

ANNUAL STATISTICAL REPORT

COMMERCIAL FISHERIES DIVISION

CORDOVA AREA

1968

Alaska Department of Fish and Game  
Commercial Fisheries Division  
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## Table of Contents

	Page
List of Tables and Figures	i, ii, iii, iv
Introduction	2
General Comments	5
Economic Conditions	8
Salmon Fishing Seasons	10
Prices of Fish and Shellfish	14
Number of Salmon Per Case	21
Copper River District	25
Copper River District Special Projects	32
Bering River District	34
Copper River - Bering River Spawning Escapement Surveys	40
Prince William Sound Salmon	45
Eshamy District, Prince William Sound	76
Eshamy Lake Plankton Samples	86
Eshamy River Smolt Sampling	87
Eshamy Adult Red Salmon Scale, Length and Fecundity Samples	90
Coghill and Unakwik District, Prince William Sound	91
Shrode Creek Weir Counts	97
Subsistence Fishery	102
Dungeness Crab	105
Miscellaneous Fish and Shellfish	108
Commercial Fishing License Sales	111
Personnel	114
Appendix	115

## List of Tables and Figures

FIGURE	1.	Fishing Districts	1
TABLE	1.	Average Salmon Catch and Catch Value per Fisherman, 1963 - 1968	15
TABLE	2.	Fishery Operators, Cordova Area, 1968	16
TABLE	3.	Summary of Prices Paid for Salmon, 1952 - 1968	19
TABLE	4.	Summary of Prices Paid for Shellfish and Miscellaneous Fish Products, 1950 - 1968.	20
TABLE	5.	Comparative Average Weight of Salmon by Area in Pounds From Catch, 1963 - 1968	22
TABLE	6.	Number of Salmon per Case, 1954 - 1968, Prince William Sound	23
TABLE	7.	Number of Salmon per Case, 1951 - 1968, Copper & Bering Rivers	24
TABLE	8.	Copper River Red Salmon, 1968. Weekly Catch and Case Pack.	27
TABLE	9.	Copper River Drift Gill Net Salmon Catch, 1954 - 1968	28
TABLE	10.	Copper River Salmon Case Pack, 1954 - 1968	29
TABLE	11.	Copper River King Salmon, 1968. Weekly Catch and Case Pack.	30
TABLE	12.	Copper River Coho Salmon, 1968. Weekly Catch and Case Pack.	31
TABLE	13.	Age Analysis of Red Salmon from Copper River Commercial Catch, 1968	33
TABLE	14.	Bering River Red Salmon, 1968. Weekly Catch and Case Pack.	35
TABLE	15.	Bering River Coho Salmon, 1968. Weekly Catch and Case Pack.	36
TABLE	16.	Bering River Drift Gill Net Salmon Catch, 1953 - 1968	37
TABLE	17.	Bering River Salmon Case Pack, 1953 - 1968	38
TABLE	18.	Age Analysis of Red Salmon from Bering River Commercial Catch 1968	39
TABLE	19.	Estimated Spawning Escapement of Red Salmon, Bering River District, 1968	41
TABLE	20.	Estimated Red Salmon Spawning Escapement, Lower Copper River District, 1968	42
TABLE	21.	Estimated Spawning Escapement of Red and King Salmon, Upper Copper River, 1968	43

TABLE 22.	Comparable Estimated Red Salmon Spawning Escapements on Selected Systems, Copper - Bering River Districts, 1963 - 1968	44
TABLE 23.	Prince William Sound Summary of Fishing Seasons, 1951 - 1968	48
TABLE 24.	Summary of Salmon Gear Operated, 1960 - 1968	49
TABLE 25.	Prince William Sound Annual Salmon Case Pack, 1946 - 1968	50
TABLE 26.	Prince William Sound Annual Salmon Catch, 1946 - 1968	51
TABLE 27.	Prince William Sound Pink Salmon, 1968. Purse Seine, Weekly Catch and Case Pack	52
TABLE 28.	Prince William Sound Chum Salmon, 1968. Purse Seine, Weekly Catch and Case Pack	53
TABLE 29.	Prince William Sound Red Salmon, 1968. Purse Seine, Weekly Catch and Case Pack	54
TABLE 30.	Prince William Sound Coho Salmon, 1968. Purse Seine, Weekly Catch and Case Pack	55
TABLE 31.	Prince William Sound Pink, Chum and Red Salmon Total Estimated Spawning Escapement by District, 1968	56
TABLE 32.	Prince William Sound Annual Estimated Salmon Spawning Escapement, by Species, 1952 - 1968	57
TABLE 33.	Age Composition of Catch, Prince William Sound Chum Salmon, 1968	58
TABLE 34.	Age Composition of Escapement, Prince William Sound Chum Salmon, 1968	59
TABLE 35a.	Prince William Sound Pink Salmon, 1968. Live Counts in Streams.	60
TABLE 35b.	Prince William Sound Pink Salmon, 1968. Live Counts in Streams.	61
TABLE 35c.	Prince William Sound Pink Salmon, 1968. Live Counts in Streams.	62
TABLE 35d.	Prince William Sound Pink Salmon, 1968. Live Counts in Streams.	63
TABLE 35e.	Prince William Sound Pink Salmon, 1968. Live Counts in Streams.	64
TABLE 35f.	Prince William Sound Pink Salmon, 1968. Live Counts in Streams.	65
TABLE 35g.	Prince William Sound Pink Salmon, 1968. Live Counts in Streams.	66
TABLE 35h.	Prince William Sound Pink Salmon, 1968. Live Counts in Streams.	67
TABLE 36.	Recapitulation of Weekly Pink Salmon Counts by District, 1968. Live Counts in Streams.	68
TABLE 37a.	Prince William Sound Chum Salmon, 1968. Live Counts in Streams.	69

TABLE 37b.	Prince William Sound Chum Salmon, 1968. Live Counts in Streams.	70
TABLE 37c.	Prince William Sound Chum Salmon, 1968. Live Counts in Streams.	71
TABLE 37d.	Prince William Sound Chum Salmon, 1968. Live Counts in Streams.	72
TABLE 37e.	Prince William Sound Chum Salmon, 1968. Live Counts in Streams.	73
TABLE 37f.	Prince William Sound Chum Salmon, 1968. Live Counts in Streams.	74
TABLE 38.	Recapitulation of Weekly Chum Salmon Counts by District, 1968.	75
TABLE 39.	Eshamy River Daily Weir Count, 1968.	77
TABLE 40.	Eshamy River Weir Count, 1950 - 1968	79
TABLE 41.	Eshamy River Weir Station Weather Data, 1968	80
TABLE 42.	Eshamy River Red Salmon Weekly Cumulative Weir Counts, 1958 - 1968	83
TABLE 43.	Eshamy District Salmon Case Pack, 1950 - 1968	84
TABLE 44.	Eshamy District Salmon Catch, 1950 - 1968	85
TABLE 45.	Coghill and Unakwik District Fishery Statistics, Purse Seine and Gill Net, 1968	92
TABLE 46.	Coghill and Unakwik District Gill Net Comparative Effort and Catch, 1961 - 1968	93
TABLE 47.	Comparative Coghill River Spawning Escapement Estimates, 1960 - 1968	94
TABLE 48.	Age Analysis of Commercial Catch, Coghill Lake System Red Salmon, 1968	95
TABLE 49.	Coghill River Weir Station Weather Data, 1968	96
FIGURE 2.	Shrode Creek Fish Passage Facility	98
TABLE 50.	Shrode Creek Daily Weir Count, 1968	99
TABLE 51.	Time Open to Fishing by Month, Day, Gear and Regulatory Area, 1968	100
TABLE 52.	Calendar Weeks, 1968	101
TABLE 53.	Subsistence Fishing, 1968	103
TABLE 54.	Subsistence Fishery, Upper Copper River, 1948 - 1968	104
TABLE 55.	Dungeness Crab Catch from Prince William Sound, Copper and Bering River Areas, 1951 - 1968	106

TABLE 56.	Dungeness Crab, Weekly Catch, 1968	107
TABLE 57.	King Crab and Tanner Crab, Weekly Catch in Pounds, 1968	109
TABLE 58.	Razor Clam Statistics, 1968	110
TABLE 59.	Summary of Commercial Fishing Licenses and Receipts, 1968	112
TABLE 60.	Comparable Commercial Fishing License Statistics, Cordova Area, 1960 - 1968	113
TABLE 61.	Wholesale Value of King Salmon from the Cordova Area by Company, 1968	113a
TABLE 62.	Wholesale Value of Red Salmon from the Cordova Area by Company, 1968	113b
TABLE 63.	Wholesale Value of Coho Salmon from the Cordova Area by Company, 1968	113c
TABLE 64.	Wholesale Value of Pink Salmon from the Cordova Area by Company, 1968	113d
TABLE 65.	Wholesale Value of Chum Salmon from the Cordova Area by Company, 1968	113e
TABLE 66.	Wholesale Value of Dungeness Crab from the Cordova Area by Company, 1968	113f
TABLE 67.	Wholesale Value of Miscellaneous Fish Products from the Cordova Area, 1968	113g
TABLE 68.	Wholesale Value of all Fishery Products from the Cordova Area, 1968	113h

CORDOVA COMMERCIAL FISHERIES MANAGEMENT AREA

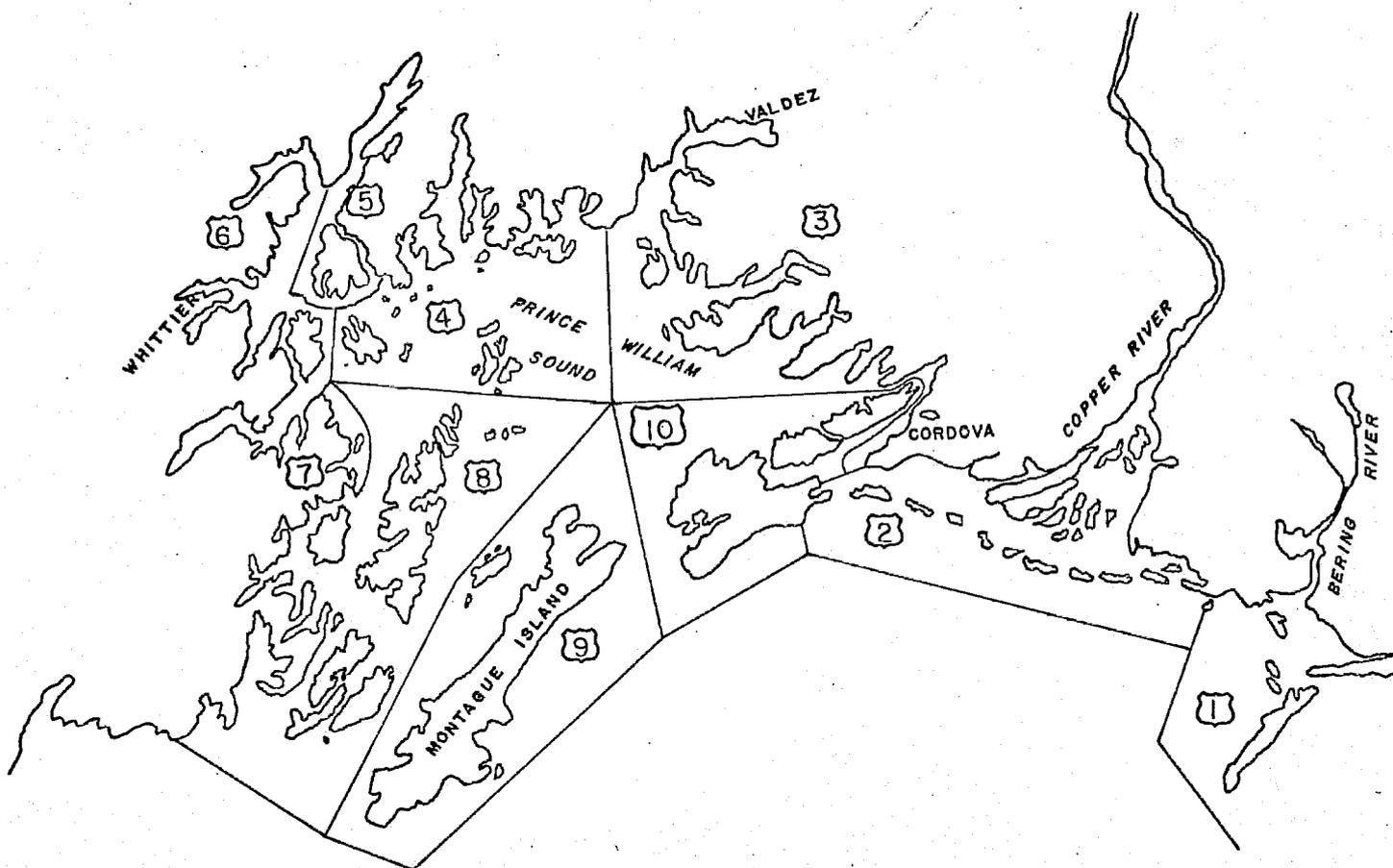


Figure 1.

FISHING DISTRICTS

- |                 |                  |
|-----------------|------------------|
| 1. Bering River | 6. Northwestern  |
| 2. Copper River | 7. Eshamy        |
| 3. Eastern      | 8. Southwestern  |
| 4. Northern     | 9. Montague      |
| 5. Coghill      | 10. Southeastern |

## Introduction

This is the ninth annual statistical management report since the State assumed management of the commercial fishery in 1960. Prior to statehood statistical reports covering the various commercial fisheries were compiled by the U. S. Bureau of Commercial Fisheries. The reports compiled by federal agencies date back to the early 1930s. Historical data is available from various publications, namely, the "Pacific Fisherman Yearbooks", from the inception of the fishery late in the 1800s. In a manuscript report published in 1964, Seton H. Thompson, "The Red Salmon (*Oncorhynchus nerka*) of Copper River, Alaska", has compiled and analyzed Copper River red salmon data prior to 1956. A "Statistical Review of the Alaska Salmon Fisheries, Part III: Prince William Sound, Copper River, and Bering River", by Willis H. Rich and Edward M. Ball, 1932, treats historical catch data, 1904 to 1927, for all five species of salmon for the three areas and briefly discusses the history of the salmon fishery from its inception.

Historically, the major fishery of the Cordova area has been for salmon, however, both razor clams and herring have contributed substantially to the overall economy in past years. Dungeness crab in recent history has been an important fishery which has shown most of its growth in recent years and continues at present as one of the area's major fisheries.

Razor clam canning as an independent industry in Alaska had its beginning at Cordova in 1916 when commercial use of the vast undeveloped beds was first attempted. A two line cannery built in Cordova in 1916 produced a pack of 11,176 standard cases of forty-eight 10 ounce cans. A sustained production exceeding one million pounds live weight was dug almost annually from the inception of the fishery. An exception to this was a period of decline in the early 1920s when the pack dropped to 1,600 cases in 1921. After the 1920 decline a large production was maintained each year through 1957 when again the catches began to

decline. The 1962 season was the last year of major production in the Cordova area when the major cannery ceased operations at Cordova. Since 1962 less than 100,000 pounds have been dug annually with the major portion of the dig being used for Dungeness crab bait.

A herring fishery, with the exception of a small annual bait fishery, has not existed in Prince William Sound since 1959. Historical catch records from Pacific Fisherman Yearbooks show annual catches dating back to the early 1900s. Peak production in the 1930s shows catches approaching one-half million barrels (250 pounds per barrel).

The Dungeness crab fishery is divided into two major areas defined as the "Outside", the Gulf of Alaska, and the "Inside", the southeast corner of Prince William Sound, including Orca Bay and Orca Inlet. Dungeness crab fishing in "Outside" waters started in 1946 on a small scale, and it was not until 1950 that this fishery became effective. Since 1950, considerable effort has been extended to "Outside" waters which produces about one-half the annual harvest from the Cordova area (TABLE 55).

Although all five species of salmon are taken, the principal salmon fishery is purse seining for pink and chum salmon in Prince William Sound. A drift gill net fishery for king, red and coho salmon is conducted on the Bering River - Copper River delta areas. A minor drift gill net - set net fishery in the Eshamy district and purse seine - drift gill net fishery in the Coghill and Unakwik districts of Prince William Sound is conducted to harvest small runs of red salmon.

Other small fisheries operate annually for shrimp, king crab and halibut. The small harvest of shrimp and king crab is generally consumed by local markets.

Tanner crab were fished and processed for the first time in the Cordova area in 1968. Considerable emphasis was placed on this species for the first time, due mainly to the lucrative market for crab products and the relative scarcity of other

crab to fill the gap. Both fishermen and processors made additional investments in gear and equipment to catch and process this species of crab which could not be taken and handled economically with standard gear and equipment already in operation.

The number and kind of fish processors vary each year depending upon the success of operations and the demand for the fishery products. For the first time two processors operated through the entire fall and winter of 1968 in the production of crab. As indicated, the operation was feasible because of the exceptionally lucrative market and high prices paid for crab products.

Processors in the Cordova area included, in 1968, two large shore based salmon canneries, 2 salmon custom canning operations, 5 small family or individual canning operations, 6 fresh-frozen salmon operations of various sizes, and four buyers shipped salmon to other locations for processing. Other operations included 4 small, fresh, canned and bait razor clam operations, and 2 large and 3 small fresh, frozen and canned crab operations.

The economy of the Prince William Sound area depends almost entirely on the commercial fishery, the fishing and processing of fish and related activities.

This statistical report summarizes historical data and provides a detailed compilation of the 1968 fishery. The primary value of the report has been demonstrated as a guide and reference for management purposes.

The following pages contain detailed statistics and brief, descriptive notes on the fishery.

## General Comments

Two major canneries processed salmon in the Cordova area in 1968. One of these customed canned for two other major salmon processors. The two operating canneries were barely capable of handling and processing the purse seine catch of 2,838,561 salmon from Prince William Sound; however, they did report a superior grade pack for 1968.

Just prior to the opening of the 1968 salmon season a dock fire destroyed one of the major salmon canneries. In addition to the loss of the cannery, one other major operator did not process salmon which put an extra burden on the remaining plants. If this condition is not relieved in 1969 the Cordova area plants will probably not be able to handle the expected pink and chum salmon run.

The Prince William Sound purse seine fishery in 1968 was slightly better than expected for pink salmon and less than expected for chum salmon.

For pink salmon, the return data shows a purse seine catch of 2,451,668 and a spawning escapement of 1,083,900 for an estimated returning run of 3,535,568. Forecast data showed an average return of 3.1 million with a range of 2.2 to 4.0 million. Catch and escapement data shows the return to be in the upper half but well within the forecast range.

Chum salmon returns on the other hand show a catch of 350,630 and a spawning escapement of 195,560 for an estimated returning run of 546,190 which is below the forecast range. Chum salmon forecast data showed an expected average return of 4-year old salmon of 683,000 with a range of 584,000 to 783,000.

The strength of both pinks and chums to particular areas, however, allowed a lengthening of the season and additional harvest of the early segment of the runs. The purse seine season, scheduled to open July 22, was opened July 11 in the Eastern, Northern and most of the Northwestern district. The season continued each week by emergency order until the season closed on August 8.

Aerial and ground salmon spawning surveys were conducted periodically throughout the fishing season. Escapements of pink salmon ranged from poor to excellent with the overall spawning escapement generally well distributed but below average. The largest reduction in spawning escapement occurred in areas damaged by the 1964 earthquake.

Chum salmon spawning escapements were generally poor in 1968 but some improvement was realized over the previous year. Here again, the most drastic reductions in spawning escapements have occurred in areas of major earthquake damage, namely, Montague and Northwestern district.

The 1968 Copper River drift gill net season opened May 13 and continued through July 27. Although the fishery remained open after this period only incidental catches of red salmon were made. The season was characterized by good weather and only one or two partial fishing periods were lost due to adverse weather. The red salmon run peaked during Week 22(5/25 - 6/1) with a catch of 116,621 red salmon being made. The season total catch of 577,522 red salmon is below the 15 year average of 598,960.

The success of the Copper River coho salmon season, in most instances, is dependent upon the weather. August through September is usually a period of strong, southeasterly winds which limit fishing time and decreases fishing effort. In 1968 this was not the case. The weather remained good and the coho salmon run was apparently strong. Fishermen harvested 235,857 cohos which was approximately 100,000 fish above the 16 year average and was the largest catch made since the State assumed management.

Escapement indices for the upriver area appear to be comparable with 1967 escapements and past runs of similar size. Delta run escapements also appeared to be comparable to run strength of similar size, but low water conditions existing in streams and lakes during spawning may have limited available spawning area which could have an adverse effect on egg survival.

The Bering River red salmon drift gill net season opened on June 19. The catch of 26,136 red salmon was the highest since 1963. Spawning escapements into this area were very much improved over past years. Examples are Dick Creek and Bering Lake which had very good spawning runs.

The coho salmon harvest of 67,310 was above the 16 year average. The coho run appeared to be strong and good weather aided fishing effort.

King salmon catches are incidental to the red salmon harvest since both red and king runs coincide in appearance within the fishery. The 1968 harvest of 9,092 is below the 16 year average. The average weight of approximately 27.5 to 28 pounds per fish is apparently a limiting factor in the effectiveness of the red salmon gear which is normally fished.

Apparently the crab markets have improved for Dungeness crab as indicated by the catch and effort extended this year. The 1968 catch of 2,280,310 pounds compares to the peak catch of about 3.4 million pounds in 1964. With the exception of 1966, the annual harvest since 1960 has been in excess of 2 million pounds, of which approximately one-half is taken from offshore coastal waters and one-half from Orca Inlet and Orca Bay in Prince William Sound.

In addition to Dungeness a great deal of interest was generated for other species by the lucrative prices and good market possibilities this year. For the first time in the history of the fishery a considerable amount of effort, time and money was expended on tanner crab.

## Economic Conditions

The town of Cordova and the Prince William Sound village of Tatitlek are primarily fishing communities which derive the major portion of their income from commercial fishing, fish processing and related activities. Both the town of Valdez and Whittier depend less on commercial fishing with the major source of income being obtained from other sources.

The commercial fisheries of the Cordova area in 1968 were generally poor to fair which resulted in a depressed economic condition compared to recent years (TABLE 1).

An increase in the amount of gear operating during the general purse seine season in Prince William Sound was the main contributing factor in the lowered income per individual fisherman for this area. The 1968 season was the poorest since 1963. Fishermen in 1968 averaged 307 reds, 29 coho, 10,049 pinks and 1,344 chums for a gross income of \$1,440.40.

Purse seine gear in the Coghill - Unakwik district was less than the preceding year but this was offset by a substantial increase in the number of drift gill nets operating. The net result was a considerable decrease in the individual income per fisherman. The average gross income of \$1,280.90 was the second lowest since 1963.

Copper River drift gill net fishermen caught an average of 18 kings, 1,150 reds, 1,228 coho and one pink salmon for a gross income of \$4,507.65 which is down about \$1,000 from the previous year.

Bering River drift gill net fishermen, on the other hand, fared considerably better showing a substantial increase in gross income per individual over the previous year and the highest since 1963. The increase was due to a combination of decreased gear and improved catches.

