Northwest and Alaska Fisheries Center Processed Report*

SPECIES COMPOSITION AND RELATIVE ABUNDANCE OF DEMERSAL MARINE LIFE IN WATERS OF SOUTHEASTERN ALASKA, 1969-77

by

H. R. Carlson, R. E. Haight, and K. J. Krieger

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NOTICE

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ABSTRACT

Marine fishes and invertebrates were sampled by bottom trawl and other gear in coastal fiords of southeastern Alaska during all seasons, over a broad geographic expanse. Predominant groups in the catches were flatfishes, rockfishes, gadids (pollock and cod), and various other demersal fishes and invertebrates. This report summarizes our findings by geographic locale, month, year, relative abundance of major groups of organisms, and species composition within major groups. Locales which appeared distinctive, e.g., where certain life stages of commercially important groups or species were particularly abundant, are identified.

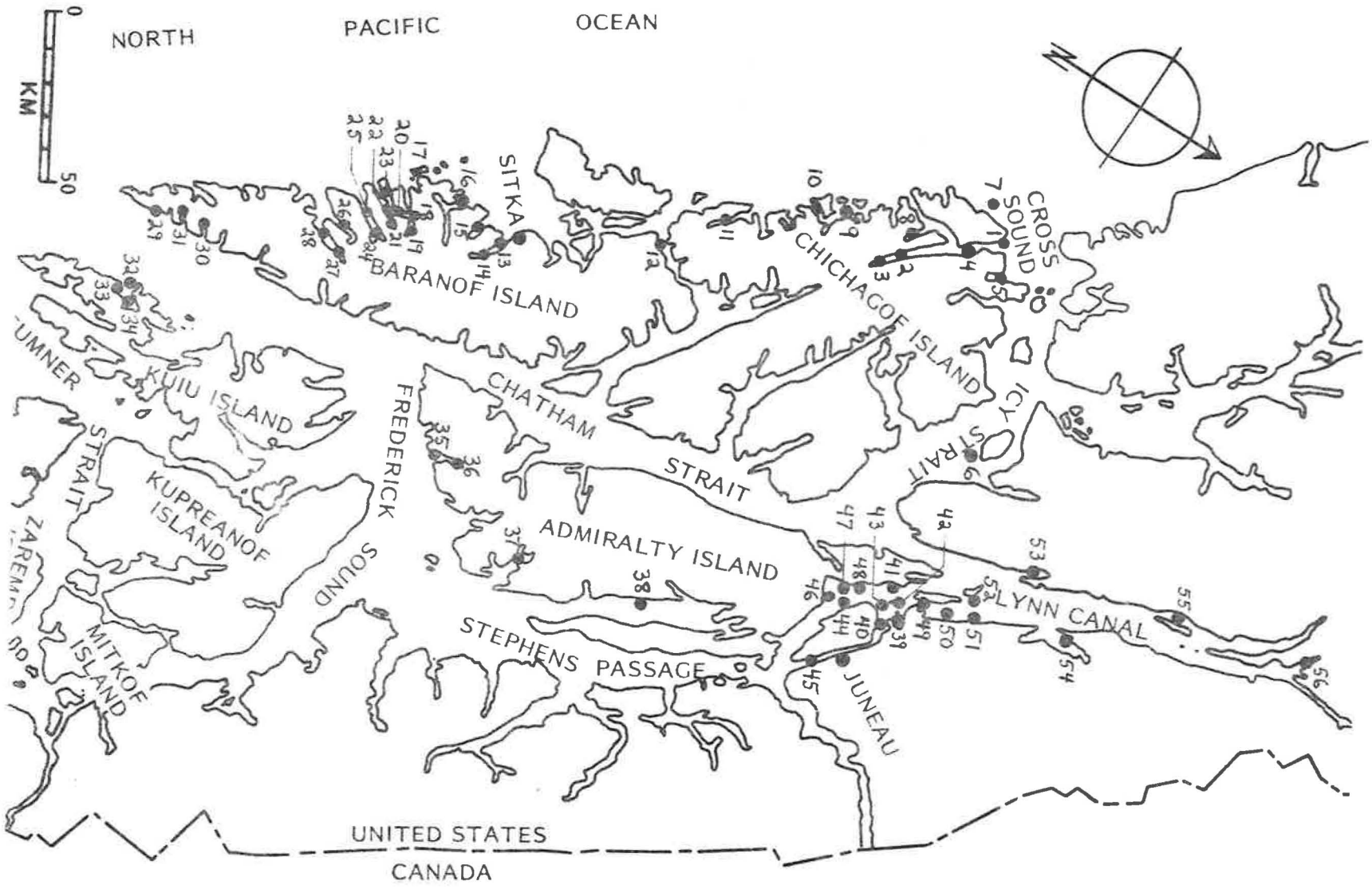
INTRODUCTION

Marine life on and near bottom in coastal fiords of southeastern Alaska is varied and abundant. Scientific surveys to document the composition, abundance, and distribution of demersal organisms in this region have generally been of a one-time nature, and therefore show little seasonal or year-to-year change.

In the course of studies to document the early life history of Pacific ocean perch, Sebastes alutus (Carlson and Haight 1976), and the seasonal movements and distribution of adult Pacific herring, Clupea harengus pallasi, in northern southeastern Alaska, we sampled a wide variety of demersal marine life over much of this region (Figure 1), recorded the makeup of our catches, and estimated the abundance of major groups. We believe this information will be an aid in planning future research and in making managment decisions concerning the fisheries in the many locales we sampled.

Our trawl surveys began in July 1969, centering on western Chichagof Island; trawl sampling continued in this region until April 1972 when field operations in our juvenile ocean perch studies terminated. In August 1970 we added surveys in the southern Baranof Island vicinity; trawl sampling continued there throughout the length of the perch study. In May 1971 we also conducted a trawl survey of western Baranof Island. In April of 1973 we began studies of the schooling ecology and distribution of Pacific herring, concentrating on the Stephens Passage-Lynn Canal area, where trawl surveys continued through March 1977. In July 1976 we also conducted a trawl survey of eastern Admiralty Island. Our findings cover these four general regions: Chichagof, Baranof, and Admiralty Islands, and Lynn Canal-Stephens Passage from 1969 to 1977.

Figure 1.--Locations where demersal marine life was sampled by bottom trawling in northern southeastern Alaska from 1969 to 1977. Each number refers to a summary table for catches at a given site, marked with a small solid circle.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KUIU ISLAND
KUPREANOF ISLAND
ADMIRALTY ISLAND
STEPHENS PASSAGE
LYNN CANAL
JUNEAU
MITKOF ISLAND
UNITED STATES
CANADA

MATERIALS AND METHODS

All of our work was done from the National Oceanic and Atmospheric Administration research vessel Murre II, a power barge 25.9 m long. The sampling gear was a 12.2-m standard nylon flat shrimp trawl with 2.54-cm^2-mesh throughout and 1- by 1.7-m weighted wooden doors. We trawled on bottom at speeds of 5 knots or less for 5 to 60 min; the length of time normally depended on roughness of the substrate and was usually 20 to 30 min. We were able to sample only inshore protected waters over fairly unbroken substrate. At times, however, we trawled up the sides of moderate to steep slopes.

After the catch was dumped on deck, we visually estimated the total weight and the proportion of major categories--flatfishes, pollock and cod, rockfishes or herring, "other" fishes, and invertebrates--to the nearest 5%. If a substantial part of the catch consisted of a single species from one of the major categories (e.g., tanner crab or starry flounder), it was recorded as a separate major category.

The common and scientific names of fishes used concur with those found in Quast and Hall (1972).

References used to identify various fishes included Hart (1973), Clemens and Wilby (1961), Wilimovsky (1958), Phillips (1963), and Hitz (1962). For invertebrates we used Barr (1970), Clark (1911), D'yakonov (1954), Light et al. (1961), Makarov (1962), McLaughlin (1974), Kyte (1969), Oldroyd (1927), Garth (1958), Morris (1966), and Rickets and Calvin (1962).

Our findings are shown from two points of view: (1) by geographic locale, and (2) by species composition within major groups of demersal marine organisms. The geographic locales form four main regions of northern southeastern Alaska: Chichagof, Baranof, and Admiralty Islands, and Lynn Canal-Stephens Passage. The tables show the species composition in each locale for five major groups of demersal sea life: flatfishes, gadids (pollock and cod), rockfishes or herring (depending on which of the two was the target fish), other fishes, and invertebrates. Estimates of relative abundance of groups by standardized 10-min haul are shown, and the total catch for a given locale and month is given in kilograms.

PART I. GEOGRAPHIC LOCALES

NORTHWEST CHICHAGOF ISLAND REGION

North Lisianski Inlet

A summary of our findings at North Lisianski Inlet from July 1969, September 1969, April 1971, September 1971, and April 1972 is shown in Table 1.

In July 1969 flatfishes made up the largest single part of the catch, with lesser amounts of invertebrates, rockfishes, gadids, and other fishes (Table 1). Of the flatfishes, arrowtooth flounder (Atheresthes stomias) and rex sole (Glyptocephalus zachirus) predominated by bulk. Also present were flathead sole (Hippoglossoides elassodon) and small numbers of rock sole (Lepidopsetta bilineata) and Dover sole (Microstomous pacificus). Pacific cod (Gadus macrocephalus), walleye pollock (Theragra chalcogramma), and rockfishes of the family Scorpaenidae made up a small portion of the catch, with juvenile Pacific ocean perch (Sebastes alutus) predominant. Also present were shortspine thornyhead or "idiotfish" (Sebastolobus alascanus) and small numbers of juvenile rockfishes including rougheye rockfish (Sebastes aleutianus), quillback rockfish (S. maliger), and greenstripe rockfish (S. elongatus). Other fishes taken at the north Lisianski locale in July 1969 included several species of sculpins which made up a substantial part of the catch: the bigmouth sculpin (Ulca bolini), yellow Irish lord (Hemilepidotus jordani), ribbed sculpin (Triglops beani), spinyhead sculpin (Dasycottus setiger), and the sailfin sculpin (Nautichthys oculofasciatus). Also common were ratfish (Hydrolagus collei), and present in small numbers and bulk were the longnose skate (Raja rhina), searcher (Bathymaster signatus), and kelp greenling (Hexagrammos deccagrammus). Invertebrates made up a sizeable part of the catch, with shrimp and starfish most common, and nudibranchs, clams, crabs, and sponges present in small numbers and little bulk.

In September 1969 a small catch at north Lisianski Inlet was about half flatfishes, mainly rex sole and English sole (Parophrys vetulus), with arrowtooth flounder present as well (Table 1). No other fishes were taken. Invertebrates were mostly shrimp and clams, with brittle stars and skate egg cases present also.

In April 1971 flatfishes and rockfishes made up most of the catches in nearly equal amounts (Table 1). Predominant among the flatfishes were flathead sole; rex sole and arrowtooth flounder were also present. Of the rockfishes, juvenile Pacific ocean perch predominated in numbers and bulk, and small numbers of yellowtail rockfish (Sebastes flavidus), quillback rockfish, and redstripe rockfish (S. proriger) were present.

In September 1971, catches at north Lisianski Inlet (Table 1) were comprised mostly of invertebrates; large red sea urchins (Strongylocentrotus franciscanus) and large sea stars of the genera Pycnopodia and Solaster were the main bulk. Other invertebrates included four species of shrimp-- pink (Pandalus borealis), sidestripe (Pandalopsis dispar), spot (Pandalus platyceros), and dock shrimp (Crangon sp.); hermit crab (Pagurus dalli), lyre crab (Hyas lyratus); stubby squid (Rossia pacifica); northern octopus (Octopus dofleini); chitons; and brittle stars. Fish made up somewhat less than half the bulk of the catches, with rockfish, flatfish, and gadids present in small amounts. The rockfish were all juvenile Pacific ocean perch except for a single adult idiotfish. Flatfishes were represented by a few large arrowtooth flounder and some rex sole. A single adult pollock accounted for the

gadids. A variety of other fishes were taken in small numbers, mainly ratfish and sculpins, including the blackfin sculpin (Malacocottus kincaidi) and spinyhead sculpin. Single specimens of an adult searcher and kelp greenling were also taken.

In April 1972 fair-sized catches (Table 1) consisted of about three-fourths invertebrates, and the remainder a variety of fishes. Predominant by bulk were red sea urchins, brittle stars, mainly Ophiura sarsi, many-armed sun stars (Pycnopodia helianthoides), rose stars (Crossaster papposus), basket stars (Gorgonocephalus caryi), and white siliceous sponges. Present in smaller amounts were sea anemones; Hinds' scallops (Chlamys rubidus); stubby squid; three species of shrimp--pink, sidestripe, and dock shrimp; juvenile tanner crab (Chionocetes bairdi); a single king crab (Paralithodes camtschatica); the hermit crabs Pagurus dalli, P. capillatus, and others; and lyre crab.

Of the fishes which made up the remainder of the catches, flatfishes and rockfishes predominated by bulk. A single Pacific halibut (Hippoglossus stenolepis) contributed as much bulk as the other flatfish species combined. Also present were flathead sole, rex sole, rock sole, arrowtooth flounder, Dover sole, and English sole. Of the rockfishes, juvenile Pacific ocean perch were most abundant; also present were quillback, redstripe, and yellowtail rockfish, and dusky rockfish (Sebastes ciliatus). Other fishes included a variety of sculpins including the great sculpin (Myoxocephalus polyacanthocephalus), bigmouth sculpin, red Irish lord, ribbed sculpin, spinyhead sculpin, sailfin sculpin, and blackfin sculpin. A few juvenile pollock were also taken as well as searchers, Langbarn pricklebacks (Leptoclinus maculatus), kelp greenling, and a blackfin poacher (Bathyagonus nigripinis).

South Lisianski Inlet

A summary of our findings at south Lisianski Inlet from July 1969, September 1969, May 1970, September 1971, and April 1972 is shown in Table 2.

In July 1969 flatfish were the largest single group by bulk, but rockfishes and other fishes combined were roughly equal to the flatfishes, and invertebrates almost as abundant. Gadids formed a minor part of the catches (Table 2).

Flathead sole were the most abundant of the flatfishes, but arrowtooth flounder and English sole also made up substantial amounts of the catches. Also present were rex sole, yellowfin sole, Pacific halibut, and Dover sole. Most of the rockfish were juvenile Pacific ocean perch, although quillback rockfish made up a fair portion of the catches, and dusky rockfish and silvergray rockfish (Sebastes brevispinis) were taken also. Of the other fishes taken, sculpins formed the greatest bulk and

were represented by great sculpins, bigmouth sculpins, and red Irish lords. Also contributing to the bulk of catches were ratfish and kelp greenling; also present were sablefish (Anoplopoma fimbria), searchers, ronquils (Ronquilus jordani), pricklebacks, and a few adult Pacific cod and walleye pollock.

Of the invertebrates, adult tanner crab were singly most abundant. Sponges and sea stars also contributed to the bulk; and anemones, sea cucumbers (Parastichopus californiensis), sea pens (Leioptilus gurneyi), and stubby squid were taken also.

In September 1969 only one haul was made in south Lisianski Inlet, yielding the largest single catch taken at the south Lisianski locale (Table 2). Slightly over half of the catch consisted of invertebrates, and flatfishes made up most of the bulk of fishes. Of the invertebrates, sponges and anemones were most abundant, along with adult tanner crab. Also present were Dungeness crab (Cancer magister), box crab (Lopholithodes foraminatus), sea cucumbers, sea whips (Stylatula elongata), and an octopus.

Among the flatfishes, flathead sole and arrowtooth flounder were most abundant; also taken were halibut, English sole, rock sole, rex sole, yellowfin sole, and Dover sole. Pacific cod and walleye pollock made up a fair portion of the catch. Other fishes made up a comparatively small part of the catch and were represented by great sculpins and yellow Irish lords, kelp greenling, searchers, dusky and quillback rockfish, and poachers (Agonidae).

In May 1970 flatfishes predominated in the catches at south Lisianski Inlet, and their total bulk greatly exceeded all other fishes and invertebrates combined (Table 2). Rockfish were the only other group that contributed a substantial portion to the overall catch. Of the flatfishes, arrowtooth flounder and flathead sole were most common. Also present were English sole, starry flounder, and rock sole. Among the rockfishes, juvenile Pacific ocean perch along with quillback rockfish contributed most of the bulk; also present were dusky rockfish, rougheye rockfish, yellowtail rockfish, and black rockfish (Sebastes melanops). Invertebrates made up a fair portion of the catches, and consisted of a wide variety of groups: northern octopus, stubby squid, Hinds' scallops, hairy tritons, nudibranchs, sponges, sea urchins, the sun stars Solaster sp., basket stars, sea cucumbers, sea whips, anemones, adult and juvenile tanner crab, one Dungeness crab, lyre crab, the hermit crab Pagurus ochotensis, dock shrimp, and box crab.

Other fishes amounted to a relatively small portion of the catches. Pacific cod and walleye pollock roughly equaled the bulk of all other miscellaneous fishes, which included Pacific tomcod (Microgadus proximus), searchers, kelp greenling, Irish lords, sablefish, staghorn sculpins (Leptocottus armatus), eulachon (Thaleichthys pacificus), shortfin eelpout (Lycodes brevipes), and blackbelly eelpout (Lycodopsis pacifica), one prowfish (Zaprora silenus), great sculpins, ribbed sculpins, spinyhead sculpins, blackfin sculpins, and poachers and pricklebacks.

In September 1971 the catches at south Lisianski Inlet were nearly all flatfishes, as other fishes and invertebrates combined did not amount to a third of their bulk (Table 2). Of the flatfishes, flathead sole and arrowtooth flounder were the most abundant; also taken were relatively small amounts of Pacific halibut, rex sole, yellowfin sole, English sole, Dover sole, rock sole, and one slender sole (Lyopsetta exilis). Cod and pollock were the next largest group in the catches and were adults of roughly equal bulk. Rockfishes contributed a fair amount to catches and were comprised mostly of quillback rockfish by bulk, with juvenile Pacific ocean perch and rougheye rockfish also present. Of the other fishes, only sablefish and a single large ling cod represented a significant part of the overall catches. Other species taken in small amounts were eulachon, ratfish, Irish lords, blackfin and spinyhead sculpins, and a single blackfin poacher. The invertebrates, which amounted to very little by bulk, were represented by sponges; tanner crab juveniles and adults; pink, spot, sidestripe, and dock shrimp; the hermit crab Pagurus aleuticus; one box crab; stubby squid; clams; mussels; hairy tritons; Hinds' scallops; basket stars; the sun stars Solaster sp. and Pycnopodia; sea whips; sea urchins; sea cucumbers; and sea anemones.

