

TABLE OF CONTENTS

	page
List of Tables	i, ii, iii, iv
Introduction	1
Salmon Fishing Seasons	3
Economic Conditions	7
Fishery Operators	9
Prices on Fish and Shellfish	12 15
Number of Salmon per Case	15 18
Copper River Salmon	18 22
Red Salmon	22
King Salmon	23
Coho Salmon	25
Bering River Salmon	27 28
Prince William Sound Salmon	33 33
<i>Aerial Survey of</i> <i>Game</i> Prince William Sound Salmon Spawning Escapement <i>Streams cont.</i>	44 46 34
Eskamy District	62 65
Coghill District	68 72
Subsistence Fishery	72 75
Razor Clams	75 78
Dungeness Crab	78 81
Miscellaneous Shellfish	83 85
Commercial Fishing License Sales	85 87
Copper and Bering River Salmon Spawning Escapement	88 90
Wholesale Value of Fishery Products	94 96
Personnel	103 106
APPENDIX	I, II, III, IV

DONE for 1964 report ✓
↓

LIST OF TABLES

	page
TABLE 1 <i>One salmon catch & av. value fishermen</i>	
Table 1. ² Fishery Operators, Cordova District, 1963 ⁴	9 ✓
Table 2a. ³ Summary of Prices Paid for Salmon, 1952-1963 ⁴	13 ✓ 16
Table 2b. ⁴ Summary of Prices Paid for Shellfish and Miscellaneous Fish Products (1950 - 1963)	14 ✓ 17
Table 3. ⁵ <i>Table of av. wt. of fish.</i>	7 ✓ 19
Table 3a. ⁶ Number of Salmon per Case, 1954 - 1963 ⁴ (Prince William Sound)	16 ✓ 20
Table 3b. ⁷ Number of Salmon per Case, 1951 - 1963 ⁴ (Copper and Bering Rivers)	17 ✓ 21
Table 4. ⁸ Copper River Red Salmon Statistics , 1963 ⁴ <i>(weekly catch and case pack)</i>	19 ✓ 23
Table 5. ⁹ Copper River Drift Gillnet Salmon Catch (1952-1963)	20 ✓ 24
Table 6. ¹⁰ Copper River Salmon Case Pack (1952-1963)	21 ✓ 25
Table 7. ¹¹ Copper River King Salmon Statistics , 1963 ⁴ <i>(weekly catch and case pack)</i>	24 ✓ 26
Table 8. ¹² Copper River Coho Salmon Statistics , 1963 ⁴ <i>(weekly catch & case pack)</i>	26 27
Table 9. ¹³ Bering River Red Salmon Statistics , 1963 ⁴ <i>(weekly catch and case pack)</i>	28 ✓ 29
Table 10. ¹⁴ Bering River King Salmon Statistics , 1963 ⁴ <i>(weekly catch and case pack)</i>	29 OUT IN 1964
Table 11. ¹⁴ Bering River Coho Salmon Statistics , 1963 ⁴ <i>(weekly catch and case pack)</i>	30 ✓ 30
Table 12. ¹⁵ Bering River Drift Gillnet Salmon Catch (1953-1963)	31 ✓ 31
Table 13. ¹⁶ Bering River Salmon Case Pack, 1953-1963 ⁴	32 ✓ 32
Table 14. ¹⁷ Prince William Sound Summary of Fishing Seasons, 1924-1963 ⁴	34 ✓ 35 cont. 36
Table 15. ¹⁸ Summary of Salmon Gear Operated, 1953-1963 ⁴	36 ✓ 37
Table 16. ¹⁹ Prince William Sound Annual Salmon Case Pack, 1931-1963	37 ✓ 38
TABLE 20 " " " " " catch 1931-1963 ⁴	✓ 39
Table 17. ²¹ Prince William Sound Pink Salmon, 1963 ⁴ <i>Bunscombe</i> (Weekly Catch and Case Pack)	38 ✓ 40
Table 18. ²² Prince William Sound Pink Salmon Catch by Company, 1963 ⁴	39 ✓ 41

Table 19. ²³	Prince William Sound Chum Salmon, 1963, Purse Seine (Weekly Catch and Case Pack)	40 ✓	42
Table 20. ²⁴	Prince William Sound Chum Salmon Catch by Company, 1963	41 ✓	43
Table 21. ²⁵	Prince William Sound Red Salmon, 1963, Purse Seine (Weekly Catch and Case Pack)	42 ✓	44
Table 22. ²⁶	Prince William Sound Coho Salmon, 1963, Purse Seine (Weekly Catch and Case Pack)	43 ✓	45
Table 23. ²⁷	Prince William Sound Pink, Chum and Red Salmon Total Estimated Escapement by District, 1963	45 ✓	47
Table 24a. ²⁸	Prince William Sound Pink Salmon, 1963, Live Counts in Streams	46 ✓	48
Table 24b.	Prince William Sound Pink Salmon, 1963, Live Counts in Streams	47 ✓	50
Table 24c.	Prince William Sound Pink Salmon, 1963, Live Counts in Streams	48 ✓	51
Table 24d.	Prince William Sound Pink Salmon, 1963, Live Counts in Streams	49 ✓	52
Table 24e.	Prince William Sound Pink Salmon, 1963, Live Counts in Streams	50 ✓	53
Table 24f.	Prince William Sound Pink Salmon, 1963, Live Counts in Streams	51 ✓	54
Table 24g.	Prince William Sound Pink Salmon, 1963, Live Counts in Streams	52 ✓	55
Table 24h.	Prince William Sound Pink Salmon, 1963, Live Counts in Streams	53 ✓	56
Table 25a. ²⁹	Prince William Sound Chum Salmon, 1963, Live Counts in Streams	54 ✓	57
Table 25b.	Prince William Sound Chum Salmon, 1963, Live Counts in Streams	55 ✓	58
Table 25c.	Prince William Sound Chum Salmon, 1963, Live Counts in Streams	56 ✓	59
Table 25d.	Prince William Sound Chum Salmon, 1963, Live Counts in Streams	57 ✓	60

Table 25e.	Prince William Sound Chum Salmon, 1963, Live Counts in Streams	58 ✓	61
Table 25f.	Prince William Sound Chum Salmon, 1963, Live Counts in Streams	59 ✓	62
Table ³⁰ 26.	Recapitulation of Weekly Pink Salmon Counts by District, 1963 (Live Counts in Streams)	60 ✓	63
Table ³¹ 27.	Recapitulation of Weekly Chum Salmon Counts by District, 1963 (Live Counts in Streams)	61 ✓	64
Table ³² 28.	Eshamy River Daily Weir Count, 1963 ⁴	63 ✓	66, 67, 68
Table ³³ 29.	Eshamy River Weir Count, 1950-1963 ⁴	65 ✓	69
Table ³⁴ 30.	Eshamy River Red Salmon Weekly Cumulative Weir Counts, 1950-1963 ⁴	66 ✓	70
Table ³⁵ 31.	Eshamy District Salmon Case Pack, 1950-1963 ⁴	67 ✓	71
Table ³⁶ 32.	Coghill Drift Gillnet Fishery Statistics, 1963 ⁴	69 ✓	73
Table ³⁷ 32a.	Coghill District Drift Gillnet Comparative Effort Catch, 1961, 1962, and 1963 and 1964	70 ✓	74
Table 33.	Coghill River Daily Counts and Calculated Red Salmon Escapement, 1963	71	OUT in '65
Table ³⁸ 34.	Subsistence Fishing, 1963	73	76
Table ³⁹ 35.	Subsistence Fishery, Upper Copper River, 1948-1963	74	77
Table ⁴⁰ 36.	Razor Clam Statistics, 1931-1963 Prince William Sound and Copper River Areas	76 ✓	79
Table ⁴¹ 37.	Razor Clam Statistics, 1963 (all areas)	77 ✓	80
Table ⁴² 38.	Dungeness Crab Catch from Prince William Sound, Copper and Bering River Areas, 1951-1963	79 ✓	82
Table ⁴³ 39.	Dungeness Crab, Weekly Catch, 1963	80 ✓	83, 84
Table ⁴⁴ 40.	Miscellaneous Shellfish Catch, 1963	84 ✓	86
Table ⁴⁵ 41.	Summary of Commercial Fishing Licenses and Receipts, 1963	86 ✓	88
Table ⁴⁶ 42.	Comparative Commercial Fishing License Statistics, Cordova Area, 1960-1963	87 ✓	89

Table 43 ⁴⁷	Estimated Spawning Escapement of Red Salmon, <i>Bering River Dist. 1964</i> Lower Copper River, Bering River and Adjacent Delta Areas, 1963 Comparative 1962 Estimated Escapement and Estimated Optimum Escapement	89 ✓	91
Table 44 ⁴⁸	<i>East Salmon spawning (Refer to table for title)</i> Aerial and Ground Salmon Spawning Survey, Upper Copper River, 1963 (Live Counts of Red Salmon in Streams)	91 ✓	92
Table 49 ⁴⁹	<i>East Salmon spawning etc. UCR (Refer to table for title)</i>	✓	93
Table 50 ⁵⁰	Time Open to Salmon Fishing by Month, Day, Gear and Regulatory Area, 1963 (Hours per Day)	92 ✓	94
Table 52 ⁵¹	Calendar Weeks, 1963	93 ✓	95
Table 47 ⁵³	Wholesale Value of King Salmon from the Cordova Area, by Company, 1963	95	97
Table 48 ⁵⁴	Wholesale Value of Red Salmon from the Cordova Area, by Company, 1963	96	98
Table 49 ⁵⁵	Wholesale Value of Pink Salmon from the Cordova Area, by Company, 1963	97	99
Table 50 ⁵⁶	Wholesale Value of Chum Salmon from the Cordova Area, by Company, 1963	98	100
Table 51 ⁵⁷	Wholesale Value of Coho Salmon from the Cordova Area, by Company, 1963	99	101
Table 52 ⁵⁸	Wholesale Value of Dungeness Crab from the Cordova Area, by Company, 1963	100	102
Table 53 ⁵⁹	Wholesale Value of Miscellaneous Fish Products for the Cordova Area, by Company, 1963	101	103
Table 54 ⁶⁰	Wholesale Value of All Fishery Products from the Cordova Area, 1963	102	104

A P P E N D I X

Shrode Creek Falls	I
Billie's Hole	II
Copper River Adult Salmon Tagging	III
Shellfish Studies	III
Coghill River Counting Weir	IV
Eshamy River Weir Adult Salmon Counting Station	IV

INTRODUCTION

The commercial fishery of the Cordova area included, in 1963, eleven shore based salmon canneries, four floating salmon canning operations, one salmon custom packing operation, three salteries and two small hand packed smoked salmon operations. One fish buyer transported salmon to Seward during the coho season on the Copper River flats. One freezer scow processed pinks during the Prince William Sound purse seine season and one freezer scow processed coho in the Bering River area. Other operations included seven shellfish (clam and crab) processors, two cold storage plants, three miscellaneous fish processors and one salmon egg bait operation. (Table 1.)

The freezer scow (Foss Fish Company) operating out of Martin Slough on the Copper River delta during the coho season sustained an almost complete loss by fire after the fishing season. The New England Fish Company tender Tonsina had a fire which destroyed about 15,000 salmon.

The salmon fisheries progressed satisfactorily during the 1963 season. The Eshamy district in Prince William Sound was closed by regulation for 1963. With no open season, the escapement was calculated at 11,980 live pinks in the streams and only 3,092 red salmon were counted through the weir which is the lowest red salmon count since 1954. (Tables 26. and 28.) The general season in Prince William Sound produced a pack comparable to the 1962 pack which is above the average of several years previous to 1962. The estimated total escapement for Prince William Sound in 1963 was 1,796,290 as compared to 2,529,158 in 1962. (Table 23.). Total run of pinks was 6,593,483 as compared to 8,546,542 in 1962. 1963 total case pack, all species, was 339,506 as compared to 359,597 in 1962 (Table 16.) The 1963 pink run prediction and analysis of Wallace H. Noerenberg on page 13 of Information Leaflet 21, Salmon Forecast Studies on 1963 Runs in

Prince William Sound, showed the actual run to be well within the scope of his prediction, and the relativity of the factors covered in his analysis is very promising toward better management of the fishery.

Prince William Sound early runs required an earlier opening than the July 1 date in the printed regulations. The season was opened at 5:00 a. m. on June 25 by field announcement and controlled throughout the season by this medium. The use of the 14 hour fishing day adopted in the 1963 regulations did not prove to be an improvement, and it was the opinion of all Divisions that it was detrimental to escapement as compared to the 24 hour day; also, bottlenecks developed in deliveries of fish by fishing boats which resulted in poor quality fish in many instances.

Tagging and counting programs were continued on the Copper River fishery. The catch in the Copper-Bering fishery was disappointing, however, the total pack (all species) of 60,512 cases (48/1#) on the Copper and 12,810 on Bering was about the same as 1961 which was a considerable improvement over the several previous years. The red salmon average for the period 1952-1963 which is considerably weighted by the two record years 1952 and 1954 and the period 1927-1963 both leave the 1963 pack figure at a disappointing low level. (Data on the Copper-Bering fishery are included in Tables 3b. through 13., 15., 34., 35., 41., 43,44. and 45.)

Only 86,340 pounds of razor clams were dug during 1963, all of which was used for crab bait except 6,275 pounds which was canned or sold fresh. Alaska Packers Association (the major packer) conducted surveys and consulted our data and decided against canning, and there was practically no effort toward a canned product. (Tables/ ³⁶⁻³⁷)

Dungeness crab fishing was good throughout the season in both the "inside" and the "outside" areas with a record catch of 3,234,383 pounds live weight which is about 22% higher than the excellent 1962 catch. (Table 38.) Effort about equal.

SALMON FISHING SEASONS

Prince William Sound (General District):

The general purse seine season on Prince William Sound opened by emergency order due to a sufficient showing of early fish:

EMERGENCY ORDER No. 2, June 20, 1963:

Section 111.05 Open fishing season, salmon, shall be amended as follows:

(c) Salmon may be taken from 5:00 a. m., June 25, and closed by field announcement.

This was six days earlier than the July 1 opening date written in the 1963 fishing regulations. Fishing time was from 5:00 a. m. to 7:00 p. m. (14 hours) for each day open to fishing. Fishing time was regulated by the number of purse seines in the fishery (gear time table), and license sales indicated 286 seines available for the fishery which allowed one day of fishing. A check of gear fishing and available for fishing showed that there would not be more than 265 purse seines fishing the second period July 2nd and the fishing was based on this figure from July 9 to August 11. Prince William Sound general district season had 287 hours of open fishing time (Table 45.). A portion of the time from June 25 to August 19 was open only in small parts of the Sound to harvest certain runs, however, these openings are not separately listed and may be checked in the field announcements (emergency orders):

EMERGENCY ORDER NO. 5, July 20, 1963:

Section 111.21 Closed waters, shall be amended as follows:

(p) Wells Passage:

(1) Within 2,000 yards of the terminus of any salmon stream in Wells Passage, including its tributaries, Port Wells, Cochrane Bay, Blackstone Bay and Passage Canal; except that in Port Wells in bays less than 2,000 yards long the markers will be placed at the mouth of the bay.

(2) Waters of Port Wells west of a line from Point Pigot to Point Pakenham.

Beginning 5:00 a. m. July 23 and continuing until changed by field announcement.

EMERGENCY ORDER NO. 6, August 5, 1963:

Section 111.05 Open fishing season, salmon, shall be amended as follows: ✓

(c) The salmon purse seine season is closed until reopened by field announcement.

Beginning at 5:00 a. m. August 6 and continuing until changed by field announcement.

EMERGENCY ORDER NO. 7, August 6, 1963:

Section 111.05 Open fishing season, salmon, shall be amended as follows:

(c) Salmon may be taken Thursday, August 8th, from 5:00 a. m. to 7:00 p. m.

EMERGENCY ORDER NO. 8, August 6, 1963:

Section 111.21 Closed waters.

The following waters are closed to salmon fishing.

Waters of the Northern and Coghill districts, and waters of the Northwestern district, except, the waters of Culross Passage, waters surrounding Culross Island and waters of Port Nellie Juan will remain open.

EMERGENCY ORDER NO. 9, August 9, 1963:

Section 111.05 Open fishing season, salmon, shall be amended as follows:

(c) Salmon may be taken Saturday, August 10th, from 5:00 a. m. to 7:00 p. m. ✓

EMERGENCY ORDER NO. 10, August 12, 1963:

Section 111.05 Open fishing season, salmon, shall be amended as follows:

(c) Salmon may be taken Sunday, August 11, from 12:00 noon until 7:00 p. m. ✓

EMERGENCY ORDER NO. 11, August 12, 1963:

Section 111.05 Open fishing season, salmon, shall be amended as follows:

(c) Salmon may be taken Tuesday August 13th from 5:00 a. m. to 7:00 p. m. ✓

EMERGENCY ORDER NO. 12, August 14, 1963:

Section 111.06 Weekly fishing period, shall be amended as follows:

(b) Salmon may be taken Thursday, August 15th, from 5:00 a. m. to 7:00 p. m. and continue 14 hours each day until closed by field announcement.

Section 111.21 Closed waters, shall be amended as follows:

All waters of Prince William Sound are closed to salmon purse seine fishing, except the following waters are open until closed by field announcement:

(a) Sheep Bay, within a line from Gravina Point to Sheep Point and outside the markers within the bay.

(b) The Port Fidalgo sub-district outside closed stream markers.

(c) The Valdez sub-district outside closed stream markers.

(d) The waters of Culross Passage, the waters within one-half mile of Culross Island and the waters of Port Nellie Juan, outside the closed stream markers within the port.

Beginning 5:00 a. m. August 15th and continuing until changed by field announcement.

EMERGENCY ORDER NO. 13, August 19, 1963:

Section 111.05 Open fishing season, salmon, shall be amended as follows:

(c) All other districts: The salmon purse seine fishing season shall close at 7:00 p. m. August 19, 1963.

As indicated by the above and Table 45., most of the purse seine season was fished $2\frac{1}{2}$ days a week under the gear time table of 265 seines.

Eshamy District (Prince William Sound):

The 1963 regulations did not provide for an open fishing season in the Eshamy district. The red salmon run there was poor.

Coghill District and Unakwik District (Prince William Sound):

The Coghill and Unakwik drift gillnetting opened at 6:00 a. m. on June 18 and closed at 6:00 p. m. on July 14 as written in the 1963 fishery regulations.

There was an average of 19 boats participating in the fishery as compared to 41 in 1962 and 25 in 1961. The effort was more consistent and the catch was a considerable improvement over the previous two years life of the fishery.

There were no catches reported from the Unakwik district. The effort during the three years this drift gillnet fishery has been in existence has been almost entirely in the Coghill district.

