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SHELLFISH EXPLORATIONS IN THE YAKUTAT BAY AREA, ALASKA, BY THE JOHN N. COBB, SPRING 1953

By Edward A. Schaefers* and Keith A. Smith*

CONTENTS

SUMMARY

The fifth in a series of shellfish explorations in southeastern Alaska waters was made during March and early April 1953 by the Service's exploratory fishing vessel John N. Cobb. Fishing operations were carried out in Yakutat Bay proper, and in the adjacent Pacific Ocean waters off Phipps Peninsula. Gear fished included a 20-foot beam trawl, small otter trawl, scallop dredge, shrimp traps, and crab pots.

Good concentrations of shrimp were located with the beam trawl between Kame Stream and Blizhni Point, with the best catch yielding 1,020 pounds per hour. Off Krutoi Island shrimp were taken at the rate of 600 pounds per hour. Fairly consistent catches of shrimp were taken in a "trough" between Knight Island and Blizhni Point. A total of 9 drags in this locality averaged 202 pounds of shrimp per hour.

A limited number of otter-trawl drags off Phipps Peninsula produced negligible amounts of shrimp and fish. Beam-trawl drags in this area also produced negligible results.

Shrimp traps set from the vicinity of Gregson Island to north of Knight Island were generally productive, with sets usually averaging between 1 and $1\frac{1}{2}$ pounds of spot shrimp and 1 to 2 pounds of coon-stripe shrimp per trap.

Dungeness crab catches were negligible.

BACKGROUND

Shellfish explorations in certain southeastern Alaskan waters have been carried out by the U. S. Fish and Wildlife Service's exploratory fishing vessel John N. Cobb since the spring of 1950. The fifth exploration in this series was undertaken during March and April 1953. The main objective was to investigate the shrimp and other shellfish resources of Yakutat Bay and adjacent Pacific Ocean waters.

Fishing operations were carried on from March 10 to April 8. The area explored included Yakutat Bay and the adjacent Pacific Ocean waters near Phipps Peninsula (fig. 1).

*Fishery Methods and Equipment Specialist, Exploratory Fishing and Gear Development Section, Branch of Commercial Fisheries, U. S. Fish and Wildlife Service, Seattle, Washington.

During this trip 67 beam-trawl drags, 7 otter-trawl drags, and 5 scallop-dredge drags were made; and a total of 265 individual shrimp traps and 77 individual crab

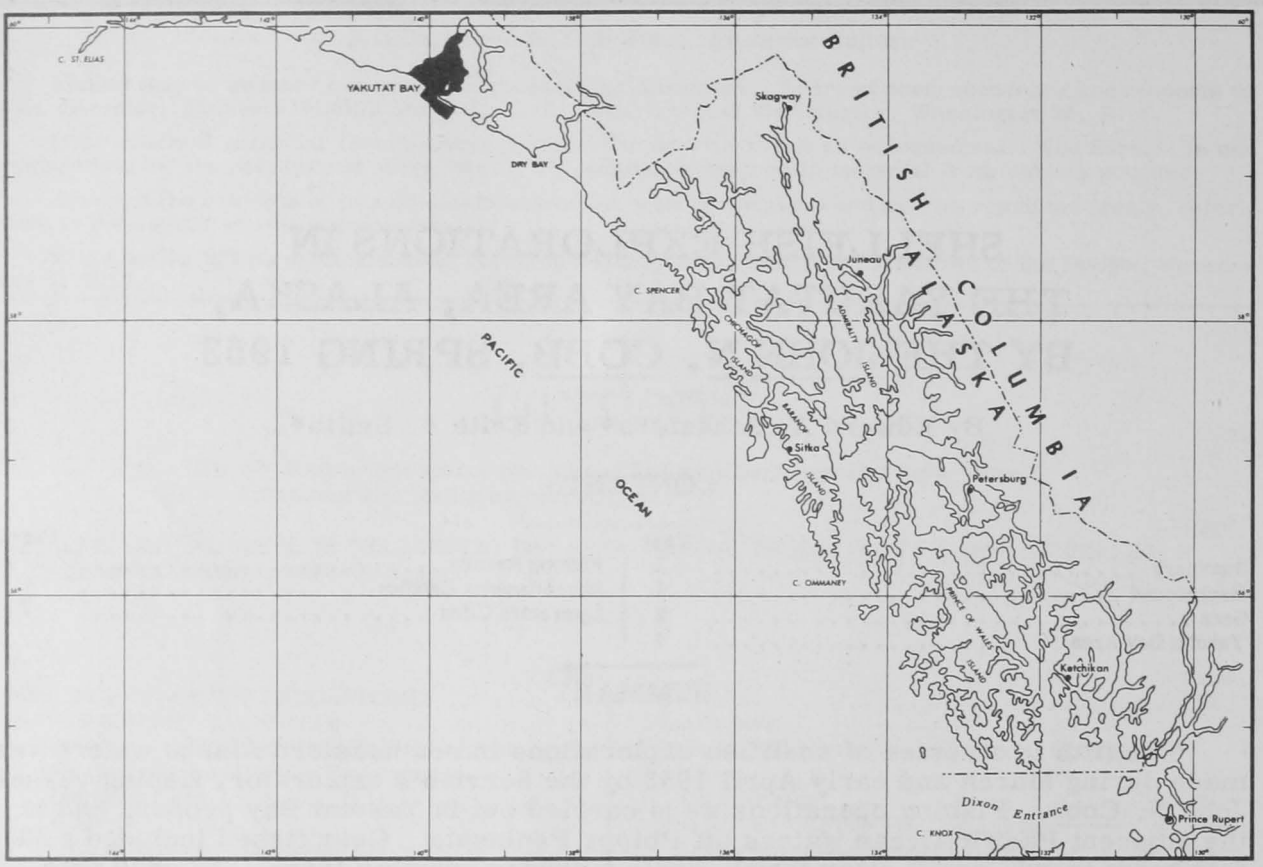

Fig. 1 - Southeastern Alaska. Shaded area was explored for shellfish in March and April 1953.

pots were set. The location of each drag and each trap or pot set is diagrammatically illustrated in figure 5. Detailed information concerning shrimp and scallop catches for each drag is presented in the fishing log (table 1). Data concerning shrimp-trap sets and crab-pot sets are given in tables 2 and 3, respectively.

GEAR

The majority of the drags were made with a 20-foot beam trawl, constructed to the same specifications as the beam trawl used on previous shellfish explorations of the John N. Cobb. For detailed specifications of this gear see Ellson and Livingstone (1952).

