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SUMMARY OF COST AND NET RETURN INFORMATION FOR THE COOK INLET DRIFT GILL-NET FISHERY

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INTRODUCTION

The following tables and figures summarize gross earnings, price and catch information for the salmon drift gill-net fishery in the Cook Inlet management area from 1969 to 1976, and present the results of a survey designed to obtain information on the operating costs of fishermen in that fishery in 1976. Estimates of catch size have been made from fish tickets, and prices have been derived from processor's annual reports and estimates by the Commercial Fisheries Entry Commission (CFEC). The operating cost survey was carried out by mail and personal interview in the late summer and fall of 1977. One-hundred and twelve fishermen, or 21% of the 523 fishermen who used their permanent or interim-use entry permits in the Cook Inlet drift gill-net fishery in 1976 provided completed questionnaires. Using this information, average net returns in 1976 are estimated for the entire drift gillnet fleet, as well as for members of the sample grossing more and less than $20,000. A pair of tables summarizes the average prices for entry permits from 1975 to the first part of 1978, and outlines the status of permanent and interim-use entry permits through 1977.

This paper has been prepared to report the survey results to fishermen who responded to the operating cost survey mentioned above. We hope it will be useful to them. The Commission will appreciate any comments or suggestions on the data or on the method of presentation.

OPERATING COSTS

The cost information summarized in Table 1 was obtained in the late summer and fall of 1977 with a survey of the drift gillnet fishermen operating in the Cook Inlet area. The data obtained from the survey has been arranged in four ways.

Column A of Table 1 lists the average cost in each category for the total boats sampled; the number of usable responses on which each average is based is listed in parentheses. Column B of Table 1 gives the average of the survey responses for all the respondents who grossed $20,000 or over from salmon drift gillnetting, and Column C of Table 1 gives the average responses for the fishermen who were surveyed and made under $20,000. A comparison of Figure 1 and Figure 2, immediately following the notes to Table 1, shows that the fishermen who responded to the questionnaire tended to be those with gross revenues above the 1976 fleet average of $15,180. To offset this bias among the sampled fishermen, each cost was calculated as a weighted sum of the averages for that cost for the vessels grossing $20,000 and over, and for the vessels grossing under $20,000. The weights, based on the percentage of vessels in the sample fleet in each income category, were .326 for vessels $20,000 and over, and .674 for vessels grossing under $20,000. For example, from Table 1, line 1, column B we can find that the average cost for insurance for the fishermen grossing $20,000 and over was $641, and from Column C we find that the average cost for insurance among the fishermen grossing under $20,000 was $367. Multiplying $641 by .326

and $367 by .674 and adding the products gives the weighted cost of insurance in Column D, $456. The result of this operation was a final average for each cost weighted such that the bias among the sampled fishermen is compensated for.

Returns to Labor and Management Ability in line 20 of Table 1, were obtained by subtracting all fixed and variable expenses and the opportunity costs of money tied up in the vessel, gear, and year's fishing operations from gross earnings. The opportunity cost is the income given up by the fisherman when he invested his money in the fishery rather than in a business or asset of equal risk. If the fisherman had invested his money in a business he would receive income from that investment; this income may be greater or less than that earned by fishing, but in any event it is lost when the decision is made to fish, and its loss should be reckoned by the fisherman as a cost.

In a real sense, the cost of any action is the opportunities for other actions that are given up. The cost of gas or a new leadline is the opportunity of doing something else with the money: buying a new hunting rifle, going to a good restaurant for dinner, or purchasing new buoys for crab pots. In this respect so-called "opportunity costs" are costs like any other, a lost opportunity. Those interested in the amount of "ready cash" available to the average fishermen at the end of the season should add the opportunity cost (line 15-17) to the net return to labor and management ability line (line 20).

Insurance costs and the costs for dues, moorage, administration, vessel repairs, rental/leasing, and depreciation obtained in response to questions on the survey were assumed to be for the operation of the vessel in all of its fisheries. Since the average fisherman sampled earned 88% of his gross income from salmon drift gillnetting, these costs were prorated according to the proportion of gross earnings

that each fishing vessel derived from drift gill-net salmon fishing to determine what part of these costs should be assigned to the drift gill-netting activities. When the respondents to the survey noted that certain costs were shared by their crew, these were deducted in the cost categories.

Please note that interest payments have not been included in Table 1. The objective of this report is to provide operating cost information to the fishermen so that they may compare their performance with that of others in the fishery. Interest payments vary widely reflecting the unique financial position of each individual fisherman. Therefore to attain comparability of the costs of actual fishing operations, interest is not included as a cost category.

If the purposes of this report was strictly to determine the average net returns to each fisherman, then interest payments should be included as a cost. If this is the objective of the reader, he/she may add the following figures to the information in Table 1 to arrive at average net returns to each fisherman participating. The actual average interest payments for each of the groups listed were:

Total Sample:	$465 (68)
Gross $20,000 and over:	$523 (23)
Grossing under $20,000:	$435 (45)
Weighted sum:	$463

(The number of responses is given in parentheses.)

The notes following Table 1 are essential to an interpretation of the categories and estimates in it. The average net return may be underestimated due to the reasons mentioned in paragraphs 18 and 19 in the notes.

TABLE 1

SUMMARY OF AVERAGE COSTS FOR DRIFT GILL-NET FISHING FOR SALMON IN THE COOK INLET AREA IN 1976.

Cost Category	Averages For The Sampled Fleet			
	(A) Total Vessels	(B) Grossed $20,000 and Over	(C) Grossed Under $20,000	(D) Weighted Sum
1. Insurance	$ 463 (89)	$ 641 (31)	$ 367 (58)	$ 456
2. Dues	51 (94)	69 (33)	41 (61)	50
3. Moorage	202 (91)	247 (28)	182 (63)	203
4. Administration	389 (101)	379 (36)	393 (65)	388
5. Vessel Repairs	1,052 (101)	1,334 (32)	921 (69)	1,056
6. Depreciation	1,169 (65)	1,299 (25)	1,088 (40)	1,157
7. License Fees	100 (112)	111 (40)	93 (72)	99
8. Fuel	648 (100)	706 (34)	618 (66)	647
9. Galley Expenses	553 (103)	610 (35)	523 (68)	551
10. Gillnetting Equipment Repairs	643 (40)	731 (15)	591 (25)	637
11. Travel & Freight	568 (106)	589 (40)	554 (66)	565
12. Special Clothes	126 (106)	153 (38)	110 (68)	124
13. Rental & Leasing	1,327 (58)	2,038 (23)	861 (35)	1,245
14. Crewshare	3,173 (107)	4,254 (39)	2,554 (68)	3,108
15. Opportunity Cost of Operating Capital	122	152	105	120
16. Opportunity Cost of Investment	2,366 (64)	2,646 (24)	2,198 (40)	2,344
17. Opportunity Cost of Holding an Entry Permit	666	666	666	666
18. Total Costs	$13,618	$16,625	$11,865	$13,416
19. Average Gross Earnings	$17,969 (112)	$25,542 (40)	$13,761 (72)	$15,180 (570)
20. Net Return to Labor and Management Ability	$ 4,351	$ 8,917	$ 1,896	$ 1,764

Source: 1977 Cook Inlet Drift Gillnet Operating Cost Survey conducted by Commercial Fisheries Entry Commission; CFEC Vessel Multiple Listing computer generated file for 1976 prepared November 22, 1977; Table 3.

