Report of 2023 Research Activities

State of Alaska Fish Resource Permit CF-22-022

NOAA Fisheries Alaska Fisheries Science Center – RACE Division

Activity Title:

RACE Biennial Bottom Trawl Survey of Gulf of Alaska Groundfish and Invertebrate Resources

Introduction:

The Alaska Fisheries Science Center (AFSC) Groundfish Assessment Program’s (GAP) bottom trawl survey of the Gulf of Alaska is conducted to monitor the distribution, abundance, and biological characteristics of multiple species of groundfishes and invertebrates in coastal and offshore Alaska waters. The survey collects catch per unit effort (CPUE) of key species and uses the CPUE to estimate relative biomass from a stratified-random survey design. Survey data are also used to characterize length and age distributions, growth, recruitment, stock structure, and other important life history information of key species to better understand the ecological and physical factors affecting their distribution and abundance. These data, estimates, and study results are provided to federal and state stock assessment biologists and to the North Pacific Fishery Management Council (NPFMC) who use the information to determine productivity and to set annual Allowable Biological Catch (ABC) and Total Allowable Catch (TAC) for groundfishes in the Gulf of Alaska (GOA).

Methods:

The AFSC GAP biennial bottom trawl survey of the GOA typically deploys two chartered commercial trawlers to conduct the survey for 70 days each, sampling the standard survey area (~64,000 km2) and trawling 400-420 survey stations. The GOA survey uses a stratified-random design to allocate stations to trawlable areas in the archipelago in depths up to 500 m. Survey strata are based on four depth intervals (1-100 m, 101-200 m, 201-300 m, and 301-500 m) and established survey districts and subdistricts. The GOA survey area is within the NPFMC BSAI (Bering Sea and Aleutian Islands) management area and consists of four survey districts corresponding to the Western, Central, and Eastern Aleutian NMFS subdivisions with the addition of a southern Bering Sea (SBS) sampling district defined as the region between 170°W and 165°W and north of the archipelago. A grid of 5x5 km is superimposed on bathymetric charts with a grid cell representing the primary sampling unit. Stations determined to be untrawlable in previous surveys of the area are not included when allocating survey stations to vessels. A Poly Nor’Eastern research net with roller gear is trawled on bottom at each station for up to 15 minutes. Trawl height, trawl width and bottom contact are monitored with acoustic net mensuration gear; surface and bottom temperatures are collected using a bathythermograph attached to the headrope of the trawl as well. Catches are processed by identifying all animals collected to the highest possible taxonomic classification and weighing and counting each taxon. Additional samples are collected by measuring the length of selected species, collecting age structures, tissue samples, and other structures from selected specimens, and saving voucher specimens for later identification and accessioning to museum collections. All data are preserved digitally and are subjected to multiple quality control checks.

Results:

Active fishing for the 2023 Gulf of Alaska bottom trawl survey occurred between 18 May to 6 August and was the eighteenth multi-species survey in the 43 year time series begun in 1980. The accepted data set for stock assessment is comprised of 13 surveys beginning with 1991 and continuing to the present survey; there was no GOA survey in 2020 due to the COVID 19 pandemic. Two charter vessels, the FV *FV Ocean Explorer* and the FV *FV Alaska Provider*, were used to conduct the GOA survey in summer of 2022 and the two vessels successfully trawled 526 stations out of 520 planned stations; 24 of the 550 trawls attempted were unsuccessful. A total of 123 trawls were attempted within Alaska state waters and collected 103 fish taxa weighing 56,899 kg (Table 1). From combined state and offshore waters, the survey collected 163 fish taxa weighing 251,330 kg (Table 2). There were 228 invertebrate taxa collected from Alaska state waters on the 2023 GOA bottom trawl survey with a total weight of 1,723 kg (Table 1). In total, 408 invertebrate taxa were collected from combined state and offshore waters and weighed 5,370 kg (Table 2). **The same 6 fish species comprised 90% of the total catch weight** from combined state and offshore waters and 83% of the total catch weight from Alaska state waters. Those species are Atka mackerel, Pacific ocean perch, northern rockfish, walleye pollock, arrowtooth flounder, and Pacific cod. In total, from all state and offshore waters sampled, the survey vouchered 25 fish and invertebrate taxa and collected 9,231 otoliths pairs from 18 fish species (Table 4). Of the 51 vouchered taxa, **16** were fishes and the remaining **35** were invertebrates. Within Alaska state waters, a total of 2 were vouchered **(5 fishes and 10 invertebrates)** and 1,766 otolith pairs were collected from 17 fish species (Table 3).Finalized and validated survey data were released on 19 September, 2022. Data products (e.g., biomass estimates, length composition, and age composition) were presented to the NPFMC’s Joint Plan Team during their annual September meeting. Survey data products have also been made available over the internet on the Alaska Fisheries Information Network (AKFIN[[1]](#footnote-1)) and the NMFS Fisheries One Stop Shop (FOSS[[2]](#footnote-2)).

