Corrected Copy

ANNUAL REPORT

OF COMMERCIAL FISHERIES FOR

1960

C O R D O V A A R E A

Alaska Department of Fish and Game
Commercial Fisheries Division
P.O. Box 669
Cordova, Alaska

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INTRODUCTION

The Cordova commercial fisheries management area comprises all of the drainages in Alaska from Cape Suckling to Cape Fairfield. This area encompasses the waters of Controller Bay, Prince William Sound, Copper River and several small rivers and streams entering in the Copper River delta and adjacent areas. In land area this includes approximately 38,000 square miles of which the major portion is drained by the Copper River entering the Gulf of Alaska east of Prince William Sound.

The Cordova management area is divided into several management districts that conform chiefly to topographical and racial distribution of the fisheries, thus providing close control and flexibility. Prior to 1960, when the United States Fish and Wildlife Service, Bureau of Commercial Fisheries had control of Alaska fisheries, the Cordova management area included four management districts, namely Prince William Sound, Eshamy, Copper River and Bering River-Yakataga. When the Alaska Department of Fish and Game came into control of the fisheries in January, 1960, the area boundary was changed to exclude Yakataga which is now included in the Juneau management area. Other changes made in the fall of 1960 further divided the Prince William Sound district into eight management districts, including Eshamy which already existed as a separate district. The management of the 1960 fishery, however, was accomplished while the area existed as four management districts.

This area has one of the most varied fisheries in Alaska. The major fisheries harvest five species of salmon, razor clams, and dungeness crab. Minor fisheries consist of king crab, shrimp, herring, cockles and some bottom fish. The commercial fishery included, in 1960, twelve salmon

canneries, three custom packing operations, two salmon cold storage operators, nine shellfish (clams and crab) processors and four miscellaneous (halibut, shrimp, etc.) fish processors. In addition, several small fresh and cured fish enterprises operate periodically.

The major salmon fishery of the area is a purse seine fishery for pinks and chums in Prince William Sound, which usually begins in early July and lasts for about four or five weeks. Records show a sharp decline in the catch of pink salmon in Prince William Sound during the past 20 years. In the last 10 years of harvest, the average season catch of pink salmon has been approximately 120,000 cases. Chum salmon catches in Prince William Sound have averaged about 41,000 cases during the last 17 years. The harvest of chums has shown considerable variation during those years, however, the catches have been more stable than pink salmon, and records of chum salmon catches do not show the sharp decline that is evident in pink salmon catches in recent years.

Salmon from the Copper River and Bering River Districts are harvested by drift gill nets. The fishery for king and red salmon usually starts in early May on the Copper River flats and in June for red salmon in Controller Bay. The fishing for these salmon continues throughout the season until the salmon runs are over. After a slack period in late July the silver salmon fishery begins in early August and continues until about mid-September in these same areas.

The Copper and Bering River annual case pack for the last 20 year period has averaged 51,240 reds, 4,073 kings and 29,725 cohos (48/1 lb. cans per case). Recent years have shown a decrease in case pack for all three species.

One of the largest razor clam fisheries of Alaska is in the Cordova area. The major digging beaches are adjacent to the town of Cordova and are located in the southeast corner of Prince William Sound and on the west end of the Copper River flats. Periodically some digging is done in Controller Bay on Kanak Island and other bars.

The razor clam fishery has been on a quota system for many years, however, the main spring season quota of 1,470,000 pounds (42,000 cases of 48/½ per case) in the Prince William Sound and Copper River area has not been dug in recent years. Records of razor clam digs during recent years show a general decline in the harvest. The 10 year average harvest is approximately 985,000 pounds, or 29,000 (48/½ lb.) cases. Major processing is mainly by one operator during the spring season, and only small, local processors take advantage of the fall season.

The two main factors; (1) a general decline in the abundance of razor clams, and; (2) the fact that the quota of 1,470,000 pounds had not been dug in recent years, has given rise to some concern regarding the razor clam fishery. As a result of this the 1960 spring quota in the Prince William Sound and Copper River areas was reduced to 935,000 pounds, including shells or 29,000 cases (48/½ pound cans per case). The quota in the Boring River area was increased from 160,000 pounds, including shells (4,000-48/½ cans per case) to 320,000 pounds including shells or 8,000 cases upon the basis of 48 one-half pound cans per case.

Both dungeness and king crab are harvested and processed in the Cordova area. The dungeness crab is one of the major fisheries of the area, with an annual harvest averaging about 1,500,000 pounds (live weight). The dungeness crab appears to be the only major fishery of the area that shows no immediate signs of depletion. The fishery is located in the southeast corner of Prince William Sound and along the Gulf of Alaska south to Cape Suckling.

King crab in the past several years have been taken in relatively small numbers and processed by a small, local operator. Recent developments, in 1960, has created more interest in this species which resulted in a substantial increase in the harvest.

Among the other miscellaneous fisheries the herring fishery has been the most substantial in the past, however, no fishing for herring has been done the past few years, probably as a result of prices offered for herring products.

In addition to the commercial fishery there is a considerable amount of fishing done for subsistence purposes in Prince William Sound and in the Copper River. Each year approximately 20-30 Indian fish wheels and an unknown number of dip nets and other gear have been operated in the Copper River between Chitina and Gakona.

SALMON FISHING SEASONS

Prince William Sound District:

In 1960 the fishing season was scheduled to open at 12:01 A.M. July 4, however, an emergency regulation was envoked that postponed the opening until 12:01 A.M. July 11, 1960. The season opened as scheduled on July 11, without further delay.

On July 16, an emergency regulation was envoked to close several bays to fishing. These were as follows: (1) The entire Sawmill Bay; (2) All waters in Port Wells, Passage Canal and Blackstone Bay were closed west of a line from Point Cochrane to the point of land between Barry Arm and Harrison Lagoon.

On July 30, an emergency regulation was envoked to amend the regulations as follows:

(1) Salmon purse seine fishing will not be governed by the gear time table during the week of August 6th. Purse seine fishing will be allowed as follows: August 2nd from 6:00 A.M. to 6:00 P.M.; August 3rd from 6:00 A.M. to 6:00 P.M.; August 4th 6:00 A.M. to 6:00 P.M..

(2) In addition to the closures specified in Section 111.21 the following closures are effective immediately:

(a) Simpson Bay, entire southeast arm.

(b) Port Gravina. East of 146° 10' west longitude.

(c) Port Fidalgo. East of 146° 28' west longitude. Landlocked Bay, north side of Port Fidalgo north of 60° 50' north latitude.

(d) Valdez Arm. Galena Bay, east of 146° 39' west longitude at the narrows. Jack Bay, within the bay.

(e) Long Bay. North of 60° 56' north latitude.

(f) Wells Bay. North of 60° 55' north latitude.

(g) Unakwik Inlet. North of 60° 55' north latitude.

(h) Eaglek Bay. North of 60° 51' 30" north latitude.

(i) Port Nellie Juan. West of 148° 12' west longitude. McClure Bay, south side of Port Nellie Juan, south of the cannery site.

(j) Whale Bay, within the bay.

On August 3, 1960, an emergency regulation was envoked to close salmon fishing in Prince William Sound. The regulations were amended to read as follows: The salmon purse seine fishing season shall end at 6:00 P.M., Wednesday, August 3, 1960.

Eshamy District:

The Eshamy district was closed to all salmon fishing in 1960.

Copper River District:

The open fishing season in this district was from May 9, 1960 to September 23, 1960, except trolling, which was open from January 1, 1960 to December 31, 1960.

Bering River District:

The open fishing season in this district was from May 9, 1960 to September 23, 1960, except trolling, which was open from January 1, 1960 to December 31, 1960.

ECONOMIC CONDITIONS

The town of Cordova and the outlying villages of Chenega and Tatitlek are primarily fishing communities and derive the major portion of their income from fishing. The town of Valdez derives a larger portion of its income from a transportation and trucking business and tourists and depends to a lesser extent on fishing.

Due to poor salmon fishing seasons in 1959 and 1960 the economic condition of all the communities on Prince William Sound are in a depressed state. Both in 1959 and in 1960, the Governor of Alaska declared Cordova and Valdez depressed areas. Some monies were given the communities by the State to help alleviate the conditions.

Plants that operated only during the purse seine season indicated they took a loss in operations this year.

OPERATORS, IDLE AND NEW PLANTS

Following is a list of operators, idle and new plants that processed fish and shellfish in the Cordova area during 1960.

The Alaska Packers Association, New England Fish Company and Western Fisheries formed a combine in their fish processing efforts on Prince William Sound.

Fisheries Product Company located in Valdez opened under new management in 1960 after being idle in 1959. Mr. Martin Hegolberg opened the plant under the name of Valdez Fisheries.

TABLE 1. LIST OF FISHERY OPERATORS, CORDOVA AREA, 1960

SALMON CANNERIES (Shoreside)

Name & Address	Location	Superintendent / Bookkeeper	Number of Lines	Canned for Other Companies
Alaska Packers Association 412 Bell Street Seattle, Washington	Ocean dock	Vernon Poulsen Ronald Tullis	2 - 1# talls 2 - ½# flats	New England Fish Co. Western Fisheries, Inc.
Aurora Packing Company Box 239 Cordova, Alaska	Big Point	Harold R. Conrad	1 - ½# flats	
Big Point Seafoods, Co. Box 58 Cordova, Alaska	Big Point	Karl E.C. Bradley	1 - ½# flats	
Crystal Falls Fish Co. 266 East 43 St. Seattle, Washington	Crystal Falls	Lund Utness Pauline Utness	1 - 1# talls	
Glacier Packing Co. Box 176 Cordova, Alaska	Big Point	Percy C. Conrad	1 - ½# flats	
New England Fish Co. Box 120 Cordova, Alaska	Orca Bay	Howard L. Lee Jim Forsell	2 - 1# talls 1 - ½# flats	Alaska Packers Assoc. Western Fisheries, Inc.
Port Ashton Pkg. Corp. 101 Harris Avenue Bellingham, Washington	Port Ashton	Andre A. Hattson George Freeman	1 - 1# talls	Fidalgo Island Packers Co Seldovia-Port Graham Cons Wash. Fish & Oyster Co.
San Juan Fishing & Pkg Co. Box 3086 Seattle, Washington	Port San Juan	Al O'Leary Starr Calvert, Jr	2 - 1# talls	
Shelter Cove Packing Co. Box 863 Cordova, Alaska	Fleming Spit	Max Wolf	1 - ½# flats	

CORDOVA DISTRICT, continued

SALMON CANNERIES (Shoreside)

Name & Address	Location	Superintendent Bookkeeper	Number of Lines	Canned for other Co.
Western Fisheries, Inc. 309 Colman Building Seattle, Washington	Ocean Dock	Bob Morgan C. H. Wright	stand-by	Stand-by for Combination Alaska Packers Assoc. New England Fish Co.
Valdez Fisheries Valdez, Alaska	Valdez	Martin Hegelberg	1 - 1# talls	

SALMON CANNERIES (Floating)

Name & Address	Location	Superintendent Bookkeeper	Number of Lines	Canned for other Co.
Copper River Co-op, Inc Box 139 Cordova, Alaska	Odiak Slough	Wm. J. Clemence	1 - ½# flats	

FRESH, FROZEN, AND CURED PRODUCTS

Name & Address	Location	Superintendent Bookkeeper	Number of Lines	Canned for other Co.
Clarence Moy Box 602 Pelican, Alaska	Copper-Bering River	Clarence Moy	Fresh Salmon (Transported out)	
Point Chehalis Packers Westport, Washington	City dock	James Poor Jo Ann Barnes	Frozen salmon, halibut	
Washington Fish & Oyster Cordova, Alaska	Ocean dock	Richard Sutterlin Sybil F. Swanson	Fresh salmon, halibut	

SHELLFISH PROCESSORS

Name & Address	Location	Superintendent Bookkeeper	Products
Alaska Packers Assoc. 412 Bell Street Seattle, Washington	Ocean dock	Vernon Paulson Ronald Tullis	Canned clams
Aurora Packing Co. Box 239 Cordova, Alaska	Big Point	Harold R. Conrad	Canned clams
C.O. Buck Canning Co. Boswell Bay Cordova, Alaska	Boswell Bay	C.O. Buck	Canned clams
Big Point Seafoods, Co. Box 58 Cordova, Alaska	Big Point	Karl E.C. Bradlee	Canned clams and crabs
Fairmount Island Seafoods Fairmount Island via Cordova, Alaska	Wells Bay near east entrance on outside	Lyman L. Fletcher	Fresh and canned shrimp
Glacier Packing Company Box 176 Cordova, Alaska	Big Point	Percy R. Conrad	Canned clams
Nelson Crab & Oyster Co. Tokeland, Washington	Ocean dock	Chris Nelson Sam Manuel	Canned crab
Pat O'Brien Point Chehalis Packers Westport, Washington	City dock	James Poor Jo Ann Barnes	Canned crab
Shelter Cove Packing Co. Cordova, Alaska	Fleming Spit	Max Wolf	Canned clams and crab
Washington Fish & Oyster Cordova, Alaska	City dock	Richard Sutterlin Sybil F. Swanson	Canned crab

Western Fisheries

The following tables give a summary of raw fishery prices for the Cordova area and lists comparable data for previous years.