INFORMATION ON THE DIFFERENT COST CATEGORIES USED IN TABLE 1.

1. This cost category consists of insurance payments.

2. This cost category consists of union and association dues.

3. This category includes moorage and storage charges and moorage related utility charges.

4. Administrative costs include costs such as telephone, legal services, bookkeeping, bank charges, and property taxes, but did not include interest charges and repayments on loans for purchase of the vessel or gear. One of the interviewers working for the Entry Commission on this survey in the Prince William Sound Area reported that the fishermen being interviewed there sometimes had trouble thinking of the type of costs that went to make up this category, and questions from the interviewer were necessary to obtain the information. In a mail survey this prompting would have been unavailable, and the administrative costs might have been underestimated.

5. This category includes vessel and engine repairs, and repairs to gear such as anchors, lines and electronics. It was found from 104 questionnaires with responses that 10 years was the average age of the vessel used by these fishermen.

6. Depreciation was based on the vessels' market value and was calculated using the straight line method over 15 years, assuming that the vessel would have no resale value. The depreciation was calculated for the vessel, which is a long-lived asset, but it was not calculated for the drift gillnet fishing gear. Based on 56 questionnaries with responses, it was found that the 1976 average market value of the vessel for the total sample was $20,728 and $22,013 for the fisherman grossing $20,000 and over; $19,993 for those fishermen who grossed under $20,000.

7. This cost was not taken from the survey responses, but was estimated for each fisherman on the assumption that one vessel license, one gear license, one commercial license and one entry permit would be required for the operation of each vessel. The vessel and commercial license costs were prorated among the various fisheries in which the vessel was operated. Distinctions were made between the costs for resident and non-resident permits, and between permit fees for poverty level and non-poverty level permit holders. It was assumed that the costs of commercial and gear licenses for crewmembers were borne by the crewmembers themselves and did not enter into the costs of the vessel operator. The cost of an entry permit was assumed to be its renewal fee.

INFORMATION ON THE DIFFERENT COST CATEGORIES USED IN TABLE 1 (Cont.)

8. This category includes the costs of fuel and engine lubricants.

9. This category includes the galley expenses.

10. This category includes the costs involved in purchase of and repairs to drift gill-net gear. Based on 55 questionnaires with responses, it was found that the average 1976 market value of drift gill-nets for the total sample fleet was $2,596, for those fishermen grossing $20,000 and over it was $3,017, and $2,356 for those who grossed under $20,000.

11. This category includes the costs of travel and freight.

12. This category includes the costs of special items of clothing.

13. This category includes the costs of renting or leasing the vessel or gear. It was found from 110 questionnaires with responses that 21% were vessels owned by the processors.

14. This category consists of payments to crewmembers. On the basis of the responses received it was found that an average of 1 crewmember was used per vessel in addition to the operator. From 107 questionnaires with responses it was found that 19% was the average percent of gross earnings paid to crewmembers.

15. The opportunity cost of operating capital was calculated at a 12% yearly rate over two months on the sum of all costs except depreciation, crewshare, and the opportunity costs of investments in vessel, gear and permit.

16. The opportunity cost of investment was calculated at a 12% yearly rate over a year on the market value of the vessel and drift gillnet gear. The market values on the survey were assumed to be the market values in 1977, the year the survey was conducted and were discounted by 6% to obtain an estimate of the market values in 1976. The value of the vessel was prorated according to the percentage of the gross revenue earned with that vessel in the salmon drift gillnet fishery.

17. The Entry Commission asks everyone buying or selling an entry permit to indicate the price at which the transfer is made. This survey of permit transfer prices is voluntary, and the responses are kept completely anonymous. The opportunity cost of owning a permit is assumed to be 12% of $5,552. That price, estimated from the permit transfer survey responses, was the average value of permits sold during 1976. In November and December of 1976 after the referendum election on Limited Entry, the value of a Cook Inlet drift gillnet permit rose to $7,265, implying that the average price for the whole year was undervalued due to uncertainty about the election. (For more information on entry permit prices turn to Table 3 in this report.)

INFORMATION ON THE DIFFERENT COST CATEGORIES USED IN TABLE 1 (Cont.)

18. Total costs is the sum of all cost categories (1-17). Since the survey was conducted through the mail, it was impossible to make sure that each fisherman answered every question. Whenever a blank occurred instead of an answer, that item on the questionnaire involved was ignored for the purpose of computing the average cost. For each cost category the number of responses used is in parentheses next to the average. Since the total number of questionnaires is always in parentheses next to the average gross earnings, the number of blanks for each question can be readily computed. Note that his method of dealing with blanks gives an upward bias to the estimates of average costs since some of the answers that were left blank could in fact be zero's.

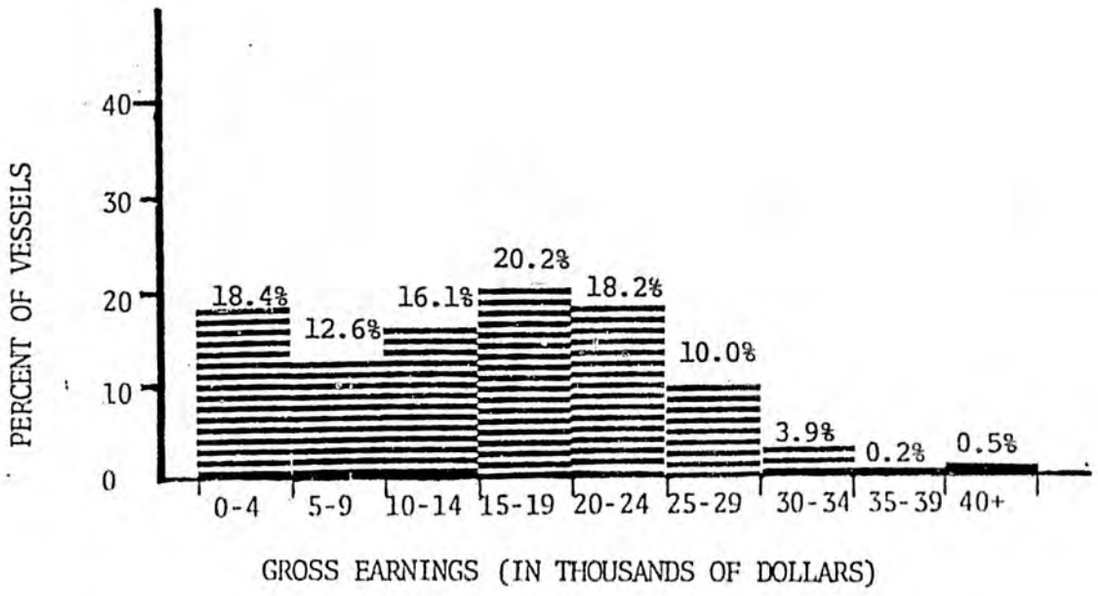
19. These are the average gross earnings of those responding to the survey. None of the average gross earnings figures are based on information derived from the survey, but instead on information available to the Commission from fish tickets and estimates of average prices shown in Tables 6 and 7. Average gross earnings in Column D are those for the entire fleet. The average gross earnings does not include bonuses, in-kind payments, price adjustments at the end of the fishing season, etc. This information is unavailable but it should be noted that the average gross earnings is higher than is shown in this report. It was found from 44 questionnaires with responses that 34% received a bonus. It was found from this study and a survey that was done in 1974[1/] by CFEC that the average bonus paid to fishermen was 3% of their gross earnings.