| **Table 1. 2023 Catch summary table - totals within 3-mile territorial waters (Alaska state waters)** | | | |
| --- | --- | --- | --- |
| **Common name** | **Scientific name** | **Weight in kg** | **Number of individuals** |
| arrowtooth flounder | *Atheresthes stomias* | 14,422.991 | 17,929 |
| walleye pollock | *Gadus chalcogrammus* | 12,827.437 | 30,611 |
| Pacific halibut | *Hippoglossus stenolepis* | 6,166.152 | 2,629 |
| Pacific cod | *Gadus macrocephalus* | 3,877.005 | 2,463 |
| flathead sole | *Hippoglossoides elassodon* | 3,388.038 | 10,594 |
| Pacific ocean perch | *Sebastes alutus* | 2,918.838 | 3,721 |
| southern rock sole | *Lepidopsetta bilineata* | 2,142.436 | 4,159 |
| yellowfin sole | *Limanda aspera* | 1,969.548 | 6,466 |
| starry flounder | *Platichthys stellatus* | 1,175.279 | 704 |
| big skate | *Beringraja binoculata* | 880.255 | 57 |
| Pacific herring | *Clupea pallasii* | 875.624 | 9,718 |
| English sole | *Parophrys vetulus* | 754.489 | 1,144 |
| northern rock sole | *Lepidopsetta polyxystra* | 624.311 | 1,822 |
| gigantic anemone | *Metridium farcimen* | 553.871 | 1,070 |
| rex sole | *Glyptocephalus zachirus* | 548.802 | 2,491 |
| spiny dogfish | *Squalus suckleyi* | 529.958 | 181 |
| eulachon | *Thaleichthys pacificus* | 522.544 | 14,584 |
| yellow Irish lord | *Hemilepidotus jordani* | 401.772 | 624 |
| Dover sole | *Microstomus pacificus* | 309.560 | 692 |
| longnose skate | *Raja rhina* | 279.643 | 39 |
| butter sole | *Isopsetta isolepis* | 270.936 | 844 |
| sablefish | *Anoplopoma fimbria* | 229.380 | 531 |
| spotted ratfish | *Hydrolagus colliei* | 183.276 | 435 |
| lingcod | *Ophiodon elongatus* | 181.620 | 46 |
| Alaska plaice | *Pleuronectes quadrituberculatus* | 177.822 | 150 |
| rougheye rockfish | *Sebastes aleutianus* | 164.725 | 272 |
| great sculpin | *Myoxocephalus polyacanthocephalus* | 136.100 | 64 |
| lion's mane jelly | *Cyanea capillata* | 127.099 | 216 |
| plain sculpin | *Myoxocephalus jaok* | 120.724 | 111 |
|  | *Strongylocentrotus* sp. | 117.720 | 1,740 |
| black rockfish | *Sebastes melanops* | 103.963 | 70 |
|  | *Chrysaora melanaster* | 102.428 | 151 |
| chum salmon | *Oncorhynchus keta* | 100.458 | 39 |
| sunflower sea star | *Pycnopodia helianthoides* | 98.909 | 81 |
| silvergray rockfish | *Sebastes brevispinis* | 81.011 | 34 |
| magistrate armhook squid | *Berryteuthis magister* | 61.288 | 392 |
| sidestripe shrimp | *Pandalopsis dispar* | 57.760 | 4,658 |
|  | *Metridium* sp. | 57.686 | 409 |
| Atka mackerel | *Pleurogrammus monopterygius* | 47.738 | 107 |
| giant octopus | *Enteroctopus dofleini* | 43.982 | 10 |
| common mud star | *Ctenodiscus crispatus* | 41.262 | 2,844 |
| Tanner crab | *Chionoecetes bairdi* | 40.561 | 581 |
| Aleutian skate | *Bathyraja aleutica* | 38.830 | 7 |
| Oregon triton | *Fusitriton oregonensis* | 38.347 | 693 |
| Alaskan pink shrimp | *Pandalus eous* | 38.131 | 6,244 |
| petrale sole | *Eopsetta jordani* | 37.282 | 43 |
| chinook salmon | *Oncorhynchus tshawytscha* | 36.436 | 15 |
| saffron cod | *Eleginus gracilis* | 34.508 | 499 |
| Alaska skate | *Bathyraja parmifera* | 31.560 | 4 |
| weathervane scallop | *Patinopecten caurinus* | 31.431 | 164 |
| pink salmon | *Oncorhynchus gorbuscha* | 29.260 | 26 |
| bigmouth sculpin | *Hemitripterus bolini* | 28.498 | 8 |
| ocean shrimp | *Pandalus jordani* | 23.279 | 4,563 |
| red king crab | *Paralithodes camtschaticus* | 21.580 | 5 |
| sand sole | *Psettichthys melanostictus* | 21.350 | 32 |
| giant wrymouth | *Cryptacanthodes giganteus* | 21.150 | 3 |
|  | *Parastichopus* sp. | 19.960 | 36 |
| Bering skate | *Bathyraja interrupta* | 16.893 | 8 |
| wattled eelpout | *Lycodes palearis* | 16.816 | 98 |
| northern horsemussel | *Modiolus modiolus* | 16.667 | 306 |
| actinid sea anemones unid. | Actiniidae | 14.008 | 118 |
| mottled sea star | *Evasterias troschelii* | 13.367 | 62 |
| slender sole | *Lyopsetta exilis* | 13.229 | 175 |
| club sponge | *Tedania kagalaskai* | 13.047 | 1 |
| dusky rockfish | *Sebastes variabilis* | 12.769 | 12 |
|  | Demospongiae | 11.816 | 0 |
| Bering wolffish | *Anarhichas orientalis* | 11.800 | 1 |
| Pacific tomcod | *Microgadus proximus* | 11.444 | 152 |
| sea peach unid. | *Halocynthia* sp. | 11.360 | 0 |
| yellowtail rockfish | *Sebastes flavidus* | 10.860 | 7 |
| shortraker rockfish | *Sebastes borealis* | 10.720 | 3 |
| white sea urchin | *Strongylocentrotus pallidus* | 10.623 | 594 |
| wolf-eel | *Anarrhichthys ocellatus* | 10.440 | 2 |
| empty bivalve shells |  | 10.038 | 39 |
|  | *Cucumaria frondosa* | 9.605 | 18 |
| Pacific hake | *Merluccius productus* | 9.580 | 3 |
| redbanded sea star | *Orthasterias koehleri* | 9.444 | 18 |
| bigfin eelpout | *Lycodes cortezianus* | 8.547 | 189 |
| northern rockfish | *Sebastes polyspinis* | 8.497 | 15 |
| sponge unid. | Porifera | 7.964 | 2 |
| shortfin eelpout | *Lycodes brevipes* | 7.304 | 135 |
| heart urchin | *Brisaster latifrons* | 6.760 | 217 |
| blackspotted rockfish | *Sebastes melanostictus* | 6.022 | 11 |
| spinyhead sculpin | *Dasycottus setiger* | 5.293 | 57 |
| tree sponge | *Mycale loveni* | 5.194 | 0 |
| quillback rockfish | *Sebastes maliger* | 5.131 | 13 |
| basketstar | *Gorgonocephalus eucnemis* | 5.077 | 41 |
| Pacific sandfish | *Trichodon trichodon* | 5.015 | 150 |
| egg yolk jelly | *Phacellophora camtschatica* | 4.647 | 14 |
| blackspined sea star | *Lethasterias nanimensis* | 4.630 | 30 |
| Pacific capelin | *Mallotus catervarius (=villosus)* | 4.091 | 381 |
| sea anemone unid. | Actiniaria | 4.047 | 27 |
| empty gastropod shells |  | 3.984 | 50 |
| bristly tunicate | *Halocynthia igaboja* | 3.941 | 41 |
| kelp greenling | *Hexagrammos decagrammus* | 3.793 | 14 |
| sturgeon poacher | *Podothecus accipenserinus* | 3.755 | 59 |
| reddish scallop | *Chlamys rubida* | 3.755 | 110 |
|  | *Chlamys* sp. | 3.590 | 131 |
| whitespotted greenling | *Hexagrammos stelleri* | 3.104 | 33 |
| smooth lumpsucker | *Aptocyclus ventricosus* | 3.068 | 3 |
| purple-orange sea star | *Asterias amurensis* | 3.040 | 35 |
|  | *Halipteris willemoesi* | 3.036 | 15 |
| sand-grain imbedded ascidian | *Amaroucium soldatovi* | 2.826 | 36 |
| California sea cucumber | *Apostichopus californicus* | 2.576 | 9 |
| Pacific viperfish | *Chauliodus macouni* | 2.442 | 4 |
| red sea urchin | *Strongylocentrotus franciscanus* | 2.342 | 12 |
|  | *Solaster* sp. | 2.300 | 17 |
| longsnout prickleback | *Lumpenella longirostris* | 2.218 | 22 |
| redbanded rockfish | *Sebastes babcocki* | 2.137 | 5 |
|  | *Aurelia labiata* | 2.031 | 4 |
|  | *Plumarella* sp. | 2.020 | 0 |
| tunicate unid. | Ascidiacea | 1.961 | 8 |
| Pacific lyre crab | *Hyas lyratus* | 1.960 | 75 |
| clonal plumose anemone | *Metridium senile* | 1.830 | 6 |
|  | *Neptunea* sp. | 1.825 | 18 |
| widehand hermit crab | *Elassochirus tenuimanus* | 1.679 | 69 |
| shortspine thornyhead | *Sebastolobus alascanus* | 1.645 | 9 |
| searcher | *Bathymaster signatus* | 1.601 | 9 |
| Dungeness crab | *Metacarcinus magister* | 1.586 | 2 |
| armorhead sculpin | *Gymnocanthus galeatus* | 1.579 | 12 |
| Pacific glass shrimp | *Pasiphaea pacifica* | 1.542 | 953 |
| jellyfish unid. | Scyphozoa | 1.506 | 12 |
| orange-pink sea urchin | *Allocentrotus fragilis* | 1.499 | 7 |
| Aleutian hermit | *Pagurus aleuticus* | 1.350 | 41 |
|  | *Atolla* sp. | 1.335 | 1 |
| ocher sun star | *Solaster* sp. G (Clark) | 1.277 | 1 |
| darkblotched rockfish | *Sebastes crameri* | 1.266 | 3 |
| northern smoothtongue | *Leuroglossus schmidti* | 1.222 | 100 |
| sea nettle | *Chrysaora fuscescens* | 1.202 | 2 |
| long-rayed star | *Stylasterias forreri* | 1.194 | 6 |
|  | *Pteraster tesselatus* | 1.046 | 6 |
| hairy hermit crab | *Pagurus capillatus* | 1.043 | 38 |
| cat-o-nine-tails sponge | *Semisuberites cribrosa* | 1.024 | 1 |
|  | *Halipteris* sp. | 1.004 | 3 |
|  | *Leptasterias* sp. | 0.997 | 7 |
| graceful decorator crab | *Oregonia gracilis* | 0.981 | 50 |
| knobbyhand hermit | *Pagurus confragosus* | 0.975 | 43 |
| sea mouse unid. | Aphroditidae | 0.876 | 22 |
| bocaccio | *Sebastes paucispinis* | 0.863 | 1 |
| sand sea star | *Luidia foliolata* | 0.856 | 6 |
| orange sea pen | *Ptilosarcus gurneyi* | 0.820 | 18 |
| variegated snailfish | *Liparis gibbus* | 0.810 | 1 |
| spud sponge | *Histodermella kagigunensis* | 0.764 | 1 |
| globular ascidian | *Distaplia occidentalis* | 0.753 | 20 |
| Berry armhook squid | *Gonatus berryi* | 0.718 | 4 |
|  | *Gonatus* sp. | 0.710 | 39 |
| cushion sea star | *Pteraster temnochiton* | 0.703 | 10 |
| red striated sea anemone |  | 0.687 | 7 |
| Alaskan hermit | *Pagurus ochotensis* | 0.676 | 14 |
|  | *Aequorea* sp. | 0.646 | 3 |
| sea peach | *Halocynthia aurantium* | 0.639 | 6 |
| sea whip or sea pen unid. | Pennatulacea | 0.620 | 3 |
| splendid hermit | *Labidochirus* splendescens | 0.564 | 15 |
| brown rimmed jelly | *Aurelia limbata* | 0.530 | 2 |
|  | *Urticina* sp. | 0.514 | 2 |
| bluespine hermit | *Pagurus kennerlyi* | 0.509 | 19 |
