Informational Leaflet 68

A REVIEW OF TRAWLING EXPLORATIONS ON THE ALASKA SHRIMP RESOURCE

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STATE OF ALASKA
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DEPARTMENT OF
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SUBPORT BUILDING, JUNEAU

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Brief Chronological History of the Alaska Shrimp Fishery[1/]

1916-1956

Commercial utilization of the shrimp resource began in 1915 in Southeastern Alaska when Mr. Gardner commenced drying shrimp in Thomas Bay. Although this venture was soon discontinued, Alaskan Glacier Seafoods, under the partnership of Earl Ohmer and Karl Sifferman, began pickling shrimp in Petersburg in 1916. The company continued to prosper because of the increase in efficiency by the trawlers and the perfection of canning and freezing techniques; although plagued by market conditions, finances, high labor, and transportation costs.

Many other ventures were started in Wrangell and Petersburg as a result of the prosperity of Alaskan Glacier Seafoods. However, the Reliance Shrimp Company in Wrangell and the Alaskan Glacier Seafoods remained the primary processors until 1956. The Wrangell-Petersburg area showed a relatively steady increase in production despite the economic fluctuations resulting from the depression and World War II.

The relating increase in production has been attributed to the availability and abundance of commercial quantities of shrimp near the Stikine River, and the availability of manpower provided by the Alaskan natives for handpicking the small "pink" shrimp (*Pandalus borealis*).

The cocktail shrimp market in the Pacific states was supplied by the Stikine area for many years. This market was created by a consumer demand for the small Alaskan "pinks" in preference to the large white cocktail shrimp provided by the Southern states.

1957

Several factors initiated the expansion of new commercial shrimping areas outside of Southeastern Alaska. The mechanization of processing shrimp, with the introduction of the New Orleans "Peeler," was found to be adequate for providing a marketable product. During 1957 the brokers increased their demand for the "pink" shrimp as a result of the reduced production in the Gulf of Mexico, and because of the increased consumer demand for the quality and flavor of the tiny "pink" shrimp.

[1/] The following summary was drawn from a large number of publications which have not been individually cited in the text. The reader is referred to the bibliography section for the source of this material.

In 1957 the potential of western Alaska for commercial shrimping was demonstrated by the exploratory vessel Tordenskjold which produced the heaviest shrimp landings recorded in the Pacific. In the vicinity of the Shumagin Islands the Tordenskjold made catches as high as 3,800 pounds per thirty-minute tow, compared to the average drag of 300 pounds per hour in Southeastern Alaska. Other substantial catches exceeded 1,500 pounds per thirty-minute tow. Consequently, when the Washington and Oregon winter shrimp fishery declined drastically, the demand was placed upon the Alaskan resource.

1958

In 1958 the United States Department of the Interior, Bureau of Commercial Fisheries, exploratory vessel, John N. Cobb, discovered new commercial shrimping areas near Cook Inlet (Nuka Passage and Port Dick) and in some bays in Kodiak Island (Marmot Bay, Izhut Bay and Alitak Bay).

With the abundance of commercial stocks of shrimp demonstrated in the Central Alaska region, a noticeable increase in interest by both cannery operators and fishermen created a new horizon for attaining profits. The industry visualized a new "off season" fishery, to augment the salmon fishery, and in some areas visualized a substantial year around fishery. Not only was the "pink" shrimp abundant, but large quantities of coon-stripe (*Pandalus hypsinotus*) and side-stripe (*Pandalopsis dispar*) were contained in the catches.

1959

The center of the shrimp industry moved rapidly into the Central Alaska region. Canneries in Kodiak, Seldovia and Seward opened to exploit the new boom in the industry. The expansion of activity to the Central Alaska region of the state supplanted the canned-frozen pack of the small "pink" shrimp with a pack where a substantial portion of the catches was composed of the larger species of shrimp (side-stripe and coon-stripe). The increase in the size of the shrimp permitted grading of the canned pack into different market grades, which conformed more to the national standard than the previously used all inclusive name "Pacific Shrimp."

1960

The shrimp industry was severely curtailed with production dropping 100,000 cases. The "Peelers", which were the primary instrument in expansion of the industry, produced an economic setback by increase of the expenditures of the processors through higher rental rates of the shrimp peeling equipment. Several operators were forced out of business, and as a consequence, all processors had to sharply limit their production. In anticipation of the rental increase, packers increased their 1960 spring production and then suspended the processing earlier than usual during the summer. Resumption of the operations thereafter was never fully effective with the anticipated expansion delayed pending stronger market conditions and the settlement of the legal action based on the peeling costs and practices.

1961

The Central Alaskan industry recovered slightly from its 1960 slump. The expansion of operations was influenced by the scarcity of the Gulf of Mexico shrimp, the reduction in the shrimp surplus inventory which burdened the market in 1960, and by new operating procedures which made it possible for some packers to get their expenditures to levels permitting production, despite the high cost factors affecting their operations.

1962

The Central Alaska shrimp catch increased to nearly 13 million pounds in 1962. Much of this catch was converted into a shrimp log (frozen blocks of processed shrimp) rather than canned. Utilization of the shrimp log process was inaugurated by Louisiana interests which sought supplies of the small shrimp frozen in forms which could be sliced, breaded, and offered as a new shrimp specialty featuring the color and flavor of the Alaska shrimp. This method was utilized by the Alaska firms to gain a margin of profit to counter-balance the high cost of canning and yet meet the processing problems created by the high peeler rentals. However, the frozen product did not prove as successful as was anticipated due to problems related to processing the product.

1963

When the 1963 shrimp market suffered a sharp decline, the major depression affected the frozen product which in turn caused a general decline in the entire industry. The decline in the market has been attributed to the influx of the Japanese shrimp which were obtained in the Bering Sea and the Northeastern Pacific Ocean adjacent to Alaska and sold on the United States market under established American brands.

1964

The market conditions which prevailed in 1963 still existed. An additional setback occurred when the Good Friday earthquake resulted in suspension of operations in Kodiak and Seldovia and with Halibut Producers Cooperative in Seward completely demolished.

The problems associated with the mechanical peelers were brought before the Federal Trade Commission and the verdict released in mid-June 1964. The results of the hearing were as follows:

> "It is the Commission's conclusion and ultimate finding that the individual respondents (Peelers Corporation) have seriously injured the competitive opportunities of all domestic shrimp canners by selling their patented shrimp processing machines to foreign shrimp canners, thereby granting the foreign com-

petitors a significant competitive advantage over domestic canners in both domestic and foreign markets for canned shrimp products. It is also our conclusion and ultimate finding that the respondents have grievously injured and curtailed the competitive opportunities of shrimp canners located in the states of Oregon, Washington, and Alaska by charging them a discriminatory leasing rate for patented shrimp processing machinery which is approximately double the rate charged to other domestic shrimp canners.

The acts of the respondents constitute serious abuse of the monopoly rights granted to them under the United States patent laws, are in derogation of public interest and are hence unfair methods of competition and unfair acts or practices violative of Section 5 of the Federal Trade Commission Act."

The future of the South Central area will be determined by the fishing industry and market conditions as to the actual utilized potential of the resource.

JAPANESE SHRIMPING IN THE BERING SEA AND NORTHEASTERN PACIFIC OCEAN

The 1961 Taiyo Gyogyo K. K. dispatched an expedition consisting of a factory ship and thirty-two trawlers into the Bering Sea to pioneer shrimp canning. This company operated under a Japanese Fishery License and established an 80,000 case target. This expedition was equipped with the mechanical shrimp peeling machines purchased from Louisiana interests. A total of 74,000 cases was packed. The total catch consisted of 22.5 million pounds (10,255 metric tons). A portion of the catch was frozen due to difficulties encountered while attaining adjustment of the machines. Once the machines were adjusted canning went smoothly.

During 1962 three factory ships and twenty trawlers caught 37 million pounds (21,012 metric tons) and canned 351,000 cases in the Pribilof Island area.

In 1963 two factory ships and 29 trawlers reported a catch of 65.1 million pounds (31,612 metric tons) and packed 485,000 cases. The Japanese also expanded their operations into the Gulf of Alaska and the Northeastern Pacific Ocean.