In April 1972 we made relatively small catches at the south Lisianski Inlet study site (Table 2). Invertebrates made up roughly half of the bulk; rockfishes amounted to about a fourth of the catches, and gadids, flatfishes, and other fishes constituted the remainder.

Of the invertebrates, sponges made up most of the bulk and anemones constituted a substantial portion as well. Also present were many juvenile tanner crab and pink shrimp, sidestripe shrimp, and dock shrimp, hermit crab, box crab, lyre crab, Hinds' scallops, stubby squid, clams, purple sea urchins (Strongylocentrotus purpurescens), brittle stars, many-armed sun stars, basket stars, sea pens, and sea cucumbers.

The rockfish were comprised of several species, adult yellowtails and quillbacks contributing the most bulk. Also present were juvenile Pacific ocean perch and adult dusky rockfish, and juvenile and adult pollock. Of the flatfishes, flathead sole were most abundant; also taken were rex sole, arrowtooth flounder, slender sole, and yellowfin sole. Other fishes were taken in very small amounts; they included kelp greenling, eulachon, searchers, spinyhead sculpins, a poacher, the spinycheek starsnout Asterotheca infraspinata, the Langbarn prickleback, and longsnout eelpout (Lumpenella longirostris).

Lisianski Inlet (head end)

In July 1969 we made a single bottom trawl haul at the head end of Lisianski Inlet and came up with a relatively large catch, half of which was flatfish; invertebrates made up most of the remaining bulk, with small amounts of rockfish, gadids, and other fishes also present (Table 3). Predominant among the flatfishes were English sole, flathead sole, and arrowtooth flounder; also taken were yellowfin sole, rex sole, one

Pacific halibut, and a few starry flounder and Dover sole. The invertebrates were mostly siliceous sponges and a few adult female king crab. The only rockfish were a few adult quillback rockfish, and gadids were limited to a few juvenile walleye pollock. Other fishes included kelp greenling, poachers, eelpouts, and the Langbarn prickleback.

We made a single trawl haul at the head end of Lisianski Inlet in September 1969 and came up with a relatively large catch of flatfishes and invertebrates, with small amounts of gadids, rockfish, and other fishes (Table 3). Of the flatfishes, flathead sole, arrowtooth flounder, and English sole made up most of the bulk; also taken were yellowfin sole, starry flounder, rex sole, and Dover sole. A variety of invertebrates were present, including adult king, tanner, and Dungeness crabs; clams; sponges; and anemones. The gadids were all adult and young pollock except for one adult Pacific hake; the only rockfish were a few adult quillbacks. Other fishes included sablefish, kelp greenling, the eelpout Lycodes sp., and Langbarn prickleback.

In May 1970 we made a single trawl haul at the head of Lisianski Inlet, Chichagof Island, and came up with a catch of nearly all flatfishes, and small amounts of gadids, other fishes, and invertebrates (Table 3). A variety of flatfishes were taken, including flathead sole, starry flounder, arrowtooth flounder, yellowfin sole, and one Pacific halibut. The gadids were mostly adult walleye pollock and one Pacific cod; other fishes were limited to a few poachers and eulachon; sea anemones were the only invertebrates.

Lisianski Inlet (Nose Head)

In July 1969 we made three bottom trawl hauls off Nose Head, near the center of Lisianski Inlet, and came up with catches in which flatfish were the predominant single group; rockfishes, other fishes, and invertebrates were taken in lesser, roughly equal amounts, and only small amounts of gadids were present (Table 4). Among the flatfishes, arrowtooth flounder made up the main bulk; also taken were flathead sole, rex sole, and slender sole. The rockfishes were predominately adult shortspine thornyheads, or "idiotfish;" also taken were a few juvenile and adult Pacific ocean perch and rougheye rockfish. Other fishes included a few adult sablefish, ratfish, longnose skates, a spiny dogfish shark (Squalus acanthias), eulachon, wattled eelpouts, blackfin poachers, and unidentified sculpins (Cottidae). Gadids consisted of a few adult walleye pollock and Pacific cod. The invertebrates included pink shrimp, juvenile tanner crab, hermit crab, a large deepwater true coral, clams, and snails.

Port Althorp

A summary of our findings at Port Althorp is given in Table 5. We made trawl hauls there in July 1969, May 1970, September 1971, and April 1972.

In July 1969 two trawl hauls were comprised mainly of flatfishes, with lesser amounts of invertebrates and other fishes, and trace amounts of rockfishes and pollock and cod (Table 5). Of the flatfishes, flathead sole and arrowtooth flounder made up most of the bulk. Also present were rex sole, Dover sole, and English sole. Invertebrates consisted mainly of pink shrimp; also present were tanner crab, sea anemones, and many-armed sun stars. A variety of other fishes were taken, including giant wrymouth (Delolepis gigantea), longnose skates, Irish lords, spinyhead sculpins, blackfin poachers, eulachon, shortfin eelpout, young sablefish, juvenile rougheye rockfish, cod, pollock, and searchers.

In May 1970 a single trawl haul at Port Althorp contained a variety of fishes, flatfishes, and invertebrates, with small amounts of rockfishes and walleye pollock (Table 5). Longnose skates made up much of the bulk of fishes taken. Other fishes present were ratfish, eulachon, shortfin eelpouts, great sculpins, and young sablefish. The flatfish were mostly arrowtooth flounder by bulk; flathead sole and rex sole were also present. A few pollock and juvenile rougheye rockfish were also present. Invertebrates consisted mostly of pink and sidestripe shrimp, juvenile tanner crab, the hermit crabs Labidochirus splendescens and Pagurus ochotensis, dock shrimp, sea stars, sea urchins, and octopus.

In September 1971 a single trawl haul was made up mostly of flatfishes, with invertebrates and rockfishes in lesser amounts, and other fishes present in trace amounts (Table 5). Most of the flatfish were flathead sole and arrowtooth flounder by bulk; English sole and rex sole were present also. The bulk of the invertebrates were shrimp, with pink shrimp most common. Also present were spot, sidestripe, and dock shrimp. Other invertebrates included sea urchins, many-armed sun stars, anemones, clams, hairy tritons, and the hermit crab Pagurus aleuticus. Rockfish were mostly juvenile rougheye rockfish; also present were juvenile Pacific ocean perch and adult quillback rockfish, and harlequin rockfish (Sebastes variegatus). Other fishes included ratfish, blackfin poachers, blackfin sculpins, spinyhead sculpins, Pacific cod, and walleye pollock.

In April 1972 a single trawl haul at Port Althorp consisted of roughly half shrimp and other invertebrates and half fishes, with flatfish and walleye pollock present in equal amounts, a few rockfish, and only trace amounts of other fishes (Table 5). The shrimp were mostly

sidestripe and pink shrimp, but spot, coonstripe, and dock shrimp were also taken. Other invertebrates included juvenile tanner crab, sea urchins, many-armed sun stars, and others, sea anemones, and the kelp Agarum. The flatfishes were comprised mainly of flathead sole and arrowtooth flounder, with lesser amounts of rex sole, and a single Pacific halibut. The pollock included large adults and few young; a single juvenile Pacific cod was present. Rockfishes were limited to a few juvenile rougheye rockfish and Pacific ocean perch. Other fishes included eulachon, longsnout prickleback, spinyhead sculpins, blackfin sculpins, and the blackfin poacher.

NORTH CHICHAGOF ISLAND REGION

Icy Strait

We made a single trawl haul off the southeast end of Pleasant Island in Icy Strait during September 1969, and the catch consisted of roughly equal amounts of flatfishes, other fishes, and invertebrates (Table 6). Of the flatfishes, flathead sole and arrowtooth flounder made up the bulk; rex sole were taken incidentally. A variety of other fishes were present, which included the longnose and starry skates (Raja rhina and Raja stellulata), spinyhead sculpins, Irish lords, young sablefish, juvenile dusky and rougheye rockfish, searchers, ronquils, snailfish (Liparidae), and eelpouts (Lycodes sp.). The invertebrates were mostly tanner crab and whelks (Neptunea) with pink shrimp, clams, and the hermit crab Pagurus ochotensis also present.

WEST CHICHAGOF ISLAND REGION

Off Yakobi Rock

A summary of our findings from a single bottom trawl of short duration 1/2 mi off Yakobi Rock, near northwest Chichagof Island in July 1969 is given in Table 7. In addition to a torn net and a few large boulders, this haul produced a large wolf-eel (Anarrichthys ocellatus) in excess of 2 m long that constituted over half the bulk of the catch, a large ling cod (Ophiodon elongatus), adult kelp greenling, arrowtooth flounder, Dover sole, adult quillback rockfish, and a few juvenile Pacific ocean perch, and ronquils. Invertebrates were a small part of the catch and included octopus, sea stars, and traces of coralline bryozoa and hippolytid shrimp.

Stag Bay

We trawled in Stag Bay off Lisianski Strait on Northwest Chichagof Island in July and September 1969. The results are shown in Table 8.

In July 1969 a single trawl haul in Stag Bay contained mostly shrimp and lesser amounts of varied fishes. The shrimp were mostly pink and some spot shrimp. A few tanner crab were the only other invertebrates. Flatfishes predominated by bulk among the fishes and consisted of flathead sole and yellowfin sole. A few Pacific cod and juvenile walleye pollock were present, as were great sculpins, spinyhead sculpins, juvenile Pacific ocean perch, and small amounts of blackfin poachers, capelin, longsnout pricklebacks, and the Langbarn prickleback.

In September 1969 a single trawl haul in Stag Bay again consisted mostly of shrimp and other invertebrates, with flatfishes, pollock, and other fishes in lesser amounts. Among the invertebrates, pink shrimp formed the bulk of the catch. Also present were spot shrimp, juvenile tanner crab, and sea cucumbers. Flatfishes consisted of yellowfin sole, flathead sole, and rex sole; also present were walleye pollock, spinyhead sculpins, eulachon, and poachers.

Portlock Harbor

We trawled in Portlock Harbor on the northwest coast of Chichagof Island in September 1969. Three trawl hauls produced generally sparse catches comprised of half invertebrates and half fishes, with the fishes split rather evenly between flatfishes and gadids and only trace amounts of others (Table 9). Among the invertebrates, bivalves and sea cucumbers predominated by bulk. Also present were brittle stars, sea stars, shrimp, and tanner crab. Gadids were adult walleye pollock and Pacific cod; the flatfishes were mostly yellowfin sole, with flathead sole and rex sole also present. Other fishes were limited to adult yellowtail rockfish, juvenile rougheye rockfish, and a few Langbarn pricklebacks.

Ogden Passage

In September 1969 we made a single bottom trawl haul in Ogden Passage on the west coast of Chichagof Island. The catch was about equally divided between invertebrates and flatfishes, with small amounts of gadids, rockfish, and other fishes (Table 10). The invertebrates consisted of tanner crab, shrimp, octopus, bivalves, sea stars, sea cucumbers, and anemones. Of the flatfishes, yellowfin sole predominated by bulk; also present were large starry flounders and a halibut. Among the gadids, tomcod were most abundant; Pacific cod and walleye pollock were taken as well. The rockfishes amounted to only a few adult quillback and dusky rockfish and juvenile Pacific ocean perch. Other fishes included a giant wrymouth, kelp greenling, spinyhead sculpins, eelpouts (*Lycodes sp.*), and Langbarn pricklebacks.

Khaz Bay

We trawled in Slocum Arm, Khaz Bay on the southwest coast of Chichagof Island in September 1969. A single trawl haul there resulted in a relatively large catch comprised mostly of adult tanner crab and a few other invertebrates, flatfishes, and other fishes (Table 11). Most of the tanner crab were large males, which alone made up the greatest bulk of the catch. Other invertebrates taken were a few adult king crab, shrimp, Hinds' scallops, octopus, the hairy triton, and the anemone Metridium senile. The flatfishes were entirely yellowfin sole and arrowtooth flounder. Other fishes made up a small part of the catch and included juvenile Pacific ocean perch, adult quillback rockfish, Pacific cod, walleye pollock, juvenile sablefish, spinyhead sculpins, searchers, and sturgeon poachers.

NORTHWEST BARANOF ISLAND REGION

We made two trawl hauls in Fish Bay on the northwest end of Baranof Island in April 1971 and came up with relatively small catches, the bulk of which were flatfishes, with invertebrates and rockfish present in lesser amounts, and only a trace of other fishes (Table 12). Among the flatfishes, English sole and flathead sole made up the bulk of the catches; also taken were Dover sole, rex sole, rock sole, arrowtooth flounder, and yellowfin sole. A few adult quillback rockfish were present, and other fishes included juvenile Pacific cod, juvenile walleye pollock, and Irish lords. A variety of invertebrates were present including sea stars, sea urchins, anemones, salps, juvenile tanner crab, pink shrimp, a box crab, stubby squid, and clams.

WEST BARANOF ISLAND REGION

We made a series of bottom trawls along the southwest coast of Baranof Island in May 1971, covering nearly every bay between Silver Bay near Sitka and Whale Bay to the south.

Silver Bay

We made a single trawl haul at the entrance to Silver Bay in May 1971 and came up with a catch that was comprised mostly of rockfishes with small amounts of flatfishes and invertebrates (Table 13). A very large individual yelloweye rockfish (Sebastes ruberrimus) accounted for much of the bulk of the catch; other rockfishes taken were juvenile Pacific ocean perch and adult yellowtail and quillback rockfish. A variety of flatfishes were present including English sole, Dover sole, flathead sole, rex sole, arrowtooth flounder, and rock sole. No other fishes were taken, and invertebrates were limited to small numbers of juvenile and adult tanner crab, a single adult female king crab, and sea anemones.

We made two trawl hauls in the center of Silver Bay in May 1971 and came up with catches that were almost completely flatfishes with very small amounts of gadids, rockfishes, and invertebrates (Table 14). The flatfishes were English sole, flathead sole, arrowtooth flounder, rex sole, and rock sole. The rockfishes were mostly juvenile Pacific ocean perch; also present were juvenile rougheye rockfish and adult quillback rockfish. Other fish present in trace amounts were juvenile walleye pollock and eulachon. Invertebrates were limited to juvenile tanner crab, pink and sidestripe shrimp, and clams.

Deep Bay

We made a single trawl haul in Deep Bay located south of Sitka on Baranof Island in May 1971, which resulted in a relatively small catch of mostly flatfishes along with small amounts of other fishes and invertebrates (Table 15). Large starry flounders made up the bulk of the flatfish; also present were flathead sole and yellowfin sole. Single adult specimens of several rockfish species were taken; the rougheye rockfish, Pacific ocean perch, yellowtail rockfish, and quillback rockfish. Small amounts of juvenile Pacific cod and juvenile walleye pollock were the only other fishes present. The invertebrates were limited to juvenile tanner crab and sea anemones.

Redoubt Bay

We made a single trawl haul in Redoubt Bay, located south of Sitka on Baranof Island, in May 1971 and came up with a catch that was predominantly juvenile gadids, clams, and flatfishes (Table 16). The gadids were juvenile Pacific cod and juvenile walleye pollock. Redoubt Bay appears to be a nursery area for both species. The clams were softshell clams (Mya arenaria) and were the only invertebrate taken. Flatfish consisted of two adult starry flounder and one English sole. The only other fish present were a few juvenile sablefish.

Windy Passage

In a single trawl haul in the upper arm of Windy Passage, western Baranof Island, in May 1971, we came up with flatfishes and gadids in roughly equal amounts which made up over half the bulk of the catch. Rockfishes, other fishes, and invertebrates were taken in lesser amounts (Table 17). A variety of flatfishes were present including flathead sole, English sole, rex sole, arrowtooth flounder, yellowfin sole, and slender sole. The gadids were mostly juvenile Pacific cod and a fair number of walleye pollock. The rockfishes were juvenile Pacific ocean perch, juvenile rougheye rockfish, and adult quillback rockfish. Other

fishes were limited to a few adult ratfish. Invertebrates included juvenile tanner crab, clams, and anemones.

West Crawfish Inlet

In a single trawl haul in the center of West Crawfish Inlet (above Cedar Pass) in May 1971, we came up with flatfishes, gadids, and invertebrates in near-equal amounts, lesser amounts of rockfishes, and only incidental other fishes (Table 18). Flatfishes were made up of English sole, flathead sole, arrowtooth flounder, rex sole, and slender sole. Gadids were all large adult walleye pollock, and invertebrates were almost entirely sea cucumbers and a few hermit crabs. Rockfish were mostly adult Pacific ocean perch with a few rougheye rockfish. Other fishes in the haul included ratfish, blackfin and spinyhead sculpins, blackfin poachers, and shortfin eelpouts.

We made two trawl hauls in Shamrock Bay in West Crawfish Inlet, which lies just above (northwest of) Crawfish Inlet on Baranof Island, in May 1971. The hauls were made up mostly of flatfishes and lesser amounts of invertebrates with only trace amounts of other fishes (Table 19). Large adult English sole made up most of the bulk of the flatfish; also taken were flathead sole, rex sole, arrowtooth flounder, and one Dover sole. Other fishes were limited to incidental poachers (Agonidae), pricklebacks (Stichaeidae), one quillback rockfish, and one juvenile walleye pollock. The invertebrates included adult Dungeness crab, juvenile tanner crab, sea stars, and anemones.

