

APPENDIX A  
DATA BASE DESCRIPTION



**DATA BASE DESCRIPTION**

for the

**SOUTHERN CALIFORNIA EMAP PILOT PROJECT  
BPTCP LEGS 34 & 36**

A Report prepared for the

California State Water Resources Control Board  
Bays and Estuaries Unit  
Bay Protection and Toxic Cleanup Program

by the

California Department of Fish and Game  
Marine Pollution Studies Laboratories  
7711 Sandholdt Road  
Moss Landing, CA 95039

November, 1995



## I. OVERVIEW OF THE BAY PROTECTION PROGRAM

The California State Water Resources Control Board (SWRCB) has contracted the California Department of Fish and Game (CDFG) to coordinate the scientific aspects of the Bay Protection and Toxic Cleanup Program (BPTCP), a SWRCB program mandated by the California Legislature. The BPTCP is a comprehensive, long-term effort to regulate toxic pollutants in California's enclosed bays and estuaries. The program consists of both short-term and long-term activities. The short-term activities include the identification and priority ranking of toxic hot spots, development and implementation of regional monitoring programs designed to identify toxic hot spots, development of narrative sediment quality objectives, development and implementation of cleanup plans, revision of waste discharge requirements as needed to alleviate impacts of toxic pollutants, and development of a comprehensive database containing information pertinent to describing and managing toxic hot spots. The long-term activities include development of numeric sediment quality objectives; development and implementation of strategies to prevent the formation of new toxic hot spots and to reduce the severity of effects from existing toxic hot spots; revision of water quality control plans, cleanup plans, and monitoring programs; and maintenance of the comprehensive database.

Actual field and laboratory work is performed under contract by the California Department of Fish and Game (CDFG). The CDFG subcontracts the toxicity testing to Dr. Ron Tjeerdema at the University of California at Santa Cruz (UCSC) and the laboratory testing is performed at the CDFG toxicity testing laboratory at Granite Canyon, south of Carmel. The CDFG contracts the majority of the sample collection activities to Dr. John Oliver of San Jose State University at the Moss Landing Marine Laboratories (MLML) in Moss Landing. Dr. Oliver also is subcontracted to perform the TOC and grain size analyses, as well as to perform the benthic community analyses. CDFG personnel perform the trace metals analyses at the trace metals facility at Moss Landing Marine Laboratories in Moss Landing. The synthetic organic pesticides, PAHs and PCBs are contracted by CDFG to Dr. Ron Tjeerdema at the UCSC trace organics facility at Long Marine Laboratory in Santa Cruz. MLML currently maintains the Bay Protection and Toxic Cleanup Database for the SWRCB. Described below is a description of that database system.

## II. DESCRIPTION OF COMPUTER FILES

The sample collection/field information, chemical, and toxicity data are stored on hard copy, computer disks and on a 486DX PC at Moss Landing Marine Laboratories. Access is limited to Russell Fairey. Contact Russell Fairey at (408) 633-6035 for copies of data. The data are stored in a dBase 4 program and can be exported to a variety of formats. There are three backups of this database stored in two different laboratories. The data are entered into 1 of 2 files. CHEM3436.DBF file contains collection and chemical data. TOX3436.DBF file contains toxicity test data and associated water quality data. A hardcopy printout of the dBase database structure is attached, showing precise characteristics of each field.

The CHEM3436.DBF file is the chemistry data file which contains the following fields (the number at the start of each field is the field number):

1. STANUM. This numeric field is 7 characters wide with 1 decimal place and contains the CDFG station numbers that are used statewide. The format is YXXXX.Z where Y is the Regional Water Quality Control Board Region number and XXXX is the number that corresponds to a given location or site and Z is the number of the station within that site. An example is Los Penasquitos Lagoon, where the STANUM is 95006.0. The 9 indicates Region 9. The 0006 indicates that it is Site #6 and the .0 is the replicate (if any) at the station within Site 6.
2. STATION. This character field is 30 characters wide and contains the exact name

of the station.

3. IDORG. This numeric field is 8 characters wide and contains the unique i.d. organizational number for the sample. For each station collected on a unique date, an idorg sample number is assigned. This should be the field that links the collection, toxicity, chemical, and other data bases.

4. DATE. This date field is 8 characters long and is the date that each sample was collected in the field. It is listed as MM/DD/YY.

5. LEG. This numeric field is 6 characters wide and is the leg number of the project in which the sample was collected.

6. LATITUDE. This character field is 12 characters wide and contains the latitude of the center of the station sampled. The format is a character field as follows: XX,YY,ZZ, where XX is in degrees, YY is in minutes, and ZZ is in seconds or hundreds.

7. LONGITUDE. This character field is 14 characters wide and contains the longitude of the center of the station sampled. The format is a character field as follows: XX,YY,ZZ, where XXX is in degrees, YY is in minutes, and ZZ is in seconds or hundreds.

8. HUND\_SECS. This character is 1 character wide and contains the designation "h" if the latitude and longitude are given in degrees, minutes, hundredths of a minute. The designation "s" is given when latitude and longitude are given in degrees, minutes, seconds.

9. GISLAT. This numeric field is 12 characters wide with 8 decimal places and contains the latitude of the station sampled in Geographical Information System format. The format is a numeric field as follows: XX.YYYYYYYY, where XX is in degrees and YYYYYYYY is a decimal fraction of the preceding degree.

10. GISLONG. This character field is 14 characters wide with 8 decimal places and contains the longitude of the station sampled. The format is a character field as follows: XXXX.YYYYYYYY where XXXX is in degrees and YYYYYYYY is a decimal fraction of the preceding degree.

11. DEPTH. This character field is 4 characters wide and contains the depth at which the sediment sample was collected, in meters to the nearest one half meter.

12. SALINITY. This character field is 4 characters wide and contains the surface water salinity (in parts per thousand) at the station sampled.

13. SED\_TEXTUR. This character field is 25 characters wide and contains a brief subjective description of the physical texture of the sediment sample.

14. METADATA. This is an index directing the user to tables or files of ancillary data pertinent to associated test or analyses. Character field, width 12.

TRACE METALS IN SEDIMENT are presented in fields 15 through 34. All sediment trace metal results are reported on a dry weight basis in parts per million (ppm).

A. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed.

- B. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected.

Sediment trace metals are numeric fields of varying character width, and including the following elements, listed by field number, then field name as it appears in the database, then numeric character width and number of decimal places:

- 15. TMMOIST. 7.1
- 16. ALUMINUM. 9.2
- 17. ANTIMONY. 7.3
- 18. ARSENIC. 6.3
- 19. CADMIUM. 7.4
- 20. CHROMIUM. 8.3
- 21. COPPER. 7.2
- 22. IRON. 7.1
- 23. LEAD. 6.3
- 24. MANGANESE. 7.2
- 25. MERCURY. 7.4
- 26. NICKEL. 7.3
- 27. SILVER. 7.4
- 28. SELENIUM. 6.3
- 29. TIN. 8.4
- 30. ZINC. 9.4
- 31. ASBATCH. 7.1
- 32. SEBATCH. 7.1
- 33. TMBATCH. The Batch number that the sample was digested in, numeric character width 5 and 1 decimal places.
- 34. TMDATAQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric character width 8. Data qualifier codes are as follows:
  - A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".
  - B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, QA evaluations should be consulted before using the data.
  - C. When QA samples have major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".
  - D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as -3.

SYNTHETIC ORGANICS are presented in fields 35 through 122. All synthetic organic results are reported on a dry weight basis in parts per billion (ppb or ng/g).

- A. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed.
- B. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected.

Synthetic organics are reported on a dry weight basis in parts per billion (ppb or ng/g) and are numeric fields of varying character width, and include the following compounds, listed by field number, then field name as it appears in database (and followed by the compound name if not obvious), and then finally, the numeric character width and number of decimal places is given:

- 35. SOWEIGHT. This numeric field is 12 characters wide with 2 decimal places and

contains the weight of the sample extracted for analysis.

36. SOMOIST. This numeric field is 10 characters wide with 2 decimal places and contains the percent moisture of the sample extracted.

37. ALDRIN. 9.3

38. CCHLOR. cis-Chlordane. 9.3

39. TCHLOR. trans-Chlordane. 9.3

40. ACDEN. alpha-Chlordene. 9.3

41. GCDEN. gamma-Chlordene. 9.3

42. CLPYR. Chlorpyrifos. 8.2

43. DACTH. Dacthal. 9.3

44. OPDDD. o,p'-DDD. 8.2

45. PPDDD. p,p'-DDD. 9.3

46. OPDDE. o,p'-DDE. 8.2

47. PPDDE. p,p'-DDE. 8.2

48. PPDDMS. p,p'-DDMS. 8.2

49. PPDDMU. p,p'-DDMU. 8.2

50. OPDDT. o,p'-DDT. 8.2

51. PPDDT. p,p'-DDT. 8.2

52. DICLB. p,p'-Dichlorobenzophenone. 8.2

53. DIELDRIN. 9.3

54. ENDO\_I. Endosulfan I. 9.3

55. ENDO\_II. Endosulfan II. 8.2

56. ESO4. Endosulfan sulfate. 8.2

57. ENDRIN. 8.2

58. HCHA. alpha HCH 9.3

59. HCHB. beta HCH 8.2

60. HCHG. gamma HCH (Lindane) 9.3

61. HCHD. delta HCH 9.3

62. HEPTACHLOR. 9.3

63. HE. Heptachlor Epoxide. 9.3

64. HCB. Hexachlorobenzene. 9.3

65. METHOXY. Methoxychlor. 8.2

66. MIREX. 9.3

67. CNONA. cis-Nonachlor. 9.3

68. TNONA. trans-nonachlor. 9.3

69. OXAD. Oxadiazon. 8.2

70. OCDAN. Oxychlordane. 9.3

71. TOXAPH. Toxaphene. 7.2

72. TBT. tributyltin. 8.4

73. TBTBATCH. The batch number in which the TBT analysis was performed. This is a numeric field of 5 with 1 decimal places.

74. PESBATCH. The batch number that the sample was extracted in, numeric character width 11 and 2 decimal places.

75. PCB8. 9.3

76. PCB18. 9.3

77. PCB28. 9.3

78. PCB44. 9.3

79. PCB52. 9.3

80. PCB66. 9.3

81. PCB101. 9.3

82. PCB105. 9.3

83. PCB118. 9.3

84. PCB128. 9.3

85. PCB138. 9.3



86. PCB153. 9.3
87. PCB170. 9.3
88. PCB180. 9.3
89. PCB187. 9.3
90. PCB195. 9.3
91. PCB206. 9.3
92. PCB209. 9.3
93. ARO1248. 9.3
94. ARO1254. 9.3
95. ARO1260. 9.3
96. PCBATCH. The batch number that the sample was extracted in, numeric character width 12 and 2 decimal place.
97. ACY. Acenaphthylene. 8.2
98. ACE. Acenaphthene. 8.2
99. ANT. Anthracene. 8.2
100. BAA. Benz[a]anthracene. 8.2
101. BAP. Benzo[a]pyrene. 8.2
102. BBF. Benzo[b]fluoranthrene. 8.2
103. BKF. Benzo[k]fluoranthrene. 8.2
104. BGP. Benzo[ghi]perylene. 8.2
105. BEP. Benzo[e]pyrene. 8.2
106. BPH. Biphenyl. 8.2
107. CHR. Chrysene. 8.2
108. DBA. Dibenz[a,h]anthracene. 8.2
109. DMN. 2,6-Dimethylnaphthalene. 8.2
110. FLA. Fluoranthrene. 8.2
111. FLU. Fluorene. 8.2
112. IND. Indo[1,2,3-cd]pyrene. 8.2
113. MNP1. 1-Methylnaphthalene. 8.2
114. MNP2. 2-Methylnaphthalene. 8.2
115. MPH1. 1-Methylphenanthrene. 8.2
116. NPH. Naphthalene. 8.2
117. PHN. Phenanthrene. 8.2
118. PER. Perylene. 8.2
119. PYR. Pyrene. 8.2
120. TMN. 2,3,4-Trimethylnaphthalene. 8.2
121. PAHBATCH. The batch number that the sample was extracted in, numeric character width 12 and 2 decimal places.
122. SODATAQA. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric character width 12. Data qualifier codes are as follows:
  - A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".
  - B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.
  - C. When QA samples have major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".
  - D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as -3.

SEDIMENT PARTICULATE SIZE ANALYSES DATA. Fields 123-125, with a field name of

"FINES", represents the sediment particulate size ("grain size") analyses data for each station. The grain size results are reported as percent fines.

123. FINES. Sediment grain size (percent fines) for each station. Numeric field, width 5 and 2 decimal places.

A. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed.

B. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected.

124. FINEBATCH. The batch number that the sample was analyzed in, numeric field character width 4.

125. FINEDATAQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric character width 3. Data qualifier codes are as follows:

A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".

B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, QA evaluations should be consulted before using the data.

C. When QA samples have major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".

D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as -3.

SEDIMENT TOTAL ORGANIC CARBON (TOC) ANALYSES DATA. Fields 126-128 present the levels of total organic carbon detected in the sediment samples at each station. All TOC results are reported as percent of dry weight.

126. TOC. Total Organic Carbon (TOC) levels (percent of dry weight) in sediment, for each station. Numeric field, width 6 and 2 decimal places.

A. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed.

B. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected.

127. TOCBATCH. The batch number that the sample was analyzed in, numeric field character width 4.

128. TOCDATAQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric character width 3. Data qualifier codes are as follows:

A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".

B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.

C. When QA samples have major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".

D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as -3.

The TOX3436.DBF file is the toxicity data file which contains the following fields (the number at the start of each field is the field number:

1. STANUM. This numeric field is 7 characters wide with 1 decimal place and contains the CDFG station numbers that are used statewide. The format is YXXXX.Z where Y is the Regional Water Quality Control Board Region number and XXXX is the number that corresponds to a given location or site and Z is the number of the station within that site. An example is Los Penaquitos Lagoon where the STANUM is 95006.0. The 2 indicates Region 9. The 0006 indicates that it is Site 6 and the .0 is the replicate (if any) at the station within Site 6.
2. STATION. This character field is 30 characters wide and contains the exact name of the station.
3. IDORG. This numeric field is 8 characters wide with 0 decimal places and contains the unique i.d. organizational number for the sample. For each station collected on a unique date, an idorg sample number is assigned. This should be the field that links the collection, toxicity, chemical, and other data bases.
4. DATE. This date field is 8 characters long and is the date that each sample was collected in the field. It is listed as MM/DD/YY.
5. LEG. This numeric field is 6 characters wide and is the leg number of the project in which the sample was collected.
6. TYPE. This character field is 7 characters wide and describes whether the sample being tested is an actula field sample (SAM) or a laboratory control (C1, C2, C3).
7. LATITUDE. This character field is 12 characters wide and contains the latitude of the center of the station sampled. The format is a character field as follows: XX,YY,ZZ, where XX is in degrees, YY is in minutes, and ZZ is in seconds or hundreds.
8. LONGITUDE. This character field is 14 characters wide and contains the longitude of the center of the station sampled. The format is a character field as follows: XX,YY,ZZ, where XXX is in degrees, YY is in minutes, and ZZ is in seconds or hundreds.
9. HUND\_SECS. This character field is 1 character wide and contains the designation "h" if the latitude and longitude are given in degrees, minutes and hundredths of a minute. The designation "s" is given when latitude and longitude are given in degrees, minutes and seconds.
10. GISLAT. This numeric field is 12 characters wide with 8 decimal places and contains the latitude of the station sampled in Geographical Information System format. The format is a numeric field as follows: XX.YYYYYYYY, where XX is in degrees and YYYYYYYY is a decimal fraction of the preceding degree.
11. GISLONG. This character field is 14 characters wide with 8 decimal places and contains the longitude of the station sampled. The format is a character field as follows: XXXX.YYYYYYYY where XXXX is in degrees and YYYYYYYY is a decimal fraction of the preceding degree.
12. METADATA. This is an index directing the user to tables or files of ancillary data pertinent to associated test. Character field, width 12.

AMPHIPOD SURVIVAL TOXICITY TEST DATA. The following are descriptions of the field headings for the amphipod (*Ampelisca abdita* (AA) toxicity test using homogenized sediment samples; presented in fields 13 through 23.

13. AA\_MN. Station mean percent survival. Numeric field, width 6 and 0 decimal places.
14. AA\_SD. Station standard deviation of percent survival. Numeric field, width 6 and 0 decimal places.

15.AA\_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single \* represents significance at the .05 level, and double \*\* represents significance at the .01 level. ns = not statistically significant. A "-9" indicates no statistics were run.

Character field, width 5.

16.AA\_BATCH. The batch number that the sample were run in, character width 10.

17.AAQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric width 4. Data qualifier codes are as follows:

A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".

B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.

C. When the QA sample has major exceedences of control criteria requirements and the data is not usable for most assessments and reporting purposes, the value is reported as "-6".

D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as -3.

18.AA\_OTNH3. Total ammonia concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

19. AA\_OUNH3. Unionized ammonia concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

20.AA\_OH2S. Hydrogen sulfide concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 4 decimal places.

21. AA\_ITNH3. Total ammonia concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

22. AA\_IUNH3. Unionized ammonia concentration (ppm in water) interstitial water (water within bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

23.AA\_IH2S. Hydrogen sulfide concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 4 decimal places.

AMPHIPOD SURVIVAL TOXICITY TEST DATA. The following are descriptions of the field headings for the amphipod (*Rhepoxinius abronius*)(RA) toxicity test using homogenized sediment samples; presented in fields 24 through 34.

24. RA\_MN. Station mean percent survival. Numeric field, width 6 and 0 decimal places.
25. RA\_SD. Station standard deviation of percent survival. Numeric field, width 6 and 0 decimal places.
- 26.RA\_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single \* represents significance at the .05 level, and double \*\* represents significance at the .01 level. ns = not statistically significant. A "-9" indicates no statistics were run. Character field, width 5.
- 27.RA\_BATCH. The batch number that the sample were run in, character width 10.
- 28.RAQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric width 4. Data qualifier codes are as follows:
- A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".
  - B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.
  - C. When the QA sample has major exceedences of control criteria requirements and the data is not usable for most assessments and reporting purposes, the value is reported as "-6".
  - D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as -3.
- 29.RA\_OTNH3. Total ammonia concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.
30. RA\_OUNH3. Unionized ammonia concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.
- 31.RA\_OH2S. Hydrogen sulfide concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 4 decimal places.
32. RA\_ITNH3. Total ammonia concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.
33. RA\_IUNH3. Unionized ammonia concentration (ppm in water) interstitial water (water within bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.
- 34.RA\_IH2S. Hydrogen sulfide concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 4 decimal places.

The following are descriptions of the field headings for the sea urchin (*Strongylocentrotus purpuratus*) development toxicity tests (SPPD) using sediment pore (interstitial) water samples; presented in fields 35 through 48. Results are given for undiluted interstitial water (100% pore water) and diluted pore water (50% and 25% pore water).

35.SPPD100\_MN. Station mean percent normal development in 100% pore water. Numeric field, width 6 and 0 decimal places.

36.SPPD100\_SD. Station standard deviation of percent normal development in 100% pore water. Numeric field, width 6 and 0 decimal places.

37.SPPD100\_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single \* represents significance at the .05 level, and double \*\* represents significance at the .01 level. ns = not statistically significant. A "-9" indicates that no statistics were run. Character field, width 5.

38.SPPD\_BATCH. The batch number that the samples were analyzed in, character width 10.

39.SPPDQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric character width 4. Data qualifier codes are as follows:

A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".

B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.

C. When the QA sample has major exceedences of control criteria requirements and the data is not usable for most assessments and reporting purposes, the value is reported as "-6".

D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as -3.

40.SPD\_ITNH3. Total ammonia concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using urchin toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

41.SPD\_IUNH3. Unionized ammonia concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using urchin toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

42.SPD\_IH2S. Hydrogen sulfide concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using urchin toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 4 decimal places.

43.SPPD50\_MN. Station mean percent normal development in 50% pore water. Numeric field, width 6 and 0 decimal places.

44.SPPD50\_SD. Station standard deviation of percent normal development in 50% pore water. Numeric field, width 6 and 0 decimal places.

45.SPPD50\_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single \* represents significance at the .05 level, and double \*\* represents significance at the .01 level. ns = not statistically significant. A "-9" indicates that no statistics were run. Character field,

width 5.

46.SPPD25\_MN. Station mean percent normal development in 25% pore water. Numeric field, width 6 and 0 decimal places.

47.SPPD25\_SD. Station standard deviation of percent normal development in 25% pore water. Numeric field, width 6 and 0 decimal places.

48.SPPD25\_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single \* represents significance at the .05 level, and double \*\* represents significance at the .01 level. ns = not statistically significant. A "-9" indicates that no statistics were run. Character field, width 5.

The following are descriptions of the field headings for the sea urchin (*Strongylocentrotus purpuratus*) fertilization toxicity tests (SPPF) using sediment pore (interstitial) water samples; presented in fields 49 through 61. Results are given for undiluted pore water (100% pore water) and diluted pore water (50% and 25% pore water).

49.SPPF100\_MN. Station mean percent fertilization in 100% pore water. Numeric field, width 6 and 0 decimal places.

50.SPPF100\_SD. Station standard deviation of percent fertilization in 100% pore water. Numeric field, width 6 and 0 decimal places.

51.SPPF100\_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single \* represents significance at the .05 level, and double \*\* represents significance at the .01 level. ns = not statistically significant. A "-9" indicates that no statistics were run. Character field, width 5.

52.SPPF\_BATCH. The batch number that the samples were analyzed in, character width 10.

53.SPPFQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric character width 4. Data qualifier codes are as follows:

A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".

B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.

C. When the QA sample has major exceedences of control criteria requirements and the data is not usable for most assessments and reporting purposes, the value is reported as "-6".

D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as "-3".

54.SPPF\_ITNH3. Total ammonia concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using urchin toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

55.SPPF\_IUNH3. Unionized ammonia concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using urchin toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

56.SPPF\_IH2S. Hydrogen sulfide concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using urchin toxicity tests. When

the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 4 decimal places.

57.SPPF50\_MN. Station mean percent fertilization in 50% pore water. Numeric field, width 6 and 0 decimal places.

58.SPPF50\_SD. Station standard deviation of percent fertilization in 50% pore water. Numeric field, width 6 and 0 decimal places.

59.SPPF50\_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single \* represents significance at the .05 level, and double \*\* represents significance at the .01 level. ns = not statistically significant. A "-9" indicates that no statistics were run. Character field, width 5.

60.SPPF25\_MN. Station mean percent fertilization in 25% pore water. Numeric field, width 6 and 0 decimal places.

61.SPPF25\_SD. Station standard deviation of percent fertilization in 25% pore water. Numeric field, width 6 and 0 decimal places.

62.SPPF25\_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single \* represents significance at the .05 level, and double \*\* represents significance at the .01 level. ns = not statistically significant. A "-9" indicates that no statistics were run. Character field, width 5.



**APPENDIX B**  
**ANALYTICAL CHEMISTRY DATA**  
**SECTION I - SAMPLING DATA**



BPTCP Sampling Dates, Location, Depth, Salinity, and Sediment Texture

STANUM	STATION	IDORG	DATE	LEG	LATITUDE	LONGITUDE
95001.0	AGUA HEDIONDA LAGOON (190)	1380	8/30/94	34	33,08,427N	117,19,363W
95002.0	AGUA HEDIONDA LAGOON (234)	1381	8/30/94	34	33,08,441N	117,19,556W
95003.0	AGUA HEDIONDA LAGOON (FINGER)	1382	8/30/94	34	33,08,690N	117,19,379W
95006.0	LOS PENASQUITOS (319)	1385	8/30/94	34	32,55,937N	117,15,205W
95007.0	LOS PENASQUITOS (331)	1386	8/30/94	34	32,55,753N	117,14,887W
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34	33,36,697N	117,55,389W
95010.0	SAN ELIJO LAGOON (24)	1394	8/30/94	34	33,00,580N	117,16,225W
95011.0	SAN ELIJO LAGOON (269)	1395	8/30/94	34	33,00,460N	117,16,262W
95012.0	SAN ELIJO LAGOON (WASTE SITE)	1396	8/30/94	34	33,00,664N	117,16,526W
95004.0	DANA POINT HARBOR (386)	1383	8/31/94	34	33,27,640N	117,41,902W
95005.0	DANA POINT HARBOR(COMM. BASIN)	1384	8/31/94	34	33,27,645N	117,41,473W
85003.0	NEWPORT BAY (791)	1389	8/31/94	34	33,36,545N	117,53,398W
85005.0	NEWPORT BAY (949)	1391	8/31/94	34	33,36,512N	117,53,721W
95008.0	OCEANSIDE HARBOR (110)	1393	8/31/94	34	33,12,439N	117,23,589W
95013.0	SANTA MARGARITA RIVER (33)	1397	8/31/94	34	33,14,125N	117,24,464W
85001.0	NEWPORT BAY (523)	1387	9/1/94	34	33,38,083N	117,53,454W
85002.0	NEWPORT BAY (616)	1388	9/1/94	34	33,36,980N	117,55,255W
85004.0	NEWPORT BAY (877)	1390	9/1/94	34	33,36,668N	117,54,132W
95026.0	AGUA HEDIONDA LAGOON (144)	1412	9/12/94	36	33,08,758N	117,19,857W
95014.0	AGUA HEDIONDA LAGOON (179)	1413	9/12/94	36	33,08,578N	117,19,518W
95015.0	AGUA HEDIONDA LAGOON (212)	1414	9/12/94	36	33,08,707N	117,20,099W
85007.0	NEWPORT BAY (431)	1418	9/19/94	36	33,38,902N	117,52,633W
85010.0	NEWPORT BAY (819)	1421	9/19/94	36	33,36,889N	117,54,935W
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36	33,36,461N	117,54,717W
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36	33,36,721N	117,55,670W
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36	33,37,251N	117,56,174W
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36	33,37,199N	117,55,697W
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36	33,38,742N	117,53,180W
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36	33,39,022N	117,52,053W
95016.0	DANA POINT HARBOR (396)	1415	9/20/94	36	33,27,530N	117,41,888W
95017.0	DANA POINT HARBOR(STORM DRAIN)	1416	9/20/94	36	33,27,746N	117,42,337W
85008.0	NEWPORT BAY (670)	1419	9/20/94	36	33,37,268N	117,53,660W
85009.0	NEWPORT BAY (705)	1420	9/20/94	36	33,37,195N	117,54,064W
85011.0	NEWPORT BAY (905)	1422	9/20/94	36	33,36,580N	117,54,164W
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36	33,36,411N	117,53,175W
95019.0	OCEANSIDE HARBOR (90)	1430	9/21/94	36	33,12,684N	117,23,700W
95020.0	OCEANSIDE HARBOR (COMM. BASIN)	1431	9/21/94	36	33,12,321N	117,23,387W
95021.0	OCEANSIDE HARBOR (PENDLETON)	1432	9/21/94	36	33,13,066N	117,24,089W
95022.0	OCEANSIDE HARBOR(STORM DRAINS)	1433	9/21/94	36	33,12,731N	117,23,680W
95023.0	SAN ELIJO LAGOON (18)	1434	9/21/94	36	33,00,680N	117,16,431W
95025.0	SANTA MARGARITA RIVER (48)	1436	9/21/94	36	33,13,984N	117,24,647W
95018.0	LOS PENASQUITOS (336)	1417	9/22/94	36	32,55,678N	117,14,803W
95024.0	SAN DIEGUITO LAGOON (306)	1435	9/22/94	36	32,57,879N	117,15,406W

**BPTCP Sampling Dates, Location, Depth, Salinity, and Sediment Texture**

STANUM STATION	IDORG	DEPTH	SALINITY	SED_TEXTURE
95001.0 AGUA HEDIONDA LAGOON (190)	1380	1.5	30	FINE MUD W/ SHELL DEBRIS
95002.0 AGUA HEDIONDA LAGOON (234)	1381	4	35	FINE BROWN MUD
95003.0 AGUA HEDIONDA LAGOON (FINGER)	1382	5	36	FIRM GRITTY
95006.0 LOS PENASQUITOS (319)	1385	2	36	FINE BROWN MUD
95007.0 LOS PENASQUITOS (331)	1386	4	36	FINE BROWN MUD
85006.0 NEWPORT BAY (1009)	1392	4	35	FINE BROWN MUD
95010.0 SAN ELIJO LAGOON (24)	1394	1	29	FINE MUD WITH SAND
95011.0 SAN ELIJO LAGOON (269)	1395	3	35	CLUMPY
95012.0 SAN ELIJO LAGOON (WASTE SITE)	1396	2	35	GRITTY
95004.0 DANA POINT HARBOR (386)	1383	6	36	CREAMY
95005.0 DANA POINT HARBOR(COMM. BASIN)	1384	4	35	SOFT
85003.0 NEWPORT BAY (791)	1389	3	36	CREAMY
85005.0 NEWPORT BAY (949)	1391	4	36	CLUMPS WITH CREAMY MUD
95008.0 OCEANSIDE HARBOR (110)	1393	4	36	CREAMY
95013.0 SANTA MARGARITA RIVER (33)	1397	5	36	CREAMY
85001.0 NEWPORT BAY (523)	1387	3	35	GRITTY
85002.0 NEWPORT BAY (616)	1388	2	30	GRITTY
85004.0 NEWPORT BAY (877)	1390	0.5	23	GRITTY
95026.0 AGUA HEDIONDA LAGOON (144)	1412	2.5	36	FINE MUD W/ MUSCLE CLUMPS
95014.0 AGUA HEDIONDA LAGOON (179)	1413	2	36	CREAMY BROWN MUD
95015.0 AGUA HEDIONDA LAGOON (212)	1414	3	36	RED FINE CREAMY MUD
85007.0 NEWPORT BAY (431)	1418	3	36	SOFT BROWN MUD
85010.0 NEWPORT BAY (819)	1421	3	36	FINE BROWN MUD
85012.0 NEWPORT BAY (1064)	1423	1	32	FINE BLACK MUD
85013.0 NEWPORT BAY (RHINE CHANNEL)	1424	1	34	CLAY MUD
85014.0 NEWPORT BAY (NEWPORT ISLAND)	1425	5	35	GRITTY MUD
85015.0 NEWPORT BAY (ARCHES S. DRAINS)	1426	1	38	FINE BLACK MUD
85017.0 NEWPORT BAY (UNIT II BASIN)	1428	1	37	SOFT BLACK
85018.0 NEWPORT BAY (UNIT I BASIN)	1429	1	38	FINE MUD W/ SAND & CLAY
95016.0 DANA POINT HARBOR (396)	1415	1	32	FINE BROWN MUD
95017.0 DANA POINT HARBOR(STORM DRAIN)	1416	3	36	CREAMY, SMOOTH
85008.0 NEWPORT BAY (670)	1419	2	36	GRITTY
85009.0 NEWPORT BAY (705)	1420	3	36	CREAMY
85011.0 NEWPORT BAY (905)	1422	3	36	CREAMY
85016.0 NEWPORT BAY (YACHTMANS COVE)	1427	0.5	35	CLAY
95019.0 OCEANSIDE HARBOR (90)	1430	4	37	CREAMY
95020.0 OCEANSIDE HARBOR (COMM. BASIN)	1431	5	36	CREAMY
95021.0 OCEANSIDE HARBOR (PENDLETON)	1432	7	36	CREAMY
95022.0 OCEANSIDE HARBOR(STORM DRAINS)	1433	3	36	SMOOTH
95023.0 SAN ELIJO LAGOON (18)	1434	1	40	CLUMPY
95025.0 SANTA MARGARITA RIVER (48)	1436	1	38	CREAMY
95018.0 LOS PENASQUITOS (336)	1417	1	36	GRITTY
95024.0 SAN DIEGUITO LAGOON (306)	1435	2	37	SOFT MUD