The biggest economic loss to the area occurred when one of the major salmon canneries burned just prior to the opening date of the salmon season. The Parks

Canning Company salmon cannery located at Cordova was a total loss except for some adjacent warehouse space and residences.

The crab fishery showed some economic gain in 1968. Dungeness crab catches were somewhat lower than 1967 but the gain was due to increased king crab catches and a new tanner crab fishery. A considerable economic boost to the general economy resulted from two crab processing plants, one in Cordova and one in Valdez, operating through the winter.

## Salmon Fishing Seasons

### Copper River and Bering River Districts:

The drift gill net season opened at 6:00 a.m., May 13 in the Copper River district and at 6:00 a.m., June 17 in the Bering River district and remained open until the end of the year. Fishing activity ceased in late September so it was not necessary to close the season by emergency order.

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 the weekly fishing time was from 6:00 a.m. Monday to 6:00 a.m. Saturday (TABLE 51).

One emergency order was issued to prevent salmon subsistence fishermen from interfering with the collection of data from the salmon enumeration study at Woods Canyon on the Copper River.

### Emergency Order No. 1

Section 112.91 shall be amended as follows:

The Copper River, from the gauging station cable crossing located about  $1\frac{1}{4}$  miles below O'Brien Creek downstream to Tiekel River, is closed to subsistence fishing.

Effective June 21, 1968 at 6:00 a.m.

### Prince William Sound, Coghill and Unakwik Districts:

The Coghill and Unakwik district drift gill net and purse seine season opened as scheduled at 6:00 a.m., June 20 and remained open until July 16 when drift net fishing was closed by emergency order. Purse seine fishing was allowed in the Coghill and Unakwik districts until August 5.

Weekly fishing was allowed from 6:00 a.m., Monday to 6:00 a.m., Saturday.

The emergency order issued is as follows:

Emergency Order No. 3

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

(a) Coghill district and Unakwik district: The salmon drift gill net season will close at 6:00 p.m., Tuesday, July 16, 1968.

Effective July 11, 1968 at 4:00 p.m.

Prince William Sound, General Districts:

The general purse seine season was opened by emergency order at 6:00 a.m., July 11 and was closed by emergency order number 12 at 6:00 p.m., August 8.

Fishing time and days open to fishing were regulated throughout the season by emergency order. The emergency orders issued were as follows:

Emergency Order No. 2

Section 111.05 (c) shall be amended as follows:

Salmon may be taken by purse seine in the Eastern district, Northern district and Northwestern district, except the west side of Port Wells north of 60° 52' 30" N. lat. beginning at 6:00 a.m., Thursday, July 11, 1968 and ending 6:00 a.m., Saturday, July 13, 1968.

Effective July 11, 1968 at 6:00 a.m.

Emergency Order No. 4

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

(c) Salmon may be taken by purse seine in the Eastern district, Northern district, Northwestern district, except the west side of Port Wells north of 60° 52' 30" N. lat., and the Southwestern district from 4:00 a.m., Tuesday, July 16 until 6 p.m., Thursday, July 18, 1968. In the Coghill district purse seining is allowed from 6:00 a.m., Monday, July 15 to 6:00 p.m., Friday, July 19, 1968.

Effective July 13, 1968 at 5 p.m.

Emergency Order No. 5

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

(c) Salmon may be taken by purse seine in the Eastern district, Northern district, Northwestern district, except the west side of Port Wells north of 60° 52' 30" N. lat., and the Southwestern district from 6:00 a.m. until 6:00 p.m., July 20, 1968.

Effective July 19, 1968 at 9:00 a.m.

Emergency Order No. 6

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

(c) Salmon may be taken by purse seine from 4:00 a.m. until 6:00 p.m. each day on Monday, July 22; Tuesday, July 23; Thursday, July 25; and, Friday, July 26.

Effective July 21, 1968 at 1:35 p.m.

Emergency Order No. 7

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

(c) Salmon may be taken by purse seine from 4:00 a.m. until 6:00 p.m., Friday, July 26, 1968 and Saturday, July 27, 1968 in that portion of the Eastern District west of Gravina Point light. Salmon may be taken in all other districts open to purse seines Saturday, July 27, 1968 from 4:00 a.m. to 6:00 p.m.

Effective July 25, 1968 at 9:00 a.m.

Emergency Order No. 8

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

(c) Salmon may be taken by purse seine from 4:00 a.m. until 6:00 p.m. each day on Monday, July 29, 1968 and on Tuesday, July 30, 1968 in waters described in Section 111.05 (c) of the 1968 Commercial Fishing Regulations.

Section 111.21 Closed waters, shall be amended as follows:

(k) Galena Bay: Within a line 60° 55' 33" N. lat. 146° 36' 30" N. long., to 60° 56' 27" N. lat., 146° 36' 02" W. long. and within 1,000 yards of the terminus of Indian Creek.

Effective July 28, 1968 at 8:00 a.m.

Emergency Order No. 9

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

(c) Salmon may be taken by purse seine from 4:00 a.m. until 6:00 p.m. each day on Thursday, August 1, 1968 and Friday, August 2, 1968.

Effective July 30, 1968 at 1:15 p.m.

Emergency Order No. 10

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

(c) Salmon may be taken by purse seine from 4:00 a.m. until 6:00 p.m. on Monday, August 5, 1968.

Effective August 3, 1968 at 9:00 a.m.

Emergency Order No. 11

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

(c) Salmon may be taken by purse seine from 6:00 a.m., Wednesday, August 7, 1968 until 6:00 p.m., Thursday, August 8, 1968 from Port Fidalgo and Valdez Arm areas of the Eastern District. Fishing is closed in all other districts.

Effective August 5, 1968 at 9:00 a.m.

Emergency Order No. 12

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

The salmon purse seine season shall close at 6:00 p.m., August 8, 1968.

Effective August 8, 1968 at 8:45 a.m.

## Prices of Fish and Shellfish

Salmon price negotiations between fishermen and the major processors were completed prior to the season in 1968. Prices paid to fishermen for salmon remained the same as 1967, (TABLE 3). The basic prices shown in TABLE 3 were the prevailing prices paid throughout the season. A price differential was paid for pink and chum salmon after the 1967 salmon pack was sold. The differential paid fishermen in 1967 was \$0.0425 for pinks and \$0.0392 for chums. A similar differential price was paid for pinks and chums in 1968.

Various prices were paid to fishermen for live crab as the season progressed in 1968. Dungeness crab price began at \$0.13 per pound in the early spring and was raised to \$0.15 per pound about September 1 and remained at this price the remainder of the year. King crab prices fluctuated between \$0.40 and \$0.50 per pound but remained at \$0.50 for most of the season. The price paid for tanner crab was \$0.10 per pound.

Razor clams were sold for bait, primarily, and the general price paid was \$0.25 per pound. Some razor clams were sold on the fresh market at somewhat higher prices.

Some shrimp were sold on local fresh markets at about \$1.50 per pound, heads off.

The prices listed in TABLE 3 and 4 are the general price agreement of the local fishermen's association and major processors. Each year varied prices may be paid by independent buyers and may be a few cents more than quoted here.

TABLE 1. Average Salmon Catch and Catch Value Per Fisherman

1963 - 1968							
Year	Average Value Per Fisherman	Average Catch					District
		King	Red	Coho	Pink	Chum	
1963	\$2,630.81		141	110	18,679	3,321	Prince William Sound 1/
1964	3,609.77	1*	251	212	29,608	3,791	
1965	2,214.92	4	545	48	14,396	1,577	
1966	4,114.26		3,283	172	18,570	3,089	
1967	1,703.77	1*	40	67	11,637	971	
1968	1,440.40	1*	307	29	10,049	1,344	
<hr/>							
1963	\$1,403.21		707	1*	112	219	Coghill- Unakwik
1964	1,158.59	1*	573	1*	102	80	
1965	2/ 3,465.83		1,418	4	8,402	4,780	
1966	2/ 2,052.88	1*	1,012	1*	35	51	
1967	2/ 3,126.25	4	236	2	5,404	237	
1968	2/ 1,218.90	2	460	5	593	227	
<hr/>							
1963			C L O S E D				Eshamy
1964			C L O S E D				
1965	\$ 890.73		533	2.5	12	14	
1966	4,028.02		1,317	47	2,404	527	
1967			C L O S E D				
1968			C L O S E D				
<hr/>							
1963	\$4,607.38	30	1,832	1,170	3	1*	Copper River
1964	7,244.45	56	3,988	1,636	2	1*	
1965	6,393.78	50	3,392	577			
1966	8,122.97	33	3,625	1,115	1*	1*	
1967	5,674.42	27	1,836	1,235			
1968	4,507.65	18	1,150	1,228	1	1*	
<hr/>							
1963	\$3,579.40	2	464	1,969			Bering River
1964	4,995.64	2	727	2,224			
1965	3,834.33		1,459	1,243			
1966	4,398.90	1	1,236	1,373			
1967	2,654.14		414	1,101			
1968	5,328.09	1*	843	2,171			

\* Less than one fish.

1/ Catch is average catch per boat. Value per fisherman based on an average of 3 fishermen per boat (one share to the boat).

2/ Includes both purse seines and drift gill nets during early Coghill season. Other years represent drift gill net only.

TABLE 2. Fishery Operators, Cordova Area, 1968

Name, Executive, Address, Location of Operation	Lines of Machinery	Product Packed
Blake Canning Company Robert & Margaret Blake P. O. Box 94 Cordova Location: Cordova	$\frac{1}{2}$ # flats, hand pack	Salmon
Cahen Trading Company 1973 North West Lovejoy Street Portland, Oregon Location: New England Fish Company	Salted	Salmon Eggs
Channel Packing Company Phil Buchanan, Supt. Cordova Location: Big Point	One $\frac{1}{2}$ # flats 19 oz. talls	Salmon Razor Clams Razor Clams
Glacier Packing Company Percy Conrad, Supt. P. O. Box 176 Cordova Location: Big Point	$\frac{1}{2}$ # flats 20 oz. tall	Salmon Razor Clams
Harper & Waite Gene A. Waite, Supt. P. O. Box 894 Cordova Location: Big Point	$\frac{1}{2}$ # flats	Salmon
International Fish Company Bill Pirie, Supt. Cordova Location: Cordova	Fresh Market	Salmon
Roy E. Johnson c/o Halibut Producers Seward Location: Copper - Bering River	Buyer, Vessel - Sunset	Salmon
Dave Kozachuk Box 306 Cordova Location: Cordova	Hard Salt, Smoked	Salmon
Wesley Ladd P. O. Box 485 Cordova Location: Mummy Island	Fresh Market	Razor Clams

TABLE 2, cont. Fishery Operators, Cordova Area, 1968

Name, Executive, Address Location of Operation	Lines of Machinery	Product Packed
Long Bay Fisheries Tom Jatzeck, Supt. P. O. Box 171 Cordova Location: Prince William Sound	Fresh Market	Shrimp
New England Fish Company * J. E. Forsell, Supt. Pier 89 Seattle, Washington Location: Orca Bay	One 1/2# flats Three 1# tall	Salmon
Ocean Harvest Packing Company Jack de Ville, Supt. P. O. Box 178 Cordova Location: Cordova	Hard Smoke	Salmon
Oceanic Industries Donald Gates, Supt. P. O. Box 782 Cordova Location: Cordova	Fresh Market	Salmon
Odiak Smokeries Jean Dettinger, Supt. P. O. Box 153 Cordova Location: Cordova	Smoked	Salmon
Carl J. Olsen P. O. Box 782 Cordova Location: Cordova	Fresh Market	Razor Clams
Point Chehalis Packers, Inc. James A. Poor, Supt. P. O. Box 751 Cordova Location: Cordova	Fresh & Frozen One 4# 1/2# flats 6 1/2 oz. flats	Salmon King Crab Tanner Crab Dungeness Crab
R & F Fisheries Jerry Felton & Otto Robsahm, Supts. 2301 Strawberry Road Anchorage Location: Anchorage	Fresh Market Vessel, Juanita	King Crab

\* New England Fish Company custom canned for Alaska Packers Association and Parks Canning Company in 1968.

TABLE 2, cont. Fishery Operators, Cordova Area, 1968

Name, Executive, Address Location of Operation	Lines of Machinery	Product Packed
G. S. Richmond McCord Location: Copper - Bering River	Buyer Vessel - M/V Iceland	Salmon
St. Paul Fisheries Carl Rodli, Supt. P. O. Box 195 Valdez Location: Valdez	Frozen	Shrimp King Crab Tanner Crab Dungeness Crab
Seafoods of Cordova Al Caples, Supt. P. O. Box 520 Cordova Location: Cordova	Frozen	King Crab Tanner Crab Dungeness Crab
Kenneth Simpson P. O. Box 501 Cordova Location: Cordova	Fresh Market	King Crab

TABLE 3. Summary of Prices Paid for Salmon, 1952 - 1968\*

Year	Red	King	Coho	Chum	Pink
1952	\$1.15 ea.	\$4.15 ea.	\$1.05 ea.	\$0.57 ea.	\$0.415 ea.
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	0.24/lb.	0.23	0.15/lb.	0.0875/lb.	0.105/lb.
1964	0.27	0.23	0.15	0.0875	0.105
1965 <u>1/</u>	0.27	0.23	0.15	0.0794	0.0984
1966	0.27	0.23	0.16	0.0824	0.1024
1967 <u>2/</u>	0.28	0.23	0.17	0.0838	0.1048
1968 <u>2/**</u>	0.28	0.23	0.19	0.0838	0.1048

\* Some varying prices paid each year by small operators. The prices listed here reflect major fish sales.

\*\* Point Chehalis Packers paid 30¢/pound for reds, 28¢ for kings, 19¢ for cohos, 14¢ for pinks and 13¢ for chums.

1/ Point Chehalis Packers paid the following prices delivered at the plant: Kings - 23¢/pound; reds, Copper River - 30¢/pound; Eshamy - 27¢/pound; cohos - 17¢/pound; pinks - 13¢/pound; and chum - 10½¢/pound.

2/ A price differential was paid for pink and chum salmon after the salmon pack was sold. The differential paid fishermen in 1967 was \$0.0425 for pinks, and \$0.0392 for chums. The price differential paid fishermen in 1968 was \$0.0424 for pinks and \$0.0351 for chums.

TABLE 4. Summary of Prices Paid for Shellfish and Miscellaneous Fish Products, 1950 - 1968

Year	Razor Clams	Dungeness Crab	Cockle	King Crab	Tanner 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/lb.	--	--
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	--	--
1964	0.20	0.14 <u>2/</u>	--	0.12	--	--
1965	0.20	0.12 <u>3/</u>	--	0.12	--	Halibut \$0.16/lb.
1966	0.20	0.11	--	0.12	--	--
1967	0.25 <u>4/</u>	0.13	--	0.13	--	--
1968	0.25	0.13 <u>5/</u>	--	0.38 to 0.50 <u>6/</u>	\$0.10/lb.	--

1/ Prices for Dungeness crab \$0.14 - \$0.15 caught outside.  
2/ Prices for Dungeness crab were decreased to \$0.12 September 1st.  
3/ Sliding scale - 9% of the meat price in Seattle, determined every two weeks.  
4/ Price per pound prior to June 1 was \$0.20.  
5/ Late in season raised to \$0.15 per pound.  
6/ Prices varied throughout the season from a low of \$0.36 to a high of \$0.50 per pound.

## Number of Salmon Per Case

The number of salmon per case is summarized in TABLE 6 for Prince William Sound and in TABLE 7 for Copper River and Bering River salmon.

Numbers of salmon per case vary considerably each year depending upon the weight of the fish, TABLE 5, and other factors including the condition of the salmon, transporting and handling methods, and the method and care in canning.

The number of salmon per case reported in TABLE 6 and 7 were obtained from reports from New England Fish Company's Orca cannery. King, coho, chum from all areas, and red salmon from Prince William Sound show a decrease in numbers per case from the 1967 pack. Reds from the Copper River and pink salmon show an increase in numbers per case.

TABLE 5. Comparative Average Weights of Salmon  
by Area, in Pounds, from Catch

1963 - 1968

Area	Year	King	Red	Coho	Pink	Chum
Prince William Sound	1963	--	6.95	8.71	3.82	9.30
	1964	16.39	6.78	8.67	3.94	8.78
	1965	14.22	6.94	7.43	3.30	7.90
	1966	8.40	7.34	8.39	4.14	7.73
	1967	6.70	6.62	8.95	4.45	8.26
	1968	11.87	6.81	8.57	3.92	8.89
Copper River	1963	25.17	6.10	9.90	--	--
	1964	26.28	5.67	12.99	--	--
	1965	26.62	5.72	7.57	--	--
	1966	28.59	6.46	10.64	4.31	7.96
	1967	28.30	6.41	10.51	4.36	9.60
	1968	28.00	6.02	10.51	4.26	8.37
Bering River	1963	27.07	5.88	9.86	--	--
	1964	28.70	6.28	8.85	--	--
	1965	32.00	5.88	9.06	--	--
	1966	28.61	6.50	10.12	--	--
	1967	36.15	6.17	10.36	--	--
	1968	--	5.05	10.10	--	--
Average all Areas	1963	25.50	6.20	9.30	3.80	9.30
	1964	26.27	5.74	12.16	3.94	8.78
	1965	25.80	5.89	8.12	3.30	7.90
	1966	28.27	6.54	10.28	4.14	7.73
	1967	27.51	6.46	10.36	4.46	8.34
	1968	28.00	6.78	10.47	3.92	8.89

Table 6. Number of Salmon Per Case, 1954 - 1968

Prince William Sound

<u>Year</u>	<u>Red</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>
1954	9.5	9.7	16.5 <u>1/</u>	--
1955	9.6	9.4	15.0	8.7
1956 <u>2/</u>	--	--	--	--
1957	9.8	10.5	17.4	8.5
1958 <u>2/</u>	--	--	--	--
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 <u>4/</u>	13.52 <u>3/</u>	6.89	22.39	8.23
1965 <u>4/</u>	12.69 <u>3/</u>	10.31 <u>5/</u>	25.43 <u>5/</u>	10.23 <u>5/</u>
1966 <u>4/</u>	10.94	18.94	19.57	10.65
1967 <u>6/</u>	11.07	9.21	19.02	9.43
1968 <u>6/</u>	10.72	8.85	21.59	8.68

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/ Data from Parks Canning Company, except in 1965 the pinks are averaged for all canneries.

5/ New England Fish Company reported fish per case as follows: coho 9.20, pink 24.59, chum 10.02.

6/ Data from New England Fish Company.

TABLE 7. Number of Salmon Per Case, 1951 - 1968

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 <u>3/</u>	2.86	13.52	6.89	22.39	8.23
1965 <u>3/</u>	3.17	12.69 <u>4/</u>	10.31 <u>4/</u>	--	--
1966 <u>5/</u>	2.82	11.01	7.60	19.81	10.62
1967 <u>6/</u>	2.71	10.87	10.64	17.55	8.40
1968	2.70	12.20	7.80	21.59	8.68

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 Parks Canning Company combined for both Copper River and Prince William Sound.

4/ Includes some reds and coho from Prince William Sound.

5/ Data from Parks Canning Company.

6/ Data from New England Fish Company.

## Copper River District

### Introduction:

The Copper River district includes all waters of Hinchinbrook Island between Hook Point and Boswell Rock including Boswell Bay; and all waters south of a line from Boswell Rock to Whiteshed village. All waters between Whiteshed village and Cape Martin are also included in this district.

Commercial salmon fishing in this district is regulated by scheduled weekly open and closed fishing periods. Salmon may be taken from 6:00 a.m. Monday to 6:00 a.m. Saturday; provided, that prior to August 7, fishing is permitted 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.

Red and coho salmon are the primary important species taken in this fishery although king, chum and pink salmon are also harvested to a lesser degree.

### Commercial Fishing

#### Red Salmon:

The Copper River drift gill net fishery opened on May 13, 1968, Week 20, with 318 boats participating. As in 1967, excellent fishing weather prevailed throughout the season and less than one period was lost due to adverse weather.

The peak of the run appeared during Week 22 (May 26 - June 1) when 116,621 red salmon were harvested. During the season 463 registered drift gill net fishermen harvested 577,522 red salmon. This was approximately 21,440 individual fish below the 15 year average of 598,960.

The "outside" fishery on the flats was more intense during the 1968 season. Fishermen outfitted Prince William Sound purse seiners with reels and gill nets and extended the fishing area outside the bar area. The smaller gill net skiffs, aided by the favorable weather, were more successful in fishing entrances to the bars and could follow migrating fish "inside". Although this "double" fishery has not created a management problem as yet, it would appear that under ideal conditions an overharvest of red salmon stocks could occur as a result of a "double cropping" effect. TABLE 8 presents season catch and case pack.

### Coho Salmon:

The 1968 coho salmon harvest of 235,857 was the largest catch recorded in recent years. The weather, which is normally adverse during this time of the year, continued to favor the fishermen. Catches were excellent and the coho run was strong. The run peaked during Week 36, (September 1 - September 7) which was a week later than in 1967, and fishing effort closed Week 40. TABLE 12 gives catch statistics for this fishery.

### King Salmon:

The king salmon catch of 9,092 fish was approximately 2,532 fish below the 15 year average of 11,624. As explained in previous annual reports, king salmon are taken incidentally to the red salmon fishery and king salmon gear is not fished as such. Also, actual numbers of king salmon taken are not available. Many kings are kept by the fishermen for home use and are never accounted for on fish tickets. A more accurate catch estimate of individual king salmon would have to include these fish and the catch could conservatively be increased by 1,500 fish.

TABLE 8. Copper River Red Salmon  
Weekly Catch and Case Pack, 1968

Week No.	Case Pack <sup>1/</sup> (48-1#/cs.)	Total Catch <sup>2/</sup>	Total Pounds	Average Wt./Fish	Number Boats *	Number Deliveries	Average No. Fish/Boat	Fathoms <sup>3/</sup> of Gear
20	3,922	47,853	310,422	6.49	318	810	151	47,700
21	8,926	108,900	691,865	6.35	511	1,394	213	76,650
22	9,559	116,621	704,076	6.09	502	1,380	232	75,300
23	6,476	79,011	463,870	5.87	422	1,086	187	63,300
24	3,260	39,769	229,157	5.76	379	929	105	56,850
25	4,487	54,735	317,954	5.81	244	702	224	36,600
26	4,423	53,965	290,391	5.38	167	635	323	25,050
27	3,082	37,604	229,694	6.11	150	549	251	22,500
28	1,198	14,616	89,734	6.14	81	220	180	12,150
29	1,181	14,403	90,627	6.29	55	153	262	8,250
30	1,638	7,786	47,216	6.06	31	84	251	4,650
31	150	1,831	10,475	5.71	19	35	96	2,850
32	28	343	1,980	5.77	21	13	16	3,150
TOTAL	47,330	577,437	3,477,461	6.02	2,900	7,990	2,491	435,000

<sup>1/</sup> On the basis of 12.2 salmon per case.

<sup>2/</sup> Does not include the incidental catch of red salmon taken during the coho season.

<sup>3/</sup> Based on 150 fathoms per boat.

