>Melobesia mediocris</i>	<0.1	<0.1	0.3	0.9	0.3	0.9	0.3	0.9	0.2
<i>Mazzaella splendens</i>	-	-	0.4	1.1	0.2	0.7	-	-	0.2
<i>Mazzaella leptorhynchus</i>	0.3	0.7	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1
<i>Chondracanthus corymbiferus</i>	0.1	0.4	0.1	0.4	0.1	0.4	-	-	0.1
<i>Osmundea</i> spp.	-	-	<0.1	0.2	<0.1	0.2	0.1	0.3	<0.1
<i>Corallina chilensis</i>	-	-	0.3	0.9	<0.1	<0.1	-	-	<0.1
<i>Callithamnion pikeanum</i>	<0.1	<0.1	0.3	0.9	-	-	-	-	<0.1
juv. articulated coralline algae	<0.1	<0.1	<0.1	0.2	<0.1	0.2	<0.1	0.2	<0.1
<i>Gelidium pusillum</i>	<0.1	<0.1	<0.1	<0.1	-	-	0.2	0.7	<0.1
<i>Endocladia muricata</i>	0.2	0.5	<0.1	<0.1	-	-	-	-	<0.1
<i>Soranthra ulvoidea</i>	-	-	0.2	0.5	-	-	-	-	<0.1
<i>Calliarthron/Bossiella</i> spp.-complex	<0.1	0.2	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1
<i>Cryptopleura ruprechtiana</i>	-	-	-	-	<0.1	<0.1	0.1	0.4	<0.1
<i>Halymenia/Schizymenia</i> spp.-complex	<0.1	0.2	-	-	-	-	-	-	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Sarcoditheca gaudichaudii</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Acrosiphonia</i> spp.	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Grateloupia californica</i>	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Porphyra</i> spp.	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Cryptosiphonia woodii</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Gelidium robustum</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
Laminariales	-	-	-	-	-	-	<0.1	<0.1	<0.1
Chlorophyta (filamentous)	-	-	<0.1	<0.1	-	-	-	-	<0.1

(table continued)



Table C3 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Control Station NC 2+0.3m (2+1).

Survey	176		177		178		179		Annual Mean
Survey Date	13-Feb-14		30-May-14		24-Jul-14		4-Nov-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts									
<i>Pagurus</i> spp.	13.6	10.8	7.0	4.5	9.6	7.4	8.2	9.3	9.6
<i>Tetracita rubescens</i>	7.6	17.0	3.8	5.5	2.4	5.4	3.6	8.0	4.4
<i>Chlorostoma funebris</i>	7.6	2.5	3.4	4.2	1.2	1.3	4.0	4.9	4.1
<i>Epiactis prolifera</i>	0.6	0.5	5.0	6.9	4.8	5.4	4.2	6.3	3.7
<i>Chlorostoma brunnea</i>	1.2	1.6	3.6	4.1	2.0	2.0	4.2	5.8	2.8
<i>Anthopleura elegantissima</i>	1.0	1.0	2.8	5.2	0.2	0.4	4.0	7.8	2.0
<i>Fissurella volcano</i>	0.4	0.9	0.8	1.3	1.0	1.2	1.8	4.0	1.0
<i>Lottia pelta</i>	0.2	0.4	1.2	2.7	0.2	0.4	1.2	2.7	0.7
<i>Pugettia</i> spp.	0.2	0.4	0.4	0.5	0.4	0.5	1.0	1.7	0.5
Nemertea	0.4	0.5	0.2	0.4	0.4	0.5	1.0	1.7	0.5
<i>Lottia scabra</i>	0.2	0.4	1.2	2.2	0.6	1.3	-	-	0.5
<i>Leptasterias</i> spp.	-	-	1.2	1.3	0.4	0.9	0.2	0.4	0.5
<i>Lottia scutum</i>	0.4	0.9	-	-	0.8	1.1	0.2	0.4	0.4
<i>Lottia limatula</i>	0.8	1.3	0.6	1.3	-	-	-	-	0.4
<i>Rostanga pulchra</i>	<0.1	<0.1	-	-	-	-	0.6	1.3	0.2
<i>Anthopleura artemisia</i>	-	-	-	-	0.6	1.3	-	-	0.2
<i>Serpulorbis squamigerus</i>	-	-	-	-	0.4	0.9	-	-	0.1
<i>Romaleon jordani</i>	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Mopalia</i> spp.	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Hemigrapsus nudus</i>	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Pachygrapsus crassipes</i>	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Lacuna</i> spp.	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Crepidula</i> spp.	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Alia</i> spp.	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cancridae	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lottiidae	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1
Pycnogonida	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Lirobittium</i> spp.	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1
<i>Lissothuria nutriens</i>	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Halcapa decemtentaculata</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
Ischnochitonidae	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Tonicella lineata</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Idotea</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
Sipuncula	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Stenoplax</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
Grapsidae	-	-	-	-	<0.1	<0.1	-	-	<0.1
Invertebrate Cover									
<i>Pista</i> spp.	14.3	5.2	8.7	6.1	8.3	10.1	19.7	17.9	12.8
tunicates, compound/social	<0.1	<0.1	<0.1	<0.1	0.8	2.2	0.1	0.4	0.2
Porifera (encrusting)	<0.1	<0.1	<0.1	<0.1	0.3	0.9	<0.1	<0.1	<0.1
<i>Phragmatopoma californica</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.7	<0.1
bryozoa (encrusting)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1
Spirorbidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

(table continued)



Table C3 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Control Station NC 2+0.3m (2+1).

Survey Survey Date	176 13-Feb-14		177 30-May-14		178 24-Jul-14		179 4-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Cover (continued)									
Chthamalus fissus	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Salmacina tribranchiata	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Substrate Cover									
sand (shell gravel)	3.3	3.2	13.7	15.8	5.8	4.1	11.0	8.5	8.5
rock	3.1	1.9	6.6	9.5	11.8	13.9	5.0	3.7	6.6
cobble	2.8	4.6	0.8	2.0	0.8	1.8	1.0	2.3	1.4



Table C4. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Control Station NC 2+0.9m (2+3).

Survey Survey Date	176		177		178		179		Annual Mean
	13-Feb-14	Std. Dev.	30-May-14	Std. Dev.	24-Jul-14	Std. Dev.	4-Nov-14	Std. Dev.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean
Algae Cover									
<i>Endocladia muricata</i>	30.5	21.7	32.8	22.5	37.3	23.3	32.7	24.0	33.3
non-coraline crust	28.3	10.0	19.6	5.8	11.6	8.2	22.5	11.2	20.5
<i>Mastocarpus papillatus</i>	11.7	6.4	22.3	13.5	26.8	12.4	14.4	6.6	18.8
<i>Mazzaella flaccida</i>	5.7	6.5	13.2	9.4	16.6	13.4	10.6	9.8	11.5
<i>Mazzaella affinis</i>	9.4	7.0	9.4	10.4	5.3	5.9	9.7	8.6	8.5
coralline crust	6.3	5.3	2.8	4.5	6.3	9.3	3.7	3.1	4.8
<i>Mastocarpus jordinii</i>	0.8	0.9	1.3	2.1	3.4	4.0	3.5	5.2	2.3
<i>Gelidium coulteri</i>	1.1	1.2	0.2	0.5	3.3	3.9	1.4	1.6	1.5
<i>Chondracanthus canaliculatus</i>	0.8	1.4	0.3	0.9	0.8	1.8	1.1	2.9	0.7
<i>Corallina vancouveriensis</i>	1.5	2.4	0.6	1.8	<0.1	0.2	0.4	1.3	0.6
<i>Porphyra</i> spp.	<0.1	<0.1	0.8	1.4	0.7	1.1	<0.1	<0.1	0.4
<i>Gelidium pusillum</i>	0.3	0.8	<0.1	-	-	-	0.8	1.2	0.3
<i>Calliarthron/Bossiella</i> spp.-complex	<0.1	<0.1	-	-	0.7	2.2	0.1	0.4	0.2
<i>Gastroclonium subarticulatum</i>	0.1	0.4	-	-	-	-	0.3	0.9	0.1
filamentous red algae complex	<0.1	<0.1	-	-	0.4	1.3	-	-	0.1
<i>Mazzaella oregona</i>	<0.1	<0.1	<0.1	<0.1	0.3	0.6	-	-	<0.1
<i>Prionitis</i> spp.	0.1	0.4	<0.1	<0.1	<0.1	0.2	0.1	0.4	<0.1
<i>Cryptopleura violacea</i>	<0.1	<0.1	<0.1	<0.1	0.3	0.8	-	-	<0.1
<i>Mazzaella splendens</i>	-	-	-	-	0.3	1.1	-	-	<0.1
<i>Mazzaella leptorhynchus</i>	0.2	0.5	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Silvetia compressa</i>	<0.1	<0.1	0.2	0.7	<0.1	<0.1	-	-	<0.1
juv. articulated coralline algae	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Fucus gardneri</i>	-	-	<0.1	0.2	<0.1	<0.1	-	-	<0.1
<i>Cladophora</i> spp.	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Ulva</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Phyllospadix</i> spp.	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Hesperophycus californicus</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Smithora naiadum</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Chondracanthus corymbiferus</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Osmundea</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Chlorophyta (filamentous)	<0.1	<0.1	-	-	-	-	-	-	<0.1
Invertebrate Counts									
<i>Chlorostoma funebris</i>	101.2	64.7	120.8	108.0	58.2	26.8	82.2	81.8	90.6
<i>Anthopleura elegantissima</i>	10.8	6.1	9.2	4.4	6.8	4.3	13.0	14.2	10.0
<i>Lottia scabra</i>	3.2	2.3	2.8	3.1	7.0	7.3	8.6	12.7	5.4
<i>Pagurus</i> spp.	8.0	8.7	5.8	4.1	3.8	3.9	0.4	0.5	4.5
<i>Lottia scutum</i>	2.6	3.2	2.2	3.0	3.0	1.0	0.8	1.3	2.2
<i>Lottia limatula</i>	1.0	1.0	1.4	1.7	2.4	0.5	1.8	2.0	1.7
<i>Tetracita rubescens</i>	0.2	0.4	2.8	5.2	0.4	0.9	-	-	0.9
<i>Pachygrapsus crassipes</i>	0.2	0.4	-	-	2.0	1.2	0.6	0.9	0.7
<i>Lottia pelta</i>	0.4	0.5	0.8	0.8	0.2	0.4	0.8	1.3	0.6
<i>Ocenebrina</i> spp.	1.2	0.8	0.2	0.4	0.2	0.4	0.6	0.9	0.6
<i>Acanthinucella</i> spp.	0.4	0.5	-	-	0.4	0.9	0.2	0.4	0.3

(table continued)



Table C4 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Control Station NC 2+0.9m (2+3).

Survey Survey Date	176		177		178		179		Annual Mean
	13-Feb-14	Std. Dev.	30-May-14	Std. Dev.	24-Jul-14	Std. Dev.	4-Nov-14	Std. Dev.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	
Invertebrate Counts (continued)									
<i>Mopalia</i> spp.	-	-	0.4	0.5	0.2	0.4	0.2	0.4	0.2
<i>Leptasterias</i> spp.	-	-	-	-	0.2	0.4	0.4	0.9	0.2
Nemertea	-	-	0.2	0.4	0.2	0.4	-	-	0.1
<i>Calliostoma annulatum</i>	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Nucella</i> spp.	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Nuttallina californica</i>	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Hemigrapsus nudus</i>	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Strongylocentrotus purpuratus</i>	-	-	-	-	-	-	0.2	0.4	<0.1
Lottiidae	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	<0.1
<i>Crepidula</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Littorina</i> spp.	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Epiactis prolifera</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
Ischnochitonidae	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Lacuna</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Pugettia</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
Sipuncula	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Barleeia</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Triopha</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Mytilus</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Grapsidae	-	-	<0.1	<0.1	-	-	-	-	<0.1
Invertebrate Cover									
<i>Chthamalus fissus</i>	<0.1	-	<0.1	<0.1	0.2	0.7	<0.1	-	<0.1
<i>Phragmatopoma californica</i>	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	0.4	<0.1
<i>Haliclona</i> spp.	<0.1	0.2	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
Spirorbidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
tunicates, compound/social	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Porifera (encrusting)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
bryozoa (encrusting)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Salmacina tribranchiata</i>	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1
Substrate Cover									
rock	6.7	5.9	6.5	5.9	9.1	9.3	8.3	4.9	7.6
cobble	9.9	8.4	8.1	7.7	7.5	6.2	4.9	5.5	7.6
sand (shell gravel)	<0.1	<0.1	0.4	1.3	0.6	2.0	0.6	2.0	0.4



Table C5. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Field's Cove Station FC 1+0.3m (4+1).

Survey Survey Date Taxon	176 13-Jan-14		177 11-Jun-14		178 9-Jul-14		179 10-Oct-14		Annual Mean
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
non-coraline crust	34.0	9.9	22.0	6.6	21.7	16.5	22.4	9.5	25.0
<i>Mazzaella flaccida</i>	11.4	8.2	31.8	13.1	32.2	16.7	13.4	10.0	22.2
<i>Gastroclonium subarticulatum</i>	13.3	10.5	17.2	9.0	19.3	12.2	25.4	14.9	18.8
<i>Phyllospadix</i> spp.	14.2	16.7	10.1	12.2	15.6	17.3	15.6	18.7	13.9
<i>Egria menziesii</i>	3.4	6.6	9.7	9.9	20.4	21.5	7.5	9.1	10.2
coralline crust	9.3	6.6	10.8	6.1	7.2	6.3	4.4	4.1	8.0
<i>Cryptopleura violacea</i>	2.7	2.5	7.4	8.2	9.1	8.3	12.2	14.3	7.8
<i>Chondracanthus canaliculatus</i>	7.7	6.0	4.2	3.9	5.1	4.8	10.8	6.4	7.0
<i>Endocladia muricata</i>	4.9	8.1	3.6	6.4	6.7	12.3	4.4	9.7	4.9
<i>Gelidium coulteri</i>	3.9	5.8	6.2	7.4	5.6	6.0	3.3	3.0	4.7
<i>Mastocarpus papillatus</i>	2.6	4.0	7.0	6.0	5.7	5.4	3.3	3.3	4.7
<i>Mazzaella affinis</i>	4.2	6.5	4.1	5.8	1.6	2.6	3.3	4.6	3.3
<i>Smithora naiadum</i>	-	-	3.4	6.8	6.3	7.9	2.7	4.2	3.1
<i>Corallina vancouveriensis</i>	4.5	3.5	4.3	6.3	1.9	5.4	1.0	1.5	3.0
<i>Mastocarpus jardinii</i>	1.9	2.9	1.4	2.6	0.5	0.9	2.2	3.8	1.5
juv. articulated coralline algae	2.2	4.5	2.3	2.5	0.8	2.0	0.4	0.7	1.4
<i>Prionitis</i> spp.	1.0	2.4	1.0	1.5	0.6	1.2	2.3	2.6	1.2
<i>Mazzaella splendens</i>	-	-	1.9	1.5	1.6	3.5	-	-	0.9
<i>Calliarthron/Bossiella</i> spp.-complex	0.4	0.7	0.3	0.8	0.3	0.7	1.5	2.1	0.7
<i>Mazzaella oregona</i>	<0.1	<0.1	0.9	1.4	0.6	0.9	0.1	0.3	0.4
<i>Corallina chilensis</i>	-	-	-	-	<0.1	<0.1	1.5	3.0	0.4
<i>Callithamnion pikeanum</i>	<0.1	<0.1	0.2	0.5	1.0	1.9	-	-	0.3
<i>Ulva</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	1.1	3.5	0.3
<i>Microcladia coulteri</i>	-	-	0.1	0.4	<0.1	0.2	0.6	0.9	0.2
<i>Grateloupia californica</i>	-	-	0.6	1.0	<0.1	<0.1	-	-	0.1
<i>Sarcodiotheca gaudichaudii</i>	<0.1	<0.1	-	-	0.1	0.4	0.3	0.7	0.1
<i>Halymenia/Schizymenia</i> spp.-complex	-	-	0.4	0.9	<0.1	<0.1	-	-	0.1
<i>Melobesia mediocris</i>	-	-	<0.1	<0.1	<0.1	<0.1	0.3	0.8	<0.1
<i>Cryptosiphonia woodii</i>	-	-	0.3	1.1	-	-	<0.1	<0.1	<0.1
<i>Gelidium pusillum</i>	0.1	0.3	<0.1	<0.1	<0.1	<0.1	0.1	0.4	<0.1
<i>Osmundea</i> spp.	-	-	-	-	-	-	0.2	0.5	<0.1
<i>Colpomenia</i> spp.	-	-	-	-	-	-	0.1	0.4	<0.1
filamentous red algae complex	-	-	0.1	0.4	-	-	-	-	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1
<i>Porphyra</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	-	-	<0.1
<i>Chondracanthus corymbiferus</i>	-	-	<0.1	0.2	<0.1	<0.1	-	-	<0.1
<i>Mazzaella leptorhynchus</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Microcladia borealis</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Callithamnion</i> spp./ <i>Pleonospor.</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Laminariales	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Leathesia difformis</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1

(table continued)

Table C5 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Field's Cove Station FC 1+0.3m (4+1).

Survey Survey Date	176 13-Jan-14		177 11-Jun-14		178 9-Jul-14		179 10-Oct-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts									
<i>Tetraclita rubescens</i>	42.4	53.0	57.0	108.9	71.2	95.2	58.4	109.6	57.3
<i>Chlorostoma funebris</i>	24.6	20.4	2.4	2.8	0.6	0.9	0.6	1.3	7.1
<i>Pagurus</i> spp.	9.0	10.2	4.6	3.6	1.8	0.8	1.4	1.1	4.2
<i>Chlorostoma brunnea</i>	5.4	5.9	2.0	1.6	3.2	2.6	4.8	4.9	3.9
<i>Epiactis prolifera</i>	4.0	4.5	3.0	6.2	3.4	7.1	4.8	9.1	3.8
<i>Fissurella volcano</i>	7.2	4.5	2.2	1.9	1.6	1.1	4.0	4.0	3.8
<i>Anthopleura elegantissima</i>	4.2	4.1	1.6	1.1	1.6	2.1	2.2	2.8	2.4
<i>Lottia scutum</i>	0.6	1.3	4.2	2.4	1.8	1.9	2.0	1.6	2.2
<i>Lottia scabra</i>	-	-	3.0	5.7	2.6	3.8	1.4	1.9	1.8
<i>Strongylocentrotus purpuratus</i>	2.0	2.0	0.8	1.1	1.0	1.0	1.0	1.2	1.2
<i>Lottia pelta</i>	1.4	2.6	1.2	1.6	1.2	1.6	0.8	0.8	1.2
<i>Pachygrapsus crassipes</i>	1.2	1.3	1.4	2.6	1.6	1.3	0.4	0.9	1.2
<i>Lottia limatula</i>	2.0	2.0	1.0	1.2	0.4	0.9	0.4	0.9	1.0
<i>Ocenebrina</i> spp.	1.6	1.9	0.2	0.4	0.8	1.1	0.4	0.5	0.8
<i>Leptasterias</i> spp.	0.8	0.8	0.4	0.9	1.0	1.0	0.2	0.4	0.6
Nemertea	1.0	1.0	0.6	0.9	0.6	0.9	-	-	0.6
<i>Nuttallina californica</i>	1.0	1.4	-	-	0.4	0.5	-	-	0.4
<i>Serpulorbis squamigerus</i>	0.8	1.8	-	-	0.2	0.4	0.2	0.4	0.3
<i>Pugettia</i> spp.	0.2	0.4	0.4	0.5	0.4	0.5	0.2	0.4	0.3
<i>Mopalia</i> spp.	0.4	0.5	-	-	0.6	0.9	-	-	0.3
<i>Mitra idae</i>	0.4	0.5	-	-	0.2	0.4	-	-	0.2
Serpulidae	<0.1	<0.1	0.2	0.4	-	-	<0.1	<0.1	<0.1
<i>Pisaster/Henricia</i> spp. (juv.)	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Barleeia</i> spp.	-	-	-	-	-	-	0.2	0.4	<0.1
Cirratulidae/Terebellidae	-	-	0.2	0.4	-	-	-	-	<0.1
Lottiidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1
<i>Lissothuria nutriens</i>	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Alia</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Lirobittium</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Lacuna</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ischnochitonidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Sipuncula	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Acmaea mitra</i>	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Cyanoplax</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Crepidula</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Lottia instabilis</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Epitonium/Opalia</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Petrolisthes</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Pseudomelasma torosa</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
Pelecypoda boring	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Homolo. luridum/Lirularia succincta</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1

(table continued)



Table C5 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Field's Cove Station FC 1+0.3m (4+1).

Survey Survey Date Taxon	176 13-Jan-14		177 11-Jun-14		178 9-Jul-14		179 10-Oct-14		Annual Mean
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Cover									
<i>Pista</i> spp.	2.9	5.4	2.8	4.0	1.2	2.1	5.6	11.7	3.1
tunicates, compound/social	1.8	3.9	0.5	1.5	2.1	2.9	3.7	7.5	2.0
<i>Phragmatopoma californica</i>	1.2	2.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
Porifera (encrusting)	0.2	0.7	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
Spirorbidae	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Chthamalus fissus</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
bryozoa (encrusting)	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Salmacina tribranchiata</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Substrate Cover									
rock	3.7	3.7	6.7	3.5	4.0	5.3	4.0	2.7	4.6
sand (shell gravel)	0.6	1.0	0.4	0.9	0.3	1.1	4.7	12.8	1.5
cobble	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1



Table C6. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Field's Cove Station FC 1+0.9m (4+3).

Survey Survey Date	176 26-Feb-14		177 11-Jun-14		178 25-Jul-14		179 23-Dec-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
<i>Endocladia muricata</i>	30.9	20.6	32.8	15.5	38.3	24.7	24.2	23.3	31.5
non-coraline crust	28.8	14.9	21.2	12.0	22.8	11.6	31.3	16.8	26.0
<i>Mastocarpus papillatus</i>	7.0	7.3	13.9	12.5	19.0	12.1	3.3	4.7	10.8
<i>Mazzaella flaccida</i>	1.1	3.0	4.7	6.4	12.4	10.2	0.5	0.8	4.7
coralline crust	2.0	3.0	3.1	4.9	0.9	2.1	2.2	3.8	2.0
<i>Calliarthron/Bossia</i> spp.-complex	1.0	3.1	0.6	2.0	0.8	2.4	1.0	3.1	0.8
<i>Phyllospadix</i> spp.	0.8	2.0	0.8	1.7	1.0	2.2	0.6	1.2	0.8
<i>Gelidium coulteri</i>	0.3	0.5	0.6	1.0	2.2	2.2	-	-	0.7
juv. articulated coralline algae	0.6	1.7	1.1	2.6	<0.1	<0.1	0.5	1.1	0.6
<i>Corallina vancouveriensis</i>	0.8	2.6	<0.1	0.2	0.5	1.3	0.6	1.5	0.5
<i>Mazzaella leptorhynchus</i>	<0.1	<0.1	0.1	0.3	1.2	1.4	-	-	0.3
<i>Silvetia compressa</i>	<0.1	<0.1	0.4	1.3	0.3	0.9	0.3	0.7	0.2
<i>Gelidium pusillum</i>	0.5	0.7	<0.1	0.2	<0.1	<0.1	-	-	0.1
<i>Prionitis</i> spp.	0.1	0.3	<0.1	0.2	0.3	0.8	<0.1	<0.1	0.1
<i>Callithamnion pikeanum</i>	-	-	0.4	1.1	<0.1	0.2	-	-	0.1
<i>Mazzaella affinis</i>	0.4	1.3	-	-	<0.1	<0.1	-	-	0.1
<i>Chondracanthus corymbiferus</i>	-	-	-	-	0.3	0.9	-	-	<0.1
<i>Mazzaella oregona</i>	-	-	-	-	0.2	0.7	-	-	<0.1
<i>Mastocarpus jardinii</i>	<0.1	0.2	-	-	-	-	<0.1	0.2	<0.1
<i>Pterosiphonia dendroidea</i>	-	-	0.1	0.4	-	-	-	-	<0.1
<i>Cryptosiphonia woodii</i>	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	-	-	<0.1
<i>Porphyra</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	-	-	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Chondracanthus canaliculatus</i>	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Gastroclonium subarticulatum</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
filamentous red algae complex	-	-	<0.1	<0.1	-	-	-	-	<0.1
Invertebrate Counts									
<i>Chlorostoma funebris</i>	210.6	147.2	273.4	123.7	564.0	274.4	384.6	146.3	358.2
<i>Anthopleura elegantissima</i>	442.6	509.9	266.4	277.5	380.2	460.7	255.8	275.2	336.3
<i>Lottia scabra</i>	26.2	35.9	24.8	39.8	65.4	99.8	32.4	47.6	37.2
<i>Pagurus</i> spp.	56.4	59.6	10.0	4.8	9.8	12.3	38.6	13.9	28.7
<i>Lottia limatula</i>	2.6	1.7	2.2	2.5	6.2	6.3	0.4	0.9	2.9
<i>Acanthinucella</i> spp.	3.4	2.1	1.0	-	1.4	2.1	2.0	1.6	2.0
<i>Lottia scutum</i>	1.6	2.6	2.4	2.5	0.8	0.8	1.2	1.3	1.5
<i>Ocenebrina</i> spp.	0.8	0.4	1.4	0.5	1.2	0.8	2.0	1.9	1.4
<i>Lottia pelta</i>	0.6	0.9	0.6	0.9	1.0	1.0	1.4	2.1	0.9
<i>Pachygrapsus crassipes</i>	1.0	1.4	1.4	1.3	0.8	0.4	0.2	0.4	0.9
<i>Fissurella volcano</i>	-	-	0.6	1.3	1.0	2.2	1.0	1.4	0.7
<i>Hemigrapsus nudus</i>	0.6	1.3	0.6	0.9	-	-	0.4	0.5	0.4
<i>Cyanoplax</i> spp.	0.6	0.9	0.6	0.9	<0.1	<0.1	0.2	0.4	0.4
<i>Mopalia</i> spp.	0.2	0.4	0.2	0.4	0.2	0.4	0.2	0.4	0.2
<i>Tetraclita rubescens</i>	-	-	-	-	-	-	0.8	1.8	0.2
<i>Haliotis</i> spp.	0.2	0.6	0.2	0.6	-	-	0.2	0.6	0.2
<i>Nuttallina californica</i>	-	-	-	-	-	-	0.6	0.5	0.2

(table continued)



Table C6 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Field's Cove Station FC 1+0.9m (4+3).

Survey Survey Date	176 26-Feb-14		177 11-Jun-14		178 25-Jul-14		179 23-Dec-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Ophiothrix spiculata</i>	-	-	-	-	0.4	0.9	-	-	0.1
Cirratulidae/Terebellidae	-	-	0.2	0.4	-	-	-	-	<0.1
Nereididae	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Strongylocentrotus purpuratus</i>	-	-	-	-	0.2	0.4	-	-	<0.1
Serpulidae	-	-	-	-	-	-	0.2	0.4	<0.1
Lottiidae	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1
Grapsidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ischnochitonidae	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Littorina</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
Polychaeta	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Pollicipes polymerus</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
Sipuncula	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Barleeia</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
Invertebrate Cover									
<i>Phragmatopoma californica</i>	4.2	4.6	1.5	2.5	1.0	2.0	7.4	8.1	3.5
<i>Chthamalus fissus</i>	1.0	1.6	0.6	1.2	0.6	1.2	1.3	1.7	0.9
Spirorbidae	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Haliclona</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Porifera (encrusting)	<0.1	<0.1	-	-	-	-	-	-	<0.1
bryozoa (encrusting)	-	-	-	-	-	-	<0.1	<0.1	<0.1
Substrate Cover									
rock	12.5	7.9	22.1	11.1	20.4	15.2	15.5	11.7	17.6
sand (shell gravel)	5.3	8.5	0.6	1.0	0.4	1.1	8.6	8.7	3.7
cobble	2.5	5.1	2.3	3.5	3.9	6.2	4.6	8.0	3.3



Table C7. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Field's Cove Station FC 2+0.3m (5+1).

Survey	176		177		178		179		Annual Mean
Survey Date	13-Jan-14		12-Jun-14		9-Jul-14		24-Oct-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
non-coraline crust	38.7	11.6	18.4	9.5	21.5	13.9	19.6	7.6	24.5
<i>Mazzaella flaccida</i>	8.1	6.6	18.2	10.3	24.0	12.6	6.3	5.5	14.1
<i>Corallina vancouveriensis</i>	9.9	11.9	12.5	14.6	6.9	11.9	12.7	10.8	10.5
<i>Phyllospadix</i> spp.	6.3	12.6	9.9	19.5	9.7	21.7	14.0	26.4	10.0
coralline crust	9.3	5.1	13.6	10.1	7.1	6.2	7.0	4.6	9.3
<i>Endocladia muricata</i>	9.1	11.1	10.0	12.9	8.8	12.4	6.7	9.3	8.7
<i>Gelidium coulteri</i>	5.2	5.5	10.6	5.9	11.4	12.0	6.0	5.3	8.3
<i>Gastroclonium subarticulatum</i>	3.5	7.0	9.9	11.4	9.1	10.8	7.8	9.8	7.6
<i>Egregia menziesii</i>	1.9	4.1	3.7	7.2	10.4	19.5	7.9	13.1	6.0
<i>Cryptopleura violacea</i>	3.0	4.1	4.2	5.7	7.6	8.5	7.5	5.1	5.6
<i>Calliarthron/Bossiaella</i> spp.-complex	3.2	6.0	2.2	4.2	3.1	4.5	5.8	6.7	3.6
<i>Prionitis</i> spp.	2.2	3.5	3.0	5.1	4.2	7.4	4.5	5.8	3.5
<i>Chondracanthus canaliculatus</i>	5.8	6.7	1.1	1.6	3.1	3.2	3.9	4.7	3.5
<i>Mastocarpus papillatus</i>	2.0	2.7	5.0	3.7	2.1	3.8	2.2	4.5	2.8
juv. articulated coralline algae	1.3	2.0	2.6	2.0	3.0	2.8	0.1	0.4	1.7
<i>Mazzaella affinis</i>	1.1	2.0	1.2	2.3	1.3	2.7	1.0	2.0	1.2
<i>Mastocarpus jardinii</i>	0.8	1.6	1.7	1.8	0.3	0.5	1.4	2.3	1.1
<i>Mazzaella oregona</i>	<0.1	0.2	1.4	2.4	1.0	0.9	<0.1	<0.1	0.6
<i>Smithora naiadum</i>	-	-	1.2	2.1	1.1	2.1	<0.1	<0.1	0.6
<i>Osmundea</i> spp.	-	-	1.0	1.3	0.3	0.6	<0.1	0.2	0.3
<i>Cryptosiphonia woodii</i>	<0.1	<0.1	0.6	1.2	0.6	1.3	-	-	0.3
<i>Mazzaella splendens</i>	-	-	1.2	1.4	<0.1	<0.1	-	-	0.3
<i>Chondracanthus corymbiferus</i>	-	-	0.4	1.1	0.1	0.4	0.5	0.9	0.3
<i>Gelidium pusillum</i>	0.1	0.4	<0.1	<0.1	0.3	0.9	0.2	0.7	0.2
<i>Corallina chilensis</i>	-	-	-	-	-	-	0.6	1.0	0.1
<i>Callithamnion pikeanum</i>	-	-	0.2	0.5	0.3	0.9	-	-	0.1
<i>Microcladia coulteri</i>	-	-	<0.1	0.2	0.3	0.6	<0.1	<0.1	0.1
<i>Laminaria setchellii</i>	-	-	-	-	<0.1	<0.1	0.3	1.1	<0.1
<i>Mazzaella leptorhynchos</i>	0.1	0.4	<0.1	0.2	-	-	<0.1	<0.1	<0.1
Chlorophyta (filamentous)	-	-	<0.1	<0.1	0.2	0.7	-	-	<0.1
<i>Microcladia borealis</i>	-	-	<0.1	<0.1	0.2	0.7	-	-	<0.1
<i>Porphyra</i> spp.	-	-	0.1	0.4	<0.1	<0.1	-	-	<0.1
<i>Acrosiphonia</i> spp.	-	-	0.1	0.4	<0.1	<0.1	-	-	<0.1
<i>Pterosiphonia dendroidea</i>	-	-	<0.1	0.2	-	-	-	-	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Ulva</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Melobesia mediocris</i>	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Sarcoditheca gaudichaudii</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Callophyllis</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
Laminariales	-	-	<0.1	<0.1	-	-	-	-	<0.1

(table continued)



Table C7 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Field's Cove Station FC 2+0.3m (5+1).

Survey Survey Date	176 13-Jan-14		177 12-Jun-14		178 9-Jul-14		179 24-Oct-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts									
<i>Chlorostoma funebris</i>	93.6	43.2	42.0	68.6	8.6	6.2	67.8	87.0	53.0
<i>Strongylocentrotus purpuratus</i>	17.6	14.1	24.4	13.7	19.8	12.4	10.6	7.2	18.1
<i>Anthopleura elegantissima</i>	14.6	17.4	14.4	18.7	19.0	19.8	15.8	11.2	16.0
<i>Tetraclita rubescens</i>	36.8	40.2	2.0	3.5	5.6	12.0	5.8	11.4	12.6
<i>Pagurus</i> spp.	16.2	7.0	6.8	5.4	6.0	5.9	15.4	8.9	11.1
<i>Fissurella volcano</i>	4.8	4.4	3.4	1.7	2.0	1.7	12.2	7.8	5.6
<i>Lottia scabra</i>	0.4	0.9	0.8	1.1	2.4	3.3	5.6	7.3	2.3
<i>Lottia scutum</i>	-	-	2.6	2.7	2.0	2.3	2.4	1.8	1.8
<i>Nuttallina californica</i>	1.4	2.2	0.6	0.9	1.4	1.5	2.0	3.5	1.4
<i>Lottia pelta</i>	0.4	0.9	1.6	0.9	1.4	1.1	1.6	1.5	1.3
<i>Chlorostoma brunnea</i>	1.2	2.7	1.2	0.8	1.2	2.7	1.2	2.7	1.2
Nemertea	1.0	1.0	-	-	0.2	0.4	1.8	1.8	0.8
<i>Pachygrapsus crassipes</i>	0.2	0.4	1.4	1.1	1.0	0.7	0.2	0.4	0.7
<i>Epiactis prolifera</i>	1.0	0.7	<0.1	<0.1	0.2	0.4	1.0	1.4	0.6
<i>Lottia limatula</i>	0.4	0.5	0.4	0.5	0.2	0.4	0.8	1.8	0.5
<i>Leptasterias</i> spp.	-	-	0.4	0.9	-	-	1.0	1.2	0.4
<i>Ocenebrina</i> spp.	0.6	0.9	0.2	0.4	-	-	0.2	0.4	0.3
<i>Mopalia</i> spp.	0.2	0.4	-	-	-	-	0.4	0.5	0.2
<i>Pugettia</i> spp.	<0.1	<0.1	0.2	0.4	0.2	0.4	-	-	0.1
Nereididae	-	-	0.4	0.9	-	-	-	-	0.1
<i>Ophiothrix spiculata</i>	-	-	0.2	0.4	0.2	0.4	-	-	0.1
<i>Tonicella lineata</i>	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Hemigrapsus nudus</i>	-	-	0.2	0.4	-	-	-	-	<0.1
Serpulidae	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Ophiactis simplex</i>	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Haliotis</i> spp.	0.1	0.3	-	-	-	-	-	-	<0.1
Lottiidae	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1
<i>Heptacarpus</i> spp.	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1
<i>Alia</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
Ischnochitonidae	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Lirobittium</i> spp.	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Amphissa</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
Sipuncula	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
Grapsidae	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Acmaea mitra</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
Pycnogonida	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Phidiana hiltoni</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Lacuna</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Cirratulidae/Terebellidae	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Homolo. luridum/Lirularia succincta</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1

(table continued)



Table C7 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Field's Cove Station FC 2+0.3m (5+1).

Survey Survey Date	176		177		178		179		Annual Mean
	13-Jan-14	Std. Dev.	12-Jun-14	Std. Dev.	9-Jul-14	Std. Dev.	24-Oct-14	Std. Dev.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	
Invertebrate Cover									
<i>Pista</i> spp.	0.2	0.7	<0.1	<0.1	<0.1	<0.1	3.0	7.9	0.8
<i>Phragmatopoma californica</i>	0.1	0.4	0.1	0.4	0.3	0.9	1.2	3.1	0.4
tunicates, compound/social	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.7	<0.1
<i>Dodecaceria fewkesi</i>	0.2	0.5	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Chthamalus fissus</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Spirorbidae	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Porifera (encrusting)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
bryozoa (encrusting)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Salmacina tribranchiata</i>	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Haliclona</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Substrate Cover									
rock	4.9	4.5	9.9	5.4	5.8	3.6	4.5	4.0	6.3
sand (shell gravel)	1.2	1.9	1.1	3.1	0.8	1.4	3.7	6.1	1.7
cobble	<0.1	0.2	-	-	<0.1	<0.1	0.3	0.6	<0.1



Table C8. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Field's Cove Station FC 2+0.9m (5+3).

Survey Survey Date	176		177		178		179		Annual Mean
	13-Jan-14	Std. Dev.	12-Jun-14	Std. Dev.	23-Jul-14	Std. Dev.	24-Oct-14	Std. Dev.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean
Algae Cover									
<i>Endocladia muricata</i>	40.0	11.9	39.0	9.6	35.2	14.2	39.7	17.8	38.5
non-coraline crust	25.7	15.3	13.1	9.8	14.6	13.2	18.2	8.0	17.9
<i>Mastocarpus papillatus</i>	6.1	4.7	15.1	8.8	22.0	11.0	15.3	5.3	14.6
<i>Mazzaella flaccida</i>	<0.1	<0.1	6.3	9.2	6.7	8.6	4.9	6.8	4.5
<i>Silvetia compressa</i>	3.4	5.7	2.0	3.9	2.2	4.3	2.0	3.3	2.4
<i>Fucus gardneri</i>	0.7	2.2	1.1	3.5	0.7	2.2	0.6	1.3	0.8
<i>Cladophora</i> spp.	<0.1	-	<0.1	0.2	0.8	1.0	0.5	0.8	0.3
<i>Gelidium coulteri</i>	<0.1	<0.1	-	-	0.3	0.9	0.3	0.8	0.2
<i>Prionitis</i> spp.	0.3	0.9	<0.1	<0.1	0.1	0.4	0.2	0.5	0.2
coralline crust	<0.1	0.2	0.1	0.4	<0.1	-	0.3	0.6	0.1
<i>Mazzaella affinis</i>	<0.1	<0.1	0.1	0.3	<0.1	0.2	0.3	0.6	0.1
<i>Porphyra</i> spp.	<0.1	<0.1	0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Gelidium pusillum</i>	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Mazzaella oregona</i>	-	-	-	-	<0.1	0.2	-	-	<0.1
<i>Chondracanthus canaliculatus</i>	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1
juv. articulated coralline algae	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1
<i>Hesperophycus californicus</i>	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1
<i>Corallina vancouveriensis</i>	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Mazzaella leptorhynchos</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Ulva</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Cryptosiphonia woodii</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Gastroclonium subarticulatum</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Microcladia coulteri</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Cryptopleura violacea</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
filamentous red algae complex	-	-	-	-	<0.1	<0.1	-	-	<0.1
Invertebrate Counts									
<i>Chlorostoma funebris</i>	113.6	74.5	125.0	32.0	122.0	85.5	207.8	210.6	142.1
<i>Anthopleura elegantissima</i>	112.8	73.3	112.0	107.1	56.0	44.7	66.4	42.2	86.8
<i>Lottia scabra</i>	8.8	5.4	7.0	4.6	23.4	21.6	51.2	52.9	22.6
<i>Pagurus</i> spp.	8.2	12.7	6.0	6.1	1.8	2.0	11.6	12.1	6.9
<i>Lottia limatula</i>	0.4	0.5	1.4	2.1	1.4	2.2	2.0	2.8	1.3
<i>Lottia pelta</i>	1.2	1.1	0.2	0.4	0.2	0.4	2.4	3.2	1.0
<i>Pachygrapsus crassipes</i>	-	-	1.2	0.8	1.6	1.5	0.8	1.1	0.9
<i>Acanthinucella</i> spp.	0.6	0.9	0.8	0.8	0.6	0.5	0.2	0.4	0.6
<i>Lottia scutum</i>	0.8	1.1	0.4	0.9	0.4	0.5	0.4	0.5	0.5
<i>Cyanoplax</i> spp.	0.6	0.9	<0.1	<0.1	0.4	0.9	0.8	1.3	0.5
Lottiidae	<0.1	<0.1	1.4	3.1	<0.1	<0.1	<0.1	-	0.4
<i>Ocenebrina</i> spp.	0.2	0.4	-	-	-	-	1.0	1.0	0.3
<i>Pollicipes polymerus</i>	-	-	0.6	1.3	-	-	<0.1	<0.1	0.2
Nemertea	0.2	0.4	0.2	0.4	-	-	-	-	0.1
Cirratulidae/Terebellidae	-	-	<0.1	<0.1	0.2	0.4	-	-	<0.1
<i>Littorina</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Grapsidae	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1

(table continued)



Table C8 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Field's Cove Station FC 2+0.9m (5+3):

Survey Survey Date	176 13-Jan-14		177 12-Jun-14		178 23-Jul-14		179 24-Oct-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Epitonium/Opalia</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Idotea</i> spp.	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Lottia gigantea</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
Nereididae	-	-	<0.1	<0.1	-	-	-	-	<0.1
Ischnochitonidae	<0.1	<0.1	-	-	-	-	-	-	<0.1
Invertebrate Cover									
<i>Phragmatopoma californica</i>	2.4	2.4	0.9	1.4	0.4	0.9	2.1	2.0	1.4
<i>Chthamalus fissus</i>	<0.1	0.2	0.1	0.4	<0.1	<0.1	0.2	0.7	0.1
Spirorbidae	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
Porifera (encrusting)	<0.1	<0.1	-	-	-	-	-	-	<0.1
Substrate Cover									
rock	24.7	11.9	29.9	16.4	33.2	18.8	17.7	11.1	26.4
sand (shell gravel)	4.4	8.5	0.8	1.5	0.8	1.6	5.6	11.4	2.9
cobble	<0.1	<0.1	0.6	2.0	0.7	2.0	0.1	0.4	0.4



Table C9. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Field's Cove Station FC 3+0.3m (6+1).