The catch in the Shelikof Strait area consisted of 9 drags containing 7 thousand pounds (3.2 metric tons) of shrimp.

The Shumagin Island area catches contained 293 thousand pounds in 23 drags. The Albatross area catch produced 13.8 million pounds (626.8 metric tons) in 1,042 drags.

During 1964 the Japanese caught 45 million pounds (20,000 metric tons) in the Bering Sea.

Preliminary catch figures indicate that 180 thousand pounds (81.8 metric tons) were harvested in the Shumagin Island area in 95 drags and 1.8 million pounds (820 metric tons) in 2,350 drags from the Albatross bank. Two hundred and sixty-three thousand cases were packed and the remainder of the catch frozen.

The United States imported 2,366 cases in 1960, 31,314 cases in 1961, 199,944 cases in 1962, 395,157 cases in 1963, or 17 per cent in 1960, 42 per cent in 1961, 48 per cent in 1962, and 59 per cent in 1963 of the total Japanese shrimp export.

SHRIMP CATCH STATISTICS
1916-1964

	Southeastern Alaska			Central Alaska			Western Alaska	All Alask.
Year	Lbs. of Catch	Beam Trawls	Pots	Lbs. of Catch	Beam Trawls	Pots	Lbs. of Catch 1/	Total
1916	75,858	-	-	-	-	-	-	75,858
1917	65,000	-	-	-	-	-	-	65,000
1918	52,000*	-	-	-	-	-	-	52,000
1919	60,000	-	-	-	-	-	-	60,000
1920	112,045	-	-	-	-	-	-	112,045
1921	344,986	-	-	-	-	-	-	344,986
1922	336,380	-	-	-	-	-	-	336,380
1923	460,560	-	-	-	-	-	-	460,560
1924	528,432	-	-	-	-	-	-	528,432
1925	519,535	-	-	-	-	-	-	519,535
1926	490,185	-	-	-	-	-	-	490,185
1927	894,227	12	-	-	-	-	-	894,227
1928	916,856	8	-	-	-	-	-	916,856
1929	905,000	9	-	-	-	-	-	905,000
1930	931,881	9	-	-	-	-	-	931,881
1931	832,563	9	-	36,839	1	-	-	869,402
1932	543,761	11	-	3,018	1	-	-	546,779
1933	561,985	10	-	18,109	1	-	-	580,094
1934	686,449	12	-	4,015	1	-	-	690,464
1935	687,337	11	-	3,860	1	-	-	691,197
1936	865,809	12	-	-	-	-	-	865,809
1937	822,857	12	-	19,831	1	-	-	842,688
1938	777,801	6	-	14,000	1	-	-	791,801
1939	788,438	9	-	7,600	2	-	-	796,038
1940	921,206	11	-	-	-	-	-	921,206
1941	1,641,770	14	-	-	-	-	-	1,641,770
1942	551,556	13	-	-	-	-	-	551,556
1943	436,615	8	-	2,300	2	-	-	438,915
1944	540,846	9	-	-	1	-	-	540,846
1945	1,251,997	10	-	11,294	?	-	-	1,263,291
1946	2,248,900	8	-	-	-	-	-	2,248,900
1947	1,637,535	11	-	19,764	1	-	-	1,657,299
1948	2,834,803	11	-	-	-	-	-	2,834,803
1949	2,267,934	7	-	-	-	-	-	2,267,934
1950	2,156,910	11	-	1,350	1	-	-	2,158,260
1951	1,706,517	15	-	1,299	2	-	-	1,707,816
1952	1,943,672	12	-	9,105	5	-	-	1,952,777
1953	1,722,004	16	-	11,878	6	-	-	1,733,882
1954	1,437,924	14	-	14,005	1	-	-	1,451,929
1955	1,777,122	15	-	51,005	-	135	-	1,828,127

SHRIMP CATCH STATISTICS
1916-1964
(Continued)

	Southeastern Alaska			Central Alaska			Western Alaska	All Alaska
Year	Lbs. of Catch	Beam Trawls	Pots	Lbs. of Catch	Otter Trawls	Pots	Lbs. of Catch 1/	Total
1956	3,031,598	15	-	12,000	-	70	-	3,043,598
1957	2,350,449	10	-	29,705	-	400	-	2,380,154
1958	7,605,871	14	-	256,495	4	-	-	7,862,366
1959	5,518,843	22	-	7,533,478	24	60	-	13,052,321
1960	3,343,373	21	-	4,092,834	6	30	-	7,436,207
1961	4,212,300	20	-	11,768,200	13	30	-	15,980,500
1962	3,884,050	22	-	13,059,070	12	-	-	16,943,120
1963	3,110,340	20	-	12,016,610	15	-	-	15,126,950
1964	2,793,101	13	30	4,951,541	9	-	-	7,744,642

1/ No type of gear given in the statistics for Western Alaska.

* Estimated poundage

SHRIMP PROCESSORS IN ALASKA

FROM 1915 TO 1965

NAME OF PERSON OR PLANT	DATES OPERATED	LOCATION
Pacific Pearl Packing Co.	1949-50	Hydaburg
Hydaburg Co-op Association	1951	"
Pacific Pearl of Alaska	1955	"
Pacific Pearl Frozen Foods	1956	"
Leland Daniels	1956	Ketchikan
William Binkley	1957	"
E. C. Phillips & Son	1960-61, 64-65	"
R. S. Smith	1953	Tokeen
Nelson's	1949-65	"
Olympic Fisheries Co.	1921-22	Wrangell
Wrangell Shell Fish Co.	1923-26	"
Reliance Shrimp Co.	1926-65	"
Stikine Sea Food Co.	1932-35	"
Wrangell Shrimp Packing Co.	1939-42, 46-47	"
Boardway Canning Co.	1940-44	"
Wrangell Shrimp Co.	1948-1952	"
*Harbor Seafoods Co.	1948-1965	"
*W. F. Smith	1957-1962	"
*49th Star Seafoods	1962-63, 1965	"
Glacier Fish Co.	1918	Scow Bay
Ohmer and Sifferman Alaska Glacier Seafoods Co.	1916-1965	Petersburg
Petersburg Sea Products Co.	1921	"

NAME OF PERSON OR PLANT	DATES OPERATED	LOCATION
Ness Fish Company	1921-22	Petersburg
Kayler-Otness Fish Co.	1936-37	"
Dean Kayler	1938-39	"
Kayler-Dahl	1944-1965	"
Clyde Sheldon	1947	"
Gardner	1915	Thomas Bay
H. Van Vlack & Co.	1918	"
*Superior Packing Co.	1959	Tenakee
Totem Seafoods	1960	"
Anchor Seafoods Co.	1951	Juneau
*W. F. Smith	1961	"
Olympic Seafood Co.	1951-53	Douglas
Great Northern Fisheries	1963-64	"
Alaska Glacier Seafoods	1924	Haines
M. B. Company	1955	"
Alaska Youth Inc.	1958	"
Northern Seafood Co.	1931, 1938-39	Cordova
W. F. Smith	1958-59	"
Fairmount Island Seafood	1959-63	"
*Seward Seafoods Co.	1952, 1959-60	Seward
*Halibut Producer Co-op	1959-63	"
*Marine Food Inc.	1959-60	"
Ralph Grosvald	1961	"
Kroll Packing Company	1943-46	Seldovia
Seldovia Bay Packing Co.	1954	"
*Sutterlin and Wendt	1959-63, 1965	"

NAME OF PERSON OR PLANT	DATES OPERATED	LOCATION
*Ursin Seafoods	1960-61	Seldovia
King Crab Co.	1939	Halibut Cove
Henry Crow	1951	"
Narrows Packing Co.	1957-60	"
Alaska Fresh Co.	1952-55	Homer
Edwards & Wolk Seafoods Co.	1953	"
Alaska Seafoods	1960	"
Kachemak Bay Packing Co.	1961	"
Pacific Alaskan Seafoods	1961	"
*King Crab Inc.	1959-62	Kodiak
Alaska Ice and Storage	1965	"
*East Point Seafoods	1960-63	"
Berman Packing Co.	1961	Ninlchik
Moss Brothers	1955	Peterson Bay
Newport Fisheries Inc.	1947	New Port Walter
Whiz Halferty	1951	Swickshak

*Designates processors using peeling machines.