20. Care is required in interpreting the "Net Return to Labor and Management Ability" line. This could be a very good or very poor return depending on the amount of effort spent during the season. Some insight into the amount of effort spent during the season can be obtained by estimating the number of separate days or weeks on which a fisherman made landings with his boat. In the following estimates, multiple landings made on one day or during one week are are counted as one day or one week of landings. Using this measure of effort, landings were made from the vessels surveyed on an average of:

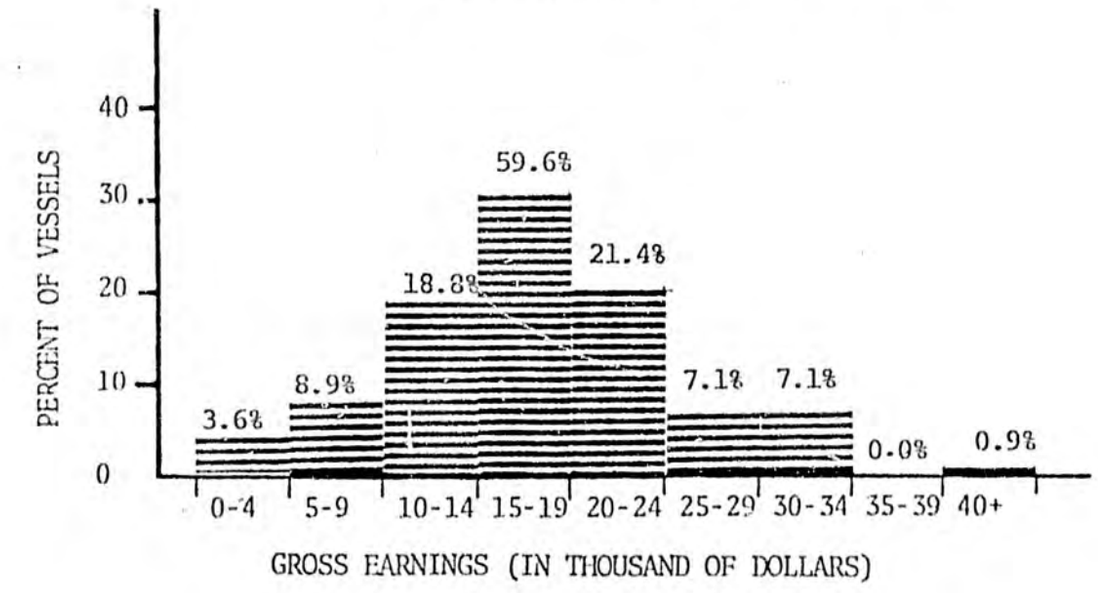
Sample Fleet	Number of Observations	Average Number of Separate Days or Weeks on Which Landings Were Made	
		Days	Weeks
Total	112	11	5.8
Grossing $20,000 and over	40	13	6.3
Grossing under $20,000	72	11	5.5
Total Cook Inlet Drift Gill-Net Fleet	570	9	4.9

1/ CFEC "Cost and Earnings of Alaskan Fishing Vessels-An Economic survey by James Owers, September, 1974.

Figure 1. - Percent of the total Cook Inlet Management Area drift gill-net fleet per gross earning increment for salmon catch for 1976. (Based on 570 vessels)



Figrue 2. - Percent of the sample Cook Inlet Management Area drift gill-net fleet per gross earning increments for salmon catch for 1976. (Based on 112 vessels)



Source: 1977 Cook Inlet drift gillnet operating cost survey conducted by CFEC; 1976 Vessel Multiple Listing dated November 22, 1977.

ENTRY PERMITS STATUS AND PRICES

The following table presents some of the important statistics on permit status in the Cook Inlet Drift Gill-Net fishery.

TABLE 2

STATUS OF SALMON DRIFT GILL-NET ENTRY PERMITS IN THE COOK INLET MANAGEMENT AREA, 1974-1977

Year	Number of Permit Holders				Percent of Total Permits Used To Land Fish
	Permanent	Interim	Total*	Used to Land Fish	
1974	0	585	585	**	**
1975	453	331	623	456	73.2%
1976	514	82	583	523	89.7%
1977	539	36	568	533***	93.8%

*This is not the sum of permanent plus interim permits since several fishermen in each year started with interim permits but were granted permanent permits before the year ended.

**Data Unavailable

***Preliminary Estimates.

Sources: CFEC "Number of Permits Fished by Year by fishery", special computer run dated March 1978, for 1977 it was run on 5/78; CFEC Permit Status computer generated files dated December 31st for each of the appropriate years; and CFEC Fishery List dated 6/78 for 1975-1977.

Estimates of the average prices paid for drift gillnet entry permits around the state are listed in Table 3. These prices, obtained from the survey of fishermen buying or selling permits mentioned earlier, are averages of the prices which people who bought permits said they paid. The number of individuals who bought permits and who responded to our voluntary survey with price information are given in parentheses. These price estimates have not been converted into constant 1976 dollars.

TABLE 3

COMPARISON OF ALASKA DRIFT GILL-NET ENTRY PERMIT PRICES BY AREA. AVERAGE PRICE ESTIMATES FOR 1975-1978.

Area	Average Price For: 1975	1976	1977	1978*	1978* Prices Most Frequently Paid
Southeastern	$9,625 (28)	$10,212 (12)	$16,261 (21)	$33,344 (16)	$40,000
Prince Wm. Sound	3,089 (9)	4,406 (16)	13,750 (28)	24,184 (19)	$30,000
Cook Inlet	3,911 (9)	5,552 (29)	10,832 (26)	31,000 (14)	$45,000
Peninsula-Aleutians	**	6,333 (3)	10,285 (7)	14,250 (4)	--
Bristol Bay	1,165	2,536 (25)	6,440 (53)	17,723 (61)	$30,000

*As of 7/05/78
**No estimate can be made

Source: Survey conducted by the CFEC of individuals buying and selling permits; data compiled by Elizabeth Stewart of the CFEC research staff.

GROSS EARNINGS

The gross earnings by species for each year in Table 4 were estimated using the adjusted salmon prices in Table 7 (adjusted to constant 1976 dollars)[2/] and the total yearly catch figures in Table 9. The total gross earnings in Table 5 are drawn from Table 4.