| rose sea star | *Crossaster papposus* | 0.464 | 13 |
| red Irish lord | *Hemilepidotus hemilepidotus* | 0.455 | 2 |
| mussel unid. | Mytilidae | 0.445 | 7 |
| grooved sea star | *Crossaster borealis* | 0.438 | 4 |
| sponge hermit | *Pagurus brandti* | 0.426 | 22 |
|  | *Pteraster jordani* | 0.425 | 4 |
| Kamchatka flounder | *Atheresthes evermanni* | 0.415 | 2 |
| scissortail sculpin | *Triglops forficata* | 0.412 | 6 |
| hermit crab unid. | Paguridae | 0.384 | 8 |
| sea star unid. | Asteroidea | 0.366 | 2 |
| rough purple sea anemone | *Actinostola faeculenta* | 0.359 | 1 |
| darkfin sculpin | *Malacocottus zonurus* | 0.358 | 5 |
| rainbow smelt | *Osmerus mordax* | 0.347 | 9 |
|  | *Henricia* sp. | 0.347 | 14 |
| lampshell unid. | Brachiopoda | 0.345 | 14 |
| longhand hermit | *Pagurus tanneri* | 0.333 | 18 |
| coho salmon | *Oncorhynchus kisutch* | 0.329 | 2 |
| orange bat sea star | *Ceramaster patagonicus* | 0.326 | 13 |
| redstripe rockfish | *Sebastes proriger* | 0.309 | 1 |
| abalone jingle | *Pododesmus cepio* | 0.307 | 5 |
| ball sponge | *Tethya* sp. | 0.306 | 3 |
|  | *Buccinum* sp. | 0.304 | 21 |
|  | *Clinocardium* sp. | 0.300 | 5 |
| lyre whelk | *Neptunea lyrata* | 0.287 | 1 |
| sweet sea potato | *Molpadia intermedia* | 0.281 | 5 |
|  | *Polychaete tubes* | 0.256 | 0 |
| common brachiopod | *Terebratalia transversa* | 0.245 | 28 |
| sea potato | *Styela rustica* | 0.235 | 11 |
| green papillate sponge | *Latrunculia oparinae* | 0.233 | 0 |
| eastern Pacific bobtail | *Rossia pacifica* | 0.228 | 9 |
| fuzzy hermit crab | *Pagurus trigonocheirus* | 0.222 | 8 |
| hermit sponge | *Suberites domuncula* | 0.215 | 12 |
| snake prickleback | *Lumpenus sagitta* | 0.197 | 4 |
|  | *Beringius* sp. | 0.194 | 3 |
|  | *Suberites* sp. | 0.189 | 2 |
| snail egg | *gastropod egg* | 0.188 | 0 |
|  | *Synallactes challengeri* | 0.177 | 3 |
| skate egg case unid. | *Rajiformes* egg case | 0.169 | 2 |
| blotched snailfish | *Crystallichthys cyclospilus* | 0.165 | 2 |
|  | *Pagurus* sp. | 0.162 | 10 |
| chevron-tentacled anemone | *Cribrinopsis fernaldi* | 0.160 | 2 |
| purple hermit | *Elassochirus cavimanus* | 0.143 | 9 |
|  | *Stomphia* sp. | 0.140 | 4 |
|  | *Ceramaster* sp. | 0.131 | 4 |
| baseball sponge | *Craniella craniana* | 0.128 | 4 |
| Pacific sanddab | *Citharichthys sordidus* | 0.125 | 1 |
| big skate egg case | *Beringraja binoculata* egg case | 0.121 | 3 |
| red bat star | *Ceramaster japonicus* | 0.118 | 1 |
| Pacific sand lance | *Ammodytes personatus* | 0.117 | 14 |
| Aleutian spiny star | *Hippasteria aleutica* | 0.104 | 2 |
|  | *Evasterias* sp. | 0.100 | 1 |
| spot shrimp | *Pandalus platyceros* | 0.097 | 3 |
|  | *Bathyplotes* sp. | 0.097 | 3 |
|  | *Chiroteuthis calyx* | 0.095 | 1 |
| yellow leafy sponge | *Monanchora pulchra* | 0.094 | 0 |
| paddle ascidian | *Distaplia smithi* | 0.094 | 0 |
| compound ascidian unid. |  | 0.090 | 0 |
| hydroid unid. | Hydroidolina | 0.089 | 1 |
| hornyhand hermit | *Pagurus cornutus* | 0.088 | 5 |
|  | *Aphrodita negligens* | 0.086 | 7 |
| giant Pacific chiton | *Cryptochiton stelleri* | 0.084 | 1 |
| yellow papillate sponge |  | 0.084 | 3 |
|  | *Aplidium* sp. | 0.084 | 0 |
| Columbian barnacle | *Hamatoscalpellum columbianum* | 0.083 | 11 |
| setose hermit | *Pagurus setosus* | 0.082 | 2 |
| glassy tunicate | *Ascidia paratropa* | 0.081 | 2 |
| snail unid. | Gastropoda | 0.080 | 3 |
| tube worm unid. |  | 0.078 | 0 |
| Oregon rock crab | *Glebocarcinus oregonensis* | 0.078 | 12 |
| morning sun sea star | *Solaster dawsoni* | 0.075 | 2 |
| cow-eye tunicate | *Ascidian n.* sp. A | 0.075 | 10 |
| rhinoceros crab | *Rhinolithodes wosnessenskii* | 0.073 | 2 |
| scarlet sea star | *Pseudarchaster parelii* | 0.071 | 2 |
|  | *Emplectonema* sp. | 0.067 | 2 |
| bryozoan unid. | Bryozoa | 0.067 | 1 |
|  | *Crangon* sp. | 0.065 | 30 |
| hot dog zoanthid | *Zoanthidae* sp. A | 0.064 | 0 |
|  | *Aurelia* sp. | 0.063 | 1 |
| circumboreal toad crab | *Hyas coarctatus* | 0.063 | 1 |
| northern sun sea star | *Solaster endeca* | 0.063 | 1 |
| sharpchin rockfish | *Sebastes zacentrus* | 0.059 | 1 |
| Aleutian moonsnail | *Cryptonatica aleutica* | 0.057 | 3 |
| longhorned decorator crab | *Chorilia longipes* | 0.056 | 5 |
|  | *Paralomis verrilli* | 0.055 | 1 |
| Kennerleys venus | *Humilaria kennerleyi* | 0.055 | 1 |
| reticulate anemone | *Actinauge verrilli* | 0.054 | 2 |
| wrinkled star | *Pteraster militaris* | 0.051 | 4 |
| blackbelly eelpout | *Lycodes pacificus* | 0.050 | 1 |
| oblique smoothcockle | *Serripes notabilis* | 0.049 | 2 |
| flatworm unid. | Platyhelminthes | 0.048 | 1 |
| slender eelblenny | *Lumpenus fabricii* | 0.045 | 1 |
|  | *Yoldia* sp. | 0.045 | 5 |
| sailfin sculpin | *Nautichthys oculofasciatus* | 0.044 | 1 |
| squid unid. | Decapodiformes | 0.044 | 6 |
|  | *Psolus* sp. | 0.043 | 1 |
|  | *Serripes* sp. | 0.042 | 1 |
| empty barnacle shells |  | 0.040 | 2 |
|  | *Bugula pacifica* | 0.037 | 0 |
| notched brittlestar | *Ophiura sarsii* | 0.036 | 6 |
| clay pipe sponge | *Aphrocallistes vastus* | 0.035 | 0 |
| parma sand dollar | *Echinarachnius parma* | 0.033 | 3 |
| Nuttall cockle | *Clinocardium nuttallii* | 0.030 | 6 |
| ubiquitous brittle star | *Ophiopholis aculeata* | 0.029 | 6 |
| ribbed bryozoan | *Rhamphostomella costata* | 0.029 | 1 |
| flatspine triangle crab | *Phyllolithodes papillosus* | 0.028 | 2 |
| longnose skate egg case | *Raja rhina* egg case | 0.026 | 1 |
|  | *Chlamylla* sp. | 0.025 | 1 |
| bamboo worm unid. | Maldanidae | 0.025 | 4 |
| blackfin poacher | *Bathyagonus nigripinnis* | 0.024 | 1 |
| graceful kelp crab | *Pugettia gracilis* | 0.023 | 3 |
| vermilion sea star | *Mediaster aequalis* | 0.023 | 1 |
|  | *Microporina* sp. | 0.023 | 0 |
| grunt sculpin | *Rhamphocottus richardsoni* | 0.022 | 1 |
| scaled crab | *Placetron wosnessenskii* | 0.022 | 1 |
| frilled dogwinkle | *Nucella lamellosa* | 0.022 | 1 |
| Pribilof whelk | *Neptunea pribiloffensis* | 0.022 | 1 |
|  | *Primnoa pacifica* | 0.021 | 0 |
| ridged Crangon | *Crangon dalli* | 0.020 | 12 |
| white night doris | *Doris odhneri* | 0.020 | 1 |
| broad Yoldia | *Megayoldia thraciaeformis* | 0.020 | 1 |
| hairy cockle | *Ciliatoclinocardium ciliatum* | 0.020 | 1 |
|  | *Odontohenricia* sp. | 0.020 | 1 |
|  | *Pteraster* sp. | 0.018 | 1 |
|  | *Alcyonidium* sp. | 0.018 | 0 |
| Pacific spiny lumpsucker | *Eumicrotremus orbis* | 0.017 | 2 |
| mottled anemone | *Urticina crassicornis* | 0.017 | 1 |
| fish larvae unid. |  | 0.016 | 15 |
| bivalve unid. | Bivalvia | 0.016 | 1 |
| leather sea star | *Dermasterias imbricata* | 0.016 | 1 |
| Arctic sand lance | *Ammodytes hexapterus* | 0.015 | 1 |
|  | *Neomenia cf. yamamoti (Clark 2006)* | 0.015 | 1 |
| spiny Henricia | *Henricia multispina* | 0.015 | 1 |
| shark egg case unid. | *Selachii* egg case | 0.014 | 2 |
| coonstripe shrimp | *Pandalus hypsinotus* | 0.014 | 3 |
| moonsnail egg unid. | *Naticidae egg* | 0.013 | 1 |
|  | *Lillipathes lilliei* | 0.013 | 0 |
| roughpatch shrimp | *Pandalus stenolepis* | 0.013 | 2 |
| fragile sea star | *Cheiraster dawsoni* | 0.013 | 1 |
| sawback poacher | *Leptagonus frenatus* | 0.012 | 1 |
| lanternfish unid. | Myctophidae | 0.011 | 1 |
| brittlestar unid. | Ophiuroidea | 0.010 | 3 |
| fourhorn poacher | *Hypsagonus quadricornis* | 0.008 | 1 |
|  | *Calcigorgia* spiculifera | 0.008 | 0 |
| longfinger hermit | *Pagurus rathbuni* | 0.008 | 1 |
| nudibranch unid. | Nudibranchia | 0.008 | 1 |
| black specked ribbon worm | *Emplectonema* sp. (Clark 2006) | 0.008 | 1 |
| isopod unid. | Isopoda | 0.007 | 4 |
| Pacific sergestid | *Eusergestes similis* | 0.007 | 2 |
| rusty moonsnail | *Cryptonatica russa* | 0.007 | 1 |
|  | *Stegophiura ponderosa* | 0.007 | 1 |
| Nelson argid | *Argis levior* | 0.006 | 1 |
|  | *Distaplia* sp. | 0.006 | 1 |
| daubed shanny | *Leptoclinus maculatus* | 0.005 | 1 |
| whitebarred prickleback | *Poroclinus rothrocki* | 0.005 | 1 |
| amphipod unid. | Amphipoda | 0.005 | 1 |
| pea crab | *Pinnixa occidentalis* | 0.005 | 1 |
| cloud sponge | *Rhabdocalyptus* sp. | 0.005 | 0 |
|  | *Mytilus* sp. | 0.004 | 1 |
|  | *Cucumaria* sp. | 0.004 | 1 |
|  | *Leucilla nuttingi* | 0.004 | 1 |
| fruit leather bryozoan | *Alcyonidium pedunculatum* | 0.004 | 0 |
| disc-top tunicate | *Chelyosoma productum* | 0.004 | 1 |
| sea cockroach | *Rocinela angustata* | 0.003 | 1 |
|  | *Macoma* sp. | 0.003 | 1 |
| clawed armhook squid | *Gonatus onyx* | 0.003 | 1 |
| tubular bryozoan | *Tubulipora* sp. | 0.003 | 1 |
| striped sea leech | *Notostomum cyclostomum* | 0.002 | 2 |
| shortscale eualid | *Eualus suckleyi* | 0.002 | 1 |
| kuro argid | *Argis lar* | 0.002 | 1 |
|  | *Careproctus* sp. | 0.001 | 1 |
| prickleback unid. | Stichaeidae | 0.001 | 4 |
| crisscrossed Yoldia | *Yoldia seminuda* | 0.001 | 1 |
| northern Yoldia | *Yoldia hyperborea* | 0.001 | 4 |
| northern nutclam | *Nuculana pernula* | 0.001 | 1 |
|  | *Tellina bodegensis* | 0.001 | 1 |