Crawfish Inlet

We made two trawl hauls in Cedar Cove, Crawfish Inlet, in May 1971 which contained roughly equal amounts of flatfish, gadids, and other fishes and trace amounts of rockfish and invertebrates (Table 20). A wide variety of flatfishes were present including flathead sole, English sole, Dover sole, starry flounder, rex sole, arrowtooth flounder, yellowfin sole, and slender sole. Gadids were mostly walleye pollock and a few Pacific cod. Rockfish were mostly juvenile Pacific ocean perch and a few silvergray rockfish. Other fishes included a large giant wrymouth, Pacific herring (Clupea harengus pallasi), shortfin eelpouts, and the Langbarn prickleback. Invertebrates included juvenile tanner crab, dock shrimp, hermit crab, clams, stubby squid, sea cucumbers, salps, and nereid worms.

We made a single trawl haul at the head of Crawfish Inlet in May 1971 that contained a large catch comprised mainly of flatfishes, with lesser amounts of gadids and only trace amounts of other fishes and invertebrates (Table 21). The bulk of the flatfish (and of the catch, actually) was large starry flounders close to the maximum recorded size for the species. Other flatfishes taken incidentally were flathead sole, yellowfin sole, and one English sole. The gadids included many juvenile walleye pollock and a substantial number of juvenile Pacific cod. Other fishes taken included juvenile sablefish, one juvenile Pacific ocean perch, a few staghorn sculpins, one adult Pacific herring, and one poacher (Agonidae). The invertebrates included juvenile tanner crab, sidestripe shrimp, and brittle stars. This locale appears to be a nursery area for young pollock and cod.

We made two trawl hauls in the central part of Crawfish Inlet in May 1971 and came up with substantial catches of flatfishes and gadids in near-equal amounts and small amounts of rockfish, other fishes, and invertebrates (Table 22). Among the flatfishes, flathead sole was the most numerous single species, but several others were taken, including English sole, arrowtooth flounder, yellowfin sole, rex sole, Dover sole, and slender sole. The gadids were made up of many juvenile walleye pollock and a fair number of juvenile Pacific cod. Rockfishes consisted of Pacific ocean perch, rougheye rockfish, one canary rockfish (Sebastes pinniger), and one greenstripe rockfish. Other fishes taken were adult Pacific herring, eulachon, spinyhead sculpins, one juvenile lingcod, shortfin eelpouts, wattled eelpouts, longsnout pricklebacks, and longnose skates. Invertebrates consisted of juvenile and adult tanner crab; pink, sidestripe, and coonstripe shrimp; hermit crab; and sea cucumbers.

We made two trawl hauls inside the entrance to Crawfish Inlet in May 1971. Flatfishes made up the bulk of the catches with lesser amounts of rockfishes, gadids, other fishes, and invertebrates present (Table 23). Flathead sole made up nearly all of the bulk of the flatfish; rex sole were also present. The rockfishes included juvenile Pacific ocean perch, and rougheye, yellowtail, and quillback rockfish. Walleye pollock were the only gadid, and other fishes included the eelpout Lycodes sp. and the Langbarn prickleback. Invertebrates included sidestripe shrimp, one tanner crab, sea cucumbers, and stubby squid.

Necker Bay

We made a single trawl haul at the head of Necker Bay, just north of Whale Bay, Baranof Island, in May 1971 which contained roughly equal amounts of flatfishes, gadids, and rockfish, with a lesser amount of invertebrates, and only trace amounts of other fishes (Table 24). The flatfishes were comprised of flathead sole, English sole, rex sole, and slender sole; the rockfish were all adult Pacific ocean perch; and gadids were all walleye pollock. Other fish were merely a single shortfin eelpout. Invertebrates included pink shrimp, juvenile tanner crab, sea stars, clams, stubby squid, and anemones.

We made a single trawl haul in the center of Necker Bay during May 1971 that contained a sizeable catch with roughly equal amounts of flatfish and gadids comprising most of the bulk, rockfish in lesser amounts, and small amounts of other fishes and invertebrates present (Table 25). The flatfishes consisted of flathead sole, English sole, rex sole, arrowtooth flounder, and slender sole. Gadids were mostly walleye pollock, but also included a few Pacific cod and a single adult hake (Merluccius productus). Rockfish were mostly rougheye rockfish with a few adult Pacific ocean perch and one yellowtail rockfish. Other fishes included one sablefish, blackfin poachers, longsnout pricklebacks, and the eelpout Lycodes sp. Invertebrates included pink and sidestripe shrimp, juvenile tanner crab, hermit crab, sea cucumbers, sea stars, clams, and anemones.

Whale Bay

In the Small Arm, Whale Bay, in May 1971, we made a single trawl haul with a relatively small catch of mostly flatfishes, some rockfish, and small amounts of other fishes and invertebrates (Table 26). Of the flatfishes, flathead sole were most abundant; also taken were English sole, rex sole, arrowtooth flounder, and Dover sole. The rockfish were all juvenile rougheye rockfish. Also taken were small amounts of walleye pollock, eualchon, the prickleback Lumpenella sp., blackfin eelpouts, poachers, and invertebrates, which were limited to tanner crab, lyre crab, spot shrimp, and coonstripe shrimp.

We made two trawl hauls near the head of the Great Arm, Whale Bay, in May 1971 that produced relatively small catches, in which gadids made up over half the bulk, flatfishes a substantial portion of the catch, and other fishes and invertebrates only incidental amounts (Table 27). The gadids were nearly all walleye pollock and a few Pacific cod. Flatfishes included flathead sole, English sole, rex sole, arrowtooth flounder, and yellowfin sole. The rockfish were all adult Pacific ocean perch and a few silvergrays. Other fishes included juvenile sablefish, Irish lords, staghorn sculpins, kelp greenling, searchers, the eelpout Lycodes sp., blackfin poachers, and other poachers (Agonidae). Invertebrates included pink, sidestripe, and spot shrimp; tanner crab; sponges; stubby squid; sea cucumbers; sea stars; and sea urchins.

We made a single trawl haul in the center of the Great Arm of Whale Bay in May 1971 and came up with a small but varied catch in which rockfish were the largest single group, and present in slightly lesser amounts were invertebrates, flatfishes, gadids, and a small number of other fishes (Table 28). The rockfish were mostly adult Pacific ocean perch and rougheye rockfish with one adult quillback. Gadids were adult walleye pollock and one Pacific cod, and flatfishes present were flathead sole, English sole, rex sole, and arrowtooth flounder. Invertebrates consisted mostly of pink shrimp with small amounts of spot

shrimp, juvenile tanner crab, stubby squid, and anemones. Other fishes present were a few ratfish, eulachon, longnose skates, and blackfin poachers.

SOUTH BARANOF ISLAND REGION

Port Conclusion

A summary of our findings at Port Conclusion in August 1970, March and September 1971, and April 1972 is shown in Table 29.

In August 1970, rockfishes, flatfishes, and invertebrates made up the bulk of catches in roughly equal amounts, and a small amount of other fishes constituted the remainder (Table 29).

Nearly all of the bulk of the rockfish were juvenile Pacific ocean perch; a few quillback rockfish and bocaccio (Sebastes paucispinis) were also taken. Of the flatfishes, adult arrowtooth flounder made up the most bulk of any single species; also taken were flathead sole, rex sole, English sole, rock sole, Dover sole, and one juvenile halibut. Among the invertebrates were sponges, sea stars, whelks (Neptunea sp.), juvenile tanner crab, shrimp, hermit crabs (Pagurus splendescens and P. hirsitiusculus), a few box crab, clams, and sea urchins. Other fishes were represented by greenling, ribbed sculpins, staghorn sculpins, Irish lords, ratfish, searchers, the marbled snailfish (Liparis dennyi), and sturgeon poachers. A trace amount of juvenile pollock was present.

In trawl hauls in Port Conclusion during March 1971, invertebrates were the most abundant single group, followed by sizeable catches of rockfishes and other fishes, and small amounts of flatfishes and gadids (Table 29). Of the invertebrates, box crab and spot shrimp made up most of the bulk; also present were tanner crab, golden king crab (Lithodes aequispina), hermit crab, stubby squid, sponges, sea stars, and sea urchins. The rockfishes were represented by Pacific ocean perch and yellowtail rockfish, juveniles and adults; a juvenile redbanded rockfish (Sebastes babcocki); and by adult quillback rockfish. Other fishes in the catches were great sculpins, ribbed sculpins, the sailfin sculpin, the sculpin Gymnocanthus sp., searchers, and the family Agonidae. Flatfishes, which did not amount to much of the catches, included flathead sole, arrowtooth flounder, rex sole, rock sole, halibut, and Dover sole. Cod and pollock appeared in the catches in only trace amounts.

In September 1971, relatively small catches at Port Conclusion were comprised mainly of rockfishes and invertebrates (Table 29). All other groups combined did not amount to much bulk. Of the rockfish, most were Pacific ocean perch; small amounts of adult quillbacks and silvergrays were taken, along with one canary rockfish (Sebastes pinniger). The bulk of the invertebrates consisted of adult king crab, spot shrimp, and

pink shrimp. Also taken were lyre crab, hermit crab (Elassochirus gilli), box crab, Hinds' scallops, mussels (Mytilus sp.), sponges, sea urchins, sea stars, brittle stars, snails, and limpets. Taken in small quantities were walleye pollock; a few flatfishes--flathead sole, arrowtooth flounder, and rock sole; searchers; and ribbed sculpins.

In April 1972 over half of the relatively small catches at Port Conclusion were invertebrates. Miscellaneous fishes, flatfishes, and rockfishes were taken in lesser quantities, and gadids were absent from the catches (Table 29). Of the invertebrates, adult king crab made up the greatest single portion of the catches. Also present were coonstripe shrimp, hermit crab (Pagurus dalli), lyre crab, sea cucumbers, sea stars, brittle stars, anemones, sponges, Hinds' scallops, brachiopods, and algae (Agarum sp. and Desmarestia sp.). Of the fishes, flatfishes and rockfishes together roughly equalled the bulk of other (miscellaneous) fishes. Among the flatfishes, adult arrowtooth flounder predominated, and rock sole were also abundant. Also taken were flathead sole, rex sole, Dover sole, and English sole. Of the rockfishes, juvenile Pacific ocean perch predominated; also taken in small numbers were greenstripe, yellowtail, and silvergray rockfish. Other fishes were represented by great sculpins, staghorn sculpins, ribbed sculpins, spinyhead sculpins, armorhead sculpins, sturgeon poachers, searchers, and pricklebacks.

Big Port Walter

A summary of our findings at Big Port Walter from March and September 1971 and April 1972 is shown in Table 30.

In March 1971 our initial trawl effort in Big Port Walter (Figure 1) yielded fair-sized catches comprised mainly of invertebrates, with rockfishes barely a third of the bulk, and other fishes far less.

Of the invertebrates, sponges, sea urchins, and sea stars predominated. Also taken were sea cucumbers, clams, lyre crab, hermit crab, and immature shrimp. The rockfish were nearly all juvenile Pacific ocean perch along with a few quillbacks. Gadids were represented by small amounts of walleye pollock. Flatfish were virtually absent from the catches; only a few Dover sole were taken. Other fishes included great sculpins, spinyhead sculpins, one grunt sculpin (Rhamphocottus richardsoni), searchers, and poachers.

In September 1971 catches at Big Port Walter consisted mainly of flatfishes, with rockfishes, invertebrates, and other fishes contributing roughly equal amounts to the remainder (Table 30). Of the flatfishes, adult arrowtooth flounder made up most of the bulk; also present were rex sole, flathead sole, English sole, and Dover sole. The rockfish were nearly all juvenile Pacific ocean perch along with a few adult quillbacks. Of the invertebrates, pink shrimp, sidestripe shrimp,

coonstripe shrimp, and dock shrimp were present, as well as hermit crab (Pagurus dalli), lyre crab, sponges, brittle stars, sea urchins, anemones, brachiopods, and kelp. Gadids were represented only by juvenile walleye pollock present in trace amounts. Other fishes taken were searchers, ribbed sculpins, and pricklebacks.

In April 1972 generally small catches at Big Port Walter consisted mainly of rockfishes and miscellaneous fishes, with small amounts of gadids, invertebrates, and trace amounts of flatfish (Table 30). Of the rockfishes, juvenile Pacific ocean perch predominated; adult quillback rockfish added a substantial amount to the bulk. Among the miscellaneous ("other") fishes, searchers and sculpins were most abundant and included great sculpins, ribbed sculpins, spinyhead sculpins, and bigmouth sculpins. Also taken were the longnose skate and northern ronquil. Gadids consisted mainly of juvenile walleye pollock and a few Pacific cod. Invertebrates were limited to hermit crabs--Pagurus dalli, Labidochirus splendescens, and Elassochirus tennuimanus; lyre crab; a few dock shrimp and spot shrimp; decorator crab (Oregonia gracilis); brittle stars; sea stars; sea urchins; hairy tritons; Hinds' scallops; stubby squid; brachiopods; sponges; anemones; and algae--Laminaria, Agarum, and Desmarestia. Flatfish were mainly arrowtooth flounder; also present were rock sole and Dover sole.

Port Lucy

We made two trawl hauls in Port Lucy, a fiord which lies just above Cape Ommaney, south Baranof Island, off lower Chatcham Strait, in March 1971, and caught mostly rockfishes with lesser amounts of other fishes and a few invertebrates (Table 31). Noteworthy is the complete absence of flatfish and gadids in these catches. The rockfish were all juvenile yellowtail rockfish except for a single juvenile silvergray rockfish. Other fishes taken were Irish lords, kelp greenling, and a searcher; invertebrates were limited to sea stars and clams. This catch of juvenile yellowtail rockfish apparently represents one of the very few instances that immature stages of this species have been collected. None of the participants in the 2nd Annual Rockfish Survey planning meeting in Seattle on February 15-16, 1977 had any knowledge of the distribution of juvenile yellowtail rockfish, despite the fact that the species is the second most important commercial rockfish in the Pacific Northwest (S. J. Westrheim, Pacific Biological Station, Nanaimo, B.C., personal communication).

KUIU ISLAND REGION

Port Malmsbury

We made three trawl hauls in Port Malmsbury on lower Kuiu Island near the entrance to Chatham Strait in March 1971.

We made a single trawl haul at the entrance to Port Malmsbury in March 1971 which resulted in a catch of mostly flatfishes with lesser amounts of invertebrates and trace amounts of other fishes (Table 32). English sole was the most abundant flatfish; also taken were flathead sole, arrowtooth flounder, and rex sole. Other fishes were limited to juvenile walleye pollock, spinyhead sculpins, poachers, and eelpouts (Lycodes sp.). Invertebrates consisted of shrimp, family Hippolytidae, pink shrimp, one juvenile tanner crab, octopus, sea urchins, sea stars, sea cucumbers, and anemones.

A single trawl haul near the head of the lower arm of Port Malmsbury in March 1971 produced a small catch, about evenly divided between rockfishes and flatfishes, and little else (Table 33). Among the rockfishes, adult yellowtail rockfish made up the greatest bulk; also present were adult canary, quillback, and silvergray rockfish. The flatfishes consisted of English sole, flathead sole, arrowtooth flounder, rex sole, yellowfin sole, and one starry flounder. Other fishes were limited to juvenile Pacific cod, a spinyhead sculpin, searchers, and a kelp greenling. Sea cucumbers and pink shrimp were the only invertebrates.

A trawl haul in the center of Port Malmsbury in March 1971 resulted in a small catch of nearly all flatfishes, with trace amounts of other fishes, and few invertebrates (Table 34). Among the flatfishes, flathead sole and English sole predominated; also present were arrowtooth flounder, rex sole, and yellowfin sole. Other fishes were limited to a few walleye pollock and poachers. Invertebrates consisted of juvenile tanner crab, hermit crab, sea stars, and anemones.

SOUTH ADMIRALTY ISLAND REGION

Eliza Harbor

We made a trawl haul near the entrance to Eliza Harbor, Admiralty Island, in July 1976 and came up with a large catch, mainly of gadids, with flatfishes, other fishes, and invertebrates present in lesser amounts (Table 35). The gadids were mainly adult and young walleye pollock and two large Pacific cod. Flatfishes included English sole, Dover sole, flathead sole, rock sole, and yellowfin sole. Other fishes present included the eelpout Lycodes sp., sturgeon poachers, and one juvenile rougheye rockfish. Invertebrates were mostly juvenile tanner crab; one adult king crab; hermit crab; pink, coonstripe, and dock shrimp; clams; an octopus; and anemones.

We made a trawl haul at the head of Eliza Harbor on southern Admiralty Island in July 1976 and came up with roughly equal amounts of gadids and invertebrates, mostly tanner crab, and lesser amounts of flatfishes and other fishes (Table 36) as well as much soft mud. The gadids were all walleye pollock young and adults; besides the adult tanner crab, other invertebrates taken were hermit crab and pink and dock shrimp. Flatfishes included flathead sole, arrowtooth flounder, rock sole, and yellowfin sole. Other fishes present included eelpouts (Lycodes), searchers, sturgeon poachers, spinycheek starsnouts, and a bigmouth sculpin.

Gambier Bay

We made a single trawl haul on the southwest side of Gambier Bay on southern Admiralty Island in July 1976 that came up with mostly flatfishes, with invertebrates, gadids, and other fishes in lesser amounts (Table 37). The flatfishes included large starry founder, flathead sole, and yellowfin sole. Among the invertebrates were tanner crab, lyre crab, pink and dock shrimp, hermit crab, the whelk Neptunea, Greenland cockles (Serripes groenlandicus), softshell clams (Mya arenaria), and jellyfish (Cyanea capillata). The gadids were all walleye pollock, and other fishes were limited to staghorn and great sculpins and pricklebacks.

