

CARLSBAD SEAWATER DESALINATION PROJECT

SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD

REGION 9, SAN DIEGO REGION

ORDER NO. R-9-2006-0065

NPDES NO. CA0109223

FLOW, ENTRAINMENT AND IMPINGEMENT MINIMIZATION PLAN

**ATTACHMENT 3 - IMPINGEMENT RESULTS, G1 - TRAVELING SCREEN
AND BAR RACK WEEKLY SURVEYS, G2 - HEAT TREATMENT SURVEYS**

March 9, 2009

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA001
Sample Count: 19

Survey Date: June 24 - 25, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 186 | 40-84 | 1.3-15.3 | 729.7 |
| <i>Engraulis mordax</i> | northern anchovy | 46 | 37-90 | 0.4-10.5 | 69.2 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 8 | 81-113 | 4.1-8.2 | 47.9 |
| <i>Heterostichus</i> spp. | kelpfish | 7 | 81-118 | 4.0-12.2 | 47.8 |
| <i>Anchoa compressa</i> | deepbody anchovy | 6 | 31-107 | 0.1-11.6 | 13.7 |
| Engraulidae | anchovies | 4 | - | 1.6 | 1.6 |
| <i>Atherinops affinis</i> | topsmelt | 3 | 54-115 | 0.9-18.8 | 25.5 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 3 | 300-378 | 210 | 210.0 |
| unidentified fish | unid. fish | 3 | 34 | 0.5-2.0 | 4.4 |
| <i>Hyporhamphus rosae</i> | California halfbeak | 2 | 111-125 | 10.9-11.7 | 22.6 |
| <i>Paralabrax</i> spp. | sand bass | 2 | 33-55 | 0.7-2.0 | 2.7 |
| <i>Anchoa delicatissima</i> | slough anchovy | 1 | - | 3.0 | 2.8 |
| Atherinopsidae | silverside | 1 | 46 | 1.0 | 1.0 |
| <i>Hypsoblennius</i> spp. | blennies | 1 | 252 | 267 | 267.0 |
| <i>Pleuronichthys verticalis</i> | hornyhead turbot | 1 | 291 | 227 | 226.5 |
| <i>Sphyræna argentea</i> | California barracuda | 1 | 136 | 0.8 | 0.8 |
| <i>Syngnathus leptorhynchus</i> | bay pipefish | 1 | 290 | 9.7 | 9.7 |
| SHARKS/RAYS | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 9 | 253-410 | 143-521 | 1,984.7 |
| <i>Urolophus halleri</i> | round stingray | 2 | 285-337 | 244-444 | 688.0 |
| INVERTEBRATES | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 7 | 15-34 | 2.0-18.0 | 66.1 |
| Total: | | 294 | | | |

Survey: EPSIA002
Sample Count: 19

Survey Date: June 30 - July 1, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 242 | 40-115 | 1.6-31.0 | 957.0 |
| <i>Roncador stearnsi</i> | spotfin croaker | 51 | 33-205 | 0.6-106 | 260.4 |
| <i>Engraulis mordax</i> | northern anchovy | 36 | 35-103 | 0.2-14.0 | 57.6 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 33 | 74-128 | 3.4-16.0 | 209.8 |
| <i>Atherinops affinis</i> | topsmelt | 29 | 34-115 | 0.5-15.2 | 117.3 |
| <i>Strongylura exilis</i> | California needlefish | 5 | 95-142 | 0.6-2.0 | 6.1 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 3 | 104-140 | 27.7-79.4 | 173.4 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 3 | 250-305 | 160-312 | 633.0 |
| <i>Anchoa delicatissima</i> | slough anchovy | 2 | 65 | 1.1-3.1 | 4.2 |
| <i>Paralichthys californicus</i> | California halibut | 2 | 55-95 | 2.9-11.5 | 14.4 |
| <i>Sphyræna argentea</i> | California barracuda | 2 | 78-85 | 2.0-3.6 | 5.6 |
| <i>Anchoa compressa</i> | deepbody anchovy | 1 | 43 | 2.2 | 2.2 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 1 | 230 | 312 | 312.0 |
| <i>Seriphus politus</i> | queenfish | 1 | 102 | 15.7 | 15.7 |
| unidentified fish | unid. fish | 1 | - | 0.1 | 0.1 |
| unidentified fish, damaged | unid. damaged fish | 1 | - | 0.4 | 0.4 |
| SHARKS/RAYS | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 5 | 224-505 | 112-600 | 1,505.6 |
| <i>Myliobatis californica</i> | bat ray | 1 | 295 | 392.0 | 391.5 |
| INVERTEBRATES | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 5 | 19-47 | 5.7-47.6 | 96.3 |
| <i>Octopus</i> spp. | octopus | 1 | - | 10.1 | 10.1 |
| Total: | | 425 | | | |

Encina Power Station Impingement Abundance: : Traveling Screen and Bar Rack Survey Data

Survey: EPSIA003
Sample Count: 19

Survey Date: July 07 - 08, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 83 | 45-66 | 2.5-7.0 | 363.0 |
| <i>Roncador stearnsi</i> | spotfin croaker | 31 | 35-52 | 0.7-2.0 | 40.1 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 29 | 75-123 | 3.2-14.9 | 181.2 |
| <i>Anchoa compressa</i> | deepbody anchovy | 17 | 35-99 | 0.9-10.5 | 64.1 |
| <i>Strongylura exilis</i> | California needlefish | 13 | 75-135 | 0.3-9.5 | 64.4 |
| <i>Engraulis mordax</i> | northern anchovy | 9 | 42-46 | 0.5-1.3 | 6.5 |
| <i>Atherinops affinis</i> | topsmelt | 4 | 60-110 | 2.2-28.8 | 43.4 |
| <i>Anchoa delicatissima</i> | slough anchovy | 3 | - | 1.3 | 1.3 |
| <i>Paralichthys californicus</i> | California halibut | 3 | 43-63 | 1.5-3.8 | 7.3 |
| Engraulidae | anchovies | 2 | - | 1.2 | 1.2 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 2 | 249-270 | 200-250 | 450.0 |
| <i>Anchoa</i> spp. | anchovy | 1 | 65 | 2.5 | 2.5 |
| <i>Cheilotrema saturnum</i> | black croaker | 1 | 48 | 1.8 | 1.8 |
| <i>Gibbonsia montereyensis</i> | crevice kelpfish | 1 | 88 | 8.3 | 8.3 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 1 | 285 | 400 | 400.0 |
| <i>Sardinops sagax</i> | Pacific sardine | 1 | 35 | 0.4 | 0.4 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 7 | 225-293 | 165-375 | 1,715.1 |
| <i>Myliobatis californica</i> | bat ray | 1 | 245 | 240 | 239.5 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 6 | 26-34.5 | 6.2-12.1 | 54.0 |
| | | Total: | 215 | | |

Survey: EPSIA004
Sample Count: 19

Survey Date: July 14 - 15, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Engraulis mordax</i> | northern anchovy | 228 | 34-109 | 0.4-11.0 | 186.9 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 191 | 45-228 | 2.3-326 | 1,327.3 |
| <i>Atherinops affinis</i> | topsmelt | 126 | 45-139 | 0.8-26.9 | 472.1 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 119 | 57-137 | 1.5-19.6 | 834.0 |
| <i>Roncador stearnsi</i> | spotfin croaker | 38 | 37-226 | 0.8-149 | 306.5 |
| <i>Anchoa delicatissima</i> | slough anchovy | 28 | 33-42 | 0.2-1.5 | 24.4 |
| <i>Seriphus politus</i> | queenfish | 25 | 35-60 | 0.7-3.3 | 41.7 |
| <i>Strongylura exilis</i> | California needlefish | 17 | 84-375 | 0.6-45.4 | 91.8 |
| <i>Sardinops sagax</i> | Pacific sardine | 15 | 35-59 | 0.4-2.3 | 15.4 |
| <i>Anchoa compressa</i> | deepbody anchovy | 10 | 60-116 | 2.5-22.5 | 76.1 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 7 | 164-354 | 53.3-369.3 | 1,692.9 |
| <i>Paralichthys californicus</i> | California halibut | 5 | 41-99 | 1.3-10.6 | 32.5 |
| <i>Syngnathus</i> spp. | pipefishes | 4 | 103-179 | 0.8-4.2 | 11.6 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 1 | 145 | 79.1 | 79.1 |
| <i>Scomber japonicus</i> | Pacific mackerel | 1 | 63 | 2.2 | 2.2 |
| <i>Symphurus atricauda</i> | California tonguefish | 1 | 90 | 7.3 | 7.3 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 20 | 268-421 | 179-600 | 5,135.9 |
| <i>Urolophus halleri</i> | round stingray | 1 | 85 | 29.7 | 29.7 |
| <i>Myliobatis californica</i> | bat ray | 5 | 248-317 | 236.7-531.3 | 2,010.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 3 | 21-33 | 5.8-16.1 | 32.7 |
| <i>Octopus</i> spp. | octopus | 1 | - | 239.4 | 239.4 |
| | | Total: | 846 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA005
Sample Count: 19

Survey Date: July 21 - 22, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 70 | 51-71 | 3.5-10.0 | 459.0 |
| <i>Sardinops sagax</i> | Pacific sardine | 64 | 40-68 | 0.5-4.0 | 90.5 |
| <i>Engraulis mordax</i> | northern anchovy | 35 | 41-106 | 0.5-9.6 | 35.1 |
| <i>Seriphus politus</i> | queenfish | 20 | 36-499 | 0.9-97.6 | 160.4 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 13 | 81-116 | 3.6-12.5 | 93.9 |
| <i>Atherinops affinis</i> | topsmelt | 9 | 54-129 | 0.8-20.1 | 56.6 |
| <i>Roncador stearnsi</i> | spotfin croaker | 9 | 46-76 | 2.4-7.7 | 35.2 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 6 | 233-378 | 132-600 | 1,766.6 |
| <i>Anchoa delicatissima</i> | slough anchovy | 5 | 45 | 0.6 | 4.5 |
| <i>Cheilotrema saturnum</i> | black croaker | 5 | 43-52 | 1.3-2.3 | 9.3 |
| <i>Syngnathus</i> spp. | pipefishes | 4 | 137-207 | 0.8-3.8 | 8.0 |
| <i>Anchoa compressa</i> | deepbody anchovy | 3 | 80-116 | 5.9-19.9 | 32.7 |
| <i>Atractoscion nobilis</i> | white seabass | 2 | 79-83 | 7.6-11.4 | 19.0 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 2 | 141-163 | 73-124 | 196.7 |
| unidentified fish | unid. fish | 2 | 50-58 | 1.4-1.6 | 3.0 |
| <i>Paralichthys californicus</i> | California halibut | 1 | 54 | 2.2 | 2.2 |
| <i>Scomber japonicus</i> | Pacific mackerel | 1 | 89 | 7.8 | 7.8 |
| <i>Strongylura exilis</i> | California needlefish | 1 | 377 | 39.3 | 39.3 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 11 | 273-618 | 191-1212 | 4,244.2 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 3 | 21-42 | 2.2-14.8 | 21.1 |
| | | Total: | 266 | | |

Survey: EPSIA006
Sample Count: 19

Survey Date: July 28 - 29, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Seriphus politus</i> | queenfish | 95 | 41-240 | 1.1-156 | 530.0 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 53 | 52-109 | 2.2-25.5 | 341.2 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 23 | 45-116 | 1.9-12.9 | 130.0 |
| <i>Engraulis mordax</i> | northern anchovy | 22 | 41-93 | 0.4-7.8 | 28.0 |
| <i>Atherinops affinis</i> | topsmelt | 17 | 55-107 | 1.2-11.9 | 86.1 |
| <i>Strongylura exilis</i> | California needlefish | 11 | 76-372 | 0.4-55.7 | 90.4 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 8 | 285-380 | 226-410 | 2,608.8 |
| <i>Anchoa delicatissima</i> | slough anchovy | 4 | 65-84 | 3.4-6.5 | 17.9 |
| <i>Sardinops sagax</i> | Pacific sardine | 3 | 55-72 | 1.5-5.1 | 9.4 |
| <i>Anchoa</i> spp. | anchovy | 2 | - | 7.4 | 7.4 |
| <i>Paralichthys californicus</i> | California halibut | 2 | 87-114 | 8.6-16.3 | 24.9 |
| <i>Anchoa compressa</i> | deepbody anchovy | 1 | 66 | 2.9 | 2.9 |
| <i>Cheilotrema saturnum</i> | black croaker | 1 | 50 | 2.9 | 2.9 |
| <i>Sphyræna argentea</i> | California barracuda | 1 | 45 | 0.3 | 0.3 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 175 | 1.1 | 1.1 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 8 | 265-368 | 160-410 | 1,898.7 |
| <i>Urolophus halleri</i> | round stingray | 2 | 160-170 | 217-278 | 495.0 |
| <i>Myliobatis californica</i> | bat ray | 1 | 254 | 204.3 | 204.3 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 2 | 25-42 | 8.4-24.1 | 32.5 |
| | | Total: | 257 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA007
Sample Count: 19

Survey Date: August 04 - 05, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|--------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Seriphus politus</i> | queenfish | 19 | 43-80 | 1.4-6.3 | 63.0 |
| <i>Atherinops affinis</i> | topsmelt | 13 | 57-100 | 0.9-9.8 | 38.0 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 11 | 55-99 | 2.9-21.1 | 77.4 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 3 | 83-115 | 5.1-11.4 | 26.6 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 3 | 294-309 | 242-331 | 872.5 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 2 | 139-270 | 69.5-282.5 | 352.0 |
| <i>Strongylura exilis</i> | California needlefish | 2 | 62-131 | 0.1-1.1 | 1.2 |
| <i>Anchoa compressa</i> | deepbody anchovy | 1 | 104 | 15.9 | 15.9 |
| <i>Anchoa delicatissima</i> | slough anchovy | 1 | 92 | 9.4 | 9.4 |
| <i>Engraulis mordax</i> | northern anchovy | 1 | 70 | 4.0 | 4.0 |
| <i>Sardinops sagax</i> | Pacific sardine | 1 | 57 | 1.4 | 1.4 |
| Sciaenidae unid. | croaker | 1 | 25 | 0.1 | 0.1 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 186 | 1.4 | 1.4 |
| unidentified fish | unid. fish | 1 | 315 | 700 | 700.0 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 7 | 252-296 | 133-213 | 1,250.8 |
| <i>Myliobatis californica</i> | bat ray | 3 | 240-250 | 175.4-183.9 | 537.3 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 1 | 25 | 6.3 | 6.3 |
| <i>Loxorhynchus crispatus</i> | moss crab | 1 | 7.3 | 1.1 | 1.1 |
| | | Total: | 72 | | |

Survey: EPSIA008
Sample Count: 19

Survey Date: August 11 - 12, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-----------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Atherinops affinis</i> | topsmelt | 375 | 37-156 | 0.5-40.8 | 1,068.2 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 97 | 56-109 | 5.1-29.4 | 895.0 |
| <i>Anchoa compressa</i> | deepbody anchovy | 43 | 64-169 | 3.1-19.9 | 426.7 |
| <i>Seriphus politus</i> | queenfish | 28 | 35-167 | 1.0-62.1 | 239.2 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 24 | 73-137 | 2.9-21.6 | 175.2 |
| <i>Sardinops sagax</i> | Pacific sardine | 17 | 59-92 | 2.5-9.3 | 65.8 |
| <i>Syngnathus</i> spp. | pipefishes | 16 | 145-210 | 0.5-2.8 | 23.3 |
| <i>Engraulis mordax</i> | northern anchovy | 12 | 54-95 | 1.7-7.7 | 37.6 |
| <i>Strongylura exilis</i> | California needlefish | 12 | 78-297 | 0.8-20.2 | 59.6 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 9 | 53-309 | 1.9-306.2 | 1,556.9 |
| <i>Leuresthes tenuis</i> | California grunion | 8 | 52-71 | 1.4-2.9 | 17.9 |
| <i>Anchoa delicatissima</i> | slough anchovy | 2 | 75-101 | 4.6-11.1 | 15.7 |
| <i>Cheilotrema saturnum</i> | black croaker | 2 | 62-119 | 3.7-20.7 | 24.4 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 2 | 91-202 | 8.4-190 | 198.1 |
| <i>Anisotremus davidsonii</i> | sargo | 1 | 243 | 341.2 | 341.2 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 1 | 153 | 96.9 | 96.9 |
| <i>Paralabrax</i> spp. | sand bass | 1 | 32 | 0.9 | 0.9 |
| <i>Pleuronichthys verticalis</i> | hornyhead turbot | 1 | 152 | 97.3 | 97.3 |
| <i>Roncador stearnsi</i> | spotfin croaker | 1 | 164 | 57.1 | 57.1 |
| Sciaenidae unid. | croaker | 1 | 38 | 2.7 | 2.7 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 8 | 259-341 | 150-297 | 1,595.1 |
| <i>Urolophus halleri</i> | round stingray | 8 | 124-242 | 133-600 | 2,290.9 |
| <i>Myliobatis californica</i> | bat ray | 9 | 230-315 | 111.6-404.8 | 2,602.8 |
| <i>Platyrrhinoidis triseriata</i> | thornback | 1 | 53 | 10.2 | 10.2 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 3 | 25-36 | 8.0-21.1 | 38.7 |
| <i>Loxorhynchus crispatus</i> | moss crab | 1 | 11 | 0.8 | 0.8 |
| <i>Hemigrapsus oregonensis</i> | yellow shore crab | 2 | 18-20 | 0.9-2.8 | 3.7 |
| <i>Pelidnota tumida</i> | dwarf teardrop crab | 1 | 13 | 1.9 | 1.9 |
| | | Total: | 686 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA009
Sample Count: 19

Survey Date: August 18 - 19, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-----------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Atherinops affinis</i> | topsmelt | 18 | 56-124 | 1.7-15.8 | 81.2 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 14 | 66-158 | 3.4-33.2 | 122.2 |
| <i>Strongylura exilis</i> | California needlefish | 13 | 87-170 | 0.4-3.7 | 28.3 |
| <i>Sardinops sagax</i> | Pacific sardine | 10 | 65-85 | 3.0-9.4 | 90.6 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 5 | 57-75 | 5.0-11.3 | 41.6 |
| <i>Seriphus politus</i> | queenfish | 5 | 57-70 | 3.5-5.5 | 22.9 |
| <i>Anchoa delicatissima</i> | slough anchovy | 2 | 70-71 | 3.6-4.4 | 8.0 |
| <i>Hermosilla azurea</i> | zebra perch | 2 | 53-260 | 4.8-600 | 604.8 |
| <i>Paralichthys californicus</i> | California halibut | 2 | 81-103 | 6.9-16.0 | 22.9 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 2 | 75-268 | 5.5-200 | 205.5 |
| unidentified fish | unid. fish | 2 | 37-44 | 2.1-2.6 | 4.7 |
| <i>Hypsoblennius gentilis</i> | bay blenny | 1 | 95 | 14.7 | 14.7 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 1 | 136 | 57.9 | 57.9 |
| <i>Leuresthes tenuis</i> | California grunion | 1 | 146 | 19.9 | 19.9 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 184 | 2.5 | 2.5 |
| SHARKS/RAYS | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 2 | 270-288 | 162-190 | 352.2 |
| <i>Urolophus halleri</i> | round stingray | 2 | 133-230 | 95-123 | 218.0 |
| <i>Myliobatis californica</i> | bat ray | 1 | 340 | 550 | 550.0 |
| <i>Ophichthus zophochir</i> | yellow snake eel | 1 | 420 | 51.8 | 51.8 |
| <i>Platyrrhinoidis triseriata</i> | thornback | 1 | 630 | 1,500 | 1,500.0 |
| INVERTEBRATES | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 2 | 22-30 | 6.1-15.6 | 21.7 |
| <i>Pyromaia tuberculata</i> | tuberculate pea crab | 1 | 15 | 3.2 | 3.2 |
| <i>Octopus</i> spp. | octopus | - | - | - | - |
| Total: | | 89 | | | |