| **Table 2. 2022 Catch summary table - totals for survey (including state waters)** | | | |
| --- | --- | --- | --- |
| **Common name** | **Scientific name** | **Weight in kg** | **Number of individuals** |
| Pacific ocean perch | *Sebastes alutus* | 66,310.982 | 89,502 |
| arrowtooth flounder | *Atheresthes stomias* | 51,831.036 | 71,542 |
| walleye pollock | *Gadus chalcogrammus* | 42,605.652 | 83,609 |
| Pacific halibut | *Hippoglossus stenolepis* | 12,501.406 | 5,289 |
| Pacific cod | *Gadus macrocephalus* | 10,243.506 | 6,099 |
| sablefish | *Anoplopoma fimbria* | 7,010.296 | 4,614 |
| flathead sole | *Hippoglossoides elassodon* | 6,176.996 | 19,841 |
| dusky rockfish | *Sebastes variabilis* | 5,370.011 | 3,352 |
| southern rock sole | *Lepidopsetta bilineata* | 5,291.621 | 9,693 |
| rex sole | *Glyptocephalus zachirus* | 4,690.019 | 15,057 |
| Atka mackerel | *Pleurogrammus monopterygius* | 3,374.381 | 4,101 |
| giant grenadier | *Albatrossia pectoralis* | 3,295.831 | 1,486 |
| shortspine thornyhead | *Sebastolobus alascanus* | 2,215.717 | 8,554 |
| spiny dogfish | *Squalus suckleyi* | 2,144.232 | 849 |
| yellowfin sole | *Limanda aspera* | 1,972.220 | 6,471 |
| silvergray rockfish | *Sebastes brevispinis* | 1,930.538 | 1,071 |
| Dover sole | *Microstomus pacificus* | 1,815.502 | 2,944 |
| big skate | *Beringraja binoculata* | 1,555.428 | 107 |
| starry flounder | *Platichthys stellatus* | 1,523.139 | 878 |
| lingcod | *Ophiodon elongatus* | 1,470.340 | 344 |
| northern rockfish | *Sebastes polyspinis* | 1,447.543 | 1,435 |
| Pacific herring | *Clupea pallasii* | 1,419.019 | 14,948 |
| eulachon | *Thaleichthys pacificus* | 1,405.981 | 38,890 |
| shortraker rockfish | *Sebastes borealis* | 1,363.328 | 304 |
| longnose skate | *Raja rhina* | 1,356.148 | 197 |
| English sole | *Parophrys vetulus* | 1,326.994 | 2,065 |
| northern rock sole | *Lepidopsetta polyxystra* | 1,255.540 | 3,246 |
| canary rockfish | *Sebastes pinniger* | 916.908 | 415 |
| rougheye rockfish | *Sebastes aleutianus* | 891.611 | 1,209 |
| chum salmon | *Oncorhynchus keta* | 764.704 | 333 |
| redstripe rockfish | *Sebastes proriger* | 759.750 | 1,427 |
|  | *Chrysaora melanaster* | 696.647 | 897 |
| yellow Irish lord | *Hemilepidotus jordani* | 637.304 | 1,012 |
| gigantic anemone | *Metridium farcimen* | 611.217 | 1,199 |
| lion's mane jelly | *Cyanea capillata* | 602.070 | 976 |
| magistrate armhook squid | *Berryteuthis magister* | 453.160 | 1,283 |
| butter sole | *Isopsetta isolepis* | 365.579 | 1,090 |
|  | *Metridium* sp. | 352.084 | 1,087 |
|  | *Strongylocentrotus* sp. | 324.787 | 7,983 |
| sharpchin rockfish | *Sebastes zacentrus* | 306.856 | 1,093 |
| redbanded rockfish | *Sebastes babcocki* | 293.897 | 289 |
| blackspotted rockfish | *Sebastes melanostictus* | 286.898 | 314 |
| spotted ratfish | *Hydrolagus colliei* | 257.863 | 756 |
| giant octopus | *Enteroctopus dofleini* | 238.448 | 49 |
| yelloweye rockfish | *Sebastes ruberrimus* | 207.092 | 52 |
| chinook salmon | *Oncorhynchus tshawytscha* | 205.352 | 92 |
| Alaska plaice | *Pleuronectes quadrituberculatus* | 192.942 | 157 |
| Aleutian skate | *Bathyraja aleutica* | 190.003 | 36 |
| great sculpin | *Myoxocephalus polyacanthocephalus* | 178.313 | 78 |
| Pacific capelin | *Mallotus catervarius (=villosus)* | 176.253 | 9,131 |
| black rockfish | *Sebastes melanops* | 164.523 | 98 |
| petrale sole | *Eopsetta jordani* | 158.330 | 166 |
| bigmouth sculpin | *Hemitripterus bolini* | 137.856 | 29 |
| California sea cucumber | *Apostichopus californicus* | 124.757 | 445 |
| common mud star | *Ctenodiscus crispatus* | 124.229 | 13,917 |
| plain sculpin | *Myoxocephalus jaok* | 120.724 | 111 |
| Alaskan pink shrimp | *Pandalus eous* | 119.792 | 15,478 |
| sunflower sea star | *Pycnopodia helianthoides* | 112.176 | 98 |
| yellowmouth rockfish | *Sebastes reedi* | 110.880 | 66 |
| Tanner crab | *Chionoecetes bairdi* | 110.369 | 1,322 |
| salmon shark | *Lamna ditropis* | 105.924 | 1 |
| heart urchin | *Brisaster latifrons* | 102.585 | 5,028 |
| sidestripe shrimp | *Pandalopsis dispar* | 100.091 | 7,591 |
| Oregon triton | *Fusitriton oregonensis* | 87.242 | 2,043 |
| Bering skate | *Bathyraja interrupta* | 74.585 | 41 |
| harlequin rockfish | *Sebastes variegatus* | 74.106 | 244 |
| sponge unid. | Porifera | 69.688 | 65 |
| slender sole | *Lyopsetta exilis* | 59.385 | 665 |
| giant wrymouth | *Cryptacanthodes giganteus* | 56.411 | 12 |
| clay pipe sponge | *Aphrocallistes vastus* | 55.450 | 5 |
| Alaska skate | *Bathyraja parmifera* | 51.330 | 8 |
| ocean shrimp | *Pandalus jordani* | 50.264 | 9,639 |
|  | *Primnoa pacifica* | 47.707 | 24 |
| yellowtail rockfish | *Sebastes flavidus* | 42.401 | 28 |
| basketstar | *Gorgonocephalus eucnemis* | 40.405 | 345 |
| white sea urchin | *Strongylocentrotus pallidus* | 39.964 | 1,435 |
| pink salmon | *Oncorhynchus gorbuscha* | 39.580 | 34 |
| northern horsemussel | *Modiolus modiolus* | 36.078 | 790 |
| wattled eelpout | *Lycodes palearis* | 35.158 | 212 |
| weathervane scallop | *Patinopecten caurinus* | 35.000 | 182 |
| empty bivalve shells |  | 34.853 | 51 |
|  | *Cucumaria frondosa* | 34.710 | 44 |
| saffron cod | *Eleginus gracilis* | 34.508 | 499 |
| greenstriped rockfish | *Sebastes elongatus* | 33.402 | 115 |
| quillback rockfish | *Sebastes maliger* | 32.356 | 44 |
| kelp greenling | *Hexagrammos decagrammus* | 30.187 | 68 |
| redbanded sea star | *Orthasterias koehleri* | 29.060 | 112 |
| egg yolk jelly | *Phacellophora camtschatica* | 28.722 | 89 |
| rosethorn rockfish | *Sebastes helvomaculatus* | 26.837 | 107 |
| darkblotched rockfish | *Sebastes crameri* | 25.681 | 109 |
| widow rockfish | *Sebastes entomelas* | 25.650 | 15 |
|  | *Chlamys* sp. | 24.524 | 1,061 |
| sand sole | *Psettichthys melanostictus* | 23.967 | 36 |
| Pacific tomcod | *Microgadus proximus* | 23.843 | 411 |
| prowfish | *Zaprora silenus* | 23.608 | 13 |
| spud sponge | *Histodermella kagigunensis* | 23.390 | 131 |
| orange-pink sea urchin | *Allocentrotus fragilis* | 23.217 | 309 |
| wolf-eel | *Anarrhichthys ocellatus* | 23.190 | 3 |
| red king crab | *Paralithodes camtschaticus* | 21.580 | 5 |
| whiteblotched skate | *Bathyraja maculata* | 21.100 | 5 |
| tree sponge | *Mycale loveni* | 20.407 | 7 |
| reticulate anemone | *Actinauge verrilli* | 20.403 | 1,028 |
| shortfin eelpout | *Lycodes brevipes* | 20.389 | 424 |
|  | *Parastichopus* sp. | 19.960 | 36 |
| mottled sea star | *Evasterias troschelii* | 19.662 | 78 |
| Pacific glass shrimp | *Pasiphaea pacifica* | 19.044 | 13,155 |
| darkfin sculpin | *Malacocottus zonurus* | 17.912 | 284 |
| searcher | *Bathymaster signatus* | 17.592 | 102 |
| bigfin eelpout | *Lycodes cortezianus* | 16.028 | 375 |
| club sponge | *Tedania kagalaskai* | 15.942 | 5 |
| sea nettle | *Chrysaora fuscescens* | 15.879 | 36 |
| blackspined sea star | *Lethasterias nanimensis* | 14.616 | 152 |
|  | *Brisaster townsendi* | 14.341 | 775 |
| actinid sea anemones unid. | Actiniidae | 14.077 | 125 |
| Pacific pomfret | *Brama japonica* | 13.890 | 22 |
| giant barnacle | *Chirona evermanni* | 13.464 | 2 |
| longspine thornyhead | *Sebastolobus altivelis* | 13.106 | 88 |
|  | *Stegophiura ponderosa* | 12.552 | 978 |
| golden king crab | *Lithodes aequispinus* | 12.424 | 9 |
|  | Demospongiae | 12.117 | 0 |
| Pacific hake | *Merluccius productus* | 11.920 | 6 |
| sea peach unid. | *Halocynthia* sp. | 11.822 | 1 |
| Bering wolffish | *Anarhichas orientalis* | 11.800 | 1 |
| popeye grenadier | *Coryphaenoides cinereus* | 11.267 | 69 |
| sturgeon poacher | *Podothecus accipenserinus* | 10.369 | 111 |
| sponge hermit | *Pagurus brandti* | 10.324 | 318 |
|  | *Balanus nubilus* | 10.089 | 0 |
| coho salmon | *Oncorhynchus kisutch* | 10.008 | 11 |
| empty gastropod shells |  | 9.558 | 146 |
|  | *Solaster* sp. | 9.205 | 88 |
| helmet jelly | *Periphylla periphylla* | 9.114 | 19 |
| spinyhead sculpin | *Dasycottus setiger* | 8.887 | 134 |
| cloud sponge | *Rhabdocalyptus* sp. | 7.941 | 0 |
| ball sponge | *Tethya* sp. | 7.839 | 8 |
|  | *Synallactes challengeri* | 7.719 | 168 |
| Pacific sandfish | *Trichodon trichodon* | 7.691 | 186 |
| brittlestar unid. | Ophiuroidea | 6.966 | 3,529 |
| lanternfish unid. | Myctophidae | 6.864 | 621 |
| chrysaora jelly | *Chrysaora* sp. | 6.785 | 10 |
| sea anemone unid. | Actiniaria | 6.667 | 59 |
| bocaccio | *Sebastes paucispinis* | 6.343 | 3 |
| graceful decorator crab | *Oregonia gracilis* | 6.242 | 227 |
| green papillate sponge | *Latrunculia oparinae* | 6.241 | 10 |
| jellyfish unid. | Scyphozoa | 5.997 | 29 |
| bristly tunicate | *Halocynthia igaboja* | 5.803 | 52 |
| deepsea sole | *Embassichthys bathybius* | 5.792 | 6 |
| blackbelly eelpout | *Lycodes pacificus* | 5.713 | 125 |
| reddish scallop | *Chlamys rubida* | 5.578 | 185 |
| robust clubhook squid | *Moroteuthis robusta* | 5.570 | 1 |
|  | *Halipteris willemoesi* | 5.520 | 41 |
| longsnout prickleback | *Lumpenella longirostris* | 5.340 | 61 |
| giant sea star | *Evasterias echinosoma* | 5.173 | 4 |
| sand-grain imbedded ascidian | *Amaroucium soldatovi* | 5.154 | 36 |
| long-rayed star | *Stylasterias forreri* | 5.043 | 41 |
| smooth lumpsucker | *Aptocyclus ventricosus* | 4.967 | 5 |
| Pacific sanddab | *Citharichthys sordidus* | 4.965 | 35 |
| whitespotted greenling | *Hexagrammos stelleri* | 4.908 | 54 |
| Pacific lyre crab | *Hyas lyratus* | 4.897 | 219 |
| widehand hermit crab | *Elassochirus tenuimanus* | 4.798 | 183 |
|  | *Neptunea* sp. | 4.696 | 78 |
|  | *Pteraster tesselatus* | 4.589 | 30 |
| bryozoan unid. | Bryozoa | 4.566 | 2 |
| glass sponge unid. | Hexactinellida | 4.549 | 0 |
| Aleutian hermit | *Pagurus aleuticus* | 3.997 | 101 |
| unsorted shab |  | 3.960 | 0 |
| rose sea star | *Crossaster papposus* | 3.941 | 121 |
| rough purple sea anemone | *Actinostola faeculenta* | 3.827 | 17 |
| abalone jingle | *Pododesmus cepio* | 3.693 | 13 |
| sandy sea cucumber | *Pseudostichopus mollis* | 3.622 | 70 |
| paddle ascidian | *Distaplia smithi* | 3.504 | 1 |
|  | *Aplidium* sp. | 3.430 | 0 |
| purple-orange sea star | *Asterias amurensis* | 3.428 | 38 |