Copper River and Bering River Districts:

The drift gillnet fishing season on the Copper River and Bering River flats was from May 13 as written in the 1963 regulations until closed by Emergency Order No. 14 at 6:00 a. m. on September 21. The weekly fishing period allowed salmon to be taken from 6:00 a. m. Monday to 6:00 a. m. Wednesday and from 6:00 p. m. Thursday to 6:00 a. m. Saturday, prior to August 7. After August 7 it was legal to fish from 6:00 a. m. Monday to 6:00 a. m. Saturday.

In an effort to obtain more escapement from relatively poor runs and to manage the fishery as efficiently as possible the following emergency orders were issued:

EMERGENCY ORDER NO. 1, June 20, 1963:

Section 112.05 Open fishing season, salmon, shall be amended as follows:

The Copper River and Bering River districts shall be closed to all commercial salmon fishing at 6:00 a. m. Saturday, June 22, until reopened by field announcement.

EMERGENCY ORDER NO. 4, June 28, 1963:

Section 112.05 Open fishing season, salmon, shall be amended as follows:

Salmon may be taken from 6:00 a. m. Monday, July 1 and closed by field announcement.

EMERGENCY REGULATION NO. 14, September 19, 1963:

Section 112.05 Open fishing season, salmon, shall be amended as follows:

The salmon drift gill net fishing season shall close at 6:00 a. m. September 21, 1963.

Subsistence Salmon Fishing:

See Tables 34. and 35. About 43% of the 641 permits issued did not submit reports by the end of 1963.

ECONOMIC CONDITIONS

The commercial fisheries of the Cordova area were generally successful and profitable to most fishermen in 1963. Exceptions were the Copper River red salmon fishery, the razor clam fishery and the Eshamy fishery. Since the Eshamy fishery was closed in 1963, these fishermen participated in other fisheries or worked at non-fishery jobs. The razor clam fishermen were few in number and all participated in other fisheries. The increased price offset the decreased poundage dug per day so that the price per day of digging remained fairly level with that of 1962.

Fishery ^{ing} pressure in the Copper-Bering river areas was down from the 460 ^{units} in 1962 to approximately 411 drift gillnet fishermen in 1963. During the red salmon fishing season the 411 fishermen caught a total of 379,913 (2,231,146 lbs.) red salmon, 11,138 (303,061 lbs.) king salmon, 1287 (5,148 lbs.) pink salmon and 194 (1901 lbs.) chum salmon for an average gross income of \$1,549.22. During the fall coho season 290,799 (2,877,170 lbs.) salmon were taken by approximately 254 fishermen for a gross value to each fisherman of \$1,699.11.

During the purse seine season on Prince William Sound 281 purse seine units participated in the fishery and harvested 5,248,773 pinks, 933,133 chums, 39,746 reds and 30,992 cohos. Based on 281 units of gear (Table 17.) each vessel caught an average of 18,679 pinks, 3,321 chums, 141 reds and 110 cohos. The average monetary return per individual fisherman was about \$2,630.81. This is a slight increase over the average annual take of \$2,500.00.

The Coghill district drift gillnet fishery had 24 fishermen participating in a catch of 16,965 (117,907 lbs.) red salmon, 20 (186 lbs.) coho salmon, 2,689 (10,272 lbs.) pink salmon and 5,265 (48,965 lbs.) chum salmon. The average money received per fisherman was \$1,403.21. (Table 32a.)

TABLE 1 (1967)

AVERAGE SALMON CATCH AND CATCH VALUE PER FISHERMAN

Year	Average Value per Fisherman	Average Catch					Chum	District
		Red	King	Coho	Pink			
1961	\$ 2835.24	4		20	21318	1951	Prince William Sound 1/	
1962	4221.40	87		58	26945	3464		
1963	2630.81	141		110	18679	3321		
1964	3609.77	251	1*	212	29608	3791		
1961	1035.31	518		1	401	96	Coghill	
1962	461.18	243		1*	39	84		
1963	1403.21	707		1*	112	219		
1964	1158.59	573	1*	1*	102	80		
1961	5507.00	1888		47	3982	883	Eshamy	
1962	4474.74	954		156	3054	1596		
1963	CLOSED							
1964	CLOSED							
1961	2677.38	1743	25		5	1*	Copper River - Bering River 2/	
1962	2717.25	1630	32		41	1		
1963	1549.22	977	27		3	1*		
1964		4115	56					

1/ Based on an average of 3 fishermen per boat (one share to the boat).

* Less than one fish.

2/ Does not include fall coho season.

Of the thirty boats participating in the Dungeness crab fishery, 14 were entirely dependent on crab fishing, with the others fishing crab before and after the salmon seining season. The average monetary value received per vessel for the 14 strictly crab fishermen was \$30,119.94. The monetary value received per vessel for the other 16 boats was \$4,544.88. The average share per fisherman (47 fishermen and 30 boats) in the Dungeness fishery was \$6,420.74.

Done

TABLE 1. Fishery Operators, Cordova District, 1963

Name, Executive, location address, etc.	Lines of machinery	Products packed
Alaska Packers Association Robert Morgan, Supt. Location: Ocean dock, Cordova 412 Bell St., Seattle, Wash.	Two 1#, one 1/2# flat	Salmon
Bering Sea Fisheries H.W. Bodey, Supt. Location: Bering River (floater) 611 Lowman Building Seattle, Wash.	One 1#, one 1/2# flat	Salmon
Big Point Seafood Company Karl E.C. Bradlee, Owner Location: Big Point Cordova, Alaska (small 1 man operation)	One 1/2# flats	Salmon, razor clams, dungeness crabs
C.O. Buck Ganning Company C.O. Buck, Owner Location: Boswell Bay via Cordova, Alaska (small 1 man operation)	One 2#	Razor clams
Channel Packing Company Phil S. Buchanan, Supt. Location: Big Point Cordova, Alaska	One 1/2# flats	Salmon, razor clams, dungeness crabs
Copper River Co-op Co., Inc. Wm. J. Clemence, President Location: Odiak Slough Box 139, Cordova, Alaska Seattle address, 559 Colman Bldg.	One 1/2# flats	Salmon
Crystal Falls Fish Company P.O. Box 579, Cordova, Alaska Location: Crystal Falls Gilbert Utness, Supt.	One 1#, one 1/2# flats	Salmon
Fairmount Island Seafoods Joe Clark, Supt. Location: Fairmount Island via Cordova, Alaska	One 1/2# flats	Shrimp

Foss Fish Company Frank Theodore, Supt. Box 520, Cordova, Alaska Location: Copper River Flats	Freezer scow, Orca No. 1 (expects to transport out of area)	Salmon, coho
General Fish Company Martin J. Hegeberg, Supt. Location: Ellamar (floater) 2360 W. Commodore Way Seattle 99, Wash.	One 1#	Salmon
Glacier Packing Company Percy R. Conrad, Supt. Location: Big Point Box 176, Cordova, Alaska	One $\frac{1}{2}$ # flats	Salmon Razor clams
Sven Honkola Location: Bering River Cordova, Alaska	Salting (small operation) M/V Little Queen	Salmon
Arne Johnson - F.P. Triber Arne Johnson, Supt. Box 431, Cordova, Alaska	Salting (small operation) M/V Toby T IV.	Salmon
Kulstad Packing Company Robert Kulstad, Supt. Location: Valdez Box 102, Valdez, Alaska	Hand Packed, canned	Salmon
Lucky Brands, Inc. James T. Hume, Supt. Box 242, Emmett, Idaho (final process: Idaho Address)	Salmon eggs for bait (from local plants)	
New England Fish Company J.E. Forsell, Supt. Location: Orca Bay 618 Second Avenue Seattle, Washington	Two 1#, one $\frac{1}{2}$ # flats	Salmon
Ocean Harvest Packing Co. Jack deVillie, Jr., Supt. Location: Cordova-Ball Park Area Box 178, Cordova, Alaska	One $\frac{1}{2}$ # flats	Salmon
Parks Canning Company Justin V. Strom, Supt. Location: Ocean dock, Cordova 309 Colman Building Seattle 4, Washington	Two 1#, one $\frac{1}{2}$ # flats	Salmon

Point C. Packers Hubert Campbell, Supt. Location: Cordova, Alaska Box 416, Cordova, Alaska	Frozen	Dungeness Crab
Point Chehalis Packers, Inc. James A. Poor, Supt. Location: City Dock, Cordova Box 751, Westport, Washington	One $\frac{1}{2}$ # flats	Salmon frozen and Canned Dungeness & King crab, frozen and canned., Razor clams
Port Ashton Packing Corp. Andre A. Mattson, Supt. Location: Port Ashton 401 Harris Ave., Bellingham, Wn	Canning lines not used. Bought salmon only.	Salmon
St. Marie Robert Wright (filed intent) 17284-15th Ave. N.W. Seattle, Washington (Pyrat Fisheries)	Freezer ship. (Transported out of area)	Salmon
San Juan Fishing & Packing Co. P.A. O'Leary, Supt. Location: Port San Juan Box 3086, Seattle, Wash.	Two 1#	Salmon, (also canned Port Ashton Packing Corp., fish).
Art Tiedeman Box 546 Cordova, Alaska	M/V Double Knot Salting (small operation)	Salmon
Washington Fish & Oyster Co. Eugene Scheerer, Supt. Location: City dock, Cordova Pier 54, Seattle, Wn	One 4#, one $\frac{1}{2}$ # flats	Cold Storage, Salmon Dungeness crab, halibut, Canned salmon.
Valdez Cold Storage Co., Inc. Jack D. Maas, Supt. Box 267 Valdez, Alaska	Cold Storage Valdez dock	Salmon, King Crab
Leroy Johnson c/o Halibut Producers Cooperative Seward, Alaska (No intent to Operate record, but tickets received)	Fish Buyer M/V Rainier	Salmon

PRICES OF FISH AND SHELLFISH

All fish were bought by the pound from the fishermen this year which was a major change in pricing methods as king salmon ^{were} ~~was~~ the only species of salmon sold by the pound ~~by the fishermen~~ previously. The average price per salmon was less in 1963 than in 1962 as pink salmon averaged 40¢ each against 52 cents in 1962. Copper River reds decreased to an average of \$1.46 from the 1962 price of \$1.55. Cohos and chums were worth about 13 and 6 cents more, respectively, per fish in 1963. King salmon remained the same as in the past three years.

The razor clams were utilized primarily for Dungeness crab bait. The operators paid 20¢ per pound field weight for bait clams delivered to the cannery. Point Chehalis Packers canned a few of the clams for local sale.

Dungeness crab brought 14¢ per pound live weight until the first of September when the price dropped to 12¢ per pound.

King crab brought 12¢ per pound throughout the year.

Done
TABLE 3
2a.

Summary of Prices Paid for Salmon, 1952-1964 * ²⁷/₂₁₅₃

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	.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
1961	1.50	0.23	1.25 C.R. 1.15 P.W.S.	0.68	0.48
1962	1.55	0.23	1.35 C.R. 1.25 P.W.S.	0.76	0.52
1963 ^{1/}	0.24/lb.	0.23	0.15 P.W.S. 0.15 C.R.	0.0875/lb	0.105/lb
1964	0.27	0.23	0.15	0.0875	0.105

^{1/} Price per pound.

* Some varying prices paid each year by small operators. These prices ^{enter per} reflect major fish sales.

4 Done

TABIE 26. Summary of Prices Paid for Shellfish and Miscellaneous Fish Products
(1950 - 1963)

Year	Razor Clams	Dungeness Crab	Cockle	King Crab	Other
1950	\$0.12/lb.	\$0.12/lb. <u>1/</u>	\$6.00/100 sk	--	--
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	--
1961	0.15	0.10	--	0.10	--
1962	0.15	0.12	--	0.12	--
1963	--	0.14 <u>2/</u>	--	0.12	--
<u>1964</u>	<u>0.20</u>	<u>0.14 <u>2/</u></u>	--	<u>0.12</u>	--

1/ Prices for Dungeness crab \$0.14 - 0.15 caught outside.
2/ Prices for Dungeness crab were decreased to \$0.12 September 1st.

NUMBER OF SALMON PER CASE

The number of salmon per case for Prince William Sound and for Copper River-Bering River since 1954 is summarized in Tables 3a. and 3b. respectively.

All species in Prince William Sound showed an increase in average size over the previous year and all except pinks were larger than average.

In the Copper River-Bering River areas the red salmon were slightly smaller than average and the cohos and king salmon were larger than average.

Done

TABLE 3a. Number of Salmon Per Case, 1954 - 1964 ²⁴/₁₄₈

(Prince William Sound)

Year	13	Red	10	Coho	10	Pink	11	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
1961		10.4		9.0		17.0		9.3
1962		10.93		12.29		24.14		10.71
1963		9.53		7.23		22.89		9.14
1964 ^{4/}		13.52 ^{3/}		6.89		22.39		8.93

- 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.
- 3/ Combined pack figure from both Copper River and Prince William Sound.
- 4/ Figures from Parks Canning Company.

Done

7
TABLE 3b. Number of Salmon Per Case, 1951-1963
(Copper and Bering Rivers)

Year	King	Red	Coho	Pink	Chum
1951 <u>1/</u>	3.4	11.6	8.1	18.1	9.1
1952	3.4	11.6	8.1	18.1	9.1
1953 <u>2/</u>	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 <u>2/</u>	3.6	11.2	8.3	26.0	10.2
1957	3.8	11.6	--	--	--
1958 <u>2/</u>	3.0	11.5	8.3	17.0	9.1
1959	3.2	12.9	8.6	--	--
1960	3.6	13.4	9.3	--	--
1961	3.82	12.0	9.24	17.0	9.3
1962	3.26	11.04	10.92	18.27	11.16
1963	3.08	12.21	7.9	--	--
1964 ³⁾	2.86	13.52	6.89	22.39	8.23

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.

3/ *Figures from Banks Canning Co. combined for both Copper River and Prince William Sound.*

COPPER RIVER SALMON

Commercial Fishery

The commercial season opened the 13th of May with about half the fleet fishing. The third week of fishing was the peak, with 411 boats out.

Fishing was poor throughout the season. Week 26 was closed to all commercial fishing to allow some extra escapement.

With the Coghill area opening in week 25 and the Prince William Sound area opening in week 26 much of the pressure on the Copper River flats slacked off after the week 26 closure.

After seining season the number of boats fishing the fall run of cohos built up to 253 in week 36. The Copper River-Bering River season was closed at the end of week 38.

The 1963 red salmon catch was poor and was about 58% of the average for this area. The king salmon run was only slightly below average. There was a full scale operation on cohos and the catch was about average for a year when there was a market for them.

TABLE 7. Copper River Red Salmon-1963

Week No.	Case Pack 1/ (48-1#/cs.)	Total Catch	Total Pounds	Number Frozen	Number Boats	Number Deliveries	Average Fish/Boat	Fathoms Gear 2/	Ave. wt. Per Fish
20	2,377	29,021	170,052	--	222	449	121	33,300	5.9
21	6,749	82,409	502,966	91	390	1,948	211	58,500	6.1
22	8,431	102,944	627,403	--	411	1,492	250	61,650	6.1
23	3,664	44,736	271,111	--	402	1,196	111	60,300	6.1
24	3,664	44,734	192,575	--	381	1,199	117	57,150	4.3?
25	1,443	17,616	104,822	--	276	694	64	41,400	6.0
26									
27	1,691	20,645	124,135	--	90	347	229	13,500	6.0
28	1,357	16,572	107,887	--	68	293	238	10,200	6.5
29	836	10,203	60,101	--	56	193	182	8,400	5.9
30	605	7,385	47,810	--	47	57	160	7,050	6.5
31	242	2,954	15,800	--	21	81	141	3,150	5.3
32	4	50	266	--	7	10	7	1,050	5.3
33	--	1	6	--	7	10	*	1,050	6.0
34	5	59	516	--	101	365	*	15,150	8.7
35	38	462	4,467	--	193	974	2	28,950	9.7
36	11	133	1,223	--	253	1,352	*	37,950	9.2
37	--	1	6	--	227	918	*	34,050	6.0
Total	31,117	379,925	2,231,146	91	3,152	11,578		472,800	6.1

1/ Estimated pack on basis of number of salmon per case in Table 3b. Does not include frozen and cured.

2/ Basis of 150 fathoms per boat.

3/ Average weight excluding data from week 24.

* Less than one per boat.

68,880

1 64 1

TABLE ⁹ ~~5~~ Copper River Drift Gillnet Salmon Catch ²⁴ (1952 - 1963) ₁₉₄₉

YEAR	Kings	Reds	Cohos	Pinks	Chums
1952	29,355	1,136,316	163,740	6,284	1,091
1953 ^{1/}	12,198	563,708	29,866	166	46
1954	15,764	1,099,564	157,941	135	272
1955	20,438	636,705	158,208	149	12
1956	11,702	540,575	109,248	1,131	54
1957	8,151	541,637	58,705	1,841	1,224
1958	6,965	307,342	81,610	8,872	181
1959	9,833	299,782	132,259	940	67
1960	8,678	360,667	137,957	375	314
1961	8,464	532,455	133,980	1,639	106
1962	14,792	677,626	174,628	1,880	513
1963	11,138	379,913	203,013 ^{203,724}	1,287	194
1964	12,743	699,249	227,397	548	62
Total	157,478 170,221	7,076,290 7,775,589	1,541,155* 1,769,263	24,699 25,247	4,074 4,136
Average	13,123 13,094	589,691 598,122	128,430* 136,097	2,058 1,942	340 318

^{1/} No major operation during coho season.

* The 1963 coho catch listed here should have been 203,724. The catch from a small hard salter had not been reported when this table prepared. Total and average cohos should be reduced to include 711 cohos not included in the above table under 1963 catch.

10
TABLE 6. Copper River Salmon Case Pack
 (1952-1963)

Year	Kings	Reds	Cohos	Pinks	Chums	Total
1952	8,634	97,958	20,214	347	120	127,273
1953 ^{2/}	3,588	50,785	4,267	10	5	58,655
1954	4,926	93,980	21,059	8	32*	120,005
1955	5,839	55,366	18,396	10	1*	79,612
1956	3,251	48,266	13,162	44	5	64,728
1957	2,145	46,693	5,590	106	144	54,678
1958	2,322	26,725	9,833	522	20	39,422
1959	3,073	23,239	15,379	81	10	41,782
1960 ^{1/}	2,174	26,915	15,497	--	--	44,586
1961	2,215	44,371	14,445	--	--	60,977
1962	4,537	61,379	15,992	103	46	82,057
1963	3,620	31,115	25,698	64	19	60,512
1964	4,458	51,719	33,004	24	8	89,292
Total	46,424 50,882	608,792 660,511	179,532 212,536	1,295 1,319	402 410	894,444 923,733
Average ^{3/}	3,869 3,914	50,733 50,809	14,961 16,349	108 101	34 32	69,537 71,056

^{1/} Since 1960 the estimated total case pack (48-1#/case) based on total catch and reported number salmon per case.