**APPENDIX B**  
**ANALYTICAL CHEMISTRY DATA**  
**SECTION II - TRACE METAL CONCENTRATIONS**



Trace Metal Analysis (ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	TMOIST	ALUMINIUM	ANTIMONY	ARSENIC	CADMIUM	CHROMIUM	COPPER	IRON
95001.0	AGUA HEDIONDA LAGOON (190)	1380	30/08/94	34	67.0	82600.00	1.070	9.510	0.1620	73.100	62.90	53700.0
95002.0	AGUA HEDIONDA LAGOON (234)	1381	30/08/94	34	65.7	78000.00	0.975	9.340	0.1360	72.600	57.30	52900.0
95003.0	AGUA HEDIONDA LAGOON (FINGER)	1382	30/08/94	34	73.9	96200.00	1.060	6.470	0.2150	85.200	55.00	56200.0
95004.0	DANA POINT HARBOR (386)	1383	31/08/94	34	56.9	54300.00	0.535	7.690	0.2440	62.300	181.00	27600.0
95005.0	DANA POINT HARBOR(COMM. BASIN)	1384	31/08/94	34	62.4	62500.00	1.260	8.970	0.3490	79.300	139.00	39200.0
95006.0	LOS PENASQUITOS (319)	1385	30/08/94	34	76.0	72100.00	1.030	5.610	0.1970	55.600	26.30	39800.0
95007.0	LOS PENASQUITOS (331)	1386	30/08/94	34	51.7	51600.00	0.992	10.760	0.1120	44.000	17.00	31000.0
85001.0	NEWPORT BAY (523)	1387	01/09/94	34	54.5	86500.00	0.696	5.580	1.0200	61.300	38.70	32800.0
85002.0	NEWPORT BAY (616)	1388	01/09/94	34	62.5	68100.00	0.815	6.730	0.6480	65.700	75.20	37900.0
85003.0	NEWPORT BAY (791)	1389	31/08/94	34	44.6	94200.00	0.575	8.240	0.3200	39.200	42.20	22900.0
85004.0	NEWPORT BAY (877)	1390	01/09/94	34	53.0	52400.00	0.651	8.170	0.6120	60.000	60.30	30900.0
85005.0	NEWPORT BAY (949)	1391	31/08/94	34	69.2	80700.00	1.120	7.260	0.8480	83.100	91.80	48000.0
85006.0	NEWPORT BAY (1009)	1392	30/08/94	34	58.6	61800.00	0.678	7.880	0.4730	59.600	89.30	33600.0
95008.0	OCEANSIDE HARBOR (110)	1393	31/08/94	34	50.9	60000.00	0.547	9.020	0.2080	77.200	87.00	46700.0
95010.0	SAN ELIJO LAGOON (24)	1394	30/08/94	34	67.6	62000.00	0.512	2.810	0.3560	48.200	39.10	39700.0
95011.0	SAN ELIJO LAGOON (269)	1395	30/08/94	34	60.0	61600.00	0.900	1.830	0.3380	44.600	37.00	40500.0
95012.0	SAN ELIJO LAGOON (WASTE SITE)	1396	30/08/94	34	51.5	83500.00	0.542	1.590	0.1900	43.700	18.60	31000.0
95013.0	SANTA MARGARITA RIVER (31)	1397	31/08/94	34	62.4	72900.00	0.669	2.050	0.2610	86.300	40.90	62100.0
95026.0	AGUA HEDIONDA LAGOON (144)	1412	12/09/94	36	50.9	63800.00	0.605	6.130	0.1240	65.000	23.10	18200.0
95014.0	AGUA HEDIONDA LAGOON (179)	1413	12/09/94	36	62.7	69000.00	0.884	9.090	0.0898	76.800	51.90	48800.0
95015.0	AGUA HEDIONDA LAGOON (212)	1414	12/09/94	36	38.1	80700.00	0.488	5.330	0.1480	60.900	13.60	35400.0
95016.0	DANA POINT HARBOR (396)	1415	20/09/94	36	72.0	66100.00	1.000	6.030	0.3360	125.000	48.400	48400.0
95017.0	DANA POINT HARBOR(STORM DRAIN)	1416	20/09/94	36	50.0	81900.00	0.553	8.290	0.2930	89.200	65.30	29400.0
85007.0	NEWPORT BAY (431)	1417	22/09/94	36	54.9	56300.00	1.030	8.920	0.0385	41.400	17.20	30700.0
85008.0	NEWPORT BAY (670)	1418	19/09/94	36	30.6	94500.00	0.366	2.450	0.2270	24.300	5.80	15000.0
85009.0	NEWPORT BAY (705)	1419	20/09/94	36	51.3	82000.00	0.628	6.240	0.8270	48.600	40.80	30000.0
85010.0	NEWPORT BAY (819)	1420	20/09/94	36	52.4	85900.00	0.536	4.870	0.7550	42.500	35.40	27700.0
85011.0	NEWPORT BAY (905)	1421	19/09/94	36	68.3	84100.00	0.980	7.020	0.5930	87.500	82.00	53600.0
85012.0	NEWPORT BAY (1064)	1422	20/09/94	36	59.4	50300.00	0.860	9.360	0.8900	53.200	49.00	32100.0
85013.0	NEWPORT BAY (RHINE CHANNEL)	1423	19/09/94	36	63.0	72900.00	1.010	8.790	1.0700	77.500	60.50	47700.0
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1424	19/09/94	36	64.9	40200.00	1.320	24.800	0.7060	69.600	505.00	37100.0
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1425	19/09/94	36	61.9	59000.00	1.210	10.300	1.2300	76.800	240.00	41400.0
85016.0	NEWPORT BAY (YACHTMANS COVE)	1426	19/09/94	36	45.8	80400.00	1.420	10.600	1.6700	56.300	101.00	27300.0
85017.0	NEWPORT BAY (UNIT II BASIN)	1427	20/09/94	36	34.6	98400.00	0.542	11.500	0.3900	35.700	29.50	22200.0
85018.0	NEWPORT BAY (UNIT I BASIN)	1428	19/09/94	36	49.0	72500.00	0.990	7.340	1.1700	51.100	36.80	30100.0
95019.0	OCEANSIDE HARBOR (90)	1429	19/09/94	36	36.6	96800.00	0.395	4.790	0.5210	30.800	10.70	18200.0
95020.0	OCEANSIDE HARBOR (COMM. BASIN)	1430	21/09/94	36	44.4	74700.00	0.468	9.850	0.1020	69.800	123.00	49400.0
95021.0	OCEANSIDE HARBOR (PENDLETON)	1431	21/09/94	36	50.5	70300.00	0.496	10.600	0.1740	74.400	109.00	55000.0
95022.0	OCEANSIDE HARBOR(STORM DRAINS)	1432	21/09/94	36	65.7	68500.00	1.040	7.270	0.7400	91.800	71.60	54900.0
95023.0	SAN ELIJO LAGOON (18)	1433	21/09/94	36	57.0	74300.00	0.926	8.880	0.1550	74.900	145.00	50600.0
95024.0	SAN DIEGUITO LAGOON (306)	1434	21/09/94	36	67.0	54400.00	0.909	2.690	0.3960	54.900	41.60	44000.0
95025.0	SANTA MARGARITA RIVER (48)	1435	22/09/94	36	53.1	85000.00	0.654	6.330	0.1290	46.700	20.80	36400.0
		1436	21/09/94	36	41.9	85000.00	0.542	5.660	0.2040	71.900	21.60	52900.0

Trace Metal Analysis (ppm-ug/g) (cont'L)

STANUM	STATION	IDORG	DATE	LEG	LEAD	MANGANESE	MERCURY	NICKEL	SILVER	SELENIUM	TIN	ZINC
95001.0	AGUA HEDIONDA LAGOON (190)	1380	30/08/94	34	17,800	325.00	0.0461	28.800	0.1030	-8.0000	3.4600	135.0000
95002.0	AGUA HEDIONDA LAGOON (234)	1381	30/08/94	34	22,000	395.00	0.0446	30.000	0.0997	-8.0000	3.5200	139.0000
95003.0	AGUA HEDIONDA LAGOON (FINGER)	1382	30/08/94	34	26,500	347.00	0.0604	26.900	-8.0000	0.1060	3.5500	138.0000
95004.0	DANA POINT HARBOR (386)	1383	31/08/94	34	21,700	234.00	0.0789	20.800	0.2810	0.1250	3.4500	183.0000
95005.0	DANA POINT HARBOR (COMM. BASIN)	1384	31/08/94	34	26,500	369.00	0.0859	66.700	0.4310	0.1900	4.0000	202.0000
95006.0	LOS PENASQUITOS (319)	1385	30/08/94	34	18,600	340.00	0.0483	19.600	-8.0000	-8.0000	2.3000	118.0000
95007.0	LOS PENASQUITOS (331)	1386	30/08/94	34	11,300	359.00	-8.0000	13.400	-8.0000	-8.0000	1.6400	91.7000
85001.0	NEWPORT BAY (523)	1387	01/09/94	34	22,000	396.00	0.0642	23.400	0.9870	0.1580	2.2800	169.0000
85002.0	NEWPORT BAY (616)	1388	01/09/94	34	35,400	402.00	0.0690	23.800	0.3200	0.2110	3.2600	209.0000
85003.0	NEWPORT BAY (791)	1389	31/08/94	34	24,100	262.00	0.3430	14.100	0.4060	0.1110	1.7200	99.8000
85004.0	NEWPORT BAY (877)	1390	01/09/94	34	24,300	321.00	0.3840	21.900	0.3830	0.1630	2.8400	162.0000
85005.0	NEWPORT BAY (949)	1391	31/08/94	34	37,600	452.00	0.4480	31.800	0.3430	0.2320	3.6900	247.0000
85006.0	NEWPORT BAY (1009)	1392	30/08/94	34	33,600	344.00	0.1810	20.900	0.2700	0.1660	2.7100	190.0000
95008.0	OCEANSIDE HARBOR (110)	1393	31/08/94	34	22,200	600.00	0.1820	24.600	0.1840	0.1410	2.1000	169.0000
95010.0	SAN ELIJO LAGOON (24)	1394	30/08/94	34	20,000	505.00	0.0477	15.400	0.4400	-8.0000	1.3600	123.0000
95011.0	SAN ELIJO LAGOON (269)	1395	30/08/94	34	29,500	569.00	0.0508	13.100	0.3400	-8.0000	1.6600	114.0000
95012.0	SAN ELIJO LAGOON (WASTE SITE)	1396	30/08/94	34	13,700	535.00	-8.0000	9.210	0.2380	-8.0000	1.0800	77.9000
95013.0	SANTA MARGARITA RIVER (13)	1397	31/08/94	34	15,300	748.00	0.0327	30.800	0.1060	0.1200	2.3400	165.0000
95026.0	AGUA HEDIONDA LAGOON (144)	1412	12/09/94	36	15,400	497.00	-8.0000	18.600	-8.0000	-8.0000	1.6100	103.0000
95014.0	AGUA HEDIONDA LAGOON (179)	1413	12/09/94	36	12,200	380.00	0.0451	22.400	-8.0000	-8.0000	2.1100	112.0000
95015.0	AGUA HEDIONDA LAGOON (212)	1414	12/09/94	36	12,300	540.00	-8.0000	16.000	-8.0000	-8.0000	1.1500	91.2000
95016.0	DANA POINT HARBOR (396)	1415	20/09/94	36	34,900	325.00	0.2100	30.900	0.3190	0.2280	4.5500	336.0000
95017.0	DANA POINT HARBOR (STORM DRAIN)	1416	20/09/94	36	26,000	331.00	0.0809	22.100	0.4120	0.1260	1.6100	134.0000
95018.0	LOS PENASQUITOS (336)	1417	22/09/94	36	12,300	486.00	-8.0000	10.900	-8.0000	-8.0000	0.8990	79.1000
85007.0	NEWPORT BAY (431)	1418	19/09/94	36	14,200	409.00	-8.0000	6.790	0.5390	-8.0000	0.8290	46.4000
85008.0	NEWPORT BAY (670)	1419	20/09/94	36	20,400	325.00	0.0776	18.300	0.6140	0.1460	1.4100	141.0000
85009.0	NEWPORT BAY (705)	1420	20/09/94	36	18,200	267.00	0.0820	13.700	0.5830	0.1130	1.3700	136.0000
85010.0	NEWPORT BAY (819)	1421	19/09/94	36	33,300	451.00	0.2370	33.500	0.3520	0.2040	2.7800	237.0000
85011.0	NEWPORT BAY (905)	1422	20/09/94	36	14,800	277.00	0.1400	28.700	0.4800	0.1490	2.6900	155.0000
85012.0	NEWPORT BAY (1064)	1423	19/09/94	36	28,800	347.00	0.1550	20.600	0.4120	0.1860	2.7100	209.0000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	19/09/94	36	78,100	264.00	8.7400	25.100	0.8240	0.2640	8.7700	303.0000
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	19/09/94	36	97,600	394.00	2.0400	30.200	0.6800	0.2690	5.5100	460.0000
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	19/09/94	36	114,000	290.00	0.4430	20.000	0.7680	0.3460	6.9300	359.0000
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	20/09/94	36	25,200	244.00	0.3970	15.400	0.3960	0.1210	1.2900	86.5000
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	19/09/94	36	29,600	341.00	0.0740	25.800	0.8620	0.1540	2.3600	171.0000
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	19/09/94	36	15,800	260.00	-8.0000	10.400	1.0400	-8.0000	1.0400	59.6000
85019.0	OCEANSIDE HARBOR (90)	1430	21/09/94	36	22,400	601.00	0.3680	23.400	0.1230	0.1660	3.1900	176.0000
95020.0	OCEANSIDE HARBOR (COMM. BASIN)	1431	21/09/94	36	28,400	633.00	0.3010	23.300	0.1730	0.1490	2.6300	206.0000
95021.0	OCEANSIDE HARBOR (PENDLETON)	1432	21/09/94	36	25,600	443.00	0.0997	29.700	0.1600	0.2810	2.8100	167.0000
95022.0	OCEANSIDE HARBOR (STORM DRAINS)	1433	21/09/94	36	21,000	532.00	0.4760	22.800	0.1080	0.1850	3.5900	205.0000
95023.0	SAN ELIJO LAGOON (18)	1434	21/09/94	36	23,100	530.00	0.0578	14.700	0.3940	0.1120	2.6600	116.0000
95024.0	SAN DIEGUITO LAGOON (306)	1435	22/09/94	36	15,400	386.00	-8.0000	12.600	0.1840	-8.0000	1.8200	87.2000
95025.0	SANTA MARGARITA RIVER (48)	1436	21/09/94	36	10,100	827.00	-8.0000	16.300	0.1540	-8.0000	2.2100	112.0000



## Trace Metal Analysis (ppm-ug/g) (con't.)

STANUM	STATION	IDORG	DATE	LEG	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
95001.0	AGUA HEDIONDA LAGOON (190)	1380	30/08/94	34	13.1	13.1	13.1	-4
95002.0	AGUA HEDIONDA LAGOON (234)	1381	30/08/94	34	13.1	13.1	13.1	-4
95003.0	AGUA HEDIONDA LAGOON (FINGER)	1382	30/08/94	34	13.1	13.1	13.1	-4
95004.0	DANA POINT HARBOR (386)	1383	31/08/94	34	13.1	13.1	13.1	-4
95005.0	DANA POINT HARBOR (COMM. BASIN)	1384	31/08/94	34	13.1	13.1	13.1	-4
95006.0	LOS PENASQUITOS (319)	1385	30/08/94	34	13.1	13.1	13.1	-4
95007.0	LOS PENASQUITOS (331)	1386	30/08/94	34	13.1	13.1	13.1	-4
85001.0	NEWPORT BAY (323)	1387	01/09/94	34	13.1	13.1	13.1	-4
85002.0	NEWPORT BAY (616)	1388	01/09/94	34	13.1	13.1	13.1	-4
85003.0	NEWPORT BAY (791)	1389	31/08/94	34	13.1	13.1	13.1	-4
85004.0	NEWPORT BAY (877)	1390	01/09/94	34	13.1	13.1	13.1	-4
85005.0	NEWPORT BAY (949)	1391	31/08/94	34	13.1	13.1	13.1	-4
85006.0	NEWPORT BAY (1009)	1392	30/08/94	34	13.1	13.1	13.1	-4
95008.0	OCEANSIDE HARBOR (110)	1393	31/08/94	34	13.1	13.1	13.1	-4
95010.0	SAN ELIJO LAGOON (24)	1394	30/08/94	34	13.1	13.1	13.1	-4
95011.0	SAN ELIJO LAGOON (269)	1395	30/08/94	34	13.1	13.1	13.1	-4
95012.0	SAN ELIJO LAGOON (WASTE SITE)	1396	30/08/94	34	13.1	13.1	13.1	-4
95013.0	SANTA MARGARITA RIVER (33)	1397	31/08/94	34	13.1	13.1	13.1	-4
95026.0	AGUA HEDIONDA LAGOON (144)	1412	12/09/94	36	13.1	13.1	13.1	-4
95014.0	AGUA HEDIONDA LAGOON (179)	1413	12/09/94	36	13.1	13.1	13.1	-4
95015.0	AGUA HEDIONDA LAGOON (212)	1414	12/09/94	36	13.1	13.1	13.1	-4
95016.0	DANA POINT HARBOR (396)	1415	20/09/94	36	13.1	13.1	13.1	-4
95017.0	DANA POINT HARBOR (STORM DRAIN)	1416	20/09/94	36	13.1	13.1	13.1	-4
95018.0	LOS PENASQUITOS (336)	1417	22/09/94	36	13.1	13.1	13.1	-4
85007.0	NEWPORT BAY (431)	1418	19/09/94	36	13.1	13.1	13.1	-4
85008.0	NEWPORT BAY (670)	1419	20/09/94	36	13.1	13.1	13.1	-4
85009.0	NEWPORT BAY (705)	1420	20/09/94	36	13.1	13.1	13.1	-4
85010.0	NEWPORT BAY (819)	1421	19/09/94	36	13.1	13.1	13.1	-4
85011.0	NEWPORT BAY (905)	1422	20/09/94	36	13.2	13.2	13.1	-4
85012.0	NEWPORT BAY (1064)	1423	19/09/94	36	13.2	13.2	13.1	-4
85013.0	NEWPORT BAY (RUINE CHANNEL)	1424	19/09/94	36	13.2	13.2	13.1	-4
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	19/09/94	36	13.2	13.2	13.1	-4
85015.0	NEWPORT BAY (ARCHIES S. DRAINS)	1426	19/09/94	36	13.2	13.2	13.1	-4
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	20/09/94	36	13.2	13.2	13.1	-4
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	19/09/94	36	13.2	13.2	13.1	-4
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	19/09/94	36	13.2	13.2	13.1	-4
95019.0	OCEANSIDE HARBOR (90)	1430	21/09/94	36	13.2	13.2	13.1	-4
95020.0	OCEANSIDE HARBOR (COMM. BASIN)	1431	21/09/94	36	13.2	13.2	13.1	-4
95021.0	OCEANSIDE HARBOR (PENDLETON)	1432	21/09/94	36	13.2	13.2	13.1	-4
95022.0	OCEANSIDE HARBOR (STORM DRAINS)	1433	21/09/94	36	13.2	13.2	13.1	-4
95023.0	SAN ELIJO LAGOON (18)	1434	21/09/94	36	13.2	13.2	13.1	-4
95024.0	SAN DIEGUITO LAGOON (306)	1435	22/09/94	36	13.2	13.2	13.1	-4
95025.0	SANTA MARGARITA RIVER (48)	1436	21/09/94	36	13.2	13.2	13.1	-4



APPENDIX B  
ANALYTICAL CHEMISTRY DATA  
SECTION III - PCB AND AROCHLOR CONCENTRATIONS







APPENDIX B  
ANALYTICAL CHEMISTRY DATA  
SECTION IV - PESTICIDE CONCENTRATIONS







Pesticide Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	OPDDD	FPDDD	OPDDE	FPDDE	FPDDMS	FPDDMU	OPDDT	PPDDT	DICLB	DIELDRIN	ENDO I
95001.0	AGUA HEDIONDA LAGOON (190)	1380	30/08/94	34	2.71	11.200	-8.00	59.80	-8.00	-8.00	5.02	-8.00	-8.00	-8.000	-8.000
95002.0	AGUA HEDIONDA LAGOON (234)	1381	30/08/94	34	2.57	9.790	1.08	51.50	-8.00	-8.00	4.12	-8.00	-8.00	-8.000	-8.000
95003.0	AGUA HEDIONDA LAGOON (FINGER)	1382	30/08/94	34	-8.00	5.770	-8.00	37.80	-8.00	-8.00	-8.00	-8.00	-8.00	1.210	-8.000
95004.0	DANA POINT HARBOR (386)	1383	31/08/94	34	-8.00	1.990	-8.00	6.07	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
95005.0	DANA POINT HARBOR (COMM BASIN)	1384	31/08/94	34	-8.00	2.050	-8.00	8.18	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
95006.0	LOS PENASQUITOS (319)	1385	30/08/94	34	-8.00	-8.000	-8.00	1.09	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
95007.0	LOS PENASQUITOS (331)	1386	30/08/94	34	-8.00	-8.000	-8.00	1.33	-8.00	-8.00	-8.00	-8.00	-8.00	0.608	-8.000
85001.0	NEWPORT BAY (523)	1387	01/09/94	34	2.83	8.750	-8.00	56.00	-8.00	-8.00	3.55	-8.00	-8.00	-8.000	-8.000
85002.0	NEWPORT BAY (616)	1388	01/09/94	34	2.02	8.050	1.31	60.90	-8.00	-8.00	2.44	-8.00	-8.00	-8.000	-8.000
85003.0	NEWPORT BAY (791)	1389	31/08/94	34	1.47	5.310	-8.00	28.20	-8.00	-8.00	1.27	-8.00	-8.00	-8.000	-8.000
85004.0	NEWPORT BAY (877)	1390	01/09/94	34	2.00	8.970	1.30	55.10	-8.00	-8.00	2.38	-8.00	-8.00	-8.000	-8.000
85005.0	NEWPORT BAY (949)	1391	31/08/94	34	2.63	10.800	1.85	62.40	-8.00	-8.00	3.12	-8.00	-8.00	-8.000	-8.000
85006.0	NEWPORT BAY (1009)	1392	30/08/94	34	1.21	4.090	-8.00	39.80	-8.00	-8.00	1.34	-8.00	-8.00	-8.000	-8.000
95008.0	OCEANSIDE HARBOR (110)	1393	31/08/94	34	-8.00	3.450	-8.00	14.20	-8.00	-8.00	1.37	-8.00	-8.00	-8.000	-8.000
95010.0	SAN ELIJO LAGOON (24)	1394	30/08/94	34	2.15	8.270	-8.00	8.84	5.92	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
95011.0	SAN ELIJO LAGOON (269)	1395	30/08/94	34	14.30	91.700	-8.00	12.40	-8.00	32.40	-8.00	-8.00	-8.00	0.760	-8.000
95012.0	SAN ELIJO LAGOON (WASTE SITE)	1396	30/08/94	34	-8.00	4.930	-8.00	5.53	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
95013.0	SANTA MARGARITA RIVER (33)	1397	31/08/94	34	3.81	13.400	1.10	49.90	-8.00	-8.00	2.07	11.20	-8.00	-8.000	-8.000
95026.0	AGUA HEDIONDA LAGOON (144)	1412	12/09/94	36	-8.00	1.730	-8.00	13.30	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
95014.0	AGUA HEDIONDA LAGOON (179)	1413	12/09/94	36	2.45	7.490	-8.00	42.20	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
95015.0	AGUA HEDIONDA LAGOON (212)	1414	12/09/94	36	-8.00	0.901	-8.00	4.60	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
95016.0	DANA POINT HARBOR (396)	1415	20/09/94	36	2.08	5.660	-8.00	1.44	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
95017.0	DANA POINT HARBOR (STORM DRAIN)	1416	19/09/94	36	-8.00	2.240	-8.00	10.10	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
95018.0	LOS PENASQUITOS (336)	1417	22/09/94	36	-8.00	-8.000	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
85007.0	NEWPORT BAY (431)	1418	19/09/94	36	-8.00	2.800	-8.00	8.83	-8.00	-8.00	18.30	-8.00	-8.00	-8.000	-8.000
85008.0	NEWPORT BAY (670)	1419	20/09/94	36	4.75	17.200	1.21	67.20	-8.00	-8.00	-8.00	-8.00	-8.00	1.040	-8.000
85009.0	NEWPORT BAY (705)	1420	20/09/94	36	1.57	6.640	-8.00	27.60	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
85010.0	NEWPORT BAY (819)	1421	19/09/94	36	3.13	14.000	1.70	70.20	-8.00	-8.00	4.41	-8.00	-8.00	0.868	-8.000
85011.0	NEWPORT BAY (905)	1422	20/09/94	36	3.75	14.600	1.24	64.60	-8.00	-8.00	4.06	-8.00	-8.00	0.868	-8.000
85012.0	NEWPORT BAY (1064)	1423	19/09/94	36	3.78	16.300	2.01	87.20	-8.00	-8.00	4.77	-8.00	-8.00	4.880	-8.000
85013.0	NEWPORT BAY (RIIINE CHANNEL)	1424	19/09/94	36	2.66	8.510	-8.00	39.40	-8.00	-8.00	2.21	-8.00	-8.00	-8.000	-8.000
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	19/09/94	36	2.99	11.800	1.41	47.70	-8.00	-8.00	1.26	-8.00	-8.00	1.460	-8.000
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	19/09/94	36	6.32	30.600	2.27	65.60	-8.00	-8.00	9.93	-8.00	-8.00	2.510	-8.000
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	20/09/94	36	1.78	5.630	-8.00	18.40	-8.00	-8.00	-8.00	-8.00	-8.00	0.512	-8.000
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	19/09/94	36	4.91	19.700	-8.00	58.90	-8.00	-8.00	4.46	-8.00	-8.00	-8.000	-8.000
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	19/09/94	36	1.47	5.870	-8.00	20.10	-8.00	-8.00	2.24	-8.00	-8.00	-8.000	-8.000
95019.0	OCEANSIDE HARBOR (90)	1430	21/09/94	36	1.14	3.340	-8.00	9.43	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
95020.0	OCEANSIDE HARBOR (COMM. BASIN)	1431	21/09/94	36	-8.00	1.950	-8.00	11.50	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
95021.0	OCEANSIDE HARBOR (PENDLETON)	1432	21/09/94	36	1.28	3.120	-8.00	12.40	-8.00	-8.00	1.24	-8.00	-8.00	-8.000	-8.000
95022.0	OCEANSIDE HARBOR (STORM DRAINS)	1433	21/09/94	36	-8.00	2.070	-8.00	8.65	-8.00	-8.00	-8.00	-8.00	-8.00	9.040	-8.000
95023.0	SAN ELIJO LAGOON (18)	1434	21/09/94	36	4.09	15.300	-8.00	9.75	-8.00	-8.00	-8.00	-8.00	-8.00	12.700	-8.000
95024.0	SAN DIEGUITO LAGOON (306)	1435	22/09/94	36	1.52	4.110	3.41	36.40	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000
95025.0	SANTA MARGARITA RIVER (48)	1436	21/09/94	36	-8.00	1.080	-8.00	4.80	-8.00	-8.00	-8.00	-8.00	-8.00	-8.000	-8.000



Pesticide Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	MIREX	CNONA	TNONA	OXAD	OC DAN	TOXAPH	TBT	TBTBATCH	PESBATCH
95001.0	AGUA HEDIONDA LAGOON (190)	1380	30/08/94	34	-8.000	0.537	0.956	-8.00	-8.000	60.40	0.0618	20.0	74.30
95002.0	AGUA HEDIONDA LAGOON (234)	1381	30/08/94	34	-8.000	-8.000	0.903	-8.00	-8.000	-8.00	0.0297	20.0	74.40
95003.0	AGUA HEDIONDA LAGOON (FINGER)	1382	30/08/94	34	-8.000	1.070	1.310	-8.00	-8.000	-8.00	0.0910	20.0	74.30
95004.0	DANA POINT HARBOR (386)	1383	31/08/94	34	-8.000	-8.000	0.861	-8.00	-8.000	-8.00	0.7810	20.0	74.40
95005.0	DANA POINT HARBOR(COMM. BASIN)	1384	31/08/94	34	-8.000	-8.000	0.783	-8.00	-8.000	-8.00	0.4510	20.0	74.30
95006.0	LOS PENASQUITOS (319)	1385	30/08/94	34	-8.000	-8.000	0.562	-8.00	-8.000	-8.00	0.0705	20.0	74.30
95007.0	LOS PENASQUITOS (331)	1386	30/08/94	34	-8.000	-8.000	-8.000	-8.00	-8.000	-8.00	0.0281	20.0	74.40
85001.0	NEWPORT BAY (523)	1387	01/09/94	34	-8.000	1.240	2.770	3.41	-8.000	-8.00	-8.0000	22.0	74.40
85002.0	NEWPORT BAY (616)	1388	01/09/94	34	-8.000	1.190	1.720	-8.00	-8.000	-8.00	0.3080	21.0	74.30
85003.0	NEWPORT BAY (791)	1389	01/09/94	34	-8.000	-8.000	0.921	-8.00	-8.000	-8.00	0.0246	21.0	74.40
85004.0	NEWPORT BAY (877)	1390	31/08/94	34	-8.000	1.140	1.890	-8.00	-8.000	-8.00	0.0650	21.0	74.40
85005.0	NEWPORT BAY (949)	1391	31/08/94	34	-8.000	1.160	2.110	-8.00	-8.000	-8.00	0.0330	21.0	74.40
85006.0	NEWPORT BAY (1009)	1392	30/08/94	34	-8.000	0.788	0.933	-8.00	-8.000	-8.00	-8.0000	22.0	74.30
95008.0	OCEANSIDE HARBOR (110)	1393	30/08/94	34	-8.000	-8.000	-8.000	-8.00	-8.000	-8.00	-8.0000	21.0	74.30
95010.0	SAN ELIJO LAGOON (24)	1394	30/08/94	34	-8.000	-8.000	-8.000	-8.00	-8.000	-8.00	-8.0000	21.0	74.40
95011.0	SAN ELIJO LAGOON (269)	1395	30/08/94	34	-8.000	-8.000	-8.000	-8.00	-8.000	-8.00	-8.0000	21.0	74.40
95012.0	SAN ELIJO LAGOON (WASTE SITE)	1396	30/08/94	34	-8.000	-8.000	-8.000	-8.00	-8.000	-8.00	-8.0000	21.0	74.30
95013.0	SANTA MARGARITA RIVER (33)	1397	30/08/94	36	-8.000	-8.000	1.250	-8.00	-8.000	127.00	-8.0000	21.0	74.30
95026.0	AGUA HEDIONDA LAGOON (144)	1412	12/09/94	36	-8.000	-8.000	-8.000	-8.00	-8.000	104.00	-8.0000	22.0	74.10
95014.0	AGUA HEDIONDA LAGOON (179)	1413	12/09/94	36	-8.000	0.602	0.777	-8.00	-8.000	-8.00	0.0455	21.0	74.10
95015.0	AGUA HEDIONDA LAGOON (212)	1414	12/09/94	36	-8.000	-8.000	-8.000	-8.00	-8.000	-8.00	-8.0000	21.0	74.10
95016.0	AGUA HEDIONDA LAGOON (396)	1415	20/09/94	36	-8.000	1.910	2.540	-8.00	-8.000	-8.00	1.8500	21.0	74.10
95017.0	DANA POINT HARBOR(STORM DRAIN)	1416	20/09/94	36	-8.000	0.926	0.973	-8.00	-8.000	-8.00	0.0613	21.0	74.10
95018.0	LOS PENASQUITOS (336)	1417	22/09/94	36	-8.000	-8.000	-8.000	-8.00	-8.000	-8.00	-8.0000	22.0	74.10
85007.0	NEWPORT BAY (431)	1418	19/09/94	36	-8.000	1.800	3.740	-8.00	-8.000	-8.00	-8.0000	22.0	74.20
85008.0	NEWPORT BAY (670)	1419	20/09/94	36	-8.000	0.771	1.320	-8.00	-8.000	-8.00	-8.0000	22.0	74.40
85009.0	NEWPORT BAY (705)	1420	20/09/94	36	-8.000	0.771	1.350	-8.00	-8.000	-8.00	-8.0000	22.0	74.20
85010.0	NEWPORT BAY (819)	1421	19/09/94	36	-8.000	1.350	2.550	-8.00	-8.000	-8.00	-8.0000	22.0	74.40
85011.0	NEWPORT BAY (905)	1422	20/09/94	36	-8.000	1.610	3.160	-8.00	-8.000	-8.00	-8.0000	22.0	74.40
85012.0	NEWPORT BAY (1064)	1423	19/09/94	36	-8.000	1.600	3.030	-8.00	-8.000	-8.00	-8.0000	22.0	74.40
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	19/09/94	36	-8.000	1.800	1.590	-8.00	-8.000	-8.00	2.0700	22.0	74.30
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	19/09/94	36	-8.000	6.410	10.900	-8.00	-8.000	-8.00	0.7100	22.0	74.20
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	19/09/94	36	-8.000	5.960	12.800	-8.00	1.250	-8.00	0.5080	22.0	74.20
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	20/09/94	36	-8.000	-8.000	0.658	-8.00	-8.000	-8.00	-8.0000	22.0	74.20
85017.0	NEWPORT BAY (UNIT I BASIN)	1428	19/09/94	36	-8.000	2.340	4.810	-8.00	-8.000	-8.00	0.1480	23.0	74.30
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	19/09/94	36	-8.000	-8.000	1.050	-8.00	-8.000	-8.00	-8.0000	22.0	74.30
95019.0	OCEANSIDE HARBOR (90)	1430	21/09/94	36	-8.000	-8.000	-8.000	-8.00	-8.000	-8.00	0.1160	22.0	74.10
95020.0	OCEANSIDE HARBOR (COMM. BASIN)	1431	21/09/94	36	-8.000	-8.000	0.649	-8.00	-8.000	-8.00	0.0894	22.0	74.20
95021.0	OCEANSIDE HARBOR (PENDLETON)	1432	21/09/94	36	-8.000	0.544	0.962	-8.00	-8.000	-8.00	0.0959	22.0	74.20
95022.0	OCEANSIDE HARBOR(STORM DRAINS)	1433	21/09/94	36	-8.000	-8.000	-8.000	-8.00	-8.000	-8.00	0.0475	22.0	74.40
95023.0	SAN ELIJO LAGOON (18)	1434	21/09/94	36	-8.000	0.563	0.819	-8.00	-8.000	-8.00	-8.0000	20.0	74.20
95024.0	SAN DIEGUITO LAGOON (306)	1435	22/09/94	36	-8.000	-8.000	-8.000	-8.00	-8.000	-8.00	0.0218	20.0	74.20
95025.0	SANTA MARGARITA RIVER (48)	1436	21/09/94	36	-8.000	-8.000	-8.000	-8.00	-8.000	-8.00	0.0293	20.0	74.20