EAST ADMIRALTY ISLAND REGION

Seymour Canal

We made two bottom trawl hauls along the west side of Tiedeman Island in Seymour Canal, on the eastern side of Admiralty Island, in July 1976 and had large catches of invertebrates (mostly tanner crab and shrimp), with gadids and other fishes present in lesser amounts and flatfishes present but sparse (Table 38). Most of the tanner crab were adult females, and a number of large males were also present. Pink and coonstripe shrimp made up the bulk of the shrimp present. Other invertebrates included juvenile tanner crab, several adult female king crab, hermit crab, lyre crab, dock shrimp, chitons, an octopus, a stubby squid, sea urchins, brittle stars, sun stars (Solaster dawsoni), sea cucumbers, sponges, and anemones. Gadids were comprised of adult Pacific cod and walleye pollock, and among the other fishes, longnose skates added much to the bulk. Also present were eelpouts; blackfin, spinyhead, and great sculpins; sturgeon poachers; spinycheek starsnouts; and rose snailfish. Flatfishes included one Pacific halibut, flathead sole, arrowtooth flounder, yellowfin sole, Dover sole, and rex sole.

NORTH STEPHENS PASSAGE REGION

Auke Bay

A summary of our findings at Auke Bay is given in Table 39. We made trawl hauls here in April 1973; March and December 1974; January, March, September, and November 1975; and March and November 1976.

In April 1973 a single trawl haul in Auke Bay was roughly half flatfishes with lesser amounts of pollock and other fishes and invertebrates (Table 39). Flathead sole was the most abundant flatfish; other species taken in lesser amounts included starry flounder, rex sole, rock sole, yellowfin sole, and arrowtooth flounder. All of the pollock were juveniles. Other fishes present included many shortfin eelpouts, eulachon, pricklebacks, spinyhead sculpins, and ribbed sculpins. Invertebrates consisted of pink shrimp, dock shrimp, coonstripe shrimp, tanner crab, the hermit crabs Pagurus aleuticus and P. ochotensis, the whelk Neptunea, and sea star Hippasterias.

In March 1974, two trawl hauls in Auke Bay were composed almost entirely of flatfishes, with small amounts of other fishes and invertebrates (Table 39). Yellowfin sole predominated among the flatfishes; also taken were flathead sole, rex sole, rock sole, and starry flounder. Other fishes included juvenile cod and pollock, black and longnose skates, juvenile rougheye rockfish, greenlings, sturgeon poachers, great sculpins, staghorn sculpins, spinyhead sculpins, and ribbed sculpins. Invertebrates included adult tanner and king crabs, the hermit crabs Pagurus ochotensis and P. aleuticus, pink shrimp, and the whelk Neptunea.

In December 1974, two trawl hauls were made up mostly of adult herring, with lesser amounts of gadids, flatfishes, and trace amounts of other fishes and invertebrates (Table 39). Juvenile and adult walleye pollock were present, as were flathead sole, rex sole, yellowfin sole, juvenile sablefish, eulachon, sturgeon poachers, pricklebacks, shortfin eelpouts, wattled eelpouts, staghorn sculpins, bigmouth sculpins, tanner crab, the hermit crab Pagurus aleuticus, and the jellyfishes Aurelia and Cyanea.

In January 1975 two trawl hauls in Auke Bay were comprised of herring, flatfishes, and walleye pollock in near-equal amounts and few invertebrates and other fishes (Table 39). The herring were adults as were the pollock and a single large cod. Flatfishes taken included flathead sole, yellowfin sole, starry flounder, and rock sole. Also present were eulachon, sturgeon poachers, staghorn sculpins, great sculpins, and pricklebacks. Invertebrates included king crab, tanner crab, golden king crab, and hermit crab.

In March 1975 a single trawl haul in Auke Bay was comprised mostly of flatfishes and herring (Table 39). Yellowfin sole predominated among the flatfishes. Also present were flathead sole, rex sole, and starry

flounder. Other fishes were limited to juvenile pollock and spinycheek starsnouts, and invertebrates to hermit crab and softshell clams.

In September 1975 two trawl hauls in Auke Bay produced mostly king crab with pollock and flatfishes in smaller amounts and few other fishes or invertebrates (Table 39). All of the 41 king crab were gravid females. Flatfishes included flathead sole, yellowfin sole, and starry flounder. Other fishes included cod, longnose skates, spinyhead sculpins, and eelpouts. Invertebrates present were tanner crab, hermit crab, lyre crab, dock shrimp and pink shrimp, and the whelk Neptunea.

In November 1975 two trawl hauls in Auke Bay produced a large catch of walleye pollock along with flatfishes and few other fishes and invertebrates (Table 39). Among the flatfishes were flathead sole, yellowfin sole, arrowtooth flounder, starry flounder, rex sole, and English sole. Other fishes included Pacific cod, herring, juvenile sablefish, eulachon, eelpouts, staghorn sculpins, great sculpins, and sturgeon poachers. Invertebrates included tanner crab, king crab, pink shrimp, dock shrimp, the hermit crab Pagurus aleuticus, and the whelk Neptunea.

In March 1976 a very small catch in a single trawl haul consisted mainly of flatfishes and few other fishes and invertebrates (Table 39). Flatfishes taken were flathead sole and yellowfin sole. Other fishes were limited to juvenile walleye pollock, and invertebrates to pink shrimp, dock shrimp, the hermit crab Pagurus aleuticus, and whelk Neptunea.

In November 1976 two trawl hauls in Auke Bay consisted mainly of flatfishes with some walleye pollock and few other fishes and invertebrates (Table 39). Flathead sole and yellowfin sole predominated among the flatfishes. Also taken were rex sole and starry flounder, adult and juvenile pollock and herring, eelpouts, pricklebacks, whitespotted greenling (Hexagrammos stelleri), great sculpins, spinyhead sculpins, silverspotted sculpins, and sturgeon poachers and spinycheek starsnouts. Invertebrates included adult king and tanner crabs, the hermit crab Pagurus aleuticus, pink shrimp, dock shrimp, Hinds' scallop, the whelk Neptunea, nudibranch Dendronotus sp., the rose sea star, and jellyfish Cyanea.

In March 1977 a single trawl haul in Auke Bay came up with a catch in which flatfishes and pollock, in roughly equal amounts, made up the bulk; tanner crab contributed a fair amount and other fishes and invertebrates were sparse (Table 40). Yellowfin sole was the predominate flatfish; also present were starry flounder, flathead sole, arrowtooth flounder, and rock sole. The walleye pollock consisted of both juveniles and adults. The tanner crab were all adults of both sexes. Other invertebrates included a single adult king crab, pink shrimp, brown

shrimp, the hermit crab Pagurus aleuticus, and the whelk Neptunea. Other fishes included black and longnose skates, eulachon, staghorn sculpin, blackfin sculpin, the shortfin eelpout, and longsnout prickleback.

Fritz Cove

A summary of our findings in Fritz Cove is shown in Table 40 and includes the following sampling dates: February, March, and December 1974; March, April, and November 1975; March and October 1976; and January 1977.

In February 1974 a single trawl haul in Fritz Cove produced a catch of several thousand kilograms which was mostly starry flounder and lesser amounts of other fishes and invertebrates (Table 40). Large adult starry flounder predominated in numbers and bulk over all other species and groups combined. Also present were English sole, yellowfin sole, arrowtooth flounder, and rex sole. Adult pollock and cod were present in lesser amounts as were herring, wattled and shortfin eelpouts, pricklebacks, staghorn, great and spinyhead sculpins, and sturgeon poachers. Invertebrates present were tanner crab, Dungeness crab, sidestripe shrimp, and octopus.

In March 1974 a single trawl haul in Fritz Cove contained mostly flatfishes with lesser amounts of walleye pollock and herring and a few other fishes and invertebrates (Table 40). Among the flatfishes, large starry flounder predominated; yellowfin sole were also abundant, and rex sole were present as well. Other fishes taken included great sculpins, staghorn sculpins, and silverspotted sculpins (Blepsias cirrhosus), greenling, sturgeon poachers, and shortfin eelpouts. Invertebrates included adult tanner and Dungeness crabs; hermit crab; and pink, sidestripe, and coonstripe shrimp.

In December 1974 a single trawl haul was made up almost entirely of flatfishes, with other fishes and invertebrates only a small part of the catch (Table 40). Large adult starry flounder were the predominant flatfish, but also present were English sole, flathead sole, rex sole, rock sole, and yellowfin sole. Among the other fishes taken, walleye pollock were most numerous, and also present were great sculpins, spinyhead sculpins, black and longnose skates, shortfin eelpouts, wattled eelpouts, blackfin poachers, and the rose snailfish (Careproctus rastrinus). Invertebrates included tanner crab, lyre crab, the hermit crab Pagurus aleuticus, the jellyfishes Cyanea capillata and Aurelia aurita, the whelk Neptunea sp., and nudibranch Dendronotus sp.

In January 1975 catches from three trawl hauls in Fritz Cove were made up mostly of flatfishes and gadids in roughly equal amounts, with other fishes and invertebrates only incidental (Table 40). Of the flatfishes, yellowfin sole and starry flounder made up most of the bulk. Also present were English sole, flathead sole, rex sole, rock sole, and arrowtooth flounder. Gadids were nearly all pollock with only a few large cod. Other fishes included staghorn and spinyhead sculpins, great sculpins, sturgeon poachers, blackfin poachers, pricklebacks (Family Stichaeidae), eelpouts (Family Zoarcidae), herring, eulachon, and rose snailfish. Invertebrates included pink shrimp, dock shrimp, adult king crab, tanner crab, the hermit crabs Pagurus aleuticus and Labidochirus splendescens, the whelk Neptunea sp., nudibranch Dendronotus, one octopus, and the jellyfish Aurelia.

In March 1975 catches were mostly flatfishes and gadids in roughly equal amounts, with relatively small amounts of herring, other fishes, and invertebrates (Table 40). Flatfish were mostly starry flounder and yellowfin sole by bulk, but also included flathead sole, rex sole, rock sole, English sole, arrowtooth flounder, and Alaska plaice (Pleuronectes quadrituberculatus). Gadids were almost entirely walleye pollock plus a few Pacific cod. Besides herring, other fishes included one yellowtail rockfish, great sculpins, bigmouth sculpins, staghorn and spinyhead sculpins, black and longnose skates, sturgeon poachers, spinycheek starsnout poachers, eelpouts, pricklebacks, and the rose snailfish. Invertebrates consisted of adult tanner crab, the hermit crab Pagurus aleuticus, pink shrimp, and the nudibranch Dendronotus sp.

In April 1975 contents of a single trawl haul in Fritz Cove were fairly evenly divided between flatfishes, pollock, longnose skates, and miscellaneous invertebrates (Table 40). The flatfish were mainly starry flounder; also present were flathead sole, rex sole, yellowfin sole, and Alaska plaice. The pollock and longnose skates were nearly all large adults. Other fishes included great sculpins, spinyhead sculpins, eulachon, shortfin eelpout, pricklebacks, and spinycheek starsnouts. The bulk of the invertebrates were adult tanner crab; also present were hermit crab, pink and coonstripe shrimp, anemones, the whelk Neptunea sp., and nudibranch Dendronotus sp.

In November 1975 a single trawl haul in Fritz Cove resulted in a large catch made up almost entirely of one flatfish species--starry flounder. Other fishes and invertebrates were of minor significance in the catch. Other flatfishes present were flathead sole, English sole, Dover sole, rex sole, arrowtooth flounder, and yellowfin sole. Other fishes present included rougheye rockfish, walleye pollock, eulachon, black and longnose skates, eelpouts, and pricklebacks. Invertebrates consisted of pink shrimp, dock shrimp, tanner crab, and hermit crab.

In March 1976 a single trawl haul was made up mostly of flatfishes and pollock in near-equal amounts, and little else (Table 40). Most of the flatfish were starry flounder, but also present were flathead sole, yellowfin sole, arrowtooth flounder, and rex sole. The small amounts of other fishes were comprised of eulachon, shortfin eelpouts, wattled eelpouts, longsnout pricklebacks, snake pricklebacks, and spinycheek starsnouts. Invertebrates included pink shrimp, adult tanner crab, the hermit crabs Pagurus aleutianus and Labidochirus splendescens, and the ridged whelk Neptunea lyrata.

In October 1976 two trawl hauls in Fritz Cove were comprised mainly of flatfishes and gadids with small amounts of other fishes and invertebrates (Table 40). The flatfishes were mostly flathead sole and starry flounder with lesser amounts of rex sole, rock sole, yellowfin sole, arrowtooth flounder, and Alaska plaice. The gadids were mostly adult pollock and a few large cod. Other fishes included eulachon, one ratfish (Hydrolagus collei), shortfin eelpouts, sturgeon poachers, rougheye rockfish, snailfish, and pricklebacks. Invertebrates included a pelagic squid (Berryteuthis magister), tanner crab, pink shrimp, hermit crab, and an octopus.

In March 1977 a single trawl haul in Fritz Cove resulted in a fairly large catch of mostly flatfishes, with lesser amounts of gadids, other fishes, and invertebrates (Table 40). The flatfish were mainly adult starry flounder; also present were arrowtooth flounder, flathead sole, English sole, and rex sole. The gadids were all walleye pollock, both juveniles and adults. Other fishes included black and longnose skates, shortfin eelpouts, longsnout pricklebacks, sturgeon poachers, the rose snailfish, marbled snailfish (Liparis dennyi), and spinyhead sculpin. Invertebrates included adult pink shrimp, single adult king and tanner crabs, the ridged whelk, the snail Colus halli, and the hermit crab Pagurus aleuticus.

Auke Bay Entrance Vicinity

We made three trawl hauls off the west side of Portland Island, near the entrance to Auke Bay, in December 1974, which produced catches of gadids, other fishes, and invertebrates in roughly equal amounts and only trace amounts of flatfishes and rockfishes (Table 41). The gadids were all walleye pollock, both adults and young. Most of the bulk of the other fishes was black and longnose skates; other species present included eulachon, blackfin sculpins, the sculpin Triglops sp., wattled eelpouts, the rose snailfish, and eelpout larvae. Invertebrates consisted predominately of sponges; also included were pink shrimp, dock shrimp, juvenile tanner crab, the hermit crabs Pagurus aleuticus and Labidochirus splendescens, tiny golden king crab, giant barnacles (Balanus nubilis), an octopus, the whelk Neptunea sp., hairy tritons, brachiopods, sea whips, the jellyfish Aurelia aurita, brittle stars, sea stars including Mediaster aquealis and Pteraster tesselatus, sea cucumbers, and sea urchins including Strongylocentrotus pallidus.

We made single trawl hauls between Coughlan Island and Portland Island, near the entrance to Auke Bay in upper Stephens Passage, in December 1974 and March 1976.

In December 1974 the catch was relatively small and consisted mostly of gadids with lesser amounts of flatfishes, invertebrates, and other fishes (Table 42). The gadids were comprised of adult and young pollock; flatfish were nearly all flathead sole and a few rex sole and arrowtooth flounder. Other fishes included eulachon, eelpouts (Lycodes sp.), spinyhead sculpins, and one longnose skate. Invertebrates were mostly adult and juvenile tanner crab, pink shrimp, the jellyfishes Aurelia and Cyanea, and one stubby squid.

In March 1976 the catch from a single trawl haul between Portland and Coughlan islands in Stephens Passage was again small and consisted mostly of flatfishes and some gadids, with trace amounts of other fishes and invertebrates (Table 42). Nearly all of the flatfish were flathead sole; also present were rex sole, rock sole, yellowfin sole, and arrowtooth flounder. The gadids were all adult and young walleye pollock. Other fishes present included rougheye rockfish, shortfin and wattled eelpouts, longsnout pricklebacks, spinyhead sculpins, roughspine sculpins (Triglops macellus), the Langbarn prickleback, and spinycheek starsnouts. The sparse invertebrates consisted of pink shrimp, one juvenile tanner crab, the hermit crab Pagurus aleuticus, and sea stars.

We made two trawl hauls between Portland Island and Spuhn Island-Georges Rock, near the entrance to Auke Bay in April 1973, which resulted in catches of flatfishes, miscellaneous other fishes (mainly sculpins), and invertebrates (mainly tanner crab) in roughly equal amounts, and gadids in lesser amounts (Table 43). Flathead sole made up the bulk of the flatfish; also present were starry flounder, arrowtooth flounder, rex sole, rock sole, and yellowfin sole. The gadids were juvenile and adult walleye pollock, and other fishes were mostly sculpins including great, spinyhead, ribbed, and staghorn sculpins; other fishes included eelpouts (Lycodes sp.), pricklebacks, eulachon, and snailfish (Liparidae). Invertebrates were mostly adult tanner crab; plus the hermit crabs Pagurus ochotensis and P. aleuticus; pink, coonstripe, and dock shrimp; the shrimps Nectocrangon sp. and Hipponotus sp.; the whelk Neptunea sp.; and sea star Hippasterias spinosa.

West Douglas Island

We made bottom trawl hauls off West Douglas Island in upper Stephens Passage in December 1974 and March and December 1976.

In December 1974 we made a single trawl haul abreast of Outer Point, Douglas Island, and came up with a relatively small catch of flatfishes and skates, with lesser amounts of invertebrates and few other fishes (Table 44). The flatfishes were arrowtooth flounder and flathead sole; the skates were both black and longnose skates. Other fishes were limited to a few young walleye pollock, wattled and shortfin eelpouts, and the sculpin Triglops sp. Invertebrates consisted of adult and juvenile tanner crab, pink and sidestripe shrimp, the whelk Neptunea sp., the sun star Solaster stimpsoni, anemones, and sponges.

In March 1976 we made three trawl hauls off the west side of Douglas Island in upper Stephens Passage, between Middle Point and Inner Point and Inner Point and Point Hilda, and came up with relatively small catches, mostly of invertebrates, with lesser amounts of flatfishes, gadids, and other fishes (Table 44). Among the invertebrates, sea urchins and sponges made up most of the bulk; also taken were the hairy triton, pink and dock shrimp, the hermit crabs Pagurus cavimanus and Pagurus sp. The gadids were adult and juvenile walleye pollock; other fishes included the armorhead sculpin, great sculpins, spinyhead sculpins, the roughspine sculpin, and scissortail sculpin (Triglops forficata).

In October 1976 we made a single trawl haul on the west side of Douglas Island between Inner Point and Middle Point, which resulted in a catch comprised of roughly equal amounts of flatfishes and sea urchins, and few other fishes or invertebrates (Table 44). The flatfishes included flathead sole, rock sole, arrowtooth flounder, and yellowfin sole. All of the sea urchins were Strongylocentrotus drobachiensis, the small green urchin. Other invertebrates included sea stars, pink and dock shrimp, and one stubby squid. Other fishes were limited to juvenile walleye pollock, the eelpout Lycodes sp., and sculpins Triglops sp. and Gymnocanthus sp.

