



Pre-Permitting Environmental / Socio-Economic Data Report Series

Report Series J- Marine Nearshore Fish and Benthic Invertebrates

Report J-7 Marine Nearshore Fish and Invertebrate Total Catch and Catch Per Unit Effort (CPUE) Figures 2004-2007

Submitted to the Alaska Department of Natural Resources August 2009

Preliminary data. Do not cite or quote.

The Pebble Partnership is providing environmental and socio-economic baseline data collected to inform the development of the Pebble Project to state and federal agencies, project stakeholders and the general public prior to project permitting as part of its commitment to full and open disclosure.

A comprehensive Environmental Baseline Document (EBD) will subsequently be prepared and appended to future project permit applications. The EBD will also be made publicly available when complete.

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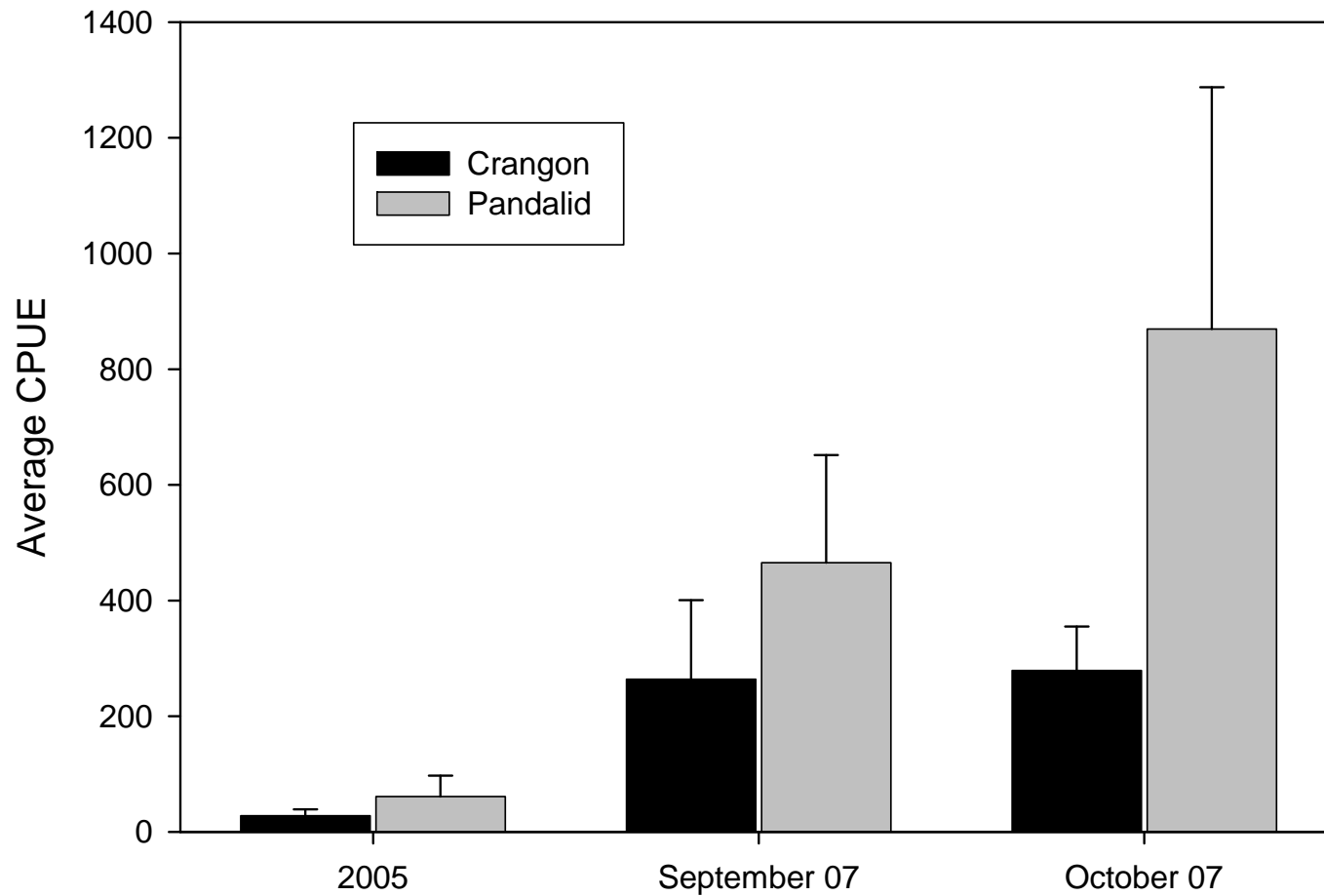
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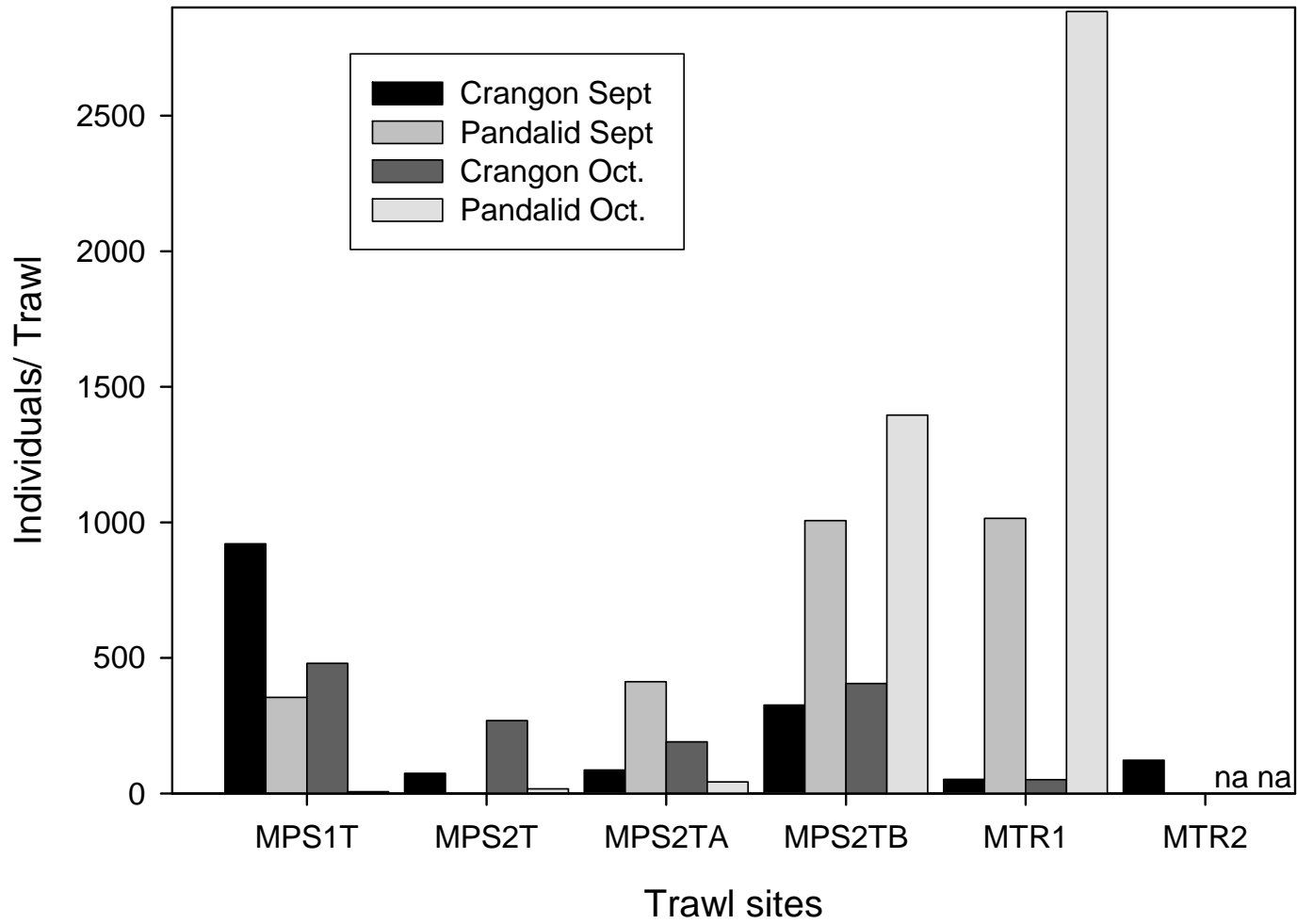
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Report J-7 Figure 1
Average CPUE for the Two Major Shrimp Groups for all of 2005 (Summer Months) and 2007 Trawl Samples