APPENDIX B  
ANALYTICAL CHEMISTRY DATA  
SECTION V - PAH CONCENTRATIONS





PAH Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	MNP1	MNP2	MPHI	NPH	PHN	PER	PYR	TMN	PAHBAITCH	SODATAQC
95001.0	AGUA HEDIONDA LAGOON (190)	1380	30/08/94	34	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	14.80	-8.00	74.30	-5
95002.0	AGUA HEDIONDA LAGOON (234)	1381	30/08/94	34	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	14.90	-8.00	74.40	-5
95003.0	AGUA HEDIONDA LAGOON (FINGER)	1382	30/08/94	34	-8.00	-8.00	-8.00	-8.00	5.47	-8.00	23.90	-8.00	74.30	-5
95004.0	DANA POINT HARBOR (386)	1383	31/08/94	34	-8.00	-8.00	-8.00	-8.00	13.30	36.20	59.40	-8.00	74.40	-5
95005.0	DANA POINT HARBOR (COMM. BASIN)	1384	31/08/94	34	6.26	6.51	5.09	8.91	23.10	176.00	102.00	-8.00	74.30	-5
95006.0	LOS PENASQUITOS (319)	1385	30/08/94	34	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	10.60	-8.00	74.40	-5
95007.0	LOS PENASQUITOS (331)	1386	30/08/94	34	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	74.40	-5
85001.0	NEWPORT BAY (523)	1387	01/09/94	34	-8.00	-8.00	-8.00	-8.00	17.20	14.60	58.60	-8.00	74.30	-5
85002.0	NEWPORT BAY (616)	1388	01/09/94	34	-8.00	-8.00	-8.00	-8.00	15.80	11.20	55.80	-8.00	74.30	-5
85003.0	NEWPORT BAY (791)	1389	31/08/94	34	-8.00	-8.00	-8.00	-8.00	21.60	14.70	59.80	-8.00	74.40	-5
85004.0	NEWPORT BAY (877)	1390	01/09/94	34	-8.00	-8.00	-8.00	-8.00	15.50	13.60	58.10	-8.00	74.40	-5
85005.0	NEWPORT BAY (949)	1391	31/08/94	34	-8.00	5.87	5.29	5.34	39.80	27.70	112.00	-8.00	74.40	-5
85006.0	NEWPORT BAY (1009)	1392	30/08/94	34	-8.00	-8.00	-8.00	-8.00	16.10	12.50	47.70	-8.00	74.30	-5
95008.0	OCEANSIDE HARBOR (110)	1393	31/08/94	34	-8.00	-8.00	-8.00	-8.00	7.97	8.37	26.00	-8.00	74.30	-5
95010.0	SAN ELIJO LAGOON (24)	1394	30/08/94	34	-8.00	-8.00	-8.00	-8.00	9.20	123.00	26.80	-8.00	74.40	-5
95011.0	SAN ELIJO LAGOON (269)	1395	30/08/94	34	-8.00	-8.00	-8.00	-8.00	-8.00	15.10	11.50	-8.00	74.40	-5
95012.0	SAN ELIJO LAGOON (WASTE SITE)	1396	30/08/94	34	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	11.30	-8.00	74.30	-5
95013.0	SANTA MARGARITA RIVER (33)	1397	31/08/94	34	-8.00	-8.00	-8.00	-8.00	5.98	-8.00	13.90	-8.00	74.10	-5
95014.0	AGUA HEDIONDA LAGOON (144)	1412	12/09/94	36	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	13.00	-8.00	74.10	-5
95016.0	AGUA HEDIONDA LAGOON (179)	1413	12/09/94	36	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	8.48	-8.00	74.10	-5
95015.0	AGUA HEDIONDA LAGOON (212)	1414	12/09/94	36	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	6.57	-8.00	74.10	-5
95017.0	DANA POINT HARBOR (396)	1415	20/09/94	36	-8.00	-8.00	-8.00	-8.00	5.40	13.00	156.00	65.70	74.10	-5
95018.0	DANA POINT HARBOR (STORM DRAIN)	1416	20/09/94	36	-8.00	-8.00	-8.00	-8.00	290.00	102.00	503.00	-8.00	74.10	-5
85007.0	LOS PENASQUITOS (336)	1417	22/09/94	36	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	10.30	-8.00	74.10	-5
85008.0	NEWPORT BAY (431)	1418	19/09/94	36	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	61.50	-8.00	74.10	-5
85009.0	NEWPORT BAY (670)	1419	20/09/94	36	-8.00	-8.00	-8.00	-8.00	17.60	14.00	61.50	-8.00	74.20	-5
85010.0	NEWPORT BAY (705)	1420	20/09/94	36	-8.00	-8.00	-8.00	-8.00	6.62	6.70	26.20	-8.00	74.40	-5
85011.0	NEWPORT BAY (819)	1421	19/09/94	36	-8.00	-8.00	-8.00	-8.00	22.00	16.60	62.20	-8.00	74.40	-5
85012.0	NEWPORT BAY (905)	1422	20/09/94	36	-8.00	-8.00	-8.00	-8.00	24.80	17.40	75.00	-8.00	74.20	-5
85013.0	NEWPORT BAY (1064)	1423	19/09/94	36	-8.00	-8.00	-8.00	-8.00	16.30	16.50	59.10	-8.00	74.20	-5
85014.0	NEWPORT BAY (RHINE CHANNEL)	1424	19/09/94	36	-8.00	5.88	18.10	12.90	106.00	43.50	300.00	-8.00	74.30	-5
85015.0	NEWPORT BAY (NEWPORT ISLAND)	1425	19/09/94	36	8.11	16.00	17.80	23.80	88.00	136.00	315.00	-8.00	74.20	-5
85016.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	19/09/94	36	66.10	95.60	45.50	42.80	474.00	161.00	991.00	16.40	74.20	-5
85017.0	NEWPORT BAY (YACHTMANS COVE)	1427	20/09/94	36	-8.00	-8.00	-8.00	-8.00	73.90	29.40	160.00	-8.00	74.20	-5
85018.0	NEWPORT BAY (UNIT II BASIN)	1428	19/09/94	36	-8.00	9.55	8.89	15.80	55.10	31.30	178.00	-8.00	74.30	-5
95019.0	OCEANSIDE HARBOR (90)	1429	19/09/94	36	-8.00	-8.00	-8.00	-8.00	6.07	5.78	16.80	-8.00	74.10	-5
95020.0	OCEANSIDE HARBOR (COMM. BASIN)	1430	21/09/94	36	-8.00	-8.00	-8.00	-8.00	25.90	6.06	38.00	-8.00	74.20	-5
95021.0	OCEANSIDE HARBOR (PENDLETON)	1432	21/09/94	36	-8.00	-8.00	-8.00	-8.00	12.60	8.73	33.40	-8.00	74.20	-5
95022.0	OCEANSIDE HARBOR (STORM DRAINS)	1433	21/09/94	36	-8.00	-8.00	-8.00	-8.00	12.00	10.70	40.00	-8.00	74.40	-5
95023.0	SAN ELIJO LAGOON (18)	1434	21/09/94	36	-8.00	-8.00	-8.00	-8.00	6.05	-8.00	19.50	-8.00	74.20	-5
95024.0	SAN DIEGO LAGOON (306)	1435	22/09/94	36	-8.00	-8.00	-8.00	-8.00	6.00	25.50	19.80	-8.00	74.20	-5
95025.0	SANTA MARGARITA RIVER (48)	1436	21/09/94	36	-8.00	-8.00	-8.00	-8.00	-8.00	17.20	7.75	-8.00	74.20	-5



APPENDIX B  
ANALYTICAL CHEMISTRY DATA  
SECTION VI - GRAIN SIZE AND TOTAL ORGANIC CARBON



Grain Size and Total Organic Carbon

STANUM	STATION	IDORG	DATE	LEG	FINES	TOC
95001.0	AGUA HEDIONDA LAGOON (190)	1380	30/08/94	34	99.21	2.37
95002.0	AGUA HEDIONDA LAGOON (234)	1381	30/08/94	34	96.15	1.79
95003.0	AGUA HEDIONDA LAGOON (HINGER)	1382	30/08/94	34	98.17	2.42
95004.0	DANA POINT HARBOR (386)	1383	31/08/94	34	53.97	1.05
95005.0	DANA POINT HARBOR(COMM. BASIN)	1384	31/08/94	34	96.39	1.63
95006.0	LOS PENASQUITOS (319)	1385	30/08/94	34	57.32	1.19
95007.0	LOS PENASQUITOS (331)	1386	30/08/94	34	82.24	0.96
85001.0	NEWPORT BAY (523)	1387	01/09/94	34	81.41	1.41
85002.0	NEWPORT BAY (616)	1388	01/09/94	34	64.00	1.26
85003.0	NEWPORT BAY (791)	1389	31/08/94	34	32.80	0.73
85004.0	NEWPORT BAY (877)	1390	01/09/94	34	67.50	1.11
85005.0	NEWPORT BAY (949)	1391	31/08/94	34	97.38	1.82
85006.0	NEWPORT BAY (1009)	1392	30/08/94	34	54.66	1.13
95008.0	OCEANSIDE HARBOR (110)	1393	31/08/94	34	82.19	1.28
95010.0	SAN ELIJO LAGOON (74)	1394	30/08/94	34	81.82	2.66
95011.0	SAN ELIJO LAGOON (769)	1395	30/08/94	34	71.46	2.68
95012.0	SAN ELIJO LAGOON (WASTE SITE)	1396	30/08/94	34	40.29	1.13
95013.0	SANTA MARGARITA RIVER (33)	1397	31/08/94	34	89.89	1.38
95026.0	AGUA HEDIONDA LAGOON (144)	1412	12/09/94	36	62.47	1.03
95014.0	AGUA HEDIONDA LAGOON (179)	1413	12/09/94	36	84.57	1.53
95015.0	AGUA HEDIONDA LAGOON (212)	1414	12/09/94	36	30.00	0.57
95016.0	DANA POINT HARBOR (396)	1415	20/09/94	36	93.49	1.92
95017.0	DANA POINT HARBOR(STORM DRAIN)	1416	20/09/94	36	69.97	1.01
85007.0	NEWPORT BAY (431)	1417	22/09/94	36	94.88	1.09
85008.0	NEWPORT BAY (670)	1418	19/09/94	36	16.10	0.30
85009.0	NEWPORT BAY (705)	1419	20/09/94	36	65.50	1.88
85010.0	NEWPORT BAY (819)	1420	20/09/94	36	47.67	0.85
85011.0	NEWPORT BAY (905)	1421	19/09/94	36	98.58	2.47
85012.0	NEWPORT BAY (1064)	1422	20/09/94	36	95.04	1.49
85013.0	NEWPORT BAY (RHINE CHANNEL)	1423	19/09/94	36	98.83	1.69
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1424	19/09/94	36	64.72	1.98
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1425	19/09/94	36	85.40	3.29
85016.0	NEWPORT BAY (YACHTMANS COVE)	1426	19/09/94	36	44.22	3.80
85017.0	NEWPORT BAY (UNIT II BASIN)	1427	20/09/94	36	27.79	0.56
85018.0	NEWPORT BAY (UNIT I BASIN)	1428	19/09/94	36	62.46	1.93
95019.0	OCEANSIDE HARBOR (90)	1429	19/09/94	36	29.34	0.44
95020.0	OCEANSIDE HARBOR (COMM. BASIN)	1430	21/09/94	36	79.33	2.48
95021.0	OCEANSIDE HARBOR (PENDLETON)	1431	21/09/94	36	69.13	1.31
95022.0	OCEANSIDE HARBOR(STORM DRAINS)	1432	21/09/94	36	95.27	0.73
95023.0	SAN ELIJO LAGOON (18)	1433	21/09/94	36	87.90	1.10
95024.0	SAN DIEGUITO LAGOON (306)	1434	21/09/94	36	74.92	3.03
95025.0	SANTA MARGARITA RIVER (48)	1435	22/09/94	36	59.76	0.84
95025.0	SANTA MARGARITA RIVER (48)	1436	21/09/94	36	65.74	0.75



**APPENDIX B**  
**ANALYTICAL CHEMISTRY DATA**  
**SECTION VII - CHEMISTRY SUMMATIONS AND**  
**QUOTIENTS**



STANUM	STATION	IDORG	LEG	METSUMQE
85001.0	NEWPORT BAY (523)	1387	34	1.6816
85002.0	NEWPORT BAY (616)	1388	34	2.7402
85003.0	NEWPORT BAY (791)	1389	34	1.6242
85004.0	NEWPORT BAY (877)	1390	34	2.0022
85005.0	NEWPORT BAY (949)	1391	34	2.7171
85006.0	NEWPORT BAY (1009)	1392	34	4.1057
85007.0	NEWPORT BAY (431)	1418	36	0.7345
85008.0	NEWPORT BAY (670)	1419	36	1.4314
85009.0	NEWPORT BAY (705)	1420	36	1.2298
85010.0	NEWPORT BAY (819)	1421	36	2.3624
85011.0	NEWPORT BAY (905)	1422	36	1.6887
85012.0	NEWPORT BAY (1064)	1423	36	2.0883
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	36	16.3902
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	36	5.9472
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	36	3.1576
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	36	1.7079
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	36	1.8742
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	36	0.9796
95001.0	AGUA HEDIONDA LAGOON (190)	1380	34	1.7417
95002.0	AGUA HEDIONDA LAGOON (234)	1381	34	1.7150
95003.0	AGUA HEDIONDA LAGOON (FINGER)	1382	34	1.6980
95004.0	DANA POINT HARBOR (386)	1383	34	1.8775
95005.0	DANA POINT HARBOR(COMM. BASIN)	1384	34	3.0450
95006.0	LOS PENASQUITOS (319)	1385	34	1.2970
95007.0	LOS PENASQUITOS (331)	1386	34	1.0753
95008.0	OCEANSIDE HARBOR (110)	1393	34	1.7838
95010.0	SAN ELIJO LAGOON (24)	1394	34	1.1283
95011.0	SAN ELIJO LAGOON (269)	1395	34	1.2347
95012.0	SAN ELIJO LAGOON (WASTE SITE)	1396	34	0.7743
95013.0	SANTA MARGARITA RIVER (33)	1397	34	1.4490
95014.0	AGUA HEDIONDA LAGOON (179)	1413	36	1.4464
95015.0	AGUA HEDIONDA LAGOON (212)	1414	36	0.8900
95016.0	DANA POINT HARBOR (396)	1415	36	3.5001
95017.0	DANA POINT HARBOR(STORM DRAIN)	1416	36	1.6229
95018.0	LOS PENASQUITOS (336)	1417	36	1.0046
95019.0	OCEANSIDE HARBOR (90)	1430	36	2.0952
95020.0	OCEANSIDE HARBOR (COMM. BASIN)	1431	36	2.0209
95021.0	OCEANSIDE HARBOR (PENDLETON)	1432	36	1.9918
95022.0	OCEANSIDE HARBOR(STORM DRAINS)	1433	36	2.4928
95023.0	SAN ELIJO LAGOON (18)	1434	36	1.3203
95024.0	SAN DIEGUITO LAGOON (306)	1435	36	0.9573
95025.0	SANTA MARGARITA RIVER (48)	1436	36	1.0181
95026.0	AGUA HEDIONDA LAGOON (144)	1412	36	1.0625

STANUM	METSUMQP	TTLCHLQE	TTLCHLQP	TTLDDTQE	TTLDDTQP	TTLPCBQE
85001.0	2.5112	1.017	1.273	1.56	1.40	0.052
85002.0	3.5837	0.638	0.800	1.63	1.45	0.156
85003.0	2.1743	0.411	0.515	0.81	0.72	0.129
85004.0	2.7726	0.745	0.933	1.52	1.36	0.183
85005.0	3.6600	0.830	1.040	1.76	1.57	0.122
85006.0	5.0446	0.404	0.505	1.03	0.92	0.228
85007.0	0.9261	0.264	0.330	0.68	0.61	0.025
85008.0	2.0979	1.195	1.497	2.05	1.83	0.051
85009.0	1.8206	0.540	0.676	0.83	0.74	0.058
85010.0	3.3304	0.895	1.121	2.04	1.82	0.091
85011.0	2.3038	1.213	1.520	1.93	1.72	0.064
85012.0	2.8918	1.102	1.380	2.49	2.22	0.072
85013.0	20.1728	0.727	0.910	1.17	1.04	1.025
85014.0	8.1305	4.125	5.167	1.42	1.27	0.526
85015.0	4.4862	5.895	7.384	2.50	2.23	0.314
85016.0	2.2408	0.369	0.462	0.59	0.53	0.072
85017.0	2.5733	2.002	2.507	1.93	1.72	0.088
85018.0	1.5241	0.448	0.562	0.67	0.59	0.025
95001.0	2.2600	0.440	0.551	1.73	1.54	0.025
95002.0	2.2578	0.420	0.525	1.51	1.35	0.025
95003.0	2.2028	0.608	0.762	1.02	0.91	0.025
95004.0	3.2523	0.507	0.635	0.22	0.19	0.096
95005.0	4.2339	0.353	0.442	0.27	0.24	0.061
95006.0	1.4651	0.251	0.314	0.07	0.06	0.025
95007.0	1.1561	0.208	0.261	0.08	0.07	0.025
95008.0	2.6860	0.208	0.261	0.45	0.40	0.047
95010.0	1.6678	0.208	0.261	0.45	0.40	0.030
95011.0	1.5765	0.208	0.261	2.60	2.32	0.030
95012.0	1.0183	0.208	0.261	0.27	0.24	0.025
95013.0	1.9920	0.497	0.622	1.77	1.58	0.029
95014.0	1.8990	0.351	0.440	1.22	1.09	0.025
95015.0	1.1817	0.208	0.261	0.16	0.15	0.025
95016.0	6.2688	1.318	1.651	0.23	0.21	0.025
95017.0	2.5217	0.564	0.707	0.31	0.28	0.099
95018.0	1.0306	0.208	0.261	0.06	0.05	0.025
95019.0	3.1815	0.294	0.368	0.33	0.30	0.074
95020.0	3.0976	0.297	0.372	0.34	0.30	0.065
95021.0	2.7385	0.418	0.524	0.41	0.37	0.077
95022.0	3.5218	0.208	0.261	0.28	0.25	0.080
95023.0	1.7358	0.422	0.529	0.66	0.59	0.025
95024.0	1.2203	0.208	0.261	1.01	0.90	0.025
95025.0	1.4122	0.208	0.261	0.17	0.15	0.025
95026.0	1.3880	0.208	0.261	0.37	0.33	0.025



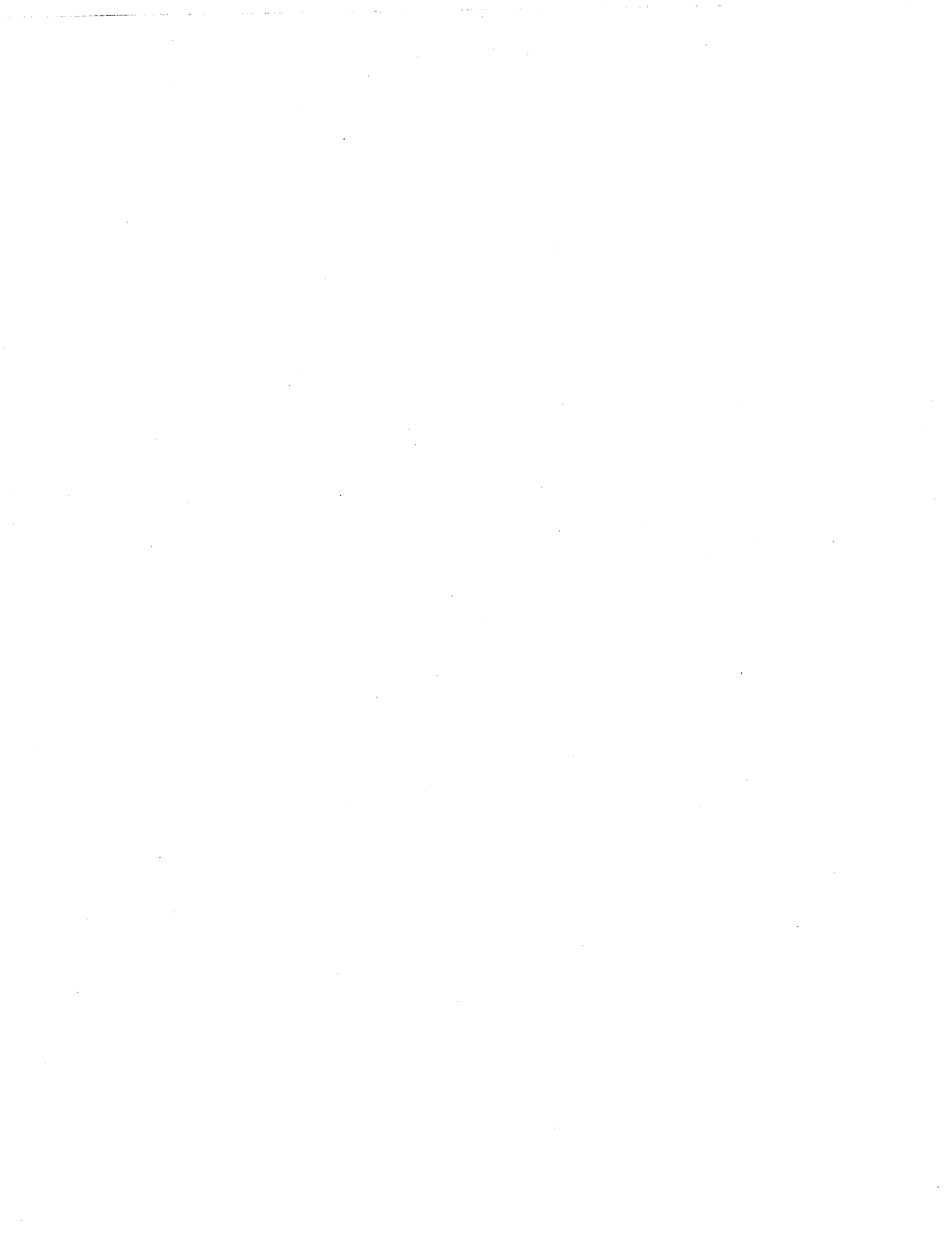
STANUM	TTLPCBQP	LMWPAHQE	LMWPAHQP	HMWPAHQE	HMWPAHQP	TTLPAHQE
85001.0	0.050	0.01415	0.03100	0.04722	0.06790	0.01112
85002.0	0.148	0.01370	0.03003	0.04530	0.06514	0.01068
85003.0	0.123	0.01554	0.03405	0.04791	0.06889	0.01136
85004.0	0.174	0.01361	0.02982	0.04246	0.06105	0.01006
85005.0	0.116	0.02582	0.05658	0.09256	0.13310	0.02166
85006.0	0.217	0.01380	0.03024	0.04866	0.06997	0.01140
85007.0	0.024	0.00949	0.02080	0.00800	0.01150	0.00238
85008.0	0.049	0.01514	0.03318	0.05426	0.07802	0.01270
85009.0	0.055	0.01080	0.02366	0.02153	0.03096	0.00538
85010.0	0.087	0.01733	0.03797	0.05551	0.07982	0.01312
85011.0	0.061	0.01655	0.03627	0.06465	0.09296	0.01502
85012.0	0.069	0.01386	0.03037	0.05106	0.07343	0.01192
85013.0	0.977	0.06615	0.14497	0.26348	0.37887	0.06114
85014.0	0.501	0.06113	0.13395	0.29815	0.42872	0.06821
85015.0	0.299	0.30407	0.66633	0.67354	0.96852	0.16581
85016.0	0.069	0.04180	0.09161	0.12813	0.18424	0.03041
85017.0	0.084	0.03765	0.08250	0.12824	0.18440	0.03014
85018.0	0.024	0.01062	0.02328	0.01315	0.01891	0.00357
95001.0	0.024	0.00949	0.02080	0.01088	0.01565	0.00300
95002.0	0.024	0.00949	0.02080	0.00931	0.01339	0.00267
95003.0	0.024	0.01043	0.02286	0.01642	0.02362	0.00426
95004.0	0.092	0.01291	0.02829	0.03556	0.05114	0.00853
95005.0	0.058	0.02132	0.04672	0.12508	0.17986	0.02831
95006.0	0.024	0.00949	0.02080	0.00778	0.01119	0.00234
95007.0	0.024	0.00949	0.02080	0.00391	0.00562	0.00151
95008.0	0.045	0.01122	0.02460	0.01890	0.02718	0.00484
95010.0	0.028	0.01066	0.02336	0.02274	0.03269	0.00563
95011.0	0.029	0.01161	0.02545	0.03003	0.04319	0.00726
95012.0	0.024	0.00949	0.02080	0.00889	0.01279	0.00258
95013.0	0.028	0.00949	0.02080	0.00846	0.01216	0.00248
95014.0	0.024	0.00949	0.02080	0.01030	0.01481	0.00288
95015.0	0.024	0.00949	0.02080	0.00626	0.00900	0.00201
95016.0	0.024	0.01373	0.03010	0.06814	0.09798	0.01557
95017.0	0.095	0.13197	0.28919	0.30954	0.44511	0.07565
95018.0	0.024	0.00949	0.02080	0.00391	0.00562	0.00151
95019.0	0.070	0.01771	0.03881	0.02521	0.03626	0.00665
95020.0	0.062	0.01269	0.02781	0.02181	0.03135	0.00557
95021.0	0.074	0.01436	0.03147	0.04109	0.05909	0.00982
95022.0	0.076	0.01062	0.02327	0.01303	0.01873	0.00354
95023.0	0.024	0.01060	0.02323	0.01763	0.02535	0.00453
95024.0	0.024	0.00949	0.02080	0.00718	0.01032	0.00221
95025.0	0.024	0.00949	0.02080	0.00391	0.00562	0.00151
95026.0	0.024	0.01059	0.02322	0.00937	0.01347	0.00276

STANUM	TTLPAHQP	ERMQ	PELQ
85001.0	0.02969	4.882	6.411
85002.0	0.02851	5.786	7.219
85003.0	0.03035	3.334	4.374
85004.0	0.02687	4.954	6.299
85005.0	0.05785	6.203	7.858
85006.0	0.03045	6.347	7.859
85007.0	0.00637	1.887	2.465
85008.0	0.03391	5.194	6.476
85009.0	0.01436	3.174	4.403
85010.0	0.03504	6.092	7.722
85011.0	0.04012	5.486	6.821
85012.0	0.03184	6.380	7.807
85013.0	0.16329	21.013	26.190
85014.0	0.18219	13.553	17.699
85015.0	0.44285	13.925	18.012
85016.0	0.08122	3.456	4.794
85017.0	0.08050	6.563	8.214
85018.0	0.00953	2.345	3.333
95001.0	0.00802	4.339	5.281
95002.0	0.00712	4.081	5.075
95003.0	0.01137	3.888	5.048
95004.0	0.02279	3.248	5.295
95005.0	0.07562	4.421	6.317
95006.0	0.00624	2.001	2.701
95007.0	0.00402	1.679	2.247
95008.0	0.01294	2.984	4.438
95010.0	0.01502	2.203	3.238
95011.0	0.01938	4.509	5.166
95012.0	0.00688	1.539	2.235
95013.0	0.00663	4.218	5.235
95014.0	0.00768	3.389	4.273
95015.0	0.00537	1.574	2.354
95016.0	0.04159	6.028	9.893
95017.0	0.20206	3.417	5.203
95018.0	0.00402	1.557	2.055
95019.0	0.01777	3.319	5.015
95020.0	0.01487	3.313	5.022
95021.0	0.02623	3.413	4.784
95022.0	0.00946	3.638	5.278
95023.0	0.01209	3.891	5.770
95024.0	0.00590	4.040	6.024
95025.0	0.00402	1.761	2.658
95026.0	0.00736	1.990	2.791

**APPENDIX C**  
**TOXICITY TEST DATA**  
**SECTION I- AMPHIPOD SURVIVAL**



STANUM	STATION	IDORG	LEG	AA_MN	RA_MN
85001.0	NEWPORT BAY (523)	1387	34		0.29
85002.0	NEWPORT BAY (616)	1388	34		0.58
85003.0	NEWPORT BAY (791)	1389	34		0.72
85004.0	NEWPORT BAY (877)	1390	34		0.70
85005.0	NEWPORT BAY (949)	1391	34		0.63
85006.0	NEWPORT BAY (1009)	1392	34		0.79
85007.0	NEWPORT BAY (431)	1418	36	0.87	0.93
85008.0	NEWPORT BAY (670)	1419	36	0.00	0.57
85009.0	NEWPORT BAY (705)	1420	36	0.87	0.93
85010.0	NEWPORT BAY (819)	1421	36	0.76	0.74
85011.0	NEWPORT BAY (905)	1422	36	0.95	0.80
85012.0	NEWPORT BAY (1064)	1423	36	0.67	0.59
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	36	0.04	0.60
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	36	0.26	0.56
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	36	0.77	0.93
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	36	0.89	0.85
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	36	0.93	0.81
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	36	0.86	0.89
95001.0	AGUA HEDIONDA LAGOON (190)	1380	34		0.85
95002.0	AGUA HEDIONDA LAGOON (234)	1381	34		0.50
95003.0	AGUA HEDIONDA LAGOON (FINGER)	1382	34		0.93
95004.0	DANA POINT HARBOR (386)	1383	34		0.67
95005.0	DANA POINT HARBOR(COMM. BASIN)	1384	34		0.73
95006.0	LOS PENASQUITOS (319)	1385	34		0.23
95007.0	LOS PENASQUITOS (331)	1386	34		0.42
95008.0	OCEANSIDE HARBOR (110)	1393	34		0.79
95010.0	SAN ELIJO LAGOON (24)	1394	34		0.80
95011.0	SAN ELIJO LAGOON (269)	1395	34		0.70
95012.0	SAN ELIJO LAGOON (WASTE SITE)	1396	34		0.63
95013.0	SANTA MARGARITA RIVER (33)	1397	34		0.73
95014.0	AGUA HEDIONDA LAGOON (179)	1413	36	0.89	0.76
95015.0	AGUA HEDIONDA LAGOON (212)	1414	36	0.86	0.95
95016.0	DANA POINT HARBOR (396)	1415	36	0.93	0.86
95017.0	DANA POINT HARBOR(STORM DRAIN)	1416	36	0.96	0.87
95018.0	LOS PENASQUITOS (336)	1417	36	0.84	0.28
95019.0	OCEANSIDE HARBOR (90)	1430	36	0.78	0.82
95020.0	OCEANSIDE HARBOR (COMM. BASIN)	1431	36	0.81	0.80
95021.0	OCEANSIDE HARBOR (PENDLETON)	1432	36	0.81	0.87
95022.0	OCEANSIDE HARBOR(STORM DRAINS)	1433	36	0.83	0.68
95023.0	SAN ELIJO LAGOON (18)	1434	36	0.87	0.78
95024.0	SAN DIEGUITO LAGOON (306)	1435	36	0.94	0.64
95025.0	SANTA MARGARITA RIVER (48)	1436	36	0.81	0.88
95026.0	AGUA HEDIONDA LAGOON (144)	1412	36	0.91	0.95