Table 2a. - Summary of Prices Paid for Salmon
(1933 - 1951)

Year	Independent Fishermen					Company Fishermen				
	Red	King	Coho	Chum	Pink	Red	King	Coho	Chum	Pink
1933	1/ $0.20	$0.50	--	--	--	$0.10	$0.30	--	--	--
1934	.27½	1.00	--	--	.05	.13 3/4	.50	--	--	.04
1935	.30	1.00	--	--	.05	.15	.50	--	--	.04
1936	No report of Prices									
1937	.35	1.50	.25	--	.05	.17½	.75	.12½	--	?
1938	No report of Prices									
1939	.30	1.25	.15	.05	.05	--	--	--	--	--
1940	2/ .35(.25)	1.50	.25(.25)	(.06)	(.06)	Company fishermen received ½ price paid Independents.				
1941	No report of Prices									
1942	No report of Prices									
1943	.535	1.99	.428	.1284	.107	.2675	.99	.214	.107	.0856
1944	.535	1.99	.428	.1284	.107	.2675	.99	.214	.107	.0856
1945	.535	1.99	.428	.1284	.107	.2675	.99	.214	.107	.0856
1946	.5835	2.18	.4708	.165	.135	.2993	1.09	.2354	.135	.105
1947	.61	2.35	.48	.20	.15	GN S .30 .4575	GN S 1.175 --	GN S .24 .36	GN S .15 .15	GN S -- .1125
1948	.75	2.55	.60	.30	.25	.3725 .5666	1.275 --	.30 .45	.225 .225	.1875 .1875
1949	.80	3.25	.75	.40	.30	--	--	--	--	--
1950	.80	3.00	.75	.40	.30	.40	1.50	.375	.20	.15
1951	3/ 1.10	4.00	1.00	.55	.40	GN S .55 .82	GN S 2.00 3.00	GN S .50 .75	GN S -- .1125	GN S -- .30

1/ First year prices quoted in Fish & Wildlife Service, B.C.F. Annual Reports.

2/ Prices in ( ) paid for Prince William Sound salmon.

3/ Prices were union agreement. Some reds were bought at slightly higher prices. Also 20 cents per pound was paid for King salmon in the round by some companies and a considerable number, especially large kings, were sold for that price.

Table 20. Summary of Prices Paid for Salmon
(1952 - 1960)

Year	Red	King	Coho	Chum	Pink
1952	$1.15	$4.15/ea.	$1.05	$0.57	$0.415
1953	1.25	4.15	1.05	0.57	0.415
1954	1.25	4.15	0.90	--	--
1955	1.25	4.15	1.05	0.57	0.415
1956	1.35	4.15	1.10	0.60	0.45
1957	1.39	4.15	1.10	0.635	0.45
1958	1.39	0.21/lb.	1.10	0.635	0.45
1959	1.40	0.22	1.10	0.635	0.45
1960	1.47	0.23	1.15	0.68	0.48

Table 3a. Summary of Prices Paid for Shellfish and Miscellaneous Fish Products (1933-1949)

Year	Razor Clams		Dungeness Crab	Cockles
1933	$0.04/lb.	(0.045/lb.) 1/	$0.04/ea.	--
1934	0.04	(0.045)	0.04	--
1935	0.045	(0.05)	--	--
1936	1st 3 mo. 0.035 / Later 0.045	(0.05)	--	--
1937	0.05	(0.055)	0.04	--
1938	0.05	(0.055)	--	--
1939	0.05 2/		0.03	--
1940	0.05		0.03	--
1941	No report of prices		--	--
1942	No report of prices		--	--
1943	0.0675		0.075	--
1944	0.0675		0.075	--
1945	0.0675		0.075	--
1946	0.09		0.14	$6.00/100# sack
1947	0.095		0.05/lb.	4.50
1948	0.105		0.12	6.00 3/
1949	0.12		0.12	6.00

1/ Prices in the shell. Price in ( ) paid independent clam diggers.
2/ Price paid all razor clam diggers.
3/ Price delivered at plant. Price of $5.50/100# sack paid on the grounds.

Table 3b. Summary of Prices Paid for Shellfish and Miscellaneous Fish Products (1950-1960)

Year	Razor Clams	Dungeness Crab	Cockle	King Crab	Other
1950	$0.12/lb.	$0.12/lb. 1/	$6.00/100# sack	--	--
1951	0.15	0.085	8.00	--	--
1952	0.13	0.085	8.00	--	--
1953	0.13	0.085	--	--	--
1954	0.13	0.08	--	--	--
1955	0.13	0.08	--	--	--
1956	0.13	0.08	0.03/lb.	--	--
1957	0.13	0.05	--	--	Salmon eggs 0.07/lb.
1958	--	0.06	--	--	--
1959	0.13	0.08	--	0.08	--
1960	0.14	0.10	--	0.10	--

1/ Prices for Dungeness crab $0.14 - 0.15 caught outside.

The prices listed in the foregoing tables give the general selling price. Each year various market demands may cause some fish to be purchased at higher prices. For example, in 1960, it was reported that gill net caught silver salmon were being purchased on the grounds for $1.75 each for cold storage. Prices as high as $2.50 each were reported being paid for silver salmon delivered to the cold storage plant.

The general price paid to razor clam diggers in 1960 was 14 cents per pound delivered to a weigh-in station. Late in the season reports indicated that razor clams (in the shell) were selling for 25 cents per pound delivered at the cold storage plant in Cordova. The razor clams were purchased for crab bait.

COPPER RIVER - SALMON

COMMERCIAL FISHERY

GENERAL

The salmon season opened on May 9 and three operators fished Copper River flats prior to the settlement of fish prices on May 22. Copper River Co-op, fished one and one-half days during week 21 and reported 8,596 red salmon and 215 king salmon caught by 19 fishermen. Red salmon from this catch averaged 15.1 per case and king salmon averaged 21.4 pounds per fish, (Table 4 and 5). Two other operators reported 467 red salmon.

The local fishermen's union, Cordova Aquatic Marketing Association, negotiating for fish prices with industry representatives agreed on a price settlement on May 22. The negotiations produced a settlement of $1.47 for red salmon, 23 cents per pound for king salmon, 48 cents for pink salmon, 68 cents for chums, and 1.15 for silver salmon (Table 2b).

Three large operators and four small canneries fishing during week 22 (May 22 to May 28). The catch during the week totaled 51,345 red salmon and 3,716 king salmon.

Drift gill net fishing on Copper River flats continued without interruption until purse seining opened on Prince William Sound on July 11. The peak number of gill net fishermen showed an increase over 1959 but was below 1958 and probably reflects directly to purse seine seasons on Prince William Sound.

Generally, the salmon season on Copper River flats showed an improvement over the last two years but was considerably below the last ten year average.

Table 4. Copper River Red Salmon-1960

WK	Case Pack 1/ (48-1#/cs)	Total Catch	Reds Frozen	No. of Boats	Number Deliveries	Av. catch per boat	Av. Reds per/cs.	Fathoms 4/ Gear
21	642	9696		31	73	313	15.1	4650
22	3828	51345	287	376	1513	137		56400
23	3921	77086	124	396	1607	194		59400
24	3470	36137	121	385	1259	94		57750
25	2755	43434	162	312	1072	139		46800
26	4949	47215	124	304	1090	155	13.7	45600
27	2597	32940	31	186	517	177		27900
28	2719	34842		193	567	181	13.5	28950
29	1367	13501		53	235	255		7950
30	733	12122		48	218	253		7200
31	113	1430		32	78	47		4800
32	5	71		11	14	6		1650
33	22	259		24	79	11		3600
34	16	313		126	407	2		18900
35	8	114		189	778			28350
36	1	27		186	692			27900
37		21		176	731			26400
38		2		151	559			22650
39	15½ 2/	2		137	501			20550
Total	27161	360667	849		11999	1964	13.4 3/	

1/ Does not conform to the catch because of hold-over fish that are packed the following week.

2/ Includes odds and ends in final case count not reported.

3/ Season average reds per case.

4/ Based on 150 fathoms/per boat.

Table 5. RED SALMON CATCH BY COMPANY AND WEEK-1960

(Copper River-Bering River Area)

Week	Alaska Packers Association	Copper River Co-op, Inc.	Crystal Falls	Point Chehalis	Aurora Pk. Co.	Glacier Pk. Co.	Big Point Seafoods	Shelter Cove Co.
21 (5/15-21)		8596		280			187	
22 (5/22-28)	44216	5815	821	41	3111			648
23 (5/29-6/4)	68773	6766	1327	90	464	486		10
24 (6/5-11)	36210	2711	647	121	196	132		60
25 (6/12-18)	56279	3373	1201	162	271	244		138
26 6/19-25)	49479	4776	1161	121	758	304		225
27 (6/26-7/2)	28410	3371	1702	34	695	199		165
28 (7/3-9)	28259	3497	2229		593	203		108
29 (7/10-16)	9804	1113	947		1506	158		
30 (7/17-23)	6914	3271	1039		541			
31 (7/24-30)	791	478	217					
32 (7/31-8/6)		53	19					
33 (8/7-13)		227	30					14
34 (8/15-20)	163	118	15					
35 (8/21-27)	64	10	5					
36 (8/28-9/3)	25	2						
Totals	329417	44177	11360	849	8135	1706	187	1368 =397199

RED SALMON

Past management of the Copper River red salmon run appears to a large extent, to have been done by trial and error methods. Records indicate some sporadic attempts to collect various data, however, these efforts were not continued for any length of time. Exceptions to this was the compilation of catch statistics which date back to 1927 (Table 6.). Portions of the catch data is useful in a general analysis but it is not suited to a specific analysis of the Copper River red salmon run because the data does not separate Bering River catches prior to 1951. After 1950, the catch and case pack are separate for the two major drainages (Table 7 and 8). Several minor drainages are also included in these data but due to intermingling of races of salmon, topography of the fishing grounds and habits of the fishermen it would be difficult to separate out the catches of the minor rivers and sloughs. In the early years of fishing in the Cordova area this probably could have been accomplished without too much difficulty since most of the fishing was evidently done in the rivers and sloughs.

For the past several years, some attempt has been made to assess the spawning escapement by aerial observations on the spawning ground. Some years several aerial observations were made and were, at least once, assisted by ground observations in restricted areas. It is difficult to assess the value of these aerial observations particularly during years when only one or two trips were made.

Through the years the major tool of management has been the use of fishing restrictions to allow an escapement of red salmon to pass through the fishery. These restrictions were apparently the result of decreased fisherman success and a declining case pack which led to the fear of a depleted run.

As fishing efficiency improved through the years the restrictions on fishing were also increased. In 1941, for example, the weekly period closed to salmon fishing was 48 hours. Now the present closed period extends for 84 hours. In 1941, a fisherman could use 200 fathoms of red salmon drift gill net. The present regulations limit each fisherman to 150 fathoms.

The greatest concern for the Copper River red salmon stocks resulted during the last three years when the case pack dropped far below the ten year average (Table 8). During the past three years the case pack did not exceed 30,000 cases as compared to the ten year average of 50,879. The sudden decrease may be the result of several factors: Insufficient spawning escapement, poor reproduction, poor survival of young fish, or, a combination of these factors. No data is available to make an analysis of these factors, however, since the decrease in case pack is apparent for three successive years, the most plausible explanation is insufficient spawning escapement. If this is the answer, then it will be necessary to allow a larger spawning escapement if we are to maintain a harvest comparable to past years. A tag and recovery program is being initiated to provide information to determine what action is necessary.

Table 6. COPPER RIVER - BERING RIVER SALMON CASE PACK AND WHOLE FISH

(1927 - 1950)

	CASES 1/				WHOLE FISH (FROZEN OR FRESH)				
Year	Kings	Reds	Cohos	Total	Kings	Reds	Coho	Pinks	Chums
1927	11866	21991							
1928	14048	45067							
1929	14622	82034							
1930	7727	70330							
1931	11756	59555	12861	84172					
1932	7465	67222	--	75187					
1933	4691	56787	11325	72803					
1934	3469	92838	--	96307					
1935*	784	9144	9379	19307					
1936	2313	75296	--	77609					
1937	3846	77550	5357	86753					
1938	2530	64930	--	67468					
1939	2185	52091	801	55077					
1940	1292	38185	31399	70876					
1941	3075	34701	82363	120138					
1942	5254	46538	83531	135323					
1943	4890	56730	21927	83547					
1944	2546	62472	34661	99679					
1945	6021	70997	41127	118145					
1946	7224	45517	25865	78606					
1947	3702	30697	22231	56630				27000	
1948*	1308	13897	28688	43893	430			32627	
1949	2039	46464	16103	64606	1772			29227	
1950	4685	70287	20187	96159	198	1262		374	
1951	5129	39,961							
		1,556,157							

1/ Case pack on the basis of 48-1/ cans per case.