Throughout the summary of the exploratory cruises the scientific names are given for each commercial species of shrimp. The scientific and common name are given below for the people who are familiar with the common name.

Pandalus borealis	Pink shrimp
Pandalopsis dispar	Side-stripe shrimp
Pandalus hypsinotus	Coon-stripe shrimp
Pandalus goniurus	Humpy shrimp
Pandalus platyceros	Sport or prawn shrimp

This section is only intended as a summarized reference to the exploratory fishing conducted for shrimp by the United States Department of the Interior, Bureau of Commercial Fisheries. More complete information pertaining to the drags in regards to bottom types, actual location of the drags, trawling depth, and miscellaneous fish caught may be obtained by writing to the:

Base Director
Exploratory Fishing and Gear Research Base
Bureau of Commercial Fisheries
P. O. Box 2481
Juneau, Alaska 99801

SOUTHEASTERN ALASKA

Area Explored	Year Explored	Page Numbers
Affleck Canal	1952	24
Anchor Pass	1950, 1944	17,20
Bailey Bay	1950, 1944	17,20
Biorka Reefs	1950	21
Burroughs Bay	1950, 1944	18,20
Carroll Inlet	1950, 1944	17,20
Cascade Inlet	1944	17
Chickamin	1944	18
Chilkat Inlet	1951	22
Chilkoot Inlet	1951	22
Cholmondeley Sound	1950	20
Clarence Strait to Ratz Harbor	1950	20
Claude Point	1950, 1944	17,20
Clover Bay and Clover Pass	1950, 1944	17,20
Cove Point	1950	22
Davidson Inlet and Sea Otter Sound	1952, 1944	18,24
Devilfish Bay	1944	18
El Capitan Pass	1944	18
Excursion Inlet	1951	22
Fish Bay	1950	21
Freshwater Bay	1950	21
Gedney Pass	1944	17
Geikie Inlet	1952	24
George Inlet	1944	17
Gulf of Esquibel	1944	18
Hassler Bay	1950	20
Helm Bay	1944	17
Hood Bay	1950	21
Hoonah Sound	1950	21
Hugh Miller Inlet	1952	24
Idaho Inlet	1951	21
Icy Passage	1951	22
Kasaan Bay	1950, 1944	18,20
Katlian Bay	1950	21
Keku Strait	1951	23
Klawak Inlet and Klawak Reefs	1944	18
Krestov Sound	1950	21
Kruzof Island	1950	21

Area Explored	Year Explored	Page Number
Lisianski Inlet and Strait	1952	24
Long Bay	1950	20
Lutak Inlet	1951	22
McKenzie Inlet	1944	18
Mosier Bay	1944	17
Muir Inlet to Bear Track Cove	1952	24
Naha Bay	1950	20
Neets Bay	1950	20
Nakwasina Sound and Passage	1950	21
Point Arden	1951	23
Point Tantallion	1951	23
Port Althrop	1952	24
Port Frederick	1951	22
Port Snettisham	1951	23
Portage Cove	1944	18
Queen Inlet	1952	24
Rendu Inlet	1952	24
Revilla Channel	1944	17
Rodman Bay	1950	21
Rudyerd Bay	1944	18
Saks Cove	1944	18
San Alberto Bay	1944	19
Saook Bay	1950	21
Salisbury Sound	1950	21
Seymour Canal	1951	23
Shakan Bay	1944	18
Shelter Island to Young Bay	1951	22
Silver Bay to Deep Inlet	1950	21
Sitkoh Strait	1950	21
Skowl Arm	1950, 1944	18,20
Spacious Bay	1950, 1944	17,20
Taiya Inlet	1951	22
Taku Inlet, Jaw Point to Pt. Bishop	1951	20
Tenakee Inlet	1950	23
Thorne Arm	1950, 1944	17,20
Tiedeman Island to Mole Harbor	1951	23
Tolstoi Bay	1950	20
Tonewek Bay	1944	18
Traitors Cove	1944	17
Ulloa Bay	1944	19
Ushk Bay	1950	21
Vallenar Bay	1944	17
Walker Cove	1950, 1944	18,20
Yes Bay	1950, 1944	17,20

YAKUTAT

Area Explored	Year Explored	Page Number
Blizhni Point	1953	25
Kame Stream	1953	25
Knight Island	1953	25
Krutoi Island	1953	25
Phipps Peninsula (Offshore)	1953	25

PRINCE WILLIAM SOUND

Area Explored	Year Explored	Page Number
Esther Passage	1954	26
Hinchinbrook Island (North)	1962	33
Hinchinbrook Island (South)	1962	34
Hinchinbrook Island (North to Port Fidalgo)	1962	34
Hinchinbrook Island (South to Kayak Is.)	1962	34
Icy Bay	1963	35
Johnstone Bay (Offshore)	1963	35
Kayak Island	1962	33
Montague Island (Southeast)	1963, 1962, 1959	31,35
Montague Island (North)	1962	34
Montague Island (East)	1963	35
Montague Island to Chirikof Island	1963	35
Montague Strait	1963, 1962, 1959, 1954	26,34,35
Orca Bay	1962, 1954	26,34
Orca Bay (Canoe Point to off Makaka Point)	1962, 1954	26,34
Port Bainbridge	1963, 1962	33,35
Port Bainbridge (Offshore)	1963	35
Port Fidalgo	1954	26
Port Gravina	1962, 1954	26,34
Port Gravina to Olson Bay	1954	26
Port Wells	1959, 1954	26,31
Puget Bay	1962	33
Puget Bay (Offshore)	1962	33
Simpson Bay	1959	31
Valdez and Valdez Arm	1954	26

COOK INLET AND KENAI PENINSULA

Area Explored	Year Explored	Page Number
Aialik Bay	1962, 1959	32
Anchor Point (Southwest)	1963	36
Barren Islands (North)	1963	36
Barren Islands (Northwest)	1963	36
Barren Islands (North-Northwest)	1963	36
Barren Islands (South)	1963	36
Cape Douglas	1958	29
Chugach Island	1963	36
Cook Inlet	1958	29
Day Bay or Day Harbor	1963, 1962, 1959	32,33,35
Gore Point	1963, 1958	29,36
Harris Bay	1962	32
Harris Bay, Offshore	1962	33
Kachemak Bay	1963, 1958	29,36
Nuka Bay	1963, 1958	29,35
Nuka Passage	1963, 1958	29,35
Point Bede (Offshore)	1963	36
Point Bede (Northwest)	1963	36
Port Dick	1963, 1958	29,35
Port Dick (Offshore)	1963	35
Pye Islands	1963, 1962, 1959	32,35
Resurrection Bay	1962, 1959	32
Seal Rock	1963, 1962, 1959	32,33,35
Thunder Bay	1963	35
Whidbey Bay	1959	31

KODIAK ISLAND AND SHELIKOF STRAIT

Area Explored	Year Explored	Page Number
Afognak Island	1963	36
Alitak Bay	1963, 1958	30,37
Cape Alitak (Offshore)	1963	37
Cape Alitak (Southeast)	1963	37
Cape Chiniak	1963, 1964	38,40
Cape Ikolik	1963	37
Chirikof Island	1963	37
Dangerous Cape	1963	38
Geese Island	1963	37
Kaguyak Bay	1963	37
Kiliuda Bay	1963	37
Kukak Bay	1963, 1958	30,37
Marmot Bay - Puale Bay	1964, 1958	30,40
Shelikof Strait	1964, 1963, 1958	30,36,40
Sitkalidak Island	1963	38
Terror Bay	1963	37
Tonki Bay	1963	36
Trinity Islands	1963	37,38
Two-Headed Island	1963	37
Uyak Bay	1964, 1963	37,40
Uganik Bay (South Arm)	1958	30
Viekoda Bay	1963	36