Survey Survey Date	176 26-Feb-14		177 10-Jun-14		178 23-Jul-14		179 26-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
non-coralline crust	34.3	9.5	23.6	5.2	25.2	9.0	32.2	11.1	28.8
<i>Mazzaella flaccida</i>	21.4	20.0	40.5	33.5	31.2	24.1	17.4	19.4	27.6
<i>Gastroclonium subarticulatum</i>	13.9	10.7	20.4	23.6	21.4	21.5	15.4	11.5	17.8
coralline crust	11.6	10.1	7.0	8.3	10.8	10.2	17.2	14.8	11.7
<i>Phyllospadix</i> spp.	5.8	10.1	7.4	12.0	9.9	16.9	9.0	14.3	8.0
<i>Cryptopleura violacea</i>	4.6	6.8	7.6	7.8	8.1	6.6	3.6	4.5	6.0
<i>Gelidium coulteri</i>	4.1	4.1	6.7	6.1	9.0	8.5	2.8	2.6	5.6
<i>Calliarthron/Bossiella</i> spp.-complex	3.1	4.7	5.3	9.8	2.6	4.7	4.7	6.9	3.9
<i>Mastocarpus jardinii</i>	3.2	3.2	2.6	3.4	2.2	2.1	1.5	1.8	2.4
juv. articulated coralline algae	2.6	2.3	<0.1	<0.1	0.1	0.3	6.0	7.6	2.2
<i>Mastocarpus papillatus</i>	3.5	4.6	2.7	4.2	1.5	1.9	0.8	1.5	2.1
<i>Chondracanthus canaliculatus</i>	3.7	4.5	0.7	1.5	1.9	2.0	1.0	1.4	1.8
<i>Prionitis</i> spp.	1.0	1.2	1.2	1.5	1.8	2.5	2.6	3.7	1.7
<i>Mazzaella oregona</i>	0.4	0.7	5.6	7.0	0.3	0.5	-	-	1.6
<i>Corallina vancouveriensis</i>	1.0	1.3	0.1	0.3	<0.1	0.2	4.6	4.1	1.4
<i>Smithora naiadum</i>	-	-	1.6	3.1	3.7	5.6	<0.1	<0.1	1.3
<i>Mazzaella affinis</i>	1.0	1.5	1.3	3.1	1.7	4.8	0.3	1.1	1.1
<i>Endocladia muricata</i>	1.3	2.8	0.1	0.4	<0.1	0.2	0.8	2.6	0.6
<i>Gelidium pusillum</i>	0.8	1.0	<0.1	<0.1	0.7	1.2	0.3	0.6	0.5
filamentous red algae complex	0.1	0.3	1.2	3.1	<0.1	0.2	<0.1	<0.1	0.4
<i>Microcladia coulteri</i>	-	-	<0.1	<0.1	0.9	2.2	-	-	0.2
<i>Mazzaella splendens</i>	-	-	0.8	1.8	-	-	-	-	0.2
<i>Sarcoditheca gaudichaudii</i>	<0.1	0.2	0.1	0.4	0.3	0.8	0.1	0.4	0.2
<i>Callithamnion pikeanum</i>	-	-	0.2	0.7	0.4	0.9	-	-	0.2
<i>Chondracanthus corymbiferus</i>	<0.1	0.2	0.1	0.4	0.1	0.4	0.1	0.4	0.1
<i>Cryptosiphonia woodii</i>	<0.1	0.2	-	-	0.2	0.7	<0.1	0.2	<0.1
<i>Egregia menziesii</i>	-	-	0.3	0.9	-	-	-	-	<0.1
<i>Mazzaella leptorhynchos</i>	<0.1	0.2	<0.1	0.2	<0.1	0.2	<0.1	<0.1	<0.1
<i>Osmundea</i> spp.	<0.1	<0.1	<0.1	0.2	<0.1	0.2	<0.1	0.2	<0.1
<i>Pterosiphonia dendroidea</i>	-	-	-	-	0.1	0.4	-	-	<0.1
<i>Laminaria setchellii</i>	-	-	0.1	0.4	-	-	-	-	<0.1
<i>Halymenia/Schizymenia</i> spp.-complex	-	-	0.1	0.4	-	-	-	-	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Melobesia mediocris</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Acrosiphonia</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Ulva</i> spp.	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Corallina chilensis</i>	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorophyta (filamentous)	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Cystoseira osmundacea</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Microcladia borealis</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Leathesia difformis</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Farlowia/Pikea</i> spp.-complex	-	-	-	-	<0.1	<0.1	-	-	<0.1

(table continued)



Table C9 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Station FC 3+0.3m (6+1).

Taxon	Survey		176		177		178		179		Annual Mean
	Survey Date	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.		
										26-Feb-14	
Invertebrate Counts											
<i>Strongylocentrotus purpuratus</i>		48.0	101.3	31.4	66.4	21.2	44.7	38.4	76.6		34.8
<i>Chlorostoma funebris</i>		51.2	48.3	1.8	1.8	2.4	2.3	72.8	84.5		32.1
<i>Tetracita rubescens</i>		30.4	21.9	6.6	7.5	4.8	4.8	8.8	6.2		12.7
<i>Pagurus</i> spp.		7.4	7.1	2.4	1.5	14.8	12.6	11.0	8.6		8.9
<i>Anthopleura elegantissima</i>		5.8	2.9	4.2	3.4	2.6	1.1	4.8	3.4		4.4
<i>Fissurella volcano</i>		2.8	1.9	1.8	1.8	4.8	2.0	4.0	1.9		3.4
<i>Chlorostoma brunnea</i>		0.6	0.9	1.4	2.1	2.0	2.4	1.4	2.2		1.4
<i>Pachygrapsus crassipes</i>		1.2	1.1	0.6	0.5	2.0	1.9	0.6	0.9		1.1
<i>Lottia scutum</i>		-	-	1.0	1.4	0.8	1.3	0.4	0.5		0.6
<i>Ocenebrina</i> spp.		0.4	0.5	-	-	1.0	1.4	0.8	1.3		0.6
<i>Lottia pelta</i>		0.2	0.4	0.4	0.9	0.8	1.8	0.2	0.4		0.4
<i>Leptasterias</i> spp.		0.4	0.9	0.2	0.4	0.8	0.8	-	-		0.4
Nemertea		-	-	0.6	0.9	0.4	0.5	0.2	0.4		0.3
<i>Epiactis prolifera</i>		-	-	-	-	0.8	1.3	0.2	0.4		0.3
<i>Lottia limatula</i>		0.2	0.4	0.2	0.4	0.4	0.5	0.2	0.4		0.3
Serpulidae		-	-	0.2	0.4	-	-	0.8	1.3		0.3
<i>Mopalia</i> spp.		-	-	0.2	0.4	0.2	0.4	0.4	0.5		0.2
<i>Lottia scabra</i>		-	-	0.4	0.5	-	-	0.2	0.4		0.2
<i>Pugettia</i> spp.		-	-	0.4	0.9	<0.1	<0.1	<0.1	<0.1		0.1
<i>Diodora</i> spp.		-	-	-	-	-	-	0.4	0.5		0.1
<i>Serpulorbis squamigerus</i>		-	-	-	-	0.4	0.9	-	-		0.1
<i>Pseudomelatoma torosa</i>		-	-	0.2	0.4	0.2	0.4	-	-		0.1
<i>Ophiolithrix spiculata</i>		-	-	-	-	0.4	0.9	-	-		0.1
Sipuncula		-	-	<0.1	<0.1	0.2	0.4	<0.1	<0.1		<0.1
<i>Alia</i> spp.		0.2	0.4	-	-	<0.1	<0.1	<0.1	<0.1		<0.1
<i>Tonicella lineata</i>		-	-	-	-	<0.1	<0.1	0.2	0.4		<0.1
Nereididae		-	-	-	-	<0.1	<0.1	0.2	0.4		<0.1
<i>Octopus</i> spp.		-	-	-	-	0.2	0.4	-	-		<0.1
<i>Nuttallina californica</i>		-	-	-	-	-	-	0.2	0.4		<0.1
<i>Romaleon antennarius</i>		-	-	-	-	-	-	0.2	0.4		<0.1
<i>Patiria miniata</i>		-	-	-	-	0.2	0.4	-	-		<0.1
<i>Stenoplax</i> spp.		-	-	-	-	0.2	0.4	-	-		<0.1
<i>Romaleon jordani</i>		-	-	-	-	0.2	0.4	-	-		<0.1
<i>Haliotis</i> spp.		-	-	0.1	0.3	-	-	-	-		<0.1
Lottiidae		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
<i>Acmaea mitra</i>		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
<i>Homolo. luridum/Lirularia succincta</i>		-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
<i>Lacuna</i> spp.		-	-	<0.1	<0.1	-	-	<0.1	<0.1		<0.1
<i>Crepidula</i> spp.		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-		<0.1
Ischnochitonidae		<0.1	<0.1	-	-	-	-	<0.1	<0.1		<0.1
Grapsidae		<0.1	<0.1	-	-	<0.1	<0.1	-	-		<0.1
<i>Hermisenda crassicornis</i>		-	-	<0.1	<0.1	-	-	-	-		<0.1
<i>Epitonium/Opalia</i> spp.		<0.1	<0.1	-	-	-	-	-	-		<0.1
Isopoda		-	-	-	-	<0.1	<0.1	-	-		<0.1

(table continued)



Table C9 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Station FC 3+0.3m (6+1).

Survey		176		177		178		179		Annual Mean
Survey Date		26-Feb-14		10-Jun-14		23-Jul-14		26-Nov-14		
Taxon		Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)										
<i>Heptacarpus</i> spp.		-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Aeolidia papillosa</i>		-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Lissothuria nutriens</i>		-	-	-	-	<0.1	<0.1	-	-	<0.1
Invertebrate Cover										
<i>Pista</i> spp.		1.7	4.0	4.7	11.0	1.9	5.9	4.2	7.7	3.1
<i>Phragmatopoma californica</i>		4.6	9.0	2.6	8.3	1.3	2.6	2.6	8.3	2.8
tunicates, compound/social		<0.1	<0.1	<0.1	<0.1	0.6	1.4	<0.1	<0.1	0.2
<i>Chthamalus fissus</i>		<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Spirorbidae		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
bryozoa (encrusting)		-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Porifera (encrusting)		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dodecaceria fewkesi		<0.1	<0.1	-	-	-	-	-	-	<0.1
Substrate Cover										
rock		1.2	0.9	7.4	9.0	5.3	3.9	4.0	3.6	4.5
sand (shell gravel)		0.3	0.6	1.2	2.1	1.3	2.2	1.0	1.2	1.0
cobble		0.1	0.4	<0.1	<0.1	<0.1	0.2	0.3	0.8	0.1



Table C10. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Field's Cove Station FC 3+0.9m (6+3).

Survey	176		177		178		179		Annual Mean
Survey Date	26-Feb-14		10-Jun-14		23-Jul-14		26-Nov-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
<i>Endocladia muricata</i>	34.8	11.3	39.0	13.1	26.2	15.0	25.0	7.1	31.3
non-coralline crust	27.2	14.6	18.6	8.7	22.0	10.1	34.2	7.3	25.5
<i>Mastocarpus papillatus</i>	15.4	8.2	26.0	16.3	35.8	13.8	19.1	11.0	24.1
<i>Mazzaella flaccida</i>	5.5	5.5	14.0	8.9	18.9	11.7	6.6	3.8	11.2
<i>Gelidium coulteri</i>	3.0	3.6	2.5	5.3	5.3	9.5	1.2	2.5	3.0
<i>Silvetia compressa</i>	3.7	5.9	2.8	4.4	2.2	3.1	3.2	4.7	3.0
coralline crust	0.3	0.8	0.9	1.5	0.4	0.9	3.3	1.8	1.3
<i>Gelidium pusillum</i>	2.2	1.4	0.3	1.1	<0.1	<0.1	0.1	0.3	0.7
<i>Mastocarpus jardinii</i>	0.7	1.0	0.1	0.3	0.3	0.9	0.5	0.7	0.4
<i>Cryptosiphonia woodii</i>	0.6	1.1	0.7	1.8	0.3	0.9	<0.1	<0.1	0.4
<i>Prionitis</i> spp.	<0.1	<0.1	0.1	0.4	0.9	2.1	0.1	0.3	0.3
<i>Mazzaella affinis</i>	<0.1	<0.1	<0.1	<0.1	0.3	0.5	0.8	2.2	0.3
<i>Mazzaella oregona</i>	0.1	0.4	0.2	0.3	0.4	0.6	-	-	0.2
juv. articulated coralline algae	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.4	0.9	0.1
<i>Corallina vancouveriensis</i>	<0.1	<0.1	<0.1	<0.1	-	-	0.4	0.7	0.1
<i>Chondracanthus canaliculatus</i>	0.2	0.5	<0.1	<0.1	<0.1	<0.1	0.2	0.5	0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	<0.1	0.3	0.9	<0.1	-	<0.1
<i>Porphyra</i> spp.	-	-	0.2	0.7	-	-	-	-	<0.1
<i>Mazzaella leptorhynchus</i>	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Calliarthron/Bossiella</i> spp.-complex	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Ulva</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Callithamnion pikeanum</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Gastroclonium subarticulatum</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Sarcoditheca gaudichaudii</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Cryptopleura violacea</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
Invertebrate Counts									
<i>Chlorostoma funebris</i>	103.0	90.2	285.4	133.4	149.2	118.7	147.6	82.2	171.3
<i>Pagurus</i> spp.	5.8	6.2	2.4	1.9	13.2	9.3	17.0	12.4	9.6
<i>Anthopleura elegantissima</i>	4.6	4.2	3.8	5.0	2.4	1.5	12.6	22.1	5.9
<i>Lottia scabra</i>	2.0	2.5	2.2	2.8	7.8	8.4	5.6	5.2	4.4
<i>Pachygrapsus crassipes</i>	0.2	0.4	1.2	1.3	2.2	1.9	0.6	0.5	1.1
<i>Mopalia</i> spp.	0.2	0.4	0.4	0.9	0.4	0.5	0.6	0.9	0.4
<i>Ocenebrina</i> spp.	0.4	0.5	0.4	0.5	-	-	0.8	0.4	0.4
<i>Lottia pelta</i>	0.2	0.4	0.2	0.4	0.4	0.5	0.6	0.9	0.4
<i>Lottia scutum</i>	1.2	2.7	-	-	0.2	0.4	-	-	0.4
<i>Acanthinucella</i> spp.	0.2	0.4	0.2	0.4	0.2	0.4	0.6	0.9	0.3
<i>Cyanoplax</i> spp.	-	-	0.6	1.3	0.4	0.9	<0.1	<0.1	0.3
<i>Lottia limatula</i>	0.2	0.4	-	-	0.2	0.4	0.4	0.5	0.2
<i>Sipuncula</i>	-	-	0.8	1.8	-	-	-	-	0.2
<i>Nemertea</i>	-	-	0.2	0.4	-	-	0.2	0.4	0.1
<i>Cirratulidae/Terebellidae</i>	-	-	0.2	0.4	0.2	0.4	-	-	0.1
<i>Nuttallina californica</i>	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Hemigrapsus nudus</i>	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Strongylocentrotus purpuratus</i>	-	-	0.2	0.4	-	-	-	-	<0.1

(table continued)



Table C10 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for Field's Cove Station FC 3+0.9m (6+3).

Survey Survey Date	176 26-Feb-14		177 10-Jun-14		178 23-Jul-14		179 26-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Pugettia</i> spp.	-	-	-	-	-	-	0.2	0.4	<0.1
Lottiidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1
<i>Littorina</i> spp.	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Lacuna</i> spp.	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Epitonium/Opalia</i> spp.	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
Ischnochitonidae	-	-	-	-	-	-	<0.1	<0.1	<0.1
Grapsidae	-	-	<0.1	<0.1	-	-	-	-	<0.1
Invertebrate Cover									
<i>Phragmatopoma californica</i>	7.8	8.8	3.1	4.3	1.9	2.4	12.1	11.0	6.2
<i>Chthamalus fissus</i>	0.1	0.4	0.3	0.9	<0.1	<0.1	0.4	1.3	0.2
Spirorbidae	-	-	-	-	<0.1	<0.1	-	-	<0.1
Substrate Cover									
rock	10.0	11.9	17.0	13.3	12.0	11.8	8.5	6.0	11.9
sand (shell gravel)	2.3	4.3	0.3	0.6	1.1	2.0	0.6	1.7	1.1
cobble	0.1	0.4	<0.1	0.2	-	-	0.4	1.3	0.2



Table C11. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Diablo Cove Station NDC 1+0.3m (7+1).

Survey	176		177		178		179		
Survey Date	12-Feb-14		13-Jun-14		25-Jul-14		25-Nov-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Annual Mean
Algae Cover									
non-coralline crust	42.7	17.3	39.0	16.8	32.6	22.2	31.1	10.2	36.4
filamentous red algae complex	6.6	6.2	6.2	4.0	6.9	4.5	13.4	5.1	8.3
<i>Codium fragile</i> subsp. <i>californicum</i>	5.1	6.7	6.2	7.6	8.1	9.0	4.0	5.3	5.8
<i>Mastocarpus papillatus</i>	0.3	0.6	4.5	7.4	4.9	9.5	1.5	1.8	2.8
<i>Gelidium coulteri</i>	<0.1	<0.1	2.0	1.4	6.6	4.7	1.7	1.5	2.6
coralline crust	1.7	1.4	1.6	1.7	0.8	1.8	3.3	4.8	1.9
<i>Ulva</i> spp.	<0.1	<0.1	1.5	2.8	1.1	2.1	<0.1	<0.1	0.6
<i>Chondracanthus canaliculatus</i>	<0.1	0.2	<0.1	0.2	0.6	1.6	0.4	0.6	0.3
<i>Prionitis</i> spp.	<0.1	<0.1	0.2	0.7	0.1	0.4	0.8	1.1	0.3
<i>Endocladia muricata</i>	-	-	0.9	2.9	-	-	<0.1	<0.1	0.2
<i>Mazzaella affinis</i>	-	-	0.4	0.9	0.3	0.6	0.1	0.3	0.2
<i>Pterosiphonia dendroidea</i>	0.3	0.9	0.3	0.5	-	-	0.3	0.6	0.2
<i>Mastocarpus jardinii</i>	-	-	0.4	0.9	0.1	0.3	<0.1	<0.1	0.1
<i>Gelidium pusillum</i>	<0.1	-	0.2	0.3	-	-	0.3	0.6	0.1
<i>Calliarthron/Bossiella</i> spp.-complex	-	-	-	-	-	-	0.4	1.3	0.1
<i>Corallina vancouveriensis</i>	0.2	0.7	<0.1	0.2	<0.1	<0.1	<0.1	0.2	<0.1
<i>Cryptopleura violacea</i>	0.1	0.3	-	-	-	-	<0.1	<0.1	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
juv. articulated coralline algae	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Cumagloia andersonii</i>	-	-	<0.1	0.2	-	-	-	-	<0.1
Chlorophyta (filamentous)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Chondracanthus corymbiferus</i>	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Colpomenia</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Callithamnion pikeanum</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Gastroclonium subarticulatum</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
Endarachne/Petalonia-complex	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Acrosiphonia</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Mazzaella leptorhynchos</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Sarcoditheca gaudichaudii</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Halymenia/Schizymenia</i> spp.-complex	-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Counts									
<i>Tetracita rubescens</i>	468.6	150.8	479.8	56.4	517.6	285.4	391.6	136.6	464.4
<i>Lottia scabra</i>	127.0	57.2	177.2	88.5	261.0	229.8	179.6	91.0	186.2
<i>Pagurus</i> spp.	66.8	29.5	21.6	18.6	5.8	4.3	15.8	5.6	27.5
<i>Strongylocentrotus purpuratus</i>	7.6	3.8	17.0	3.8	26.6	21.7	24.0	18.6	18.8
<i>Fissurella volcano</i>	13.8	3.8	12.2	3.9	13.6	9.6	8.6	5.9	12.1
<i>Lottia pelta</i>	10.2	2.4	9.2	6.0	18.2	8.8	6.0	4.0	10.9
<i>Anthopleura elegantissima</i>	4.4	2.7	6.2	8.5	3.6	4.3	5.0	3.3	4.8
<i>Pachygrapsus crassipes</i>	1.4	2.2	4.4	3.7	5.4	1.8	0.6	0.9	3.0
<i>Lottia limatula</i>	4.4	2.1	4.2	2.6	1.2	0.8	1.6	1.1	2.9
<i>Lottia scutum</i>	2.6	0.9	4.4	5.7	1.0	1.7	0.2	0.4	2.1
<i>Chlorostoma funebris</i>	2.0	3.9	0.4	0.9	-	-	4.4	6.7	1.7
<i>Ocenebrina</i> spp.	3.4	3.4	1.2	1.3	-	-	-	-	1.2
<i>Nuttallina californica</i>	0.6	0.9	1.0	1.0	1.0	1.0	1.0	1.0	0.9

(table continued)

Table C11 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Diablo Cove Station NDC 1+0.3m (7+1).

Survey Survey Date	176 12-Feb-14		177 13-Jun-14		178 25-Jul-14		179 25-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Anthopleura xanthogrammica</i>	0.8	0.8	0.4	0.5	0.6	0.5	0.2	0.4	0.5
<i>Chlorostoma brunnea</i>	-	-	1.6	2.6	-	-	0.4	0.5	0.5
<i>Lottia gigantea</i>	0.8	1.8	0.4	0.9	0.4	0.9	-	-	0.4
Serpulidae	1.2	1.6	-	-	-	-	-	-	0.3
Lottiidae	<0.1	-	<0.1	-	<0.1	-	0.8	1.3	0.2
<i>Acanthinucella</i> spp.	-	-	0.2	0.4	-	-	0.2	0.4	0.1
<i>Patiria miniata</i>	-	-	-	-	0.4	0.5	-	-	0.1
<i>Pisaster ochraceus</i>	-	-	0.4	0.9	-	-	-	-	0.1
<i>Cyanoplax</i> spp.	<0.1	<0.1	<0.1	<0.1	0.2	0.4	<0.1	<0.1	<0.1
<i>Epiactis prolifera</i>	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Diodora</i> spp.	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Mopalia</i> spp.	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Serpulorbis squamigerus</i>	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Strongylocentrotus franciscanus</i>	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Pugettia</i> spp.	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Mytilus</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Littorina</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Ischnochitonidae	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
Grapsidae	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pelecypoda boring	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Heptacarpus</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Barleeia</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Homolo. luridum/Lirularia succincta</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
Invertebrate Cover									
<i>Chthamalus fissus</i>	6.4	5.2	9.4	8.1	7.8	10.0	10.7	11.3	8.6
<i>Phragmatopoma californica</i>	6.6	4.2	1.5	1.5	0.6	0.7	3.2	1.5	3.0
Spirorbidae	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1
Porifera (encrusting)	-	-	-	-	-	-	<0.1	<0.1	<0.1
bryozoa (encrusting)	-	-	-	-	-	-	<0.1	<0.1	<0.1
Substrate Cover									
rock	21.1	9.2	12.9	4.9	19.1	12.1	17.7	7.5	17.7
sand (shell gravel)	7.1	4.1	9.0	6.0	9.9	5.2	4.7	3.2	7.7
cobble	7.3	4.2	7.6	3.6	5.1	3.9	7.8	5.6	6.9



Table C12. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Diablo Cove Station NDC 1+0.9m (7+3).

Survey Survey Date	176		177		178		179		Annual Mean
	12-Feb-14	Std. Dev.	13-Jun-14	Std. Dev.	25-Jul-14	Std. Dev.	25-Nov-14	Std. Dev.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean
Algae Cover									
non-coraline crust	49.7	17.0	58.7	25.4	49.4	19.7	60.8	19.1	54.7
<i>Mastocarpus papillatus</i>	0.8	0.8	2.7	2.3	10.8	9.6	3.8	3.5	4.5
<i>Endocladia muricata</i>	4.7	8.8	3.9	8.9	4.5	7.9	2.0	5.9	3.8
<i>Gelidium coulteri</i>	-	-	<0.1	<0.1	1.4	1.9	1.7	3.0	0.8
coralline crust	0.7	0.7	0.3	0.6	<0.1	-	0.2	0.7	0.3
<i>Mazzaella affinis</i>	0.2	0.7	0.5	0.9	0.2	0.5	-	-	0.2
<i>Prionitis</i> spp.	-	-	0.2	0.7	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Gelidium pusillum</i>	<0.1	0.2	<0.1	0.2	<0.1	-	<0.1	<0.1	<0.1
<i>Mazzaella leptorhynchus</i>	<0.1	<0.1	0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1
juv. articulated coralline algae	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Chondracanthus canaliculatus</i>	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Ulva</i> spp.	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1
<i>Pterosiphonia dendroidea</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
filamentous red algae complex	-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Counts									
<i>Chlorostoma funebris</i>	142.0	54.6	77.6	65.6	300.8	211.7	71.6	55.0	148.0
<i>Anthopleura elegantissima</i>	51.0	49.0	53.0	49.1	54.0	68.7	45.4	50.5	50.9
<i>Lottia scabra</i>	44.0	29.2	45.6	52.0	70.0	96.5	40.6	18.3	50.1
<i>Pagurus</i> spp.	8.6	5.7	3.6	3.4	0.2	0.4	1.2	2.2	3.4
<i>Lottia pelta</i>	2.2	2.4	1.0	1.7	4.6	2.1	1.0	1.0	2.2
<i>Fissurella volcano</i>	1.6	1.8	0.4	0.9	1.4	1.9	1.2	1.1	1.2
<i>Lottia limatula</i>	2.0	0.7	0.8	0.8	0.8	1.3	0.2	0.4	1.0
<i>Lottia scutum</i>	1.4	1.1	0.4	0.9	0.6	1.3	0.6	0.9	0.8
<i>Pachygrapsus crassipes</i>	0.2	0.4	1.2	2.7	1.0	1.0	0.4	0.5	0.7
Lottiidae	2.2	2.3	<0.1	-	<0.1	<0.1	<0.1	-	0.6
<i>Acanthinucella</i> spp.	0.8	0.8	-	-	0.4	0.9	0.4	0.9	0.4
<i>Ocenebrina</i> spp.	0.6	0.5	0.2	0.4	0.4	0.5	0.2	0.4	0.4
<i>Mopalia</i> spp.	0.4	0.5	0.4	0.9	-	-	-	-	0.2
<i>Cyanoplax</i> spp.	-	-	0.4	0.9	-	-	<0.1	<0.1	0.1
<i>Strongylocentrotus purpuratus</i>	-	-	-	-	0.2	0.4	0.2	0.4	0.1
<i>Serpulorbis squamigerus</i>	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Tetracita rubescens</i>	0.2	0.4	-	-	-	-	-	-	<0.1
Serpulidae	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Littorina</i> spp.	<0.1	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Grapsidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Nemertea	-	-	<0.1	<0.1	-	-	-	-	<0.1
Ischnochitonidae	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Mytilus</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
Invertebrate Cover									
<i>Chthamalus fissus</i>	5.0	7.9	3.5	5.9	6.0	10.6	8.6	11.7	5.8
<i>Phragmatopoma californica</i>	0.5	0.8	0.4	0.9	0.3	0.9	0.4	0.9	0.4
Spirorbidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

(table continued)

Table C12 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Diablo Cove Station NDC 1+0.9m (7+3).

Survey Survey Date	176 12-Feb-14		177 13-Jun-14		178 25-Jul-14		179 25-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Substrate Cover									
rock	27.0	15.1	24.7	26.6	20.9	22.8	14.7	13.8	21.8
sand (shell gravel)	5.1	5.2	3.5	3.9	7.3	7.3	6.7	4.4	5.7
cobble	6.4	3.7	4.5	4.4	3.1	2.0	3.3	2.9	4.3



Table C13. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Diablo Cove Station NDC 2+0.3m (8+1).

Survey	176		177		178		179		Annual Mean
Survey Date	15-Jan-14		14-May-14		10-Jul-14		24-Nov-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
filamentous red algae complex	23.8	16.7	33.8	22.1	29.0	18.9	21.0	18.3	26.9
<i>Phyllospadix</i> spp.	21.0	25.3	27.8	33.6	31.4	38.1	23.0	24.6	25.8
non-coraline crust	29.3	14.1	15.6	11.3	16.7	10.6	25.8	19.6	21.8
<i>Codium fragile</i> subsp. <i>californicum</i>	11.0	14.1	21.3	24.2	22.4	21.1	12.8	16.1	16.9
coralline crust	8.5	7.3	8.3	5.0	6.6	5.4	11.2	8.7	8.6
<i>Gastroclonium subarticulatum</i>	3.8	8.2	3.2	6.7	4.7	10.0	3.1	5.1	3.7
<i>Pterosiphonia dendroidea</i>	1.0	1.7	0.3	0.6	1.0	1.9	4.0	5.5	1.6
<i>Gelidium coulteri</i>	0.6	1.0	1.1	2.5	3.6	6.6	1.0	1.1	1.6
<i>Ulva</i> spp.	0.5	0.9	2.4	3.9	2.5	4.9	0.8	1.2	1.6
<i>Cryptopleura violacea</i>	0.5	0.9	1.5	2.1	0.6	1.0	2.8	4.5	1.3
juv. articulated coralline algae	0.2	0.7	1.4	2.1	0.6	2.0	1.9	2.8	1.0
<i>Prionitis</i> spp.	0.6	1.2	0.9	1.7	0.8	2.0	1.1	1.8	0.9
<i>Chondracanthus canaliculatus</i>	0.7	0.9	0.9	1.9	1.0	2.0	0.7	1.0	0.8
<i>Corallina vancouveriensis</i>	0.8	2.2	0.8	2.4	0.1	0.4	0.1	0.4	0.5
<i>Mastocarpus papillatus</i>	<0.1	<0.1	0.7	0.7	0.6	1.2	0.2	0.5	0.4
<i>Sarcodiotheca gaudichaudii</i>	<0.1	<0.1	0.5	1.3	0.4	0.9	0.4	1.1	0.3
<i>Mazzaella affinis</i>	<0.1	<0.1	0.3	0.9	0.1	0.4	0.6	0.9	0.2
<i>Calliarthron/Bossiella</i> spp.-complex	<0.1	<0.1	0.3	0.7	0.4	1.3	0.2	0.7	0.2
<i>Halymenia/Schizymenia</i> spp.-complex	-	-	0.5	1.5	-	-	<0.1	<0.1	0.1
<i>Smithora naiadum</i>	-	-	<0.1	<0.1	<0.1	<0.1	0.3	0.6	<0.1
<i>Grateloupia californica</i>	<0.1	<0.1	-	-	0.3	1.1	-	-	<0.1
<i>Chondracanthus corymbiferus</i>	-	-	0.3	0.5	<0.1	0.2	-	-	<0.1
<i>Gelidium pusillum</i>	<0.1	<0.1	-	-	<0.1	<0.1	0.1	0.4	<0.1
<i>Mazzaella leptorhynchus</i>	-	-	<0.1	<0.1	<0.1	<0.1	0.1	0.4	<0.1
<i>Farlowia/Pikea</i> spp.-complex	-	-	<0.1	0.2	-	-	<0.1	0.2	<0.1
<i>Callithamnion pikeanum</i>	-	-	<0.1	0.2	-	-	-	-	<0.1
<i>Melobesia mediocris</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorophyta (filamentous)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Bryopsis</i> spp.	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Osmundea</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Mastocarpus jardinii</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Mazzaella oregona</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Microcladia coulteri</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Colpomenia</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Counts									
<i>Tetracita rubescens</i>	270.6	429.5	85.0	153.5	163.4	291.1	202.6	418.0	180.4
<i>Lottia scabra</i>	61.2	55.9	54.8	68.9	58.2	94.3	48.6	78.7	55.7
<i>Strongylocentrotus purpuratus</i>	22.4	36.1	41.2	56.6	17.8	26.2	35.4	67.3	29.2
<i>Mytilus</i> spp.	0.8	1.8	5.6	12.5	44.0	98.4	15.0	20.1	16.4
<i>Anthopleura elegantissima</i>	17.4	26.8	6.6	8.9	4.4	7.0	14.4	27.2	10.7
<i>Fissurella volcano</i>	8.0	5.0	7.4	5.8	7.0	4.6	9.2	10.7	7.9
<i>Lottia pelta</i>	3.4	4.3	7.4	10.1	2.4	2.3	2.4	2.6	3.9
<i>Pagurus</i> spp.	7.6	14.8	-	-	7.0	5.1	-	-	3.7

(table continued)



Table C13 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Diablo Cove Station NDC 2+0.3m (8+1).

Survey		176		177		178		179		Annual Mean
Survey Date		15-Jan-14		14-May-14		10-Jul-14		24-Nov-14		
Taxon		Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)										
<i>Lottia gigantea</i>		5.0	11.2	2.8	6.3	1.4	3.1	1.4	3.1	2.7
Serpulidae		1.0	2.2	1.0	1.7	1.0	2.2	1.2	2.7	1.1
<i>Lottia scutum</i>		0.4	0.9	1.2	2.7	1.6	3.6	0.2	0.4	0.9
<i>Lottia limatula</i>		0.2	0.4	1.4	1.9	0.2	0.4	1.6	2.6	0.9
<i>Pachygrapsus crassipes</i>		0.2	0.4	1.4	1.7	1.4	2.6	0.2	0.4	0.8
<i>Pollicipes polymerus</i>		1.6	3.6	-	-	-	-	0.4	0.9	0.5
<i>Epiactis prolifera</i>		0.2	0.4	0.2	0.4	0.6	0.9	0.4	0.5	0.4
<i>Chlorostoma brunnea</i>		0.2	0.4	-	-	1.2	1.6	-	-	0.4
<i>Pugettia</i> spp.		<0.1	<0.1	0.4	0.9	0.2	0.4	-	-	0.2
<i>Nuttallina californica</i>		-	-	-	-	-	-	0.6	1.3	0.2
<i>Tonicella lineata</i>		-	-	0.2	0.4	0.2	0.4	-	-	0.1
<i>Ocenebrina</i> spp.		0.2	0.4	-	-	0.2	0.4	-	-	0.1
Lottiidae		<0.1	<0.1	<0.1	<0.1	0.2	0.4	<0.1	<0.1	<0.1
<i>Serpulorbis squamigerus</i>		-	-	-	-	0.2	0.4	<0.1	<0.1	<0.1
<i>Chlorostoma funebris</i>		-	-	0.2	0.4	-	-	-	-	<0.1
<i>Romaleon antennarius</i>		-	-	-	-	-	-	0.2	0.4	<0.1
<i>Patiria miniata</i>		-	-	-	-	0.2	0.4	-	-	<0.1
<i>Strongylocentrotus franciscanus</i>		0.2	0.4	-	-	-	-	-	-	<0.1
<i>Haliotis</i> spp.		0.1	0.3	-	-	-	-	-	-	<0.1
<i>Heptacarpus</i> spp.		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ischnochitonidae		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Lacuna</i> spp.		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Cyanoplax</i> spp.		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Alia</i> spp.		<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1
<i>Littorina</i> spp.		-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Sipuncula		-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Grapsidae		<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Acanthinucella</i> spp.		-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Acmaea mitra</i>		<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Lottia ochracea</i>		<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Epitonium/Opalia</i> spp.		<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Doriopsilla albopunctata</i>		-	-	<0.1	<0.1	-	-	-	-	<0.1
Pelecypoda boring		<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Amphissa</i> spp.		-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Aeolidia papillosa</i>		-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Lepidozoma</i> spp.		-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Erato</i> spp.		-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Betaeus</i> spp.		-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Cover										
<i>Pista</i> spp.		9.7	14.7	2.7	6.9	5.7	10.0	8.9	13.2	6.8
<i>Chthamalus fissus</i>		0.1	0.4	1.9	5.9	0.2	0.7	0.1	0.4	0.6
<i>Phragmatopoma californica</i>		0.2	0.7	0.3	1.1	0.6	1.3	<0.1	<0.1	0.3
tunicates, compound/social		<0.1	<0.1	-	-	<0.1	<0.1	<0.1	0.2	<0.1

(table continued)



Table C13 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Diablo Cove Station NDC 2+0.3m (8+1).

Survey Survey Date	176		177		178		179		Annual Mean
	15-Jan-14	Std. Dev.	14-May-14	Std. Dev.	10-Jul-14	Std. Dev.	24-Nov-14	Std. Dev.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	
Invertebrate Cover (continued)									
Spirorbidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Porifera (encrusting)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
bryozoa (encrusting)	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Dodecaceria fewkesi</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
Substrate Cover									
rock	13.7	12.5	6.7	9.6	24.4	14.9	10.9	8.0	13.9
sand (shell gravel)	3.3	5.9	3.7	6.9	4.0	7.1	3.9	6.8	3.7
cobble	2.2	2.5	3.1	2.8	1.8	3.4	2.7	3.4	2.4



Table C14. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Diablo Cove Station NDC 2+0.9m (8+3).