**APPENDIX C**  
**TOXICITY TEST DATA**  
**SECTION II- SEA URCHIN DEVELOPMENT IN POREWATER**





STANUM	STATION	IDORG	SPPD100_MN	SPPD50_MN	SPPD25_MN
85001.0	NEWPORT BAY (523)	1387	0.00	0.00	0
85002.0	NEWPORT BAY (616)	1388	0.00	0.00	58
85003.0	NEWPORT BAY (791)	1389	0.00	0.00	2
85004.0	NEWPORT BAY (877)	1390	0.00	0.00	34
85005.0	NEWPORT BAY (949)	1391	0.00	0.00	22
85006.0	NEWPORT BAY (1009)	1392	0.00	0.00	23
85007.0	NEWPORT BAY (431)	1418	0.00	0.00	0
85008.0	NEWPORT BAY (670)	1419	0.00	0.00	0
85009.0	NEWPORT BAY (705)	1420	0.00	0.01	51
85010.0	NEWPORT BAY (819)	1421	0.00	0.00	50
85011.0	NEWPORT BAY (905)	1422	0.00	0.00	3
85012.0	NEWPORT BAY (1064)	1423	0.02	0.43	23
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	0.00	0.70	86
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	0.00	0.00	62
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	0.00	0.87	95
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	0.81	0.97	97
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	0.00	0.01	80
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	0.00	0.00	2
95001.0	AGUA HEDIONDA LAGOON (190)	1380	0.43	0.02	78
95002.0	AGUA HEDIONDA LAGOON (234)	1381	0.06	0.00	51
95003.0	AGUA HEDIONDA LAGOON (FINGER)	1382	0.02	0.76	77
95004.0	DANA POINT HARBOR (386)	1383	0.25	0.00	86
95005.0	DANA POINT HARBOR(COMM. BASIN)	1384	0.00	0.00	58
95006.0	LOS PENASQUITOS (319)	1385	0.42	0.92	93
95007.0	LOS PENASQUITOS (331)	1386	0.92	0.93	94
95008.0	OCEANSIDE HARBOR (110)	1393	0.00	0.00	70
95010.0	SAN ELIJO LAGOON (24)	1394	0.00	0.01	56
95011.0	SAN ELIJO LAGOON (269)	1395	0.00	0.39	83
95012.0	SAN ELIJO LAGOON (WASTE SITE)	1396	0.00	0.36	91
95013.0	SANTA MARGARITA RIVER (33)	1397	0.92	0.62	81
95014.0	AGUA HEDIONDA LAGOON (179)	1413	0.56	0.95	92
95015.0	AGUA HEDIONDA LAGOON (212)	1414	0.00	0.00	0
95016.0	DANA POINT HARBOR (396)	1415	0.75	0.96	96
95017.0	DANA POINT HARBOR(STORM DRAIN)	1416	0.67	0.96	94
95018.0	LOS PENASQUITOS (336)	1417	0.00	0.84	97
95019.0	OCEANSIDE HARBOR (90)	1430	0.91	0.96	95
95020.0	OCEANSIDE HARBOR (COMM. BASIN)	1431	0.81	0.96	95
95021.0	OCEANSIDE HARBOR (PENDLETON)	1432	0.36	0.93	95
95022.0	OCEANSIDE HARBOR(STORM DRAINS)	1433	0.98	0.97	97
95023.0	SAN ELIJO LAGOON (18)	1434	0.00	0.00	29
95024.0	SAN DIEGUITO LAGOON (306)	1435	0.17	0.90	98
95025.0	SANTA MARGARITA RIVER (48)	1436	0.00	0.00	71
95026.0	AGUA HEDIONDA LAGOON (144)	1412	0.26	0.31	87



**APPENDIX C**  
**TOXICITY TEST DATA**  
**SECTION III- SEA URCHIN FERTILIZATION**  
**IN POREWATER**



STANUM	STATION	IDORG	SPPF100_MN	SPPF50_MN	SPPF25_MN
85001.0	NEWPORT BAY (523)	1387	47	94	96
85002.0	NEWPORT BAY (616)	1388	93	94	93
85003.0	NEWPORT BAY (791)	1389	91	95	96
85004.0	NEWPORT BAY (877)	1390	92	96	93
85005.0	NEWPORT BAY (949)	1391	96	98	95
85006.0	NEWPORT BAY (1009)	1392	94	94	97
85007.0	NEWPORT BAY (431)	1418	0		
85008.0	NEWPORT BAY (670)	1419	0		
85009.0	NEWPORT BAY (705)	1420	0		
85010.0	NEWPORT BAY (819)	1421	72		
85011.0	NEWPORT BAY (905)	1422	95		
85012.0	NEWPORT BAY (1064)	1423	86		
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	93		
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	96		
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	92		
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	86		
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	96		
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	29		
95001.0	AGUA HEDIONDA LAGOON (190)	1380	68	83	87
95002.0	AGUA HEDIONDA LAGOON (234)	1381	93	97	97
95003.0	AGUA HEDIONDA LAGOON (FINGER)	1382	0	1	5
95004.0	DANA POINT HARBOR (386)	1383	94	93	97
95005.0	DANA POINT HARBOR(COMM. BASIN)	1384	79	94	96
95006.0	LOS PENASQUITOS (319)	1385	0	0	2
95007.0	LOS PENASQUITOS (331)	1386	32	84	96
95008.0	OCEANSIDE HARBOR (110)	1393	95	96	98
95010.0	SAN ELIJO LAGOON (24)	1394	0	0	0
95011.0	SAN ELIJO LAGOON (269)	1395	0	0	0
95012.0	SAN ELIJO LAGOON (WASTE SITE)	1396	0	0	0
95013.0	SANTA MARGARITA RIVER (33)	1397	51	89	81
95014.0	AGUA HEDIONDA LAGOON (179)	1413	61		
95015.0	AGUA HEDIONDA LAGOON (212)	1414	96		
95016.0	DANA POINT HARBOR (396)	1415	1		
95017.0	DANA POINT HARBOR(STORM DRAIN)	1416	67		
95018.0	LOS PENASQUITOS (336)	1417	95		
95019.0	OCEANSIDE HARBOR (90)	1430	66		
95020.0	OCEANSIDE HARBOR (COMM. BASIN)	1431	78		
95021.0	OCEANSIDE HARBOR (PENDLETON)	1432	61		
95022.0	OCEANSIDE HARBOR(STORM DRAINS)	1433	65		
95023.0	SAN ELIJO LAGOON (18)	1434	0		
95024.0	SAN DIEGUITO LAGOON (306)	1435	0		
95025.0	SANTA MARGARITA RIVER (48)	1436	0		
95026.0	AGUA HEDIONDA LAGOON (144)	1412	74		



APPENDIX D  
TOXICITY TEST DATA -  
NH<sub>3</sub> AND H<sub>2</sub>S CONCENTRATIONS





STANUM	STATION	IDORG	LEG	RA_OUNH3
95001.0	AGUA HEDIONDA LAGOON (190)	1380	34	0.358
95002.0	AGUA HEDIONDA LAGOON (234)	1381	34	0.153
95003.0	AGUA HEDIONDA LAGOON (FINGER)	1382	34	0.131
95006.0	LOS PENASQUITOS (319)	1385	34	0.003
95007.0	LOS PENASQUITOS (331)	1386	34	0.046
85006.0	NEWPORT BAY (1009)	1392	34	0.146
95010.0	SAN ELIJO LAGOON (24)	1394	34	0.162
95011.0	SAN ELIJO LAGOON (269)	1395	34	0.118
95012.0	SAN ELIJO LAGOON (WASTE SITE)	1396	34	0.194
95004.0	DANA POINT HARBOR (386)	1383	34	0.010
95005.0	DANA POINT HARBOR(COMM. BASIN)	1384	34	0.016
85003.0	NEWPORT BAY (791)	1389	34	0.025
85005.0	NEWPORT BAY (949)	1391	34	0.194
95008.0	OCEANSIDE HARBOR (110)	1393	34	0.006
95013.0	SANTA MARGARITA RIVER (33)	1397	34	0.009
85001.0	NEWPORT BAY (523)	1387	34	0.590
85002.0	NEWPORT BAY (616)	1388	34	0.088
85004.0	NEWPORT BAY (877)	1390	34	0.019
95026.0	AGUA HEDIONDA LAGOON (144)	1412	36	0.022
95014.0	AGUA HEDIONDA LAGOON (179)	1413	36	0.007
95015.0	AGUA HEDIONDA LAGOON (212)	1414	36	0.051
85007.0	NEWPORT BAY (431)	1418	36	0.116
85010.0	NEWPORT BAY (819)	1421	36	0.058
85012.0	NEWPORT BAY (1064)	1423	36	0.058
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	36	0.180
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	36	0.110
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	36	0.076
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	36	0.057
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	36	0.088
95016.0	DANA POINT HARBOR (396)	1415	36	0.015
95017.0	DANA POINT HARBOR(STORM DRAIN)	1416	36	0.019
85008.0	NEWPORT BAY (670)	1419	36	1.583
85009.0	NEWPORT BAY (705)	1420	36	0.174
85011.0	NEWPORT BAY (905)	1422	36	0.024
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	36	0.013
95019.0	OCEANSIDE HARBOR (90)	1430	36	0.033
95020.0	OCEANSIDE HARBOR (COMM. BASIN)	1431	36	0.027
95021.0	OCEANSIDE HARBOR (PENDLETON)	1432	36	0.026
95022.0	OCEANSIDE HARBOR(STORM DRAINS)	1433	36	0.027
95023.0	SAN ELIJO LAGOON (18)	1434	36	0.115
95025.0	SANTA MARGARITA RIVER (48)	1436	36	0.039
95018.0	LOS PENASQUITOS (336)	1417	36	0.079
95024.0	SAN DIEGUITO LAGOON (306)	1435	36	0.054

STANUM	RA_OH2S	AA_OUNH3	AA_OH2S	SPPF100_MN	SPPF_IUNH3
95001.0	0.0024	-9.000	-9.0000	68.00	0.005
95002.0	0.0024	-9.000	-9.0000	93.00	0.004
95003.0	-9.0000	-9.000	-9.0000	0.00	0.002
95006.0	0.0280	-9.000	-9.0000	0.00	0.026
95007.0	0.0020	-9.000	-9.0000	32.00	0.015
85006.0	0.0005	-9.000	-9.0000	94.00	0.020
95010.0	0.0030	-9.000	-9.0000	0.00	0.164
95011.0	0.0020	-9.000	-9.0000	0.00	0.252
95012.0	0.0010	-9.000	-9.0000	0.00	0.117
95004.0	0.0030	-9.000	-9.0000	94.00	0.014
95005.0	0.0040	-9.000	-9.0000	79.00	0.008
85003.0	0.0010	-9.000	-9.0000	91.00	0.055
85005.0	0.0030	-9.000	-9.0000	96.00	0.026
95008.0	0.0040	-9.000	-9.0000	95.00	0.028
95013.0	0.0030	-9.000	-9.0000	51.00	0.020
85001.0	0.0070	-9.000	-9.0000	47.00	0.047
85002.0	0.0011	-9.000	-9.0000	93.00	0.026
85004.0	0.0030	-9.000	-9.0000	92.00	0.030
95026.0	0.0062	0.024	-8.0000	74.00	0.032
95014.0	0.0060	0.035	-8.0000	61.00	0.016
95015.0	0.0035	0.125	-8.0000	96.00	0.039
85007.0	0.0026	0.254	-8.0000	0.00	0.295
85010.0	-8.0000	0.045	-8.0000	72.00	0.066
85012.0	0.0061	0.269	-8.0000	86.00	0.045
85013.0	0.0082	1.242	-8.0000	93.00	0.058
85014.0	0.0071	0.417	-8.0000	96.00	0.100
85015.0	0.0031	0.100	-8.0000	92.00	0.099
85017.0	0.0059	0.135	-8.0000	96.00	0.086
85018.0	-8.0000	0.154	0.0006	29.00	0.121
95016.0	0.0066	0.024	0.0260	1.00	0.033
95017.0	0.0032	0.043	-8.0000	67.00	0.033
85008.0	0.0167	1.990	0.0054	0.00	0.250
85009.0	0.0072	0.270	-8.0000	0.00	0.211
85011.0	0.0339	0.036	-8.0000	95.00	0.051
85016.0	0.0083	0.042	-8.0000	86.00	0.060
95019.0	-8.0000	0.012	-8.0000	66.00	0.046
95020.0	0.0077	0.010	-8.0000	78.00	0.040
95021.0	0.0078	0.015	-8.0000	61.00	0.035
95022.0	0.0065	0.012	-8.0000	65.00	0.019
95023.0	0.0089	0.395	0.0486	0.00	0.152
95025.0	0.0056	0.047	-8.0000	0.00	0.066
95018.0	0.0053	0.136	0.0011	95.00	0.082
95024.0	0.0045	0.025	-8.0000	0.00	0.054

STANUM	SPPF_IH2S	SPPD_IUNH3	SPPD_IH2S
95001.0	0.0120	0.010	0.0117
95002.0	-8.0000	0.006	-8.0000
95003.0	-8.0000	0.011	-8.0000
95006.0	-8.0000	0.117	-8.0000
95007.0	0.0030	0.026	0.0033
85006.0	-8.0000	0.075	-8.0000
95010.0	0.1660	0.164	0.1661
95011.0	0.0900	0.252	0.0899
95012.0	0.4140	0.117	0.4140
95004.0	-8.0000	0.020	-8.0000
95005.0	-8.0000	0.024	-8.0000
85003.0	-8.0000	0.055	-8.0000
85005.0	0.0080	0.026	0.0085
95008.0	-8.0000	0.028	-8.0000
95013.0	-8.0000	0.020	-8.0000
85001.0	0.0320	0.358	0.0323
85002.0	0.0030	0.028	0.0034
85004.0	-8.0000	0.030	-8.0000
95026.0	0.0050	0.032	0.0050
95014.0	0.0010	0.021	0.0007
95015.0	0.0090	0.088	0.0085
85007.0	0.0170	0.528	0.0170
85010.0	-8.0000	0.075	-8.0000
85012.0	0.0000	0.060	0.0002
85013.0	0.0010	0.102	0.0009
85014.0	0.0180	0.261	0.0180
85015.0	0.0030	0.150	0.0034
85017.0	0.0090	0.266	0.0093
85018.0	0.0060	0.700	0.0061
95016.0	0.0060	0.033	0.0058
95017.0	0.0030	0.033	0.0034
85008.0	0.0060	0.353	0.0063
85009.0	0.0070	0.484	0.0065
85011.0	-8.0000	0.080	-8.0000
85016.0	-8.0000	0.060	-8.0000
95019.0	-8.0000	0.046	-8.0000
95020.0	-8.0000	0.043	-8.0000
95021.0	0.0040	0.080	0.0041
95022.0	-8.0000	0.031	-8.0000
95023.0	0.0640	0.358	0.0640
95025.0	0.0140	0.121	0.0143
95018.0	0.0070	0.172	0.0072
95024.0	-8.0000	0.067	-8.0000



**APPENDIX E**  
**BENTHIC COMMUNITY ANALYSIS**



EMAP Species List

Species	# occur	Group	Species	# occur	Group
Acuminodeutopus heteruropus	15	Crustacea	Acteocina sp.	15	Mollusca
Alpheus sp.	4	Crustacea	Aglaja sp.	3	Mollusca
Amphideutopus oculus	7	Crustacea	Bulla gouldiana	7	Mollusca
Ampithoe plumulosa	1	Crustacea	Cerithidea californica	4	Mollusca
Ampithoe valida	7	Crustacea	Cooperella subdiaphana	1	Mollusca
Anatanais pseudonormani	12	Crustacea	Donax sp.	1	Mollusca
Asteropella slatteryi	5	Crustacea	Epitonium sp.	1	Mollusca
Bataeus sp.	3	Crustacea	Laevicardium substriatum	7	Mollusca
Bathyleberis = Cylindroleberidae	13	Crustacea	Leptopecten latiauratus	1	Mollusca
Bemlos concavus	6	Crustacea	Lyonsia sp.	1	Mollusca
Bemlos macromanus	2	Crustacea	Macoma secta	1	Mollusca
Campylaspis sp.	1	Crustacea	Macoma yoldiformis	1	Mollusca
Caprella sp.	1	Crustacea	Mactra californica	2	Mollusca
Corophium acherusicum/insidiosum	16	Crustacea	Musculista senhousei	22	Mollusca
Elasmopus bampo	11	Crustacea	Musculus sp.	2	Mollusca
Eobrolgus spinosus	5	Crustacea	Mya arenaria	5	Mollusca
Erichthonius hunteri	1	Crustacea	nudibranch	1	Mollusca
Euphilomedes carcharodonta	13	Crustacea	Odostomia sp.	10	Mollusca
Grandidierella japonica	23	Crustacea	Ostreidae	1	Mollusca
Hyale sp.	2	Crustacea	Protothaca staminea	7	Mollusca
Ilyanassa obsoleta	2	Crustacea	Tagelus subteres	12	Mollusca
Joeropsis dubia	2	Crustacea	Tapes philippinarum	3	Mollusca
Leptognathia sp. A	11	Crustacea	Tegula sp.	1	Mollusca
Leptognathia sp. B	2	Crustacea	Tellina carpenteri	5	Mollusca
Leucon subnasica	2	Crustacea	Theora fragilis	13	Mollusca
Liljeborgia sp.	1	Crustacea	nematoda	24	Nematoda
Lophopanopeus sp.	2	Crustacea	nemertea	26	Nemertea
Mayerella banksia	22	Crustacea	Tubulanus frenatus	1	Nemertea
Melphisiana bola	4	Crustacea	oligochaeta	30	Oligochaeta
Monoculodes hartmanae	11	Crustacea	phoronida	17	Phoronida
Mysidopsis californica	3	Crustacea	platyhelminthes	5	Platyhelminthes
Nebalia pugettensis	1	Crustacea	Amphicteis scaphobranchiata	2	Polychaeta
Paracerceis sculpta	13	Crustacea	Aphelochaeta cf. parva	14	Polychaeta
Paranthura elegans	14	Crustacea	Aphelochaeta sp.	6	Polychaeta
Photis sp.	2	Crustacea	Apoprionospio pymaea	1	Polychaeta
Pleustidae	2	Crustacea	Aproprionospio pygmaea	1	Polychaeta
Podocerus cristatus	6	Crustacea	Armandia brevis	6	Polychaeta
Pontogeneia rostrata	5	Crustacea	Boccardiella hamata	6	Polychaeta
Pycnogonida	2	Crustacea	Brania brevipharyngea	3	Polychaeta
Rudilemboides stenopropodus	12	Crustacea	Capitella capitata	22	Polychaeta
Seroilis carinata	1	Crustacea	Capitella capitata complex	2	Polychaeta
Stenothoidae	1	Crustacea	Carazziella califia	1	Polychaeta
Amphiodia sp.	3	Echinodermata	Caulierella sp.	1	Polychaeta
Holothuroidean	6	Echinodermata	Chaetozone corona	1	Polychaeta

EMAP Species List

Species	# occur	Group	Species	# occur	Group
Chaetozone sp. juv.	3	Polychaeta	Nephtys californiensis	1	Polychaeta
Chone sp.	2	Polychaeta	Nephtys cornuta	11	Polychaeta
Cirratulus cirratus	5	Polychaeta	Nereis procera	12	Polychaeta
Cirriformia spirabranchia	17	Polychaeta	Notomastus tenuis	4	Polychaeta
Cossura candida	4	Polychaeta	Ophelina acuminata	1	Polychaeta
Cossura pygodactylata	8	Polychaeta	Paleanotus bellis	1	Polychaeta
Cossura sp. A	16	Polychaeta	Paraprionospio pinnata	2	Polychaeta
Diopatra sp. juv.	1	Polychaeta	Pherusa capulata	4	Polychaeta
Diplocirrus sp.	11	Polychaeta	Pista alata	1	Polychaeta
Dipplocirrus sp.	3	Polychaeta	Pista cf. alata	8	Polychaeta
Dorvillea longicornis	20	Polychaeta	Pista spp. juv.	1	Polychaeta
Eteone fauchaldi	2	Polychaeta	Polydora cornuta	6	Polychaeta
Euchone limnicola	18	Polychaeta	Polydora ligni	2	Polychaeta
Eumida longicornuta	1	Polychaeta	Polydora nuchalis	11	Polychaeta
Eupolymnia heterobranchia	1	Polychaeta	Polyopthalmus pictus	7	Polychaeta
Exogone cf. verugera	7	Polychaeta	Praxillella pacifica	1	Polychaeta
Exogone lourei	14	Polychaeta	Nephtys caecoides	3	Polychaeta
Exogone molesta	1	Polychaeta	Prionospio heterobranchia	27	Polychaeta
Fabriciinae sp. A	1	Polychaeta	Prionospio lighti	4	Polychaeta
Fabricinuda limnicola	8	Polychaeta	Pseudopolydora paucibranchiata	24	Polychaeta
Glycera americana	1	Polychaeta	Rhynchospio glutaea	1	Polychaeta
Goniada littorea	1	Polychaeta	Scoielepis quequindentata	7	Polychaeta
Halosydna johnsoni	1	Polychaeta	Scoletoma minima	12	Polychaeta
Harmothoe sp.	1	Polychaeta	Scoletoma sp.	2	Polychaeta
Leitoscoloplos pugettensis	22	Polychaeta	Scoletoma tetraura	8	Polychaeta
Leitoscoloplos puggetensis	4	Polychaeta	Scoletoma zonata	27	Polychaeta
Lumbrineris latreilli	1	Polychaeta	Scyphoproctus oculatus	2	Polychaeta
Lumbrineris spp. indet.	1	Polychaeta	Serpulidae spp. indet.	1	Polychaeta
Lysippe labiata	1	Polychaeta	Sphaerosyllis californiensis	8	Polychaeta
Marphysa sanguinea	3	Polychaeta	Spiophanes missionensis	4	Polychaeta
Marphysa sanguinea	1	Polychaeta	Sthenelancea uniformis	2	Polychaeta
Marphysa spp. juv.	2	Polychaeta	Streblospio benedicti	11	Polychaeta
Mediomastus ambiseta	9	Polychaeta	Syllides japonica	1	Polychaeta
Mediomastus californiensis	15	Polychaeta	Syllides sp.	2	Polychaeta
Mediomastus sp.	20	Polychaeta	Terebella sp.	1	Polychaeta
Mediomastus spp. indet.	1	Polychaeta	anemone	6	Anthozoa
Megalomma pigmentum	2	Polychaeta	fish	1	Chordata
Megalomma pigmentum	1	Polychaeta	shore fly larva	1	Insecta
Metasychis disparidentatus	2	Polychaeta			
Monticellina dorsobranchialis	3	Polychaeta			
Monticellina sp.	1	Polychaeta			
Neanthes acuminata	1	Polychaeta			



STATION		TOTAL FAUNA		CRUSTACEANS		Indicator sp		Indicator	Benthic
		# species	indx %	# species	indx %	pos %	neg %	Index	Index
San Elijo Lagoon: 18	95023	6	0.12	0	0.00	0.00	0.64	0.11	<b>0.08</b>
San Elijo Lagoon: Waste Site	95012	7	0.14	0	0.00	0.00	0.47	0.17	<b>0.10</b>
San Elijo Lagoon: 269	95011	2	0.04	0	0.00	0.00	0.17	0.27	<b>0.10</b>
San Elijo Lagoon: 24	95010	4	0.08	1	0.07	0.00	0.40	0.19	<b>0.11</b>
Los Peñasquitos Lagoon: 331	95007	15	0.3	2	0.13	0.00	0.99	0.00	<b>0.14</b>
Santa Margarita Lagoon: 33	95013	7	0.14	2	0.13	0.00	0.35	0.21	<b>0.16</b>
Los Peñasquitos Lagoon: 319	95006	12	0.24	2	0.13	0.00	0.54	0.15	<b>0.17</b>
Los Peñasquitos Lagoon: 336	95018	12	0.24	3	0.20	0.00	0.70	0.09	<b>0.18</b>
Newport Bay Lagoon: Unit I Basin	85018	16	0.32	4	0.27	0.00	0.92	0.02	<b>0.20</b>
San Dieguito Lagoon: 306	95024	17	0.34	2	0.13	0.15	0.80	0.17	<b>0.21</b>
Dana Point Harbor: 396	95016	11	0.22	3	0.20	0.00	0.00	0.33	<b>0.25</b>
Oceanside Harbor: Pendleton	95021	18	0.36	2	0.13	0.00	0.11	0.29	<b>0.26</b>
Newport Bay Lagoon: 431	85007	21	0.42	4	0.27	0.14	0.85	0.14	<b>0.28</b>
Santa Margarita Lagoon: 48	95025	17	0.34	4	0.27	0.15	0.50	0.26	<b>0.29</b>
Newport Bay Lagoon: Unit II Basin	85017	14	0.28	5	0.33	0.09	0.38	0.26	<b>0.29</b>
Agua Hedionda Lagoon: 190	95001	19	0.38	2	0.13	0.16	0.09	0.41	<b>0.31</b>
Dana Point Harbor: Commercial Basin	95005	15	0.3	5	0.33	0.00	0.11	0.29	<b>0.31</b>
Newport Bay Lagoon: 705	85009	16	0.32	6	0.40	0.11	0.40	0.27	<b>0.33</b>
Agua Hedionda Lagoon: 179	95014	17	0.34	3	0.20	0.27	0.00	0.51	<b>0.35</b>
Oceanside Harbor: Commercial Basin	95020	21	0.42	3	0.20	0.18	0.00	0.45	<b>0.36</b>
Dana Point Harbor: 386	95004	16	0.32	6	0.40	0.07	0.00	0.38	<b>0.37</b>
Oceanside Harbor: Stormdrains	95022	23	0.46	5	0.33	0.07	0.00	0.38	<b>0.39</b>
Agua Hedionda Lagoon: Finger	95003	18	0.36	9	0.60	0.20	0.33	0.35	<b>0.44</b>
Oceanside Harbor: 90	95019	20	0.4	7	0.47	0.21	0.00	0.47	<b>0.45</b>
Newport Bay Harbor: Newport Island	85014	25	0.5	8	0.53	0.32	0.43	0.40	<b>0.48</b>
Oceanside Harbor: 110	95008	32	0.64	5	0.33	0.21	0.00	0.47	<b>0.48</b>
Newport Bay Harbor: Rhine Channel	85013	32	0.64	8	0.53	0.09	0.34	0.27	<b>0.48</b>
Newport Bay Harbor: Arches	85015	27	0.54	6	0.40	0.36	0.14	0.52	<b>0.49</b>
Agua Hedionda Lagoon: 234	95002	23	0.46	5	0.33	0.72	0.11	0.78	<b>0.52</b>
Newport Bay Harbor: 1064	85012	38	0.76	5	0.33	0.61	0.10	0.54	<b>0.54</b>
Newport Bay: 523	85001	30	0.6	15	1.00	0.74	0.16	0.24	<b>0.61</b>
Agua Hedionda Lagoon: 144	95026	27	0.54	9	0.60	0.81	0.23	0.80	<b>0.65</b>
Dana Point Harbor: Stormdrain	95017	32	0.64	11	0.73	0.50	0.20	0.60	<b>0.66</b>
Newport Bay: 1009	85006	37	0.74	11	0.73	0.36	1.00	0.52	<b>0.66</b>
Newport Bay: 949	85005	40	0.8	10	0.67	0.39	0.20	0.64	<b>0.70</b>
Newport Bay Harbor: 905	85011	44	0.88	10	0.67	0.39	0.16	0.62	<b>0.72</b>
Newport Bay: 616	85002	42	0.84	10	0.67	0.58	0.12	0.77	<b>0.76</b>
Newport Bay: 791	85003	46	0.92	12	0.80	1.00	0.00	0.68	<b>0.80</b>
Newport Bay Harbor: 819	85010	48	0.96	11	0.73	0.49	0.13	0.71	<b>0.80</b>
Newport Bay Lagoon: 670	85008	50	1	13	0.87	0.55	0.44	0.55	<b>0.80</b>
Agua Hedionda Lagoon: 212	95015	38	0.76	13	0.87	0.87	0.36	0.79	<b>0.81</b>
Newport Bay Harbor: Yachtsman Cove	85016	49	0.98	12	0.80	0.71	0.14	0.76	<b>0.85</b>
Newport Bay: 877	85004	35	0.7	13	0.87	0.51	0.09	1.00	<b>0.86</b>

STATION	NEGATIVE INDICATORS						POSITIVE INDICATORS						Indicator Index			
	Capitella		Oligochaete		Bathyleberis		Paracereis		Tellina		Macoma		Neg. Sum	Pos. Sum	Neg. %	Pos. %
	Streblospio	Capitella	Streblospio	Oligochaete	Monaculodes	Euphyllodes	Euphyllodes	Acuminadentopus	Fohmlagus	Macoma	Neg. Sum	Pos. Sum	Neg. %	Pos. %		
Agua Hedionda Lagoon: 144	0.33		2.0		0.3			4.7	5.7	0.3	0.7	0.5	3.8	3.3	0.80	
Agua Hedionda Lagoon: 179		0.33							1.3		0.3	0.0	1.2	1.2	0.51	
Agua Hedionda Lagoon: 190		0.33									0.3	0.2	0.8	0.5	0.41	
Agua Hedionda Lagoon: 212		1.33		14.7		0.3	16.7	0.3	2.7		0.3	0.8	4.1	3.2	0.79	
Agua Hedionda Lagoon: 234			0.7		0.3			1.0	24.3	0.3	1.0	0.2	3.4	3.2	0.78	
Agua Hedionda Lagoon: Finger		0.67		13.3					0.7			0.8	1.0	0.2	0.35	
Dana Point Harbor: 386									0.3			0.0	0.0	0.3	0.38	
Dana Point Harbor: 396												0.0	0.0	0.0	0.33	
Dana Point Harbor: Commercial Basin				0.7								0.2	0.0	-0.2	0.29	
Dana Point Harbor: Stormdrain		0.33		0.7			3.7	0.7			0.7	0.5	2.3	1.9	0.60	
Dana Point Harbor: Stormdrain		0.33		0.7								1.2	0.0	-1.2	0.15	
Los Penasquitos Lagoon: 319		2.67		13.3								2.3	0.0	-2.3	0.00	
Los Penasquitos Lagoon: 331		68.25		8.3	156.0							1.6	0.0	-1.6	0.09	
Los Penasquitos Lagoon: 336		24.00		1.0	44.3							0.2	2.9	2.6	0.71	
Los Penasquitos Lagoon: 336			0.3			1.3					0.3	0.3	2.3	2.0	0.62	
Newport Bay Harbor: 819						0.7						0.4	1.8	1.5	0.54	
Newport Bay Harbor: 905				1.7		0.3						0.3	1.7	1.4	0.52	
Newport Bay Harbor: Arches				3.7		0.3	4.7					1.0	1.5	0.5	0.40	
Newport Bay Harbor: Newport Island		0.33		2.0		2.0			1.0			0.8	0.4	-0.4	0.27	
Newport Bay Harbor: Rhine Channel		1.00		70.0					2.0			0.3	3.3	3.0	0.76	
Newport Bay Harbor: Yachtsman Cove				12.3		0.4			1.2	1.2		2.0	0.7	-1.3	0.14	
Newport Bay Lagoon: 431		19.33		65.0		0.3						1.0	2.4	1.5	0.55	
Newport Bay Lagoon: 670		0.80		0.6	10.8	0.4	2.0					0.9	0.5	-0.4	0.27	
Newport Bay Lagoon: 705		0.60		39.0					0.8			2.1	0.0	-2.1	0.02	
Newport Bay Lagoon: Unit I Basin		35.80		44.2	33.4				0.3			0.9	0.4	-0.5	0.26	
Newport Bay Lagoon: Unit II Basin		22.00		0.7					11.3			2.3	1.7	-0.6	0.24	
Newport Bay: 523		10.00		46.0								0.4	3.4	3.1	0.77	
Newport Bay: 616				3.3		1.7			8.0		0.3	0.3	2.7	2.4	0.68	
Newport Bay: 791				1.0		1.7						0.0	4.7	4.7	1.00	
Newport Bay: 877				0.7		0.7			3.3		0.3	0.2	2.4	2.2	0.64	
Newport Bay: 949				0.3		1.0			5.3			0.5	1.8	1.4	0.52	
Newport Bay: 1009				8.0		2.7			1.7			0.0	1.0	1.0	0.47	
Oceanside Harbor: 90												1.0	0.0	1.0	0.47	
Oceanside Harbor: 110												0.0	0.8	0.8	0.45	
Oceanside Harbor: Commercial Basin								9.3				0.3	0.0	-0.3	0.29	
Oceanside Harbor: Penitelon		0.67										0.0	0.3	0.3	0.38	
Oceanside Harbor: Stormdrains									0.3			1.8	0.7	-1.1	0.17	
San Diego Lagoon: 306		21.67		114.0		0.7						1.5	0.0	-1.5	0.11	
San Elijo Lagoon: 18		167.00		0.3		0.7						0.9	0.0	-0.9	0.19	
San Elijo Lagoon: 24						0.3						0.4	0.0	-0.4	0.27	
San Elijo Lagoon: 269		3.67										1.1	0.0	-1.1	0.17	
San Elijo Lagoon: Waste Site		84.33				0.7						0.8	0.0	-0.8	0.21	
Santa Margarita Lagoon: 33		3.00				7.0						1.2	0.7	-0.4	0.26	
Santa Margarita Lagoon: 48		21.67		18.3							0.3					