SEMIDI GULLY TO THE BERING SEA

Area Explored	Year Explored	Page Number
Akutan Bay	1964, 1957	39,42
Balboa Bay	1964, 1957	39,41
Beaver Bay	1964, 1957	
Belkofski	1964	41
Bering Sea	1964	42
Bristol Bay	1964	43
Cape Newenham	1964	42
Castle Bay	1964	40
Chignik Bay	1964	40
Cold Bay	1964, 1957	39,42
Davidson Bank	1957	39
Ikatan Bay	1964	41,42
Ivanof Bay	1964	41,43
King Cove	1964	41
Koniuju Islands	1964	41
Korovin Island	1964	41
Krenitzin Island	1964	42
Kuiukta Bay	1964	43
Kupreanof Point	1964	41
Makushin Bay	1964	42
Mitrofania Island	1964	40
Morzhovi Bay	1964, 1957	39,42
Nagai Island	1964	41
Nakchamik Island	1964	40
Pavlov Bay	1964, 1957	39,43
Puale Bay	1964	40
Sanak Island	1964, 1957	39,42
Sea Lion Rocks	1957	39
Semidi Gully	1964	40
Semionof Island	1964	41
Stepovak Bay	1964, 1957	39,41
Unalaska	1964, 1957	39,42
Unga Strait	1964, 1957	41,42
Unimak Island	1964	42
Volcano Bay	1964	41

SOUTHEASTERN ALASKA

October 13 to November 17, 1944

Carroll Inlet (12 drags)	These drags produced from 50 pounds per hour to 420 pounds per hour of P. borealis Pandalopsis dispar and P. platyceros.
Revilla Channel (2 drags)	No shrimp were obtained.
Cascade Inlet (1 drag)	No shrimp were obtained.
Thorne Arm (4 drags)	A few P. platyceros and P. borealis were obtained in one drag. No shrimp was produced in the other drags.
George Inlet (7 drags)	Four drags produced up to sixty pounds per hour. This consisted of predominantl P. borealis. The remainder of the catche contained only trace amounts.
Vallenar Bay (1 drag)	This drag produced 11 pounds of P. boreal
Clover Pass (2 drags)	Trace amounts of P. borealis were produce in these drags.
Moser Bay (1 drag)	No shrimp were produced.
Traitors Cove (4 drags)	Trace amounts of P. borealis, Pandalopsis dispar, and P. hypsinotus.
Helm Bay (2 drags)	No shrimp were obtained.
Spacious Bay (2 drags)	Trace amounts of P. borealis.
Yes Bay (2 drags)	Trace amounts of P. borealis.
Gedney Pass (2 drags)	One drag was blank, the other produced 80 pounds per hour of P. platyceros and P. borealis.
Bailey Bay (1 drag)	100 pounds per hour of P. borealis, P. hypsinotus and Pandalopsis dispar.
Short Bay (2 drags)	No shrimp were obtained.
Anchor Pass (1 drag)	100 pounds per hour of P. borealis was obtained.
Claude Point (2 drags)	Two 90 pound per hour drags yielding P. borealis and Pandalopsis dispar.

SOUTHEASTERN ALASKA

October 13 to November 17, 1944
(Continued)

Burroughs Bay	These drags produced catches from 50 to 300 pounds per hour of P. borealis and Pandalopsis dispar.
Saks Cove (2 drags)	One blank drag and the other contained 70 pounds per hour of P. borealis and Pandalopsis dispar.
Chickamin (1 drag)	Trace amounts of P. borealis and Pandalopsis dispar.
Portage Cove (3 drags)	All drags produced less than 60 pounds per hour of P. borealis.
Walker Cove (4 drags)	All drags contained less than 90 pounds per hour of P. borealis, Pandalopsis dispar and P. hypsinotus.
Rudyerd Bay (6 drags)	Trace amounts of shrimp only.
Kasaan Bay (5 drags)	Trace amounts of shrimp only.
Skowl Arm (1 drag)	Trace amounts only.
McKenzie Inlet (1 drag)	Trace amounts of shrimp.
Shakan Bay (1 drag)	Trace amounts of shrimp.
Devilfish Bay (1 drag)	No shrimp were obtained.
El Capitan Pass (9 drags)	Drags contained 60 to 200 pounds per hour of P. borealis and Pandalopsis dispar.
Sea Otter Sound (2 drags)	Trace amounts of shrimp.
Davidson Inlet (1 drag)	Trace amounts of shrimp.
Tonowek Bay (4 drags)	Trace amounts of shrimp.
Gulf of Esquibel (9 drags)	One drag contained 170 pounds per hour of P. borealis, P. hypsinotus and Pandalopsis dispar. All other drags contained less than 100 pounds per hour.
Klawak Inlet (1 drag)	Trace amounts only.
Klawak Reef (1 drag)	Contained no shrimp.

SOUTHEASTERN ALASKA

October 13 to November 17, 1944
(Continued)

San Alberto Bay (1 drag)	Contained no shrimp.
Ulloa Channel (2 drags)	Trace amounts of *P. platyceros*.

SOUTHEASTERN ALASKA

March 21 to April 11, 1950

1. East Coast of Prince of Wales Island (19 drags)

Tolstoi Bay	Trace of P. borealis and Pandalopsis dis
Kasaan Bay	Trace of P. borealis
Skowl Arm	Trace of Pandalopsis dispar
Cholmondeley Sound	No evidence of trawling bottom
Clarence Strait to Ratz Harbor	Trace of large Pandalopsis dispar

2. West Side of Behm Canal

Spacious Bay Yes Bay Naha Bay Clover Bay Neets Bay Hassler Bay	All of these areas trawled indicated the was no trawlable bottom with the exceptic of Yes Bay. Hassler Bay had only a limit area of trawlable bottom. One drag produ 64 lbs. per hour of Pandalopsis dispar ar P. platyceros.

3. Upper Behm Canal

Claude Point	One drag produced 180 pounds per hour of Pandalopsis dispar and P. borealis
Bailey Bay	Trace of P. borealis and Pandalopsis dis
Anchor Pass	Trace of P. borealis and Pandalopsis dis
Burroughs Bay	Fair showing of Pandalopsis dispar and P. borealis however the bottom was wash-board and difficult to trawl.

4. East Side of Behm Canal

Walker Cove and Smeaton Bay	Limited trawling area
Carroll Inlet	Indication of Pandalus platyceros and Pandalopsis dispar which are commercially fished by Ketchikan fishermen.
Thorne Arm	Little trawlable area

SOUTHEASTERN ALASKA

October 30 to December 9, 1950

1. Tenakee Inlet (20 drags)	1 drag over 300 pounds per hour and one drag of 106 pounds per hour of P. boreali and P. hypsinotus.
2. Long Bay (1 drag)	Trace of P. borealis and P. hypsinotus

SOUTHEASTERN ALASKA

October 30 to December 9, 1950
(Continued)

3. Freshwater Bay (5 drags)	Trace of P. borealis, P. hypsinotus and Pandalopsis dispar.
4. Hood Bay (4 drags)	Trace of P. borealis. 3 blank drags, 1 drag yielding few pounds of P. borealis.
5. Peril Straits	
Sitkoh Strait	Trace of P. borealis
Saook Bay	Trace of P. borealis
Rodman Bay	Trace of P. borealis and P. hypsinotus.
Ushk Bay	Trace of P. borealis
Fish Bay	Drags produced up to 250 pounds per hour of P. borealis.
Hoonah Sound (6 drags)	Trace of P. borealis and Pandalopsis disp
6. Salisbury Sound (1 drag)	Trace of Pandalopsis dispar
7. Kruzof Island (2 drags)	Untrawlable bottom
8. Nakwasina Passage	
Nakwasina Sound Krestov Sound	No species mentioned for these areas.
9. Silver Bay and Deep Inlet	No catch was obtained.
10. Biorka Reefs in Sitka Sound	Trace of Pandalus goniurus.
11. Katlian Bay	1 drag producing 162 pounds per hour of P. borealis.