^{2/} No major operation during coho season.

^{3/} Average case pack since 1927, excluding the strike years of 1935 and 1948, for kings, 4,889 and reds, 56,605.

* Estimated on basis of catch.

RED SALMON

The red salmon catch and case pack for Copper River is summarized in Tables 4., 5., and 6. Table 4 shows the weekly catch, case pack and other statistics.

Fishing opened on May 13, week 20, and the success in fish per boat was poor throughout the season. The third week was the peak in amount of gear fishing, total catch, and catch per boat.

After the emergency closure of week 26 there was a sharp reduction in the number of boats as fishermen were getting ready or had gone fishing in Prince William Sound.

The seasonal harvest of red salmon is shown in Table 5. and gives comparable data since 1952. The 1963 case pack is 54% of the average pack since 1927 of 56,605 cases.

KING SALMON

The statistics on the king salmon catch from Copper River is shown in Table 7. The peak catch occurred during the third week of the season, week 22.

The 1963 season catch is shown in Table 5. and gives comparable catch data since 1952. The 1963 season's catch is 85% of the average, and the case pack is 94% of the average because of the slightly larger fish in 1963.

The case pack was 3,621 compared to the average since 1952 of 3,869.

TABLE 7 Copper River King Salmon - 1963

Week No.	Case Pack 1/ (48-1#/cs)	Total Catch	Total Pounds	Number Frozen	Pounds Frozen	Average Weight	Number Boats	Number Deliveries	Ave. Fish Per Boat	Fathoms 3/ of Gear
20	336	1,036	26,037	113	3,203	25.13	222	449	4.7	33,300
21	827	2,546	88,605	343	4,832	34.81	390	1,950	6.5	58,500
22	1,620	4,990	117,059	303	6,129	23.46	411	1,492	12.1	61,650
23	531	1,637	44,073	138	1,531	26.92	402	1,196	4.1	60,300
24	244	750	21,756	47	1,011	29.01	381	1,199	2.0	57,150
25	60	186	5,317	--	--	28.59	276	693	0.7	41,400
26	CLOSED THIS WEEK									
27	--	1	37	--	--	37.00	90	347	0.01	13,500
28	1	4	82	--	--	20.50	68	293	0.06	10,200
29	2	2	70	--	--	35.00	56	193	0.04	8,400
34	--	1	25	--	--	25.00	101	365	--	15,150
Total	3,621	11,150	303,061	944	16,706	27.17	2,397	8,175	30.21	359,550

1/ Estimated pack on the basis of the number of salmon per case in Table 3b. Includes frozen fish.

2/ Eviscerated with heads on.

3/ Estimated using the basis of 150 fathoms per boat.

COHO SALMON

The 1963 coho salmon catch statistics are shown in Table 8. The peak occurred in week 36 with 254 boats delivering an average of 332 cohos each.

In 1963 there was a major cannery operation which was reflected in the increased effort and the largest catch during the last twelve years. The 1963 catch of 203,724 cohos is 159% (more than one and one-half again as large) of the 12 year average of 128,430 cohos.

The case pack of 25,698 is much larger than the 12 year average of 14,961 cases.

The commercial season was closed at the end of week 38 by emergency regulation.

TABIE 8. Copper River Coho Salmon - 1963

Week No.	Case Pack 1/ 48-1# / case	Total Catch	Total Pounds	Ave. Wt. Per Fish	Number Frozen 2/	Number Boats	Number Deliveries	Ave. No. Fish/Boat	Fathoms of Gear 3/
22	0	1	9**	9.9**	--	411	1,492	*	61,650
23	0	1	10**	9.9**	--	402	1,196	*	60,300
24	0	2	19**	9.9**	--	381	1,199	*	57,150
25	0	0	--	--	--	276	693	--	41,400
26			C L O S E D	W E E K					
27	0	0	--	--	--	90	347	--	13,500
28	0	0	--	--	--	68	293	--	10,200
29	0	2	19**	9.9**	--	56	193	*	8,400
30	0	4	28	7.0	--	47	57	*	7,050
31	1	4	397	6.2	--	21	81	2.6	3,150
32	8	64	1,389	6.3	--	7	10	31.4	1,050
33	28	220	6,816	7.6	--	7	10	127.3	1,050
34	113	891	157,058	8.6	--	101	365	180.7	15,150
35	2,310	18,250	429,784	9.7	--	193	974	230.2	28,950
36	5,624	44,427	847,468	10.0	--	254	1,357	332.1	37,950
37	10,648	84,360	372,363	10.3	--	228	924	158.4	34,050
38	4,535	36,125	202,844	10.5	--	180	552	107.6	26,850
	2,431	19,377							
	25,698	2,018,204		9.9	106,253	2,722	9,743	1,170.3	407,850
		203,724							

1/ Estimated pack using number of salmon per case in Table 3b.

2/ Eviscerated with heads on. Includes a few cured.

3/ Estimated using 150 fathoms per boat.

* Less than one.

** Estimated.

BERING RIVER SALMON

Commercial Fishery

Although the commercial season opened week 20 (May 13) and closed in week 38, the Bering River fishery operates only during the peak runs. The red salmon fishery was weeks 23 to 25 and the coho fishery was weeks 34 to 38.

The peak of the red salmon fishery was week 24 when 50 boats caught 10,105 fish. The peak effort occurred in week 25 with 55 boats participating. The total red salmon catch of 21,525 fish is about 2/3 of the 11 year average and is the poorest for a full scale fishery during this period.

The king salmon, which are caught incidental to the red salmon, amounted to 72 fish, slightly below the average of 84 fish.

Effort during the red and king season was down 11 units from 1962.

The fall coho season was the best since 1954. The fishery peaked in week 36 when 33,963 cohos were taken. Week 37 had the peak amount of gear with 50 boats operating. The effort of 55 units compares to 30 units in 1962, 36 in 1961 and 56 in 1960.

The case pack for the Bering River red salmon was 66% of the 11 year average, for king salmon it was 86% of average and for the good coho run it was 74% above the 11 year average.

TABLE 9 Bering River Red Salmon - 1963

Week No.	Case Pack 1/ (48-1#/case)	Total Catch in Fish	Total Catch in Pounds	Ave. Wt. Per Fish	Number Boats	Number Deliveries	Ave. Catch Per Boat	Fathoms of Gear 2/
23	151	1,842	11,055	6.00	21	39	87.7	3,150
24	828	10,105	59,163	5.85	50	181	202.1	7,500
25	784	9,578	56,326	5.88	55	153	174.2	8,250
Total	1,963	21,525	126,544	5.88	126	373		18,900

1/ Estimated pack using number of salmon per case in Table 3b.

2/ Estimated using 150 fathoms per boat.

TABLE 10. Bering River King Salmon - 1963

Week No.	Case Pack (48-1#/cs) <u>1/</u>	Total Catch in Fish	Total Catch in Pounds	Average Weight	Number Boats	Number Deliv.	Ave. Catch Per Boat	Fathoms of Gear <u>2/</u>
23	5	15	424	28.27	21	39	0.75	3,150
24	15	47	1,256	26.72	50	181	0.94	7,500
25	3	10	269	26.90	55	153	0.18	8,250
Total	23	72	1,949	27.07	126	373	1.87	18,900

1/ Estimated pack using number of salmon per case in Table 3b.

2/ Estimated using 150 fathoms per boat.

TABLE 11.

Bering River Coho Salmon - 1963

Week No.	Case Pack ^{1/} (48-1#/cs)	Total Catch in Fish	Total Catch in Pounds	Ave. Wt. Per Fish	Number Boats	Number Deliveries	Ave. Catch Per Boat	Fathoms ^{2/} of Gear
34	62	491	4,458	9.08	3	4	164	450
35	1,429	11,288	106,135	9.40	33	146	342	4,950
36	4,299	33,963	332,043	9.78	49	234	693	7,350
37	3,578	28,267	287,007	10.15	55	286	514	8,250
38	1,654	13,066	129,323	9.90	51	208	256	7,650
Total	11,022	87,075	858,966	9.86	191	878	1,969	28,650

^{1/} Estimated pack using number of salmon per case in Table 3b.

^{2/} Estimated using 150 fathoms per boat.

TABLE 12. Bering River Drift Gillnet Salmon Catch, (1953-1964)

Year	Kings	Reds	Cohos	Pinks	Chums
1953	26	8,572	0	0	0
1954 1/	0	129	91,964	9	1
1955	125	34,121	70,100	50	2
1956	147	41,437	53,484	46	5
1957	71	29,142	27,441	27	22
1958	72	23,947	21,202	32	1
1959	77	27,384	58,560	6	0
1960	63	32,890	68,255	101	5
1961	29	55,084	50,883	30	1
1962	246	72,230	55,502	--	2
1963	72	21,525	87,075	56	0
1964	47	16,911	77,360	0	0
Total	928 975	346,461 363,372	584,466 661,826	357	38
Average	84 81	31,496 30,281	53,133 55,152	32 30	3

1/ Set gill nets caught 129 reds and 7,665 cohos in 1954.

16
TABLE 13. Bering River Salmon Case Pack, 1953-1963 ⁴¹ ~~#~~ _{1/}

Year	Kings	Reds	Coho	Pinks	Chums	Total
1953	8	772	0	0	0	780
1954	0	11	12,262	*	*	12,273
1955	36	2,967	8,151	3	*	11,157
1956	41	3,700	6,444	1	*	10,186
1957	19	2,512	2,613	1	3	5,148
1958	24	2,082	2,554	2	*	4,662
1959	24	2,123	8,809	*	*	10,956
1960	16	2,454	7,257	⊖	⊖	9,727
1961	8	4,590	5,506	2	⊖	10,106
1962	75	6,543	5,083	⊖	⊖	11,701
1963	23	1,763	11,022	2	0	12,810
1964	16	1,251	11,288	0	0	12,555
Total	274 290	29,517 30,768	69,701 80,989	-- 11	-- 3	99,506 112,061
Average	25 24	2,683 2,564	6,336 6,749	-- --	-- --	9,016 9,338

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

* Less than one case.

PRINCE WILLIAM SOUND SALMON

Commercial Fishery (General Purse Seine Season)

A good early run of pink and chum salmon in the Eastern and Northwestern districts justified an early opening of the seining season. Opening day, June 25, found fishing only poor to fair, and most of the catch in the Eastern district. A number of fish which would normally have been taken were behind the markers due to the heavy rains a couple of days before the opening. The June 25th opening was the first June purse seine season since 1938.

Fish prices were settled prior to the opening and with the emergency closure on the Copper River flats fishing pressures were moderately heavy early in the seining season.

Table 45 shows open fishing time and Table 14 gives a summary of the fishing seasons since 1924. The number of purse seine boats operating in the Sound has continued to increase and reached a high of 281 boats in 1963. (Tables 17 and 19)

A comparison by species of the salmon case pack from Prince William Sound is shown in Table 16. The 1963 season was about average for the period 1931 to 1962. The red salmon pack was down 43%, primarily because of the closed Eshamy fishery. Pink case pack was down 15%, the chum pack was up 74% and was the largest pack of chums since 1945. The total pack was down 0.8% over the 32 year average of 342,144 cases.

The individual company packs are shown in Tables 18 and 20.

Tables 17, 19, 21 and 22 show the peak catch and effort involved in the Prince William Sound salmon fisheries.

TABLE 11. Prince William Sound Summary of Fishing Seasons, 1924-1964

GENERAL AREA:

SPECIAL AREA OPENINGS AND CLOSURES:

Year	Opening Date	Closing Day	Season Extensions	Special Closures	Weekly Closures	Eshamy Closures	Pt. Valdez Closures	Pt. Fidalgo Closures	Drier Bay Openings	Pt. Wells Closures
1924	None Set	None Set	None	None	48 hrs.	None	None	None	None	None
1925	None Set	None Set	None	8/10-25	48 hrs.	None	None	None	None	None
1926	None Set	None Set	None	8/9-25	48 hrs.	None	None	1800 7/9	None	None
1927	0600 6/6	0600 9/21	None	8/5-30	36 hrs. from 8/25	1800 8/20	None	0600 7/11	None	None
1928	0600 6/6	1800 8/5	None	None	36 hrs. from 8/23	1800 8/15	None	0600 7/11	0600 5/19	None
1929	0600 6/20	0600 8/3	None	8/3-7	48 hrs.	1800 8/15	None	0600 7/11	0600 5/28	None
1930	0600 6/20	0600 8/2	None	None	48 hrs.	1800 8/15	None	None	None	None
1931	0600 6/20	0600 8/5	8/2-5	None	48 hrs.	1800 8/15	None	None	None	None
1932	0600 6/20	1800 8/3	7/30-8/3	None	36 hrs.	1800 8/15	None	None	None	None
1933	0600 6/20	1800 8/4	8/1-4	None	48 hrs.	1800 8/22	1800 9/20	None	None	None
1934	0600 6/20	1800 8/2	None	None	48 hrs.	1800 8/22	1800 9/20	None	None	2400 7/27
1935	0600 6/20	1800 8/3	None	None	48 hrs.	1800 8/22	1800 9/20	None	None	Season Total
1936	0600 6/25	1800 8/5	None	None	48 hrs.	1800 8/22	1800 9/20	None	None	Season Total
1937	0600 6/25	1800 8/2	None	8/2-5	48 hrs.	1800 8/22	1800 9/20	None	None	Season Total
1938	0600 6/25	1800 8/6	8/5-9	None	48 hrs.	1800 8/22	1800 9/20	None	None	Season Total
1939	0600 7/5	1800 8/8	8/5-8	None	48 hrs.	1800 8/22	1800 9/20	None	None	Season Total
1940	0600 7/5	1800 8/6	None	None	60 hrs.	1800 8/22	1800 9/20	None	None	Season Total
1941	0600 7/5	1800 8/5	None	None	48 hrs.	1800 8/22	1800 8/22	None	None	Season Total
1942	0600 7/5	1800 8/10	8/7-10	None	48 hrs.	1800 8/22	1800 8/22	None	None	Season Total
1943	0600 7/5	1800 8/11	8/5-9	None	48 hrs.	1800 8/22	None	None	None	Season Total
1944	0600 7/10	1800 8/9	8/10-11	None	48 hrs.	1800 8/22	None	None	None	Season Total
1945	0600 7/1	1800 8/5	8/5-9	None	48 hrs.	1800 8/22	None	None	None	Season Total
1946	0600 7/10	0600 8/11	8/7-13	None	48 hrs.	1800 8/22	None	None	None	Season Total
1947	0600 7/5	1800 8/7	8/13-14	None	48 hrs.	1800 8/22	None	None	None	Season Total
1948	0600 7/20	1800 8/7	None	None	48 hrs.	1800 8/22	None	None	None	Season Total
1949	0600 7/1	1800 8/7	None	None	48 hrs.	1800 8/22	None	None	None	Season Total
1950	0600 7/20	1800 8/4	None	8/4-7	48 hrs.	1800 8/22	None	None	None	Season Total

TABLE 1A. continued, PRINCE WILLIAM SOUND SUMMARY OF FISHING SEASONS
1924-1964

GENERAL AREA:

SPECIAL AREA OPENINGS AND CLOSURES:

Year	Opening Date	Closing Date	Season Extensions	Special Closures	Weekly Closures	Fishery Closures	Pt. Valdez Closures	Pt. Fidalgo Closures	Pt. Wells Closures	Coghill
1951	0600 7/1	0600 8/1	None	8/1-6	48 hrs.	1800 8/22	None	None	None	None
1952	0600 8/4	1800 8/30	None	None	48 hrs.	1800 8/22	None	None	None	None
1953	0600 7/13	1800 8/8	8/5-8	None	48 hrs.	1800 8/22	None	None	None	None
1954	C I O S E D				48 hrs.	1800 8/22	None	None	None	None
1955	C I O S E D				48 hrs.	1800 8/22	None	None	None	None
1956	0600 7/10	0600 8/6	None	None	48 hrs.	1800 8/22	None	None	None	None
1957	0600 7/10	0600 8/5	None	8/5-10	48 hrs.	1800 8/22	None	0900 9/3-1800 9/6	None	None
1958	0600 7/10	0600 8/6	None	8/6-9	48 hrs.	CLOSED	None	None	None	None
1959	C I O S E D					CLOSED				
1960	1201 7/11	1800 8/3	None	7/4-10	72 hrs.	CLOSED	None	None	7/16 West side	1200 6/12
1961	Eastern, Southeastern		3/			1200 8/18	None	0600 8/15-1800 8/18	1200 7/14	
	Montagne		3/							
	0600 8/8		1800 8/14							
1962	General		4/							
	0600 7/9		2100 8/13							
1963	0500 7/1	1900 8/19	5/		119 hrs.	5/ 0600 7/2				0600 6/18
						1200 8/15				1800 7/14
						CLOSED				0600 6/18-Open
										1800 7/14-Closed
1964	0600 7/13		0600 8/5	5/	48 hrs.	Closed				0600 6/18-Open
										1800 7/14-Closed

- 1/ Season closure by time table released to allow all gear to fish until closure on 8/6.
- 2/ Fishing days by gear time table during season. On 8/2-3 fishing allowed 12-hour day. Fishing closed 1800 8/3.
- 3/ 12-hour fishing day.
- 4/ 14-hour fishing day.
- 5/ Refer to special regulatory changes by field announcement. (Also Table 45. for fishing time)

TABLE 15. Summary of Salmon Gear Operated, 1953 - 1963 ^{1/}

Year	PRINCE WILLIAM SOUND			COPPER RIVER DRIFT GILLNETS	
	Traps	Purse Seines	Gill Nets ^{2/}	Red Season	Coho Season
1953	21	76	15,450 ^{3/}	75,000	7,900
1954	C L O S E D		4,725 ^{4/}	87,000	27,000
1955	C L O S E D		4,400 ^{4/}	88,050	25,000
1956	26	132	4,600	74,100	--
1957	11	152 ^{5/}	4,400 ^{4/}	77,700	30,000
1958	13	183	CLOSED	75,900	--
1959 ^{6/}		CLOSED	CLOSED	53,250	25,050
1960		223	CLOSED	59,400	34,050
1961		102 (3750-Coghill) (4200-Eshamy) ^{7/}		50,550	25,650
1962		237 (8550-Coghill) (3750-Eshamy) ^{7/}		59,100	27,450
1963		281 (3450-Coghill)		61,650	37,950
1964		157 (9850-Coghill)		43,350	30,900

^{1/} Peak effort.

^{2/} Fathoms of gear.

^{3/} Including Eshamy.