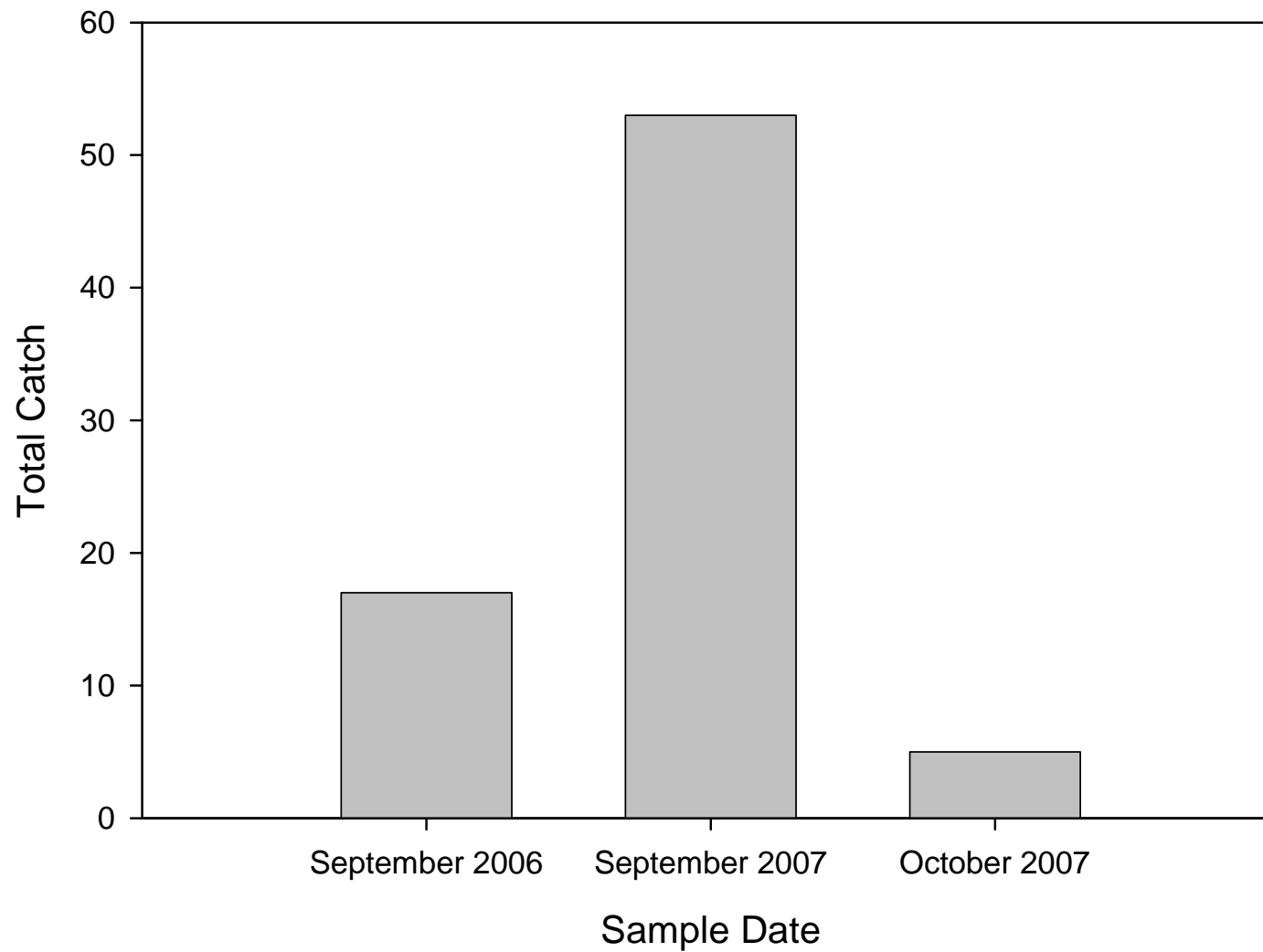
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Report J-7 Figure 2
Total Catch for the Two Major Shrimp Groups Across all Study Sites in 2007