The otter trawl used was a small West Coast box-type trawl (fig. 2). The specifications are:

Section of Net	Length in Meshes	Mesh Size[1]/	Thread
Wings	200	$1\frac{1}{2}$ inch	24
Body	200	$1\frac{1}{2}$ inch	24
Intermediate	100	$1\frac{1}{2}$ inch	24
Cod end	50	$1\frac{1}{4}$ inch	27

1/All mesh sizes refer to stretched measure.

The head rope was 3/8-inch-diameter wire rope, and the foot rope was $\frac{1}{2}$-inch-diameter wire rope, both wrapped with manila. The doors measured $2\frac{1}{2}$ feet by 5 feet. Fastened along the head rope were 14 glass floats, 4 inches in diameter. In addition, 4 round aluminum floats 8 inches in diameter were fastened to the head

rope: 2 at the center and 1 at the top forward end of each wing of the net. A 4-foot length of chain was attached along the bottom of each wing, near its forward end.

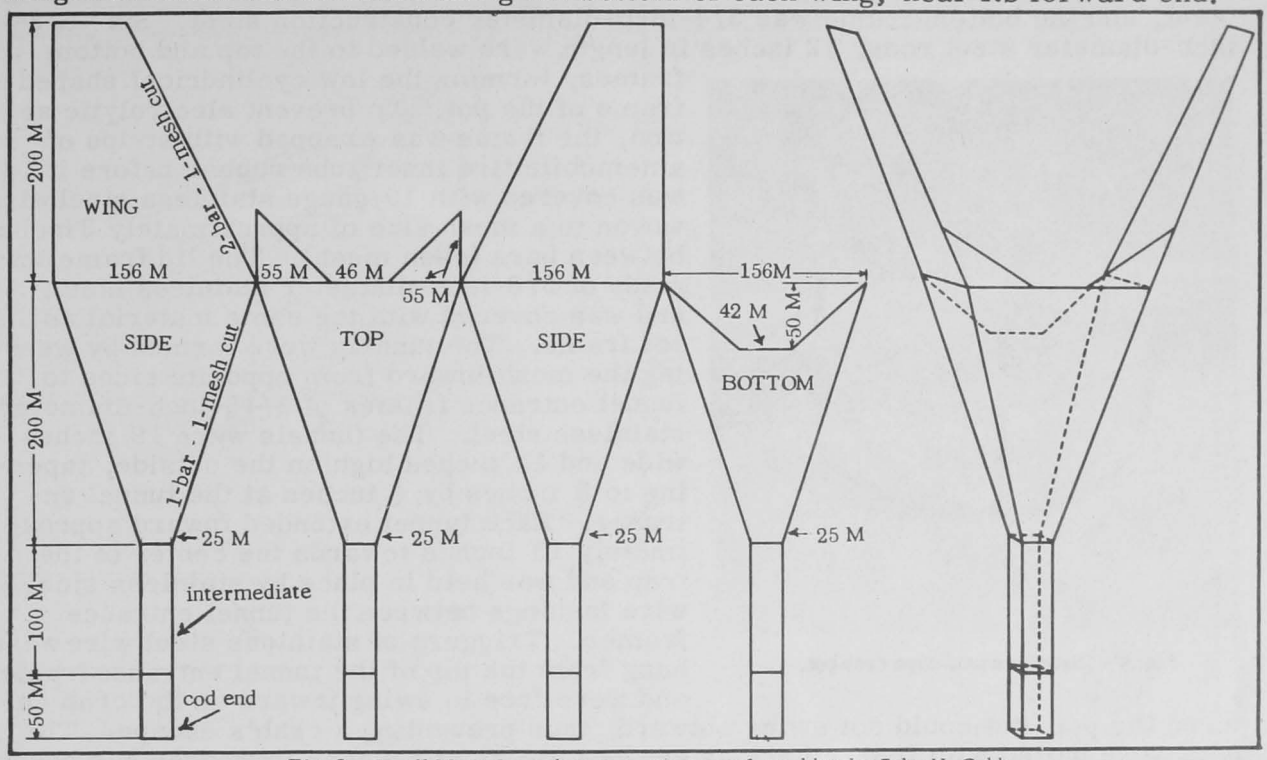

Fig. 2 - Small West Coast box-type otter trawl used by the John N. Cobb.

The scallop dredge was of the New Bedford type commonly used in the Atlantic Coast sea-scallop fishery (Royce 1946).

Four types of galvanized iron shrimp traps were fished during this exploration. In addition to the three types of galvanized iron traps used in 1952 (Schaefers 1953), a 4-tunnel non-collapsible iron trap, 24-inches square, similar in design to traps previously used was also fished. The top frame was $\frac{1}{2}$-inch-diameter galvanized iron, and the bottom frame was 5/8-inch-diameter galvanized iron. Four $\frac{1}{2}$-inch-diameter galvanized iron rods, welded at each end to the corners of the top and bottom frames, formed the sides of the frame. The lid frame was 3/8-inch-diamter galvanized iron, and was attached to the top frame on one side by 14-gauge wire wound around both frames to form hinges. The lid, when closed, was secured to the opposite side of the top frame with twine. The tunnel entrances were formed by 3-inch-diameter galvanized iron rings, located in the center of each vertical side. The tunnel indentations were formed by cross-tying the opposing rings with seine twine. The frame and the tunnels were covered with 18-thread $1\frac{1}{4}$-inch stretched-mesh cotton netting.

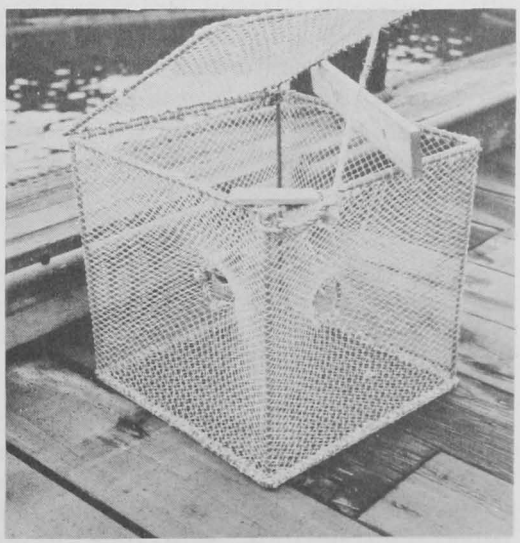

Fig. 3 - Four-tunnel non-collapsible galvanized iron shrimp trap.

Frozen herring was used as bait in all trap sets. The herring was cut into pieces, placed in a net bait bag, and suspended from the tunnel crossties. A motor launch was frequently used simultaneously with the John N. Cobb in setting and hauling shrimp traps. The launch was used exclusively for setting and hauling traps in areas inaccessible to the larger vessel.