SOUTHEASTERN ALASKA

March 7 to April 23, 1951

1. Icy Straits (36 drags)	
Idaho Inlet	2 drags resulted in broken beams. 5 drags yielded an average catch of 1,072 pounds per hour of (85%) P. borealis, (9% Pandalopsis dispar and (6%) P. hypsinotus 2 drags contained 529 and 120 pounds per hour.

SOUTHEASTERN ALASKA

March 7 to April 23, 1951
(Continued)

Port Frederick (12 drags)	2 drags caught no shrimp. 10 drags averaged between 100 and 200 pounds per hour of (81%) P. borealis and (19%) Pandalopsis dispar.
Excursion Inlet (4 drags)	4 drags averaged 96 pounds per hour of (86%) P. borealis (7%) Pandalopsis dispar and (7%) P. hypsinotus.
Icy Passage and waters adjoining Porpoise Islands and Pleasant Is. (7 drags)	Generally poor with the exception of 1 drag of 300 pounds per hour on the west side of Porpoise Islands (93%) P. borealis and (7%) Pandalopsis dispar.
2. Lynn Canal (28 drags)	
Taiya Inlet (2 drags)	Limited trawling area yielding small P. borealis and Pandalopsis dispar.
Lutak Inlet (4 drags)	Catches up to 400 pounds per hour of (96%) P. borealis and (4%) P. hypsinotus.
Chilkoot Inlet (4 drags) (from Indian Rock to Portage Cove)	These drags averaged 182 pounds per hour of (80%) P. borealis and (20%) Pandalopsis dispar.
S. End of Chilkoot Inlet	40 pounds of Pandalopsis dispar per hour.
Chilkat Inlet (8 drags)	1 drag produced a negligible catch. 7 drags averaged 175 pounds per hour of (85%) P. borealis and (12%) Pandalopsis dispar and (3%) P. hypsinotus.
Sullivan Island (North) (1 drag) Sullivan Island (West)	Catches averaged 84 pounds of shrimp per hour consisting of (89%) P. borealis (8%) Pandalopsis dispar and (3%) P. hypsinotus
Cove Point (1 drag)	180 pounds per hour consisting of (89%) P. borealis and (11%) P. hypsinotus.
3. Stephens Passage from Shelter Is. to Grave Point (31 drags)	
Shelter Island to Young Bay (15 drags)	The average catch was 34 pounds per hour which consisted of (62%) P. borealis, (34 Pandalopsis dispar, (4%) P. hypsinotus. Two of these drags contained 130 pounds per hour (Aaron Island) and Barlow Cove 110 pounds per hour respectively. Aaron

SOUTHEASTERN ALASKA

March 7 to April 23, 1951
(Continued)

	Island catch consisted of predominantly *Pandalopsis dispar* and Barlow Cove was predominantly *P. borealis*.
Five miles West of Pt. Tantallon to Five miles East of Pt. Tantallon. (11 drags)	Average catch was 311 pounds per hour composed of (87%) *P. borealis*, (12%) *Pandalopsis dispar*, and (1%) *P. hypsinotus*.
Point Arden to South of Grand Island (2 drags)	Drags yielded insignificant amounts of shrimp. No details given pertaining to species composition.
Taku Inlet from Point Bishop to Jaw Point (3 drags)	Catches produced 95 pounds per hour composed of (79%) *P. borealis* and (21%) *Pandalopsis dispar*.
4. Seymour Canal (6 drags)	
Tiedeman Island to Mole Harbor (6 drags)	Trawling bottom interspersed with hard rocky bottom. 175 pounds of shrimp per hour composed of (87%) *P. borealis*, (8%) *Pandalopsis dispar* and (4%) *P. hypsinotus* and (1%) *Pandalus platyceros*.
5. Port Snettisham (15 drags)	Average catch of 153 pounds per hour yielding (52%) *Pandalopsis dispar* and (48%) *P. borealis*.
6. Keku Strait (3 drags)	One blank drag, one drag consisting of 764 pounds per hour with a mixture of shrimp containing *P. borealis*, *Pandalopsis dispar*, *P. hypsinotus*, *Pandalus platyceros*. One other drag yielded 300 pounds per hour. The drag containing 764 pounds per hour was located in one of the commercially utilized areas.

SOUTHEASTERN ALASKA

March 8 to April 28, 1952

1. Glacier Bay (49 drags)	
Geikie Inlet (4 drags)	The catches averaged 261 pounds of shrimp per hour composed of (89%) P. borealis and (11%) P. hypsinotus.
Geikie Inlet to Hugh Miller Inlet (3 drags)	The three trawls averaged 267 pounds per hour of (66%) P. borealis and (34%) Pandalopsis dispar.
Queen Inlet (5 drags)	These drags averaged 167 pounds per hour of mixed P. borealis and Pandalopsis dispa
Rendu Inlet (6 drags)	Trawls mudded down and a good portion of the catch was dead. Catch consisted of mixed P. borealis and Pandalopsis dispar.
Muir Inlet (4 drags)	Two of the drags mudded down and the major portion of the catch was dead. Catch in these two trawls consisted of P. borealis and Pandalopsis dispar. Two drags produce an average catch of 216 pounds per hour an contained (41%) P. borealis and (59%) Pandalopsis dispar.
Muir Inlet to Beartrack Cove (20 drags)	Two drags produced 313 pounds per hour composed of (61%) P. borealis and (39%) Pandalopsis dispar. Six drags from South Marble Island to Sturgess Island averaged 207 pounds per hour consisting of (50%) P. borealis and (50%) Pandalopsis dispar. Twelve drags produced insignificant catche
2. Lisianski Inlet and Lisianski Strait (12 drags)	All areas trawled in Lisianski and Stag Bay produced poor results. The highest trawl yield was near Pelican City which produced 70 pounds of mixed P. borealis and Pandalopsis dispar.
3. Port Althrop (5 drags)	Two drags were blank, while the other two produced predominantly P. borealis at approximately 100 pounds per hour.
4. Kelp Bay and Tebenkof Bay (2 drags) (1 drag)	These drags produced insignificant results
5. Affleck Canal Area (12 drags)	Catches varied from 64 to 142 pounds per hour of predominantly Pandalopsis dispar shrimp.
6. Davidson Inlet and Sea Otter Sound (2 drags)	These drags produced insignificant quantities of shrimp.

YAKUTAT BAY AREA

March 10 to April 8, 1953

1. Yakutat Bay Area

Off Kame Stream to Blizhni Point (9 drags)	Average catch yielded 484 pounds of P. borealis per hour.
"Trough" located east of Kame Stream to Blizhni Point	Nine drags averaged 202 pounds per hour of (57%) P. borealis and (43%) Pandalopsis dispar.
"Depression" off Krutoi Island	One drag averaged 600 pounds per hour of P. borealis. Three other drags yielded an average of 121 pounds per hour of (60 Pandalopsis dispar and (40%) P. borealis
Knight Island (Five miles west)	Four drags averaging 149 pounds per hour No species composition given.
Other areas of Yakutat Bay produced poor catches and contained large catches of brittle stars and basket stars.	

2. Pacific Ocean Waters off Phipps Peninsula (7 drags) — All shrimp catches were negligible with three drags resulting in torn nets.

CENTRAL ALASKA
PRINCE WILLIAM SOUND

February 26 to April 6, 1954
July 13 to September 8, 1954

Eighteen drags were made in Prince William Sound from February 26 to April 6, 1954. One drag yielded over 100 pounds per hour. Thirteen drags contained less than 100 pounds per hour. Four drags were blank hauls. These drags were located in Port Gravina, Orca Bay and Port Fidalgo. This was a preliminary operation, and the results produced were of non-commercial quantities.

Ninety drags were accomplished in Prince William Sound during July 13 to September 8, 1954. Two drags produced over 300 pounds per hour. One of these drags was located off Graveyard Point in Montague Strait, and the other one was off the mouth of Port Gravina. Seven drags yielded over 200 pounds. These were located at the head of Port Gravina, the mouth of Windy Bay or Hawkins Island, between Canoe Passage and Windy Bay, the middle of Orca Bay between Red Head and Makaka Point, a drag in Port Wells in College Fiord. Of the 81 other drags, all produced under 100 pounds, of which 17 were blank hauls, or showed only a trace of shrimp which would be less than one pound per hour.