The average gross earnings in Table 5 are obtained using estimates of the total number of vessels making landings. The average gross earnings per permit holder who made landings has also been calculated in Table 5 for 1975 and 1976 (shown in parentheses). Prior to 1975 this data was not available since commercial license numbers were not required on fish tickets; since that time Limited Entry permit numbers have been required and the data for gross earnings by entry permit holders is available from 1975.

The information in these tables shows that despite substantial fluctuations from year to year, average gross earnings attributable to drift gill-net caught salmon in the Cook Inlet area were higher between 1973 and 1976 than they were between 1969 and 1972. Between 1974 and 1976, gross earnings for drift gill-net salmon have increased steadily, even when the impact of inflation has been eliminated by measurement in constant 1976 dollars. The average of the total gross earnings for the first four years of the time period, expressed in constant 1976 dollars, was $5,188; the average for the next four years, also expressed in constant 1976 dollars was $10,832.

2/ The method used to convert the price received by fishermen into constant dollars is outlined in the Appendix to this report.

TABLE 4

TOTAL GROSS EARNINGS IN THE COOK INLET MANAGEMENT AREA
DRIFT GILL-NET FISHERY BY SPECIES FOR 1969-1976,
EXPRESSED IN CONSTANT 1976 DOLLARS

Gross Earnings in Constant 1976 Dollars					
Year	King	Red	Coho	Pink	Chum
1969	$ 4,373	$1,514,407	$ 76,299	$ 7,892	$ 366,105
1970	6,395	1,233,274	306,329	324,740	1,144,674
1971	4,324	1,269,540	72,657	5,655	431,105
1972	9,662	1,709,640	53,910	131,788	1,163,921
1973	6,807	2,543,908	122,295	141,343	2,641,033
1974	11,372	1,993,246	341,206	295,117	1,525,445
1975	2,738	1,546,866	325,333	153,082	2,694,244
1976	13,067	5,707,576	306,109	847,475	1,778,146

Source: Tables 3 and 7.

TABLE 5

TOTAL AND AVERAGE GROSS EARNINGS IN THE COOK INLET MANAGEMENT AREA DRIFT GILL-NET FISHERY BY YEAR 1969 to 1976, EXPRESSED IN CONSTANT 1976 DOLLARS

Year	Total Gross Earnings	Number of Different Vessels Making Landings	Average Gross Earnings Per Vessel
1969	$1,969,076	508	$ 3,876
1970	3,015,412	555	5,433
1971	1,783,281	432	4,128
1972	3,068,921	401	7,653
1973	5,455,386	462	11,808
1974	4,166,386	550	7,575
1975	4,722,263	541 (456)*	8,729 ($10,356)**
1976	8,652,373	570 (523)*	15,180 ($16,544)**

*Figure in parentheses represents number of separate entry permits which were used to make landings in the Cook Inlet Management area in this year.

**Figure in parentheses represents the average gross earnings per permit holder who made landings in this year.

Source: Table 4; CFEC "Catch Data Tabulation from Gross Earning File" prepared 11/12/77; CFEC "Number of Permits Fished by Year by Fishery" computer files generated for 1975-1977 prepared in mid-March, 1978.

EX-VESSEL PRICES, 1969-1976[3/]

An upward trend in the prices for all salmon species seems to be an important reason for the increase in average gross earnings. The prices actually received by the fishermen, shown in Table 6 and Figure 3(a-e), show a consistent pattern across all species. Prices were fairly stable between 1969 and 1971, rose rapidly between 1972 and 1974, fell during 1975, and then rebounded in 1976.

In Table 7 and Figure 4(a-e), the salmon prices have been adjusted into constant 1976 dollars to eliminate the impact of inflation. The price increases in this table and figure are not due to price inflation in the U.S. economy during this period, but to an increase in prices paid to fishermen for salmon relative to prices for other goods. Figure 4 shows that the price for each of the five species of salmon, expressed in constant dollars, has increased substanially over the past eight years. The pattern of price changes was not changed much by inflating the years 1969 to 1975. For most of the species there is a distinct change in the level of prices in 1973; prices are substantially higher between 1973 and 1976 then they were between 1969 and 1972.

The price increases over the past eight years were not unique to the Cook Inlet salmon drift gillnet fishery, but occurred in other salmon producing areas of the state as well. Prices in Bristol Bay and Prince William Sound for drift gillnet caught salmon also show the same general upward trend, with a decline in 1975, and a rebound in 1976.

3/ The price per pound does not include bonuses, in-kind payments, and price adjustments to the fishermen from the processors at the end of the fishing season.

TABLE 6

PRICES IN DOLLARS PER POUND, ROUND WEIGHT, TO THE FISHERMEN FOR DRIFT GILL-NET CAUGHT SALMON IN THE COOK INLET MANAGMENT AREA FROM 1969-1976

Year	King	Red	Coho	Pink	Chum
1969	.38	.28	.19	.14	.12
1970	.40	.28	.25	.14	.14
1971	.37	.30	.21	.15	.15
1972	.47	.34	.27	.19	.20
1973	.62	.65	.50	.30	.42
1974	.88	.91	.66	.46	.53
1975	.54	.63	.54	.35	.41
1976	.92	.76	.61	.37	.54

Source: Estimates by the CFEC, State of Alaska.