\* Actual total registered drift gill nets in the district was 463. Discrepancies in the column result from fishermen delivering in more than one stat area during that particular period.

TABLE 9. Copper River Drift Gill Net Salmon Catch, 1954 - 1968

Year	Kings	Reds	Cohos	Pinks	Chums
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	203,724	1,287	194
1964	12,743	699,299	227,397	548	62
1965	15,259	807,423	71,415	118	171
1966	11,028	1,007,379	115,599	666	114
1967	10,307	516,509	153,106	1,951	483
1968	9,092	577,522	235,857	694	403
<b>TOTAL</b>	<b>174,354</b>	<b>8,984,398</b>	<b>2,151,634</b>	<b>22,226</b>	<b>4,170</b>
<b>15 Year Average</b>	<b>11,624</b>	<b>598,960</b>	<b>143,442</b>	<b>1,482</b>	<b>278</b>

TABLE 10. Copper River Salmon Case Pack, 1954 - 1968

Year	Kings	Reds	Cohos	Pinks	Chums	TOTAL
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 <u>1/</u>	2,174	26,915	15,497	--	--	44,586
1961	2,215	44,371	14,445	--	--	61,031
1962	4,537	61,379	15,992	103	46	82,057
1963	3,620	31,115	25,698	64	19	60,516
1964	4,458	51,719	33,004	24	8	89,213
1965	4,814	63,627	6,928	4	17	75,390
1966	3,911	90,753	15,209	34	11	109,918
1967	3,803	57,517	24,390	111	57	85,878
1968	3,318	47,330	30,237	32	46	80,963
<b>TOTAL</b>	<b>54,406</b>	<b>768,995</b>	<b>264,819</b>	<b>1,143</b>	<b>416</b>	<b>1,089,779</b>
<b>AVERAGE</b>	<b>3,627</b>	<b>51,266</b>	<b>17,655</b>	<b>76</b>	<b>28</b>	<b>72,652</b>

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

\* Estimated.

TABLE 11. Copper River King Salmon, 1968  
(Weekly Catch and Case Pack)

Week No.	Case Pack <sup>1/</sup> (48-1#/cs.)	Total Catch	Total Pounds	Average Wt./Fish	Number Boats	Average No. Fish/Boat	Fathoms <sup>2/</sup> of Gear
20	434	1,172	33,628	28.7	318	4	47,700
21	892	2,409	69,584	28.9	511	5	76,650
22	1,063	2,871	75,641	26.4	502	6	75,300
23	647	1,747	47,220	27.0	422	4	63,300
24	186	503	17,819	35.4	379	1	56,150
25	78	211	5,479	26.0	244	.9	36,600
26	13	34	1,016	30.0	167	-	25,050
27	3	8	212	26.5	150	-	22,500
28	1.5	4	121	30.3	81	-	12,150
29	.5	1	35	35.0	55	-	8,250
30	--	--	--	--	31	-	4,650
TOTAL	3,318	8,960	250,755	28.0	2,860	20.9	429,000

<sup>1/</sup> Estimated on the basis of 2.70 king salmon per case.  
<sup>2/</sup> Based on 150 fathoms of gear per boat.

TABLE 12. Copper River Coho Salmon, 1968  
(Weekly Catch and Case Pack)

Week No.	Case Pack <u>1/</u> (48-1#/cs.)	Total Catch	Total Pounds	Average Wt./Fish	Number Boats	Average No. Fish/Boat	Fathoms <u>2/</u> of Gear
29	7	55	384	6.98	55	1	8,250
30	47	365	2,494	6.83	31	12	4,650
31	206	1,607	11,708	7.30	19	85	2,850
32	274	2,134	16,832	7.89	19	112	2,850
33	1,077	8,401	72,029	8.57	46	183	6,900
34	6,107	47,637	485,077	10.18	156	305	23,400
35	6,817	53,175	543,835	10.23	192	277	28,800
36	6,973	54,391	582,183	10.70	178	306	26,700
37	3,232	25,211	274,510	10.89	155	163	23,250
38	3,654	28,505	322,856	11.33	106	269	15,900
39	1,837	14,327	166,754	11.64	93	154	13,950
40	6	49	580	11.84	2	25	300
<b>TOTAL</b>	<b>30,237</b>	<b>235,857 <u>3/</u></b>	<b>2,479,242</b>	<b>10.51</b>	<b>1,052</b>	<b>1,892</b>	<b>157,800</b>

1/ Estimated on the basis of 7.8 cohos per case.  
2/ Based on 150 fathoms of gear per boat.  
3/ Does not include 30 cohos taken prior to week 29.

## Copper River District Special Projects

TABLE 13 presents red salmon scale analysis as taken from the commercial fishery.

In comparison with past years' data it is interesting to note the increased percentage of the  $4_2$  age class. In 1966 and 1967 this age class made up 7.3 and 11.8 per cent, respectively, of the run. In 1968 the percentage of this age class jumped to 34.3 per cent. Preliminary analysis of this data would indicate a strong delta run which is primarily made up of this age class. Delta stream surveys did not reflect increased escapements, but commercial catches during Weeks 25 and 26 did improve over past years.

In 1968, for the first time, a scale sampler was put aboard a tender at Bering River to sample the peak of that run. The age analysis of the scales collected indicated that age structure of that run was similar to other delta runs. The  $4_2$  age class made up 76.3% of that run and the sex ratio favored the females 56:44. TABLE 18 presents the scale analysis from that system.

Other projects from the Copper - Bering River area included test fishing and upriver escapement correlations which are still being worked up and will be presented in the anadromous fish projects reports.

TABLE 13. Age Analysis of Red Salmon from Copper River Commercial Catch, 1968

Age Class	3 <sub>1</sub>		3 <sub>2</sub>		4 <sub>1</sub>		4 <sub>2</sub>		5 <sub>2</sub>		5 <sub>3</sub>		6 <sub>2</sub>		6 <sub>3</sub>	
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
5/20-5/24					2	1	35	33	286	312	1		2		6	11
5/27-5/31			1		4	2	54	62	224	262	2	2	1	3	2	4
6/3 - 6/8			2		3		139	116	161	264	2		2	4	1	
6/4 - 6/21	1		5		11	6	263	260	142	182	4	3	1	1	2	4
7/6					2	1	43	41	29	41						
Total	1		8		22	10	534	512	842	1061	6	8	6	8	11	19
Combined Sexes	1		8		32		1046		1903		14		14		30	
Percent			.26		1.05		34.32		62.43		.46		.46		.98	

Total number = 3,048

Total percent male = 46.82

Total percent female = 53.08

## Bering River District

### Red Salmon:

This district opened to commercial red salmon fishing on June 19 (Week 25) and continued through July 6. The season was not closed by the department but is more or less regulated by the run duration. In 1968 the run appeared strong and the catch increased over the 1967 harvest by 14,623. TABLE 14 gives catch and pack information.

### Coho Salmon:

The coho salmon fishery is the major fishery in this district. As in the Copper River fishery, weather is the limiting factor effecting catch and effort. In 1968 good fishing weather prevailed for most of the season and the catch increased approximately 20,000 fish over the 1967 harvest and 8,843 above the 15 year average.

TABLE 14. Bering River Red Salmon, 1968  
(Weekly Catch and Case Pack)

Week No.	Case Pack <sup>1/</sup> (48-1#/cs.)	Total Catch	Total Pounds	Average Wt./Fish	Number Boats	Average No. Fish/Boat	Fathoms <sup>2/</sup> of Gear
25	1,220	14,888	76,044	5.12	31	480	4,650
26	779	9,504	47,552	5.00	23	413	3,450
27	143	1,744	8,465	4.85	16	109	2,400
TOTAL	2,142	26,136	132,061	5.05	70	1,002	10,500

<sup>1/</sup> Based on 12.2 red salmon per case.  
<sup>2/</sup> Based on 150 fathoms of gear per boat.

TABLE 15. Bering River Coho Salmon, 1968  
(Weekly Catch and Case Pack)

Week No.	Case Pack <sup>1/</sup> (48-1#/cs.)	Total Catch	Total Pounds	Average Wt./Fish	Number Boats	Average No. Fish/Boat	Fathoms <sup>2/</sup> Of Gear
34	221	1,724	15,615	9.1	9	192	1,350
35	1,530	11,932	116,331	9.8	30	398	4,500
36	2,973	23,192	230,159	9.9	31	748	4,650
37	1,346	10,502	106,344	10.1	30	350	4,500
38	1,877	14,643	154,308	10.5	22	666	3,300
39	682	5,317	56,903	10.7	10	532	1,500
TOTAL	8,629	67,310	679,660	10.1	132	2,886	19,800

<sup>1/</sup> Based on 7.8 coho salmon per case.

<sup>2/</sup> Based on 150 fathoms of gear per boat.

TABLE 16. Bering River Drift Gill Net Salmon Catch, 1953 - 1968

Year	Kings	Reds	Cohos	Pinks	Chums
1953	26	8,572	0	0	0
1954 <u>1/</u>	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	0	2
1963	72	21,525	87,075	56	0
1964	47	16,911	77,360	0	0
1965	7	13,536	52,162	7	164
1966	36	24,894	49,580	0	0
1967	13	11,464	46,135	3	2
1968	10	26,136	67,310	--	--
<b>TOTAL</b>	<b>1,041</b>	<b>439,402</b>	<b>877,013</b>	<b>367</b>	<b>206</b>
<b>AVERAGE</b>	<b>65</b>	<b>27,463</b>	<b>54,813</b>	<b>24</b>	<b>14</b>

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

TABLE 17. Bering River Salmon Case Pack 1/, 1953 - 1967

Year	Kings	Reds	Cohos	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	0	0	9,727
1961	8	4,590	5,506	2	0	10,106
1962	75	6,543	5,083	0	0	11,701
1963	23	1,763	11,022	2	0	12,810
1964	16	1,251	11,288	0	0	12,555
1965	2	1,067	5,059	*	16	6,042
1966	13	2,243	5,858	0	0	8,114
1967	5	1,055	4,336	*	*	5,396
1968	4	2,142	8,629	0	0	10,775
<b>TOTAL</b>	<b>314</b>	<b>37,275</b>	<b>104,871</b>	<b>11</b>	<b>19</b>	<b>142,490</b>
<b>AVERAGE</b>	<b>20</b>	<b>2,330</b>	<b>6,554</b>	<b>1</b>	<b>1</b>	<b>8,906</b>

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

\* Less than one case.

TABLE 18. Age Analysis of Red Salmon from Bering River Commercial Catch, 1968

\*

Age Class	3 <sub>2</sub>		4 <sub>2</sub>		4 <sub>3</sub>		5 <sub>2</sub>		5 <sub>3</sub>		6 <sub>3</sub>	
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
Number	1		63	69	1		12	26	1		1	
Average Length in mms.	450		515	522	495		593	575	506		608	
Total Combined Sexes	1		132		1		38		1		1	
Percent	.5		76.3		.5		21.9		.5		.5	

Total number = 174

Total percent male = 44.51

Total percent female = 55.49

## Copper River - Bering River Spawning Escapement Surveys

Escapements of red salmon are given by system and district in TABLE 20 and 21. Delta counts were made mainly by aircraft although some streams were surveyed by foot. Extremely low water conditions improved survey counts, but depleted available spawning area.

Upriver counts were obtained mainly by foot and Peterson index estimates. The tag and recovery estimates were considered the most accurate and an upriver escapement of 221,578 red salmon was made. This estimate is slightly higher than the 1967 escapement estimates, but the tagging wheels were not in the river as early as in 1968. From observations, stream counts, etc. it appears that the 1967-68 escapements were comparable in size and from runs of near equal strength.

TABLE 19. Estimated Spawning Escapement of Red Salmon, Bering River District, 1968

System	Estimated Escapement <u>1/</u>
Bering Lake	9,400 <sup>1/</sup>
Dick Creek	19,000 <sup>1/</sup>
Shepard Creek	5,000
Carbon Creek	turbid
Lake Charlotte	"
Oh & Bee Lakes	"
Kushtaka Lake	"
Shokum Creek	"
Stillwater Creek	"
Trout Creek	"
Clear Creek	not surveyed
Grandel River	"
Nichawk River	"
Okalee River	"
Edwards River	"
Campbell River	"
Katalia Creek	"
Kahuntla Creek	"
<b>TOTAL</b>	<b>33,400</b>

1/ Derived from both aerial and ground surveys.

TABLE 20. Estimated Red Salmon Spawning Escapements  
Lower Copper River Delta Area, 1968

System	Estimated Escapement <u>1/</u>
Eyak Lake	1,360
Hatchery Creek	326
Scott Lake	turbid
Bear Lake	"
Ibek Creek	"
McKinley Lake	0
Salmon Creek	0
25.6 Mile Creek	250
27 Mile Creek	
39 Mile Creek	2,000
Goat Mountain Creek	very low & turbid
Pleasant Creek	1,050
Deadwood Lake	turbid
Tokun Lake	3,500
Martin Lake	1,000
Little Martin Lake	0
Pothole Lake	1,500
Ragged Point Lake	0
Martin River Sloughs	3,500
Martin Creeks	4,200
<b>TOTAL</b>	<b>18,686</b>

1/ Early counts. Unable to survey at a later date due to adverse weather and unavailability of survey aircraft.

TABLE 21. Estimated Spawning Escapement <sup>1/</sup> of Red and King Salmon  
Upper Copper River, 1968

System	<u>Red Salmon</u>	<u>King Salmon</u>
	Estimated Escapement	Estimated Escapement
Bremner Lake	no survey	
Peninsula Lake	"	
Little Bremner River	"	
Salmon Creek	"	
Tiekel Lake	"	
Chitina Lakes	"	
Long Lake	3,000	
Canyon Creek	no survey	
Tana Lake	"	
Tana Lake Outlet	"	
Nizina River	"	
Tanada Lake	225	
Copper Lake	100	
Suslota Lake	1,500	
Sinona Creek	0	
Mentasta Lake & Fish Creek	1,115	
Slana River	0	
Ahtell Creek	0	
Indian Creek	0	
Mankomen Lake	0	
East Fork Chistochina	250	150
<u>Gulkana River</u>		
Gunn Creek	0	
Fish Lake	4,000	
Summit Lake	150	
Summit Lake to Paxson	3,000	
Paxson, Mud Creek, Mud Lake	850	
Paxson Lake Outlet	8,000	
Middle Fork	0	
Swede Lake	0	
Dickey Lake	200	
West Fork Gulkana	1	
Oldman Lake & Mendeltna Creek	4,000	100
Tazlina Lake	1,350	
Kiana Creek	0	100
St. Anne Creek	3,500	
Klutina Lake	6,000	60
Mahlo Creek	3,000	
Manker Creek	1	9
Tonsina Lake	200	
Grayling Creek	3	4
Little Tonsina River	0	19
<b>TOTAL</b>	<b>40,445</b>	<b>442</b>

<sup>1/</sup> Derived from aerial and/or ground counts.

TABLE 22. Comparable Estimated Red Salmon Spawning Escapement on Selected Systems, Copper - Bering River Districts, 1963 - 1968

System	1963	1964	1965	1966	1967	1968
Eyak Lake	17,900	13,550	15,995	5,400	800	1,360
McKinley Lake	2,900	1,470	1,080	4,000	1,200	0
39 Mile	2,400	1,850	2,100	4,550	1,120	2,000
Tokun Lake	10,000	8,900	31,000	4,900	turbid	3,500
Little Martin Lake	1,450	650	230	1,050	800	0
Martin Lake	9,900	6,600	10,885	7,510	5,400	1,000
Martin River Slough	8,280	2,650	3,300	2,145	600	3,500
<b>Copper River Subtotal</b>	<b>43,830</b>	<b>35,670</b>	<b>64,590</b>	<b>29,550</b>	<b>9,920</b>	<b>11,360</b>
Bering Lake	15	400	280	3,180	2,500	9,400
Dick Creek	4,500	2,700	4,100	3,000	4,350	19,000
Kushtaka Lake	1,580	1,450	525	1,730	turbid	turbid
Clear Creek	1,800	1,500	1,600	turbid	"	"
Trout Creek	150	50	20	263	"	"
<b>Bering River Subtotal</b>	<b>8,045</b>	<b>6,100</b>	<b>6,525</b>	<b>8,173</b>	<b>6,850</b>	<b>28,400</b>
Mentasta Lake	10,050	800	6,500	1,700	850	300
Gulkana River	39,240	16,800	13,180	31,450	12,859	10,750
St. Anne Creek	1,950	1,500	5,800	4,800	5,424	2,200
Mahlo Creek	6,530	150	3,300	turbid	2,585	2,100
Manker Creek	10	0	0	0	25	
Bad Crossing	70	30	6,030	150	no survey	5
Mendeltna Creek	1,940	760	3,000	4,800	1,959	1,350
<b>Upper Copper River Subtotal</b>	<b>69,790</b>	<b>20,040</b>	<b>37,810</b>	<b>42,900</b>	<b>23,702</b>	<b>14,605</b>
Copper Delta	43,830	35,670	64,590	29,550	9,920	11,360
Bering River District	8,045	6,100	6,525	8,173	6,850	28,400
Upper Copper River	69,790	20,040	37,810	42,900	23,702	14,605
<b>TOTALS</b>	<b>121,665</b>	<b>61,810</b>	<b>108,925</b>	<b>80,623*</b>	<b>40,472</b>	<b>54,365</b>

\* Aerial survey counts for 1966 were not comparable with past years due to abnormal weather conditions during the peak spawning periods which caused high runoffs and poor visibility, resulting in minimal counts.

## Prince William Sound Salmon

The general purse seine season was opened on July 11 instead of the scheduled opening date of July 22 as printed in the regulations. Fishing was regulated by emergency order on a day to day basis throughout the season and was closed by emergency order on August 8, (TABLE 23). A full text of regulatory changes issued during the season is given earlier under the section entitled, "Salmon Fishing Seasons". TABLE 23 summarizes the Prince William Sound seasons from 1951 to 1968. Earlier reports summarized fishing season data from 1924 on.

The forecast of pink and chum salmon runs to Prince William Sound in 1968 indicated a pink run of 3.1 million with a range of 2.2 to 4.0 million. The pink salmon timing forecast indicated a weak early and middle segment which accounted for the scheduled late opening date of July 22. Large closures were put into effect in 1968 to protect areas where returning runs were expected to be weak. These closures, in general, reflect the damage caused by the 1964 earthquake. Areas open to fishing in 1968 were generally limited to the "normal zone" (earthquake category) where effects of the 1964 quake were minimal.

Chum salmon forecast data showed an expected average return of 4-year old salmon of 683,000 with a range of 584,000 to 783,000. Early chum salmon runs were expected to be strong in certain areas of Prince William Sound and a close monitoring of these areas did allow a relaxation and an earlier opening of the purse seine season. Both pink and chum salmon early runs to certain areas were stronger than expected and limited purse seine fishing was allowed beginning on July 11 which was ten days earlier than scheduled.

Fish prices were settled before the season at the same price level paid in 1967. The combination of an early price settlement and the relative good catches of pinks in the early Coghill district (TABLE 45) plus the early general purse seine season opening resulted in a maximum fishing effort concentrated in

restricted areas of Prince William Sound. Management controls were more demanding in 1968 due to the restricted fishing area, the concentration and the increase in the amount of gear plus the need to allow a sufficient spawning escapement to areas of weak returns. Problems were further aggravated by the need to harvest chum salmon in areas of weak pink salmon runs.

Weekly catch and case pack by species for both the early Coghill season and the general purse seine season is presented in TABLE 27 to 30. The early Coghill season had a relatively slow start the opening week with 15 purse seine vessels operating but the number of vessels increased each week as additional effort transferred from the Copper River drift gill net fishery. A total of 242 purse seine vessels fished during the general season, Week 28 to 32. The purse seine catch by species was as follows: pinks, 2,431,902; chums, 325,181; reds, 74,414; coho, 7,064; and kings, 3414. TABLE 26 gives the total Prince William Sound catch by all gear and the case pack by species is presented in TABLE 25. Both the catch and case pack are below the 20 year average for all species except reds and kings.

Based on the forecast, the returning pink run was expected to be poor and the chum run relatively good. The estimated return of pinks, both catch and escapement, (TABLE 26 and 36) of 3,535,568 is above the predicted average return of 3.1 million but well within the 2.2 to 4.0 million range. The chum salmon returning run, catch plus escapement (TABLE 26 and 38) of 552,190 is below the predicted average return of 683,000 and is below the lower range of 584,000.

Pink salmon spawning escapements in Prince William Sound in 1968 ranged from poor to excellent with the overall spawning escapement generally well distributed but below average. The largest reduction in spawning escapement occurred in areas damaged by the 1964 earthquake. The largest reductions in escapement occurred in the Montague and Northwestern district where the most extensive earthquake damage occurred.

Pink salmon spawning escapement are summarized in TABLE 31, 32, 35a to 35h and 36.

Chum salmon spawning escapements were generally poor in 1968 but some improvement was realized over the previous year (TABLE 32). Here again, the most drastic reductions occurred in areas of major earthquake damage, namely, Montague and Northwestern district.

Chum salmon scale samples were taken from both the commercial catch and spawning streams of Prince William Sound for subsequent age composition analysis. A total of 2,000 samples were taken from commercially caught chum salmon, (TABLE 34) which gave the following age composition for combined sexes: 13.30% 3's; 82.15% 4's; 4.40% 5's; and, 0.15% 6's. Age composition from 1,729 chums from spawning streams were as follows: 8.79% 3's; 81.32% 4's; and, 9.89% 5's.



TABLE 24.

Summary of Salmon Gear Operated, 1960 - 1968 1/

Prince William Sound			Copper River Drift Gill Nets <u>2/</u>		Bering River Drift Gill Nets <u>2/</u>	
Year	Purse Seines	Gill Nets <u>2/</u>	Red Season	Coho Season	Red Season	Coho Season
1960	223	CLOSED	59,400	31,050	9,900	8,400
1961	102	3,750 Coghill 4,200 Esnary <u>3/</u>	50,550	25,650	6,450	4,650
1962	237	8,550 Coghill 3,750 Esnary <u>3/</u>	59,100	27,450	9,900	4,500
1963	281	3,450 Coghill	61,650	37,950	8,250	8,250
1964	154	8,850 Coghill	43,350	30,900	4,800	6,300
1965	208	3,900 Coghill 6,150 Esnary <u>3/</u>	50,100	26,850	1,950	9,300
1966	181	8,850 Coghill & Unakwik 2,700 Esnary <u>3/</u>	52,200	30,300	3,600	6,750
1967	207	18,000 Coghill & Unakwik	59,100	30,600	6,000	8,250
1968	242	21,750 Coghill & Unakwik	76,650	28,800	4,650	4,650

1/ Peak effort.

2/ Fathoms of gear, weekly effort.

3/ Includes set and drift gill nets.