This exploratory cruise sampled areas off Point Elrington, off the Copper River Delta, the vicinity of Middleton Island, Montague Strait, Port Wells, Port Valdez, Port Fidalgo, Port Gravina and in Orca Bay. Trawling time was approximately 30 minutes.

CENTRAL ALASKA
PRINCE WILLIAM SOUND

February 26 to April 6, 1954

1. Orca Bay Area (8 drags)	1 drag yielding 136 pounds per hour of mixed P. borealis and Pandalopsis dispa Three blank drags, the rest yielding under 75 pounds per hour of P. borealis and Pandalopsis dispar.
2. Port Gravina (5 drags)	All drags contained less than 70 pounds per hour of P. borealis, Pandalopsis dispar and P. hypsinotus.
3. Port Fidalgo (5 drags)	All drags produced less than 65 pounds per hour composed of P. borealis and and Pandalopsis dispar.
4. Valdez and Valdez Arm (0 drags)	No shrimp drags were made in this area.
5. Esther Passage (0 drags)	The bottom was too irregular to trawl.
6. Port Wells Area (0 drags)	No beam trawling was attempted.
7. Montague Strait Area (0 drags)	No shrimp trawling was attempted.

PRINCE WILLIAM SOUND

July 13 to September 9, 1954

1. Orca Bay Area	
Canoe Passage to off Makaka Point (10 drags)	10 drags averaged 154 pounds per hour of predominantly P. borealis.
2. Port Gravina Area	
Entrance to Port Gravina to off Olson Bay (4 drags)	4 drags yielded 199 pounds per hour of P. borealis.
Head of Port Gravina (1 drag)	One drag yielded 114 pounds of P. borea 16 pounds of Pandalopsis dispar and 16 pounds of P. hypsinotus.
3. Port Fidalgo (2 drags)	Drags averaged less than 90 pounds per hour of P. borealis.
4. Valdez and Valdez Arm (5 drags)	Catches were negligible.
5. Esther Passage	No trawling was attempted.

PRINCE WILLIAM SOUND

July 13 to September 9, 1954
(Continued)

6. Port Wells Area (1 drag)	Resulted in a torn net.
7. Montague Strait Area (3 drags)	3 drags from the Northeast end of Green Island to off Graveyard Point resulted in catches of P. borealis averaging 207 pounds per hour.

CENTRAL ALASKA
SHRIMP EXPLORATION

July 22 to August 26, 1958

1. Lower Cook Inlet and Kenai Peninsula (8 drags)

Kachemak Bay	Best catches were obtained between Home Spit and Seldovia Bay. 5 drags resulte in catches of 360 to 1,020 pounds of shrimp. These contained from (36% to 79%) Pandalopsis dispar.
	Two drags on the north slope of the gul near Seldovia Bay contained 740 and 1,770 pounds of P. borealis.
	One drag in Tutka Bay resulted in a cat of 810 pounds of mixed P. borealis and P hypsinotus.
Cook Inlet (12 drags)	Twelve drags between Kachemak Bay and Kamishak Bay produced poor catches of about 70 pounds per drag.
Cape Douglas (2 drags)	Two drags off Cape Douglas resulted in 540 and 600 pounds of mixed P. borealis and Pandalopsis dispar.
Port Dick (7 drags)	The average catch in Port Dick consisted of 510 pounds of mixed P. borealis, P. hypsinotus, and Pandalopsis dispar per half hour drag.

2. Offshore waters South of Kenai Peninsula

South of Gore Point (3 drags)	These drags yielded only trace amounts of shrimp.
Nuka Passage (3 drags)	These drags produced catches ranging fro 390 to 780 pounds composed of mixed P. borealis, P. hypsinotus and Pandalopsis dispar.
Nuka Bay (11 drags)	This area indicated the presence of a large widely distributed population of shrimp. The best catches were obtained in the East Arm. Five drags yielded fro 240 to 330 pounds containing P. borealis

CENTRAL ALASKA
SHRIMP EXPLORATION

July 22 to August 26, 1958
(Continued)

and Pandalopsis dispar. Six drags produced catches ranging from 150 to 280 pounds of shrimp containing mostly P. borealis, Pandalopsis dispar, and P. hypsinotus.

3. Kodiak Island and Shelikof Strait area

Marmot Bay (15 drags)	Fifteen drags yielded an average of 603 pounds of shrimp composed of varying percentages of P. borealis and Pandalops dispar.
Shelikof Strait (2 drags)	Two drags between Shyuak Island and Cape Douglas contained 200 and 300 pounds of predominantly P. borealis and the remain of the catch was composed of Pandalopsis dispar.
Kukak Bay (1 drag)	One drag produced 950 pounds of shrimp containing equal percentages of P. borea and Pandalopsis dispar.
Uganik Bay (South Arm) (1 drag)	The catch was (87%) P. borealis and (13% P. hypsinotus, in which 1000 pounds was obtained in one drag.
Uyak Bay (2 drags)	Two drags caught 200 pounds containing more than (50%) Pandalopsis dispar.
Alitak Bay (2 drags)	Two drags produced 500 and 900 pounds of which (80%) was P. borealis and (20%) mixes Pandalopsis dispar and P. hypsinot

CENTRAL ALASKA
SHRIMP EXPLORATION

PRINCE WILLIAM SOUND

October 14 to November 13, 1959

1. Offshore, Southwest of Montague Island

Outside Whidbey Bay (1 drag)	One drag averaged 660 pounds per hour composed of (89%) P. borealis.
Outside Puget Bay (1 drag)	One drag produced 700 pounds per hour of predominantly P. borealis.

All other drags resulted in catches of shrimp ranging from 30 to 220 pounds per hour. The other main specie prevailing in the catches was Pandalopsis dispa

Trawling in Puget Bay to southwest of Cape Cleare in depths shallower than 70 fathoms were hindered by a severe westerly current.

Off Whidbey Bay in water shallower than 70 fathoms the bottom is extremely rocky, making only short drags feasible.

2. Montague Strait and Green Island Area (19 drags)	Catches ranged from a trace of shrimp to 160 pounds per hour consisting of (75%) P. borealis, (21%) Pandalopsis dispar, and (4%) P. hypsinotus. These catches were extremely trashy and the shrimp constituted only 7% to 38% by weight.
3. Eastern Prince William Sound (23 drags)	One drag in Simpson Bay produced 540 pounds per hour which was composed of (78%) P. borealis, (13%) Pandalopsis dispar and (9%) P. hypsinotus. All other drags contained less than 80 pounds per hour. These catches were also extremely trashy.
4. Port Wells Area (3 drags)	One drag yielded 200 pounds per hour composed of (37%) P. borealis, (51%) Pandalopsis dispar and (12%) P. hypsinotu
College Fiord	One drag resulted in a severely damaged net and loss of catch.

CENTRAL ALASKA

October 14 to November 13, 1959

Day Harbor to Pye Islands

1. Day Harbor (6 drags)	Two drags produced 660 pounds per hour and 550 pounds per hour respectively of (96% and 86%) P. borealis. Four other drags produced catches at rates from 80 to 300 pounds per hour, consisting of P. borealis.
2. Resurrection Bay (4 drags)	These drags yielded catches ranging from 60 to 200 pounds per hour. Two drags consisted of more than (80%) Pandalopsis dispar while the other two drags consist of P. borealis.
3. Aialik Bay (3 drags)	These drags produced catches ranging fro 120 to 375 pounds per hour. These drags were predominantly (70%) Pandalopsis dis and approximately (30%) P. borealis.
4. Pye Islands to Seal Rocks (11 drags)	Only three drags produced shrimp greater than 400 pounds per hour. All drags wer composed of predominantly P. borealis wi the minor specie being Pandalopsis dispa

CENTRAL ALASKA

August 21 to October 2, 1962

1. Pye Islands to Kayak Island

Resurrection Bay (3 drags)	One drag yielded 26 pounds of (50%) Pandalopsis dispar (25%) P. borealis and (25%) P. hypsinotus. One drag was blank and the other yielded only a trace of shrimp.
Aialik Bay (2 drags)	Both drags produced less than 30 pounds of shrimp.
Offshore - Pye Islands (4 drags)	Each drag contained less than 10 pounds of shrimp.
Harris Bay (3 drags)	Each drag contained less than 16 pounds of P. borealis.