	95026	Number per core				Summary Statistics								
		# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Agua Hedionda Lagoon: 144														
Armandia brevis	Polychaeta	7	12	16		11.7	11.5	7	16	4.5	2.6	10.1	35	
Capitella capitata	Polychaeta	0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1	
Cossura pygodactylata	Polychaeta	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1	
Exogone lourci	Polychaeta	2	1	1		1.3	1.5	1	2	0.6	0.3	1.3	4	
Leitoscoloplos pugettensis	Polychaeta	19	15	20		18.0	17.5	15	20	2.6	1.5	6.0	54	
Mediomastus californiensis	Polychaeta	12	5	5		7.3	8.5	5	12	4.0	2.3	9.1	22	
Pironospio heterobranchia	Polychaeta	2	1	3		2.0	2.0	1	3	1.0	0.6	2.3	6	
Scolotoma tetraura	Polychaeta	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1	
nematoda	Nematoda	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1	
nemertea	Nemertea	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1	
oligochaeta	Oligochaeta	3	2	1		2.0	2.0	1	3	1.0	0.6	2.3	6	
Acteocina sp.	Mollusca	2	3	0		1.7	1.5	0	3	1.5	0.9	3.4	5	
Bulla gouldiana	Mollusca	2	2	1		1.7	1.5	1	2	0.6	0.3	1.3	5	
Laevicardium substriatum	Mollusca	6	8	3		5.7	5.5	3	8	2.5	1.5	5.7	17	
Musculista senhousiei	Mollusca	1	0	2		1.0	1.0	0	2	1.0	0.6	2.3	3	
Mya arenaria	Mollusca	1	10	2		4.3	5.5	1	10	4.9	2.8	11.1	13	
Protothaca staminea	Mollusca	0	2	2		1.3	1.0	0	2	1.2	0.7	2.6	4	
Tellina carpenteri	Mollusca	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1	
Acuminodentopus heteruropus	Crustacea	7	4	6		5.7	5.5	4	7	1.5	0.9	3.4	17	
Anatanais pseudonormani	Crustacea	0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1	
Elasmopus bampo	Crustacea	0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1	
Grandidierella japonica	Crustacea	0	2	1		1.0	1.0	0	2	1.0	0.6	2.3	3	
Hyalic sp.	Crustacea	0	4	1		1.7	2.0	0	4	2.1	1.2	4.7	5	
Leptognathia sp. A	Crustacea	2	0	1		1.0	1.0	0	2	1.0	0.6	2.3	3	
Mayerella banksia	Crustacea	0	2	1		1.0	1.0	0	2	1.0	0.6	2.3	3	
Monoculodes hartmanac	Crustacea	1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1	
Paracerceis sculpta	Crustacea	2	11	1		4.7	6.0	1	11	5.5	3.2	12.4	14	
Total Fauna		27	69	89	70	76.0	79.0	69	89	11.3	6.5	25.4	228	
Total Polychaetes		8	42	36	46	41.3	41.0	36	46	5.0	2.9	11.3	124	
Total Molluscs		7	12	26	10	16.0	18.0	10	26	8.7	5.0	19.6	48	
Total Crustaceans		9	12	23	13	16.0	17.5	12	23	6.1	3.5	13.7	48	
Total Echinoderms		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0	
Total Species		27	15	21	20	18.7	18.0	15	21	3.2	1.9	7.2	56	

Number per core

Summary Statistics

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
<b>Agua Hedionda Lagoon: 179</b>													
95014													
Dorvillea longicornis	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos puggetensis	16	28	34	34	34	26.0	25.0	16	34	9.2	5.3	20.6	78
Mediomastus californiensis	1	3	1	3	3	1.7	2.0	1	3	1.2	0.7	2.6	5
Prionospio heterobranchia	1	6	3	3	3	3.3	3.5	1	6	2.5	1.5	5.7	10
Scoletoma zonata	2	0	1	1	1	1.0	1.0	0	2	1.0	0.6	2.3	3
nemertea	0	1	1	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Phoronida	2	15	0	0	0	5.7	7.5	0	15	8.1	4.7	18.3	17
Bulla gouldiana	0	2	1	1	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Cooperella subdiaphana	0	0	1	1	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Laevicardium substriatum	0	0	1	1	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Musculista senhoussei	1	1	3	3	3	1.7	2.0	1	3	1.2	0.7	2.6	5
Mya arenaria	1	1	0	0	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Theora fragilis	3	0	1	1	1	1.3	1.5	0	3	1.5	0.9	3.4	4
Acuminodeutopus heteruropus	0	3	1	1	1	1.3	1.5	0	3	1.5	0.9	3.4	4
Alpheus sp.	0	0	1	1	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Mayerella banksia	0	4	0	0	0	1.3	2.0	0	4	2.3	1.3	5.2	4
cucumber	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
<b>Total Fauna</b>	17	27	66	49	49	47.3	46.5	27	66	19.6	11.3	44.0	142
<b>Total Polychaetes</b>	5	20	38	39	39	32.3	29.5	20	39	10.7	6.2	24.1	97
<b>Total Molluscs</b>	6	5	4	7	7	5.3	5.5	4	7	1.5	0.9	3.4	16
<b>Total Crustaceans</b>	3	0	7	2	2	3.0	3.5	0	7	3.6	2.1	8.1	9
<b>Total Echinoderms</b>	1	0	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
<b>Total Species</b>	17	8	12	12	12	10.7	10.0	8	12	2.3	1.3	5.2	32

<b>Agua Hedionda Lagoon: 190</b>													
95001													
Armandia brevis	26	14	4	4	4	14.7	15.0	4	26	11.0	6.4	24.8	44
Capitella capitata	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Diplocirrus sp.	1	0	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	4	4	2	4	2	3.3	3.0	2	4	1.2	0.7	2.6	10
Exogone cf. verugera	1	0	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos puggetensis	41	14	13	13	13	22.7	27.0	13	41	15.9	9.2	35.7	68
Mediomastus californiensis	1	3	0	0	0	1.3	1.5	0	3	1.5	0.9	3.4	4
Pista cf. alata	1	0	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1

	Number per core				Summary Statistics							
	# sp/rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
<i>Polydora cornuta</i>	20	6	27		17.7	16.5	6	27	10.7	6.2	24.1	53
<i>Prionospio heterobranchia</i>	5	2	1		2.7	3.0	1	5	2.1	1.2	4.7	8
<i>Scoletoma sp.</i>	3	0	1		1.3	1.5	0	3	1.5	0.9	3.4	4
<i>Scoletoma zonata</i>	5	1	3		3.0	3.0	1	5	2.0	1.2	4.5	9
nematoda	86	285	27		132.7	156.0	27	285	135.2	78.0	304.2	398
phoronida	5	0	0		1.7	2.5	0	5	2.9	1.7	6.5	5
<i>Musculista senhousiei</i>	6	21	15		14.0	13.5	6	21	7.5	4.4	17.0	42
<i>Theora fragilis</i>	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
<i>Grandiierella japonica</i>	1	1	0		0.7	0.5	0	1	0.6	0.3	1.3	2
<i>Mayerella banksia</i>	0	1	2		1.0	1.0	0	2	1.0	0.6	2.3	3
cucumber	0	3	0		1.0	1.5	0	3	1.7	1.0	3.9	3
Echinodermata	19	206	357	95	219.3	226.0	95	357	131.5	75.9	295.9	658
Total Fauna	12	108	45	51	68.0	76.5	45	108	34.8	20.1	78.2	204
Total Polychaetes	2	6	22	15	14.3	14.0	6	22	8.0	4.6	18.0	43
Total Molluscs	2	1	2	2	1.7	1.5	1	2	0.6	0.3	1.3	5
Total Crustaceans	1	0	3	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Total Echinoderms	19	15	14	10	13.0	12.5	10	15	2.6	1.5	6.0	39

Agua Hedionda Lagoon: 212

	Number per core				Summary Statistics							
	# sp/rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
<i>Apoprionospio pymaca</i>	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
<i>Armandia brevis</i>	2	4	0		2.0	2.0	0	4	2.0	1.2	4.5	6
<i>Capitella capitata</i>	1	2	1		1.3	1.5	1	2	0.6	0.3	1.3	4
<i>Exogone lourei</i>	0	2	2		1.3	1.0	0	2	1.2	0.7	2.6	4
<i>Leitoscoloplos pugettensis</i>	6	1	3		3.3	3.5	1	6	2.5	1.5	5.7	10
<i>Lumbrineris latreilli</i>	1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
<i>Lumbrineris spp. indet.</i>	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
<i>Mediomastus ambiseta</i>	20	7	14		13.7	13.5	7	20	6.5	3.8	14.6	41
<i>Mediomastus californiensis</i>	2	0	4		2.0	2.0	0	4	2.0	1.2	4.5	6
<i>Mediomastus spp. indet.</i>	4	4	3		3.7	3.5	3	4	0.6	0.3	1.3	11
<i>Prionospio heterobranchia</i>	1	2	1		1.3	1.5	1	2	0.6	0.3	1.3	4
<i>Prionospio lighti</i>	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
<i>Rhynchospio glutaca</i>	1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
<i>Spiophanes missionensis</i>	0	0	2		0.7	1.0	0	2	1.2	0.7	2.6	2
nematoda	1	0	2		1.0	1.0	0	2	1.0	0.6	2.3	3

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CI	sum
nemertea	0	4	0	0	0	1.3	2.0	0	4	2.3	1.3	5.2	4
oligochaeta	32	5	7			14.7	18.5	5	32	15.0	8.7	33.9	44
Bulla gouldiana	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Laevicardium substriatum	4	2	0			2.0	2.0	0	4	2.0	1.2	4.5	6
Macoma secta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Musculista senhousiei	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Protothaca staminea	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Tagelus subteres	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Theora fragilis	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Acuminodeutopus heteruropus	1	4	3			2.7	2.5	1	4	1.5	0.9	3.4	8
Alpheus sp.	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Ampithoe valida	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Bathyleberis = Cylindroleberidae	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Ericthonius hunteri	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Euphilomedes carcharodonta	17	10	23			16.7	16.5	10	23	6.5	3.8	14.6	50
Grandidierella japonica	0	4	1			1.7	2.0	0	4	2.1	1.2	4.7	5
Hyale sp.	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Leptognathia sp. A	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Mayerella banksia	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Monoculodes hartmanae	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Paracercis sculpta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Podocerus cristatus	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
anemone	0	3	0			1.0	1.5	0	3	1.7	1.0	3.9	3
Total Fauna	38	97	70	69		78.7	83.0	69	97	15.9	9.2	35.7	236
Total Polychaetes	14	38	25	30		31.0	31.5	25	38	6.6	3.8	14.8	93
Total Molluscs	7	7	5	1		4.3	4.0	1	7	3.1	1.8	6.9	13
Total Crustaceans	13	19	28	29		25.3	24.0	19	29	5.5	3.2	12.4	76
Total Echinoderms	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
Total Species	38	17	28	16		20.3	22.0	16	28	6.7	3.8	15.0	61

95002													
Agua Hedionda Lagoon: 234													
Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Cossura pygodactylata	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Diplocirrus sp.	2	1	3			2.0	2.0	1	3	1.0	0.6	2.3	6
Dorvillea longicornis													

	Number per core				Summary Statistics								
	# sp/rep	1 rep	2 rep	3 rep	4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Leitoscoloplos pugettensis		22	16	25		21.0	20.5	16	25	4.6	2.6	10.3	63
Polychaeta						0.7	1.0	0	2	1.2	0.7	2.6	2
Mediomastus californiensis		2	0	0		1.0	1.0	0	2	1.0	0.6	2.3	3
Polychaeta						7.7	8.0	5	11	3.1	1.8	6.9	23
Ophelina acuminata		0	1	2		1.0	1.0	1	1	0.0	0.0	0.0	3
Prionospio heterobranchia		5	11	7		1.0	1.0	1	1	0.0	0.0	0.0	3
Polychaeta						0.3	0.5	0	1	0.6	0.3	1.3	1
Scolotoma zonata		1	1	1		1.0	1.0	1	1	0.0	0.0	0.0	3
nematoda		0	0	1		1.0	1.0	1	1	0.0	0.0	0.0	3
nemertea		1	1	1		0.7	0.5	0	1	0.6	0.3	1.3	2
oligochaeta		5	14	7		8.7	9.5	5	14	4.7	2.7	10.6	26
Phoronida		2	5	0		2.3	2.5	0	5	2.5	1.5	5.7	7
Acteocina sp.		1	0	1		0.7	0.5	0	1	0.6	0.3	1.3	2
Musculista senhousi		0	1	0		1.7	2.0	0	4	2.1	1.2	4.7	5
Tellina carpenteri		4	0	1		24.3	24.0	14	34	10.0	5.8	22.5	73
Theora fragilis		3	2	5		3.3	3.5	2	5	1.5	0.9	3.4	10
Acuminodeutopus heteruropus		1	4	0		1.7	2.0	0	4	2.1	1.2	4.7	5
Grandidierella japonica		7	11	3		7.0	7.0	3	11	4.0	2.3	9.0	21
Leptognathia sp. A		0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Mayerella banksia		0	0	2		0.7	1.0	0	2	1.2	0.7	2.6	2
Monoculodes hartmanae		0	0	8		2.7	4.0	0	8	4.6	2.7	10.4	8
anemone		23	83	105	81	89.7	93.0	81	105	13.3	7.7	30.0	269
cucumber		8	33	31	38	34.0	34.5	31	38	3.6	2.1	8.1	102
Echinodermata		4	7	6	2	5.0	4.5	2	7	2.6	1.5	6.0	15
Total Fauna		5	36	52	22	36.7	37.0	22	52	15.0	8.7	33.8	110
Total Polychaetes		1	0	0	8	2.7	4.0	0	8	4.6	2.7	10.4	8
Total Molluscs		23	16	16	15	15.7	15.5	15	16	0.6	0.3	1.3	47
Total Crustaceans													
Total Echinoderms													
Total Species													

95003  
 Agua Hedionda Lagoon: Finger

Armandia brevis	6	0	4		3.3	3.0	0	6	3.1	1.8	6.9	10
Capitella capitata	1	0	1		0.7	0.5	0	1	0.6	0.3	1.3	2
Dorvillea longicornis	1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Eteone fauchaldi	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio heterobranchia	2	2	0		1.3	1.0	0	2	1.2	0.7	2.6	4
Scolotoma tetraura	1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
oligochaeta		14	16	10		13.3	13.0	10	16	3.1	1.8	6.9	40
phoronida		0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Acteocina sp.		1	4	0		1.7	2.0	0	4	2.1	1.2	4.7	5
Acuminodeutopus heteruropus		0	1	1		0.7	0.5	0	1	0.6	0.3	1.3	2
Alpheus sp.		0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Corophium acherusicum/insidic		0	0	2		0.7	1.0	0	2	1.2	0.7	2.6	2
Grandierella japonica		16	5	12		11.0	10.5	5	16	5.6	3.2	12.5	33
Leptognathia sp. A		0	5	5		3.3	2.5	0	5	2.9	1.7	6.5	10
Mayerella banksia		0	0	2		0.7	1.0	0	2	1.2	0.7	2.6	2
Paracercis sculpta		0	0	3		1.0	1.5	0	3	1.7	1.0	3.9	3
Pleustidae		0	2	0		0.7	1.0	0	2	1.2	0.7	2.6	2
Pedunculus cristatus		0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Total Fauna	18	42	36	43		40.3	39.5	36	43	3.8	2.2	8.5	121
Total Polychaetes	6	11	3	5		6.3	7.0	3	11	4.2	2.4	9.4	19
Total Molluscs	1	1	4	0		1.7	2.0	0	4	2.1	1.2	4.7	5
Total Crustaceans	9	16	13	27		18.7	20.0	13	27	7.4	4.3	16.6	56
Total Echinoderms	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
Total Species	18	8	8	12		9.3	10.0	8	12	2.3	1.3	5.2	28

Dana Point Harbor: 386

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
95004													
Dorvillea longicornis		2	0	0		0.7	1.0	0	2	1.2	0.7	2.6	2
Polychaeta													
Euchone limnicola		0	0	29		9.7	14.5	0	29	16.7	9.7	37.7	29
Polychaeta													
Exogone lourei		7	1	11		6.3	6.0	1	11	5.0	2.9	11.3	19
Leitoscoloplos puggettensis		7	13	18		12.7	12.5	7	18	5.5	3.2	12.4	38
Polychaeta													
Prionospio heterobranchia		4	1	2		2.3	2.5	1	4	1.5	0.9	3.4	7
Polychaeta													
Pseudopolydora paucibranchiata		18	14	35		22.3	24.5	14	35	11.2	6.4	25.1	67
Polychaeta													
Scoletoma zonata		1	1	1		1.0	1.0	1	1	0.0	0.0	0.0	3
Polychaeta													
Serpulidae spp. indet.		1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Polychaeta													
Sphaerosyllis californiensis		0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Nemertea													
nemertea		2	0	3		1.7	1.5	0	3	1.5	0.9	3.4	5
Acuminodeutopus heteruropus		0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Crustacea													
Anatanais pseudonormani		1	0	1		0.7	0.5	0	1	0.6	0.3	1.3	2
Crustacea													
Corophium acherusicum/insidic		10	3	7		6.7	6.5	3	10	3.5	2.0	7.9	20
Crustacea													
Grandierella japonica		28	11	47		28.7	29.0	11	47	18.0	10.4	40.5	86



	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Leptognathia sp. B	1	0	5			2.0	2.5	0	5	2.6	1.5	6.0	6
Mayerella banksia	11	2	24			12.3	13.0	2	24	11.1	6.4	24.9	37
<b>Total Fauna</b>	<b>16</b>	<b>93</b>	<b>47</b>	<b>184</b>		<b>108.0</b>	<b>115.5</b>	<b>47</b>	<b>184</b>	<b>69.7</b>	<b>40.3</b>	<b>156.9</b>	<b>324</b>
<b>Total Polychaetes</b>	<b>9</b>	<b>40</b>	<b>31</b>	<b>96</b>		<b>55.7</b>	<b>63.5</b>	<b>31</b>	<b>96</b>	<b>35.2</b>	<b>20.3</b>	<b>79.2</b>	<b>167</b>
<b>Total Molluscs</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>
<b>Total Crustaceans</b>	<b>6</b>	<b>51</b>	<b>16</b>	<b>85</b>		<b>50.7</b>	<b>50.5</b>	<b>16</b>	<b>85</b>	<b>34.5</b>	<b>19.9</b>	<b>77.6</b>	<b>152</b>
<b>Total Echinoderms</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>
<b>Total Species</b>	<b>16</b>	<b>13</b>	<b>9</b>	<b>13</b>		<b>11.7</b>	<b>11.0</b>	<b>9</b>	<b>13</b>	<b>2.3</b>	<b>1.3</b>	<b>5.2</b>	<b>35</b>

Dana Point Harbor: 396

95016

Dorvillea longicornis	0	0	1	0		0.2	0.5	0	1	0.4	0.2	0.6	1
Polychaeta	9	0	3	2		3.4	4.5	0	9	3.4	1.5	4.3	17
Euchone limnicola	1	1	4	3		2.8	3.0	1	5	1.8	0.8	2.3	14
Leitoscoloplos puggettensis	0	1	1	1		0.8	0.5	0	1	0.4	0.2	0.6	4
Prionospio heterobranchia	6	0	0	2		2.4	3.0	0	6	2.6	1.2	3.4	12
Pseudopolydora paucibranchiata	20	5	2	5		6.6	10.5	1	20	7.7	3.4	9.9	33
Polychaeta	0	0	0	0		0.2	0.5	0	1	0.4	0.2	0.6	1
Nemertea	1	0	0	0		0.2	0.5	0	1	0.4	0.2	0.6	1
Theora fragilis	0	0	0	0		0.6	1.5	0	3	1.3	0.6	1.7	3
Grandidierella japonica	0	0	13	0		2.8	6.5	0	13	5.7	2.6	7.4	14
Mayerella banksia	0	0	0	1		0.2	0.5	0	1	0.4	0.2	0.6	1
Mysidopsis californica	11	37	7	24	14	20.2	22.0	7	37	11.3	5.1	14.5	101
<b>Total Fauna</b>	<b>6</b>	<b>36</b>	<b>7</b>	<b>11</b>	<b>13</b>	<b>16.2</b>	<b>21.5</b>	<b>7</b>	<b>36</b>	<b>11.4</b>	<b>5.1</b>	<b>14.6</b>	<b>81</b>
<b>Total Polychaetes</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.2</b>	<b>0.5</b>	<b>0</b>	<b>1</b>	<b>0.4</b>	<b>0.2</b>	<b>0.6</b>	<b>1</b>
<b>Total Molluscs</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>1</b>	<b>3.6</b>	<b>6.5</b>	<b>0</b>	<b>13</b>	<b>5.5</b>	<b>2.5</b>	<b>7.1</b>	<b>18</b>
<b>Total Crustaceans</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>
<b>Total Echinoderms</b>	<b>11</b>	<b>5</b>	<b>3</b>	<b>6</b>	<b>6</b>	<b>5.6</b>	<b>5.5</b>	<b>3</b>	<b>8</b>	<b>1.8</b>	<b>0.8</b>	<b>2.3</b>	<b>28</b>

Dana Point Harbor: Commercial Bas 95005

Euchone limnicola	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone lourei	2	1	3			2.0	2.0	1	3	1.0	0.6	2.3	6
Leitoscoloplos puggettensis	1	0	2			1.0	1.0	0	2	1.0	0.6	2.3	3
Mediomastus sp.	3	15	4			7.3	9.0	3	15	6.7	3.8	15.0	22
Prionospio heterobranchia													

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Pseudopolydora paucibranchiata	3	18	17			12.7	10.5	3	18	8.4	4.8	18.9	38
Scoletoma minima	1	3	2			2.0	2.0	1	3	1.0	0.6	2.3	6
Scoletoma zonata	3	3	5			3.7	4.0	3	5	1.2	0.7	2.6	11
nemertea	1	3	0			1.3	1.5	0	3	1.5	0.9	3.4	4
oligochaeta	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Alpheus sp.	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Amphideutopus oculatus	0	4	0			1.3	2.0	0	4	2.3	1.3	5.2	4
Asteropella slatteryi	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Grandierella japonica	0	4	2			2.0	2.0	0	4	2.0	1.2	4.5	6
Rudilemboides stenopropodus	0	5	0			1.7	2.5	0	5	2.9	1.7	6.5	5
Total Fauna	15	14	61	36		37.0	37.5	14	61	23.5	13.6	52.9	111
Total Polychaetes	8	13	42	33		29.3	27.5	13	42	14.8	8.6	33.4	88
Total Molluscs	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
Total Crustaceans	5	0	14	3		5.7	7.0	0	14	7.4	4.3	16.6	17
Total Echinoderms	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
Total Species	15	7	13	8		9.3	10.0	7	13	3.2	1.9	7.2	28

Dana Point Harbor: Storm drain		95017									
Capitella capitata	0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Cossura pygodactylata	0	2	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Euchone limnicola	2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Exogone lourei	16	12	11	13.0	13.5	11	16	2.6	1.5	6.0	39
Leitoscoloplos pugettensis	1	2	1	1.3	1.5	1	2	0.6	0.3	1.3	4
Polydora cornuta	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Praxillella pacifica	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio heterobranchia	12	10	10	10.7	11.0	10	12	1.2	0.7	2.6	32
Pseudopolydora paucibranchiata	2	15	12	9.7	8.5	2	15	6.8	3.9	15.3	29
Scoletoma minima	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Scoletoma zonata	1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
Spiophanes missionensis	1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
nematoda	0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
nemertea	1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
oligochaeta	0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Laevicardium substriatum	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Lyonsia sp	2	1	2			1.7	1.5	1	2	0.6	0.3	1.3	5
Protothaca staminea	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Tagelus subteres	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Tapes philippinarum	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Anatanais pseudonormani	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	1
Asteropella slatteryi	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	2
Bathyleberis = Cylindroleberidae	4	7	0			3.7	3.5	0	7	3.5	2.0	7.9	11
Corophium acherusicum/insidic	10	13	6			9.7	9.5	6	13	3.5	2.0	7.9	29
Eobrolgus spinosus	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Euphilomedes carcharodonta	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
Grandicerella japonica	24	12	32			22.7	22.0	12	32	10.1	5.8	22.6	68
Leptognathia sp. A	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Leptognathia sp. B	0	11	1			4.0	5.5	0	11	6.1	3.5	13.7	12
Mayerella banksia	43	62	39			48.0	50.5	39	62	12.3	7.1	27.6	141
Rudilemboides stenopropodus	10	26	3			13.0	14.5	3	26	11.8	6.8	26.5	39
Amphioxidia sp.	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Total Fauna	32	135	184	127		148.7	155.5	127	184	30.9	17.8	69.4	446
Total Polychaetes	12	37	43	38		39.3	40.0	37	43	3.2	1.9	7.2	118
Total Molluscs	5	3	2	4		3.0	3.0	2	4	1.0	0.6	2.3	9
Total Crustaceans	11	94	135	83		101.0	109.0	83	135	27.4	15.8	61.7	312
Total Echinoderms	1	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Total Species	32	20	22	20		20.7	21.0	20	22	1.2	0.7	2.6	62

Los Penasquitos Lagoon: 319

95006

Boxcardiella hamata	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Capitella capitata	1	4	3			2.7	2.5	1	4	1.5	0.9	3.4	8
Mediomastus sp.	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Notomastus tenuis	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Polydora nuchalis	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Polyophthalmus pictus	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Streblospio benedicti	0	6	0			2.0	3.0	0	6	3.5	2.0	7.8	6
nematoda	54	53	3			36.7	28.5	3	54	29.2	16.8	65.6	110
oligochaeta	11	13	16			13.3	13.5	11	16	2.5	1.5	5.7	40
phoronida	17	35	16			22.7	25.5	16	35	10.7	6.2	24.1	68

Summary Statistics

	Number per core				mean	median	min	max	St. Dev.	S.E.	95%CI		sum
	# sp	rep 1	rep 2	rep 3							rep 4	sum	
Corophium acherusicum/insidic Crustacea	12	85	118	42	81.7	80.0	42	118	38.1	22.0	85.7	245	
Grandierella japonica Crustacea	7	2	16	4	7.3	9.0	2	16	7.6	4.4	17.0	22	
Total Polychaetes	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0	
Total Molluscs	2	1	1	3	1.7	2.0	1	3	1.2	0.7	2.6	5	
Total Crustaceans	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0	
Total Echinoderms	12	6	10	7	7.7	8.0	6	10	2.1	1.2	4.7	23	

Los Penasquitos Lagoon: 331

95007

	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CI	sum
Boccardiella hamata	0	0	0	0	1	0.3	0.5	0	1	0.5	0.3	0.8	1
Capitella capitata	27	19	177	50	68.3	98.0	19	177	73.7	36.8	118.1	273	
Mediomastus sp.	0	0	1	0	0.3	0.5	0	1	0.5	0.3	0.8	1	
Polydora nuchalis	3	1	24	9	9.3	12.5	1	24	10.4	5.2	16.7	37	
Pseudopolydora paucibranchiata	1	0	0	0	0.3	0.5	0	1	0.5	0.3	0.8	1	
Streblospio benedicti	4	1	14	14	8.3	7.5	1	14	6.8	3.4	10.8	33	
nematoda	5	0	13	2	5.0	6.5	0	13	5.7	2.9	9.2	20	
nemertea	0	0	1	0	0.3	0.5	0	1	0.5	0.3	0.8	1	
oligochaeta	63	14	402	145	156.0	208.0	14	402	172.7	86.3	276.8	624	
phoronida	2	1	3	6	3.0	3.5	1	6	2.2	1.1	3.5	12	
Cerithidea californica	30	2	20	3	13.8	16.0	2	30	13.6	6.8	21.8	55	
Odosomia sp.	1	0	0	0	0.3	0.5	0	1	0.5	0.3	0.8	1	
Tagelus subteres	0	1	0	0	0.3	0.5	0	1	0.5	0.3	0.8	1	
Grandierella japonica	35	0	3	2	10.0	17.5	0	35	16.7	8.4	26.8	40	
Pontogenia rostrata	43	0	8	0	12.8	21.5	0	43	20.5	10.3	32.9	51	
Total Fauna	15	214	39	666	232	287.8	352.5	39	666	266.8	133.4	427.6	1151
Total Polychaetes	6	35	21	216	74	86.5	118.5	21	216	89.2	44.6	143.0	346
Total Molluscs	3	31	3	20	3	14.3	17.0	3	31	13.7	6.9	22.0	57
Total Crustaceans	2	78	0	11	2	22.8	39.0	0	78	37.1	18.6	59.5	91
Total Echinoderms	0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Species	15	11	7	11	9	9.5	9.0	7	11	1.9	1.0	3.1	38

	95018	Number per core				Summary Statistics							
		# sp/rep.1	rep.2	rep.3	rep.4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Los Penasquitos Lagoon: 336													
Boxcardiella hamata		1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Capitella capitata		26	34	12	12	24.0	23.0	12	34	11.1	6.4	25.1	72
Polydora nuchalis		4	2	4	4	3.3	3.0	2	4	1.2	0.7	2.6	10
Streblospio benedicti		0	2	1	1	1.0	1.0	0	2	1.0	0.6	2.3	3
oligochaeta		59	62	12	12	44.3	37.0	12	62	28.0	16.2	63.1	133
Platyhelminthes		0	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Mollusca		9	46	0	0	18.3	23.0	0	46	24.4	14.1	54.9	55
Odostomia sp.		1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Corophium acherusicum/insidic		16	30	2	2	16.0	16.0	2	30	14.0	8.1	31.5	48
Grandierella japonica		1	1	0	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Pontogenia rostrata		2	2	0	0	1.3	1.0	0	2	1.2	0.7	2.6	4
anemone		2	1	0	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Total Fauna		12	121	181	31	111.0	106.0	31	181	75.5	43.6	169.9	333
Total Polychaetes		4	31	38	17	28.7	27.5	17	38	10.7	6.2	24.1	86
Total Molluscs		2	10	46	0	18.7	23.0	0	46	24.2	14.0	54.4	56
Total Crustaceans		3	19	33	2	18.0	17.5	2	33	15.5	9.0	34.9	54
Total Echinoderms		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Species		12	10	10	5	8.3	7.5	5	10	2.9	1.7	6.5	25

	85011	Number per core				Summary Statistics							
		# sp/rep.1	rep.2	rep.3	rep.4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Newport Bay Harbor: 819													
Aphelocheata cf. parva		3	5	0	0	2.7	2.5	0	5	2.5	1.5	5.7	8
Aphelocheata sp.		2	3	0	0	1.7	1.5	0	3	1.5	0.9	3.4	5
Armandia brevis		0	0	1	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Cirratulus cirratus		2	2	1	1	1.7	1.5	1	2	0.6	0.3	1.3	5
Cirriformia spirabrancha		19	17	9	9	15.0	14.0	9	19	5.3	3.1	11.9	45
Cossura candida		0	3	2	2	1.7	1.5	0	3	1.5	0.9	3.4	5
Cossura sp. A		2	1	1	1	1.3	1.5	1	2	0.6	0.3	1.3	4
Diplocirrus sp.		1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis		30	0	10	10	13.3	15.0	0	30	15.3	8.8	34.4	40
Euclide limnicola		2	4	0	0	2.0	2.0	0	4	2.0	1.2	4.5	6
Exogone kourci		2	29	0	0	10.3	14.5	0	29	16.2	9.4	36.4	31
Fabriciinae sp. A		2	0	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Leitoscoloplos pugettensis		5	2	4	4	3.7	3.5	2	5	1.5	0.9	3.4	11

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Mediomastus calliformis		4	24	7		11.7	14.0	4	24	10.8	6.2	24.3	35
Mediomastus sp.		3	15	6		8.0	9.0	3	15	6.2	3.6	14.1	24
Monticellina dorsobranchialis		0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Neanthes acuminata		0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Nephtys cornuta		0	0	4		1.3	2.0	0	4	2.3	1.3	5.2	4
Nereis procer		0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Paraprionospio pinnata		0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Pherusa capulata		2	4	0		2.0	2.0	0	4	2.0	1.2	4.5	6
Polyophthalmus pictus		2	0	0		0.7	1.0	0	2	1.2	0.7	2.6	2
Prionospio heterobranchia		0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio lighti		0	9	0		3.0	4.5	0	9	5.2	3.0	11.7	9
Pseudopolydora paucibranchiata		3	2	2		2.3	2.5	2	3	0.6	0.3	1.3	7
Scoletoma minima		5	6	4		5.0	5.0	4	6	1.0	0.6	2.3	15
Scoletoma sp.		13	10	3		8.7	8.0	3	13	5.1	3.0	11.5	26
Scoletoma zonata		9	14	19		14.0	14.0	9	19	5.0	2.9	11.3	42
Sthenelasma unififormis		1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Streblospio benedicti		0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Syllides japonica		1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
nematoda		0	12	8		6.7	6.0	0	12	6.1	3.5	13.7	20
nemertea		0	4	1		1.7	2.0	0	4	2.1	1.2	4.7	5
Leptopecten latiauratus		0	2	0		0.7	1.0	0	2	1.2	0.7	2.6	2
Musculista senhousi		7	15	1		7.7	8.0	1	15	7.0	4.1	15.8	23
Odotomia sp.		21	1	0		7.3	10.5	0	21	11.8	6.8	26.7	22
Theora fragilis		0	2	0		0.7	1.0	0	2	1.2	0.7	2.6	2
Acuminodeutopus heteruropus		6	3	2		3.7	4.0	2	6	2.1	1.2	4.7	11
Anatanais pseudonormani		2	2	0		1.3	1.0	0	2	1.2	0.7	2.6	4
Bathyleberis = Cylindroleberidae		1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Bemlos concavus		2	0	0		0.7	1.0	0	2	1.2	0.7	2.6	2
Elasmopus bampo		0	6	1		2.3	3.0	0	6	3.2	1.9	7.2	7
Eobrolgus spinosus		0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Liljeborgia sp.		1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Lophopanopeus sp.		0	2	0		0.7	1.0	0	2	1.2	0.7	2.6	2
Monoculodes hartmanae		0	1	3		1.3	1.5	0	3	1.5	0.9	3.4	4
Paranthura elegans		1	0	1		0.7	0.5	0	1	0.6	0.3	1.3	2