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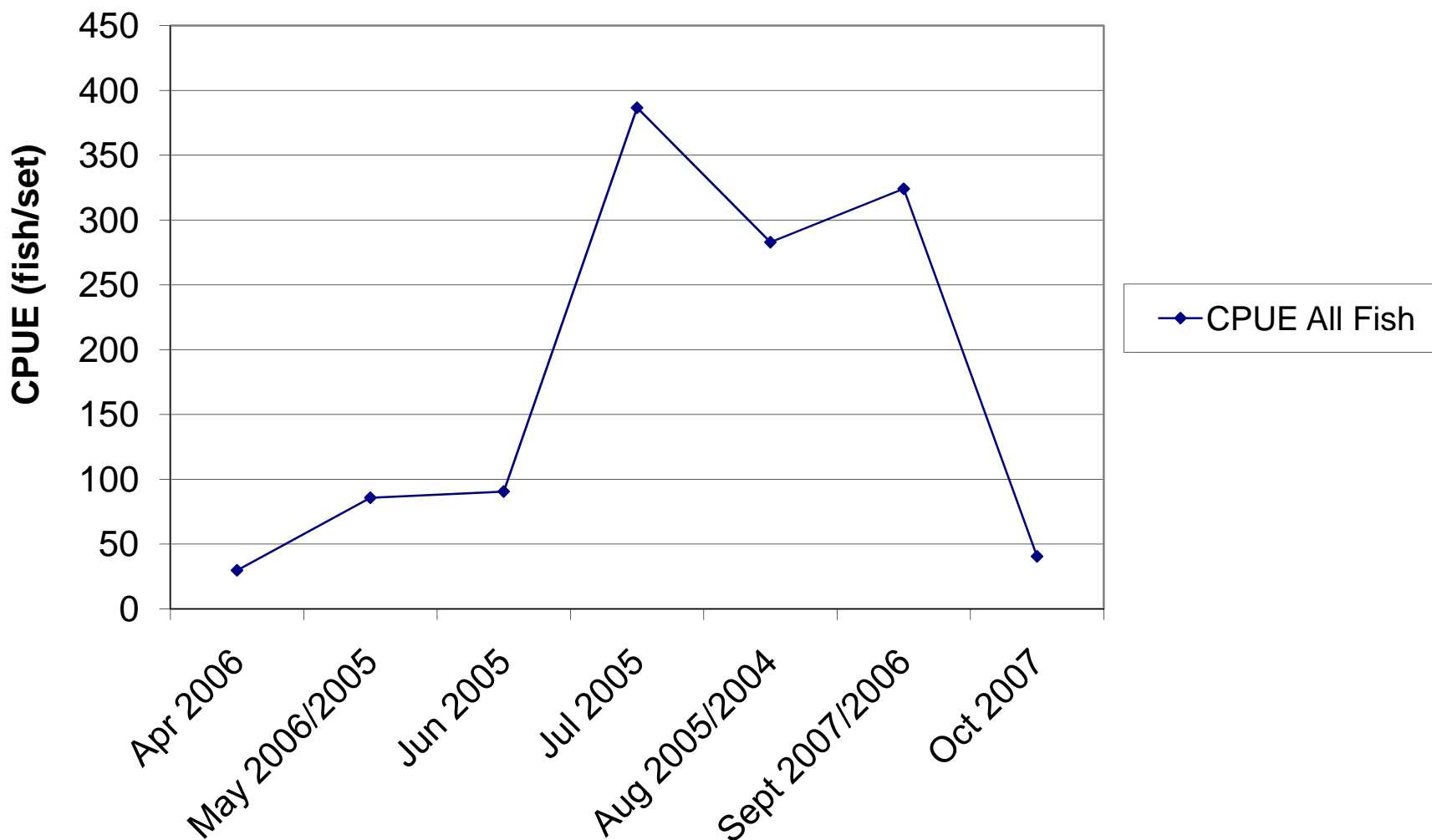
Report J-7 Figure 3
Total Tanner Crab Catch for September 2006, 2007 and October 2007