Gastineau Channel

We made a single trawl haul in Gastineau Channel off the town of Thane, not far from Juneau, in January 1977, and came up with a small catch of mostly flatfishes and juvenile pollock in roughly equal amounts; also present were a few other fishes and invertebrates (Table 45). The flatfishes included flathead sole, yellowfin sole, and rock sole. Juvenile pollock were the only gadids present. Other fishes included great, staghorn, and spinyhead sculpins; the sculpin Triglops sp.; eulachon larvae; sturgeon poachers; and spinycheek starsnouts. Invertebrates included adult tanner crab, lyre crab, the hermit crab Pagurus aleuticus, pink shrimp, dock shrimp, and sea urchins.

Young Bay

We made a single trawl haul in Young Bay, off Admiralty Cove in upper Stephens Passage, in October 1976, and came up with a relatively small catch of flatfishes, somewhat lesser amounts of pollock, and only trace amounts of other fishes and invertebrates (Table 46). The flatfishes were comprised almost entirely of flathead sole and arrowtooth flounder in near equal amounts; one rex sole was also present. The pollock were comprised of both young and adults; other fishes taken included a few juvenile herring, eelpouts, eulachon, spinyhead sculpins, and spinycheek starsnouts. Invertebrates consisted of pink, sidestripe, and dock shrimp; juvenile tanner crab; the hermit crab Pagurus aleuticus; and the nudibranch Dendronotus sp.

Horse Shoal Vicinity

We made bottom trawl hauls near Horse Shoal, upper Stephens Passage, in December 1974, September 1975, and October 1976 (Table 47).

In December 1974, we made two trawl hauls between Horse Shoal and Scull Island and came up with catches of mostly walleye pollock, with flatfishes and invertebrates in lesser amounts and other fishes only in trace amounts (Table 47). The pollock consisted of both adults and young fish; one adult Pacific cod was the only other gadid taken. Flatfish were nearly all flathead sole with a few rex sole and one arrowtooth flounder. Invertebrates included pink shrimp, dock shrimp, adult and juvenile tanner crab, and the hermit crabs Pagurus aleuticus and Labidochirus splendescens. Basket stars made up a sizeable part of the bulk of invertebrates; also present were sea urchins, sea stars, sea whips, sponges, and the whelk Neptunea sp.

In September 1975, we made three trawl hauls near Horse Shoal and came up with relatively large catches of mostly gadids, with far smaller amounts of other fishes and few invertebrates (Table 47). The gadids were mostly adult walleye pollock, but adult Pacific cod also contributed a substantial amount to the bulk of the catch. The bulk of the flatfish were adult arrowtooth flounder; also present were flathead sole, rex sole, and rock sole. Other fishes present were adult Pacific herring, eulachon, spinyhead and bigmouth sculpins, gunnels (Pholidae), and eelpouts (Zoarcidae). Invertebrates were limited to sea whips, basket stars, sea stars, sea urchins, sea cucumbers, and one adult tanner crab.

In October 1976, we made two trawl hauls just below Horse Shoal and came up with large catches that were mostly walleye pollock, with lesser amounts of flatfishes, Pacific cod, herring, and other fishes and invertebrates (Table 47). The pollock and cod were nearly all adults. Flatfishes consisted of arrowtooth flounder and flathead sole with rex sole and one Pacific halibut also present; the Pacific herring were all

adults. Other fishes included one adult Pacific ocean perch, four rougheye rockfish, eelpouts, pricklebacks, black and longnose skates, one ratfish, spinyhead sculpins, and spinycheek starsnouts. Invertebrates were limited to pink shrimp; tanner crab; the hermit crab Pagurus aleuticus; sea urchins; two octopuses, one of which was over 25 kg; and the whelks Neptunea sp. and Buccinum plectrum.

Saginaw Channel

In September 1975, we made a single bottom trawl haul in Saginaw Channel, south of Symonds Point on Admiralty Island, and came up with a catch that was nearly all Pacific cod, with small amounts of flatfish, other fishes, and invertebrates (Table 48). The Pacific cod were mostly juveniles with a few possibly small adults; flatfish were limited to rock sole, mostly juveniles; other fishes included bigmouth sculpins, a buffalo sculpin, the sculpin Triglops sp., and pricklebacks. Invertebrates were limited to sea urchins, sea stars, hermit crabs, and the Hinds' scallop.

Favorite Channel

In September 1975, we made a single bottom trawl haul off the southeast side of Shelter Island in Favorite Channel, North Stephens Passage, and came up with a small catch of flatfishes, some gadids, and little else (Table 49). The flatfishes were varied and included juvenile arrowtooth flounder and rex sole and adult flathead sole and rock sole. Gadids were mostly juvenile walleye pollock with one adult Pacific cod. No other fishes were taken. The trace amounts of invertebrates included brittle stars (Ophiura sp.), the whelk Neptunea sp., hermit crabs (Pagurus ochotensis and Pagurus sp.), and barnacles.

We made bottom trawl hauls in Favorite Channel, upper Stephens Passage, near Cohen Island, in March and April 1976 and March 1977 (Table 50).

In March 1976, we made a single trawl haul which resulted in a large catch that was nearly all adult herring; other fishes and invertebrates were incidental (Table 50). The adult herring were lying near bottom, off traditional spawning beaches. Other fishes taken incidentally included: arrowtooth flounder, flathead sole, and yellowfin sole, juvenile pollock, eulachon, capelin, and armorhead sculpins, and invertebrates included pink shrimp, dock shrimp, basket stars, sea stars, and sea cucumbers.

In April 1976, we made three trawl hauls off Cohen Island and came up with catches that were comprised of roughly equal amounts of gadids, herring, and flatfishes, with somewhat lesser amounts of invertebrates

and few other fishes (Table 50). The gadids were mostly adult and young walleye pollock, but also included adult Pacific cod. The herring were all ripe adult fish about to spawn in a few weeks. Flatfish were mostly flathead sole, along with yellowfin sole, arrowtooth flounder, rock sole, and starry flounder. Invertebrates consisted of pink shrimp, the hermit crabs Labidochirus splendescens and Pagurus aleuticus, octopus, sponges, sea pens (Leioptilus gurneyi), the whelk Neptunea sp., hairy tritons, and sea cucumbers. Other fishes included eulachon; armorhead, spinyhead, and great sculpins; shortfin and wattled eelpouts; rougheye rockfish; and one searcher.

In March 1977, we made two bottom trawl hauls between Cohen Island and Point Terese, Favorite Channel, and came up with catches comprised largely of flatfishes, walleye pollock, and herring in roughly equal amounts, with small amounts of other fishes and invertebrates (Table 51). The flatfishes were adult flathead sole and arrowtooth flounder; pollock were both juveniles and adults, and the herring were almost entirely juveniles. Other fishes included a large adult Pacific cod, eulachon, spinyhead sculpins, longnose skates, shortfin eelpouts, a juvenile rougheye rockfish, and a northern lampfish (Stenobrachius leucopsarus). Invertebrates included pink shrimp carrying eyed eggs, an adult king crab, the hermit crab Labidochirus splendescens, the ridged whelk, an octopus, a veiled chiton (Placephorella velata), basket stars, sea urchins, sea cucumbers, and clams (Astarte sp.).

We made bottom trawl hauls in Favorite Channel, upper Stephens Passage, between the Eagle River flats and Pearl Harbor in April 1976 and March 1977 (Table 51).

In April 1976, we made three trawl hauls in this locale and came up with catches that were mostly invertebrates (mainly sponges) with lesser amounts of flatfishes, gadids, and other fishes (Table 51). Besides sponges, the invertebrates included tanner, hermit, and lyre crabs; pink, spot, coonstripe, and dock shrimp; stubby squid; octopus; Hinds' scallop; the whelk Neptunea sp.; hairy tritons; brachipods; coralline bryozoa; basket stars; brittle stars; and sea cucumbers. Of the flatfishes, yellowfin sole predominated; also taken were flathead sole, rex sole, and arrowtooth flounder. Gadids were juvenile and adult walleye pollock, and other fishes present were rougheye rockfish; great, spinyhead, and staghorn sculpins; the sculpin Triglops sp.; sturgeon poachers; spinycheek starsnouts; juvenile skates; eelpouts; pricklebacks; and one lanternfish (Myctophidae).

In March 1977, we made two trawl hauls between the Eagle River flats and Pearl Harbor in Favorite Channel, Stephens Passage, and came up with catches of mostly flatfishes with lesser amounts of invertebrates and few other fishes (Table 51). The flatfishes included many juveniles as well as adults; yellowfin sole predominated. Also present were flathead sole, rex sole, starry flounder, rock sole, and four juvenile Pacific halibut that were 13-16 cm long. The bulk of the invertebrates were adult tanner crab; also present were dock shrimp,

lyre crab, one adult king crab, basket cockles (Clinocordium nuttali), weathervane scallops (Patinopecten caurinus), the ridged and Pribilof whelks Neptunea lyrata and N. pribilofensis, and the hermit crabs Pagurus capillatus and P. aleuticus. Other fishes taken were spinyhead, great, and armorhead sculpins; sturgeon poachers; and a whitespotted greenling.

East of Lincoln Island

In September 1975, we made a single bottom trawl haul off the east side of Lincoln Island, near the juncture of Lynn Canal and Stephens Passage, and came up with a relatively large catch that was almost entirely invertebrates (mostly sponges) with incidental amounts of gadids and other fishes (Table 52). Besides the great abundance of silicious sponges in the catch, the giant barnacle (Balanus nubilis) and sea urchins contributed fair amounts to the bulk. Other invertebrates included pink shrimp, brittle stars, sea cucumbers, and anemones. Walleye pollock made up almost all of the bulk of the few fish present. Also present were a few rex sole and one rockfish (Sebastes sp.).

LYNN CANAL REGION

St. James Bay

We made a single trawl haul in St. James Bay in lower Lynn Canal, in March 1975, and came up with nearly all flatfishes, with small amounts of gadids, other fishes, and invertebrates (Table 53). Adult starry flounder comprised the bulk of the flatfish; also taken were juvenile rock sole, adult yellowfin sole, flathead sole, arrowtooth flounder, and rex sole. Gadids were all juvenile walleye pollock, some very small; other fishes included eulachon, eelpouts, great sculpins, staghorn sculpins, and sturgeon poachers. Invertebrates included adult and juvenile tanner crab, pink and sidestripe shrimp, and the hermit crabs Labidochirus splendescens and Pagurus aleuticus.

Berners Bay

In March 1975, we made a single bottom trawl haul in Slate Creek Cove on the northwest side of Berners Bay, Lynn Canal, which resulted in a fairly large catch of flatfishes and gadids in roughly equal amounts, and small amounts of other fishes and invertebrates (Table 54). Among the flatfishes, starry flounder predominated and were mostly small adults. Other flatfishes present were flathead sole, yellowfin sole, arrowtooth flounder, rex sole, rock sole, and a Pacific halibut. The gadids were all walleye pollock, juveniles and adults; the few other fishes included eulachon, young sablefish, juvenile herring, longsnout pricklebacks, other pricklebacks, great sculpins, staghorn sculpins,

spinyhead sculpins, and a sturgeon poacher. The invertebrates included adult tanner crab, pink shrimp, the hermit crab Pagurus aleuticus, the ridged whelk, nudibranchs Dendronotus sp., and sea stars.

West of Sullivan Island

We made two bottom trawl hauls off the west side of Sullivan Island, in northern Lynn Canal, in November 1975, that resulted in catches of mostly gadids, and small amounts of flatfishes, other fishes, and invertebrates (Table 55). The gadids were mostly adult walleye pollock; also taken were juvenile pollock and adult Pacific cod. The flatfishes were flathead sole, arrowtooth flounder, and rex sole. Other fishes included eelpouts, pricklebacks, eulachon, blackfin and spinyhead sculpins, one rougheye rockfish, and a skate. The invertebrates included pink and spot shrimp, dock shrimp, tanner crab, the hermit crab Labidochirus splendescens, sea urchins, and sponges.

Lutak Inlet

In November 1975, we made a single bottom trawl haul in Lutak Inlet above the town of Haines, in northern Lynn Canal, and came up with a catch of mostly gadids, somewhat lesser amounts of flatfishes, and little else (Table 56). The gadids were comprised mainly of walleye pollock, young and adults, and adult Pacific cod. Among the flatfishes, flathead sole predominated by bulk; also present were yellowfin sole, starry flounder, and rock sole. Other fishes were limited to eulachon, eelpouts, and sturgeon poachers; invertebrates included pink shrimp, the hermit crab Pagurus aleuticus, and whelk Neptunea lyrata.

PART II. SPECIES-ORIENTED FINDINGS

In Part I, we described our findings in terms of what marine life was found in the geographic locations covered by bottom trawl surveys. In this part, we describe how certain species of real or potential commercial value are distributed in both adult and juvenile stages.

Our coverage will take up the following groups of marine life: flatfishes, gadids, rockfishes, other commercial fishes, and commercial invertebrates insofar as we can contribute information on the distribution and relative abundance of a given species at one or more of its life stages.

FLATFISHES

English sole (Parophrys vetulus)

We found large adult English sole in concentrations at the heads of bays along the southwest coast of Baranof Island in May 1971--Necker Bay and Shamrock Bay in West Crawfish Inlet (Tables 24, 19). Adults were taken in numbers in most of the bays along the western coast of Baranof Island and at the head end of Lisianski Inlet on Chichagof Island; although we took English sole in many other locations during our sampling, they were more infrequent, scattered, and smaller in average size. We found few juveniles. Subsequently, we learned that English sole are found in greater abundance in waters of southern southeastern Alaska.

Starry flounder (Platichthys stellatus)

We found concentrations of very large starry flounders at the head of Crawfish Inlet and in the center of Deep Inlet, Baranof Island (Tables 21 and 15), in May 1971, and in Fritz Cove in northern Stephens Passage from November to March of 1974 to 1977 (Table 40). During the winter months we sampled, Fritz Cove contained an abundance of younger starry flounders as well as the large adults, indicating that this location may be particularly well suited to the species at more than one life stage. We found fair numbers of large starry flounders in Gambier Bay (Table 37), St. James Bay (Table 53), and Ogden Passage (Table 10). Starry flounder was the only flatfish species that was rarely found in incidental numbers; with few exceptions they either formed a substantial portion of the catch or were entirely absent from it.

Flathead sole (Hippoglossoides elassodon)

In nearly every bottom trawl haul that we took flatfish of any kind, we took flathead sole, in quantities ranging from predominant to incidental. We encountered the greatest abundance of flathead sole in Lisianski Inlet, particularly south Lisianski Inlet (Table 2), the head of the inlet (Table 3), and nearby at Port Althorp (Table 5). Flathead sole were fairly abundant at times in Auke Bay (Table 39) and Fritz Cove (Table 40), Whale Bay on Baranof Island (Tables 26-28), Crawfish Inlet (Tables 20, 22, 23), Fish Bay on Baranof Island (Table 12), Port Malmsbury (Table 32), Gambier Bay on Admiralty Island (Table 36), and the Auke Bay entrance vicinity (Table 43). All life stages of flathead sole, from tiny young fish to large adults, were normally found in the same haul; few if any catches contained only large or small fish.

Arrowtooth flounder (Atheresthes stomias)

We took arrowtooth flounder in the majority of bottom trawl hauls throughout northern southeastern Alaska and found concentrations of large adults in several locales: South Lisianski Inlet (Table 2), Port Althorp (Table 5), Port Conclusion (Table 29), Big Port Walter (Table 30), and off Pleasant Island in Icy Strait (Table 6). Juvenile arrowtooth flounder were frequently taken in the same hauls as large adults, and we commonly took incidental amounts of this species over a wide size range.

Yellowfin sole (Limanda aspera)

We found yellowfin sole were fairly localized in northern southeastern Alaska. In only a few locations did they make up the bulk of the flatfish taken, and they did not commonly occur in incidental amounts in the catches. We found concentrations of yellowfin sole in Khaz Bay (Table 11) and in Auke Bay (Table 39), where they frequently made up the bulk of the flatfish. We took few young or small yellowfin sole in our catches; most were adult fish over a relatively narrow size range.

Rex sole (Glyptocephalus zachirus)

Rex sole were taken in the majority of bottom trawl hauls we made throughout northern southeastern Alaska, but they rarely amounted to more than a small part of the flatfish; in few instances were many large adults taken. Most of the catches of rex sole were a mixture of age groups from tiny juvenile fish to large juveniles or small adults. In north and south Lisianski Inlet (Tables 1, 2) and at the head of Lisianski Inlet (Table 3), we occasionally took fair numbers of large adult rex sole, and almost always had a wide size range of this species in our catches at these locations.

Several species of flatfish that are common in southeastern Alaska were not frequent in our catches. In most cases, this can be attributed to depth distribution of the species--either shallower or deeper than the range of depths we trawled.

Pacific halibut (Hippoglossus stenolepis)

We took halibut occasionally that ranged from small young fish to adult fish of commercial size, but most were relatively small. The north and south Lisianski Inlet trawl sites (Tables 1, 2) are probably the only locations where halibut appeared in out catches more than once. It seems likely that halibut of all sizes are more adept at avoiding a

trawl than the other species of flatfish which are generally smaller, slower, and appear to take up a less alert posture on the bottom (personal observation, H. R. Carlson).

Dover sole (Microstomus pacificus)

We took Dover sole quite regularly in our catches but never in any numbers or bulk, merely a few individuals that turned up over the course of several trawl hauls. Nearly all of the Dover sole we took incidentally were adults; few young were taken. Dover sole were taken consistently only at Big Port Walter and Port Conclusion on southern Baranof Island (Tables 30, 29), and at south Lisianski Inlet and the head of Lisianski Inlet (Tables 2, 3).