|  | *Gonatus* sp. | 3.400 | 201 |
| fragile sea star | *Cheiraster dawsoni* | 3.381 | 79 |
|  | *Aurelia labiata* | 3.352 | 9 |
|  | *Strongylocentrotus polyacanthus* | 3.251 | 71 |
| Swift sea star | *Gephyreaster swifti* | 3.077 | 5 |
|  | *Aequorea* sp. | 3.045 | 21 |
|  | *Plumarella* sp. | 3.042 | 0 |
| brown box crab | *Lopholithodes foraminatus* | 3.019 | 14 |
| sand sea star | *Luidia foliolata* | 2.940 | 22 |
| clonal plumose anemone | *Metridium senile* | 2.930 | 10 |
| sea urchin unid. | Echinacea | 2.879 | 7 |
| tunicate unid. | Ascidiacea | 2.792 | 10 |
|  | *Balanus* sp. | 2.778 | 8 |
| Pacific viperfish | *Chauliodus macouni* | 2.516 | 18 |
| spot shrimp | *Pandalus platyceros* | 2.458 | 50 |
|  | *Atolla* sp. | 2.384 | 8 |
| red sea urchin | *Strongylocentrotus franciscanus* | 2.342 | 12 |
| fuzzy hermit crab | *Pagurus trigonocheirus* | 2.329 | 53 |
|  | *Pandalus* sp. | 2.243 | 408 |
| spiny red sea star | *Hippasteria phrygiana (=spinosa)* | 2.218 | 12 |
| northern smoothtongue | *Leuroglossus schmidti* | 2.217 | 165 |
| hairy hermit crab | *Pagurus capillatus* | 2.178 | 80 |
|  | *Hippasteria californica* | 2.158 | 12 |
|  | *Bathyplotes* sp. | 2.094 | 61 |
| hydroid unid. | Hydroidolina | 2.081 | 2 |
| northern lampfish | *Stenobrachius leucopsarus* | 2.062 | 256 |
| orange sea pen | *Ptilosarcus gurneyi* | 2.014 | 33 |
| tentacle-shedding anemone | *Liponema brevicorne* | 1.970 | 8 |
| goblet sponge | *Heterochone calyx* | 1.954 | 0 |
| baseball sponge | *Craniella craniana* | 1.929 | 18 |
|  | *Buccinum* sp. | 1.913 | 75 |
| sea whip or sea pen unid. | Pennatulacea | 1.820 | 13 |
| red bat star | *Ceramaster japonicus* | 1.814 | 14 |
|  | *Dipsacaster eximus* | 1.797 | 27 |
| sea potato | *Styela rustica* | 1.785 | 57 |
| sea mouse unid. | Aphroditidae | 1.783 | 64 |
|  | *Distaplia* sp. | 1.770 | 1 |
| northern sea star | *Dipsacaster borealis* | 1.750 | 25 |
| armorhead sculpin | *Gymnocanthus galeatus* | 1.674 | 13 |
|  | *Leptasterias* sp. | 1.652 | 10 |
| grooved sea star | *Crossaster borealis* | 1.637 | 25 |
| California market squid | *Doryteuthis opalescens* | 1.590 | 31 |
| Dungeness crab | *Metacarcinus magister* | 1.586 | 2 |
| pincushion sea star | *Diplopteraster multipes* | 1.572 | 20 |
| skate egg case unid. | *Rajiformes* egg case | 1.547 | 33 |
| empty barnacle shells |  | 1.487 | 2 |
| vase sponge | *Aulosaccus schulzei* | 1.481 | 0 |
| sea peach | *Halocynthia aurantium* | 1.480 | 12 |
| knobbyhand hermit | *Pagurus confragosus* | 1.479 | 63 |
| lampshell unid. | Brachiopoda | 1.460 | 153 |
| dark rockfish | *Sebastes ciliatus* | 1.452 | 4 |
| common brachiopod | *Terebratalia transversa* | 1.377 | 116 |
| hat sponge | *Echinoclathria beringensis* | 1.354 | 4 |
| scapula sponge | *Stelodoryx oxeata* | 1.310 | 0 |
| bluespine hermit | *Pagurus kennerlyi* | 1.285 | 50 |
| ocher sun star | *Solaster* sp. G (Clark) | 1.277 | 1 |
| Aleutian spiny star | *Hippasteria aleutica* | 1.236 | 4 |
| Alaskan hermit | *Pagurus ochotensis* | 1.219 | 32 |
|  | *Odontohenricia* sp. | 1.197 | 8 |
| red Irish lord | *Hemilepidotus hemilepidotus* | 1.183 | 3 |
| globular ascidian | *Distaplia occidentalis* | 1.137 | 23 |
| grooved Tanner crab | *Chionoecetes tanneri* | 1.135 | 3 |
| red striated sea anemone |  | 1.119 | 19 |
| articulated bamboo coral | *Isidella* sp. | 1.114 | 0 |
|  | *Allocentrotus* sp. | 1.061 | 4 |
| Tanner crab unid. | *Chionoecetes* sp. | 1.050 | 1 |
| mud skate | *Bathyraja taranetzi* | 1.042 | 3 |
| yellow leafy sponge | *Monanchora pulchra* | 1.036 | 0 |
| cat-o-nine-tails sponge | *Semisuberites cribrosa* | 1.024 | 1 |
|  | *Halipteris* sp. | 1.004 | 3 |
|  | *Hippasteria* sp. | 0.977 | 8 |
| cushion sea star | *Pteraster temnochiton* | 0.974 | 11 |
| heart urchin unid. |  | 0.936 | 34 |
| lampshade sponge | *Mycale bellabellensis* | 0.904 | 0 |
| pancake star | *Hymenaster* sp. | 0.894 | 1 |
|  | *Polymastia* sp. | 0.892 | 6 |
| box crab unid. | *Lopholithodes* sp. | 0.881 | 5 |
|  | *Urticina* sp. | 0.880 | 3 |
|  | *Henricia* sp. | 0.870 | 40 |
|  | Asteriidae | 0.865 | 1 |
| hermit sponge | *Suberites domuncula* | 0.860 | 38 |
| scissortail sculpin | *Triglops forficata* | 0.852 | 14 |
| brown cat shark | *Apristurus brunneus* | 0.833 | 3 |
| stone sponge | *Stelletta* sp. | 0.827 | 0 |
| thorny sea star | *Poraniopsis inflata* | 0.826 | 11 |
| lyre whelk | *Neptunea lyrata* | 0.815 | 8 |
| variegated snailfish | *Liparis gibbus* | 0.810 | 1 |
| salp unid. | Thaliacea | 0.802 | 13 |
| eastern Pacific bobtail | *Rossia pacifica* | 0.767 | 24 |
| splendid hermit | *Labidochirus* splendescens | 0.750 | 33 |
| Berry armhook squid | *Gonatus berryi* | 0.718 | 4 |
| common salp | *Thetys vagina* | 0.705 | 16 |
| scarlet sea star | *Pseudarchaster parelii* | 0.700 | 16 |
| sea star unid. | Asteroidea | 0.671 | 7 |
| Bering eelpout | *Lycodes beringi* | 0.660 | 10 |
|  | *Stigmatoteuthis dofleini* | 0.658 | 2 |
| yellow papillate sponge |  | 0.652 | 13 |
|  | *Evasterias* sp. | 0.640 | 4 |
|  | *Ceramaster* sp. | 0.623 | 19 |
| longfin smelt | *Spirinchus thaleichthys* | 0.582 | 33 |
| sweet sea potato | *Molpadia intermedia* | 0.571 | 11 |
| orange bat sea star | *Ceramaster patagonicus* | 0.569 | 21 |
| beaked barnacle | *Balanus rostratus* | 0.550 | 1 |
| squid unid. | Decapodiformes | 0.543 | 18 |
| brown rimmed jelly | *Aurelia limbata* | 0.530 | 2 |
|  | *Arctomelon* sp. | 0.524 | 12 |
| purple hermit | *Elassochirus cavimanus* | 0.520 | 27 |
|  | *Suberites* sp. | 0.518 | 3 |
| Oregon rock crab | *Glebocarcinus oregonensis* | 0.481 | 65 |
| snailfish unid. | Liparidae | 0.479 | 7 |
|  | *Fanellia compressa* | 0.476 | 0 |
|  | *Arctomelon borealis* | 0.450 | 4 |
| rockfish unid. | *Sebastes* sp. | 0.448 | 3 |
| mussel unid. | Mytilidae | 0.445 | 7 |
|  | *Pteraster jordani* | 0.440 | 5 |
|  | *Aphrodita negligens* | 0.436 | 18 |
|  | *Stenobrachius* sp. | 0.433 | 43 |
|  | *Microporina articulata* | 0.428 | 1 |
| rainbow smelt | *Osmerus mordax* | 0.423 | 11 |
| Kamchatka flounder | *Atheresthes evermanni* | 0.415 | 2 |
|  | *Pseudarchaster alascensis* | 0.409 | 21 |
| blackfin snailfish | *Careproctus cypselurus* | 0.408 | 2 |
|  | *Diplopteraster* sp. | 0.404 | 3 |
| splitnose rockfish | *Sebastes diploproa* | 0.392 | 3 |
| hermit crab unid. | Paguridae | 0.384 | 8 |
|  | *Clinocardium* sp. | 0.383 | 9 |
|  | *Lophaster* sp. | 0.377 | 4 |
| Pribilof whelk | *Neptunea pribiloffensis* | 0.376 | 8 |
| northern sun sea star | *Solaster endeca* | 0.368 | 7 |
|  | *Pagurus* sp. | 0.364 | 19 |
|  | *Pteraster* sp. | 0.362 | 16 |
|  | *Stylaster* sp. | 0.359 | 1 |
|  | *Synallactes* sp. | 0.355 | 6 |
| chevron-tentacled anemone | *Cribrinopsis fernaldi* | 0.345 | 5 |
| nudibranch unid. | Nudibranchia | 0.339 | 7 |
| longhand hermit | *Pagurus tanneri* | 0.338 | 19 |
|  | *Beringius* sp. | 0.313 | 6 |
| hot dog zoanthid | *Zoanthidae* sp. A | 0.309 | 2 |
| Pacific lamprey | *Lampetra tridentata* | 0.305 | 1 |
|  | *Stomphia* sp. | 0.300 | 8 |
|  | *Pseudarchaster* sp. | 0.295 | 14 |
|  | *Pyrulofusus* sp. | 0.292 | 3 |
| rhinoceros crab | *Rhinolithodes wosnessenskii* | 0.288 | 11 |
| left-hand whelk | *Pyrulofusus harpa* | 0.287 | 4 |
| beautiful sun star | *Solaster* spectabilis | 0.280 | 2 |
| ridged blood star | *Henricia aspera* | 0.278 | 18 |
| rosy Tritonia | *Tritonia diomedea* | 0.275 | 6 |
| snail egg | *gastropod egg* | 0.274 | 3 |
| emarginate snailfish | *Careproctus furcellus* | 0.270 | 1 |
|  | *Lycodes* sp. | 0.270 | 5 |
| ringed lucine | *Lucinoma annulatum* | 0.267 | 3 |
| pinpoint lampfish | *Nannobrachium regale* | 0.264 | 10 |
| Alaska skate egg case | *Bathyraja parmifera* egg case | 0.258 | 13 |
|  | *Pteraster marssipus* | 0.257 | 5 |
|  | *Polychaete tubes* | 0.256 | 0 |
| roughspine sculpin | *Triglops macellus* | 0.249 | 5 |
| California lamp shell | *Laqueus californianus* | 0.239 | 43 |
| bivalve unid. | Bivalvia | 0.238 | 12 |
| hornyhand hermit | *Pagurus cornutus* | 0.233 | 13 |
| Alaskan spiny star | *Hippasteria* sp. E (Clark) | 0.232 | 3 |
| Hanasaki king crab | *Paralithodes brevipes* | 0.231 | 6 |
|  | *Ceramaster stellatus* | 0.231 | 6 |
|  | *Mediaster* sp. | 0.230 | 2 |
| cannonball sun star | *Heterozonias alternatus* | 0.226 | 2 |
| notched brittlestar | *Ophiura sarsii* | 0.225 | 46 |
|  | *Hippasteria lepidonotus* | 0.218 | 1 |
|  | *Octopoteuthis deletron* | 0.214 | 14 |
| giant scale worm | *Eunoe nodosa* | 0.211 | 9 |
|  | *Solaster hypothrissus* | 0.210 | 1 |
|  | *Serripes* sp. | 0.208 | 5 |
| robust blacksmelt | *Bathylagus milleri* | 0.207 | 8 |
| rough hat sponge | *Cladocroce attu* | 0.206 | 1 |
| oblique smoothcockle | *Serripes notabilis* | 0.202 | 9 |
| blackfin sculpin | *Malacocottus kincaidi* | 0.200 | 4 |
| snake prickleback | *Lumpenus sagitta* | 0.197 | 4 |
|  | *Psolus* sp. | 0.193 | 4 |
| Aleutian moonsnail | *Cryptonatica aleutica* | 0.186 | 9 |
|  | *Belonella borealis* | 0.186 | 4 |
| pink rose star | *Crossaster* sp. B (Clark) | 0.184 | 6 |
| vermilion sea star | *Mediaster aequalis* | 0.181 | 6 |
| white neptune | *Neptunea amianta* | 0.180 | 9 |
|  | *Beringius kennicottii* | 0.178 | 1 |
| Townsend hermit crab | *Pagurus townsendi* | 0.167 | 3 |
|  | *Nearchaster variabilis* | 0.166 | 9 |
| blotched snailfish | *Crystallichthys cyclospilus* | 0.165 | 2 |
| compound ascidian unid. |  | 0.165 | 3 |
| parma sand dollar | *Echinarachnius parma* | 0.160 | 7 |
| spectacled sculpin | *Triglops scepticus* | 0.158 | 5 |
| blood sea star | *Henricia leviuscula* | 0.158 | 7 |
| Pacific sand lance | *Ammodytes personatus* | 0.147 | 20 |
| smoothskin octopus | *Benthoctopus leioderma* | 0.145 | 3 |
| purple striated sea anemone |  | 0.145 | 5 |
|  | *Nearchaster* sp. | 0.144 | 8 |
| winged trophon | *Nipponotrophon stuarti* | 0.140 | 5 |
| fruit leather bryozoan | *Alcyonidium pedunculatum* | 0.135 | 2 |
| morning sun sea star | *Solaster dawsoni* | 0.134 | 3 |
| ginseng sponge | *Halichondria oblonga* | 0.134 | 0 |
|  | *Crangon* sp. | 0.132 | 83 |
| mottled anemone | *Urticina crassicornis* | 0.123 | 4 |