^{4/} Eshamy only.

^{5/} 50 purse seines operated during a special chum season.

^{6/} Fish traps declared illegal when Alaska became a State.

^{7/} Includes set and drift gill nets.

Separate with more space when typing

TABLE 16.

Prince William Sound Annual Salmon Case Pack 1/

Year	Reds	Kings	Pinks	Chums	Cohos	Total
1931	13,188	199	374,880	59,516	5,889	453,672
1932	24,369	1,402	206,842	33,142	10,756	276,511
1933	9,296	726	194,275	31,475	7,390	243,162
1934	13,398	1,121	385,207	33,752	11,796	445,274
1935	16,115	557	200,990	52,228	3,223	273,113
1936	13,759	402	608,269	23,606	5,152	651,188
1937	8,236	295	182,309	21,527	5,770	218,137
1938	10,204	284	461,781	31,106	5,703	509,078
1939	10,895	246	129,173	28,725	3,505	172,544
1940	6,360	242	522,138	53,641	7,776	590,157
1941	5,966	96	212,729	73,637	4,369	296,797
1942	10,844	439	356,528	81,359	6,282	455,452
1943	4,334	108	511,020	30,326	7,559	560,347
1944	11,243	151	416,888	118,063	7,512	553,857
1945	15,216	109	498,684	156,821	4,566	675,396
1946	9,529	372	315,972	72,571	15,674	414,218
1947	17,176 ^{1/2}	180	376,125	63,676	6,240 ^{1/2}	464,398
1948	18,460	45	120,765	46,010	3,663	188,943
1949	8,272	160	273,226	82,409	11,107	375,174
1950	7,049	74	105,397	53,450	8,625	174,595
1951	19,996	1,469	47,809	54,942	5,295	129,511
1952	6,997	5	115,451	66,254	5,508	194,215
1953	4,929	37	122,236	34,552	4,085	165,839
1954	654	--	746	695	56	2,151*
1955	1,346	--	1,795	550	63	3,754*
1956	15,442	31	185,664	48,772	3,313	253,222
1957	6,322	171	35,431	74,716	1,892	118,532
1958	1,117	6	358,860	77,922	597	438,502
1959			C L O S E D			
1960	2,701	2	70,554	39,711	1,267	114,235
1961-2/	6,589	106	135,189	24,129	1,221	166,355
1962-3/	5,454	33	270,797	81,856	1,457	359,597
1963-4/	5,835	119	228,077	101,561	3,914	339,506
1964	2,773	16	187,114	63,392	4,487	257,782
Total 4/	309,291 312,064	9,187 9,203	8,023,266 8,210,320	1,751,455 1,814,847	171,106 175,573	10,264,305 10,572,081
Average 4/	10,310 9,178	306 271	267,442 241,482	58,382 53,378	5,704 5,165	342,144 309,473

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

2/ Case pack includes Eshamy and Coghill Districts and troll catches.

3/ ~~Estimated pack for total catch using number of salmon per case at Cordova plants.~~

4/ Excluding the years 1954, 1955, and 1959 when purse seining closed.

* Eshamy only.

3/ Beginning in 1960, the case pack is estimated by using the total catch and the number of salmon per case at Cordova plants.

TABLE 17. Prince William Sound Pink Salmon - 1963
Purse Seine (Weekly Catch and Case Pack)

Week	Case Pack 1/ (48-1#/case)	Total Catch	Total Pounds	Ave. Wt. Per Fish	No. Units of Gear	Number Deliveries	Ave. No. Fish/Boat	No. Fishing Days/Week
26	0/10-11	1,355	30,995	3.94	138	116	224	1
27	0/10-11	2,757	63,934	3.87	194	207	329	1
28	1/1-13	8,206	188,876	4.06	255	581	741	2 1/2
29	1/1-20	9,439	217,677	3.91	251	589	867	2 1/2
30	1/21-21	31,114	709,015	3.76	266	673	2,665	2 1/2
31	1/20-21	87,062	2,021,075	3.87	281	870	7,192	2 1/2
32	2/4-10	58,980	1,345,364	3.73	263	555	5,115	2
33		28,945	669,166	3.85	243	514	2,754	4 1/2
34		117	2,671	3.83	5	5	534	2
Total		227,975	5,248,773	3.82		4,140	20,421	20 1/2

- 1/ Estimated case pack on the basis of 22.89 pink salmon per case from the total pink catch.
- 2/ Fishing day from 5:00 A.M. to 7:00 P.M., 14 hrs per day.
- 3/ During week 33 and 34 certain limited areas were opened to fishing 14 hours each day until the season closed. Refer to section on Emergency Regulations.

TABLE 1B. Prince William Sound Pink Salmon by Company, 1963

Week	A.P.A.	N.E.F.C.O.	1/ Parks	2/ San Juan	2/ Ashton	Wash. Fish Co.	Den. Fish Co.	Copper R. Co-Op	St. 3/ APRAG	Marie Test Fish.	Seldovia
26	5,861	9,292	4,024	4,017	1,347	--	6,445	98	--	--	--
27	18,221	12,025	13,808	10,724	4,158	--	3,322	1,321	--	--	--
28	45,917	35,026	22,875	31,537	21,852	186	14,497	1,779	--	--	--
29	52,261	27,797	22,659	50,944	36,156	2	25,900	337	--	--	--
30	140,937	124,460	68,660	186,384	110,786	7,078	43,980	6,681	--	21,739	--
31	451,183	333,549	332,124	381,067	268,462	34,893	171,576	19,990	--	--	34,282
32	283,743	246,768	209,570	255,477	182,183	12,363	110,087	13,092	11,243	5,843	38,107
33	115,544	106,292	86,763	165,181	69,235	31,894	68,138	12,830	6,638	--	11,908
34	--	--	--	2,671	--	--	--	--	--	--	--
Total	895,209	760,483	1,088,012	694,179	86,230	443,945	56,128	17,881	27,582	84,297	

1/ Operated as a combination, New England Fish Company and Parks Canning Company.

2/ Both companies canned.

3/ Freezer ship operations

4/ Seldovia-Port Graham received salmon in Cook Inlet in 1963.

TABLE 19. Prince William Sound Chum Salmon - 1963
Purse Seine (Weekly Catch and Case Pack)

Week	Case Pack 1/ (48-1#/case)	Total Catch	Total Pounds	Ave. Wt. Per Fish	No. Units of Gear	No. Deliveries	Ave. No. Fish/Boat	No. Fishing Days/Week
26	3,546	32,409	309,506	9.55	138	146	235	1
27	5,897	53,900	509,355	9.45	194	207	278	1
28	23,828	217,785	2,108,158	9.68	255	581	854	2 1/2
29	21,050	219,817	2,064,082	9.39	251	589	876	2 1/2
30	20,958	191,556	1,735,497	9.06	266	673	720	2 1/2
31	15,906	145,385	1,247,403	8.58	281	870	517	2 1/2
32	5,859	53,551	474,997	8.87	263	555	204	2
33	2,040	18,643	228,571	7.98	243	514	77	4 1/2
34	9	87	799	9.18	5	5	17	2
Total	102,093	933,133	8,678,368	9.30		4,140	3,778	20 1/2

- 1/ Estimated case pack using 9.14 chum salmon per case.
- 2/ Fishing day from 5:00 A.M. to 7:00 P.M., 14 hrs. per day.
- 3/ During week 33 and 34 certain limited areas were opened to fishing 14 hours each day until the season closed. Refer to section on Emergency Regulations.

TABLE 20.

Prince William Sound Chum Salmon by Company - 1963

Week	A.P.A.	N.E.F.C.O.	1/	Parks	2/	San Juan	Port	2/	Ashton	Port	2/	Wash.	F. & O. Co.	Copper R. Co-op
25	93	98		106		--	8,008		891		--	--	--	--
26	7,734	6,295		8,298		12,567		4,470		219		184		
27	13,520	11,510		7,515		67,080		24,378		576		576		
28	41,042	39,121		31,288		44,649		18,099		5		2,946		
29	43,772	59,150		37,001		23,178		9,250		594		2,174		
30	40,783	67,057		34,012		13,283		8,164		4,688		228		
31	50,429	37,616		20,113		3,668		2,288		40		78		
32	12,750	19,453		11,092		2,508		1,047		506		73		
33	3,744	4,720		1,536		87		--		--		--		
34	--	--		--		--		--		--		--		
Total	213,867	245,020		150,961		175,028		68,587		5,898		6,778		

TABLE 20. Continued

Week	ADF&G Test Fishing	Kulstad	Valdez C. Storage	St. Marie	Seldovia-Port Graham
25	--	--	--	--	--
26	--	--	--	--	--
27	--	--	--	--	--
28	--	--	--	--	--
29	--	160	589	--	--
30	852	--	--	--	--
31	37	--	--	--	903
32	70	--	--	10	1229
33	--	150	--	26	1530
34	--	--	--	--	--
Total	959	310	589	36	3,662

- 1/ Operated as a combination, New England Fish Company and Parks Canning Company. Both companies canned.
- 2/ Operated as combination, San Juan Fishing and Packing Company and Port Ashton Packing Company. San Juan canned for both companies. San Juan was purchased by Whiz Fish Products Company in 1963.
- 3/ Freezer ship operation.
- 4/ Seldovia-Port Graham in Cook Inlet received salmon from Prince William Sound in 1963.

TABLE 21. Prince William Sound Red Salmon, 1963, Purse Seine
(Weekly Catch and Case Pack)

Week	Case Pack 1/ (48-1#/case)	Total Catch	Total Pounds	Ave. Wt. Per Fish	No. Units of Gear	No. Deliveries	Ave. No. Fish/Boat	No. Fishing Days/Week
26	482	4,589	36,024	7.85	138	146	333	1
27	1,035	9,866	70,838	7.18	194	207	509	1
28	1,011	9,639	65,834	6.83	255	581	378	2 $\frac{1}{2}$
29	424	4,036	25,750	6.38	251	589	161	2 $\frac{1}{2}$
30	528	5,036	34,648	6.88	266	673	189	2 $\frac{1}{2}$
31	420	4,007	27,127	6.77	281	870	143	2 $\frac{1}{2}$
32	161	1,534	9,311	6.07	263	555	58	2
33	109	1,039	6,556	6.31	243	514	43	4 $\frac{1}{2}$ 3/
34	--	--	--	--	5	5	--	2
Total	4,170	39,746	276,088	6.95		4,110	181.4	20$\frac{1}{2}$

- 1/ Estimated case pack on basis of 9.53 red salmon per case.
- 2/ Fishing day from 5:00 A.M. to 7:00 P.M., 14 hours per day.
- 3/ During week 33 and 34 certain limited areas were opened to fishing 14 hours each day of the week until the season closed. Refer to section on Emergency Regulations.

TABLE 22. Prince William Sound Coho Salmon, 1963, Purse Seine
(Weekly Catch and Case Pack)

Week	Case Pack <u>1/</u> (48-1#/cs)	Total Catch	Total Pounds	Ave Wt. Per Fish	No. Units of Gear	No. Deliveries	Ave. No. Fish/Boat	No. Fishing Days/Week <u>2/</u>
26	3	24	198	8.25	138	146	--	1
27	19	135	1,049	7.77	194	207	1	1
28	242	1,750	13,738	7.85	255	581	7	2 1/2
29	303	2,189	19,132	8.74	251	589	9	2 1/2
30	739	5,346	43,196	8.08	266	673	20	2 1/2
31	1,322	9,555	81,791 <u>1/2</u>	?	281	870	34	2 1/2
32	905	6,545	61,523	9.40	263	555	25	2
33	754	5,448	49,413	9.07	243	514	22	4 1/2 3/4
34	1	6	56	9.3	5	5	1	2
Total	4,288	30,998	270,096	8.71	1,896	4,140	119	20 1/2

- 1/ Estimated case pack using 7.23 coho salmon per case.
- 2/ Fishing day from 5:00 A.M. to 7:00 P.M., 14 hours per day.
- 3/ During week 33 and 34 certain limited areas were opened to fishing 14 hours each day of the week until the season closed. Refer to section on Emergency Regulations.
- 4/ Estimated pounds using 8.56 pounds per fish.

AERIAL AND GROUND SURVEYS OF PRINCE WILLIAM SOUND SALMON SPAWNING STREAMS

Periodic aerial and ground surveys were conducted on salmon spawning streams in Prince William Sound in 1963 to evaluate the spawning escapement and to assist in the management of the fishery. The survey data was used during the fishing season to determine where the spawning escapement was adequate, in which case additional water was opened to fishing, or if escapement were weak extensions in closed water was necessary.

The surveys also provide data for a total estimate of the spawning escapement by species, the distribution of the salmon on the spawning ground and the distribution by stream. This data is important in the overall evaluation of the runs and their relationship to returning runs.

The estimates of salmon spawning escapements are given in Tables 23 and 24.

27
TABLE 23.Prince William Sound Pink, Chum and Red Salmon
Total Estimated Escapement by District
1963

District	Number of Streams Surveyed	Pinks	Chums	Reds
Eastern	97	378,050	148,060	1,530
Northern	44	77,770	68,390	2,400
Northwestern- Goghill	58	354,230	114,240	65,850
Southwestern- Eshamy	48	49,770	5,320	6,700
Montague	56	68,710	15,070	4,000
Southeastern	50	417,180	20,020	0
Total	353	1,344,710	371,100	80,480

TABLE 24b. Prince William Sound Pink Salmon - 1963
(Live Counts in Streams) 1/

Stream <u>5/</u> No.	WEEK ENDING											Calculated Season Total	
	6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11	8/18	8/25	9/1		9/8

II. NORTHERN DISTRICT:

224	Backyard Creek																	8,740
229	Cedar Creek																	2,560
234	Wells River	0	0	500														25,860
241	Gannery Creek	0			2130	15000												9,890
258	Jonah Creek	0			<u>0</u>	0				0	5000							9,920
264	Siwash River	0			0	800				0	5300							2,140
279	Canyon Creek	0			0	100				0	700							6,120
	Other Streams (37) <u>2/3/</u>	0	0	0	500	1930	50	350	700	1450	6900	11300	4750	2490	900			12,540
	District Total <u>3/</u> (44 Streams)	0	0	500	1600	4760	15950	17350	20520	29650	33800	34800	22550	9420	3520			77,770

- 1/ Ground counts underlined; others are aerial counts.
- 2/ From records maintained on small streams which had a total of less than 2000 pinks each in 1963.
- 3/ Contains interpreted data where surveys lacking on certain weeks.
- 4/ Stream life factor 4.0, these calculated from stream life of 2.5.
- 5/ Stream numbering revised in 1962.

TABLE 24c. Prince William Sound Pink Salmon - 1963
(Live Counts in Streams) 1/

Stream No.	Stream or Bay	WEEK ENDING										Calculated Season Total			
		6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11	8/18	8/25		9/1	9/8	9/15
<u>III. COGHILL DISTRICT:</u>															
322	Coghill River	0	0	0	0	<u>10000</u>	20000		34200	40000	500	57,930			
	Other Streams (8) <u>2/3/</u>	0	0	0	0	0	0	0	100	1600	1250	650	270	150	1,610
	District Total <u>3/</u>	0	0	0	0	10000	20000	35000	34300	38600	41250	20650	770	150	59,540
	(9 Streams)	0	0	0	0	20000	35000	35000	34300	38600	41250	20650	770	150	59,540

1/ Ground counts underlined; others are aerial counts.
2/ From records maintained on small streams which had a total of less than 2000 pinks each in 1963.
3/ Contains interpreted data where surveys lacking on certain weeks.
4/ Stream life factor 4.0, these calculated from stream life of 2.5.
5/ Stream numbering revised in 1962.

TABLE 24d. Prince William Sound Pink Salmon - 1963
(Live Counts in Streams) 1/

Stream 5/ Stream or Bay 6/23 6/30 7/7 7/14 7/21 7/28 8/4 8/11 8/18 8/25 9/1 9/8 9/15 9/22
 No. WEEK ENDING
 Calculated Season Total

IV. NORTHWESTERN DISTRICT:

421	Mill Creek	0	0	0	20	200	0	8000	8660	325	16,470
428	Pirate Creek	0	0	0	0	0	200	0	2110	0	2,280
430	Meacham Creek	0	0	0	2450	2400	12000	5300	10510	325	21,200
432	Swanson Creek	0	0	200	1960	4500	24000	13400	15100	3480	40,770
435	Logging Camp Cr.	0	0	0	1510	3100	10000	2000	7590	0	15,290
450	Tebenkof Cr.	0	0	0	320	200	0	400	1880	0	2,240
454	Halferty Creek	0	0	0	0	200	0	4600	2990	0	6,840
455	Paulson Creek	0	0	0	20	100	0	300	2360	0	2,290
471	Wickett Creek	0	0	0	0	0	0	0	2610	0	2,960
476	Shrode Creek	0	0	0	100	22200	109000	15000	110000	37450	153,450
480	Mink Creek	0	0	0	190	800	2000	1500	9890	0	11,110
484	East Finger Cr.	0	0	0	0	0	3000	0	0	0	5,400
485	West Finger Cr.	0	0	0	0	0	200	0	0	0	3,440
	Other Streams (36)	0	0	0	670	700	1250	3750	7645	1700	10,950
	District Totals <u>3/</u>	0	0	0	7270	81450	149250	185145	53105	19860	294,690
	(49 Streams)	0	0	400	34400	114450	150900	1214880	19860		

- 1/ Ground counts underlined; others are aerial counts.
- 2/ From records maintained on small streams which had a total of less than 2000 pinks each in 1963.
- 3/ Contains interpreted data where surveys lacking on certain weeks.
- 4/ Stream life factor 4.0, these calculated from stream life of 2.5.
- 5/ Stream numbering revised in 1962.

TABLE 24e. Prince William Sound Pink Salmon - 1963
(Live Counts in Streams) 1/

Stream No.	Stream or Bay	WEEK ENDING										Calculated Season Total						
		<u>6/23</u>	<u>6/30</u>	<u>7/7</u>	<u>7/14</u>	<u>7/21</u>	<u>7/28</u>	<u>8/4</u>	<u>8/11</u>	<u>8/18</u>	<u>8/25</u>		<u>9/1</u>	<u>9/8</u>	<u>9/15</u>	<u>9/22</u>		
<u>V. ESHAMY DISTRICT:</u>																		
510	Eshamy Lagoon						0									500	<u>1050</u>	2,380
510	Eshamy River						0									3000	<u>3350</u>	6,540
	Other Streams (7) <u>2/3/</u>	0	0	0	0	0	0	0	400	1000	2150	1600	1160	680	400	3,060		3,060
	District Totals <u>3/</u> (9 Streams)	0	0	0	0	0	0	1000	2400	4000	5650	5400	5560	3780	1900	11,980		11,980

1/ Ground counts underlined; others are aerial counts.
2/ From records maintained on small streams which had a total of less than 2000 pinks each in 1963.
3/ Contains interpreted data where surveys lacking on certain weeks.
4/ Stream life factor 4.0, these calculated from stream life of 2.5.
5/ Stream numbering revised in 1962.