The crab pots used were of the two-tunnel, circular Pacific Coast ocean type, 38 inches in diameter (fig. 4). The top frame was 5/8-inch-diameter construction steel, and the bottom frame was 3/4-inch-diameter construction steel. Six 5/8-inch-diameter steel rods, 12 inches in length, were welded to the top and bottom frames, forming the low cyclindrical shaped frame of the pot. To prevent electrolytic action, the frame was wrapped with strips of automobile tire inner tube rubber before it was covered with 19-gauge stainless steel wire woven to a mesh size of approximately 3 inches between bars (open mesh). The lid frame was made of 3/8-inch-diameter stainless steel, and was covered with the same material as the pot frame. The tunnels were formed by weaving the mesh inward from opposite sides to tunnel entrance frames of 3/16-inch-diameter stainless steel. The tunnels were 19 inches wide and 12 inches high on the outside, tapering to 8 inches by 4 inches at the tunnel entrance. Each tunnel extended inward approximately 13 inches towards the center of the trap and was held in place by stainless steel wire lashings between the tunnel entrance frames. Triggers of stainless steel wire were hung from the top of the tunnel entrance frame, and were free to swing inward as the crab entered the pot, but could not swing outward, thus preventing a crab's escape. The pots were baited with frozen herring cut into pieces and placed in wooden bait boxes, which were suspended between the tunnel entrance frames.

Fig. 4 - Circular ocean-type crab pot.

YAKUTAT BAY AREA

Yakutat Bay is 16 miles wide at its entrance between Ocean Cape and Point Manby. It extends inland in a northeasterly direction for 15 miles, where it is 10 miles wide between Blizhni Point and Knight Island. The bay narrows and continues in the same direction for 8 miles farther to Point Latouche, where it is 3 miles wide. The continuation northward is known as Disenchantment Bay (Anonymous 1943). Ice covered Disenchantment Bay in the vicinity of Haenke Island and prevented the John N. Cobb from exploring the fishing possibilities of Russel Fiord, an arm extending 28 miles southeastward from the head of Disenchantment Bay.

FISHING RESULTS

As fishing was carried on with a 20-foot beam trawl, catches were presumably smaller than would have been obtained with a commercial-size trawl, which normally has a 40-foot beam. The findings reported in this paper apply to the period March 10 to April 8, 1953.

Except for one drag made near Point Latouche, all fishing operations in Yakutat Bay proper were carried out in the area between the entrance of the Bay and Blizhni Point (fig. 5). Favorable dragging bottom was found in most portions of this area, and one of the drags mudded down. Only two of the drags in this area encountered obstructions, with one resulting in a broken beam and the other in a torn net.

Commercial quantities of pink shrimp (Pandalus borealis) were taken with the beam trawl from off Kame Stream to off Blizhni Point. Nine drags in this locality at depths of 30 to 54 fathoms averaged 484 pounds of pink shrimp per hour,[2/] with two of the best drags (Nos. 74 and 75) averaging 904 pounds of pink shrimp per hour

2/To permit ready comparison of catch information, catch results have been converted to a rate-per-hour basis, as some variation occurred in the duration of individual drags during this exploration.

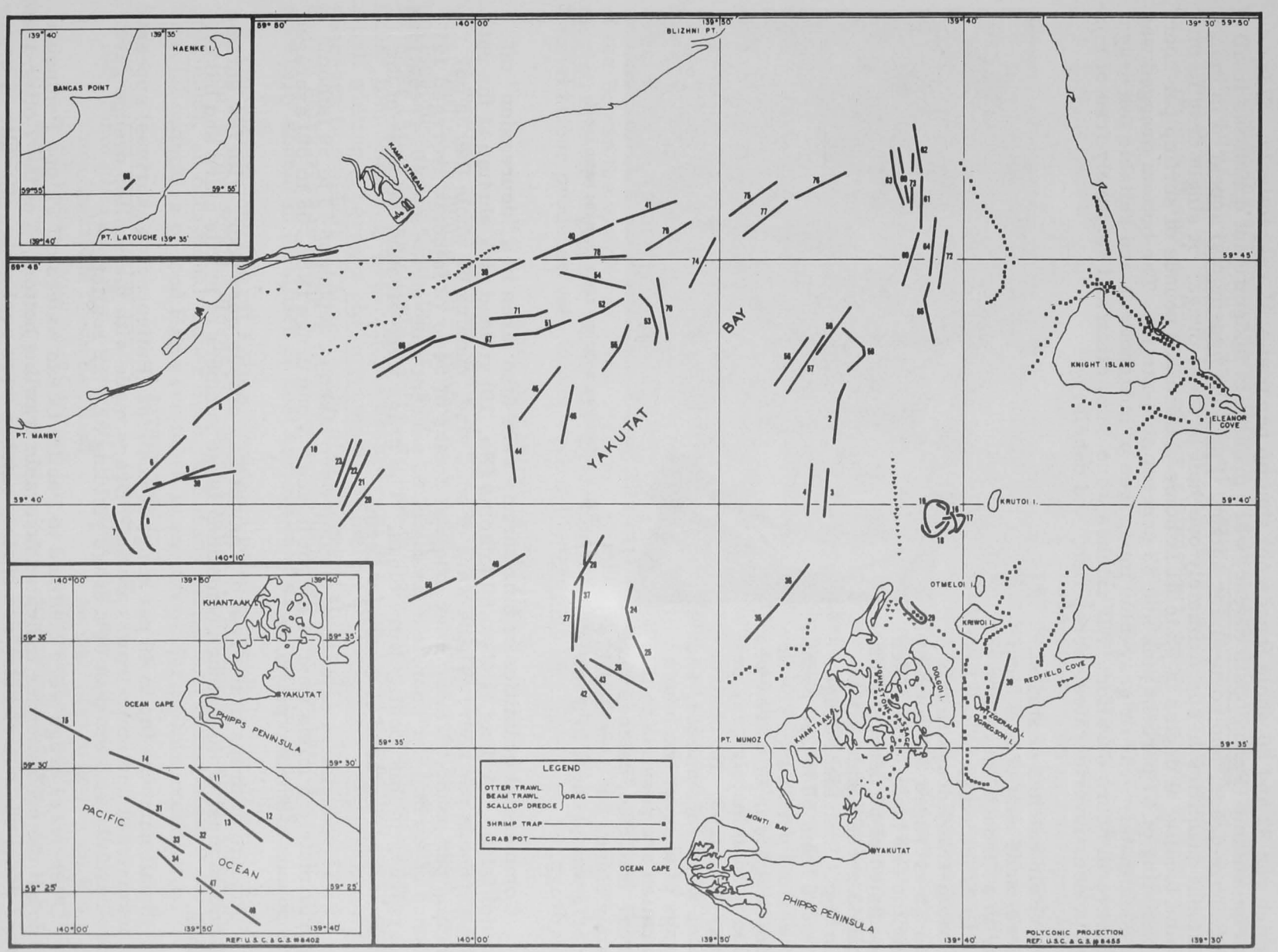

Fig. 5 - Location of beam-trawl, otter-trawl and scallop-dredge drags, and shrimp-trap and crab-pot sets in the Yakutat Bay area.