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Report J-7 Figure 4

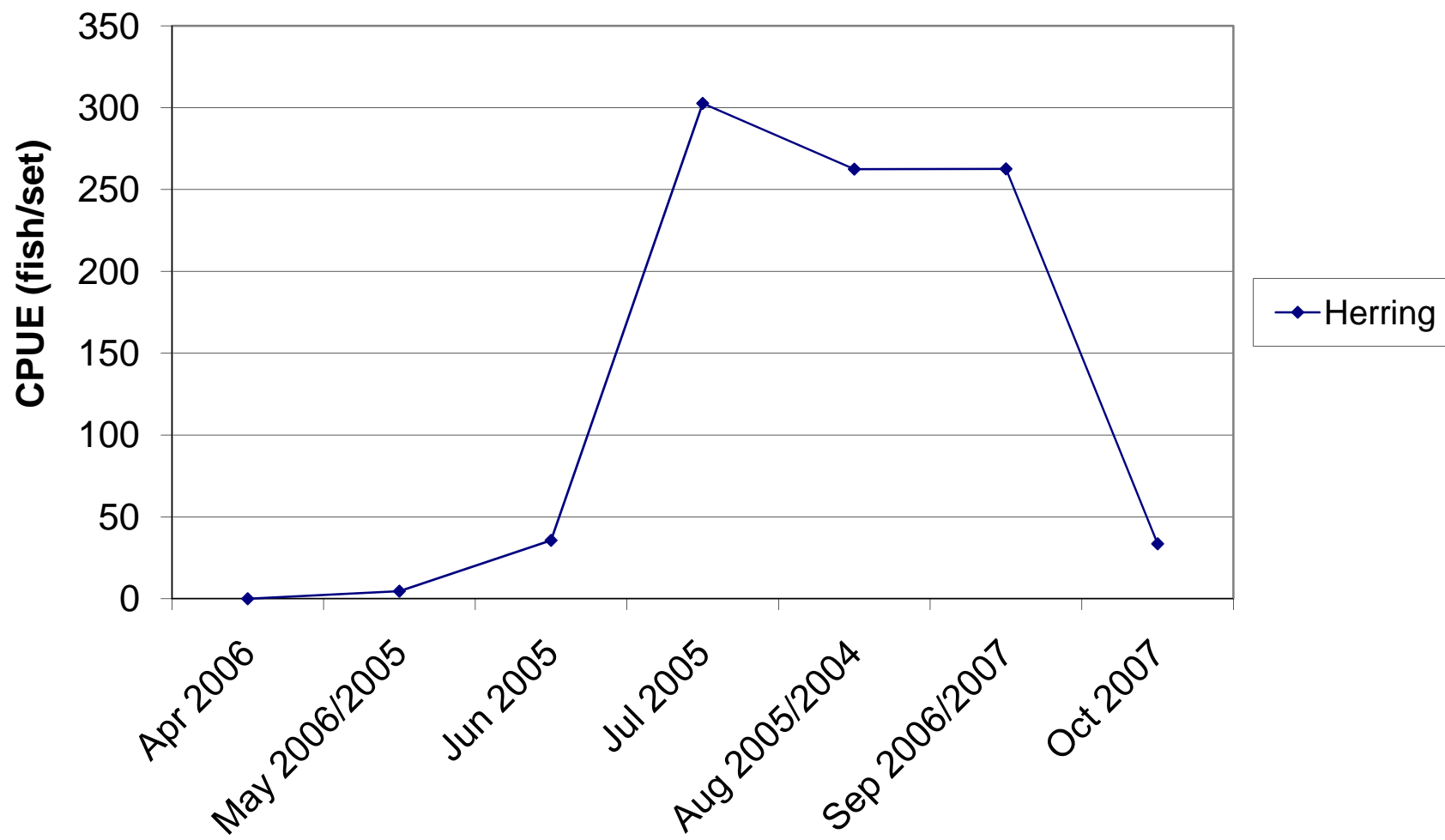
Seasonal CPUE of all Fish Collected by Beach Seine in the Study Area in 2004 through 2007