Survey Survey Date	176 15-Jan-14		177 14-May-14		178 10-Jul-14		179 10-Oct-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
non-coraline crust	7.2	8.9	16.0	20.2	9.6	12.6	9.3	9.2	10.5
<i>Ulva</i> spp.	<0.1	<0.1	3.3	6.0	16.1	10.3	5.6	5.5	6.2
<i>Endocladia muricata</i>	3.1	4.6	5.4	8.6	6.0	8.7	7.5	11.9	5.5
<i>Gelidium coulteri</i>	<0.1	<0.1	0.8	1.9	2.1	2.1	12.5	9.8	3.8
<i>Mastocarpus papillatus</i>	<0.1	<0.1	0.8	1.1	3.0	2.8	3.1	3.5	1.7
filamentous red algae complex	0.8	2.6	0.4	0.9	0.8	2.0	4.7	5.7	1.7
coralline crust	1.7	1.5	1.0	1.1	1.7	2.2	1.4	2.0	1.5
Chrysophyta	-	-	-	-	3.8	7.9	-	-	0.9
<i>Mazzaella affinis</i>	-	-	<0.1	<0.1	0.8	1.0	1.6	1.1	0.6
<i>Gelidium pusillum</i>	<0.1	<0.1	<0.1	-	0.9	1.4	0.8	0.7	0.4
<i>Porphyra</i> spp.	-	-	1.5	2.8	<0.1	<0.1	-	-	0.4
<i>Corallina vancouveriensis</i>	0.4	1.3	0.7	1.2	<0.1	<0.1	<0.1	<0.1	0.3
juv. articulated coralline algae	<0.1	<0.1	0.3	0.6	0.5	1.1	0.1	0.3	0.2
<i>Prionitis</i> spp.	<0.1	<0.1	0.2	0.7	<0.1	0.2	0.4	1.1	0.2
<i>Codium fragile</i> subsp. <i>californicum</i>	-	-	-	-	-	-	0.1	0.3	<0.1
<i>Chondracanthus corymbiferus</i>	-	-	-	-	-	-	<0.1	0.2	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Chondracanthus canaliculatus</i>	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Chlorophyta (filamentous)	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Colpomenia</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Mazzaella leptorhynchus</i>	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Pterosiphonia dendroidea</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Sarcoditheca gaudichaudii</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Cryptopleura violacea</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Macrocystis pyrifera</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
Invertebrate Counts									
<i>Lottia scabra</i>	157.0	64.7	133.0	61.1	78.6	32.0	91.8	26.0	115.1
<i>Chlorostoma funebris</i>	81.8	64.1	43.8	75.9	100.6	216.0	0.4	0.9	56.7
<i>Anthopleura elegantissima</i>	48.0	64.0	32.0	33.5	21.6	20.6	34.4	64.3	34.0
<i>Mytilus</i> spp.	21.2	36.4	19.6	30.7	14.8	22.0	39.2	74.0	23.7
<i>Strongylocentrotus purpuratus</i>	2.8	3.3	10.2	14.4	8.0	13.1	0.6	1.3	5.4
<i>Pagurus</i> spp.	12.4	9.6	5.0	7.1	3.8	5.2	0.4	0.9	5.4
<i>Lottia limatula</i>	7.0	3.5	2.6	2.1	5.4	1.7	1.6	1.7	4.2
<i>Lottia pelta</i>	3.4	4.9	4.8	6.1	2.2	1.6	3.6	6.5	3.5
<i>Lottia gigantea</i>	3.6	5.4	3.4	5.0	2.4	3.4	2.8	3.8	3.1
<i>Lottia scutum</i>	3.4	2.5	3.0	3.0	2.0	2.5	2.4	3.4	2.7
<i>Pachygrapsus crassipes</i>	1.2	1.3	0.8	0.4	3.8	2.6	0.2	0.4	1.5
<i>Acanthinucella</i> spp.	1.0	1.4	1.8	2.2	0.6	0.9	1.0	1.7	1.1
<i>Fissurella volcano</i>	0.8	1.1	1.4	2.2	1.8	2.0	0.4	0.5	1.1
<i>Cyanoplax</i> spp.	0.8	0.8	0.2	0.4	2.6	2.2	0.6	0.9	1.1
<i>Tetracilita rubescens</i>	0.4	0.5	1.4	2.6	2.4	2.3	-	-	1.1
Lottiidae	2.2	2.2	<0.1	-	0.6	1.3	1.0	2.2	1.0
<i>Balanus</i> spp.	-	-	-	-	3.2	4.6	-	-	0.8
<i>Ocenebrina</i> spp.	0.4	0.9	1.0	0.7	0.8	0.8	1.0	1.2	0.8

(table continued)



Table C14 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Diablo Cove Station NDC 2+0.9m (8+3).

Survey Survey Date	176 15-Jan-14		177 14-May-14		178 10-Jul-14		179 10-Oct-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Mopalia</i> spp.	0.4	0.5	-	-	0.4	0.5	-	-	0.2
<i>Nuttallina californica</i>	0.6	0.5	-	-	0.2	0.4	-	-	0.2
<i>Pollicipes polymerus</i>	<0.1	<0.1	<0.1	<0.1	-	-	0.4	0.9	0.1
Nemertea	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Littorina</i> spp.	<0.1	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1
Sipuncula	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Grapsidae	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Crepidula</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Epitonium/Opalia</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Lirobittium</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Pugettia</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Heptacarpus</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
Invertebrate Cover									
<i>Chthamalus fissus</i>	14.6	7.8	9.7	7.1	9.5	6.8	10.3	6.8	11.0
<i>Phragmatopoma californica</i>	1.9	2.0	1.2	1.5	0.6	1.2	<0.1	<0.1	0.9
Spirorbidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Substrate Cover									
rock	68.6	10.1	57.9	23.7	51.6	19.7	46.1	15.2	56.1
cobble	1.8	3.0	0.1	0.4	0.8	2.2	1.7	5.0	1.1
sand (shell gravel)	<0.1	<0.1	0.6	2.0	<0.1	<0.1	<0.1	<0.1	0.2



Table C15. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Diablo Cove Station NDC 3+0.3m (9+1).

Survey Survey Date	176 31-Jan-14		177 30-Apr-14		178 27-Jun-14		179 7-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
non-coralline crust	31.2	23.0	34.9	21.4	28.1	15.2	26.7	16.6	30.2
<i>Codium fragile</i> subsp. <i>californicum</i>	23.4	13.0	28.3	18.8	37.7	24.6	23.7	15.7	28.3
coralline crust	9.9	8.6	7.2	3.9	11.5	5.8	8.5	3.1	9.3
<i>Gelidium coulteri</i>	1.7	2.5	4.5	6.6	9.7	10.0	6.5	10.4	5.6
filamentous red algae complex	2.8	4.2	4.4	5.2	3.3	2.0	6.9	5.5	4.4
<i>Ulva</i> spp.	1.9	2.2	7.0	4.8	4.1	2.3	0.6	1.1	3.4
<i>Pterosiphonia dendroidea</i>	0.1	0.3	3.8	2.1	6.5	6.0	2.2	4.1	3.2
<i>Cryptopleura violacea</i>	0.5	1.1	2.0	3.5	4.1	5.3	3.7	6.1	2.6
Chrysophyta	-	-	4.6	6.3	4.0	8.3	-	-	2.1
<i>Corallina vancouveriensis</i>	2.7	4.9	4.2	7.2	0.8	1.1	0.3	0.7	2.0
juv. articulated coralline algae	1.3	2.2	2.3	2.2	2.3	1.9	1.9	1.8	1.9
<i>Calliarthron/Bossiella</i> spp.-complex	3.8	4.6	<0.1	<0.1	1.2	1.9	1.7	1.8	1.7
<i>Acrosorium ciliolatum</i>	2.2	3.1	-	-	-	-	<0.1	<0.1	0.5
Chlorophyta (filamentous)	0.9	1.4	-	-	0.3	0.9	0.3	0.9	0.4
<i>Macrocystis pyrifera</i>	-	-	0.6	1.1	0.3	0.9	<0.1	0.2	0.2
Endarachne/Petalonia-complex	-	-	0.5	1.1	-	-	-	-	0.1
<i>Mazzaella affinis</i>	-	-	<0.1	<0.1	0.3	0.9	<0.1	<0.1	<0.1
<i>Gelidium pusillum</i>	-	-	0.1	0.4	<0.1	<0.1	0.1	0.4	<0.1
<i>Mastocarpus papillatus</i>	0.1	0.4	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1
<i>Chondracanthus canaliculatus</i>	<0.1	<0.1	-	-	0.1	0.4	<0.1	<0.1	<0.1
<i>Prionitis</i> spp.	<0.1	<0.1	-	-	0.1	0.4	<0.1	<0.1	<0.1
<i>Farlowia/Pikea</i> spp.-complex	<0.1	<0.1	-	-	-	-	0.1	0.4	<0.1
<i>Colpomenia</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Cladophora</i> spp.	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Grateloupia californica</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Halymenia/Schizymenia</i> spp.-complex	-	-	-	-	-	-	<0.1	<0.1	<0.1
Laminariales	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Callophyllis</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Halosaccion americanum</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Chondracanthus corymbiferus</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Bryopsis</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Mazzaella flaccida</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
Invertebrate Counts									
<i>Tetracita rubescens</i>	611.6	221.4	492.4	325.7	675.8	408.4	392.0	246.3	543.0
<i>Mytilus</i> spp.	12.6	24.4	190.6	426.2	206.4	443.2	70.2	148.1	120.0
<i>Lottia scabra</i>	53.4	20.1	29.6	22.1	32.4	17.5	28.6	28.1	36.0
<i>Fissurella volcano</i>	35.4	16.5	10.2	4.0	16.8	6.8	17.2	11.0	19.9
<i>Strongylocentrotus purpuratus</i>	25.2	14.3	20.0	22.3	21.0	25.3	6.2	4.4	18.1
<i>Anthopleura elegantissima</i>	3.0	2.0	0.6	0.5	16.0	31.4	33.6	73.5	13.3
<i>Lottia pelta</i>	5.2	3.0	2.8	4.2	7.0	5.8	5.8	5.8	5.2
<i>Lottia gigantea</i>	7.2	9.0	3.4	3.6	1.2	1.6	2.0	2.3	3.5
<i>Epiactis prolifera</i>	5.4	9.4	0.2	0.4	4.6	10.3	2.0	2.9	3.1
<i>Pachygrapsus crassipes</i>	1.2	1.8	1.0	1.4	2.4	1.3	1.2	1.3	1.5

(table continued)



Table C15 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Diablo Cove Station NDC 3+0.3m (9+1).

Survey Survey Date	176 31-Jan-14		177 30-Apr-14		178 27-Jun-14		179 7-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
Serpulidae	1.6	1.7	0.8	0.8	1.2	2.7	0.8	1.3	1.1
<i>Lottia scutum</i>	0.8	1.8	0.2	0.4	2.8	3.6	0.2	0.4	1.0
<i>Lottia limatula</i>	-	-	1.0	1.7	0.4	0.5	1.0	2.2	0.6
<i>Nuttallina californica</i>	0.8	0.8	-	-	-	-	0.4	0.9	0.3
<i>Balanus</i> spp.	-	-	-	-	-	-	1.0	2.2	0.3
Nemertea	0.4	0.5	0.4	0.9	-	-	-	-	0.2
<i>Anthopleura artemisia</i>	-	-	-	-	0.4	0.9	-	-	0.1
<i>Serpulorbis squamigerus</i>	-	-	-	-	-	-	0.4	0.5	0.1
<i>Pugettia</i> spp.	-	-	-	-	0.4	0.5	-	-	0.1
<i>Anthopleura xanthogrammica</i>	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Cyanoplax</i> spp.	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Diodora</i> spp.	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Pisaster ochraceus</i>	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Fissurellidea bimaculata</i>	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Ocenebrina</i> spp.	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Haliotis</i> spp.	-	-	-	-	-	-	0.1	0.3	<0.1
Lottiidae	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-	<0.1
<i>Heptacarpus</i> spp.	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Ischnochitonidae	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1
<i>Pollicipes polymerus</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
Grapsidae	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Urticina</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Corynactis californica</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Epitonium/Opalia</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
Ophiuroidea	-	-	-	-	<0.1	<0.1	-	-	<0.1
Majidae	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Septifer bifurcatus</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Lysmata californica</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Cover									
<i>Phragmatopoma californica</i>	0.4	0.9	1.7	2.6	0.5	0.8	1.5	2.5	1.0
<i>Chthamalus fissus</i>	0.7	1.0	1.8	3.1	<0.1	-	0.1	0.4	0.7
<i>Haliclona</i> spp.	-	-	<0.1	0.2	-	-	-	-	<0.1
Spirorbidae	<0.1	-	-	-	<0.1	<0.1	<0.1	-	<0.1
Porifera (encrusting)	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
bryozoa (encrusting)	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
tunicates, compound/social	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1
<i>Pista</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Substrate Cover									
rock	31.7	24.8	16.9	18.5	19.4	17.0	29.7	19.3	24.4
cobble	4.4	6.5	6.0	6.0	3.5	5.1	3.7	4.0	4.4
sand (shell gravel)	0.2	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1



Table C16. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Diablo Cove Station NDC 3+0.9m (9+3).

Survey Survey Date	176		177		178		179		Annual Mean
	31-Jan-14	Std. Dev.	30-Apr-14	Std. Dev.	27-Jun-14	Std. Dev.	7-Nov-14	Std. Dev.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean
Algae Cover									
non-coraline crust	27.1	20.7	26.0	22.9	28.8	15.8	29.1	19.7	27.7
<i>Codium fragile</i> subsp. <i>californicum</i>	5.5	7.8	5.7	8.9	9.1	11.9	6.5	10.1	6.7
<i>Ulva</i> spp.	0.3	0.9	5.8	8.0	13.2	11.2	2.6	4.1	5.5
Chrysophyta	-	-	5.9	11.2	13.8	17.5	-	-	4.9
filamentous red algae complex	1.9	5.2	2.9	7.0	1.2	2.4	9.3	17.0	3.8
coralline crust	2.4	2.1	3.1	2.4	2.2	3.4	3.7	5.6	2.8
<i>Gelidium coulteri</i>	0.5	0.8	1.5	1.4	5.1	4.4	3.7	2.8	2.7
<i>Pterosiphonia dendroidea</i>	<0.1	<0.1	0.8	1.2	1.7	3.2	0.3	1.1	0.7
<i>Mastocarpus papillatus</i>	<0.1	<0.1	0.2	0.5	0.6	0.9	0.2	0.7	0.2
<i>Calliarthron/Bossiella</i> spp.-complex	<0.1	<0.1	-	-	<0.1	0.2	0.8	1.9	0.2
<i>Cryptopleura violacea</i>	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.7	2.0	0.2
juv. articulated coralline algae	0.2	0.7	<0.1	0.2	0.1	0.4	0.3	0.5	0.2
Chlorophyta (filamentous)	0.5	1.5	-	-	-	-	0.2	0.7	0.2
<i>Mazzaella affinis</i>	-	-	<0.1	<0.1	0.5	0.9	0.1	0.4	0.2
<i>Porphyra</i> spp.	-	-	0.6	2.0	<0.1	<0.1	-	-	0.2
<i>Prionitis</i> spp.	<0.1	<0.1	-	-	0.1	0.4	0.4	1.3	0.1
<i>Gelidium pusillum</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.6	<0.1
Laminariales	-	-	0.2	0.7	-	-	-	-	<0.1
<i>Macrocystis pyrifera</i>	-	-	0.1	0.4	-	-	-	-	<0.1
<i>Endarachne/Petalonia</i> -complex	-	-	<0.1	0.2	-	-	-	-	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Corallina vancouveriensis</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Colpomenia</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Endocladia muricata</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Mastocarpus jordinii</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Chondracanthus canaliculatus</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Mazzaella leptorhynchus</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Mazzaella oregana</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Microcladia coulteri</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Acrosorium ciliolatum</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Counts									
<i>Tetraclita rubescens</i>	198.2	202.6	88.6	99.1	88.8	96.4	42.4	79.9	104.5
<i>Mytilus</i> spp.	81.4	104.1	73.2	95.1	42.8	56.5	67.2	88.0	66.2
<i>Lottia scabra</i>	99.6	61.8	60.0	44.9	30.4	7.1	36.0	27.9	56.5
<i>Lottia gigantea</i>	21.2	22.9	13.0	13.8	17.4	20.5	13.0	16.5	16.2
<i>Strongylocentrotus purpuratus</i>	19.4	25.4	19.2	25.3	18.2	17.7	7.2	6.3	16.0
<i>Fissurella volcano</i>	11.6	14.6	3.4	2.9	8.2	7.8	8.2	9.1	7.9
<i>Anthopleura elegantissima</i>	0.8	1.3	0.6	0.9	1.2	2.2	18.0	35.9	5.2
<i>Lottia pelta</i>	4.4	5.0	2.8	5.2	2.2	1.3	8.2	9.3	4.4
<i>Chlorostoma funebris</i>	4.2	7.2	5.0	10.6	-	-	-	-	2.3
<i>Pachygrapsus crassipes</i>	-	-	4.6	3.6	3.8	2.3	0.6	0.5	2.3
Lottiidae	3.6	4.8	3.2	6.1	1.2	2.7	0.4	0.9	2.1
<i>Lottia limatula</i>	2.6	5.3	2.6	3.6	1.6	2.1	1.6	2.6	2.1

(table continued)



Table C16 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for North Diablo Cove Station NDC 3+0.9m (9+3).

Survey Survey Date	176 31-Jan-14		177 30-Apr-14		178 27-Jun-14		179 7-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Lottia scutum</i>	0.4	0.5	3.2	7.2	1.2	1.8	0.2	0.4	1.3
<i>Epiactis prolifera</i>	-	-	-	-	2.0	2.3	0.2	0.4	0.6
<i>Pagurus</i> spp.	0.4	0.9	-	-	1.2	2.7	-	-	0.4
Serpulidae	-	-	0.2	0.4	1.0	0.7	0.2	0.4	0.4
Natantia	-	-	-	-	1.2	1.8	-	-	0.3
<i>Pollicipes polymerus</i>	<0.1	<0.1	0.4	0.9	0.6	1.3	-	-	0.3
<i>Acanthinucella</i> spp.	-	-	-	-	0.8	1.8	-	-	0.2
<i>Nuttallina californica</i>	0.4	0.9	0.2	0.4	-	-	0.2	0.4	0.2
Pelecypoda boring	<0.1	<0.1	-	-	0.2	0.4	-	-	<0.1
<i>Cyanoplax</i> spp.	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Nucella</i> spp.	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Ophioplocus esmarki</i>	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Pugettia</i> spp.	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Lepidozона</i> spp.	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Littorina</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Grapsidae	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sipuncula	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Ischnochitonidae	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Heptacarpus</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Diodora</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Patiria miniata</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
Ophiuroidea	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Cucumaria</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
Invertebrate Cover									
<i>Chthamalus fissus</i>	7.6	6.0	5.9	7.4	6.7	11.7	6.5	8.2	6.6
<i>Phragmatopoma californica</i>	0.5	1.1	<0.1	<0.1	<0.1	<0.1	0.4	0.9	0.2
<i>Pista</i> spp.	0.1	0.4	<0.1	<0.1	-	-	-	-	<0.1
bryozoa (encrusting)	-	-	-	-	0.1	0.4	-	-	<0.1
Spirorbidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
tunicates, compound/social	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Porifera (encrusting)	-	-	-	-	<0.1	<0.1	-	-	<0.1
Substrate Cover									
rock	49.7	17.9	45.1	26.4	34.7	21.2	41.7	20.3	42.8
cobble	2.5	6.0	3.5	5.4	1.8	2.6	1.9	3.0	2.4
sand (shell gravel)	-	-	-	-	<0.1	<0.1	-	-	<0.1



Table C17. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Cove Station SDC 1+0.3m (10+1).

Survey Survey Date	176 2-Jan-14		177 15-May-14		178 14-Jul-14		179 5-Dec-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
filamentous red algae complex	23.1	11.9	24.2	9.6	16.0	7.3	27.6	10.2	22.7
coralline crust	18.1	12.8	18.1	11.3	22.8	16.9	31.0	22.3	22.5
non-coralline crust	15.6	10.4	18.6	11.0	17.9	15.3	11.7	12.6	16.0
<i>Prionitis</i> spp.	<0.1	0.2	0.7	0.8	4.4	4.7	5.2	5.0	2.6
<i>Gastroclonium subarticulatum</i>	1.4	2.6	2.6	4.6	2.4	4.0	3.7	4.8	2.5
<i>Gelidium coulteri</i>	3.1	6.8	0.7	1.1	4.5	7.4	0.2	0.7	2.1
<i>Cryptopleura violacea</i>	0.3	1.1	0.3	0.9	4.7	4.5	1.7	2.8	1.8
juv. articulated coralline algae	<0.1	<0.1	5.1	6.1	<0.1	<0.1	1.7	1.8	1.7
<i>Ulva</i> spp.	<0.1	<0.1	3.9	2.2	2.4	2.8	<0.1	<0.1	1.6
Chrysophyta	-	-	4.1	3.0	-	-	-	-	1.0
<i>Gelidium pusillum</i>	0.1	0.4	1.3	3.0	2.1	4.8	-	-	0.9
<i>Chondracanthus canaliculatus</i>	0.8	2.2	0.5	1.0	0.5	1.1	0.6	1.0	0.6
<i>Sargassum muticum</i>	0.3	0.7	0.6	1.3	-	-	-	-	0.2
<i>Mazzaella affinis</i>	<0.1	<0.1	0.2	0.5	0.3	0.8	-	-	0.1
<i>Pterosiphonia dendroidea</i>	0.3	1.1	<0.1	0.2	<0.1	0.2	<0.1	<0.1	0.1
<i>Corallina vancouveriensis</i>	-	-	0.2	0.3	<0.1	<0.1	<0.1	0.2	<0.1
<i>Calliarthron/Bossiella</i> spp.-complex	-	-	0.1	0.4	<0.1	<0.1	0.1	0.3	<0.1
<i>Colpomenia</i> spp.	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Halymenia/Schizymenia</i> spp.-complex	-	-	<0.1	0.2	<0.1	0.2	-	-	<0.1
<i>Mastocarpus papillatus</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Grateloupia californica</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Mazzaella leptorhynchus</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Mazzaella oregona</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
Chlorophyta (filamentous)	-	-	-	-	<0.1	<0.1	-	-	<0.1
Invertebrate Counts									
<i>Strongylocentrotus purpuratus</i>	33.0	44.4	39.2	42.0	24.2	24.0	-	-	24.1
<i>Anthopleura elegantissima</i>	26.8	12.4	18.6	8.8	22.4	16.0	27.4	16.9	23.8
<i>Fissurella volcano</i>	15.0	9.2	7.6	5.3	5.8	5.8	17.0	18.1	11.4
<i>Tetracita rubescens</i>	17.6	21.4	2.4	3.3	7.0	11.7	7.6	13.2	8.7
<i>Pagurus</i> spp.	5.4	4.8	0.8	1.3	6.6	8.4	-	-	3.2
<i>Lottia pelta</i>	2.0	1.2	1.4	2.1	0.6	1.3	1.6	1.5	1.4
<i>Lottia limatula</i>	0.4	0.5	1.4	1.7	1.8	3.0	1.6	1.8	1.3
<i>Epiactis prolifera</i>	0.4	0.9	0.4	0.9	0.2	0.4	1.4	1.5	0.6
<i>Lottia scabra</i>	-	-	-	-	0.2	0.4	1.8	3.5	0.5
<i>Lottia scutum</i>	0.2	0.4	1.4	2.6	0.4	0.9	-	-	0.5
Cirratulidae/Terebellidae	0.6	0.9	-	-	1.4	2.2	-	-	0.5
Nemertea	-	-	0.8	1.8	0.4	0.9	-	-	0.3
<i>Ophiothrix spiculata</i>	-	-	1.0	1.7	0.2	0.4	-	-	0.3
<i>Chlorostoma brunnea</i>	0.8	1.3	-	-	-	-	-	-	0.2
<i>Pugettia</i> spp.	0.2	0.4	0.2	0.4	0.2	0.4	-	-	0.2
<i>Serpulorbis squamigerus</i>	0.4	0.9	-	-	-	-	0.2	0.4	0.2
<i>Pachygrapsus crassipes</i>	-	-	-	-	0.4	0.9	0.2	0.4	0.2

(table continued)



Table C17 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Cove Station SDC 1+0.3m (10+1).

Survey Survey Date	176		177		178		179		Annual Mean
	2-Jan-14	Std. Dev.	15-May-14	Std. Dev.	14-Jul-14	Std. Dev.	5-Dec-14	Std. Dev.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean
Invertebrate Counts (continued)									
Chaetopteridae	0.6	1.3	-	-	-	-	-	-	0.2
<i>Anthopleura artemisia</i>	-	-	<0.1	<0.1	0.4	0.5	-	-	0.1
<i>Cyanoplax</i> spp.	-	-	0.2	0.4	<0.1	<0.1	0.2	0.4	0.1
<i>Aeolidia papillosa</i>	-	-	-	-	0.4	0.9	-	-	0.1
Sipuncula	-	-	0.2	0.4	<0.1	<0.1	-	-	<0.1
<i>Ophiactis simplex</i>	0.2	0.4	-	-	<0.1	<0.1	-	-	<0.1
<i>Chlorostoma funebris</i>	-	-	0.2	0.4	-	-	-	-	<0.1
Pelecypoda boring	-	-	-	-	-	-	0.2	0.4	<0.1
Lottiidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Barleeia</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1
<i>Alia</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Epitonium/Opalia</i> spp.	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Ischnochitonidae	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Heptacarpus</i> spp.	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Amphipholis squamata</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Mopalia</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Lottia ochracea</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Lacuna</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
Cancridae	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Amphissa</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
Grapsidae	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Aplysia</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Cover									
<i>Pista</i> spp.	0.3	0.6	<0.1	<0.1	0.1	0.4	<0.1	<0.1	0.1
<i>Chthamalus fissus</i>	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Spirorbidae	<0.1	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Phragmatopoma californica</i>	<0.1	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Dodecaceria fewkesi</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
tunicates, compound/social	-	-	-	-	<0.1	<0.1	-	-	<0.1
Porifera (encrusting)	-	-	-	-	<0.1	<0.1	-	-	<0.1
Substrate Cover									
rock	21.7	12.2	14.7	7.2	14.1	9.8	11.0	6.8	15.4
cobble	4.7	5.9	5.4	5.4	1.8	2.3	4.2	5.7	4.0
sand (shell gravel)	2.3	4.1	2.4	3.2	3.7	5.9	4.2	6.3	3.2



Table C18. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Cove Station SDC 1+0.6m (10+2).

Survey Survey Date	176 2-Jan-14		177 15-May-14		178 14-Jul-14		179 5-Dec-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
non-coraline crust	33.6	7.8	23.8	11.3	23.7	10.6	23.7	8.8	26.2
filamentous red algae complex	17.0	9.9	18.9	11.6	12.2	7.6	18.3	6.7	16.6
coralline crust	10.1	5.1	12.4	10.2	8.3	5.1	16.0	17.0	11.7
<i>Gastroclonium subarticulatum</i>	5.9	6.1	10.7	9.3	11.8	10.5	12.4	9.4	10.2
<i>Gelidium coulteri</i>	7.8	3.8	6.2	6.3	18.3	5.2	3.5	2.3	9.0
<i>Prionitis</i> spp.	0.6	1.3	1.9	2.5	4.9	4.2	5.2	3.7	3.2
<i>Chondracanthus canaliculatus</i>	1.3	1.7	1.7	3.1	0.6	1.0	3.3	4.0	1.7
<i>Cryptopleura violacea</i>	0.3	0.9	0.8	1.3	1.4	2.1	4.0	3.6	1.6
<i>Ulva</i> spp.	<0.1	<0.1	3.4	2.8	2.4	1.5	<0.1	<0.1	1.4
<i>Gelidium pusillum</i>	0.3	0.6	2.4	3.5	0.7	1.0	<0.1	<0.1	0.8
<i>Mazzaella affinis</i>	<0.1	0.2	0.3	0.6	2.2	2.7	0.3	0.9	0.7
juv. articulated coralline algae	<0.1	<0.1	1.6	3.1	<0.1	0.2	1.1	2.1	0.7
Chrysophyta	-	-	2.2	1.7	-	-	-	-	0.6
<i>Mastocarpus papillatus</i>	<0.1	0.2	0.6	1.8	<0.1	<0.1	<0.1	<0.1	0.2
<i>Cryptopleura ruprechtiana</i>	-	-	-	-	0.4	1.3	-	-	0.1
<i>Fucus gardneri</i>	-	-	-	-	0.3	0.9	-	-	<0.1
<i>Corallina vancouveriensis</i>	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.2	<0.1
<i>Calliarthron/Bossiella</i> spp.-complex	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1
<i>Mastocarpus jardinii</i>	-	-	-	-	-	-	<0.1	0.2	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Pterosiphonia dendroidea</i>	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Colpomenia</i> spp.	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Halymenia/Schizymenia</i> spp.-complex	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Halosaccion americanum</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Grateloupia californica</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
Chlorophyta (filamentous)	-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Counts									
<i>Anthopleura elegantissima</i>	40.0	23.3	28.0	21.4	35.8	11.5	48.2	24.8	38.0
<i>Tetraclita rubescens</i>	38.8	44.3	-	-	6.8	5.9	21.4	30.5	16.8
<i>Fissurella volcano</i>	15.2	7.4	5.0	2.5	3.6	2.5	23.4	15.4	11.8
<i>Strongylocentrotus purpuratus</i>	13.6	13.8	13.8	12.0	17.4	18.9	-	-	11.2
<i>Lottia pelta</i>	3.4	1.7	4.4	3.0	6.6	5.5	7.2	4.9	5.4
<i>Pagurus</i> spp.	4.0	3.4	3.0	5.1	5.6	3.9	-	-	3.2
<i>Lottia limatula</i>	1.8	1.3	1.6	1.9	2.0	1.4	3.8	3.7	2.3
<i>Lottia scabra</i>	-	-	1.0	1.7	1.0	0.7	3.2	5.0	1.3
<i>Pachygrapsus crassipes</i>	0.4	0.5	1.0	1.4	2.6	1.8	0.4	0.9	1.1
<i>Chlorostoma funebris</i>	2.2	4.9	-	-	0.2	0.4	-	-	0.6
<i>Epiactis prolifera</i>	-	-	-	-	-	-	1.6	2.1	0.4
<i>Lottia scutum</i>	0.4	0.9	-	-	-	-	1.2	1.8	0.4
<i>Pugettia</i> spp.	<0.1	<0.1	0.4	0.5	0.2	0.4	-	-	0.2
<i>Cyanoplax</i> spp.	<0.1	<0.1	0.2	0.4	<0.1	<0.1	0.2	0.4	0.1
<i>Anthopleura artemisia</i>	<0.1	<0.1	0.2	0.4	0.2	0.4	-	-	0.1
Nemertea	-	-	-	-	0.4	0.5	-	-	0.1

(table continued)



Table C18 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Cove Station SDC 1+0.6m (10+2).

Survey Survey Date	176		177		178		179		Annual Mean
	2-Jan-14	Std. Dev.	15-May-14	Std. Dev.	14-Jul-14	Std. Dev.	5-Dec-14	Std. Dev.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean
Invertebrate Counts (continued)									
<i>Chlorostoma brunnea</i>	0.4	0.5	-	-	-	-	-	-	0.1
<i>Pisaster ochraceus</i>	0.2	0.4	0.2	0.4	-	-	-	-	0.1
<i>Fissurellidea bimaculata</i>	-	-	-	-	0.4	0.9	-	-	0.1
Cirratulidae/Terebellidae	-	-	0.4	0.9	-	-	-	-	0.1
<i>Barleeia</i> spp.	<0.1	-	0.2	0.4	-	-	<0.1	-	<0.1
Pelecypoda boring	<0.1	<0.1	0.2	0.4	-	-	<0.1	<0.1	<0.1
<i>Acanthinucella</i> spp.	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Diodora</i> spp.	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Mopalia</i> spp.	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Serpulorbis squamigerus</i>	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Octopus</i> spp.	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Nuttallina californica</i>	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Ocenebrina</i> spp.	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Ophiothrix spiculata</i>	-	-	-	-	0.2	0.4	-	-	<0.1
Serpulidae	0.2	0.4	-	-	-	-	-	-	<0.1
Lottiidae	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	-	<0.1
Ischnochitonidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Heptacarpus</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Alia</i> spp.	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
Sipuncula	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Epitonium/Opalia</i> spp.	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
Chaetopteridae	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1
<i>Mytilus</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Lottia ochracea</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
Grapsidae	-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Cover									
<i>Pista</i> spp.	0.4	1.1	-	-	-	-	<0.1	<0.1	0.1
<i>Chthamalus fissus</i>	<0.1	-	0.1	0.4	<0.1	-	<0.1	-	<0.1
Spirorbidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1
<i>Phragmatopoma californica</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Dodecaceria fewkesi</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
tunicates, compound/social	-	-	-	-	-	-	<0.1	<0.1	<0.1
Porifera (encrusting)	-	-	-	-	<0.1	<0.1	-	-	<0.1
bryozoa (encrusting)	-	-	<0.1	<0.1	-	-	-	-	<0.1
Substrate Cover									
rock	8.8	6.1	9.8	9.4	11.7	8.2	14.8	10.6	11.3
cobble	5.3	6.3	4.5	3.6	3.2	4.3	3.6	5.0	4.1
sand (shell gravel)	1.3	1.2	3.7	5.1	5.6	6.4	4.2	5.4	3.7



Table C19. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Cove Station SDC 2+0.3m (11+1).

Survey	176		177		178		179		Annual Mean
Survey Date	3-Jan-14		29-Apr-14		24-Jun-14		5-Nov-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
non-coraline crust	48.8	17.2	34.7	20.6	32.7	12.7	50.1	18.8	41.6
filamentous red algae complex	14.0	19.8	14.2	20.3	14.2	20.5	13.7	16.3	14.1
coralline crust	10.6	5.5	12.9	13.7	10.8	12.1	6.8	8.0	10.3
<i>Prionitis</i> spp.	3.8	5.8	5.9	4.0	9.2	5.8	15.0	14.1	8.5
<i>Ulva</i> spp.	<0.1	<0.1	2.1	1.5	19.7	12.1	<0.1	0.2	5.5
<i>Cryptopleura violacea</i>	0.3	1.1	6.5	6.7	8.5	7.1	2.4	2.7	4.4
<i>Corallina vancouveriensis</i>	2.6	5.1	2.4	4.1	1.0	1.6	1.8	2.1	2.0
<i>Gastroclonium subarticulatum</i>	1.1	2.1	1.9	3.0	1.2	2.5	3.4	3.5	1.9
<i>Chondracanthus canaliculatus</i>	0.9	1.9	1.1	2.1	1.7	2.1	3.5	3.8	1.8
<i>Gelidium pusillum</i>	1.3	2.3	0.6	0.9	<0.1	<0.1	5.0	6.3	1.7
<i>Gelidium coulteri</i>	0.3	0.5	0.8	1.3	4.3	4.4	1.5	2.0	1.7
<i>Pterosiphonia dendroidea</i>	<0.1	<0.1	-	-	-	-	5.2	6.0	1.3
Chrysophyta	-	-	1.9	5.9	2.2	6.8	-	-	1.0
<i>Sargassum muticum</i>	-	-	-	-	<0.1	<0.1	3.5	5.2	0.9
<i>Mastocarpus papillatus</i>	0.3	1.1	<0.1	<0.1	2.5	4.1	0.6	1.3	0.9
juv. articulated coralline algae	0.5	1.1	1.0	1.3	0.6	1.2	0.4	0.9	0.6
<i>Mazzaella affinis</i>	<0.1	<0.1	<0.1	<0.1	1.2	1.2	0.3	0.6	0.4
<i>Halymenia/Schizymenia</i> spp.-complex	-	-	<0.1	0.2	0.8	2.0	-	-	0.2
<i>Grateloupia californica</i>	-	-	0.2	0.5	-	-	-	-	<0.1
<i>Macrocystis pyrifera</i>	-	-	0.2	0.7	-	-	-	-	<0.1
<i>Chondria decipiens</i>	0.1	0.4	-	-	-	-	-	-	<0.1
<i>Cladophora</i> spp.	-	-	<0.1	<0.1	-	-	<0.1	0.2	<0.1
<i>Mazzaella leptorhynchos</i>	-	-	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Colpomenia</i> spp.	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Calliarthron/Bossiella</i> spp.-complex	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Chlorophyta (filamentous)	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Mastocarpus jordinii</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
Invertebrate Counts									
<i>Anthopleura elegantissima</i>	42.2	8.2	53.4	25.3	26.2	15.5	27.8	8.3	37.4
<i>Chlorostoma funebris</i>	139.6	157.8	0.2	0.4	0.4	0.9	9.4	10.8	37.4
<i>Tetraclita rubescens</i>	37.8	35.0	8.8	10.4	7.0	5.8	21.4	18.8	18.8
<i>Lottia limatula</i>	2.6	4.2	3.2	3.6	2.6	2.3	6.8	5.0	3.8
<i>Fissurella volcano</i>	3.8	3.3	0.4	0.5	1.2	1.8	5.6	2.1	2.8
<i>Lottia pelta</i>	0.8	0.4	3.0	2.1	1.6	1.5	5.0	4.9	2.6
<i>Pagurus</i> spp.	1.6	2.6	0.2	0.4	6.2	3.1	2.4	3.3	2.6
<i>Lottia scabra</i>	-	-	-	-	5.2	7.9	1.6	2.5	1.7
<i>Pachygrapsus crassipes</i>	0.6	0.9	1.2	1.8	3.0	0.7	1.6	2.1	1.6
<i>Strongylocentrotus purpuratus</i>	0.4	0.5	1.0	2.2	1.2	1.8	0.8	1.1	0.9
<i>Lottia scutum</i>	0.6	0.9	0.4	0.5	0.8	1.3	0.6	0.9	0.6
<i>Serpulorbis squamigerus</i>	0.4	0.9	0.2	0.4	0.6	1.3	0.8	1.3	0.5
<i>Mopalia</i> spp.	0.2	0.4	0.2	0.4	-	-	0.6	1.3	0.3
<i>Cyanoplax</i> spp.	<0.1	<0.1	0.4	0.5	0.4	0.5	<0.1	<0.1	0.2
<i>Pisaster ochraceus</i>	-	-	0.4	0.9	0.4	0.5	-	-	0.2

(table continued)



Table C19 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Cove Station SDC 2+0.3m (11+1).

Survey Survey Date	176 3-Jan-14		177 29-Apr-14		178 24-Jun-14		179 5-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Leptasterias</i> spp.	0.2	0.4	0.2	0.4	0.2	0.4	-	-	0.2
<i>Anthopleura artemisia</i>	-	-	0.4	0.5	-	-	<0.1	<0.1	0.1
<i>Epiactis prolifera</i>	-	-	-	-	0.2	0.4	0.2	0.4	0.1
<i>Diopatra ornata</i>	0.2	0.4	0.2	0.4	-	-	-	-	0.1
Nemertea	-	-	0.2	0.4	<0.1	<0.1	-	-	<0.1
<i>Ophiothrix spiculata</i>	-	-	0.2	0.4	-	-	<0.1	<0.1	<0.1
<i>Septifer bifurcatus</i>	-	-	0.2	0.4	-	-	-	-	<0.1
Cirratulidae/Terebellidae	-	-	0.2	0.4	-	-	-	-	<0.1
Lottiidae	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-	<0.1
<i>Barleeia</i> spp.	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	<0.1
<i>Epitonium/Opalia</i> spp.	-	-	-	-	-	-	<0.1	-	<0.1
Serpulidae	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Heptacarpus</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Alia</i> spp.	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Hermisenda crassicornis</i>	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Ischnochitonidae	-	-	-	-	-	-	<0.1	<0.1	<0.1
Sipuncula	<0.1	<0.1	-	-	-	-	-	-	<0.1
Grapsidae	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Acmaea mitra</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
Pycnogonida	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Idotea</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
Pelecypoda boring	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Pugettia</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Aeolidia papillosa</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
Chaetopteridae	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Haminoea</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Mytilus</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Cover									
<i>Phragmatopoma californica</i>	0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Chthamalus fissus</i>	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1
Spirorbidae	<0.1	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Porifera (encrusting)	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1
<i>Dodecaceria fewkesi</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Pista</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
tunicates, compound/social	-	-	-	-	-	-	<0.1	<0.1	<0.1
bryozoa (encrusting)	-	-	-	-	-	-	<0.1	<0.1	<0.1
Substrate Cover									
rock	8.7	8.2	17.4	20.3	4.8	4.1	4.4	1.9	8.8
sand (shell gravel)	2.2	2.4	4.7	6.8	0.4	0.9	2.5	4.1	2.4
cobble	0.8	2.0	0.8	1.3	-	-	0.8	1.4	0.6



Table C20. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Cove Station SDC 2+0.9m (11+3).