which ran 82 and 80 whole (heads on) shrimp per pound, 3/ respectively. Side-stripe shrimp (Pandalopsis dispar) were present in insignificant quantities in all of the above drags, and coon-stripe shrimp (Pandalus hypsinotus) appeared in insignificant quantities in approximately one-half of these drags. A single drag in this same locality at depths of 55 to 61 fathoms yielded 186 pounds of shrimp per hour consisting of 67 percent pink and 33 percent side-stripe. The bottom dragged was predominately gray or gray-blue mud, free of obstructions and suitable for drags of several hours duration. All catches were quite clean and relatively free of miscellaneous invertebrates, scrap fish, and debris.

Fair catches of shrimp were made east of this locality in a "trough" at depths of 71 to 97 fathoms. A total of 9 beam-trawl drags in this trough averaged 202 pounds of shrimp per hour. The catch consisted of 57 percent pink and 43 percent side-stripe shrimp. Individual drags yielded from 50 to 290 pounds of shrimp per hour. The bottom dragged in this area was also predominately gray or gray-blue mud. No obstructions were encountered, and drags of at least two hours duration are possible in this area. As a rule, catches were fairly clean, but considerable debris was present in a few of the drags.

Fig. 6 - Emptying a shrimp catch from the beam trawl.

Commercial quantities of pink shrimp were also taken in a "depression" off Krutoi Island. A drag at 45 to 60 fathoms (No. 19) yielded pink shrimp at the rate of 600 pounds per hour. These were of good size, running 67 whole (heads on) shrimp per pound. Three other drags at depths of 54 to 73 fathoms averaged 121 pounds of shrimp per hour, consisting of 60 percent side-stripe and 40 percent pink. All catches in this locality were clean. The drags were circular because of the limited dragging area at desirable depths.

Fairly consistent catches of shrimp were taken at depths of 43 to 59 fathoms approximately 5 miles west of Knight Island. Four drags (Nos. 56 to 59) averaged 149 pounds of shrimp per hour.

Results of drags in the rest of Yakutat Bay proper were poor, with few shrimp taken and most of the catches containing large numbers of brittle stars and basket stars.

Small numbers (up to 49 per drag) of scallops (Patinopecten caurinus) appeared in beam-trawl and otter-trawl catches. Drags made with the scallop dredge gave poor results, with the best of 5 drags yielding only 11 scallops. 4/

Otter-trawl drags were confined to Pacific Ocean waters off Phipps Peninsula. Although the echo sounder indicated favorable trawling bottom, 3 of the 7 otter-trawl drags resulted in torn nets, and shrimp catches were negligible. Results of beam-trawl drags in this area were also negligible.

3/For complete details of number of whole shrimp per pound by species for all drags see table 1.

4/For details of scallop catches see table 1.

Shrimp traps set from the vicinity of Gregson Island to north of Knight Island were generally productive. One set of 19 traps along the east shore of the mainland from opposite the middle of Knight Island to Eleanor Cove averaged slightly over 2 pounds of spot shrimp (Pandalus platyceros) per trap (table 2) and a total catch of $3\frac{1}{2}$ pounds of coon-stripe shrimp. The spot shrimp from this set averaged 13 whole (heads on) shrimp per pound, and the coon-stripe shrimp averaged 33 per pound. Catches of spot shrimp per trap in this set varied from several shrimp to 5 pounds. Other trap sets in this area averaged approximately 1 to $1\frac{1}{2}$ pounds of spot and 1 to 2 pounds of coon-stripe shrimp per trap. As traps were set over a wide area and catches per trap varied considerably, increased local knowledge would probably raise the average catch per trap by eliminating the setting of traps in the least productive locations.

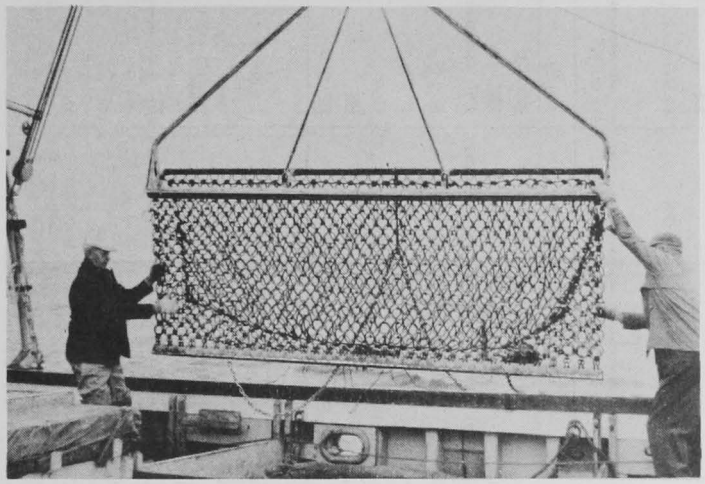

Fig. 7 - Hoisting the scallop dredge aboard the John N. Cobb.

Catches of spot shrimp from traps set in Johnstone Passage and off Khantaak Island were poor.

Most of the crab pots fished during this exploration were set on the west side of the Bay in the vicinity of Kame Stream. Catches of dungeness crab (Cancer magister) were negligible (table 3). Crab pots set north of Khantaak Island and in Redfield Cove produced only tanner crab (Chionoecetes bairdii).

MISCELLANEOUS CATCHES

In addition to the shrimp and scallops taken in beam-trawl drags in Yakutat Bay, flatfish including starry flounder (Platichthys stellatus), flathead "sole" (Hippoglossoides elassodon), butter "sole" (Isopsetta isolepis), and arrow-toothed flounder (Atheresthes stomias) were present in most drags in small quantities. Other fish commonly occurring in beam-trawl drags included eel pouts (Zoarcidae), small whiting (Theragra chalcogramma), eulachon (Thaleichthys pacificus), and sea poachers (Agonidae). Tanner crabs also occurred frequently. Brittle stars and basket stars were present in large numbers in drags near the entrance, but were generally absent in localities of best shrimp catches farther up the Bay.