Survey: EPSIA010
Sample Count: 19

Survey Date: August 25 - 26, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|--------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Anchoa compressa</i> | deepbody anchovy | 24 | 39-115 | 0.7-16.1 | 110.5 |
| <i>Seriphus politus</i> | queenfish | 13 | 46-121 | 1.5-20.2 | 80.6 |
| <i>Atherinops affinis</i> | topsmelt | 9 | 64-133 | 2.1-17.0 | 68.0 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 9 | 74-125 | 3.1-15.8 | 60.8 |
| <i>Sardinops sagax</i> | Pacific sardine | 8 | - | 8.0 | 36.8 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 7 | 64-80 | 6.3-11.3 | 60.7 |
| <i>Leuresthes tenuis</i> | California grunion | 6 | 59-81 | 1.6-3.4 | 13.4 |
| <i>Engraulis mordax</i> | northern anchovy | 3 | 54-56 | 1-1.8 | 4.4 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 3 | 275-314 | 180-350 | 725.8 |
| <i>Hermosilla azurea</i> | zebra perch | 2 | 35-70 | 1.1-8.1 | 9.2 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 2 | 188-216 | 39.1-254 | 293.4 |
| <i>Strongylura exilis</i> | California needlefish | 2 | 105-508 | 1.2-290 | 291.2 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 1 | 57 | 2.6 | 2.6 |
| <i>Roncador stearnsi</i> | spotfin croaker | 1 | 280 | 500 | 500.0 |
| unidentified fish | unid. fish | 1 | - | 20.1 | 20.1 |
| SHARKS/RAYS | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 3 | 260-300 | 145-220 | 546.2 |
| <i>Urolophus halleri</i> | round stingray | 3 | 125-147 | 89.4-148 | 353.4 |
| <i>Myliobatis californica</i> | bat ray | 2 | 208-240 | 148-185 | 332.4 |
| <i>Rhinobatos productus</i> | shovelnose guitarfish | 1 | 410 | 300 | 300.0 |
| INVERTEBRATES | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 4 | 18.5-39 | 0.8-24.3 | 25.1 |
| <i>Lophopanopeus</i> spp. | black-clawed crabs | 1 | 14 | 1.3 | 1.3 |
| Total: | | 105 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA011
Sample Count: 19

Survey Date: September 01 - 02, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Heterostichus rostratus</i> | giant kelpfish | 10 | 80-97 | 3.8-10.1 | 60.6 |
| <i>Anchoa delicatissima</i> | slough anchovy | 4 | 60-73 | 2.1-4.0 | 10.4 |
| <i>Leuresthes tenuis</i> | California grunion | 4 | 65-112 | 2.2-13.5 | 25.7 |
| <i>Seriphus politus</i> | queenfish | 3 | 55-63 | 2.3-5.9 | 11.9 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 2 | 68-70 | 8.2-8.9 | 17.1 |
| <i>Paralichthys californicus</i> | California halibut | 2 | 59-118 | 3.1-25.8 | 28.9 |
| <i>Anchoa compressa</i> | deepbody anchovy | 1 | 79 | 7.4 | 7.4 |
| <i>Paralabrax</i> spp. | sand bass | 1 | 39 | 1.1 | 1.1 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 1 | 400 | 550 | 550.0 |
| <i>Sardinops sagax</i> | Pacific sardine | 1 | 75 | 3.6 | 3.6 |
| <i>Strongylura exilis</i> | California needlefish | 1 | - | 1.8 | 1.8 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 152 | 0.6 | 0.6 |
| unidentified fish, damaged | unid. damaged fish | 1 | - | 137.4 | 137.4 |
| SHARKS/RAYS | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 1 | 327 | 233.3 | 233.3 |
| <i>Myliobatis californica</i> | bat ray | 1 | 340 | 400 | 400.0 |
| INVERTEBRATES | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 1 | 25 | 4.0 | 4.0 |
| <i>Talipes nuttallii</i> | globose kelp crab | 1 | 11 | 0.7 | 0.7 |
| | | Total: | 36 | | |

Survey: EPSIA012
Sample Count: 19

Survey Date: September 08 - 09, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Anchoa compressa</i> | deepbody anchovy | 93 | 42-94 | 0.2-12.3 | 301.0 |
| <i>Leuresthes tenuis</i> | California grunion | 43 | 54-73 | 1.0-5.0 | 94.7 |
| <i>Seriphus politus</i> | queenfish | 29 | 32-155 | 0.6-53.0 | 218.0 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 24 | 60-122 | 2.1-16.2 | 172.7 |
| <i>Engraulis mordax</i> | northern anchovy | 15 | 52-71 | 1.2-4.1 | 29.5 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 7 | 53-95 | 4.9-25.0 | 79.0 |
| <i>Porichthys notatus</i> | plainfin midshipman | 5 | 53-400 | 1.6-420 | 723.6 |
| <i>Sphyraena argentea</i> | California barracuda | 5 | 48-73 | 0.6-3.3 | 10.2 |
| <i>Xenistius californiensis</i> | salema | 4 | 31-55 | 0.7-2.3 | 4.9 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 3 | 46-124 | 2.0-28.4 | 43.5 |
| <i>Sardinops sagax</i> | Pacific sardine | 3 | 68-75 | 3.5-4.1 | 11.2 |
| <i>Cheilotrema saturnum</i> | black croaker | 2 | 35-55 | 1.2-4.3 | 5.5 |
| <i>Phanerodon furcatus</i> | white surfperch | 2 | 85-93 | 19.7-20.0 | 39.7 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 2 | 54-360 | 1.8-410 | 411.8 |
| <i>Atherinops affinis</i> | topsmelt | 1 | 103 | 9.9 | 9.9 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 1 | 231 | 380 | 380.0 |
| <i>Paralichthys californicus</i> | California halibut | 1 | 105 | 19.0 | 19.0 |
| Pleuronectiformes unid. | flatfishes | 1 | - | 54.7 | 54.7 |
| <i>Roncador stearnsi</i> | spotfin croaker | 1 | 250 | 380 | 380.0 |
| <i>Strongylura exilis</i> | California needlefish | 1 | 138 | 2.0 | 2.0 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 133 | 0.9 | 0.9 |
| SHARKS/RAYS | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 4 | 254-599 | 137-265 | 708.2 |
| <i>Myliobatis californica</i> | bat ray | 1 | - | 110 | 110.0 |
| <i>Urolophus halleri</i> | round stingray | 1 | - | 200 | 200.0 |
| INVERTEBRATES | | | | | |
| <i>Hemigrapsus oregonensis</i> | yellow shore crab | 1 | 18 | 2.5 | 2.5 |
| | | Total: | 251 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA013
Sample Count: 19

Survey Date: September 15 - 16, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|-----------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 24 | 55-100 | 5.1-29.6 | 216.5 |
| <i>Leuresthes tenuis</i> | California grunion | 15 | 48-124 | 0.9-15.8 | 72.3 |
| <i>Anchoa delicatissima</i> | slough anchovy | 10 | 40-70 | 0.5-3.5 | 22.4 |
| <i>Anchoa compressa</i> | deepbody anchovy | 9 | 58-86 | 2.0-5.7 | 30.9 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 8 | 82-124 | 3.4-15.8 | 59.2 |
| <i>Sphyrna argentea</i> | California barracuda | 4 | 81-90 | 2.8-3.6 | 13.3 |
| <i>Trachurus symmetricus</i> | jack mackerel | 4 | 36-40 | 0.6-0.9 | 3.0 |
| <i>Atherinops affinis</i> | topsmelt | 3 | 79-101 | 3.9-9.8 | 19.5 |
| <i>Strongylura exilis</i> | California needlefish | 3 | 184-410 | 4.0-64.8 | 89.5 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 2 | 57-229 | 1.8-247 | 248.8 |
| <i>Sardinops sagax</i> | Pacific sardine | 2 | 67-73 | 3.1-3.2 | 6.3 |
| <i>Seriphus politus</i> | queenfish | 2 | 71-73 | 4.0-5.2 | 9.2 |
| <i>Xenistius californiensis</i> | salema | 2 | 37-40 | 0.8-1.2 | 2.0 |
| <i>Brachyistius frenatus</i> | kelp surfperch | 1 | 95 | 28.9 | 28.9 |
| <i>Cheilotrema saturnum</i> | black croaker | 1 | 43 | 0.6 | 0.6 |
| <i>Engraulis mordax</i> | northern anchovy | 1 | 72 | 2.6 | 2.6 |
| <i>Paralichthys californicus</i> | California halibut | 1 | 60 | 3.1 | 3.1 |
| <i>Umbrina roncadore</i> | yellowfin croaker | 1 | 37 | 1.0 | 1.0 |
| unidentified fish, damaged | unid. damaged fish | 1 | - | 20.3 | 20.3 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Myliobatis californica</i> | bat ray | 2 | 299-422 | 201-298 | 499.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 5 | 30-58 | 2.5-17.5 | 33.2 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 2 | 18-35 | 0.5-24.8 | 25.3 |
| <i>Pugettia</i> spp. | kelp crabs | 1 | 22 | 4.1 | 4.1 |
| | | Total: | 104 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA014
Sample Count: 19

Survey Date: September 22 - 23, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|------------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Anchoa compressa</i> | deepbody anchovy | 52 | 22-94 | 0.8-9.3 | 119.4 |
| <i>Seriphus politus</i> | queenfish | 34 | 22-82 | 0.1-8.4 | 102.1 |
| <i>Leuresthes tenuis</i> | California grunion | 20 | 49-115 | 1.0-17.1 | 89.4 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 17 | 56-90 | 5.6-18.3 | 162.5 |
| <i>Anchoa delicatissima</i> | slough anchovy | 5 | 50-76 | 1.8-4.0 | 12.3 |
| <i>Sardinops sagax</i> | Pacific sardine | 4 | 62-80 | 2.8-10.6 | 20.3 |
| <i>Anisotremus davidsonii</i> | sargo | 3 | 42-72 | 1.9-10.6 | 16.9 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 3 | 90-98 | 5.2-7.3 | 17.7 |
| <i>Roncador stearnsi</i> | spotfin croaker | 3 | 90-93 | 9.6-17.7 | 42.3 |
| <i>Xenistius californiensis</i> | salema | 3 | 30-41 | 0.6-1.9 | 4.2 |
| <i>Atractoscion nobilis</i> | white seabass | 2 | 36-75 | 0.5-3.4 | 3.9 |
| <i>Cheilopogon pinnatibarbatus</i> | spotted flyingfish | 2 | 310-313 | 291-310 | 601.1 |
| <i>Cheilotrema saturnum</i> | black croaker | 2 | 62-87 | 5.9-14.4 | 20.3 |
| <i>Engraulis mordax</i> | northern anchovy | 2 | 57-58 | 1.1-1.5 | 2.6 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 2 | 43-50 | 1.5-3.0 | 4.5 |
| <i>Sphyaena argentea</i> | California barracuda | 2 | 72-111 | 2.3-8.3 | 10.6 |
| <i>Strongylura exilis</i> | California needlefish | 2 | 118-225 | 1.7-12.5 | 14.2 |
| <i>Umbrina roncadore</i> | yellowfin croaker | 2 | 50-55 | 2.5-3.6 | 6.1 |
| <i>Atherinopsis californiensis</i> | jacksmelt | 1 | 125 | 22.1 | 22.1 |
| <i>Menticirrhus undulatus</i> | California corbina | 1 | 108 | 18.9 | 18.9 |
| <i>Oxylebius pictus</i> | painted greenling | 1 | 66 | 4.8 | 4.8 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 1 | 163 | 41.2 | 41.2 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 505 | 50.0 | 50.0 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 1 | 340 | 330 | 330.0 |
| <i>Myliobatis californica</i> | bat ray | 1 | 297 | 375 | 375.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Loligo opalescens</i> | market squid | 3 | 75-129 | 7.4-10.8 | 26.2 |
| <i>Callinectes</i> spp. | crab | 1 | 26 | 13.8 | 13.8 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 1 | 28 | 10.1 | 10.1 |
| <i>Pyromaia tuberculata</i> | tuberculate pea crab | 1 | 12 | - | - |
| Total: | | 173 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA015
Sample Count: 19

Survey Date: September 29 - 30, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Seriphus politus</i> | queenfish | 28 | 35-78 | 0.5-7.0 | 77.4 |
| <i>Leuresthes tenuis</i> | California grunion | 16 | 57-150 | 1.5-36.0 | 136.0 |
| <i>Engraulis mordax</i> | northern anchovy | 11 | 33-116 | 0.2-14.0 | 24.7 |
| <i>Anchoa compressa</i> | deepbody anchovy | 10 | 45-81 | 0.5-5.0 | 22.0 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 10 | 49-85 | 2.0-15.0 | 80.5 |
| <i>Xenistius californiensis</i> | salema | 10 | 35-63 | 0.5-4.0 | 19.5 |
| <i>Anchoa delicatissima</i> | slough anchovy | 5 | 56-77 | 1.0-5.0 | 14.0 |
| <i>Anisotremus davidsonii</i> | sargo | 4 | 38-58 | 1.0-5.0 | 9.5 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 4 | 95-121 | 4.0-22.0 | 45.0 |
| <i>Sphyræna argentea</i> | California barracuda | 4 | 88-115 | 4.0-10.0 | 24.0 |
| <i>Strongylura exilis</i> | California needlefish | 4 | 139-325 | 0.7-42.0 | 54.7 |
| <i>Atherinops affinis</i> | topsmelt | 2 | 64-78 | 3.0-6.0 | 9.0 |
| <i>Embiotoca jacksoni</i> | black surfperch | 2 | 164-175 | 170-200 | 370.0 |
| <i>Paralichthys californicus</i> | California halibut | 2 | 120-133 | 20.0-35.0 | 55.0 |
| <i>Sardinops sagax</i> | Pacific sardine | 2 | 71-75 | 2.0-3.5 | 5.5 |
| <i>Atherinopsis californiensis</i> | jacksmelt | 1 | 181 | 47.0 | 47.0 |
| <i>Atractoscion nobilis</i> | white seabass | 1 | 145 | 45.0 | 45.0 |
| <i>Genyonemus lineatus</i> | white croaker | 1 | 100 | 2.1 | 2.1 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 1 | 81 | 10.5 | 10.5 |
| <i>Peprilus simillimus</i> | Pacific butterfish | 1 | 130 | 50.0 | 50.0 |
| <i>Roncador stearnsi</i> | spotfin croaker | 1 | 115 | 20.0 | 20.0 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 1 | 292 | 190 | 190.0 |
| <i>Urolophus halleri</i> | round stingray | 1 | 272 | 270 | 270.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 7 | 18-33 | 2.5-9.0 | 36.2 |
| <i>Cancer antennarius</i> | brown rock crab | 2 | 11-25 | 0.2-1.7 | 1.9 |
| <i>Lophopanopeus frontalis</i> | molarless crestleg crab | 2 | 11-13 | 0.4 | 0.8 |
| <i>Cancer productus</i> | red rock crab | 1 | 26 | 3.4 | 3.4 |
| <i>Loligo opalescens</i> | market squid | 1 | 70 | 7.0 | 7.0 |
| <i>Panulirus interruptus</i> | California spiny lobster | 1 | - | 66.0 | 66.0 |
| <i>Pyromaia tuberculata</i> | tuberculate pea crab | 1 | 9 | 0.6 | 0.6 |
| Total: | | 137 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA016
Sample Count: 19

Survey Date: October 06 - 07, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|-----------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Atherinopsidae</i> | silverside | 57 | 48-130 | 0.5-20.8 | 289.5 |
| <i>Seriphus politus</i> | queenfish | 47 | 35-98 | 1.0-14.8 | 222.3 |
| <i>Anchoa compressa</i> | deepbody anchovy | 35 | 45-95 | 1.0-10.7 | 141.8 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 19 | 57-82 | 5.0-13.7 | 175.2 |
| <i>Engraulis mordax</i> | northern anchovy | 17 | 50-103 | 1.2-8.9 | 30.5 |
| <i>Xenistius californiensis</i> | salema | 17 | 27-58 | 0.5-4.0 | 22.6 |
| <i>Anchoa delicatissima</i> | slough anchovy | 5 | 53-85 | 1.0-6.0 | 14.0 |
| <i>Sphyræna argentea</i> | California barracuda | 4 | 96-435 | 3.0-110 | 139.9 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 3 | 87-390 | 7.2-460 | 822.2 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 2 | 72-275 | 1.0-195 | 196.0 |
| <i>Paralichthys californicus</i> | California halibut | 2 | 128-133 | 39.0-40.0 | 79.0 |
| <i>Strongylura exilis</i> | California needlefish | 2 | 73-82 | 0.3 | 0.7 |
| <i>Leuresthes tenuis</i> | California grunion | 1 | 68 | 2.0 | 2.0 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 1 | 29 | 1.5 | 1.5 |
| <i>Sardinops sagax</i> | Pacific sardine | 1 | 66 | 3.0 | 3.0 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Urolophus halleri</i> | round stingray | 3 | 60-154 | 13.6-195 | 368.6 |
| <i>Myliobatis californica</i> | bat ray | 2 | 294 | 400 | 400.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Loligo opalescens</i> | market squid | 11 | 47-66 | 4.0-10.0 | 70.6 |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 10 | 10-50 | 0.5-9.0 | 38.9 |
| <i>Talipes nuttallii</i> | globose kelp crab | 2 | 5-6 | 0.5 | 1.0 |
| <i>Cancer</i> spp. | cancer crabs | 1 | 24 | 2.6 | 2.6 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 1 | 12 | 2.5 | 2.5 |
| <i>Pachygrapsus</i> spp. | shore crab | 1 | 15 | 0.9 | 0.9 |
| <i>Pugettia producta</i> | northern kelp crab | 1 | 8 | - | - |
| <i>Pyromaia tuberculata</i> | tuberculate pea crab | 1 | 6 | - | - |
| Total: | | 246 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA017
Sample Count: 13

Survey Date: October 13 - 14, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|---------------------------------|-----------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| Atherinopsidae | silverside | 5 | 55-65 | 1.2-3.0 | 2.0 |
| <i>Atractoscion nobilis</i> | white seabass | 2 | 252 | 140-144 | 1.2 |
| <i>Engraulis mordax</i> | northern anchovy | 2 | 48-51 | 1.2 | 2.4 |
| <i>Seriphus politus</i> | queenfish | 2 | 43-65 | 1.1-3.9 | 1.3 |
| <i>Anchoa compressa</i> | deepbody anchovy | 1 | 56 | 2.0 | 4.6 |
| <i>Anchoa delicatissima</i> | slough anchovy | 1 | 58 | 1.2 | 3.1 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 1 | 74 | 8.1 | 8.1 |
| <i>Sardinops sagax</i> | Pacific sardine | 1 | 77 | 3.1 | 11.9 |
| unidentified fish | unid. fish | 1 | - | 4.6 | 284.0 |
| <i>Xenistius californiensis</i> | salema | 1 | 44 | 1.3 | 5.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 20 | 23-41 | 2.6-12.9 | 113.4 |
| <i>Pugettia producta</i> | northern kelp crab | 1 | 80 | 5.4 | 5.4 |
| <i>Taliepus nuttalli</i> | globose kelp crab | | | | |
| | | Total: | 38 | | |

Survey: EPSIA018
Sample Count: 13

Survey Date: October 20 - 21, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|-----------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| Atherinopsidae | silverside | 114 | 52-193 | 1.4-32.0 | 905.9 |
| <i>Seriphus politus</i> | queenfish | 35 | 28-77 | 0.4-7.1 | 61.0 |
| <i>Xenistius californiensis</i> | salema | 32 | 30-50 | 0.4-2.0 | 30.0 |
| <i>Anchoa compressa</i> | deepbody anchovy | 18 | 40-68 | 1.3-3.7 | 41.0 |
| <i>Engraulis mordax</i> | northern anchovy | 16 | 54-70 | 1.8-4.0 | 42.6 |
| <i>Brachyistius frenatus</i> | kelp surfperch | 14 | 62-102 | 6.0-25.0 | 135.6 |
| <i>Atractoscion nobilis</i> | white seabass | 4 | 223-243 | 135.2-185.0 | 640.2 |
| <i>Lepomis cyanellus</i> | green sunfish | 4 | 104-126 | 26.0-68.0 | 194.7 |
| <i>Ameiurus natalis</i> | yellow bullhead | 3 | 162-175 | 65.0-80.0 | 220.0 |
| <i>Paralichthys californicus</i> | California halibut | 3 | 110-151 | 21.0-45.0 | 111.0 |
| <i>Strongylura exilis</i> | California needlefish | 3 | 370-397 | 67.0-84.0 | 221.0 |
| <i>Acanthogobius flavimanus</i> | yellowfin goby | 2 | 115-148 | 18.0-37.2 | 55.2 |
| <i>Anisotremus davidsonii</i> | sargo | 2 | 44-69 | 1.8-7.0 | 8.8 |
| <i>Anchoa</i> spp. | anchovy | 1 | - | 6.8 | 6.8 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 1 | 84 | 7.5 | 7.5 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 1 | 125 | 53.0 | 53.0 |
| <i>Paralabrax clathratus</i> | kelp bass | 1 | 48 | 2.0 | 2.0 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 1 | 47 | 1.0 | 1.0 |
| <i>Sardinops sagax</i> | Pacific sardine | 1 | 65 | 3.0 | 3.0 |
| <i>Sphyræna argentea</i> | California barracuda | 1 | 72 | 2.0 | 2.0 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Myliobatis californica</i> | bat ray | 1 | 300 | 200 | 200.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 6 | 21-46 | 2.1-12.4 | 38.4 |
| <i>Pugettia producta</i> | northern kelp crab | 6 | 4-15 | 0.1-1.4 | 2.8 |
| <i>Loxorhynchus</i> spp. | spider crabs | 2 | 5 | 0.1-0.5 | 0.6 |
| Brachyuran unid. | unidentified crab | 1 | 8 | 0.4 | 0.4 |
| Caridean unid. | unidentified shrimp | 1 | 159 | 28.0 | 28.0 |
| | | Total: | 274 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA019
Sample Count: 13