Survey	176		177		178		179		Annual
Survey Date	3-Jan-14		29-Apr-14		24-Jun-14		5-Nov-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean
Algae Cover									
non-coraline crust	28.6	21.8	25.5	26.0	27.2	24.3	33.1	28.2	28.6
<i>Prionitis</i> spp.	1.2	1.4	1.2	1.4	3.5	3.9	3.7	2.5	2.4
<i>Mastocarpus papillatus</i>	1.0	1.9	1.2	2.5	6.2	6.5	1.1	1.1	2.4
<i>Endocladia muricata</i>	2.6	7.2	1.7	4.2	0.4	1.3	0.3	1.1	1.3
coralline crust	0.3	0.7	1.3	2.0	1.0	1.2	0.4	0.7	0.7
<i>Gelidium pusillum</i>	0.6	2.0	<0.1	<0.1	0.3	0.9	0.9	1.8	0.5
<i>Gelidium coulteri</i>	<0.1	<0.1	0.5	0.9	1.4	1.6	<0.1	<0.1	0.5
<i>Corallina vancouveriensis</i>	0.7	1.2	0.3	0.5	0.3	0.9	0.4	0.7	0.4
<i>Grateloupia californica</i>	-	-	1.0	2.3	-	-	-	-	0.3
juv. articulated coralline algae	<0.1	<0.1	0.3	0.5	0.2	0.5	<0.1	<0.1	0.1
<i>Mazzaella leptorhynchos</i>	<0.1	<0.1	<0.1	<0.1	0.4	1.1	<0.1	<0.1	0.1
<i>Ulva</i> spp.	-	-	<0.1	0.2	0.2	0.7	-	-	<0.1
<i>Gastroclonium subarticulatum</i>	-	-	0.3	0.7	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Mazzaella affinis</i>	<0.1	<0.1	-	-	0.1	0.4	<0.1	0.2	<0.1
<i>Cryptopleura violacea</i>	-	-	0.1	0.4	<0.1	<0.1	-	-	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	-	<0.1
<i>Chondracanthus canaliculatus</i>	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Mastocarpus jordinii</i>	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1
<i>Colpomenia</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Pterosiphonia dendroidea</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
Chlorophyta (filamentous)	-	-	-	-	<0.1	<0.1	-	-	<0.1
Invertebrate Counts									
<i>Anthopleura elegantissima</i>	253.8	368.1	236.4	284.8	234.6	355.8	197.0	261.2	230.5
<i>Chlorostoma funebris</i>	130.2	34.4	157.0	210.1	174.0	72.5	64.0	42.2	131.3
<i>Tetraclita rubescens</i>	49.4	96.0	9.0	20.1	0.2	0.4	3.6	8.0	15.6
<i>Pagurus</i> spp.	21.4	25.4	3.0	4.8	8.4	11.1	14.8	9.8	11.9
<i>Lottia scabra</i>	3.6	4.2	6.2	7.2	8.6	2.5	14.6	10.5	8.3
<i>Lottia limatula</i>	6.4	7.8	5.4	5.8	5.4	5.8	1.6	1.5	4.7
<i>Lottia pelta</i>	2.2	2.8	3.0	2.5	1.4	1.7	1.0	1.0	1.9
<i>Lottia scutum</i>	2.8	4.7	1.2	2.2	2.2	2.4	0.6	0.9	1.7
<i>Pachygrapsus crassipes</i>	0.6	0.9	2.0	1.2	3.0	1.6	1.0	1.2	1.7
<i>Acanthinucella</i> spp.	0.8	0.8	0.6	0.9	1.2	2.2	0.4	0.5	0.8
Cirratulidae/Terebellidae	-	-	1.0	1.7	0.4	0.9	0.6	1.3	0.5
<i>Fissurella volcano</i>	0.2	0.4	0.4	0.9	-	-	0.2	0.4	0.2
<i>Cyanoplax</i> spp.	-	-	0.4	0.5	0.2	0.4	<0.1	<0.1	0.2
<i>Strongylocentrotus purpuratus</i>	0.4	0.9	0.2	0.4	-	-	-	-	0.2
Lottiidae	<0.1	-	0.4	0.9	<0.1	-	<0.1	-	0.1
<i>Pisaster ochraceus</i>	-	-	0.2	0.4	0.2	0.4	-	-	0.1
Nemertea	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Octopus</i> spp.	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Ocenebrina</i> spp.	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Littorina</i> spp.	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Epitonium/Opalia</i> spp.	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Hemissenda crassicornis</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1

(table continued)

Table C20 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Cove Station SDC 2+0.9m (11+3).

Survey Survey Date	176 3-Jan-14		177 29-Apr-14		178 24-Jun-14		179 5-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
Ischnochitonidae	<0.1	<0.1	-	-	-	-	-	-	<0.1
Isopoda	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Barleeia</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Modiolus</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
Mytilidae	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Mytilus</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Cover									
<i>Chthamalus fissus</i>	4.0	3.9	2.2	2.2	2.8	2.3	4.4	5.7	3.4
Spirorbidae	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Phragmatopoma californica</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Substrate Cover									
rock	38.4	22.1	46.0	20.1	38.3	23.5	39.4	25.2	40.5
sand (shell gravel)	12.2	12.8	11.7	11.6	7.5	10.9	9.0	10.2	10.1
cobble	1.4	2.5	2.7	5.1	2.9	4.4	2.0	3.9	2.3



Table C21. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Cove Station SDC 3+0.3m (12+1).

Survey Survey Date	176 10-Feb-14		177 2-Jun-14		178 7-Aug-14		179 20-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
non-coraline crust	54.8	22.1	32.3	27.7	47.7	20.5	53.8	16.5	47.2
<i>Mastocarpus papillatus</i>	0.2	0.7	1.7	3.0	4.9	7.7	3.8	4.9	2.6
<i>Endocladia muricata</i>	1.0	2.4	0.6	1.6	0.8	2.0	0.7	2.0	0.8
<i>Gelidium coulteri</i>	-	-	<0.1	0.2	2.0	3.4	0.1	0.4	0.6
<i>Chondracanthus canaliculatus</i>	0.2	0.7	0.1	0.4	0.2	0.7	1.2	2.8	0.5
<i>Cryptopleura violacea</i>	0.1	0.4	-	-	0.1	0.4	0.9	1.6	0.3
<i>Mazzaella affinis</i>	<0.1	<0.1	0.1	0.4	-	-	0.3	0.6	0.1
<i>Prionitis</i> spp.	0.1	0.4	<0.1	<0.1	0.2	0.7	<0.1	0.2	0.1
<i>Gelidium pusillum</i>	0.2	0.7	<0.1	<0.1	<0.1	<0.1	0.1	0.4	<0.1
<i>Ulva</i> spp.	-	-	0.3	0.7	<0.1	<0.1	<0.1	<0.1	<0.1
filamentous red algae complex	-	-	-	-	-	-	0.3	0.9	<0.1
coralline crust	<0.1	0.2	<0.1	-	<0.1	-	<0.1	0.2	<0.1
<i>Corallina vancouveriensis</i>	<0.1	0.2	-	-	<0.1	<0.1	-	-	<0.1
<i>Gastroclonium subarticulatum</i>	-	-	-	-	-	-	<0.1	0.2	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Mazzaella leptorhynchos</i>	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Colpomenia</i> spp.	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1
juv. articulated coralline algae	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Mastocarpus jardinii</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
Chlorophyta (filamentous)	-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Counts									
<i>Tetracita rubescens</i>	250.4	420.7	72.8	70.2	185.2	173.2	237.2	428.0	186.4
<i>Pagurus</i> spp.	24.6	12.7	61.0	86.2	8.4	7.1	139.6	148.4	58.4
<i>Chlorostoma funebris</i>	67.6	85.5	63.8	49.2	67.0	59.8	29.4	36.2	57.0
<i>Lottia scabra</i>	10.8	7.2	15.2	12.5	31.4	53.7	15.0	23.4	18.1
<i>Strongylocentrotus purpuratus</i>	5.4	4.4	10.0	7.5	29.6	24.4	7.6	4.8	13.2
<i>Anthopleura elegantissima</i>	7.0	8.5	5.4	4.4	3.8	2.9	10.6	14.8	6.7
<i>Lottia limatula</i>	9.4	3.6	4.0	3.1	4.6	2.4	1.8	2.5	5.0
<i>Lottia pelta</i>	3.6	2.7	6.4	4.6	2.2	1.3	4.8	5.9	4.3
<i>Fissurella volcano</i>	11.0	7.4	1.8	2.5	0.8	1.1	0.8	0.8	3.6
<i>Chlorostoma brunnea</i>	-	-	4.4	6.0	2.4	3.4	1.4	2.6	2.1
<i>Lottia scutum</i>	1.0	0.7	0.6	0.9	3.0	1.2	2.8	2.7	1.9
<i>Pachygrapsus crassipes</i>	0.4	0.5	0.4	0.5	2.2	2.9	0.8	0.8	1.0
<i>Patiria miniata</i>	0.2	0.4	0.4	0.9	1.0	2.2	-	-	0.4
<i>Mytilus</i> spp.	-	-	-	-	-	-	1.6	3.6	0.4
<i>Pisaster ochraceus</i>	0.4	0.9	-	-	0.4	0.5	-	-	0.2
<i>Epiactis prolifera</i>	-	-	-	-	-	-	0.4	0.9	0.1
<i>Serpulorbis squamigerus</i>	-	-	-	-	-	-	0.4	0.9	0.1
Lottiidae	<0.1	-	0.2	0.4	<0.1	-	<0.1	-	<0.1
<i>Diopatra ornata</i>	<0.1	<0.1	-	-	-	-	0.2	0.4	<0.1
<i>Urticina</i> spp.	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Ophiothrix spiculata</i>	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Littorina</i> spp.	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1

(table continued)



Table C21 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Cove Station SDC 3+0.3m (12+1).

Survey Survey Date	176 10-Feb-14		177 2-Jun-14		178 7-Aug-14		179 20-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
Pelecypoda boring	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
Cyanoplax spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
Lottia gigantea	-	-	<0.1	<0.1	-	-	-	-	<0.1
Alia spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
Epitonium/Opalia spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
Pugettia spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Sipuncula	-	-	<0.1	<0.1	-	-	-	-	<0.1
Erato spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Invertebrate Cover									
Chthamalus fissus	0.5	1.1	0.6	1.5	0.1	0.3	2.0	5.9	0.8
Phragmatopoma californica	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Spirorbidae	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1
Pista spp.	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1
Salmacina tribranchiata	-	-	<0.1	<0.1	-	-	-	-	<0.1
Substrate Cover									
rock	22.2	17.6	46.9	26.5	22.8	14.4	14.9	13.2	26.7
cobble	18.7	8.0	18.0	8.6	17.1	11.7	18.0	10.5	18.0
sand (shell gravel)	1.7	3.0	0.4	0.7	3.3	3.3	3.2	3.6	2.2



Table C22. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Cove Station SDC 3+0.9m (12+3).

Survey Survey Date	176 10-Feb-14		177 2-Jun-14		178 7-Aug-14		179 20-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
non-coraline crust	40.6	20.9	37.1	17.9	47.8	23.6	36.6	12.8	40.5
<i>Mastocarpus papillatus</i>	<0.1	<0.1	0.5	1.5	1.9	4.0	3.2	3.8	1.4
<i>Endocladia muricata</i>	1.2	2.3	1.0	3.1	1.0	2.6	1.3	3.5	1.1
<i>Gelidium coulteri</i>	<0.1	<0.1	0.1	0.4	0.6	1.1	<0.1	0.2	0.2
coralline crust	0.3	0.7	<0.1	<0.1	0.2	0.7	<0.1	0.2	0.1
<i>Gelidium pusillum</i>	0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Corallina vancouveriensis</i>	<0.1	<0.1	-	-	-	-	0.1	0.4	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Mazzaella leptorhynchos</i>	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Mazzaella affinis</i>	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Prionitis</i> spp.	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Ulva</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
juv. articulated coralline algae	-	-	<0.1	<0.1	-	-	-	-	<0.1
Invertebrate Counts									
<i>Chlorostoma funebris</i>	88.4	83.1	154.8	93.8	170.2	81.8	282.4	175.0	174.0
<i>Anthopleura elegantissima</i>	36.0	30.5	51.2	42.3	23.8	34.0	81.4	114.9	48.1
<i>Tetraclita rubescens</i>	156.2	243.2	17.0	24.2	3.2	5.2	1.4	2.6	44.5
<i>Lottia scabra</i>	12.2	19.5	24.6	18.8	39.0	31.4	51.2	42.0	31.8
<i>Lottia limatula</i>	8.2	10.5	9.0	13.0	6.0	7.1	9.4	11.1	8.2
<i>Pagurus</i> spp.	6.0	2.1	11.8	6.9	5.8	4.3	7.2	9.0	7.7
<i>Pachygrapsus crassipes</i>	0.8	0.8	0.8	0.8	3.4	1.8	1.0	1.0	1.5
<i>Acanthinucella</i> spp.	1.2	1.6	0.2	0.4	1.6	1.5	1.2	1.6	1.1
<i>Lottia scutum</i>	0.2	0.4	0.2	0.4	0.8	1.1	2.6	3.2	1.0
<i>Lottia pelta</i>	0.8	1.3	0.2	0.4	0.6	0.9	1.0	1.7	0.7
<i>Ocenebrina</i> spp.	-	-	-	-	0.2	0.4	0.6	0.9	0.2
Cirratulidae/Terebellidae	-	-	0.2	0.4	-	-	0.2	0.4	0.1
<i>Littorina</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.4	<0.1
Nemertea	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Serpulorbis squamigerus</i>	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Romaleon antennarius</i>	-	-	-	-	-	-	0.2	0.4	<0.1
Serpulidae	-	-	0.2	0.4	-	-	-	-	<0.1
Lottiidae	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	-	<0.1
<i>Epitonium/Opalia</i> spp.	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1
Grapsidae	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Cyanoplax</i> spp.	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Crepidula</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Isopoda	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Homolo. luridum/Lirularia succincta</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
Invertebrate Cover									
<i>Chthamalus fissus</i>	1.1	1.2	2.3	3.2	3.3	3.1	4.2	3.9	2.7
Spirorbidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Phragmatopoma californica</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

(table continued)

Table C22 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Cove Station SDC 3+0.9m (12+3).

Survey		176		177		178		179		Annual Mean
Survey Date		10-Feb-14		2-Jun-14		7-Aug-14		20-Nov-14		
Taxon		Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Substrate Cover										
rock		37.9	22.7	38.7	19.3	33.2	23.0	28.0	16.7	34.5
cobble		17.4	14.1	16.5	12.6	11.0	8.9	22.2	12.5	16.8
sand (shell gravel)		1.3	2.1	1.9	2.2	2.7	3.2	2.4	3.4	2.1



Table C23. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Point Station SDP 1+0.9m (22+3).

Survey Survey Date	176 11-Feb-14		177 13-May-14		178 25-Jun-14		179 4-Dec-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
non-coraline crust	42.2	23.3	40.3	22.1	42.6	18.8	38.3	17.6	40.8
coralline crust	14.4	5.8	15.7	10.2	16.0	8.0	13.7	7.0	15.0
<i>Gelidium coulteri</i>	8.7	5.5	18.4	5.6	24.3	6.8	6.7	3.8	14.5
<i>Corallina vancouveriensis</i>	10.9	7.7	12.0	9.6	4.4	3.5	11.9	8.0	9.8
<i>Egregia menziesii</i>	2.4	2.8	3.3	3.9	6.1	5.2	1.6	1.5	3.3
juv. articulated coralline algae	2.4	1.5	1.7	1.9	2.4	3.9	3.8	2.3	2.6
<i>Mastocarpus jadinii</i>	1.8	1.5	2.3	2.2	4.4	4.4	1.1	1.1	2.4
<i>Mazzaella flaccida</i>	<0.1	0.2	2.9	1.8	2.1	2.1	<0.1	0.2	1.3
<i>Cryptopleura violacea</i>	0.6	1.1	<0.1	0.2	0.2	0.7	2.7	5.3	0.9
<i>Calliarthron/Bossiella</i> spp.-complex	0.3	0.6	2.7	3.2	<0.1	0.2	0.3	0.5	0.8
<i>Endocladia muricata</i>	0.7	2.0	0.7	2.2	1.3	4.2	0.5	1.5	0.8
<i>Prionitis</i> spp.	0.6	0.8	0.3	0.5	0.2	0.5	1.0	1.0	0.5
<i>Ulva</i> spp.	<0.1	-	0.6	0.9	<0.1	-	<0.1	<0.1	0.1
<i>Mastocarpus papillatus</i>	<0.1	0.2	0.2	0.5	<0.1	0.2	<0.1	<0.1	<0.1
<i>Gelidium pusillum</i>	0.2	0.3	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1
<i>Callithamnion</i> spp./ <i>Pleonospor.</i> spp.	-	-	0.2	0.3	<0.1	0.2	-	-	<0.1
<i>Chondracanthus canaliculatus</i>	<0.1	<0.1	0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Porphyra</i> spp.	-	-	<0.1	0.2	<0.1	<0.1	-	-	<0.1
<i>Cladophora</i> spp.	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Mazzaella affinis</i>	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Scytosiphon</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Gastroclonium subarticulatum</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Mazzaella oregona</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
Laminariales	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Codium fragile</i> subsp. <i>californicum</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
filamentous red algae complex	-	-	<0.1	<0.1	-	-	-	-	<0.1
Invertebrate Counts									
<i>Tetracita rubescens</i>	258.0	198.8	252.6	175.1	114.4	120.7	315.0	88.5	235.0
<i>Anthopleura elegantissima</i>	93.2	55.3	259.2	364.5	69.4	19.5	96.4	57.8	129.6
<i>Strongylocentrotus purpuratus</i>	90.0	81.2	71.6	49.2	27.6	10.7	59.4	68.8	62.2
<i>Lottia scabra</i>	8.6	6.4	33.8	24.3	18.6	15.5	69.0	48.4	32.5
<i>Fissurella volcano</i>	6.2	2.0	3.4	3.6	3.4	1.8	23.8	5.0	9.2
<i>Lottia gigantea</i>	5.4	3.4	4.4	4.4	3.6	3.4	9.0	7.6	5.6
<i>Lottia pelta</i>	1.6	1.5	3.6	1.5	5.8	6.4	6.4	2.4	4.4
<i>Nuttallina californica</i>	1.0	1.2	0.6	0.5	0.8	1.3	6.8	1.6	2.3
<i>Pachygrapsus crassipes</i>	0.6	1.3	1.0	0.7	3.6	2.1	2.2	1.6	1.9
<i>Mytilus</i> spp.	0.4	0.9	<0.1	<0.1	<0.1	<0.1	6.2	6.4	1.7
<i>Pisaster ochraceus</i>	0.2	0.4	0.4	0.9	1.6	0.5	2.0	1.2	1.1
<i>Anthopleura xanthogrammica</i>	0.8	0.8	0.6	0.5	1.2	1.3	1.2	1.3	1.0
<i>Lottia limatula</i>	0.6	0.5	0.6	0.9	1.6	0.5	1.0	1.2	1.0
Nemertea	0.8	0.8	0.8	0.8	0.2	0.4	1.0	1.4	0.7
<i>Chlorostoma brunnea</i>	-	-	0.6	0.9	1.0	2.2	0.4	0.5	0.5

(table continued)



Table C23 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Point Station SDP 1+0.9m (22+3).

Survey Survey Date	176 11-Feb-14		177 13-May-14		178 25-Jun-14		179 4-Dec-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
Serpulidae	0.8	0.8	<0.1	<0.1	<0.1	<0.1	0.6	0.9	0.4
Leptasterias spp.	0.4	0.5	0.8	0.8	-	-	-	-	0.3
Nucella spp.	-	-	0.4	0.9	-	-	0.2	0.4	0.2
Nereididae	-	-	-	-	0.2	0.4	0.2	0.4	0.1
Pagurus spp.	-	-	-	-	0.4	0.9	-	-	0.1
Lottiidae	<0.1	-	<0.1	-	<0.1	-	0.2	0.4	<0.1
Cyanoplax spp.	<0.1	<0.1	<0.1	<0.1	0.2	0.4	<0.1	<0.1	<0.1
Haliotis spp.	0.1	0.3	-	-	-	-	0.1	0.3	<0.1
Lottia scutum	-	-	-	-	-	-	0.2	0.4	<0.1
Chlorostoma funebris	-	-	-	-	0.2	0.4	-	-	<0.1
Romaleon antennarius	0.2	0.4	-	-	-	-	-	-	<0.1
Ischnochitonidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1
Pollicipes polymerus	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sipuncula	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pelecypoda boring	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Grapsidae	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pycnogonida	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Lottia ochracea	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1
Pododesmus cepio	-	-	-	-	<0.1	<0.1	-	-	<0.1
Littorina spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Ophiuroidea	-	-	-	-	<0.1	<0.1	-	-	<0.1
Amphissa spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Cover									
Phragmatopoma californica	0.5	1.1	<0.1	<0.1	<0.1	0.2	1.2	2.0	0.4
Chthamalus fissus	<0.1	-	<0.1	<0.1	<0.1	0.2	1.0	2.0	0.3
Dodecaceria fewkesi	<0.1	<0.1	0.1	0.4	0.3	1.1	0.3	0.7	0.2
Spirorbidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Salmacina tribranchiata	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Porifera (encrusting)	<0.1	<0.1	-	-	-	-	-	-	<0.1
Substrate Cover									
rock	7.0	7.1	1.7	1.3	1.8	1.8	3.3	5.2	3.4



Table C24. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Point Station SDP 2+0.9m (14+3).

Survey	176		177		178		179		Annual Mean
Survey Date	11-Feb-14		13-May-14		25-Jun-14		7-Dec-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
coralline crust	21.9	6.8	22.5	6.3	34.4	15.0	27.9	9.8	26.7
<i>Corallina vancouveriensis</i>	18.5	8.6	16.4	6.9	11.7	8.5	14.9	8.6	15.4
<i>Prionitis</i> spp.	6.7	9.7	9.7	7.6	7.7	8.0	5.8	7.7	7.5
<i>Gelidium coulteri</i>	8.1	7.7	9.4	7.1	9.6	9.8	1.5	1.2	7.1
<i>Calliarthron/Bossiella</i> spp.-complex	3.1	5.1	12.7	7.6	1.9	3.7	3.0	3.6	5.2
<i>Egregia menziesii</i>	3.7	6.1	5.9	11.3	10.1	18.9	0.8	1.1	5.1
<i>Cryptopleura violacea</i>	3.7	1.7	5.9	3.0	3.5	3.2	3.4	3.0	4.1
<i>Mazzaella flaccida</i>	2.4	1.1	7.8	5.5	5.7	3.9	0.5	0.7	4.1
juv. articulated coralline algae	2.0	1.2	-	-	6.9	7.5	0.1	0.4	2.3
non-coralline crust	4.6	1.5	2.0	1.8	0.8	0.9	0.6	1.1	2.0
<i>Gastroclonium subarticulatum</i>	1.1	1.9	0.9	2.1	0.3	0.8	0.2	0.7	0.6
<i>Corallina chilensis</i>	-	-	-	-	-	-	2.0	4.7	0.5
<i>Callithamnion</i> spp./ <i>Pleonospor.</i> spp.	<0.1	<0.1	0.7	0.9	0.6	1.2	<0.1	<0.1	0.3
<i>Chondracanthus canaliculatus</i>	0.5	0.9	0.1	0.4	0.5	0.8	<0.1	<0.1	0.3
<i>Mastocarpus jardinii</i>	0.3	0.8	0.1	0.4	0.2	0.7	<0.1	<0.1	0.2
<i>Chondracanthus corymbiferus</i>	<0.1	<0.1	0.3	0.5	0.3	0.6	<0.1	<0.1	0.2
<i>Osmundea</i> spp.	<0.1	<0.1	0.3	0.7	0.1	0.4	<0.1	<0.1	0.1
<i>Microcladia coulteri</i>	<0.1	<0.1	0.4	1.3	<0.1	<0.1	<0.1	<0.1	0.1
<i>Desmarestia ligulata</i>	-	-	0.3	0.8	-	-	-	-	<0.1
<i>Mastocarpus papillatus</i>	0.1	0.4	-	-	0.1	0.4	-	-	<0.1
Chrysophyta	-	-	0.2	0.7	-	-	-	-	<0.1
filamentous red algae complex	-	-	<0.1	0.2	<0.1	0.2	-	-	<0.1
<i>Gelidium pusillum</i>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Ulva</i> spp.	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1
<i>Microcladia borealis</i>	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Bryopsis</i> spp.	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
<i>Callithamnion pikeanum</i>	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Gelidium robustum</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
Laminariales	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Mazzaella oregona</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Porphyra</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Plocamium violaceum</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Codium fragile</i> subsp. <i>californicum</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Macrocystis pyrifera</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
Invertebrate Counts									
<i>Anthopleura elegantissima</i>	267.4	196.5	438.4	334.7	287.0	278.8	413.8	419.1	351.7
<i>Strongylocentrotus purpuratus</i>	183.8	102.5	149.2	96.7	72.4	47.6	145.4	96.6	137.7
<i>Mytilus</i> spp.	12.6	27.1	12.0	25.7	19.4	38.4	155.0	260.7	49.8
<i>Tetracita rubescens</i>	39.4	36.4	48.6	71.3	16.2	17.4	26.2	11.3	32.6
<i>Fissurella volcano</i>	6.2	4.1	5.2	4.7	5.4	0.9	5.4	5.0	5.6
<i>Pachygrapsus crassipes</i>	1.8	0.8	2.8	2.0	4.4	0.5	1.6	1.5	2.7
<i>Chlorostoma brunnea</i>	2.4	2.3	1.8	2.5	2.2	2.6	3.0	1.6	2.4
<i>Nuttallina californica</i>	2.4	2.3	2.2	3.3	1.6	3.6	2.4	3.6	2.2
<i>Lottia scabra</i>	3.6	7.0	3.8	7.4	0.6	1.3	-	-	2.0

(table continued)



Table C24 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Diablo Point Station SDP 2+0.9m (14+3).

Survey Survey Date	176 11-Feb-14		177 13-May-14		178 25-Jun-14		179 7-Dec-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Pisaster ochraceus</i>	1.2	1.3	0.6	0.9	3.4	2.5	2.4	1.7	1.9
<i>Anthopleura xanthogrammica</i>	2.0	1.6	1.4	1.7	0.6	1.3	1.8	1.5	1.5
<i>Lottia pelta</i>	-	-	0.8	1.3	3.0	3.7	0.6	1.3	1.1
<i>Leptasterias</i> spp.	1.0	1.0	1.8	1.8	1.4	1.5	0.2	0.4	1.1
<i>Serpulorbis squamigerus</i>	0.4	0.5	2.2	2.2	0.8	0.8	0.8	1.1	1.1
Serpulidae	0.6	0.9	1.2	1.3	1.2	2.2	0.8	0.8	1.0
<i>Balanus</i> spp.	3.2	3.0	-	-	0.4	0.9	-	-	0.9
<i>Nucella</i> spp.	1.0	2.2	1.6	2.6	-	-	0.2	0.4	0.7
Nemertea	0.4	0.9	1.6	1.3	0.4	0.5	-	-	0.6
<i>Pollicipes polymerus</i>	0.8	1.8	<0.1	<0.1	<0.1	<0.1	1.2	2.7	0.5
<i>Tonicella lineata</i>	0.2	0.4	0.2	0.4	<0.1	<0.1	0.8	1.1	0.3
<i>Lottia limatula</i>	0.2	0.4	-	-	0.6	0.9	-	-	0.2
<i>Epiactis prolifera</i>	-	-	0.2	0.4	0.4	0.9	-	-	0.2
<i>Mopalia</i> spp.	0.2	0.4	-	-	0.2	0.4	-	-	0.1
Nereididae	-	-	0.4	0.5	-	-	-	-	0.1
<i>Lottia gigantea</i>	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Pododesmus cepio</i>	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Pagurus</i> spp.	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Romaleon antennarius</i>	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Haliotis</i> spp.	0.1	0.3	-	-	0.1	0.3	-	-	<0.1
Lottiidae	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1
Pelecypoda boring	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1
Sipuncula	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Lottia ochracea</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Acmaea mitra</i>	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1
<i>Ischnochitonidae</i>	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Amphissa</i> spp.	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1
<i>Alia</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Lottia instabilis</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Pugettia</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
Grapsidae	<0.1	<0.1	-	-	-	-	-	-	<0.1
Invertebrate Cover									
<i>Dodecaceria fewkesi</i>	0.1	0.4	0.1	0.4	0.3	0.8	0.3	0.9	0.2
<i>Chthamalus fissus</i>	<0.1	<0.1	0.7	1.5	<0.1	<0.1	<0.1	<0.1	0.2
<i>Phragmatopoma californica</i>	<0.1	-	<0.1	<0.1	<0.1	<0.1	0.3	0.9	<0.1
Spirorbidae	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-	<0.1
<i>Salmacina tribranchiata</i>	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1
Porifera (encrusting)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
bryozoa (encrusting)	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
tunicates, compound/social	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Spheciospongia confoederata</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
Substrate Cover									
rock	5.6	6.2	1.7	1.4	2.2	3.1	3.0	1.8	3.1



Table C25. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Control Station SC 1+0.3m (19+1).

Survey	176		177		178		179		Annual Mean
Survey Date	14-Jan-14		1-May-14		26-Jun-14		9-Oct-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
<i>Mazzaella flaccida</i>	20.8	12.8	34.4	17.6	39.8	19.9	33.9	19.7	32.2
<i>Chondracanthus canaliculatus</i>	19.6	12.0	22.8	10.4	24.1	8.4	13.1	7.9	19.9
<i>Gastroclonium subarticulatum</i>	15.3	11.2	6.9	6.3	9.5	6.5	24.4	18.3	14.0
<i>Phyllospadix</i> spp.	9.5	15.6	12.4	25.2	14.2	25.8	13.8	26.5	12.5
non-coraline crust	19.9	12.9	8.4	4.7	9.2	6.8	11.4	10.4	12.2
coralline crust	14.6	8.9	12.1	5.1	10.3	6.3	10.1	5.4	11.8
<i>Prionitis</i> spp.	4.9	4.1	5.1	4.2	3.5	5.5	6.5	6.7	5.0
<i>Cryptopleura violacea</i>	4.9	3.3	1.9	3.3	3.2	3.3	2.4	2.0	3.1
<i>Smithora naiadum</i>	-	-	0.2	0.5	2.1	5.9	5.0	13.8	1.8
juv. articulated coralline algae	0.2	0.5	3.1	2.2	2.6	7.0	1.0	1.3	1.7
<i>Corallina vancouveriensis</i>	2.8	2.8	1.6	3.0	1.1	2.6	0.7	0.9	1.6
<i>Mastocarpus jardinii</i>	1.6	2.1	0.7	1.2	2.2	3.6	1.5	3.4	1.5
<i>Ulva</i> spp.	1.0	1.5	0.8	1.4	0.6	1.2	2.8	4.0	1.3
<i>Mazzaella affinis</i>	0.1	0.4	<0.1	<0.1	<0.1	<0.1	2.8	5.4	0.7
<i>Mastocarpus papillatus</i>	0.1	0.3	1.3	2.6	0.6	1.0	0.6	1.1	0.7
<i>Egregia menziesii</i>	-	-	0.3	0.9	1.3	2.9	1.0	2.3	0.7
<i>Osmundea</i> spp.	0.3	0.7	0.5	0.7	0.2	0.7	1.4	2.0	0.6
<i>Mazzaella oregona</i>	<0.1	0.2	1.3	1.0	0.4	0.9	0.1	0.4	0.5
<i>Microcladia coulteri</i>	-	-	-	-	<0.1	<0.1	1.8	1.7	0.5
<i>Mazzaella splendens</i>	-	-	1.2	1.3	0.2	0.7	-	-	0.4
<i>Chondracanthus corymbiferus</i>	0.1	0.4	0.4	0.9	<0.1	<0.1	0.8	1.4	0.3
<i>Gelidium coulteri</i>	0.3	0.7	0.1	0.4	0.5	1.0	0.2	0.5	0.3
<i>Callithamnion pikeanum</i>	<0.1	<0.1	0.5	0.7	0.6	1.1	-	-	0.3
<i>Gelidium pusillum</i>	0.6	1.0	0.4	1.1	<0.1	<0.1	-	-	0.2
<i>Endocladia muricata</i>	0.3	0.8	0.2	0.5	0.2	0.5	0.1	0.3	0.2
<i>Calliarthron/Bossiella</i> spp.-complex	<0.1	<0.1	0.1	0.4	0.1	0.4	0.5	0.9	0.2
<i>Halosaccion americanum</i>	<0.1	<0.1	<0.1	0.2	0.2	0.7	0.3	1.1	0.2
<i>Desmarestia ligulata</i>	-	-	-	-	-	-	0.3	0.9	<0.1
<i>Sarcodiotheca gaudichaudii</i>	0.2	0.7	-	-	<0.1	<0.1	-	-	<0.1
<i>Callophyllis</i> spp.	-	-	-	-	-	-	0.2	0.7	<0.1
<i>Halymenia/Schizymenia</i> spp.-complex	<0.1	<0.1	0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Cryptopleura ruprechtiana</i>	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1
<i>Erythrophyllum delesserioides</i>	-	-	-	-	-	-	<0.1	0.2	<0.1
<i>Cladophora</i> spp.	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Melobesia mediocris</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Corallina chilensis</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Mazzaella leptorhynchus</i>	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Porphyra</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1
Rhodophyta (juv. blades)	-	-	-	-	-	-	<0.1	<0.1	<0.1
Invertebrate Counts									
<i>Tetraclita rubescens</i>	140.8	108.5	20.6	17.6	56.0	108.7	34.8	48.1	63.1
<i>Pagurus</i> spp.	7.4	6.1	3.0	2.4	11.0	2.0	5.8	4.2	6.8
<i>Chlorostoma funebris</i>	6.4	5.0	5.4	11.0	0.8	1.1	11.4	12.5	6.0

(table continued)



Table C25 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Control Station SC 1+0.3m (19+1).

Survey Survey Date	176 14-Jan-14		177 1-May-14		178 26-Jun-14		179 9-Oct-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Fissurella volcano</i>	3.4	3.5	0.8	0.8	8.4	6.7	8.2	3.9	5.2
<i>Chlorostoma brunnea</i>	1.0	1.0	1.8	1.5	6.6	6.6	4.0	3.9	3.4
<i>Lottia scabra</i>	1.4	2.6	1.8	4.0	3.0	6.2	2.4	3.2	2.2
<i>Lottia pelta</i>	0.8	0.8	0.6	0.5	1.2	1.3	3.4	3.9	1.5
<i>Anthopleura elegantissima</i>	2.6	3.1	0.8	1.3	0.4	0.5	1.2	0.8	1.3
<i>Lottia scutum</i>	0.4	0.5	1.6	1.8	0.4	0.9	2.6	2.1	1.3
<i>Lottia limatula</i>	0.8	1.3	2.0	1.6	0.8	1.1	0.8	1.1	1.1
<i>Epiactis prolifera</i>	0.4	0.5	0.2	0.4	1.4	2.1	1.0	2.2	0.8
<i>Mopalia</i> spp.	0.2	0.4	0.2	0.4	0.4	0.5	1.0	0.7	0.5
Nemertea	1.2	1.3	-	-	0.2	0.4	-	-	0.4
<i>Leptasterias</i> spp.	0.8	1.8	-	-	-	-	0.6	0.9	0.4
<i>Tonicella lineata</i>	0.6	0.9	-	-	0.2	0.4	0.4	0.9	0.3
<i>Pugettia</i> spp.	0.2	0.4	-	-	0.4	0.9	0.4	0.9	0.3
<i>Balanus</i> spp.	-	-	1.0	1.4	-	-	-	-	0.3
<i>Ocenebrina</i> spp.	0.4	0.5	-	-	0.2	0.4	0.2	0.4	0.2
<i>Pisaster ochraceus</i>	-	-	-	-	-	-	0.6	1.3	0.2
Nereididae	0.4	0.9	<0.1	<0.1	-	-	-	-	0.1
<i>Calliostoma ligatum</i>	0.4	0.5	-	-	-	-	-	-	0.1
<i>Pachygrapsus crassipes</i>	0.4	0.9	-	-	-	-	-	-	0.1
Serpulidae	0.2	0.4	-	-	-	-	0.2	0.4	0.1
<i>Chlorostoma montereyi</i>	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Romaleon antennarius</i>	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Aptyxis luteopictus</i>	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Cryptochiton stelleri</i>	-	-	0.2	0.4	-	-	-	-	<0.1
Lottiidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
Ischnochitonidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Lacuna</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Alia</i> spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Grapsidae	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Acmaea mitra</i>	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Mytilus</i> spp.	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1
<i>Homolo. luridum/Lirularia succincta</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Crepidula</i> spp.	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Onchidella borealis</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Lirobittium</i> spp.	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Lissothuria nutriens</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Patiria miniata</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Amphissa</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
Sipuncula	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Barleeia</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Erato</i> spp.	-	-	-	-	<0.1	<0.1	-	-	<0.1

(table continued)



Table C25 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Control Station SC 1+0.3m (19+1).

Survey Survey Date	176 14-Jan-14		177 1-May-14		178 26-Jun-14		179 9-Oct-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Cover									
<i>Phragmatopoma californica</i>	16.1	14.5	10.0	9.6	8.5	7.3	12.6	10.8	11.8
<i>Pista</i> spp.	1.0	3.1	1.5	3.9	0.7	2.2	1.3	4.0	1.1
tunicates, compound/social	<0.1	<0.1	0.1	0.4	0.3	0.9	0.2	0.7	0.2
<i>Chthamalus fissus</i>	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Spirorbidae	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Porifera (encrusting)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
bryozoa (encrusting)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Substrate Cover									
rock	3.3	2.3	14.0	17.5	13.2	7.0	7.6	6.7	9.5
sand (shell gravel)	1.2	1.3	9.4	14.2	4.7	8.1	2.8	6.7	4.5
cobble	1.7	2.0	3.3	4.3	<0.1	<0.1	2.6	2.8	1.9



Table C26. Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Control Station SC 1+0.9m (19+3).

Survey Survey Date	176 14-Jan-14		177 1-May-14		178 26-Jun-14		179 9-Oct-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae Cover									
<i>Silvetia compressa</i>	28.3	17.2	22.6	10.9	23.4	12.8	29.0	14.8	25.8
non-coraline crust	29.7	8.8	18.1	9.2	18.1	9.6	16.1	9.9	20.5
<i>Mastocarpus papillatus</i>	12.9	5.0	16.1	8.8	22.4	14.3	26.9	18.8	19.6
<i>Endocladia muricata</i>	12.2	7.3	13.7	6.4	17.6	7.2	11.2	10.3	13.7
coralline crust	9.9	5.7	12.6	7.1	6.0	6.0	10.4	6.8	9.7
<i>Mazzaella flaccida</i>	5.1	3.1	9.4	8.3	12.6	9.3	9.7	7.7	9.2
<i>Gelidium pusillum</i>	6.2	7.6	1.9	1.0	2.1	2.3	3.5	3.1	3.4
<i>Mastocarpus jordinii</i>	3.8	4.7	2.6	2.1	0.8	1.1	6.2	6.3	3.4
<i>Fucus gardneri</i>	3.1	3.2	3.5	2.8	2.2	2.4	2.6	1.8	2.9
<i>Corallina vancouveriensis</i>	2.5	4.7	1.3	1.5	0.8	1.3	0.8	1.3	1.3
<i>Cryptopleura violacea</i>	0.8	1.6	<0.1	<0.1	0.7	1.5	2.8	4.8	1.1
<i>Gelidium coulteri</i>	2.2	4.0	0.5	0.9	0.3	0.7	0.2	0.3	0.8
<i>Chondracanthus canaliculatus</i>	<0.1	0.2	1.0	2.1	0.8	1.5	0.9	1.7	0.7
juv. articulated coralline algae	<0.1	<0.1	0.6	1.2	0.1	0.3	0.1	0.4	0.2
<i>Mazzaella oregona</i>	0.3	0.6	0.1	0.4	<0.1	0.2	<0.1	<0.1	0.1
<i>Mazzaella affinis</i>	<0.1	<0.1	0.2	0.5	0.1	0.4	-	-	<0.1
<i>Porphyra</i> spp.	0.3	0.9	<0.1	0.2	<0.1	<0.1	-	-	<0.1
<i>Mazzaella leptorhynchus</i>	-	-	-	-	-	-	0.3	0.9	<0.1
<i>Ulva</i> spp.	0.1	0.4	-	-	<0.1	<0.1	<0.1	0.2	<0.1
<i>Cladophora</i> spp.	<0.1	0.2	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1
<i>Callithamnion pikeanum</i>	<0.1	<0.1	<0.1	<0.1	0.1	0.3	-	-	<0.1
<i>Halosaccion americanum</i>	-	-	-	-	<0.1	0.2	<0.1	<0.1	<0.1
<i>Hesperophycus californicus</i>	-	-	-	-	<0.1	<0.1	-	-	<0.1
<i>Corallina chilensis</i>	-	-	-	-	-	-	<0.1	<0.1	<0.1
<i>Osmundea</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Invertebrate Counts									
<i>Chlorostoma funebris</i>	120.6	84.9	112.4	43.7	107.4	106.3	45.8	29.8	96.6
<i>Tetraclita rubescens</i>	154.2	307.0	37.0	64.7	20.2	27.3	100.6	202.6	78.0
<i>Lottia scabra</i>	27.0	46.2	14.8	14.5	3.8	3.9	4.0	6.2	12.4
<i>Lottia scutum</i>	4.4	2.8	5.2	1.1	4.2	2.9	6.4	5.9	5.1
<i>Pagurus</i> spp.	11.8	8.3	5.4	7.4	2.6	2.1	-	-	5.0
<i>Lottia pelta</i>	1.8	2.5	5.0	2.8	2.0	2.4	4.6	4.0	3.4
<i>Lottia limatula</i>	3.2	3.0	1.8	1.3	3.8	3.2	1.4	1.3	2.6
<i>Anthopleura elegantissima</i>	2.6	2.7	3.2	3.4	1.2	0.8	2.0	1.9	2.3
<i>Ocenebrina</i> spp.	0.2	0.4	1.2	1.3	-	-	0.4	0.9	0.5
<i>Pachygrapsus crassipes</i>	0.4	0.5	0.4	0.5	0.2	0.4	0.4	0.9	0.4
<i>Hemigrapsus nudus</i>	0.4	0.5	-	-	0.6	0.5	0.2	0.4	0.3
<i>Strongylocentrotus purpuratus</i>	1.2	1.8	-	-	-	-	-	-	0.3
<i>Acanthinucella</i> spp.	-	-	1.0	1.7	-	-	-	-	0.3
<i>Leptasterias</i> spp.	0.2	0.4	-	-	0.2	0.4	-	-	0.1
Nemertea	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Mopalia</i> spp.	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Chlorostoma brunnea</i>	-	-	-	-	-	-	0.2	0.4	<0.1

(table continued)



Table C26 (continued). Intertidal algae, sessile invertebrates, and substrates (percent cover) and motile invertebrates (abundance per 1.0 m²) survey means, standard deviations and 2014 annual means for South Control Station SC 1+0.9m (19+3).