Otter-trawl catches off Phipps Peninsula usually contained small numbers of eulachon, arrow-toothed flounder, skates (Rajidae), numerous tomcod (Microgadus proximus), an occasional tanner crab, and many brittle and basket stars. No commercial quantities of food fish were taken in any drags during this exploration.

LITERATURE CITED

Anonymous
1943. United States Coast Pilot, Alaska, Part I, Dixon Entrance to Yakutat Bay, Ninth (1943) edition, United States Coast and Geodetic Survey.

Ellson, J. G. and Livingston, Jr., R.
1952. The John N. Cobb's shellfish explorations in certain southeastern Alaskan waters, Spring 1951, Commercial Fisheries Review, vol. 14, no. 4 (April), pp. 1-20 (also issued as Separate No. 311, U. S. Fish and Wildlife Service, Washington, D. C.).

Royce, W. F.
1946. Gear used in the sea scallop fishery, Commercial Fisheries Review, vol. 8, no. 12 (December), pp. 7-11 (also issued as Fishery Leaflet No. 225, April 1947, U. S. Fish and Wildlife Service, Washington, D. C.).

Schaefers, E. A.
1953. Shellfish explorations in certain southeastern Alaskan waters by the John N. Cobb, Spring 1952. Commercial Fisheries Review, vol. 15, no. 3 (March), pp. 1-18 (also issued as Separate No. 343, U. S. Fish and Wildlife Service, Washington, D. C.).

Table 1—Fishing Log--Beam-Trawl Drags, Otter-Trawl Drags, and Scallop-Dredge Drags in the Yakutat Bay Area, Alaska, Spring 1953

Drag Number	1 (B. T.)[1]	2 (B. T.)	3 (B.T.)	4 (B. T.)	5 (B. T.)	6 (B. T.)	7 (B. T.)	8 (B. T.)	9 (B. T.)	10 (B. T.)
Date	3/10/53	3/11/53	3/11/53	3/11/53	3/12/53	3/12/53	3/12/53	3/12/53	3/12/53	3/12/53
Latitude N.	59° 42.7'	59° 42.6'	59° 39.8'	59° 40.0'	59° 42.6'	59° 41.4'	59° 39.9'	59° 39.1'	59° 40.8'	59° 40.8'
Longitude W.	140° 04.0'	139° 44.8'	139° 45.8'	139° 46.3'	140° 09.3'	140° 12.0'	140° 14.9'	140° 13.2'	140° 10.8'	140° 07.3'
Course, Magnetic [2]	030°	172°	335°	155°	210°	195°	154°	276°	220°	356°
Depth Range in Fathoms	50 - 53	65 - 73	97 - 100	99 - 100	40 - 44	38 - 46	31 - 45	45-49	47 - 49	51 - 53
Type of Bottom	gy. M.	gy. M.	gy. M.	gy. M.	gy. M. & S.	gy. M. & S.	gy. M.	gy. M.	gy. M.	gy. M.
Trawling Bottom	Clear	Clear	Clear	Clear	Clear	Clear	Snag	Clear	Clear	Clear
Tide	Ebb	Ebb	Low slack	Flood	Ebb	Ebb	Ebb	Ebb	Ebb	Low slack
Time on Bottom in Minutes	60	30	30	30	30	30	30	30	30	30
Shrimp Catch in Pounds: (Whole Shrimp per Pound) [3]										
Pink	2 (71)	Trace	Trace	Trace	Trace	Trace	Trace	—	Trace	Trace
Side-stripe	6 (31)	18 (26)	10½ (29)	9¼ (25)	Trace	Trace	Trace	4 (25)	10⅝ (26)	8 (26)
Coon-stripe	Trace [4]	Trace	Trace	--	--	--	--	--	--	--
Spot	—	Trace	--	--	--	--	--	—	--	--
Total Shrimp Catch in Pounds	8	18	10½	9¼	—	—	—	4	10⅝	8
Total Shrimp Catch Hourly Basis	8	36	21	18½	—	—	--	8	21¼	16
Number of Scallops	7 (28) [5]	—	1 (-)	--	—	--	--	15 (20)	26 (22)	—
Remarks	—	—	--	--	--	--	Net torn	—	—	—

Drag Number	11 (O. T.)[1]	12 (O. T.)	13 (O. T.)	14 (O. T.)	15 (O. T.)	16 (B. T.)	17 (B. T.)	18 (B. T.)	19 (B. T.)	20 (B. T.)
Date	3/13/53	3/13/53	3/13/53	3/13/53	3/13/53	3/15/53	3/15/53	3/15/53	3/15/53	3/16/53
Latitude N.	59° 30.2'	59° 28.3'	59° 27.0'	59° 29.5'	59° 31.0'	59° 40.1'	59° 39.8'	59° 39.7'	59° 39.5'	59° 39.6'
Longitude W.	139° 50.6'	139° 46.3'	139° 45.1'	139° 51.7'	139° 58.6'	139° 41.1'	139° 40.8'	139° 40.6'	139° 41.4'	140° 05.6'
Course, Magnetic [2]	100°	096°	280°	261°	267°	089° (Circular)	047° (Circular)	178° (Circular)	299° (Circular)	009°
Depth Range in Fathoms	25 - 28	28 - 31	40 - 43	39 - 43	40 - 47	54 - 58	57 - 73	56 - 66	45 - 60	71 - 74
Type of Bottom	bu. M.	bu. M. & S.	bu. M. & S.	bu.-gy. M. & S.	bu.-gy. M. & S.	gy.-bu. M.	gy.-bu. M.	gy.-bu. M.	gy.-bu. M.	gy. M.
Trawling Bottom	Clear	Snag	Clear	Clear	Snag	Clear	Clear	Clear	Clear	Clear
Tide	Flood	High slack	Ebb	Ebb	Ebb	High slack	Ebb	Ebb	Ebb	Flood
Time on Bottom in Minutes	60	48	60	60	60	30	30	30	45	30
Shrimp Catch in Pounds: (Whole Shrimp per Pound) [3]										
Pink	—	—	Trace [4]	--	—	15 (115)	18¾ (98)	38 (82)	450 (67)	Trace
Side-stripe	--	--	--	--	—	62 (22)	10 (31)	37 (39)	Trace	7¾ (23)
Coon-stripe	--	—	—	--	--	Trace	--	Trace	Trace	—
Spot	--	--	—	--	—	Trace	—	—	—	—
Total Shrimp Catch in Pounds	--	--	—	—	--	77	28¾	75	450	7¾
Total Shrimp Catch Hourly Basis	—	--	--	--	—	154	57½	150	600	15½
Number of Scallops	—	--	6 (23) [5]	22 (23)	—	—	--	--	--	14 (28)
Remarks	—	Net torn	—	—	Net torn	--	--	—	--	—

For explanation of footnotes see p. 11.