Survey Date: October 27 - 28, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|-----------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Atherinopsidae</i> | silverside | 64 | 52-134 | 1.0-27.0 | 256.5 |
| <i>Xenistius californiensis</i> | salema | 41 | 19-45 | 0.3-1.7 | 43.8 |
| <i>Seriphus politus</i> | queenfish | 32 | 32-78 | 1.3-6.4 | 94.4 |
| <i>Lepomis cyanellus</i> | green sunfish | 10 | 95-117 | 30.5-77.5 | 442.8 |
| <i>Micropterus salmoides</i> | large mouth bass | 9 | 49-57 | 2.4-3.4 | 26.9 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 8 | 63-82 | 5.9-11.6 | 66.0 |
| <i>Engraulis mordax</i> | northern anchovy | 8 | 59-64 | 2.1-2.7 | 19.0 |
| <i>Strongylura exilis</i> | California needlefish | 5 | 392-577 | 70.0-230 | 635.0 |
| <i>Anchoa delicatissima</i> | slough anchovy | 4 | 42-66 | 1.7-7.1 | 22.2 |
| <i>Lepomis macrochirus</i> | bluegill | 3 | 34-121 | 1.8-55.5 | 111.3 |
| <i>Anchoa compressa</i> | deepbody anchovy | 2 | 60-77 | 2.5-5.7 | 8.2 |
| <i>Paralichthys californicus</i> | California halibut | 2 | 42-44 | 1.2-1.3 | 2.5 |
| <i>Phanerodon furcatus</i> | white surfperch | 2 | 89-119 | 13.5-27.4 | 40.9 |
| <i>Sphyrnaea argentea</i> | California barracuda | 2 | 48-63 | 0.9-1.6 | 2.5 |
| <i>Tilapia</i> spp. | tilapia | 2 | 27-46 | 2.4-4.2 | 6.6 |
| <i>Trachurus symmetricus</i> | jack mackerel | 2 | 37-38 | 1.1 | 2.2 |
| <i>Rhacochilus vacca</i> | pile surfperch | 1 | 263 | 465 | 465.0 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 1 | 96 | 5.4 | 5.4 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 1 | 342 | 221 | 221.0 |
| <i>Porichthys notatus</i> | plainfin midshipman | 1 | 385 | 460 | 460.0 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 161 | 1.3 | 1.3 |
| unidentified fish, damaged | unid. damaged fish | 1 | - | 16.0 | 16.0 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 4 | 272-550 | 165-1,100 | 1,775.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 31 | 7-41 | 0.9-13.9 | 195.5 |
| <i>Octopus bimaculatus</i> | California two-spot octopus | 4 | - | 5.2-25.3 | 58.1 |
| <i>Loxorhynchus crispatus</i> | moss crab | 1 | 7 | 0.3 | 0.3 |
| <i>Pugettia</i> spp. | kelp crabs | 1 | 2 | 0.1 | 0.1 |
| | | Total: | 243 | | |

Survey: EPSIA020
Sample Count: 13

Survey Date: November 03 - 04, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|---------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Anchoa compressa</i> | deepbody anchovy | 35 | 37-85 | 0.9-7.1 | 101.6 |
| <i>Engraulis mordax</i> | northern anchovy | 30 | 57-76 | 1.9-4.6 | 85.8 |
| <i>Atherinopsidae</i> | silverside | 20 | 50-147 | 1.1-33.0 | 148.5 |
| <i>Seriphus politus</i> | queenfish | 9 | 34-66 | 0.8-4.3 | 19.8 |
| <i>Xenistius californiensis</i> | salema | 2 | 37-42 | 0.9-1.3 | 2.1 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 1 | 70 | 8.7 | 8.7 |
| <i>Trachurus symmetricus</i> | jack mackerel | 1 | - | 2.0 | 2.0 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 1 | 304 | 120 | 120.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 8 | 21-29 | 3.8-9.7 | 58.4 |
| Brachyuran unid. | unidentified crab | 1 | 17 | 2.8 | 2.8 |
| <i>Crangon</i> spp. | bay shrimp | 1 | 107 | 20.9 | 20.9 |
| <i>Loligo opalescens</i> | market squid | 1 | - | - | - |
| <i>Rhithropanopeus harrisi</i> | Harris' mud crab | 1 | 30 | 18.0 | 18.0 |
| | | Total: | 111 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA021
Sample Count: 13

Survey Date: November 10 - 11, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|------------------------------------|-----------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Atherinopsidae</i> | silverside | 14 | 62-164 | 2.0-21.3 | 76.0 |
| <i>Seriphus politus</i> | queenfish | 5 | 46-82 | 1.4-7.1 | 13.9 |
| <i>Scorpaena guttata</i> | spotted scorpionfish | 1 | 110 | 38.0 | 38.0 |
| <i>Xenistius californiensis</i> | salema | 1 | 40 | 1.1 | 1.1 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 26 | 15-60 | 0.9-15.7 | 193.5 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 2 | 12-27 | 0.5 | 0.5 |
| <i>Cycloxanthops novemdentatus</i> | ninetooth pebble crab | 1 | 19 | 2.6 | 2.6 |
| Total: | | 50 | | | |

Survey: EPSIA022
Sample Count: 13

Survey Date: November 17 - 18, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|------------------------------------|-----------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Atherinopsis californiensis</i> | jacksmelt | 29 | 45-146 | 0.8-33.0 | 123.9 |
| <i>Seriphus politus</i> | queenfish | 18 | 37-89 | 0.8-11.1 | 41.6 |
| <i>Atherinops affinis</i> | topsmelt | 4 | 70-124 | 2.5-17.6 | 27.3 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 2 | 135-160 | 61.5-101 | 162.0 |
| <i>Paralichthys californicus</i> | California halibut | 2 | 49-132 | 1.8-35.6 | 37.3 |
| <i>Anchoa compressa</i> | deepbody anchovy | 1 | 66 | 3.5 | 3.5 |
| <i>Cheilotrema saturnum</i> | black croaker | 1 | 127 | 38.6 | 38.6 |
| <i>Leuresthes tenuis</i> | California grunion | 1 | 63 | 1.7 | 1.7 |
| <i>Sarda chiliensis</i> | Pacific bonito | 1 | 336 | 500 | 500.0 |
| <i>Xenistius californiensis</i> | salema | 1 | 48 | 2.0 | 2.0 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Urolophus halleri</i> | round stingray | 1 | 80 | 27.7 | 27.7 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 9 | 16-36 | 2.0-17.0 | 68.4 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 3 | 32-35 | 15.0-18.8 | 49.5 |
| Total: | | 73 | | | |

Impingement Results

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA023
Sample Count: 13

Survey Date: November 22 - 23, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|------------------------------------|-----------------------|--------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Leuresthes tenuis</i> | California grunion | 12 | 59-155 | 1.6-31.2 | 70.1 |
| <i>Seriphus politus</i> | queenfish | 11 | 30-82 | 0.7-6.7 | 22.3 |
| <i>Anchoa compressa</i> | deepbody anchovy | 5 | 55-70 | 1.5-4.8 | 12.9 |
| <i>Atherinopsis californiensis</i> | jacksmelt | 3 | 62-160 | 2.3-45.3 | 56.1 |
| <i>Atractoscion nobilis</i> | white seabass | 2 | 255-291 | 200-302 | 502.1 |
| <i>Engraulis mordax</i> | northern anchovy | 2 | 65 | 2.0-2.9 | 4.9 |
| <i>Hypsoblennius</i> spp. | blennies | 1 | 50 | 3.5 | 3.5 |
| <i>Menticirrhus undulatus</i> | California corbina | 1 | 72 | 5.1 | 5.1 |
| <i>Micrometrus minimus</i> | dwarf surfperch | 1 | 70 | 8.3 | 8.3 |
| <i>Paralabrax clathratus</i> | kelp bass | 1 | 40 | 1.7 | 1.7 |
| <i>Paralichthys californicus</i> | California halibut | 1 | 50 | 1.7 | 1.7 |
| unidentified fish, damaged | unid. damaged fish | 1 | 250 | 200 | 200.0 |
| <i>Xenistius californiensis</i> | salema | 1 | 47 | 1.8 | 1.8 |
| SHARKS/RAYS | | | | | |
| <i>Myliobatis californica</i> | bat ray | 1 | 400 | 460 | 460.0 |
| INVERTEBRATES | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 34 | 18-46 | 2.4-18.2 | 154.9 |
| <i>Cancer magister</i> | dungeness crab | 1 | - | - | - |
| <i>Pugettia richii</i> | cryptic kelp crab | 1 | 12 | 1.3 | 1.3 |
| <i>Pugettia</i> spp. | kelp crabs | 1 | - | - | - |
| Total: | | 80 | | | |

Survey: EPSIA024
Sample Count: 19

Survey Date: December 01 - 02, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|------------------------------------|-----------------------|--------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Anchoa compressa</i> | deepbody anchovy | 801 | 50-112 | 0.7-12.1 | 2,471.4 |
| <i>Xenistius californiensis</i> | salema | 514 | 40-60 | 1.1-5.3 | 1,404.0 |
| <i>Seriphus politus</i> | queenfish | 320 | 29-100 | 0.5-19.3 | 1,941.7 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 212 | 61-94 | 5.1-18.1 | 2,343.6 |
| <i>Leuresthes tenuis</i> | California grunion | 65 | 31-125 | 0.3-18.5 | 265.2 |
| unidentified fish, damaged | unid. damaged fish | 6 | - | - | - |
| <i>Anisotremus davidsonii</i> | sargo | 4 | 51-70 | 2.9-8.3 | 22.5 |
| <i>Atherinops affinis</i> | topsmelt | 4 | 57-118 | 1.2-14.2 | 19.2 |
| <i>Atherinopsis californiensis</i> | jacksmelt | 4 | 63-108 | 2.2-10.5 | 19.8 |
| <i>Sardinops sagax</i> | Pacific sardine | 3 | 82-91 | 4.8-7.5 | 17.2 |
| <i>Genyonemus lineatus</i> | white croaker | 1 | 115 | 30.0 | 30.0 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 1 | 65 | 5.3 | 5.3 |
| <i>Hypsoblennius gentilis</i> | bay blenny | 1 | 56 | 2.6 | 2.6 |
| <i>Hypsoblennius gilberti</i> | rockpool blenny | 1 | 70 | 4.3 | 4.3 |
| <i>Menticirrhus undulatus</i> | California corbina | 1 | 74 | 5.0 | 5.0 |
| <i>Paralichthys californicus</i> | California halibut | 1 | 160 | 60.1 | 60.1 |
| <i>Sphyræna argentea</i> | California barracuda | 1 | 115 | 7.4 | 7.4 |
| <i>Strongylura exilis</i> | California needlefish | 1 | 462 | 115.1 | 115.1 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 249 | 3.0 | 3.0 |
| <i>Umbrina roncador</i> | yellowfin croaker | 1 | 67 | 5.4 | 5.4 |
| SHARKS/RAYS | | | | | |
| <i>Platyrrhinoidis triseriata</i> | thornback | 2 | 181-192 | 305-342 | 647.0 |
| <i>Urolophus halleri</i> | round stingray | 2 | 149-155 | 183-210 | 393.0 |
| INVERTEBRATES | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 13 | 20-65 | 2.7-23.6 | 110.9 |
| <i>Loligo opalescens</i> | market squid | 4 | 88-114 | - | - |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 3 | 6-35 | 0.2-19.5 | 31.3 |
| <i>Pugettia</i> spp. | kelp crabs | 1 | 9 | 0.3 | 0.3 |
| Total: | | 1,968 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA025
Sample Count: 19

Survey Date: December 08 - 09, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-----------------------------------|-----------------------|---------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Leuresthes tenuis</i> | California grunion | 96 | 49-130 | 1.1-26.5 | 440.8 |
| <i>Seriphus politus</i> | queenfish | 90 | 27-175 | 0.5-58.9 | 512.7 |
| <i>Anchoa compressa</i> | deepbody anchovy | 71 | 53-111 | 0.9-12.6 | 223.8 |
| <i>Xenistius californiensis</i> | salema | 23 | 20-70 | 0.9-5.6 | 51.4 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 16 | 65-105 | 7.1-25.1 | 223.8 |
| <i>Sardinops sagax</i> | Pacific sardine | 10 | 73-108 | 3.7-13.3 | 70.9 |
| <i>Atherinops affinis</i> | topsmelt | 7 | 63-140 | 2.2-11.0 | 30.7 |
| unidentified fish, damaged | unid. damaged fish | 4 | - | 14.8 | 14.8 |
| <i>Strongylura exilis</i> | California needlefish | 2 | 455-482 | 120-125 | 245.0 |
| <i>Chromis punctipinnis</i> | blacksmith | 1 | 105 | 27.0 | 27.0 |
| <i>Micrometrus minimus</i> | dwarf surfperch | 1 | 54 | 4.4 | 4.4 |
| <i>Paraclinus integripinnis</i> | reef finspot | 1 | 65 | 3.7 | 3.7 |
| SHARKS/RAYS | | | | | |
| <i>Myliobatis californica</i> | bat ray | 1 | 305 | 400 | 400.0 |
| <i>Platyrrhinoidis triseriata</i> | thornback | 1 | 490 | 650 | 650.0 |
| INVERTEBRATES | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 14 | 23-60 | 3.0-19.0 | 101.5 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 4 | 5-40 | 0.1-20.9 | 29.7 |
| <i>Pugettia</i> spp. | kelp crabs | 2 | 10-13 | 0.4-1.1 | 1.5 |
| <i>Octopus</i> spp. | octopus | 1 | - | 200 | 200.0 |
| <i>Pyromaia tuberculata</i> | tuberculate pea crab | 1 | 22 | 2.3 | 2.3 |
| | | Total: | 346 | | |

Survey: EPSIA026
Sample Count: 19

Survey Date: December 15 - 16, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|---------------------------------|-----------------------|---------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Leuresthes tenuis</i> | California grunion | 99 | 20-124 | 0.6-21.2 | 341.8 |
| <i>Seriphus politus</i> | queenfish | 44 | 47-102 | 1.4-13.5 | 268.2 |
| <i>Xenistius californiensis</i> | salema | 28 | 38-57 | 1.1-3.5 | 55.3 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 11 | 64-83 | 7.8-16.5 | 112.9 |
| <i>Atractoscion nobilis</i> | white seabass | 8 | 229-295 | 150-310 | 1,655.0 |
| <i>Engraulis mordax</i> | northern anchovy | 6 | 38-109 | 0.5-13.6 | 24.1 |
| <i>Anchoa compressa</i> | deepbody anchovy | 5 | 55-92 | 1.0-8.6 | 15.4 |
| <i>Atherinops affinis</i> | topsmelt | 2 | 53-84 | 1.4-6.2 | 7.6 |
| <i>Chromis punctipinnis</i> | blacksmith | 1 | 39 | 1.0 | 1.0 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 1 | 140 | 75.4 | 75.4 |
| <i>Sardinops sagax</i> | Pacific sardine | 1 | 86 | 4.1 | 4.1 |
| <i>Umbrina roncadore</i> | yellowfin croaker | 1 | 94 | 9.7 | 9.7 |
| INVERTEBRATES | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 15 | 25-83 | 3.6-11.0 | 103.1 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 3 | 9-42 | 0.5-28.0 | 33.6 |
| <i>Loligo opalescens</i> | market squid | 1 | 52 | 24.1 | 24.1 |
| <i>Pugettia</i> spp. | kelp crabs | 1 | 9 | 0.5 | 0.5 |
| | | Total: | 227 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA027

Survey Date: December 20 - 21, 2004

Sample Count: 19

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|------------------------------------|-----------------------|---------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Seriphus politus</i> | queenfish | 25 | 23-95 | 0.5-11.7 | 102.4 |
| <i>Anchoa compressa</i> | deepbody anchovy | 16 | 40-112 | 0.8-14.3 | 93.7 |
| <i>Leuresthes tenuis</i> | California grunion | 10 | 57-113 | 1.5-10.3 | 37.5 |
| <i>Atherinopsis californiensis</i> | jacksmelt | 6 | 62-133 | 2.4-23.6 | 37.3 |
| Atherinopsidae | silverside | 3 | 73-105 | 2.3-8.3 | 13.5 |
| <i>Sardinops sagax</i> | Pacific sardine | 2 | 80-89 | 4.5-5.7 | 10.2 |
| <i>Anchoa delicatissima</i> | slough anchovy | 1 | 68 | 3.3 | 3.3 |
| <i>Atractoscion nobilis</i> | white seabass | 1 | 290 | 265 | 265.0 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 1 | 169 | 115 | 115.0 |
| <i>Xenistius californiensis</i> | salema | 1 | 37 | 1.0 | 1.0 |
| INVERTEBRATES | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 17 | 23-61 | 2.8-19.6 | 166.1 |
| <i>Cancer</i> spp. | cancer crabs | 1 | 26 | 28.0 | 28.0 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 1 | 15 | 2.2 | 2.2 |
| <i>Pugettia</i> spp. | kelp crabs | 1 | 11 | 1.4 | 1.4 |
| | | Total: | 86 | | |

Survey: EPSIA028

Survey Date: December 29 - 30, 2004

Sample Count: 19

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| Atherinopsidae | silverside | 721 | 43-145 | 1.2-28.2 | 2,746.2 |
| <i>Xenistius californiensis</i> | salema | 283 | 39-59 | 0.5-3.0 | 529.6 |
| <i>Anchoa compressa</i> | deepbody anchovy | 57 | 19-105 | 0.3-10.0 | 204.5 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 29 | 70-110 | 7.9-21.3 | 409.1 |
| <i>Sardinops sagax</i> | Pacific sardine | 21 | 72-85 | 2.8-5.2 | 83.7 |
| <i>Seriphus politus</i> | queenfish | 8 | 40-140 | 0.9-31.6 | 67.2 |
| <i>Strongylura exilis</i> | California needlefish | 5 | 400-508 | 79.4-160 | 532.0 |
| <i>Paralabrax clathratus</i> | kelp bass | 2 | 45-73 | 1.7-7.2 | 8.9 |
| <i>Syngnathus</i> spp. | pipefishes | 2 | 171-194 | 1.4-2.4 | 3.8 |
| <i>Atherinops affinis</i> | topsmelt | 1 | - | - | - |
| Chub unid. | unid. chub | 1 | 75 | 7.3 | 7.3 |
| <i>Citharichthys stigmaeus</i> | speckled sanddab | 1 | 69 | 4.6 | 4.6 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 1 | 225 | 250 | 250.0 |
| <i>Lepomis</i> spp. | sunfishes | 1 | 102 | 29.9 | 29.9 |
| <i>Micrometrus minimus</i> | dwarf surfperch | 1 | 56 | 4.5 | 4.5 |
| <i>Paralichthys californicus</i> | California halibut | 1 | 65 | 3.0 | 3.0 |
| <i>Phanerodon furcatus</i> | white surfperch | 1 | 69 | 9.4 | 9.4 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 1 | 73 | 3.3 | 3.3 |
| SHARKS/RAYS | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 6 | 337-478 | 425-1,100 | 4,395.0 |
| <i>Myliobatis californica</i> | bat ray | 3 | 321-500 | 255-500 | 1,135.0 |
| INVERTEBRATES | | | | | |
| <i>Cancer</i> spp. | cancer crabs | 18 | 16-33 | 0.1-2.3 | 18.7 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 8 | 10-31 | 0.2-9.5 | 26.8 |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 8 | 21-58 | 0.2-24.9 | 55.4 |
| <i>Pugettia</i> spp. | kelp crabs | 5 | 5-22 | 0.1-4.1 | 7.4 |
| <i>Loligo opalescens</i> | market squid | 3 | 78-100 | 19.4-34.7 | 80.8 |
| <i>Talipeus mutallii</i> | globose kelp crab | 2 | 7-8 | 0.2-0.5 | 0.7 |
| Brachyuran unid. | unidentified crab | 1 | - | - | - |
| | | Total: | 1,191 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA029
Sample Count: 19