Figure 3a
King Salmon

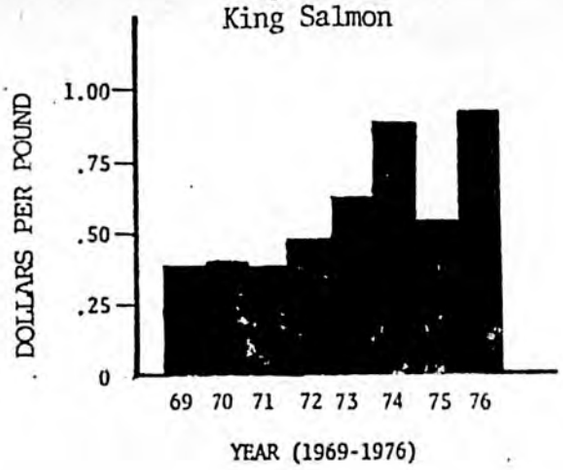


Figure 3b
Red Salmon

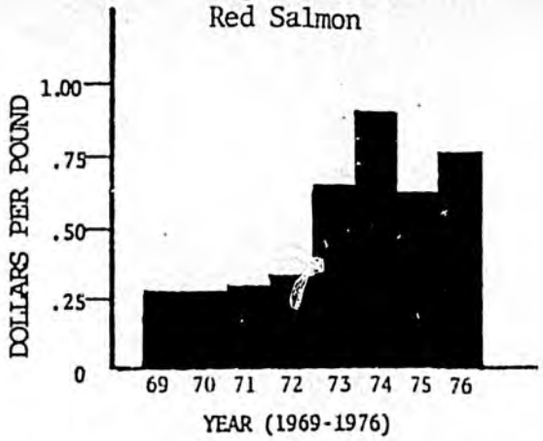


Figure 3c
Coho Salmon

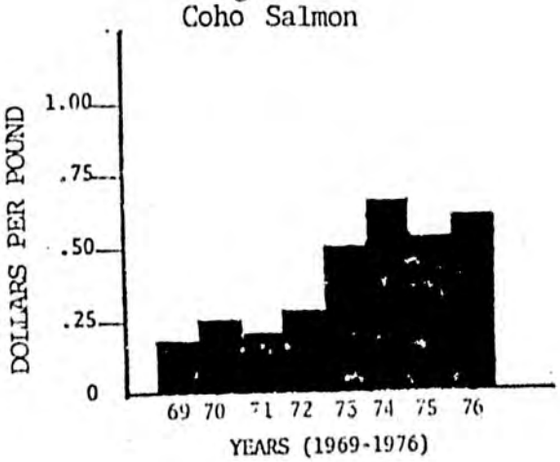


Figure 3d
Pink Salmon

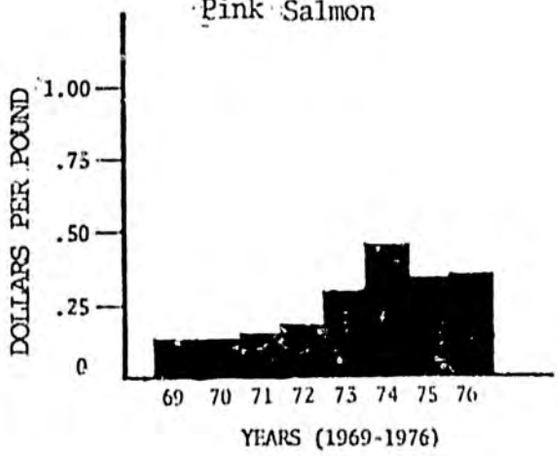


Figure 3e
Chum Salmon

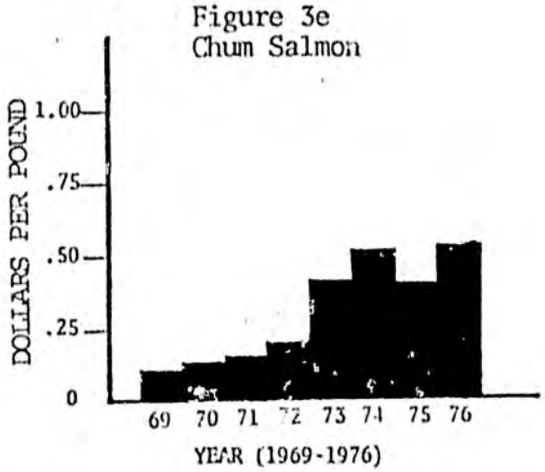


Figure 3(a-e) - Prices in Dollars per Pound in the Round to the Fishermen for Drift Gill-net Caught Salmon in The Cook Inlet Area From 1969-1976.

Source: Estimates by CFEC, State of Alaska.

TABLE 7

PRICES IN DOLLARS PER POUND, ROUND WEIGHT, TO THE FISHERMEN FOR DRIFT GILLNET CAUGHT SALMON IN THE COOK INLET MANAGEMENT AREA FROM 1969-1976 ADJUSTED INTO CONSTANT 1976 DOLLARS USING THE WHOLESALE PRICE INDEX FOR ALL COMMODITIES.

	Adjusted into Constant 1976 Dollars				
Year	King	Red	Coho	Pink	Chum
1969	.65	.48	.33	.24	.21
1970	.66	.46	.41	.23	.23
1971	.59	.48	.34	.24	.24
1972	.72	.52	.42	.29	.31
1973	.84	.88	.68	.41	.57
1974	1.01	1.04	.75	.53	.61
1975	.57	.66	.57	.37	.43
1976	.92	.76	.61	.37	.54

Source: Table 6; U.S. Department of Labor Wholesale Price Index for all commodities, 1967 = 100.