Table 1—Fishing Log--Beam-Trawl Drags, Otter-Trawl Drags, and Scallop-Dredge Drags in the Yakutat Bay Area, Alaska, Spring 1953 (Continued)

Drag Number	21 (B. T.)[1]	22 (B. T.)	23 (B. T.)	24 (B. T.)	25 (B. T.)	26 (B. T.)	27 (B. T.)	28 (B. T.)	29 (B. T.)	30 (B. T.)
Date	3/16/53	3/16/53	3/16/53	3/18/53	3/18/53	3/18/53	3/18/53	3/19/53	3/19/53	3/19/53
Latitude N.	59° 41.2'	59° 40.2'	59° 41.4'	59° 38.4'	59° 37.3'	59° 36.2'	59° 37.0'	59° 38.4'	59° 38.0'	59° 36.9'
Longitude W.	140° 04.3'	140° 05.6'	140° 05.0'	139° 53.5'	139° 53.5'	139° 53.0'	139° 56.0'	139° 56.0'	139° 42.1'	139° 38.2'
Course, Magnetic[2]	177°	352°	167°	167°	128°	271°	332°	002°	120° (Circular)	167°
Depth Range in Fathoms	56 - 64	46 - 52	34 - 40	76 - 77	74 - 76	75 - 77	76 - 80	80	48 - 59	72 - 78
Type of Bottom	gy. - bu. M.	gy. M. & St.	gy. M.	gy. M.	bu. - gy. M.	gy. M.	gy. M.	gy. M.	gy. M.	gy. M.
Trawling Bottom	Clear	Clear	Snag	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Tide	Flood	High slack	Ebb	Flood	Flood	High slack	Ebb	Ebb	Low slack	Flood
Time on Bottom in Minutes	30	30	30	30	30	30	30	30	30	30
Shrimp Catch in Pounds: (Whole Shrimp per Pound)[3]										
Pink	Trace[4]	3⅜ (61)	—	Trace	Trace	Trace	Trace	Trace	14 (128)	37 (127)
Side-stripe	26½ (28)	1 (38)	--	35 (27)	17 (24)	2¾ (24)	10½ (21)	Trace	Trace	24 (29)
Coon-stripe	Trace	Trace	--	--	--	--	--	--	Trace	--
Spot	--	--	--	--	--	--	--	--	Trace	--
Total Shrimp Catch in Pounds	26½	1⅝	—	35	17	2¾	10½	--	14	61
Total Shrimp Catch Hourly Basis	53	9⅛	—	70	34	5½	21	--	28	122
Number of Scallops	—	--	—	--	--	1 (-)	38 (14)[5]	—	--	—
Remarks	—	—	Beam broke	--	--	--	--	—	--	—

Drag Number	31 (O. T.)[1]	32 (O. T.)	33 (B. T.)	34 (B. T.)	35 (B. T.)	36 (B. T.)	37 (S. D.)	38 (S. D.)	39 (S. D.)	40 (S. D.)
Date	3/20/53	3/20/53	3/20/53	3/20/53	3/20/53	3/20/53	3/21/53	3/21/53	3/23/53	3/23/53
Latitude N.	59° 28.8'	59° 27.5'	59° 26.5'	59° 26.5'	59° 37.2'	59° 38.0'	59° 37.2'	59° 40.5'	59° 44.4'	59° 45.1'
Longitude W.	139° 56.0'	139° 51.3'	139° 51.1'	139° 53.3'	139° 48.9'	139° 47.5'	139° 55.9'	140° 13.0'	140° 01.1'	139° 57.7'
Course, Magnetic[2]	090°	095°	274°	091°	012°	008°	338°	052°	037°	037°
Depth Range in Fathoms	61 - 67	61 - 63	71 - 73	80 - 82	88 - 96	97 - 99	77 - 80	45 - 48	31 - 33	30 - 34
Type of Bottom	gy. M.	gy. M.	gy. M.	gy. M.	gy. - bu. M.	gy. - bu. M.	gy. M.	gy. M.	gy. M. & St.	gy. M. & St.
Trawling Bottom	Snag	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Tide	Ebb	Low slack	Flood	Flood	Flood	Flood	Flood	Flood	Ebb	Ebb
Time on Bottom in Minutes	60	30	30	30	30	30	30	30	30	30
Shrimp Catch in Pounds: (Whole Shrimp per Pound)[3]										
Pink	--	Trace[4]	Trace	Trace	Trace	7 (109)	--	--	—	--
Side-stripe	—	--	Trace	Trace	26 (27)	32 (32)	--	—	—	—
Coon-stripe	--	--	--	--	—	—	--	--	—	--
Spot	--	--	--	--	--	--	--	—	--	—
Total Shrimp Catch in Pounds	--	--	--	--	26	39	--	--	--	--
Total Shrimp Catch Hourly Basis	--	--	--	--	52	78	--	--	--	--
Number of Scallops	1 (-)	31 (16)[5]	—	—	8 (14)	6 (12)	11 (18)	5 (20)	—	--
Remarks	Net torn	--	--	--	--	--	--	--	--	--

For explanation of footnotes see p. 11.

Table 1—Fishing Log--Beam-Trawl Drags, Otter-Trawl Drags, and Scallop-Dredge Drags in the Yakutat Bay Area, Alaska, Spring 1953 (Continued)

Drag Number	41 (B. T.)[1]	42 (B. T.)	43 (B. T.)	44 (B. T.)	45 (B. T.)	46 (B. T.)	47 (B. T.)	48 (B. T.)	49 (B. T.)	50 (B. T.)
Date	3/23/53	3/26/53	3/26/53	3/26/53	3/26/53	3/26/53	3/27/53	3/27/53	3/28/53	3/28/53
Latitude N.	59° 45.9'	59° 35.6'	59° 36.8'	59° 40.5'	59° 41.8'	59° 42.5'	59° 25.5'	59° 24.5'	59° 39.0'	59° 38.5
Longitude W.	139° 54.2'	139° 54.4'	139° 55.8'	139° 58.4'	139° 58.2	139° 56.0'	139° 50.3'	139° 47.5'	139° 58.0'	140° 00.8'
Course, Magnetic[2]	042°	295°	109°	324°	008°	162°	100°	099°	211°	216°
Depth Range in Fathoms	29 - 33	73 - 77	71 - 77	69 - 74	63 - 67	64 - 71	71 - 73	71 - 73	71 - 79	61 - 86
Type of Bottom	Gy. M. & St.	Gy. M.	Gy. M.	Gy. M.	Gy. M.	Gy. M.	Gy. M.	Gy. M.	Gy. M.	Gy. M.
Trawling Bottom	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Tide	Low slack	Ebb	Ebb	Ebb	Low slack	Flood	Ebb	Ebb	High slack	Ebb
Time on Bottom in Minutes	30	30	30	30	30	30	30	30	30	24
Shrimp Catch in Pounds: (Whole Shrimp per Pound)[3]										
Pink	—	—	Trace[4]	7 (68)	12 (108)	11 (71)	Trace	Trace	10 (97)	Trace
Side-stripe	—	—	18½ (30)	21 (28)	34 (38)	32 (32)	Trace	--	20 (36)	9½ (30)
Coon-stripe	—	—	—	—	—	—	--	—	--	—
Spot	—	—	—	—	—	—	—	—	—	—
Total Shrimp Catch in Pounds	—	--	18½	28	46	43	—	—	30	9½
Total Shrimp Catch Hourly Basis	—	—	37	56	92	86	—	—	60	23¾
Number of Scallops	—	—	34 (14)[5]	49 (20)	15 (27)	41 (21)	2 (-)	2 (-)	13 (21)	—
Remarks	—	Net not on bottom	—	—	—	--	—	--	--	End of drag