Survey Date: January 05 - 06, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Atherinops affinis</i> | topsmelt | 344 | 48-137 | 0.9-33.5 | 2,151.8 |
| <i>Leuresthes tenuis</i> | California grunion | 60 | 53-159 | 1.2-36.4 | 361.6 |
| <i>Xenistius californiensis</i> | salema | 42 | 41-55 | 1.1-3.3 | 80.9 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 14 | 78-100 | 6.5-27.2 | 240.6 |
| <i>Anchoa delicatissima</i> | slough anchovy | 10 | 55-81 | 1.6-4.4 | 24.8 |
| <i>Strongylura exilis</i> | California needlefish | 10 | 408-563 | 90.0-270 | 1,620.0 |
| unidentified fish, damaged | unid. damaged fish | 10 | 50-65 | 0.4-2.4 | 26.5 |
| <i>Sardinops sagax</i> | Pacific sardine | 7 | 44-88 | 0.7-4.7 | 25.1 |
| <i>Anisotremus davidsonii</i> | sargo | 4 | 48-81 | 2.5-11.6 | 30.1 |
| <i>Anchoa compressa</i> | deepbody anchovy | 3 | 60-100 | 2.0-12.2 | 23.7 |
| <i>Seriphus politus</i> | queenfish | 3 | 44-144 | 1.2-34.0 | 40.4 |
| <i>Atractoscion nobilis</i> | white seabass | 2 | 270 | 85.0-180 | 265.0 |
| <i>Engraulis mordax</i> | northern anchovy | 2 | 42-45 | 0.6 | 1.3 |
| <i>Paralabrax clathratus</i> | kelp bass | 2 | 62-64 | 2.8-5.1 | 7.9 |
| <i>Phanerodon furcatus</i> | white surfperch | 2 | 179-224 | 115-240 | 355.2 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 1 | 98 | 20.7 | 20.7 |
| <i>Hyperprosopon</i> spp. | surfperch | 1 | 165 | 115 | 115.0 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 1 | 28 | 0.5 | 0.5 |
| <i>Lepomis macrochirus</i> | bluegill | 1 | 114 | 45.0 | 45.0 |
| <i>Lepomis</i> spp. | sunfishes | 1 | 106 | 35.6 | 35.6 |
| <i>Symphurus atricauda</i> | California tonguefish | 1 | 92 | 8.1 | 8.1 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 248 | 4.5 | 4.5 |
| SHARKS/RAYS | | | | | |
| <i>Myliobatis californica</i> | bat ray | 2 | 274-307 | 320-410 | 730.0 |
| <i>Ophichthus zophochir</i> | yellow snake eel | 2 | 489-520 | 120 | 240.0 |
| <i>Gymnura marmorata</i> | California butterfly ray | 1 | 465 | 648 | 648.0 |
| <i>Platyrhinoidis triseriata</i> | thornback | 1 | - | 178.0 | 177.9 |
| INVERTEBRATES | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 22 | 19-55 | 2.6-19.7 | 198.2 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 5 | 10-31 | 0.4-10.2 | 18.7 |
| <i>Pugettia</i> spp. | kelp crabs | 3 | 7-25 | 1.1-6.1 | 8.7 |
| <i>Callinassa californiensis</i> | ghost shrimp | 2 | 41-49 | 1.0-1.9 | 2.9 |
| <i>Cancer jordani</i> | hairy rock crab | 2 | 21-30 | 1.3-5.8 | 7.1 |
| <i>Octopus</i> spp. | octopus | 2 | - | 20.4-114.8 | 135.2 |
| <i>Cancer antennarius</i> | brown rock crab | 1 | 21 | 2.3 | 2.3 |
| <i>Cancer productus</i> | red rock crab | 1 | 37 | 10.5 | 10.5 |
| <i>Pugettia producta</i> | northern kelp crab | 1 | 15 | 1.5 | 1.5 |
| <i>Taliepus nuttallii</i> | globose kelp crab | 1 | 10 | 0.5 | 0.5 |
| Total: | | 568 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA030
Sample Count: 19

Survey Date: January 12 - 13, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Atherinops affinis</i> | topsmelt | 2,551 | 35-184 | 0.5-67.1 | 23,391.9 |
| <i>Anchoa delicatissima</i> | slough anchovy | 861 | 38-127 | 0.9-17.0 | 2,654.2 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 460 | 57-195 | 4.0-12.8 | 18,405.7 |
| <i>Anchoa compressa</i> | deepbody anchovy | 222 | 50-122 | 1.1-20.8 | 2,131.7 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 181 | 43-240 | 1.4-31.0 | 1,596.9 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 118 | 38-136 | 1.9-54.9 | 2,175.8 |
| <i>Seriphus politus</i> | queenfish | 86 | 37-225 | 0.7-16.5 | 773.4 |
| <i>Paralabrax clathratus</i> | kelp bass | 79 | 44-154 | 1.0-70.0 | 526.4 |
| <i>Micrometrus minimus</i> | dwarf surfperch | 47 | 54-91 | 4.0-19.8 | 484.8 |
| <i>Menticirrhus undulatus</i> | California corbina | 39 | 58-341 | 3.0-58.0 | 1,599.6 |
| <i>Phanerodon furcatus</i> | white surfperch | 38 | 83-227 | 13.9-35.0 | 2,830.4 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 33 | 43-88 | 1.2-35.0 | 185.7 |
| <i>Amphistichus argenteus</i> | barred surfperch | 32 | 68-195 | 8.6-22.0 | 1,242.5 |
| <i>Paralichthys californicus</i> | California halibut | 28 | 45-255 | 1.1-26.1 | 593.3 |
| <i>Sardinops sagax</i> | Pacific sardine | 28 | 73-180 | 2.5-65.0 | 364.7 |
| <i>Xenistius californiensis</i> | salema | 26 | 36-74 | 0.6-6.5 | 45.0 |
| <i>Anisotremus davidsonii</i> | sargo | 21 | 51-244 | 2.0-37.0 | 834.4 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 15 | 22-240 | 14.1-31.0 | 2,128.0 |
| <i>Roncador stearnsi</i> | spotfin croaker | 15 | 51-421 | 2.0-1,500 | 5,531.5 |
| <i>Atractoscion nobilis</i> | white seabass | 12 | 127-316 | 26.4-35.0 | 2,846.4 |
| <i>Fundulus parvipinnis</i> | California killifish | 9 | 49-79 | 1.8-7.1 | 48.0 |
| <i>Engraulis mordax</i> | northern anchovy | 8 | 65-86 | 1.4-5.5 | 26.7 |
| <i>Umbrina roncadore</i> | yellowfin croaker | 7 | 55-298 | 3.1-35.5 | 398.5 |
| Chub unid. | unid. chub | 4 | 62-81 | 4.5-7.6 | 24.5 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 4 | 98-161 | 8.7-28.5 | 70.9 |
| <i>Citharichthys stigmaeus</i> | speckled sanddab | 3 | 49-65 | 1.5-3.6 | 6.6 |
| <i>Hermosilla azurea</i> | zebra perch | 3 | 66-71 | 7.3-11.9 | 27.3 |
| <i>Sphyrna argentea</i> | California barracuda | 3 | 198-224 | 55.4-68.5 | 181.4 |
| <i>Albula vulpes</i> | bonefish | 2 | 320-340 | 590-602 | 1,192.0 |
| Ictaluridae | unid. catfish | 2 | 162-177 | 55.0-100.5 | 155.5 |
| <i>Citharichthys sordidus</i> | Pacific sanddab | 1 | 50 | 0.5 | 0.5 |
| <i>Cynoscion parvipinnis</i> | shortfin corvina | 1 | 412 | 900 | 900.0 |
| <i>Rhacochilus vacca</i> | pile surfperch | 1 | 176 | 160 | 160.0 |
| <i>Genyonemus lineatus</i> | white croaker | 1 | 43 | 1.0 | 1.0 |
| <i>Hypsoblemmus gentilis</i> | bay blenny | 1 | 65 | 5.0 | 5.0 |
| <i>Hypsoblemmus gilberti</i> | rockpool blenny | 1 | 65 | 5.0 | 5.0 |
| <i>Scorpaena guttata</i> | spotted scorpionfish | 1 | 110 | 38.0 | 38.0 |
| <i>Strongylura exilis</i> | California needlefish | 1 | 716 | 90.0 | 90.0 |
| SHARKS/RAYS | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 33 | 275-525 | 185-1,520 | 24,459.0 |
| <i>Urolophus halleri</i> | round stingray | 10 | 146-206 | 180-630 | 3,834.0 |
| <i>Ophichthus zophochir</i> | yellow snake eel | 6 | 526-800 | 115-600 | 1,920.0 |
| <i>Mustelus californicus</i> | gray smoothhound | 3 | 442-687 | 300-1,100 | 1,850.0 |
| <i>Myliobatis californica</i> | bat ray | 3 | 355-447 | 640-1,300 | 3,240.0 |
| <i>Platyrhinoidis triseriata</i> | thornback | 1 | 186 | 550 | 550.0 |
| INVERTEBRATES | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 73 | 13-58 | 1.5-42.0 | 492.1 |
| <i>Octopus</i> spp. | octopus | 10 | - | 40.0-700 | 2,011.5 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 5 | 11-35 | 0.5-9.0 | 25.7 |
| <i>Cancer productus</i> | red rock crab | 2 | 32-33 | 4.2-6.0 | 10.2 |
| <i>Cancer antennarius</i> | brown rock crab | 1 | 36 | 7.2 | 7.2 |
| <i>Lophopanopeus</i> spp. | black-clawed crabs | 1 | 80 | 8.0 | 8.0 |
| <i>Pandalus platyceros</i> | spot shrimp | 1 | 55 | 1.8 | 1.8 |
| <i>Pugettia richii</i> | cryptic kelp crab | 1 | 28 | 11.0 | 11.0 |
| <i>Sicyonia ingentis</i> | Ridgeback rock shrimp | 1 | - | 16.0 | 16.0 |
| Total: | | 5,096 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA031
Sample Count: 19

Survey Date: January 19 - 20, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|-----------------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Atherinops affinis</i> | topsmelt | 492 | 50-179 | 1.0-30.0 | 2,256.5 |
| <i>Sardinops sagax</i> | Pacific sardine | 32 | 55-127 | 2.5-15.5 | 180.4 |
| <i>Atractoscion nobilis</i> | white seabass | 18 | 80-235 | 40.0-160 | 1,521.0 |
| <i>Anchoa delicatissima</i> | slough anchovy | 12 | 55-79 | 1.0-5.0 | 29.7 |
| <i>Anchoa compressa</i> | deepbody anchovy | 8 | 60-96 | 2.5-10.0 | 36.0 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 6 | 69-110 | 9.0-35.0 | 103.0 |
| <i>Xenistius californiensis</i> | salema | 5 | 39-55 | 1.0-3.0 | 10.0 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 4 | 106-141 | 33.0-72.0 | 189.0 |
| <i>Paralabrax clathratus</i> | kelp bass | 4 | 53-66 | 3.0-6.0 | 20.0 |
| <i>Anisotremus davidsonii</i> | sargo | 2 | 55 | 2.5-7.0 | 9.5 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 2 | 65-79 | 4.5-9.5 | 14.0 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 2 | 63-75 | 4.0-8.0 | 12.0 |
| <i>Seriphus politus</i> | queenfish | 2 | 47-74 | 1.0-5.0 | 6.0 |
| <i>Citharichthys stigmatæus</i> | speckled sanddab | 1 | 38 | 1.0 | 1.0 |
| <i>Hypsoblennius</i> spp. | blennies | 1 | 70 | 7.0 | 7.0 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 1 | 253 | 350 | 350.0 |
| <i>Leuresthes tenuis</i> | California grunion | 1 | 91 | 5.0 | 5.0 |
| <i>Micrometrus minimus</i> | dwarf surfperch | 1 | 67 | 7.5 | 7.5 |
| <i>Pleuronichthys ritteri</i> | spotted turbot | 1 | 70 | 6.5 | 6.5 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Myliobatis californica</i> | bat ray | 2 | 182-404 | 460-850 | 1,310.0 |
| <i>Platyrhinoidis triseriata</i> | thornback | 2 | 159-349 | 200-260 | 460.0 |
| <i>Gymnura marmorata</i> | California butterfly ray | 1 | 392 | 380 | 380.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 40 | 12-60 | 1.0-22.0 | 286.0 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 5 | 12-33 | 1.0-10.0 | 24.5 |
| <i>Blepharipoda occidentalis</i> | spiny mole crab | 1 | 24 | 9.0 | 9.0 |
| <i>Cancer productus</i> | red rock crab | 1 | 35 | 7.0 | 7.0 |
| <i>Octopus bimaculatus</i> | California two-spot octopus | 1 | 80 | 110 | 110.0 |
| <i>Pugettia</i> spp. | kelp crabs | 1 | 32 | 7.5 | 7.5 |
| Total: | | 649 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA032
Sample Count: 19

Survey Date: January 26 - 27, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Atherinops affinis</i> | topsmelt | 243 | 46-277 | 1.0-65.0 | 1,435.4 |
| <i>Anchoa compressa</i> | deepbody anchovy | 16 | 70-111 | 3.0-15.0 | 146.9 |
| <i>Seriphus politus</i> | queenfish | 11 | 35-96 | 1.0-13.0 | 75.5 |
| <i>Atractoscion nobilis</i> | white seabass | 9 | 159-284 | 50.0-210 | 722.0 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 5 | 62-110 | 7.0-38.0 | 86.0 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 3 | 162-225 | 85.0-310 | 615.0 |
| <i>Sardinops sagax</i> | Pacific sardine | 3 | 79-145 | 5.0-29.0 | 56.0 |
| <i>Xenistius californiensis</i> | salema | 3 | 38-52 | 1.5-3.0 | 6.5 |
| <i>Phanerodon furcatus</i> | white surfperch | 2 | 87-95 | 16.0-23.0 | 39.0 |
| <i>Anchoa delicatissima</i> | slough anchovy | 1 | 61 | 2.0 | 2.0 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 1 | 75 | 3.1 | 3.1 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 1 | 98 | 21.0 | 21.0 |
| <i>Micrometrus minimus</i> | dwarf surfperch | 1 | 74 | 16.0 | 16.0 |
| <i>Paralabrax clathratus</i> | kelp bass | 1 | - | 0.5 | 0.5 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 1 | 65 | 5.5 | 5.5 |
| unidentified fish, damaged | unid. damaged fish | 1 | 182 | 70.0 | 70.0 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Myliobatis californica</i> | bat ray | 2 | 309-395 | 400-490 | 890.0 |
| <i>Gymnura marmorata</i> | California butterfly ray | 1 | 365 | 390 | 390.0 |
| <i>Torpedo californica</i> | Pacific electric ray | 1 | 311 | 3,750.0 | 3,750.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 30 | 24-51 | 1.5-23.5 | 325.0 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 4 | 12-50 | 2.0-18.0 | 42.0 |
| <i>Cancer spp.</i> | cancer crabs | 2 | 28-32 | 2.0-3.0 | 5.0 |
| <i>Cancer productus</i> | red rock crab | 1 | 35 | 5.0 | 5.0 |
| Caridean unid. | unidentified shrimp | 1 | - | 7.0 | 7.0 |
| <i>Panulirus interruptus</i> | California spiny lobster | 1 | - | 30.0 | 30.0 |
| | | Total: | 345 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA033
Sample Count: 19

Survey Date: February 20 - 03, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|---------------------------------|-----------------------|---------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Atherinops affinis</i> | topsmelt | 189 | 38-325 | 0.5-270 | 1,381.3 |
| <i>Sardinops sagax</i> | Pacific sardine | 19 | 66-124 | 4.8-16.0 | 153.7 |
| <i>Anchoa compressa</i> | deepbody anchovy | 10 | 62-116 | 3.0-16.0 | 70.5 |
| <i>Xenistius californiensis</i> | salema | 6 | 45-59 | 1.0-4.0 | 11.5 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 5 | 122-165 | 50.0-100 | 339.6 |
| <i>Syngnathus</i> spp. | pipefishes | 4 | 162-224 | 1.1-4.0 | 9.3 |
| <i>Anisotremus davidsonii</i> | sargo | 3 | 57-69 | 4.0-7.0 | 17.5 |
| <i>Micrometrus minimus</i> | dwarf surfperch | 2 | 62-67 | 7.5-9.0 | 16.5 |
| <i>Anchoa delicatissima</i> | slough anchovy | 1 | 75 | 5.0 | 5.0 |
| <i>Atractoscion nobilis</i> | white seabass | 1 | 307 | 360 | 360.0 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 1 | 77 | 10.0 | 10.0 |
| <i>Rhacochilus vacca</i> | pile surfperch | 1 | 214 | 280 | 280.0 |
| <i>Paralabrax clathratus</i> | kelp bass | 1 | 65 | 5.6 | 5.6 |
| <i>Peprilus simillimus</i> | Pacific butterfish | 1 | 79 | 11.0 | 11.0 |
| <i>Phanerodon furcatus</i> | white surfperch | 1 | 87 | 15.0 | 15.0 |
| <i>Sarda chiliensis</i> | Pacific bonito | 1 | 362 | 510 | 510.0 |
| INVERTEBRATES | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 17 | 20-58 | 2.0-18.0 | 137.8 |
| <i>Pugettia</i> spp. | kelp crabs | 4 | 6-23 | 0.4-9.0 | 11.9 |
| <i>Cancer jordani</i> | hairy rock crab | 1 | 33 | 8.5 | 8.5 |
| <i>Cancer productus</i> | red rock crab | 1 | 56 | 17.0 | 17.0 |
| <i>Dosidicus gigas</i> | jumbo squid | 1 | 625 | 500 | 500.0 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 1 | 10 | 0.2 | 0.2 |
| <i>Podocheila hemphilli</i> | Hemphill's kelp crab | 1 | 20 | 3.0 | 3.0 |
| | | Total: | 272 | | |

Survey: EPSIA034
Sample Count: 13

Survey Date: February 09 - 10, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|-----------------------|---------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Atherinops affinis</i> | topsmelt | 115 | 58-302 | 2.0-205 | 903.8 |
| <i>Anchoa delicatissima</i> | slough anchovy | 25 | 39-98 | 0.3-9.5 | 60.9 |
| <i>Anchoa compressa</i> | deepbody anchovy | 17 | 73-112 | 3.0-17.0 | 192.2 |
| <i>Seriphus politus</i> | queenfish | 16 | 45-112 | 1.0-20.0 | 82.7 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 14 | 70-113 | 11.0-31.0 | 251.6 |
| <i>Umbrina roncador</i> | yellowfin croaker | 8 | 74-96 | 7.0-14.5 | 82.5 |
| <i>Atractoscion nobilis</i> | white seabass | 5 | 190-265 | 70.0-245 | 675.0 |
| <i>Engraulis mordax</i> | northern anchovy | 5 | 42-89 | 1.0-5.5 | 14.4 |
| <i>Xenistius californiensis</i> | salema | 5 | 50-60 | 2.0-3.5 | 13.9 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 4 | 101-135 | 45.0-70.0 | 235.0 |
| <i>Sardinops sagax</i> | Pacific sardine | 2 | 108-111 | 9.0-12.0 | 21.0 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 1 | 206 | 270 | 270.0 |
| <i>Paralabrax clathratus</i> | kelp bass | 1 | 65 | 5.0 | 5.0 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 1 | 51 | 2.0 | 2.0 |
| <i>Paralichthys californicus</i> | California halibut | 1 | 94 | 13.0 | 13.0 |
| <i>Roncador stearnsi</i> | spotfin croaker | 1 | 57 | 3.0 | 3.0 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 163 | 0.6 | 0.6 |
| unidentified fish, damaged | unid. damaged fish | 1 | - | 100 | 100.0 |
| SHARKS/RAYS | | | | | |
| <i>Myliobatis californica</i> | bat ray | 2 | 272-530 | 305-2,000 | 2,305.0 |
| <i>Ophichthus zophochir</i> | yellow snake eel | 1 | 638 | 295 | 295.0 |
| <i>Urolophus halleri</i> | round stingray | 1 | 140 | 170 | 170.0 |
| INVERTEBRATES | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 14 | 16-78 | 3.0-14.0 | 99.6 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 3 | 8-18 | 0.4-3.0 | 4.9 |
| <i>Cancer productus</i> | red rock crab | 2 | 33-49 | 12.0-17.0 | 29.0 |
| | | Total: | 246 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA035
Sample Count: 13