Survey Survey Date	176 14-Jan-14		177 1-May-14		178 26-Jun-14		179 9-Oct-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Patiria miniata</i>	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Pisaster ochraceus</i>	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Petrolisthes</i> spp.	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Idotea</i> spp.	-	-	0.2	0.4	-	-	-	-	<0.1
Lottiidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1
<i>Littorina</i> spp.	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
Grapsidae	-	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1
<i>Cyanoplax</i> spp.	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1
<i>Crepidula</i> spp.	<0.1	<0.1	-	-	<0.1	<0.1	-	-	<0.1
<i>Lottia instabilis</i>	<0.1	<0.1	-	-	-	-	-	-	<0.1
<i>Lacuna</i> spp.	-	-	<0.1	<0.1	-	-	-	-	<0.1
<i>Mytilus</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Invertebrate Cover									
<i>Phragmatopoma californica</i>	0.8	1.3	1.2	2.9	0.8	2.6	2.3	6.3	1.3
<i>Chthamalus fissus</i>	0.5	1.0	<0.1	<0.1	0.1	0.4	<0.1	<0.1	0.2
Spirorbidae	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<i>Haliclona</i> spp.	<0.1	<0.1	-	-	-	-	-	-	<0.1
Substrate Cover									
rock	15.3	7.1	10.3	7.2	22.0	11.8	9.8	6.0	14.4
cobble	5.8	6.9	11.9	10.7	4.6	6.4	8.8	11.6	7.8
sand (shell gravel)	2.8	3.9	2.8	3.7	3.4	3.5	3.7	4.5	3.2



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Appendix D

Intertidal Fishes

Table D1. Intertidal fish survey totals, 2014 annual means, and standard deviations, North Control Station NC 1V (N).

Survey Date	136 28-Jan-14	137 29-May-14	138 11-Aug-14	139 8-Dec-14	Annual Mean	Std. Dev.
Taxon	Total	Total	Total	Total		
<i>Xiphister mucosus</i>	13	16	31	1	15.3	12.3
<i>Xiphister atropurpureus</i>	4	7	16	6	8.3	5.3
Pholidae/Stichaeidae	10	2	8	5	6.3	3.5
<i>Gobiesox maeandricus</i>	2	2	6	3	3.3	1.9
<i>Anoplarchus purpureus</i>	1	-	7	2	2.5	3.1
Cottidae	6	-	-	1	1.8	2.9
<i>Gibbonsia</i> spp.	1	2	-	2	1.3	1.0
<i>Cebidichthys violaceus</i>	1	1	1	2	1.3	0.5
<i>Oligocottus snyderi</i>	2	-	2	1	1.3	1.0
<i>Apodichthys fucorum</i>	-	-	3	-	0.8	1.5
<i>Artedius</i> spp.	-	-	1	1	0.5	0.6
<i>Oligocottus/Clinocottus</i> spp.	1	-	-	-	0.3	0.5

Table D2. Intertidal fish survey totals, 2014 annual means, and standard deviations, Field's Cove Station FC 1V (C).

Survey Date	136 28-Jan-14	137 27-May-14	138 15-Jul-14	139 22-Dec-14	Annual Mean	Std. Dev.
Taxon	Total	Total	Total	Total		
<i>Cebidichthys violaceus</i>	10	2	59	18	22.3	25.4
<i>Xiphister mucosus</i>	25	4	3	3	8.8	10.8
Pholidae/Stichaeidae	2	6	4	5	4.3	1.7
<i>Anoplarchus purpureus</i>	3	-	-	6	2.3	2.9
Cottidae	1	6	-	1	2.0	2.7
<i>Xiphister atropurpureus</i>	6	-	-	1	1.8	2.9
<i>Oligocottus snyderi</i>	1	-	-	4	1.3	1.9
<i>Gobiesox maeandricus</i>	2	-	-	1	0.8	1.0
<i>Apodichthys fucorum</i>	-	-	1	-	0.3	0.5
Atherinopsidae	-	-	1	-	0.3	0.5

Table D3. Intertidal fish survey totals, 2014 annual means, and standard deviations, North Diablo Cove Station NDC 1V (L).

Survey Date	136 30-Jan-14	137 14-May-14	138 10-Jul-14	139 24-Nov-14	Annual Mean	Std. Dev.
Taxon	Total	Total	Total	Total		
<i>Cebidichthys violaceus</i>	-	-	1	5	1.5	2.4
<i>Xiphister atropurpureus</i>	2	-	1	2	1.3	1.0
<i>Xiphister mucosus</i>	-	-	2	-	0.5	1.0
<i>Oxyjulis californica</i>	-	-	1	-	0.3	0.5



Table D4. Intertidal fish survey totals, 2014 annual means, and standard deviations, South Diablo Cove Station SDC 2V (H).

Survey Survey Date	136 30-Jan-14	137 16-May-14	138 11-Jul-14	139 6-Nov-14	Annual Mean	Std. Dev.
Taxon	Total	Total	Total	Total		
<i>Cebidichthys violaceus</i>	17	9	30	16	18.0	8.8
<i>Xiphister atropurpureus</i>	16	14	9	4	10.8	5.4
<i>Xiphister mucosus</i>	12	2	3	2	4.8	4.9
Pholidae/Stichaeidae	2	3	3	7	3.8	2.2
<i>Anoplarchus purpureus</i>	4	-	4	5	3.3	2.2
<i>Girella nigricans</i>	-	-	-	1	0.3	0.5
<i>Gobiesox maeandricus</i>	-	1	-	-	0.3	0.5
<i>Apodichthys fucorum</i>	-	-	-	1	0.3	0.5

Table D5. Intertidal fish survey totals, 2014 annual means, and standard deviations, South Control Station SC 1V (S).

Survey Survey Date	136 27-Jan-14	137 28-May-14	138 8-Aug-14	139 22-Dec-14	Annual Mean	Std. Dev.
Taxon	Total	Total	Total	Total		
<i>Porichthys notatus</i>	-	-	250	-	62.5	125.0
<i>Anoplarchus purpureus</i>	11	5	24	10	12.5	8.1
<i>Cebidichthys violaceus</i>	17	10	11	9	11.8	3.6
Pholidae/Stichaeidae	7	16	7	11	10.3	4.3
<i>Xiphister mucosus</i>	12	2	10	1	6.3	5.6
<i>Oligocottus snyderi</i>	-	-	14	-	3.5	7.0
<i>Micrometrus aurora</i>	-	-	6	-	1.5	3.0
Cottidae	3	-	1	-	1.0	1.4
<i>Apodichthys fucorum</i>	-	2	1	-	0.8	1.0
<i>Gibbonsia</i> spp.	1	-	-	1	0.5	0.6
<i>Xiphister atropurpureus</i>	-	1	1	-	0.5	0.6
<i>Gobiesox maeandricus</i>	1	-	-	-	0.3	0.5
<i>Artedius</i> spp.	-	-	-	1	0.3	0.5



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Appendix E

Subtidal Algae and Invertebrates

Table E1. Subtidal algae and invertebrates (SAQ Method) survey means (abundance per 7 m²), standard deviations and annual means, Field's Cove Station FC 1 -3m (22-10).

Survey	164		165		166		167		Annual Mean
Survey Date	25-Feb-14		17-Jun-14		22-Jul-14		6-Jan-15		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae									
<i>Laminaria setchellii</i>	21.8	8.9	18.5	6.0	11.3	7.6	8.3	4.0	14.9
<i>Pterygophora californica</i>	6.5	3.4	8.0	5.5	10.0	6.2	7.0	3.7	7.9
<i>Cystoseira osmundacea</i>	5.5	3.1	7.3	1.3	5.8	2.1	6.0	3.6	6.1
<i>Macrocystis pyrifera</i>	0.8	1.0	0.5	0.6	0.3	0.5	-	-	0.4
<i>Nereocystis luetkeana</i>	0.5	1.0	0.5	1.0	0.3	0.5	-	-	0.3
Laminariales	0.3	0.5	0.5	0.6	-	-	-	-	0.2
<i>Egregia menziesii</i>	-	-	0.3	0.5	-	-	-	-	<0.1
Invertebrates									
<i>Chlorostoma brunnea</i>	111.8	25.9	83.3	15.0	92.3	72.7	90.0	21.5	94.3
<i>Pagurus</i> spp.	0.5	1.0	9.0	6.7	8.8	5.7	12.8	19.0	7.8
<i>Acmaea mitra</i>	5.3	2.9	4.5	5.2	7.5	7.1	3.0	2.5	5.1
<i>Patiria miniata</i>	4.3	0.5	4.3	1.3	4.5	1.3	2.5	0.6	3.9
<i>Strongylocentrotus purpuratus</i>	-	-	2.5	2.7	1.3	0.5	10.8	11.3	3.6
<i>Tonicella lineata</i>	2.3	1.5	1.5	1.7	0.8	1.5	2.3	2.9	1.7
<i>Cryptochiton stelleri</i>	2.5	1.0	1.0	0.8	1.8	1.7	1.3	1.3	1.6
<i>Calliostoma ligatum</i>	1.5	1.7	0.8	1.5	0.8	1.5	3.0	2.5	1.5
<i>Pugettia</i> spp.	2.3	1.7	0.8	1.0	1.0	0.8	1.8	0.5	1.4
<i>Chlorostoma montereyi</i>	1.5	3.0	-	-	0.8	1.5	1.5	3.0	0.9
<i>Leptasterias</i> spp.	0.5	0.6	0.8	1.0	1.3	1.5	-	-	0.6
<i>Mitra idae</i>	0.5	0.6	0.8	0.5	0.8	1.0	0.3	0.5	0.6
<i>Haliotis</i> spp.	0.8	1.0	0.5	1.0	0.5	1.0	0.3	0.5	0.5
<i>Ophiothrix spiculata</i>	0.8	1.0	0.8	1.5	0.3	0.5	-	-	0.4
<i>Serpulorbis squamigerus</i>	0.8	0.5	-	-	0.3	0.5	0.5	0.6	0.4
<i>Diopatra ornata</i>	0.8	1.0	-	-	-	-	0.5	1.0	0.3
<i>Anthopleura elegantissima</i>	-	-	0.5	0.6	0.3	0.5	0.3	0.5	0.3
<i>Pseudomelatoma torosa</i>	0.8	1.0	-	-	0.3	0.5	-	-	0.3
<i>Placiphorella velata</i>	0.8	0.5	-	-	0.3	0.5	-	-	0.3
<i>Cryptolithodes sitchensis</i>	0.3	0.5	0.3	0.5	0.3	0.5	0.3	0.5	0.3
Serpulidae	0.5	0.6	-	-	-	-	0.5	0.6	0.3
<i>Paraxanthias taylori</i>	0.3	0.5	0.5	1.0	0.3	0.5	-	-	0.3
<i>Urticina</i> spp.	0.3	0.5	0.3	0.5	-	-	0.3	0.5	0.2
<i>Fissurella volcano</i>	-	-	0.3	0.5	-	-	0.5	1.0	0.2
<i>Pomaulax gibberosa</i>	-	-	0.3	0.5	0.5	0.6	-	-	0.2
<i>Henricia leviuscula</i>	0.3	0.5	-	-	0.5	0.6	-	-	0.2
<i>Tethya californiana</i>	0.3	0.5	-	-	-	-	0.5	1.0	0.2
<i>Doris</i> spp.	0.3	0.5	-	-	0.5	1.0	-	-	0.2
<i>Loxorhynchus</i> spp.	0.5	1.0	-	-	-	-	-	-	0.1
<i>Doriopsilla albopunctata</i>	0.5	1.0	-	-	-	-	-	-	0.1
<i>Fissurellidea bimaculata</i>	0.3	0.5	-	-	0.3	0.5	-	-	0.1
<i>Ophioplocus esmarki</i>	-	-	-	-	0.3	0.5	0.3	0.5	0.1
Majidae	-	-	-	-	0.5	0.6	-	-	0.1
<i>Scyra acutifrons</i>	0.5	1.0	-	-	-	-	-	-	0.1
<i>Mopalia</i> spp.	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Octopus</i> spp.	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Romaleon antennarius</i>	0.3	0.5	-	-	-	-	-	-	<0.1

(table continued)



Table E1 (continued). Subtidal algae and invertebrates (SAQ Method) survey means (abundance per 7 m²), standard deviations and annual means, Field's Cove Station FC 1 -3m (22-10).

Survey Survey Date Taxon	164 25-Feb-14		165 17-Jun-14		166 22-Jul-14		167 6-Jan-15		Annual Mean
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrates (continued)									
<i>Phidiana hiltoni</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Cucumaria</i> spp.	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Eudistylia polymorpha</i>	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Crassadoma gigantea</i>	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Cadlina</i> spp.	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Cycloxanthrops novemdentatus</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Hapalogaster cavicauda</i>	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Mytilus</i> spp.	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Ophiactis simplex</i>	-	-	0.3	0.5	-	-	-	-	<0.1



Table E2. Subtidal algae and invertebrates (SAQ Method) survey means (abundance per 7 m²), standard deviations and annual means, North Diablo Cove Station NDC 2 -3m (8-10).

Survey Survey Date	164 6-Jan-14		165 2-May-14		166 15-Jul-14		167 6-Jan-15		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrates									
<i>Strongylocentrotus purpuratus</i>	996.5	5.0	989.3	19.5	927.3	86.5	849.8	154.0	940.7
<i>Ophiothrix spiculata</i>	533.3	315.9	54.3	16.0	78.0	22.5	71.3	9.1	184.2
<i>Anthopleura elegantissima</i>	10.5	2.5	6.8	3.1	9.3	3.4	10.3	5.3	9.2
Serpulidae	3.3	3.3	8.3	5.9	-	-	3.3	0.5	3.7
<i>Strongylocentrotus franciscanus</i>	4.0	2.2	3.3	1.0	2.3	2.1	1.3	1.3	2.7
<i>Acmaea mitra</i>	-	-	-	-	1.5	1.7	0.8	1.5	0.6
<i>Haliotis</i> spp.	-	-	-	-	0.5	1.0	1.0	0.8	0.4
<i>Serpulorbis squamigerus</i>	0.5	0.6	0.3	0.5	-	-	0.5	0.6	0.3
<i>Diopatra ornata</i>	1.3	2.5	-	-	-	-	-	-	0.3
<i>Patiria miniata</i>	0.5	0.6	0.5	0.6	0.3	0.5	-	-	0.3
<i>Placiphorella velata</i>	-	-	0.8	1.0	0.3	0.5	0.3	0.5	0.3
Pelecypoda boring	0.8	1.0	0.5	0.6	-	-	-	-	0.3
<i>Eudistylia polymorpha</i>	-	-	0.3	0.5	0.5	1.0	0.5	0.6	0.3
<i>Diodora</i> spp.	-	-	-	-	0.5	0.6	0.5	1.0	0.3
<i>Epiactis prolifera</i>	0.8	1.0	-	-	-	-	-	-	0.2
<i>Anthopleura artemisia</i>	-	-	-	-	0.3	0.5	0.3	0.5	0.1
Anthozoa	-	-	-	-	0.5	1.0	-	-	0.1
<i>Doriopsilla albopunctata</i>	-	-	0.3	0.5	0.3	0.5	-	-	0.1
<i>Ophiactis simplex</i>	0.5	0.6	-	-	-	-	-	-	0.1
<i>Fissurella volcano</i>	0.3	0.5	-	-	-	-	-	-	<0.1
Sabellidae	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Cucumaria</i> spp.	-	-	0.3	0.5	-	-	-	-	<0.1



Table E3. Subtidal algae and invertebrates (SAQ Method) survey means (abundance per 7 m²), standard deviations and annual means, North Diablo Cove Station NDC 3 -3m (9-10).

Survey Survey Date	164		165		166		167		Annual Mean
	7-Jan-14	Std. Dev.	2-May-14	Std. Dev.	28-Jul-14	Std. Dev.	6-Nov-14	Std. Dev.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	
Invertebrates									
<i>Strongylocentrotus purpuratus</i>	975.0	48.0	999.0	-	998.8	0.5	887.3	110.5	965.0
<i>Ophiothrix spiculata</i>	601.3	183.8	157.5	37.8	148.8	13.9	181.3	55.4	272.2
<i>Anthopleura elegantissima</i>	14.5	7.6	29.0	10.0	15.5	9.3	13.8	2.9	18.2
<i>Strongylocentrotus franciscanus</i>	7.0	3.2	4.8	2.5	6.3	1.7	3.5	3.1	5.4
<i>Phragmatopoma californica</i>	-	-	13.8	17.0	-	-	-	-	3.4
Serpulidae	2.3	1.3	6.3	2.5	-	-	3.5	1.7	3.0
<i>Eudistylia polymorpha</i>	0.3	0.5	2.0	2.5	1.3	1.5	0.5	0.6	1.0
<i>Acmaea mitra</i>	-	-	0.8	1.5	0.8	1.5	2.3	2.9	0.9
<i>Cucumaria</i> spp.	2.0	2.5	-	-	-	-	-	-	0.5
<i>Diodora</i> spp.	-	-	-	-	0.5	0.6	0.5	0.6	0.3
<i>Patiria miniata</i>	-	-	0.5	0.6	0.3	0.5	0.3	0.5	0.3
<i>Megathura crenulata</i>	-	-	0.3	0.5	-	-	0.8	1.0	0.3
<i>Serpulorbis squamigerus</i>	0.8	1.0	-	-	-	-	-	-	0.2
<i>Tonicella lineata</i>	-	-	-	-	-	-	0.8	1.5	0.2
Pelecypoda boring	0.5	1.0	0.3	0.5	-	-	-	-	0.2
Anthozoa	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Parastichopus</i> spp.	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Haliotis</i> spp.	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Doris</i> spp.	-	-	0.3	0.5	-	-	-	-	<0.1



Table E4. Subtidal algae and invertebrates (SAQ Method) survey means (abundance per 7 m²), standard deviations and annual means, North Diablo Cove Station NDC 4 -4m (9-15).

Survey Survey Date	164 5-Feb-14		165 9-May-14		166 16-Jul-14		167 11-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae									
<i>Cystoseira osmundacea</i>	5.8	3.8	6.0	3.8	3.3	2.8	3.5	3.3	4.6
<i>Macrocystis pyrifera</i>	1.3	1.9	1.8	1.3	1.3	0.5	0.5	0.6	1.2
<i>Pterygophora californica</i>	1.0	0.8	-	-	-	-	0.3	0.5	0.3
<i>Sargassum muticum</i>	-	-	-	-	-	-	0.5	0.6	0.1
Invertebrates									
<i>Strongylocentrotus purpuratus</i>	266.8	184.3	96.5	78.7	198.5	179.6	151.3	107.7	178.3
<i>Ophiothrix spiculata</i>	14.5	2.7	15.3	10.1	2.8	2.5	87.5	36.2	30.0
<i>Anthopleura elegantissima</i>	15.0	6.6	14.5	4.1	18.3	4.4	24.3	8.5	18.0
<i>Acmaea mitra</i>	5.3	2.9	6.0	4.2	13.5	11.1	13.5	3.0	9.6
Serpulidae	-	-	8.3	8.5	3.5	4.7	11.3	6.7	5.8
<i>Chlorostoma brunnea</i>	-	-	6.0	4.9	-	-	11.3	7.1	4.3
<i>Serpulorbis squamigerus</i>	-	-	1.0	0.8	2.5	3.1	4.0	2.5	1.9
Anthozoa	-	-	-	-	6.0	4.3	-	-	1.5
<i>Tethya californiana</i>	1.0	1.2	0.8	1.0	1.0	1.2	2.0	2.3	1.2
<i>Eudistylia polymorpha</i>	0.3	0.5	0.8	1.0	2.5	3.0	1.3	1.9	1.2
<i>Cucumaria</i> spp.	-	-	2.0	1.2	1.0	0.8	1.5	1.3	1.1
Pelecypoda boring	-	-	1.3	1.5	-	-	1.5	1.3	0.7
<i>Pugettia</i> spp.	-	-	0.5	1.0	-	-	2.3	2.9	0.7
<i>Doris</i> spp.	-	-	0.3	0.5	2.0	2.2	0.5	0.6	0.7
<i>Anthopleura artemisia</i>	-	-	0.3	0.5	0.8	0.5	1.5	0.6	0.6
<i>Pagurus</i> spp.	0.3	0.5	0.3	0.5	0.5	0.6	1.5	1.3	0.6
<i>Parastichopus</i> spp.	1.0	0.8	0.5	0.6	0.8	0.5	0.3	0.5	0.6
<i>Diopatra ornata</i>	0.3	0.5	-	-	0.8	1.5	1.3	1.3	0.6
<i>Patiria miniata</i>	0.3	0.5	1.0	0.8	1.0	0.8	-	-	0.6
<i>Strongylocentrotus franciscanus</i>	0.3	0.5	1.3	1.9	0.3	0.5	0.5	0.6	0.6
<i>Doriopsilla albopunctata</i>	1.5	1.3	0.8	0.5	-	-	-	-	0.6
<i>Urticina</i> spp.	0.3	0.5	-	-	0.5	0.6	0.8	1.0	0.4
<i>Epiactis prolifera</i>	0.8	1.0	0.5	1.0	-	-	-	-	0.3
<i>Loxorhynchus</i> spp.	0.3	0.5	-	-	-	-	1.0	1.4	0.3
<i>Phidiana hiltoni</i>	0.5	0.6	0.3	0.5	-	-	0.5	0.6	0.3
<i>Mitra idae</i>	0.3	0.5	-	-	0.8	1.0	-	-	0.3
<i>Crassadoma gigantea</i>	-	-	-	-	-	-	1.0	-	0.3
<i>Megathura crenulata</i>	0.3	0.5	0.3	0.5	0.3	0.5	0.3	0.5	0.3
<i>Pteropurpura festiva</i>	0.3	0.5	-	-	0.3	0.5	0.5	0.6	0.3
<i>Tonicella lineata</i>	-	-	0.8	1.5	-	-	-	-	0.2
<i>Chlorostoma montereyi</i>	-	-	-	-	0.8	1.5	-	-	0.2
<i>Placiphorella velata</i>	-	-	0.3	0.5	-	-	0.5	0.6	0.2
<i>Scyra acutifrons</i>	0.5	0.6	-	-	-	-	0.3	0.5	0.2
<i>Kelletia kelletii</i>	-	-	0.3	0.5	-	-	0.5	0.6	0.2
<i>Diodora</i> spp.	-	-	-	-	-	-	0.5	0.6	0.1
<i>Pododesmus cepio</i>	0.3	0.5	-	-	-	-	0.3	0.5	0.1
<i>Halcanpa decententaculata</i>	-	-	-	-	0.5	0.6	-	-	0.1
<i>Haliotis</i> spp.	-	-	-	-	-	-	0.5	1.0	0.1
Nemertea	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Pomaulax gibberosa</i>	-	-	-	-	-	-	0.3	0.5	<0.1

(table continued)



Table E4 (continued). Subtidal algae and invertebrates (SAQ Method) survey means (abundance per 7 m²), standard deviations and annual means, North Diablo Cove Station NDC 4 -4m (9-15).

Survey Survey Date Taxon	164 5-Feb-14		165 9-May-14		166 16-Jul-14		167 11-Nov-14		Annual Mean
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrates (continued)									
<i>Hemissenda crassicornis</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Ophioplocus esmarki</i>	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Lophopanopeus</i> spp.	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Navanax inermis</i>	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Pandalus</i> spp.	-	-	0.3	0.5	-	-	-	-	<0.1



Table E5. Subtidal algae and invertebrates (SAQ Method) survey means (abundance per 7 m²), standard deviations and annual means, South Diablo Cove Station SDC 2 -3m (12-10).

Taxon	Survey Survey Date		164		165		166		167		Annual Mean
	6-Feb-14		12-May-14		7-Aug-14		4-Nov-14				
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.			
Algae											
<i>Cystoseira osmundacea</i>	5.8	2.6	6.5	3.7	1.3	1.5	2.0	2.2	3.9		
<i>Pterygophora californica</i>	3.8	4.3	0.8	1.5	1.8	2.4	1.3	1.3	1.9		
<i>Macrocystis pyrifera</i>	1.5	1.3	0.8	0.5	0.8	0.5	0.3	0.5	0.8		
<i>Laminaria setchellii</i>	0.3	0.5	1.5	3.0	-	-	-	-	0.4		
<i>Sargassum muticum</i>	0.3	0.5	-	-	-	-	-	-	<0.1		
Invertebrates											
<i>Ophiothrix spiculata</i>	56.3	25.3	1.5	1.7	4.8	3.4	1.3	1.5	15.9		
<i>Diopatra ornata</i>	17.3	20.0	-	-	4.8	2.1	7.8	10.8	7.4		
<i>Acmaea mitra</i>	3.0	4.2	2.3	2.9	9.8	6.7	12.8	4.5	6.9		
<i>Chlorostoma brunnea</i>	-	-	-	-	12.8	13.9	10.5	10.5	5.8		
<i>Anthopleura elegantissima</i>	2.8	1.3	2.8	1.9	2.8	2.2	3.8	1.5	3.0		
<i>Pista</i> spp.	-	-	-	-	3.8	2.6	5.5	3.4	2.3		
Serpulidae	1.5	1.3	-	-	3.5	2.5	4.0	1.6	2.3		
<i>Cucumaria</i> spp.	0.5	0.6	-	-	5.0	3.7	1.5	1.3	1.8		
<i>Patiria miniata</i>	2.0	0.8	2.3	2.6	1.8	1.3	0.3	0.5	1.6		
<i>Anthopleura artemisia</i>	0.8	0.5	0.8	1.0	1.8	1.3	2.0	1.4	1.3		
Anthozoa	-	-	-	-	2.3	1.7	2.3	1.3	1.1		
<i>Serpulorbis squamigerus</i>	0.5	1.0	0.3	0.5	2.3	2.1	1.0	1.2	1.0		
<i>Mitra idae</i>	0.5	0.6	-	-	2.0	0.8	-	-	0.6		
<i>Pagurus</i> spp.	-	-	-	-	0.5	1.0	1.3	1.3	0.4		
<i>Doris</i> spp.	-	-	1.0	0.8	0.3	0.5	0.3	0.5	0.4		
<i>Doriopsilla albopunctata</i>	0.8	0.5	-	-	0.3	0.5	-	-	0.3		
<i>Pugettia</i> spp.	1.0	2.0	-	-	-	-	-	-	0.3		
<i>Fissurella volcano</i>	-	-	-	-	0.8	1.0	-	-	0.2		
<i>Tonicella lineata</i>	-	-	-	-	0.8	1.5	-	-	0.2		
<i>Strongylocentrotus purpuratus</i>	0.5	1.0	-	-	-	-	0.3	0.5	0.2		
<i>Phidiana hiltoni</i>	0.5	1.0	-	-	-	-	0.3	0.5	0.2		
<i>Eudistylia polymorpha</i>	-	-	0.3	0.5	0.3	0.5	0.3	0.5	0.2		
<i>Pteropurpura festiva</i>	0.5	0.6	-	-	0.3	0.5	-	-	0.2		
Nemertea	0.5	0.6	-	-	-	-	-	-	0.1		
<i>Loxorhynchus</i> spp.	0.5	0.6	-	-	-	-	-	-	0.1		
Pelecypoda boring	0.5	0.6	-	-	-	-	-	-	0.1		
<i>Crassadoma gigantea</i>	0.3	0.5	-	-	-	-	0.3	0.5	0.1		
<i>Norrisia norrisi</i>	-	-	-	-	0.5	0.6	-	-	0.1		
<i>Diodora</i> spp.	-	-	0.3	0.5	-	-	-	-	<0.1		
<i>Mopalia</i> spp.	0.3	0.5	-	-	-	-	-	-	<0.1		
<i>Hermisenda crassicornis</i>	-	-	-	-	0.3	0.5	-	-	<0.1		
tunicate, solitary	-	-	0.3	0.5	-	-	-	-	<0.1		
<i>Parastichopus</i> spp.	-	-	-	-	0.3	0.5	-	-	<0.1		
<i>Modiolus</i> spp.	-	-	-	-	-	-	0.3	0.5	<0.1		
<i>Kelletia kelletii</i>	-	-	0.3	0.5	-	-	-	-	<0.1		



Table E6. Subtidal algae and invertebrates (SAQ Method) survey means (abundance per 7 m²), standard deviations and annual means, South Diablo Cove Station SDC 3 -4m (10-15).

Survey Survey Date	164		165		166		167		Annual Mean
	24-Feb-14	Std. Dev.	2-Jun-14	Std. Dev.	17-Jul-14	Std. Dev.	5-Nov-14	Std. Dev.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	
Algae									
<i>Macrocystis pyrifera</i>	1.3	1.0	2.0	-	3.3	1.5	1.5	1.3	2.0
<i>Cystoseira osmundacea</i>	1.5	1.3	1.5	1.3	2.0	1.4	1.3	1.5	1.6
<i>Pterygophora californica</i>	2.5	3.7	1.0	2.0	0.5	0.6	1.3	1.9	1.3
<i>Laminaria setchellii</i>	-	-	-	-	-	-	0.3	0.5	<0.1
Invertebrates									
<i>Anthopleura elegantissima</i>	33.3	9.7	23.0	9.8	15.5	5.2	21.5	5.9	23.3
<i>Diopatra ornata</i>	25.5	21.8	12.3	7.8	12.8	12.4	16.0	11.4	16.6
<i>Patiria miniata</i>	15.8	3.8	14.0	2.2	12.8	1.0	5.5	1.3	12.0
<i>Strongylocentrotus purpuratus</i>	12.5	4.4	4.5	4.7	5.8	9.6	7.5	10.0	7.6
Anthozoa	-	-	4.5	3.7	7.3	2.6	8.3	4.1	5.0
<i>Acmaea mitra</i>	7.5	3.9	1.5	3.0	1.5	1.7	6.8	4.5	4.3
<i>Mitra idae</i>	2.5	2.1	4.8	4.6	7.5	5.1	1.5	0.6	4.1
<i>Corynactis californica</i>	-	-	-	-	9.8	14.2	-	-	2.4
Serpulidae	1.0	0.8	6.3	1.9	1.5	1.7	-	-	2.2
<i>Anthopleura artemisia</i>	1.5	1.3	2.3	1.0	1.0	2.0	2.0	0.8	1.7
<i>Serpulorbis squamigerus</i>	1.3	0.5	-	-	4.3	1.7	0.8	1.0	1.6
<i>Tethya californiana</i>	1.5	0.6	1.5	0.6	2.3	1.3	0.5	0.6	1.4
<i>Leucilla nuttingi</i>	-	-	4.8	7.6	-	-	-	-	1.2
<i>Eupentacta quinquesemita</i>	-	-	3.8	2.5	-	-	-	-	0.9
<i>Doris</i> spp.	0.3	0.5	0.5	0.6	2.3	1.5	0.5	0.6	0.9
<i>Pagurus</i> spp.	0.3	0.5	0.3	0.5	1.0	0.8	1.8	1.0	0.8
<i>Cryptochiton stelleri</i>	1.0	0.8	1.0	1.4	0.5	1.0	0.3	0.5	0.7
<i>Eudistylia polymorpha</i>	0.5	1.0	1.3	2.5	0.3	0.5	0.8	1.0	0.7
<i>Urticina</i> spp.	0.5	0.6	-	-	0.5	0.6	0.5	0.6	0.4
<i>Chlorostoma brunnea</i>	0.8	1.5	-	-	-	-	0.8	1.5	0.4
<i>Ophioplocus esmarki</i>	1.3	1.9	-	-	-	-	-	-	0.3
<i>Pugettia</i> spp.	1.3	1.5	-	-	-	-	-	-	0.3
<i>Hemissenda crassicornis</i>	-	-	0.5	1.0	0.5	1.0	-	-	0.3
<i>Doriopsilla albopunctata</i>	0.5	1.0	0.5	1.0	-	-	-	-	0.3
<i>Ophiothrix spiculata</i>	0.5	0.6	-	-	-	-	0.5	1.0	0.3
<i>Pisaster giganteus</i>	0.3	0.5	0.5	0.6	-	-	0.3	0.5	0.3
<i>Scyra acutifrons</i>	0.3	0.5	-	-	-	-	0.8	1.0	0.3
<i>Tonicella lineata</i>	0.8	1.5	-	-	-	-	-	-	0.2
<i>Octopus</i> spp.	-	-	0.3	0.5	-	-	0.5	0.6	0.2
<i>Mimulus foliatus</i>	-	-	-	-	-	-	0.8	0.5	0.2
<i>Crassadoma gigantea</i>	0.3	0.5	-	-	0.5	1.0	-	-	0.2
Sabellidae	-	-	-	-	-	-	0.5	0.6	0.1
<i>Strongylocentrotus franciscanus</i>	-	-	-	-	-	-	0.5	1.0	0.1
<i>Loxorhynchus</i> spp.	0.5	0.6	-	-	-	-	-	-	0.1
Pelecypoda boring	0.5	0.6	-	-	-	-	-	-	0.1
<i>Cucumaria</i> spp.	0.3	0.5	-	-	0.3	0.5	-	-	0.1
<i>Anthopleura xanthogrammica</i>	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Pododesmus cepio</i>	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Halcanpa decententaculata</i>	-	-	-	-	0.3	0.5	-	-	<0.1

(table continued)



Table E6 (continued). Subtidal algae and invertebrates (SAQ Method) survey means (abundance per 7 m²), standard deviations and annual means, South Diablo Cove Station SDC 3 -4m (10-15).

Survey Survey Date	164 24-Feb-14		165 2-Jun-14		166 17-Jul-14		167 5-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrates (continued)									
<i>Cryptolithodes sitchensis</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Ceratostoma foliatum</i>	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Haliotis</i> spp.	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Norrisia norrisi</i>	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Cadlina</i> spp.	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Aplysia</i> spp.	0.3	0.5	-	-	-	-	-	-	<0.1



Table E7. Subtidal algae and invertebrates (SAQ Method) survey means (abundance per 7 m²), standard deviations and annual means, South Control Station SC 1 -3m (19-10).

Survey Survey Date	164 4-Apr-14		165 18-Jun-14		166 12-Aug-14		167 8-Dec-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae									
<i>Pterygophora californica</i>	28.3	15.0	25.8	4.2	29.5	29.3	22.3	8.7	26.4
<i>Cystoseira osmundacea</i>	20.0	5.7	25.0	5.0	17.3	3.3	32.5	7.1	23.7
<i>Laminaria setchellii</i>	25.0	8.5	21.3	7.4	25.5	7.3	21.0	2.7	23.2
Laminariales	-	-	7.5	15.0	4.5	3.8	2.3	2.6	3.6
Invertebrates									
<i>Chlorostoma brunnea</i>	202.5	47.6	52.5	21.4	58.5	22.0	180.0	82.7	123.4
<i>Patiria miniata</i>	14.3	1.3	20.8	4.0	5.8	1.7	2.0	1.6	10.7
<i>Pagurus</i> spp.	-	-	14.5	1.9	0.5	0.6	6.0	5.4	5.3
<i>Diopatra ornata</i>	2.3	1.0	8.8	7.5	1.3	1.5	7.0	5.6	4.8
<i>Tonicella lineata</i>	6.0	6.5	6.0	8.1	3.8	2.9	2.3	1.5	4.5
<i>Acmaea mitra</i>	3.8	4.5	4.5	1.7	3.8	1.5	1.5	1.7	3.4
<i>Anthopleura elegantissima</i>	3.0	1.4	3.3	1.7	3.3	1.7	3.3	1.5	3.2
<i>Calliostoma ligatum</i>	1.5	1.7	1.5	3.0	0.8	1.5	5.3	10.5	2.3
<i>Pugettia</i> spp.	3.5	2.5	3.0	1.4	0.3	0.5	0.5	0.6	1.8
<i>Cryptochiton stelleri</i>	2.3	1.3	1.8	1.7	1.0	0.8	1.3	1.3	1.6
Cirratulidae/Terebellidae	-	-	-	-	-	-	5.0	10.0	1.3
<i>Chlorostoma montereyi</i>	1.5	3.0	-	-	0.8	1.5	1.5	1.7	0.9
<i>Serpulorbis squamigerus</i>	1.5	1.0	0.8	1.0	-	-	1.3	0.5	0.9
<i>Strongylocentrotus purpuratus</i>	0.5	0.6	1.3	1.3	0.3	0.5	0.5	1.0	0.6
<i>Lottia instabilis</i>	-	-	-	-	2.3	1.3	-	-	0.6
<i>Leptasterias</i> spp.	-	-	1.5	0.6	0.3	0.5	0.3	0.5	0.5
<i>Mopalia</i> spp.	0.5	1.0	0.3	0.5	0.5	0.6	0.5	0.6	0.4
<i>Mitra idae</i>	0.5	0.6	-	-	-	-	1.3	1.0	0.4
<i>Mimulus foliatus</i>	0.8	1.5	0.5	0.6	0.3	0.5	0.3	0.5	0.4
Serpulidae	1.3	0.5	0.5	0.6	-	-	-	-	0.4
<i>Anthopleura artemisia</i>	0.5	0.6	-	-	-	-	1.0	1.2	0.4
<i>Henricia leviuscula</i>	0.8	0.5	0.8	0.5	-	-	-	-	0.4
<i>Doriopsilla albopunctata</i>	0.8	0.5	-	-	0.5	0.6	-	-	0.3
<i>Haliotis</i> spp.	-	-	0.3	0.5	0.3	0.5	0.5	1.0	0.3
<i>Doris</i> spp.	0.5	0.6	0.5	1.0	-	-	-	-	0.3
<i>Epiactis prolifera</i>	-	-	0.8	1.5	-	-	-	-	0.2
<i>Diodora</i> spp.	0.3	0.5	-	-	0.3	0.5	0.3	0.5	0.2
<i>Romaleon antennarius</i>	-	-	0.3	0.5	0.3	0.5	0.3	0.5	0.2
<i>Placiphorella velata</i>	0.5	0.6	0.3	0.5	-	-	-	-	0.2
<i>Urticina</i> spp.	-	-	-	-	0.5	0.6	-	-	0.1
<i>Fissurella volcano</i>	-	-	0.5	1.0	-	-	-	-	0.1
<i>Pododesmus cepio</i>	-	-	-	-	-	-	0.5	0.6	0.1
<i>Halcanpa decententaculata</i>	-	-	0.5	1.0	-	-	-	-	0.1
<i>Pseudomelatoma torosa</i>	0.3	0.5	-	-	-	-	0.3	0.5	0.1
<i>Cucumaria</i> spp.	0.5	1.0	-	-	-	-	-	-	0.1
<i>Cryptolithodes sitchensis</i>	0.3	0.5	0.3	0.5	-	-	-	-	0.1
<i>Scyra acutifrons</i>	0.3	0.5	-	-	0.3	0.5	-	-	0.1
<i>Pomaulax gibberosa</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Diaulula sandiegensis</i>	0.3	0.5	-	-	-	-	-	-	<0.1
Majidae	-	-	0.3	0.5	-	-	-	-	<0.1

(table continued)



Table E7 (continued). Subtidal algae and invertebrates (SAQ Method) survey means (abundance per 7 m²), standard deviations and annual means, South Control Station SC 1 -3m (19-10).