TABLE 25. Prince William Sound Annual Salmon Case Pack, 1946 - 1968, 1/ 4/

Year	Reds	Kings	Pinks	Chums	Cohos	Total	
1946	9,529	372	315,972	72,571	15,674	414,118	
1947	17,176	180	376,125	63,676	6,240	463,397	
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 <u>2/</u>	2,701	2	70,554	39,711	1,267	114,235	
1961	6,589	106	135,189	24,129	1,221	167,234	
1962	5,454	33	270,797	81,856	1,457	359,597	
1963	5,835	119	228,077	101,561	3,914	339,506	
1964	2,773	16	187,114	63,392	4,487	257,782	
1965	9,880	345	93,870	19,435	1,345	124,875	
1966	10,599	50	146,069	43,271	2,225	202,164	
1967	1,908	37	137,030	27,824	1,590	168,389	
1968	11,522	1,269	113,556	40,395	1,318	168,060	
<hr/>							
TOTAL <u>3/</u>	172,551	4,527	3,439,192	1,116,848	84,823	4,817,890	
<hr/>							
AVERAGE <u>3/</u>	8,628	226	171,960	55,842	4,241	240,895	
<hr/>							

- 1/ Case pack on the basis of 48-1 pound cans per case. Case pack estimates include Eshamy and Coghill Districts and troll catches.
- 2/ Beginning in 1960, the case pack is estimated by using the total catch and the number of salmon per case at Cordova plants.
- 3/ Excluding the years 1954, 1955 and 1959 when purse seining closed.
- 4/ For case pack data prior to 1946 refer to 1964 Annual Report.
- \* Eshamy only.

TABLE 26. Prince William Sound Annual Salmon Catch, 1946 - 1968 <sup>1/</sup> <sup>5/</sup>

Year	Reds <sup>6/</sup>	Kings	Pinks	Chums	Cohos	Total
1946	110,787	1,669	8,026,032	757,173	159,011	9,054,672
1947	199,208	781	8,077,210	706,189	66,335	9,049,723
1948	208,159	207	2,460,760	457,618	35,168	3,161,912
1949	93,396	643	6,089,394	827,665	115,556	7,126,654
1950	74,585	558	1,850,731	455,900	74,445	2,456,219
1951 <sup>2/</sup>	119,976	4,407	1,051,798	467,007	37,065	1,680,253
1952	80,467	--	2,339,500	458,880	41,356	2,920,203
1953	54,712	126	2,016,894	314,423	28,595	2,414,750
1954 <sup>3/</sup>	6,213	--	12,309	6,047	543	25,112
1955 <sup>3/</sup>	12,921	--	26,925	4,785	592	45,223
1956 <sup>2/</sup>	172,950	111	4,827,264	497,474	27,498	5,525,297
1957	61,966	599	616,499	524,841	19,761	1,223,656
1958	13,821	54	6,289,435	687,263	8,196	6,998,769
1959						
1960	35,176	1,580	1,841,899	381,858	30,722	2,291,235
1961	55,551	406	2,287,766	221,951	3,335	2,569,009
1962	44,679	1,834	6,543,081	871,858	17,888	7,479,340
1963	39,746	449	5,248,773	933,133	30,998	6,253,099
1964	37,517	65	4,189,505	521,711	30,914	4,779,712
1965	118,563	1,095	2,387,131	198,824	13,863	2,719,476
1966	100,752	174	2,719,236	429,653	17,218	3,267,033
1967	21,118	411	2,606,315	262,385	14,634	2,904,863
1968	123,516	3,414	2,451,668	350,630	11,660	2,940,888
TOTAL <sup>4/</sup>	1,766,635	18,583	73,920,891	10,326,436	784,218	86,816,763
AVERAGE <sup>4/</sup>	88,332	929	3,696,446	516,322	39,211	4,340,838

<sup>1/</sup> Catch by all gear from all districts of Prince William Sound.  
<sup>2/</sup> Estimated catch using conversion of case pack.  
<sup>3/</sup> Eshamy district catch only. General season closed.  
<sup>4/</sup> Excluding the years 1954, 1966 and 1959.  
<sup>5/</sup> For catch data prior to 1946 refer to the 1964 Annual Report.  
<sup>6/</sup> Refer to 1967 Annual Report for some historical red salmon catches.

TABLE 27. Prince William Sound Pink Salmon, 1968

Week <u>4/</u>	Case Pack <u>1/</u> (48-#/case)	Purse Seine (Weekly Catch and Case Pack) <u>3/</u>					No. Fishing Days/Week <u>2/</u>	
		Total Catch	Total Pounds	Ave. Lbs. Per Fish	No. Units of Gear	Number Landings		Ave. No. Fish/Boat
25 (6/16-22)	306	6,602	29,936	4.08	15	26	440	5
26 (6/23-29)	993	21,442	87,483	4.08	28	87	766	5
27 (6/30-7/6)	1,780	38,440	158,373	4.12	31	123	1,240	5
28 (7/7-13)	6,342	136,923	583,292	4.26	141	255	958	5
29 (7/14-20)	24,581	530,712	2,064,470	3.89	240	558	2,211	5
30 (7/21-27)	37,393	807,314	3,156,597	3.91	242	691	3,336	5
31 (7/28-8/3)	30,905	667,239	2,582,215	3.87	197	568	3,387	4
32 (8/4-8/10)	10,500	226,696	879,580	3.88	155	230	2,463	2
		<u>2,435,368</u>	<u>9,541,946</u>					
TOTAL	112,800	2,431,902	9,527,181	3.92	1,049	2,538	14,801	36

- 1/ Estimated pack on the basis of 21.59 pink salmon per case.
- 2/ Fishing days various. Refer to section under Fishing Seasons for emergency order changes.
- 3/ In addition a total of 3414 king salmon were taken.
- 4/ Week 25 through 27 catches from early Coghill - Unakwik season.

TABLE 28. Prince William Sound Chum Salmon, 1968

Purse Seine (Weekly Catch and Case Pack)

Week 3/ (48-1#/case)	Case Pack 1/ (48-1#/case)	Total Catch	Total Pounds	Ave. Lbs. Per Fish	No. Units of Gear	Number Landings	Ave. No. Fish/Boat	No. Fishing Days/Week 2/
25 (6/16-22)	138	1,199	10,827	9.03	15	26	80	5
26 (6/23-29)	915	7,945	71,743	9.03	28	87	283	5
27 (6/30-7/6)	1,340	11,631	113,286	9.74	31	123	375	5
28 (7/7-13)	6,908	59,960	552,831	9.22	141	255	419	5
29 (7/14-20)	11,493	99,756	904,787	9.07	240	558	416	5
30 (7/21-27)	7,224	62,701	521,672	8.32	242	691	259	5
31 (7/28-8/3)	5,101	44,281	386,573	8.73	197	568	225	4
32 (8/4-10)	4,344	37,708	328,814	8.72	155	230	243	2
TOTAL	37,463	325,181	2,890,533	8.89	1,049	2,538	2,300	36

1/ Estimated pack on the basis of 8.68 chum salmon per case.  
 2/ Fishing days various. Refer to section under Fishing Seasons for emergency order changes.  
 3/ Week 25 through 27 catches from early Coghill - Unakwik season.

TABLE 29. Prince William Sound Red Salmon, 1968

Purse Seine (Weekly Catch and Case Pack)

Week 2/	Case Pack 1/ (48-1#/case)	Total Catch	Total Pounds	Ave. Lbs. Per Fish	No. Units of Gear	Number Landings	Ave. No. Fish/Boat	No Fishing Days/Week 2/
25 (6/16-22)	124	1,334	9,271	6.95	15	26	89	5
26 (6/23-29)	1,300	13,940	96,883	6.95	28	87	498	5
27 (6/30-7/6)	1,417	15,194	99,673	6.56	31	123	490	5
28 (7/7-13)	683	7,325	46,001	6.28	141	255	51	5
29 (7/14-20)	830	8,894	59,323	6.67	240	558	37	5
30 (7/21-27)	1,179	12,644	89,772	7.10	242	691	52	5
31 (7/28-8/3)	1,137	12,184	85,288	7.00	197	568	62	4
32 (8/4-10)	270	2,899	20,728	7.15	155	230	19	2
TOTAL	6,940	74,414	506,939	6.81	1,049	2,538	1,298	36

1/ Estimated pack on the basis of 10.72 red salmon per case.

2/ Fishing days various. Refer to section under Fishing Seasons for emergency order changes.

3/ Week 25 through 27 catches from early Coghill - Unakwik season.

TABLE 30. Prince William Sound Coho Salmon, 1968

Purse Seine (Weekly Catch and Case Pack)

Week 3/ (48-1#/case)	Case Pack 1/ Total Catch	Total Pounds	Ave. Lbs. Per Fish	No. Units of Gear	Number Landings	Ave. No. Fish/Boat	No. Fishing Days/Week 2/
25 (6/16-22)	11	93	7.34	15	26	6	5
26 (6/23-29)	19	165	7.34	28	87	6	5
27 (6/30-7/6)	73	648	7.59	31	123	21	5
28 (7/7-13)	80	705	8.46	143	254	5	5
29 (7/14-20)	159	1,409	8.71	240	558	6	5
30 (7/21-27)	260	2,302	8.61	242	691	10	5
31 (7/28-8/3)	149	1,317	8.89	197	568	7	4
32 (8/4-10)	48	425	9.33	155	230	4	2
TOTAL	799	7,064	8.57	1,051	2,537	65	36

1/ Estimated pack on the basis of 8.85 coho salmon per case.

2/ Fishing days various. Refer to section under Fishing Seasons for emergency order changes.

3/ Week 25, 26, 27 catches from early Coghill - Unakwik season.

TABLE 31. Prince William Sound Pink, Chum and Red Salmon  
Total Estimated Spawning Escapement by District 1/

1968

District	Number of Streams Surveyed	Pinks	Chums	Reds
Eastern	57	360,210	99,340	3,800
Northern	20	152,610	31,350	400
Northwestern - Coghill	43	201,650	37,310	19,120
Southwestern - Eshamy	48	155,850	5,100	68,850
Montague	40	44,140	1,090	0
Southeastern	34	169,440	21,370	0
<b>TOTAL</b>	<b>242</b>	<b>1,083,900</b>	<b>195,560</b>	<b>92,170</b>

1/ Number of salmon rounded to nearest ten.

TABLE 32. Prince William Sound Annual Estimated Salmon Spawning Escapement, By Species, 1952 - 1968

<u>Year</u>	<u>Reds</u>	<u>Pinks</u>	<u>Chums</u>	<u>Total</u>
1952	52,690	237,520	124,900	415,110
1953	9,090	196,530	138,690	344,310
1954	5,900	895,870	199,730	1,101,500
1955	21,560	550,640	93,750	665,950
1956	53,380	1,001,950	176,700	1,232,030
1957	53,650	97,580	269,440	420,670
1958	6,640	922,250	82,280	1,011,170
1959	14,610	350,970	175,700	541,280
1960	166,520	1,350,820	201,880	1,719,220
1961	104,260	2,188,730	341,200	2,634,190
1962	41,080	2,001,220	486,860	2,529,160
1963	80,480	1,344,710	371,100	1,796,290
1964	114,840	1,844,690	442,550	2,402,080
1965	210,260	975,960	195,640	1,381,860
1966	111,600	1,299,530	223,540	1,624,670
1967	35,040	1,227,370	187,500	1,449,910
1968	92,170	1,083,900	195,560	1,371,630

TABLE 33. Age Composition of Catch,  
Prince William Sound Chum Salmon, 1968

Area	Age Class				Total Number
	3	4	5	6	
Coghill	7.99%	86.75%	4.98%	0.28%	
Eaglek - Galena	20.34%	76.30%	3.36%	--	
Esther Island - Fidalgo	16.14%	78.92%	4.93%	--	
TOTAL	266	1406	88	3	2000
PERCENT	13.30	82.15	4.40	0.15	100

TABLE 34. Age Composition of Escapement,  
Prince William Sound Chum Salmon, 1968

<u>Period</u>	<u>Age Class</u>			<u>Total Number</u>
	<u>3</u>	<u>4</u>	<u>5</u>	
7/31 - 8/4 Percent	12 4.27	244 86.83	25 8.90	281
8/5 - 8/6 Percent	2 1.24	126 78.26	33 20.50	161
8/15 - 8/19 Percent	103 11.28	725 79.41	85 9.31	913
8/20 - 9/9 Percent	35 9.35	311 83.15	28 7.50	374
<b>TOTAL PERCENT</b>	152 8.79	1,406 81.32	171 9.89	1,729 100

TABLE 35a. Prince William Sound Pink Salmon, 1968  
(Live Counts in Streams) 1/

Calculated

Stream No. 5/	EASTERN DISTRICT Stream or Bay	WEEK ENDING										Total
		7/13	7/20	7/27	8/3	8/10	8/17	8/24	8/31	9/7	9/14	
35	Koppen Creek	500	2000	15230	4500	7760	14100			4200	23080	
36	Sheep River	500	1000	1610	3780	700			1050	29330		
46	Comfort Creek	0	0	610	500	700			2680	2940		
48	Bearttrap River	1500	1500	8160	4000	3930			10600	11870		
51	Olsen Creek	2500	4500	2680	3950				13800	21170		
52	Control Creek	1800	4000	8230	5680	4240			3830	15870		
56	St. Matthews Creek	350	50	1380	100	24840			13800	34290		
76	Irish Creek	50	100	300	500	3270			880	3840		
83	Keta Creek	200	0	50	0	210			4080	5780		
87	Sunny River	0	0	50	0	90			2590	3290		
89	Fish Creek	1500	1000	2300	1500	4050			10400	19540		
90	Fish Bay	0	0	0	50	1180			2420	3860		
91	Fish Bay	200	100	0	100	1210			830	3720		
94	Rock Creek	100	100	530	500	4330			150	4840		
99	Lagoon Creek	2800	7000	4820	7290	7140		300	3500	14000		
100	Borodkin Creek	0	0	3460	100	2270			730	9050		
106	Gladhough Creek	50	50	690	100	1760			1620	2530		
114	Turner Creek	200	300	100					3600	3410		
115	Millard Creek	5000	30000	35000	29000	15800			15950	39850		
116	Duck River	200	200	8200	4650				3100	23000		
117	Indian Creek	1500	6000	6980	4880				3100	15380		
120	Donaldson Creek	0	0	500	300				1360	2800		
121	Levshakoff Creek	1200	200	2060	150	2050			1400	4730		
123	Gregorieff Creek	1100	2000	2450	200	2100			700	5700		
127	Naomoff River	0	0	0	1200					4280		
129	Vlasoff Creek	0	0	200	400	550				2300		
131	Port Valdez	500	1000	1620	990					3460		
133	Sawmill Creek	100	500	2420	670					2640		
137	Lowe River	300	300							2320		
143	Siwash Creek	200	200							2320		
152	Twin Falls Creek	0	0		200				3000	4280		
153	Stellar Creek	3000	9000	10190	4500	7690			1500	18990		
Other Streams 2/		500	270	6070	10180	8820	7840	6470	3240	1310	120	
DISTRICT TOTALS 3/		15000	89500	126260	98390	152680	140440	117070	105560	55820	16320	360210
(57 Streams)		54320										

1/ Ground counts underlined. 2/ From records maintained on small streams which had a total of less than 2000 pinks in 1968. 3/ Contains interpreted data where surveys lacking on certain weeks. 4/ Stream life factor 4.0 weeks, others calculated from stream life factor of 2.5 weeks. 5/ Stream numbering revised in 1962.

4/ 8

TABLE 35b. Prince William Sound Pink Salmon, 1968  
(Live Counts in Streams) 1/

Stream No. <u>5/</u>	NORTHERN DISTRICT Stream or Bay	WEEK ENDING												Season Total
		<u>7/13</u>	<u>7/20</u>	<u>7/27</u>	<u>8/3</u>	<u>8/10</u>	<u>8/17</u>	<u>8/24</u>	<u>8/31</u>	<u>9/7</u>	<u>9/14</u>	<u>9/21</u>		
214	Long Creek	0	0	0	100	300	<u>1050</u>							3020
215	Long Bay	0	0	100	300									3320
216	Vanishing Creek	0	0	0	200	700	<u>1410</u>							5160
217	Long Bay	1000	200	200	100									3000
224	Backyard Creek		0	0	500									2100
229	Cedar Creek	50	50	500		800	<u>14140</u>							17620
234	Wells River		5000	6000	<u>7740</u>	7000	<u>11540</u>							23890
241	Cannery Creek		0	0	5110	3500	<u>10150</u>							10150
258	Jonah Creek		200	5000	25000	20000								43320
264	Siwash River		700	750	2040	900	<u>2740</u>							5700
265	Unakwik Creek		0	1000	780	800	<u>5560</u>							5690
276	Black Bear Creek		0	0	<u>1720</u>	500	<u>9100</u>							9290
279	Canyon Creek		0	0		3500								13640
282	Eaglek River		0	0	500	500								2160
	Other Streams <u>2/</u>	20	50	200	700	1750	2690	2800	1900	820	360	100		4550
DISTRICT TOTALS <u>3/</u> (20 Streams)		1870	6200	15750	47750	42150	118880	95100	53500	27430	9860	3100		152610

1/ Ground counts underlined. 2/ From records maintained on small streams which had a total of less than 2000 pinks in 1968. 3/ Contains interpreted data where surveys lacking on certain weeks. 4/ Stream life factor 4.0 weeks, others calculated from stream life factor of 2.5 weeks. 5/ Stream numbering revised in 1962.

Calculated

Season

Total

TABLE 35c. Prince William Sound Pink Salmon, 1968  
(Live Counts in Streams) 1/

Stream No. <u>5/</u>	COGHILL DISTRICT Stream or Bay	WEEK ENDING										Season Total		
		<u>7/13</u>	<u>7/20</u>	<u>7/27</u>	8/3	8/10	8/17	8/24	8/31	9/7	9/14		9/21	
322	Coghilli River				500	1300	1700							2650 <u>4/</u>
	Other Streams <u>2/</u>					950								2160
DISTRICT TOTALS <u>3/</u> (6 Streams)		2000	2200	2100	2300	2800	2200	1560	600	300	0	0		4810

1/ Ground counts underlined. 2/ From records maintained on small streams which had a total of less than 2000 pinks in 1968. 3/ Contains interpreted data where surveys lacking on certain weeks. 4/ Stream life factor 4.0 weeks, others calculated from stream life factor of 2.5 weeks. 5/ Stream numbering revised in 1962.

Calculated

TABLE 35D. Prince William Sound Pink Salmon, 1968  
(Live Counts in Streams) 1/

Stream No. 5/	NORTHWESTERN DISTRICT Stream or Bay	WEEK ENDING										Season Total		
		7/13	7/20	7/27	8/3	8/10	8/17	8/24	8/31	9/7	9/14		9/21	
414	Harrison Creek		2000	1500	1200	<u>930</u>	500	<u>340</u>						2830
421	Mill Creek		400	2500	4500	<u>9040</u>		<u>8420</u>						15220
425	Hummer Bay		3000	3500	2500	700								7080
428	Pirate Cove		0	300	500	<u>140</u>	100	<u>2910</u>						2940
430	Meacham Creek		3300	4000	8000	<u>7140</u>	4050	<u>7630</u>						17290
432	Swanson Creek	14000	22000	31000	14000	<u>6640</u>	9000	<u>15730</u>						48790
435	Logging Camp Creek		200	600	200	<u>2240</u>	4000	<u>4300</u>						5500
450	Tebenkoff Creek		0	300			1200							3440
451	Blackstone Creek		0	1500			300							3440
455	Paulson Creek		1000	1900		<u>2180</u>	2000	<u>2690</u>						5850
469	Wickett Creek		200	400		<u>9030</u>	8000	<u>3210</u>						8810
476	Shrode Creek		1500		4000		8000	<u>31940</u>						29860
479	Culross Creek		0		1100	<u>3850</u>		<u>2900</u>						5460
480	Mink Creek	1000	700	1700	1200	<u>10520</u>		<u>8230</u>						14660
484	Eastfinger Creek	200		1300	2600			<u>1250</u>						4540
485	Westfinger Creek	1300		2700	3400			<u>4830</u>						10170
Other Streams 2/		80	100	2000	2800	4730	4980	<u>4930</u>	2620	510	250	0		10960
DISTRICT TOTALS 3/ (37 Streams)		23580	38100	62800	50500	73890	68830	105110	59020	28120	12250	5710		196840

1/ Ground counts underlined. 2/ From records maintained on small streams which had a total of less than 2000 pinks in 1968. 3/ Contains interpreted data where surveys lacking on certain weeks. 4/ Stream life factor 4.0 weeks, others calculated from stream life factor of 2.5 weeks. 5/ Stream numbering revised in 1962.

TABLE 35e. Prince William Sound Pink Salmon, 1968  
(Live Counts in Streams) 1/ 4/

Stream No. <u>5/</u>	ESHAMY DISTRICT Stream or Bay	WEEK ENDING											Season Total
		<u>7/13</u>	<u>7/20</u>	<u>7/27</u>	<u>8/3</u>	<u>8/10</u>	<u>8/17</u>	<u>8/24</u>	<u>8/31</u>	<u>9/7</u>	<u>9/14</u>	<u>9/21</u>	
508	Solf Creek	0	0	0	40	110	2210	2500	2015	1025	340		3300
510	Eleshansky Creek	190	<u>500</u>	<u>620</u>	<u>1140</u>	<u>1220</u>	<u>1850</u>	<u>1680</u>	<u>830</u>	<u>670</u>	400		3590
	Other Streams <u>2/</u>	0	0	0	200	400	2000	3000	2000	1000		40	5140 *
DISTRICT TOTALS <u>3/</u> (5 Streams)		190	500	620	1380	1730	6100	7180	4850	2690	960	70	12030

1/ Ground counts underlined. 2/ From records maintained on small streams which had a total of less than 2000 pinks in 1968. 3/ Contains interpreted data where surveys lacking on certain weeks. 4/ Stream life factor of 2.5 weeks. 5/ Stream numbering revised in 1962. \* Includes 1520 pinks from Eshamy River weir count.