Figure 4a
King Salmon

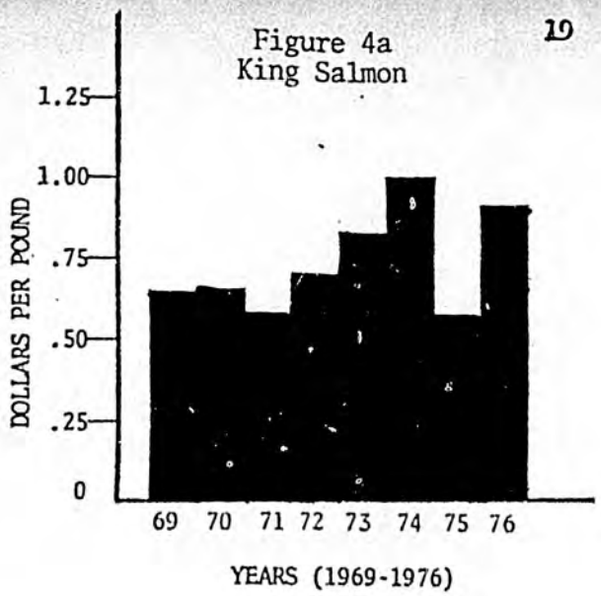


Figure 4b
Red Salmon

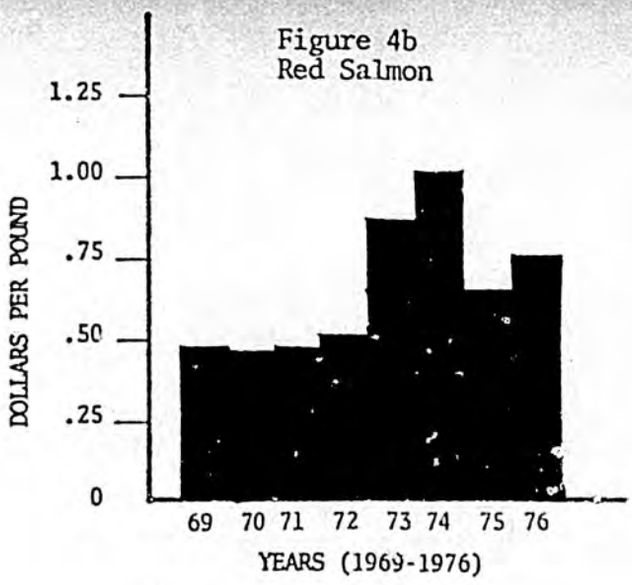


Figure 4c
Coho Salmon

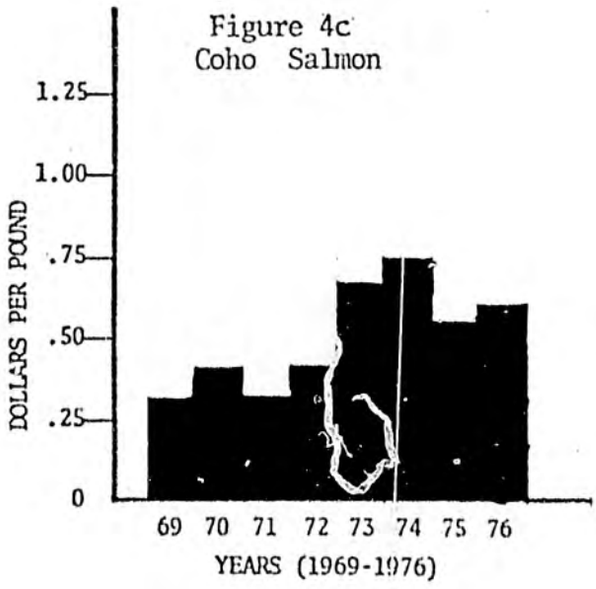


Figure 4d
Pink Salmon

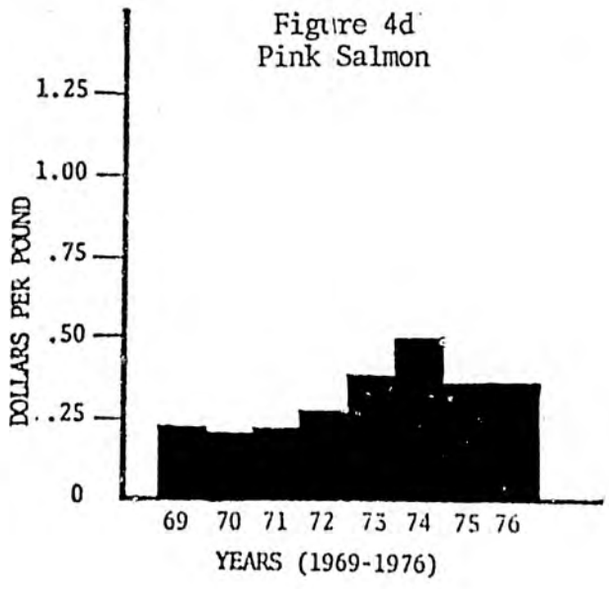


Figure 4e
Chum Salmon

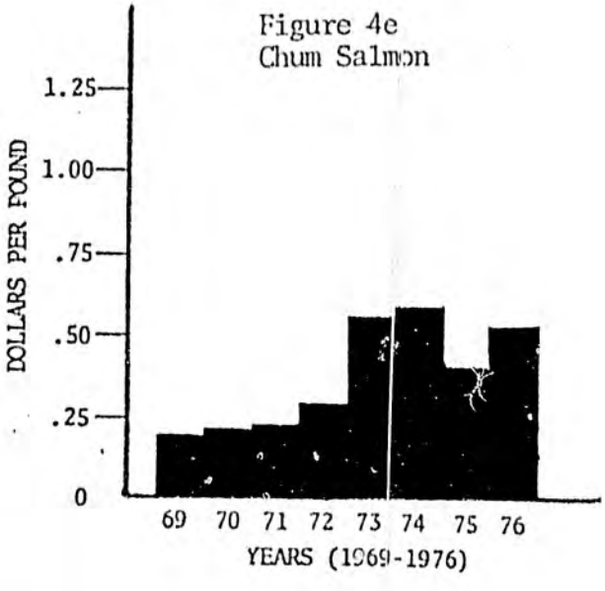


Figure 4(a-e) - Prices in Dollars per Pound, Round Weight, to the Fishermen for Drift Gillnet Caught Salmon in The Cook Inlet Management Area From 1969-1976, Adjusted into Constant 1976 dollars using the Wholesale Price Index for All Commodities.

Source: Table 3.

CATCH BY SPECIES IN POUNDS, 1969 to 1977[4/]

The information in the following tables is based on catch data from fish tickets, summarized in computer printouts from the CFEC. Table 8 shows the monthly distribution of total pounds by each species of salmon harvested by the drift gill-net fleet for 1969-1977. Table 9 and Figure 5 show the catch patterns and trends clearly. The catch of king salmon has fluctuated between 6,700 and 102,100 pounds. Given the small catches of king salmon prior to 1977, it would only have shown up in Figure 5 in one year given the scale used, and so does not appear there. Between 1969 and 1975 the catch of red salmon fluctuated between 2,343,700 and 3,155,000 pounds, but in 1976 it jumped to 7,510,000 pounds and in 1977 to 8,378,000 pounds, in both years over twice the previous high catch. The catch of coho salmon remained at fairly low levels throughout the nine year period; the high catch, in 1970, was 747,000 pounds. The catches of pink salmon seem to be trending upwards. Excluding 1970 the trend was from very low levels, under 40,000 pounds, in 1969 and 1971, to the higher levels of one to two million pounds in 1976 and 1977. Chum salmon catches have fluctuated a great deal within a range from 1,743,400 to 9,207,600 pounds. In general, however, chum salmon catches appear to be trending upwards.

4/ Preliminary figures for 1977.

TABLE 8

MONTHLY DISTRIBUTION OF TOTAL POUNDS BY EACH SPECIES OF SALMON HARVESTED BY THE DRIFT GILLNET FLEET IN THE COOK INLET MANAGEMENT AREA 1969-1977*

Year	June	July	August	Other
KING SALMON				
1969	1,623	4,906	198	0
1970	827	8,646	216	0
1971	4,265	2,822	241	0
1972	5,352	7,955	86	26
1973	171	6,922	1,010	0
1974	726	9,983	550	0
1975	409	3,740	654	0
1976	1,165	12,464	723	0
1977*	1,574	99,081	1,384	93**
RED SALMON				
1969	601,859	2,467,933	7,995	77,228**
1970	23,264	2,645,500	12,267	0
1971	13,218	2,617,025	14,627	5**
1972	12,156	3,269,266	6,292	56**
1973	1,957	2,877,503	11,345	0
1974	1,996	1,911,598	2,989	0
1975	4,014	2,300,178	39,545	0
1976	13,604	7,488,471	8,781	0
1977*	207,850	8,148,643	21,161	334**
COHO SALMON				
1969	35	169,510	61,663	0
1970	260	694,054	52,645	184**
1971	0	150,677	61,227	1,793**
1972	25	110,004	18,167	160**
1973	4	146,047	33,795	0
1974	6	402,775	52,079	81**
1975	5	351,621	212,117	7,016**
1976	60	453,775	46,112	1,988**
1977*	179	544,282	181,323	7,220**
PINK SALMON				
1969	198	28,651	4,036	0
1970	176	1,258,311	153,424	0
1971	29	23,087	429	17**
1972	4	424,675	29,764	0
1973	296	343,550	893	0
1974	14	488,200	68,611	0
1975	359	408,899	4,470	7**
1976	112	1,954,827	336,141	41**
1977*	6,133	1,049,462	7,528	221**
CHUM SALMON				
1969	894	1,001,934	740,528	0
1970	326	4,011,265	965,138	115**
1971	2,689	1,067,047	722,509	4,024**
1972	613	2,719,131	1,034,058	782
1973	386	3,291,548	1,341,457	0
1974	124	1,686,987	813,615	4
1975	424	3,710,090	2,554,995	175**
1976	2,001	2,781,652	509,379	49**
1977*	8,517	5,141,177	4,047,371	10,492**

*Preliminary Figures.
**Catch made in May or September.