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Report J-7 Figure 5

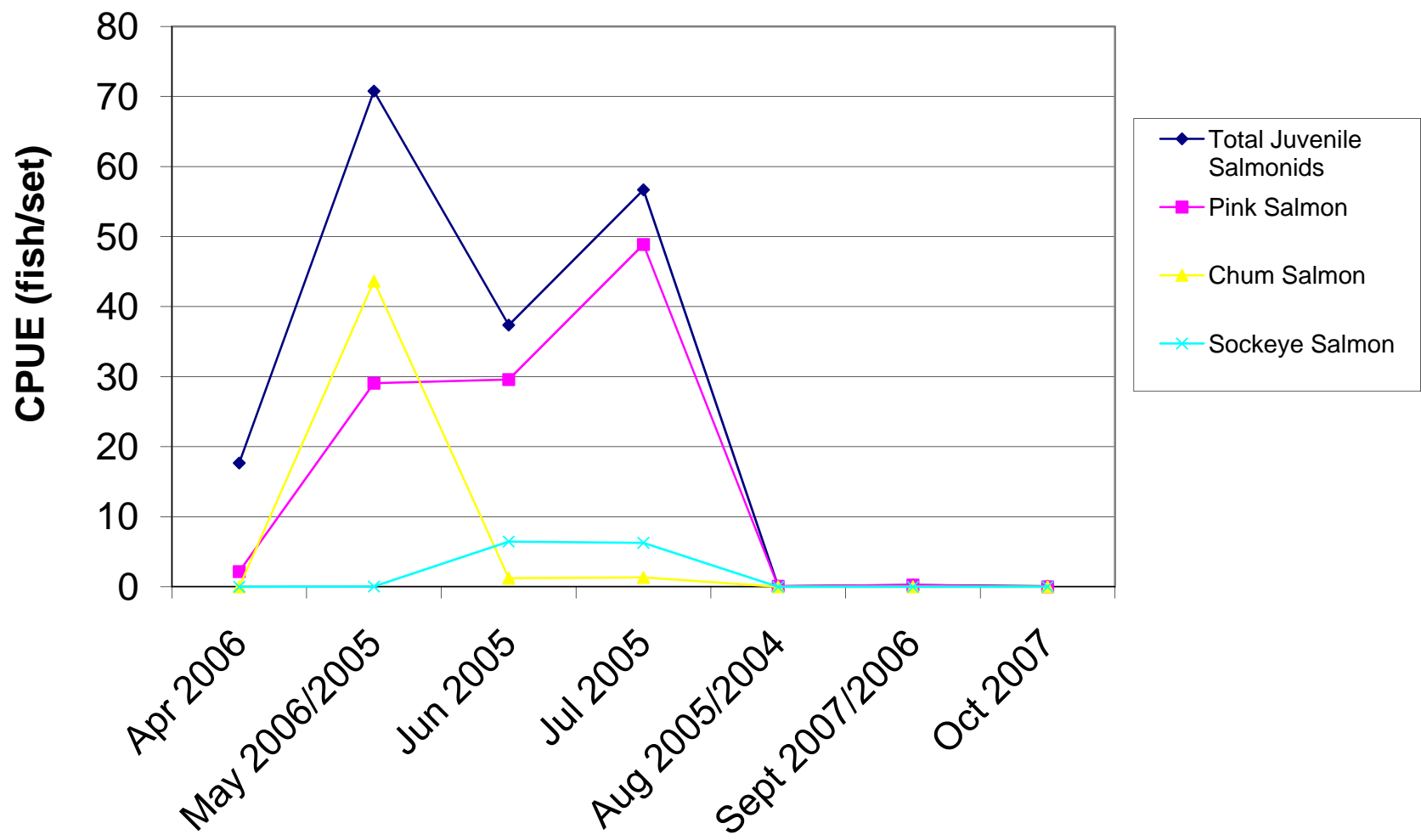
Seasonal CPUE of Herring Collected in the Study Area in 2004 through 2007



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Report J-7 Figure 6

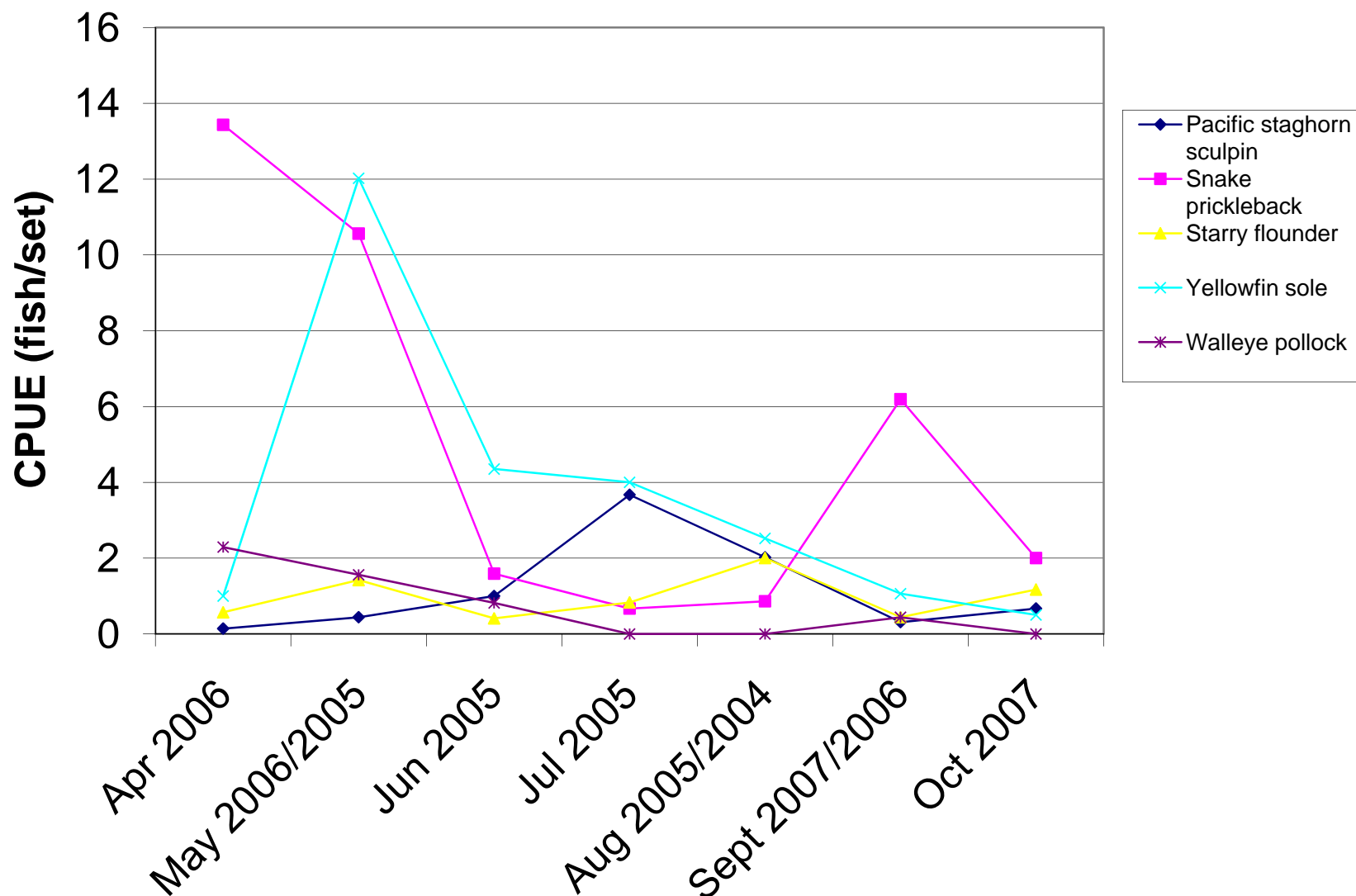
Seasonal CPUE of Juvenile Salmon Species Collected in the Study Area in 2004 through 2007