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Podocerus cristatus		0	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
<b>Total Fauna</b>	<b>48</b>	<b>154</b>	<b>206</b>	<b>92</b>		<b>150.7</b>	<b>149.0</b>	<b>92</b>	<b>206</b>	<b>57.1</b>	<b>33.0</b>	<b>128.4</b>	<b>452</b>
<b>Total Polychaetes</b>	<b>31</b>	<b>113</b>	<b>154</b>	<b>75</b>		<b>114.0</b>	<b>114.5</b>	<b>75</b>	<b>154</b>	<b>39.5</b>	<b>22.8</b>	<b>88.9</b>	<b>342</b>
<b>Total Mollusca</b>	<b>4</b>	<b>28</b>	<b>20</b>	<b>1</b>		<b>16.3</b>	<b>14.5</b>	<b>1</b>	<b>28</b>	<b>13.9</b>	<b>8.0</b>	<b>31.2</b>	<b>49</b>
<b>Total Crustaceans</b>	<b>11</b>	<b>13</b>	<b>16</b>	<b>7</b>		<b>12.0</b>	<b>11.5</b>	<b>7</b>	<b>16</b>	<b>4.6</b>	<b>2.6</b>	<b>10.3</b>	<b>36</b>
<b>Total Echinoderms</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>
<b>Total Species</b>	<b>48</b>	<b>29</b>	<b>34</b>	<b>23</b>		<b>28.7</b>	<b>28.5</b>	<b>23</b>	<b>34</b>	<b>5.5</b>	<b>3.2</b>	<b>12.4</b>	<b>86</b>
<b>Newport Bay Harbor: 905</b>													
		<b>3</b>	<b>1</b>	<b>0</b>		<b>1.3</b>	<b>1.5</b>	<b>0</b>	<b>3</b>	<b>1.5</b>	<b>0.9</b>	<b>3.4</b>	<b>4</b>
Aphelocheata cf. parva	Polychaeta												
Aphelocheata sp.	Polychaeta	1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Cirriormia spirabranchia	Polychaeta	14	4	6		8.0	9.0	4	14	5.3	3.1	11.9	24
Cossura candida	Polychaeta	0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Cossura sp. A	Polychaeta	23	10	6		13.0	14.5	6	23	8.9	5.1	20.0	39
Dipolocirrus sp.	Polychaeta	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	Polychaeta	5	2	3		3.3	3.5	2	5	1.5	0.9	3.4	10
Euchone limnicola	Polychaeta	4	7	9		6.7	6.5	4	9	2.5	1.5	5.7	20
Exogone cf. verugera	Polychaeta	0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone laurei	Polychaeta	0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Fabricinuda limnicola	Polychaeta	1	1	0		0.7	0.5	0	1	0.6	0.3	1.3	2
Leitoscoloplos puggetensis	Polychaeta	22	23	8		17.7	15.5	8	23	8.4	4.8	18.9	53
Mediomastus ambiseta	Polychaeta	2	3	7		4.0	4.5	2	7	2.6	1.5	6.0	12
Mediomastus sp.	Polychaeta	2	4	8		4.7	5.0	2	8	3.1	1.8	6.9	14
Nephtys caecoides	Polychaeta	1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Nephtys cornuta	Polychaeta	0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Nereis procerca	Polychaeta	1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Pista cf. alata	Polychaeta	9	4	6		6.3	6.5	4	9	2.5	1.5	5.7	19
Prionospio heterobranchia	Polychaeta	1	4	0		1.7	2.0	0	4	2.1	1.2	4.7	5
Pseudopolydora paucibranchiate	Polychaeta	4	9	1		4.7	5.0	1	9	4.0	2.3	9.1	14
Scoletoma zonata	Polychaeta	6	9	7		7.3	7.5	6	9	1.5	0.9	3.4	22
Sphaerosyllis californiensis	Polychaeta	3	0	2		1.7	1.5	0	3	1.5	0.9	3.4	5
Spiophanes missionensis	Polychaeta	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
nematoda	Nematoda	0	5	16		7.0	8.0	0	16	8.2	4.7	18.4	21
nemertea	Nemertea	3	1	1		1.7	2.0	1	3	1.2	0.7	2.6	5

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
oligochaeta	0	3	2			1.7	1.5	0	3	1.5	0.9	3.4	5
phoronida	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
Acteocina sp.	1	1	2			1.3	1.5	1	2	0.6	0.3	1.3	4
Musculista senhousel	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Ostomia sp.	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Protothaca staminea	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Tagelus subteres	0	4	4			2.7	2.0	0	4	2.3	1.3	5.2	8
Theora fragilis	3	3	0			2.0	1.5	0	3	1.7	1.0	3.9	6
Acuminodcutopus heteruropus	1	3	0			1.3	1.5	0	3	1.5	0.9	3.4	4
Anatanais pseudonormani	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Bathyleberis = Cylindroleberidae	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Bemkos concavus	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Euphilomedes carcharodonta	2	1	0			1.0	1.0	0	2	1.0	0.6	2.3	3
Leptognathia sp. A	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Mayerella banksia	8	2	4			4.7	5.0	2	8	3.1	1.8	6.9	14
Monoculodes hartmannae	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Paranthura elegans	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Rudilemboides stenopropodus	5	5	2			4.0	3.5	2	5	1.7	1.0	3.9	12
anemone	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Total Fauna	44	131	116	101		116.0	116.0	101	131	15.0	8.7	33.8	348
Total Polychaetes	23	102	83	67		84.0	84.5	67	102	17.5	10.1	39.4	252
Total Molluscs	6	4	9	8		7.0	6.5	4	9	2.6	1.5	6.0	21
Total Crustaceans	10	21	12	7		13.3	14.0	7	21	7.1	4.1	16.0	40
Total Echinoderms	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
Total Species	44	29	29	25		27.7	27.0	25	29	2.3	1.3	5.2	83



	85010	Number per core				Summary Statistics							
		# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL
		3	0	3		2.0	1.5	0	3	1.7	1.0	3.9	6
		8	2	3		4.3	5.0	2	8	3.2	1.9	7.2	13
		0	2	3		1.7	1.5	0	3	1.5	0.9	3.4	5
		5	19	24		16.0	14.5	5	24	9.8	5.7	22.2	48
		2	3	4		3.0	3.0	2	4	1.0	0.6	2.3	9
		2	0	1		1.0	1.0	0	2	1.0	0.6	2.3	3
		6	0	1		2.3	3.0	0	6	3.2	1.9	7.2	7
		1	0	4		1.7	2.0	0	4	2.1	1.2	4.7	5
		9	0	4		4.3	4.5	0	9	4.5	2.6	10.1	13
		1	3	10		4.7	5.5	1	10	4.7	2.7	10.6	14
		28	9	25		20.7	18.5	9	28	10.2	5.9	23.0	62
		0	3	1		1.3	1.5	0	3	1.5	0.9	3.4	4
		8	2	8		6.0	5.0	2	8	3.5	2.0	7.8	18
		1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
		1	4	4		3.0	2.5	1	4	1.7	1.0	3.9	9
		2	0	0		0.7	1.0	0	2	1.2	0.7	2.6	2
		2	0	4		2.0	2.0	0	4	2.0	1.2	4.5	6
		41	5	57		34.3	31.0	5	57	26.6	15.4	59.9	103
		0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
		5	8	6		6.3	6.5	5	8	1.5	0.9	3.4	19
		5	6	11		7.3	8.0	5	11	3.2	1.9	7.2	22
		6	2	2		3.3	4.0	2	6	2.3	1.3	5.2	10
		79	11	63		51.0	45.0	11	79	35.6	20.5	80.0	153
		3	0	1		1.3	1.5	0	3	1.5	0.9	3.4	4
		8	1	2		3.7	4.5	1	8	3.8	2.2	8.5	11
		1	0	1		0.7	0.5	0	1	0.6	0.3	1.3	2
		3	0	3		2.0	1.5	0	3	1.7	1.0	3.9	6
		0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
		10	3	10		7.7	6.5	3	10	4.0	2.3	9.1	23
		1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
		3	3	2		2.7	2.5	2	3	0.6	0.3	1.3	8
		0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
		12	0	2		4.7	6.0	0	12	6.4	3.7	14.5	14

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Mayrella banksia	7	3	8			6.0	5.5	3	8	2.6	1.5	6.0	18
Crustacea													
Crustacea	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Paranthura elegans	2	1	0			1.0	1.0	0	2	1.0	0.6	2.3	3
Pycnogonid	10	9	6			8.3	8.0	6	10	2.1	1.2	4.7	25
cucumber	2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
anemone	38	278	99	277		218.0	188.5	99	278	103.1	59.5	231.9	654
Total Fauna	22	136	68	176		126.7	122.0	68	176	54.6	31.5	122.9	380
Total Polychaetes	4	14	3	14		10.3	8.5	3	14	6.4	3.7	14.3	31
Total Molluscs	5	23	6	13		14.0	14.5	6	23	8.5	4.9	19.2	42
Total Crustaceans	1	10	9	6		8.3	8.0	6	10	2.1	1.2	4.7	25
Total Echinoderms	38	33	20	33		28.7	26.5	20	33	7.5	4.3	16.9	86
Total Species													

Newport Bay Harbor: Arches		85015	
Cirriformia spirabranchia	4	0	0
Polychaeta	4	0	0
Polychaeta	5	4	0
Cosura sp. A	0	2	0
Diplocirrus sp.	4	7	2
Dorvillea longicornis	0	1	0
Exogone lourei	0	2	0
Leitoscoloplos pugettensis	0	1	0
Mediomastus californiensis	0	1	0
Mediomastus sp.	0	0	1
Nephtys cornuta	4	3	4
Nereis prucera	0	1	0
Paraprionospio pinnata	1	0	0
Pherusa capulata	0	1	0
Pista alata	0	0	1
Polydora ligni	0	0	1
Prionospio heterobranchia	1	0	0
Pseudopolydora paucibranchiate	2	8	0
Polychaeta	0	3	0
Polychaeta	0	1	0
Nematoda	1	1	4
Oligochaeta	3	1	0
Mollusca			

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Bathyleberis = Cylindroleberidae	0	0	0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Crustacea	2	0	0	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Bemlos concavus	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Elasmopus bampo	0	1	5	1	1	2.0	2.5	0	5	2.6	1.5	6.0	6
Euphilomedes carcharodontia	1	1	1	1	0	1.0	1.0	1	1	0.0	0.0	0.0	3
Paracerceis sculpta	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Paranthura elegans	27	28	41	20	29.7	30.5	20	41	10.6	6.1	23.8	89	
Total Fauna	18	21	34	9	21.3	21.5	9	34	12.5	7.2	28.1	64	
Total Polychaetes	1	3	1	0	1.3	1.5	0	3	1.5	0.9	3.4	4	
Total Molluscs	6	3	4	7	4.7	5.0	3	7	2.1	1.2	4.7	14	
Total Crustaceans	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0	
Total Echinoderms	27	11	19	9	13.0	14.0	9	19	5.3	3.1	11.9	39	
Total Species													

#### Newport Bay Harbor: Newport Islan 85014

Aphelocheata cf. parva	3	16	7	0	8.7	9.5	3	16	6.7	3.8	15.0	26
Polychaeta	0	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Capitella capitata complex	16	40	15	0	23.7	27.5	15	40	14.2	8.2	31.8	71
Cirriformia spirabrancha	1	3	0	0	1.3	1.5	0	3	1.5	0.9	3.4	4
Cossura pygodactylata	26	6	0	0	10.7	13.0	0	26	13.6	7.9	30.6	32
Cossura sp. A	1	1	4	0	2.0	2.5	1	4	1.7	1.0	3.9	6
Leitoscoloplos puggentensis	0	2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Pherusa capulata	0	1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Prionospio heterobranchia	0	0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Scoletoma zonata	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Sphaerosyllis californiensis	39	25	37	0	30.7	32.0	25	39	7.6	4.4	17.0	101
nematoda	0	2	4	0	2.0	2.0	0	4	2.0	1.2	4.5	6
nemertea	95	105	10	0	70.0	57.5	10	105	52.2	30.1	117.5	210
oligocheata	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
phoronida	3	4	4	0	3.7	3.5	3	4	0.6	0.3	1.3	11
Musculista senhousci	5	7	4	0	5.3	5.5	4	7	1.5	0.9	3.4	16
Odosstomia sp.	0	2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Theora fragilis	0	6	2	0	2.7	3.0	0	6	3.1	1.8	6.9	8
Ampithoe plumulosa	0	6	0	0	2.0	3.0	0	6	3.5	2.0	7.8	6
Bathyleberis = Cylindroleberidae	0	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Bemlos concavus												

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Corophium acherusicum/insidic	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Elasmopus bampo	2	7	1	1	1	3.3	4.0	1	7	3.2	1.9	7.2	10
Grandierella japonica	4	0	4	4	4	2.7	2.0	0	4	2.3	1.3	5.2	8
Paracercis sculpia	3	2	1	1	1	2.0	2.0	1	3	1.0	0.6	2.3	6
Paranthura elegans	0	0	1	1	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Total Fauna	25	200	238	97	97	178.3	167.5	97	238	73.0	42.1	164.1	535
Total Polychaetes	10	48	70	29	29	49.0	49.5	29	70	20.5	11.8	46.2	147
Total Molluscs	3	8	13	8	8	9.7	10.5	8	13	2.9	1.7	6.5	29
Total Crustaceans	8	9	23	9	9	13.7	16.0	9	23	8.1	4.7	18.2	41
Total Echinoderms	0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Species	25	14	20	15	15	16.3	17.0	14	20	3.2	1.9	7.2	49

#### Newport Bay Harbor: Rhine Channe 85013

Aphelocheata cf. parva	23	32	21	21	21	25.3	26.5	21	32	5.9	3.4	13.2	76
Brania brevipharyngea	1	1	2	2	2	1.3	1.5	1	2	0.6	0.3	1.3	4
Capitella capitata complex	0	2	1	1	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Cirriiformia spirabranchia	1	0	4	4	4	1.7	2.0	0	4	2.1	1.2	4.7	5
Cossura sp. A	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	8	4	6	6	6	6.0	6.0	4	8	2.0	1.2	4.5	18
Euchone limnicola	4	2	6	6	6	4.0	4.0	2	6	2.0	1.2	4.5	12
Eupolyommia heterobranchia	5	11	6	6	6	7.3	8.0	5	11	3.2	1.9	7.2	22
Leitoscoloplos pugettensis	3	7	2	2	2	4.0	4.5	2	7	2.6	1.5	6.0	12
Mediomastus californiensis	0	3	2	2	2	1.7	1.5	0	3	1.5	0.9	3.4	5
Mediomastus sp.	2	2	1	1	1	1.7	1.5	1	2	0.6	0.3	1.3	5
Megalomma pigmentum	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nereis procerca	4	0	5	5	5	3.0	2.5	0	5	2.6	1.5	6.0	9
Polydora cornuta	4	5	2	2	2	3.7	3.5	2	5	1.5	0.9	3.4	11
Pronescio heterobranchia	1	3	0	0	0	1.3	1.5	0	3	1.5	0.9	3.4	4
Pseudopolydora paucibranchiat	38	68	53	53	53	53.0	53.0	38	68	15.0	8.7	33.8	159
Scoletoma zonata	0	2	1	1	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Sphaerosyllis californiensis	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Syllides sp.	0	2	2	2	2	1.3	1.0	0	2	1.2	0.7	2.6	4
nematoda	23	10	2	2	2	11.7	12.5	2	23	10.6	6.1	23.8	35
oligochaeta	11	19	7	7	7	12.3	13.0	7	19	6.1	3.5	13.7	37

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Phoronida	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Platyhelminthes	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Mollusca	17	12	16			15.0	14.5	12	17	2.6	1.5	6.0	45
Crustacea	1	0	3			1.3	1.5	0	3	1.5	0.9	3.4	4
Beimlos macromanus	7	3	7			5.7	5.0	3	7	2.3	1.3	5.2	17
Elasmopus bampo	36	23	28			29.0	29.5	23	36	6.6	3.8	14.8	87
Mayerella banksia	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
Melphusiana bola	1	6	2			3.0	3.5	1	6	2.6	1.5	6.0	9
Paracereis sculpta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Paranthura elegans	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Podocerus cristatus	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Total Fauna	32	192	225	181		199.3	203.0	181	225	22.9	13.2	51.5	598
Total Polychaetae	19	94	147	114		118.3	120.5	94	147	26.8	15.5	60.2	355
Total Molluscs	1	17	12	16		15.0	14.5	12	17	2.6	1.5	6.0	45
Total Crustaceans	8	47	35	42		41.3	41.0	35	47	6.0	3.5	13.6	124
Total Echinoderms	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
Total Species	32	21	28	24		24.3	24.5	21	28	3.5	2.0	7.9	73

Newport Bay Harbor: Yachtsman Co 85016

Aphelocheata sp.	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cirriformia spirabranchia	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cosura sp. A	2	6	1	4		4.0	4.0	1	7	2.5	1.1	3.3	20
Diplocirrus sp.	0	0	0	1		0.2	0.5	0	1	0.4	0.2	0.6	1
Exogone lourei	0	1	0	0		0.2	0.5	0	1	0.4	0.2	0.6	1
Fabricinuda limnicola	1	0	0	2		0.6	1.0	0	2	0.9	0.4	1.1	3
Glycera americana	0	0	0	0		0.2	0.5	0	1	0.4	0.2	0.6	1
Goniada littorea	2	0	1	0		0.6	1.0	0	2	0.9	0.4	1.1	3
Leitoscoloplos puggettensis	3	12	7	9		7.2	7.5	3	12	3.5	1.6	4.5	36
Mediomastus ambiseta	6	5	3	2		3.6	4.0	2	6	1.8	0.8	2.3	18
Mediomastus sp.	4	2	6	2		4.2	4.5	2	7	2.3	1.0	2.9	21
Monticellina sp.	0	0	0	1		0.4	0.5	0	1	0.5	0.2	0.7	2
Nephtys caecoides	0	0	0	1		0.7	0.5	0	1	0.4	0.2	0.6	1
Nephtys californiensis	0	0	0	0		0.2	0.5	0	1	0.4	0.2	0.6	1
Nephtys cornuta	0	0	1	1		0.6	0.5	0	1	0.5	0.2	0.7	3

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Notomastus tenuis	0	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Prionospio heterobranchia	0	2	0	1	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Scoletoma minima	2	0	3	3	3	1.8	1.5	0	3	1.3	0.6	1.7	9
Scoletoma tetraura	0	0	1	2	2	0.8	1.0	0	2	0.8	0.4	1.1	4
Scoletoma zonata	9	28	4	6	6	10.8	16.0	4	28	9.8	4.4	12.6	54
Scyphoproctus oculatus	2	0	1	1	1	1.2	1.0	0	2	0.8	0.4	1.1	6
Sthenelancella uniformis	0	0	0	1	1	0.2	0.5	0	1	0.4	0.2	0.6	1
nematoda	0	0	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
nemertea	1	6	3	0	0	2.2	3.0	0	6	2.4	1.1	3.1	11
oligochaeta	0	1	0	9	9	2.2	4.5	0	9	3.8	1.7	4.9	11
phoronida	15	2	0	1	1	3.6	7.5	0	15	6.4	2.9	8.3	18
Acteocina sp.	0	0	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Epitonium sp.	0	0	0	1	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Macoma yoldiformis	0	0	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Maetra californica	0	0	0	1	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Musculista senhousci	0	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Protothaca staminea	0	1	0	2	2	1.0	1.0	0	2	1.0	0.4	1.3	5
Tagelus subteres	7	2	4	7	7	5.4	4.5	2	7	2.3	1.0	3.0	27
Tellina carpenteri	3	0	1	2	2	1.2	1.5	0	3	1.3	0.6	1.7	6
Theora fragilis	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Acuminodeutopus heteruopus	0	3	1	1	1	1.2	1.5	0	3	1.1	0.5	1.4	6
Asteropella slatteryi	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Bemlos concavus	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Corophium acherusicum/insidic	1	2	0	0	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Euphilomedes carcharodonta	1	2	0	3	3	1.2	1.5	0	3	1.3	0.6	1.7	6
Lophopanopeus sp.	0	0	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Mayerella banksia	0	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Monoculodes hartmanae	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Mysidopsis californica	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Paranthura elegans	0	0	0	1	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Rudiloboides stenopropodus	4	4	0	32	32	9.0	16.0	0	32	13.0	5.8	16.7	45
Serolis carinata	0	0	0	1	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Amphiodia sp.	0	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
cucumber	0	0	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Total Fauna	49	66	82	41	99	70.8	70.0	41	99	21.5	9.6	27.7	354
Total Polychaetes	22	33	56	28	37	38.4	42.0	28	56	10.6	4.7	13.6	192
Total Molluscs	9	10	4	6	13	9.2	8.5	4	13	4.1	1.8	5.3	46
Total Crustaceans	12	7	13	3	39	14.2	21.0	3	39	14.3	6.4	18.4	71
Total Echinoderms	2	0	0	0	0	0.6	1.5	0	3	1.3	0.6	1.7	3
Total Species	49	19	18	18	28	22.4	23.5	18	29	5.6	2.5	7.2	112

Newport Bay Lagoon: 431		85007												
Capitella capitata	13	27	18			19.3	20.0	13	27	7.1	4.1	16.0	58	
Cirriiformia spirabranchia	14	16	5			11.7	10.5	5	16	5.9	3.4	13.2	35	
Exogone cf. verugera	14	20	13			15.7	16.5	13	20	3.8	2.2	8.5	47	
Marphysa sanguinea	1	3	1			1.7	2.0	1	3	1.2	0.7	2.6	5	
Nereis procerca	4	5	1			3.3	3.0	1	5	2.1	1.2	4.7	10	
Pseudopolydora paucibranchiata	99	71	84			84.7	85.0	71	99	14.0	8.1	31.5	254	
Streblospio benedicti	49	96	50			65.0	72.5	49	96	26.9	15.5	60.4	195	
nematoda	4	11	20			11.7	12.0	4	20	8.0	4.6	18.0	35	
nemertea	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2	
oligochaeta	0	31	7			12.7	15.5	0	31	16.3	9.4	36.6	38	
phoronida	4	4	8			5.3	6.0	4	8	2.3	1.3	5.2	16	
platyhelminthes	2	1	0			1.0	1.0	0	2	1.0	0.6	2.3	3	
Acteocina sp.	8	5	6			6.3	6.5	5	8	1.5	0.9	3.4	19	
Cerithidea californica	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1	
Musculista senhousci	29	49	25			34.3	37.0	25	49	12.9	7.4	28.9	103	
Odosomia sp.	12	8	11			10.3	10.0	8	12	2.1	1.2	4.7	31	
Tagelus subteres	5	14	5			8.0	9.5	5	14	5.2	3.0	11.7	24	
Ampithoe valida	58	133	84			91.7	95.5	58	133	38.1	22.0	85.7	275	
Corophium acherusicum/insidic	16	11	4			10.3	10.0	4	16	6.0	3.5	13.6	31	
Grandidierella japonica	176	186	110			157.3	148.0	110	186	41.3	23.8	92.9	472	
Monoculodes hartmanae	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1	
Total Fauna	21	509	692	454		551.7	573.0	454	692	124.6	71.9	280.4	1655	
Total Polychaetes	7	194	238	172		201.3	205.0	172	238	33.6	19.4	75.6	604	
Total Molluscs	5	54	76	48		59.3	62.0	48	76	14.7	8.5	33.2	178	
Total Crustaceans	4	251	330	198		259.7	264.0	198	330	66.4	38.4	149.5	779	
Total Species	21	18	19	19		18.7	18.5	18	19	0.6	0.3	1.3	56	

Summary Statistics

	Number per core				mean	median	min	max	St. Dev.	S.E.	95%CL		sum
	# sp	rep 1	rep 2	rep 3							rep 4	sum	

Newport Bay Lagoon: 670													
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
85008													
Polychaeta	0	0	2	1		0.6	1.0	0	2	0.9	0.4	1.1	3
Aphelocheata cf. parva	0	3	0	0		0.6	1.5	0	3	1.3	0.6	1.7	3
Brania brevipharyngea	2	1	0	1		0.8	1.0	0	2	0.8	0.4	1.1	4
Capitella capitata	1	1	0	0		0.4	0.5	0	1	0.5	0.2	0.7	2
Chone sp.	5	6	5	5		4.4	3.5	1	6	1.9	0.9	2.5	22
Cirriformia spirabranchia	3	2	3	0		2.6	2.5	0	5	1.8	0.8	2.3	13
Dorvillea longicornis	1	30	4	11		9.4	15.5	1	30	12.2	5.5	15.7	47
Exogone cf. verugera	6	6	15	8		8.2	10.5	6	15	3.9	1.7	5.0	41
Fabricinuda limnicola	0	0	1	0		0.2	0.5	0	1	0.4	0.2	0.6	1
Halosydna johnsoni	4	4	4	0		2.6	2.0	0	4	1.9	0.9	2.5	13
Leitoscoloplos pugettensis	6	3	2	9		6.2	6.5	2	11	3.8	1.7	4.9	31
Marphysa sanguinea	2	1	1	2		1.4	1.5	1	2	0.5	0.2	0.7	7
Marphysa spp. juv.	2	5	6	8		5.8	5.0	2	8	2.5	1.1	3.2	29
Mediomastus californiensis	1	0	0	0		0.2	0.5	0	1	0.4	0.2	0.6	1
Megalomma pigmentum	10	8	11	9		10.6	11.5	8	15	2.7	1.2	3.5	53
Nereis proclera	0	1	0	0		0.2	0.5	0	1	0.4	0.2	0.6	1
Notomastus tenuis	0	1	0	0		0.2	0.5	0	1	0.4	0.2	0.6	1
Palaenotus bellis	12	7	10	8		10.0	10.0	7	13	2.5	1.1	3.3	50
Pista cf. alata	1	2	0	1		0.8	1.0	0	2	0.8	0.4	1.1	4
Polyophthalmus pictus	2	2	0	2		1.4	1.0	0	2	0.9	0.4	1.1	7
Prionospio heterobranchia	6	26	11	5		11.8	15.5	5	26	8.4	3.8	10.8	59
Pseudopolydora paucibranchiata	1	0	0	0		0.2	0.5	0	1	0.4	0.2	0.6	1
Scoletoma minima	1	1	5	0		1.8	2.5	0	5	1.9	0.9	2.5	9
Scoletoma zonata	0	5	1	0		1.2	2.5	0	5	2.2	1.0	2.8	6
Sphaerosyllis californiensis	0	1	1	0		0.6	0.5	0	1	0.5	0.2	0.7	3
Streblospio benedicti	1	0	0	0		0.2	0.5	0	1	0.4	0.2	0.6	1
Terebella sp.	12	115	4	31		36.0	59.5	4	115	45.2	20.2	58.2	180
nematoda	0	1	1	0		0.4	0.5	0	1	0.5	0.2	0.7	2
nemertea	3	7	20	11		10.8	11.5	3	20	6.4	2.9	8.3	54
oligochaeta	2	0	0	0		0.6	1.0	0	2	0.9	0.4	1.1	3
platyhelminthes	3	2	3	0		1.6	1.5	0	3	1.5	0.7	1.9	8
Acteocina sp.	0	0	1	0		0.2	0.5	0	1	0.4	0.2	0.6	1
Aglaia sp.													



	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Bulla gouldiana		1	0	2	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Musculista senhousi		13	8	12	26	14.2	17.0	8	26	6.9	3.1	8.8	71
Mya arenaria		0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Ampithyx valida		1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Anatanais pseudonormani		0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Bathyleberis = Cylindroleberidae		0	5	2	2	2.0	2.5	0	5	1.9	0.8	2.4	10
Elasmopus bampo		4	10	7	5	7.4	7.5	4	11	3.0	1.4	3.9	37
Euphilomedes carcharodonta		0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Joeropsis dubia		0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Leptognathia sp. A		0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Mayerella banksia		0	2	3	0	1.0	1.5	0	3	1.4	0.6	1.8	5
Monoculodes hartmanae		0	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Paracercis sculpta		3	0	2	6	2.4	3.0	0	6	2.3	1.0	3.0	12
Paranthura elegans		2	2	0	0	0.8	1.0	0	2	1.1	0.5	1.4	4
Rudilemboides stenopropodus		0	12	1	0	3.0	6.0	0	12	5.1	2.3	6.6	15
Stenothoidae		3	0	1	2	1.6	1.5	0	3	1.1	0.5	1.5	8
Amphiodia sp.		0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
anemone		2	11	0	5	4.0	5.5	0	11	4.3	1.9	5.5	20
Total Fauna	50	116	297	141	159	170.8	206.5	116	297	72.2	32.3	92.8	854
Total Polychaetes	26	67	116	82	70	82.4	91.5	67	116	19.7	8.8	25.3	412
Total Molluscs	5	17	11	18	26	16.8	18.5	11	26	6.0	2.7	7.7	84
Total Crustaceans	13	13	35	16	16	19.6	24.0	13	35	8.8	3.9	11.3	98
Total Echinoderms	1	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Total Species	50	31	38	29	22	29.0	30.0	22	38	6.1	2.7	7.9	145

Newport Bay Lagoon: 705

85009

Capitella capitata	0	0	3	0	0	0.6	1.5	0	3	1.3	0.6	1.7	3
Cirriformia spirabrancha	0	0	27	0	0	5.4	13.5	0	27	12.1	5.4	15.5	27
Exogone cf. verugera	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Marphysa sanguinea	0	0	0	2	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Nereis procerca	0	0	17	0	0	3.4	8.5	0	17	7.6	3.4	9.8	17
Scolotoma zonata	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
nematoda	0	44	147	1	1	38.4	73.5	0	147	63.6	28.4	81.7	192
oligochaeta	1	8	183	3	3	39.0	91.5	0	183	80.6	36.0	103.6	195

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St.Dev.	S.E.	95%CL	sum
Odstostomia sp.		4	0	0	8	3.8	4.0	0	8	3.8	1.7	4.8	19
Amphithoe valida		0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Corophium acherusicum/insidic		0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Elasmopus bampo		0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Nebalia pugnetlensis		1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Paracereis sculpia		1	0	1	1	0.8	0.5	0	1	0.4	0.2	0.6	4
Paranthura elegans		0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
fish		0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Total Fauna	16	7	52	383	18	93.6	195.0	7	383	162.8	72.8	209.3	468
Total Polychaetes	6	0	0	49	2	10.2	24.5	0	49	21.7	9.7	27.9	51
Total Molluscs	1	4	0	0	8	3.8	4.0	0	8	3.8	1.7	4.8	19
Total Crustaceans	6	2	0	4	3	2.0	2.0	0	4	1.6	0.7	2.0	10
Total Echinoderms	0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Species	16	4	2	11	8	5.4	6.5	2	11	4.0	1.8	5.1	27

#### Newport Bay Lagoon: Unit I Basin 85018

Capitella capitata		20	72	1	21	35.8	36.5	1	72	31.0	13.9	39.8	179
Exogone cf. verugera		0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Polydora cornuta		3	1	0	2	1.8	1.5	0	3	1.3	0.6	1.7	9
Polydora nichalis		50	13	0	31	26.4	25.0	0	50	19.9	8.9	25.6	132
Streblospio benedicti		96	17	1	55	41.2	48.5	1	96	37.0	16.5	47.5	221
nematoda		0	0	0	1	0.8	1.5	0	3	1.3	0.6	1.7	4
oligochaeta		42	12	1	11	33.4	51.0	1	101	40.8	18.2	52.4	167
Acteocina sp.		7	14	4	3	9.2	10.5	3	18	6.5	2.9	8.4	46
Musculista senhoussei		0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Odstostomia sp.		30	288	30	24	98.0	156.0	24	288	113.2	50.6	145.5	490
Ostreidae		0	0	0	0	0.8	2.0	0	4	1.8	0.8	2.3	4
Tagelus subteres		1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Amphithoe valida		1	1	2	0	0.8	1.0	0	2	0.8	0.4	1.1	4
Corophium acherusicum/insidic		0	2	2	1	1.4	1.0	0	2	0.9	0.4	1.1	7
Grandidierella japonica		1	35	12	7	18.2	18.5	1	36	16.3	7.3	20.9	91
Pontogenia rostrata		0	15	1	0	3.4	7.5	0	15	6.5	2.9	8.4	17
Total Fauna	16	251	471	54	156	274.8	262.5	54	471	180.2	80.6	231.6	1374
Total Polychaetes	5	169	104	2	109	108.4	85.5	2	169	66.1	29.6	85.0	542

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Total Molluscs	5	38	302	34	27	108.4	164.5	27	302	118.0	52.8	151.6	542
Total Crustaceans	4	2	53	17	8	23.8	27.5	2	53	21.5	9.6	27.7	119
Total Echinoderms	0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Species	16	10	12	9	10	10.8	11.0	9	13	1.6	0.7	2.1	54