Source: CFEC, "1976 Catch Data Tabulation from Gross Earning File: Computer printout dated 4/10/78, R01-03B-4550, for the specified years. For 1977 this printout is dated 5/21/78.

TABLE 9

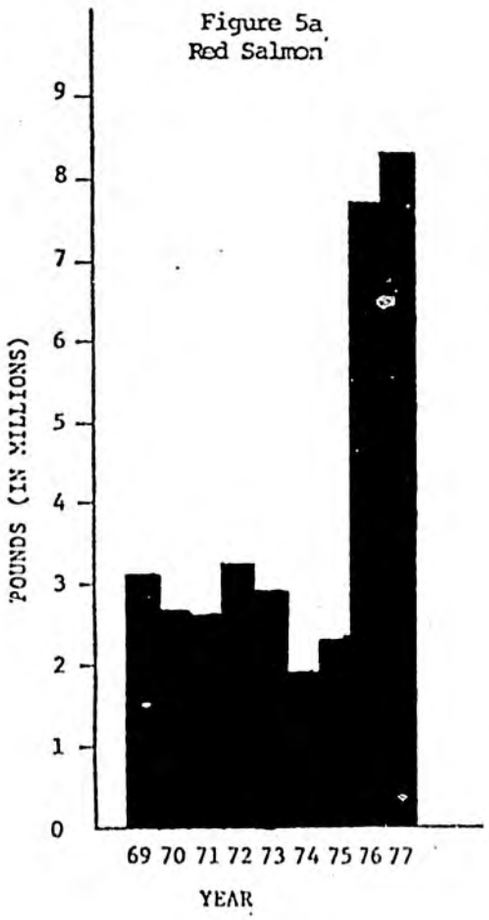
TOTAL CATCH IN POUNDS BY YEAR FOR EACH SPECIES OF SALMON HARVESTED WITH DRIFT GILLNET GEAR IN THE COOK INLET MANAGEMENT AREA, 1969-1977*

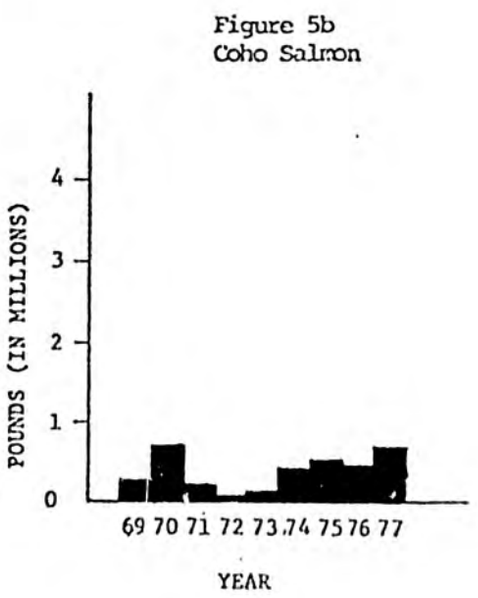
Year	King	Red	Coho	Pink	Chum
1969	6,727	3,155,015	231,208	32,885	1,743,356
1970	9,689	2,681,031	747,143	1,411,911	4,976,844
1971	7,328	2,644,875	213,697	23,562	1,796,269
1972	13,419	3,287,770	128,356	454,443	3,754,584
1973	8,103	2,890 805	179,846	344,739	4,633,391
1974	11,259	1,916,583	454,941	556,825	2,500,730
1975	4,803	2,343,737	570,759	413,735	6,265,684
1976	14,203	7,509,968	501,818	2,290,474	3,292,863
1977*	102,132	8,377,988	733,004	1,063,344	9,207,557

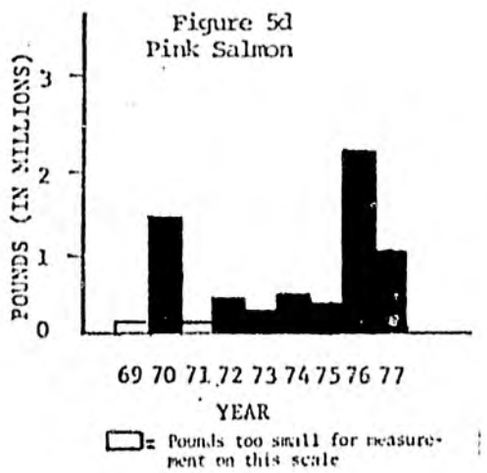
*Preliminary Figures for 1977.

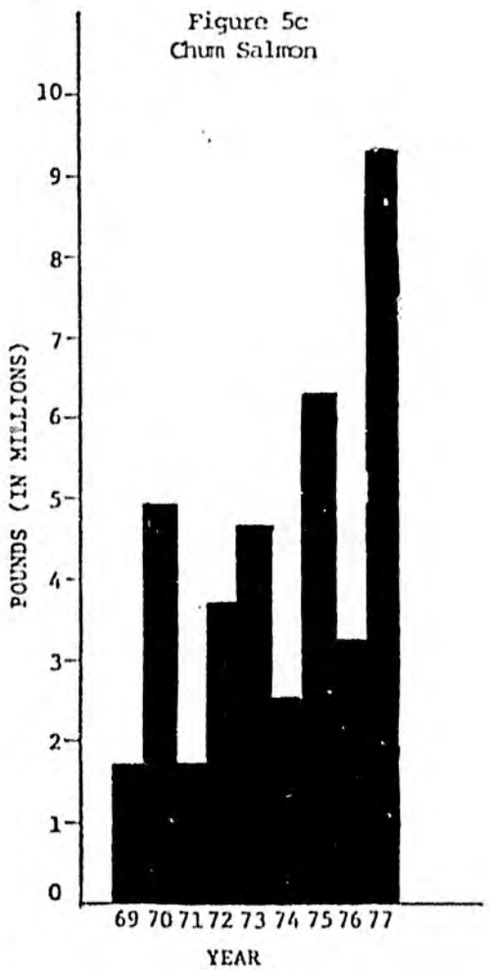
Source: Table 8 (but less 2,019 total pounds of salmon for 1976). This is due to fish ticket errors with gear codes. Table 9 reflects the correct poundage, while Table 8 does not.

Figure 5(a-d).-Total Catch of Salmon With Drift Gill-net Gear in The Cook Inlet Area by Species and Year, 1969-1977*









*Preliminary figures for 1977

Source: Table 9

APPENDIX

METHOD OF PRICE ADJUSTMENT

The prices received by the fishermen in any particular year (these are given in Table 7) were inflated by a factor designed to express them in 1976 dollars. The "inflation factor" for each year was obtained using the U.S. Department of Labor's Wholesale price index for all commodities. The index for the year whose price it was desired to inflate was subtracted from the index for 1976. The percentage increase in the index was then determined and the price was inflated by that percentage.

The mulitiplier for 1969 was calculated by finding that the difference between the indicies 1969=106.5 and 1976=182.9 was 76.4. The difference meant a 71.74% increase in the index between 1969 and 1976. The multiplier for 1969 was therefore 1.717. The king salmon price received by the fishermen in 1969 was .38, the inflated price was (1.717) (.38) or .65.