Survey Date: February 16 - 17, 2005

| <u>Taxon</u> | <u>Common Name</u> | <u>Survey Count</u> | <u>Length Range (mm)</u> | <u>Weight Range (g)</u> | <u>Total Weight (g)</u> |
|-------------------------------------|-----------------------|---------------------|--------------------------|-------------------------|-------------------------|
| <u>FISHES</u> | | | | | |
| <i>Anchoa compressa</i> | deepbody anchovy | 5 | - | 40.2 | 40.2 |
| <i>Seriphus polinus</i> | queenfish | 5 | 44-52 | 3.0 | 15.0 |
| <i>Atherinops affinis</i> | topsmelt | 4 | - | 8.7 | 8.7 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 2 | 131-134 | 45.0-81.0 | 126.0 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 2 | - | 14.6 | 14.6 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 2 | 50-84 | 3.2-14.0 | 17.2 |
| <i>Atherinopsis californiensis</i> | jacksmelt | 1 | 273 | 160 | 160.0 |
| <i>Hypsoblennius jenkinsi</i> | mussel blenny | 1 | 57 | 4.3 | 4.3 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 1 | 380 | 800 | 800.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus</i> spp. | shore crab | 417 | - | 50.0 | 871.0 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 274 | 3-37 | 0.5-21.5 | 768.5 |
| <i>Cancer productus</i> | red rock crab | 13 | 10-55 | 1.0-22.0 | 130.1 |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 7 | 20-35 | 2.0-7.0 | 30.0 |
| Brachyuran unid. | unidentified crab | 1 | - | 150-200 | 350.0 |
| <i>Pugettia producta</i> | northern kelp crab | 1 | 22 | 3.5 | 3.5 |
| <i>Pugettia</i> spp. | kelp crabs | 1 | - | 0.5 | 0.5 |
| Total: | | 737 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA036

Survey Date: February 23 - 24, 2005

Sample Count: 13

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|-----------------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Anchoa compressa</i> | deepbody anchovy | 306 | 54-120 | 2.0-21.0 | 3,203.2 |
| <i>Atherinops affinis</i> | topsmelt | 304 | 57-171 | 1.2-54.7 | 4,887.9 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 189 | 72-188 | 8.9-61.0 | 5,211.9 |
| Chub unid. | unid. chub | 91 | 62-164 | 3.0-100 | 845.5 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 88 | 43-315 | 2.0-670 | 1,318.9 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 64 | 42-94 | 2.0-15.0 | 439.8 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 36 | 110-164 | 36.0-116.4 | 2,564.4 |
| Ictaluridae | unid. catfish | 33 | 124-259 | 60.0-300 | 4,123.0 |
| <i>Fundulus parvipinnis</i> | California killifish | 31 | 66-91 | 4.0-12.0 | 235.5 |
| <i>Anchoa delicatissima</i> | slough anchovy | 24 | 57-74 | 2.0-5.0 | 73.5 |
| <i>Seriphus politus</i> | queenfish | 21 | 49-172 | 2.0-79.0 | 410.5 |
| <i>Lepomis macrochirus</i> | bluegill | 16 | 42-135 | 2.0-86.9 | 513.7 |
| <i>Lepomis cyanellus</i> | green sunfish | 15 | 47-168 | 3.0-138 | 532.0 |
| <i>Anisotremus davidsonii</i> | sargo | 10 | 53-81 | 3.5-13.0 | 68.4 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 7 | 25-233 | 0.8-260 | 956.8 |
| <i>Paralichthys californicus</i> | California halibut | 6 | 47-221 | 1.5-170 | 200.8 |
| <i>Atractoscion nobilis</i> | white seabass | 4 | 239-432 | 155-260 | 775.0 |
| <i>Pylodictis olivaris</i> | flathead catfish | 4 | 158-210 | 90.0-170 | 480.0 |
| <i>Chromis punctipinnis</i> | blacksmith | 3 | 55-101 | 4.0-21.0 | 32.0 |
| <i>Phanerodon furcatus</i> | white surfperch | 3 | 156-191 | 85.8-180 | 385.8 |
| unidentified fish, damaged | unid. damaged fish | 3 | 40-95 | 1.0-60.0 | 62.5 |
| <i>Paralabrax clathratus</i> | kelp bass | 2 | 65-90 | 5.0-14.0 | 19.0 |
| <i>Ameiurus nebulosus</i> | brown bullhead | 1 | 149 | 100 | 100.0 |
| <i>Citharichthys stigmatæus</i> | speckled sanddab | 1 | 45 | 3.0 | 3.0 |
| <i>Embiotoca jacksoni</i> | black surfperch | 1 | 225 | 370 | 370.0 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 1 | 183 | 50.0 | 50.0 |
| <i>Lepomis</i> spp. | sunfishes | 1 | 141 | 130 | 130.0 |
| <i>Micrometrus minimus</i> | dwarf surfperch | 1 | 57 | 5.0 | 5.0 |
| <i>Micropterus dolomieu</i> | smallmouth bass | 1 | 186 | 150 | 150.0 |
| Pleuronectiformes unid. | flatfishes | 1 | 38 | 0.5 | 0.5 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 105 | 1.0 | 1.0 |
| <i>Xenistius californiensis</i> | salema | 1 | 48 | 1.8 | 1.8 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Ophichthus zophochir</i> | yellow snake eel | 4 | 549-769 | 150-450 | 1,380.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Octopus</i> spp. | octopus | 17 | 17-117 | 16.0-520 | 3,170.0 |
| <i>Portunus xantustii</i> | Xantus' swimming crab | 15 | 11-52 | 1.3-14.0 | 73.8 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 6 | 11-22 | 1.0-4.0 | 13.0 |
| <i>Octopus bimaculatus</i> | California two-spot octopus | 3 | 90-95 | 240-370 | 940.0 |
| <i>Blepharipoda occidentalis</i> | spiny mole crab | 1 | 18 | 3.0 | 3.0 |
| Total: | | 1,316 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA037
Sample Count: 13

Survey Date: March 02 - 03, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|-----------------------|---------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Seriphus politus</i> | queenfish | 18 | 47-74 | 1.2-5.5 | 45.4 |
| <i>Atherinops affinis</i> | topsmelt | 8 | 65-112 | 0.4-13.7 | 55.7 |
| <i>Roncador stearnsi</i> | spotfin croaker | 5 | 70-550 | 5.5-1,700 | 3,024.6 |
| <i>Anchoa compressa</i> | deepbody anchovy | 3 | 64-98 | 3.0-8.6 | 20.0 |
| <i>Phanerodon furcatus</i> | white surfperch | 3 | 79-175 | 10.9-130.8 | 179.1 |
| <i>Citharichthys stigmæus</i> | speckled sanddab | 2 | 60-68 | 3.4-4.0 | 7.4 |
| <i>Anisotremus davidsonii</i> | sargo | 1 | 61 | 4.5 | 4.5 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 1 | 107 | 26.5 | 26.5 |
| <i>Dorosoma petenense</i> | threadfin shad | 1 | 69 | 3.4 | 3.4 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 1 | 215 | 226 | 226.0 |
| <i>Micrometrus minimus</i> | dwarf surfperch | 1 | 69 | 7.9 | 7.9 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 1 | 65 | 5.7 | 5.7 |
| <i>Paralichthys californicus</i> | California halibut | 1 | 128 | 30.3 | 30.3 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 127 | 0.5 | 0.5 |
| unidentified fish, damaged | unid. damaged fish | 1 | - | 1.2 | 1.2 |
| INVERTEBRATES | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 13 | 19-48 | 1.3-15.2 | 84.2 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 6 | 8-42 | 0.6-48.5 | 73.9 |
| <i>Octopus</i> spp. | octopus | 1 | 95 | 266.5 | 266.5 |
| | | Total: | 68 | | |

Survey: EPSIA038
Sample Count: 13

Survey Date: March 09 - 10, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Seriphus politus</i> | queenfish | 36 | 45-80 | 1.7-7.4 | 124.6 |
| <i>Atherinops affinis</i> | topsmelt | 25 | 60-152 | 2.0-33.5 | 299.9 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 17 | 76-119 | 12.0-35.5 | 350.7 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 10 | 185-235 | 160-281 | 2,126.3 |
| <i>Paralabrax clathratus</i> | kelp bass | 6 | 49-65 | 2.2-5.6 | 22.9 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 5 | 43-80 | 2.0-11.1 | 33.2 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 4 | 50-83 | 2.5-14.1 | 27.5 |
| <i>Anchoa compressa</i> | deepbody anchovy | 3 | 90-110 | 9.1-12.8 | 34.7 |
| <i>Roncador stearnsi</i> | spotfin croaker | 3 | 67-81 | 4.8-9.5 | 20.4 |
| <i>Anchoa delicatissima</i> | slough anchovy | 2 | 58-62 | 2.3-2.8 | 5.1 |
| <i>Atherinopsis californiensis</i> | jacksmelt | 2 | 110-158 | 14.8-31.8 | 46.6 |
| <i>Engraulis mordax</i> | northern anchovy | 2 | 35-38 | 0.3-0.5 | 0.8 |
| <i>Anisotremus davidsonii</i> | sargo | 1 | 56 | 3.9 | 3.9 |
| <i>Citharichthys stigmæus</i> | speckled sanddab | 1 | 60 | 5.2 | 5.2 |
| <i>Fundulus parvipinnis</i> | California killifish | 1 | 65 | 4.9 | 4.9 |
| <i>Gillichthys mirabilis</i> | longjaw mudsucker | 1 | 125 | 34.4 | 34.4 |
| <i>Leptocottus armatus</i> | Pacific staghorn sculpin | 1 | 98 | 15.1 | 15.1 |
| <i>Micrometrus minimus</i> | dwarf surfperch | 1 | 64 | 7.3 | 7.3 |
| <i>Peprilus simillimus</i> | Pacific butterflyfish | 1 | 85 | 13.8 | 13.8 |
| <i>Phanerodon furcatus</i> | white surfperch | 1 | 123 | 35.9 | 35.9 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 1 | 330 | 500 | 500.0 |
| <i>Sardinops sagax</i> | Pacific sardine | 1 | 114 | 8.9 | 8.9 |
| unidentified fish | unid. fish | 1 | 39 | 0.9 | 0.9 |
| SHARKS/RAYS | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 2 | 347-423 | 362-671 | 1,032.7 |
| <i>Platyrrhinoidis triseriata</i> | thornback | 2 | 196-395 | 365-371 | 735.8 |
| <i>Myliobatis californica</i> | bat ray | 1 | 343 | 647.0 | 647.3 |
| <i>Urolophus halleri</i> | round stingray | 1 | 180 | 448.0 | 447.7 |
| INVERTEBRATES | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 66 | 16-46 | 1.1-9.4 | 260.7 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 5 | 10-40 | 0.5-36.8 | 49.7 |
| <i>Pyromaia tuberculata</i> | tuberculate pea crab | 2 | 5-8 | 0.2-0.4 | |
| <i>Octopus</i> spp. | octopus | 1 | 90 | 319.5 | 319.5 |
| | | Total: | 206 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EFSIA039
Sample Count: 13

Survey Date: March 16 - 17, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|-----------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Atherinops affinis</i> | topsmelt | 6 | 76-138 | 4.2-28.4 | 138.6 |
| <i>Anchoa delicatissima</i> | slough anchovy | 3 | 63-72 | 2.7-3.8 | 9.5 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 3 | 40-120 | 1.4-45.6 | 83.4 |
| <i>Roncador stearnsi</i> | spotfin croaker | 3 | 57-71 | 4.7-7.1 | 17.8 |
| <i>Seriphus politus</i> | queenfish | 3 | 55-65 | 2.0-3.7 | 9.3 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 2 | 210-235 | 233-281 | 513.5 |
| <i>Anchoa compressa</i> | deepbody anchovy | 1 | 58 | 1.7 | 1.7 |
| <i>Brachyistius frenatus</i> | kelp surfperch | 1 | 80 | 17.0 | 17.0 |
| <i>Fundulus parvipinnis</i> | California killifish | 1 | 70 | 5.4 | 5.4 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 1 | 129 | 51.2 | 51.2 |
| <i>Leuresthes tenuis</i> | California grunion | 1 | 74 | 3.1 | 3.1 |
| <i>Lyopsetta exilis</i> | slender sole | 1 | 124 | 25.9 | 25.9 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 1 | 54 | 2.7 | 2.7 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 1 | 62 | 3.9 | 3.9 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 190 | 1.8 | 1.8 |
| <i>Xenistius californiensis</i> | salema | 1 | 53 | 2.8 | 2.8 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 10 | 21-44 | 1.0-11.3 | 30.8 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 6 | 10-28 | 1.1-8.4 | 31.2 |
| Total: | | 46 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA040
Sample Count: 19

Survey Date: March 23 - 24, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Atherinops affinis</i> | topsmelt | 77 | 60-155 | 2.0-50.2 | 776.2 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 62 | 33-123 | 0.8-41.6 | 1,385.7 |
| <i>Seriphus politus</i> | queenfish | 31 | 35-111 | 1.3-14.0 | 155.4 |
| <i>Anchoa compressa</i> | deepbody anchovy | 25 | 54-80 | 1.6-5.4 | 73.2 |
| <i>Anchoa delicatissima</i> | slough anchovy | 14 | 55-70 | 2.3-3.7 | 40.6 |
| <i>Roncador stearnsi</i> | spotfin croaker | 9 | 64-83 | 3.0-12.4 | 57.6 |
| <i>Syngnathus</i> spp. | pipefishes | 9 | 183-235 | 1.6-3.5 | 22.0 |
| <i>Strongylura exilis</i> | California needlefish | 6 | 330-538 | 37.5-181 | 592.8 |
| <i>Genyonemus lineatus</i> | white croaker | 4 | 31-34 | 0.6 | 2.7 |
| <i>Leuresthes tenuis</i> | California grunion | 4 | 70-104 | 3.3-9.2 | 20.9 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 4 | 59-64 | 3.8-5.2 | 18.3 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 3 | 205-224 | 184.4-203.0 | 574.8 |
| <i>Leptocottus armatus</i> | Pacific staghorn sculpin | 3 | 60-105 | 3.3-18.8 | 28.6 |
| <i>Phanerodon furcatus</i> | white surfperch | 3 | 41-166 | 8.8-87.7 | 116.2 |
| <i>Anisotremus davidsonii</i> | sargo | 2 | 55-59 | 4.3-5.0 | 9.3 |
| <i>Chromis punctipinnis</i> | blacksmith | 2 | 119-125 | 32.7-35.0 | 67.7 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 2 | 39-177 | 1.5-190 | 191.1 |
| <i>Paralabrax clathratus</i> | kelp bass | 2 | 74-76 | 5.6-8.0 | 13.6 |
| Pleuronectiformes unid. | flatfishes | 2 | 55-60 | 3.2-3.7 | 6.9 |
| <i>Citharichthys stigmaeus</i> | speckled sanddab | 1 | 60 | 2.9 | 2.9 |
| <i>Engraulis mordax</i> | northern anchovy | 1 | 87 | 3.9 | 3.9 |
| <i>Fundulus parvipinnis</i> | California killifish | 1 | 66 | 5.2 | 5.2 |
| <i>Hypsoblennius gilberti</i> | rockpool blenny | 1 | 70 | 6.3 | 6.3 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 1 | 53 | 2.6 | 2.6 |
| <i>Peprilus simillimus</i> | Pacific butterfish | 1 | 87 | 14.3 | 14.3 |
| <i>Pleuronichthys verticalis</i> | hornyhead turbot | 1 | 138 | 68.9 | 68.9 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 1 | 370 | 350 | 350.0 |
| <i>Umbrina roncador</i> | yellowfin croaker | 1 | 70 | 5.4 | 5.4 |
| unidentified fish | unid. fish | 1 | 156 | 77.6 | 77.6 |
| unidentified fish, damaged | unid. damaged fish | 1 | 65 | 1.6 | 1.6 |
| <i>Xenistius californiensis</i> | salema | 1 | 51 | 2.9 | 2.9 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Ophichthus zophochir</i> | yellow snake eel | 2 | 750-752 | 393-457 | 849.4 |
| <i>Urolophus halleri</i> | round stingray | 2 | 119-120 | 95.2-98.0 | 193.2 |
| <i>Gymnura marmorata</i> | California butterfly ray | 1 | 395 | 185.0 | 185.0 |
| <i>Rhinobatos productus</i> | shovelnose guitarfish | 1 | 775 | 1,800.0 | 1,800.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 56 | 9-46 | 0.9-19.0 | 200.2 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 9 | 15-40 | 1.0-31.9 | 95.6 |
| Total: | | 347 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA041
Sample Count: 19

Survey Date: March 30 - 31, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Atherinops affinis</i> | topsmelt | 85 | 58-135 | 2.5-21.7 | 552.4 |
| <i>Seriphus politus</i> | queenfish | 44 | 40-130 | 1.8-33.4 | 258.7 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 36 | 32-125 | 0.6-43.9 | 798.4 |
| <i>Anchoa compressa</i> | deepbody anchovy | 13 | 65-111 | 1.6-17.3 | 98.9 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 11 | 49-75 | 2.4-8.6 | 50.9 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 8 | 27-43 | 0.5-1.8 | 10.8 |
| <i>Anchoa delicatissima</i> | slough anchovy | 5 | 58-69 | 2.0-3.4 | 13.3 |
| <i>Anisotremus davidsonii</i> | sargo | 5 | 54-68 | 3.8-7.0 | 26.7 |
| <i>Embiotoca jacksoni</i> | black surfperch | 5 | 46-64 | 3.0-6.8 | 20.5 |
| <i>Leuresthes tenuis</i> | California grunion | 5 | 64-131 | 1.2-17.0 | 43.3 |
| <i>Umbrina roncadore</i> | yellowfin croaker | 5 | 65-108 | 4.8-20.0 | 45.2 |
| <i>Paralichthys californicus</i> | California halibut | 2 | 70-176 | 2.2-33.7 | 35.9 |
| <i>Phanerodon furcatus</i> | white surfperch | 2 | 41-50 | 1.8-2.5 | 4.3 |
| <i>Genyonemus lineatus</i> | white croaker | 1 | 45 | 1.6 | 1.6 |
| <i>Hypsoblennius gentilis</i> | bay blenny | 1 | 42 | 1.6 | 1.6 |
| <i>Menticirrhus undulatus</i> | California corbina | 1 | 262 | 277.5 | 277.5 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 1 | 80 | 9.6 | 9.6 |
| <i>Roncadore stearnsi</i> | spotfin croaker | 1 | 77 | 7.5 | 7.5 |
| <i>Strongylura exilis</i> | California needlefish | 1 | 324 | 26.3 | 26.3 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 207 | 3.6 | 3.6 |
| <i>Xenistius californiensis</i> | salema | 1 | 55 | 3.1 | 3.1 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 2 | 330-398 | 305-550 | 855.2 |
| <i>Urolophus halleri</i> | round stingray | 2 | 104-108 | 56.0-62.1 | 118.1 |
| <i>Platyrrhinoidis triseriata</i> | thornback | 1 | 279 | 1,500.0 | 1,500.0 |
| <i>Rhinobatos productus</i> | shovelnose guitarfish | 1 | 1126 | 4,400.0 | 4,400.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 20 | 15-58 | 0.9-16.8 | 77.1 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 17 | 5-40 | 0.3-31.9 | 85.4 |
| Total: | | 277 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA042
Sample Count: 19

Survey Date: April 6 - 7, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 29 | 42-131 | 3.0-65.2 | 732.7 |
| <i>Atherinops affinis</i> | topsmelt | 23 | 60-127 | 3.0-24.0 | 238.0 |
| <i>Seriphus politus</i> | queenfish | 17 | 55-81 | 4.0-10.0 | 94.5 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 6 | 40-161 | 2.0-100 | 204.0 |
| <i>Anchoa compressa</i> | deepbody anchovy | 4 | 68-78 | 4.0-6.5 | 19.0 |
| <i>Atherinopsis californiensis</i> | jacksmelt | 4 | 75-252 | 5.0-140 | 177.0 |
| <i>Leuresthes tenuis</i> | California grunion | 4 | 78-151 | 3.8-28.0 | 58.8 |
| <i>Embiotoca jacksoni</i> | black surfperch | 3 | 53-218 | 4.5-452 | 464.0 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 3 | 370-410 | 800-1,250 | 2,950.0 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 2 | 50-56 | 3.0-4.0 | 7.0 |
| <i>Amphistichus argenteus</i> | barred surfperch | 1 | 42 | 2.0 | 2.0 |
| <i>Anchoa delicatissima</i> | slough anchovy | 1 | 63 | 3.5 | 3.5 |
| <i>Anisotremus davidsonii</i> | sargo | 1 | 68 | 8.5 | 8.5 |
| <i>Chromis punctipinnis</i> | blacksmith | 1 | 95 | 18.5 | 18.5 |
| <i>Engraulis mordax</i> | northern anchovy | 1 | 57 | 2.5 | 2.5 |
| <i>Genyonemus lineatus</i> | white croaker | 1 | 110 | 21.0 | 21.0 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 1 | 65 | 7.0 | 7.0 |
| <i>Sardinops sagax</i> | Pacific sardine | 1 | 128 | 19.5 | 19.5 |
| <i>Strongylura exilis</i> | California needlefish | 1 | 345 | 45.0 | 45.0 |
| <i>Syngnathus leptorhynchus</i> | bay pipefish | 1 | 208 | 4.0 | 4.0 |
| <i>Xenistius californiensis</i> | salema | 1 | 52 | 4.0 | 4.0 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 2 | 415-462 | 600-1,050 | 1,650.0 |
| <i>Urolophus halleri</i> | round stingray | 1 | 168 | 420 | 420.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 40 | 17-70 | 1.5-20.0 | 300.0 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 8 | 17-32 | 3.0-13.5 | 43.0 |
| Hippolytidae unid. | hippolytid shrimps | 1 | - | - | - |
| Total: | | 158 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA043
Sample Count: 19