| glassy tunicate | *Ascidia paratropa* | 0.123 | 3 |
| big skate egg case | *Beringraja binoculata* egg case | 0.121 | 3 |
| longhorned decorator crab | *Chorilia longipes* | 0.119 | 10 |
| nodal bamboo coral unid. | *Keratoisis* sp. | 0.113 | 0 |
|  | *Colus* sp. | 0.113 | 3 |
| sea cucumber unid. | Holothuroidea | 0.113 | 7 |
| barnacle unid. | Thoracica | 0.109 | 1 |
| Arctic sand lance | *Ammodytes hexapterus* | 0.101 | 15 |
| longfin dragonfish | *Tactostoma macropus* | 0.101 | 3 |
|  | *Volutopsius* sp. | 0.100 | 1 |
|  | *Chiroteuthis* sp. | 0.100 | 1 |
| boreopacific armhook squid | *Gonatopsis borealis* | 0.098 | 3 |
|  | *Solaster* sp. A (Clark 1997) | 0.096 | 3 |
|  | *Crossaster* sp. | 0.096 | 8 |
|  | *Chiroteuthis calyx* | 0.095 | 1 |
| sea cockroach | *Rocinela angustata* | 0.093 | 39 |
| wrinkled star | *Pteraster militaris* | 0.093 | 6 |
| Pacific red hermit | *Elassochirus gilli* | 0.092 | 4 |
|  | *Axinella rugosa* | 0.092 | 0 |
|  | *Aurelia* sp. | 0.091 | 5 |
|  | *Odontohenricia fisheri* | 0.091 | 3 |
|  | Buccinidae | 0.087 | 2 |
| clawed armhook squid | *Gonatus onyx* | 0.085 | 9 |
| giant Pacific chiton | *Cryptochiton stelleri* | 0.084 | 1 |
| Columbian barnacle | *Hamatoscalpellum columbianum* | 0.083 | 11 |
| blackfin poacher | *Bathyagonus nigripinnis* | 0.082 | 4 |
| setose hermit | *Pagurus setosus* | 0.082 | 2 |
|  | *Chlamylla* sp. | 0.081 | 5 |
| stony coral unid. | Scleractinia | 0.080 | 0 |
| snail unid. | Gastropoda | 0.080 | 3 |
| tube worm unid. |  | 0.078 | 0 |
| swimming anemone | *Stomphia coccinea* | 0.076 | 4 |
|  | Gonatidae | 0.076 | 15 |
|  | *Benthoctopus oregonensis* | 0.075 | 1 |
| cow-eye tunicate | *Ascidian n.* sp. A | 0.075 | 10 |
| Pacific spiny lumpsucker | *Eumicrotremus orbis* | 0.073 | 7 |
| Alaskan lumpsucker | *Eumicrotremus gyrinops* | 0.072 | 5 |
|  | *Emplectonema* sp. | 0.067 | 2 |
| smelt unid. | Osmeridae | 0.065 | 1 |
|  | *Cheiraster* sp. | 0.065 | 3 |
| circumboreal toad crab | *Hyas coarctatus* | 0.063 | 1 |
| Aleutian sea star | *Leptasterias hylodes* | 0.063 | 1 |
| prolific nipple sponge | *Polymastia* sp. A (Clark 2006) | 0.063 | 0 |
| longfinger hermit | *Pagurus rathbuni* | 0.062 | 4 |
|  | *Cryptonatica* sp. | 0.061 | 5 |
| Aleutian skate egg case | *Bathyraja aleutica* egg case | 0.060 | 1 |
| dorid nudibranch unid. | Dorididae | 0.057 | 5 |
|  | *Ophiopholis japonica* | 0.056 | 5 |
|  | *Paralomis verrilli* | 0.055 | 1 |
| Kennerleys venus | *Humilaria kennerleyi* | 0.055 | 1 |
| grunt sculpin | *Rhamphocottus richardsoni* | 0.054 | 3 |
| Adler waryfish | *Scopelosaurus adleri* | 0.053 | 1 |
| ubiquitous brittle star | *Ophiopholis aculeata* | 0.052 | 10 |
| polychaete worm unid. | Polychaeta | 0.051 | 6 |
|  | *Calliostoma* sp. | 0.051 | 6 |
| broadfin thornyhead | *Sebastolobus macrochir* | 0.050 | 1 |
| split-nose decorator crab | *Oregonia bifurca* | 0.050 | 2 |
| flatworm unid. | Platyhelminthes | 0.049 | 2 |
| falsejingle unid. | Anomiidae | 0.046 | 1 |
| light-edged ribbon worm | *Cerebratulus californienesis* | 0.046 | 3 |
| slender eelblenny | *Lumpenus fabricii* | 0.045 | 1 |
|  | *Yoldia* sp. | 0.045 | 5 |
| sailfin sculpin | *Nautichthys oculofasciatus* | 0.044 | 1 |
|  | *Cidarina cidaris* | 0.043 | 4 |
| spiky ball sponge | *Craniella* sputnika | 0.042 | 0 |
| ribbed bryozoan | *Rhamphostomella costata* | 0.041 | 2 |
| crested sea star | *Lophaster furcilliger* | 0.040 | 1 |
| bigeye poacher | *Bathyagonus pentacanthus* | 0.038 | 1 |
| giant orange tochui | *Tochuina gigantea* | 0.038 | 1 |
|  | *Astarte* sp. | 0.038 | 1 |
| roughpatch shrimp | *Pandalus stenolepis* | 0.037 | 8 |
|  | *Bugula pacifica* | 0.037 | 0 |
| longnose skate egg case | *Raja rhina* egg case | 0.036 | 2 |
| Bering hermit | *Pagurus beringanus* | 0.035 | 1 |
| Pacific sea lemon | *Peltodoris nobilis* | 0.035 | 1 |
| chiton unid. | Polyplacophora | 0.034 | 3 |
| festive Tritonia | *Tritonia festiva* | 0.032 | 1 |
| Bering skate egg case | *Bathyraja interrupta* egg case | 0.031 | 5 |
| whitebarred prickleback | *Poroclinus rothrocki* | 0.031 | 3 |
| pinchbug | *Munida quadrispina* | 0.031 | 7 |
| threaded sculpin | *Gymnocanthus pistilliger* | 0.030 | 1 |
|  | *Beringius undatus* | 0.030 | 1 |
| Nuttall cockle | *Clinocardium nuttallii* | 0.030 | 6 |
|  | *Octopus* sp. | 0.029 | 2 |
| neon yellow ascidian |  | 0.029 | 2 |
| flatspine triangle crab | *Phyllolithodes papillosus* | 0.028 | 2 |
|  | *Lophaster* sp. A (Clark) | 0.028 | 2 |
| brokenline lampfish | *Lampanyctus jordani* | 0.027 | 2 |
| hydrocoral unid. | Stylasterina | 0.026 | 0 |
| blacksmelt unid. | *Bathylagus* sp. | 0.025 | 2 |
| Pacific flatnose | *Antimora microlepis* | 0.025 | 1 |
|  | *Astarte montagui* | 0.025 | 1 |
| bamboo worm unid. | Maldanidae | 0.025 | 4 |
| leopard skate egg case | *Bathyraja panthera* egg case | 0.024 | 1 |
| slender seawhips | *Stylatula* sp. | 0.024 | 1 |
|  | *Actinostola* sp. | 0.024 | 1 |
|  | *Fanellia* sp. | 0.024 | 1 |
| graceful kelp crab | *Pugettia gracilis* | 0.023 | 3 |
| firm finger sponge | *Axinella blanca* | 0.023 | 0 |
|  | *Microporina* sp. | 0.023 | 0 |
| ridged Crangon | *Crangon dalli* | 0.022 | 13 |
| scaled crab | *Placetron wosnessenskii* | 0.022 | 1 |
| frilled dogwinkle | *Nucella lamellosa* | 0.022 | 1 |
| pale moonsnail | *Lunatia pallida* | 0.021 | 3 |
| isopod unid. | Isopoda | 0.020 | 10 |
| white night doris | *Doris odhneri* | 0.020 | 1 |
|  | *Diaulula* sp. A (Clark 2006) | 0.020 | 1 |
| broad Yoldia | *Megayoldia thraciaeformis* | 0.020 | 1 |
|  | *Glycymeris septentrionalis* | 0.020 | 7 |
| hairy cockle | *Ciliatoclinocardium ciliatum* | 0.020 | 1 |
| bluntnose snailfish | *Paraliparis* sp. cf. dactylosus (Orr and Baldwin) | 0.019 | 3 |
|  | *Hippasteria heathi* | 0.018 | 1 |
| oval heart urchin |  | 0.018 | 1 |
|  | *Alcyonidium* sp. | 0.018 | 0 |
| puffball sponges | *Craniella* sp. | 0.018 | 0 |
| fish larvae unid. |  | 0.017 | 16 |
| amphipod unid. | Amphipoda | 0.017 | 3 |
| Aleutian alligatorfish | *Aspidophoroides monopterygius* | 0.016 | 2 |
| pupa utility worm | *Travisia pupa* | 0.016 | 2 |
| kuro argid | *Argis lar* | 0.016 | 7 |
| Nelson argid | *Argis levior* | 0.016 | 3 |
| leather sea star | *Dermasterias imbricata* | 0.016 | 1 |
| daubed shanny | *Leptoclinus maculatus* | 0.015 | 3 |
|  | *Neomenia cf. yamamoti (Clark 2006)* | 0.015 | 1 |
|  | *Boreotrophon pacificus* | 0.015 | 1 |
| spiny Henricia | *Henricia multispina* | 0.015 | 1 |
|  | *Ctenodiscus* sp. | 0.015 | 2 |
| shark egg case unid. | *Selachii* egg case | 0.014 | 2 |
| coonstripe shrimp | *Pandalus hypsinotus* | 0.014 | 3 |
| peanut worm unid. | Sipuncula | 0.014 | 2 |
| moonsnail egg unid. | *Naticidae egg* | 0.013 | 1 |
|  | *Lillipathes lilliei* | 0.013 | 0 |
| sawback poacher | *Leptagonus frenatus* | 0.012 | 1 |
|  | *Fusitriton* sp. | 0.012 | 1 |
| fourhorn poacher | *Hypsagonus quadricornis* | 0.011 | 2 |
| champagne flute hydroid | *Bonneviella* sp. A (Clark 2006) | 0.011 | 0 |
|  | *Tarsaster alaskanus* | 0.011 | 1 |
| Bathyraja sp. egg case | *Bathyraja* sp. egg case | 0.010 | 1 |
| spatulate sculpin | *Icelus* spatula | 0.010 | 1 |
| smalldisk snailfish | *Careproctus gilberti* | 0.010 | 1 |
|  | *Fanellia fraseri* | 0.010 | 1 |
| humpy shrimp | *Pandalus goniurus* | 0.010 | 4 |
|  | *Argis* sp. | 0.010 | 2 |
| moonsnail | Naticidae | 0.010 | 1 |
| swollen whelk | *Buccinum oedematum* | 0.010 | 1 |
|  | *Myriapora orientalis* | 0.010 | 0 |
| lattice-work bryozoan | *Phidolopora pacifica* | 0.010 | 0 |
| dironid nudibranchs | Dironidae | 0.009 | 2 |
| North Pacific sea star | *Leptychaster arcticus* | 0.009 | 2 |
| gray starsnout | *Bathyagonus alascanus* | 0.008 | 1 |
|  | *Calcigorgia* spiculifera | 0.008 | 0 |
| elliptical Astarte | *Astarte elliptica* | 0.008 | 3 |
|  | *Ophiopholis* sp. | 0.008 | 2 |
| black specked ribbon worm | *Emplectonema* sp. (Clark 2006) | 0.008 | 1 |
| Pacific sergestid | *Eusergestes similis* | 0.007 | 2 |
| rusty moonsnail | *Cryptonatica russa* | 0.007 | 1 |
| yellowleg pandalid | *Pandalus tridens* | 0.006 | 2 |
|  | *Cryptolithodes* sp. | 0.006 | 1 |
| featherstar crinoid | *Florometra serratissima* | 0.006 | 4 |
|  | *Paraliparis* sp. | 0.005 | 2 |
| crested bigscale | *Poromitra curilensis (=crassiceps)* | 0.005 | 1 |
|  | *Bryozoichthys* sp. | 0.005 | 1 |
| sea raspberry | *Gersemia* sp. | 0.005 | 1 |
| dock shrimp | *Pandalus danae* | 0.005 | 1 |
| circumpolar eualid | *Eualus gaimardii* | 0.005 | 1 |
| horned shrimp | *Paracrangon echinata* | 0.005 | 1 |
| pea crab | *Pinnixa occidentalis* | 0.005 | 1 |
|  | *Asterias* sp. | 0.005 | 1 |
| lumpsucker unid. | Cyclopteridae | 0.004 | 1 |
|  | *Mytilus* sp. | 0.004 | 1 |
| Akutan limops | *Limopsis akutanica* | 0.004 | 2 |
|  | *Lethasterias* sp. | 0.004 | 1 |
|  | *Cucumaria* sp. | 0.004 | 1 |
|  | *Leucilla nuttingi* | 0.004 | 1 |
| disc-top tunicate | *Chelyosoma productum* | 0.004 | 1 |
|  | *Polycheles* sp. | 0.003 | 3 |
|  | *Cadlina modesta* | 0.003 | 1 |
|  | *Macoma* sp. | 0.003 | 1 |
| tubular bryozoan | *Tubulipora* sp. | 0.003 | 1 |
| thorny sculpin | *Icelus* spiniger | 0.002 | 1 |
| prickleback unid. | Stichaeidae | 0.002 | 6 |
| scale worm unid. | Polynoidae | 0.002 | 1 |
| striped sea leech | *Notostomum cyclostomum* | 0.002 | 2 |
|  | *Notostomobdella* sp. | 0.002 | 1 |
| euphausiid unid. | Euphausiacea | 0.002 | 11 |
|  | Mysidae | 0.002 | 4 |
| shrimp unid. |  | 0.002 | 1 |
| pandalid shrimp unid. | Pandalidae | 0.002 | 1 |
| shortscale eualid | *Eualus suckleyi* | 0.002 | 1 |
| viperfish unid. | Chauliodontinae | 0.001 | 1 |
|  | *Careproctus* sp. | 0.001 | 1 |
| red and white banded sea nymph | *Cheilonereis cyclurus* | 0.001 | 1 |
| thorny scaleworm | *Eunoe senta* | 0.001 | 1 |
| spiny lebbeid | *Lebbeus groenlandicus* | 0.001 | 1 |
| crisscrossed Yoldia | *Yoldia seminuda* | 0.001 | 1 |
| northern Yoldia | *Yoldia hyperborea* | 0.001 | 4 |
| northern nutclam | *Nuculana pernula* | 0.001 | 1 |
|  | *Tellina bodegensis* | 0.001 | 1 |
| squid egg unid. | *Decapodiform egg* | 0.001 | 1 |
| crinoid unid. |  | 0.001 | 1 |