CENTRAL ALASKA

August 21 to October 2, 1962
(Continued)

Offshore (2 drags)	Only trace amounts of shrimp were caught in these drags.
Seal Rock (1 drag)	This drag contained trace amounts of shrimp.
Offshore - Day Harbor (9 drags)	Three drags contained over 500 pounds consisting of predominantly P. borealis and Pandalopsis dispar. Two drags contained over 200 pounds and the remainder of the drags produced less than 100 pounds. All drags were predominantly P. borealis and Pandalopsis dispar.
Day Harbor (1 drag)	This drag yielded 25 pounds of Pandalopsis dispar.
Puget Bay (2 drags)	These drags yielded 10 pounds of Pandalopsis dispar.
Offshore (1 drag)	Sixty pounds of mixed P. borealis and Pandalopsis dispar.
Port Bainbridge (3 drags)	One trawl snagged and the others contained less than 20 pounds of mixed Pandalopsis dispar and P. borealis.
Montague Strait (7 drags)	Two trawls snagged and the other 5 contained only trace amounts of shrimp.
S. E. Montague Island (12 drags)	Four drags yielded over 1,500 pounds. Two drags contained 500 pounds. Two drags resulted in either snagged gear or a torn net. The other four drags contained less than 100 pounds. All drags were predominantly P. borealis.
Day Bay (5 drags)	2 drags snagged, one other contained 650 pounds of rocks and the other two contained only trace amounts of shrimp.
Offshore (1 drag)	This drag contained 15 pounds of P. borealis.
N. Hinchinbrook Island (4 drags)	All drags contained less than 80 pounds of mixed P. borealis and Pandalopsis dispar.

CENTRAL ALASKA

August 21 to October 2, 1962
(Continued)

Port Gravina (2 drags)	Both drags contained less than 100 pounds of mixed P. borealis and Pandalopsis dispar.
Orca Bay (4 drags)	All drags contained less than 100 pounds of mixed P. borealis and Pandalopsis dispar.
S. Hinchinbrook Island (2 drags)	Both drags contained less than 200 pounds of mixed P. borealis and Pandalopsis dispar.
N. Hinchinbrook Island to the Mouth of Port Fidalgo (9 drags)	All drags contained less than 150 pounds of shrimp composed of P. borealis and Pandalopsis dispar.
N. Montague Island (3 drags)	One drag yielded 175 pounds of P. borealis and Pandalopsis dispar. The other two yielded trace amounts.
S. Hinchinbrook Island to E. Kayak Island (10 drags)	Three drags produced 500 pounds of P. borealis. All other drags contained less than 100 pounds.

CENTRAL ALASKA
SHRIMP EXPLORATION

July 12 to September 10, 1963

1.. Montague Island to Chirikof Island

East of Montague Island (17 drags)	All drags produced less than 72 pounds of mixed shrimp.
Southeast of Montague Island (4 drags)	All drags contained less than 20 pounds of P. borealis.
Montague Strait (5 drags)	All drags yielded only trace amounts of shrimp.
Entrance to Port Bainbridge (4 drags)	All drags contained less than 90 pounds of mixed P. borealis and Pandalopsis dispar.
Port Bainbridge (2 drags)	All drags contained less than 76 pounds of P. borealis and Pandalopsis dispar.
Icy Bay (2 drags)	Each drag contained less than 42 pounds of P. borealis.
Off Johnstone Bay (9 drags)	All drags contained less than 125 pounds of mixed P. borealis and Pandalopsis dispar.
Offshore of Day Bay (2 drags)	These drags contained 25 and 35 pounds of mixed P. borealis and Pandalopsis dispar.
Day Bay (2 drags)	These drags contained 42 and 17 pounds of mixed P. borealis and Pandalapsis dispar.
Offshore - Seal Rock to Pye Island (9 drags)	Two drags contained over 100 pounds of basically P. borealis. All other drags contained less than 100 pounds.
Nuka Bay (6 drags)	All drags contained less than 65 pounds of mixed shrimp.
Thunder Bay (1 drag)	Trace amounts of shrimp only.
Nuka Passage (5 drags)	Three trawls containing over 550 pounds of mixed P. borealis and Pandalopsis dispar. The other two contained less than 65 pounds of mixed shrimp.
Pt. Dick (2 drags)	Drags yielded 13 pounds of mixed shrimp.

CENTRAL ALASKA
SHRIMP EXPLORATION

July 12 to September 10, 1963
(Continued)

Offshore (1 drag)	Trace amounts only.
Gore Point (4 drags)	Two trawls resulted in damage and the other two contained less than 10 pounds of mixed shrimp.
Around Chugach Island (6 drags)	All drags contained trace amounts only.
N. Barren Island (3 drags)	All drags contained trace amounts only.
Off Port Bede (2 drags)	Two blank drags, one which resulted in a torn bag.
N. W. of Barren Islands (17 drags)	One drag contained 700 pounds, two drags contained 400 pounds and one drag contained 300 pounds of P. borealis. All other drags contained less than 200 pounds.
N. W. of Pt. Bede (6 drags)	All drags contained trace amounts only.
N. W. of Barren Island (5 drags)	One drag contained 450 pounds of P. borealis, one contained 200 pounds and the rest contained less than 32 pounds.
Kachemak Bay (9 drags)	Five drags produced catches over 300 pounds of P. borealis, P. hypsinotus, and Pandalopsis dispar. The other four drags yielded catches under 200 pounds.
S. W. of Anchor Point (6 drags)	All drags produced negligible results.
South of Barren Island (2 drags)	Each drag produced negligible results.
N. E. of Afognak Island (4 drags)	One drag contained 300 pounds of P. borealis. All other drags contained negligible amounts.
Tonki Bay (1 drag)	840 pounds of P. borealis.
Shelikof Strait (15 drags)	Catches ranged from 20 pounds to 900 pounds of mixed P. borealis and Pandalopsis dispar.
Viekoda Bay (3 drags)	Trawls yielded 2500,1150 and 1500 pounds of basically P. borealis.

CENTRAL ALASKA
SHRIMP EXPLORATION

July 12 to September 10, 1963
(Continued)

Terror Bay (1 drag)	900 pounds of evenly mixed P. borealis and P. goniurus.
Kukak Bay (1 drag)	480 pounds of P. borealis and P. hysinotus.
Kiliuda Bay (2 drags)	1250 pounds and 1000 pounds of mixed P. borealis, P. goniurus, and P. hypsinotus and Pandalopsis dispar.
Ugak Bay (3 drags)	One drag had gear failure, the other two produced 1290 and 550 pounds of P. borealis.
Outside Ugak Bay (2 drags)	2110 and 35 pounds of P. borealis.
Offshore of Two-headed Island	Two drags contained 2300 and 3000 pounds respectively. All other drags contained less than 800 pounds of P. borealis.
Kaguyak Bay (2 drags)	Gear difficulty on both drags.
E. Geese Island (1 drag)	550 pounds of P. borealis.
Alitak Bay (1 drag)	80 pounds of P. borealis.
Off Cape Alitak (5 drags)	Catches ran 240, 550, 600, 1 and 300 pounds of mixed P. borealis and P. goniurus.
Offshore (2 drags)	Trace amounts only.
S. W. of Cape Alitak (3 drags)	All 3 drags contained less than 30 pounds of mixed P. borealis and Pandalopsis dispar.
Offshore, West of Trinity Islands (4 drags)	Trace amounts only.
S. E. Chirikof Island (3 drags)	Trace amounts only.
Off Cape Ikolik (2 drags)	Trace amounts only. Species were basically non-commercial.
Alitak Bay (5 drags)	1650, 1230, 1050, 630 and 1220 pounds of mixed P. borealis, P. goniurus, P. hysinotus, and Pandalopsis dispar.