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Report J-7 Figure 7

Seasonal CPUE of Commonly Collected Demersal Species in the Study Area



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Report J-7 Figure 8

| Total CPUE with otter trawl by month, 2004-2007 | 2007 | | | 2006 | | | | 2005 | | | | | 2004 | |
|--|--------------|-------------|--------------|--------------|-------------|-------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|
| Species | September | October | 2007 Total | April | May | September | 2006 Total | May | June | July | August | 2005 Total | August | 2004 Total |
| Herring (<i>Clupea pallasii</i>) | 29.25 | 0.17 | 16.79 | 0.29 | | 0.13 | 0.17 | | | | | | | |
| Longfin smelt (<i>Spirinchus thaleichthys</i>) | 0.63 | | 0.36 | | | | | 0.38 | | | | 0.08 | 0.33 | 0.33 |
| Threespine stickleback (<i>Gasterosteus aculeatus</i>) | | | | | | | | | | | | | | |
| Sculpin, unid'd. (<i>Cottidae</i>) | | 0.17 | 0.07 | | | | | | 0.12 | 0.33 | | 0.11 | | |
| Pacific staghorn sculpin (<i>Leptocottus armatus</i>) | 0.38 | 0.67 | 0.50 | 0.14 | | 0.25 | 0.17 | 0.88 | 1.00 | 3.67 | 0.71 | 1.34 | 3.33 | 3.33 |
| Buffalo sculpin (<i>Enophrys bison</i>) | | | | 0.57 | | | 0.22 | | 0.12 | | 0.29 | 0.11 | | |
| Calico sculpin (<i>Clinocottus embryum</i>) | 0.13 | | 0.07 | | | | | | 0.06 | | | 0.03 | | |
| Great sculpin (<i>Myoxocephalus polyacanthocephalus</i>) | 0.25 | 0.17 | 0.21 | 0.57 | 0.33 | 0.88 | 0.67 | | | 0.17 | 0.43 | 0.11 | | |
| Saffron cod (<i>Eleginus gracilis</i>) | | | | | | | | | | | | | | |
| Greenling, unid'd (<i>Hexagrammidae</i>) | | | | | | | | | | | | | | |
| Whitespotted greenling (<i>Hexagrammos stelleri</i>) | 0.75 | 0.17 | 0.50 | | | 1.25 | 0.56 | 0.63 | 0.24 | 0.50 | | 0.32 | | |
| Kelp greenling (<i>Hexagrammos decagrammus</i>) | | | | | | | | | 0.06 | | 0.14 | 0.05 | | |
| Poacher, unid'd (<i>Agonidae</i>) | | | | | | | | | | | | | | |
| Tube-nose poacher (<i>Pallasina barbata</i>) | 1.75 | 1.83 | 1.79 | 0.57 | 0.67 | 0.25 | 0.44 | | 0.06 | | 0.29 | 0.08 | | |
| Prickleback (<i>Stichaeidae</i>) | | | | | | | | | 0.12 | | | 0.05 | | |
| Snake prickleback (<i>Lumpenus sagitta</i>) | 10.00 | 2.00 | 6.57 | 13.43 | 1.00 | 2.38 | 6.44 | 20.13 | 1.59 | 0.67 | 1.71 | 5.37 | | |
| Crescent Gunnel (<i>Pholis laeta</i>) | | | | | | | | | | | 0.14 | 0.03 | | |
| Gunnel unid'd (<i>Pholidae/Stichaeidae</i>) | | | | | | | | 0.50 | | | | 0.11 | | |
| Sturgeon poacher (<i>Podothecus acipenserinus</i>) | 0.25 | 0.33 | 0.29 | | 0.67 | 0.13 | 0.17 | 0.25 | 0.24 | | 0.14 | 0.18 | | |
| Liparid, unid'd (<i>Liparidae</i>) | 0.13 | | 0.07 | | | | | | 0.12 | 0.17 | 0.14 | 0.11 | | |
| Dusky snailfish (<i>Liparis gibbus</i>) | 0.13 | 0.50 | 0.29 | 0.43 | 0.33 | 0.63 | 0.50 | 0.25 | | | | 0.05 | | |
| Flatfish, unid'd (<i>Pleuronectidae</i>) | 0.13 | | 0.07 | | | | | 0.75 | 0.47 | 0.33 | 0.14 | 0.45 | | |
| Starry flounder (<i>Platichthys stellatus</i>) | 0.63 | 1.17 | 0.86 | 0.57 | 0.33 | 0.25 | 0.39 | 2.50 | 0.41 | 0.83 | 1.00 | 1.03 | 3.00 | 3.00 |
| Arrowtooth flounder (<i>Atheresthes stomias</i>) | | 0.17 | 0.07 | | | | | 0.38 | 0.88 | | 0.14 | 0.50 | | |
| Halibut (<i>Hippoglossus stenolepis</i>) | 0.25 | 0.17 | 0.21 | | | 0.13 | 0.06 | 0.50 | 0.53 | 0.67 | 0.71 | 0.58 | | |
| Sand sole (<i>Psetichthys melanostictus</i>) | 0.13 | 0.67 | 0.36 | 0.43 | 0.33 | 0.38 | 0.39 | 0.13 | 0.59 | | | 0.29 | 0.33 | 0.33 |
| Rock sole (<i>Pleuronectes bilineatus</i>) | | 0.17 | 0.07 | 0.14 | | | 0.06 | 0.50 | 0.06 | 0.50 | | 0.21 | 1.33 | 1.33 |
| Yellowfin sole (<i>Pleuronectes asper</i>) | 0.88 | 0.50 | 0.71 | 1.00 | 2.67 | 1.25 | 1.39 | 21.38 | 4.35 | 4.00 | 1.71 | 7.39 | 3.33 | 3.33 |
| Dover sole (<i>Microstomus pacificus</i>) | | | | | | | | 0.13 | | | | 0.03 | | |
| Alaska plaice (<i>Pleuronectes quadrituberculatus</i>) | | | | | | | | | | | | | 0.33 | 0.33 |
| Pacific Cod (<i>Gadus macrocephalus</i>) | | | | | | 0.75 | 0.33 | | 0.24 | 0.33 | 0.14 | 0.18 | 0.33 | 0.33 |
| Tomcod (<i>Microgadus proximus</i>) | | | | | | | | | 0.06 | | | 0.03 | | |
| Walleye pollock (<i>Theragra chalcogramma</i>) | 0.75 | | 0.43 | 2.29 | | 0.13 | 0.94 | 3.13 | 0.82 | | | 1.03 | | |
| Total | 46.38 | 8.83 | 30.29 | 20.43 | 6.33 | 8.75 | 12.89 | 52.38 | 12.12 | 12.17 | 7.86 | 19.82 | 12.33 | 12.33 |
| # Reps | 8 | 6 | 14 | 7 | 4 | 8 | 19 | 16 | 21 | 12 | 15 | 64 | 3 | 3 |