| **Table 3. 2022 Voucher or specimen collection within Alaska state waters** | | | |
| --- | --- | --- | --- |
| **Common name** | **Scientific name** | **Number of individuals** | **Collection Type** |
|  | *Calcigorgia* spiculifera | 1 | Voucher |
| sea star unid. | Asteroidea | 1 | Voucher |
| arrowtooth flounder | *Atheresthes stomias* | 188 | Age Sample |
| flathead sole | *Hippoglossoides elassodon* | 129 | Age Sample |
| Dover sole | *Microstomus pacificus* | 33 | Age Sample |
| rex sole | *Glyptocephalus zachirus* | 96 | Age Sample |
| northern rock sole | *Lepidopsetta polyxystra* | 183 | Age Sample |
| southern rock sole | *Lepidopsetta bilineata* | 165 | Age Sample |
| sablefish | *Anoplopoma fimbria* | 47 | Age Sample |
| Pacific cod | *Gadus macrocephalus* | 315 | Age Sample |
| walleye pollock | *Gadus chalcogrammus* | 421 | Age Sample |
| Atka mackerel | *Pleurogrammus monopterygius* | 46 | Age Sample |
| rougheye rockfish | *Sebastes aleutianus* | 48 | Age Sample |
| blackspotted rockfish | *Sebastes melanostictus* | 11 | Age Sample |
| Pacific ocean perch | *Sebastes alutus* | 51 | Age Sample |
| silvergray rockfish | *Sebastes brevispinis* | 4 | Age Sample |
| dusky rockfish | *Sebastes variabilis* | 11 | Age Sample |
| northern rockfish | *Sebastes polyspinis* | 15 | Age Sample |
| shortraker rockfish | *Sebastes borealis* | 3 | Age Sample |