Survey Survey Date	164		165		166		167		Annual Mean
	4-Apr-14	Std. Dev.	18-Jun-14	Std. Dev.	12-Aug-14	Std. Dev.	8-Dec-14	Std. Dev.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	
Invertebrates (continued)									
<i>Lophopanopeus</i> spp.	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Okenia rosacea</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Lepidozona</i> spp.	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Eupentacta quinquesemita</i>	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Cadlina</i> spp.	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Metridium senile</i>	0.3	0.5	-	-	-	-	-	-	<0.1



Table E8. Subtidal algae and invertebrates (SAQ Method) survey means (abundance per 7 m²), standard deviations and annual means, South Control Station SC 2 -6m (20-20).

Survey	164		165		166		167		Annual Mean
Survey Date	25-Mar-14		3-Jun-14		23-Jul-14		2-Jan-15		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae									
<i>Pterygophora californica</i>	37.0	13.3	32.3	6.4	30.5	6.6	29.8	8.3	32.4
<i>Laminaria setchellii</i>	18.0	8.8	9.5	4.1	8.8	3.6	5.0	2.2	10.3
<i>Cystoseira osmundacea</i>	8.8	1.0	8.0	2.0	6.0	2.2	10.0	3.9	8.2
Laminariales	1.0	1.2	5.0	4.8	1.5	1.9	-	-	1.9
<i>Nereocystis luetkeana</i>	-	-	0.3	0.5	0.8	0.5	-	-	0.3
Invertebrates									
<i>Chlorostoma brunnea</i>	66.8	30.6	75.0	16.4	67.5	15.6	110.3	24.9	79.9
<i>Patiria miniata</i>	25.3	13.0	12.5	7.6	15.5	6.5	7.0	5.2	15.1
<i>Acmaea mitra</i>	9.8	2.9	21.0	12.7	6.0	6.0	4.5	1.7	10.3
<i>Calliostoma ligatum</i>	3.8	1.5	8.3	2.9	4.5	1.7	12.0	4.2	7.1
<i>Serpulorbis squamigerus</i>	-	-	-	-	-	-	27.3	5.2	6.8
<i>Diopatra ornata</i>	4.0	5.4	6.5	6.5	8.3	6.4	4.3	3.3	5.8
<i>Anthopleura elegantissima</i>	4.5	1.3	5.8	3.5	7.0	2.5	1.5	0.6	4.7
<i>Mitra idae</i>	0.5	1.0	2.8	1.5	1.8	1.0	2.0	0.8	1.8
<i>Lottia instabilis</i>	2.0	0.8	1.3	1.3	3.5	1.9	-	-	1.7
<i>Cryptochiton stelleri</i>	1.0	0.8	2.3	1.9	1.5	2.4	1.0	0.8	1.4
<i>Tonicella lineata</i>	0.8	1.5	1.5	1.7	0.8	1.5	1.5	1.7	1.1
<i>Chlorostoma montereyi</i>	1.5	1.7	1.5	1.7	0.8	1.5	0.8	1.5	1.1
<i>Doriopsilla albopunctata</i>	0.8	0.5	1.0	1.2	2.0	2.8	0.3	0.5	1.0
<i>Tethya californiana</i>	1.3	1.9	0.5	0.6	1.0	1.4	0.8	1.0	0.9
<i>Strongylocentrotus purpuratus</i>	0.5	1.0	-	-	0.8	1.0	2.0	0.8	0.8
<i>Haliotis</i> spp.	0.5	1.0	0.5	1.0	0.8	1.5	1.5	1.9	0.8
<i>Eupentacta quinquesemita</i>	0.5	1.0	0.3	0.5	1.5	0.6	0.5	0.6	0.7
<i>Urticina</i> spp.	0.5	0.6	0.8	1.0	0.3	0.5	0.8	1.0	0.6
<i>Lottia insessa</i>	-	-	-	-	-	-	2.0	0.8	0.5
<i>Pomaulax gibberosa</i>	0.3	0.5	0.3	0.5	0.8	1.5	0.8	1.0	0.5
<i>Pagurus</i> spp.	0.5	0.6	0.3	0.5	0.5	0.6	0.8	1.0	0.5
<i>Doris</i> spp.	0.8	1.0	-	-	0.5	1.0	0.8	1.0	0.5
<i>Crassadoma gigantea</i>	0.5	0.6	0.5	1.0	0.5	1.0	0.3	0.5	0.4
<i>Pisaster/Henricia</i> spp. (juv.)	0.3	0.5	0.3	0.5	1.0	1.2	0.3	0.5	0.4
<i>Leptasterias</i> spp.	0.5	0.6	-	-	0.8	1.0	0.3	0.5	0.4
<i>Diodora</i> spp.	0.3	0.5	0.3	0.5	0.3	0.5	0.5	0.6	0.3
<i>Placiphorella velata</i>	-	-	0.3	0.5	0.8	1.5	-	-	0.3
<i>Cucumaria</i> spp.	0.5	0.6	0.5	0.6	-	-	-	-	0.3
<i>Eudistylia polymorpha</i>	0.3	0.5	0.5	0.6	-	-	0.3	0.5	0.3
<i>Epiactis prolifera</i>	0.3	0.5	0.3	0.5	-	-	-	-	0.1
<i>Pisaster giganteus</i>	0.3	0.5	-	-	0.3	0.5	-	-	0.1
<i>Scyra acutifrons</i>	0.3	0.5	0.3	0.5	-	-	-	-	0.1
<i>Anthopleura artemisia</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Mopalia</i> spp.	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Promartynia pulligo</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Pisaster ochraceus</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Pycnopodia helianthoides</i>	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Loxorhynchus</i> spp.	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Diaulula sandiegensis</i>	-	-	0.3	0.5	-	-	-	-	<0.1

(table continued)



Table E8 (continued). Subtidal algae and invertebrates (SAQ Method) survey means (abundance per 7 m²), standard deviations and annual means, South Control Station SC 2 -6m (20-20).

Survey Survey Date	164		165		166		167		Annual Mean
	25-Mar-14	Std.	3-Jun-14	Std.	23-Jul-14	Std.	2-Jan-15	Std.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	
Invertebrates (continued)									
<i>Ophioplocus esmarki</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Pugettia</i> spp.	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Lepidozona</i> spp.	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Pachycheles</i> spp.	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Megathura crenulata</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Cadlina</i> spp.	-	-	0.3	0.5	-	-	-	-	<0.1



Diablo Canyon Power Plant

Appendix F

Subtidal Algae

Table F1. Subtidal algae (SLC Method) survey means (percent cover), standard deviations and annual means, Field's Cove Station FC 1 -3m (22-10).

Survey	164		165		166		167		Annual Mean
Survey Date	25-Feb-14		17-Jun-14		22-Jul-14		6-Jan-15		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae									
<i>Calliarthron/Bossiella</i> spp.-complex	53.0	6.0	66.0	5.9	55.0	5.3	54.0	14.3	57.0
coralline crust	49.0	3.5	49.0	6.0	44.0	10.7	33.5	8.2	43.9
<i>Chondracanthus corymbiferus</i>	10.0	4.3	19.0	4.8	11.0	3.5	4.0	2.8	11.0
<i>Cryptopleura ruprechtiana</i>	9.0	2.6	14.5	7.4	15.0	3.5	3.0	3.5	10.4
<i>Rhodymenia</i> spp.	8.0	5.4	8.5	3.4	6.0	3.7	2.0	1.6	6.1
<i>Gelidium robustum</i>	4.5	4.4	7.0	3.8	3.5	4.4	4.0	3.7	4.8
non-coralline crust	4.5	3.4	2.5	3.0	1.5	1.9	5.5	1.9	3.5
<i>Cystoseira osmundacea</i>	1.0	1.2	4.0	2.8	5.0	3.8	1.5	1.0	2.9
<i>Prionitis australis</i>	5.0	1.2	2.5	3.0	2.5	3.8	<0.1	<0.01	2.5
<i>Neoptilota</i> spp.	2.0	1.6	3.0	2.6	2.5	1.9	0.5	1.0	2.0
<i>Prionitis</i> spp.	0.5	1.0	<0.1	<0.01	<0.1	<0.01	3.5	1.9	1.0
<i>Farlowia/Pikea</i> spp.-complex	0.5	1.0	<0.1	<0.01	3.0	2.6	<0.1	<0.01	0.9
<i>Microcladia coulteri</i>	1.0	2.0	2.5	1.9	<0.1	<0.01	-	-	0.9
<i>Laminaria setchellii</i>	2.0	2.3	<0.1	<0.01	<0.1	<0.01	<0.1	-	0.5
<i>Pterygophora californica</i>	0.5	1.0	1.0	1.2	<0.1	<0.01	<0.1	-	0.4
<i>Macrocystis pyrifera</i>	<0.1	<0.01	0.5	1.0	0.5	1.0	-	-	0.3
<i>Callophyllis</i> spp.	<0.1	<0.01	0.5	1.0	<0.1	<0.01	-	-	0.1
Rhodophyta (juv. blades)	0.5	1.0	-	-	-	-	-	-	0.1
<i>Halymenia/Schizymen.</i> spp.-complex	-	-	<0.1	<0.01	<0.1	<0.01	-	-	<0.1
<i>Ahnfeltiopsis linearis</i>	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1
<i>Osmundea</i> spp.	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	-	-	<0.1
<i>Nereocystis luetkeana</i>	<0.1	<0.01	-	-	<0.1	<0.01	-	-	<0.1
<i>Corallina chilensis</i>	<0.1	<0.01	<0.1	<0.01	-	-	-	-	<0.1
Laminariales	<0.1	<0.01	-	-	<0.1	<0.01	-	-	<0.1
<i>Mazzaella splendens</i>	-	-	<0.1	<0.01	-	-	-	-	<0.1
<i>Egregia menziesii</i>	-	-	<0.1	<0.01	-	-	-	-	<0.1
<i>Callophyllis flabellulata</i>	-	-	<0.1	<0.01	-	-	-	-	<0.1
<i>Scinaia confusa</i>	-	-	<0.1	<0.01	-	-	-	-	<0.1
<i>Pterosiphonia dendroidea</i>	-	-	<0.1	<0.01	-	-	-	-	<0.1
<i>Antitham./Pterotham.</i> spp.-complex	<0.1	<0.01	-	-	-	-	-	-	<0.1
Substrates									
colonized rock	63.5	9.9	69.5	7.0	62.0	7.3	66.5	8.7	65.4
colonized cobble	15.5	8.2	11.5	7.2	17.0	9.6	8.5	5.5	13.1
cobble	1.5	3.0	1.0	1.2	3.0	2.6	6.0	4.3	2.9
sand (shell gravel)	1.5	1.0	-	-	-	-	-	-	0.4
rock	-	-	-	-	-	-	1.0	2.0	0.3



Table F2. Subtidal algae (SLC Method) survey means (percent cover), standard deviations and annual means, North Diablo Cove Station NDC 2 -3m (8-10).

Survey Survey Date		164 6-Jan-14		165 2-May-14		166 15-Jul-14		167 6-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.		
Algae										
coralline crust	27.5	10.1	43.5	12.7	46.5	7.6	42.5	9.6	40.0	
non-coralline crust	9.0	7.4	11.0	10.5	8.5	5.7	6.0	2.8	8.6	
Chrysophyta	-	-	-	-	-	-	10.5	6.6	2.6	
Ectocarpales	-	-	0.5	1.0	-	-	1.5	1.9	0.5	
<i>Calliarthron/Bossiella</i> spp.-complex	<0.1	<0.01	0.5	1.0	<0.1	-	<0.1	<0.01	0.1	
Chlorophyta (filamentous)	<0.1	<0.01	<0.1	<0.01	-	-	0.5	1.0	0.1	
Rhodophyta (juv. blades)	-	-	<0.1	<0.01	-	-	-	-	<0.1	
Substrates										
colonized cobble	19.0	14.3	26.0	11.0	30.0	6.7	29.5	10.9	26.1	
colonized rock	19.0	9.3	29.5	9.2	24.5	10.0	30.5	5.7	25.9	
rock	32.0	8.3	19.5	5.5	17.0	3.8	14.0	7.1	20.6	
cobble	12.0	6.9	7.0	6.0	6.5	1.9	7.0	5.3	8.1	
sand (shell gravel)	-	-	-	-	3.5	3.4	0.5	1.0	1.0	

Table F3. Subtidal algae (SLC Method) survey means (percent cover), standard deviations and annual means, North Diablo Cove Station NDC 3 -3m (9-10).

Survey Survey Date		164 7-Jan-14		165 2-May-14		166 28-Jul-14		167 6-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.		
Algae										
coralline crust	38.0	5.9	52.0	7.3	48.5	4.1	49.0	4.2	46.9	
Chrysophyta	-	-	-	-	-	-	12.5	2.5	3.1	
non-coralline crust	3.0	2.6	3.0	1.2	1.5	1.9	<0.1	<0.01	1.9	
Ectocarpales	-	-	<0.1	<0.01	-	-	0.5	1.0	0.1	
Chlorophyta (filamentous)	-	-	<0.1	<0.01	<0.1	<0.01	0.5	1.0	0.1	
<i>Calliarthron/Bossiella</i> spp.-complex	<0.1	-	<0.1	<0.01	<0.1	-	<0.1	-	<0.1	
filamentous red algae complex	-	-	-	-	-	-	<0.1	<0.01	<0.1	
Substrates										
colonized rock	22.5	7.2	29.5	6.6	27.0	2.6	38.0	4.9	29.3	
rock	34.5	9.4	20.5	4.1	25.5	2.5	13.5	6.6	23.5	
colonized cobble	18.5	6.6	25.5	1.9	23.0	4.2	23.0	7.0	22.5	
cobble	6.5	4.1	5.5	2.5	4.0	1.6	6.0	1.6	5.5	
sand (shell gravel)	-	-	1.0	2.0	2.5	2.5	0.5	1.0	1.0	



Table F4. Subtidal algae (SLC Method) survey means (percent cover), standard deviations and annual means, North Diablo Cove Station NDC 4 -4m (9-15).

Survey	164		165		166		167		Annual Mean
Survey Date	5-Feb-14		9-May-14		16-Jul-14		11-Nov-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae									
coralline crust	51.0	6.2	37.0	4.2	39.0	7.4	47.5	4.4	43.6
<i>Calliarthron/Bossiella</i> spp.-complex	23.0	6.2	30.0	8.5	28.5	11.5	22.0	7.5	25.9
<i>Acrosorium ciliolatum</i>	16.5	8.2	14.5	7.2	25.0	7.4	22.5	5.0	19.6
<i>Cryptopleura violacea</i>	2.5	1.9	10.0	7.8	25.0	8.9	7.5	1.9	11.3
<i>Farlowia/Pikea</i> spp.-complex	11.0	4.8	11.5	7.2	7.5	3.0	11.0	3.8	10.3
filamentous red algae complex	<0.1	<0.01	23.0	6.2	4.0	5.4	2.0	2.3	7.3
<i>Prionitis</i> spp.	3.5	2.5	5.0	4.2	7.0	8.9	11.0	4.8	6.6
<i>Chondracanthus corymbiferus</i>	<0.1	<0.01	5.0	3.5	8.0	1.6	4.5	4.4	4.4
<i>Rhodymenia</i> spp.	5.0	7.6	4.0	4.6	1.5	1.9	5.0	3.8	3.9
Ectocarpales	-	-	10.0	6.7	4.0	3.3	-	-	3.5
Chlorophyta (filamentous)	3.5	4.1	<0.1	<0.01	5.0	10.0	3.5	4.1	3.0
<i>Desmarestia ligulata</i>	-	-	6.5	10.5	5.0	3.8	-	-	2.9
<i>Cystoseira osmundacea</i>	1.0	2.0	0.5	1.0	4.0	4.6	0.5	1.0	1.5
<i>Cryptopleura rupechtiana</i>	-	-	<0.1	<0.01	4.5	3.4	-	-	1.1
<i>Chondracanthus</i>	-	-	<0.1	<0.01	2.0	4.0	2.0	2.8	1.0
<i>Gelidium robustum</i>	0.5	1.0	2.0	2.8	0.5	1.0	0.5	1.0	0.9
non-coralline crust	3.0	2.6	0.5	1.0	<0.1	<0.01	<0.1	<0.01	0.9
<i>Macrocystis pyrifera</i>	0.5	1.0	<0.1	<0.01	0.5	1.0	<0.1	<0.01	0.3
<i>Halymenia/Schizymen.</i> spp.-complex	-	-	<0.1	<0.01	1.0	2.0	-	-	0.3
Chrysophyta	-	-	1.0	2.0	-	-	<0.1	<0.01	0.3
<i>Pterosiphonia dendroidea</i>	1.0	1.2	-	-	-	-	-	-	0.3
<i>Nienburgia andersoniana</i>	-	-	-	-	0.5	1.0	-	-	0.1
<i>Ahnfeltiopsis linearis</i>	-	-	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1
<i>Colpomenia</i> spp.	<0.1	<0.01	<0.1	<0.01	-	-	-	-	<0.1
Rhodophyta (juv. blades)	<0.1	-	-	-	-	-	-	-	<0.1
<i>Pterygophora californica</i>	<0.1	<0.01	-	-	<0.1	<0.01	<0.1	<0.01	<0.1
<i>Fryeella gardneri</i>	-	-	-	-	<0.1	<0.01	-	-	<0.1
<i>Osmundea</i> spp.	-	-	-	-	<0.1	<0.01	-	-	<0.1
Laminariales	-	-	<0.1	<0.01	<0.1	<0.01	-	-	<0.1
<i>Sargassum muticum</i>	-	-	-	-	-	-	<0.1	<0.01	<0.1
<i>Laminaria setchellii</i>	-	-	<0.1	<0.01	-	-	-	-	<0.1
<i>Corallina chilensis</i>	<0.1	<0.01	-	-	-	-	-	-	<0.1
<i>Microcladia coulteri</i>	-	-	-	-	<0.1	<0.01	-	-	<0.1
<i>Opuntella californica</i>	-	-	-	-	<0.1	<0.01	-	-	<0.1
<i>Sarcodiotheca gaudichaudii</i>	-	-	<0.1	<0.01	-	-	-	-	<0.1
<i>Polyneura latissima</i>	-	-	<0.1	<0.01	-	-	-	-	<0.1
<i>Fauchea laciniata</i>	<0.1	<0.01	-	-	-	-	-	-	<0.1
<i>Gloiosiphonia californica</i>	-	-	<0.1	<0.01	-	-	-	-	<0.1
<i>Mazzaella splendens</i>	-	-	-	-	<0.1	<0.01	-	-	<0.1
Invertebrates									
<i>Phragmatopoma californica</i>	0.5	1.0	-	-	-	-	4.5	3.0	1.3
Substrates									
colonized rock	62.0	6.7	62.0	5.9	62.0	10.1	68.5	7.0	63.6
colonized cobble	15.0	4.2	8.5	5.0	11.5	7.2	11.0	6.0	11.5
sand (shell gravel)	3.5	4.4	11.0	4.8	8.5	4.1	1.0	2.0	6.0
cobble	1.5	1.9	-	-	-	-	1.5	1.9	0.8



Table F5. Subtidal algae (SLC Method) survey means (percent cover), standard deviations and annual means, South Diablo Cove Station SDC 2 -3m (12-10).

Survey Survey Date Taxon	164 6-Feb-14		165 12-May-14		166 7-Aug-14		167 4-Nov-14		Annual Mean
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae									
coralline crust	40.0	6.5	35.0	9.6	28.5	9.6	43.5	12.2	36.8
<i>Cryptopleura violacea</i>	13.5	3.4	51.5	5.3	59.5	9.6	15.5	1.9	35.0
<i>Rhodymenia</i> spp.	17.5	3.0	10.0	7.5	12.5	5.3	23.5	9.9	15.9
<i>Calliarthron/Bossiella</i> spp.-complex	9.0	7.0	14.5	13.0	12.0	9.1	14.5	5.3	12.5
<i>Farlowia/Pikea</i> spp.-complex	5.0	2.6	13.0	3.5	5.0	1.2	12.0	5.2	8.8
<i>Nienburgia andersoniana</i>	5.0	2.6	10.0	7.8	4.0	2.3	11.0	7.0	7.5
<i>Prionitis</i> spp.	8.5	2.5	2.0	2.3	1.0	1.2	6.0	2.8	4.4
<i>Cystoseira osmundacea</i>	4.5	4.1	3.0	2.0	3.0	3.8	<0.1	<0.01	2.6
<i>Acrosorium ciliolatum</i>	0.5	1.0	5.5	4.7	-	-	3.0	2.0	2.3
<i>Chondracanthus corymbiferus</i>	1.0	1.2	<0.1	<0.01	3.0	2.6	3.0	2.6	1.8
Rhodophyta (juv. blades)	4.5	3.4	-	-	-	-	1.0	1.2	1.4
<i>Macrocystis pyrifera</i>	1.0	2.0	0.5	1.0	2.5	3.8	<0.1	<0.01	1.0
<i>Ahnfeltiopsis linearis</i>	2.0	2.3	<0.1	<0.01	<0.1	<0.01	1.0	1.2	0.8
filamentous red algae complex	2.5	3.8	<0.1	<0.01	-	-	0.5	1.0	0.8
non-coralline crust	1.0	2.0	<0.1	<0.01	<0.1	<0.01	1.0	2.0	0.5
<i>Chondracanthus</i>	-	-	1.5	1.9	0.5	1.0	<0.1	<0.01	0.5
<i>Pterosiphonia dendroidea</i>	-	-	-	-	-	-	2.0	2.8	0.5
<i>Gelidium robustum</i>	1.0	2.0	-	-	<0.1	<0.01	-	-	0.3
<i>Sarcodiotheca gaudichaudii</i>	-	-	1.0	2.0	<0.1	<0.01	-	-	0.3
<i>Callophyllis flabellulata</i>	-	-	0.5	1.0	<0.1	<0.01	<0.1	<0.01	0.1
<i>Cryptopleura ruprechtiana</i>	-	-	<0.1	<0.01	0.5	1.0	-	-	0.1
<i>Desmarestia ligulata</i>	-	-	<0.1	<0.01	0.5	1.0	-	-	0.1
Chlorophyta (filamentous)	0.5	1.0	-	-	-	-	-	-	0.1
<i>Pterygophora californica</i>	<0.1	-	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1
<i>Corallina chilensis</i>	<0.1	-	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1
<i>Osmundea</i> spp.	-	-	-	-	<0.1	<0.01	<0.1	<0.01	<0.1
<i>Gelidium</i> spp.	<0.1	<0.01	-	-	-	-	<0.1	<0.01	<0.1
Laminariales	-	-	<0.1	<0.01	-	-	<0.1	<0.01	<0.1
<i>Sargassum muticum</i>	<0.1	<0.01	<0.1	<0.01	-	-	-	-	<0.1
<i>Laminaria setchellii</i>	<0.1	<0.01	-	-	-	-	-	-	<0.1
<i>Plocamium pacificum</i>	-	-	<0.1	<0.01	-	-	-	-	<0.1
Antitham./Pterotham. spp.-complex	-	-	-	-	-	-	<0.1	<0.01	<0.1
Substrates									
colonized rock	51.5	2.5	52.5	3.8	56.0	5.9	56.0	7.5	54.0
sand (shell gravel)	14.0	2.8	19.5	8.7	22.5	5.7	12.5	9.0	17.1
cobble	9.0	2.6	4.0	1.6	2.5	1.9	7.0	2.6	5.6
colonized cobble	7.5	3.8	6.0	4.9	0.5	1.0	6.5	4.1	5.1
rock	-	-	-	-	0.5	1.0	-	-	0.1



Table F6. Subtidal algae (SLC Method) survey means (percent cover), standard deviations and annual means, South Diablo Cove Station SDC 3 -4m (10-15).

Survey	164		165		166		167		Annual Mean
Survey Date	24-Feb-14		2-Jun-14		17-Jul-14		5-Nov-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae									
coralline crust	40.5	8.1	45.0	10.0	44.0	3.7	52.0	9.8	45.4
<i>Calliarthron/Bossiella</i> spp.-complex	28.5	6.0	35.5	5.3	39.0	3.5	29.5	10.3	33.1
<i>Rhodomenia</i> spp.	15.0	7.4	24.5	12.9	15.5	10.1	15.5	6.0	17.6
<i>Cryptopleura violacea</i>	3.5	3.0	11.0	3.5	16.5	1.9	5.0	4.2	9.0
<i>Cryptopleura ruprechtiana</i>	2.5	1.9	10.0	1.6	8.5	4.1	4.0	2.8	6.3
<i>Chondracanthus corymbiferus</i>	5.0	3.5	6.5	3.4	5.5	2.5	8.0	4.3	6.3
<i>Farlowia/Pikea</i> spp.-complex	6.0	5.7	7.5	1.9	5.5	1.9	3.0	1.2	5.5
<i>Macrocystis pyrifera</i>	3.5	5.7	4.5	1.9	8.0	-	6.0	3.7	5.5
<i>Acrosorium ciliolatum</i>	3.5	3.0	2.5	1.9	1.0	2.0	0.5	1.0	1.9
<i>Nienburgia anderssoniana</i>	0.5	1.0	1.0	2.0	1.5	1.9	3.0	2.6	1.5
<i>Ahnfeltiopsis linearis</i>	0.5	1.0	1.5	3.0	<0.1	-	3.5	3.0	1.4
<i>Cystoseira osmundacea</i>	1.0	1.2	0.5	1.0	<0.1	<0.01	2.5	2.5	1.0
<i>Callophyllis flabellulata</i>	<0.1	-	2.5	2.5	<0.1	-	<0.1	-	0.6
<i>Prionitis</i> spp.	1.5	1.9	<0.1	<0.01	<0.1	<0.01	0.5	1.0	0.5
Rhodophyta (juv. blades)	1.0	2.0	-	-	-	-	-	-	0.3
filamentous red algae complex	0.5	1.0	<0.1	<0.01	-	-	-	-	0.1
<i>Polyneura latissima</i>	-	-	0.5	1.0	<0.1	<0.01	-	-	0.1
Ectocarpales	-	-	0.5	1.0	-	-	-	-	0.1
<i>Corallina chilensis</i>	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1
<i>Pterygophora californica</i>	<0.1	<0.01	<0.1	<0.01	-	-	<0.1	<0.01	<0.1
non-coralline crust	-	-	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1
<i>Rhodoptilum plumosum</i>	-	-	<0.1	<0.01	<0.1	<0.01	-	-	<0.1
<i>Laminaria setchellii</i>	-	-	-	-	<0.1	<0.01	-	-	<0.1
<i>Pterosiphonia dendroidea</i>	<0.1	<0.01	<0.1	<0.01	-	-	-	-	<0.1
Antham./Pterotham. spp.-complex	<0.1	<0.01	-	-	-	-	-	-	<0.1
<i>Callophyllis</i> spp.	-	-	-	-	-	-	<0.1	<0.01	<0.1
<i>Plocamium pacificum</i>	-	-	<0.1	<0.01	-	-	-	-	<0.1
<i>Osmundea</i> spp.	<0.1	<0.01	-	-	-	-	-	-	<0.1
<i>Faucea laciniata</i>	<0.1	<0.01	-	-	-	-	-	-	<0.1
<i>Prionitis australis</i>	-	-	-	-	<0.1	<0.01	-	-	<0.1
<i>Weeksia</i> spp.	-	-	<0.1	<0.01	-	-	-	-	<0.1
Invertebrates									
Porifera (encrusting)	-	-	-	-	0.5	1.0	0.5	1.0	0.3
<i>Phragmatopoma californica</i>	-	-	0.5	1.0	-	-	-	-	0.1
Substrates									
colonized rock	68.5	1.9	70.0	5.2	68.0	3.7	68.0	5.9	68.6
sand (shell gravel)	7.0	4.2	4.5	3.0	8.5	1.9	8.0	3.3	7.0
colonized cobble	4.0	4.3	4.5	2.5	4.0	1.6	3.0	2.6	3.9
cobble	2.5	1.9	3.0	4.8	1.5	1.9	3.0	2.0	2.5



Table F7. Subtidal algae (SLC Method) survey means (percent cover), standard deviations and annual means, South Control Station SC 1 -3m (19-10).

Survey Survey Date	164		165		166		167		Annual Mean
	4-Apr-14	Std. Dev.	18-Jun-14	Std. Dev.	12-Aug-14	Std. Dev.	8-Dec-14	Std. Dev.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	
Algae									
coralline crust	47.5	3.8	47.5	2.5	47.0	6.0	47.5	11.6	47.4
<i>Calliarthron/Bossiella</i> spp.-complex	46.0	11.7	44.0	9.1	49.0	9.3	50.0	11.2	47.3
<i>Cystoseira osmundacea</i>	18.5	4.1	16.0	2.8	19.0	7.8	19.0	8.3	18.1
<i>Rhodomenia</i> spp.	7.5	4.4	11.0	4.8	15.0	4.8	6.5	2.5	10.0
<i>Pterygophora californica</i>	3.0	2.6	4.0	2.8	4.0	3.7	0.5	1.0	2.9
<i>Laminaria setchellii</i>	0.5	1.0	2.0	1.6	1.0	1.2	0.5	1.0	1.0
non-coralline crust	0.5	1.0	1.0	1.2	<0.1	<0.01	1.5	1.9	0.8
<i>Gelidium robustum</i>	0.5	1.0	<0.1	<0.01	0.5	1.0	1.0	1.2	0.5
<i>Corallina chilensis</i>	1.0	1.2	<0.1	<0.01	<0.1	-	<0.1	<0.01	0.3
<i>Prionitis australis</i>	0.5	1.0	<0.1	<0.01	<0.1	<0.01	0.5	1.0	0.3
<i>Chondracanthus corymbiferus</i>	<0.1	<0.01	<0.1	-	<0.1	<0.01	0.5	1.0	0.1
<i>Plocamium pacificum</i>	0.5	1.0	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	0.1
<i>Cryptopleura ruprechtiana</i>	0.5	1.0	-	-	-	-	<0.1	<0.01	0.1
<i>Ahnfeltiopsis linearis</i>	<0.1	<0.01	-	-	-	-	0.5	1.0	0.1
<i>Ulva</i> spp.	-	-	<0.1	<0.01	<0.1	<0.01	-	-	<0.1
<i>Farlowia/Pikea</i> spp.-complex	-	-	<0.1	<0.01	-	-	<0.1	<0.01	<0.1
<i>Callophyllis flabellulata</i>	<0.1	<0.01	-	-	<0.1	<0.01	<0.1	<0.01	<0.1
Laminariales	-	-	<0.1	<0.01	-	-	<0.1	<0.01	<0.1
<i>Coilodesme californica</i>	-	-	<0.1	<0.01	-	-	-	-	<0.1
<i>Callophyllis</i> spp.	-	-	<0.1	<0.01	-	-	<0.1	<0.01	<0.1
<i>Osmundea</i> spp.	-	-	-	-	-	-	<0.1	<0.01	<0.1
<i>Pterosiphonia dendroidea</i>	-	-	-	-	<0.1	<0.01	<0.1	<0.01	<0.1
<i>Clathromorphum parvum</i>	-	-	-	-	-	-	<0.1	<0.01	<0.1
<i>Sarcodiotheca gaudichaudii</i>	-	-	-	-	-	-	<0.1	<0.01	<0.1
<i>Cryptopleura violacea</i>	<0.1	<0.01	-	-	-	-	-	-	<0.1
<i>Halymenia/Schizymen.</i> spp.-complex	-	-	<0.1	<0.01	-	-	-	-	<0.1
<i>Neoptilota</i> spp.	-	-	-	-	-	-	<0.1	<0.01	<0.1
Rhodophyta (juv. blades)	-	-	-	-	<0.1	<0.01	-	-	<0.1
Invertebrates									
<i>Phragmatopoma californica</i>	4.5	3.8	3.0	3.5	5.5	1.9	12.5	10.9	6.4
tunicates, compound/social	-	-	-	-	1.0	2.0	-	-	0.3
<i>Balanus/Tetraclita</i> spp.	0.5	1.0	-	-	-	-	-	-	0.1
Substrates									
colonized rock	73.0	1.2	70.0	8.5	69.5	6.0	73.5	3.4	71.5
colonized cobble	5.0	2.0	5.0	4.8	7.5	6.0	2.5	1.9	5.0
sand (shell gravel)	3.5	2.5	6.5	3.8	3.5	2.5	5.0	1.2	4.6
cobble	0.5	1.0	0.5	1.0	1.5	1.9	1.0	1.2	0.9



Table F8. Subtidal algae (SLC Method) survey means (percent cover), standard deviations and annual means, South Control Station SC 2 -6m (20-20).

Survey	164		165		166		167		Annual Mean
Survey Date	25-Mar-14		3-Jun-14		23-Jul-14		2-Jan-15		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Algae									
coralline crust	51.0	5.3	52.0	4.9	53.0	9.6	60.5	9.2	54.1
<i>Calliarthron/Bossiella</i> spp.-complex	31.5	14.6	38.0	10.2	41.0	8.7	41.5	16.4	38.0
<i>Cystoseira osmundacea</i>	5.5	3.0	6.5	4.1	10.0	5.9	6.5	6.4	7.1
non-coralline crust	4.0	3.3	4.5	1.9	4.0	-	3.5	5.7	4.0
<i>Pterygophora californica</i>	3.0	2.6	3.0	2.0	2.5	2.5	4.5	1.0	3.3
<i>Rhodymenia</i> spp.	2.5	3.0	5.5	1.0	1.5	1.9	<0.1	-	2.4
<i>Desmarestia ligulata</i>	-	-	3.0	3.5	3.0	4.8	-	-	1.5
<i>Laminaria setchellii</i>	2.0	1.6	<0.1	-	2.5	1.9	0.5	1.0	1.3
<i>Cryptopleura ruprechtiana</i>	1.0	1.2	1.5	3.0	1.0	2.0	<0.1	<0.01	0.9
filamentous red algae complex	-	-	1.5	3.0	1.0	2.0	-	-	0.6
Rhodophyta (juv. blades)	2.5	3.0	-	-	-	-	-	-	0.6
<i>Callophyllis flabellulata</i>	<0.1	<0.01	2.0	2.3	<0.1	<0.01	<0.1	-	0.5
<i>Neoptilota</i> spp.	<0.1	<0.01	1.5	3.0	<0.1	<0.01	<0.1	<0.01	0.4
<i>Faucea laciniata</i>	-	-	1.0	2.0	<0.1	<0.01	-	-	0.3
<i>Dictyota binghamiae</i>	-	-	1.0	2.0	-	-	-	-	0.3
<i>Pterosiphonia dendroidea</i>	1.0	1.2	-	-	-	-	-	-	0.3
<i>Rhodoptilum plumosum</i>	<0.1	<0.01	0.5	1.0	<0.1	<0.01	-	-	0.1
<i>Fryeella gardneri</i>	-	-	0.5	1.0	-	-	-	-	0.1
<i>Nereocystis luetkeana</i>	-	-	<0.1	<0.01	<0.1	<0.01	-	-	<0.1
<i>Weeksia</i> spp.	<0.1	<0.01	-	-	<0.1	<0.01	<0.1	<0.01	<0.1
<i>Callophyllis</i> spp.	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1
<i>Chondracanthus corymbiferus</i>	-	-	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	<0.1
<i>Pugetia firma</i>	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	-	-	<0.1
<i>Opuntella californica</i>	<0.1	<0.01	<0.1	<0.01	<0.1	<0.01	-	-	<0.1
<i>Polyneura latissima</i>	-	-	-	-	-	-	<0.1	<0.01	<0.1
Laminariales	-	-	<0.1	<0.01	<0.1	<0.01	-	-	<0.1
<i>Ulva</i> spp.	-	-	-	-	<0.1	<0.01	-	-	<0.1
<i>Dictyoneurum californicum</i>	-	-	-	-	<0.1	<0.01	-	-	<0.1
<i>Gelidium robustum</i>	-	-	-	-	-	-	<0.1	<0.01	<0.1
<i>Scinaia confusa</i>	-	-	<0.1	<0.01	-	-	-	-	<0.1
Phaeophyta	<0.1	<0.01	-	-	-	-	-	-	<0.1
<i>Farlowia/Pikea</i> spp.-complex	-	-	-	-	-	-	<0.1	<0.01	<0.1
Invertebrates									
<i>Phragmatopoma californica</i>	3.5	4.1	2.5	3.0	4.5	5.3	3.5	1.9	3.5
Porifera (encrusting)	2.5	3.0	2.5	3.0	1.5	1.9	-	-	1.6
<i>Corynactis californica</i>	1.0	2.0	2.5	1.9	2.0	2.3	-	-	1.4
bryozoa (encrusting)	1.5	1.0	-	-	1.0	1.2	-	-	0.6
<i>Balanophyllia elegans</i>	-	-	0.5	1.0	0.5	1.0	-	-	0.3
<i>Serpulorbis squamigerus</i>	-	-	-	-	0.5	1.0	-	-	0.1
tunicates, compound/social	-	-	0.5	1.0	-	-	-	-	0.1
bryozoa (erect)	0.5	1.0	-	-	-	-	-	-	0.1
Substrates									
colonized rock	71.5	7.7	73.5	5.5	72.0	6.3	74.5	7.7	72.9
colonized cobble	5.0	4.8	5.5	3.4	8.0	5.9	3.5	3.0	5.5
sand (shell gravel)	4.0	2.8	2.5	3.8	1.5	1.0	3.0	3.8	2.8
cobble	1.5	1.0	0.5	1.0	0.5	1.0	1.0	1.2	0.9



Diablo Canyon Power Plant

Appendix G

Subtidal Invertebrates

Table G1. Subtidal invertebrates (SFQ Method) survey means (abundance per 0.25 m²; percent cover) standard deviations and annual means, Field's Cove Station FC 1 -3m (22-10).

Taxon	Survey Survey Date		164 25-Feb-14		165 17-Jun-14		166 22-Jul-14		167 6-Jan-15		Annual Mean
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.			
Invertebrate Counts											
<i>Homolo. luridum/Lirularia succincta</i>	3.8	5.0	4.3	2.6	6.0	6.1	6.0	4.3	5.0		
<i>Chlorostoma brunnea</i>	5.5	3.9	3.0	1.4	2.5	1.7	5.3	2.1	4.1		
<i>Pagurus</i> spp.	5.8	4.1	2.8	1.7	4.5	3.0	2.5	1.3	3.9		
<i>Phragmatopoma californica</i>	4.5	3.3	4.0	2.2	0.8	1.0	3.0	1.4	3.1		
Pelecypoda boring	7.3	13.2	-	-	-	-	0.3	0.5	1.9		
<i>Amphissa</i> spp.	1.0	1.2	1.5	0.6	2.0	1.4	1.5	1.3	1.5		
<i>Pugettia</i> spp.	2.8	1.0	1.3	1.9	0.5	1.0	1.3	1.0	1.4		
<i>Lissothuria nutriens</i>	1.8	1.7	1.3	0.5	0.5	0.6	1.3	0.5	1.2		
<i>Alia</i> spp.	0.8	1.0	2.3	1.3	0.3	0.5	1.0	0.8	1.1		
Serpulidae	0.5	1.0	0.3	0.5	0.8	1.0	1.5	1.7	0.8		
<i>Strongylocentrotus purpuratus</i>	-	-	0.8	1.0	0.5	1.0	1.3	1.9	0.6		
Chaetopteridae	-	-	1.3	2.5	-	-	1.3	1.5	0.6		
<i>Leptasterias</i> spp.	-	-	0.8	1.0	1.3	1.3	-	-	0.5		
<i>Pisaster/Henricia</i> spp. (juv.)	0.5	0.6	0.8	1.5	0.3	0.5	0.5	1.0	0.5		
<i>Fissurella volcano</i>	0.3	0.5	0.5	0.6	-	-	1.0	0.8	0.4		
<i>Dendropoma</i> spp.	1.8	3.5	-	-	-	-	-	-	0.4		
<i>Corynactis californica</i>	1.5	3.0	-	-	-	-	-	-	0.4		
<i>Acmaea mitra</i>	0.3	0.5	0.8	1.0	0.3	0.5	0.3	0.5	0.4		
<i>Serpulorbis squamigerus</i>	0.3	0.5	0.5	0.6	-	-	0.5	0.6	0.3		
<i>Ocenebrina</i> spp.	-	-	0.3	0.5	0.5	0.6	0.5	0.6	0.3		
<i>Romaleon antennarius</i>	0.3	0.5	0.8	0.5	-	-	-	-	0.3		
<i>Aptyxis luteopictus</i>	-	-	0.3	0.5	0.5	0.6	0.3	0.5	0.3		
<i>Pseudomelatoma torosa</i>	0.3	0.5	0.3	0.5	-	-	0.5	0.6	0.3		
Cancridae	0.8	1.5	-	-	0.3	0.5	-	-	0.3		
<i>Eulithidium</i> spp.	-	-	-	-	1.0	2.0	-	-	0.3		
<i>Anthopleura elegantissima</i>	0.3	0.5	0.3	0.5	-	-	0.3	0.5	0.2		
Anthozoa	-	-	-	-	-	-	0.8	1.5	0.2		
<i>Calliostoma ligatum</i>	0.3	0.5	-	-	-	-	0.5	0.6	0.2		
<i>Patiria miniata</i>	0.3	0.5	-	-	0.5	0.6	-	-	0.2		
<i>Mitra idae</i>	-	-	0.5	0.6	-	-	0.3	0.5	0.2		
<i>Lirobittium</i> spp.	-	-	-	-	0.8	1.0	-	-	0.2		
<i>Mimulus foliatus</i>	0.3	0.5	0.3	0.5	-	-	0.3	0.5	0.2		
<i>Scyra acutifrons</i>	-	-	0.3	0.5	0.3	0.5	0.3	0.5	0.2		
Sipuncula	0.5	1.0	-	-	0.3	0.5	-	-	0.2		
<i>Epiactis prolifera</i>	-	-	-	-	-	-	0.5	0.6	0.1		
<i>Tonicella lineata</i>	-	-	-	-	0.3	0.5	0.3	0.5	0.1		
<i>Crepidula</i> spp.	-	-	-	-	-	-	0.5	1.0	0.1		
<i>Hipponix</i> spp.	-	-	0.5	1.0	-	-	-	-	0.1		
<i>Ophiothrix spiculata</i>	-	-	-	-	-	-	0.5	1.0	0.1		
<i>Cucumaria</i> spp.	-	-	0.3	0.5	0.3	0.5	-	-	0.1		
<i>Strongylocentrotus</i> spp.	0.3	0.5	0.3	0.5	-	-	-	-	0.1		
<i>Calliostoma annulatum</i>	-	-	0.3	0.5	-	-	-	-	<0.1		
<i>Diodora</i> spp.	-	-	0.3	0.5	-	-	-	-	<0.1		

(table continued)



Table G1 (continued). Subtidal invertebrates (SFQ Method) survey means (abundance per 0.25 m²; percent cover) standard deviations and annual means, Field's Cove Station FC 1 -3m (22-10).