Newport Bay Lagoon: Unit II Basin 85017

Capitella capitata	15	38	13			22.0	25.5	13	38	13.9	8.0	31.3	66
Cirriformia spirabrancha	8	5	6			6.3	6.5	5	8	1.5	0.9	3.4	19
Exogone cf. verugera	0	3	0			1.0	1.5	0	3	1.7	1.0	3.9	3
Nereis procerca	6	14	9			9.7	10.0	6	14	4.0	2.3	9.1	29
Polydora cornuta	5	4	0			3.0	2.5	0	5	2.6	1.5	6.0	9
Pseudopolydora paucibranchiat	3	3	1			2.3	2.0	1	3	1.2	0.7	2.6	7
Streblospio benedicti	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Phoronida	2	1	2			1.7	1.5	1	2	0.6	0.3	1.3	5
Musculista senhousiei	0	0	3			1.0	1.5	0	3	1.7	1.0	3.9	3
Ampithoe valida	0	6	0			2.0	3.0	0	6	3.5	2.0	7.8	6
Corophium acherusicum/insidic	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Grandierella japonica	0	8	5			4.3	4.0	0	8	4.0	2.3	9.1	13
Paracereis sculpta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Pontogenia rostrata	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Total Fauna	14	39	87	40		55.3	63.0	39	87	27.4	15.8	61.7	166
Total Polychaetes	7	37	69	29		45.0	49.0	29	69	21.2	12.2	47.6	135
Total Molluscs	1	0	0	3		1.0	1.5	0	3	1.7	1.0	3.9	3
Total Crustaceans	5	0	17	6		7.7	8.5	0	17	8.6	5.0	19.4	23
Total Echinoderms	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
Total Species	14	6	12	8		8.7	9.0	6	12	3.1	1.8	6.9	26

Newport Bay: 523

		85002	
Aphelocheata cf. parva	1	0	0
Capitella capitata	7	7	16
Cirriformia spirabrancha	0	1	0
Exogone molesta	5	6	6
Marphysa sanquinca	7	2	2
Marphysa spp. juv.	3	0	3
Polychaeta	1	0	0
Polychaeta	7	7	16
Polychaeta	0	1	0
Polychaeta	5	6	6
Polychaeta	7	2	2
Polychaeta	3	0	3
	0.3	0.5	0
	10.0	11.5	7
	0.3	0.5	0
	5.7	5.5	5
	3.7	4.5	2
	2.0	1.5	0
	0.6	0.3	1
	5.2	3.0	11.7
	0.6	0.3	1.3
	0.6	0.3	1.3
	2.9	1.7	6.5
	1.7	1.0	3.9
	0.3	1.3	1
	3.0	11.7	30
	0.3	1.3	1
	1.3	1.3	17
	6.5	11	11
	3.9	6	6

	Number per core				Summary Statistics								
	# sp/rep	1 rep	2 rep	3 rep	4 rep	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Nereis procer		2	8	11		7.0	6.5	2	11	4.6	2.6	10.3	21
Polychaeta													
Polydora cornuta		12	10	36		19.3	23.0	10	36	14.5	8.4	32.6	58
Pseudopolydora paucibranchiata		4	20	7		10.3	12.0	4	20	8.5	4.9	19.1	31
Polychaeta													
Streblospio benedicti		10	82	46		46.0	46.0	10	82	36.0	20.8	81.0	138
nematoda		51	5	66		40.7	35.5	5	66	31.8	18.4	71.5	122
Oligochaeta		216	89	271		192.0	180.0	89	271	93.3	53.9	210.0	576
Phoronida		1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Mollusca		0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Acteocina sp.		27	6	0		11.0	13.5	0	27	14.2	8.2	31.9	33
Musculista senhousiei		65	70	157		97.3	111.0	65	157	51.7	29.9	116.4	292
Crustacea													
Ampithoe valida		0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Anatanais pseudonormani		8	0	1		3.0	4.0	0	8	4.4	2.5	9.8	9
Bemlos macromanus		7	7	10		8.0	8.5	7	10	1.7	1.0	3.9	24
Corophium acherusicum/insidic		2	0	0		0.7	1.0	0	2	1.2	0.7	2.6	2
Crustacea													
Elasmopus bampo		34	28	71		44.3	49.5	28	71	23.3	13.4	52.4	133
Grandidierella japonica		0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Joeropsis dubia		1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Leptognathia sp. A		0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Monoculodes hartmanae		1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Mysidopsis californica		12	10	12		11.3	11.0	10	12	1.2	0.7	2.6	34
Crustacea													
Paracercis sculpta		0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Photis sp.		2	0	1		1.0	1.0	0	2	1.0	0.6	2.3	3
Pleustidae		2	4	1		2.3	2.5	1	4	1.5	0.9	3.4	7
Podocerus cristatus		0	8	2		3.3	4.0	0	8	4.2	2.4	9.4	10
Pontogenia rostrata		30	480	364	723	522.3	543.5	364	723	183.2	105.8	412.2	1567
Total Fauna		10	51	136	127	104.7	93.5	51	136	46.7	27.0	105.1	314
Total Polychaetes		2	27	7	0	11.3	13.5	0	27	14.0	8.1	31.5	34
Total Molluscs		15	134	127	259	173.3	193.0	127	259	74.3	42.9	167.1	520
Total Crustaceans		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderms		30	23	18	22	21.0	20.5	18	23	2.6	1.5	6.0	63
Total Species													

Newport Bay: 616  
 85003  
 Aphelochaeta cf. parva  
 Polychaeta  
 Aphelochaeta sp.  
 Polychaeta

	Number per core				Summary Statistics						
	# sp/rep	1 rep.2 rep.3 rep.4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum	
Chaetozone sp. juv.	2	0	2	1.3	1.0	0	2	1.2	0.7	2.6	4
Cirratulus cirratus	1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
Cirriformia spirabrancha	10	12	10	10.7	11.0	10	12	1.2	0.7	2.6	32
Cossura pygodactylata	0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Cossura sp. A	1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
Dorvillea longicornis	10	10	13	11.0	11.5	10	13	1.7	1.0	3.9	33
Euchone limnicola	9	22	7	12.7	14.5	7	22	8.1	4.7	18.3	38
Exogone lourei	5	6	0	3.7	3.0	0	6	3.2	1.9	7.2	11
Fabricinuda limnicola	1	20	14	11.7	10.5	1	20	9.7	5.6	21.9	35
Leitoscoloplos pugettensis	1	7	6	4.7	4.0	1	7	3.2	1.9	7.2	14
Mediomastus californiensis	3	8	2	4.3	5.0	2	8	3.2	1.9	7.2	13
Mediomastus sp.	2	1	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Megalomma pigmentum	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nereis procer	0	1	4	1.7	2.0	0	4	2.1	1.2	4.7	5
Nephtys cornuta	1	2	1	1.3	1.5	1	2	0.6	0.3	1.3	4
Pherusa capulata	0	3	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Pista cf. alata	0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Pista spp. juv.	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Polycephthalmus pictus	0	2	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Prionospio heterobranchia	11	1	3	5.0	6.0	1	11	5.3	3.1	11.9	15
Pseudopolydora paucibranchiata	32	15	13	20.0	22.5	13	32	10.4	6.0	23.5	60
Scolecopsis quequindentata	2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Scoletoma minima	3	5	2	3.3	3.5	2	5	1.5	0.9	3.4	10
Scoletoma zonata	2	3	4	3.0	3.0	2	4	1.0	0.6	2.3	9
nematoda	26	23	22	23.7	24.0	22	26	2.1	1.2	4.7	71
nemerita	1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
oligochaeta	2	3	5	3.3	3.5	2	5	1.5	0.9	3.4	10
Bulla gouldiana	3	0	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Musculista senhousiei	5	7	5	5.7	6.0	5	7	1.2	0.7	2.6	17
Odotostomia sp.	52	0	1	17.7	26.0	0	52	29.7	17.2	66.9	53
Acuminodeutopus heteruopus	10	14	0	8.0	7.0	0	14	7.2	4.2	16.2	24
Anatanais pseudonormani	2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Bathyleberis = Cylindroleberidae	1	2	2	1.7	1.5	1	2	0.6	0.3	1.3	5
Elasmopus bampo	0	4	2	2.0	2.0	0	4	2.0	1.2	4.5	6

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Eobrolgus spinosus	0	0	0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Euphilomedes carcharodonta	0	4	0	0	0	1.3	2.0	0	4	2.3	1.3	5.2	4
Grandicerella japonica	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Mayerella banksia	2	1	4	4	2	2.3	2.5	1	4	1.5	0.9	3.4	7
Paracerceis sculpta	3	1	0	0	0	1.3	1.5	0	3	1.5	0.9	3.4	4
Paranthura elegans	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Total Fauna	42	207	186	137	176.7	172.0	137	207	35.9	20.7	80.8	530	
Total Polychaetes	26	100	124	94	106.0	109.0	94	124	15.9	9.2	35.7	318	
Total Molluscs	3	60	7	6	24.3	33.0	6	60	30.9	17.8	69.5	73	
Total Crustaceans	10	18	28	9	18.3	18.5	9	28	9.5	5.5	21.4	55	
Total Echinoderms	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0	
Total Species	42	30	33	30	31.0	31.5	30	33	1.7	1.0	3.9	93	

Newport Bay: 791		85004	
Aphelochaeta cf. parva	1	3	4
Brania brevipharyngea	0	1	0
Carazziella califia	0	0	1
Chaetozone sp. juv.	0	1	0
Cirratulus cirratus	0	0	1
Cirriformia spirabranchia	2	0	5
Cossura sp. A	5	0	5
Euchone limnicola	0	1	1
Exogone lourei	3	5	0
Fabricinuda limnicola	4	10	5
Harmothoe sp.	1	0	0
Leitoscoloplos puggetensis	16	13	10
Mediomastus californiensis	4	20	6
Mediomastus sp.	6	5	2
Pista cf. alata	0	0	2
Prionospio heterobranchia	0	3	0
Prionospio lighti	1	0	0
Pseudopolydora paucibranchiata	3	0	0
Scoletoma zonata	4	10	12
Scyphoproctus oculatus	0	0	2

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Sphaerosyllis californiensis	1	1	1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
nematoda	3	2	6			3.7	4.0	2	6	2.1	1.2	4.7	11
nemertea	1	0	2			1.0	1.0	0	2	1.0	0.6	2.3	3
ollgochaeta	1	1	1			1.0	1.0	1	1	0.0	0.0	0.0	3
phoronida	6	4	19			9.7	11.5	4	19	8.1	4.7	18.3	29
Donax sp.	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Laevicardium substriatum	2	3	0			1.7	1.5	0	3	1.5	0.9	3.4	5
Musculista senhousiei	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Musculus sp.	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
Mya arenaria	0	0	3			1.0	1.5	0	3	1.7	1.0	3.9	3
Protothaca staminea	1	0	2			1.0	1.0	0	2	1.0	0.6	2.3	3
Tagelus subteres	10	13	29			17.3	19.5	10	29	10.2	5.9	23.0	52
Tapes philippinarum	4	0	3			2.3	2.0	0	4	2.1	1.2	4.7	7
Amphideutopus oculatus	39	9	10			19.3	24.0	9	39	17.0	9.8	38.3	58
Anatanais pseudonormani	3	0	1			1.3	1.5	0	3	1.5	0.9	3.4	4
Bathyleberis = Cylindroleberidae	2	2	0			1.3	1.0	0	2	1.2	0.7	2.6	4
Corophium acherusicum/insidit	8	0	2			3.3	4.0	0	8	4.2	2.4	9.4	10
Elasmopus bampo	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Euphilomedes carcharodonta	18	20	2			13.3	11.0	2	20	9.9	5.7	22.2	40
Grandidicella japonica	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Mayerella banksia	14	8	3			8.3	8.5	3	14	5.5	3.2	12.4	25
Monoxulodes hartmanae	2	3	0			1.7	1.5	0	3	1.5	0.9	3.4	5
Paranthura elegans	3	0	2			1.7	1.5	0	3	1.5	0.9	3.4	5
Photis sp.	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Rudilemboides stenopropodus	32	40	26			32.7	33.0	26	40	7.0	4.1	15.8	98
pycnogonid	1	0	3			1.3	1.5	0	3	1.5	0.9	3.4	4
<b>Total Fauna</b>	<b>46</b>	<b>204</b>	<b>181</b>	<b>172</b>		<b>185.7</b>	<b>188.0</b>	<b>172</b>	<b>204</b>	<b>16.5</b>	<b>9.5</b>	<b>37.1</b>	<b>557</b>
<b>Total Polychaetes</b>	<b>21</b>	<b>51</b>	<b>73</b>	<b>57</b>		<b>60.3</b>	<b>62.0</b>	<b>51</b>	<b>73</b>	<b>11.4</b>	<b>6.6</b>	<b>25.6</b>	<b>181</b>
<b>Total Molluscs</b>	<b>8</b>	<b>19</b>	<b>18</b>	<b>37</b>		<b>24.7</b>	<b>27.5</b>	<b>18</b>	<b>37</b>	<b>10.7</b>	<b>6.2</b>	<b>24.1</b>	<b>74</b>
<b>Total Crustaceans</b>	<b>12</b>	<b>122</b>	<b>83</b>	<b>47</b>		<b>84.0</b>	<b>84.5</b>	<b>47</b>	<b>122</b>	<b>37.5</b>	<b>21.7</b>	<b>84.4</b>	<b>252</b>
<b>Total Echinoderms</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>
<b>Total Species</b>	<b>46</b>	<b>34</b>	<b>26</b>	<b>31</b>		<b>30.3</b>	<b>30.0</b>	<b>26</b>	<b>34</b>	<b>4.0</b>	<b>2.3</b>	<b>9.1</b>	<b>91</b>

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
<b>Newport Bay: 877</b>													
85005													
Aphelocheata cf. parva	14	22	22			19.3	18.0	14	22	4.6	2.7	10.4	58
Cirriformia spirabranchia	2	0	9			3.7	4.5	0	9	4.7	2.7	10.6	11
Cossura sp. A	14	15	44			24.3	29.0	14	44	17.0	9.8	38.3	73
Diplocirrus sp.	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Euchone limnicola	8	0	13			7.0	6.5	0	13	6.6	3.8	14.8	21
Fabricimuda limnicola	1	8	0			3.0	4.0	0	8	4.4	2.5	9.8	9
Leitescoloplos puggettensis	13	15	6			11.3	10.5	6	15	4.7	2.7	10.6	34
Mediomastus californiensis	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus sp.	0	2	2			1.3	1.0	0	2	1.2	0.7	2.6	4
Nereis procerca	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Nephtys cornuta	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Prionospio heterobranchia	4	2	5			3.7	3.5	2	5	1.5	0.9	3.4	11
Pseudopolydora paucibranchiata	23	19	50			30.7	34.5	19	50	16.9	9.7	37.9	92
Scoletoma minima	2	2	1			1.7	1.5	1	2	0.6	0.3	1.3	5
Scoletoma zonata	12	4	5			7.0	8.0	4	12	4.4	2.5	9.8	21
Phoronida	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Acteocina sp.	3	0	1			1.3	1.5	0	3	1.5	0.9	3.4	4
Musculista senhousiei	0	2	2			1.3	1.0	0	2	1.2	0.7	2.6	4
Odostomia sp.	0	2	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Protothaca staminea	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Tagelus subteres	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Acuminodentopus heteruropus	8	0	2			3.3	4.0	0	8	4.2	2.4	9.4	10
Anatanais pseudonormani	2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Bathyleberis = Cylindroleberidae	6	2	2			3.3	4.0	2	6	2.3	1.3	5.2	10
Corophium acherusicum/insidit	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Eobrolgus spinosus	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Euphilomedes carcharodonta	20	24	10			18.0	17.0	10	24	7.2	4.2	16.2	54
Leptognathia sp. A	2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Mayerella banksia	1	2	1			1.3	1.5	1	2	0.6	0.3	1.3	4
Melphisiana bola	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Monoculodes hartmanae	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Paracerceis sculpita	1	1	1			1.0	1.0	1	1	0.0	0.0	0.0	3



	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Paranthura elegans		1	1	3		1.7	2.0	1	3	1.2	0.7	2.6	5
Rudillembooides stenoprotopodus		13	12	14		13.0	13.0	12	14	1.0	0.6	2.3	39
<b>Total Fauna</b>	35	156	137	204		165.7	170.5	137	204	34.5	19.9	77.7	497
<b>Total Polychaetes</b>	16	98	89	159		115.3	124.0	89	159	38.1	22.0	85.7	346
<b>Total Mollusca</b>	5	3	4	7		4.7	5.0	3	7	2.1	1.2	4.7	14
<b>Total Crustaceans</b>	13	55	43	38		45.3	46.5	38	55	8.7	5.0	19.7	136
<b>Total Echinoderms</b>	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
<b>Total Species</b>	35	24	19	29		24.0	24.0	19	29	5.0	2.9	11.3	72

Newport Bay: 949

85006

Aphelocheata cf. parva	11	8	6			8.3	8.5	6	11	2.5	1.5	5.7	25
Aphelocheata sp.	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Chaetozone sp. juv.	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Cirratulus cirratus	2	4	1			2.3	2.5	1	4	1.5	0.9	3.4	7
Cirriformia spirabranchia	7	11	7			8.3	9.0	7	11	2.3	1.3	5.2	25
Cossura candida	7	5	0			4.0	3.5	0	7	3.6	2.1	8.1	12
Cossura pygodactylata	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Cossura sp. A	2	2	3			2.3	2.5	2	3	0.6	0.3	1.3	7
Diplocirrus sp.	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	6	4	4			4.7	5.0	4	6	1.2	0.7	2.6	14
Euchone limnicola	2	9	5			5.3	5.5	2	9	3.5	2.0	7.9	16
Exogone lourei	17	3	8			9.3	10.0	3	17	7.1	4.1	16.0	28
Fabriciuda limnicola	10	4	1			5.0	5.5	1	10	4.6	2.6	10.3	15
Leitoscoloplos pugettensis	9	3	13			8.3	8.0	3	13	5.0	2.9	11.3	25
Mediomastus californiensis	7	4	8			6.3	6.0	4	8	2.1	1.2	4.7	19
Mediomastus sp.	2	0	2			1.3	1.0	0	2	1.2	0.7	2.6	4
Nephtys cornuta	4	0	1			1.7	2.0	0	4	2.1	1.2	4.7	5
Prionospio heterobranchia	2	3	4			3.0	3.0	2	4	1.0	0.6	2.3	9
Pseudopolydora paucibranchiata	81	28	27			45.3	54.0	27	81	30.9	17.8	69.5	136
Scoletoma minima	1	0	7			2.7	3.5	0	7	3.8	2.2	8.5	8
Scoletoma zonata	9	13	11			11.0	11.0	9	13	2.0	1.2	4.5	33
Sphaerosyllis californiensis	2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
nematoda	23	4	5			10.7	13.5	4	23	10.7	6.2	24.1	32
nemertea	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
oligochaeta	1	0	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Bulla gouldiana	1	0	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Musculista senhoussei	4	0	0	0	0	1.3	2.0	0	4	2.3	1.3	5.2	4
Mya arenaria	0	0	1	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Tagelus subteres	1	1	0	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Tapes philippinarum	1	0	1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Acuminodeutopus heteruropus	16	0	0	0	0	5.3	8.0	0	16	9.2	5.3	20.8	16
Crustacea	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Amphideutopus oculatus	45	5	8	8	8	19.3	25.0	5	45	22.3	12.9	50.1	58
Anatanais pseudonormani	1	0	2	0	2	1.0	1.0	0	2	1.0	0.6	2.3	3
Bathyleberis = Cylindroleberidae	0	1	2	0	2	1.0	1.0	0	2	1.0	0.6	2.3	3
Euphilomedes carcharodonta	2	0	0	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Mayerella banksia	3	0	0	0	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Melphisiana bola	1	0	1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Paracerecis sculpta	8	1	0	0	1	3.0	4.0	0	8	4.4	2.5	9.8	9
Paranthura elegans	42	13	5	5	5	20.0	23.5	5	42	19.5	11.2	43.8	60
Rudilomboides stenopropodus	40	333	129	135	135	199.0	231.0	129	333	116.1	67.0	261.2	597
Total Fauna	22	183	103	110	110	132.0	143.0	103	183	44.3	25.6	99.7	396
Total Polychaetes	5	7	1	2	2	3.3	4.0	1	7	3.2	1.9	7.2	10
Total Molluscs	10	118	21	18	18	52.3	68.0	18	118	56.9	32.8	128.0	157
Total Crustaceans	0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderms	40	35	22	26	26	27.7	28.5	22	35	6.7	3.8	15.0	83
<b>Newport Bay: 1009</b>													
Polychaeta	1	1	1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
Aphelocheata cf. parva	19	9	33	33	33	20.3	21.0	9	33	12.1	7.0	27.1	61
Cirriiformia spirabrancha	0	0	1	1	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Cossura candida	0	2	0	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Cossura sp. A	1	0	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Diplocirrus sp.	2	0	1	1	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Dorvillea longicornis	7	18	2	2	2	9.0	10.0	2	18	8.2	4.7	18.4	27
Euclione limnicola	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Eumida longicornuta	3	4	5	5	5	4.0	4.0	3	5	1.0	0.6	2.3	12
Exogone louriei	12	2	22	22	22	12.0	12.0	2	22	10.0	5.8	22.5	36
Leitoscoloplos puggettensis													

	Number per core				Summary Statistics									
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum	
Mediomastus californiensis		4	3	2		3.0	3.0	2	4	1.0	0.6	2.3	9	
Mediomastus sp.		1	2	1		1.3	1.5	1	2	0.6	0.3	1.3	4	
Nephtys cornuta		1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1	
Nereis procer		4	2	1		2.3	2.5	1	4	1.5	0.9	3.4	7	
Pista cf. alata		1	0	1		0.7	0.5	0	1	0.6	0.3	1.3	2	
Prionospio heterobranchia		4	4	2		3.3	3.0	2	4	1.2	0.7	2.6	10	
Prionospio lighti		2	0	3		1.7	1.5	0	3	1.5	0.9	3.4	5	
Pseudopolydora paucibranchiata		34	50	6		30.0	28.0	6	50	22.3	12.9	50.1	90	
Scoletoma minima		0	2	5		2.3	2.5	0	5	2.5	1.5	5.7	7	
Scoletoma zonata		3	2	2		2.3	2.5	2	3	0.6	0.3	1.3	7	
nematoda		18	87	72		59.0	52.5	18	87	36.3	21.0	81.7	177	
nemerita		1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1	
oligochaeta		13	1	10		8.0	7.0	1	13	6.2	3.6	14.1	24	
phoronida		0	2	0		0.7	1.0	0	2	1.2	0.7	2.6	2	
Musculista senhoussei		3	2	0		1.7	1.5	0	3	1.5	0.9	3.4	5	
Theora fragilis		3	0	0		1.0	1.5	0	3	1.7	1.0	3.9	3	
Acuminodeutopus heteropus		5	0	0		1.7	2.5	0	5	2.9	1.7	6.5	5	
Amphideutopus oculatus		4	1	0		1.7	2.0	0	4	2.1	1.2	4.7	5	
Bathyleberis = Cylindroleberidae		1	0	7		2.7	3.5	0	7	3.8	2.2	8.5	8	
Bemlos concavus		1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1	
Elasmopus bampo		1	1	4		2.0	2.5	1	4	1.7	1.0	3.9	6	
Euphilomedes carcharodonta		0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1	
Mayerella banksia		3	0	0		1.0	1.5	0	3	1.7	1.0	3.9	3	
Melphisiana bola		3	0	4		2.3	2.0	0	4	2.1	1.2	4.7	7	
Paranthura elegans		2	0	0		0.7	1.0	0	2	1.2	0.7	2.6	2	
Podocerus cristatus		0	0	3		1.0	1.5	0	3	1.7	1.0	3.9	3	
Rudilemboides stenopropodus		0	0	20		6.7	10.0	0	20	11.5	6.7	26.0	20	
Total Fauna		37	157	197	208	187.3	182.5	157	208	26.8	15.5	60.4	562	
Total Polychaetes		20	99	102	88	96.3	95.0	88	102	7.4	4.3	16.6	289	
Total Molluscs		2	6	2	0	2.7	3.0	0	6	3.1	1.8	6.9	8	
Total Crustaceans		11	20	3	38	20.3	20.5	3	38	17.5	10.1	39.4	61	
Total Echinoderms		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0	
Total Species		37	29	21	23	24.3	25.0	21	29	4.2	2.4	9.4	73	

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
<b>Oceanside Harbor: 90</b>													
95008													
Amphicteis scaphobranchiata	1	0	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Polychaeta													
Aphelochaeta cf. parva	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Polychaeta													
Cossura pygodyctylata	1	4	0	0	0	1.7	2.0	0	4	2.1	1.2	4.7	5
Polychaeta													
Diplocirrus sp.	1	2	1	1	0	1.3	1.5	1	2	0.6	0.3	1.3	4
Polychaeta													
Dorvillea longicornis	2	0	0	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Polychaeta													
Euchone limnicola	8	7	4	4	0	6.3	6.0	4	8	2.1	1.2	4.7	19
Polychaeta													
Leitoscoloplos pugettensis	7	5	7	7	0	6.3	6.0	5	7	1.2	0.7	2.6	19
Polychaeta													
Mediomastus sp.	1	2	1	1	0	1.3	1.5	1	2	0.6	0.3	1.3	4
Polychaeta													
Prionospio heterobranchia	3	7	0	0	0	3.3	3.5	0	7	3.5	2.0	7.9	10
Polychaeta													
Pseudopolydora paucibranchiata	0	5	12	0	0	5.7	6.0	0	12	6.0	3.5	13.6	17
Polychaeta													
Scolecopsis quequindentata	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Polychaeta													
Scoletoma tetraura	3	2	1	1	0	2.0	2.0	1	3	1.0	0.6	2.3	6
Polychaeta													
Scoletoma zonata	2	9	3	3	0	4.7	5.5	2	9	3.8	2.2	8.5	14
Polychaeta													
Amphideutopus oculatus	3	5	3	3	0	3.7	4.0	3	5	1.2	0.7	2.6	11
Crustacea													
Bataeus sp.	0	0	1	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Crustacea													
Echobolus spinosus	1	1	1	1	0	1.0	1.0	1	1	0.0	0.0	0.0	3
Crustacea													
Grandierella japonica	1	0	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Crustacea													
Leptognathia sp. A	0	2	0	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Crustacea													
Mayerella banksia	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Crustacea													
Rudilembooides stenopropodus	1	5	1	1	0	2.3	3.0	1	5	2.3	1.3	5.2	7
Crustacea													
Total Fauna	20	35	59	35	35	43.0	47.0	35	59	13.9	8.0	31.2	129
Total Polychaetes	13	29	45	29	29	34.3	37.0	29	45	9.2	5.3	20.8	103
Total Molluscs	0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Crustaceans	7	6	14	6	6	8.7	10.0	6	14	4.6	2.7	10.4	26
Total Echinoderms	0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Species	20	14	16	11	11	13.7	13.5	11	16	2.5	1.5	5.7	41
<b>Oceanside Harbor: 110</b>													
95019													
Armandia brevis	1	0	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Polychaeta													
Cossura sp. A	2	1	1	1	0	1.3	1.5	1	2	0.6	0.3	1.3	4
Polychaeta													
Cossura pygodyctylata	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Polychaeta													
Dorvillea longicornis	0	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Polychaeta													
Diplocirrus sp.	22	11	5	5	5	12.7	13.5	5	22	8.6	5.0	19.4	38
Polychaeta													

	Number per core				Summary Statistics							
	# sp/rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Eteone fauchaldi	0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Euchone limnicola	15	2	7		8.0	8.5	2	15	6.6	3.8	14.8	24
Leitoscoloplos puggetensis	2	12	3		5.7	7.0	2	12	5.5	3.2	12.4	17
Lysippe labiata	1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus ambiseta	1	2	0		1.0	1.0	0	2	1.0	0.6	2.3	3
Monticellina dorsobranchialis	1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Nephtys cornuta	1	0	2		1.0	1.0	0	2	1.0	0.6	2.3	3
Prionospio heterobranchia	5	2	3		3.3	3.5	2	5	1.5	0.9	3.4	10
Pseudopolydora paucibranchiata	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Scolecopsis quequidentata	0	0	3		1.0	1.5	0	3	1.7	1.0	3.9	3
Scoletoma minima	2	0	1		1.0	1.0	0	2	1.0	0.6	2.3	3
Scoletoma tetraura	2	5	5		4.0	3.5	2	5	1.7	1.0	3.9	12
Scoletoma zonata	6	6	3		5.0	4.5	3	6	1.7	1.0	3.9	15
Tubulanus frenatus	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
nemertea	1	1	1		1.0	1.0	1	1	0.0	0.0	0.0	3
Acteocina sp.	1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Bulla gouldiana	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Laevicardium substriatum	0	5	0		1.7	2.5	0	5	2.9	1.7	6.5	5
Mactra californica	2	0	1		1.0	1.0	0	2	1.0	0.6	2.3	3
Musculus sp.	0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Theora fragilis	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Amphideutopus oculatus	7	7	0		4.7	3.5	0	7	4.0	2.3	9.1	14
Campylaspis sp.	1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Leucon subnasica	1	0	0		0.3	0.5	0	1	0.6	0.3	1.3	1
Mayerella banksia	2	1	0		1.0	1.0	0	2	1.0	0.6	2.3	3
Rudilemboides stenopropodus	2	6	1		3.0	3.5	1	6	2.6	1.5	6.0	9
cucumber	2	7	4		4.3	4.5	2	7	2.5	1.5	5.7	13
Total Fauna	32	80	74	42	65.3	61.0	42	80	20.4	11.8	46.0	196
Total Polychaetes	18	61	44	34	46.3	47.5	34	61	13.7	7.9	30.7	139
Total Molluscs	6	3	7	2	4.0	4.5	2	7	2.6	1.5	6.0	12
Total Crustaceans	5	13	14	1	9.3	7.5	1	14	7.2	4.2	16.3	28
Total Echinoderms	1	2	7	4	4.3	4.5	2	7	2.5	1.5	5.7	13
Total Species	32	22	20	16	19.3	19.0	16	22	3.1	1.8	6.9	58

Summary Statistics

	Number per core				mean	median	min	max	St. Dev.	S.E.	95%CL		sum
	# sp	rep 1	rep 2	rep 3							rep 4	sum	

Oceanside Harbor: Commercial Basi: 95020													
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Amphicteis scaphobranchiata	1	0	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Polychaeta	16	1	14			10.3	8.5	1	16	8.1	4.7	18.3	31
Diplocirrus sp.	2	0	4			2.0	2.0	0	4	2.0	1.2	4.5	6
Dorvillea longicornis	3	4	9			5.3	6.0	3	9	3.2	1.9	7.2	16
Euchone limnicola	5	15	2			7.3	8.5	2	15	6.8	3.9	15.3	22
Leitoscoloplos pugettensis	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Mediomastus ambiseta	3	0	5			2.7	2.5	0	5	2.5	1.5	5.7	8
Mediomastus californiensis	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Mediomastus sp.	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Metasychis disparidentatus	1	1	1			1.0	1.0	1	1	0.0	0.0	0.0	3
Nephtys cornuta	2	2	3			2.3	2.5	2	3	0.6	0.3	1.3	7
Pista cf. alata	0	8	8			5.3	4.0	0	8	4.6	2.7	10.4	16
Prionospio heterobranchia	18	27	46			30.3	32.0	18	46	14.3	8.3	32.2	91
Pseudopolydora paucibranchiata	2	2	1			1.7	1.5	1	2	0.6	0.3	1.3	5
Polychaeta	2	5	2			3.0	3.5	2	5	1.7	1.0	3.9	9
Scolotoma zonata	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Spiophanes missionensis	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
nemertea	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Laevicardium substriatum	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Amphideutopus oculatus	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Asteropella slatteryi	3	17	8			9.3	10.0	3	17	7.1	4.1	16.0	28
Euphilomedes carcharodonta	21	61	84	109		84.7	85.0	61	109	24.0	13.9	54.0	254
Total Fauna	16	57	66	99		74.0	78.0	57	99	22.1	12.8	49.8	222
Total Polychaetes	1	0	0	1		0.3	0.5	0	1	0.6	0.3	1.3	1
Total Molluscs	3	3	18	9		10.0	10.5	3	18	7.5	4.4	17.0	30
Total Crustaceans	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderms	21	14	12	16		14.0	14.0	12	16	2.0	1.2	4.5	42
Total Species													

Oceanside Harbor: Pendleton 95021													
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Aproprionospio pygmaea	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Capitella capitata	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Chaetozone corona	17	18	18			17.7	17.5	17	18	0.6	0.3	1.3	53
Cossura sp. A													

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Diopatra sp. juv.	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Dorvillea longicornis	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Euchone limnicola	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus ambiseta	3	8	9			6.7	6.0	3	9	3.2	1.9	7.2	20
Monticellina dorsobranchialis	5	4	10			6.3	7.0	4	10	3.2	1.9	7.2	19
Pseudopolydora paucibranchiata	2	0	2			1.3	1.0	0	2	1.2	0.7	2.6	4
Scolecopsis quequidentata	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Scoletoma minima	1	3	3			2.3	2.0	1	3	1.2	0.7	2.6	7
Scoletoma tetraura	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Scoletoma zonata	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Nemertea	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Theora fragilis	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Asteropella slatteryi	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Leucon subnasica	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Total Fauna	18	33	38	48		39.7	40.5	33	48	7.6	4.4	17.2	119
Total Polychaetes	14	30	37	47		38.0	38.5	30	47	8.5	4.9	19.2	114
Total Mollusca	1	0	1	1		0.7	0.5	0	1	0.6	0.3	1.3	2
Total Crustaceans	2	2	0	0		0.7	1.0	0	2	1.2	0.7	2.6	2
Total Echinoderms	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
Total Species	18	10	9	10		9.7	9.5	9	10	0.6	0.3	1.3	29