Survey Date: April 13 - 14, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 93 | 48-143 | 6.9-59.8 | 1,565.9 |
| <i>Atherinops affinis</i> | topsmelt | 35 | 65-155 | 3.0-39.9 | 415.6 |
| <i>Anisotremus davidsonii</i> | sargo | 13 | 40-91 | 3.9-25.2 | 127.2 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 10 | 65-263 | 3.9-259.1 | 398.9 |
| <i>Anchoa compressa</i> | deepbody anchovy | 9 | 80-120 | 6.6-22.5 | 123.9 |
| <i>Leuresthes tenuis</i> | California grunion | 6 | 110-160 | 7.6-23.1 | 83.4 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 5 | 40-50 | 1.6-2.5 | 10.1 |
| <i>Atherinopsis californiensis</i> | jacksnelt | 3 | 194-325 | 61.4-223 | 462.1 |
| <i>Paralabrax clathratus</i> | kelp bass | 3 | 65-75 | 3.2-5.6 | 12.5 |
| <i>Seriphys politus</i> | queenfish | 3 | 61-84 | 3.5-7.7 | 15.2 |
| <i>Chromis punctipinnis</i> | blacksmith | 2 | 154-156 | 106.6-143.1 | 249.7 |
| <i>Embiotoca jacksoni</i> | black surfperch | 2 | 56-58 | 4.3-4.4 | 8.7 |
| <i>Girella nigricans</i> | opaleye | 2 | 140-190 | 86.0-260.1 | 346.1 |
| <i>Hermosilla azurea</i> | zebra perch | 2 | 73-255 | 10.9-445 | 455.9 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 2 | 155-198 | 107.3-185.1 | 292.4 |
| <i>Leptocottus armatus</i> | Pacific staghorn sculpin | 2 | 58-66 | 3.5 | 7.0 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 2 | 263-352 | 271-673 | 943.5 |
| <i>Roncador stearnsi</i> | spotfin croaker | 2 | 80-222 | 9.5-174.1 | 183.6 |
| <i>Anchoa delicatissima</i> | slough anchovy | 1 | 70 | 3.8 | 3.8 |
| <i>Genyonemus lineatus</i> | white croaker | 1 | 169 | 92.6 | 92.6 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 1 | 88 | 4.9 | 4.9 |
| <i>Hypsoblennius gentilis</i> | bay blenny | 1 | 58 | 4.7 | 4.7 |
| <i>Hypsoblennius jenkinsi</i> | mussel blenny | 1 | 91 | 13.0 | 13.0 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 1 | 221 | 266.7 | 266.7 |
| <i>Paralichthys californicus</i> | California halibut | 1 | 107 | 18.2 | 18.2 |
| <i>Phanerodon furcatus</i> | white surfperch | 1 | 213 | 215.1 | 215.1 |
| <i>Umbrina roncadore</i> | yellowfin croaker | 1 | 60 | 4.6 | 4.6 |
| unidentified fish, damaged | unid. damaged fish | 1 | - | 91.8 | 91.8 |
| <i>Xenistius californiensis</i> | salema | 1 | 50 | 2.4 | 2.4 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Urolophus halleri</i> | round stingray | 9 | 96-198 | 37.6-521.1 | 2,298.0 |
| <i>Gymnura marmorata</i> | California butterfly ray | 2 | 365-393 | 443.8-512.9 | 956.7 |
| <i>Myliobatis californica</i> | bat ray | 2 | 352-354 | 673-790 | 1,463.2 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 170 | 7-31 | 0.3-14.8 | 544.1 |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 13 | 18-51 | 1.5-19.2 | 85.9 |
| <i>Cancer productus</i> | red rock crab | 1 | 19 | -1.4 | 1.4 |
| Total: | | 404 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA044

Survey Date: April 20 - 21, 2005

Sample Count: 19

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|------------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 32 | 43-122 | 1.9-31.8 | 477.6 |
| <i>Anchoa compressa</i> | deepbody anchovy | 16 | 65-119 | 3.2-18.7 | 159.0 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 11 | 41-225 | 1.7-275.3 | 465.4 |
| <i>Anisotremus davidsonii</i> | sargo | 7 | 60-75 | 4.8-9.0 | 46.8 |
| <i>Atherinops affinis</i> | topsmelt | 7 | 73-133 | 3.7-23.3 | 112.1 |
| <i>Seriphus polinus</i> | queenfish | 6 | 68-99 | 4.7-15.7 | 48.3 |
| <i>Anchoa delicatissima</i> | slough anchovy | 4 | 65-74 | 2.6-4.9 | 14.9 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 2 | 270-335 | 227-482 | 708.8 |
| <i>Cheilopogon pinnatibarbatus</i> | spotted flyingfish | 1 | 114 | 2.9 | 2.9 |
| <i>Leptocottus armatus</i> | Pacific staghorn sculpin | 1 | 65 | 4.6 | 4.6 |
| <i>Leuresthes tenuis</i> | California grunion | 1 | 110 | 11.0 | 11.0 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 1 | 50 | 2.3 | 2.3 |
| <i>Phanerodon furcatus</i> | white surfperch | 1 | 36 | 1.0 | 1.0 |
| <i>Porichthys</i> spp. | midshipman | 1 | - | 200 | 200.0 |
| <i>Roncador stearnsi</i> | spotfin croaker | 1 | 77 | 8.6 | 8.6 |
| <i>Strongylura exilis</i> | California needlefish | 1 | 390 | 57.9 | 57.9 |
| unidentified fish, damaged | unid. damaged fish | 1 | - | 200 | 200.0 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Urolophus halleri</i> | round stingray | 2 | 100 | 63.3-150 | 213.3 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 12 | 18-40 | 1.5-13.7 | 65.9 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 10 | 4-50 | 0.2-53.0 | 82.5 |
| <i>Octopus</i> spp. | octopus | 1 | - | 139.7 | 139.7 |
| Total: | | 119 | | | |

Impingement Results

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA045
Sample Count: 19

Survey Date: April 27 - 28, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 63 | 39-122 | 1.2-42.0 | 810.1 |
| <i>Atherinops affinis</i> | topsmelt | 10 | 78-136 | 6.1-23.7 | 135.0 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 5 | 39-115 | 1.1-49.3 | 103.2 |
| <i>Leptocottus armatus</i> | Pacific staghorn sculpin | 4 | 70-80 | 4.9-7.7 | 27.5 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 4 | 53-91 | 4.4-14.0 | 28.4 |
| <i>Anchoa compressa</i> | deepbody anchovy | 3 | 80-100 | 2.3-13.3 | 21.9 |
| <i>Anchoa delicatissima</i> | slough anchovy | 2 | 61-97 | 2.9-9.1 | 12.0 |
| <i>Anisotremus davidsonii</i> | sargo | 2 | 63-72 | 5.7-10.3 | 16.0 |
| <i>Paralabrax clathratus</i> | kelp bass | 2 | 61-76 | 5.1-8.1 | 13.2 |
| <i>Mugil cephalus</i> | striped mullet | 1 | 57 | 3.4 | 3.4 |
| <i>Paralichthys californicus</i> | California halibut | 1 | 101 | 14.6 | 14.6 |
| <i>Peprilus simillimus</i> | Pacific butterfish | 1 | 47 | 2.2 | 2.2 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 1 | 252 | 190.0 | 189.5 |
| <i>Seriphus politus</i> | queenfish | 1 | 71 | 6.9 | 6.9 |
| <i>Xenistius californiensis</i> | salema | 1 | 70 | 7.6 | 7.6 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Myliobatis californica</i> | bat ray | 1 | 566 | 2,500.0 | 2,500.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 6 | 19-33 | 1.8-4.9 | 18.1 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 2 | 11-12 | 2.9-3.4 | 6.3 |
| | | Total: | 110 | | |

Survey: EPSIA046
Sample Count: 19

Survey Date: May 4 - 5, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 169 | 29-148 | 0.6-78.6 | 1,251.5 |
| <i>Anchoa compressa</i> | deepbody anchovy | 35 | 48-100 | 1.5-13.7 | 145.2 |
| <i>Atherinops affinis</i> | topsmelt | 23 | 60-126 | 2.0-26.0 | 211.4 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 14 | 48-157 | 2.2-94.9 | 162.4 |
| <i>Seriphus politus</i> | queenfish | 6 | 60-91 | 2.6-10.3 | 38.0 |
| <i>Leuresthes tenuis</i> | California grunion | 5 | 71-112 | 3.5-17.4 | 37.3 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 5 | 61-80 | 4.7-11.6 | 38.1 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 4 | 75-82 | 9.1-90.0 | 122.6 |
| <i>Sebastes atrovirens</i> | kelp rockfish | 4 | 68-90 | 5.6-16.4 | 39.8 |
| <i>Paralichthys californicus</i> | California halibut | 3 | 22-80 | 6.2-9.3 | 21.9 |
| <i>Citharichthys stigmaeus</i> | speckled sanddab | 2 | 70-79 | 5.5-6.4 | 11.9 |
| <i>Leptocottus armatus</i> | Pacific staghorn sculpin | 2 | 73-84 | 5.3-7.3 | 12.6 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 2 | 80-82 | 9.9-12.1 | 22.0 |
| <i>Anisotremus davidsonii</i> | sargo | 1 | 64 | 7.4 | 7.4 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 1 | 85 | 2.9 | 2.9 |
| <i>Strongylura exilis</i> | California needlefish | 1 | 400 | 66.0 | 66.0 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 1 | 555 | 1,508.0 | 1,508.0 |
| <i>Ophichthus zophochir</i> | yellow snake eel | 1 | - | 17.8 | 17.8 |
| <i>Urolophus halleri</i> | round stingray | 1 | 204 | 525 | 525.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 4 | 10-30 | 1.3-4.8 | 9.2 |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 3 | 40-50 | 2.2-11.9 | 19.4 |
| | | Total: | 287 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA047
Sample Count: 19

Survey Date: May 11 - 12, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 89 | 33-112 | 0.7-39.2 | 1,120.1 |
| <i>Phanerodon furcatus</i> | white surfperch | 30 | 30-161 | 0.7-90.6 | 179.2 |
| <i>Atherinops affinis</i> | topsmelt | 20 | 45-145 | 0.7-74.5 | 232.0 |
| <i>Anchoa compressa</i> | deepbody anchovy | 11 | 75-110 | 4.1-15.2 | 103.7 |
| <i>Leptocottus armatus</i> | Pacific staghorn sculpin | 9 | 68-94 | 5.7-15.7 | 82.5 |
| <i>Seriphys politus</i> | queenfish | 8 | 71-91 | 4.6-12.5 | 64.5 |
| <i>Amphistichus argenteus</i> | barred surfperch | 4 | 53-62 | 3.7-6.0 | 18.1 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 3 | 50-138 | 2.8-65.0 | 72.6 |
| <i>Leuresthes tenuis</i> | California grunion | 3 | 64-140 | 2.3-17.8 | 25.7 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 3 | 179-422 | 258-1,141 | 1,729.3 |
| <i>Xenistius californiensis</i> | salema | 3 | 56-70 | 3.7-7.4 | 18.1 |
| <i>Anchoa delicatissima</i> | slough anchovy | 2 | 60 | 2.3-2.4 | 4.7 |
| <i>Strongylura exilis</i> | California needlefish | 2 | 465-509 | 105-181 | 286.0 |
| <i>Anisotremus davidsonii</i> | sargo | 1 | 66 | 8.7 | 8.7 |
| <i>Engraulis mordax</i> | northern anchovy | 1 | 40 | 0.7 | 0.7 |
| <i>Hypsoblennius gentilis</i> | bay blenny | 1 | 40 | 1.5 | 1.5 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 1 | 73 | 6.9 | 6.9 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 1 | 76 | 8.7 | 8.7 |
| <i>Syngnathus leptorhynchus</i> | bay pipefish | 1 | 223 | 2.9 | 2.9 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Urolophus halleri</i> | round stingray | 7 | 119-250 | 100-541 | 2,377.5 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 6 | 15-56 | 2.1-21.8 | 43.0 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 4 | 12-36 | 1.3-27.9 | 59.8 |
| <i>Octopus spp.</i> | octopus | 1 | 110 | 226.0 | 225.6 |
| Total: | | 211 | | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA048
Sample Count: 19

Survey Date: May 18 - 19, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 211 | 30-127 | 0.5-34.9 | 782.1 |
| <i>Phanerodon furcatus</i> | white surfperch | 21 | 31-72 | 0.8-7.1 | 66.6 |
| <i>Anchoa compressa</i> | deepbody anchovy | 11 | 62-116 | 2.8-18.1 | 102.1 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 11 | 33-117 | 0.8-31.2 | 69.0 |
| <i>Atherinops affinis</i> | topsmelt | 9 | 31-134 | 7.6-24.5 | 138.8 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 9 | 245-315 | 167-392 | 2,419.8 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 4 | 65-73 | 4.4-7.2 | 23.5 |
| <i>Seriophilus politus</i> | queenfish | 4 | 70-83 | 4.8-8.4 | 25.2 |
| <i>Roncador stearnsi</i> | spotfin croaker | 3 | 59-76 | 3.5-7.4 | 16.9 |
| <i>Anchoa delicatissima</i> | slough anchovy | 2 | 65-77 | 3.4-4.8 | 8.2 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 2 | 63-87 | 1.7-4.0 | 5.7 |
| <i>Leptocottus armatus</i> | Pacific staghorn sculpin | 2 | 68-69 | 6.2-6.7 | 12.9 |
| <i>Anchoa</i> spp. | anchovy | 1 | - | 1.8 | 1.8 |
| <i>Anisotremus davidsonii</i> | sargo | 1 | 74 | 10.3 | 10.3 |
| <i>Atractoscion nobilis</i> | white seabass | 1 | 155 | 37.2 | 37.2 |
| <i>Citharichthys stigmaeus</i> | speckled sanddab | 1 | 63 | 3.6 | 3.6 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 1 | 53 | 3.6 | 3.6 |
| <i>Leuresthes tenuis</i> | California grunion | 1 | 40 | 0.7 | 0.7 |
| <i>Paralichthys californicus</i> | California halibut | 1 | 50 | 1.5 | 1.5 |
| <i>Strongylura exilis</i> | California needlefish | 1 | 470 | 145.0 | 145.2 |
| <i>Syngnathus leptorhynchus</i> | bay pipefish | 1 | 221 | 1.9 | 1.9 |
| <i>Umbrina roncadore</i> | yellowfin croaker | 1 | 95 | 14.1 | 14.1 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Urolophus halleri</i> | round stingray | 13 | 74-200 | 23.7-504 | 3,456.7 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 11 | 12-24 | 1.2-9.7 | 42.6 |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 5 | 25-45 | 3.9-11.2 | 40.1 |
| <i>Cancer productus</i> | red rock crab | 1 | 24 | 2.2 | 2.2 |
| <i>Loxorhynchus crispatus</i> | moss crab | 1 | 5 | 0.2 | 0.2 |
| <i>Pugettia producta</i> | northern kelp crab | 1 | 20 | 5.2 | 5.2 |
| <i>Pugettia</i> spp. | kelp crabs | 1 | 23 | 6.3 | 6.3 |
| | | Total: | 332 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA049
Sample Count: 19

Survey Date: May 25 - 26, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 94 | 33-110 | 0.9-30.1 | 539.1 |
| <i>Seriphus politus</i> | queenfish | 20 | 55-94 | 2.9-11.8 | 160.7 |
| <i>Anchoa compressa</i> | deepbody anchovy | 18 | 66-160 | 2.8-20.5 | 194.0 |
| <i>Atherinops affinis</i> | topsmelt | 14 | 47-132 | 1.0-32.8 | 151.8 |
| <i>Phanerodon furcatus</i> | white surfperch | 7 | 50-75 | 2.9-6.6 | 31.8 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 6 | 55-147 | 3.6-88.1 | 184.8 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 6 | 73-311 | 5.8-425 | 994.7 |
| <i>Leptocottus armatus</i> | Pacific staghorn sculpin | 5 | 73-95 | 7.7-15.4 | 54.1 |
| <i>Roncador stearnsi</i> | spotfin croaker | 5 | 90-337 | 13.3-780 | 840.5 |
| <i>Amphistichus argenteus</i> | barred surfperch | 3 | 54-70 | 4.7-6.8 | 18.1 |
| <i>Anchoa delicatissima</i> | slough anchovy | 2 | 61-63 | 2.7-3.1 | 5.8 |
| <i>Strongylura exilis</i> | California needlefish | 2 | 281-367 | 22.8-58.4 | 81.2 |
| <i>Anisotremus davidsonii</i> | sargo | 1 | 81 | 11.9 | 11.9 |
| <i>Rhacochilus vacca</i> | pile surfperch | 1 | 71 | 10.1 | 10.1 |
| <i>Embiotoca jacksoni</i> | black surfperch | 1 | 65 | 7.1 | 7.1 |
| <i>Engraulis mordax</i> | northern anchovy | 1 | 77 | 3.3 | 3.3 |
| <i>Paralabrax clathratus</i> | kelp bass | 1 | 65 | 4.8 | 4.8 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 1 | 62 | 4.3 | 4.3 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 1 | 111 | 30.4 | 30.4 |
| <i>Paralichthys californicus</i> | California halibut | 1 | 117 | 22.2 | 22.2 |
| <i>Sardinops sagax</i> | Pacific sardine | 1 | 165 | 47.7 | 47.7 |
| <i>Syngnathus</i> spp. | pipefishes | 1 | 85 | 0.2 | 0.2 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Urolophus halleri</i> | round stingray | 2 | 119-176 | 87.3-378 | 465.1 |
| <i>Gymnura marmorata</i> | California butterfly ray | 1 | 395 | 581 | 580.9 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 13 | 10-40 | 0.4-40.0 | 82.6 |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 5 | 23-29 | 1.1-5.7 | 18.2 |
| <i>Cancer productus</i> | red rock crab | 2 | 26-30 | 2.5-3.7 | 6.2 |
| | | Total: | 215 | | |

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA050
Sample Count: 19

Survey Date: June 1 - 2, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 140 | 27-110 | 1.2-29.4 | 693.4 |
| <i>Phanerodon furcatus</i> | white surfperch | 19 | 51-78 | 3.1-8.7 | 115.6 |
| <i>Atherinops affinis</i> | topsmelt | 11 | 86-130 | 4.6-26.9 | 105.4 |
| <i>Anchoa compressa</i> | deepbody anchovy | 9 | 76-105 | 4.8-14.2 | 90.2 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 6 | 240-280 | 134-281 | 1,152.8 |
| <i>Seriphys politus</i> | queenfish | 6 | 38-81 | 0.7-7.6 | 17.7 |
| <i>Anchoa delicatissima</i> | slough anchovy | 5 | 35-67 | 0.8-3.2 | 8.2 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 5 | 51-60 | 3.6-5.3 | 22.8 |
| <i>Paralichthys californicus</i> | California halibut | 4 | 40-155 | 2.9-41.1 | 106.3 |
| <i>Citharichthys stigmæus</i> | speckled sanddab | 3 | 41-71 | 1.0-5.7 | 10.5 |
| <i>Paralabrax clathratus</i> | kelp bass | 3 | 57-75 | 3.8-6.2 | 15.8 |
| <i>Genyonemus lineatus</i> | white croaker | 2 | 82-86 | 9.0-10.7 | 19.7 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 2 | 75-122 | 2.8-12.0 | 14.8 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 2 | 63 | 4.2-5.9 | 10.1 |
| <i>Atractoscion nobilis</i> | white seabass | 1 | 441 | 980 | 980.0 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 1 | 55 | 3.0 | 3.0 |
| <i>Leuresthes tenuis</i> | California grunion | 1 | 51 | 1.1 | 1.1 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 1 | 250 | 293.0 | 292.5 |
| <i>Sardinops sagax</i> | Pacific sardine | 1 | 40 | 1.0 | 1.0 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Gymnura marmorata</i> | California butterfly ray | 2 | 226-339 | 119-274 | 393.0 |
| <i>Urolophus halleri</i> | round stingray | 2 | 171-297 | 276-460 | 735.7 |
| <i>Myliobatis californica</i> | bat ray | 1 | 940 | 975 | 975.0 |
| <i>Rhinobatos productus</i> | shovelnose guitarfish | 1 | 374 | 160.8 | 160.8 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 10 | 12-25 | 1.5-3.6 | 26.9 |
| <i>Pyromaia tuberculata</i> | tuberculate pea crab | 4 | 10-18 | 1.0-3.3 | 7.8 |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 2 | 30-37 | 3.9-8.6 | 12.5 |
| <i>Cancer</i> spp. | cancer crabs | 1 | 28 | 3.0 | 3.0 |
| Majidae | spider crabs | 1 | 13 | 1.8 | 1.8 |
| <i>Pugettia</i> spp. | kelp crabs | 1 | 11 | 0.9 | 0.9 |
| | | Total: | 247 | | |