Drag Number	51 (B. T.)[1]	52 (B. T.)	53 (B. T.)	54 (B. T.)	55 (B. T.)	56 (B. T.)	57 (B. T.)	58 (B. T.)	59 (B. T.)	60 (B. T.)
Date	3/31/53	3/31/53	3/31/53	3/31/53	3/31/53	3/31/53	4/1/53	4/1/53	4/1/53	4/2/53
Latitude N.	59° 43.6'	59° 43.9'	59° 44.4'	59° 44.8'	59° 43.8'	59° 43.5'	59° 42.3'	59° 43.7'	59° 44.1'	59° 44.6'
Longitude W.	139° 58.5'	139° 55.8'	139° 53.3'	139° 56.6'	139° 53.8'	139° 46.4'	139° 47.3'	139° 44.9'	139° 44.7'	139° 42.6'
Course, Magnetic[2]	067°	041°	115°	074°	173°	186°	003°	104°	187°	349°
Depth Range in Fathoms	50 - 52	49 - 51	41 - 47	37 - 46	55 - 61	46 - 49	50 - 55	51 - 59	43 - 52	87 - 98
Type of Bottom	Gy. - bu. M.	Gy. M.	Gy. - bu. M.	Gy.-bu. M. & G.	Gy. M.	Gy.-bu. M. & St.	Gy. M.	Gy. M.	Gy. M. & G.	Gy. -bu. M.
Trawling Bottom	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Tide	Flood	Flood	Flood	Ebb	Ebb	Ebb	High slack	Ebb	Ebb	High slack
Time on Bottom in Minutes	30	30	30	30	30	30	30	30	30	30
Shrimp Catch in Pounds: (Whole Shrimp per Pound)[3]										
Pink	150 (77)	184 (76)	250 (73)	30 (71)	62 (85)	53 (78)	58 (75)	70 (66)	50 (74)	92 (119)
Side-stripe	Trace[4]	Trace	Trace	Trace	31 (29)	8 (28)	32 (23)	8 (22)	18 (30)	52 (28)
Coon-stripe	—	—	—	—	—	Trace	Trace	Trace	—	—
Spot	—	—	—	—	—	--	--	—	—	—
Total Shrimp Catch in Pounds	150	184	250	30	93	61	90	78	68	144
Total Shrimp Catch Hourly Basis	300	368	500	60	186	122	180	156	136	288
Number of Scallops	—	5 (26)[5]	1 (-)	—	—	--	15 (16)	—	13 (21)	—
Remarks	—	--	--	—	--	--	--	--	—	—

For explanation of footnotes see p. 11.

Table 1—Fishing Log--Beam-Trawl Drags, Otter-Trawl Drags, and Scallop-Dredge Drags in the Yakutat Bay Area, Alaska, Spring 1953 (Continued)

Drag Number	61 (B. T.)[1]	62 (B. T.)	63 (B. T.)	64 (B. T.)	65 (B. T.)	66 (B. T.)	67 (B. T.)	68 (B. T.)	69 (B. T.)	70 (B. T.)
Date	4/2/53	4/2/53	4/3/53	4/3/53	4/3/53	4/4/53	4/4/53	4/4/53	4/4/53	4/5/53
Latitude N.	59° 45.7'	59° 46.8'	59° 46.2'	59° 45.9'	59° 44.6'	59° 42.9'	59° 43.6'	59° 55.1'	59° 47.4'	59° 43.5'
Longitude W.	139° 41.7'	139° 41.7'	139° 42.5'	139° 41.2'	139° 41.4'	140° 04.2'	140° 00.6'	139° 36.7'	139° 42.7'	139° 52.2'
Course, Magnetic[2]	332°	322°	312°	157°	170°	032°	077°	016°	141°	322°
Depth Range in Fathoms	84 - 89	75 - 83	71 - 78	95 - 97	95 - 97	47 - 51	52 - 55	151	75 - 80	43 - 49
Type of Bottom	gy.-bu. M. & S.	gy. M. St. & Blds.	gy. M. & G.	gy.-bu. M.	gy.-bu. M.	gy. M. & G.	gy.-bu. M & St.	gy. M. & blds.	gy. M.	gy. M.
Trawling Bottom	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Snag	Clear	Clear
Tide	Ebb	Ebb	Flood	Ebb	Ebb	Low slack	Flood	Flood	High slack	Flood
Time on Bottom in Minutes	30	30	30	30	30	30	30	10	30	30
Shrimp Catch in Pounds: (Whole Shrimp per Pound)[3]										
Pink	65 (106)	22 (109)	67 (101)	32 (112)	6 (102)	24 (73)	18 (71)	Trace[4]	123 (86)	88 (76)
Side-stripe	61 (31)	28 (27)	71 (31)	40 (34)	19 (27)	8 (43)	Trace	Trace	22 (59)	Trace
Coon-stripe	--	--	--	--	--	--	Trace	--	--	--
Spot	--	--	--	--	--	--	--	--	--	--
Total Shrimp Catch in Pounds	126	50	138	72	25	32	18	--	145	88
Total Shrimp Catch Hourly Basis	252	100	276	144	50	64	36	--	290	176
Number of Scallops	--	--	1 (-)	--	--	--	--	--	--	--
Remarks	--	--	--	--	--	--	--	Net snagged	--	--