* Strike these years.

Table 7. COPPER RIVER DRIFT GILL NET SALMON CATCH.
(1951-1960)

Year	Kings	Reds	Cohos	Pinks	Chums
1951 1/	17439	451943	154418	101	48
1952	29355	1136316	163740	6284	1091
1953 2/	12198	563708	29866	166	46
1954	15764	1099564	157941	135	272
1955	20438	636705	158208	149	12
1956	11702	540575	109248	1131	54
1957	8151	541637	58705	1841	1224
1958	6965	307342	81610	8872	181
1959	9833	299782	132259	940	67
1960	8678	360667	137957	375	314
Average	14052	593824	118395	1999	331

1/ In 1951, 70 reds and 18 coho were caught by set gill net gear.

2/ No major operation during coho season.

Table 8. COPPER RIVER SALMON CASE PACK
(1951-1960) 1/

Year	Kings	Reds	Cohos	Pinks	Chums
1951	5129	38961	19084	6	5
1952	8634	97958	20214	147	120
1953 2/	3588	50785	4267	10	5
1954	4926	93980	21059	8	32*
1955	5839	55366	18396	10	14
1956	3251	48266	13162	44	5
1957	2145	46693	5590	106	144
1958	2322	26725	9833	522	20
1959	3073	23239	15379	81	10
1960	2174	26915	15497	--	--
Average	4108	50879	14640	113	34

* Estimated

1/ Estimated total case pack (48-1#/case) based on reported number salmon per case.

2/ No major operation during coho season.

KING SALMON

The king salmon fishery of Copper River is minor in comparison with red salmon and the management of this species for the most part has been subject to the general management of the red salmon. An exception to this is a gear regulation allowing extra king salmon drift gill net (8½" mesh) in addition to the red salmon gear, however, very few fishermen take advantage of the extra gear allowance. Because of this, most of the king salmon catch is taken incidental to red salmon fishing.

The history of the king salmon run closely parallels that of red salmon with present abundance far below the late 1920's and early 1930's (Table 6). The decline is somewhat surprising since the kings are afforded some natural protection by weather and by the fact that few fishermen take advantage of the king salmon gear allowance. The exact timing of the run is not well established, however, the early portion of the run probably escapes upstream before the season opens. In addition to this, inclement weather during the early season will sometimes make fishing difficult to impossible. In spite of these protective factors the run appears to be in a critical or near critical condition. In 1960, the case pack was about one-half the ten-year average (Table 8). Immediate studies are needed to determine the course of action necessary to bring the run back to its former level. The initiation of the tag and recovery program in 1961 will probably provide some answers.

Table 9 gives a summary of 1960 king salmon catch data by week. Table 10 gives the breakdown by Company.

Table 9. KING SALMON, COPPER RIVER
1960

WK	Case Pack 1/ (48-1#/cs)	Catch (No.Fish)	No. Frozen	Pounds	Av. weight	No. Boats	No. Deliv.	Av.Catch per Boat	Fathoms of Red Gear 2/
19		5		124*		1	1	5.0	
20		26		647*		6	8	4.3	
21	62	262		5607	21.4	31	73	8.5	4650
22	706	3716	74	79151	21.3	376	1513	9.9	56400
23	436	2194	44	58141	26.5	396	1607	5.5	59400
24	514	1268	17	36899	29.1	385	1259	3.3	57750
25	245	819	15	20311	24.8	312	1072	2.6	46800
26	89	250		6900	27.6	304	1090	0.8	45600
27	3	59		1587	26.9	186	517	0.3	27900
28		68		1802	26.5	193	567	0.4	28950
29		2		50*		53	235		7950
30		4		100*		48	218		7200
31		0				32	78		4800
32		3		75*		11	14		1650
33		0				24	79		3600
34		2		50*		126	407		18900
Total	2135	8678	150	211444	24.9 3/		8738	40.6	

* Calculated from the season average of 24.9.

1/ Does not conform to catch because of hold-over fish that are packed the following week.

2/ A few fishermen also fished some king gear.

3/ Season average.

Table 10. KING SALMON, COPPER RIVER - BERING RIVER

By Company, 1960

Week	Alaska Packers Association	Copper River Co-op Co.	Crystal Falls	Point Chehalis	Aurora Pkg Co.	Glacier Pkg. Co.	Big Point Seafoods	Shelter Cove	Ocean Harvest
21	-	215	-	41	-	-	4	-	-
22	2582	322	62	46	58	-	-	10	-
23	1866	194	34	31	7	17	-	2	-
24	1108	112	12	17	8	6	-	5	11
25	608	41	9	15	2	6	-	9	-
26	236	20	2	-	-	-	-	-	-
27	51	4	1	-	-	-	-	1	-
28	14	2	-	-	-	-	-	-	-
29	1	-	-	-	-	-	-	-	-
30	1	-	-	-	-	-	-	-	-
	6467	910	120	150	75	29	4	27	11

Cannery price for Kings, 23 cents per pound

SILVER SALMON

The silver salmon fishery did not come into real importance until the late 1920's and early 1930's and continued sporadically until 1940,(Table 6). The harvest has remained relatively stable, but has shown some decrease during the past ten years, (Table 8). The general condition of the run appears to be in a fair to good condition, however, there appears to be some need for adjustment in present management methods.

The silver salmon fishing season is separate from reds and kings due to the timing of the run and for this reason can be managed separately. The season usually begins in early August after the red and king season is over and continues until late September. Fishing is difficult toward the end of the season because of the inclement weather and generally most of the fishermen are willing to stop fishing at that time.

The 1960 case pack showed a slight increase over 1959, and was also above the ten year average, (Table 8, 11). Table 11, gives a summary of the 1960 season by week. The peak activity and catch of the fishery occurred during the first week in September.

Table 12 gives a summary of the 1960 coho salmon catch by company.

Table 11. COHO SALMON, COPPER RIVER, 1960

Week	Case Pack (48-1#/cs)	Catch (No.fish)	Frozen	Number Boats	Number Deliveries	Average Catch/Boat	Average Per/cs.	Fathoms Gear
27		193		186	517	1.0		27900
30	17	83		49	218	1.7		7200
31	11	102		32	78	3.2		4800
32	1	23		17	14	2.0		1650
33	99	1084		24	79	45.2		3600
34	775	10406		126	407	82.6		18900
35	2229	24081	3817	189	778	127.4		
36	2246	23526	1555	186	692	126.5		
37	3008	30969	2632	176	731	175.0		
38	1907	22973	1992	151	559	152.1		
39	2444	24516	3209	137	501	178.9		
	12737	137957	13205		4574	896.6		

Table 12. COPPER RIVER-BERING RIVER COHO CATCH BY COMPANY, 1960

Week	Alaska Packers	Copper R. Co-op	Crystal Falls	Shelter Cove	W.F. & Oyster (Frozen)	Point Chehalis	Cl. Moy Transp.
30 (7/17-23)		38	42				
31 (7/24-30)	32	41	27				
32 (7/31-8/6)		15	8				
33 (8/7-13)		883	191	45			
34 (8/14-20)	6088	2335	638		1631		
35 (8/21-27)	22680	3878	1358	93	2186	52	
36 (8/28-9/3)	27030	3476	1964		1555		1210
37 (9/4-10)	45676	3979	2203		2632		2981
38 (9/11-17)	39120	2857	943		1992		7080
39 (9/18-24)	28703	2248	2005		2878	281	1949
Totals	169329	19750	9379	138	12874	333	13220

225,023 total cohos for all companies

Company price for cohos $1.15 each.

SUBSISTENCE FISHERY

A small subsistence catch was reported from the lower Copper River in 1960 (Table 13). The data in Table 13 reflects only the fish taken under authority of a permit and does not include other salmon taken home by fishermen during the commercial season.

The coho salmon were taken from Copper River flats after the commercial season closed while the other species were taken from Eyak Lake during a winter fishery.

Past records do not show the extent of the subsistence fishery in this area.

Each year subsistence fish are taken from the upper Copper River by use of fish wheels, dip nets and various other gear. Previous records of subsistence catches are incomplete or lacking entirely. Table 14 lists data compiled during the period 1948 to 1957. It is not known if the catches are representative of the fishermen.

In 1960, subsistence fishermen were required to have a license and permit in order to subsistence fish. A catch report form was supplied with each permit and the fishermen were requested to report their catch. Table 15 gives a summary of catches reported for 1960. Those fish were reportedly taken by use of 32 dipnets and 26 fish wheels. The fishery is located on the main Copper River between Slana River and Chitina.

Table 13. SUBSISTENCE FISHING, COPPER RIVER FLATS, 1960 1/

Month	No. Fishermen	Gear	Coho	Dolly Varden	White Fish	Other	Total
Jan.		Gillnet		84	42	6	
Feb.		Gillnet		184	70	6	
Mar.		Gillnet		20	30	11	
Sept.		Gillnet	36				
Oct.		Gillnet	122				
Totals	13		158	288	142	23	611

1/ Reports includes Dolly Varden and Whitefish taken in Eyak Lake.

Table 13a. SUBSISTENCE FISHING, PRINCE WILLIAM SOUND, 1960

Month	No. Fishermen	Gear	Coho	Reds	Pinks	Chums	Total
June		Gillnet		33			
Aug.		P. seine			100		
		B. seine	115	17	988	75	
		Gillnet	168	62	175		
		Troll	15				
Sept.		B. seine	45	27	268		
		Gillnet	100		176	150	
		Hook-spear	62		36		
Subtotal		Gillnet	268	95	351	150	
		P. seine			100		
		B. seine	160	44	1256	75	
		Hook-spear	62		36		
		Troll	15				
TOTAL	50		505	139	1743	255	2,612

Table 14. SUBSISTENCE FISHING, UPPER COPPER RIVER *

Year	Month	Fish Wheel	Dip Net	Reds	Kings	Coho	Steel Head	Unclassified	Lamprey
1948 1/	Jun-Aug	7						5100	
1949 1/	Jun-Aug	9						5500	
1952 2/	----	20		1601	535				
1954 3/	June	16	3	587	87		1		
	July	12		2448	1				
	Aug.	12		22	0				
	To Sept.	3		0	0				
1957 2/	June	10		1914	154				
	July	11		4710	123	96			95
	Aug.	7		575	4	8			28
	Unknown	1		42		4			

1/ Estimated catches - probably obtained by interview.
2/ Reported catch.
3/ Data from sample checks of fishwheels. Observations of fish in boxes of wheel, drying racks and reports of fishermen.
* Data from the years 1948, 1949, 1952, 1954 and 1957. Other years not reported.

Table 15. SUBSISTENCE FISHING, UPPER COPPER RIVER, 1960

Month	No. Fishermen	Gear	Reds	Kings	Chums	Coho	Pinks	White Fish	Total
June		Dip net	188	4		7	127	100	
		Fishwheel	767	2					
		Unknown	1480	90					
July		Dip net	514	4					
		Fishwheel	2081	29		7	40		
Aug.		Dip net	153	2					
		Fishwheel	1556	5					
Sept.		Fishwheel			15	11			
Subtotal		Dipnet	855	10		7	127	100	
		Fishwheel	4404	36	15	18	40		
		Unknown	1480	90					
TOTALS	60		6739	136	15	25	167	100	7,182

RUNS AND ESCAPEMENT

The history of the Copper River salmon runs and spawning escapements has not been documented in facts and figures but rather in a commentary of general observations and impressions of the observer. The recorded comments are probably meaningful to the observer that made the surveys, however, the records have very little value to the reader who must interpret the findings.

The general distribution of the salmon runs into the various tributaries of the Copper River are generally known but records do not show specific distribution by species and evidently no effort was made to gather this type of information.

Commercial fishing at the mouth of the Copper River shows, to some extent, the general timing of the various species, but not much is known of the specific timing of the various species and races.

In 1960, an aerial survey was made of Copper River to determine the general trend of the spawning escapement. The survey was not successful for two reasons: First, the survey was conducted late in the season due to the press of other duties; second, inclement weather did not permit good observations in most cases. Generally, the surveys indicated a poor to fair spawning escapement in Copper River in 1960.

BERING RIVER - SALMON

COMMERCIAL FISHERY

General

The commercial fishing season at Bering River is the same as Copper River. The season opened on May 9 and continued without interruption through the king, red and silver salmon seasons and ended on September 23.

One fisherman fished in the Bering River area during the second week of the season and took two king salmon, (Table 16). The fishing effort continued slow until the fourth week of the season when the number of fishermen increased to 39. Peak fishing effort occurred during the sixth week of the season when 66 fishermen landed fish, however, the peak catch occurred during the fifth week when 58 boats made landings.