Impingement Results

Encina Power Station Impingement Abundance: Traveling Screen and Bar Rack Survey Data

Survey: EPSIA051
Sample Count: 19

Survey Date: June 8 - 9, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|----------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 129 | 30-93 | 1.1-19.1 | 491.1 |
| <i>Atherinops affinis</i> | topsmelt | 28 | 18-209 | 0.8-51.2 | 366.3 |
| <i>Anchoa compressa</i> | deepbody anchovy | 14 | 24-82 | 0.4-7.3 | 28.5 |
| <i>Paralichthys californicus</i> | California halibut | 11 | 50-128 | 2.1-30.3 | 163.3 |
| <i>Engraulis mordax</i> | northern anchovy | 10 | 36-110 | 0.2-10.5 | 19.9 |
| <i>Seriphus politus</i> | queenfish | 10 | 68-110 | 4.6-19.2 | 95.4 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 7 | 235-413 | 156-739 | 1,796.8 |
| <i>Phanerodon furcatus</i> | white surfperch | 4 | 48-67 | 3.2-7.6 | 19.6 |
| <i>Amphistichus argenteus</i> | barred surfperch | 3 | 60-74 | 5.5-10.9 | 25.7 |
| <i>Leptocottus armatus</i> | Pacific staghorn sculpin | 3 | 81-85 | 8.5-13.7 | 35.3 |
| <i>Strongylura exilis</i> | California needlefish | 3 | 368-534 | 42.3-225 | 430.6 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 2 | 80-95 | 3.6-6.0 | 9.6 |
| <i>Sardinops sagax</i> | Pacific sardine | 2 | 131-132 | 23.7-25.6 | 49.3 |
| <i>Anchoa spp.</i> | anchovy | 1 | - | 8.5 | 8.5 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 1 | 57 | 4.2 | 4.2 |
| <i>Hypsoblennius gentilis</i> | bay blenny | 1 | 69 | 6.4 | 6.4 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 1 | 54 | 3.7 | 3.7 |
| SHARKS/RAYS | | | | | |
| <i>Myliobatis californica</i> | bat ray | 2 | 206-255 | 188-290 | 477.8 |
| <i>Ophichthus zophochir</i> | yellow snake eel | 1 | 787 | 595.0 | 594.6 |
| INVERTEBRATES | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 5 | 18-20 | 0.9-5.5 | 13.0 |
| | | Total: | 239 | | |

Survey: EPSIA052
Sample Count: 19

Survey Date: June 15 - 16, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|-----------------------|---------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 19 | 45-109 | 2.2-25.2 | 105.4 |
| <i>Engraulis mordax</i> | northern anchovy | 4 | 59-67 | 1.0-2.6 | 7.4 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 3 | 230-290 | 142-243 | 594.3 |
| <i>Atherinops affinis</i> | topsmelt | 2 | 90-95 | 4.5-5.3 | 9.8 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 2 | 61-95 | 1.3-5.6 | 6.9 |
| <i>Anchoa compressa</i> | deepbody anchovy | 1 | - | 4.2 | 4.2 |
| <i>Atractoscion nobilis</i> | white seabass | 1 | 340 | 411 | 411.0 |
| <i>Citharichthys stigmaeus</i> | speckled sanddab | 1 | 70 | 4.9 | 4.9 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 1 | 300 | 761.0 | 761.4 |
| <i>Phanerodon furcatus</i> | white surfperch | 1 | 60 | 5.8 | 5.8 |
| <i>Seriphus politus</i> | queenfish | 1 | 50 | 1.6 | 1.6 |
| INVERTEBRATES | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 7 | 15-27 | 0.5-6.6 | 18.4 |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 1 | 35 | 6.1 | 6.1 |
| | | Total: | 45 | | |

Encina Power Station Impingement Abundance: Heat Treatment Survey Data

Survey: EPSTS001

Survey Date: July 03-04, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 6,554 | 47-115 | 2.9-31.1 | 31,301.3 |
| <i>Anchoa compressa</i> | deepbody anchovy | 6,439 | 65-120 | 2.2-20.5 | 61,726.7 |
| <i>Atherinops affinis</i> | topsmelt | 5,061 | 52-108 | 1.1-15.0 | 16,090.2 |
| <i>Sardinops sagax</i> | Pacific sardine | 4,401 | 47-106 | 0.8-8.5 | 8,798.2 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 532 | 47-122 | 1.1-19.4 | 3,587.8 |
| <i>Atractoscion nobilis</i> | white seabass | 75 | 108-366 | 19.0-650 | 16,045.0 |
| <i>Girella nigricans</i> | opaleye | 72 | 44-221 | 3.0-390 | 6,223.0 |
| <i>Seriphus politus</i> | queenfish | 54 | 83-188 | 8.0-80.0 | 2,293.0 |
| <i>Strongylura exilis</i> | California needlefish | 53 | 102-630 | 1.0-480 | 806.0 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 49 | 100-358 | 30.0-980 | 8,941.7 |
| <i>Embiotoca jacksoni</i> | black surfperch | 39 | 82-197 | 17.0-270 | 1,754.0 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 28 | 124-403 | 140-820 | 8,733.0 |
| <i>Chromis punctipinnis</i> | blacksmith | 26 | 65-163 | 6.0-140 | 720.0 |
| <i>Hypsoblennius gentilis</i> | bay blenny | 26 | 40-91 | 3.0-25.0 | 354.3 |
| <i>Syngnathus</i> spp. | pipefishes | 25 | 128-251 | 1.0-3.0 | 29.3 |
| <i>Hypsoblennius</i> spp. | blennies | 23 | 35-54 | 1.0-3.0 | 46.7 |
| <i>Ophichthus zophochir</i> | yellow snake eel | 14 | 488-790 | 110-650 | 4,750.0 |
| <i>Roncador stearnsi</i> | spotfin croaker | 12 | 80-145 | 11.0-48.0 | 395.0 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 8 | 78-150 | 12.0-60.0 | 366.0 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 8 | 119-252 | 40.0-320 | 819.0 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 4 | 195-228 | 210-300 | 980.0 |
| <i>Hypsypops rubicundus</i> | garibaldi | 3 | 122-169 | 73.0-230 | 523.0 |
| <i>Trachurus symmetricus</i> | jack mackerel | 3 | 111-142 | 17.0-40.0 | 78.0 |
| <i>Umbrina roncadore</i> | yellowfin croaker | 2 | 137-150 | 43.0-61.0 | 104.0 |
| <i>Xenistius californiensis</i> | salema | 2 | 88-98 | 17.0-60.0 | 77.0 |
| <i>Anisotremus davidsonii</i> | sargo | 1 | 130 | 44.0 | 44.0 |
| <i>Cheilotrema saturnum</i> | black croaker | 1 | 48 | 3.0 | 3.0 |
| <i>Paraclinus integripinnis</i> | reef finspot | 1 | 49 | 3.0 | 3.0 |
| <i>Paralabrax clathratus</i> | kelp bass | 1 | 157 | 82.0 | 82.0 |
| <i>Pleuronichthys ritteri</i> | spotted turbot | 1 | 152 | 98.0 | 98.0 |
| Scorpaenidae | scorpionfishes | 1 | 122 | 62.0 | 62.0 |
| <i>Sphyrnaena argentea</i> | California barracuda | 1 | 91 | 5.0 | 5.0 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Urolophus halleri</i> | round stingray | 439 | 125-230 | 100-700 | 118,655.1 |
| <i>Myliobatis californica</i> | bat ray | 64 | 221-660 | 140-4,700 | 29,566.1 |
| <i>Gymnura marmorata</i> | California butterfly ray | 12 | 240-550 | 120-950 | 4,321.8 |
| <i>Mustelus californicus</i> | gray smoothhound | 1 | 575 | 520 | 520.0 |
| <i>Triakis semifasciata</i> | leopard shark | 1 | 411 | 260 | 260.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 49 | 32-46 | 22.0-45.0 | 269.0 |
| <i>Octopus</i> spp. | octopus | 20 | - | 2,500.0 | 2,500.0 |
| <i>Pyromaia tuberculata</i> | tuberculate pea crab | 19 | - | - | - |
| <i>Panulirus interruptus</i> | California spiny lobster | 1 | 176 | 120 | 120.0 |
| <i>Pugettia</i> spp. | kelp crabs | 1 | 42 | 26.0 | 26.0 |
| | | Total: | 24,127 | | |

Encina Power Station Impingement Abundance: Heat Treatment Survey Data

Survey: EPSTS002

Survey Date: August 28, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|---------------------------|--------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Anchoa compressa</i> | deepbody anchovy | 5,324 | 72-120 | 5.9-20.9 | 59,754.9 |
| <i>Atherinops affinis</i> | topsmelt | 3,201 | 51-100 | 1.0-10.6 | 17,701.4 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 2,801 | 56-104 | 5.0-24.5 | 28,011.1 |
| <i>Sardinops sagax</i> | Pacific sardine | 1,206 | 65-130 | 1.8-25.0 | 7,355.5 |
| <i>Leuresthes tenuis</i> | California grunion | 998 | 43-115 | 0.8-10.4 | 2,058.8 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 299 | 78-185 | 2.9-53.6 | 3,440.4 |
| <i>Seriphus politus</i> | queenfish | 265 | 65-225 | 2.3-172.3 | 12,690.8 |
| <i>Atractoscion nobilis</i> | white seabass | 64 | 115-265 | 40.4-260.7 | 7,425.4 |
| <i>Cheilotrema saturnum</i> | black croaker | 38 | 64-155 | 4.8-53.2 | 617.9 |
| <i>Strongylura exilis</i> | California needlefish | 27 | 109-478 | 1.0-145.2 | 1,624.8 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 20 | 43-335 | 1.5-925 | 7,724.0 |
| <i>Hypsoblennius jenkinsi</i> | mussel blenny | 18 | 39-95 | 0.8-14.7 | 97.8 |
| Sciaenidae unid. | croaker | 17 | 120-200 | 32.8-138.0 | 1,212.0 |
| <i>Chromis punctipinnis</i> | blacksmith | 15 | 55-165 | 7.0-105 | 458.8 |
| <i>Girella nigricans</i> | opaleye | 14 | 55-211 | 4.5-321 | 1,567.7 |
| <i>Scomber japonicus</i> | Pacific mackerel | 14 | 67-187 | 14.5-86.8 | 650.0 |
| <i>Hermosilla azurea</i> | zebra perch | 13 | 35-68 | 1.1-8.7 | 41.8 |
| <i>Hypsoblennius gentilis</i> | bay blenny | 11 | 42-95 | 1.4-15.5 | 99.5 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 11 | 160-278 | 82.3-490 | 2,866.9 |
| <i>Syngnathus</i> spp. | pipefishes | 11 | 154-208 | 1.0-2.0 | 16.0 |
| <i>Ophichthus zophochir</i> | yellow snake eel | 10 | 262-900 | 7.6-750 | 4,045.4 |
| <i>Hypsoblennius gilberti</i> | rockpool blenny | 8 | 55-101 | 3.2-29.4 | 77.1 |
| <i>Paralichthys californicus</i> | California halibut | 8 | 201-322 | 142-600 | 2,482.0 |
| <i>Embiotoca jacksoni</i> | black surfperch | 7 | 70-345 | 15.0-500 | 1,049.7 |
| <i>Hypsoblennius</i> spp. | blennies | 7 | 45-85 | 1.3-10.5 | 20.6 |
| <i>Anisotremus davidsonii</i> | sargo | 6 | 38-180 | 1.0-142 | 389.3 |
| <i>Paralabrax</i> spp. | sand bass | 6 | 43-75 | 1.5-5.8 | 18.5 |
| <i>Xenistius californiensis</i> | salema | 6 | 87-132 | 11.4-34.5 | 117.0 |
| Atherinopsidae | silverside | 5 | 47-55 | 1.1-2.9 | 11.3 |
| <i>Pleuronichthys ritteri</i> | spotted turbot | 5 | 197-220 | 200-250 | 1,158.0 |
| <i>Seriola lalandi</i> | yellowtail jack | 4 | 33-99 | 1.0-32.0 | 56.0 |
| <i>Sphyrnaena argentea</i> | California barracuda | 4 | 245-268 | 55.9-78.2 | 272.6 |
| <i>Trachurus symmetricus</i> | jack mackerel | 4 | 90-160 | 7.1-46.8 | 105.6 |
| <i>Engraulis mordax</i> | northern anchovy | 3 | 64-65 | 1.8-2.2 | 5.9 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 3 | 255-328 | 151-260 | 586.0 |
| <i>Umbrina roncadore</i> | yellowfin croaker | 2 | 150-165 | 43.9-63.3 | 107.2 |
| unidentified fish, damaged | unidentified damaged fish | 2 | 165-308 | 21.6-200 | 221.6 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 1 | 140 | 64.2 | 64.2 |
| <i>Menticirrhus undulatus</i> | California corbina | 1 | 510 | 1,600.0 | 1,600.0 |
| <i>Paralabrax clathratus</i> | kelp bass | 1 | 138 | 48.6 | 48.6 |
| <i>Peprilus simillimus</i> | Pacific butterfish | 1 | 117 | 33.4 | 33.4 |
| SHARKS/RAYS | | | | | |
| <i>Urolophus halleri</i> | round stingray | 198 | 198-355 | 75.0-412 | 39,361.7 |
| <i>Myliobatis californica</i> | bat ray | 31 | 230-484 | 200-900 | 12,310.0 |
| <i>Gymnura marmorata</i> | California butterfly ray | 3 | 265-460 | 120-700 | 1,220.0 |
| <i>Mustelus californicus</i> | gray smoothhound | 2 | 805-905 | 1,400-1,600 | 3,000.0 |
| <i>Dasyatis dipterura</i> | diamond stingray | 1 | 274 | 850 | 850.0 |

(table continued)

Encina Power Station Impingement Abundance: Heat Treatment Survey Data

Survey: EPSTS002 (continued)

Survey Date: August 28, 2004

| <u>Taxon</u> | <u>Common Name</u> | <u>Survey Count</u> | <u>Length Range (mm)</u> | <u>Weight Range (g)</u> | <u>Total Weight (g)</u> |
|-------------------------------|--------------------------|-------------------------|----------------------------------|---------------------------------|---------------------------------|
| <u>INVERTEBRATES</u> | | | | | |
| <i>Lophopanopeus spp.</i> | black-clawed crabs | 26 | 10-16 | 0.3-1.8 | 27.1 |
| <i>Octopus spp.</i> | octopus | 17 | 27-470 | 1.1-450 | 1,851.3 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 15 | 17-35 | 2.3-24.1 | 139.7 |
| <i>Panulirus interruptus</i> | California spiny lobster | 6 | 180-211 | 125-229 | 944.9 |
| <i>Cancer spp.</i> | cancer crabs | 5 | 21-32 | 1.7-6.2 | 16.9 |
| <i>Pugettia producta</i> | northern kelp crab | 2 | 12.5-25 | 1.3-8.7 | 10.0 |
| <i>Pandalus spp.</i> | unidentified shrimp | 1 | 42 | 0.7 | 0.7 |
| | | Total: | 14,768 | | |

Encina Power Station Impingement Abundance: Heat Treatment Survey Data

Survey: EPSTS003

Survey Date: October 23, 2004

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|-----------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Atherinopsis californiensis</i> | jacksmelt | 4,450 | 59-150 | 1.7-37.9 | 44,009.9 |
| <i>Leuresthes tenuis</i> | California grunion | 4,296 | 56-124 | 1.5-22.5 | 25,732.5 |
| <i>Anchoa compressa</i> | deepbody anchovy | 1,694 | 67-114 | 3.7-19.8 | 20,669.4 |
| <i>Xenistius californiensis</i> | salema | 718 | 40-68 | 1.4-7.7 | 1,510.9 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 512 | 58-96 | 4.5-20.5 | 6,092.9 |
| <i>Sardinops sagax</i> | Pacific sardine | 507 | 65-242 | 3.2-150 | 6,274.8 |
| <i>Cheilotrema saturnum</i> | black croaker | 249 | 93-132 | 16.8-61.5 | 8,408.2 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 207 | 55-173 | 4.5-160.7 | 4,308.5 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 188 | 45-170 | 2.1-122.3 | 3,038.3 |
| <i>Anisotremus davidsonii</i> | sargo | 185 | 54-95 | 2.6-28.8 | 1,974.4 |
| <i>Paralabrax clathratus</i> | kelp bass | 128 | 28-96 | 0.6-23.2 | 876.0 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 116 | 90-152 | 30.6-118.5 | 8,891.7 |
| <i>Atractoscion nobilis</i> | white seabass | 100 | 140-264 | 90.0-320 | 18,017.0 |
| <i>Hypsoblennius</i> spp. | blennies | 83 | - | - | 422.0 |
| <i>Hypsoblennius jenkinsi</i> | mussel blenny | 65 | 30-80 | 2.0-16.0 | 332.0 |
| <i>Engraulis mordax</i> | northern anchovy | 59 | 64-82 | 2.4-4.9 | 194.9 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 58 | 80-200 | 5.1-79.4 | 1,531.1 |
| <i>Medialuna californiensis</i> | halfmoon | 49 | 43-117 | 2.5-54.6 | 1,278.5 |
| <i>Seriphus politus</i> | queenfish | 43 | 40-160 | 1.0-80.0 | 1,428.0 |
| <i>Hermosilla azurea</i> | zebra perch | 36 | 37-71 | 1.7-11.4 | 216.0 |
| <i>Sphyaena argentea</i> | California barracuda | 36 | 135-233 | 16.9-74.4 | 1,250.4 |
| <i>Girella nigricans</i> | opaleye | 24 | 49-256 | 2.8-740 | 6,270.3 |
| <i>Seriola lalandi</i> | yellowtail jack | 17 | 80-194 | 7.8-145.7 | 922.3 |
| <i>Strongylura exilis</i> | California needlefish | 17 | 400-574 | 80.0-360 | 2,650.0 |
| <i>Ophichthus zophochir</i> | yellow snake eel | 13 | 560-790 | 170-520 | 4,589.0 |
| <i>Phanerodon furcatus</i> | white surfperch | 11 | 69-120 | 8.6-39.3 | 195.0 |
| <i>Chromis punctipinnis</i> | blacksmith | 10 | 47-83 | 6.1-13.1 | 96.2 |
| <i>Hyperprosopon</i> spp. | surfperch | 7 | - | - | 552.0 |
| <i>Embiotoca jacksoni</i> | black surfperch | 6 | 78-163 | 13.7-171.1 | 525.3 |
| <i>Fundulus parvipinnis</i> | California killifish | 3 | - | - | 6.9 |
| <i>Menticirrhus undulatus</i> | California corbina | 3 | 210-340 | 110-550 | 860 |
| <i>Amphistichus argenteus</i> | barred surfperch | 1 | 96 | 25.4 | 25.4 |
| <i>Hyporhamphus rosae</i> | California halfbeak | 1 | - | - | - |
| <i>Mugil cephalus</i> | striped mullet | 1 | 152 | 53.9 | 53.9 |
| <i>Pleuronichthys ritteri</i> | spotted turbot | 1 | 185 | 180 | 180.0 |
| <i>Sarda chiliensis</i> | Pacific bonito | 1 | 340 | 540 | 540.0 |
| <i>Scomber japonicus</i> | Pacific mackerel | 1 | 250 | 230 | 230.0 |
| <i>Trachurus symmetricus</i> | jack mackerel | 1 | 144 | 39.6 | 39.6 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Urolophus halleri</i> | round stingray | 55 | 230-350 | 130-560 | 13,610.0 |
| <i>Myliobatis californica</i> | bat ray | 4 | 280-480 | 320-1,700 | 2,930.0 |
| <i>Mustelus californicus</i> | gray smoothhound | 1 | 790 | 1,500.0 | 1,500.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 375 | 20-40 | 1.5-10.1 | 2,489.6 |
| <i>Octopus bimaculatus</i> | California two-spot octopus | 74 | - | 2.1-230 | 2,805.9 |
| <i>Octopus</i> spp. | octopus | 36 | - | 1,562.0 | 1,562.0 |
| <i>Cancer antennarius</i> | brown rock crab | 18 | - | 18.0 | 18.0 |
| <i>Cancer productus</i> | red rock crab | 11 | 15-55 | 1.2-10.5 | 40.0 |
| <i>Pilumnus spinohirsutus</i> | retiring hairy crab | 4 | 9-23 | 0.6-2.5 | 4.6 |
| <i>Pugettia producta</i> | northern kelp crab | 4 | 21-28 | 1.7-4.3 | 11.3 |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 2 | 45 | 4.0-6.1 | 10.1 |
| <i>Panulirus interruptus</i> | California spiny lobster | 1 | 21 | 8.1 | 8.1 |
| Total: | | 14,482 | | | |