TABLE 24f. Prince William Sound Pink Salmon - 1963
(Live Counts in Stream) 1/

Stream No.	Stream or Bay	WEEK ENDING												Calculated Season Total			
		6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11	8/18	8/25	9/1	9/8		9/15	9/22	
<u>VI. SOUTHWESTERN DISTRICT:</u>																	
603	Ewan Creek					0	0		0							5800	8,520
608	Jackpot River		0	0			1400			0						3625	7,090 <u>4/</u>
628	Chenega Creek															1565	3,550
630	Bainbridge Creek		0	100			200	340	1500							1750	5,860
	Other Streams (35) <u>2/3/</u>		0	0	150	400	950	1090	1700	3420	6080	8400	5300	2920	1450		12,770
	District Total <u>3/</u>		0	100	250	1550	2600	2330	3700	7970	15480	24400	18040	11420	6550		37,790
	(39 Streams)																

- 1/ Ground counts underlined; others are aerial counts.
- 2/ From records maintained on small streams which had a total of less than 2000 pinks each in 1963.
- 3/ Contains interpreted data where surveys lacking on certain weeks.
- 4/ Stream life factor 4.0, these calculated from stream life of 2.5.
- 5/ Stream numbering revised in 1962.

TABLE 24g. Prince William Sound Pink Salmon - 1963
(Live Counts in Streams) 1/

Stream No.	Stream or Bay	WEEK ENDING										Calculated Season Total					
		6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11	8/18	8/25		9/1	9/8	9/15	9/22	
<u>VII. MONTAGUE DISTRICT:</u>																	
703	Glam Beach Creek														2,840		
707	MacLeod Creek														3,400		
736	W. Shore Montague I.														6,480		
739	Swamp Creek					0	0	2500							6,500		
741	Chalmers River							0							3,760		
745	Wild Creek							4000							7,220		
746	Schuman Creek							1000							3,940		
747	Cabin Creek					0		1000	1260						8,610		
749	Shad Creek							0							2,160		
752	Stockdale Creek							0							3,000		
759	Rocky Creek							0	300						6,320		
770	Udall Creek							0	2000						2,060		
775	Pautzke Creek							0	2000						4,800		
	Other Streams (43)	<u>2/3/</u>	0	0	50	150	350	4100	5400	4900	14,970	8270	4300	1970	800	18,120	
	District Totals (56 Streams)	<u>3/</u>	0	0	400	1150	2950	4650	15060	15700	12700	51770	31730	19000	10670	5700	68,710

1/ Ground counts underlined; others are aerial counts.
2/ From records maintained on small streams which had a total of less than 2000 pinks each in 1963.
3/ Contains interpreted data where surveys lacking on certain weeks.
4/ Stream life factor 4.0, these calculated from stream life of 2.5.
5/ Stream numbering revised in 1962.

TABLE 24h. Prince William Sound Pink Salmon - 1963
(Five Counts in Streams) 1/

Stream No.	Stream or Bay	WEEK ENDING										Calculated Season Total		
		5/6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11	8/18	8/25		9/1	9/8
VIII. SOUTHEASTERN DISTRICT:														
806	Dog Salmon Cr.	0	0	0	0	0	0	1000	1500	5600	4300	7,960		
810	Garden Creek	0	0	0	0	0	0	0	500	2500	3,400			
812	Nuchek Creek	0	0	0	500	2400	18000	14000	23000	1130	35,490			
815	Constantine Cr.	0	0	0	500	1600	4000	23000	40000	23490	65,840			
817	Deer Creek	0	0	0	0	0	6000	0	0	0	12,440			
818	Juania Creek	0	0	0	0	0	0	5500	0	0	11,560			
821	Brown Bear Cr.	0	0	0	400	800	4000	2000	0	0	9,680			
823	Johnstone Cr.	0	0	0	0	0	2000	0	350	4600	3,200			
827	Captain Creek	0	0	0	0	0	0	1200	2800	16300	5,140			
828	Cook Creek	0	0	0	0	0	0	0	0	1500	18,690			
829	King Creek	0	0	0	0	0	0	0	0	1500	3,000			
831	Double Creek	0	0	0	0	0	0	10000	10000	15000	26,320			
834	Hardy Creek	0	0	0	0	2000	38000	35000	0	0	70,800			
835	Scott Creek	0	0	0	0	0	10000	11000	0	0	19,240			
836	Dan's Creek	0	0	0	0	100	1000	3600	9500	2509	9,720			
837	Dan's Bay	0	0	0	0	0	1000	0	2509	0	2,900			
839	Dan's Bay	0	0	0	0	0	0	300	3700	0	3,700			
844A	Snake Creek	0	0	0	0	0	0	0	0	4800	4,800			
844	Makaraka Cr.	0	0	0	0	300	5000	8000	14700	0	15,650			
847	Hawkins Creek	0	0	0	100	100	3500	10500	6000	18000	19,860			
849	Rollin Creek	0	0	0	0	0	0	0	2800	0	3,520			
850	Canoe Creek	0	0	0	100	1500	2200	4000	1200	0	6,910			
851	Zillesenoff Cr.	0	0	0	0	500	300	200	2100	0	2,500			
856	Cedar Bay	0	0	0	0	0	0	0	0	0	2,840			
857	Cedar Bay	0	0	0	500	200	8100	0	0	0	9,980			
861	Bernard Creek	0	0	0	0	0	430	500	300	8570	10,920			
862	Clamdiggers Cr.	0	0	0	0	0	3500	0	0	2520	3,940			
863	Orca Creek	0	0	0	1500	5300	6040	0	0	0	7,560			
867	Trail Creek	0	0	0	0	0	0	0	0	0	4,500			
Other Streams (21)		2/3/	0	0	0	1250	4550	12670	11500	5090	1650	15,110		
District Total 3/		0	0	0	4400	12100	61200	145000	284700	230900	106260	39940	10450	417,180
(50 Streams)		0	0	0	0	0	0	0	0	0	0	0	0	0

1/ Ground counts underlined; others are aerial counts.
 2/ From records maintained on small streams which had a total of less than 2000 pinks each in 1963.
 3/ Contains interpreted data where surveys lacking on certain weeks.
 4/ Stream life factor 4.0, these calculated from stream life of 2.5.
 5/ Stream numbers revised in 1962.

TABLE 25a. Prince William Sound Chum Salmon - 1963
(Live Counts in Streams) 1/

Stream No.	Stream or Bay	WEEK ENDING												Calculated Season Total			
		6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11	8/18	8/25	9/1	9/8		9/15	9/22	
I. EASTERN DISTRICT:																	
21	Rogue Creek	0	0	70	6500	800	0	30	2	3,150							
35	Koppen Creek	1000	0	5760	13000	1000	0	0	220	9,410							
36	Sheep River	0	100	800	500	500	0	0	1210	4,570							
48	Beartrap River	1500		1680	6800	6000	2000	6500		22,080							
51	Olsen Creek	0	800	1810	6200	6000	3000	250	27	14,430							
80	Whalen Creek	0	200	1810	10000	400	3500	500	1360	3,770							
83	Keta Creek	0	0		0	0	4000	1500	3870	5,060							
87	Sunny River	0	300	490	200	800	0	2500	31	10,250							
89	Fish Creek	0	300	0	1000	800	0	8500	1720	2,610							
116	Duck River	0	900	150	3500	3500	0	5000	31	9,680							
117	Indian Creek	0	50	3610	1000	1000	0	700	10	9,620							
123	Gregorieff Creek	0	50	380	3500	1800	0	0	1720	2,050							
127	Naomoff River	0	500	1000	5500	100	0	0	35	3,020							
133	Sawmill Creek	0	0	1000	2000	100	0	0		6,180							
135	Allison Creek	0	0	100	2500	0	0	0		2,660							
145	Crooked Creek	0	0	100	300	500	800	810		2,580							
152	Twin Falls Creek	0	50	1200	1000	300	4500	120		2,710							
153	Stellar Creek	0	1650	2570	5330	5870	5710	8390	8030	7,550							
Other Streams (38)		2/3/	400	1650	2570	3850	7470	5330	5870	5710	8390	8030	5717	3430	1890	1320	24,650
District Totals 3/		2300	7250	16120	30390	66720	42330	34920	26810	43670	42030	25715	15692	9590	6555	118,060	
(56 Streams)																	

1/ Ground survey counts underlined; others are aerial counts.
 2/ Streams with less than 2000 chum salmon total escapement.
 3/ Contains interpreted data where surveys lacking on certain weeks. Stream life factor 2.5 weeks unless otherwise noted.

TABLE 25c. Prince William Sound Chum Salmon - 1963
(Live Counts in Streams 1/)

Stream No.	Stream or Bay	WEEK ENDING												Season Total					
		6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11	8/18	8/25	9/1	9/8		9/15	9/22			
III. NORTHWESTERN & COGHILL DISTRICTS:																			
322	Coghill River	0	0			20000	40000		24000	11000	1500				0	63,400			
421	M111 Creek	0	0	50		210	600		0	3500	<u>1150</u>					4,080			
425	Hummer Creek	0		0		0	300		1500	1500						3,280			
432	Swanson Creek	0	0	200		3000	500		2000	800	<u>525</u>			80		4,060			
458	Partks Creek	0				0	400			1100						2,220			
476	Shrude Creek	0	0	0		0	0		16000	0	<u>240</u>					10,600			
480	Mink Creek	0	0	0		1000	1000		1000	200	<u>10</u>					2,440			
484	East Finger Creek			1000		2500	1500		0							3,480			
486	Twin Creek					500	400		800							1,680			
487	Kings River					1550										2,560			
	Other Streams (41)	<u>2/</u>	<u>3/</u>	40	100	340	2830	5330	4850	5720	7640	5190	5020	2361	1210	350	70	16,440	
District Totals <u>3/</u>		590	1400	10590	9930	34100	50550	52420	55140	24090	16720	7636	4360	1430	440	111,240			
(51 Streams)																			

1/ Ground survey counts underlined; others are aerial counts.
2/ Streams with less than 2000 chum salmon total escapement.
3/ Contains interpreted data where surveys lacking on certain weeks. Stream life factor 2.5 weeks unless otherwise noted.

TABLE 25d. Prince William Sound Chum Salmon - 1963
(Live Counts in Streams) 1/

Stream No.	Stream or Bay	WEEK ENDING												Calculated Season Total				
		6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11	8/18	8/25	9/1	9/8		9/15	9/22		
IV. ESHAMY-SOUTHWESTERN DISTRICT:																		
613	Jackson Creek		0				2000		0					<u>55</u>				2,190
	Other Streams (18)	<u>2/</u>	<u>3/</u>	0	100	250	600	1200	1240	650	1850	1300	590	41	10	0		3,130
	District Totals (17 Streams)	<u>3/</u>		0	500	1050	1600	3200	2240	650	1850	1350	690	96	60	20		5,320

1/ Ground survey counts underlined; others are aerial counts.
2/ Streams with less than 2000 chum salmon total escapement.
3/ Contains interpreted data where surveys lacking on certain weeks. Stream life factor 2.5 weeks unless otherwise noted.

TABLE 25e. Prince William Sound Chum Salmon - 1963
(Live Counts in Streams) 1/

Stream No.	Stream or Bay	Date														Season Total	
		6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11	8/18	8/25	9/1	9/8	9/15	9/22		
V. MONTAGUE DISTRICT:																	
739	Swamp Creek		0				500	0	4,000	3,500							5,580
741	Chalmers River		0					0	2,000	1,300	4,800						5,800
	Other Streams (17)	<u>2/</u>	<u>3/</u>	0	0	0	0	0	1,760	2,350	2,650	1,350	700	300	120		3,690
	District Totals (19 Streams)	<u>3/</u>	0	0	50	100	300	500	0	7,760	7,150	9,950	6,350	3,100	1,700	720	15,070

1/ Ground survey counts underlined; others are aerial counts.
2/ Streams with less than 2000 chum salmon total escapement.
3/ Contains interpreted data where surveys lacking on certain weeks. Stream life factor 2.5 weeks unless otherwise noted.

TABLE 25f. Prince William Sound Chum Salmon - 1963
(Live Counts in Streams) 1/

Stream No.	Stream or Bay	WEEK ENDING										Calculated Season Total					
		6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11	8/18	8/25		9/1	9/8	9/15	9/22	
<u>VI. SOUTHEASTERN DISTRICT:</u>																	
815	Constantine Creek		300	2500		3000	1100	1200	2500	500	500		<u>720</u>		7,010		
821	Brown Bear Creek		0	1500		0	1700		1000	200					2,820		
835	Scott Creek		0	0		0	400		0	5000					4,920		
	Other Streams (17)	<u>2/</u>	<u>3/</u>	100	200	0	0	700	940	1000	2150	3400	2450	1350	610	270	5,270
	District Totals (20 Streams)	<u>3/</u>	300	500	4000	4000	3000	3900	3840	4500	5350	9000	6500	3070	1460	620	20,020

1/ Ground survey counts underlined; others are aerial counts.
2/ Streams with less than 2000 chum salmon total escapement.
3/ Contains interpreted data where surveys lacking on certain weeks. Stream life factor 2.5 weeks unless otherwise noted.

TABLE 27. Recapitulation of Weekly Chum Salmon Counts, by District, 1963
(Five Counts in Streams) 1/

No. of Streams	DISTRICT	WEEK ENDING														Season Total
		6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11	8/18	8/25	9/1	9/8	9/15	9/22	
56	Eastern	2300	7250	16120	30390	66720	42330	34920	26810	43670	42030	25715	15692	9590	6555	148060
31	Northern	200 ³	4420	14450 ⁴	15140	16240	20925	25870	31200	10220	13610	9305	5380	2790 ⁵	1220	68390
51	Coghill-Northwestern	590	1400	10590	9930	34100	50550	52420	55140	24090	16720	7636	4360	1430	440	114240
17	Esquah-Southwestern	--	-0-	500	1050	1600	3200	2240	650	1850	1350	690	96	60	20	5320
19	Montagne	--	-0-	50	100	300	500	-0-	7760	7150	9950	6350	3100	1700	720	15070
20	Southeastern	300	500	4000	4000	3000	3900	3840	4500	5350	9000	6500	3070	1460	620	20020
Prince Wm. Id.																
194	Total	3390	13570	45710	60610	121960	121405	119290	126060	92330	92660	56196	31698	17030	9575	371100

1/ The counts were derived from 1,086 aerial surveys and 185 ground surveys. Total surveys 1,271.

ESHAMY DISTRICT

In expectation of a very poor red salmon run the Eshamy district gillnet fishery was closed for 1963.

The 1963 spawning escapement to Eshamy Lake is shown in Table 28. The weir was in operation on the third of July and closed operation the fifteenth of September with 3,092 reds, 2,459 pinks and 232 cohos being counted through it. When the weir was removed there were 39 reds and 162 cohos below it.

Comparative annual counts by species since 1950 are given in Table 30 which indicates that the run in 1963 was extremely poor.

Over the 14 year average, the red run was down 87%, the pink run was down 11% and the coho run was down 55%.

32

TABLE 28. Eshamy River Daily Weir Count, 1963 1/

Date	RED SALMON COUNT			COUNTS OF OTHER SPECIES		
	Daily Total	Weekly Total	Cumulative Total	Pinks 2/	Cohos	Chums
6/24 to						
7/1	Installing and repairing weir. Weir completely in on 7/3.					
7/2	33					
7/3	13					
7/4	26					
7/5	3					
7/6	29					
7/7	12					
7/8	5	121	121			
7/9	1					
7/10	-					
7/11	-					
7/12	-					
7/13	42					
7/14	4					
7/15	-	47	168			
7/16	4					
7/17	2					
7/18	13					
7/19	8					
7/20	-					
7/21	-					
7/22	-	27	195			
7/23	-					
7/24	-					
7/25	8					
7/26	-					
7/27	8					
7/28	-					
7/29	-	16	211			
7/30	-					
7/31	-					
8/1	1			0		
8/2	10			2		
8/3	-			2		
8/4	-			0		
8/5	7	18	229	23		
8/6	16			21		
8/7	73			14		
8/8	55			16		
8/9	112			27		
8/10	21			5		
8/11	40			15		
8/12	26	343	572	12		
8/13	7			5		

TABLE 28. continued

Date	RED SALMON COUNT			COUNT OF OTHER SPECIES		
	Daily Count	Weekly Total	Cumulative Total	Pinks 2/	Cohos	Chums
8/14	21			8		
8/15	17			21		
8/16	23			44		
8/17	18			16		
8/18	58			300		
8/19	81	225	797	34		
8/20	101			59		
8/21	34			38		
8/22	304			219	3	
8/23	281			181	6	
8/24	59			150	0	
8/25	487			556	6	
8/26	151	1,417	2,214	78	8	
8/27	30			43	0	
8/28	71			71	3	
8/29	86			115	2	
8/30	50			102	1	
8/31	-			-	-	
9/1	-			-	-	
9/2	137	374	2,588	144	28	
9/3	262			237	92	
9/4	67			37	8	
9/5	121			90	12	
9/6	17			10	6	
9/7	2			4	6	
9/8	3			9	3	
9/9	4	476	3,064	14	4	
9/10	11			3	24	
9/11	5			1	1	
9/12	3			2	2	
9/13	1			0	2	
9/14	5			1	7	
9/15	3	28	3,092	0	8	
Total	3,092	3,092	3,092	2,459	232	0

1/ Weir was removed at 10:00 A.M. September 15. At this time 151 coho and 38 reds were counted in the stream below the weir. In addition, 11 coho and one red was counted in the bay near the mouth of Eshamy River.

2/ On September 4, the weir operator, Peter Cox was replaced by David J. Solf. Dave Solf on September 10 reports 3,040 pink carcasses hand picked off the upstream side of the weir. On the 10th, Solf estimated about 1,500 in one school just above the weir plus unknown other pinks upstream.

46

33
TABLE 29. Eshamy River Weir Count, 1950-1963
 4

Year	Reds	Pinks	Cohos	Chums	Kings
1950	30,370	421	971	0	0
1951	62,661	5,515	1,518	0	0
1952	42,859	119	51	0	0
1953	4,588	718	185	0	0
1954	1,437	418	15	0	0
1955	13,036	6,611	1,505	717	0
1956	46,863	1,166	117	14	2
1957	51,308	4,031	400	16	0
1958	5,224	273	27	3	0
1959	6,908	674	256	0	0
1960	13,515	250	132	0	0
1961	47,275	15,299	57	0	0
1962	9,390	738	1,677	291	0
1963	3,092	2,459	232	0	0
1964	68,129	822	1825	9	0
TOTAL	406,655	39,514	8968	1050	2
Average	24,180	2,764	510	70	0
	27,110	2,634	598	70	0

TABLE 30.