The 1960 salmon season in the Bering River District compares favorably with past seasons, (Table 17). The case pack of both reds and cohos are above the ten year average, (Table 18). The small king salmon pack of 16 cases is down from the past ten years. King salmon are taken incidental to the red salmon during the early season.

Red and King Salmon

The history of the red and king salmon runs in Bering River is lacking except for a general knowledge of spawning areas and case pack data dating back to 1951. Prior to 1951, the Bering River salmon catches were included with Copper River.

Management of red and king salmon in prior years parallels the management of Copper River red and king salmon. This consisted of aerial surveys of spawning fish and restrictions imposed on the fishermen.

Future plans are to continue aerial surveys and include ground surveys on the spawning grounds and to initiate a tagging project for determining the timing and distribution of the runs and for making estimates of the runs.

Silver Salmon

The silver salmon is the major fishery of the Bering River district and for the past ten years has contributed an average case pack of 6,165, (Table 18). Similiar to the other salmon species, very little is known of the history of the runs. Future management plans are the same as for red and king salmon.

Runs and Escapement

Data on the runs and escapement in Bering River is lacking except for general comments concerning the spawning escapements and records of catch and case pack.

Salmon spawn in the small streams entering Controller Bay and throughout the Bering River drainage above Bering Lake.

Table 16. RED AND KING SALMON, BERING RIVER, 1960

Week	RED SALMON: Case Pack* (48-1#/cs)	Total Catch	No. Boats	No. Del.	Av. Catch per boat	Fathoms Gear 3/	KING SALMON: Kings	Case Pack
May 9 20	0	0	1	1	0	150	2	0
June 12 23	6	81	2	2	40	300	0	0
June 11 24	281	3772	39	78	97	5850	9	2
June 18 25	1361	18237 1/	58	258	314	8700	21	6
June 25 26 2/	691	9254	66	201	140	9900	11	3
July 27	115	1543	16	31	96	2400	0	0
28	0	0	1	1		150	20	5
35	0	2	34	97		5100	0	0
37	0	1	56	257		8400	0	0
	2454	32890		1495	687		63	16

1/ Peak catch of red salmon.
2/ Peak fishing effort this week.
3/ Fathoms of red salmon gear based on 150 fathoms per boat.
* Season average reds per case, 13.4.

Table 17. BERING RIVER DRIFT GILLNET SALMON CATCH, 1951-1960

Year	Kings	Reds	Cohos	Pinks	Chums
1951	34	3591	46306	5	1
1952 1/	0	0	13642	0	0
1953	26	8572	0	0	0
1954 2/	0	129	91964	9	1
1955	125	34121	70100	50	2
1956	147	41437	53484	46	5
1957	71	29142	27441	27	22
1958	72	23947	21202	32	1
1959	77	27384	58560	6	0
1960	63	32890	68255	101	5

1/ Set gill nets caught 13,642 coho in 1952 and 129 reds and 7,665 coho in 1954.

Table 18. BERING RIVER SALMON CASE PACK, 1951-1960 1/

Year	Kings	Reds	Cohos	Pinks	Chums
1951	10	310	5717	*	*
1952	0	0	1684	0	0
1953	8	772	0	0	0
1954	0	11	12262	*	*
1955	36	2967	8151	3+	*
1956	41	3700	6444	1+	*
1957	19	2512	2613	1+	3
1958	24	2082	2554	2	*
1959	24	2123	8809	*	*
1960	16	2454	7257	--	--
AVERAGE	18	2115	6165		

1/ Estimated total case pack (48-1#/case) based on reported number of salmon per case, (See Table 25b).
* Less than one case.

Table 19. COHO SALMON, BERING RIVER, 1960

Week	Case Pack 1/ (48-1#/cs)	Catch (No. fish)	No. Boats	No. Del.	Average Catch/boat	Fathoms Gear 2/
35	588	6236	34	97	183.4	5100
36	1254	11662	41	168	284.4	6150
37	2309	21471	56	257	383.4	8400
38	1736	16146	52	236	310.5	7800
39	1370	12740	44	165	289.5	6600
	7257	68255		923	1451.2	

1/ Calculated from average number fish per case from total pack,(See Table 25b).
2/ Fathoms of red salmon gear based on 150 fathoms per boat.

1960 HARVEST AND ESCAPEMENT

Prince William Sound Salmon:

The pink salmon runs in Prince William Sound did not develop to expectations in 1960 which resulted in a generally very poor seine season for most of the fishermen.

Early aerial and ground surveys made before the scheduled opening date of July 4th showed a slow build-up of salmon at places where they normally appear. Repeated aerial surveys made over the normal routes of travel substantiated these observations and in addition indicated no large increase of movement into Prince William Sound. Upon the basis of the surveys and general observations an emergency regulation was invoked to postpone the opening of the purse seine season until July 11th.

The season opened as scheduled on July 11th. During the opening week the fishing fleet made an early cleanup of salmon that had previously built up around Prince William Sound resulting in moderate to poor fishing during the remainder of the open period. The following week of fishing continued poor and spawning escapements to early spawning areas were not building up to the desired level as a result of three main factors: (1) The overall run of pink salmon into Prince William Sound was poor; (2) The fishing fleet was concentrated in the early run areas; (3) Protection of maturing salmon was handicapped by lack of enforcement personnel. Because the desired spawning escapement was not being obtained, additional bay closures were initiated to help protect maturing salmon in areas where additional escapement was needed. The additional closures did accomplish the desired result as fair to good escapements of pink salmon were obtained in the closed areas.

The salmon run continued poor during the third week of fishing, particularly on the eastern side of Prince William Sound. The fishing fleet shifted during this period with more effort concentrating on the Cape area where salmon enter Prince William Sound from the Gulf. The shift in fishing pressure and the fact that the run was peaking during this time resulted in an increase in fishing success for this period. Escapement to various areas continued to be poor and it was necessary to close additional waters to obtain spawning escapements to some areas.

Throughout the season repeated aerial and ground surveys, along with daily catch records, indicated the salmon runs were not developing along expectations. Further, the salmon catches and escapement data indicated that the fleet fishing the Cape area were catching the majority of the salmon as they entered Prince William Sound. These factors and the fact that spawning escapements could not be protected adequately with the personnel and equipment available showed that to obtain the desired spawning escapement the purse seine season would have to be reduced from the scheduled closing date. During the last fishing week the daily fishing period was reduced from 24 to 12 hours and the season was closed one day earlier than scheduled.

After final tabulations of escapement data it was shown that a generally well distributed spawning escapement of 1,350,000 pink salmon to Prince William Sound streams was obtained. This was the first time since 1945 that an escapement of this magnitude was obtained, according to Fish and Wildlife Service records. A minimum of one million and the more optimum 1.5 million is desired as the escapement of pink salmon in Prince William Sound.

Chum salmon contributed to a large portion of the Prince William Sound catch during the first two weeks of the season, representing about one-half of the case pack during this period. In parts of Prince William Sound the

chum salmon was the sustaining fishery and particularly on the east side during the third and fourth weeks. A late run of 3-year chum salmon were expected to develop in particular bays on the east side of Prince William Sound; however, the run did not appear and it is suspected they may return in 1961 as 4-year fish.

The chum salmon escapement of 200,000 compares with the last nine years average of about 195,000 chums and the nine year high escapement of 276,000. The major salmon fishery of Prince William Sound being pink salmon has no doubt caused the chum salmon to take a back seat in the salmon management program. The flexibility that the Department now has and the smaller management districts proposed in Prince William Sound should allow for a closer management of this species.

In addition to the pink and chum salmon pack in Prince William Sound, 2,701 cases of red salmon and 1,266 cases of coho were also packed.

Table 20. PRINCE WILLIAM SOUND SALMON CASE PACK 1/

Year	Reds	Kings	Pinks	Chums	Cohos	Total
1931	13188	199	374880	59516	5889	453672
1932	24369	1402	205842	33142	10756	276511
1933	9296	726	194275	31475	7390	243162
1934	13398	1121	385207	33752	11796	445274
1935	16115	557	200990	52228	3223	273113
1936	13759	402	608269	23606	5152	651188
1937	8236	295	182309	21527	5770	218137
1938	10204	284	461781	31106	5703	509078
1939	10895	246	129173	28725	3505	172544
1940	6360	242	522138	53641	7776	590157
1941	5966	96	212729	73637	4369	296797
1942	10844	439	356528	81359	6282	455452
1943	11334	108	511020	30326	7559	560347
1944	11243	151	416888	118063	7512	553857
1945	15216	109	498684	156821	4566	675396
1946	9529	372	315972	72571	15674	414218
1947	17176½	180	376125	63676	6240½	464398
1948	18460	45	120765	46010	3663	188943
1949	8272	160	273226	82409	11107	375174
1950	7049	74	105397	53450	8625	174595
1951	19996	1469	47809	54942	5295	129511
1952	6997	5	115451	66254	5508	194215
1953	4929	37	122236	34552	4085	165839
1954	654		746	695	56	2151*
1955	1346		1795	550	63	3754*
1956	15442	31	185664	48772	3313	253222
1957	6322	171	35431	74716	1892	118532
1958	1117	6	358860	77922	597	438502
1959			C L O S E D			
1960	2701	2	70554	39711	1267	114235

1/ Case pack on the basis of 48-1 pound cans per case.

* Eshamy only.

Table 21a. PRINCE WILLIAM SOUND PINK SALMON, 1960
(Weekly Catch and Case Pack)

Week	Case Pack (48-1½/cs)	Catch (No.fish)	No.Units Fishing	Av. catch per boat	No.fishing days/week	Pinks per/cs.
29 (7/10-16)	15470	396446 sne.	223	1778	4	25.6
30 (7/17-23)	16360	424896 sne.	220	1931	4	26.0
31 7/24-30)	22210	586859 sne. 299 trl.	222 3	2644	4	26.4
32 (7/31-8/6)	16139½	423494 sne. 53 trl.	201 21	2107	1 1/	26.2
33 8/7-13)	375	9576 sne. 2/ 236 trl.	1	--	--	25.5
TOTALS	70554½	1841271 sne. 628 trl. 1841899 Total	216.5 3/	8460½ 4/	13 5/	26.1 6/

1/ Two 12-hour periods, August 2 and 3.
2/ Catch sold from test fishing by ADF&G.
3/ Season average number of seine units fishing.
4/ Season average catch per seine boat.
5/ Total number days fishing in season.
6/ Season average number pinks per case.
Cannery price paid for pinks, 48 cents.

Table 21b. PRINCE WILLIAM SOUND PINK SALMON BY COMPANY, 1960

Week	A.P.A.(Comb.) 1/		Port Ashton		San Juan		Valdez Fisheries, Inc.	
	Cases	Fish	Cases	Fish	Cases	Fish	Cases	Fish
29	8647	222748	2527	62583	2655	69198	1641	38467
30	8188	216863	4789	121416	3095	78169	288	7691
31	11283	205046	6467	168535	4119	106584	341	6034
32	9012½	236414	4233	133665	2741	69980	153	3874
33	375							
Total	37505½	881071	18016	466199	12610	323930	2423	56066

1/ Combine of Alaska Packers Association, New England Fish Company and Western Fisheries, Inc.

Table 22a. PRINCE WILLIAM SOUND CHUM SALMON, 1960
(Weekly Catch and Case Pack)

Week	Case Pack (48-1#/cs)	Catch No.Fish	No.Units Fishing	Av. catch per boat	No.Fishing days/week	Chums per/cs.
29 (7/10-16)	16938	155292	223	696	4	9.2
30 (7/17-23)	11880	114913	220	522	4	9.7
31 (7/24-30)	9192	92885	222	418	4	10.1
32 (7/31-8/6)	1701	18697	201	93	1 1/	11.0
33 (8/7-13)	--	71 2/	1	--	--	--
TOTALS	39711	381858	216.5 3/	1.764 4/	13 5/	9.6 6/

1/ Two 12-hour periods, August 2 and 3.
2/ Catch sold from test fishing by ADF&G.
3/ Season average number of seine units fishing.
4/ Season average catch per seine boat.
5/ Total number days fishing in season.
6/ Season average number chums per case.
Cannery price paid for Chum, 68 cents.