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| Report J-7 Figure 9 | | | | | | | | | | | | | | |
|--|---------------|--------------|---------------|--------------|--------------|---------------|--------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|
| Total CPUE with 120-foot beach seine by month, 2004-2007 | 2007 | | | 2006 | | | | 2005 | | | | | 2004 | |
| Species | September | October | 2007 Total | April | May | September | 2006 Total | May | June | July | August | 2005 Total | August | 2004 Total |
| Chinook salmon (<i>O. tshawytscha</i>) | | | | | | | | | | | | | | |
| Adult | | | | | | | | | | | | | | |
| Juvenile | | | | | | | | | 0.05 | 0.20 | | 0.05 | | |
| Chum salmon (<i>O. keta</i>) | | | | | | | | | | | | | | |
| Adult | | | | | | | | | | 0.67 | 0.15 | 0.16 | 2.29 | 2.29 |
| Juvenile | | | | 17.67 | 31.39 | | 19.43 | 51.88 | 1.23 | 1.33 | | 17.46 | | |
| Coho salmon (<i>O. kisutch</i>) | | | | | | | | | | | | | | |
| Adult | | | | | | | | 0.08 | | | | 0.03 | | |
| Juvenile | | 0.08 | 0.05 | | | | | 0.04 | 0.05 | | | 0.03 | | |
| Sockeye salmon (<i>O. nerka</i>) | | | | | | | | | | | | | | |
| Adult | | | | | | | | | | | | | | |
| Juvenile | | | | | | | | 0.08 | 6.45 | 6.27 | | 3.22 | | |
| Pink salmon (<i>O. gorbuscha</i>) | | | | | | | | | | | | | | |
| Adult | | | | | | | | | | 1.07 | 0.08 | 0.23 | 0.29 | 0.29 |
| Juvenile | 0.50 | | 0.20 | 2.17 | 12.67 | | 6.35 | 45.46 | 29.59 | 48.87 | 0.15 | 33.47 | | |
| Dolly Varden (<i>Salvelinus malma</i>) | 0.88 | 0.08 | 0.40 | | 0.94 | 1.50 | 0.80 | 1.75 | 12.55 | 4.20 | 0.77 | 5.28 | 0.14 | 0.14 |
| Smelt, unid'd (<i>Osmeridae</i>) | | | | 0.42 | 0.56 | 0.10 | 0.40 | | 0.05 | 0.07 | | 0.03 | | |
| Longfin smelt (<i>Spirinchus thaleichthys</i>) | 2.25 | | 0.90 | | | 26.50 | 6.63 | 2.29 | 0.05 | 0.27 | 3.08 | 1.35 | 2.57 | 2.57 |
| Surf smelt (<i>Hypomesus pretiosus</i>) | | 0.42 | 0.25 | 8.92 | 1.83 | 0.90 | 3.73 | 0.08 | 0.05 | 1.73 | | 0.39 | | |
| Herring (<i>Clupea pallasii</i>) | 491.88 | 33.58 | 216.90 | | 0.50 | 33.30 | 8.55 | 8.79 | 35.68 | 302.60 | 99.00 | 92.19 | 425.86 | 425.86 |
| Threespine stickleback (<i>Gasterosteus aculeatus</i>) | | | | | 0.11 | | 0.05 | 0.21 | 0.36 | | | 0.18 | | |
| Sculpin, unid'd. (<i>Cottidae</i>) | | | | | | | | 0.04 | | | | 0.03 | 0.14 | 0.14 |
| Pacific staghorn sculpin (<i>Leptocottus armatus</i>) | 7.00 | 0.17 | 2.90 | | 0.89 | 1.50 | 0.78 | 0.83 | 1.50 | 10.87 | 1.77 | 3.23 | 5.43 | 5.43 |
| Buffalo sculpin (<i>Enophrys bison</i>) | | | | | 0.06 | | 0.03 | | | | | | | |
| Silverspotted sculpin (<i>Blepsias cirrhosus</i>) | | | | | | 0.20 | 0.05 | | | 0.20 | | 0.04 | | |
| Great sculpin (<i>Myoxocephalus polyacanthocephalus</i>) | 0.13 | 0.08 | 0.10 | | | 0.50 | 0.13 | 0.04 | 0.05 | 0.07 | | 0.04 | | |
| Red Irish lord (<i>Hemilepidotus hemilepidotus</i>) | | | | | | | | | 0.05 | 0.07 | | 0.03 | | |
| Whitespotted greenling (<i>Hexagrammos stelleri</i>) | | | | | | | | | 0.05 | 0.80 | | 0.18 | | |
| Tubenose poacher (<i>Pallasina barbata</i>) | 0.25 | | 0.10 | | 0.06 | | 0.03 | | 0.09 | 0.20 | 0.31 | 0.12 | 0.14 | 0.14 |
| Prickleback (<i>Stichaeidae</i>) | | | | | | | | | 0.09 | 0.07 | | 0.04 | | |
| Pacific sand lance (<i>Ammodytes hexapterus</i>) | 36.50 | 6.00 | 18.20 | 0.58 | 1.28 | 34.50 | 9.38 | 6.42 | 1.05 | | | 2.39 | 20.14 | 20.14 |
| Crescent Gunnel (<i>Pholis laeta</i>) | | | | | | | | | | 0.13 | | 0.03 | | |
| Gunnel unid'd (<i>Pholidae/Stichaeidae</i>) | | | | | | | | 0.17 | 0.05 | | | 0.07 | | |
| Dusky snailfish (<i>Liparis gibbus</i>) | | | | | | | | | | | | | | |
| Flatfish, unid'd (<i>Pleuronectidae</i>) | | | | | 0.11 | | 0.05 | 0.04 | | | | 0.01 | | |
| Starry flounder (<i>Platichthys stellatus</i>) | 5.00 | 0.08 | 2.05 | | 1.44 | 2.50 | 1.28 | 1.29 | 1.05 | 6.67 | 3.15 | 2.64 | 0.29 | 0.29 |
| Arrowtooth flounder (<i>Atheresthes stomias</i>) | | | | | | | | 0.08 | 0.09 | | | 0.05 | | |
| Halibut (<i>Hippoglossus stenolepis</i>) | | | | | | | | | | 0.07 | | 0.01 | | |
| Rock sole (<i>Pleuronectes bilineatus</i>) | | | | | | | | | 0.05 | | | 0.01 | | |
| Yellowfin sole (<i>Pleuronectes asper</i>) | | | | | | | | 0.08 | | | | 0.03 | | |
| Pacific Cod (<i>Gadus macrocephalus</i>) | | | | | | 2.20 | 0.55 | | | 0.07 | | 0.01 | | |
| Tomcod (<i>Microgadus proximus</i>) | | | | | | | | | 0.14 | | 0.08 | 0.05 | | |
| Sturgeon poacher (<i>Podothecus acipenserinus</i>) | | | | | | | | | 0.23 | | | 0.07 | | |
| Pacific sandfish (<i>Trichodon trichodon</i>) | | | | | | 0.20 | 0.05 | | | 0.13 | | 0.03 | | |
| Total | 544.38 | 40.50 | 242.05 | 29.75 | 51.83 | 103.90 | 58.23 | 119.67 | 90.55 | 386.67 | 108.54 | 163.18 | 457.29 | 457.29 |
| Total Juvenile Salmonids | 0.50 | 0.08 | 0.25 | 19.83 | 44.06 | 0.00 | 25.78 | 97.46 | 37.36 | 56.67 | 0.15 | 54.23 | 0.00 | 0.00 |
| #Reps | 8 | 12 | 20 | 12 | 18 | 10 | 40 | 24 | 22 | 15 | 13 | 74 | 7 | 7 |

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