Survey Survey Date	164 25-Feb-14		165 17-Jun-14		166 22-Jul-14		167 6-Jan-15		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Mopalia</i> spp.	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Lottia instabilis</i>	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Lottia ochracea</i>	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Epitonium/Opalia</i> spp.	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Loxorhynchus</i> spp.	-	-	0.3	0.5	-	-	-	-	<0.1
Ischnochitonidae	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Placiphorella velata</i>	-	-	-	-	0.3	0.5	-	-	<0.1
Ophiuroidea	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Cryptolithodes sitchensis</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Heptacarpus</i> spp.	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Aeolidia papillosa</i>	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Lophopanopeus</i> spp.	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Lepidozona</i> spp.	-	-	-	-	0.3	0.5	-	-	<0.1
Invertebrate Cover									
<i>Balanus/Tetracitla</i> spp.	1.2	1.8	0.8	1.4	1.9	3.0	1.1	1.9	1.2
Porifera (encrusting)	1.9	1.2	<0.1	0.1	<0.1	0.1	<0.1	< .01	0.5
bryozoa (encrusting)	1.0	1.4	0.1	0.3	<0.1	-	0.1	0.3	0.3
tunicates, compound/social	0.3	0.4	<0.1	-	<0.1	-	<0.1	0.1	<0.1
Spirorbidae	<0.1	0.1	<0.1	< .01	<0.1	< .01	<0.1	-	<0.1
<i>Salmacina tribranchiata</i>	-	-	-	-	-	-	<0.1	< .01	<0.1



Table G2. Subtidal invertebrates (SFQ Method) survey means (abundance per 0.25 m²; percent cover) standard deviations and annual means, North Diablo Cove Station NDC 2 -3m (8-10).

Survey Survey Date	164 6-Jan-14		165 2-May-14		166 15-Jul-14		167 6-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts									
<i>Strongylocentrotus purpuratus</i>	49.8	11.9	37.0	18.0	40.8	14.1	25.3	11.5	38.2
Pelecypoda boring	23.5	19.6	24.3	19.3	15.8	11.7	7.8	6.3	17.8
<i>Phragmatopoma californica</i>	9.0	5.3	9.5	6.2	4.3	5.1	3.3	1.5	6.5
<i>Ophiothrix spiculata</i>	4.3	2.6	1.8	1.0	5.0	2.2	3.5	3.7	3.6
<i>Ophiactis simplex</i>	5.3	4.0	0.8	1.5	5.3	5.7	3.3	2.9	3.6
Serpulidae	1.3	1.3	2.3	1.5	2.5	3.0	0.8	1.0	1.7
Sipuncula	0.5	0.6	1.0	0.8	4.5	2.1	0.5	0.6	1.6
<i>Anthopleura elegantissima</i>	0.8	1.5	1.0	2.0	1.8	2.4	2.8	3.4	1.6
<i>Fissurella volcano</i>	2.3	0.5	1.0	1.4	1.0	0.8	1.0	1.2	1.3
<i>Cirratulidae/Terebellidae</i>	-	-	3.0	2.6	-	-	-	-	0.8
Anthozoa	0.3	0.5	-	-	1.5	1.3	0.5	0.6	0.6
<i>Lottia ochracea</i>	0.8	1.0	1.0	1.4	0.5	0.6	-	-	0.6
Sabellidae	-	-	0.8	1.5	0.5	0.6	0.3	0.5	0.4
Lottiidae	0.5	0.6	0.3	0.5	0.5	1.0	-	-	0.3
<i>Epiactis prolifera</i>	0.3	0.5	0.3	0.5	0.5	0.6	-	-	0.3
<i>Placiphorella velata</i>	0.8	1.0	-	-	0.3	0.5	-	-	0.3
<i>Lissothuria nutriens</i>	-	-	-	-	0.3	0.5	0.8	1.0	0.3
Polychaeta	0.3	0.5	0.5	0.6	-	-	-	-	0.2
<i>Amphissa</i> spp.	-	-	-	-	0.5	1.0	0.3	0.5	0.2
<i>Haliotis</i> spp.	-	-	-	-	0.5	1.0	0.3	0.5	0.2
<i>Acmaea mitra</i>	0.3	0.5	-	-	0.3	0.5	-	-	0.1
<i>Diodora</i> spp.	0.5	0.6	-	-	-	-	-	-	0.1
<i>Serpulorbis squamigerus</i>	0.3	0.5	-	-	0.3	0.5	-	-	0.1
<i>Pista</i> spp.	0.3	0.5	-	-	0.3	0.5	-	-	0.1
<i>Cucumaria</i> spp.	-	-	-	-	0.5	1.0	-	-	0.1
<i>Patiria miniata</i>	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Strongylocentrotus franciscanus</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Romaleon jordani</i>	-	-	-	-	0.3	0.5	-	-	<0.1
Brachyuran	-	-	-	-	-	-	0.3	0.5	<0.1
Invertebrate Cover									
<i>Balanus/Tetracilita</i> spp.	0.3	0.2	0.1	0.2	0.3	0.4	<0.1	0.1	0.2
bryozoa (encrusting)	-	-	-	-	<0.1	<.01	-	-	<0.1
Spirorbidae	-	-	<0.1	<.01	-	-	-	-	<0.1



Table G3. Subtidal invertebrates (SFQ Method) survey means (abundance per 0.25 m²; percent cover) standard deviations and annual means, North Diablo Cove Station NDC 3 -3m (9-10).

Survey Survey Date	164		165		166		167		Annual Mean
	7-Jan-14	Std. Dev.	2-May-14	Std. Dev.	28-Jul-14	Std. Dev.	6-Nov-14	Std. Dev.	
Taxon	Mean	Dev.	Mean	Dev.	Mean	Dev.	Mean	Dev.	
Invertebrate Counts									
<i>Strongylocentrotus purpuratus</i>	41.0	28.5	34.8	21.5	35.3	22.4	31.5	24.5	35.6
Pelecypoda boring	26.5	25.9	40.8	13.4	42.5	12.7	19.5	14.4	32.3
<i>Phragmatopoma californica</i>	7.3	8.4	16.3	28.6	8.5	8.4	5.0	6.4	9.3
<i>Ophiothrix spiculata</i>	12.0	10.3	5.0	3.6	11.8	10.3	3.0	6.0	7.9
<i>Ophiactis simplex</i>	8.3	4.8	6.8	8.4	10.0	8.0	6.5	5.2	7.9
Sipuncula	2.5	1.3	1.8	1.0	4.8	2.8	3.0	1.4	3.0
Cirratulidae/Terebellidae	-	-	3.8	2.1	-	-	-	-	0.9
<i>Lottia ochracea</i>	1.8	1.0	0.5	0.6	0.8	1.0	0.5	0.6	0.9
Serpulidae	0.8	1.0	1.0	0.8	0.8	1.0	0.5	0.6	0.8
<i>Anthopleura elegantissima</i>	0.8	1.0	0.5	1.0	0.5	1.0	0.5	1.0	0.6
<i>Fissurella volcano</i>	1.0	0.8	0.3	0.5	0.3	0.5	0.8	0.5	0.6
<i>Strongylocentrotus franciscanus</i>	0.8	1.0	0.3	0.5	1.0	0.8	-	-	0.5
<i>Cucumaria</i> spp.	-	-	-	-	1.8	1.7	0.3	0.5	0.5
<i>Epiactis prolifera</i>	0.8	1.0	0.3	0.5	0.3	0.5	0.5	0.6	0.4
<i>Eudistylia polymorpha</i>	0.3	0.5	0.3	0.5	0.5	1.0	0.3	0.5	0.3
Anthozoa	-	-	-	-	0.3	0.5	0.8	1.5	0.3
Sabellidae	0.3	0.5	0.3	0.5	0.5	0.6	-	-	0.3
Polychaeta	-	-	0.8	1.0	0.3	0.5	-	-	0.3
<i>Lissothuria nutriens</i>	-	-	-	-	0.5	0.6	0.5	0.6	0.3
<i>Acmaea mitra</i>	0.3	0.5	-	-	0.5	0.6	-	-	0.2
<i>Diodora</i> spp.	0.3	0.5	-	-	0.3	0.5	-	-	0.1
Lottiidae	0.3	0.5	-	-	-	-	-	-	<0.1
Ischnochitonidae	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Placiphorella velata</i>	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Elysia hedgpethi</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Aeolidiella oliviae</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Pteropurpura festiva</i>	-	-	0.3	0.5	-	-	-	-	<0.1
Invertebrate Cover									
<i>Balanus/Tetraclita</i> spp.	0.1	0.2	-	-	-	-	-	-	<0.1
Spirorbidae	<0.1	<.01	-	-	-	-	-	-	<0.1
tunicates, compound/social	-	-	-	-	-	-	<0.1	<.01	<0.1
Porifera (encrusting)	<0.1	<.01	-	-	-	-	-	-	<0.1
<i>Salmacina tribranchiata</i>	<0.1	<.01	-	-	-	-	-	-	<0.1



Table G4. Subtidal invertebrates (SFQ Method) survey means (abundance per 0.25 m²; percent cover) standard deviations and annual means, North Diablo Cove Station NDC 4 -4m (9-15).

Survey Survey Date	164 5-Feb-14		165 9-May-14		166 16-Jul-14		167 11-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts									
<i>Phragmatopoma californica</i>	98.8	65.2	44.8	58.0	22.3	14.7	52.3	54.0	54.5
<i>Strongylocentrotus purpuratus</i>	11.5	13.5	13.0	18.7	10.0	11.5	11.3	11.0	11.4
<i>Pelecypoda boring</i>	14.0	21.4	6.0	8.0	0.5	1.0	11.8	21.6	8.1
<i>Ophiactis simplex</i>	5.5	6.7	5.5	6.5	3.0	6.0	5.3	9.8	4.8
<i>Ophiothrix spiculata</i>	4.0	1.8	3.3	1.9	4.0	1.4	2.5	1.3	3.4
<i>Alia</i> spp.	0.3	0.5	1.5	1.9	2.3	1.7	2.5	3.1	1.6
Serpulidae	0.8	0.5	2.0	0.8	1.8	1.0	1.8	1.0	1.6
<i>Acmaea mitra</i>	2.3	1.7	1.0	0.8	1.8	1.3	0.5	0.6	1.4
<i>Anthopleura elegantissima</i>	1.3	1.9	0.8	1.0	1.3	1.3	1.8	2.2	1.3
Sipuncula	0.3	0.5	1.8	1.0	2.3	3.9	0.8	1.0	1.3
<i>Lottia ochracea</i>	1.3	1.5	2.0	2.2	0.5	0.6	0.8	1.0	1.1
<i>Amphissa</i> spp.	-	-	0.8	1.0	1.8	1.7	0.8	1.0	0.8
<i>Epiactis prolifera</i>	0.5	0.6	0.5	0.6	0.8	1.0	1.0	2.0	0.7
<i>Fissurella volcano</i>	0.3	0.5	0.5	0.6	1.5	0.6	0.3	0.5	0.6
<i>Tonicella lineata</i>	0.3	0.5	0.8	1.5	1.0	0.8	-	-	0.5
<i>Pagurus</i> spp.	-	-	-	-	1.8	1.7	0.3	0.5	0.5
<i>Pugettia</i> spp.	0.5	0.6	0.3	0.5	1.0	1.4	0.3	0.5	0.5
<i>Lirobittium</i> spp.	-	-	0.8	1.0	0.5	0.6	0.5	0.6	0.4
<i>Serpulorbis squamigerus</i>	0.5	1.0	0.5	1.0	0.3	0.5	0.3	0.5	0.4
Ischnochitonidae	0.3	0.5	0.5	0.6	0.5	1.0	0.3	0.5	0.4
<i>Cucumaria</i> spp.	-	-	0.3	0.5	1.3	2.5	-	-	0.4
Chaetopteridae	-	-	1.0	2.0	-	-	0.5	1.0	0.4
<i>Pista</i> spp.	0.3	0.5	-	-	0.8	1.5	0.3	0.5	0.3
<i>Lissothuria nutriens</i>	-	-	0.3	0.5	0.3	0.5	0.8	1.0	0.3
Anthozoa	0.3	0.5	0.3	0.5	0.3	0.5	0.3	0.5	0.3
snail	1.0	1.4	-	-	-	-	-	-	0.3
<i>Doriopsilla albopunctata</i>	-	-	0.5	0.6	-	-	0.5	0.6	0.3
<i>Dendropoma</i> spp.	1.0	2.0	-	-	-	-	-	-	0.3
<i>Eulithidium</i> spp.	-	-	-	-	1.0	2.0	-	-	0.3
<i>Diodora</i> spp.	-	-	-	-	0.3	0.5	0.5	0.6	0.2
<i>Crepidula</i> spp.	-	-	0.5	0.6	0.3	0.5	-	-	0.2
<i>Homolo. luridum/Lirularia succincta</i>	-	-	-	-	0.8	1.0	-	-	0.2
Polychaeta	0.3	0.5	0.3	0.5	-	-	-	-	0.1
<i>Ocinebrina</i> spp.	-	-	-	-	0.5	0.6	-	-	0.1
<i>Phidiana hiltoni</i>	0.3	0.5	0.3	0.5	-	-	-	-	0.1
<i>Scyra acutifrons</i>	0.3	0.5	-	-	0.3	0.5	-	-	0.1
<i>Anthopleura artemisia</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Pododesmus cepio</i>	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Chlorostoma brunnea</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Conus californicus</i>	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Hermisenda crassicomis</i>	-	-	0.3	0.5	-	-	-	-	<0.1
Sabellidae	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Diopatra ornata</i>	-	-	0.3	0.5	-	-	-	-	<0.1

(table continued)



Table G4 (continued). Subtidal invertebrates (SFQ Method) survey means (abundance per 0.25 m²; percent cover) standard deviations and annual means, North Diablo Cove Station NDC 4 -4m (9-15).

Survey Survey Date	164 5-Feb-14		165 9-May-14		166 16-Jul-14		167 11-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Pycnogonida</i>	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Patiria miniata</i>	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Placiphorella velata</i>	-	-	-	-	0.3	0.5	-	-	<0.1
Ophiuroidea	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Eudistylia polymorpha</i>	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Mimulus foliatus</i>	-	-	-	-	0.3	0.5	-	-	<0.1
Majidae	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Pisaster/Henricia</i> spp. (juv.)	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Strongylocentrotus</i> spp.	0.3	0.5	-	-	-	-	-	-	<0.1
Cancridae	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Lepidozona</i> spp.	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Kelletia kelletii</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Navanax inermis</i>	0.3	0.5	-	-	-	-	-	-	<0.1
Invertebrate Cover									
<i>Balanus/Tetraclita</i> spp.	0.6	0.7	-	-	0.1	0.2	0.5	0.7	0.3
Porifera (encrusting)	0.2	0.3	<0.1	< .01	<0.1	-	<0.1	-	<0.1
tunicates, compound/social	<0.1	< .01	<0.1	< .01	<0.1	< .01	<0.1	-	<0.1
bryozoa (encrusting)	<0.1	< .01	<0.1	< .01	<0.1	< .01	<0.1	-	<0.1
Spirorbidae	-	-	<0.1	< .01	<0.1	-	<0.1	< .01	<0.1



Table G5. Subtidal invertebrates (SFQ Method) survey means (abundance per 0.25 m²; percent cover) standard deviations and annual means, South Diablo Cove Station SDC 2 -3m (12-10).

Survey	164		165		166		167		
Survey Date	6-Feb-14		12-May-14		7-Aug-14		4-Nov-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Annual Mean
Invertebrate Counts									
<i>Ophiothrix spiculata</i>	23.8	11.1	5.5	4.2	6.0	4.1	2.5	3.0	9.4
<i>Phragmatopoma californica</i>	15.0	23.4	6.3	1.5	10.3	4.0	2.3	1.5	8.4
Chaetopteridae	0.3	0.5	11.0	10.0	4.3	1.3	2.0	0.8	4.4
<i>Alia</i> spp.	1.3	1.0	2.3	1.5	6.8	7.5	3.5	3.1	3.4
<i>Pista</i> spp.	3.5	2.4	3.0	4.8	1.3	1.0	4.5	3.0	3.1
Sipuncula	2.5	1.7	1.5	0.6	3.0	2.2	3.5	1.9	2.6
Pelecypoda boring	4.5	7.0	1.8	1.5	1.5	1.3	0.3	0.5	2.0
<i>Pagurus</i> spp.	-	-	0.5	0.6	5.3	4.2	2.0	1.4	1.9
Serpulidae	0.5	1.0	3.0	1.6	2.0	1.8	1.3	1.0	1.7
<i>Amphissa</i> spp.	1.3	1.3	2.0	1.4	1.5	0.6	0.8	1.0	1.4
<i>Acmaea mitra</i>	0.5	1.0	1.3	1.3	1.8	1.7	1.3	1.0	1.2
<i>Fissurella volcano</i>	1.3	1.0	1.3	0.5	1.0	0.8	0.5	0.6	1.0
<i>Chlorostoma brunnea</i>	-	-	0.3	0.5	3.5	3.7	0.3	0.5	1.0
Ophiuroidea	-	-	1.5	0.6	1.0	1.2	0.5	0.6	0.8
<i>Ophiactis simplex</i>	-	-	1.3	1.9	0.5	1.0	0.8	1.0	0.6
Ischnochitonidae	0.3	0.5	1.5	1.3	0.5	0.6	-	-	0.6
<i>Serpulorbis squamigerus</i>	0.8	1.0	0.5	0.6	0.3	0.5	0.3	0.5	0.4
<i>Lottia ochracea</i>	-	-	0.5	0.6	0.5	1.0	0.8	1.0	0.4
<i>Pugettia</i> spp.	0.8	1.0	0.3	0.5	0.5	0.6	0.3	0.5	0.4
<i>Diopatra ornata</i>	-	-	0.3	0.5	1.0	2.0	0.3	0.5	0.4
Anthozoa	0.5	1.0	-	-	0.3	0.5	0.5	0.6	0.3
<i>Balanophyllia elegans</i>	0.3	0.5	0.3	0.5	0.3	0.5	0.5	0.6	0.3
<i>Anthopleura elegantissima</i>	0.5	0.6	0.3	0.5	-	-	0.3	0.5	0.3
<i>Patiria miniata</i>	0.3	0.5	0.5	0.6	-	-	0.3	0.5	0.3
<i>Strongylocentrotus purpuratus</i>	-	-	0.3	0.5	0.8	1.0	-	-	0.3
<i>Eulithidium</i> spp.	-	-	-	-	-	-	1.0	2.0	0.3
<i>Anthopleura artemisia</i>	-	-	0.3	0.5	-	-	0.5	0.6	0.2
<i>Tonicella lineata</i>	-	-	0.3	0.5	0.3	0.5	0.3	0.5	0.2
<i>Lirobittium</i> spp.	-	-	0.8	0.5	-	-	-	-	0.2
<i>Cucumaria</i> spp.	-	-	-	-	0.5	0.6	0.3	0.5	0.2
<i>Scyra acutifrons</i>	0.3	0.5	0.3	0.5	0.3	0.5	-	-	0.2
<i>Homolo. luridum/Lirularia succincta</i>	-	-	-	-	0.8	1.0	-	-	0.2
Lottiidae	0.5	0.6	-	-	-	-	-	-	0.1
<i>Crepidula</i> spp.	-	-	0.3	0.5	0.3	0.5	-	-	0.1
<i>Doriopsilla albopunctata</i>	-	-	0.3	0.5	0.3	0.5	-	-	0.1
<i>Mimulus foliatus</i>	-	-	-	-	0.5	0.6	-	-	0.1
Majidae	-	-	-	-	0.3	0.5	0.3	0.5	0.1
<i>Modiolus</i> spp.	-	-	-	-	0.3	0.5	0.3	0.5	0.1
Cirratulidae/Terebellidae	-	-	0.3	0.5	0.3	0.5	-	-	0.1
<i>Romaleon jordani</i>	-	-	-	-	0.5	1.0	-	-	0.1
<i>Epiactis prolifera</i>	-	-	-	-	-	-	0.3	0.5	<0.1
Nemertea	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Pododesmus cepio</i>	-	-	-	-	0.3	0.5	-	-	<0.1

(table continued)



Table G5 (continued). Subtidal invertebrates (SFQ Method) survey means (abundance per 0.25 m²; percent cover) standard deviations and annual means, South Diablo Cove Station SDC 2 -3m (12-10).

Survey Survey Date	164 6-Feb-14		165 12-May-14		166 7-Aug-14		167 4-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Onchidella borealis</i>	-	-	0.3	0.5	-	-	-	-	<0.1
Sabellidae	0.3	0.5	-	-	-	-	-	-	<0.1
Pycnogonida	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Romaleon antennarius</i>	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Pycnopodia helianthoides</i>	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Phidiana hiltoni</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Eudistylia polymorpha</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Paracyathus steamsii</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Lissothuria nutriens</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Lepidozona</i> spp.	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Eupentacta quinquesemita</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Navanax inermis</i>	-	-	0.3	0.5	-	-	-	-	<0.1
Invertebrate Cover									
Porifera (encrusting)	0.3	0.4	<0.1	< .01	<0.1	< .01	<0.1	< .01	<0.1
bryozoa (encrusting)	<0.1	0.1	<0.1	< .01	<0.1	< .01	<0.1	< .01	<0.1
<i>Balanus/Tetraclita</i> spp.	-	-	-	-	-	-	<0.1	0.1	<0.1
Spirorbidae	<0.1	< .01	<0.1	-	<0.1	-	<0.1	< .01	<0.1
tunicates, compound/social	-	-	<0.1	< .01	<0.1	< .01	<0.1	< .01	<0.1
Hydroidolina	-	-	-	-	-	-	<0.1	< .01	<0.1
<i>Acanthancora cyanocrypta</i>	<0.1	< .01	-	-	-	-	-	-	<0.1
<i>Salmacina tribranchiata</i>	-	-	-	-	-	-	<0.1	< .01	<0.1



Table G6. Subtidal invertebrates (SFQ Method) survey means (abundance per 0.25 m²; percent cover) standard deviations and annual means, South Diablo Cove Station SDC 3 -4m (10-15).

Survey	164		165		166		167		Annual Mean
Survey Date	24-Feb-14		2-Jun-14		17-Jul-14		5-Nov-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts									
<i>Balanophyllia elegans</i>	24.3	14.2	17.3	7.6	20.8	5.7	23.5	9.3	21.4
<i>Phragmatopoma californica</i>	0.5	1.0	3.0	2.6	8.0	6.5	8.0	3.2	4.9
Chaetopteridae	3.5	2.4	5.3	4.0	2.5	2.1	5.0	4.6	4.1
Serpulidae	2.0	1.2	2.0	0.8	5.3	1.7	1.3	1.0	2.6
<i>Pista</i> spp.	2.3	1.5	2.8	1.0	2.8	2.2	2.5	1.3	2.6
<i>Amphissa</i> spp.	1.8	1.0	5.0	2.2	1.8	1.5	1.0	1.4	2.4
<i>Anthopleura elegantissima</i>	2.8	1.5	2.0	0.8	1.5	0.6	1.8	1.5	2.0
<i>Alia</i> spp.	-	-	1.5	1.7	2.8	2.2	2.0	0.8	1.6
<i>Diopatra omata</i>	1.8	1.5	1.8	1.0	0.8	1.5	1.3	1.3	1.4
<i>Pagurus</i> spp.	1.0	1.4	0.8	1.0	2.3	2.1	1.5	1.9	1.4
<i>Serpulorbis squamigerus</i>	0.5	0.6	0.8	1.0	1.5	0.6	2.3	1.9	1.3
<i>Ophiothrix spiculata</i>	0.5	0.6	1.8	1.5	0.8	1.0	2.0	0.8	1.3
Sabellidae	1.3	1.3	2.8	3.8	-	-	0.8	1.0	1.2
Sipuncula	0.5	0.6	1.0	0.8	1.5	1.3	1.8	1.0	1.2
<i>Strongylocentrotus purpuratus</i>	1.3	1.5	0.8	1.0	1.0	0.8	1.0	0.8	1.0
<i>Mitra idae</i>	1.0	0.8	1.0	0.8	0.8	0.5	0.8	1.0	0.9
Pelecypoda boring	0.5	0.6	0.5	0.6	0.8	1.0	1.8	1.7	0.9
<i>Dendropoma</i> spp.	1.8	3.5	1.3	2.5	-	-	-	-	0.8
<i>Paracyathus stearnsii</i>	0.5	1.0	0.5	1.0	0.8	1.5	1.0	0.8	0.7
<i>Pugettia</i> spp.	0.3	0.5	0.5	0.6	0.5	0.6	0.8	1.0	0.5
<i>Anthopleura artemisia</i>	-	-	0.8	0.5	-	-	1.0	0.8	0.4
<i>Crepidula</i> spp.	0.3	0.5	0.3	0.5	0.5	1.0	0.8	1.0	0.4
<i>Tethya californiana</i>	0.5	0.6	0.5	1.0	0.3	0.5	0.5	0.6	0.4
<i>Pseudomelatoma torosa</i>	1.0	-	-	-	-	-	0.8	1.0	0.4
<i>Scyra acutifrons</i>	0.5	0.6	0.5	0.6	0.3	0.5	0.5	0.6	0.4
<i>Acmaea mitra</i>	0.5	0.6	0.3	0.5	0.5	0.6	0.3	0.5	0.4
<i>Patiria miniata</i>	0.5	0.6	0.3	0.5	0.8	1.0	-	-	0.4
<i>Doriopsilla albopunctata</i>	0.5	0.6	0.5	1.0	0.5	0.6	-	-	0.4
Ophiuroidea	-	-	-	-	0.5	0.6	1.0	2.0	0.4
<i>Ophiactis simplex</i>	0.3	0.5	0.5	0.6	-	-	0.5	1.0	0.3
<i>Homolo. luridum/Lirularia succincta</i>	0.5	1.0	0.5	1.0	0.3	0.5	-	-	0.3
<i>Cucumaria</i> spp.	0.5	1.0	0.5	0.6	-	-	-	-	0.3
<i>Eulithidium</i> spp.	-	-	-	-	-	-	1.0	2.0	0.3
Anthozoa	0.5	0.6	-	-	0.3	0.5	-	-	0.2
<i>Loxorhynchus</i> spp.	0.3	0.5	0.3	0.5	0.3	0.5	-	-	0.2
<i>Ocinebrina</i> spp.	0.3	0.5	0.3	0.5	-	-	0.3	0.5	0.2
<i>Mimulus foliatus</i>	-	-	0.3	0.5	-	-	0.5	0.6	0.2
Majidae	0.3	0.5	0.3	0.5	-	-	0.3	0.5	0.2
<i>Lottia ochracea</i>	-	-	0.3	0.5	0.3	0.5	-	-	0.1
<i>Conus californicus</i>	-	-	-	-	-	-	0.5	1.0	0.1
<i>Calliostoma</i> spp.	-	-	0.3	0.5	0.3	0.5	-	-	0.1
<i>Eupentacta quinquesemita</i>	0.5	0.6	-	-	-	-	-	-	0.1
<i>Epiactis prolifera</i>	0.3	0.5	-	-	-	-	-	-	<0.1

(table continued)



Table G6. (continued) Subtidal invertebrates (SFQ Method) survey means (abundance per 0.25 m²; percent cover) standard deviations and annual means, South Diablo Cove Station SDC 3 -4m (10-15).

Survey Survey Date	164 24-Feb-14		165 2-Jun-14		166 17-Jul-14		167 5-Nov-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
Nemertea	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Fissurella volcano</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Pomaulax gibberosa</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Promartynia pulligo</i>	-	-	-	-	-	-	0.3	0.5	<0.1
Pycnogonida	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Triopha catalinae</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Ophioplocus esmarki</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Lophopanopeus</i> spp.	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Lissothuria nutriens</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Lepidozona</i> spp.	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Haliotis</i> spp.	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Pteropurpura festiva</i>	-	-	-	-	0.3	0.5	-	-	<0.1
Invertebrate Cover									
<i>Balanus/Tetracita</i> spp.	0.3	0.5	5.9	7.5	0.4	0.8	0.3	0.5	1.7
<i>Acanthancora cyanocrypta</i>	0.2	0.3	0.1	0.3	0.4	0.5	1.2	0.2	0.5
Porifera (encrusting)	<0.1	-	<0.1	-	0.2	0.4	0.4	0.5	0.1
bryozoa (encrusting)	0.2	0.3	<0.1	-	<0.1	0.1	<0.1	-	<0.1
tunicates, compound/social	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1
Spirorbidae	<0.1	< .01	<0.1	< .01	<0.1	< .01	-	-	<0.1



Table G7. Subtidal invertebrates (SFQ Method) survey means (abundance per 0.25 m²; percent cover) standard deviations and annual means, South Control Station SC 1 -3m (19-10).

Survey Survey Date Taxon	164 4-Apr-14		165 18-Jun-14		166 12-Aug-14		167 8-Dec-14		Annual Mean
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts									
<i>Phragmatopoma californica</i>	131.8	262.2	169.5	321.8	203.5	397.7	142.5	271.7	161.8
<i>Dendropoma</i> spp.	8.8	17.5	1.0	2.0	33.5	51.7	-	-	10.8
<i>Pagurus</i> spp.	9.0	10.4	12.0	4.4	2.8	3.6	10.8	5.4	8.6
<i>Homolo. luridum/Lirularia succincta</i>	4.5	1.3	8.8	8.3	4.3	1.7	4.8	4.1	5.6
<i>Chlorostoma brunnea</i>	7.0	4.2	3.0	1.8	0.8	0.5	9.5	4.2	5.1
<i>Balanophyllia elegans</i>	2.0	2.8	1.5	2.4	2.5	3.1	2.5	3.3	2.1
<i>Pugettia</i> spp.	3.0	2.7	1.5	0.6	0.5	0.6	1.5	1.7	1.6
<i>Alia</i> spp.	1.3	1.9	1.8	1.7	0.8	0.5	2.3	1.3	1.5
<i>Lottia instabilis</i>	-	-	2.3	2.6	3.3	3.8	-	-	1.4
<i>Lottia insessa</i>	1.8	1.5	-	-	-	-	2.5	1.9	1.1
<i>Tonicella lineata</i>	0.3	0.5	1.3	0.5	1.3	1.3	1.0	-	0.9
<i>Amphissa</i> spp.	0.8	0.5	1.0	0.8	0.3	0.5	1.8	1.0	0.9
<i>Mitra idae</i>	1.3	1.5	0.3	0.5	0.3	0.5	1.3	0.5	0.8
<i>Crepidula</i> spp.	-	-	0.5	1.0	0.5	1.0	1.8	1.7	0.7
<i>Pista</i> spp.	0.8	1.5	2.0	1.8	-	-	-	-	0.7
<i>Calliostoma ligatum</i>	1.0	0.8	0.8	0.5	0.5	1.0	0.3	0.5	0.6
<i>Leptasterias</i> spp.	0.5	0.6	0.8	1.0	0.5	0.6	-	-	0.4
<i>Patiria miniata</i>	-	-	1.0	1.4	0.3	0.5	0.5	0.6	0.4
<i>Mimulus foliatus</i>	0.3	0.5	1.3	1.3	-	-	0.3	0.5	0.4
<i>Pisaster/Henricia</i> spp. (juv.)	0.8	0.5	0.8	0.5	-	-	0.3	0.5	0.4
Serpulidae	0.8	0.5	0.5	1.0	0.3	0.5	0.3	0.5	0.4
<i>Acmaea mitra</i>	-	-	0.8	1.0	0.8	1.0	-	-	0.4
<i>Ocenebrina</i> spp.	0.5	0.6	0.5	0.6	-	-	0.5	0.6	0.4
<i>Scyra acutifrons</i>	0.5	0.6	0.8	0.5	-	-	0.3	0.5	0.4
<i>Serpulorbis squamigerus</i>	0.8	1.0	-	-	0.3	0.5	0.3	0.5	0.3
<i>Strongylocentrotus purpuratus</i>	1.3	0.5	-	-	-	-	-	-	0.3
<i>Lissothuria nutriens</i>	-	-	0.3	0.5	0.5	0.6	0.5	1.0	0.3
<i>Anthopleura elegantissima</i>	0.3	0.5	0.3	0.5	-	-	0.5	0.6	0.3
<i>Epiactis prolifera</i>	-	-	0.3	0.5	0.5	0.6	0.3	0.5	0.3
<i>Mopalia</i> spp.	-	-	-	-	0.3	0.5	0.8	1.0	0.3
<i>Lottia ochracea</i>	-	-	0.3	0.5	-	-	0.8	1.0	0.3
<i>Diopatra omata</i>	0.3	0.5	-	-	0.3	0.5	0.5	1.0	0.3
<i>Lirobittium</i> spp.	0.5	0.6	0.5	0.6	-	-	-	-	0.3
<i>Pododesmus cepio</i>	-	-	-	-	0.8	1.0	-	-	0.2
Lottiidae	-	-	-	-	-	-	0.8	1.0	0.2
<i>Aptyxis luteopictus</i>	0.3	0.5	0.3	0.5	-	-	0.3	0.5	0.2
<i>Lophopanopeus</i> spp.	-	-	0.8	0.5	-	-	-	-	0.2
<i>Lepidozona</i> spp.	0.5	0.6	0.3	0.5	-	-	-	-	0.2
Chaetopteridae	-	-	-	-	-	-	0.8	1.5	0.2
Anthozoa	0.5	0.6	-	-	-	-	-	-	0.1
<i>Promartynia pulligo</i>	0.3	0.5	-	-	-	-	0.3	0.5	0.1
<i>Romaleon antennarius</i>	0.5	0.6	-	-	-	-	-	-	0.1
<i>Loxorhynchus</i> spp.	0.5	0.6	-	-	-	-	-	-	0.1

(table continued)



Table G7 (continued). Subtidal invertebrates (SFQ Method) survey means (abundance per 0.25 m²; percent cover) standard deviations and annual means, South Control Station SC 1 -3m (19-10).

Survey	164		165		166		167		Annual Mean
Survey Date	4-Apr-14		18-Jun-14		12-Aug-14		8-Dec-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts (continued)									
<i>Doriopsilla albopunctata</i>	-	-	0.5	1.0	-	-	-	-	0.1
<i>Pseudomelatoma torosa</i>	-	-	0.5	0.6	-	-	-	-	0.1
Ischnochitonidae	-	-	-	-	-	-	0.5	0.6	0.1
<i>Placiphorella velata</i>	-	-	0.5	0.6	-	-	-	-	0.1
Pelecypoda boring	-	-	-	-	0.3	0.5	0.3	0.5	0.1
<i>Diodora</i> spp.	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Fissurella volcano</i>	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Epitonium/Opalia</i> spp.	-	-	-	-	-	-	0.3	0.5	<0.1
<i>Cancer productus</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Ophiothrix spiculata</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Cryptolithodes sitchensis</i>	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Strongylocentrotus</i> spp.	-	-	-	-	0.3	0.5	-	-	<0.1
Cancridae	-	-	-	-	0.3	0.5	-	-	<0.1
Sipuncula	0.3	0.5	-	-	-	-	-	-	<0.1
<i>Pachycheles</i> spp.	-	-	0.3	0.5	-	-	-	-	<0.1
<i>Eupentacta quinquesemita</i>	-	-	-	-	0.3	0.5	-	-	<0.1
<i>Romaleon jordani</i>	0.3	0.5	-	-	-	-	-	-	<0.1
Invertebrate Cover									
<i>Balanus/Tetracita</i> spp.	0.3	0.1	0.2	0.3	0.1	0.3	3.8	4.0	1.1
Porifera (encrusting)	0.3	0.5	0.1	0.3	1.3	0.9	<0.1	-	0.4
bryozoa (encrusting)	0.1	0.3	<0.1	0.1	1.1	0.9	<0.1	-	0.3
Spirorbidae	<0.1	-	<0.1	-	0.1	0.3	<0.1	-	<0.1
tunicates, compound/social	<0.1	-	<0.1	-	0.1	0.3	<0.1	< .01	<0.1
Hydroidolina	<0.1	< .01	-	-	<0.1	< .01	-	-	<0.1
<i>Salmacina tribranchiata</i>	-	-	-	-	<0.1	< .01	-	-	<0.1



Table G8. Subtidal invertebrates (SFQ Method) survey means (abundance per 0.25 m²; percent cover) standard deviations and annual means, South Control Station SC 2 -6m (20-20).