Table 22b. PRINCE WILLIAM SOUND CHUM SALMON BY COMPANY, 1960

Week	A.P.A. (Comb.)		Port Ashton		San Juan		Valdez Fisheries	
	Cases	Fish	Cases	Fish	Cases	Fish	Cases	Fish
29	9525	88793	2840	25836	3983	35735	590	5488
30	8060	78280	1455	14142	1601	10670	764	7207
31	6778	69096	647	6764	591	19036	1176	8289
32	979	11559	134	1440	157	1733	431	4201
TOTAL	25342	247728	5076	48182	6332	67174	2961	25185

Table 23a. PRINCE WILLIAM SOUND RED SALMON, 1960

(Weekly Catch and Case Pack)

Week	Case Pack (48-1#/cs)	Catch No.fish	No.Units Fishing	Av.Catch per boat	No.Fishing days/week	Reds per/cs.
29 (7/10-16)	876	11038	223	49	4	12.6
30 (7/17-23)	753	9999	220	45	4	13.3
31 (7/24-30)	584	7555	222	34	4	12.9
32 (7/31-8/6)	483	6517	201	32	1 1/	13.5
33 (8/7-13)	5 2/	67 2/	1	--	--	13.4
TOTALS	2701	35176 3/	216.5 4/	162 5/	13 6/	13.0 7/

1/ Two 12-hour periods, August 2 and 3.
2/ Catch sold from test fishing by ADF&G.
3/ Includes 3 reds taken by troll gear, week 31.
4/ Season average number of seine units fishing.
5/ Season average catch per seine boat.
6/ Total number of 24 hour days fishing in season.
7/ Season average number of reds per case.
Cannery price paid for reds, $1.47

Table 23b. PRINCE WILLIAM SOUND RED SALMON BY COMPANY, 1960

Week	A.P.A. (Comb.)		Port Ashton		San Juan		Valdez Fisheries	
	Cases	Fish	Cases	Fish	Cases	Fish	Cases	Fish
29	393	5034	190	2179	235	2881	58	964
30	453	6240	189	2396	111	1286	0	76
31	303	3959	185	2451	96	1134	0	6
32	251	3293	147	2051	81	1142	4	2
33	5							
TOTALS	1405	18526	711	9077	523	-6443	62	1048

Table 24a. PRINCE WILLIAM SOUND COHO SALMON, 1960

(Weekly Catch and Case Packs)

Week	Case Pack (48-1#/cs)	Catch No.Fish	No.Units Fishing	Av.Catch Per/boat	No.Fishing Days/week	Cohos Per/cs
29 (7/10-16)	429	5736 sne. 0 trl.	223	24	4	13.4
30 (7/17-23)	568	7333 sne. 653 trl.	220 2	33	4	12.9
31 (7/24-30)	194	2656 sne. 1300 trl.	222 3	12	4	13.7
32 (7/31-8/6)	75	1403 sne. 881 trl.	201 2	77	1 1/	18.7
33 (8/7-13)	--	12 sne. 2/ 3176 trl.	1 6	--	--	--
34 (8/14-20)	--	2541 trl.	6			
35 (8/21-27)	--	5031 trl.	7			
TOTALS	1266	17140 sne. 13582 trl. 30722 Total	216.5 3/	78 4/	13 5/	13.5 6/

1/ Two 12-hour periods, August 2 and 3.
2/ Catch sold from test fishing by ADF&G.
3/ Season average number of seine units fishing.
4/ Season average catch per seine boat.
5/ Total number of 24-hour days in season.
6/ Season average number cohos per case.
Cannery price for cohos, $1.15.

Table 24b. PRINCE WILLIAM SOUND COHO SALMON BY COMPANY, 1960

Week	A.F.A. (Comb.)		Port Ashton		San Juan		Valdez Fisheries	
	Case	Fish	Case	Fish	Case	Fish	Case	Fish
29	203	2673	100	1112	126	1679	0	12
30	188	2431	274	3487	106	1306	0	10
31	111	1167	58	1032	25	454	0	3
32	38	718	21	334	11	234	5	16
TOTAL	540	6989	453	5965	268	3673	5	41

Table 25a. NUMBER OF SALMON PER CASE, 1954-1960
(Prince William Sound)

Year	Red	Coho	Pink	Chum
1954	9.5	9.7	16.5 1/	--
1955	9.6	9.4	15.0	8.7
1956 2/	--	--	--	--
1957	9.8	10.5	17.4	8.5
1958 2/	--	--	--	--
1959	C L O S E D S E A S O N			
1960	13.0	13.2	24.4	9.8

1/ Estimated number of salmon per case taken from the average of others years.
2/ The number of salmon per case not separated by area.

Table 25b. NUMBER OF SALMON PER CASE, 1951-1960
(Copper and Bering Rivers)

Year	King	Red	Coho	Pink	Chum
1951 1/	3.4	11.6	8.1	18.1	9.1
1952	3.4	11.6	8.1	18.1	9.1
1953 2/	3.4	11.1	7.0	16.5	9.1
1954	3.2	11.7	7.5	--	--
1955	3.5	11.5	8.6	--	--
1956 2/	3.6	11.2	8.3	26.0	10.2
1957	3.8	11.6	--	--	--
1958 2/	3.0	11.5	8.3	17.0	9.1
1959	3.2	12.9	8.6	--	--
1960	3.6	13.4	9.3	--	--

1/ Estimated number of salmon per case taken from the average of other years.
2/ The number of salmon per case not separated by area.

Table 26. PRINCE WILLIAM SOUND PINK, CHUM AND RED SALMON TOTAL ESCAPEMENT COUNTS, BY DISTRICT 1960

District	Number of Streams Surveyed	Pinks	Chum	Reds
Eastern	76	475073	92100	146000
Northern	31	133653	24729	0
Northwestern-Coghill	46	203575	40458	129000
Southwestern-Eshamy	40	155788	4800	16000
Montague	45	214987	16782	0
Southeastern	39	167747	23008	0
Sound Totals	277	1350823	201877	146000

Table 27. PRINCE WILLIAM SOUND PINK SALMON WEEKLY ESCAPEMENT ESTIMATES, 1956, 1958, 1960

Week Ending	1956	1958	1960
June 25	500	2600	0
July 2	3570	12600	482
" 9	14500	28090	10024
" 16	41500	63230	41732
" 23	93230	108625	82412
" 30	155855	136245	217400
Aug. 6	197930	142882	230036
" 13	185925	176815	257621
" 20	237140	257722	424940
" 27	313035	316660	585500
Sept. 3	448390	298614	689268
" 10	362025	157661	566361
" 17	219430	53975	400221
" 24	64700	12700	158145
Season Total 1/	935,092	707,367	1350823

1/ Total of weekly counts divided by average stream life (2.5 weeks). Using other methods of totaling counts, 1956 escapement was reported at 1,100,000 pinks, 1958 as 900,000 pinks.

TABLE 28a. PRINCE WILLIAM SOUND PINK SALMON - 1960
(Live Counts of Pink Salmon in Streams) 1/

STREAM NUMBER	STREAM OR BAY	Week ending 6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	CALCULATED SEASON TOTAL
I Eastern District:															
1	Humpy Cr., Orca In.	0		0	160	100	1100		840		750		470		2392
7A	Spring Cr., Simpson				0	0					330		1260		2052
8	Simpson Bay 8	0		0	0	200	900	2000			1040		400		3420
11	Sheep Bay 11	0	0	20	3850	3500	10610	10000			18140		20270		48956
12	Sheep Day 12		0	0	1290	1200	2000	4000			16510		8000		15862
12A	Spring Cr., Sheep B.				0		200						1670		3052
18	Comfort Cove			0	0	0	755	500		1800	1750			18	2969
20	Boartrap Bay	0			1465	1500	1500	2816			14500			3000	16364
22	Growing River	0									1000		2600		2880
23	Olson Bay 2/	0	0	2	2000	8000	35000	40000	40000	30000	25000	20000	15000	6980	89593
24	Olson Bay	0	0	10	0	2590	4000	3500			4260			750	9524
28	Irish Cove			0	0	1500	900	1650						550	5140
29	Whalen Bay	0	0		500	1590	5000	2725		1500				1570	8310
31	Fidalgo Bay				0		100	200		100			1000	5000	4300
31B	Fidalgo Bay				0					0			500	5000	3240
32	Glacial R. Sunny B.							0					100		2120
32B	Sunny Bay		0		0		0	100		500			2250	3405	5202
34	Fish Bay	0	1		300	1610	5000	5310		5400					13868
35	Fish Bay 35							940		500					2316
39	Landlocked Bay 39				2500	4240	2500	9560		5000				3950	19208
40	Boulder Bay 40						0			0		3000			5200
41	Gladhaugh Cr., Ellamar				0					500			1785		2110
42	Turner Creek				0		650			500			3000	1770	4768
43	Millard Creek	0	0	0	0	70		600		5710			5920	5110	9168
44	Duck River		0		0	250	1000	1210		16000			30010	29400	60988
44A	Duck Lagoon (Falls)		0		0	0								2950	3140
45	Indian Creek	0	1	0	1500	2090	7000	8480		8080			6840	7750	27100
47	Jack Bay	0	0	265	500	3210	3500	4600		2715				1720	10938
48	Jack Bay	0	0	1	1000	1340	2500	2680		1570				1610	6628

continued next page,

TABLE 28a., continued

STREAM NUMBER	STREAM OR BAY	Week ending 6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	CALCULATED SEASON TOTAL
Eastern District:															
49	Jack Bay						1250			1500					3960
50	Jack Bay 50		0		0	1320	3000			2500				18520	28936
51F	Siwash Creek 51F									3500				105	4242
53	N. Sawmill Bay 53		0	0	0	1200	500	810		1290				9000	15078
	N. Sawmill Bay 54	0	0	1490	2500	11630		8720		4160				2160	14578
Other Streams (42) 3/ 4/		0	0	0	100	250	1750	3385	5840	8680	11415	13410	8230	3643	
DISTRICT TOTAL 4/ (76 streams)		0	2	1788	18165	51130	106575	119486	125780	130785	170695	162880	164195	141041	475073

1/ Ground survey counts underlined, others are aerial estimates.

2/ Periodic estimates received from U.S. Fish & Wildlife Service research station on this stream, (weir maintained on each fork).

3/ From records maintained on 42 small streams which had total escapement of less than 2,000 pinks each in 1960.

4/ Contains interpreted data where surveys lacking on certain weeks.

TABLE 28B

PRINCE WILLIAM SOUND - PINK SALMON - 1960

Live Counts of Pink Salmon in Streams

Week Ending

DISTRICT STREAM NO.	STREAM OR BAY NAME	6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	Calculated Season Tota
II Northern District															
58	E. Long Bay			0		1,220	1,500	1,300		3,565		5,000	2,910		10,198
59	W. Long Bay					0	4,000	500		1,900		10,000	2,860		12,1[illegible]
59A	N. Long Bay					0		200				1,500	700		2,022
B	W. Long Bay 59B					0		300		935		2,500	2,530		4,5[illegible]6
62	Fairmount Pass 62					0				0		1,500			2,000
63	Cedar Bay	0	0	0		0	2,000	200		450			6,500		6,820
65	Wells Bay	0	0	136		330	4,000	1,500		3,000			8,210		16,863
66	Cannery Cr, Unakwik			0		0	1,000	2,500		7,470			3,010		13,1[illegible]0
69	Jonah Bay			0		100	3,000	6,100		15,870			7,420		19,9[illegible]
70	Glacial-Siwash Bay	0		0		0	0	600		630			3,944		6,242
70C	Spring-Siwash Bay	0		0		0	0	0		870			2,975		4,860
70D	Spring- " "	0		0		0	0	0		710			3,990		6,400
71	Outer Siwash									670			7,565		11,8[illegible]
74	S.E. Eaglek Bay			0			0	200					1,700		2,[illegible]92
75	N.W. Eaglek Bay			0			0	200					2,250		3,996
Other streams 3/ (16 streams)		0	0	0	0	0	0	300	700	1,690	3,850	5,450	6,080	3,760	9,237
District Total (31 streams) 4/		0	0	136	700	1,650	16,300	13,900	25,000	39,070	59,800	78,950	71,324	67,260	133,653

3/ Less than 2,000 escapement each for season.

4/ Contains interpreted data when surveys missing on certain weeks.

TABLE 28c. PRINCE WILLIAM SOUND PINK SALMON - 1960
(Live Counts of Pink Salmon in streams) 1/

STREAM NUMBER	STREAM OR BAY	Week ending 6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	CALCULATED SEASON TOTAL
III Northwestern (&Coghill) District:															
81	Golden 81						2500	100				290			2216
83	Coghill River 83		0	0	5000	500				1500		200			2840
84	Harrison Lagoon	0	20	3000	3500	5930	5500	4000		2230					10304
86	Bettles Bay	0	0	370	2700	2070	3000	10000		2510		11780			20816
86A	Bettles Bay	0		0								3130			5444
87	Hummer Bay			0	500		2500	900							2600
89N	N. Pigot Bay	0	60	1930	3000	4310	20000	15000		3725					24210
89S	S. Pigot Bay	0	400	2360	4500	5450	40000	22000		4330					38402
92W	W.Blackstone Bay		0	200	500	910	2000								3018
92E	E.Blackstone Bay		0	140	700	680	2000								3068
94	Cochrane Bay		0	10	300	800		1600		2000					3884
98	Cochrane Bay									1120		5125			6138
100	Long Bay				0	250		2500	5000	6450		19795			24724
101	Lower Culross Pass				0			0	0			3580			4232
101A	Lower Culross Pass				0			0				4710			6324
102	Mink Harbor				20	1120		1700	1200	1820		7980			12368
104	Kings Bay 104					30			0			2430			2973
105	Kings Bay					10			2000			6270			10352
Other Streams (28) 2/ 3/		0	0	100	1200	2080	4200	4900	5200	6390	8455	9105	5305	2570	19352
DISTRICT TOTAL 3/ (46 streams)		0	480	8100	22420	27240	86350	68350	48050	41665	62255	79795	63905	34670	203575

1/ Ground survey counts underlined; others are aerial estimates.