Encina Power Station Impingement Abundance: Heat Treatment Survey Data

Survey: EPSTS004

Survey Date: February 13-14, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|---------------------------|--------------|-------------------|------------------|------------------|
| FISHES | | | | | |
| <i>Atherinops affinis</i> | topsmelt | 3,847 | 62-151 | 1.5-90.0 | 17,444.3 |
| Atherinopsidae | silverside | 2,100 | - | - | 8,650.0 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 1,828 | 110-177 | 34.9-135 | 80,128.0 |
| <i>Atractoscion nobilis</i> | white seabass | 1,375 | 104-352 | 65.5-600 | 289,213.3 |
| <i>Anchoa compressa</i> | deepbody anchovy | 643 | 58-122 | 1.9-18.8 | 5,786.5 |
| <i>Xenistius californiensis</i> | salema | 602 | 43-70 | 1.4-10.0 | 2,102.3 |
| <i>Sardinops sagax</i> | Pacific sardine | 437 | 45-184 | 1.6-71.0 | 3,190.0 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 416 | 50-127 | 2.4-43.4 | 3,323.5 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 343 | 11-134 | 1.1-72.8 | 10,082.7 |
| <i>Leuresthes tenuis</i> | California grunion | 330 | 56-82 | 1.4-4.8 | 706.0 |
| <i>Paralabrax clathratus</i> | kelp bass | 293 | 53-102 | 2.2-20.5 | 2,397.8 |
| <i>Hypsoblennius gentilis</i> | bay blenny | 288 | 38-102 | 1.3-23.7 | 1,334.3 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 271 | 43-265 | 1.4-440 | 3,222.3 |
| <i>Anisotremus davidsonii</i> | sargo | 195 | 49-352 | 3.4-1,300 | 33,558.2 |
| <i>Girella nigricans</i> | opaleye | 171 | 28-240 | 1.6-510 | 2,674.8 |
| <i>Seriphus politus</i> | queenfish | 57 | 38-292 | 0.1-225 | 641.0 |
| <i>Atherinopsis californiensis</i> | jacksmelt | 18 | 112-299 | 10.9-210 | 1,142.0 |
| <i>Roncador stearnsi</i> | spotfin croaker | 13 | 238-555 | 300-3,400 | 13,831.0 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 12 | 36-246 | 1.0-350 | 2,694.6 |
| <i>Syngnathus</i> spp. | pipefishes | 12 | 146-233 | 0.3-4.4 | 20.5 |
| <i>Chromis punctipinnis</i> | blacksmith | 11 | 46-102 | 2.2-79.5 | 179.2 |
| <i>Ophichthus zophochir</i> | yellow snake eel | 11 | 394-758 | 32.7-470 | 3,222.7 |
| <i>Embiotoca jacksoni</i> | black surfperch | 10 | 105-255 | 40.9-600 | 1,403.2 |
| <i>Amphistichus argenteus</i> | barred surfperch | 9 | 96-227 | 27.3-377.6 | 680.4 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 9 | 90-225 | 5.1-110.0 | 322.1 |
| <i>Genyonemus lineatus</i> | white croaker | 8 | 80-95 | 8.2-14.3 | 68.8 |
| <i>Anchoa delicatissima</i> | slough anchovy | 7 | 51-60 | 0.9-1.9 | 9.7 |
| Chub, unid. | unid. chub | 7 | 68-81 | 4.5-7.8 | 43.7 |
| <i>Hermosilla azurea</i> | zebra perch | 7 | 50-365 | 2.8-590 | 2,481.3 |
| <i>Brachyistius frenatus</i> | kelp surfperch | 6 | 76-120 | 11.0-55.8 | 198.4 |
| <i>Engraulis mordax</i> | northern anchovy | 6 | 80-125 | 3.8-15.2 | 54.1 |
| <i>Pleuronichthys ritteri</i> | spotted turbot | 5 | 200-230 | 215-250 | 1,145.0 |
| <i>Mugil cephalus</i> | striped mullet | 4 | 345-400 | 800-1,100 | 3,800.0 |
| <i>Phanerodon furcatus</i> | white surfperch | 4 | 112-126 | 37.7-55.0 | 190.4 |
| <i>Umbrina roncadore</i> | yellowfin croaker | 4 | 185-280 | 70.0-300 | 730.0 |
| <i>Paraclinus integripinnis</i> | reef finspot | 3 | 58-70 | 2.0-4.0 | 9.2 |
| <i>Paralichthys californicus</i> | California halibut | 3 | 222-350 | 113-700 | 1,433.0 |
| <i>Sphyrnaea argentea</i> | California barracuda | 3 | 167-222 | 21.9-65.0 | 127.6 |
| <i>Trachurus symmetricus</i> | jack mackerel | 3 | 95-110 | 10.0-17.0 | 42.4 |
| <i>Fundulus parvipinnis</i> | California killifish | 2 | 7.5-7.8 | 0.4 | 0.8 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 2 | 395-396 | 820-900 | 1,720.0 |
| <i>Strongylura exilis</i> | California needlefish | 2 | 480-490 | 120-150 | 270.0 |
| <i>Albula vulpes</i> | bonefish | 1 | 380 | 900 | 900.0 |
| <i>Citharichthys</i> spp. | sanddabs | 1 | - | 3.4 | 3.4 |
| <i>Medialuna californiensis</i> | halfmoon | 1 | 234 | 410 | 410.0 |
| <i>Sarda chiliensis</i> | Pacific bonito | 1 | - | 0.1 | 0.1 |
| Scorpaenidae | scorpionfishes | 1 | 44 | 1.9 | 1.9 |
| unidentified fish, damaged | unidentified damaged fish | - | - | - | 1,543.2 |

(table continued)

Encina Power Station Impingement Abundance: Heat Treatment Survey Data

Survey: EPSTS004 (continued)

Survey Date: February 13-14, 2005

| <u>Taxon</u> | <u>Common Name</u> | <u>Survey Count</u> | <u>Length Range (mm)</u> | <u>Weight Range (g)</u> | <u>Total Weight (g)</u> |
|-------------------------------|-----------------------------|-------------------------|----------------------------------|---------------------------------|---------------------------------|
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Urolophus halleri</i> | round stingray | 10 | 135-245 | 101-530 | 2,576.1 |
| <i>Myliobatis californica</i> | bat ray | 4 | 335-460 | 200-1,500 | 3,130.0 |
| <i>Gymnura marmorata</i> | California butterfly ray | 2 | 430-450 | 800 | 1,600.0 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 44 | 20-67 | 1.1-34.4 | 337.5 |
| <i>Cancer jordani</i> | hairy rock crab | 18 | 28-47 | 3.2-16.3 | 85.5 |
| <i>Octopus bimaculatus</i> | California two-spot octopus | 11 | 19-180 | 12-590 | 2,424.3 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 9 | 13-23 | 1.0-4.4 | 16.6 |
| <i>Cancer antennarius</i> | brown rock crab | 8 | 40-50 | 14.9-27.8 | 138.2 |
| <i>Cancer magister</i> | dungeness crab | 1 | 50 | 18.1 | 18.1 |
| Caridean unid. | unidentified shrimp | 1 | - | - | - |
| <i>Octopus</i> spp. | octopus | 1 | 30 | 300 | 300.0 |
| <i>Pandalus</i> spp. | unidentified shrimp | 1 | 12 | 2.3 | 2.3 |
| <i>Panulirus interruptus</i> | California spiny lobster | 1 | 93 | 150 | 150.0 |
| <i>Pugettia producta</i> | northern kelp crab | 1 | 17 | 1.8 | 1.8 |
| | | Total: | 13,494 | | |

Encina Power Station Impingement Abundance: Heat Treatment Survey Data

Survey: EPSTS005

Survey Date: April 10, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|--------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 2,372 | 90-120 | 18.0-46.0 | 93,799.4 |
| <i>Leuresthes tenuis</i> | California grunion | 1,443 | 75-145 | 3.5-37.9 | 12,351.6 |
| <i>Anchoa compressa</i> | deepbody anchovy | 1,112 | 58-120 | 2.0-21.0 | 10,598.8 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 508 | 54-97 | 2.6-98.0 | 4,270.9 |
| <i>Seriphus politus</i> | queenfish | 306 | 56-152 | 3.1-49.6 | 2,284.2 |
| <i>Hyperprosope argenteum</i> | walleye surfperch | 298 | 101-167 | 30.2-119 | 19,132.6 |
| <i>Paralabrax clathratus</i> | kelp bass | 181 | 50-94 | 3.4-18.3 | 1,546.0 |
| <i>Anisotremus davidsonii</i> | sargo | 180 | 55-100 | 3.6-30.3 | 22,582.2 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 139 | 50-185 | 3.0-140.3 | 2,564.2 |
| <i>Hypsoblennius jenkinsi</i> | mussel blenny | 92 | 25-90 | 1.1-11.6 | 516.3 |
| <i>Umbrina roncadore</i> | yellowfin croaker | 90 | 73-290 | 7.4-474.2 | 20,568.5 |
| <i>Xenistius californiensis</i> | salema | 90 | 50-74 | 2.1-7.4 | 409.2 |
| <i>Girella nigricans</i> | opaleye | 72 | 33-197 | 1.4-309 | 13,859.1 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 51 | 75-260 | 11.2-424 | 11,199.9 |
| <i>Hypsoblennius gentilis</i> | bay blenny | 27 | 65-105 | 4.5-23.5 | 172.7 |
| <i>Porichthys myriaster</i> | specklefin midshipman | 24 | 320-440 | 100-1,300 | 20,380.0 |
| <i>Amphistichus argenteus</i> | barred surfperch | 19 | 110-130 | 26.2-66.4 | 1,562.7 |
| <i>Chromis punctipinnis</i> | blacksmith | 12 | 60-115 | 6.4-41.2 | 294.7 |
| <i>Brachyistius frenatus</i> | kelp surfperch | 9 | 95-145 | 20.9-65.7 | 324.9 |
| <i>Strongylura exilis</i> | California needlefish | 9 | 336-490 | 45.5-148.4 | 733.3 |
| <i>Engraulis mordax</i> | northern anchovy | 7 | 67-120 | 2.9-16.5 | 41.6 |
| <i>Hermosilla azurea</i> | zebra perch | 6 | 104-249 | 16.2-535 | 778.7 |
| <i>Syngnathus</i> spp. | pipefishes | 5 | 160-340 | 1.4-12.5 | 20.4 |
| <i>Roncadore stearnsi</i> | spotfin croaker | 4 | 85-285 | 10.5-407 | 574.8 |
| <i>Atractoscion nobilis</i> | white seabass | 3 | 251-320 | 211-440 | 1,010.5 |
| <i>Embiotoca jacksoni</i> | black surfperch | 3 | 55-138 | 5.0-103 | 199.6 |
| <i>Leptocottus armatus</i> | Pacific staghorn sculpin | 3 | 60-65 | 3.0-5.0 | 12.9 |
| <i>Medialuna californiensis</i> | halfmoon | 3 | 117-147 | 43.6-77.6 | 175.5 |
| <i>Trachurus symmetricus</i> | jack mackerel | 3 | 115-430 | 15.9-270 | 360.5 |
| <i>Ophichthus zophochir</i> | yellow snake eel | 2 | 379-664 | 29.4-319 | 348.7 |
| <i>Citharichthys stigmaeus</i> | speckled sanddab | 1 | 115 | 29.5 | 29.5 |
| <i>Fundulus parvipinnis</i> | California killifish | 1 | 53 | 3.2 | 3.2 |
| <i>Genyonemus lineatus</i> | white croaker | 1 | 79 | 10.0 | 10.0 |
| <i>Halichoeres semicinctus</i> | rock wrasse | 1 | 124 | 32.5 | 32.5 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 1 | 176 | 46.1 | 46.1 |
| <i>Menticirrhus undulatus</i> | California corbina | 1 | 305 | 430 | 430.0 |
| <i>Phanerodon furcatus</i> | white surfperch | 1 | 115 | 56.0 | 56.0 |
| <i>Pleuronichthys ritteri</i> | spotted turbot | 1 | 175 | 163.7 | 163.7 |
| <i>Pleuronichthys verticalis</i> | hornyhead turbot | 1 | 55 | 3.7 | 3.7 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Urolophus halleri</i> | round stingray | 25 | 100-450 | 50.0-634 | 8,199.8 |
| <i>Gymnura marmorata</i> | California butterfly ray | 12 | 256-568 | 150-1,714 | 6,682.1 |
| <i>Myliobatis californica</i> | bat ray | 6 | 258-420 | 230-2,189 | 5,049.5 |
| <i>Heterodontus francisci</i> | horn shark | 1 | 460 | 850 | 850.0 |
| <i>Mustelus californicus</i> | gray smoothhound | 1 | 975 | 1,800.0 | 1,800.0 |

(table continued)

Encina Power Station Impingement Abundance: Heat Treatment Survey Data

Survey: EPSTS005 (continued)

Survey Date: April 10, 2005

| <u>Taxon</u> | <u>Common Name</u> | <u>Survey Count</u> | <u>Length Range (mm)</u> | <u>Weight Range (g)</u> | <u>Total Weight (g)</u> |
|-------------------------------|-----------------------------|-------------------------|----------------------------------|---------------------------------|---------------------------------|
| <u>INVERTEBRATES</u> | | | | | |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 38 | 8-43 | 0.1-45.1 | 125.2 |
| <i>Cancer spp.</i> | cancer crabs | 31 | 20-30 | 1.2-3.4 | 70.4 |
| <i>Portunus xantusii</i> | Xantus' swimming crab | 13 | 20-50 | 2.1-18.1 | 95.4 |
| <i>Octopus bimaculatus</i> | California two-spot octopus | 6 | 25-80 | 5.6-100 | 233.7 |
| <i>Pugettia producta</i> | northern kelp crab | 2 | 20-30 | 4.0-11.5 | 15.5 |
| <i>Cancer antennarius</i> | brown rock crab | 1 | 46 | 14.2 | 14.2 |
| <i>Crangon nigromaculata</i> | spotted bay shrimp | 1 | 60 | 3.7 | 3.7 |
| Total: | | 7,219 | | | |

Encina Power Station Impingement Abundance: Heat Treatment Survey Data

Survey: EPSTS006

Survey Date: June 05, 2005

| Taxon | Common Name | Survey Count | Length Range (mm) | Weight Range (g) | Total Weight (g) |
|-------------------------------------|--------------------------|---------------|-------------------|------------------|------------------|
| <u>FISHES</u> | | | | | |
| <i>Anchoa compressa</i> | deepbody anchovy | 8,144 | 29-130 | 1.3-24.3 | 95,729.6 |
| <i>Cymatogaster aggregata</i> | shiner surfperch | 5,779 | 37-100 | 1.1-28.1 | 50,780.1 |
| <i>Atherinops affinis</i> | topsmelt | 3,587 | 30-105 | 0.2-12.5 | 16,261.1 |
| <i>Paralabrax maculatofasciatus</i> | spotted sand bass | 869 | 52-204 | 3.2-255 | 82,072.6 |
| <i>Paralabrax nebulifer</i> | barred sand bass | 843 | 60-115 | 5.4-42.0 | 17,169.5 |
| <i>Anisotremus davidsonii</i> | sargo | 396 | 44-135 | 1.2-42.6 | 9,980.1 |
| <i>Paralabrax clathratus</i> | kelp bass | 372 | 45-136 | 2.1-63.1 | 8,328.2 |
| <i>Hyperprosopon argenteum</i> | walleye surfperch | 296 | 20-159 | 0.3-300 | 16,851.8 |
| <i>Seriphus politus</i> | queenfish | 204 | 26-170 | 2.1-105 | 2,053.4 |
| <i>Porichthys myriaster</i> | specklefin midshipmar | 161 | 190-440 | 49.3-1,085 | 35,440.5 |
| <i>Xenistius californiensis</i> | salema | 159 | 45-175 | 4.7-60.5 | 1,937.9 |
| <i>Hypsoblennius gentilis</i> | bay blenny | 88 | 50-100 | 2.4-19.0 | 853.0 |
| <i>Chromis punctipinnis</i> | blacksmith | 77 | 60-186 | 8.0-100 | 2,682.2 |
| <i>Roncador stearnsi</i> | spotfin croaker | 77 | 85-140 | 15.1-55.2 | 2,359.5 |
| <i>Strongylura exilis</i> | California needlefish | 50 | 260-543 | 28.4-294 | 5,815.3 |
| <i>Hypsopsetta guttulata</i> | diamond turbot | 45 | 121-300 | 146-374 | 9,509.2 |
| <i>Phanerodon furcatus</i> | white surfperch | 37 | 60-100 | 5.0-23.1 | 381.5 |
| <i>Umbrina roncadore</i> | yellowfin croaker | 29 | 95-125 | 16.3-42.7 | 889.7 |
| <i>Sardinops sagax</i> | Pacific sardine | 27 | 70-178 | 1.8-56.5 | 648.0 |
| <i>Engraulis mordax</i> | northern anchovy | 17 | 36-129 | 0.7-19.4 | 77.5 |
| <i>Menticirrhus undulatus</i> | California corbine | 11 | 125-388 | 30.4-806 | 2,034.7 |
| <i>Fundulus parvipinnis</i> | California killifish | 10 | - | - | 30.2 |
| <i>Paralichthys californicus</i> | California halibu | 10 | 72-264 | 6.7-172 | 854.2 |
| <i>Heterostichus rostratus</i> | giant kelpfish | 9 | 60-203 | 1.1-75.2 | 160.8 |
| <i>Amphistichus argenteus</i> | barred surfperch | 5 | 60-160 | 6.2-75.2 | 259.3 |
| <i>Embiotoca jacksoni</i> | black surfperch | 4 | 65-155 | 15.2-151 | 435.1 |
| <i>Syngnathus</i> spp. | pipefishes | 3 | 20-217 | 0.4-1.8 | 3.8 |
| <i>Brachyistius frenatus</i> | kelp surfperch | 2 | 115-130 | 23.1-51.9 | 75.0 |
| <i>Girella nigricans</i> | opaleye | 2 | 160-180 | 87.6-140.9 | 228.5 |
| <i>Hypsypops rubicundus</i> | garibaldi | 2 | 222-232 | 668-705 | 1,373.7 |
| <i>Leptocottus armatus</i> | Pacific staghorn sculpin | 2 | 75 | 5.2-8.3 | 13.5 |
| <i>Sphyrnaena argentea</i> | California barracuda | 2 | 95-105 | 4.7-6.6 | 11.3 |
| <i>Atractoscion nobilis</i> | white seabass | 1 | 252 | 345.0 | 344.8 |
| <i>Ophichthus zophochir</i> | yellow snake eel | 1 | 650 | 347 | 347.0 |
| <i>Pleuronichthys verticalis</i> | hornyhead turbot | 1 | 197 | 248.0 | 247.7 |
| <i>Trachurus symmetricus</i> | jack mackerel | 1 | 200 | 75.8 | 75.8 |
| Zoarcidae | eelpouts | 1 | 152 | 17.1 | 17.1 |
| <u>SHARKS/RAYS</u> | | | | | |
| <i>Urolophus halleri</i> | round stingray | 363 | 105-239 | 54.3-800 | 118,389.8 |
| <i>Gymnura marmorata</i> | California butterfly ray | 41 | 244-609 | 182-1,629 | 22,997.3 |
| <i>Myliobatis californica</i> | bat ray | 23 | 226-649 | 205-1,925 | 15,585.9 |
| <i>Mustelus californicus</i> | gray smoothhound | 17 | 460-882 | 225-2,100 | 13,056.0 |
| <i>Dasyatis dipterura</i> | diamond stingray | 1 | 275 | 618.0 | 617.6 |
| <i>Triakis semifasciata</i> | leopard shark | 1 | 455 | 428.0 | 428.4 |
| <u>INVERTEBRATES</u> | | | | | |
| <i>Cancer productus</i> | red rock crab | 491 | 10-55 | 1.8-12.8 | 2,835.9 |
| <i>Pachygrapsus crassipes</i> | striped shore crab | 8 | 19-29 | 3.7-10.5 | 61.3 |
| Majidae | spider crabs | 6 | 10-15 | 2.1-5.2 | 20.2 |
| <i>Octopus</i> spp. | octopus | 2 | 20-45 | 9.7-86.2 | 95.9 |
| <i>Pugettia producta</i> | northern kelp crab | 2 | 22-30 | 2.4-5.4 | 7.8 |
| Total: | | 22,279 | | | |