Rock sole (Lepidopsetta bilineata)

Rock sole were taken regularly in our catches but never in any abundance. Most often we found an occasional individual or a few adult rock sole in one trawl haul out of several made in a given area. We took rock sole fairly often in bottom trawls in Fritz Cove, Auke Bay, and the entrance to Auke Bay (Tables 40, 39, 42). We rarely took young rock sole; most of those we took in trawl hauls were large adults. This species may be more solitary in habit and may prefer more broken, untrawlable substrate than other flatfishes.

Slender sole (Lyopsetta exilis)

Slender sole were uncommon in our trawl catches. We took incidental numbers, nearly all adults, from time to time but without any consistency, even in locations that were sampled regularly over a number of years. Slender sole occasionally turned up in our catches at south Lisianski Inlet (Table 2) and in a number of isolated instances elsewhere.

Alaska plaice (Pleuronectes quadrituberculatus)

Alaska plaice were rare in our trawl catches. We took only a few large adults in the sum total of our efforts. At least two hauls in Fritz Cove (Table 40) contained Alaska plaice; we also took a few individuals in Auke Bay (Table 39) and in bays along western Chichagof Island.

GADIDS

Walleye pollock (Theragra chalcogramma)

Almost every series of bottom trawl hauls that we made in northern southeastern Alaska contained walleye pollock at some level of abundance, ranging from incidental to nearly pure catches, and sizes ranging from tiny juvenile fish to large adults. Most often a mixture of juvenile and adult pollock were taken, but frequently pollock in the catches consisted of entirely adults or juveniles in narrow to broad size ranges.

The greatest concentrations of large adult walleye pollock were found in the region of northern Stephens Passage, specifically near Horse Shoal, in Fritz Cove (Tables 47, 40), the entrance to Auke Bay, Auke Bay itself (Tables 41, 39), Favorite Channel and Berners Bay (Tables 51, 54), and off Sullivan Island in Lynn Canal (Table 55).

Concentrations of adult walleye pollock were also found along western Baranof Island, in Necker Bay (Tables 24, 25), Crawfish Inlet (Table 20), and West Crawfish Inlet (Table 18).

We found concentrations of juvenile walleye pollock in Fritz Cove, Auke Bay, and the entrance to Auke Bay (Tables 40, 39, 41, 42) in northern Stephens Passage, and in Crawfish Inlet (Tables 21, 22) and Redoubt Bay (Table 16) on western Baranof Island.

With the possible exception of western Chichagof Island, walleye pollock were abundant or at least present in substantial numbers nearly everywhere we trawled in northern southeastern Alaska. Walleye pollock probably have the largest biomass of any single species of fish in all the areas we sampled.

Pacific cod (Gadus macrocephalus)

We frequently took Pacific cod in our bottom trawl hauls throughout northern southeastern Alaska. Most often we took large adults, rarely more than a few in an individual haul, but these few often contributed a substantial part of the bulk of a catch. We found concentrations of juveniles separate from the adults and rarely took both in the same haul.

Large adult Pacific cod were taken frequently in our trawl hauls in Fritz Cove, off Horse Shoal, and Favorite Channel (Tables 40, 47, 50), in northern Stephens Passage, and at south Lisianski Inlet (Table 2), Chichagof Island. Large adult cod also contributed substantially to catches in Seymour Canal (Table 38) and Eliza Harbor (Tables 35, 36), Admiralty Island, and along southwest Baranof Island in Whale Bay (Table 27), Necker Bay (Table 25), and Crawfish Inlet (Table 20).

We found concentrations of juvenile Pacific cod in bays along the southwest coast of Baranof Island, namely Redoubt Bay (Table 16), Windy Passage (Table 17), and at the head of Crawfish Inlet (Table 21). These locales may well be cod nursery grounds.

Pacific tomcod (*Microgadus proximus*)

Pacific tomcod were exceedingly rare in our trawl catches; only twice were tomcod taken--in Ogden Passage, western Chichagof Island (Table 11), in September 1969, and at south Lisianski Inlet in May 1970 (Table 2).

Pacific hake (*Merluccius productus*)

Pacific hake were rare in our catches; we took only two individuals, both large adults--one at the head of Lisianski Inlet (Table 3), Chichagof Island, and another in the center of Necker Bay (Table 25), Baranof Island.

ROCKFISHES

Pacific ocean perch (*Sebastes alutus*)

Ocean perch were a target species during a study of their early life history (Carlson and Haight 1976); we took juvenile ocean perch routinely in four locations that we subsequently designated as study sites because they were perch nursery areas. The sites were at north and south Lisianski Inlet on Chichagof Island and Port Conclusion and Big Port Walter on Baranof Island. We took juvenile perch in a number of other locations, but with the exception of Silver Bay on Baranof Island, only in incidental numbers.

We rarely took large adult Pacific ocean perch during the trawl sampling, primarily because our effort was concentrated at shallower depths than the adult perch normally inhabit. In one trawl haul in the center of the Great Arm, Whale Bay, on Baranof Island (Table 28), large adult ocean perch made up a substantial part of the catch.

Rougheye rockfish (*Sebastes aleutianus*)

While focusing our sampling efforts on collecting juvenile ocean perch, we often collected juvenile rougheye rockfish instead--mainly when the trawl went over muddy or soft substrate that the young *S. aleutianus* seem to prefer to the firm, hard substrate that juvenile *S. alutus* are found over. At Port Althorp (Table 5) on Chichagof Island, for instance, we repeatedly took juvenile rougheye rockfish over the soft substrate found there.

Adult rougheye rockfish were infrequent in our trawl catches, probably because like ocean perch, they normally inhabit deeper waters than we sampled. We took some adult S. aleutianus in a trawl haul in the center of the Great Arm, Whale Bay (Table 28), and the center of Necker Bay (Table 25) on Baranof Island.

Quillback rockfish (Sebastes maliger)

Adult quillback rockfish regularly appeared in our catches at the juvenile ocean perch study sites at north and south Lisianski Inlet on Chichagof Island (Tables 1, 2) and Port Conclusion and Big Port Walter on Baranof Island (Tables 29, 30), and often contributed as much bulk to the catches as did the target species. Large adult quillback rockfish were also taken at the head of Lisianski Inlet (Table 3) and Khaz Bay (Table 11) on Chichagof Island. Adult quillback rockfish appear to be distributed as non-schooling individuals scattered over a broad geographic range since they occur frequently in our catches, but rarely in any numbers. We took few juvenile S. maliger in the trawl catches; their normal distribution may be shallower than the depths we trawled.

Yellowtail rockfish (Sebastes flavidus)

Adult yellowtail rockfish were uncommon in our trawl catches; on one occasion, in April 1972, they contributed a substantial amount to catches at south Lisianski Inlet (Table 2).

Juvenile S. flavidus were similarly uncommon in our catches, but in one location, at Port Lucy on lower Baranof Island in March 1971 (Table 31), they were not merely abundant but made up the bulk of our catches. Several juveniles were also taken at Port Conclusion (Table 29) in March 1971, mixed with adults.

Other species of rockfish that were taken incidentally, in small numbers, on few occasions during our trawl sampling include:

Shortspine thornyhead "idiotfish" (Sebastolobus alascanus)

We took several adult idiotfish at north Lisianski Inlet in July 1969 (Table 1).

Silvergray rockfish (Sebastes brevispinis)

We routinely took adult silvergray rockfish in Port Conclusion (Table 29) in March and September 1971 and April 1972, and on occasion in Port Malmsbury in March 1971 (Table 33), Great Arm of Whale Bay, and Crawfish Inlet in May 1971 (Tables 27, 20).

Yelloweye rockfish (Sebastes ruberrimus)

We took a single large adult yelloweye rockfish at the entrance to Silver Bay in May 1971 (Table 13). It consituted the bulk of the catch.

Greenstripe rockfish (Sebastes elongatus)

A few juvenile greenstripe rockfish were among our catches in Port Conclusion in March 1971 and April 1972 (Table 29), north Lisianski Inlet in July 1969 (Table 1), and Crawfish Inlet (Table 22) in May 1971.

Redstripe rockfish (Sebastes proriger)

We took a few juvenile redstripe rockfish at north Lisianski Inlet in April 1971 and April 1972 (Table 1).

Canary rockfish (Sebastes pinniger)

We took a few individual adult canary rockfish in catches in Port Conclusion (Table 29) in September 1971; Crawfish Inlet (Table 22), Baranof Island, in May 1971; and Port Malmsbury, Kuiu Island, in March 1971 (Table 33).

Bocaccio (Sebastes paucispinus)

On one occasion we took a few adult bocaccio--in Port Conclusion (Table 29) in August 1970.

Redbanded rockfish (Sebastes babcocki)

We took a single juvenile redbanded "flag" rockfish in Port Conclusion (Table 29) in August 1970. No others were found.

Harlequin rockfish (Sebastes variegatus)

A few juvenile harlequin rockfish were in our trawl hauls at Port Althorp (Table 5) in September 1971.

Dusky rockfish (Sebastes ciliatus)

Dusky rockfish are common and abundant in southeastern Alaska but were uncommon in our catches, probably because they normally inhabit shallower depths than we trawled and are usually over rough substrate that can not be trawled. We took a few adult dusky rockfish in south Lisianski Inlet in April 1972, May 1970, and July and September 1969 (Table 2), and in Ogden Passage in September 1969 (Table 10).

OTHER FISHES

Sablefish (Anoplopoma fimbria)

Adult sablefish were uncommon in our catches and juveniles were not taken consistently. We took a few adult sablefish off Nose Head in Lisianski Inlet (Table 4) in July 1969 and a single adult in the center of Necker Bay (Table 25), Baranof Island, in May 1971.

We took small numbers of juvenile sablefish in several locations during our trawl sampling but found no large concentrations. Juvenile sablefish were taken in Port Althorp in July 1969 and May 1970 (Table 5); in Khaz Bay, Chichagof Island, in September 1969 (Table 11); off Pleasant Island, Icy Strait, in September 1969 (Table 6); in Great Arm, Whale Bay, Baranof Island in May 1971 (Table 27); at the head of Crawfish Inlet in May 1971 (Table 21); south Lisianski Inlet in September 1971 (Table 2); in Auke Bay in December 1974 and November 1975 (Table 39); and Berners Bay, Lynn Canal, in March 1975 (Table 54).

Eulachon (Thaleichthys pacificus)

Adult eulachon frequently appeared in our trawl catches throughout northern southeastern Alaska but were rarely taken in more than incidental amounts. We took eulachon in nearly every series of trawl hauls from October to April in Fritz Cove and Auke Bay (Tables 39, 40) and at almost every other location in the Stephens Passage-Lynn Canal vicinity during those months (Tables 39-56). We also took small numbers of eulachon in south Lisianski Inlet in May 1971 and April 1972 (Table 2); the head of Lisianski Inlet in May 1970 (Table 3); Stag Bay, Chichagof Island in September 1969 (Table 8), and most of the bays along the southwest coast of Baranof Island from Whale Bay to Silver Bay (Tables 13-28) in May 1971.

Pacific herring (Clupea harengus pallasi)

Adult Pacific herring were a primary target species for our trawling in Fritz Cove and Auke Bay during the winter months when the schools remained on or near bottom, and trawling was an effective means of

sampling them. We took sizeable catches of adult herring in Fritz Cove in February and March 1974 and March 1975 (Table 40) and in Auke Bay during December 1974 and January and March 1975 (Table 39). We made a large catch of almost entirely adult herring in Favorite Channel, Stephens Passage, in March 1976 (Table 50), and again took fair numbers of herring there the following month. Although we captured herring in trawls in other locations and times, in particular during winter months in Lynn Canal and Stephens Passage, they were for the most part incidental in the catches, as were a few herring taken in trawl hauls in Whale Bay, Baranof Island in May 1971.

Unlike the demersal fishes we trawled, the numbers of herring in our trawl hauls do not reflect their relative abundance but only their availability to the gear used.

Lingcod (Ophiodon elongatus)

We took very few lingcod in our trawl hauls. In July 1969 we took a large adult lingcod in a trawl off Yakobi Rock, northwest Chichagof Island (Table 7). In September 1971 we took a large adult lingcod at south Lisianski Inlet on Chichagof Island (Table 2). In May 1971 we took a juvenile lingcod in the center of Crawfish Inlet on southwest Baranof Island (Table 22).

COMMERCIAL INVERTEBRATES

Of the commercially valuable invertebrates, we often took shrimp and tanner and king crabs but few others with any regularity or in substantial amounts.

Tanner (snow) crab (Chionocetes bairdi)

We found a concentration of large adult male tanner crab in Slocum Arm of Khaz Bay on southwest Chichagof Island in September 1969 (Table 11), and took substantial numbers of adults of both sexes in trawl hauls along the west side of Tiedeman Island, Seymour Canal, Admiralty Island, in July 1976 (Table 38). We routinely took adult tanner crab in Fritz Cove and Auke Bay (Tables 40, 39) during the winter months, and regularly took small numbers of adults throughout the Stephens Passage area (Tables 39-47), and St. James Bay (Table 53) and Berners Bay (Table 54).

Juvenile tanner crab were taken in most of our trawl hauls in Fritz Cove and Auke Bay (Tables 40, 39) during winter months and in bays along the southwest coast of Baranof Island (Tables 13-28) in May 1971.

King crab (Paralithodes camtschatica)

We regularly took small numbers of adult king crab during late winter months (February-March) in Fritz Cove (Table 40). Adult king crab were rare in our catches at other locations and times.

Juvenile king crab were infrequent in our trawl hauls; small numbers were taken in the Auke Bay vicinity during winter months (Table 39).

Pink shrimp (Pandalus borealis)

Pink shrimp were frequently taken in our trawls throughout northern southeastern Alaska during all seasons, but usually in incidental amounts; they rarely made up a substantial portion of the catch. Two exceptions were Port Althorp on Chichagof Island (Table 5) where adult pink shrimp made up a good portion of the catches, and the west side of Sullivan Island in Lynn Canal (Table 55) where they also appeared fairly abundant.

Miscellaneous Commercial Invertebrates

Other commercially valuable invertebrates that we trawled up infrequently include Dungeness crab, Cancer magister, which were rare in our catches; weathervane scallops, Patinopecten caurinus, which were very rare; sidestripe shrimp, Pandalopsis dispar, which were taken in small amounts at Port Althorp (Table 5); spot shrimp, Pandalus platyceros, which were never taken in substantial amounts; clams of several species, all rarely taken; and giant Pacific octopus, Octopus dofleini, which were taken ocasionally, sometimes constituting a fair portion of the catch, but not amounting to much overall in any particular location in which we trawled. The whelks Neptunea lyrata and N. pribilofensis, harvested commercially by the Japanese in the North Pacific, were taken fairly frequently in the Fritz Cove-Auke Bay vicinity (Tables 40, 39) but in incidental numbers.

MISCELLANEOUS FISHES (NON-COMMERCIAL)

We took quite a variety of fishes of little or no commercial value in our trawl hauls; in all but a few instances they were an incidental part of the catches in any given locale.

Skates (Rajidae)

The longnose skate, Raja rhina, appeared fairly frequently in our catches, particularly in near-coastal waters of Chichagof and Baranof Islands and in Fritz Cove (Table 40), and occasionally made up a fair portion of a catch. The black skate, Raja kincaidi, was much more common in waters of northern Stephens Passage, including Auke Bay and Fritz Cove (Tables 39, 40) but rarely amounted to much in terms of bulk. Big skates, Raja binoculata, were taken less often and almost invariably in incidental amounts.

Chimaeras (Chimaeridae)

We took the ratfish, Hydrolagus collei, in fair numbers only at north Lisianski (Table 1) where in July 1969 it amounted to a fair portion of the catch. Ratfish were infrequent to rare and taken only incidentally in our other catches. We subsequently learned that ratfish are much more abundant in waters of southern southeastern Alaska.

Sculpins (Cottidae)

It was a rare haul that came up without at least a few sculpins in all of the trawls we made throughout southeastern Alaska, and occasionally they made up a substantial part of a haul; but overall the sculpins were a minor part of our catches. Several species were taken, most important in terms of bulk was the great sculpin, Myoxocephalus polyacanthocephalus; also taken were the sculpin Myoxocephalus sp.; the buffalo sculpin, Enophrys bison; spinyhead sculpin, Dasycottus setiger; blackfin sculpin, Malacocottus kincaidi; ribbed sculpin, Triglops beani; the sculpin Triglops sp.; the armorhead sculpin, Gymnocanthus galeatus; the red Irish lord, Hemilepidotus hemilepidotus; and yellow Irish lord, H. jordani; the staghorn sculpin, Leptocottus armatus; sailfin sculpin, Nautichthys oculofasciatus; silverspotted sculpin, Blepsias cirrhosus; and crested sculpin, B. bilobus; grunt sculpin, Rhamphocottus richardsoni; and bigmouth sculpin, Ulca bolini.

Greenlings (Hexagrammidae)

Greenlings were not uncommon in our catches throughout southeastern Alaska but almost invariably in very small numbers and in incidental amounts overall. Most frequently taken were adult kelp greenling, Hexagrammos deccagrammus, of both sexes; we ocasionally took adult whitespotted greenling, H. stelleri.

Eelpouts (Zoarcidae)

Eelpouts were common in our catches in Fritz Cove and Auke Bay (Tables 40, 39) and were fairly frequent in trawl hauls throughout southeastern Alaska, almost invariably in incidental amounts. Most often taken were shortfin eelpouts, Lycodes brevipes; also common were wattled eelpouts, L. palearis. We occasionally took the Alaska eelpout, Bothracara pusillum, in northern Stephens Passage, and once took the blackbelly eelpout, Lycodopsis pacifica, in south Lisianski Inlet in May 1970.

Pricklebacks (Stichaeidae)

Pricklebacks were routinely present in small numbers and incidental amounts in our catches throughout southeastern Alaska. Taken most often were the longsnout prickleback, Lumpenella longirostris, and Langbarn prickleback, Leptoclinus maculatus; also taken were snake pricklebacks, Lumpenus sagitta. The giant wrymouth, Delolepis gigantea, was rarely taken, but a few very large individuals were found in trawl hauls in Cedar Cove, Crawfish Inlet on Baranof Island in May 1971 (Table 20); Port Althorp in July 1969 (Table 5); and Ogden Passage, Chichagof Island, in September 1969 (Table 10). In each case the individual giant wrymouths contributed a substantial portion of the catch.