2/ Less than 2,000 escapement each for season.

3/ Contains interpreted data where surveys missing on certain weeks.

TABLE 28d. PRINCE WILLIAM SOUND PINK SALMON - 1960
(Live Counts of Pink Salmon in Streams) 1/

DISTRICT NUMBER	STREAM OR BAY	Week ending 6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	CALCULATED SEASON TOTAL
IV Southwestern (& Eshamy) District:															
112C	Eshamy Lagoon									400		2400			2560
113	Eshamy River				0				200	550		1290			2236
116	Ewan Bay											2090			3236
116A	Outer Ewan Bay				0	290				1140		2500			4394
118	Jackpot River		0		25		1000		5312			11600			15704
118B	Jackpot Bay					0				1250		4240			4656
120	S. Jackpot Bay		0		0	400	500			1820		6590			9524
122	Lake Cr-Chenega I.			0		0				250		3260			3904
123	Lagoon Cr. "		0							1030		2955			3394
124	S. Chenega I.											2750			4020
126	Whale Bay				100	150		100	600			4120			6718
127	S. Whale Bay		0	0	20	320	300	800	80			3030			5232
128	S. Whale Bay					0						1720			2928
129	S. Whale Bay		0	0	0	280	200	300	2004			7030			8026
133	Lake Cr. W.Whale B.				300	432		3000	2990			8700			13800
133B	W. Whale Bay							0	75			1870			2348
138	Shelter Bay,Evans I.											2700			5800
139	Shelter Bay,Evans I.											1500			2200
141	Crab Bay,Evans I.				0	440	200	500	1160			10060			16024
141A	Anderson Bay "											2000			2000
143	Big Bay,LaTouche I.				0	0	0	0	1050			6350			5764
144	Montgomery Bay "				2	80	500	1000	2630			8940			12824
Other Streams (18) 2/ 3/		0	0	0	0	0	0	250	1800	4980	9100	12935	7400	3450	16046
DISTRICT TOTAL 3/ (40 streams)		0	0	0	447	2392	5300	8800	21801	36920	80150	116030	85400	45450	155788

1/ Ground survey counts underlined; others are aerial estimates.

2/ Streams with less than 2,000 pink total escapement.

3/ Contains interpreted data where surveys lacking on certain weeks.

TABLE 28c PRINCE WILLIAM SOUND - PINK SALMON - 1960

Live Counts of Pink Salmon in Streams 1/

Week Ending

DISTRICT STREAM NO.	STREAM OR BAY NAME	6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	Calculat Season T
V Montague District															
145	Main St,McLeod Hbr.				0		10		500	3,000		7,320			15,14[illegible]
145A	Spring Cr,McLeod Hbr				0		0		0	500		1,510			3,12[illegible]
145B	Logging Camp Cr. "				0		0		0	500		1,890			3,896
145C	Clam Beach " "				0		130		1,000	1,000		2,363			4,26[illegible]
145D	S. Macleod Hbr				0		0		100	750		2,000		4340—	4,[illegible]
146	S. Hanning Bay				0		200		2,000	10,000		6,475			14,982
146A	N. Hanning Bay				0		300		1,000	14,000		8,690			20,356
147	Clam Diggers Lag.				0		0			3,500					8,300
148	S.of Port Chalmers				0		0			12,000		12,500			18,000
150	S.Port Chalmers			0	0		10		500	6,500		15,170			11,997
151	Port Chalmers			0	0		0		0	1,000		4,905			7,062
152	Port Chalmers			0	0		0		200	4,000		8,370			10,180
153	Port Chalmers			0	0		0		0	3,000		6,000			9,600
154	Upper Lag. P. Chalmers			0	0		50		800	3,000		6,350			9,063
154A	Upper Lag. P. Chalmers			0	0		0		0	300		1,700			2,240
155	S.of Stockdale								100	5,000		3,050			6,180
155C	S.of Stockdale Hbr.								0	0		2,500			2,200
155D	N. Stockdale Hbr.								0	0		3,000			2,520
156	Rocky Bay								0	1,000		3,500			4,400
157	Head Zaikoff Bay				0		0		0	300		2,885			3,984
157C	S.E. Zaikoff Bay				0		0		0	500		2,260		4240-	4,21[illegible]
159	Outer Zaikoff Bay				0		0		0	100		1,750		2132-	2,1[illegible]
205	Wallie Martin River				0				5,000						5,000
Other Streams (22) 2/ 3/		0	0	0	0	0	1,000	3,000	5,300	11,900	20,750	27,065	19,500	11,800	41,916
District Total (45) 2/		0	0	0	0	0	1,700	7,750	23,700	86,850	107,750	143,663	105,500	62,900	214,987

1/ Ground Survey counts underlined; others are aerial estimates

2/ Streams with less than 2,000 pink total escapement.

3/ Contains interpreted data where surveys lacking on certain weeks.

TABLE 28

PRINCE WILLIAM SOUND - PINK SALMON - 1960

Live Counts of Pink Salmon in Streams 1/

Week Ending

DISTRICT STREAM NO.	STREAM OR BAY NAME	6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	CALC. GRASS TOTAL
VI.	Southeastern District:														
172	S. Port Etches				0		210		300	1,500	4,360				6,[illegible]
174	Garden Cove				0			100	0	800	2,770				4,5[illegible]
175	Head Port Etches				0		550	3,300	4,930	12,500	8,020				11,394
176	Constantine Harbor	0		0	0		330	1,700	3,100	15,000	13,700				18,[illegible]14
177	N.W. Hinchenbrook Is.				0				500	1,500					3,240
180	Head Anderson Bay				0				1,260	3,000	5,480		2,150		6,720
181	S. Anderson Bay				0		85		1,020	5,000	6,270		4,000		9,066
182	Head Double Bay				0		0		800	2,000			3,900		6,472
183	E. Double Bay				0		0		2,100	10,000	13,150		7,300		20,[illegible]00
185	Dans Bay, Cutoff							500	1,000	5,000	4,060				8,284
186	Hawkin's Cutoff			0				0		2,000					2,600
189	W. Makaka Point	0						0	1,550	5,000			2,100		5,720
190	E. Makaka Point	0					0	2,000	2,690	5,000	10,300		4,350		12,092
190B	Outer Canoe Passage	0								0			1,700		2,400
190C	Canoe Passage	0						500	100	2,000			2,930		5,876
191	Upper Canoe Passage	0						0	0	1,500			2,020		4,000
191B	Head Bearpaw Bay							100	0	200	1,600		2,005		3,114
191D	Cedar Bay							200	200	2,500	1,000		2,190		3,556
191E	Cedar Bay							0	0	2,500	800		1,470		2,020
192	Windy Bay								490	3,500	2,750		2,900		5,286
192B	Clandigger's Lagoon								0	800	790		2,730		4,528
193	Orca Channel							500	500	1,000	2,040		2,600		5,656
OTHER STREAMS (17) 2/ 3/		0	0	0	0	0	0	1,400	4,550	7,350	9,700	8,750	5,412	2,900	16,417
DISTRICT TOTALS (39 streams) 3/		0	0	0	0	0	1,775	11,750	25,690	89,650	104,850	108,950	76,037	48,900	167,747

1/ Ground Survey counts underlined; others are a[illegible]l estimates.

2/ Streams with less than 2,000 pink total escapement.

3/ Statistics interpreted data where surveys lacking or certain years.

TABLE 29a. PRINCE WILLIAM SOUND CHUM SALMON - 1960
(Live Counts of Chum Salmon in Streams) 1/

STREAM NUMBER	STREAM OR BAY	Week ending 6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	CALCULATED SEASON TOTAL
	EASTERN DISTRICT:														
11	Sheep Bay	0	0	710	5080	3000	1260	500			130		170		4768
12	Sheep Bay		0	0	145	300	1000	1250			2170		765		4552
20	Beartrap Bay 2.0	0		1250	2890	5000	2700	3190			700			0	8372
23	Olson Bay 2.3	0	150	600	5000	2000	3500	2500						50	3632
31	Fidalgo Bay		0		0		200	400		500			1500	840	2288
31B	Fidalgo Bay		0		0					100			1200	350	1340
31D	Fidalgo Bay		0		0			200		300			1500	1400	2500
32	Sunny Bay		0		0		0	0		250			1750	500	3120
32B	Sunny Bay		0		0		300	100		250			1500	2550	3772
34	Fish Bay	0	30		0	780		425		0					1100
39	Landlocked Bay				500	330		5		0				770	1750
44	Duck River, Galena		0		0	2000	3000	11300		2000			0	300	15580
45	Indian Cr., Galena	0	760	2140	3500	3226	4000	210		20			0	0	5518
49	Jack Bay						3500			3200					9860
50	Jack Bay		0		0	1600	1500			1000				400	3440
51F	Crooked Cr., P. Valdez									1500				1975	5070
52	Mineral Creek, Delta									3500				735	6395
53	Sawmill Bay		0	0	0	0	0	115		236				600	1060
	r Streams (21) 3/ 4/	0	70	575	1010	1860	2052	1939	2120	2200	1910	1870	1810	1455	7983
	DISTRICT TOTAL 3/ (38 streams)	0	1010	6355	20875	23246	24962	29084	710	19826	19960	19420	16145	12805	92100

Ground survey counts underlined; others are aerial estimates.
Streams with less than 2,000 pink total escapement.
Contains interpreted data where surveys lacking on certain weeks.
From records maintained on 21 small streams which had total escapement of less than 2,000 chums each in 1960.

TABLE 29b. PRINCE WILLIAM SOUND CHUM SALMON - 1960
(Live Counts of Chum Salmon in Streams) 1/

STREAM NUMBER	DAY OR STREAM	Week ending 6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	CALCULATED SEASON TOTAL
II Northern District:															
58	E. Long Day			300		800	1500	2000		1245			170		3938
59B	W. Long Day							1000		20			0		1208
63	Cedar Day	0	0	100		172	300	400		440			224		1154
6[illegible]	Wells Day	0	259	2250		3000	4000	3000		700			0		7476
69	Jonah Day			2			0	0		740			540		1245
70	Siwash Day	0					250	300		735			267		1593
70C	Siwash Day						250	500		400			360		1204
73	Eaglek Day			0				400					520		1648
74	Eaglek Day			0			500	800					400		1834
75	Eaglek Day			0			0	200					640		1376
Other Streams (13) 2/ 3/		0	0	0	0	300	750	1100	900	700	500	370	261	200	2053
DISTRICT TOTAL 3/ (23 streams)		0	259	2652	3600	6282	8550	9700	8120	6730	5750	4250	3462	1650	24728
III Northwestern (& Coghill) District:															
83	Coghill River		0	1000	5000	10000		20000		2120		650			24012
84	Harrison Lagoon	0	0	0	0	0	500	0		1000					1224
86	Bettles Day	0	0	10	50	100	500	1000		1730		350			2417
88	Hunter Day			0	0		0	1200							1080
89N	N. Pigot Day	0	0	30	1500	1580	2000	1000		240					2274
89S	S. Pigot Day	0	0	140	300	490	1000	2000		760					2553
100	Long Day				0	10		0	0	910		450			1168
101	Culross Passage				0			700	500			340			1096
110	McClure Day				200	640			500	560					1220
Other Streams (12) 2/ 3/		0	0	50	200	545	800	1150	1245	1395	1350	930	595	275	3414
DISTRICT TOTAL 3/ (21 streams)		0	0	1230	7250	13365	18400	27800	17845	9675	5950	3520	995	375	40458

1/ Ground [illegible]vey counts underlined; others are aerial estim[illegible]
2/ Streams [illegible]th less than 2,000 chum total escapement.
3/ Contains interpreted data where surveys lacking on certain weeks.

TABLE 29c. PRINCE WILLIAM SOUND CHUM SALMON - 1960
(Live Counts of Chum Salmon in Streams) 1/

STREAM NUMBER	STREAM OR BAY	Week Ending 6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	CALCULATED SEASON TOTAL
IV Southwestern (& Eshamy) District:															
120	S. Jackpot Bay		0		220	1270	2500	2000		530		18			3283
Other Streams (15) 2/ 3/		0	0	0	0	63	235	580	1295	655	665	429	325	115	1517
District Total 3/ (16 streams)		0	0	0	220	1333	2735	2580	2295	1185	865	447	325	115	4800
V Montague District:															
147	Clam Diggers Leg.				0		1000			3500					6200
150	S. Port Chalmers			0	0		100	170	500	3000		4160			4660
159	Outer Zaikoff Bay				0		25		0	300		1000			1240
Other Streams (20) 2/ 3/			0	0	0	0	250	700	1050	1700	2135	2665	1980	1120	4682
District Total 3/ (23 streams)		0	0	0	0	0	1375	2475	4050	8500	8385	9829	6730	3420	16782

1/ Ground counts underlined; others are aerial estimates.
2/ Streams with less than 2,000 chum total escapement.
3/ Contains interpreted data where surveys lacking on certain weeks.