Calculated

TABLE 35F. Prince William Sound Pink Salmon, 1968  
(Live Counts in Streams) 1/

Stream No. <u>5/</u>	SOUTHWESTERN DISTRICT Stream or Bay	WEEK ENDING										Calculated Season Total		
		<u>7/13</u>	<u>7/20</u>	<u>7/27</u>	<u>8/3</u>	<u>8/10</u>	<u>8/17</u>	<u>8/24</u>	<u>8/31</u>	<u>9/7</u>	<u>9/14</u>		<u>9/21</u>	
603	Ewan Creek		100	2000	3000			2500	13000					17560
604	Erb Creek	500	800	3000	3000	<u>8820</u>		5220		600				12240
608	Jackpot River		2000	4000	12000			25000	21000					30700
611	Jackpot Bay		0	300	2500			500	100					2660
613	Jackpot Creek		0	1400	3500	<u>6550</u>		<u>5550</u>						10680
620	Chenega Island		0			<u>1120</u>			300					2450
621	Totemoff Creek	400				<u>2450</u>		4340	1500	<u>200</u>				7520
628	Chenega Creek	0	200		800	<u>1120</u>		2020						2060 <u>4/</u>
630	Bainbridge Creek			1500	1500	<u>4270</u>		<u>1170</u>						6620
633	Pablo Creek		2500	1500				300	200					3060
634	South Arm Whale Bay		600	1500		<u>1390</u>		1030						3150
636	Whale Creek		400	3000				400	400					4780
653	Hogg Creek		0					700						3960
655	Johnson Creek							1500	7500					8160
656	Halverson Creek		600					400	400					3400
666	O'Brien Creek		20	60	300	<u>1010</u>		<u>5010</u>						4890
670	Montgomery Creek		0		300	<u>2100</u>		<u>1860</u>	700					2840
673	Falls Creek		100	5000	2700	<u>3970</u>		<u>5710</u>	800					9620
677	Hayden Creek		0	0	1200	<u>510</u>		<u>3110</u>	500					3070
	Other Streams <u>2/</u>	210	30	1650	4260	<u>4490</u>		4070	9670	6100	2020	640	100	15080
	DISTRICT TOTALS <u>3/</u> (43 Streams)	3710	9500	31060	52160	77200	72460	78230	63000	30620	11410	4620		143820

1/ Ground counts underlined. 2/ From records maintained on small streams which had a total of less than 2000 pinks in 1968. 3/ Contains interpreted data where surveys lacking on certain weeks. 4/ Stream life factor 4.0 weeks, others calculated from stream life factor of 2.5 weeks. 5/ Stream numbering revised in 1962.

TABLE 35g. Prince William Sound Pink Salmon, 1968  
(Live Counts in Streams) 1/ 4/

Stream No. <u>5/</u>	MONTAGUE DISTRICT Stream or Bay	WEEK ENDING										Season Total			
		<u>7/13</u>	<u>7/20</u>	<u>7/27</u>	<u>8/3</u>	<u>8/10</u>	<u>8/17</u>	<u>8/24</u>	<u>8/31</u>	<u>9/7</u>	<u>9/14</u>		<u>9/21</u>		
719	Glacier Bay	0	0	0	4500			600							4360
739	Swamp Creek	0	0	0	2500			1660							3630
740	Kelez Creek	0	0	0	1200			<u>2460</u>							3450
746	Schuman Creek	0	0	500	3500			600		500					3720
747	Cabin Creek	0	0	0	100										2210
749	Shad Creek	0	0	0	1200			<u>640</u>		540					5530
758	Rocky Bay	0	0	0	500					<u>60</u>					3080
759	Rocky Creek	0	0	0	200			<u>1960</u>		4500					7740
	Other Streams <u>2/</u>	0	0	10	2240			<u>3420</u>		5750					10420
DISTRICT TOTALS <u>3/</u> (40 Streams)		0	0	510	15940			17920		24050					44140

1/ Ground counts underlined. 2/ From records maintained on small streams which had a total of less than 2000 pinks in 1968. 3/ Contains interpreted data where surveys lacking on certain weeks. 4/ Stream life factor of 2.5 weeks. 5/ Stream numbering revised in 1962.

Calculated

TABLE 35h. Prince William Sound Pink Salmon, 1968  
(Live Counts in Streams) 1/ 4/

Stream No. 5/ SOUTHEASTERN DISTRICT Stream or Bay WEEK ENDING Calculated Season Total

Stream No. <u>5/</u>	SOUTHEASTERN DISTRICT Stream or Bay	WEEK ENDING										Calculated Season Total			
		<u>7/13</u>	<u>7/20</u>	<u>7/27</u>	<u>8/3</u>	<u>8/10</u>	<u>8/17</u>	<u>8/24</u>	<u>8/31</u>	<u>9/7</u>	<u>9/14</u>		<u>9/21</u>		
810	Garden Creek	0	200												3200
812	Nuchek Creek	1000	1100	5000											9680
815	Constantine Creek	1000	4300	10400		18560									53440
816	Juania Creek	0	1000	2000		2100									4930
827	Captain Creek	0	0	0		840									3860
828	Cook Creek	500	1400	2800		5920									13510
829	King Creek	0	0	0		40									2170
831	Double Creek	0	0	0		930									3660
834	Hardy Creek	0	0	500											9920
835	Scott Creek	0	0	8000											7620
844	Makaka Creek	0	0	0		1000									4560
847	Hawkins Creek	200	1800	3600		7850									18680
850	Canoe Creek	300	4000	2000		1150									8280
856	West Lagoon, Cedar Bay	0	0	500		990									4070
857	East Lagoon, Cedar Bay	0	0	500		390									2340
861	Bernard Creek	800	1540	3500		3260									12580
863	Orca Creek	0	0	0		2580									2600
	Other Streams <u>2/</u>	0	0	50	1950	2580	5180	9910	4970	2250	240	80			4340
	DISTRICT TOTALS <u>3/</u>	1400	15340	40950	53510	79790	115050	68760	27750	11320	2880				169440
	(34 Streams)	3800													

1/ Ground counts underlined. 2/ From records maintained on small streams which had a total of less than 2000 pinks in 1968. 3/ Contains interpreted data where surveys lacking on certain weeks. 4/ Stream life factor of 2.5 weeks. 5/ Stream numbering revised in 1962.

TABLE 36. Recapitulation of Weekly Pink Salmon Counts by District, 1968  
(Live Counts in Streams) 1/

No. of Streams	District	Week Ending										Calculated Season Totals	
		7/13	7/20	7/27	8/3	8/10	8/17	8/24	8/31	9/7	9/14		9/21
57	EASTERN	15000	54320	89500	126260	98390	152680	140440	117070	105560	55820	16320	360,210
20	NORTHERN	1870	6200	15750	47750	42150	118880	95100	53500	27430	9860	3100	152,610
6	COGHILL	2000	2200	2100	2300	2800	2200	1560	600	300	0	0	4,810
37	NORTHWESTERN	23580	38100	62800	50500	73890	68830	105110	59020	28120	12250	5710	196,840
5	ESHAMY	190	500	620	1380	1730	6100	7180	4850	2690	960	70	12,030
43	SOUTHWESTERN	3710	9500	31060	52160	77200	72460	78230	63000	30620	11410	4620	143,820
40	MONTAGUE	0	0	510	15940	17920	24050	28360	15360	5560	1540	290	44,140
34	SOUTHEASTERN	1400	3800	15340	40950	53510	79790	115050	68760	27750	11320	2880	169,440
Prince William Sound		47750		217680	367590	571030	228030						
Total		114620		337240	524990	382160	228030						1,083,900

1/ Totals rounded to nearest 10 salmon.

TABLE 37a. Prince William Sound Chum Salmon, 1968  
(Live Counts in Streams) 1/ 4/

Stream No. <u>5/</u>	EASTERN DISTRICT Stream or Bay	WEEK ENDING											Calculated Season Total	
		<u>7/13</u>	<u>7/20</u>	<u>7/27</u>	<u>8/3</u>	<u>8/10</u>	<u>8/17</u>	<u>8/24</u>	<u>8/31</u>	<u>9/7</u>	<u>9/14</u>	<u>9/21</u>		
35	Koppen Creek		5100	3500	5610	500	430			100				8120
36	Sheep River		2200	1000	<u>580</u>	420								2080
	Below Sheep River						<u>2430</u>							3490
48	Bearttrap River	3600	13000	6000	<u>2530</u>	5000	<u>2060</u>			<u>50</u>				13980
50	Gravina River		0			500								4240
51	Olsen Creek	3500	7000	4500	<u>2230</u>	<u>1558</u>				460				9380
83	Keta Creek		300	300		200	<u>240</u>			<u>1070</u>				2160
87	Sunny Bay			100		300	<u>430</u>			<u>1070</u>				2940
116	Duck River		4000	5000	<u>6510</u>	18000	<u>4970</u>			0				16910
117	Indian Creek	9000	8000	2000	<u>610</u>	200	<u>30</u>			<u>2</u>				9540
127	Neoroff River	0	0	2500		3500								5400
153	Stellar Creek		800	3000	1320	500	<u>2770</u>			200				4740
	Other Streams <u>2/</u>	500	4210	11195	4235	4160	<u>2710</u>	1980	1280	<u>550</u>	200	100		16360
DISTRICT TOTALS <u>3/</u> (40 Streams)		22850	47210	39450	27875	38340	22070	17230	8450	5100	4340	2800		99340

- 1/ Ground counts underlined.
- 2/ From records maintained on small streams which had a total of less than 2000 chums in 1968.
- 3/ Contains interpreted data where surveys lacking on certain weeks.
- 4/ Calculated from stream life factor of 2.5 weeks.
- 5/ Stream numbering revised in 1962.

TABLE 37b. Prince William Sound Chum Salmon, 1968  
(Live Counts in Streams) 1/ 4/

Stream No. <u>5/</u>	NORTHERN DISTRICT Stream or Bay	WEEK ENDING										Calculated Season Total			
		<u>7/13</u>	<u>7/20</u>	<u>7/27</u>	<u>8/3</u>	<u>8/10</u>	<u>8/17</u>	<u>8/24</u>	<u>8/31</u>	<u>9/7</u>	<u>9/14</u>		<u>9/21</u>		
214	Long Creek	200	200	2500				<u>1180</u>							6250
234	Wells River	2700	12000	6000	<u>3720</u>	1500		<u>680</u>							11840
	Other Streams <u>2/</u>	250	1000	1700	2820	3850	3200	3180	700	550	100	0			7440
DISTRICT TOTALS <u>3/</u> (15 Streams)		3150	13200	10200	10540	9450	6900	5040	1600	850	150	0			31530 *

- 1/ Ground counts underlined.
- 2/ From records maintained on small streams which had a total of less than 2000 chums in 1968.
- 3/ Contains interpreted data where surveys lacking on certain weeks.
- 4/ Calculated from stream life factor of 2.5 weeks.
- 5/ Stream numbering revised in 1962.
- \* Contains 6000 estimated for 7 uncounted streams.

TABLE 37c. Prince William Sound Chum Salmon, 1968  
(Live Counts in Streams) 1/ 4/

Stream No. 5/	NORTHWESTERN - COGHILL DISTRICTS Stream or Bay	WEEK ENDING										Calculated Season Total		
		7/13	7/20	7/27	8/3	8/10	8/17	8/24	8/31	9/7	9/14		9/21	
322	Coghill River					3000								12640
421	Mills Creek		900		<u>2000</u>			<u>1350</u>						4900
425	Hummer Creek		1500											2120
432	Swanson Creek		1000	2000			<u>40</u>			<u>690</u>				2430
476	Shrode Creek		2000											4380
	Other Streams 2/	700	2630	4560	4930	4570	4230	2255	930	270	0	0		10840
DISTRICT TOTALS 3/		5700	14030	22660	18730	11710	9030	5795	2530	870	200	0		37310
(26 Streams)														

- 1/ Ground counts underlined.
- 2/ From records maintained on small streams which had a total of less than 2000 chums in 1968.
- 3/ Contains interpreted data where surveys lacking on certain weeks.
- 4/ Calculated from stream life factor of 2.5 weeks.
- 5/ Stream numbering revised in 1962.

TABLE 37d. Prince William Sound Chum Salmon, 1968  
(Live Counts in Streams) 1/ 4/

Stream No. <u>5/</u>	SOUTHWESTERN ESHAMY DISTRICT Stream or Bay	WEEK ENDING										Calculated Season Total			
		<u>7/13</u>	<u>7/20</u>	<u>7/27</u>	<u>8/3</u>	<u>8/10</u>	<u>8/17</u>	<u>8/24</u>	<u>8/31</u>	<u>9/7</u>	<u>9/14</u>		<u>9/21</u>		
630	Bainbridge Creek	400	2000			40		500	200						2190
Other Streams <u>2/</u>		310	920	2610	1280	760	530	100	100	70	40	10		2910	
DISTRICT TOTALS <u>3/</u> (13 Streams)		710	2920	4110	1880	800	610	600	300	170	90	10		5100	

- 1/ Ground counts underlined.
- 2/ From records maintained on small streams which had a total of less than 2000 chums in 1968.
- 3/ Contains interpreted data where surveys lacking on certain weeks.
- 4/ Calculated from stream life factor of 2.5 weeks.
- 5/ Stream numbering revised in 1962.

TABLE 37e. Prince William Sound Chum Salmon, 1968  
(Live Counts in Streams) 1/ 4/

Stream No. 5/	MONTAGUE DISTRICT Stream or Bay	WEEK ENDING										Calculated Season Total	
		7/13	7/20	7/27	8/3	8/10	8/17	8/24	8/31	9/7	9/14		9/21
Other Streams 2/		0	0	0	0	260	670	920	480	300	90	20	1090
DISTRICT TOTALS 3/	(10 Streams)	0	0	0	0	260	670	920	480	300	90	20	1090

- 1/ Ground counts underlined.
- 2/ From records maintained on small streams which had a total of less than 2000 chums in 1968.
- 3/ Contains interpreted data where surveys lacking on certain weeks.
- 4/ Calculated from stream life factor of 2.5 weeks.
- 5/ Stream numbering system revised in 1962.

TABLE 37F. Prince William Sound Chum Salmon, 1968  
(Live Counts in Streams) 1/4/

Stream No. 5/	SOUTHEASTERN DISTRICT Stream or Bay	WEEK ENDING										Calculated Season Total	
		7/13	7/20	7/27	8/3	8/10	8/17	8/24	8/31	9/7	9/14		9/21
815	Constantine Creek	300				<u>12440</u>		<u>5440</u>	2000		<u>2260</u>		11620
Other	Streams 2/	500	800	1250	2370	2540	1560	1170	970	530	230		4750
DISTRICT TOTALS 3/ (14 Streams)		800	1300	4250	11370	14980	11560	6610	2970	3030	2490	1500	21370 *

- 1/ Ground counts underlined.
  - 2/ From records maintained on small streams which had a total of less than 2000 chums in 1968.
  - 3/ Contains interpreted data where surveys lacking on certain weeks.
  - 4/ Calculated from stream life factor of 2.5 weeks.
  - 5/ Stream numbering revised in 1962.
- \* Contains 5000 estimated for 5 uncounted streams.

TABLE 38. Recapitulation of Weekly Chum Salmon Counts by District, 1968  
(Live Counts in Streams) 1/

No of Streams	District	Week Ending														Calculated Season Total
		7/13	7/20	7/27	8/3	8/10	8/17	8/24	8/31	9/7	9/14	9/21				
40	EASTERN	22850	47210	39450	27880	38340	22070	17230	8450	5100	4340	2800			99,340	
15	NORTHERN	3150	13200	10200	10540	9450	6900	5040	1600	850	150	0			31,350	
26	NORTHWESTERN - COGHILL	5700	14030	22660	18730	11710	9030	5800	2530	870	200	0			37,310	
13	SOUTHWESTERN - ESHAMY	710	2920	4110	1880	800	610	600	300	170	90	10			5,100	
10	MONTAGUE	0	0	0	0	260	670	920	480	300	90	20			1,090	
14	SOUTHEASTERN	800	1300	4250	11370	14980	11560	6610	2970	3030	2490	1500			21,370	
118	Prince William Sound Total	33210	78660	80670	70400	75540	50840	36200	16330	10320	7360	4330			195,560	

1/ Totals rounded to nearest 10 salmon.

## Eshamy District, Prince William Sound

The Eshamy district was closed to fishing in 1968 in expectation of a poor returning red salmon run. The resulting escapement counted at the Eshamy River weir was about double the nineteen year average (TABLE 40), however, due mainly to the complete closure of the entire Eshamy district fishery.

The 1968 spawning escapement is shown by the daily weir count in TABLE 39. Counting at the Eshamy River weir began June 22 and terminated on September 6. In addition to counting adult salmon passing the weir, weather data and water temperatures were also recorded (TABLE 41). A total of 68,048 reds, 919 pinks, 450 coho, 1 king and 1 chum salmon were recorded at the weir in 1968 (TABLE 39 and 40). Cumulative weekly red salmon counts at the Eshamy weir are given in TABLE 42. TABLE 43 and 44 show the Eshamy district case pack and catch, respectively, for the years 1950 to 1968.

TABLE 39. Eshamy River Daily Weir Count, 1968

Date	Red Salmon Count				Counts of Other Species 2/				
	Daily Count by Sex ♂	Jack	♀	Daily Total	Weekly Total	Cumulative Total	Coho	Pink	Chum
6/22	1			1	1	1			
23						1			
24						1			
25						1			
26	92	20	97	209		210			
27						210			
28						210			
29	19		7	26	235	236			
30	73	2	52	127		363			
7/ 1	2			2		365			
2	32		23	55		420			
3						420			
4			1	1		421			
5	108	3	104	215		636		2	
6	2		1	3	403	639			
7						639			
8						639			
9	34	2	39	75		714			
10	106		88	194		908			
11	17	1	14	32		940			
12	57	2	40	99		1039			
13	124	2	136	262	662	1301			
14	39		22	61		1362			
15	207	4	264	475		1837		2	
16	61	1	34	96		1933			
17						1933			
18	2		4	6		1939			
19	1			1		1940			
20	7		1	8	647	1948			
21						1948			
22	3		5	8		1956			
23						1956			
24	20		14	34		1990		1	
25	6	1	4	11		2001			
26	6	1	3	10		2011		10	
27					63	2011			
28	1			1		2012			
29			2	2		2014			
30	424	18	440	882		2896		38	
31	376	16	318	710		3606		14	
8/ 1	129	4	90	223		3829		12	
2	669	43	601	1313		5142		4	
3	453	29	494	976	4107	6118			
4	206	14	165	385		6503		2	
5	227	17	198	442		6945		2	
6	531	43	483	1057		8002		25	
7	382	53	395	830		8832		20	
8	41	12	31	84		8916		3	
9	182	20	197	399		9315		23	
10	249	35	257	541	3738	9856		22	

TABLE 39. Eshamy River Daily Weir Count, 1968 - cont.

Date	Red Salmon Count					Counts of Other Species 2/			
	Daily Count ♂	Daily Count Jack	Daily Count ♀	Daily Total	Weekly Total	Cumulative Total	Coho	Pink	Chum
8/11	499	68	502	1069		10925		101	
12	627	155	688	1470		12395		58	
13	1184	255	1283	2722		15117		62	1
14	481	62	408	951		16068		14	
15	1140	261	1324	2725		18793	2	89	
16	745	206	922	1873		20666	1	111	
17	639	184	637	1460	12270	22126	3	35	
18	780	218	682	1680		23806	5	26	
19	614	131	596	1341		25147	2	22	
20	1088	201	1044	2333		27480	8	37	
21	4058	1136	6911	12105		39585	42	49	
22	2843	380	4265	7488		47073	79	47	
23	2680	521	4977	8178		55251	25	38	
24	3313	721	5265	9299	42424	64550	83	23	
25	520	263	780	1563		66113	70	5	
26	198	101	293	592		66705	22	3	
27	187	82	233	502		67207	53	5	
28	12	21	14	47		67254	5		
29	14	7	11	32		67286	5	3	
30	25	34	26	85		67371		3	
31	22	28	45	95	2916	67466	4	1	
9/ 1	30	60	71	161		67627	10	2	
2	28	67	44	139		67766	8	3	
3	15	37	33	85		67851	6		
4	9	16	10	35		67886	2		
5	30	70	42	142		68028	9	1	
6	3	13	4	20	582	68048	2	1	
7 1/									
TOTAL	26673	5641	35734	68048	68048	68048	45	919	1

1/ Weir removed at 10:00 a.m. At the time the weir was removed 36 reds and 55 coho were observed at the mouth of Eshamy River.

2/ One female king salmon counted over the weir on July 3.

TABLE 40. Eshamy River Weir Count, 1950 - 1968

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	1,825	9	0
1965	108,963	5,441	532	6	0
1966	26,593	331	194	2	0
1967	10,821	10,433	192	1	0
1968	68,048	919	450	1	1
TOTAL	621,080	56,638	10,336	1,060	3
AVERAGE	32,688	2,980	544	55	0

TABLE 41. Eshamy River Weir Station Weather Data, 1968

Date	Air Temperature 1/			Water 1/ Temp.	Water 2/ Level	General 3/ Weather
	Daily	Min.	Max.			
5/13	51°F	38°F	61°F	36°F	0.75	Fair
14	46	35	51	36	.75	Cloudy
15	44	38	46	37	.75	Rain
16	43	38	45	36	.76	Rain
17	48	38	51	37	.82	Fair
18	51	35	55	37	.81	Cloudy
19	51	36	56	37	.80	Fair
20	56	36	60	37	.82	Fair
21	52	38	53	37	.85	Cloudy
22	48	43	52	37	.90	Rain
23	46	39	49	38	.87	Rain
24	46	41	48	38	.88	Rain
25	48	41	50	38	.85	Fair
26	48	38	50	38	.83	Cloudy
27	47	40	49	39	.82	Rain
28	47	41	48	38	.80	Rain
29	45	40	49	39	.78	Cloudy
30	49	41	51	39	.73	Rain
31	48	41	49	39	.69	Cloudy
6/ 1	54	33	59	39	.63	Fair
2	49	36	53	40	.59	Cloudy
3	46	42	53	40	.71	Rain
4	52	43	52	40	.66	Fair
5	52	44	54	40	.64	Fair
6	50	43	53	40	.61	Cloudy
7	45	40	50	40	.59	Rain
8	47	41	48	40	.68	Rain
9	56	43	59	40	.78	Fair
10	56	43	63	42	.75	Cloudy
11	57	46	59	43	.73	Fair
12	56	45	57	43	.68	Cloudy
13	55	43	60	43	.61	Fair
14	48	43	55	43	.59	Rain
15	54	46	54	47	.57	Cloudy
16	58	41	60	47	.54	Fair
17	50	48	52	49	.52	Rain
18	60	44	62	52	.52	Fair
19	60	47	62	48	.46	Fair
20	52	48	53	53	.42	Cloudy
21	52	48	52	50	.43	Rain
22	57	50	58	50	.42	Fair
23	55	44	55	53	.41	Cloudy
24	49	46	50	53	.42	Rain
25	55	48	55	53	.48	Fair
26	58	44	59	54	.45	Fair
27	59	48	59	54	.43	Fair
28	70	47	79	60	.41	Fair
29	63	41	65	56	.40	Fair
30	57	50	57	58	.36	Cloudy

TABLE 41. Eshamy River Weir Station Weather Data, 1968, cont.