Poachers (Agonidae)

Poachers were common in our catches throughout southeastern Alaska, almost invariably occurring in incidental amounts. A poacher we believe to be the spinycheek starsnout, Asterotheca infraspinata, was often taken; sturgeon poachers, Podothecus (Agonus) acipenserinus, were common, and we occasionally took the blackfin poacher, Bathyagonus nigripinis.

Ronquils (Bathymasteridae)

We frequently took searchers, Bathymaster signatus, in our trawls throughout southeastern Alaska, always in incidental numbers and amounts. Also occasionally taken were northern ronquils, Ronquilus jordani, in very small numbers and amounts.

Snailfish (Liparidae)

Snailfish were uncommon in our catches, but occasionally we took a few individuals, most often in Auke Bay (Table 39). The rose snailfish Careproctus rastrinus was taken most often; we also took the marbled snailfish, Liparis dennyi.

Lumpsuckers (Cyclopteridae)

We occasionally took the small Pacific spiny lumpsucker, Eumicrotremis orbis, in our trawl catches; nowhere was it common.

Wolffishes (Anarhichadidae)

The wolf-eel, Anarrhichthys ocellatus, was very rare in our catches, but one very large individual made up the bulk of a catch off Yakobi Rock, northwest Chichagof Island in July 1969 (Table 7).

Dogfish sharks (Squalidae)

We collected an adult spiny dogfish shark, Squalus acanthias, in only one trawl haul, off Nose Head, Lisianski Inlet, Chichagof Island, in July 1969 (Table 4). Subsequently, we learned that dogfish sharks are very abundant in waters of southern southeastern Alaska.

Prowfishes (Zaproridae)

We collected an adult prowfish, Zaprora silenus, in one trawl haul in south Lisianski Inlet in May 1970 (Table 2).

MISCELLANEOUS INVERTEBRATES (NON-COMMERCIAL)

In our bottom trawl hauls through southeastern Alaska we collected a number of invertebrates of no commercial value which were merely present in varying, usually small numbers and amounts, incidental to the remainder of the catches.

Crustaceans

Hermit crabs were frequently taken. The most common species was Pagurus aleuticus; we also took Elassochirus tenniumanus, E. gilli, E. cavimanus, P. hirsutiusculus, P. capillatus, and Labidochirus splendescens.

The lyre crab, Hyas lyratus, and decorator crab, Oregonia gracilis, were commonly taken, as were dock shrimp, Crangon sp.

Poriferans

Siliceous sponges were frequent in our catches and sometimes amounted to substantial bulk.

Echinoderms

We commonly took brittle stars (Ophuroididae); basket stars, Gorgonocephalus caryi; the sun stars Pycnopodia helianthodes, Solaster stimpsoni, and S. dawsoni; the rose star, Crossaster papposus; sea cucumbers, Parastichopus californicus; red, purple, and green sea urchins, Strongylocentrotus franciscanus, S. purpurescens, S. drobachiensis; and the urchin S. pallidus.

Coelenterates

We commonly took sea anemones, Metriduim senile, attached to rocks, and the scyphozoans Aurelia aurita and Cyanea capillata; occasionally we took sea whips, Stylatula elongata, and sea pens, Leioptilus gurneyi.

Molluscs

We occasionally took small nudibranchs of the genus Dendronotus in our trawls.

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REFERENCES

Barr, L. 1970. Alaska's fishery resources . . . the shrimps. U.S. Bur. Commer. Fish. Fishery Leaflet 631, 10 p.

Carlson, H. R., and R. E. Haight. 1976. Juvenile life of Pacific ocean perch, Sebastes alutus, in coastal fiords of southeastern Alaska: their environment, growth, food habits, and schooling behavior. Trans. Am. Fish. Soc. 105:191-201.

Clark, H. L. 1911. North Pacific ophiurans in the collection of the U.S. National Museum. U.S. Natl. Mus. Bull. 75, 295 p.

Clemens, W. A., and G. V. Wilby. 1961. Fishes of the Pacific Coast of Canada. Fish. Res. Board Can. Bull. 68, 443 p.

D'yakanov, A. M. 1954. Ophiurbids of the U.S.S.R. seas. (Transl. from Russian.) Acad. Sci. U.S.S.R. Zoological Institute No. 55.

Garth, J. S. 1958. Brachyura of the Pacific Coast of America--Oxyryncha. Alan Hancock Pacific Expeditions, 21:parts 1, 2. Univ. Southern California Press, Los Angeles.

Hart, J. L. 1973. Pacific fishes of Canada. Fish. Res. Board Can. Bull. 180, 740 p.

Hitz, C. R. 1962. Field identification of the Northeastern Pacific rockfish (Sebastodes). U.S. Fish Wildl. Serv. Circ. 203, 61 p.

Kyte, M. A. 1969. A synopsis and key to the recent Ophiuroidea of Washington state and southern British Columbia. J. Fish. Res. Board Can. 26:1727-1741.

Light, S. F., R. I. Smith, F. A. Pitelka, D. P. Abbott, and F. M. Weesner. 1961. Intertidal invertebrates of the central California coast. Univ. of Southern California Press, Los Angeles, 466 p.

Makarov, V. V. 1962. Anomura. Fauna of U.S.S.R., Crustacea, 10(3). (Transl. from Russian.)

McLaughlin, P. A. 1974. The hermit crabs (Crustacea, Decapoda, Paguridae) of northwestern North America. Zool. Verh. (Leiden) 130, 397 p.

Morris, P. A. 1966. A field guide to shells of the Pacific Coast and Hawaii, 2nd ed. Houghton-Mifflin Co., Boston.

Oldroyd, I. S. 1927. The marine shells of the West Coast of North America. Vol. I, Vol. II(3). Stanford Univ. Press.

Phillips, J. B. 1957. A review of the rockfishes of California (Family Scorpaenidae). Calif. Dep. Fish Game Fish Bull. 104, 158 p.

Quast, J. C. and E. L. Hall. 1972. List of fishes of Alaska and adjacent waters with a guide to some of their literature. NOAA Tech. Rep., NMFS SSRF 658, 47 p.

Ricketts, E. F., and J. Calvin. 1952. Between Pacific tides, 3rd ed. Stanford University Press.

Wilimovsky, N. J. 1958. Provisional key to the fishes of Alaska. Unpubl. manuscr., U.S. Fish Wildl. Serv. Res. Lab., Juneau, Alaska, 113 p.

Appendix Table A. List of common and scientific names of fishes referred to in the text.

Sharks (Squalidae)	
Spiny dogfish shark	*Squalus acanthias*
Skates (Rajidae)	
Big skate	*Raja binoculata*
Black skate	*Raja kincaidi*
Longnose skate	*Raja rhina*
Starry skate	*Raja stellulata*
Chimaeras (Chimaeridae)	
Ratfish	*Hydrolagus collei*
Herrings (Clupidae)	
Pacific herring	*Clupea harengus pallasi*
Smelts (Osmeridae)	
Eulachon	*Thaleichthys pacificus*
Capelin	*Mallotus villosus*
Lanternfishes (Myctophidae)	
Northern lampfish	*Stenobrachius leucopsarus*
Codfishes (Gadidae)	
Pacific cod	*Gadus macrocephalus*
Pacific hake	*Merluccius productus*
Pacific tomcod	*Microgadus proximus*
Walleye pollock	*Theragra chalcogramma*

Appendix Table A. Continued.

Eelpouts (Zoarcidae)	
Alaska eelpout	*Bothrocara pusillum*
Shortfin eelpout	*Lycodes brevipes*
Wattled eelpout	*Lycodes palearis*
Blackbelly eelpout	*Lycodopsis pacifica*
Rockfishes (Scorpaenidae)	
Rougheye rockfish	*Sebastes aleutianus*
Pacific ocean perch	*Sebastes alutus*
Redbanded rockfish	*Sebastes babcocki*
Silvergray rockfish	*Sebastes brevispinis*
Dusky rockfish	*Sebastes ciliatus*
Greenstriped rockfish	*Sebastes elongatus*
Widow rockfish	*Sebastes entomelas*
Yellowtail rockfish	*Sebastes flavidus*
Quillback rockfish	*Sebastes maliger*
Black rockfish	*Sebastes melanops*
Bocaccio	*Sebastes paucispinis*
Canary rockfish	*Sebastes pinniger*
Redstripe rockfish	*Sebastes proriger*
Yelloweye rockfish	*Sebastes ruberrimus*
Harlequin rockfish	*Sebastes variegatus*
Shortspine thornyhead	*Sebastolobus alascanus*
Greenlings (Hexagrammidae)	
Kelp greenling	*Hexagrammos decagrammus*
Whitespotted greenling	*Hexagrammos stelleri*
Lingcod	*Ophiodon elongatus*
Sablefishes (Anoplopomatidae)	
Sablefish	*Anoplopoma fimbria*
Sculpins (Cottidae)	
Crested sculpin	*Blepsias bilobus*
Silverspotted sculpin	*Blepsias cirrhosus*
Spinyhead sculpin	*Dasycottus settiger*
Buffalo sculpin	*Enophrys bison*
Armorhead sculpin	*Gymnocanthus galeatus*
Red Irish lord	*Hemilepidotus hemilepidotus*

Appendix Table A. Continued.

Sculpins (continued)	
Yellow Irish lord	*Hemilepidotus jordani*
Pacific staghorn sculpin	*Leptocottus armatus*
Blackfin sculpin	*Malacocottus kincaidi*
Great sculpin	*Myoxocephalus polyacanthocephalus*
Sailfin sculpin	*Nautichthys oculofasciatus*
Grunt sculpin	*Rhamphocottus richardsoni*
Scissortail sculpin	*Triglops forficata*
Roughspine sculpin	*Triglops macellus*
Ribbed sculpin	*Triglops pingeli*
Bigmouth sculpin	*Ulca (Hemitripterus) bolini*
Poachers (Agonidae)	
Spinycheek starsnout	*Asterotheca infraspinata*
Blackfin poacher	*Bathyagonus nigripinnis*
Sturgeon poacher	*Podothecus (Agonus) acipenserinus*
Snailfishes (Liparidae)	
Rose snailfish	*Careproctus rastrinus*
Marbled snailfish	*Liparis dennyi*
Lumpsuckers (Cyclopteridae)	
Pacific spiny lumpsucker	*Eumicrotremus orbis*
Ronquils (Bathymasteridae)	
Searcher	*Bathymaster signatus*
Northern ronquil	*Ronquilis jordani*
Wolffishes (Anarhichadidae)	
Wolf-eel	*Anarrhichthys ocellatus*
Pricklebacks (Stichaeidae)	
Giant wrymouth	*Delolepis gigantea*
Langbarn prickleback	*Leptoclinus (Lumpenus) maculatus*
Longsnout prickleback	*Lumpenella longirostris*
Snake prickleback	*Lumpenus sagitta*

Appendix Table A. Continued.

Gunnels (Pholidae)	
Crescent gunnels	*Pholis laeta*
Prowfishes (Zaproridae)	
Prowfish	*Zaprora silenus*
Righteyed flounders (Pleuronectidae)	
Arrowtooth flounder	*Atheresthes stomias*
Rex sole	*Glyptocephalus zachirus*
Flathead sole	*Hippoglossoides elassodon*
Pacific halibut	*Hippoglossus stenolepis*
Rock sole	*Lepidopsetta bilineata*
Yellowfin sole	*Limanda aspera*
Slender sole	*Lyopsetta exilis*
Dover sole	*Microstomus pacificus*
English sole	*Parophrys vetulus*
Starry flounder	*Platichthys stellatus*
Alaska plaice	*Pleuronectes quadrituberculatus*

Appendix Table B. List of common and scientific names of invertebrates referred to in the text.

Sponges (Porifera)	
Sea stars, sea cucumbers, and urchins (Echinodermata)	
Sea cucumber	*Parastichopus californicus*
Red sea urchin	*Strongylocentrotus franciscanus*
Purple sea urchin	*Strongylocentrotus purpuratus*
Green sea urchin	*Strongylocentrotus drobachiensis*
Sea urchin	*Strongylocentrotus pallidus*
Basket star	*Gorgonocephalus caryi*
Brittle star	*Ophiura sarsi*
Brittle stars	Ophiuridae
Sun star	*Solaster dawsoni*
Sun star	*Solaster stimpsoni*
Sea star	*Pteraster tesselatus*
Many-armed sun star	*Pcynopodia helianthodes*
Rose star	*Crossaster papposus*
Sea star	*Mediaster aquealis*
Sea star	*Hippasterias spinosa*
Jellyfishes and anemones (Coelenterata)	
Jellyfish	*Cyanea capillata*
Jellyfish	*Aurelia aurita*
Sea anemone	*Metridium senile*
Sea whip	*Stylatula elongata*
Sea pen	*Leioptilus gurneyi*
Crabs and shrimps (Crustacea)	
King crab	*Paralithodes camtschatica*
Golden king crab	*Lithodes aquespina*
Tanner crab	*Chionocetes bairdi*
Dungeness crab	*Cancer magister*
Lyre crab	*Hyas lyratus*
Decorator crab	*Oregonia gracilis*
Hermit crab	*Pagurus aleuticus*
Hermit crab	*Pagurus capillatus*
Hermit crab	*Pagurus dalli*
Hermit crab	*Elassochirus cavimanus*
Hermit crab	*Elassochirus gilli*
Hermit crab	*Pagurus hirsutiusculus*

Appendix Table B. Continued.

Crabs and shrimps (continued)	
Hermit crab	*Pagurus ochotensis*
Hermit crab	*Elassochirus tennuimanus*
Hermit crab	*Labidochirus splendescens*
Spot shrimp	*Pandalus platyceros*
Sidestripe shrimp	*Pandalopsis dispar*
Pink shrimp	*Pandalus borealis*
Coonstripe shrimp	*Pandalus danae*
Dock shrimp	*Crangon sp.*
Crangonid shrimp	*Nectocrangon sp.*
Hippolytid shrimp	*Hipponotus sp.*
Giant barnacle	*Balanus nubilis*
Gastropods, bivalves, cephalopods, and nudibranchs (Mollusca)	
Lyre whelk	*Buccinum plectrum*
Ridged whelk	*Neptunea lyrata*
Pribilof whelk	*Neptunea pribilofensis*
Hairy triton	*Fusitriton oregonensis*
Hinds' scallop	*Chlamys rubidus*
Weathervane scallop	*Patinopecten caurinus*
Clam	*Astarte sp.*
Softshell clam	*Mya arenaria*
Basket cockle	*Clinocardium nuttali*
Greenland cockle	*Serripes groenlandicus*
Giant Pacific octopus	*Octopus dofleini*
Stubby squid	*Rossia pacifica*
Pelagic squid	*Berryteuthis magister*
Nudibranch	*Dendronotus sp.*
Veiled chiton	*Placiphorella velata*

Composition of marine life taken in bottom trawl hauls in southeastern Alaska, 1969-77. Figures in parentheses are kilograms. T = trace. P = present.

Table 1. North Lisianski Inlet, Chichagof Island, 1969-72.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Jul 69	73-128	2	22	94.5 (42.9)	31.5 (14.3)	4.7 (2.1)	7.9 (3.6)	27.7 (12.6)	22.7 (10.3)
Sep 69	123	1	5	40.0 (18.1)	20.0 (9.1)	-- --	T (T)	-- --	20.0 (9.1)
Apr 71	73-128	4	47	10.6 (4.8)	4.9 (2.1)	0.3 (0.1)	3.8 (1.7)	0.6 (0.3)	1.3 (0.6)
Sep 71	55-113	3	26	23.0 (10.4)	1.9 (0.9)	1.2 (0.5)	3.1 (1.4)	4.2 (1.9)	12.7 (5.8)
Apr 72	46-128	4	40	72.8 (33.0)	12.5 (5.7)	T (T)	9.0 (4.1)	3.0 (1.4)	48.0 (21.8)

Table 2. South Lisianski Inelt, Chichagof Island, 1969-72.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Jul 69	55- 64	2	80	137.5 (62.4)	50.6 (23.0)	1.9 (0.9)	23.1 (10.5)	28.1 (12.8)	35.0 (15.9)
Sep 69	64	1	25	160.0 (72.6)	56.0 (25.4)	9.6 (4.4)	1.6 (0.7)	4.8 (2.2)	88.0 (39.9)
May 70	55-110	7	235	47.6 (21.5)	27.8 (12.6)	1.2 (0.5)	12.0 (5.4)	1.4 (0.6)	5.2 (2.4)
Sep 71	55-113	6	119	55.0 (25.0)	41.1 (18.6)	6.9 (3.1)	4.0 (1.8)	2.6 (1.2)	0.4 (0.2)
Apr 72	36-115	9	132	35.1 (15.9)	3.8 (1.7)	5.0 (2.3)	8.8 (4.0)	0.3 (0.1)	17.2 (7.8)

Table 3. Lisianski Inlet (head end), Chichagof Island, 1969-70.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Jul 69	37	1	30	100.0 (45.4)	50.0 (22.7)	T (T)	5.0 (2.3)	1.0 (0.5)	44.0 (20.0)
Sep 69	55	1	29	170.0 (77.1)	68.0 (30.8)	11.9 (5.4)	1.7 (0.8)	3.4 (1.5)	85.0 (38.6)
May 70	10-18	1	10	60.0 (27.2)	54.0 (24.5)	3.0 (1.4)	-- --	T (T)	3.0 (1.4)

Table 4. Lisianski Inlet (center, off Nose Head), Chichagof Island, July 1969.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Jul 69	37-165	3	81	60.4 (27.4)	24.3 (11.0)	0.7 (0.3)	12.1 (5.5)	10.9 (4.9)	12.4 (5.6)