Eshamy River Red Salmon Weekly Cumulative Weir Counts, 1950-1963

Week Ending	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
6/30	31	305		7							52	2183	1096		8
7/7	2731	305		23	2	0	--	61	109	48	1308	3421	1441	116	28
7/14	3626	601		120	19	0	782	479	245	371	3220	4317	1768	168	1918
7/21	6522	896	676	145	148	482	7207	510	1123	502	4633	5381	1877	195	3579
7/28	7704	1247	3778	148	176	505	8802	690	1588	852	6214	6209	2024	211	5336
8/4	9262	2281	17310	475	242	1412	12631	842	2183	1450	7316	7438	2132	222	6706
8/11	10624	18962	23486	987	339	4198	21720	922	2909	3960	8252	21412	3704	546	8657
8/18	10813	22616	28079	3006	683	8243	37018	2064	4030	5858	10509	31580	5538	716	11684
8/25	25089	26420	29545	4019	949	11914	41467	27625	4796	6908	12209	38474	7450	2063	45794
9/2	29137	46671	31011	4410	1417	12936	44977	45170	5198	--	13217	45072	8720	2588	65272
9/9	30370	62426	42639	4588	1437	13036	46750	50658	5224	--	--	46400	9297	3064	67730
9/16	--	62661	42859	--	--	--	46863	51308	--	--	--	47275	9390	3092	--
Total	30370	62661	42859	4588	1437	13036	46863	51308	5224	6908	13217	47275	9390	3092	67730

35
TABLE 31. Eshamy District Salmon Case Pack, 1950-1963 ⁴ 1/

Year	Reds	Pinks	Chums	Cohos
1950	2,231	1,109	497	78
1951	6,530	2,990	1,194	158
1952	3,594	525	359	72
1953 ^{2/}	1,319	2,515	1,144	107
1954	654	746	695	56
1955	1,346	1,795	550	63
1956	7,997	1,713	1,497	88
1957	3,775	1,469	1,632	80
1958		SEASON	CLOSED	
1959		SEASON	CLOSED	
1960		SEASON	CLOSED	
1961	5,490	7,093	2,335	148
1962	2,183	3,164	3,726	318
1963		SEASON	CLOSED	
1964		SEASON	CLOSED	
<u>TOTAL</u>	<u>35,119</u>	<u>23,119</u>	<u>13,629</u>	<u>1,168</u>
Average ^{3/}	3,512	2,312	1,363	117

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 these fish were included in the Eshamy pack.

3/ Average of years fished.

COGHILL DISTRICT

The 1963 Coghill district drift gillnet red salmon fishery is summarized in Tables 32 and 32a. Fishing began in week 25 and continued until week 27 when effort was diminished by fishermen leaving to enter other salmon fisheries. Fishing success was only fair, but in comparison was much better than that of 1961 and 1962.

The Coghill escapement into the lake was very good and is shown in Table 33.

The weir and counting tower results gave a calculated escapement in excess of 64,000 red salmon. Reds actually counted amounted to 13,345.

TABLE 32. ^{NY} Coghill Drift Gill Net Fishery Statistics, 1963 ₆₃

Week	Case Pack ^{2/}			Cohos	Catch			Units of Gear
	Reds	Pinks	Chums		Reds	Pinks	Chums	
25	248	-	29		2360	5	270	24
26	325	12	113		3095	262	1018	11
27	848	32	148	2.8	8079	725	1352	20
28	360	74	287		3431	1697	2625	14
Total	1781	118	577	2.8	16965	2689	5265	20

1/ 1961 was the first season for drift gill net fishing in the Coghill district. No catches were reported from the Unakwik district drift gill net area in 1963.

2/ Case pack determined using Prince William Sound fish per case average.

TABLE 32a. ⁹ Coghill District Drift Hill Net Comparative Effort Patch, 1961, 1962, and 1963 and 1964. ¹¹ ¹³ ¹⁵

⁴ YEAR	¹⁰ Reds	¹¹ Pinks	¹¹ Chums	¹⁰ Cohos	⁵ Total	¹³ Average Units of Gear	¹⁵ AVERAGE GEAR
1961	12,961	10,019	2,412	13	25405	25	1016
1962	13,846	2,241	4,817	15	20919	41	510
1963	16,965	2,689	5,265	20	24949	19	1313
1964	28,864	5,990	4,494	2		44	890
TOTAL	13,772 72,636	14,949	12,494	48	16988	50	
AVERAGE	14,591 18,157	4,983 5,185	4,165 4,849	16 13			

TABLE 33. Coghill River Daily Counts and
Calculated Red Salmon Escapement, 1963

Date	Hours Counted	Reds <u>1/</u> Counted	Conversion Factor 24 hrs./ #hrs.Counted	Calculated Daily Escapement	Calculated Cumulative Escapement	Remarks
6/19	Aerial survey of	0	12.0	0	1600	Aerial est. start of/ count
6/23	2.0	0	12.0	0	1600	
6/24	8.0	6	3.0	18	1618	
6/25	6.0	19	4.0	76	1694	
6/26	2.0	71	12.0	852	2546	
6/27	4.0	1030	6.0	6180	8726	
6/28	6.0	290	4.0	1160	9886	
6/29	6.0	281	4.0	1124	11010	Aerial est. lower lake/ 15000
6/30	6.0	1053	4.0	4212	15222	
7/1	6.0	1427	4.0	5708	20930	
7/2	4.0	540	6.0	3240	24170	
7/3	6.0	3401	4.0	13604	37574	
7/4	6.0	455	4.0	1820	39394	
7/5	5.0	455	4.8	2184	41578	
7/6	6.0	621	4.0	2484	44062	
7/7	6.0	357	4.0	1428	45490	
7/8	6.0	630	4.0	2520	48010	
7/9	2.0	362	12.0	4344	52354	
7/10	5.2	1203	4.6	5582	57936	
7/11	4.0	780	6.0	4680	62616 2/	
7/12	2.0	114	12.0	1368	63984 2/	
TOTAL		13345			63984	

1/ Actual tower count.

2/ High water washed out portion of weir lead extending from the island at the counting tower site.

SUBSISTENCE FISHERY

Each year considerable salmon are taken in the subsistence fishery on the upper Copper River. The major subsistence fishery is for red salmon between Chitina and Gakona. The 1963 fishery is summarized in Table 35.

Since 1960 more emphasis has been placed on the upper Copper River subsistence fishery in an attempt to determine the magnitude of the catch and its impact on the escapement of red and king salmon. In 1963, again, the majority of the catch was taken by fishwheels (Table 34.). The total red catch of 14,068 in 1963 compares to the 1962 catch of 14,678 and the 1961 catch of 15,650. The slightly smaller catch in 1963 most likely reflects the smaller red salmon run, the reduced legal bag limit for the dip netters, and possibly a larger number of catch reports not received. (In the latter part of January, 1964, 280 catch reports were delinquent for the 641 subsistence permits issued during 1963.)

Fishery statistics for several years since 1948 are shown in Table 35. The large increase in catch since 1961 is probably due to increased field effort to determine total catch data for the upper Copper River area.

TABLE 34. Subsistence Fishing, 1963 ^{4/}

Area	No. of Fishermen	Gear	Unsuccessful		Reds	Kings	Cohos	Pinks	Chums	Other ^{3/}
			Fishermen	Fishermen						
Upper Copper River	110	Fishwheel	8		12,061	334	473	52 *	28 *	22
Upper Copper River	185	Dipnet	60		1,994	130	85	0	20 *	1
Copper River Delta	8	Gillnet ^{A-D} Gillnet	2		13	3	157	0	0	0
Prince William Sound	8	Gillnet	0		0	3	386	98	24	0
Prince William Sound	1	Beach Seine	0		0	0	20	200	0	0
Total	312 ^{1/ 2/}		70		14,068	470	1,121	350	72	23

^{1/} In addition, 49 permit holders reported they did not fish.

^{2/} From a total of 641 permits issued, 280 did not turn in a report.

^{3/} Includes whitefish, grayling, lamprey and steelhead.

^{4/} Compiled from reports submitted through January 16, 1964.

* These on catch reports, however no record or knowledge of pinks and chums in the Upper Copper area, past or present.

TABLE 35. Subsistence Fishery, Upper Copper River, 1948 - 1963 1/4

Year	Number of Fishermen	Reds	Kings	Cohos	Pinks	Chums	Other	Unknown	Total
1948 <u>2/</u>								5,100	5,100
1949 <u>2/</u>								5,500	5,500
1952 <u>3/</u>		1,601	535						2,136
1954 <u>4/</u>		3,057	88				1		3,145
1955 <u>4/</u>		1,767	319				123		2,089
1957 <u>3/</u>		7,211	281	108					7,753
1960	60	6,739	136	25	15	167	100		7,182
1961 <u>6/</u>	194	15,472	388	550	188	88	639	87	17,412
1962 <u>7/</u>	375	14,543	848	381	50	49	3	148	16,022
1963 <u>8/</u>	295	14,055	464	558	52*	48*	23	--	15,200
1948	1002	11,915	725	103	0	0	507	--	13,250

1/ Data from years 1948, 1949, 1952, 1957, 1960 to 1963. Other years not reported.

2/ Estimated catches probably obtained by interview. *Estimated catches obtained by interview from 13 subsistence fishermen.*

3/ Reported catch.

4/ Data from sample checks of fishwheels. Observations of fish in boxes of wheel, drying racks and reports of fishermen.

5/ Includes rainbow, whitefish, lamprey, grayling and steelhead. *Report to subsistence permittees received for permits issued for which no report was received.*

6/ Fifty-five reports were received which indicated no fish were taken. In addition, 172 other permits were issued for which no report was received.

7/ In addition to the fishermen reporting, 110 other permits were issued for which no report was received.

8/ In addition, 49 permittees indicated they did not fish and 157 permittees did not report.

* No record or knowledge of upper Copper River ever having pinks and chums. These in catch reports.

RAZOR CLAMS

The 1963 clam season was the poorest since the razor clam industry started in Cordova. There was no attempt made to can clams on a large scale because of the apparent lack of clams and, secondarily, the lack of enough diggers.

The bulk of the 1963 harvest (about 86%) was utilized as bait for the Dungeness crab fishery. Clams for the crab bait fishery were worth 20 cents per pound delivered at the cannery.

Unless the outlook improves, and clams show up on the beaches better, the next few years will probably not support even a moderate sized cannery operation.

There appears to be very poor spawning and survival success for the last five or six years. The average spawning and survival success data are not dealt with here. Tables 36 and 37 give some clam statistics. The average age for the commercial dig in 1963 was approximately 9.5 years old. Nine and 10 year old clams predominated in the catch.

The decline in the razor clams is coupled with a great increase in the starry flounder population. The flounders utilize young razor clams for food almost exclusively during the time checked, May to September, in razor clam areas.

40
TABLE 36.1 Razor Clam Statistics, 1931-1963 1/

Prince William Sound and Copper River Areas

Year	SPRING			FALL		TOTAL		
	Dig Live Weight	Cases 1/	No. of Diggers	Tides Dug	Dig Live Wt.	Cases	Dig Live Wt.	Cases
1931	1,357,114	34,532 4/	214	7,522	NO RECORD			
1932	1,833,358	46,666			NO RECORD			
1933	845,746	18,668		1	NO RECORD			
1934	938,612	24,279	5	3,810	295,224	7,122	1,233,836	31,401
1935	826,421	22,308		4,024	NO RECORD			
1936	957,549	21,465		3,737	NO RECORD			
1937	1,111,594	26,566	223	3,989	312,339	7,154	1,423,933	33,720
1938	1,270,566	31,553	269	4,881	45,065	799	1,315,631	32,352
1939	1,322,447	29,920	253	4,534	218,160	4,965	1,540,607	34,885
1940	1,449,299	41,075	305	6,703	NO RECORD			
1941	792,165	20,246	145	2,943	111,296	2,623 5/	906,461	22,896
1942	1,327,390	40,912	202	2,624	NO RECORD			
1943	1,583,989	45,916	184	3,721	87,613	2,482	1,671,602	48,398
1944	1,638,994	46,752	162	3,967	8,739	194	1,647,733	46,946
1945	1,611,328	41,998	188	4,099	46,394	1,142	1,657,722	43,140
1946	1,626,226	47,430	190	4,922	119,977	3,194	1,746,203	50,624
1947	579,482	17,605	160	1,772	27,058	588	606,540	18,193
1948	1,121,074	31,941	220	3,927	33,829	784	1,154,903	32,725
1949	1,449,778	40,735	350	5,262	28,477	670	1,478,255	41,405
1950	1,464,532	38,482	370	5,524	55,884	1,294	1,520,416	39,776
1951	1,501,074	38,310	347	5,344	34,045	645	1,535,119	38,995
1952	1,256,287	31,879	204*	3,925*	9,143	220	1,265,430	32,099
1953	1,485,937	39,184	306*	5,286	NONE		1,485,937	39,184
1954	1,216,758	31,478	189*	5,165*	ALMOST NONE			
1955	1,372,829	36,071	333*	6,377*	4,280	70	1,377,109	36,141
1956	703,659	21,477	201*	3,053*	3,690		707,349	21,571
1957	1,017,418	27,774	268*	5,743*	ALMOST NONE		1,017,418	27,774
1958	32,395	831	STRIKE		NONE		32,395	831
1959	507,731	13,017	183	3,196	ALMOST NONE		507,731	13,017
1960	433,930	10,367	284		NONE REPORTED		433,930	10,367
1961	259,250 2/	6,868	111		2,378 (Bait)		261,628	6,940
1962	208,284 3/	5,300	201		414 (Bait)		208,568	5,307
1963	86,340 6/						86,340	
Total	36,628,177	931,605					86,340	

Average 1,109,945 29,112

- 1/ Case pack on basis of 48- $\frac{1}{2}$ pounds per case.
- 2/ Includes 28,973 pounds used for bait.
- 3/ Includes 41,425 pounds used for bait.
- 4/ Estimated on basis of 39.3 pounds live weight per case.
- 5/ In addition, 27 number 10 cans were packed.
- 6/ No major operation in 1963 and most of the dig used for crab bait. A portion, 6,275 pounds was canned or used on fresh market.
- * Major canner only.

41
TABLE 37. Razor/Clam Statistics, 1963
 (all areas)

Week Total	Beach Weight	Pounds Canned or Used/Fresh	Pounds Crab Bait	Landings
9	213		213	3
10	170		170	1
11	146		146	2
12	1620		1620	11
13	4827	30	4797	19
14	5313		5313	25
15	2828	120	2708	20
16	3509	120	3389	15
17	14066	1910	12156	59
18	6507	240	6267	25
19	3322	90	3232	15
20	1002		1002	4
21	9556	1485	8071	26
22	8535	975	7560	29
23	3503	60	3443	17
24	4382		4382	23
25	11466	765	10701	48
26	2061	480	1581	14
27	None			
28	352		352	1
29	344		344	2
30	2176		2176	12
31	282		282	3
32	160		160	1
TOTAL	86340	6275	80065	375 1/

1/ Landings do not represent individual daily digs as most landings were two or more days effort.

DUNGENESS CRAB

The Dungeness crab fishery in the Cordova area has been good during the past several years (Table 38.). The 1963 catch is the largest in the history of the Cordova fishery. The major carner had to place a catch limit on its boats, during the fall season, of 1,500 pounds for a one man boat, 2,000 for a two man boat and 3,500 for a three man boat.

42

TABLE 36. Dungeness Crab Catch from Prince William Sound,
Copper and Bering River Areas, 1951 to 1963 1/

Year	OUTSIDE		INSIDE <u>2/</u>		TOTAL	
	Crab	Pounds	Crab	Pounds	Crab	Pounds
1951	729630	1459260	608939	1217878	1338569	2677138
1952	<u>3/</u>				509288	1018576
1953	<u>3/</u>				627942	1255884
1954	<u>3/</u>				752855	1505710
1955	567500	1135000	414914	829829	982414	1964829
1956	<u>4/</u>		406422	812844	406422	812844
1957	<u>4/</u>		108562	217123	108562	217123
1958	<u>4/</u>		596459	1192918	596459	1192918
1959	670394	1340788	576749	1153499	1247143	2494287
1960	599072	1198144	762163	1524326	1361235	2722470
1961	882976	1765952	495121	990242	1378097	2756194
1962	645292	1290585	676595	1353190	1321887	2643775
1963	896683 <u>5/</u>	2017537	608423	1216846	1505106	3234383
Total	4991547	10243266	5254147	10508695	12135979	24496131
Average	713078	1463324	525415	1050869	933537	1884318

1/ Pounds reported in live weight. A two pound average weight was used to convert crab to pounds. Dungeness crab have been sold by the pound since 1951.

2/ The area designated as "inside" is located in the southeast corner of Prince William Sound and is described in the 1963 Commercial Fishing Regulations. The majority of the crab from the "inside" area are taken in Orca Inlet.

3/ No record these years of where crab were caught.

4/ No "outside" fishing these years.

5/ Pounds converted to crab on basis of 2.25 pounds per crab.