CENTRAL ALASKA
SHRIMP EXPLORATION

July 12 to September 10, 1963
(Continued)

East and South of the Trinity Islands (12 drags)	Catches ran from trace amounts to 150 pounds of P. borealis.
S. E. of Sitkalidak Island (4 drags)	Catches ran from trace amounts to 260 pounds of P. borealis.
S. E. of Dangerous Cape (2 drags)	Trace amounts only.
E. and N. of Cape Chiniak (4 drags)	Trace amounts only.

SHRIMP EXPLORATIONS FROM THE SHUMAGIN ISLANDS TO UNALASKA

July 18 to October 1, 1957

1. Stepovak Bay to Pavlof Bay	
Stepovak Bay (6 drags)	No specific information given. Excellent catches reported.
Balboa Bay (7 drags) and Unga Strait	One drag produced 760 pounds per hour of P. borealis. Other catches exceeded 4,000 pounds an hour.
South of Sea Lion Rocks (7 drags)	Three drags produced 240 to 900 pounds per hour of P. borealis and Pandalopsis dispar. Two drags produced catches exceeding 4,000 pounds per hour. Three drags produced catches exceeding 2,000 pounds per hour. Species were P. borealis, P. hypsinotus and Pandalopsis dispar.
Pavlof Bay (7 drags)	Four drags produced catches exceeding 5000 pounds per hour and three drags produced catches in excess of 3000 pounds per hour. P. borealis dominated the catches although Pandalopsis dispar was in abundance.
Beaver Bay (2 drags)	3800 pounds of shrimp were taken in a 30 minute drag.
2. Cold Bay to Sanak Island	No attempt was made to locate shrimp.
3. Morzhovoi Bay to Davidson Bank	Unfavorable shrimp catches.
4. Akutan Bay to Unalaska Bay	One drag produced 175 pounds of mixed P. borealis and Pandalopsis dispar.

GULF OF ALASKA TO THE BERING SEA

June 16 to September 12, 1964

Marmot Bay (26 drags)	Drags ranged from 0 to 1320 pounds with an average of 200 pounds per hour containing 67% Pandalopsis dispar and 31% Pandalus borealis.
Chiniak Gully (4 drags)	Drags yielded trace amounts to 50 pounds per hour consisting of 61% P. dispar and 27% P. borealis.
Shelikof Strait (5 drags)	Drags yielded 1 to 100 pounds per hour containing 89% P. dispar and 11% P. borealis.
Uyak Bay (3 drags)	Drags contained 15, 120, 250 pounds of shrimp yielding 59% P. borealis and 39% P. dispar.
Puale Bay (1 drag)	Trace of shrimp. Drag resulted in a torn net due to a large rock.
Shelikof Gully (8 drags)	One drag snagged, three resulted in torn nets, and two drags hung up. Drags contained trace amounts to 80 pounds of predominantly P. dispar.
Semidi Gully (5 drags)	Catches ranged from 60 to 1500 pounds. Two drags resulted in torn nets and one drag part of the catch was lost. Drags contained 91% P. borealis and 9% P. dispar.
Castle Bay (2 drags)	Drags contained 1200 and 1600 pounds of 96% P. borealis.
Chignik Bay (1 drag)	Drag contained 420 pounds of 79% P. borealis.
E - N of Chignik (1 drag)	Drag produced 400 pounds of 59% P. borealis.
Nakchamik Island (2 drags)	Drag contained 30 and 720 pounds of 75% P. dispar and 25% P. borealis.
E of Mitrofania Island (5 drags) (Offshore)	Drags yielded trace to 1300 pounds of 95% P. borealis and 4% P. dispar.

S. E. of Ivanof Bay (6 drags) (Offshore)	One drag contained 1000 pounds of mud, one had a 500 pound Sea Lion, and one drag snagged. Drags contained trace amounts to 600 pounds of 9890 P. borealis.
E - N of Ivanof Bay (1 drag)	Drag resulted in a torn net and yielded only trace amounts of shrimp.
Big Koniuju (2 drags)	Drags contained 100 and 120 pounds of 64% P. borealis and 36% P. dispar.
S.E. - S of Kupreanof Point (3 drags)	Drags contained 100, 2950, and 1100 pounds of 91% P. borealis and 9% P. dispar. The 100 pound drag contained 300 pounds of shells and in the 1100 pound drag part of the catch was lost.
Stepovak Bay (7 drags)	Drags contained 1700, 1800, 700, 1500, 600, 20, and 600 pounds of 81% P. borealis and 19% of P. hypsinotus, and P. dispar.
Unga Strait (2 drags)	3240 and 800 pounds of 68% P. dispar and 32% P. borealis.
E. of Korovin Island (3 drags)	Drags contained 900, 10, and 220 pounds of 59% P. borealis and 41% P. dispar.
N.E. of Big Koniuju Island (2 drags)	Drags contained a trace and 5 pounds of shrimp.
N.E. of Simionof Island (2 drags)	Drags contained trace amounts of non-commercial shrimp.
W. Nagai Island (2 drags)	Drags contained 80 and 1600 pounds of 62% P. borealis and 38% P. dispar.
Balboa Bay (2 drags)	Drags yielded 360 and 1900 pounds of 63% P. borealis, 28% P. dispar and P. hypsinotus and 9% P. goniurus.
Belkofski (1 drag)	Drag contained 1550 pounds of 65% P. goniurus, 30% P. borealis, and 5% P. hypsinotus.
Volcano Bay (3 drags)	One drag contained 720 pounds of 85% P. borealis and 15% P. hypsinotus and P. goniurus. One drag the trawl twisted and one the catch was lost.
W. of Nagai Island (2 drags)	Although one drag resulted in a torn net and the other a broken bridle, the catches contained 40 and 1260 pounds of 90% P. borealis.
King Cove (1 drag)	Drag produced 20 pounds of mixed species of shrimp.

S. of Unga Island (3 drags)	One drag resulted in a torn net and the other two contained 900 pounds and 420 pounds of 97% P. borealis.
N.E. - N. of Sanak Island (7 drags)	Drags contained 90, 350, 420, 1000, 1260, 900, and 250 pounds of 94% P. borealis.
Cold Bay (2 drags)	These drags yielded 25 and 300 pounds of 88% P. borealis.
Morzhovoi Bay (3 drags)	These drags contained 900, 1680 and 200 pounds of 85% P. borealis.
Ikatan Bay (2 drags)	Drags yielded 550 and 400 pounds of 90% P. borealis.
S. of Unimak Island (9 drags) (Offshore)	Seven drags yielded trace amounts and two drags contained 1000 and 10 pounds of P. borealis.
Akutan Bay and Pass (3 drags)	All drags contained only trace amounts.
Unimak Pass (10 drags)	All drags contained much debris with only 3 drags producing above trace amounts. These drags contained 2, 40 and 600 pounds of shrimp per hour of P. borealis.
Unalaska Bay (5 drags)	Drags contained 1225, 80, 100, 100 and 0 pounds of 90% P. borealis and 10% P. hypsinotus and P. dispar.
S. of Krenitzen Island (12 drags)	All drags contained only trace amounts with one drag resulting in a torn net.
Beaver Inlet (5 drags)	These drags contained 960, 170, 105, 20, and a trace amount of 54% P. dispar and 46% P. borealis.
Makushin Bay (6 drags)	One drag resulted in a torn net. All drags produced less than 70 pounds of 55% P. borealis and 45% P. dispar.
Bering Sea (45 drags)	All drags produced less than 80 pounds of P. borealis. Only 13 drags produced shrimp.
Cape Newenham (5 drags)	Only one drag produced over trace amounts of shrimp, and these were all non-commercia species.

Bristol Bay (9 drags)	All drags contained less than 2 pounds of shrimp.
Pavlov Bay (3 drags)	Drags contained 1660, 750, and 1950 pounds of 67% *P. borealis* and 37% of *P. goniurus*.
Ivanov Bay to Kuiukta Bay (7 drags)	Drags produced 600, 720, 250, 600, 360, 1140 and 1500 pounds of 59% *P. borealis* and 41% *P. dispar*.

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