Oceanside Harbor: Stormdrains 95022

Aphelochaeta cf. parva	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Cossura sp. A	2	1	2			1.7	1.5	1	2	0.6	0.3	1.3	5
Diploecirrus sp.	10	19	2			10.3	10.5	2	19	8.5	4.9	19.1	31
Euchone limnicola	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
Leitoscoloplos puggetensis	13	20	13			15.3	16.5	13	20	4.0	2.3	9.1	46
Mediomastus ambiseta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus sp.	0	2	2			1.3	1.0	0	2	1.2	0.7	2.6	4
Metasychis disparidentatus	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Nephtys caecoides	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio heterobranchia	1	5	0			2.0	2.5	0	5	2.6	1.5	6.0	6
Pseudopolydora paucibranchiata	1	7	4			4.0	4.0	1	7	3.0	1.7	6.8	12
Scolecopsis quequidentata	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2

	Number per core				Summary Statistics								
	# sp/rep	1 rep	2 rep	3 rep	4 rep	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Scoletoma tetraura	0	2	2	2	4	1.3	1.0	0	2	1.2	0.7	2.6	4
Scoletoma zonata	8	5	5	5	18	6.0	6.5	5	8	1.7	1.0	3.9	18
nematoda	0	0	1	1	1	0.3	0.5	0	1	0.6	0.3	1.3	1
nemertea	0	0	2	2	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Acteocina sp.	0	1	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Aglaja sp.	0	1	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Acuminodentopus heteruropus	0	1	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Balanus sp.	1	0	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Grandierella japonica	1	0	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Leptognathia sp. A	0	1	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Rudilimboides stenopropodus	1	3	0	0	4	1.3	1.5	0	3	1.5	0.9	3.4	4
Total Fauna	23	42	71	36	149	49.7	53.5	36	71	18.7	10.8	42.1	149
Total Polychaetes	14	39	64	33	136	45.3	48.5	33	64	16.4	9.5	37.0	136
Total Molluscs	2	0	2	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Total Crustaceans	5	3	5	0	8	2.7	2.5	0	5	2.5	1.5	5.7	8
Total Echinoderms	0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Species	23	12	16	12	40	13.3	14.0	12	16	2.3	1.3	5.2	40
<b>San Diego Lagoon: 306</b>													
Boccardiella hamata	3	3	5	5	11	3.7	4.0	3	5	1.2	0.7	2.6	11
Capitella capitata	42	4	19	42	65	21.7	23.0	4	42	19.1	11.1	43.1	65
Cauterella sp.	1	0	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus sp.	1	2	0	0	3	1.0	1.0	0	2	1.0	0.6	2.3	3
Notomastus tenuis	2	1	0	0	3	1.0	1.0	0	2	1.0	0.6	2.3	3
Polydora nuchalis	1	0	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Polyophthalmus pictus	0	0	1	1	2	0.3	0.5	0	1	0.6	0.3	1.3	2
Scolecopsis quequindentata	0	1	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Streblospio benedicti	127	38	177	177	342	114.0	107.5	38	177	70.4	40.6	158.4	342
nemertea	0	0	1	1	2	0.3	0.5	0	1	0.6	0.3	1.3	2
oligochaeta	2	0	0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Acteocina sp.	0	7	8	8	15	5.0	4.0	0	8	4.4	2.5	9.8	15
Cerithidea californica	12	6	3	12	21	7.0	7.5	3	12	4.6	2.6	10.3	21
Tagelus subteres	0	1	1	1	2	0.7	0.5	0	1	0.6	0.3	1.3	2
Tellina carpanteri	0	0	1	1	2	0.3	0.5	0	1	0.6	0.3	1.3	2



	Number per core				Summary Statistics								
	# sp/rep	1 rep	2 rep	3 rep	4	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Crustacea	0	0	0	3		1.0	1.5	0	3	1.7	1.0	3.9	3
Crustacea	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
<b>Total Fauna</b>	17	191	63	220		158.0	141.5	63	220	83.5	48.2	188.0	474
<b>Total Polychaetes</b>	9	177	49	202		142.7	125.5	49	202	82.1	47.4	184.7	428
<b>Total Molluscs</b>	4	12	14	13		13.0	13.0	12	14	1.0	0.6	2.3	39
<b>Total Crustaceans</b>	2	0	0	4		1.3	2.0	0	4	2.3	1.3	5.2	4
<b>Total Echinoderms</b>	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
<b>Total Species</b>	17	9	9	11		9.7	10.0	9	11	1.2	0.7	2.6	29

San Elijo Lagoon: 18

95023

Boccardiella hamata	3	1	0			1.3	1.5	0	3	1.5	0.9	3.4	4
Capitella capitata	173	146	182			167.0	164.0	146	182	18.7	10.8	42.2	501
Polydora nuchalis	87	38	73			66.0	62.5	38	87	25.2	14.6	56.8	198
Streblospio benedicti	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
oligochaeta	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
shore fly larva	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
<b>Total Fauna</b>	6	263	188	256		235.7	225.5	188	263	41.4	23.9	93.2	707
<b>Total Polychaetes</b>	4	263	186	255		234.7	224.5	186	263	42.3	24.4	95.3	704
<b>Total Molluscs</b>	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
<b>Total Crustaceans</b>	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
<b>Total Echinoderms</b>	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
<b>Total Species</b>	6	3	6	3		4.0	4.5	3	6	1.7	1.0	3.9	12

San Elijo Lagoon: 24

95010

Capitella capitata	30	88	19			45.7	53.5	19	88	37.1	21.4	83.4	137
Polydora nuchalis	30	4	51			28.3	27.5	4	51	23.5	13.6	53.0	85
oligochaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Caprella sp.	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
<b>Total Fauna</b>	4	60	94	70		74.7	77.0	60	94	17.5	10.1	39.3	224
<b>Total Polychaetes</b>	2	60	92	70		74.0	76.0	60	92	16.4	9.5	36.8	222
<b>Total Molluscs</b>	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
<b>Total Crustaceans</b>	1	0	1	0		0.3	0.5	0	1	0.6	0.3	1.3	1
<b>Total Echinoderms</b>	0	0	0	0		0.0	0.0	0	0	0.0	0.0	0.0	0
<b>Total Species</b>	4	2	4	2		2.7	3.0	2	4	1.2	0.7	2.6	8

Summary Statistics

	Number per core				mean	median	min	max	St. Dev.	S.E.	95%CL		sum
	# sp	rep 1	rep 2	rep 3							rep 4	sum	

95011													
San Elijo Lagoon: 269													
Polychaeta	6	5	0	0	3.7	3.0	0	6	3.2	1.9	7.2	11	
Capitella capitata	28	1	12	12	13.7	14.5	1	28	13.6	7.8	30.5	41	
Polydora nuchalis	2	34	6	12	17.3	20.0	6	34	14.7	8.5	33.2	52	
<b>Total Fauna</b>	2	34	6	12	17.3	20.0	6	34	14.7	8.5	33.2	52	
Total Polychaetes	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0	
Total Molluscs	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0	
Total Crustaceans	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0	
Total Echinoderms	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0	
<b>Total Species</b>	2	2	2	1	1.7	1.5	1	2	0.6	0.3	1.3	5	

95012													
San Elijo Lagoon: Waste Site													
Polychaeta	1	0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2	
Boccardiella hamata	98	29	126	126	84.3	77.5	29	126	49.9	28.8	112.3	253	
Capitella capitata	1	0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2	
Polyophthalmus pictus	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1	
Polydora ligni	16	12	13	13	13.7	14.0	12	16	2.1	1.2	4.7	41	
Polydora nuchalis	0	2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2	
oligochaeta	0	0	1	1	0.3	0.5	0	1	0.6	0.3	1.3	1	
nudibranch	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0	
<b>Total Fauna</b>	7	117	43	142	100.7	92.5	43	142	51.5	29.7	115.8	302	
Total Polychaetes	5	117	41	141	99.7	91.0	41	141	52.2	30.1	117.5	299	
Total Molluscs	1	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1	
Total Crustaceans	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0	
Total Echinoderms	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0	
<b>Total Species</b>	7	5	3	5	4.3	4.0	3	5	1.2	0.7	2.6	13	

95013													
Santa Margarita Lagoon: 33													
Polychaeta	2	3	4	4	3.0	3.0	2	4	1.0	0.6	2.3	9	
Capitella capitata	1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1	
Mediomastus sp.	30	55	33	33	39.3	42.5	30	55	13.7	7.9	30.7	118	
Polydora nuchalis	0	21	0	0	7.0	10.5	0	21	12.1	7.0	27.3	21	
oligochaeta	0	0	1	1	0.3	0.5	0	1	0.6	0.3	1.3	1	
Tagelus subtores	1	20	0	0	7.0	10.0	0	20	11.3	6.5	25.4	21	
Corophium acherusicum/insidir	4	0	0	0	1.3	2.0	0	4	2.3	1.3	5.2	4	
Mayerella banksia	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0	

	Number per core				Summary Statistics								
	# sp	rep 1	rep 2	rep 3	rep 4	mean	median	min	max	St Dev	S.E.	95%CI	sum
<b>Total Fauna</b>	7	38	99	38	38	58.3	68.5	38	99	35.2	20.3	79.2	175
<b>Total Polychaetes</b>	3	33	58	37	37	42.7	45.5	33	58	13.4	7.8	30.2	128
<b>Total Mollusca</b>	1	0	0	1	1	0.3	0.5	0	1	0.6	0.3	1.3	1
<b>Total Crustaceans</b>	2	5	20	0	0	8.3	10.0	0	20	10.4	6.0	23.4	25
<b>Total Echinoderms</b>	0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
<b>Total Species</b>	7	5	4	3	3	4.0	4.0	3	5	1.0	0.6	2.3	12
<b>Santa Margarita Lagoon: 48</b>													
<b>95025</b>													
Capitella capitata		32	13	20	20	21.7	22.5	13	32	9.6	5.5	21.6	65
Chone sp.		0	0	2	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Cossura sp. A		0	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus ambiseta		0	8	4	4	4.0	4.0	0	8	4.0	2.3	9.0	12
Mediomastus sp.		14	9	7	7	10.0	10.5	7	14	3.6	2.1	8.1	30
Polydora nuchalis		89	91	65	65	81.7	78.0	65	91	14.5	8.4	32.6	245
Scoletoma zomata		0	2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
nemertea		1	1	0	0	0.7	0.5	0	1	0.6	0.3	1.3	2
oligochaeta		12	33	10	10	18.3	21.5	10	33	12.7	7.4	28.7	55
platyhelminthes		1	0	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Acteocina sp.		2	0	1	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Tellina carpenteri		0	0	1	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Tegula sp.		1	0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Ilyanassa obsoleta		0	0	2	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Bataeus sp.		0	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Corophium acherusicum/insidic		4	4	4	4	4.0	4.0	4	4	0.0	0.0	0.0	12
Grandidiorella japonica		69	27	41	41	45.7	48.0	27	69	21.4	12.3	48.1	137
<b>Total Fauna</b>	17	225	190	158	158	191.0	191.5	158	225	33.5	19.3	75.4	573
<b>Total Polychaetes</b>	7	135	124	98	98	119.0	116.5	98	135	19.0	11.0	42.8	357
<b>Total Molluscs</b>	3	3	0	3	3	2.0	1.5	0	3	1.7	1.0	3.9	6
<b>Total Crustaceans</b>	4	73	32	47	47	50.7	52.5	32	73	20.7	12.0	46.7	152
<b>Total Echinoderms</b>	0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
<b>Total Species</b>	17	10	11	12	12	11.0	11.0	10	12	1.0	0.6	2.3	33



## **APPENDIX F**

### **CUMULATIVE DISTRIBUTION FREQUENCIES ANALYSES**



Emap CDF calculations for Rheopxyntius

STATION	Idong	Stratum	Leg	toxic	%surv RA	Surv as % of centrl	Weight (Area/sample) km2	Area/sample as % of total	Area/sample as % of total cumulative	%area toxic /sample	cum % area toxic
95001.0	1380	2	34	0	85	89.5	0.1611	0.0306	0.0306	0.0000	0.0000
95002.0	1381	2	34	1	50	52.6	0.1611	0.0306	0.0612	0.0306	0.0306
95003.0	1383	2	34	1	67	70.5	0.1611	0.0306	0.0918	0.0306	0.0612
95006.0	1385	3	34	1	23	24.2	0.0281	0.0053	0.0972	0.0053	0.0666
95007.0	1386	3	34	1	42	44.2	0.0281	0.0053	0.1025	0.0053	0.0719
85001.0	1387	1	34	1	29	30.5	0.2756	0.0524	0.1549	0.0524	0.1243
85002.0	1388	1	34	1	58	61.1	0.2756	0.0524	0.2072	0.0524	0.1766
85003.0	1389	1	34	1	72	75.8	0.2756	0.0524	0.2596	0.0524	0.2290
85004.0	1390	1	34	1	70	73.7	0.2756	0.0524	0.3120	0.0524	0.2814
85005.0	1391	1	34	1	63	66.3	0.2756	0.0524	0.3643	0.0524	0.3337
85006.0	1392	1	34	0	79	83.2	0.2756	0.0524	0.4167	0.0000	0.3337
95008.0	1393	2	34	0	79	83.2	0.1611	0.0306	0.4473	0.0000	0.3337
95010.0	1394	3	34	0	80	84.2	0.0281	0.0053	0.4527	0.0000	0.3337
95011.0	1395	3	34	1	70	73.7	0.0281	0.0053	0.4580	0.0053	0.3391
95013.0	1397	3	34	1	73	76.8	0.0281	0.0053	0.4633	0.0053	0.3444
95026.0	1412	2	36	1	95	95.0	0.1611	0.0306	0.4939	0.0306	0.3750
95014.0	1413	2	36	1	76	76.0	0.1611	0.0306	0.5245	0.0306	0.4056
95015.0	1414	2	36	0	95	95.0	0.1611	0.0306	0.5552	0.0000	0.4056
95016.0	1415	2	36	0	86	86.0	0.1611	0.0306	0.5858	0.0000	0.4056
95018.0	1417	3	36	1	28	28.0	0.0281	0.0053	0.5911	0.0053	0.4110
85007.0	1418	1	36	0	93	93.0	0.2756	0.0524	0.6435	0.0000	0.4110
85008.0	1419	1	36	1	57	57.0	0.2756	0.0524	0.6958	0.0524	0.4633
85009.0	1420	1	36	0	93	93.0	0.2756	0.0524	0.7482	0.0000	0.4633
85010.0	1421	1	36	1	74	74.0	0.2756	0.0524	0.8006	0.0524	0.5157
85011.0	1422	1	36	0	80	80.0	0.2756	0.0524	0.8529	0.0000	0.5157
85012.0	1423	1	36	1	59	59.0	0.2756	0.0524	0.9053	0.0524	0.5681
95019.0	1430	2	36	0	82	82.0	0.1611	0.0306	0.9359	0.0000	0.5681
95023.0	1434	3	36	1	78	78.0	0.0281	0.0053	0.9413	0.0053	0.5734
95024.0	1435	3	36	1	64	64.0	0.0281	0.0053	0.9466	0.0053	0.5787
95025.0	1436	3	36	0	88	88.0	0.0281	0.0053	0.9519	0.0000	0.5787
SUMS							5.01				0.5787

**EMAP CDF calculations for urchin development 100% porewater**

STATION	Idorg	Stratum	Leg	toxic	%norm SPD100	norm as % of cntrl	Weight (Area/sample) km2	Area/sample as % of total	Area/sample as % of total cumulative	%area toxic /sample	cum % area toxic
95001.0	1380	2	34	0	43	48.3	0.1611	0.0306	0.0306	0.0000	0.0000
95002.0	1381	2	34	0	6	6.7	0.1611	0.0306	0.0612	0.0000	0.0000
95003.0	1383	2	34	0	25	28.1	0.1611	0.0306	0.0918	0.0000	0.0000
95006.0	1385	3	34	1	42	47.2	0.0281	0.0053	0.0972	0.0053	0.0053
95007.0	1386	3	34	1	92	103.4	0.0281	0.0053	0.1025	0.0053	0.0107
85001.0	1387	1	34	0	0	0.0	0.2756	0.0524	0.1549	0.0000	0.0107
85002.0	1388	1	34	0	0	0.0	0.2756	0.0524	0.2072	0.0000	0.0107
85003.0	1389	1	34	0	0	0.0	0.2756	0.0524	0.2596	0.0000	0.0107
85004.0	1390	1	34	0	0	0.0	0.2756	0.0524	0.3120	0.0000	0.0107
85005.0	1391	1	34	0	0	0.0	0.2756	0.0524	0.3643	0.0000	0.0107
85006.0	1392	1	34	0	0	0.0	0.2756	0.0524	0.4167	0.0000	0.0107
95008.0	1393	2	34	0	0	0.0	0.1611	0.0306	0.4473	0.0000	0.0107
95010.0	1394	3	34	1	0	0.0	0.0281	0.0053	0.4527	0.0053	0.0160
95011.0	1395	3	34	1	0	0.0	0.0281	0.0053	0.4580	0.0053	0.0214
95013.0	1397	3	34	1	92	103.4	0.0281	0.0053	0.4633	0.0053	0.0267
95026.0	1412	2	36	0	26	26.5	0.1611	0.0306	0.4939	0.0000	0.0267
95014.0	1413	2	36	0	56	57.1	0.1611	0.0306	0.5245	0.0000	0.0267
95015.0	1414	2	36	0	0	0.0	0.1611	0.0306	0.5552	0.0000	0.0267
95016.0	1415	2	36	1	75	76.5	0.1611	0.0306	0.5858	0.0306	0.0573
95018.0	1417	3	36	1	0	0.0	0.0281	0.0053	0.5911	0.0053	0.0626
85007.0	1418	1	36	1	0	0.0	0.2756	0.0524	0.6435	0.0524	0.1150
85008.0	1419	1	36	0	0	0.0	0.2756	0.0524	0.6958	0.0000	0.1150
85009.0	1420	1	36	0	0	0.0	0.2756	0.0524	0.7482	0.0000	0.1150
85010.0	1421	1	36	0	0	0.0	0.2756	0.0524	0.8006	0.0000	0.1150
85011.0	1422	1	36	0	0	0.0	0.2756	0.0524	0.8529	0.0000	0.1150
85012.0	1423	1	36	0	2	2.0	0.2756	0.0524	0.9053	0.0000	0.1150
95019.0	1430	2	36	0	91	92.9	0.1611	0.0306	0.9359	0.0000	0.1150
95023.0	1434	3	36	1	0	0.0	0.0281	0.0053	0.9413	0.0053	0.1203
95024.0	1435	3	36	1	17	17.3	0.0281	0.0053	0.9466	0.0053	0.1257
95025.0	1436	3	36	1	0	0.0	0.0281	0.0053	0.9519	0.0053	0.1310
SUMS							5.01			0.1310	



EMAP CDF calculations for urrchin development in 50% pore water

STATION	ldorg	Stratum	Leg	toxic	%norm SPD50	norm as % of cntrl	Weight (Area/sample) km2	Area/sample as % of total	Area/sample as % of total cumulative	%area toxic /sample	cum % area toxic
85001.0	1387	1	34	1	0	0.0	0.2756	0.0524	0.0524	0.0524	0.0524
85002.0	1388	1	34	1	0	0.0	0.2756	0.0524	0.1047	0.0524	0.1047
85003.0	1389	1	34	1	0	0.0	0.2756	0.0524	0.1571	0.0524	0.1571
85004.0	1390	1	34	1	0	0.0	0.2756	0.0524	0.2095	0.0524	0.2095
85005.0	1391	1	34	1	0	0.0	0.2756	0.0524	0.2618	0.0524	0.2618
85006.0	1392	1	34	1	0	0.0	0.2756	0.0524	0.3142	0.0524	0.3142
85007.0	1418	1	36	1	0	0.0	0.2756	0.0524	0.3666	0.0524	0.3666
85008.0	1419	1	36	1	0	0.0	0.2756	0.0524	0.4189	0.0524	0.4189
85009.0	1420	1	36	1	1	1.0	0.2756	0.0524	0.4713	0.0524	0.4713
85010.0	1421	1	36	1	0	0.0	0.2756	0.0524	0.5237	0.0524	0.5237
85011.0	1422	1	36	1	0	0.0	0.2756	0.0524	0.5760	0.0524	0.5760
85012.0	1423	1	36	1	43	43.9	0.2756	0.0524	0.6284	0.0524	0.6284
95001.0	1380	2	34	1	2	2.2	0.1611	0.0306	0.6590	0.0306	0.6590
95002.0	1381	2	34	1	0	0.0	0.1611	0.0306	0.6896	0.0306	0.6896
95003.0	1383	2	34	1	0	0.0	0.1611	0.0306	0.7202	0.0306	0.7202
95008.0	1393	2	34	1	0	0.0	0.1611	0.0306	0.7508	0.0306	0.7508
95026.0	1412	2	36	1	31	31.6	0.1611	0.0306	0.7814	0.0306	0.7814
95014.0	1413	2	36	0	95	96.9	0.1611	0.0306	0.8120	0.0000	0.7814
95015.0	1414	2	36	1	0	0.0	0.1611	0.0306	0.8427	0.0306	0.8120
95016.0	1415	2	36	0	96	98.0	0.1611	0.0306	0.8733	0.0000	0.8120
95019.0	1430	2	36	0	96	98.0	0.1611	0.0306	0.9039	0.0000	0.8120
95006.0	1385	3	34	0	92	103.4	0.0281	0.0053	0.9092	0.0000	0.8120
95007.0	1386	3	34	0	93	104.5	0.0281	0.0053	0.9146	0.0000	0.8120
95010.0	1394	3	34	1	1	1.1	0.0281	0.0053	0.9199	0.0053	0.8174
95011.0	1395	3	34	1	39	43.8	0.0281	0.0053	0.9252	0.0053	0.8227
95013.0	1397	3	34	0	62	69.7	0.0281	0.0053	0.9306	0.0000	0.8227
95018.0	1417	3	36	0	84	85.7	0.0281	0.0053	0.9359	0.0000	0.8227
95023.0	1434	3	36	1	0	0.0	0.0281	0.0053	0.9413	0.0053	0.8281
95024.0	1435	3	36	0	90	91.8	0.0281	0.0053	0.9466	0.0000	0.8281
95025.0	1436	3	36	1	0	0.0	0.0281	0.0053	0.9519	0.0053	0.8334
SUMS							5.01			0.8334	

EMAP CDF calculations for urchin development in 25% pore water

STATION	Idorg	Stratum	Leg	toxic	%norm SPD25	norm as % of cntrl	Weight (Area/sample) km2	Area/sample as % of total	Area/sample as % of total cumulative	%area toxic /sample	cum % area toxic
85001.0	1387	1	34	1	0	0.0	0.2756	0.0524	0.0524	0.0524	0.0524
85002.0	1388	1	34	0	58	65.2	0.2756	0.0524	0.1047	0.0000	0.0524
85003.0	1389	1	34	1	2	2.2	0.2756	0.0524	0.1571	0.0524	0.1047
85004.0	1390	1	34	0	34	38.2	0.2756	0.0524	0.2095	0.0000	0.1047
85005.0	1391	1	34	1	22	24.7	0.2756	0.0524	0.2618	0.0524	0.1571
85006.0	1392	1	34	1	23	25.8	0.2756	0.0524	0.3142	0.0524	0.2095
85007.0	1418	1	36	1	0	0.0	0.2756	0.0524	0.3666	0.0524	0.2618
85008.0	1419	1	36	1	0	0.0	0.2756	0.0524	0.4189	0.0524	0.3142
85009.0	1420	1	36	1	51	52.0	0.2756	0.0524	0.4713	0.0524	0.3666
85010.0	1421	1	36	0	50	51.0	0.2756	0.0524	0.5237	0.0000	0.3666
85011.0	1422	1	36	1	3	3.1	0.2756	0.0524	0.5760	0.0524	0.4189
85012.0	1423	1	36	1	23	23.5	0.2756	0.0524	0.6284	0.0524	0.4713
95001.0	1380	2	34	0	78	87.6	0.1611	0.0306	0.6590	0.0000	0.4713
95002.0	1381	2	34	0	51	57.3	0.1611	0.0306	0.6896	0.0000	0.4713
95003.0	1383	2	34	0	86	96.6	0.1611	0.0306	0.7202	0.0000	0.4713
95008.0	1393	2	34	0	70	78.7	0.1611	0.0306	0.7508	0.0000	0.4713
95026.0	1412	2	36	0	87	88.8	0.1611	0.0306	0.7814	0.0000	0.4713
95014.0	1413	2	36	0	92	93.9	0.1611	0.0306	0.8120	0.0000	0.4713
95015.0	1414	2	36	1	0	0.0	0.1611	0.0306	0.8427	0.0306	0.5019
95016.0	1415	2	36	0	96	98.0	0.1611	0.0306	0.8733	0.0000	0.5019
95019.0	1430	2	36	0	95	96.9	0.1611	0.0306	0.9039	0.0000	0.5019
95006.0	1385	3	34	0	93	104.5	0.0281	0.0053	0.9092	0.0000	0.5019
95007.0	1386	3	34	0	94	105.6	0.0281	0.0053	0.9146	0.0000	0.5019
95010.0	1394	3	34	1	56	62.9	0.0281	0.0053	0.9199	0.0053	0.5072
95011.0	1395	3	34	0	83	93.3	0.0281	0.0053	0.9252	0.0000	0.5072
95013.0	1397	3	34	0	81	91.0	0.0281	0.0053	0.9306	0.0000	0.5072
95018.0	1417	3	36	0	97	99.0	0.0281	0.0053	0.9359	0.0000	0.5072
95023.0	1434	3	36	1	29	29.6	0.0281	0.0053	0.9413	0.0053	0.5126
95024.0	1435	3	36	0	98	100.0	0.0281	0.0053	0.9466	0.0000	0.5126
95025.0	1436	3	36	0	71	72.4	0.0281	0.0053	0.9519	0.0000	0.5126
SUMS							5.01			0.5126	

EMAP CDF calculations for urchin fertilization in 100% porewater

STATION	Idorg	Stratum	Leg	toxic	%fert SPF100	fert as % of cntrl	Weight (Area/sample) km2	Area/sample as % of total	Area/sample as % of total cumulative	%area toxic /sample	cum % area toxic
95001.0	1380	2	34	1	68	0.7	0.1611	0.0306	0.0306	0.0306	0.0306
95002.0	1381	2	34	0	93	1.0	0.1611	0.0306	0.0612	0.0000	0.0306
95003.0	1383	2	34	0	94	1.0	0.1611	0.0306	0.0918	0.0000	0.0306
95006.0	1385	3	34	1	0	0.0	0.0281	0.0053	0.0972	0.0053	0.0359
95007.0	1386	3	34	1	32	0.3	0.0281	0.0053	0.1025	0.0053	0.0413
85001.0	1387	1	34	1	47	0.6	0.2756	0.0524	0.1549	0.0524	0.0937
85002.0	1388	1	34	0	93	1.0	0.2756	0.0524	0.2072	0.0000	0.0937
85003.0	1389	1	34	0	91	1.0	0.2756	0.0524	0.2596	0.0000	0.0937
85004.0	1390	1	34	0	92	1.0	0.2756	0.0524	0.3120	0.0000	0.0937
85005.0	1391	1	34	0	96	1.0	0.2756	0.0524	0.3643	0.0000	0.0937
85006.0	1392	1	34	0	94	1.0	0.2756	0.0524	0.4167	0.0000	0.0937
95008.0	1393	2	34	0	95	1.0	0.1611	0.0306	0.4473	0.0000	0.0937
95010.0	1394	3	34	1	0	0.0	0.0281	0.0053	0.4527	0.0053	0.0990
95011.0	1395	3	34	1	0	0.0	0.0281	0.0053	0.4580	0.0053	0.1043
95013.0	1397	3	34	1	51	0.6	0.0281	0.0053	0.4633	0.0053	0.1097
95026.0	1412	2	36	0	74	0.8	0.1611	0.0306	0.4939	0.0000	0.1097
95014.0	1413	2	36	1	61	0.7	0.1611	0.0306	0.5245	0.0306	0.1403
95015.0	1414	2	36	0	96	1.1	0.1611	0.0306	0.5552	0.0000	0.1403
95016.0	1415	2	36	1	1	0.0	0.1611	0.0306	0.5858	0.0306	0.1709
95018.0	1417	3	36	0	95	1.0	0.0281	0.0053	0.5911	0.0000	0.1709
85007.0	1418	1	36	1	0	0.0	0.2756	0.0524	0.6435	0.0524	0.2233
85008.0	1419	1	36	1	0	0.0	0.2756	0.0524	0.6958	0.0524	0.2756
85009.0	1420	1	36	1	0	0.0	0.2756	0.0524	0.7482	0.0524	0.3280
85010.0	1421	1	36	1	72	0.8	0.2756	0.0524	0.8006	0.0524	0.3804
85011.0	1422	1	36	0	95	1.0	0.2756	0.0524	0.8529	0.0000	0.3804
85012.0	1423	1	36	0	86	0.9	0.2756	0.0524	0.9053	0.0000	0.3804
95019.0	1430	2	36	1	66	0.7	0.1611	0.0306	0.9359	0.0306	0.4110
95023.0	1434	3	36	1	0	0.0	0.0281	0.0053	0.9413	0.0053	0.4163
95024.0	1435	3	36	1	0	0.0	0.0281	0.0053	0.9466	0.0053	0.4216
95025.0	1436	3	36	1	0	0.0	0.0281	0.0053	0.9519	0.0053	0.4270
	SUMS						5.01			0.4270	

EMAP CDF calculations for *Ampelisca*

STATION	Idorg	Stratum	Leg	toxic	%surv AA	Surv as % of cntrl	Weight (Area/sample) km2	Area/sample as % of total	Area/sample as % of total cumulative	%area toxic /sample	cum % area toxic
85001.0	1387	1	34	-	-	-	-	-	-	-	-
85002.0	1388	1	34	-	-	-	-	-	-	-	-
85003.0	1389	1	34	-	-	-	-	-	-	-	-
85004.0	1390	1	34	-	-	-	-	-	-	-	-
85005.0	1391	1	34	-	-	-	-	-	-	-	-
85006.0	1392	1	34	-	-	-	-	-	-	-	-
85007.0	1418	1	36	0	87	94.6	0.5512	0.1072	0.1072	0.0000	0.0000
85008.0	1419	1	36	1	0	0.0	0.5512	0.1072	0.2145	0.1072	0.1072
85009.0	1420	1	36	0	87	94.6	0.5512	0.1072	0.3217	0.0000	0.1072
85010.0	1421	1	36	0	76	82.6	0.5512	0.1072	0.4289	0.0000	0.1072
85011.0	1422	1	36	0	95	103.3	0.5512	0.1072	0.5362	0.0000	0.1072
85012.0	1423	1	36	0	67	72.8	0.5512	0.1072	0.6434	0.0000	0.1072
95001.0	1380	2	34	-	-	-	-	0.0000	0.6434	-	0.1072
95002.0	1381	2	34	-	-	-	-	0.0000	0.6434	-	0.1072
95003.0	1383	2	34	-	-	-	-	0.0000	0.6434	-	0.1072
95008.0	1393	2	34	-	-	-	-	0.0000	0.6434	-	0.1072
95026.0	1412	2	36	0	91	98.9	0.3222	0.0627	0.7061	0.0000	0.1072
95014.0	1413	2	36	0	89	96.7	0.3222	0.0627	0.7688	0.0000	0.1072
95015.0	1414	2	36	0	86	93.5	0.3222	0.0627	0.8315	0.0000	0.1072
95016.0	1415	2	36	0	93	101.1	0.3222	0.0627	0.8942	0.0000	0.1072
95019.0	1430	2	36	0	78	84.8	0.3222	0.0627	0.9568	0.0000	0.1072
95006.0	1385	3	34	-	-	-	-	0.0000	0.9568	-	0.1072
95007.0	1386	3	34	-	-	-	-	0.0000	0.9568	-	0.1072
95010.0	1394	3	34	-	-	-	-	0.0000	0.9568	-	0.1072
95011.0	1395	3	34	-	-	-	-	0.0000	0.9568	-	0.1072
95013.0	1397	3	34	-	-	-	-	0.0000	0.9568	-	0.1072
95018.0	1417	3	36	0	84	91.3	0.0562	0.0109	0.9678	0.0000	0.1072
95023.0	1434	3	36	0	87	94.6	0.0562	0.0109	0.9787	0.0000	0.1072
95024.0	1435	3	36	0	94	102.2	0.0562	0.0109	0.9896	0.0000	0.1072
95025.0	1436	3	36	0	81	88.0	0.0562	0.0109	1.0006	0.0000	0.1072
SUMS				1			5.143			0.1072	