Survey Survey Date Taxon	164 25-Mar-14		165 03-Jun-14		166 23-Jul-14		167 02-Jan-15		Annual Mean
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Invertebrate Counts									
<i>Corynactis californica</i>	93.3	104.0	83.3	104.5	58.3	65.8	65.8	63.7	75.1
<i>Balanophyllia elegans</i>	78.8	96.0	59.8	66.5	56.5	68.9	64.0	74.4	64.8
<i>Phragmatopoma californica</i>	31.3	19.3	18.8	15.5	16.3	10.0	36.3	23.2	25.6
<i>Serpulorbis squamigerus</i>	10.0	8.0	14.5	13.1	13.8	13.0	27.3	17.5	16.4
<i>Dendropoma</i> spp.	13.8	24.3	8.0	8.5	4.8	6.9	4.0	3.7	7.6
<i>Homolo. luridum/Lirularia succincta</i>	9.3	2.2	4.3	1.7	7.3	4.5	7.8	1.0	7.1
<i>Chlorostoma brunnea</i>	4.8	3.3	4.8	1.9	2.8	1.5	6.3	1.7	4.6
<i>Pagurus</i> spp.	1.0	2.0	5.0	3.6	4.5	4.2	1.3	1.0	2.9
<i>Ocenebrina</i> spp.	1.0	0.8	3.0	2.7	2.0	0.8	2.8	1.7	2.2
<i>Lottia instabilis</i>	1.0	1.2	1.8	2.1	2.5	2.4	1.5	1.9	1.7
Serpulidae	1.0	1.2	2.3	1.3	2.0	1.4	0.8	1.0	1.5
<i>Pugettia</i> spp.	2.0	1.2	1.8	1.5	0.8	1.0	0.8	1.0	1.3
<i>Ophiotrix spiculata</i>	0.8	1.5	1.0	0.8	1.5	1.3	1.3	1.9	1.1
<i>Cucumaria</i> spp.	0.5	0.6	2.8	2.9	0.8	1.0	0.5	0.6	1.1
<i>Amphissa</i> spp.	0.8	0.5	1.3	1.9	1.3	1.5	0.5	1.0	0.9
<i>Clavularia</i> spp.	3.8	7.5	-	-	-	-	-	-	0.9
Pelecypoda boring	0.5	1.0	0.5	1.0	1.5	1.3	1.0	1.2	0.9
<i>Acmaea mitra</i>	1.0	0.8	1.0	0.8	0.5	0.6	0.5	1.0	0.8
<i>Tonicella lineata</i>	0.5	0.6	1.3	1.5	0.5	0.6	0.8	0.5	0.8
<i>Calliostoma ligatum</i>	0.3	0.5	0.3	0.5	0.8	1.0	1.5	1.0	0.7
Lottiidae	0.5	1.0	1.3	2.5	0.3	0.5	0.8	1.5	0.7
<i>Crepidula</i> spp.	0.5	1.0	0.3	0.5	-	-	1.8	2.4	0.6
<i>Epiactis prolifera</i>	0.8	1.0	0.8	0.5	0.3	0.5	0.5	1.0	0.6
<i>Diodora</i> spp.	1.0	1.4	-	-	0.3	0.5	1.0	0.8	0.6
<i>Pisaster/Henricia</i> spp. (juv.)	-	-	0.8	1.0	1.3	1.0	0.3	0.5	0.6
Chaetopteridae	0.3	0.5	1.3	1.9	0.3	0.5	0.5	1.0	0.6
<i>Alia</i> spp.	0.5	0.6	0.8	1.0	0.3	0.5	0.3	0.5	0.4
<i>Leptasterias</i> spp.	0.3	0.5	0.8	1.0	0.3	0.5	0.3	0.5	0.4
<i>Strongylocentrotus</i> spp.	-	-	0.8	1.0	0.8	1.0	-	-	0.4
<i>Pomaulax gibberosa</i>	0.3	0.5	0.3	0.5	-	-	0.8	0.5	0.3
<i>Patiria miniata</i>	-	-	0.5	1.0	0.8	0.5	-	-	0.3
<i>Doriopsilla albopunctata</i>	0.3	0.5	0.3	0.5	0.3	0.5	0.5	1.0	0.3
<i>Mitra idae</i>	0.3	0.5	-	-	-	-	1.0	1.4	0.3
Ischnochitonidae	0.5	1.0	0.3	0.5	0.3	0.5	0.3	0.5	0.3
Sipuncula	-	-	0.3	0.5	0.8	1.0	0.3	0.5	0.3
<i>Leucilla nuttingi</i>	1.0	2.0	-	-	-	-	-	-	0.3
<i>Anthopleura elegantissima</i>	0.5	1.0	-	-	-	-	0.3	0.5	0.2
Anthozoa	0.3	0.5	0.5	1.0	-	-	-	-	0.2
<i>Promartynia pulligo</i>	-	-	-	-	0.3	0.5	0.5	0.6	0.2
<i>Diopatra omata</i>	0.3	0.5	-	-	0.3	0.5	0.3	0.5	0.2
<i>Strongylocentrotus purpuratus</i>	0.3	0.5	-	-	-	-	0.5	0.6	0.2
<i>Aptyxis luteopictus</i>	-	-	-	-	0.8	1.0	-	-	0.2
<i>Ophioplocus esmarki</i>	-	-	-	-	0.5	1.0	0.3	0.5	0.2

(table continued)



Table G8 (continued). Subtidal invertebrates (SFQ Method) survey means (abundance per 0.25 m²; percent cover) standard deviations and annual means, South Control Station SC 2 -6m (20-20).

Taxon	Survey		164		165		166		167		Annual Mean
	Survey Date	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.		
Invertebrate Counts (continued)											
<i>Paracyathus steamsii</i>		0.3	0.5	0.3	0.5	-	-	0.3	0.5	0.2	
<i>Ophiactis simplex</i>		-	-	-	-	0.8	1.5	-	-	0.2	
<i>Fissurella volcano</i>		-	-	-	-	-	-	0.5	1.0	0.1	
<i>Chlorostoma montereyi</i>		0.3	0.5	-	-	0.3	0.5	-	-	0.1	
<i>Pseudomelatoma torosa</i>		0.3	0.5	-	-	0.3	0.5	-	-	0.1	
<i>Rostanga pulchra</i>		-	-	-	-	-	-	0.5	1.0	0.1	
<i>Mimulus foliatus</i>		-	-	-	-	0.3	0.5	0.3	0.5	0.1	
Majidae		-	-	-	-	0.5	0.6	-	-	0.1	
<i>Scyra acutifrons</i>		-	-	0.5	0.6	-	-	-	-	0.1	
<i>Haliotis</i> spp.		-	-	-	-	0.5	1.0	-	-	0.1	
<i>Calliostoma</i> spp.		-	-	0.5	1.0	-	-	-	-	0.1	
<i>Eupentacta quinquesemita</i>		-	-	-	-	-	-	0.5	1.0	0.1	
<i>Cadlina</i> spp.		-	-	0.5	1.0	-	-	-	-	0.1	
<i>Calliostoma annulatum</i>		-	-	-	-	0.3	0.5	-	-	<0.1	
<i>Pododesmus cepio</i>		0.3	0.5	-	-	-	-	-	-	<0.1	
<i>Cactosoma arenaria</i>		-	-	-	-	0.3	0.5	-	-	<0.1	
Sabellidae		-	-	0.3	0.5	-	-	-	-	<0.1	
Polychaeta		-	-	0.3	0.5	-	-	-	-	<0.1	
<i>Romaleon antennarius</i>		0.3	0.5	-	-	-	-	-	-	<0.1	
<i>Calliostoma canaliculatum</i>		0.3	0.5	-	-	-	-	-	-	<0.1	
<i>Cryptochiton stelleri</i>		-	-	-	-	-	-	0.3	0.5	<0.1	
<i>Placiphorella velata</i>		0.3	0.5	-	-	-	-	-	-	<0.1	
<i>Eulithidium</i> spp.		-	-	-	-	0.3	0.5	-	-	<0.1	
<i>Modiolus</i> spp.		-	-	0.3	0.5	-	-	-	-	<0.1	
<i>Cirratulidae/Terebellidae</i>		-	-	-	-	0.3	0.5	-	-	<0.1	
<i>Mytilus</i> spp.		-	-	0.3	0.5	-	-	-	-	<0.1	
<i>Doris</i> spp.		-	-	-	-	-	-	0.3	0.5	<0.1	
Invertebrate Cover											
<i>Balanus/Tetracita</i> spp.		2.0	2.2	1.0	1.2	0.1	0.3	2.8	5.1	1.5	
bryozoa (encrusting)		1.1	1.3	0.8	0.5	1.1	1.2	1.8	0.8	1.2	
Porifera (encrusting)		1.5	1.7	0.8	0.7	0.4	0.5	0.6	0.8	0.8	
<i>Acanthancora cyanocrypta</i>		0.6	1.1	0.5	0.6	0.4	0.8	0.3	0.5	0.5	
bryozoa (erect)		<0.1	< .01	<0.1	< .01	0.2	0.1	0.6	0.2	0.2	
tunicates, compound/social		-	-	0.2	0.3	0.5	0.5	-	-	0.2	
Hydroidolina		-	-	<0.1	< .01	-	-	-	-	<0.1	
<i>Aglao phenia</i> spp.		-	-	-	-	<0.1	< .01	-	-	<0.1	
<i>Abiet./Sertularella/Sertularia</i> spp.		-	-	<0.1	< .01	-	-	-	-	<0.1	
bryozoa (foliose)		-	-	-	-	<0.1	< .01	-	-	<0.1	
<i>Salmacina tribranchiata</i>		-	-	-	-	-	-	<0.1	< .01	<0.1	



Diablo Canyon Power Plant

Appendix H

Subtidal Fishes

Table H1. Subtidal fishes survey means (abundance per 50 x 4 x 2 m transect), standard deviations and annual means, Field's Cove Stations (FC FO-1 (1), FC FO-2 (2), FC FO-3 (3)).

Survey	162		163		164		165		Annual Mean
Survey Date	12-Apr-14		5-Jul-14		30-Aug-14		31-Dec-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Midwater									
<i>Sebastes mystinus</i> (juv.)	-	-	0.3	0.8	4.3	7.3	<0.1	0.2	1.2
<i>Oxyjulis californica</i>	1.8	4.5	0.9	2.3	0.2	0.4	0.5	1.2	0.9
<i>Sebastes mystinus</i> (yoy)	1.0	1.6	-	-	-	-	<0.1	0.2	0.3
<i>Rhacochilus vacca</i>	0.3	0.8	-	-	<0.1	0.2	0.3	0.4	0.2
<i>Sebastes serrano</i> ./ <i>S. flavidus</i> (yoy)	-	-	-	-	0.6	0.9	-	-	0.1
<i>Sebastes serranoi</i> ./ <i>S. flavidus</i> (juv.)	-	-	-	-	0.4	0.5	-	-	0.1
<i>Sebastes atrovirens</i>	-	-	0.4	0.4	-	-	-	-	0.1
<i>Brachyistius frenatus</i>	0.3	0.4	-	-	-	-	<0.1	0.2	0.1
<i>Embiotoca lateralis</i>	-	-	-	-	<0.1	0.2	0.2	0.3	<0.1
<i>Aulorhynchus flavidus</i> (juv.)	-	-	0.3	0.6	-	-	-	-	<0.1
<i>Brachyistius frenatus</i> (juv.)	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Embiotoca jacksoni</i>	-	-	-	-	-	-	<0.1	0.2	<0.1
<i>Embiotoca jacksoni</i> (juv.)	<0.1	0.2	-	-	-	-	-	-	<0.1
Benthic									
<i>Oxylebius pictus</i>	3.0	2.3	4.0	1.5	4.9	3.6	3.5	1.4	3.9
<i>Sebastes mystinus</i> (yoy)	5.6	5.1	0.2	0.4	<0.1	0.2	2.7	3.0	2.1
<i>Embiotoca lateralis</i>	1.8	1.6	0.9	0.8	0.9	0.7	2.4	1.9	1.5
<i>Sebastes mystinus</i> (juv.)	-	-	1.2	1.3	4.0	4.4	0.6	1.4	1.4
<i>Embiotoca lateralis</i> (juv.)	0.8	0.8	0.6	0.7	1.5	1.5	2.1	1.5	1.3
<i>Sebastes chrysomelas</i>	1.3	1.7	1.8	0.3	1.4	0.7	0.2	0.3	1.2
<i>Oxyjulis californica</i>	1.3	2.6	0.8	1.4	-	-	1.9	2.9	1.0
<i>Sebastes paucispinis</i> (juv.)	-	-	-	-	3.5	8.6	-	-	0.9
<i>Gibbonsia</i> spp.	0.9	1.1	0.9	0.7	1.1	0.4	0.5	0.5	0.9
<i>Scorpaenichthys marmoratus</i>	0.8	0.8	1.1	1.1	0.7	0.5	0.7	0.4	0.8
<i>Embiotoca jacksoni</i>	0.8	1.0	0.7	0.4	0.7	0.8	0.9	0.2	0.8
<i>Rhacochilus vacca</i>	1.3	1.7	0.4	0.4	0.4	0.5	0.4	0.4	0.6
<i>Sebastes rastrelliger</i>	0.8	1.0	0.8	0.8	0.4	0.4	0.5	0.5	0.6
<i>Sebastes atrovirens</i>	0.3	0.4	0.3	0.4	0.6	1.0	0.6	0.6	0.4
<i>Embiotoca jacksoni</i> (juv.)	0.2	0.4	0.5	0.6	0.3	0.4	0.3	0.4	0.3
<i>Sebastes chrysomelas</i> (juv.)	0.2	0.3	0.6	0.7	0.3	0.4	<0.1	0.2	0.3
<i>Cebidichthys violaceus</i>	0.3	0.3	0.3	0.3	0.2	0.4	0.3	0.6	0.3
<i>Sebastes chryso</i> ./ <i>S. camatus</i> (yoy)	-	-	-	-	0.9	1.1	-	-	0.2
<i>Rhacochilus toxotes</i>	0.5	0.8	0.2	0.3	<0.1	0.2	<0.1	0.2	0.2
<i>Rhacochilus vacca</i> (juv.)	-	-	-	-	0.7	1.0	<0.1	0.2	0.2
<i>Sebastes serrano</i> ./ <i>S. flavidus</i> (yoy)	-	-	-	-	0.8	1.4	-	-	0.2
<i>Hexagrammos decagrammus</i>	0.2	0.3	0.3	0.3	0.2	0.3	<0.1	0.2	0.2
<i>Sebastes serrano</i> ./ <i>S. flavidus</i> (juv.)	-	-	-	-	0.3	0.6	-	-	<0.1
<i>Ophiodon elongatus</i>	0.2	0.3	-	-	-	-	0.2	0.3	<0.1
<i>Rhinogobiops nicholsi</i>	-	-	<0.1	0.2	0.2	0.3	<0.1	0.2	<0.1
<i>Brachyistius frenatus</i>	-	-	-	-	0.3	0.6	-	-	<0.1
<i>Artedius</i> spp.	<0.1	0.2	-	-	<0.1	0.2	<0.1	0.2	<0.1
<i>Orthonopias triacis</i>	-	-	-	-	-	-	0.2	0.3	<0.1
<i>Oxyjulis californica</i> (juv.)	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Semicossyphus pulcher</i>	-	-	-	-	-	-	0.2	0.3	<0.1
<i>Oxylebius pictus</i> (juv.)	-	-	-	-	-	-	0.2	0.3	<0.1

(table continued)

Table H1 (continued). Subtidal fishes survey means (abundance per 50 x 4 x 2 m transect), standard deviations and annual means, Field's Cove Stations (FC FO-1 (1), FC FO-2 (2), FC FO-3 (3)).

Survey	162		163		164		165		Annual Mean
Survey Date	12-Apr-14		5-Jul-14		30-Aug-14		31-Dec-14		
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Benthic (continued)									
<i>Sebastes melanops</i>	-	-	<0.1	0.2	-	-	-	-	<0.1
<i>Girella nigricans</i>	-	-	<0.1	0.2	-	-	-	-	<0.1
<i>Sebastes atrovirens</i> (yoy)	-	-	-	-	<0.1	0.2	-	-	<0.1



Table H2. Subtidal fishes survey means (abundance per 50 x 4 x 2 m transect), standard deviations and annual means, North Diablo Cove Stations (NDC FO-1 (5), NDC FO-2 (6), NDC FO-3 (7)).

Survey Survey Date	162 11-Apr-14		163 4-Jul-14		164 30-Aug-14		165 30-Dec-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Midwater									
Atherinopsidae	1.2	2.7	-	-	2.3	5.5	704.4	281.8	177.0
<i>Oxyjulis californica</i>	0.4	0.4	1.7	1.7	3.5	2.3	0.3	0.8	1.5
<i>Sebastes mystinus</i> (yoy)	1.8	2.3	-	-	-	-	<0.1	0.2	0.5
<i>Brachyistius frenatus</i>	0.3	0.5	0.8	1.2	0.5	0.8	0.2	0.4	0.4
<i>Rhacochilus vacca</i>	1.5	3.1	<0.1	0.2	-	-	-	-	0.4
<i>Oxyjulis californica</i> (juv.)	-	-	-	-	1.6	2.5	-	-	0.4
<i>Sebastes mystinus</i> (juv.)	-	-	<0.1	0.2	1.1	1.2	-	-	0.3
<i>Sebastes serranoides</i>	-	-	1.0	2.5	-	-	-	-	0.3
<i>Girella nigricans</i>	0.5	1.1	<0.1	0.2	<0.1	0.2	<0.1	0.2	0.2
<i>Embiotoca jacksoni</i>	0.3	0.3	0.3	0.3	<0.1	0.2	-	-	0.2
<i>Triakis semifasciata</i>	<0.1	0.2	0.3	0.3	0.3	0.4	-	-	0.2
<i>Brachyistius frenatus</i> (juv.)	-	-	0.5	1.2	-	-	-	-	0.1
<i>Embiotoca lateralis</i>	0.2	0.5	-	-	0.2	0.4	-	-	<0.1
<i>Atherinopsis californiensis</i>	-	-	-	-	-	-	0.3	0.6	<0.1
<i>Medialuna californiensis</i>	-	-	-	-	-	-	0.3	0.6	<0.1
<i>Sebastes chrysom./S. camatus</i> (yoy)	-	-	0.3	0.4	-	-	-	-	<0.1
<i>Sebastes serrano./S. flavidus</i> (juv.)	-	-	-	-	0.2	0.3	-	-	<0.1
<i>Rhacochilus toxotes</i>	<0.1	0.2	-	-	-	-	-	-	<0.1
<i>Sebastes atrovirens</i>	-	-	-	-	<0.1	0.2	-	-	<0.1
<i>Sebastes serrano./S. flavidus</i> (yoy)	-	-	-	-	<0.1	0.2	-	-	<0.1
<i>Hypsypops rubicundus</i>	-	-	<0.1	0.2	-	-	-	-	<0.1
Benthic									
<i>Oxyjulis californica</i>	1.2	2.4	7.4	5.9	16.4	10.7	11.1	7.0	9.0
<i>Oxylebius pictus</i>	5.8	2.1	5.0	2.3	8.3	4.5	7.4	5.3	6.6
<i>Sebastes mystinus</i> (yoy)	18.3	11.6	0.3	0.4	0.3	0.6	5.6	5.7	6.1
<i>Embiotoca jacksoni</i>	5.5	2.3	4.8	3.0	4.7	3.1	6.4	1.3	5.4
<i>Rhinogobiops nicholsi</i>	1.7	1.9	3.4	3.8	8.8	3.2	6.6	1.2	5.1
<i>Sebastes mystinus</i> (juv.)	9.6	23.5	1.1	1.3	6.5	4.2	1.3	3.3	4.6
<i>Rhacochilus vacca</i>	10.7	9.6	0.5	0.6	0.4	0.4	0.6	0.7	3.0
<i>Embiotoca jacksoni</i> (juv.)	2.4	1.8	3.0	1.8	3.0	2.0	2.4	2.0	2.7
Atherinopsidae	-	-	-	-	-	-	9.2	15.0	2.3
<i>Rhacochilus vacca</i> (juv.)	1.4	3.5	1.3	1.5	2.2	1.5	0.7	0.8	1.4
<i>Paralabrax clathratus</i> (juv.)	-	-	-	-	<0.1	0.2	4.1	3.9	1.0
<i>Sebastes chrysomelas</i>	1.8	2.4	1.7	1.6	0.3	0.3	0.3	0.3	1.0
<i>Sebastes serrano./S. flavidus</i> (juv.)	-	-	-	-	3.1	2.6	-	-	0.8
<i>Brachyistius frenatus</i>	0.3	0.4	<0.1	0.2	0.8	1.8	1.8	2.3	0.8
<i>Oxyjulis californica</i> (juv.)	1.3	3.1	0.3	0.4	1.0	1.6	-	-	0.6
<i>Gibbonsia</i> spp.	0.4	1.0	0.7	0.8	0.9	0.6	0.3	0.3	0.6
<i>Medialuna californiensis</i>	-	-	-	-	-	-	2.0	2.5	0.5
<i>Embiotoca lateralis</i> (juv.)	0.3	0.6	0.6	0.7	0.8	1.6	0.3	0.4	0.5
<i>Embiotoca lateralis</i>	0.4	0.6	0.3	0.4	0.3	0.6	0.6	1.4	0.4
<i>Sebastes serrano./S. flavidus</i> (yoy)	<0.1	0.2	0.2	0.3	0.3	0.6	0.8	1.1	0.3
<i>Girella nigricans</i>	0.5	1.2	0.3	0.6	-	-	0.5	0.6	0.3
<i>Rhinogobiops nicholsi</i> (juv.)	-	-	1.2	1.0	-	-	-	-	0.3

(table continued)



Table H2 (continued). Subtidal fishes survey means (abundance per 50 x 4 x 2 m transect), standard deviations and annual means, North Diablo Cove Stations (NDC FO-1 (5), NDC FO-2 (6), NDC FO-3 (7)).

Survey	162		163		164		165		Annual Mean
Survey Date	11-Apr-14		4-Jul-14		30-Aug-14		30-Dec-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Benthic (continued)									
<i>Sebastes serranoides</i>	0.2	0.3	0.7	1.6	<0.1	0.2	-	-	0.2
<i>Scorpaenichthys marmoratus</i>	0.2	0.3	0.2	0.4	0.3	0.4	0.3	0.3	0.2
<i>Sebastes atrovirens</i>	0.5	0.8	<0.1	0.2	-	-	0.2	0.4	0.2
<i>Ophiodon elongatus</i>	0.2	0.4	-	-	-	-	0.4	0.4	0.1
<i>Artedius</i> spp.	0.2	0.3	0.2	0.4	0.2	0.4	<0.1	0.2	0.1
<i>Paralabrax clathratus</i>	-	-	0.4	0.6	0.2	0.4	-	-	0.1
<i>Semicossyphus pulcher</i>	0.3	0.3	-	-	-	-	0.3	0.4	0.1
<i>Sebastes rastrelliger</i>	-	-	0.2	0.3	0.2	0.4	<0.1	0.2	0.1
<i>Sebastes rastrelliger</i> (juv.)	<0.1	0.2	0.2	0.4	0.2	0.4	-	-	0.1
<i>Urobatis halleri</i>	<0.1	0.2	0.2	0.3	-	-	0.2	0.3	0.1
<i>Chromis punctipinnis</i> (juv.)	-	-	-	-	0.3	0.6	-	-	<0.1
<i>Triakis semifasciata</i>	<0.1	0.2	<0.1	0.2	<0.1	0.2	-	-	<0.1
<i>Sebastes melanops</i> (yoy)	-	-	0.2	0.4	-	-	<0.1	0.2	<0.1
<i>Sebastes chrysom./S. camatus</i> (yoy)	-	-	0.2	0.4	<0.1	0.2	-	-	<0.1
<i>Hypsypops rubicundus</i>	-	-	<0.1	0.2	-	-	0.2	0.3	<0.1
<i>Scorpaenichthys marmoratus</i> (juv.)	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Brachyistius frenatus</i> (juv.)	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Paralabrax nebulifer</i>	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Hypsurus caryi</i> (juv.)	-	-	-	-	<0.1	0.2	-	-	<0.1
<i>Orthonopias triacis</i>	-	-	-	-	-	-	<0.1	0.2	<0.1
<i>Pleuronichthys coenosus</i>	-	-	-	-	<0.1	0.2	-	-	<0.1
<i>Hexagrammos decagrammus</i> (juv.)	-	-	-	-	<0.1	0.2	-	-	<0.1
<i>Sebastes chrysomelas</i> (juv.)	-	-	<0.1	0.2	-	-	-	-	<0.1
<i>Neoclinus stephensae</i>	-	-	-	-	-	-	<0.1	0.2	<0.1
<i>Sebastes atrovirens</i> (yoy)	-	-	-	-	-	-	<0.1	0.2	<0.1
<i>Oxylebius pictus</i> (juv.)	-	-	<0.1	0.2	-	-	-	-	<0.1
<i>Gymnothorax mordax</i>	-	-	<0.1	0.2	-	-	-	-	<0.1



Table H3. Subtidal fishes survey means (abundance per 50 x 4 x 2 m transect), standard deviations and annual means, South Diablo Cove Stations (SDC FO-1 (8), SDC FO-2 (9), SDC FO-3 (10)).

Survey	162		163		164		165		Annual Mean
Survey Date	9-Apr-14		5-Jul-14		31-Aug-14		31-Dec-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Midwater									
Atherinopsidae	-	-	8.8	19.3	67.3	69.2	6.8	10.7	20.7
Brachyistius frenatus	1.6	1.3	0.5	0.8	3.8	6.3	1.9	3.4	1.9
Sebastes serrano./S. flavidus (juv.)	-	-	4.3	10.4	3.0	3.5	<0.1	0.2	1.8
Oxyjulis californica (juv.)	-	-	-	-	0.5	0.6	6.7	10.1	1.8
Brachyistius frenatus (juv.)	-	-	3.4	2.5	0.4	0.5	2.9	7.1	1.7
Oxyjulis californica	0.7	1.2	2.3	3.3	2.2	1.2	-	-	1.3
Sebastes serrano./S. flavidus (yoy)	-	-	2.8	3.8	1.9	4.5	-	-	1.2
Atherinopsis californiensis	-	-	-	-	3.1	5.1	-	-	0.8
Embiotoca jacksoni	1.0	1.0	-	-	0.7	0.8	1.1	1.1	0.7
Rhacochilus vacca	0.5	0.8	1.5	1.6	0.3	0.4	0.2	0.4	0.6
Rhacochilus vacca (juv.)	-	-	1.4	3.0	-	-	-	-	0.4
Sebastes atrovirens	-	-	0.5	0.6	0.3	0.4	0.2	0.3	0.2
Girella nigricans	0.9	2.3	-	-	-	-	-	-	0.2
Sebastes serranoides	-	-	0.7	1.2	<0.1	0.2	-	-	0.2
Sebastes chrysom./S. camatus (yoy)	-	-	0.8	1.2	-	-	-	-	0.2
Sebastes mystinus (juv.)	0.3	0.6	0.2	0.3	0.2	0.3	-	-	0.1
Paralabrax clathratus	-	-	-	-	-	-	0.3	0.3	<0.1
Sebastes paucispinis (juv.)	-	-	<0.1	0.2	-	-	-	-	<0.1
Paralabrax clathratus (juv.)	-	-	-	-	<0.1	0.2	-	-	<0.1
Medialuna californiensis	<0.1	0.2	-	-	-	-	-	-	<0.1
Semicossyphus pulcher	<0.1	0.2	-	-	-	-	-	-	<0.1
Benthic									
Oxyjulis californica (juv.)	-	-	-	-	-	-	17.6	38.0	4.4
Rhacochilus vacca	3.8	7.6	7.6	8.2	0.3	0.8	0.5	0.8	3.1
Oxylebius pictus	3.0	2.2	0.4	0.5	3.2	2.1	3.0	3.9	2.4
Aulorhynchus flavidus (juv.)	-	-	0.8	1.8	8.1	16.8	-	-	2.2
Brachyistius frenatus	0.3	0.4	0.9	1.1	1.0	1.7	5.1	8.3	1.8
Rhinogobiops nicholsi	1.1	1.1	0.9	1.6	3.0	2.4	2.1	2.0	1.8
Sebastes serranoides/S. flavidus	0.3	0.6	5.8	3.1	0.5	0.8	0.3	0.4	1.7
Citharichthys spp.	0.3	0.6	1.9	2.5	3.7	2.9	0.2	0.4	1.5
Sebastes chrysomelas	2.3	2.6	0.8	1.6	1.2	0.8	1.4	1.7	1.4
Embiotoca jacksoni	1.8	2.3	1.8	2.3	1.2	1.2	0.8	1.1	1.4
Sebastes caurinus (yoy)	-	-	2.8	4.7	1.3	1.4	-	-	1.0
Sebastes mystinus (juv.)	1.6	3.9	1.7	1.6	0.5	1.0	-	-	0.9
Oxyjulis californica	0.3	0.6	0.5	0.6	0.3	0.6	2.2	2.4	0.8
Rhacochilus vacca (juv.)	-	-	2.3	2.9	0.4	0.8	-	-	0.7
Sebastes rastrelliger	0.6	0.6	0.5	0.5	0.8	0.7	0.6	0.5	0.6
Gibbonsia spp.	0.5	0.3	0.3	0.4	1.2	1.0	0.2	0.4	0.5
Sebastes chryso./S. camatus (yoy)	-	-	1.8	1.8	0.2	0.4	-	-	0.5
Sebastes serrano./S. flavidus (juv.)	-	-	0.3	0.8	1.4	1.2	0.2	0.4	0.5
Sebastes atrovirens	0.3	0.4	1.0	1.6	0.2	0.4	0.4	0.5	0.5
Sebastes mystinus (yoy)	1.8	3.2	-	-	-	-	-	-	0.4
Ophiodon elongatus	0.4	0.5	0.3	0.4	0.4	0.6	0.3	0.4	0.4
Sebastes serranoides	0.2	0.4	1.1	2.2	-	-	-	-	0.3

(table continued)



Table H3 (continued). Subtidal fishes survey means (abundance per 50 x 4 x 2 m transect), standard deviations and annual means, South Diablo Cove Stations (SDC FO-1 (8), SDC FO-2 (9), SDC FO-3 (10)).

Survey Survey Date Taxon	162 9-Apr-14		163 5-Jul-14		164 31-Aug-14		165 31-Dec-14		Annual Mean
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Benthic (continued)									
<i>Embiotoca lateralis</i>	-	-	0.5	0.6	0.6	0.8	<0.1	0.2	0.3
<i>Rhinogobiops nicholsi</i> (juv.)	0.3	0.4	0.8	1.6	-	-	-	-	0.3
<i>Scorpaenichthys marmoratus</i>	0.5	0.5	<0.1	0.2	<0.1	0.2	0.3	0.3	0.2
<i>Pleuronichthys coenosus</i>	0.3	0.4	0.2	0.3	0.3	0.3	<0.1	0.2	0.2
<i>Artedius</i> spp.	0.2	0.3	-	-	0.4	0.8	<0.1	0.2	0.2
<i>Girella nigricans</i>	-	-	-	-	-	-	0.6	1.4	0.1
<i>Sebastes paucispinis</i> (juv.)	-	-	0.6	0.7	-	-	-	-	0.1
<i>Citharichthys stigmatæus</i>	-	-	-	-	0.5	1.2	-	-	0.1
<i>Orthonopias triacis</i>	0.2	0.4	-	-	0.3	0.3	-	-	0.1
<i>Pleuronichthys coenosus</i> (yoy)	-	-	0.2	0.4	0.3	0.6	-	-	0.1
<i>Rhacochilus toxotes</i>	<0.1	0.2	0.2	0.3	<0.1	0.2	-	-	<0.1
<i>Hexagrammos decagrammus</i>	-	-	-	-	0.2	0.4	0.2	0.4	<0.1
<i>Paralabrax clathratus</i>	-	-	-	-	-	-	0.3	0.6	<0.1
<i>Urobatis halleri</i>	0.2	0.4	-	-	-	-	0.2	0.3	<0.1
<i>Citharichthys</i> spp. (juv)	-	-	-	-	0.3	0.6	-	-	<0.1
<i>Paralabrax clathratus</i> (juv.)	-	-	-	-	-	-	0.3	0.6	<0.1
<i>Brachyistius frenatus</i> (juv.)	-	-	<0.1	0.2	0.2	0.4	-	-	<0.1
<i>Aulorhynchus flavidus</i>	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Embiotoca lateralis</i> (juv.)	<0.1	0.2	-	-	<0.1	0.2	-	-	<0.1
<i>Cebidichthys violaceus</i>	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Sebastes rastrelliger</i> (juv.)	-	-	-	-	<0.1	0.2	<0.1	0.2	<0.1
<i>Sebastes chrysomelas</i> (juv.)	-	-	-	-	0.2	0.3	-	-	<0.1
<i>Embiotoca jacksoni</i> (juv.)	-	-	<0.1	0.2	<0.1	0.2	-	-	<0.1
<i>Triakis semifasciata</i>	-	-	-	-	0.2	0.3	-	-	<0.1
<i>Neoclinus stephensae</i>	<0.1	0.2	-	-	-	-	<0.1	0.2	<0.1
<i>Sebastes miniatus</i> (yoy)	-	-	-	-	0.2	0.4	-	-	<0.1
<i>Pleuronichthys</i> spp.	-	-	-	-	0.2	0.3	-	-	<0.1
<i>Hypsurus caryi</i>	-	-	<0.1	0.2	-	-	-	-	<0.1
<i>Heterostichus rostratus</i>	-	-	-	-	<0.1	0.2	-	-	<0.1
<i>Scorpaenichthys marmoratus</i> (juv.)	-	-	-	-	<0.1	0.2	-	-	<0.1
<i>Platyrrhinoidis triseriata</i>	-	-	-	-	<0.1	0.2	-	-	<0.1
<i>Myliobatis californica</i>	-	-	-	-	<0.1	0.2	-	-	<0.1
<i>Oxylebius pictus</i> (juv.)	-	-	-	-	<0.1	0.2	-	-	<0.1



Table H4. Subtidal fishes survey means (abundance per 50 x 4 x 2 m transect), standard deviations and annual means, Patton Cove Stations SC FO-1 (12), SC FO-2 (13), SC FO-3 (14).

Survey Survey Date	162 10-Apr-14		163 7-Jul-14		164 6-Sep-14		165 30-Dec-14		Annual Mean
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Midwater									
larval/post-larval fish	-	-	8.3	20.4	-	-	-	-	2.1
<i>Sebastes chryso./S. camatus</i> (yoy)	-	-	6.9	5.1	-	-	-	-	1.7
<i>Sebastes mystinus</i> (juv.)	-	-	1.8	1.9	3.0	6.2	1.9	3.2	1.7
<i>Oxyjulis californica</i>	0.4	1.0	1.2	1.4	-	-	2.3	3.9	1.0
<i>Sebastes mystinus</i> (yoy)	0.6	1.4	<0.1	0.2	-	-	1.6	1.8	0.6
<i>Brachyistius frenatus</i>	<0.1	0.2	0.6	0.7	<0.1	0.2	1.1	2.0	0.5
<i>Sebastes serrano./S. flavidus</i> (yoy)	-	-	1.4	1.4	<0.1	0.2	0.3	0.6	0.4
<i>Sebastes paucispinis</i> (juv.)	-	-	1.3	3.0	-	-	-	-	0.3
<i>Brachyistius frenatus</i> (juv.)	-	-	-	-	-	-	1.3	3.1	0.3
<i>Oxyjulis californica</i> (juv.)	-	-	-	-	-	-	1.0	2.5	0.3
<i>Sebastes serranoides</i>	-	-	0.7	1.6	<0.1	0.2	-	-	0.2
<i>Embiotoca lateralis</i>	0.2	0.3	<0.1	0.2	-	-	0.2	0.4	0.1
<i>Aulorhynchus flavidus</i>	<0.1	0.2	0.2	0.4	-	-	-	-	<0.1
<i>Sebastes atrovirens</i>	-	-	<0.1	0.2	<0.1	0.2	<0.1	0.2	<0.1
<i>Sebastes serrano./S. flavidus</i> (juv.)	-	-	-	-	<0.1	0.2	<0.1	0.2	<0.1
<i>Rhacochilus vacca</i>	0.2	0.3	-	-	-	-	-	-	<0.1
<i>Sebastes mystinus</i>	-	-	<0.1	0.2	-	-	<0.1	0.2	<0.1
<i>Sebastes caurinus</i> (yoy)	-	-	0.2	0.4	-	-	-	-	<0.1
<i>Rhacochilus toxotes</i>	-	-	-	-	<0.1	0.2	-	-	<0.1
<i>Embiotoca jacksoni</i>	-	-	-	-	<0.1	0.2	-	-	<0.1
Benthic									
<i>Oxylebius pictus</i>	2.5	1.4	6.1	1.6	7.0	2.9	3.8	2.4	4.8
<i>Rhacochilus vacca</i>	1.4	1.7	0.5	0.3	0.8	0.8	10.4	13.8	3.3
<i>Sebastes mystinus</i> (yoy)	3.9	5.0	1.0	1.1	1.2	0.8	6.6	5.4	3.2
<i>Sebastes mystinus</i> (juv.)	2.9	5.4	4.9	3.8	2.5	2.2	1.1	1.4	2.9
<i>Sebastes chrysomelas</i>	2.2	1.4	2.4	1.3	2.1	0.9	1.9	1.7	2.1
<i>Embiotoca lateralis</i>	1.3	0.9	1.1	1.1	2.8	1.1	3.0	0.7	2.0
<i>Embiotoca jacksoni</i>	1.4	1.7	0.6	0.7	2.1	1.5	2.1	2.1	1.5
<i>Embiotoca lateralis</i> (juv.)	0.6	0.4	1.6	1.4	1.6	0.6	2.2	1.3	1.5
<i>Sebastes atrovirens</i>	2.4	1.3	0.2	0.4	0.9	0.6	1.8	1.4	1.3
<i>Hexagrammos decagrammus</i>	0.3	0.3	1.2	0.6	1.2	1.3	0.8	0.3	0.9
<i>Scorpaenichthys marmoratus</i>	1.1	0.6	0.7	0.5	0.9	0.5	0.8	0.6	0.9
<i>Sebastes rastrelliger</i>	0.3	0.4	0.5	0.6	0.9	0.9	1.0	1.1	0.7
<i>Embiotoca jacksoni</i> (juv.)	0.2	0.4	0.2	0.3	1.7	1.6	0.6	1.0	0.6
<i>Gibbonsia</i> spp.	0.2	0.3	0.7	0.5	0.7	0.8	0.6	0.4	0.5
<i>Ophiodon elongatus</i>	0.3	0.4	0.6	1.0	0.5	0.5	0.5	0.6	0.5
<i>Rhinogobiops nicholsi</i>	<0.1	0.2	<0.1	0.2	0.8	1.4	0.8	1.0	0.5
<i>Brachyistius frenatus</i>	0.2	0.4	<0.1	0.2	0.3	0.6	1.3	1.6	0.5
<i>Rhacochilus toxotes</i>	0.3	0.6	-	-	0.3	0.4	0.8	1.0	0.4
<i>Orthonopias triacis</i>	0.3	0.3	0.2	0.3	0.4	0.4	0.6	0.6	0.4
<i>Sebastes serrano./S. flavidus</i> (yoy)	0.3	0.3	-	-	0.6	0.7	0.3	0.6	0.3
<i>Oxyjulis californica</i> (juv.)	-	-	0.3	0.6	-	-	0.5	0.8	0.2
<i>Sebastes serrano./S. flavidus</i> (juv.)	-	-	-	-	0.6	0.7	<0.1	0.2	0.2
<i>Sebastes chryso./S. camatus</i> (yoy)	-	-	0.5	0.5	<0.1	0.2	<0.1	0.2	0.2

(table continued)



Table H4 (continued). Subtidal fishes survey means (abundance per 50 x 4 x 2 m transect), standard deviations and annual means, Patton Cove Stations SC FO-1 (12), SC FO-2 (13), SC FO-3 (14).

Survey	162		163		164		165		Annual Mean
Survey Date	10-Apr-14		7-Jul-14		6-Sep-14		30-Dec-14		
Taxon	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Benthic (continued)									
<i>Oxyjulis californica</i>	-	-	-	-	-	-	0.6	0.9	0.1
<i>Hexagrammos decagrammus</i> (juv.)	-	-	<0.1	0.2	0.5	0.6	-	-	0.1
<i>Sebastes serranoides</i>	<0.1	0.2	0.3	0.4	<0.1	0.2	0.2	0.3	0.1
<i>Artedius</i> spp.	-	-	0.2	0.3	0.3	0.4	0.2	0.4	0.1
<i>Rhacochilus vacca</i> (juv.)	-	-	<0.1	0.2	0.3	0.4	-	-	0.1
<i>Hypsurus caryi</i>	-	-	-	-	0.3	0.6	-	-	<0.1
<i>Cebidichthys violaceus</i>	<0.1	0.2	-	-	<0.1	0.2	<0.1	0.2	<0.1
<i>Scorpaenichthys marmoratus</i> (juv.)	-	-	0.2	0.3	<0.1	0.2	-	-	<0.1
<i>Brachyistius frenatus</i> (juv.)	0.2	0.4	-	-	-	-	-	-	<0.1
<i>Rhinogobiops nicholsi</i> (juv.)	-	-	-	-	-	-	0.2	0.4	<0.1
<i>Aulorhynchus flavidus</i>	<0.1	0.2	-	-	-	-	-	-	<0.1
<i>Sebastes melanops</i>	-	-	-	-	-	-	<0.1	0.2	<0.1
<i>Pleuronichthys coenosus</i>	<0.1	0.2	-	-	-	-	-	-	<0.1
<i>Sebastes chrysomelas</i> (juv.)	-	-	<0.1	0.2	-	-	-	-	<0.1
<i>Jordania zonope</i>	-	-	<0.1	0.2	-	-	-	-	<0.1
<i>Oxylebius pictus</i> (juv.)	-	-	-	-	<0.1	0.2	-	-	<0.1