Date	Air Temperature <u>1/</u>			Water <u>1/</u> Temp.	Water <u>2/</u> Level	General <u>3/</u> Weather
	Daily	Min.	Max.			
7/ 1	53°F	48°F	55°F	58	.35	Rain
2	52	49	53	57	.34	Rain
3	58	50	60	59	.32	Fair
4	70	52	72	62	.30	Fair
5	62	52	63	60	.28	Cloudy
6						
7						
8	53	50	63	60	.27	Rain
9	57	50	58	60	.36	Cloudy
10	62	50	65	62	.34	Fair
11	57	52	57	60	.30	Cloudy
12	58	49	58	60	.29	Cloudy
13	63	47	65	60	.26	Fair
14	55	50	55	60	.27	Cloudy
15	60	52	60	60	.25	Cloudy
16	59	50	62	60	.24	Fair
17	58	50	58	60	.21	Cloudy
18	57	53	58	60	.20	Rain
19	66	52	68	63	.19	Fair
20	61	50	62	61	.16	Cloudy
21	63	54	65	62	.15	Fair
22	61	53	62	62	.14	Cloudy
23	62	54	63	62	.12	Cloudy
24	64	52	66	62	.10	Fair
25	67	53	69	63	.08	Fair
26	60	55	60	62	.06	Rain
27	64	54	66	64	.07	Cloudy
28	62	50	64	63	.04	Cloudy
29	56	53	57	62	.06	Rain
30	55	54	57	61	.08	Rain
31	58	52	61	61	.17	Fair
8/ 1	57	51	59	59	.15	Rain
2	59	51	60	60	.13	Fair
3	59	50	61	61	.11	Fair
4	70	50	74	63	.09	Fair
5	71	52	74	63	.08	Fair
6	69	52	73	64	.07	Fair
7	79	54	81	65	.05	Fair
8	60	54	61	64	.04	Cloudy
9	60	57	62	64	.03	Cloudy
10	55	54	56	63	.04	Rain
11	56	52	57	63	.06	Rain
12	56	53	58	62	.07	Rain
13	58	52	60	63	.06	Cloudy
14	54	51	55	61	.05	Rain
15	54	52	55	60	.16	Rain
16	54	52	55	60	.20	Cloudy
17	61	48	65	62	.20	Fair
18	60	48	62	62	.19	Fair
19	58	49	64	62	.16	Fair

TABLE 41. Eshamy River Weir Station Weather Data, 1968, cont.

Date	Air Temperature <u>1/</u>			Water <u>1/</u> Temp.	Water <u>2/</u> Level	General <u>3/</u> Weather
	Daily	Min.	Max.			
8/20	54°F	49°F	55°F	61	.32	Rain
21	56	48	57	60	.51	Cloudy
22	60	48	60	60	.50	Cloudy
23	57	51	61	60	.53	Rain
24	55	51	57	60	.46	Cloudy
25	57	51	58	60	.40	Cloudy
26	59	50	61	60	.37	Fair
27	58	47	61	60	.29	Fair
28	58	46	61	60	.25	Fair
29	59	48	60	60	.20	Fair
30	53	49	55	60	.32	Fair
31	60	49	64	60	.25	Fair
9/ 1	59	46	61	59	.23	Fair
2	56	48	59	59	.20	Fair
3	55	45	57	58	.16	Fair
4	54	45	55	58	.15	Rain
5	56	51	57	58	.21	Rain
6	55	51	57	58	.24	Rain
7	55	48	55	57	.30	Rain

1/ Temperatures in degrees Fahrenheit.

2/ Water level measured in tenths of feet.

3/ Ice out of Eshamy Lake on June 2.

TABLE 42. Eshamy River Red Salmon Weekly Cumulative Weir Counts, 1958 - 1968

Date Ending	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
6/30			52	2,183	1,096		8	0	16	26	363
7/7	109	48	1,308	3,421	1,441	116	28	0	49	846	639
7/14	245	371	3,220	4,317	1,768	168	1,948	885	784	858	1,362
7/21	1,123	502	4,633	5,381	1,877	195	3,379	1,553	1,181	875	1,948
7/28	1,588	852	6,214	6,209	2,024	211	5,336	5,110	2,795	896	2,012
8/4	2,183	1,450	7,316	7,438	2,132	222	6,706	8,271	5,281	1,195	6,503
8/11	2,909	3,960	8,252	21,412	3,704	546	8,657	11,252	10,670	3,208	10,925
8/18	4,030	5,858	10,509	31,580	5,538	716	17,604	28,568	13,912	3,871	23,806
8/25	4,796	6,908	12,209	38,474	7,450	2,063	45,994	41,965	25,471	9,031	66,113
9/2	5,198	--	13,217	45,072	8,720	2,588	65,672	51,150	26,375	10,746	67,766
9/9	5,224	--	--	46,400	9,297	3,064	67,730	53,053	26,572	10,821	68,048
9/16	--	--	--	47,275	9,390	3,092	--	90,438	26,593	--	--
9/23	--	--	--	--	--	--	--	108,934	--	--	--
TOTAL	5,224	6,908	13,217	47,275	9,390	3,092	67,730	108,963	26,593	10,821	68,048

TABLE 43. Eshamy District Salmon Case Pack, 1950 - 1968 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 <u>2/</u>	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	
1965	299	9	26	1
1966	1,904	1,870	742	83
1967		SEASON	CLOSED	
1968		SEASON	CLOSED	
TOTAL	37,322	24,998	14,397	1,252
AVERAGE <u>3/</u>	3,393	2,273	1,309	114

1/ 1.8/1# 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 except years of closed seasons and 1965 which was opened by emergency order.

TABLE 44. Eshamy District Salmon Catch, 1950 - 1968

Year	Reds	Pinks	Chums	Cohos	Total
1950	23,294	14,710	4,217	564	42,785
1951	72,483 *	49,335 *	10,865	1,106 *	133,789
1952	32,998	7,714	2,757	471	43,940
1953	11,740	41,497 *	10,410 *	749 *	64,396
1954	6,185	12,365	6,133	441	25,124
1955	12,919	26,857	4,806	595	45,177
1956	75,355	32,101	14,439	788	122,683
1957	33,665	22,672	12,183	738	69,258
1958		S E A S O N C L O S E D			
1959		S E A S O N C L O S E D			
1960		S E A S O N C L O S E D			
1961	55,133	113,326	22,918	1,324	192,701
1962	23,857	76,345	39,909	3,895	144,006
1963		S E A S O N C L O S E D			
1964		S E A S O N C L O S E D			
1965	15,456	550	649	71	16,726
1966	20,826	36,584	7,896	745	66,051
1967		S E A S O N C L O S E D			
1968		S E A S O N C L O S E D			
TOTAL	383,911	434,056	137,182	11,487	966,636
AVERAGE <sup>1/</sup>	31,993	36,171	11,432	957	80,553

\* Estimated from case pack.

<sup>1/</sup> Average of years fished.

## Eshamy Lake Plankton Samples

Plankton samples were taken each week from June 9 to September 1 in Eshamy Lake in the same manner described in the 1967 report.

The volume of plankton was measured in a 100 mililiter graduated cylinder after the sample had settled for 24 hours. Each sample was taken at the approximate local sunset.

The following table lists the volume of plankton by date.

<u>Date</u>	<u>Revolutions</u>	<u>Volume (ml.)</u>
6/9	201	23
6/16	362	51
6/23	200	53
6/30	341	100
7/9	249	90
7/15	407	111
7/21	489	155
7/28	383	204
8/4	302	254
8/12	316	191
8/18	358	164
8/25	448	217
9/1	567	418

## Eshamy River Smolt Sampling

In 1968 the smolt trap was installed in Eshamy River on May 12 to continue investigations started in 1966. The purpose of the smolt trapping is to gather information on the abundance and timing of out-migrant red salmon from Eshamy Lake.

Data gathered in 1967 indicated that during both 1966 and 1967 the smolt trap was installed early enough to sample the initial migration of smolts. Also, in 1968 the smolt catch indicates that the initial migration was sampled.

Following is a summary of data collected in 1968.

### Species and Number of Smolt Trapped by Date

Date	Reds	Cohos	Pinks	Date	Reds	Cohos	Pinks
5/12			46	6/1	14		2
13			79	2	22		
14			30	3	11		
15	7		16	4	3		
16	2		36	5			2
17	2		27	6	7		
18	33	1	5	7	4		
19	37		4	8	1		
20	15		23	9	1		
21	88		9	10			1
22	104	1	10	11			4
23	96		7	12	1		
24	43	1	6	13	2		
25	72		5	14		1	3
26	80	2	7	15	1		
27	25		2	16			
28	13		4	17			
29	16		2	18			
30	82		1	19*			
31	32						
<hr/>				<hr/>			
Sub Total	747	5	319		67	1	12
<hr/>				<hr/>			
TOTAL	Red Smolt - 814		Coho Smolt - 6	Pink Smolt - 331			
<hr/>							

\* Trap removed at 10:40 a.m.

A mark and recovery experiment was conducted in conjunction with the smolt trapping to determine relative abundance of downstream red salmon migrants. From May 25 to May 28 a total of 600 red salmon smolt were marked with Bismark Brown of which only one marked smolt was subsequently captured. The marking experiment was terminated on May 28 because of the smaller number of red smolt being captured. Since small numbers of smolts were captured and only one marked smolt recovered, the validity of the experiment is questionable. Therefore, no attempt was made to determine the smolt population.

Following is a summary of smolt mark and recovery data.

#### Eshamy River Red Salmon Smolt Marking and Recovery

<u>Date</u>	<u>Number Marked</u>	<u>Number Recovered</u>
5/25	100	0
5/26	250	0
5/27	235	1
5/28	15	0
<hr/>		
TOTAL	600	1
<hr/>		

Length frequency samples were taken from 200 red salmon smolt. Two samples of 100 smolts each were taken on May 23 and June 2. Measurements were made from the tip of the nose to the fork of the tail to the nearest millimeter.

The following summary of length frequencies show a range of 57 to 117 millimeters with an average length of 93 millimeters. This average size compares to 67 millimeters in 1966 and 84 millimeters in 1967.

Red Salmon Smolt Lengths in Millimeters

May 23					June 2				
<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
101	103	98	107	107	102	94	101	98	80
104	100	101	108	94	69	96	84	97	88
111	106	107	99	97	83	75	103	90	87
97	115	107	108	102	103	95	79	97	84
105	115	94	88	90	85	84	78	97	77
116	117	96	98	83	78	108	95	100	91
112	96	104	93	104	57	87	74	91	88
107	103	101	108	106	88	79	83	71	71
110	105	103	110	93	98	92	77	85	64
81	106	114	111	104	92	92	92	78	67
116	96	106	101	108	95	99	79	84	66
91	101	108	104	95	83	71	68	74	88
100	104	111	112	109	85	78	78	76	95
88	107	73	107	94	81	67	87	95	81
111	95	93	101	86	94	94	92	89	88
114	104	86	90	105	69	80	105	86	104
104	108	87	94	101	88	75	90	75	78
87	96	93	100	95	83	89	98	99	83
94	105	101	104	96	108	90	88	91	79
100	109	104	106	98	104	71	75	70	87

## Eshamy Adult Red Salmon Scale, Length and Fecundity Samples

Scale samples and related data were collected from 420 male and 461 female adult red salmon captured at Eshamy River weir in 1968.

The appendix lists each sample from Eshamy River by date and sex. Length frequencies in millimeters (mid-eye to fork of tail) were taken from all but five samples. Fecundity samples were taken from 60 females.

Fecundity samples from 60 red salmon show an average of 4,269 eggs per female. This compares to an average of 4,152 in 1966 and to 4,379 in 1967.

Length frequencies were taken from 420 male and 461 female adult red salmon. Twenty males were a selected sample of small fish. Excluding the selected sample the male lengths ranged from 641 to 400 m.m. and an average of 581 m.m. while the females ranged from 626 to 426 and averaged 562 m.m. The select sample of 20 small male red salmon averaged 436 m.m.

Age samples from 80 female and 20 male reds showed 100 per cent to be 4<sub>2</sub>'s and the select sample of 20 small males to be 3<sub>2</sub>'s.

## Coghill and Unakwik District, Prince William Sound

The Coghill - Unakwik early red salmon season opened as scheduled on June 20 and continued uninterrupted five days per week until closed by emergency order to drift gill nets on July 16. Purse seine fishing was continued until the end of the general purse seine season.

Catch statistics for 1968 are summarized in TABLE 45 for both types of gear. Comparative catch by species by drift gill nets from the Coghill district is shown in TABLE 46 for the years 1961 to 1968. Both types of gear caught 75,578 reds in 1968 which compares to a six year average, for both gear, of 50,175 reds. Comparative drift gill net catches (TABLE 46) show the 1968 catch of reds to be about double the eight year average of 24,788 which is probably due, in part, to the increased effort in 1968. However, the catch per unit of effort also increased in 1968.

A combination weir-tower was installed in the outlet of Coghill Lake again in 1968. The location of the weir was approximately 200 yards upstream from the previous location. The weir was in place on June 23, however, the red salmon migration to Coghill Lake preceeded the weir installation and efforts to intercept the escapement in 1968 were unsuccessful.

Aerial estimates of red salmon in Coghill Lake indicated a spawning escapement of 11,800.

Table 40 gives the general weather data collected at the Coghill station.

TABLE 45. Coghill and Unakwik District Fishery Statistics,  
Purse Seine and Drift Gill Net, 1968 1/

Week	Catch					Case Pack 3/					Units of Gear
	Reds	Cohos	Pinks	Chums	Kings	Reds	Cohos	Pinks	Chums	Kings	
25	1,334	93	6,602	1,199	17	124	11	306	138	6	15
26	13,940	165	21,442	7,945	47	1,300	19	993	915	17	28
27	15,194	648	38,440	11,631	38	1,417	73	1,780	1,340	14	31
28	4,787	94	28,584	8,438	14	447	11	1,324	972	5	66
Sub-total	35,255	1,000	95,068	29,213	109	3,288	114	4,403	3,365	42	140
<u>Drift Gill Net</u>											
25	6,516	14	1,114	1,421	21	608	1	52	164	8	98
26	20,484	6	3,872	3,920	16	1,911	1	179	452	6	130
27	16,020	60	6,700	6,949	17	1,494	7	310	801	6	145
28	4,247	34	7,606	4,500	11	396	4	352	518	4	81
29	56	--	34	80	--	5	-	2	9	-	3
Sub-total	47,323	114	19,326	16,870	65	4,414	13	895	1,944	24	457
TOTAL	75,578	1,114	114,394	46,083	174	7,702	127	5,298	5,309	66	597

1/ Data from early Coghill - Unakwik season, June 20 to July 16, except that the purse seine catch is shown only through July 10. The general purse seine season was opened July 11.  
 2/ Purse seine catch data also appear in Prince William Sound catch, Table 27, 28, 29 and 30.  
 3/ Case pack determined using Prince William Sound fish per case average.

TABLE 46. Coghill and Unakwik District Gill Net Comparative Effort and Catch

1961 - 1968

Year	Reds	Pinks	Chums	Cohos	Average Units of Gear	Red Catch/ Unit of Gear
1961 <u>1/</u>	12,961	10,019	2,412	13	25	518
1962 <u>2/</u>	13,846	2,241	4,817	15	41	338
1963 <u>3/</u>	16,965	2,689	5,265	20	19	893
1964 <u>3/</u>	28,864	5,790	4,494	2	44	656
1965 *	22,855	1,905	4,363	18	19	1,203
1966 *	30,924	995	1,684	6	24	1,289
1967 *	24,565	37,854	18,607	45	73	337
1968 *	47,323	19,326	16,870	114	91	520
<b>TOTAL</b>	<b>198,303</b>	<b>80,819</b>	<b>58,512</b>	<b>233</b>		
<b>AVERAGE</b>	<b>24,788</b>	<b>10,102</b>	<b>7,314</b>	<b>29</b>		

- 1/ The first season for drift gill net fishing in the Coghill District.  
2/ The first season for drift gill net fishing in the Unakwik district.  
3/ No drift gill net catches were reported from the Unakwik district.  
 \* Purse seines also fished these years.

TABLE 47. Comparative Coghill River Spawning Escapement Estimates

1960 - 1968

Year	WEIR - TOWER ESTIMATES <u>1/</u>				AERIAL - GROUND SURVEY ESTIMATES <u>2/</u>			
	Reds	Chums	Pinks	Coho	Reds	Chums	Pinks	Coho
1960					129,000	24,012	2,840	
1961	54,792	1,160	183,661	none	40,000	49,324	195,600	
1962	26,866	-	114	none	12,000	27,000	3,520	
1963	63,984	-	-	none	75,000	63,400	57,930	280
1964					22,200	37,640	9,720	
1965	40,000	-	-	none	85,000	13,200	62,000	
1966	80,000			none	85,000	10,360	6,260	
1967	11,800	7,960	187,224	none	33,000	6,600	139,300	<u>3/</u>
1968 <u>4/</u>					11,800			

1/ Above weir.

2/ Entire system.

3/ Estimated from stream counts, Aerial estimates of schooled pink salmon in Coghill Lake indicated an escapement in excess of 500,000.

4/ Aerial estimate of red salmon escapement only as red migration preceded weir installation.

TABLE 48. Age Analysis of Commercial Catch,  
Coghill Lake System Red Salmon, 1968

Sex	Age Class							Total Number
	4 <sub>1</sub>	4 <sub>2</sub>	4 <sub>3</sub>	5 <sub>2</sub>	5 <sub>3</sub>	6 <sub>2</sub>	6 <sub>3</sub>	
Male	1	112	1	158	3	1	1	277
Female	2	76	-	169	1	1	1	250
TOTAL	3	188	1	327	4	2	2	527
PERCENT	.7	35.7	.2	62.1	.8	.4	.4	

TABLE 49. Coghill River Weir Station Weather Data, 1968

Date	Air Temperature <u>1/</u>		Water <u>1/</u> Temp.	General Weather
	Max.	Min.		
6/18	80°	40°		clear
19	78	40		clear
20	58	40	52°	rain
21	74	42	52	verible
22	76	42	54	clear - showers
23	72	52	52	overcast
24	56	44	56	rain
25	54	42		rain
26	56	48	54	overcast
27	74	45	55	clear
28	76	50	56	clear
29	80	52	58	clear
30	68	48	52	overcast
7/ 1	62	51	54	overcast
2	56	44	54	rain
3	75	54	54	clear - rain late afternoon
4	70	52	54	clear
5	68	52	52	clear - overcast late afternoon
6	66	52	54	overcast
7	78	52	56	clear
8	60	49	54	heavy rain
9	72	50	56	scattered clouds
10	74	52	56	scattered clouds
11	60	52	54	rain - fog

1/ Temperature in degrees Fahrenheit.

## Shrode Creek Weir Counts

In 1968 a field crew was assigned to make counts of fish at the Shrode Creek fish weir and to make observations of the adequacy of fish passage facilities. The crew was transferred from the Coghill River station on July 16. Counting of fish began on July 17 and was continued daily until August 12 (TABLE 50) when counting was terminated.

During the period July 17 to August 12 a total of 7,315 red salmon, 1,266 pink salmon, 52 coho salmon, and 1,000 Dolly Varden were counted passing the weir (upper diversion dam), (TABLE 50).

Observations made at the fish passage facility showed that considerable difficulty was experienced by salmon, particularly pink salmon, in negotiating the lower diversion (number 4 in Figure 2). The success ratio of salmon attempting passage at diversion number 4 was roughly determined to be about 30 unsuccessful to 1 successful attempt. The upper diversion dam (number 1) observations indicated that salmon preferred gate number 2; however, during extreme high water salmon could not swim through the gates due to the increased water velocity. At one high water period on July 30 salmon were not able to proceed upstream causing a build-up of fish below number 1 diversion dam. The situation was relieved by delivering the salmon over the dam with the use of a dip net. Salmon had no difficulty in passing diversion number 2 and number 3 (FIGURE 2).

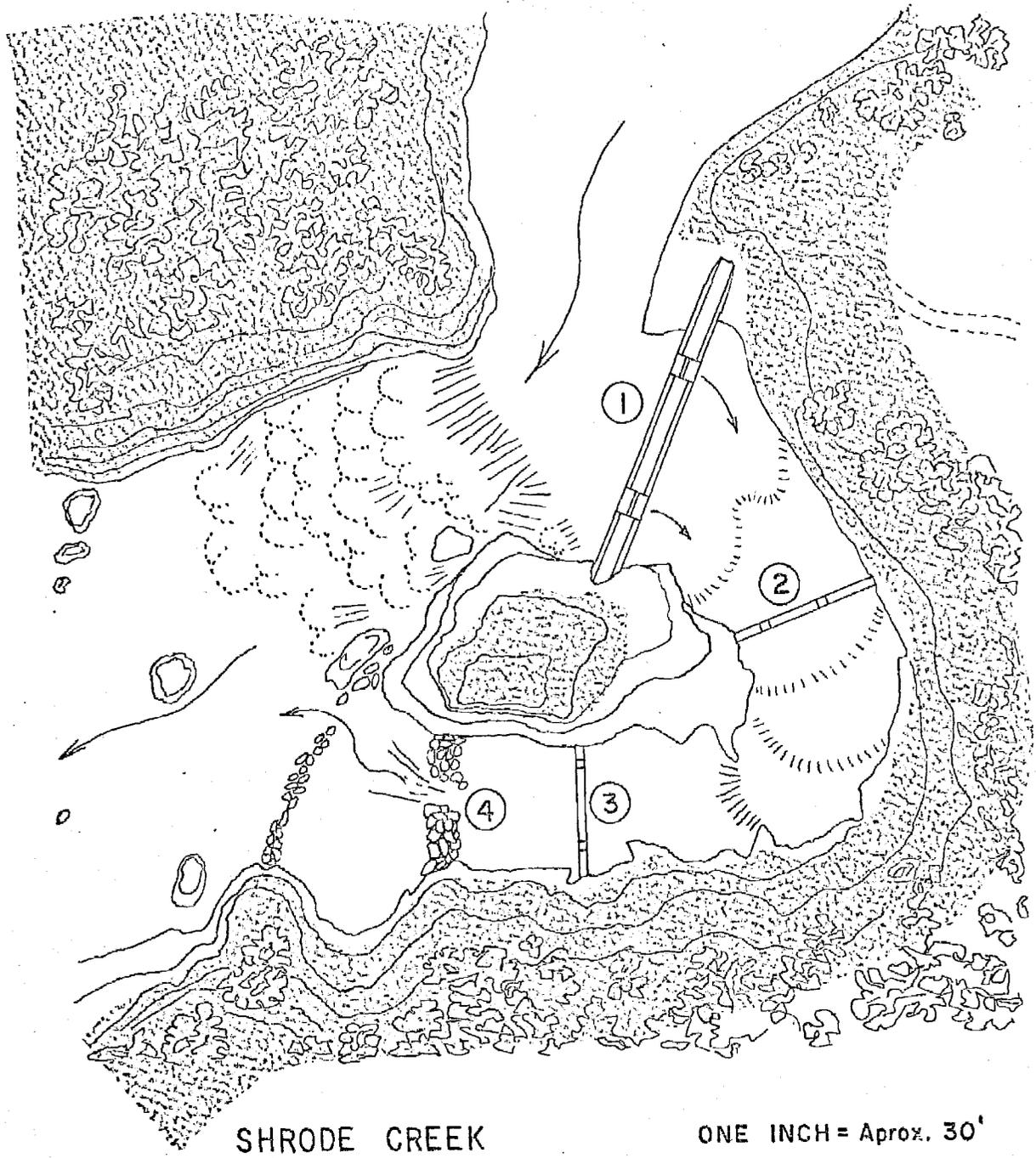


Figure 2 Shrode Creek Fish Passage Facility

TABLE 50. Shrode Creek Daily Weir Count, 1968

Date	General Weather	Reds	Pinks	Coho	Dolly Varden
7/17	overcast	16			
18		18			
19	clear	260			60
20		277			45
21		256			
22	overcast	263			35
23	overcast	342			80
24		154			
25	overcast	460		2	350
26	rain	328			230
27	rain	398			200
28	rain	143			
29	rain	126			
30	rain	704		50	
31	fair	737	128		
8/ 1	overcast	55	10		
2	clear	48	6		
3	clear	25	9		
4	clear	138	4		
5	clear	409	23		
6	clear	315	17		
7	clear	437	25		
8	rain	266	28		
9	rain	117	27		
10	rain	101	195		
11	rain	683	527		
12	rain	239	267		
<b>TOTAL</b>		<b>7,315</b>	<b>1,266</b>	<b>52</b>	<b>1,000</b>

TABLE 51. Time open to fishing by month, day, gear and regulatory area, 1968 1/

DISTRICT

MONTH DAY	Copper - Bering River		Coghill - Unakwik	Copper - Bering River		Coghill - Unakwik	P.W.S. General Purse Seine	Copper - Bering River		P.W.S. General Purse Seine	Copper - Bering River
	MAY	JUNE		JULY		AUGUST		SEPTEMBER			
1		6		18	18			6	14		
2				24	24			24	14		18
3		18		6	24			6			24
4		24		6	24						24
5		6		24	24			18	14		24
6		6		6	6			24			24
7		24						24	18		6
8		6		18	18			24	18		
9				24	24			24			18
10		18		6	24			6			24
11		24		6	24		18				24
12		6		24	24		24	18			24
13	18	6		6	6		6	24			24
14	24	24						24			6
15	6	6		18	18			24			
16	6			24	12		20	24			18
17	24	18		6			24	6			24
18	6	24		6			18**				24
19		6		24				18			24
20	18	6	18	6			12	24			24
21	24	24	24					24			6
22	6	6	6	18			14	24			
23	6			24			14	24			18
24	24	18	18	6				6			24
25	6	24	24	6			14				24
26		6	24	24			14	18			24
27	18	6	24	6			14	24			24
28	24	24	24					24			6
29	6	6	6	18			14	24			
30	6			24			14	24			18
31	24			6				6			24*
Total Open Hrs. by Mo. & Gear	MAY	JUNE		JULY		AUGUST		SEPTEMBER			
Drift Gill Net	246	342	168	384	270		516		522		
Purse Seine			168		270	220		78			

1/ Time open to fishing expressed in hours per day. Blanks denote days closed to fishing.