Table 5. Port Althorp, western Chichagof Island, 1969-72.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Jul 69	36-128	2	60	72.6 (33.0)	39.9 (18.1)	0.7 (0.3)	0.7 (0.3)	8.6 (3.9)	22.8 (10.3)
May 70	128	1	30	99.0 (44.9)	24.8 (11.3)	2.0 (0.9)	1.0 (0.5)	61.4 (27.9)	9.9 (4.5)
Sep 71	110-155	1	30	33.0 (15.0)	23.1 (10.5)	T (T)	3.3 (1.5)	T (T)	6.6 (3.0)
Apr 72	90-146	1	40	62.5 (28.4)	12.5 (5.7)	12.5 (5.7)	3.1 (1.4)	T (T)	34.3 (15.6)

Table 6. Icy Strait off southeastern Pleasant Island, September 1969.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Sep 69	90	1	45	44.0 (20.0)	15.4 (7.0)	-- --	T (T)	15.4 (7.0)	13.2 (6.0)

Table 7. Off Yakobi Rock, western Chichagof Island in July 1969.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Jul 69	128	1	6	250.5 (113.5)	17.5 (7.9)	-- --	5.0 (2.3)	177.9 (80.7)	50.0 22.7

Table 8. Lisianski Strait (Stag Bay), western Chichagof Island in July and September 1969.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Jul 69	110	1	18	84.0 (38.1)	16.8 (7.6)	5.0 (2.3)	0.8 (0.4)	2.5 (1.1)	58.8 (26.7)
Sep 69	92-117	1	30	16.5 (7.5)	3.3 (1.5)	0.8 (0.4)	-- --	0.8 (0.4)	11.6 (5.3)

Table 9. Portlock Harbor, western Chichagof Island in September 1969.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Sep 69	55-70	3	65	15.5 (7.0)	3.2 (1.5)	3.7 (1.7)	0.1 (0.1)	T (T)	8.6 (3.9)

Table 10. Ogden Passage, western Chichagof Island, September 1969.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Sep 69	55-73	1	15	67.0 (30.4)	28.7 (13.0)	2.7 (1.2)	1.3 (0.6)	4.0 (1.8)	30.0 (13.6)

Table 11. Khaz Bay (Slocum Arm), western Chichagof Island in September 1969.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Sep 69	73-77	1	34	87.0 (39.5)	8.7 (4.0)	1.7 (0.8)	1.7 (0.8)	0.9 (0.4)	74.0 (33.6)

Table 12. Fish Bay, Baranof Island, April 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Apr 71	55-81	2	90	9.9 (4.5)	5.5 (2.5)	T (T)	1.3 (0.6)	0.1 (0.1)	3.0 (1.4)

Table 13. Silver Bay (entrance), Baranof Island, May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	55-110	1	10	80.0 (36.3)	8.0 (3.6)	-- --	64.0 (29.0)	-- --	8.0 (3.6)

Table 14. Silver Bay (center), Baranof Island, May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	64-91	2	47	21.5 (9.8)	19.4 (8.8)	0.7 (0.3)	0.7 (0.3)	T (T)	0.7 (0.3)

Table 15. Deep Inlet, Baranof Island, May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	82-91	1	31	9.6 (4.4)	6.7 (3.0)	T (T)	1.0 (0.5)	-- --	1.9 (0.9)

Table 16. Redoubt Bay, Baranof Island, May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	48-70	1	35	17.4 (7.9)	1.7 (0.8)	12.2 (5.5)	-- --	T (T)	3.5 (1.6)

Table 17. Windy Passage (upper arm), Baranof Island, May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	59-66	1	15	33.5 (15.2)	10.1 (4.6)	10.1 (4.6)	3.5 (1.6)	6.7 (3.0)	3.5 (1.6)

Table 18. West Crawfish Inlet (center, above Cedar Pass), Baranof Island, May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	146-197	1	37	40.5 (18.4)	12.2 (5.5)	12.2 (5.5)	4.1 (1.9)	T (T)	12.2 (5.5)

Table 19. West Crawfish Inlet (Shamrock Bay), Baranof Island, May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	64-73	2	15	43.2 (19.6)	33.6 (15.2)	T (T)	T (T)	T (T)	9.6 (4.4)

Table 20. Crawfish Inlet (Cedar Cove), Baranof Island, May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	55-110	2	36	28.0 (12.7)	9.5 (4.3)	8.4 (3.8)	T (T)	10.1 (4.6)	T (T)

Table 21. Crawfish Inlet (head), Baranof Island, May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	55-59	1	29	136.0 (61.7)	108.8 (49.4)	27.2 (12.3)	T (T)	T (T)	T (T)

Table 22. Central Crawfish Inlet, Baranof Island, May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	64-128	2	66	75.0 (34.0)	37.5 (17.0)	30.0 (13.6)	2.6 (1.2)	2.4 (1.1)	2.6 (1.2)

Table 23. Crawfish Inlet (entrance), Baranof Island, May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	64-110	2	16	41.3 (18.7)	22.5 (10.2)	3.8 (1.7)	7.5 (3.4)	3.8 (1.7)	3.8 (1.7)

Table 24. Necker Bay (head), Baranof Island in May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	73-146	1	17	23.6 (10.7)	7.1 (3.2)	7.1 (3.2)	7.1 (3.2)	T (T)	2.4 (1.1)

Table 25. Necker Bay (center), Baranof Island in May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	165-201	1	33	90.0 (40.8)	36.0 (16.3)	36.0 (16.3)	9.0 (4.1)	4.5 (2.0)	4.5 (2.0)

Table 26. Whale Bay (Small Arm), Baranof Island in May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	80-189	2	15	20.0 (9.1)	14.0 (6.4)	0.7 (0.3)	2.7 (1.2)	1.3 (0.6)	1.3 (0.6)

Table 27. Whale Bay (head of Great Arm), Baranof Island, May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	77-132	2	67	21.0 (9.5)	6.0 (2.7)	12.9 (5.9)	0.8 (0.4)	1.4 (0.6)	P P

Table 28. Whale (center of Great Arm), Baranof Island, May 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
May 71	101-216	1	55	16.2 (7.4)	3.2 (1.5)	3.2 (1.5)	4.9 (2.2)	1.6 (0.7)	3.2 (1.5)

Table 29. Port Conclusion, south Baranof Island, 1970-72.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lg (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Aug 70	70-97	2	25	88.0 (39.9)	26.4 (12.0)	T (T)	28.0 (12.7)	9.6 (4.4)	24.0 (10.9)
Mar 71	46-77	3	25	64.0 (29.0)	4.0 (1.8)	T (T)	18.0 (8.2)	15.2 (6.9)	26.8 (12.2)
Sep 71	64-88	4	63	7.4 (3.4)	0.5 (0.2)	0.8 (0.4)	3.6 (1.6)	0.2 (0.1)	2.4 (1.1)
Apr 72	64-91	3	50	14.0 (6.4)	1.9 (0.9)	-- --	1.4 (0.6)	3.3 (1.5)	7.4 (3.4)

Table 30. Big Port Walter, South Baranof Island, 1970-72.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Mar 71	73-101	2	25	42.0 (19.1)	T (T)	1.0 (0.5)	9.0 (4.1)	4.0 (1.8)	28.0 (12.7)
Sep 71	64- 73	2	17	23.5 (10.7)	11.8 (5.4)	T (T)	4.7 (2.1)	3.5 (1.6)	3.5 (1.6)
Apr 72	73- 91	6	115	11.7 (5.3)	T (T)	1.5 (0.7)	5.4 (2.5)	4.2 (1.9)	0.7 (0.3)

Table 31. Port Lucy, Baranof Island, March 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Mar 71	37-55	2	10.0	22.0 (10.0)	-- --	-- --	16.0 (7.3)	5.0 (2.3)	1.0 (0.5)

Table 32. Port Malmsbury (entrance), Kuiu Island, March 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Mar 71	73-81	1	28	36.0 (16.3)	28.8 (13.1)	T (T)	-- --	T (T)	7.2 (3.3)

Table 33. Port Malmsbury (lower arm), Kuiu Island, March 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Mar 71	46-55	1	10	15.0 (6.8)	7.5 (3.4)	T (T)	7.5 (3.4)	T (T)	T (T)

Table 34. Port Malmsbury (center), Kuiu Island, March 1971.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Rockfish	Other fish	Invertebrates
Mar 71	59-73	1	24	12.5	12.0	T	--	T	0.6
				(5.7)	(5.4)	T	--	T	(0.3)

Table 35. Eliza Harbor (near entrance), southern Admiralty Island, July 1976.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Jul 76	101-146	1	20	125.0	37.5	62.5	--	12.5	12.5
				(56.7)	(17.0)	(28.4)	--	(5.7)	(5.7)

Table 36. Eliza Harbor (head), southern Admiralty Island, July 1976.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Jul 76	73-95	1	15	40.2	4.0	16.1	--	4.0	16.1
				(18.2)	(1.8)	(7.3)	--	(1.8)	(7.3)

Table 37. Gambier Bay (southwest end), Admiralty Island, July 1976.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Jul 76	51-79	1	20	25.0	15.0	2.5	--	T	7.5
				(11.3)	(6.8)	(1.1)	--	T	(3.4)

Table 38. West side of Tiedeman Island in Seymour Canal, Admiralty Island, July 1976.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Jul 76	64-92	2	45	107.8 (48.9)	2.5 (1.1)	21.6 (9.8)	-- --	34.7 (15.7)	49.1 (22.3)

Table 39. Auke Bay, upper Stephens Passage, 1973-76.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Apr 73	73-91	1	10	50.0 (22.7)	25.0 (11.3)	15.0 (6.8)	T T	2.5 (1.1)	7.5 (3.4)
Mar 74	42-91	2	65	89.9 (40.8)	73.2 (33.2)	3.9 (1.8)	T T	4.5 (2.0)	8.4 (3.8)
Dec 74	42-99	2	34	46.6 (21.1)	4.7 (2.1)	6.3 (2.9)	35.4 (16.1)	T T	T T
Jan 75	46-73	2	35	62.7 (28.4)	22.2 (10.1)	20.5 (9.3)	18.8 (8.5)	0.6 (0.3)	0.6 (0.3)
Mar 75	40-55	1	20	15.0 (6.8)	9.0 (4.1)	T T	6.0 (2.7)	-- --	T T
Sep 75	20-33	2	12	175.4 (79.6)	22.5 (10.2)	10.0 (4.5)	-- --	3.3 (1.5)	139.5 (63.3)
Nov 75	36-73	2	44	129.4 (58.7)	32.6 (14.8)	69.2 (31.4)	T T	20.3 (9.2)	7.3 (3.3)
Mar 76	40-59	1	30	0.7 (0.3)	0.5 (0.2)	T T	-- --	-- --	0.1 (0.1)
Nov 76	50-55	2	35	39.9 (18.1)	29.6 (13.5)	6.3 (2.9)	0.7 (0.3)	1.4 (0.6)	1.9 (0.9)
Mar 77	36-64	1	25	32.0 (14.5)	9.6 (4.4)	9.6 (4.4)	-- --	3.2 (1.4)	9.6 (4.4)

Table 40. Fritz Cove, Stephens Passage, 1974-77.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Feb 74	55-110	1	25	1600.0 (725.8)	1440.0 (653.2)	80.0 (36.3)	40.0 (18.1)	20.0 (9.1)	20.0 (9.1)
Mar 74	73-110	1	25	140.0 (63.5)	98.0 (44.5)	28.0 (12.7)	14.0 (6.4)	T T	T T
Dec 74	73-106	1	14	319.5 (144.9)	287.6 (130.5)	T T	-- --	32.0 (14.5)	T T
Jan 75	55-110	3	55	165.0 (74.8)	78.8 (35.7)	67.8 (30.8)	T T	11.0 (5.0)	7.3 (3.3)
Mar 75	46- 99	2	50	290.0 (131.5)	123.2 (55.9)	116.0 (52.6)	14.5 (6.6)	18.0 (8.2)	18.3 (8.3)
Apr 75	55-110	1	30	49.5 (22.5)	12.4 (5.6)	12.4 (5.6)	-- --	12.4 (5.6)	12.4 (5.6)
Nov 75	73-110	1	25	880.0 (399.2)	836.0 (379.2)	6.0 (2.7)	-- --	32.0 (14.5)	6.0 (2.7)
Mar 76	59-108	1	30	33.0 (15.0)	18.2 (8.3)	14.9 (6.8)	-- --	T T	T T
Oct 76	66-119	2	55	61.2 (27.8)	31.3 (14.2)	23.8 (10.8)	-- --	3.1 (1.4)	3.1 (1.4)
Mar 77	73-110	1	25	120.0 (54.4)	72.0 (32.7)	24.0 (10.9)	-- --	12.0 (5.4)	12.0 (5.4)

Table 41. Near the entrance to Auke Bay, (west side of Portland Island), December 1974.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Dec 74	101-128	3	57	26.5 (12.0)	T T	9.5 (4.3)	T T	8.5 (3.9)	8.5 (3.9)

Table 42. Near the entrance to Auke Bay (Coughlan Island-Portland Island), December 1974 and March 1976.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Dec 74	79-104	1	20	15.0	3.0	7.5	--	1.5	3.0
				(6.8)	(1.4)	(3.4)	--	(0.7)	(1.4)
Mar 76	73- 95	1	60	17.0	11.9	5.1	T	T	T
				(7.7)	(5.4)	(2.3)	T	T	T

Table 43. Near the entrance to Auke Bay (Portland Island-Spuhn Island), April 1973.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Apr 73	73- 82	2	30	30.2	5.9	5.9	--	11.4	7.0
				(13.7)	(2.7)	(2.7)	--	(5.2)	(3.2)

Table 44. Western Douglas Island (Inner Point to Outer Point), Stephens Passage, 1974, 1976.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Dec 74	101-128	1	18	11.2	4.5	T	--	4.5	2.2
				(5.1)	(2.0)	T	--	(2.0)	(1.0)
Mar 76	42- 64	3	84	11.4	3.3	1.!	--	1.3	5.8
				(5.2)	(1.5)	(0.5)	--	(0.6)	(2.6)
Oct 76	51- 64	1	20	20.0	10.0	T	--	T	10.0
				(9.1)	(4.5)	T	--	T	(4.5)

Table 45. Gastineau Channel (off Thane Lt.), January 1977.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Jan 77	36- 44	1	20	7.5	3.0	3.0	--	0.8	0.8
				(3.4)	(1.4)	(1.4)	--	(0.4)	(0.4)

Table 46. Young Bay, upper Stephens Passage, October 1976.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Oct 76	64- 71	1	20	20.0	12.0	8.0	T	T	T
				(9.1)	(5.4)	(3.6)	T	T	T

Table 47. Near Horse Shoal, upper Stephens Passage, 1974-1976.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Dec 74	60- 88	2	48	31.5	4.6	19.1	--	T	7.8
				(14.3)	(2.1)	(8.7)	--	T	(3.5)
Sep 75	59- 82	3	90	106.2	9.5	92.3	1.2	3.1	T
				(48.6)	(4.3)	(41.9)	(0.5)	(1.4)	T
Oct 76	73- 82	2	65	131.8	35.7	82.9	4.7	3.9	4.7
				(59.8)	(16.2)	(37.6)	(2.1)	(1.8)	(2.1)

Table 48. Saginaw Channel (1 mi south of Symonds Point), Stephens Passage, September 1975.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Sep 75	26- 68	1	18	28.0	2.8	22.4	--	1.4	1.4
				(12.7)	(1.3)	(10.2)	--	(0.6)	(0.6)

Table 49. Favorite Channel (off southeast Shelter Island), Stephens Passage, September 1975.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Sep 75	36- 60	1	13	7.7	5.8	1.9	--	--	T
				(3.5)	(2.6)	(0.9)	--	--	T

Table 50. Favorite Channel (near Cohen Island), Stephens Passage, 1976, 1977.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Mar 76	110	1	18	168.0 (76.2)	1.7 (0.8)	0.8 (0.4)	164.6 (74.7)	0.8 (0.4)	P (0.4)
Apr 76	91-119	3	44	81.6 (37.0)	18.2 (8.3)	23.5 (10.7)	20.9 (9.5)	3.6 (1.6)	15.4 (7.0)
Mar 77	73-119	2	45	35.2 (16.0)	10.6 (4.8)	12.8 (5.8)	7.0 (3.2)	1.3 (0.6)	3.5 (1.6)

Table 51. Favorite Channel (Eagle River flat to Pearl Harbor), Stephens Passage, April 1975.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Apr 75	36-128	3	37	24.3 (11.0)	3.4 (1.5)	2.0 (0.9)	-- --	2.0 (0.9)	16.9 (7.7)
Mar 77	18- 55	2	30	23.5 (10.7)	16.4 (7.4)	-- --	-- --	2.4 (1.1)	4.7 (2.1)

Table 52. East Lincoln Island, upper Stephens Passage, September 1975.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Sep 75	133	1	6	125.3 (56.8)	-- --	6.3 (2.9)	-- --	2.5 (1.1)	116.5 (52.8)

Table 53. St. James Bay, Lynn Canal, March 1975.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Mar 75	82-110	1	20	25.0 (11.3)	22.3 (10.1)	1.0 (0.5)	-- --	0.8 (0.4)	1.0 (0.5)

Table 54. Berners Bay, Lynn Canal, March 1975.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Mar 75	73- 91	1	17	147.5 (66.9)	75.2 (34.1)	66.4 (30.1)	-- --	3.0 (1.4)	3.0 (1.4)

Table 55. Off west Sullivan Island, upper Lynn Canal, November 1975.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Nov 75	101-119	2	60	83.5 (37.9)	4.1 (1.9)	74.3 (33.7)	-- --	1.3 (0.6)	2.8 (1.3)

Table 56. Lutak Inlet, upper Lynn Canal, November 1975.

Date	Depth range (m)	Total hauls	Total bottom min	Mean catch in 10 min lb (kg)	Mean weight of organisms in 10-min drag (lb)				
					Flatfish	Gadids	Herring	Other fish	Invertebrates
Nov 75	73- 77	1	30	66.0 (29.9)	27.1 (12.3)	38.3 (17.4)	-- --	0.7 (0.3)	T T