TABLE 39. Dungeness Crab, Weekly Catch, 1963. 1/

Week	Spring Pounds (Inside)	Summer Pounds (Outside)	Fall Pounds (Inside)	Value to Fishermen	Approximate Number of Crabs	Landings	Landed in Cordova by Cordova boats)
				2/	4/		5/
5	3522			\$ 493.78	1761	2	(Landed in Cordova by Cordova boats)
6	10546			1476.44	5273	15	
7	15242	36		2138.92	7621	22	
8	10656	329		1537.90	5474	22	
9	11797	121		1668.52	5952	29	
10	4511	138		650.86	2317	16	
11	6809	534		1028.02	3642	25	
12	5763	4148		1387.54	4723	24	
13	3030			424.20	1515	10	
14	3055	21387		3421.88	11023	13	
15	3409	27777		4366.04	14037	16	
16	5563	57772		8866.76	28432	25	
17	2028	21035		3228.82	10354	10	
18	3982	89007		13018.46	41510	26	
19	14538	7039		3020.78	10394	12	
20	18500	2564		2948.96	10388	13	32331
21	21203	8484		4156.18	14368	22	24293

Continued next page

TABLE 39. Dungeness Crab, Weekly Catch, 1963. 1/

Week	Spring Pounds (Inside)	Summer Pounds (Outside)	Fall Pounds (Inside)	Value 2/ to Fishermen	Approximate Number of Crabs 4/	Landings	Icy Bay 5/ Yakutat Area
22	18395	21732		\$ 5617.78	18846	21	65506
23		21598		3023.72	9590	13	
24		23840		3337.60	10585	11	55439
25		78104		10934.56	34678	21	65062
26		67834		9496.76	30118	18	28863
27		203414		28477.96	90316	36	58668
28		202791		28390.74	90039	32	
29		185196		25927.44	82227	28	
30		186239		26073.46	82690	27	
31		174496		24429.44	77476	21	
32		169636		23749.04	75318	31	
33		213843		29938.02	94946	35	
34		117424		16439.36	52136	22	
35		87438		12241.32	38822	30	
36		15249	183858	23892.84 3/	98700	89	
37		8333	177161	22259.28	92280	91	
38			174498	20939.76	87249	86	
39			110305	13236.60	55152	54	
40			101796	12215.52	50898	59	

TABLE 39. Dungeness Crab, Weekly Catch, 1963. 1/
continued

Week	Spring Pounds (Inside)	Summer Pounds (Outside)	Fall Pounds (Inside)	Value 2/ to Fishermen	Approximate Number of Crabs 4/	Landings	Icy Bay 5/ Yakut Area
41			94685	\$ 11362.20	47343	54	
42			90190	10822.80	45095	49	
43			58878	7065.36	29439	37	
44			53846	6461.52	26923	50	
45			7880	945.60	3940	13	
52			1200	144.00	600	1	
Totals	162549	2017537	1054297	431256.07	1503650	1231	330662
Value	22756.86	281983.54	126515.64	431256.07			46292.68

Total value all Cordova landings \$477548.75

- 1/ These figures do not include Big Point Seafoods Company which reported 50 cases tuna size tins. This 50 cases represents about 1200 Dungeness crab.
- 2/ Basis 14¢ per pound live weight paid to fishermen.
- 3/ Basis 12¢ per pound live weight paid to fishermen beginning this week.
- 4/ Average weight "insider" crab 2.0 pounds; "outsider" crab 2.25 pounds.
- 5/ Landed in Cordova by Cordova fishermen. These figures not included in other columns.

MISCELLANEOUS SHELLFISH

The king crab fishery in Prince William Sound is a very minor fishery with a couple of boats doing some exploratory fishing without much success, and one boat fishing a string of king crab pots in conjunction with his Dungeness crab fishing. Table 40 shows the 1963 catch data.

The shrimp fishery is also a minor sporadic fishery. One boat tried a beam trawl during weeks 50 to 52 without much success. A small family plant at Fairmount Island processed most of the shrimp sold. (Table 40.)

TABLE 40. ⁴ Miscellaneous Shellfish Catch, 1963 ⁴

Week	KING CRAB ^{1/}				SHRIMP		
	Number Crab ⁴	Number Pounds ³	Landings	Area	Pounds ⁷	Landings ⁷	Area
5	260	2156	1	Orca	60	1	Fairmount Island
6					160	1	"
7	358	3858	4	Orca & Gravina			
8	240	2105	5	Orca			
9	104	767	2	"			
10	40	292	2	"	97	1	"
11	13	81	1	"			
12	25	198	2	"	60	1	"
13	7	51	1	"			
14					18	1	"
17	28	208	1	"			
18	345	2933	3	"			
19	97	882	3	"			
20	152	1314	1	"			
21	108	928	2	"			
22	210	1726	2	"			
23	488	3968	3	"			
24	678	5394	4	"			
25	279	2191	2	"			
26	63	525	1	"			
42	361	2694	2	"			
43	167	1170	2	Gravina			
44	1224	10128	2	Port Wells			
50					40	1	Orca
51					25	1	"
52					90	1	"
Total	5247	43569	46		550	8	

^{1/} Average weight per crab 8.30 pounds.

COMMERCIAL FISHING LICENSE SALES

License receipts for 1963 commercial fishing were about the same as previous years in most categories (Table 42). Salmon net licenses were up with the expectation of a fair pink salmon season. Set gillnet licenses were down because of the closed Eshamy set gillnet fishery.

The continued decline of clam shovel licenses is directly related to poor razor clam digging success and to the lack of a major operation.

TABLE 41. Summary of Commercial Fishing Licenses and Receipts, 1963.

		COMMERCIAL FISHING LICENSES				GEAR LICENSES						
		Drift	Purse	Set	SHAVERLS			Beam	Special	Long		
		Gillnet	Seine	Gillnet	Clams	Crab	Trawl	Troll-I. Line	Troll	Line		
Resident	Nonresident	Fishermen	Vessels									
564	484	312	154	13	3/	89	31	1	8	11		
445	221	130	66	1		18	18		1	4		
1009	705	442	220	14		107	49	1	9	15		
LICENSES FORWARDED TO CORDOVA BY OTHER OFFICES												
164	106	63	35	4	2/	5	5	-	1	2		
129	106	72	32	-		1	1	-	-	1		
293	212	135	67	4		6	6	-	1	3		
TOTAL LICENSES FOR CORDOVA AREA												
728	590	375	189	17		94	36	1	9	13		
574	327	202	98	1		19	19	-	1	5		
1302	917	577	287	18		113	55	1	10	18		
RECEIPTS FOR LICENSES SOLD IN CORDOVA												
Resident	5640.	4840.	4665.	7700.	75.	445.	630.	37.50	-	120.	275.	
Nonresident	6675.	6576.	5835.	9900.	15.	270.	1395.	-	15.	45.	200.	
	12315.	11416.	10500.	17600.	90.	715.	2025.	37.50	15.	165.	475.	

- 1/ Crew and Captains of tenders included. One resident license sent to Homer- setnetter.
- 2/ Includes tenders, 25 nonresident, 11 resident; 2 special \$3. nonres.; 2 resident skiff to Homer.
- 3/ 1 for herring; 1 for use with whitfish commercial permit; 1 setnet to Homer- salmon.
- 4/ TOTAL RECEIPTS IN CORDOVA OFFICE: \$55,568.50. Not shown in above summary: Differences on adjustment and applications filed to meet deadline and licenses not issued and \$130. received for differences on vessel and gear transfers. \$30.91 was withheld and used for postage and fees.

done

TABLE 42. Comparative Commercial Fishing License Statistics, Cordova Area, 1960 to 1964

TOTAL COMMERCIAL FISHING LICENSES	1960	1961	1962	1963	1964
FISHERMEN					
Resident	601	497	621	728	541
Nonresident	<u>566</u>	<u>247</u>	<u>470</u>	<u>574</u>	<u>304</u>
	1167	744	1091	1302	845
VESSEL LICENSES					
Resident	493	452	525	590	477
Nonresident	<u>312</u>	<u>196</u>	<u>281</u>	<u>327</u>	<u>214</u>
	805	648	806	917	691
GEAR LICENSES					
Resident Troll Line	15	9	6	9	9
Nonresident Troll Line	<u>1</u>	<u>-</u>	<u>2</u>	<u>1</u>	<u>3</u>
	16	9	8	10	12
Resident Set or Long Line	6	7	11	13	15
Nonresident Set or Long Line	<u>2</u>	<u>-</u>	<u>3</u>	<u>5</u>	<u>2</u>
	8	7	14	18	17
Resident Drift Gill Net	263	293	315	375	282
Nonresident Drift Gill Net	<u>167</u>	<u>127</u>	<u>170</u>	<u>202</u>	<u>133</u>
	430	422	485	577	415
Resident Set Gill Net	7	42	40	17	23
Nonresident Set Gill Net	<u>7</u>	<u>8</u>	<u>18</u>	<u>1</u>	<u>2</u>
	14	50	58	18	25
Resident Purse Seine	142	97	163	189	167
Nonresident Purse Seine	<u>92</u>	<u>23</u>	<u>75</u>	<u>98</u>	<u>65</u>
	234	120	238	287	232
Resident Shellfish Pots	34	46	49	36	32
Nonresident Shellfish Pots	<u>14</u>	<u>17</u>	<u>18</u>	<u>19</u>	<u>9</u>
	48	63	67	55	41
Resident Clam Diggers	206	165	125	94	105
Nonresident Clam Diggers	<u>78</u>	<u>61</u>	<u>38</u>	<u>19</u>	<u>16</u>
	284	226	163	113	121
Resident Otter Trawl	-	-	2	-	-
Resident Beam Trawl	-	-	-	1	2

COPPER AND BERING RIVER SALMON SPAWNING ESCAPEMENT

Efforts have been made during the last four years to obtain reliable data on salmon spawning escapements in the Copper-Bering River drainages.

Survey crews in 1963 spent considerable time in both coastal and upper river areas surveying all known salmon spawning areas. Salmon escapement (Tables 43 and 44) was obtained by both ground and aerial surveys.

The 1963 Copper River escapement estimate of 134,710 red salmon compares with the 1961 estimate of 87,000 and the 1962 estimate of 160,475.

The Bering River escapement was very poor with an estimated count of 8,725 in 1963, compared with 12,880 in 1961 and 21,800 in 1962.



Red Salmon Spawning Areas
Copper River Delta - Bering River

TABLE 43. Estimated Spawning Escapement of Red Salmon, Lower Copper River, Bering River and Adjacent Delta Areas, 1963, Comparative 1962 Estimated Escapement and Estimated Optimum Escapements.

Stream or Lake	Actual Count 1963	ESTIMATED ESCAPEMENT, 1963 ^{2/}			Total	Estimated 1962 Escapement	Estimated Optimum Escapement ^{3/}
		Early	Middle	Late			
Eyak Lake	6212	1000	5300	9200	15500	18700	28000
Hatchery Creek	2286	500	700	1200	2400	1500	2500
Scott Lake			400	200	600	750	1000
Bear Lake ^{1/}			25		25	^{1/}	50
McKinley Lake				300	300	0	2500
Salmon Creek	1956		2600		2600	4200	8000
25.6 Mile Creek	335	350			350	500	800
27 Mile Creek		30			30	300	50
Clear Creek (39 mile)	1953			2400	2400	1800	6000
Goat Mountain Creek				650	650	1800	6000
Deadwood Lake ^{1/}				125	125	400	1000
Tokum Lake	6590		1500	8500	10000	8000	10000
Little Martin Lake			600	850	1450	1880	2500
Martin Lake	7819	6300		2500	8800	5000	12000
Pothole Lake (106 L.)	844			1100	1100	3400	5000
Ragged Point Lake ^{1/}	1247			1400	1400	^{1/}	2500
Martin Slough #1	4343	6000			6000	3000	5000
Martin Slough #2	57	80			80	900	250
Martin Slough #3	1170	2200			2200	1500	2500
COPPER DELTA							
SUB-TOTALS	34812	16460	11125	28425	56010	51830	89850

Table 43. cont'd next page

^{1/} New systems for 1963 counts. Not counted in 1962.

^{2/} Estimated on basis of counts from the air and ground.

^{3/} Estimated on the basis of relative density of spawners observed and the estimated suitable gravel areas not utilized.

TABLE 43. continued from previous page

Stream or Lake	Actual Count 1963	ESTIMATED ESCAPEMENT, 1963 ^{2/}				Total	Escapement Estimated 1962	Escapement Optimum ^{3/}
		Early	Middle	Late				
Bering Lake	8		15		15	200	500	
Dick Creek		3000	1500		4500	16000	20000	
Shepard Creek ^{1/}			450		450	^{1/}	500	
Carbon Creek ^{1/}			200		200	^{1/}	1500	
Lake Charlotte			30		30	1000	1000 ?	
Oh & Bee Lakes (319 Lake)					0	50	100 ?	
Kushutaka Lake	1068		1580		1580	2100	4000	
Trout Creek			150		150	250	500	
Clear Creek			1800		1800	2200	6000	
<hr/>								
BERING RIVER SUB-TOTALS	1076	3000	5725		8725	21800	31400	
<hr/>								
BOSWELL BAY Fish Creek ^{1/}	8	15			15			
<hr/>								
GRAND TOTAL	35896	19475	16850	28425	64750	73630	121250	

^{1/} New systems for 1963 counts. Not counted in 1962.

^{2/} Estimated on basis of counts from the air and ground.

^{3/} Estimated on the basis of relative density of spawners observed and the estimated suitable gravel areas not utilized.

TABLE 44. Aerial and Ground Salmon Spawning Survey, Upper Copper River, 1963
(Live Counts of Red Salmon in Streams) 1/

Stream	WEEK ENDING							Calculated <u>2/</u> Season Total	
	7/14	7/21	7/28	8/4	8/11	8/18	8/25		9/1
Gulkana River	1,500			6,000	<u>1,500</u>		1,900	<u>2,445</u>	11,420
Gun Creek							<u>3</u>	<u>1</u>	10
Fish Creek	6,000		850	3,600				<u>5,994</u> <u>3/</u>	10,230
Mud Creek	400		<u>3,800</u>	2,900			<u>1,450</u>	<u>471</u>	10,040
Paxson Lake	10,000							<u>50</u>	17,780
Mentasta Lake				5,000		2,515		1,000	9,630
Fish Creek				25		215			520
Copper Creek						12			20
Tanada Creek						1,060			1,930
Bad Crossing #1						0			60
Bad Crossing #2						1			10
E.F. Chistochina R.						16			210
Mendeltna Creek			2,150			1,988		<u>5,250</u>	11,940
Kaina Creek			200			190			570
St. Anne Creek			400		<u>2,000</u>	150			1,950
Mahlo Creek			<u>6,000</u>			54			6,530
Manker Creek						0			10
Simona Creek									20
Total	25,330	32,352	28,110	25,757	16,816	18,170	11,458	7,767	82,880

1/ Ground count surveys underlined, others aerial counts.
2/ Based on an estimated stream spawning life of two weeks subject to further study and revision.
3/ Count of dead red salmon made along the shore of Fish Lake. Count not used in calculating season total.

TABLE 45. Time Open to Salmon Fishing by Month, Day, Gear and Regulatory Area, 1963

Time Open to Fishing Expressed in Hours Per Day 1/

		DISTRICTS														
		Copper-Bering River	Copper-Bering River	Coghill	Unakwik	P.W.S. General	Copper-Bering River	Coghill	Unakwik	P.W.S. General	Copper-Bering River	P.W.S. General	Copper-Bering River			
Month	Day	MAY				JUNE				JULY				AUGUST		SEPTEMBER
	1		6				18	19	19		6	7				
	2						24	24	24	14	24		18			
	3		18				6	24	24		6		24			
	4		24				6	24	24				24			
	5		6				24	24	24		18		24			
	6		6				6	5	5		24		24			
	7		24								24		6			
	8		6				18	19	19		24	14				
	9						24	24	24	14	24		18			
	10		18				6	24	24	14	6	14	24			
	11		24				6	24	24	7		7	24			
	12		6				24	24	24		18		24			
	13	18	6				6	5	5		24	14	24			
	14	24	24								24		6			
	15	6	6				18			14	24	14				
	16	6					24			14	24	14	18			
	17	24	18				6			14	6	14	24			
	18	6	24	18	18		6			7	14	14	24			
	19		6	24	24		24				18	14	24			
	20	18	6	24	24		6				24	14	24			
	21	24	24	24	24						24		6			
	22	6	6	5	5		18				24					
	23	6					24			14	24					
	24	24		19	19		6			14	6					
	25	6	24	24		14	6			7						
	26		24	24			24				18					
	27	18	24	24	24		6				24					
	28	24	24	24	24						24					
	29	6	5	5			18				24					
	30	6					24			14	24					
	31	24					6			14	6					
Total Open hrs. by Mo. & Gear		MAY				JUNE				JULY				AUGUST		SEPTEMBER
Drift Gillnet		246	258	215	215		384	240	240		516		359			
Purse Seine						14				147		126				

1/ Blanks denote days closed to fishing.

DISTRICT SEASON OPENINGS AND CLOSING DATES

Copper River-Bering River	5/13 - 9/21
Prince (Coghill)	6/18 - 7/14
William (Unakwik)	6/18 - 7/14
Sound (P.W.S. General)	6/25 - 8/19

52
TABLE 46.1 'Calendar Weeks, 1963' 1/

WEEK	FROM	THRU	WEEK	FROM	THRU
1	Jan. 1	Jan. 5	27	June 30	July 6
2	Jan. 6	Jan. 12	28	July 7	July 13
3	Jan. 13	Jan. 19	29	July 14	July 20
4	Jan. 20	Jan. 26	30	July 21	July 27
5	Jan. 27	Feb. 2	31	July 28	Aug. 3
6	Feb. 3	Feb. 9	32	Aug. 4	Aug. 10
7	Feb. 10	Feb. 16	33	Aug. 11	Aug. 17
8	Feb. 17	Feb. 23	34	Aug. 18	Aug. 24
9	Feb. 24	Mar. 2	35	Aug. 25	Aug. 31
10	Mar. 3	Mar. 9	36	Sept. 1	Sept. 7
11	Mar. 10	Mar. 16	37	Sept. 8	Sept. 14
12	Mar. 17	Mar. 23	38	Sept. 15	Sept. 21
13	Mar. 24	Mar. 30	39	Sept. 22	Sept. 28
14	Mar. 31	Apr. 6	40	Sept. 29	Oct. 5
15	Apr. 7	Apr. 13	41	Oct. 6	Oct. 12
16	Apr. 14	Apr. 20	42	Oct. 13	Oct. 19
17	Apr. 21	Apr. 27	43	Oct. 20	Oct. 26
18	Apr. 28	May 4	44	Oct. 27	Nov. 2
19	May 5	May 11	45	Nov. 3	Nov. 9
20	May 12	May 18	46	Nov. 10	Nov. 16
21	May 19	May 25	47	Nov. 17	Nov. 23
22	May 26	June 1	48	Nov. 24	Nov. 30
23	June 2	June 8	49	Dec. 1	Dec. 7
24	June 9	June 15	50	Dec. 8	Dec. 14
25	June 16	June 22	51	Dec. 15	Dec. 21
26	June 23	June 29	52	Dec. 22	Dec. 28
			53	Dec. 29	Dec. 31

1/ The numbered calendar weeks were used in coding fish tickets for 1963 landings.

WHOLESALE VALUE OF FISHERY PRODUCTS

The wholesale value of the fishery products for the Cordova area in 1963 was \$9,903,345.99 (Table 54).

Pink salmon was the most important fishery and represented 44% of the total value. Chum salmon was next and represented 18%, red salmon represented 17%, coho salmon 10% and king salmon 1%. All salmon together, including the sale of salmon eggs, was 91.6% of the total wholesale value of the Cordova area fishery products. Tables 47, 48, 49, 50, 51 and 53.

The Dungeness crab catch was valued at \$803,897.43 for the processed products and represents 8.1% of the wholesale fishery value for the Cordova area, Table 52.

The other minor fishery products, king crab, razor clams, halibut and shrimp had a combined wholesale value of \$29,992.19, Table 53.