Drag Number	71 (B. T.)[1]	72 (B. T.)	73 (B. T.)	74 (B. T.)	75 (B. T.)	76 (B. T.)	77 (B. T.)	78 (B. T.)	79 (B. T.)
Date	4/5/53	4/6/53	4/6/53	4/6/53	4/6/53	4/7/53	4/7/53	4/7/53	4/7/53
Latitude N.	59° 43.9'	59° 44.5'	59° 47.3'	59° 44.5'	59° 46.0'	59° 46.9'	59° 46.3'	59° 45.1'	59° 45.2'
Longitude W.	139° 59.4'	139° 41.1'	139° 42.1'	139° 51.2'	139° 49.6'	139° 44.8'	139° 47.2'	139° 56.2'	139° 53.0'
Course, Magnetic[2]	056°	339°	152°	358°	085°	215°	203°	058°	089°
Depth Range in Fathoms	44 - 47	91 - 93	83 - 85	36 - 44	30 - 33	34 - 54	31 - 33	36 - 40	35 - 37
Type of Bottom	gy. M.	gy. M.	gy. M. & G.	gy. M.	gy. M. & G.	gy. M.	gy. M.	gy. M.	gy. M.
Trawling Bottom	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Tide	High slack	Ebb	Flood	Flood	Flood	Low slack	Flood	Flood	Flood
Time on Bottom in Minutes	30	30	30	30	30	30	30	30	30
Shrimp Catch in Pounds: (Whole Shrimp per Pound)[3]									
Pink	228 (79)	55 (115)	55 (111)	394 (82)	510 (80)	160 (99)	56 (95)	162 (89)	139 (92)
Side-stripe	Trace[4]	47 (35)	53 (31)	Trace	Trace	Trace	Trace	Trace	Trace
Coon-stripe	--	--	--	Trace	Trace	Trace	--	Trace	Trace
Spot	--	--	--	--	--	--	--	--	--
Total Shrimp Catch in Pounds	228	102	108	394	510	160	56	162	139
Total Shrimp Catch Hourly Basis	456	204	216	788	1020	320	112	324	278
Number of Scallops	--	--	--	1 (-)	5 (90)[5]	--	--	--	--
Remarks	--	--	--	--	--	--	--	--	--

1/Indicates type of gear; B. T. - beam trawl, O. T. - otter trawl, S. D. - scallop dredge.
2/Course at start of drag. Courses were often varied because of changing bottom conditions.
3/Figures in parentheses indicate number of whole shrimp per pound.
4/"Trace" - less than one pound of shrimp.
5/Bracketed figures indicate number of scallop meats per pound.

Symbols for Types of Bottom:
Blds. - boulders G. - gravel
bu. M. - blue mud S. - sand
gy. M. - gray mud St. - stones

Table 2 - Shrimp-Trap Catches in Yakutat Bay, Alaska, Spring 1953

Vicinity	Set Number	Date Out	Date In	Tide	Depth in Fathoms	Number of Traps	Total Hours Out	Bait	Shrimp Catch				Total Shrimp Catch in Pounds
									Spot		Coon-stripe		
									Pounds	No. of Whole Shrimp per Pound	Pounds	No. of Whole Shrimp per Pound	
South of Gregson Island to off NE tip of Khantaak Island	1	3/10/53	3/14/53	Flood	14 - 64	30	96	Frozen herring	20½	19	32½	34	53¼
Off Gregson Island to off Eastern Point of Kriwoi Island	2	3/15/53	3/17/53	Flood	32 - 78	18	53	Frozen herring	29	17	40¼	35	69¼
Kriwoi Island to off Otmeloi Island	2A	3/15/53	3/17/53	Flood	16 - 96	12	54	Frozen herring	11¼	19	15⅜	41	26⅝
Along shore of mainland east of Otmeloi Island	2B	3/15/53	3/17/53	Flood	55 - 90	6	54	Frozen herring	8⅝	14	12	40	20⅝
Mid-channel from north tip of Knight Island to off point of mainland south of Eleanor Cove	3	3/17/53	3/19/53	Ebb	17 - 82	36	47	Frozen herring	51½	13	45½	41	97¼
Eleanor Cove to off Southwest tip of Knight Island and along mainland to opposite Krutoi Island	4	3/19/53	3/22/53	High slack	18 - 80	33	64	Frozen herring	34	18	58¼	36	92¼
Along mainland north of Knight Island, and off north tip of Knight Island	5	3/22/53	3/24/53	Flood	16 - 60	23	51	Frozen herring	18⅜	13	36⅝	35	55
Along mainland opposite Kriwoi Island to Redfield Cove	5A	3/22/53	3/24/53	Flood	38 - 88	12	51	Frozen herring	19⅜	14	19	34	38⅜
West side of Knight Island	6	3/25/53	3/30/53	Ebb	15 - 43	16	119	Frozen herring	14	16	9	42	23
Along mainland, opposite middle of Knight Island to Eleanor Cove	6A	3/25/53	3/30/53	Low slack	7 - 65	19	119	Frozen herring	40	13	3½	33	43½
Off Khantaak Island	7	3/30/53	4/2/53	Low slack	28 - 80	17	66	Frozen herring	1⅝	49	12¼	36	14
Johnstone Passage	8	4/1/53	4/3/53	Flood	14 - 45	17	48	Frozen herring	3⅛	16	28⅛	36	32
Northwest of Knight Island	9	4/5/53	4/8/53	Ebb	26 - 72	26	74	Frozen herring	39	12	30⅝	35	69⅝

Table 3 - Crab-Pot Catches in Yakutat Bay, Alaska, Spring 1953

Vicinity	Set Number	Date Out	Date In	Tide	Depth in Fathoms	Number of Pots	Total Hours Out	Bait	Dungeness crab catch			Tanner crab catch
									Legal males	Small males	Females	
Kame Stream	1	3/10/53	3/12/53	Ebb	10 - 13	7	49	Frozen herring	----	----	----	79
Off north end of Dolgoi Island to off north end of Khantaak Island	2	3/10/53	3/14/53	Low slack	5 - 17	9	96	Frozen herring	1	1	----	29
Kame Stream, inside set No. 1.	3	3/12/53	3/23/53	Ebb	5	8	263	Frozen herring	1	5	1	4
North of north end of Khantaak Island	4	3/15/53	3/23/53	Ebb	7 - 20	17	190	Frozen herring	----	----	----	2
Kame Stream, outside set No. 1.	5	3/23/53	3/27/53	Ebb	17 - 20	15	102	Frozen herring	1	----	----	78
Redfield Cove	6	3/25/53	3/30/53	Low slack	20 - 40	5	119	Frozen herring	----	----	----	13
Continuation of set No. 5 in a northeast direction	7	3/27/53	4/5/53	Flood	20 - 21	16	211	Frozen herring	1	----	----	37