\* Fishing terminated in September, however, the season remained open until the end of the year.

\*\* See emergency order #4 - 68 for special purse seine fishing time in the Coghill district.

TABLE 52. Calendar Weeks, 1968 <sup>1/</sup>

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

<sup>1/</sup> The numbered calendar weeks were used in coding fish tickets, 1968 landings.

## Subsistence Fishery

Subsistence fishing is allowed in the Cordova Management Area, by permit, as a means for low income families to supplement their diet. A complete control of the fishery under present policy is not possible and it is impossible to implement the intent of the subsistence fishery under present regulations. The fishery has been abused by persons actually seeking recreation and sport rather than for the actual need of the resource for a livelihood.

The major subsistence fishery is for red salmon conducted by a dip net fishery on the main Copper River at Chitina and by fish wheels located between Chitina and Gakona on the main Copper River.

Approximately fifty per cent of the total reported subsistence catch is taken by each type of gear, although the number of fish wheels operating total only a small per cent of the total permits issued (TABLE 53 ). Total catch from the two types of gear have remained relatively stable since 1960 when systemized reporting was first initiated. The catch, however, does not reflect the large increase in gear that has occurred through the past eight years (TABLE 54). Since 1960 the number of fish wheels has remained almost constant in the fishery with a slight decrease in numbers in 1965 and 1966, but the number of dip nets, on the other hand, have shown a steady increase from 32 in 1960 to 1,235 in 1968.

Each year permits are issued for the lower Copper River and Prince William Sound and the numbers have been relatively stable through the years. Gear used on the Copper River flats is drift gill net and in Prince William Sound both drift gill net and purse seine. Catches of salmon from these areas have been minimal through the years.

TABLE 53 shows the 1968 catches as follows: reds, 14,855; kings, 655; cohos, 253; pinks, 156; and 164 other species which includes 22 chums, white fish and miscellaneous species. Several permits are issued each year to take white fish in fresh water lakes.

TABLE 53. Subsistence Fishing, 1968 <sup>1/</sup>

Area	Number Permits Issued	Number Permits Returned	Type of Gear	Unsuccessful Fishermen	Unused Permits	Reds	Kings	Cohos	Pinks	Other <sup>2/</sup>
Upper Copper River	112	64	Fishwheel	2	6	5,907	164	90		80
Upper Copper River	31	23	Fishwheel & (or) Dip Net	1	2	1,240	112			13
Upper Copper River	1,235	727	Dip Net	122	124	7,672	368	143		49
Prince William Sound	1	0	Dip Net							
Prince William Sound	4	3	Gill Net					20		156
Copper River Delta	17	15	Gill Net	1	8	36	11			22
Eyak Lake	1	1	Gill Net		1					
TOTAL	1,401	837		126	141	14,855	655	253	156	164

<sup>1/</sup> Compiled from reports received through April 8, 1969.

<sup>2/</sup> Includes whitefish, lamprey and grayling.

TABLE 54. Subsistence Fishery, Upper Copper River

1948 - 1968 1/ 6/

Year	No. Permits Issued	Reds	Kings	Cohos	Pinks*	Chums*	Other <u>5/</u>	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>7/</u>		1,767	319						2,086
1957 <u>3/</u>		7,241	281	108			123		7,753
1960	60	6,739	136	25	15	167	100		7,182
1961	194	15,472	388	550	188	88	639	87	17,412
1962	375	14,543	848	381	50	49	3	148	16,022
1963	295	14,055	464	558	52	48	23		15,200
1964	1,002	11,915	725	103			507		13,250
1965	1,127	12,760	644	52			964		14,420
1966	1,319	16,718	555				303		17,576
1967	1,327	14,457	419				194		15,070
1968	1,378	14,819	644	233			142		15,838

1/ Data from years 1948, 1949, 1952, 1954, 1955, 1957, 1960 to 1968. Other years not reported.

2/ Estimated catches probably obtained by interview.

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.

6/ Refer to individual annual reports for information concerning delinquent reports and permittees who indicated they did not fish.

7/ Estimated catches obtained by interview from 13 fishwheel fishermen.

\* No record or knowledge of Upper Copper River ever having pinks and chums.

## Dungeness Crab

The Dungeness crab catch showed a decrease from the 1967 catch, however, the total catch is well above the 18 year average shown in TABLE 55. A good market was evident in 1968 for all crab species.

The 1968 harvest of 2,280,310 pounds of Dungeness crab, (TABLE 55 and 56), compares to the 18 year average of 1,992,918 and compares to the high production year of 3,393,171 pounds taken in 1964.

TABLE 55. Dungeness Crab Catch From Prince William Sound, Copper and Bering River Areas, 1951 - 1968 1/

Year	<u>OUTSIDE</u>		<u>INSIDE 5/</u>		<u>TOTAL</u>	
	Crab	Pounds	Crab	Pounds	Crab	Pounds
1951	729,630	1,459,260	608,939	1,217,878	1,338,569	2,677,138
1952 <u>2/</u>					509,288	1,018,576
1953 <u>2/</u>					627,942	1,255,884
1954 <u>2/</u>					752,855	1,505,710
1955	567,500	1,135,000	414,914	829,829	982,414	1,964,829
1956 <u>3/</u>			406,422	812,844	406,422	812,844
1957 <u>3/</u>			108,562	217,123	108,562	217,123
1958 <u>3/</u>			596,459	1,192,918	596,459	1,192,918
1959	670,394	1,340,788	576,749	1,153,499	1,247,143	2,494,287
1960	599,072	1,198,144	762,163	1,524,326	1,361,235	2,722,470
1961	882,976	1,765,952	495,121	990,242	1,378,097	2,756,194
1962	645,292	1,290,585	676,595	1,353,190	1,321,887	2,643,775
1963	896,683 <u>4/</u>	2,017,537	608,423	1,216,846	1,505,106	3,234,383
1964	902,250 <u>6/</u>	2,102,242	614,728 <u>7/</u>	1,290,929	1,516,978	3,393,171
1965	400,821 <u>6/</u>	933,915	620,250 <u>1/</u>	1,240,372	1,021,072	2,174,287
1966 <u>3/</u>			499,671 <u>1/</u>	999,341	499,671	999,341
1967 <u>8/</u>					1,264,644	2,529,288
1968	850,516	1,701,031	289,640	579,279	1,140,156	2,280,310
<b>TOTAL</b>	<b>7,145,134</b>	<b>14,980,454</b>	<b>7,278,436</b>	<b>14,618,616</b>	<b>17,578,500</b>	<b>35,872,528</b>
<b>AVERAGE</b>	<b>714,513</b>	<b>1,498,045</b>	<b>519,888</b>	<b>1,044,187</b>	<b>976,583</b>	<b>1,992,918</b>

- 1/ Pounds reported in live weight. A two pound average weight was used to convert pounds to crab, all years not indicated otherwise.
- 2/ No record these years of where crab were caught.
- 3/ No "outside" fishing these years.
- 4/ Pounds converted to crab on the basis of 2.25 pounds per crab.
- 5/ The area designated as "inside" is located in the southeast corner of Prince William Sound and is described in the 1968 Commercial Fishing Regulations.
- 6/ Basis of 2.33 pounds per crab.
- 7/ Basis of 2.1 pounds per crab.
- 8/ Catch includes both "inside" and "outside" fishing areas.

TABLE 56. Dungeness Crab, Weekly Catch, 1968 1/

<u>Week</u>	<u>No. Crab <u>2/</u></u>	<u>Pounds</u>	<u>Pounds Cumulative</u>
12	444	888	888
13	850	1,700	2,588
14	892	1,784	4,372
15	3,509	7,018	11,390
16	777	1,554	12,944
17	1,522	3,044	15,988
18	31,800	63,601	79,589
19	25,804	51,607	131,196
20	29,833	59,665	190,861
21	22,346	44,692	235,553
22	42,692	85,384	320,937
23	24,120	48,240	369,177
24	50,616	101,232	470,409
25	37,194	74,388	544,797
26	73,235	146,470	691,267
27	110,842	221,684	912,951
28	65,960	131,919	1,044,870
29	89,982	179,963	1,224,833
30	50,429	100,858	1,325,691
31	49,334	98,668	1,424,359
32	36,467	72,933	1,497,292
33	51,360	102,719	1,600,011
34	44,894	89,787	1,689,798
35	28,224	56,447	1,746,245
36	45,763	91,526	1,837,771
37	62,989	125,978	1,963,749
38	41,963	83,925	2,047,674
39	16,536	33,072	2,080,746
40	17,929	35,857	2,116,603
41	14,754	29,507	2,146,110
42	13,758	27,516	2,173,626
43	14,624	29,247	2,202,873
44	6,858	13,715	2,216,588
45	6,113	12,225	2,228,813
46	8,253	16,505	2,245,318
47	5,196	10,392	2,255,710
48	6,347	12,693	2,268,403
49	2,496	4,992	2,273,395
50	1,713	3,425	2,276,820
51	1,105	2,210	2,279,030
52	640	1,280	2,280,310

1/ Catch includes both "inside" and "outside" fishing areas.  
2/ Estimated on the basis of 2 pounds per crab.

## Miscellaneous Fish and Shellfish

Several operations harvested herring, razor clams, shrimp, king crab, tanner crab and troll caught salmon as follows.

An undetermined amount of herring was used for crab bait. No production was recorded on fish tickets as having been sold.

Razor clam production in 1968, TABLE 58 showed an increase over recent years. A considerable amount of interest is being shown but production is being curtailed by the Department of Health and Welfare regulation requiring certification of clam beaches.

A small prawn shrimp operation reported 3,433 pounds, heads off, sold to fresh markets in Cordova and Anchorage. An undetermined amount of prawn sized shrimp were harvested and sold but no reports were received.

Increased market demand and favorable prices for king crab created an increased effort in the Prince William Sound fishery in 1968. Also, for the first time tanner crab were fished in the Prince William Sound area. TABLE 57 shows the 1968 production of 192,509 pounds of king crab and 298,427 pounds of tanner crab landed in the Prince William Sound area.

Troll salmon were taken in offshore waters near Middleton Island, along the coastal area adjacent to Prince William Sound and in some areas of Prince William Sound. A total salmon catch was reported as follows: kings, 1,306; cohos, 4,407; pinks, 396; and, 2 chums.

TABLE 57. King Crab and Tanner Crab, Weekly Catch in Pounds, 1968

<u>Week</u>	<u>King Crab</u>	<u>Tanner Crab</u>
1	4,120	
2	1,512	
3	200	
5	700	
6	400	
7	960	
8	1,020	
32	3,789	
33	8,443	
34	8,504	
36	7,800	742
37	1,050	
38	12,515	
39	1,817	165
40	2,901	18,708
41	11,980	26,230
42	11,240	21,303
43	19,764	29,939
44	3,944	18,657
45	11,779	26,409
46	21,059	25,945
47	15,304	60,307
48	15,260	17,711
49	3,268	13,658
50	12,208	20,400
51	6,685	12,220
52	4,287	6,775
<b>TOTAL</b>	<b>192,509</b>	<b>298,427</b>

TABLE 58. Razor Clam Statistics, 1968 1/

(All Areas)

<u>Week</u>	<u>Total Beach Weight</u>	<u>Number Landings</u>
10	230	
11	295	
12	834	
13	2,700	
14	3,017	
15	3,812	
16	5,211	
17	2,540	15
18	4,614	30
19	1,546	8
20	8,138	26
21	1,569	5
22	5,627	19
23	2,364	13
24	7,088	37
25	2,451	14
26	4,774	20
27	708	3
28	4,661	14
29	561	2
30	3,593	16
31	587	4
32	2,127	6
33	1,555	4
34	1,482	4
35	722	4
<b>TOTAL</b>	<b>72,806</b>	<b>244</b>

1/ Refer to 1967 Annual Report for catch statistics for prior years.

## Commercial License Sales

TABLE 59 and 60 shows the licenses and receipts for 1968 and comparative license statistics, respectively. TABLE 59 shows gross license sales of \$51,885.50 which is down \$1,138 from 1967 sales. Some increase is noted in all types of gear licenses except drift-gill net which shows a decrease from 1967, TABLE 60. Vessel licenses also showed a decrease under the previous year. A slight increase in fisherman's licenses is evident over 1967.

TABLE 59. Summary of Commercial Fishing Licenses and Receipts, 1968

LICENSES SOLD IN CORDOVA

COMMERCIAL FISHING LICENSES		GEAR LICENSES										
Fishermen <sup>1/</sup>	Vessels <sup>2/</sup>	Drift	Purse	Seine	Gill Net	Set	Clam	Crab	Beam	Trawl	Troll	Long Line

Resident	597	472	320	140	7	102	46	1	17	13
Non-resident	<u>245</u>	<u>151</u>	<u>111</u>	<u>36</u>	<u>1</u>	<u>8</u>	<u>2</u>	<u>0</u>	<u>2</u>	<u>3</u>
	842	623	431	176	8	110	48	1	19	16

LICENSES FORWARDED TO CORDOVA BY OTHER OFFICES

Resident	58	34	27	14	4	1	8	0	6	8
Non-resident	<u>8</u>	<u>9</u>	<u>5</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>
	66	43	32	16	4	1	9	0	6	9

TOTAL LICENSES FOR CORDOVA AREA

Resident	655	506	347	154	11	103	54	1	23	21
Non-resident	<u>253</u>	<u>160</u>	<u>116</u>	<u>38</u>	<u>1</u>	<u>8</u>	<u>3</u>	<u>0</u>	<u>2</u>	<u>4</u>
	908	666	463	192	12	111	57	1	25	25

RECEIPTS FOR LICENSES SOLD <sup>3/</sup>

Resident	\$ 6550.	\$ 5053.	\$ 5190.	\$ 7700.	\$ 85.	\$515.	\$ 990.	\$37.50	\$345.	\$525.
Non-resident	<u>7590.</u>	<u>4800.</u>	<u>5220.</u>	<u>5730.</u>	<u>15.</u>	<u>120.</u>	<u>450.</u>	<u>90.</u>	<u>90.</u>	<u>200.</u>
	\$14140.	\$ 9853.	\$10410.	\$13430.	\$100.	\$635.	\$1440.	\$37.50	\$435.	\$725.

- <sup>1/</sup> Includes captain and crew of tenders.
- <sup>2/</sup> Includes tenders.
- <sup>3/</sup> Total receipts, \$51,885.50, includes \$680 for transfer of licenses to non-residents.

TABLE 60. Comparable Commercial Fishing License Statistics  
Cordova Area, 1960 - 1968

	1960	1961	1962	1963	1964	1965	1966	1967	1968
<u>FISHERMEN</u>									
Resident	601	497	621	728	541	582	653	615	655
Non-resident	<u>566</u>	<u>247</u>	<u>470</u>	<u>574</u>	<u>304</u>	<u>311</u>	<u>330</u>	<u>290</u>	<u>253</u>
	1167	744	1091	1302	845	893	983	905	908
<u>VESSEL LICENSES</u>									
Resident	493	452	525	590	477	458	529	500	506
Non-resident	<u>312</u>	<u>196</u>	<u>281</u>	<u>327</u>	<u>214</u>	<u>192</u>	<u>166</u>	<u>193</u>	<u>160</u>
	805	648	806	917	691	650	695	693	666
<u>GEAR LICENSES</u>									
Resident Troll Line	15	9	6	9	9	3	5	16	23
Non-resident Troll Line	<u>1</u>	<u>0</u>	<u>2</u>	<u>1</u>	<u>3</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>2</u>
	16	9	8	10	12	3	6	18	25
Resident Set or Long Line	6	7	11	13	15	10	36	7	21
Non-resident Set or Long Line	<u>2</u>	<u>0</u>	<u>3</u>	<u>5</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>0</u>	<u>4</u>
	8	7	14	18	17	13	38	7	25
Resident Drift Gill Net	263	293	315	375	282	298	327	349	347
Non-resident Drift Gill Net	<u>167</u>	<u>127</u>	<u>170</u>	<u>202</u>	<u>133</u>	<u>132</u>	<u>120</u>	<u>136</u>	<u>116</u>
	430	422	485	577	415	430	447	485	463
Resident Set Gill Net	7	42	40	17	23	35	46	10	11
Non-resident Set Gill Net	<u>7</u>	<u>8</u>	<u>18</u>	<u>1</u>	<u>2</u>	<u>5</u>	<u>1</u>	<u>1</u>	<u>1</u>
	14	50	58	18	25	40	47	11	12
Resident Purse Seine	142	97	163	189	167	157	158	146	154
Non-resident Purse Seine	<u>92</u>	<u>23</u>	<u>75</u>	<u>98</u>	<u>65</u>	<u>40</u>	<u>36</u>	<u>43</u>	<u>38</u>
	234	120	238	287	232	197	194	189	192
Resident Shellfish Pots	33	46	49	36	32	24	36	41	54
Non-resident Shellfish Pots	<u>14</u>	<u>17</u>	<u>18</u>	<u>19</u>	<u>9</u>	<u>5</u>	<u>1</u>	<u>2</u>	<u>3</u>
	47	63	67	55	41	29	37	43	57
Resident Clam Diggers	206	165	125	94	105	91	66	97	103
Non-resident Clam Diggers	<u>78</u>	<u>61</u>	<u>38</u>	<u>19</u>	<u>16</u>	<u>11</u>	<u>7</u>	<u>9</u>	<u>8</u>
	284	226	163	113	121	102	73	106	111
Resident Otter Trawl	0	0	2	0	0	0	0	0	0
Resident Beam Trawl	0	0	0	1	2	3	0	1	1

TABLE 61. Wholesale Value of King Salmon from the Cordova Area, by Company, 1968 <sup>1/</sup>

Name of Company	Peak Number of Employees	Type of Product	Number of Fish	Pounds of Fish	Cases $\frac{48}{\frac{1}{2}}\#$	Wholesale Value
Blake's Canning	Family	Canned (Smoked)	51	1,325	26	\$ 1,300.00
Glacier Packing Company	Family	Canned	36	1,152	32	800.00
New England Fish Company <sup>2/</sup>	187	Canned	6,026	163,264	4,157	78,983.00
Ocean Industries, Inc.	Family	Fresh	383	11,098 <sup>3/</sup>		3,884.30
Odiak Smokeries	Family	Canned (Smoked)	6	120	8	384.00
Odiak Smokeries	Family	Hard smoke and Kipperred	5	75		150.00
Point Chehalis Packers, Inc.	80	Canned	52 *	1,456 *	39	897.00
Point Chehalis Packers, Inc.	80	Frozen	2,737 *	63,549 <sup>3/</sup>		39,400.00
TOTAL			9,296	242,039	4,262	\$125,798.30

<sup>1/</sup> Data from annual reports of operators, (Form FG-122).

<sup>2/</sup> New England Fish Company custom canned for Alaska Packers Association and Parks Canning Company. Totals combined.

<sup>3/</sup> Raw weight.

\* Estimated.

TABLE 62. Wholesale Value of Red Salmon from the Cordova Area, by Company, 1968 1/

Name of Company	Peak Number of Employees	Type of Product	Number of Fish	Pounds of Fish	Cases			Wholesale Value
					48/1#	48/1#	12/4#	
Blake's Canning Company	Family	Canned (Smoked)	235	1,612	29			\$ 1,450.00
Channel Packing Company	Family	Canned	1,833 *	11,181	171			3,339.63
Glacier Packing Company	Family	Canned	478	2,808	28			700.00
Glacier Packing Company	Family	Canned (Smoked)			50			2,400.00
New England Fish Co. 2/	187	Canned	492,725	3,025,808	40,474	21,534		1,753,085.00
Oceanic Industries, Inc.	Family	Fresh	144	945	3/			302.40
Odiak Smokeries	Family	Canned (Smoked)	50	300		5		240.00
Odiak Smokeries	Family	Hard Smoked	31 *	200				200.00
Point Chehalis Packers	80	Canned	205,599	1,254,154	30,644			790,090.00
Point Chehalis Packers	80	Frozen	831	4,320	3/			2,592.00
TOTAL			701,926	4,301,328	71,401	21,534	3,857	\$2,554,399.03

1/ Data from annual reports of operators, (Form FG-122).  
 2/ New England Fish Company custom canned for Alaska Packers Association and Parks Canning Company. Totals combined.  
 3/ Net weight.  
 \* Estimated.