TABLE 29d. PRINCE WILLIAM SOUND CHUM SALMON - 1960
(Live Counts of Chum Salmon in Streams) 1/

STREAM NUMBER	STREAM OR BAY	Week ending 6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	CALCULATED SEASON TOTAL
VI.	Southeastern District:														
172	S. Port Etches				0		0		300	500	1480				1532
175	Head Port Etches				100		50	2000	2500	2000	1140				2560
176	Constantine Harbor 0			0	800		2510	4000	2210	2000	1790				6708
178	Juania Bay				0				500	1500					1680
179	Shelter Bay				200				500	750					1620
183	Double Bay				0		2		500	2000	1350		1300		3064
185	Dam's Bay							500	500	1500	475				1510
186	Hawkin's Cutoff			0			200	300		2000					2720
Other Streams 2/ 3/ (6 streams)		0	0	0	0	20	110	200	355	1320	1050	680	190	120	1614
DISTRICT TOTAL 3/ (14 streams)		0	0	0	1100	1870	2872	7750	8865	13570	11036	8230	5390	2770	23098

1/ Ground counts underlined; others are aerial estimates.

2/ Streams with less than 2,000 chum total escapement.

3/ Contains interpreted data where surveys lacking on certain weeks.

TABLE 30. RECAPITULATION OF WEEKLY PINK SALMON COUNTS - 1960, BY DISTRICT

STREAM NUMBER	DISTRICT	Week Ending 6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	CALCULATED SEASON TOTAL
76	Eastern	0	2	1788	18165	51130	106575	119486	125780	130785	170695	162880	164195	141041	475073
31	Northern	0	0	136	700	1650	16300	13900	14600	39070	59800	78950	71324	67260	133653
46	Northwestern (Coghill)	0	480	8100	22420	27240	86350	68350	48050	41665	62255	79795	63905	34670	203575
40	Southwestern (Eshamy)	0	0	0	447	2392	5300	8800	21801	36920	80150	116030	85400	45450	155708
45	Montague	0	0	0	0	0	1700	7750	21700	86850	107750	142663	105500	62900	214987
39	Southeastern	0	0	0	0	0	1175	11750	25690	89650	104850	108950	76037	48900	167747
(277)	Prince William Sound Total	0	482	10024	41732	82412	217400	230036	257621	424940	585500	689268	566361	[illegible]	1350923

8% 25 67% 1029300

TABLE 31. RECAPITULATION OF WEEKLY CHUM SALMON COUNTS - 1960, BY DISTRICT

STREAM NUMBER	DISTRICT	Week Ending 6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	CALCULATED SEASON TOTAL
38	Eastern	0	1010	6355	20875	23246	24962	29084	26710	19876	19960	19420	16145	12805	92100
23	Northern	0	259	2652	3600	6282	8550	9700	8120	6730	5750	4250	3462	1650	24729
21	Northwestern (Coghill)	0	0	1230	7250	13365	18400	27800	17845	9675	5590	3520	995	375	40458
16	Southwestern (Eshamy)	0	0	0	220	1333	2735	2580	2295	1185	865	447	325	115	4800
23	Montague	0	0	0	0	0	1375	2475	4050	8500	8385	9829	6730	3420	16782
14	Southeastern	0	0	0	1100	1870	2872	7750	8865	13570	11036	8230	5390	2770	23008
(135)	Prince William Sound Total	0	1269	10237	33045	46096	58894	79389	67885	59486	51946	45696	33047	21135	201877

Table 32. ESHAMY RIVER WEIR COUNT, 1960

Date	Red Salmon Count A.M.	P.M.	Daily Total	Weekly Total	Cum. Total	Counts of Other Species Pinks	Cohos	Char1/	Trout 2/
6/26		23	23					14	6
6/27		17	17					9	
6/28	3		3						
6/29	5		5					8	
6/30	2		2					6	2
7/1	115	226	341					113	9
7/2	111	7	118	509	509			46	2
7/3	56	27	83					48	2
7/4	18	18	36					14	3
7/5	18	11	29					26	16
7/6	146	248	394			1		14	
7/7	103	152	255					10	1
7/8	89	42	131					18	1
7/9	138	403	541	1469	1978	3		36	2
7/10	116	178	294					25	
7/11	89	238	327			2		11	
7/12	69	236	305					22	
7/13	131	26	157					18	
7/14	78	79	157					21	1
7/15	144	92	236					15	4
7/16	79	84	163	1639	3617			6	
7/17	36	115	151			1		3	
7/18	41	220	261					9	
7/19	69	34	103					4	
7/20	49	206	255					7	
7/21	97	147	244					23	
7/22	82	71	153					9	
7/23	197	258	455	1622	5239	7		26	
7/24	146	33	179			5		15	
7/25	140	88	228			10		7	
7/26	112	61	173			11		2	
7/27	162	117	279			5		2	
7/28	88	26	114						
7/29	142	54	196			2			
7/30	59	83	142	1311	6550				
7/31	76	89	165					3	
8/1	37	42	79						
8/2	86	58	144			3			
8/3	92	74	166						
8/4	83	127	210					3	
8/5	39	26	65						

continued next page,

Table 32. continued

	Red Salmon Counts					Counts of Other Species			
Date	A.M.	P.M.	Daily Total	Weekly Total	Cum. Total	Pinks	Cohos	Char	Trout
8/6	17	47	64	893	7443				
8/7	21	27	48						
8/8	26	170	196						
8/9	71	138	209						
8/10	37	97	134						
8/11	82	438	520						
8/12	39	617	656						
8/13	46	184	230	1993	9436	3			
8/14	44	39	83			15			
8/15	74	373	447			7	8		
8/16	141	186	327			9	3		
8/17	67	129	196			5			
8/18	226	92	318			7	1		
8/19	146	97	243			3	2		
8/20	57	137	194	1808	11244	15	3		
8/21	332	76	408			26	5		
8/22	64	237	301			16	4		
8/23	96	209	305			21	5		
8/24	92	86	178			11	7		
8/25	34	37	71			16	2		
8/26	74	181	255			22	6		
8/27	63	127	190	1708	12952	11	8		
8/28	52	163	215			7	28		
8/29	27	52	79			15	11		
8/30	39	36	75			5	8		
8/31	21	43	64			1	7		
9/1	50	80	130	563	13515	3	6		
Total					13515	250 (268)	132 (114)	593	46

Note: At time of removal of weir on 9/1/60, an estimated 1,040 pinks were spawning in the stream below the weir and the school at the river mouth contained 1,000 pinks, 300 reds and 200 cohos.

1/ Dolly Varden, Salvelinus Malma, (Walbaum)

2/ Coastal Cutthroat, Salmo Clarkii Clarkii, (Richardson)

Table 33. ESHAMY RIVER WEIR COUNT
1950 - 1960

Year	Reds	Pinks	Cohos	Chums	Kings
1950	30370	421	971	0	0
1951	62661	5515	1518	0	0
1952	42859	119	51	0	0
1953	4588	718	185	0	0
1954	1437	418	15	0	0
1955	13036	6611	1505	717	0
1956	46863	1166	117	14	2
1957	51308	4031	400	16	0
1958	5224	273	27	3	0
1959	6908	674	256	0	0
1960	13515	250	132	0	0
Average	25342	1836	470	68	--

Table 34. ESHAMY RIVER RED SALMON WEEKLY CUMULATIVE
WEIR COUNTS, 1950-1960

Week Ending	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
6/30	31	305		7							52
7/7	2731	305		23	2	0	--	61	109	48	1308
7/14	3626	601		120	19	0	782	479	245	371	3220
7/21	6522	896	676	145	148	482	7207	510	1123	502	4633
7/28	7704	1247	3778	148	176	505	8802	690	1588	852	6214
8/4	9262	2281	17310	475	242	1412	12631	842	2183	1450	7316
8/11	10624	18962	23486	987	339	4198	21720	922	2909	3960	8252
8/18	10813	22616	28079	3006	683	8243	37018	2064	4030	5858	10509
8/25	25089	26420	29545	4019	949	11914	41467	27625	4796	6908	12209
9/2	29137	46671	31011	4410	1417	12936	44977	45170	5198	--	13217
9/9	30370	62426	42639	4588	1437	13036	46759	50658	5224	--	--
9/16	--	62661	42859	--	--	--	46863	51308	--	--	--
9/23	--	--	--	--	--	--	--	--	--	--	--
Totals	30370	62661	42859	4588	1437	13036	46863	51308	5224	6908	13217

Table 35. ESHAMY DISTRICT SALMON CASE PACK, 1950-1960 1/

Year	Reds	Pinks	Chums	Cohos
1950	2231	1109	497	78
1951	6530	2990	1194	158
1952	3594	525	359	72
1953 2/	1319	2515	1144	107
1954	654	746	695	56
1955	1346	1795	550	63
1956	7997	1713	1497	88
1957	3775	1469	1632	80
1958	SEASON CLOSED			
1959	SEASON CLOSED			
1960	SEASON CLOSED			

1/ 48/1# cans per case

2/ One seiner made one delivery of Prince William Sound fish to the Eshamy cannery and several set nets fished outside the Eshamy District during the Prince William Sound season but delivered their fish to the Eshamy cannery. All of those fish were included in the Eshamy pack.

RAZOR CLAMS

History of the Fishery and Regulations 1/

Razor clams are one of the major fisheries of the Cordova area. Records dating back to 1931 show that from 183 to 370 clam diggers participate in the fishery each year (Table 39).

Clam canning as an independent industry in Alaska began at Cordova in 1916, when commercial use of the vast undeveloped razor clam beds was first attempted. The Lighthouse Canning and Packing Company built a two-line cannery at Cordova, and began operations in September 1916. The total pack prepared in 1916 at these plants was 11,176 standard cases of forty-eight 10 ounce cans.

In 1917, these plants prepared for more extensive operations which resulted in a pack of 93,343 standard cases. In 1918, there were three canneries packing razor clams but the total pack was 44 per cent less than in 1917. After 1918, the number of plants in the vicinity of Cordova engaged in canning razor clams, the intensity of their operations, and the resulting pack of clams have varied considerably.

In 1925, a regulation was promulgated prohibiting the taking of razor clams less than 4½ inches in total length. This regulation was based upon the investigations and recommendations of Weymouth, McMillin and Holmes (1925), who determined the growth rate and age at maturity of razor clams in several localities.

Another regulation imposed on the industry was a six-week closed period extending from July 15 to August 31 in the years 1925 to 1931 inclusive, and from July 1 to August 15 in the years since 1932. In 1932, this closed season was extended to include the period from June 25 to August 31 because of the intensity of operations that year.

1/ Several excerpts taken verbatim from Thompson and Weymouth, 1935.

In the years since 1932, the six-week closed period has been in effect which provides protection during the spawning period and for a time thereafter while the clams are thin and economically least valuable.

The decline of razor clams in the late 1920's caused considerable concern in the depletion of the stocks. This resulted in a quota being imposed in 1932 which limited the spring dig to 1,100,000 pounds (27,500 cases) and the fall dig to 100,000 pounds (2,500 cases) including shell. The regulation was amended on March 2, 1933 which further reduced the spring quota to 800,000 pounds including shells or 20,000 cases upon the basis of 48 one-half pound cans per case.

Both the spring and fall quotas were varied almost annually through the remainder of the 1930's.

Between the years 1939 and 1945, the spring quota remained at 1,600,000 pounds and in 1946, it was reduced to 1,400,000 pounds where it remained through 1949.

In 1939, a quota of 800,000 (20,000 cases) was placed on certain digging bars during the spring season which required that a portion of the total quota be taken from less dug areas. The purpose of the regulation being to prevent the depletion of certain accessible bars.

In 1950, the quota of razor clams in the Prince William Sound-Copper River areas was re-adjusted. During the period January 1 to June 30, the quota was 1,470,000 pounds, including shells or 42,000 cases upon the basis of 48 one-half pound cans per case. Prior to April 15, the dig was not to exceed 175,000 pounds, including shells or 5,000 cases. During the fall period from August 16 to December 31, the quota was 35,000 pounds or 1,000 cases.

In 1959, an eleven day extension was allowed on the spring season which allowed digging through July 11. The extended season was apparently based on the small dig during the regular season and an apparent abundance of razor clams.