TABLE 47. Wholesale Value of King Salmon from the Cordova Area, by Company, 1963. 1/

Name of Company	Peak Number of Employees	Type of Product	Number of Fish	Number of Pounds	CASES				Wholesale Value
					48/1#	48/1#	48/1#	24/1#	
Alaska Packers Assoc.	160	Canned	3078	81681				968	\$ 32249.89
Big Point Seafood Co.	2	"	30	800					480.00
Channel Packing Co.	Family	"	4	100					25.00
Copper River Co-op	17	"	941	24974					7771.00
Crystal Falls Fish Co.	10	"	461	12520					6930.00
New England Fish Co.	128	"	2632	69852					37487.94
Queen Harvest Pk. Co.	Family	Canned-Smoked	9	243		1619			160.00
Parks Canning Co.	120	Canned	3479	90181					44760.00
Pt. Chehalis Packers	53	Fresh & Frozen	793	21059					7520.00
Washington Fish & Oyster	58	Frozen	95	2515					921.55
Totals	548		6/	11522	303925	1619	3004	968	\$138305.38

- 1/ Data from annual reports of operators (fm. FG-122).
- 2/ Whole weight.
- 3/ Estimated on basis of 26.54 pounds per fish.
- 4/ Finished weight was reported as 2,633 lbs. which is larger than the whole weight reported.
- 5/ Five cases of 48/6 $\frac{1}{4}$ oz. cans.
- 6/ Plus family operations.

TABLE 48. Wholesale Value of Red Salmon from the Cordova Area, by Company, 1963. 1/

Name of Company	Peak Number of Employees	Type of Product	Number of Fish	Number of Pounds	CASES						Wholesale Value	
					<u>48/1#</u>	<u>48/2#</u>	<u>48/4#</u>	<u>24/1#</u>	<u>24/2#</u>	<u>96/2#</u>		
Alaska Packers Assoc.	160	Canned	122489 <u>2/</u>	7147180	62	15					9581 <u>3/4</u>	\$460978.97
Big Point Seafood Co.	2	"	98	600		2						300.00
Channel Packing Co.	Family	"	13 <u>3/</u>	80 <u>3/</u>								25.00
Copper River Co-op.	17	"	23900	145790 <u>3/</u>		4193						88053.00
Crystal Falls Fish Co.	10	"	30028	178079		4846				280		110252.00
General Fish Co.	47	"	2101	12816 <u>3/</u>						305		5612.00
New England Fish Co.	128	"	91752	568158	452	12467					5260	337187.17
Ocean Harvest Pk.Co.	Family	Canned) Smoked)	63	378		1.5 <u>5/</u>						48.00
Parks Canning Co.	120	Canned	131275	808583	1066	20485						501420.50
Point Chehalis Packers	53	"	23872	145619 <u>3/</u>		4230						84600.00
San Juan Fish. & Pk.Co.	110	"	25319	1514448	2306							76789.90
"		"	2763 <u>4/</u>	16854 <u>4/</u>								
Wash. Fish & Oyster Co.	58	Frozen	9 <u>3/</u>	57								19.95
Totals	705 <u>6/</u>		453682	7890642	3886	46239 <u>1/2</u>	280	305	5260	9581 <u>3/4</u>	\$1665286.49	

1/ Data from annual reports of operators (Fm. FG-122).

2/ Whole weight.

3/ Estimated on the basis of 6.1 pounds per fish.

4/ Received from Kodiak and not weighed. Weight estimated on basis of 6.1 pounds per fish.

5/ One and one-half cases of 48/6 1/4 ounce cans per case.

6/ Plus family operations.

TABLE 49. Wholesale Value of Pink Salmon from the Cordova Area, by Company, 1963. ^{1/}

Name of Company	Peak Number of Employees	Type of Product	Number of Fish	Number of Pounds ^{2/}	CASES				Wholesale Value
					48/1#	48/2#	24/1#	12/1#	
Alaska Packers Assoc.	160	Canned	1146052	3/4469604	48959				957931.79
Copper River Co-op.	17	"	51282	200000		4620			57750.00
General Fish Co.	47	"	387243	1510248 ^{3/}					337516.40
New England Fish Co.	128	"	859009	3350707	24418	44	27778		752824.52
Parks Canning Co.	120	"	752606	2959184	24826	13997			742130.00
Pyral Fisheries, Inc.	5 ^{5/}	Transp. out	20441	76381					12221.12
San Juan Fish. & Pk. Co.	110	Canned	1791186	3/6985624	81366				1427982.00
"			2629	1/10253 ^{4/}					
Wash. Fish & Oyster Co.	58	"	102174	398477	5714				86500.84
Totals	645		5112622	19960478	184029	24375	53303	1564	\$4374856.67

^{1/} Data from annual reports of operators (Fm. FG-122).

^{2/} Whole weight.

^{3/} Estimated on the basis of 3.9 pounds per fish.

^{4/} Received from Kodiak and not weighed. Weight estimated on the basis of 3.9 pounds per fish.

^{5/} These were the crew aboard the M/V St. Marie who caught the pinks. Intent to operate was filed under St. Marie.

TABLE 50. Wholesale Value of Chum Salmon from the Cordova Area, by Company, 1963. 1/

Name of Company	Peak Number of Employees	Type of Product	Number of Fish	Number of Pounds 2/	CASES						Wholesale Value		
					48/1#	48/3#	24/1#	12/4#	96/2#				
Alaska Packers Assoc.	160	Canned	227934	4/20514.54	22080						16 1/2	\$ 390353.22	
Copper River Co-op.	17	"	7168	64512	4/							14720.00	118270.50
General Fish Co.	47	"	56815	601335	4/	6393						1575.00	
Kulstad Packing Co.	4	") (Smoked)	100	900									
New England Fish Co.	128	Canned	247236	2203916	21438	271	9989					471758.56	
Parks Canning Co.	120	"	154682	1408309	15638 1/2	3015						351965.00	
San Juan Fish.&Pack.Co.	110	"	250716	4/2256445	27810							463036.50	
Wash. Fish & Oyster Co.	58	Canned & Frozen	1825	16422	3/	264					87	4308.85	
Totals	644		946481	8603293	93359 1/2	4830	9989	87	16 1/2			\$1815987.63	

1/ Data from annual reports of operators (Fm. FG-122).

2/ Whole weight.

3/ Of this total poundage 1,670 pounds represents processed, frozen chums with a value of \$334.00.

4/ Estimated on the basis of 9.0 pounds per fish.

182 fish

TABLE 51. Wholesale Value of Coho Salmon from the Cordova Area, by Company, 1963. 1/

Name of Company	Peak Number	Type of Product	Number of Fish	Number of Pounds	CASES						Wholesale Value	
					48/1#	48/2#	48/3#	48/4#	24/1#	12/4#		
A. Tiedeman	Individual	Hard Salt	711	4150								
Bering Sea Fisheries	12	Canned	9032 3/	87614 3/	1090							2400.00
Big Point Seafood Co.	2	"	21 3/	200								26250.00
Copper River Co-op.	17	"	1315	12756 3/								75.00
Crystal Falls Fish Co.	10	"	8264	81651								4395.00
General Fish Co.	47	"	1753	17004 3/	93							28836.00
S. Honkola	Individual	Hard Salt	288 3/	2800								5385.00
Kulstad Packing Co.	4	Smoked (can)	10 3/	100								1400.00
New England Fish Co.	128	Canned	4025	37595	412							175.00
Parks Canning Company	120	"	261044	2582264	32123							10738.78
San Juan Fish. & Pack Co.	110	"	10945 3/	106166	1321							899444.00
A. Johnson & Tribber	Partners	Hard Salt	256 3/	5100								35667.00
Washington Fish & Oyster Company	58	Canned &	6254 3/	60668 4/	12							3000.00
Totals	512 5/		304188	2998068	35039	2290	124	173	131			19557.42

- 1/ Data from annual reports of operators (Fm FG-122).
- 2/ Whole weight.
- 3/ Estimated on the basis of 9.7 pounds per fish.
- 4/ Of this total poundage 39,760 pounds represents processed, frozen coho with a wholesale value of \$15,847.46.
- 5/ Including individuals and partners.

\$34,000

TABLE 52. Wholesale Value of Dungeness Crab from the Cordova Area, by Company, 1963. 1/

Name of Company	Peak Number of Employees	Type of Product	Net Weight of Finished Product	CASES			Wholesale Value
				24/6 1/2 oz.	12/6 1/2 oz.	24/Tuna	
Big Point Seafoods Co.	2	Canned	581			50	\$ 750.00
Point Chehalis Packers	53	Canned	224,981	15755	14640		347589.00
"	"	Fresh meat	1046				1359.00
"	"	Fresh wholecook	9930				3476.00
"	"	Frozen wholecook	518680				178738.00
"	"	Frozen meat	118565				160063.00
Wash. Fish & Oyster Co.	58	Brine froze					4905.60
"	"	Sections	13440				
"	"	Brine froze wholecooks	167561				54850.69
"	"	Frozen meat	38730				47236.64
"	"	Frozen legs	2430				4929.50
Totals	113		1095944	15755	14640	50	\$ 803897.43

1/ Data from annual report of operators (Fm FG-122).

12/6/63

TABLE 53. Wholesale Value of Miscellaneous Fish Products for the Cordova Area, by Company, 1963. 1/

Name of Company	Peak Number	Type of Product	Net Weight Finished Product	CASES			Wholesale Value
				48/5#	24/19 oz.	24/7 3/4oz. 24/6# oz.	
Big Point Seafood Co.	2	Razor Clams, Canned	2400	100			\$ 1800.00
Buck Canning Co.	Family	" "	485		19		456.00
Channel Packing Co.	Family	" "	816	15	16		685.50
Fairmount Is. Seafoods	Family	Shrimp, fresh	275				343.75
Lucky Brands, Inc.	10	Red salmon eggs, canned	7248			604	6197.00
"	"	Cold salmon eggs, bulk	30500				13500.00
"	"	Cold salmon eggs, bulk	43500				18000.00
Point Chehalis Packers	53	King Crab, canned	2954			303	4394.00
"	"	" " frozen meat	1436				2010.00
"	"	" " frozen sections	11563				4625.00
"	"	" " fresh meat	666				932.00
Wash. Fish & Oyster Co.	58	Halibut, frozen	50174				10745.90
"	"	Razor Clams, "	17325-(bait)				4000.04
		Razor Clams	21026				
		Shrimp	275				
		Salmon eggs	81248	115	35	604	303
		King Crab	16619				\$ 67689.19
		Halibut	50174				
Totals	123						

1/ Data from annual report of operators (Fm. FG-122).

101

TABLE 54. Wholesale Value of All Fishery Products from the Cordova Area, 1963

Species	Type of Product	Number of Fish	Number of Pounds	Cases	WHOLESALE VALUE
King Salmon	Canned	10634	280351	1619 (48/1#), 3004½ (48/¾#), 968 (96/¾#)	\$ 129863.83
King Salmon	Fresh & Frozen	888	23574		8441.55
Red Salmon	Canned 1/	453682	7890642	3886 " 46239½ " 9581 3/4 "	1665286.49
"				280 (48/¾#); 305 (24/1#) 5260 (24/¾#)	
Pink Salmon	Canned 2/	5112622	19960478	184029 (48/1#), 24375 (48/¾#), 53303 (24/1#), 1564 (12/4#)	4374856.67
Chum Salmon	Canned 1/	946481	8603293	93359½ " 4830 " 87 "	1815987.63
Coho Salmon	Canned 1/	302663	2986018	9989 (24/1#), 16½ (96/¾#)	1030523.20
				173 " 35039 (48/1#), 2290 (48/¾#)	
				124 (48/¾#), 131 (12/4#)	
Coho Salmon	Hard Salt	1525	12050		6800.00
Dungeness Crab	Canned		225562*	14640 (12/6½ oz.), 50 3/4, 15755 (24/6½ oz.)	348339.00
Dungeness Crab	Fresh, Cooked		10976*		4835.00
Dungeness Crab	Frozen, Cooked		859406*		450723.43
King Crab	Canned		2954*		4394.00
King Crab	Fresh, Cooked		666*		932.00
King Crab	Frozen, Cooked		12999*		6635.00
Razor Clams	Canned		3701*	115 (48/¾#), 35 (24/19 oz.)	2941.50
Razor Clams	Frozen (bait) 4/		17325		4000.04
Halibut	Frozen		50174		10745.90
Shrimp	Fresh		275		343.75
Salmon Eggs	Canned		7248*	604 (24/¾#)	6197.00
Salmon Eggs	Bulk		74000		31500.00
TOTAL VALUE					\$9903345.99

- 1/ A few frozen by Washington Fish and Oyster Company.
- 2/ A total of 20,441 pinks transported to other areas.
- 3/ Tuna size can.
- 4/ Also approximately 62,720 lbs. frozen bait was handled by Ft. Chahal's Packers and not reported on Fm. FG-122.

* Pounds of finished product.

PERSONNEL

The Commercial Fisheries Division employed three permanent and thirteen seasonal employees in the Cordova management area in 1963. Following is a list of personnel, general duty assignment and dates of employment.

Permanent Employees - 1963

Ralph B. Pirtle	Area Management Biologist
Rae Baxter	Assistant Area Management Biologist
Bertha Allen	Clerk-Stenographer

Seasonal Employees - 1963

<u>Name</u>	<u>Assignment</u>	<u>Dates of Employment</u>
Martin B. Andersen III	Fishwheel tagging, lower Copper River	5/16 - 6/30
Robert Barone	Upper Copper River stream surveys	6/16 - 8/25
Randy Bruce	Tagging, Copper River Delta	4/16 - 5/10
Peter R. Cox	Eshamy River fish weir	6/20 - 9/5
Barbara Dempsey	Clerk, Fishery statistics	5/20 - 8/31
Samuel Diack, Jr.	Tagging, Copper River Delta	6/3 - 8/7 & 9/1 - 9/6
James W. Higgins	Fishwheel tagging, lower	5/16 - 6/30
Gary Garton	Upper Copper River stream surveys	6/6 - 8/25
Paul M. Jovick	Prince Wm. Sound Reproduction Studies & Copper R. Delta tagging	3/10 - 5/15
Douglas G. Lape	Tagging, Copper River Delta	4/16 - 5/15
Richard C. Nelson	Tagging, Copper River Delta	6/11 - 8/30
Clark W. Pritchett	Coghill counting tower & weir & Shrode Creek fishway evaluation	6/2 - 8/15
Marvin E. Roach	Upper Copper River subsistence fishery & stream surveys	6/1 - 8/31

APPENDIX

1963 MANAGEMENT PROGRAMS AND SPECIAL STUDIES

The Shrode Creek Falls stream improvement was a co-operative project by the U. S. Forest Service and the Alaska Department of Fish and Game which was completed in 1962 and was proven successful from the standpoint of improving fish passage over the falls area. During the 1963 season, 125,000 pink salmon and an undetermined number of other species were estimated above the diversion dam. The Department placed a man at Shrode Creek during the 1962 and 1963 seasons.

Both years it was necessary to manipulate the water flow and crib the resting pools with loose rock to provide successful fish passage. Once the optimum flow was provided it was not necessary to readjust the flow. In 1962, pink salmon were observed to have some difficulty in negotiating the resting pool area due to a shifting of loose rock which caused a rearrangement of the pool structure.

In 1963, large quantities of loose rock washed out of the resting pool area. The removal of rock from the area caused increased velocities and made it necessary to recrib pools during the time salmon were migrating. The high water (or ice) also moved the center rock crib of the diversion dam downstream about two feet. Shifting of the rock crib caused the boards on the face of the dam to move out of place producing excessive leaks. The several large leaks distract the salmon from the dam outlet and make control of the water flow difficult.

Suggestions for improvements of the facility were sent to the U. S. Forest Service by Area Supervisor, Charles H. Meacham on January 14, 1964.

COPPER RIVER ADULT SALMON TAGGING

This tagging program is a continuing project initiated in 1960 to determine migration patterns, distribution and timing of the runs and the percent of the run escaping the fishery to spawn.

Tagging was accomplished by the use of two, two-man tagging crews, one crew capturing salmon on the Copper River flats in the area open to commercial fishing by the use of a gillnet and the other crew obtaining their fish from a large metal fishwheel located on the main Copper River about 15 miles above tide water.

During the tagging season, May to July, 1,373 red salmon, 28 king salmon and 4 pink salmon were tagged on the Flats. Of the tagged red salmon 457 (33.3%) were recovered in the commercial fishery, 14 (1.0%) were recovered in the subsistence fishery and 23 (1.7%) were recovered on the spawning grounds.

Tagging from the fishwheel was throughout the month of June and 1,332 red salmon, 4 king salmon and 2 pink salmon were tagged. Of the tagged red salmon 11 (0.8%) backed out and were taken in the commercial fishery, 85 (6.4%) were taken in the subsistence fishery and 28 (2.1%) were taken from the spawning grounds.

SHELLFISH STUDIES

The crab studies consisted of tagging and length-frequency data and are continuing programs which were initiated in 1962. Preliminary analysis indicates that Dungeness crab tags can be successfully retained on the crab through at least one molt. Tagged to date: 720 king crab and 599 Dungeness crab.

Returns from the 1962 Controller Bay area showed an average growth of 28 mm (1 1/8 inches) in width for Dungeness crab slightly below the minimum legal size, and they showed very little movement from the tagging area.

Growth for sublegal king crab from the Port Wells area was an average of 13 mm in length. These crabs were recaptured in the same area tagged one year later.

A possible factor in the decreased number of razor clams is predation by greatly increasing numbers of starry flounders. During May, June and July a large number of starry flounders were checked for the foods they utilized. All had been eating young razor clams or mud clams (Macoma balthica). Those flounders from razor clam areas of the Copper River flats had the greatest number of razor clams in them (up to 81 in one 9 inch fish).

COGHILL RIVER COUNTING WEIR

To provide information to manage the Coghill district drift gillnet fishery, a counting tower and a semi-weir were utilized to obtain an estimate of escapement into Coghill lake. The same site and tower used in 1961 and 1962 were again used in 1963. Counts are given in Table 34. The calculated escapement was excellent and was in excess of 64,000 red salmon. Actually counted past the tower were 13,345.

ESHAMY RIVER WEIR ADULT SALMON COUNTING STATION

The Eshamy River weir adult red salmon counting station was continued in 1963 as part of the management of the Eshamy district red salmon fishery. Installation of the weir commenced on July 1 and counting began on July 3 and continued until September 15. A count of 3,092 reds, 2,459 pinks and 232 coho were recorded as passing upstream through the counting station. There were 39 red salmon observed in the bay at the mouth of Eshamy River when the weir was removed. Counting began with the old weir and work was done during the summer on a new weir. A number of salmon, mainly pinks, migrated up through a leak in the weir without being counted.