TABLE 63. Wholesale Value of Coho Salmon from the Cordova Area by Company, 1968 1/

Name of Company	Peak Number of Employees	Type of Product	Number <u>3/</u> of Fish	Pounds of Fish	Cases			Wholesale Value
					<u>48 1/2#</u>	<u>48 1#</u>	<u>12 4#</u>	
Biaker's Canning Company	Family 187	Canned (Smoked)	48	576	8			\$ 400.00
New England Fish Company <u>2/</u>	Family 80	Canned (Smoked)	5,658	48,274	134	39		3,872.00
Odiak Smokeries	Family 80	Canned (Smoked)	72	864 *	12			576.00
Point Chehalis Packers		Canned Frozen	185,689	1,951,589	16,756		15,701	787,284.00
International Fish Co., Inc.	Family 12	Salted Salmon	44,552	374,591				243,484.00
Dave Kozachuk	Family 4	Canned (Kippered)	16,796	100,899				55,986.44
G. S. Richmond, Inc.		Fresh	20,000 *	100,209				130.00
TOTAL			272,815	2,577,002	16,910	39	15,701	\$1,111,756.44

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

2/ New England Fish Company custom canned for Alaska Packers Association and Parks Canning Company. Totals combined.

3/ Fish tickets show 38,500 more cohos caught than reported here. Some shipped to other areas apparently were not reported in annual reports for this area.

\* Estimated.

TABLE 64. Wholesale Value of Pink Salmon from the Cordova Area by Company, 1968 1/

Name of Company	Peak Number of Employees	Type of Product	Number of Fish	Pounds of Fish	Cases			Wholesale Value
					48 1/2#	48 1#	12 4#	
New England Fish Co. <u>2/</u>	187	Canned	2,041,530	8,002,926	4,945	92,674	12,448	\$2,864,285.00
Point Chehalis Packers	80	Canned	419,982 *	1,646,329	8,792			539,008.00
G. S. Richmond, Inc.	4	Fresh		43,152				7,489.00
TOTAL			2,461,512	9,692,407	13,737	92,674	12,448	\$3,410,782.00

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

2/ New England Fish Company customized canned for Alaska Packers Association and Parks Canning Company. Totals

\* Estimated.

TABLE 65. Wholesale Value of Chum Salmon from the Cordova Area by Company, 1968 1/

Name of Company	Peak Number of Employees	Type of Product	Number of Fish	Pounds of Fish	Cases			Wholesale Value
					<u>48</u> 1/ <u>2</u> #	<u>48</u> 1/ <u>1</u> #	<u>12</u> 4/#	
New England Fish Co. <u>2/</u>	187	Canned	259,755	2,313,268	925	29,728	8,101	\$ 801,667.00
Point Chehalis Packers	80	Canned	84,307	750,754	2,288			250,759.00
TOTAL			344,062	3,064,022	3,213	29,728	8,101	\$1,052,426.00

1/ Data from annual reports of operators, (Form FG-122).  
2/ New England Fish Company custom canned for Alaska Packers Association and Parks Canning Company. Totals combined.

TABLE 66. Wholesale Value of Dungeness Crab from the Cordova Area by Company, 1968 1/

Name of Company	Peak Number Employees	Type of Product	Net Weight Finished Product	Cases <u>24 6 1/2</u> oz.	Wholesale Value
Point Chehalis Packers	80	Canned, fancy		20,076	\$341,292.00
		Frozen:			
		Meat	12,559		18,839.00
		Sections	423,200		169,280.00
		Whole	181,136		63,398.00
Seafoods of Cordova, Ltd.	4	Fresh:			
		Whole	26,843		10,922.00
		Sections	2,409		2,148.00
		Frozen:			
		Meat	4,853		8,007.00
		Frozen:			
		Whole	22,890		8,867.00
St. Paul Fisheries	20	Sections	49,580		14,874.00
TOTAL			723,470	20,076	\$637,627.00

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

TABLE 67. Wholesale Value of Miscellaneous Fish Products from the Cordova Area by Company, 1968 <sup>1/</sup>

Name of Company	Peak Number of Employees	Type of Product	Net Weight of Finished Product	Cases		Wholesale Value
				48 1/2#	24 #2	
Channel Packing Company	Family	Razor Clams, canned: Whole		10	20	\$ 900.00
		Mined		7.5		182.00
Glacier Packing Company	Family	Razor Clams, canned:				
Carl J. Olsen	Family	Razor Clams, fresh: In Shell		35	144	5,440.00
		Cleaned	1,540 <sup>2/</sup>			500.00
Point Chehalis Packers	80	Hallibut, frozen	194			583.00
Cohen Trading Company		Salmon Roe for human consumption	8,724			2,181.00
			276,416 *			221,133.00
International Fish Company	12	Salmon Roe for human consumption	9,284			12,533.40
St. Paul Fisheries	20	Shrimp, frozen tails	247			370.50
		King Crab, sections	83,178			106,887.62
		Tanner Crab, sections	28,028			8,408.40
		Tanner Crab, meat	339			406.80
Seafoods of Cordova, Ltd.	4	King Crab, whole, fresh	46 <sup>2/</sup>			69.00
		King Crab, sections, fresh	636			954.00
		King Crab, meat, fresh	13			33.15
		Tanner, sections, fresh	3,571			1,428.40
		Tanner, meat frozen	25			37.50
TOTAL			412,241	52.5	166	\$ 362,047.77

<sup>1/</sup> Data from annual reports of operators, (Form FG-122).  
<sup>2/</sup> Whole weight.  
 \* An undetermined amount of salmon roe was taken at the New England Fish Company plant.

TABLE 68. Wholesale Value of all Fishery Products from the Cordova Area, 1968 1/2

Species	Type of Product	Number of Salmon	Number of Pounds	Cases				Wholesale Value		
				48 1/2#	48.1#	12 4#	12 #2		24 6 1/2 oz.	
King Salmon	Fresh	383	11,098 1/4					\$ 3,884.30		
	Frozen	2,737	63,549 1/4					39,400.00		
	Canned	6,114	165,872	4,228				1,684.00		
	Canned (Smoked)	57	1,445	34				80,680.00		
Red Salmon	Hard Smoke & Kippered	5	75					150.00		
	Fresh	144	945 1/4					302.40		
	Frozen	831	4,320 1/4					2,592.00		
	Canned	700,635	4,293,951	71,317	21,534			2,547,214.00		
	Canned (smoked)	285	1,912	84				4,090.00		
	Hard Smoked	31	200					200.00		
Pink Salmon	Fresh	172,608	43,152					7,489.00		
	Canned	2,461,512	9,649,255	13,737	92,674			3,403,293.00		
	Canned	344,062	3,064,022	3,213	29,728			1,052,426.00		
Chum Salmon	Fresh	20,000	100,209					20,024.00		
Coho Salmon	Frozen	44,552	374,591					243,484.00		
	Salted	16,796	100,899					55,986.44		
	Canned (Kippered)	120	1,440	20				130.00		
	Canned (Smoked)	191,347	1,999,863	16,890	39			976.00		
Dungeness Crab	Fresh		29,252					791,156.00		
	Frozen		694,218					13,070.00		
	Canned		1,734					283,265.00		
	Fresh		1,734	52.5				341,292.00		
Razor Clams	Canned							1,083.00		
Hatibut	Frozen		8,724					6,522.00		
	Salted		285,700					2,181.00		
Salmon Roe	Frozen, tails		247					233,666.40		
Shrimp	Frozen		83,191					370.50		
King Crab	Fresh		682					106,920.77		
Tanner Crab	Frozen		28,392					1,023.00		
	Fresh		3,571					8,852.70		
TOTAL			3,962,219	21,012,509	109,575.5	143,975	24,406	164	20,076	\$ 9,254,835.91

1/ Raw weight.

## Personnel

The Commercial Fisheries Division employed seven permanent and twenty seasonal employees in the Cordova management area in 1968. Following is a list of personnel, general duty assignments and dates of employment.

### Permanent Employees

Ralph B. Pirtle	Area Management Biologist
Peter J. Fridgen	Assistant Area Management Biologist
Robert S. Roys	Area Research Biologist
Richard Nickerson	Research Biologist, Project Leader
Charles Larson	Research Biologist, Project Leader
Jeannette Bailey	Clerk - Stenographer
Janice Shaw	Clerk - Typist

### Seasonal Employees

<u>Name</u>	<u>Assignment</u>	<u>Dates of Employment</u>
George E. Brunner	Coghill River tower, Shrode Creek weir	6/17 - 8/20
John H. Cadman	Prince William Sound stream rehabilitation, Scale Sampling	5/21 - 8/9
Martin deVille	Alevin Sampling, Prince William Sound	3/11 - 4/5
James Ehrhart	Wood Canyon tagging *	6/1 - 7/19
Max Elliott	Copper River subsistence and tag recovery *	6/1 - 8/17
Michael Garber	Wood Canyon tagging *	7/20 - 9/7
Dorothy Glasen	Fish ticket statistics	5/1 - 10/11
Herbert Goblirsch	Copper River test fishing, stream surveys, * tag recoveries *	5/16 - 10/18
Arlot Hall	Alevin Sampling, Prince William Sound	10/14 - 11/6
Daniel Hay	Wood Canyon tagging *	8/28 - 9/12
Paul Johnson	Wood Canyon tagging *	6/1 - 8/30
Brian King	Alevin Sampling, Prince William Sound	3/11 - 4/9 10/14 - 11/6
Michael LeMaitre	Copper River test fishing	5/22 - 6/24
Ralph Lohse	Wood Canyon tagging *	5/27 - 9/1
Fred Lowell	Prince William Sound stream rehabilitation	7/2 - 9/18
James P. Morgen	Copper River test fishing, stream surveys, * tag recoveries *	5/15 - 8/22
William Ritter	Prince William Sound stream rehabilitation, scale sampling	6/11 - 9/13
William Sarette	Coghill River tower, Shrode Creek weir	6/10 - 8/13
John D. Solf	Alevin Sampling, Prince William Sound, Eshamy River weir, stream surveys	3/16 - 4/9 5/1 - 9/12 10/7 - 11/6
Yvonne Tegler	Office clerk *	6/16 - 9/6

\* Glennallen projects under the supervision of Charles Larson.

## APPENDIX

## Eshamy River Adult Red Salmon Age, Length Frequency and Fecundity Samples

SAMPLE 68-1

<u>Female</u>				<u>Male</u>			
<u>No.</u>	<u>Date</u>	<u>Length</u>	<u>Age</u>	<u>No.</u>	<u>Date</u>	<u>Length</u>	<u>Age</u>
1	7/9	526	4 <sub>2</sub>	1	7/9	561	4 <sub>2</sub>
2	"	549	"	2	"	547	"
3	"	559	"	3	"	576	"
4	"	558	"	4	"	630	"
5	"	549	"	5	"	556	"
6	"	551	"	6	"	545	"
7	"	543	"	7	"	604	"
8	"	588	"	8	"	581	"
9	"	547	"	9	"	608	"
10	"	574	"	10	"	471	"
11	"	551	"	11	"	561	"
12	"	531	"	12	"	584	"
13	"	553	"	13	"	625	"
14	"	525	"	14	"	570	"
15	"	552	"	15	"	567	"
16	"	518	"	16	"	576	"
17	"	548	"	17	"	591	"
18	"	533	"	18	"	597	"
19	"	564	"	19	"	576	"
20	"	556	"	20	"	574	"

SAMPLE 68-2

<u>Female</u>			<u>Male</u>		
<u>No.</u>	<u>Date</u>	<u>Length</u>	<u>No.</u>	<u>Date</u>	<u>Length</u>
1	7/9	584	1	7/9	561
2	"	541	2	"	549
3	"	552	3	"	563
4	"	530	4	"	579
5	"	560	5	"	575
6	"	562	6	7/10	566
7	"	582	7	"	570
8	"	574	8	"	600
9	"	536	9	"	574
10	"	573	10	7/11	562
11	"	553	11	"	564
12	"	550	12	"	606
13	"	538	13	"	574
14	7/10	573	14	"	560
15	"	562	15	"	585
16	"	560	16	"	577
17	7/11	544	17	"	546
18	"	537	18	"	599
19	"	531	19	"	605
20	"	566	20	"	608

SAMPLE 68-3

No.	Date	<u>Female</u> Length	No. Eggs	Age
1	7/10	580	4,369	4 <sub>2</sub>
2	"	576	5,807	"
3	"	541	3,510	"
4	"	572	4,251	"
5	"	554	3,585	"
6	7/13		4,849	"
7	"		5,184	"
8	"		3,851	"
9	"		5,419	"
10	"		4,830	"
11	7/15	529	3,013	"
12	"	578	4,800	"
13	"	554	5,184	"
14	"	554	3,865	"
15	"	564	4,080	"
16	7/20	574	3,732	"
17	"	603	5,218	"
18	"	582	4,725	"
19	"	561	4,383	"
20	7/22	577	4,459	"

SAMPLE 68-4

No.	Date	<u>Female</u> Length	<u>Male</u> Length
1	7/13	537	600
2	"	551	591
3	"	531	578
4	"	580	573
5	"	621	584
6	"	581	580
7	"	564	574
8	"	547	592
9	"	578	614
10	"	571	610
11	"	571	615
12	"	594	611
13	"	561	594
14	"	569	585
15	"	564	606
16	"	561	579
17	"	582	579
18	"	577	590
19	"	572	600
20	"	571	622

SAMPLE 68-5

No.	Date	<u>Female</u> Length	<u>Male</u> Length
1	7/16	560	622
2	"	571	573
3	"	552	585
4	"	602	591
5	"	489	592
6	"	574	592
7	"	563	588
8	"	580	576
9	"	534	579
10	"	562	599
11	"	542	577
12	"	563	609
13	"	571	609
14	"	589	606
15	"	563	575
16	"	567	575
17	"	586	567
18	"	569	591
19	"	573	597
20	"	570	587

SAMPLE 68-6

No.	Date	<u>Female</u> Length	Date	<u>Male</u> Length
1	7/18	577	7/18	621
2	"	567	7/19	578
3	"	591	7/20	588
4	7/20	557	"	587
5	7/22	577	"	603
6	"	569	"	590
7	"	557	"	568
8	"	554	7/22	602
9	"	524	"	628
10	"	560	"	606
11	"	573	"	583
12	7/25	584	"	563
13	"	562	"	578
14	"	585	"	602
15	"	547	7/23	569
16	7/26	579	"	629
17	7/29	519	"	614
18	7/30	545	"	598
19	"	596	"	614
20	"	619	"	597

SAMPLE 68-7

No.	Date	<u>Female</u> Length	No. Eggs	Age
1	7/23	517	4,026	4 <sub>2</sub>
2	"	583	4,017	"
3	7/24	539	3,863	"
4	"	562	3,611	"
5	"	541	3,692	"
6	7/26	575	4,580	"
7	7/30	569	4,495	"
8	"	626	4,729	"
9	"	549	3,877	"
10	"	606	4,829	"
11	8/12	588	5,171	"
12	"	621	4,459	-
13	"	572	4,011	"
14	"	590	4,414	"
15	"	577	3,837	"
16	8/15	567	4,187	"
17	"	584	4,541	"
18	"	563	3,239	"
19	"	588	5,239	"
20	"	554	3,916	"

SAMPLE 68-8

No.	Date	<u>Female</u> Length	<u>Male</u> Length
1	7/30	506	593
2	"	587	436
3	"	579	601
4	"	566	592
5	"	555	592
6	"	592	546
7	"	571	600
8	"	581	572
9	"	567	541
10	"	571	551
11	"	580	412
12	"	590	590
13	"	542	588
14	"	566	591
15	"	581	614
16	"	553	585
17	"	527	610
18	"	570	615
19	"	551	588
20	"	582	608

SAMPLE 68-9

No.	Date	<u>Female</u> Length	Date	<u>Male</u> Length
1	7/30	564	7/30	557
2	"	564	"	587
3	"	590	"	590
4	7/31	545	"	606
5	"	547	"	582
6	"	570	"	487
7	"	532	"	599
8	"	545	"	551
9	"	547	7/31	472
10	"	590	"	573
11	"	517	"	594
12	"	583	"	585
13	"	531	"	512
14	"	573	"	610
15	"	564	"	583
16	"	568	"	618
17	"	589	"	487
18	"	599	"	618
19	"	574	"	586
20	"	568	"	576

SAMPLE 68-10

No.	Date	<u>Female</u> Length	<u>Male</u> Length
1	7/31	562	564
2	"	590	580
3	"	582	587
4	"	539	590
5	"	582	597
6	"	557	591
7	"	545	584
8	"	553	577
9	"	564	624
10	"	576	603
11	"	559	611
12	"	551	592
13	"	548	584
14	"	578	522
15	"	564	591
16	"	556	578
17	"	602	581
18	"	572	606
19	"	587	536
20	"	541	566

SAMPLE 68-11

No.	Date	Female Length	Male Length
1	8/4	557	623
2	"	594	584
3	"	580	586
4	"	574	597
5	"	561	594
6	"	564	551
7	"	577	603
8	"	537	592
9	"	552	573
10	"	597	596
11	"	572	586
12	"	576	555
13	"	550	597
14	"	591	567
15	"	534	601
16	"	578	573
17	"	571	400
18	"	531	607
19	"	525	583
20	"	579	600

SAMPLE 68-12

No.	Date	Female Length	Male Length
1	8/5	560	590
2	"	553	591
3	"	589	617
4	"	553	581
5	"	596	546
6	"	533	612
7	"	568	597
8	"	571	601
9	"	559	590
10	"	595	579
11	"	529	576
12	"	564	566
13	"	568	601
14	"	584	572
15	"	571	598
16	"	545	578
17	"	570	600
18	"	591	561
19	"	570	593
20	"	572	589

SAMPLE 68-13

No.	Date	Female Length	Male Length
1	8/6	547	567
2	"	591	613
3	"	549	600
4	"	567	602
5	"	545	592
6	"	561	555
7	"	576	591
8	"	551	581
9	"	532	555
10	"	585	599
11	"	605	620
12	"	575	564
13	"	566	641
14	"	557	558
15	"	567	578
16	"	593	567
17	"	574	581
18	"	553	613
19	"	593	596
20	"	557	578

SAMPLE 68-14

No.	Date	Female Length	Male Length
1	8/12	583	593
2	"	539	563
3	"	586	569
4	"	557	600
5	"	563	545
6	"	590	555
7	"	554	403
8	"	579	580
9	"	560	580
10	"	558	606
11	"	559	586
12	"	508	570
13	"	548	609
14	"	512	587
15	"	560	590
16	"	561	579
17	"	555	567
18	"	564	589
19	"	589	593
20	"	525	557

SAMPLE 68-15

No.	Date	Female Length	Male Length
1	8/12	543	568
2	"	561	605
3	"	526	578
4	"	585	554
5	"	544	586
6	"	524	571
7	"	537	572
8	"	567	586
9	"	564	565
10	"	592	615
11	"	567	565
12	"	565	585
13	"	557	582
14	"	527	579
15	"	596	580
16	"	545	567
17	"	547	617
18	"	555	581
19	"	553	573
20	"	568	561

SAMPLE 68-16

No.	Date	Female Length	Male Length
1	8/13	530	570
2	"	536	610
3	"	545	607
4	"	570	598
5	"	575	576
6	"	569	605
7	"	551	581
8	"	553	617
9	"	570	572
10	"	574	581
11	"	567	567
12	"	567	571
13	"	569	570
14	"	549	571
15	"	568	567
16	"	554	595
17	"	579	529
18	"	579	605
19	"	586	578
20	"	545	565

SAMPLE 68-17

No.	Date	Female Length	No. Eggs	Age
1	8/17	531	3,440	4 <sub>2</sub>
2	"	581	4,980	"
3	"	556	3,620	"
4	"	555	3,968	"
5	"	568	4,386	"
6	8/19	548	3,776	"
7	"	552	4,256	"
8	"	569	3,689	-
9	"	560	4,685	4 <sub>2</sub>
10	"	593	4,863	R
11	8/23	548	3,434	4 <sub>2</sub>
12	"	565	4,516	"
13	"	575	5,259	R
14	"	564	3,621	4 <sub>2</sub>
15	"	596	4,391	"
16	8/26	559	3,618	"
17	"	549	3,206	"
18	"	570	4,052	"
19	"	586	4,007	"
20	"	545	4,489	"

SAMPLE 68-18

No.	Date	Female Length	Male Length
1	8/18	566	600
2	"	580	594
3	"	595	594
4	"	548	531
5	"	554	577
6	"	564	575
7	"	553	568
8	"	551	541
9	"	584	547
10	"	569	583
11	"	591	561
12	"	544	562
13	"	578	604
14	"	541	598
15	"	553	594
16	"	565	571
17	"	530	582
18	"	597	577
19	"	589	593
20	"	541	464

SAMPLE 68-19

No.	Date	Female Length	Male Length
1	8/19	562	582
2	"	553	565
3	"	565	604
4	"	582	618
5	"	577	530
6	"	544	589
7	"	542	611
8	"	581	583
9	"	563	592
10	"	566	566
11	"	535	537
12	"	561	607
13	"	521	568
14	"	533	587
15	"	556	561
16	"	582	595
17	"	584	596
18	"	596	565
19	"	466	542
20	"	572	590

SAMPLE 68-20

No.	Date	Female Length	Male Length
1	8/20	533	578
2	"	547	577
3	"	556	610
4	"	545	586
5	"	546	606
6	"	557	556
7	"	570	592
8	"	586	629
9	"	561	581
10	"	542	595
11	"	563	576
12	"	568	588
13	"	598	581
14	"	523	603
15	"	589	562
16	"	552	612
17	"	548	591
18	"	551	585
19	"	538	577
20	"	572	598

SAMPLE 68-21 1/

No.	Date	Female Length	Male Length	Age
1	8/20	426	438	3 <sub>2</sub>
2	"		427	"
3	"		429	"
4	"		416	"
5	"		443	"
6	"		451	R
7	"		446	3 <sub>2</sub>
8	"		451	"
9	"		437	"
10	"		466	"
11	"		428	-
12	"		440	3 <sub>2</sub>
13	"		472	"
14	"		452	"
15	"		431	"
16	"		422	"
17	"		426	"
18	"		397	"
19	"		413	R
20	"		439	3 <sub>2</sub>

SAMPLE 68-22

No.	Date	Female Length	Male Length
1	8/25	572	574
2	"	570	587
3	"	574	576
4	"	563	580
5	"	547	602
6	"	577	576
7	"	562	618
8	"	562	600
9	"	525	567
10	"	562	526
11	"	597	578
12	"	557	579
13	"	552	565
14	"	563	598
15	"	548	589
16	"	559	558
17	"	565	588
18	"	541	559
19	"	535	562
20	"	543	607

1/ Selected sample of small males

SAMPLE 68-23

No.	Date	Female Length	Male Length
1	8/26	535	589
2	"	591	580
3	"	573	581
4	"	487	573
5	"	547	583
6	"	569	576
7	"	544	581
8	"	589	593
9	"	509	587
10	"	540	583
11	"	562	583
12	"	553	580
13	"	546	586
14	"	540	580
15	"	563	569
16	"	546	572
17	"	557	562
18	"	549	577
19	"	582	606
20	"	590	582

SAMPLE 68-24

No.	Date	Female Length	Male Length
1	8/27	566	623
2	"	570	585
3	"	577	600
4	"	561	595
5	"	527	571
6	"	555	542
7	"	545	573
8	"	569	581
9	"	545	458
10	"	565	596
11	"	557	565
12	"	522	560
13	"	610	552
14	"	554	480
15	"	593	573
16	"	538	545
17	"	560	578
18	"	550	603
19	"	537	616
20	"	548	590