The 1950 quota was in effect until 1960 at which time it was reduced in the Prince William Sound and Copper River area to 985,000 pounds, including shell or 79,000 cases during the spring season. The quota was reduced because of the apparent decline in the razor clam population and because the quota had not been dug during the past eight years.

The 1960 fall season quota and other quotas on Prince William Sound and Copper River remained the same as in 1950.

The 1960 quota in the Bering River area was increased to 320,000 pounds including shells, or 8,000 cases upon the basis of 40 one-half pound cans per case. The reason for this action was the Bering River beaches had not been dug commercially since the early 1950's and the apparent abundance of razor clams on the Kanak Island beach.

Table 36 and 37 shows the weekly dig and case pack from the Copper River and Bering River areas and Prince William Sound area, respectively.

Table 38 shows a breakdown of the razor clam harvest by Company. Alaska Packers Association is the major porcessor in the Cordova area as indicated in Table 38. Glacier Packing Company, Aurora Packing Company, Big Point Seafoods and C. O. Buck Canning Company canneries process minor packs of razor clams each year. The clams recorded for Point Chehalis Packers and Nelson's Fish and Oyster Company were used for crab bait.

Table 36. RAZOR CLAMS, WEEKLY DIG & CASE PACK
BERING-COPPER RIVER, 1960

BERING RIVER 1/			COPPER RIVER 1/		
Week	Total Dig Beach Wt.	Cases (48-½#/cs)	Week	Total Dig Beach Wt.	Cases (48-½#/cs)
17	8822	217.2	17	1249	30.8
18	18359	452.2	18	21107	519.9
19	37222	916.8	19	26482	652.3
20	2970	73.1	20	17980	443.9
21	5715	140.8	21	6617	162.9
22	16624	409.5	22	10546	259.7
23	6940	170.9	23	1837	45.2
24	10771	265.3	24	27762	683.8
25	4626	113.9	25	13760	338.9
			26	6580	162.0
TOTAL	112049	2759.7	TOTAL	133920	3299.4

1/ Alaska Packers Association was the only operator reporting digs.

Table 37. RAZOR CLAMS, WEEKLY DIG AND CASE PACK
PRINCE WILLIAM SOUND, 1960

Week	Total Dig Beach Wt.	Crab Bait Pounds	Case Pack (48-½#/per case)
16	12750	-	314.0
17	27103	-	667.6
18	39250	-	966.7
19	37141	-	914.8
20	70221	-	1729.5
21	19494	-	480.1
22	13738	-	338.3
23	16664	4856	290.8
24	33989	-	837.1
25	12211	2727	233.5
26	13495	1502	295.3
27	3951	3951	-
TOTAL	300010	13036	7067.7

Table 38. POUNDS OF RAZOR CLAMS BY COMPANY, 1960

Week	A.P.A.	Glacier	Aurora	Big Point	C.O.Duck	Pt.Chehalis	Nelson's
16	12050	700	-	-	-	-	-
17	25703	800	-	600	-	-	-
18	36080	960	1610	600	-	-	-
19	36541	-	-	600	-	-	-
20	66021	1560	-	1560	1080	-	-
21	18954	180	-	-	360	-	-
22	13076	-	-	-	660	-	-
23	16664	-	-	-	-	-	-
24	33254	735	-	-	-	-	-
25	11703	-	-	-	-	508	-
26	11453	-	-	-	540	1502	-
27	2745	-	-	-	-	286	920
TOTAL	284249	4935	1610	3360	2640	2296	920

Table 39. RAZOR CLAM STATISTICS, PRINCE WILLIAM SOUND AND COPPER RIVER AREAS, 1931 to 1960 1/

	SPRING				FALL	
Year	Live Weight	Cases	No. of Diggers	Tides Dug	Live Weight	Cases
1931	1357114		214	7522	No Record	
1932	1833358	46666			No Record	
1933	845746	18660			No Record	
1934	938612	24279		3810	295224	7122
1935	826421	22303		4024	No Record	
1936	957549	21465		3737	No Record	
1937	1111594	26546	223	3989	312339	7154
1938	1270566	31553	269	4881	45065	799
1939	1322447	29920	253	4534	218160	4965
1940	1449299	41075	305	6703	No Record	
1941	792165	20246	145	2943	114296 (2623 + 27 #10 cans)	
1942	1327390	40912	202	2624	No Record	
1943	1583989	45916	184	3721	87613	2482
1944	1638994	46752	162	3967	8739	194
1945	1611328	41998	188	4099	46394	1142
1946	1626226	47430	190	4922	119977	3194
1947	579482	17605	160	1772	27058	588
1948	1121074	31941	220	3927	33829	784
1949	1449778	40735	350	5262	28477	670
1950	1464532	38482	370	5524	55881	1294
1951	1501074	38310	347	5344	34045	645
1952	1256287	31879	204*	3925*	9143	220
1953	1485937	39184	306*	5286*	None	
1954	1216758	31478	189*	5165*	Almost None	
1955	1372829	36071	333*	6377*	4280	70
1956	703659	21477	201*	3053*	3690	
1957	1017418	27774	268*	5743*	Almost None	
1958	32395	831	Strike		None	
1959	507731	13017	183	3196	Almost None	
1960	433930	10367	284		None Reported	

1/ Case pack on basis of 40-½ pound per case.

* Major canner only.

DUNGENESS CRAB

Dungeness crab are taken in the Cordova area from January through December. The magnitude of the fishery makes it one of the major fisheries of the area. Catch statistics, dating from 1936 (Table 40) shows catches ranging from a low of 217,123 pounds in 1957 to a high of 2,877,020 pounds live weight in 1950.

The Dungeness crab fishery is divided into two major areas defined as the "Outside", the Gulf of Alaska, and the "Inside", the southeast corner of Prince William Sound including Orca Bay and Orca Inlet.

Dungeness crab fishing in "Outside" waters started in 1946 on a small scale, and it was not until 1950 that this fishery became effective. Since 1950, considerable effort has been extended to "Outside" waters which produces about one-half the harvest from the Cordova area (Table 40).

Prior to 1951, dungeness crab were reported by number of crab (Table 40) and after 1950 by pounds. Using a two pound average the catches have been converted to pounds and number of crab respectively. The method of buying dungeness crab, probably reflects the method of reporting. From 1933 to 1946, dungeness crab were purchased by the crab. Since 1946, they have been purchased by live weight.

Table 40. DUNGENESS CRAB CATCH

PRINCE WILLIAM SOUND, COPPER AND BERING RIVER, 1936-1960 1/

Year	Catch in Crabs	Approx. Pounds	Outside Crab
1936	508799	1017598	-
1937	1184419	2368838	-
1938	665720	1331440	-
1939	585804	1171608	-
1940	540757	1081514	-
1941	1057701	2115402	-
1942	305952	611904	-
1943	291211	582422	-
1944	491485	982970	-
1945	813617	1627234	-
1946	1110314 (First outside fishing).	2220628	-
1947	832451	1664902	-
1948	743435	1486870	-
1949	803302	1606604	-
1950	1438510	2877020	8 boats outside (First effective outside fishing-Total 43 boats).

Year	Approx. Crabs	Catch in Pounds	Outside Crab
1951	1338569	2677138	1459260
1952	509288	1018576	
1953	627942	1255884	
1954	752855	1505710	
1955	982414	1964829	1135000
1956	406422	812844	No outside fishing
1957	108562	217123	No outside fishing
1958	596459	1192918	No outside fishing
1959	1247143	2494287	1340788
1960	1361235	2722470	1198144

1/ Pounds reported in live weight. A two pound average weight per crab was used to convert crabs to pounds for the years 1936 to 1950 and from pounds to crabs for the years 1951 to 1960.

MISCELLANEOUS FISHERIES

KING CRAB

Prior to 1959, king crab fishing was very minor and amounted to an occasional experimental pack of one or two cases. No reports of catches are available prior to 1959.

One small family operation processed 30,929 pounds (live weight) of king crab in 1959. The operator sold approximately 1,000 pounds of meat, however, the major portion of the catch was sold in frozen sections.

In 1960, considerable interest was shown in the king crab fishery. In the fall of 1960, five boats from Seldovia with the Wakefield Fisheries M/V Reefer King moved into Prince William Sound to explore king crab fishing. The activity of the exploratory fishing fleet prompted several local boats and the Point Chehalis Packing Company to also start operations in the king crab fishery.

The increased activity in the fishery resulted in an increased harvest totaling 246,969 pounds.

Future prospects are good for a continuing fishery on a limited basis. Expansion of the present fishing fleet may uncover additional fishing grounds.

SHRIMP

Each year a family operation, Fairmount Island Packing Company, processes shrimp taken on the north shore of Prince William Sound. Reports during 1960 show a production of 2,494 pounds.

HERRING

Herring taken during 1960 was used solely for bait. Reports taken from fish tickets show a production of 22,000 pounds. No major herring fishery was attempted in 1960, however, Table 41 shows the production of oil, meal, cured and kippered herring from 1931.

Table 41. HERRING PRODUCTION, 1931-1960

Year	Gal. Oil	Tons Meal	Barrels Cured	Lb. Kipper etc.	Catch in Barrels
1931	226153	773			
1932	363058	1256	6753	410	
1933	468528	1719.75	9973		
1934	811033	2564	8073		
1935	1283225	5087	20982		
1936	(Not listed in local records-6 plants operated)				1426323 oil; 5546 meal
1937	2164207	6998	2366		384000
1938	2536822	8860	2415		
1939	2227343	7864.16	4205	190445	422179
1940	1262207	431.77	3323	16750	255723
1941	1166459	502.56	1062		272377
1942	60000	25.6			13893
1943	Reports not completed				8008
1944					83965
1945	395015	1487	697		79952
1946	453700	2100	203		103469
1947					None
1948	907166	2862.48			162078(534 lbs to Kodi + est. 300,000 bait).
1949	No agreement			Small amount bait	
1950					190634
1951					177247+305350
1952					26488
1953					4268 to Kodi
1954					75339
1955					80811
1956					119734
1957					100677
1958					31136(4 boats
1959					682 to Kodi
1960	22,000 lbs. for bait - pg. 75				None

COCKLES

Alaska Packers Association in 1960 processed an experimental pack of 14,726 pounds (live weight) of cockles.

A total of 5,000 pounds of cockles were reported as dug for bait. An unknown quantity of cockles were dug for bait and not reported.

Table 42. SUMMARY OF LICENSES SOLD, 1960

	COMMERCIAL FISHING LICENSES				GEAR LICENSES							
	Fishermen	Tendermen	Tallymen	Vessels	Drift Gillnet	Seine	Set Gillnet	Clam	Crab	Troll	Long Line	Shrimp
Resident	590	7	4	493	263	142	7	206	33	15	6	1
Non-Resident	515	39	12	312	167	92	7	78	14	1	2	0
Voided					15	2		4	2			
GRAND TOTAL	1105	46	16	805	445	236	14	288	49	16	8	1
	LICENSE RECEIPTS											
Resident	$5900.	$70.	$40.	$4930.	$3945.	$7100.	$35.*	$1030.	$495.*	$225.	$150.	$15.
Non-Residents	7725.	585.	180.	9360.	7515.	13800.	105.*	1170.	630.*	45.	100.	0
TOTAL	$13625.	$655.	$220.	$14290.	$11460.	$20900.	$140.	$2200.	$1125.	$270.	$250.	$15.

TOTAL RECEIPTS - $65,150.00

* Approximate receipts only.

SUBSISTENCE FISHERMEN - 122.

PERSONNEL

The Commercial Fisheries Division employed eleven permanent and seasonal employees in the Cordova Management Area in 1960. Following is a list of the personnel, general assignment of duties and the dates of employment.

Permanent Employees - 1960

Name	Assignment
Ralph D. Pirtle	Area Management Biologist
Wallace H. Noerenberg	Pink Salmon Applied Research and Management Biologist
Bertha Allen	Clerk-Stenographer

Seasonal Employees - 1960

Name	Assignment	Dates of Employment
Otto Koppen	Fish tickets & aerial surveys	5/1/60 to 9/29/60
Chester L. Hicks	Eshamy Weir Count	7/1/60 to 9/5/60
David Savoie	Tagging & Salmon Enumeration	5/31/60 to 9/30/60
Paul Mulcahy	Tagging & Salmon Enumeration	6/6/60 to 8/10/60
Jack Weltain	Stream Survey-Protection Assistant	6/1/60 to 8/29/60
Bill Jolley	Stream Survey-Protection Assistant Prince William Sound Surveys	6/10/60 to 8/31/60
Don Barrows	Stream Survey	6/1/60 to 8/31/60
Elnora Campbell	License Clerk	3/8/60 to 5/1/60

In addition, the M/V SHRIKE was chartered for salmon enumeration in Prince William Sound with Mr. George Discher as operator-owner. A Mr. John Zillesenoff was the operator-owner of a gill net skiff chartered for a salmon tagging project on Copper River flats.