| **Table 4. 2022 Voucher or specimen collection for both state and offshore waters** | | | |
| --- | --- | --- | --- |
| **Common name** | **Scientific name** | **Number of individuals** | **Collection Type** |
| brown cat shark | *Apristurus brunneus* | 1 | Voucher |
| bigeye poacher | *Bathyagonus pentacanthus* | 1 | Voucher |
| snailfish unid. | Liparidae | 1 | Voucher |
|  | *Paraliparis* sp. | 2 | Voucher |
| longfin dragonfish | *Tactostoma macropus* | 1 | Voucher |
| smelt unid. | Osmeridae | 1 | Voucher |
| prickleback unid. | Stichaeidae | 1 | Voucher |
|  | *Bryozoichthys* sp. | 1 | Voucher |
|  | *Lycodes* sp. | 1 | Voucher |
| broadfin thornyhead | *Sebastolobus macrochir* | 1 | Voucher |
| rockfish unid. | *Sebastes* sp. | 3 | Voucher |
|  | *Calcigorgia* spiculifera | 1 | Voucher |
| sea anemone unid. | Actiniaria | 1 | Voucher |
| chiton unid. | Polyplacophora | 1 | Voucher |
| nudibranch unid. | Nudibranchia | 3 | Voucher |
|  | *Beringius* sp. | 1 | Voucher |
| bivalve unid. | Bivalvia | 1 | Voucher |
|  | *Octopoteuthis deletron* | 1 | Voucher |
|  | *Stigmatoteuthis dofleini* | 1 | Voucher |
| sea star unid. | Asteroidea | 3 | Voucher |
| sunflower sea star | *Pycnopodia helianthoides* | 1 | Voucher |
|  | *Henricia* sp. | 1 | Voucher |
| sand sea star | *Luidia foliolata* | 1 | Voucher |
|  | *Cheiraster* sp. | 1 | Voucher |
| sea cucumber unid. | Holothuroidea | 2 | Voucher |
| arrowtooth flounder | *Atheresthes stomias* | 925 | Age Sample |
| flathead sole | *Hippoglossoides elassodon* | 455 | Age Sample |
| Dover sole | *Microstomus pacificus* | 304 | Age Sample |
| rex sole | *Glyptocephalus zachirus* | 667 | Age Sample |
| northern rock sole | *Lepidopsetta polyxystra* | 433 | Age Sample |
| southern rock sole | *Lepidopsetta bilineata* | 498 | Age Sample |
| sablefish | *Anoplopoma fimbria* | 225 | Age Sample |
| Pacific cod | *Gadus macrocephalus* | 1,137 | Age Sample |
| walleye pollock | *Gadus chalcogrammus* | 1,633 | Age Sample |
| Atka mackerel | *Pleurogrammus monopterygius* | 205 | Age Sample |
| rougheye rockfish | *Sebastes aleutianus* | 307 | Age Sample |
| blackspotted rockfish | *Sebastes melanostictus* | 225 | Age Sample |
| Pacific ocean perch | *Sebastes alutus* | 960 | Age Sample |
| silvergray rockfish | *Sebastes brevispinis* | 289 | Age Sample |
| dusky rockfish | *Sebastes variabilis* | 327 | Age Sample |
| northern rockfish | *Sebastes polyspinis* | 274 | Age Sample |
| harlequin rockfish | *Sebastes variegatus* | 127 | Age Sample |
| shortraker rockfish | *Sebastes borealis* | 240 | Age Sample |

1. <https://akfin.psmfc.org/> [↑](#footnote-ref-1)
2. <https://www.fisheries.noaa.gov/foss/f?p=215:28> [↑](#footnote-ref-2)