The following table shows the work involved in calculating the inflation factors.

Inflation factor calculations

$Year_i$	WPI^*_i	$WPI_{76} - WPI_i$	% change in WPI between $year_i$ and 1976	Inflation multiplier for $year_i$
69	106.5	76.4	71.74	1.717
70	110.4	72.5	65.67	1.657
71	113.9	69	60.58	1.606
72	119.1	63.8	53.57	1.536
73	134.7	48.2	35.78	1.358
74	160.1	22.8	14.24	1.142
75	174.9	8	4.57	1.046
76	182.9	0	0	1.00

*for all commodities, 1967=100.

Source: U.S. Department of Labor.

SUMMARY OF COST AND NET RETURN INFORMATION FOR THE PRINCE WILLIAM SOUND DRIFT GILLNET FISHERY

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December, 1978

INTRODUCTION

The following tables and figures summarize gross earnings, price, and catch information for the salmon drift gillnet fishery in the Prince William Sound management area from 1969 to 1976, and present the results of a survey designed to obtain information on the operating costs of fishermen in that fishery in 1976. Estimates of catch size have been made from fish tickets, and prices have been derived from processor's annual reports, computations from contracts reached with processors by the Cordova Aquatic Marketing Association, and estimates made by fishermen. The operating cost survey was carried out by mail and personal interview in the late summer and fall of 1977. Eighty-three fishermen, or 17% of the 477 fishermen who used their permanent or interim-use entry permits in the fishery in 1976 provided completed questionnaires. Using this information, average net returns in 1976 are estimated for the entire drift gillnet fleet, and for those fishermen grossing more and less than $20,000. A pair of tables summarizes the average prices for entry permits from 1975 to the first part of 1978, and outlines the status of permanent and interim-use permits through 1977.

This paper has been prepared to report the survey results to fishermen who responded to the operating cost survey mentioned above. We hope it will be useful to them. The Commission will appreciate any comments or suggestions on the data or on the method of presentation.

OPERATING COSTS

The cost information summarized in Table 1 was obtained in the late summer and fall of 1977 with a survey of the drift gillnet fishermen operating in Prince William Sound, the Copper River and Bering River areas. The data obtained from the survey has been arranged in four ways.

Column A of Table 1 lists the average cost in each category for the total boats sampled; the number of usable responses on which each average is based is listed in parentheses. Column B of Table 1 gives the average of the survey responses for all the respondents who grossed $20,000 or over from salmon drift gillnetting, and Column C of Table 1 gives the average responses for the fishermen who were surveyed and made under $20,000. A comparison of figures 1 and 2, immediately following the notes to Table 1, shows that the fishermen who responded to the questionnaire tended to be those with gross revenues above the 1976 fleet average of $19,582; to offset this bias among the sampled fishermen, each cost was calculated as a weighted sum of the averages for that cost for the vessels grossing $20,000 and over, and for the vessels grossing under $20,000. The weights, based on the percentage of vessels in the sample fleet in each income category, were .414 for those grossing $20,000 and over and .587 for those grossing under $20,000. For example, from Table 1, line 1, column B we can find that the average for insurance for the fishermen grossing $20,000 and over was $362 and from column C we find that the average cost for insurance among those grossing under $20,000 was $263. Multiplying $362, by .414 and $263 by .587 and adding the products gives the weighted cost of insurance in Column D, $312. The result of this operation was a final average for each cost weighted such that the bias among the sampled fishermen is compensated for.

The vessel length and vessel horsepower for the sample fleet and for the total drift gill-net fleet in the Prince William Sound management area were checked to determine if the sample fleet was biased in this respect. It was found that the average vessel lengths for the sampled fleet and for the total drift gill-net fleet were 26.7 and 26.4 feet respectively, while the average horsepowers for the sample fleet and the total fleet were 201.4 and 217.1 respectively. This indicates that the sample fleet is representative of the total fleet with respect to vessel length and vessel horsepower.

Net returns to Labor and Management in line 19 of Table 1 were obtained by subtracting all fixed and variable expenses and the opportunity costs of money tied up in the vessel, gear, and year's fishing operations from gross earnings. The opportunity cost is the income given up by the fisherman when he invested his money in the fishery rather than in a business or asset of equal risk. If the fisherman had invested his money in a business he would receive income from that investment; this income may be greater or less than that earned by fishing, but in any event it is lost when the decision is made to fish, and its loss should be reckoned by the fisherman as a cost.

In a real sense, the cost of any action is the opportunities for other actions that are given up. The cost of gas or a new leadline is the opportunity of doing something else with the money: buying a new hunting rifle, going to a good restaurant for dinner, or purchasing new buoys for crab pots. In this respect so-called "opportunity costs" are costs like any other, a lost opportunity. Those interested in the amount of "ready cash" available to the average fishermen at the end of the season should use Table A-1 found in the Appendix to this report, this Table does not include any opportunity cost.

Insurance costs and the costs for dues, moorage, administration, vessel repairs, and depreciation obtained in response to questions on the survey were assumed to be for the operation of the vessel in all of its fisheries. Since the average fisherman sampled earned 81% of his gross fishing income from salmon drift gillnetting, these costs were prorated according to the proportion of gross earnings that each fishing vessel derived from fishing salmon with drift gillnet gear to determine what part of these costs should be assigned to the drift gillnetting activities.

Please note that interest payments have not been included in Table 1. The objective of this report is to provide operating cost information to the fishermen so that they may compare their performance with that of others in the fishery. Interest payments vary widely reflecting the unique financial position of each individual fisherman. Therefore to attain comparability of the costs of actual fishing operations, interest is not included as a cost category.

If the purpose of this report was strictly to determine the average net returns to the fishing business including relevant opportunity costs and interest payments, please refer to Table A-2 found in the Appendix to this report.

The notes following Table 1 are essential to an interpretation of the categories and estimates contained in it. The average net return may be underestimated due to the reasons mentioned in paragraphs 17 and 18 in the notes.

TABLE 1*

SUMMARY OF AVERAGE COSTS FOR DRIFT GILL-NET FISHING FOR SALMON IN THE PRINCE WILLIAM SOUND, COPPER RIVER AND BERING RIVER AREAS in 1976.

Cost Category	Averages for the Sampled Fleet (A) Total Sampled Vessels	(B) Grossed $20,000 and Over	(C) Grossed Under $20,000	(D) Total Fleet (476) Weighted Sum
1. Insurance	$ 311 (76)	$ 362 (37)	$ 263 (39)	$ 312
2. Dues	109 (80)	111 (40)	58 (40)	80
3. Moorage	153 (80)	179 (40)	127 (40)	149
4. Administration	204 (73)	260 (36)	149 (37)	195
5. Vessel Repairs	936 (75)	842 (38)	1,033 (37)	955
6. Depreciation	820 (52)	1,017 (28)	591 (24)	768
7. License Fees	91 (83)	97 (41)	86 (42)	90
8. Fuel	849 (75)	1,013 (40)	660 (35)	806
9. Galley Expenses	847 (76)	907 (39)	784 (37)	835
10. Gillnetting Equipment Repairs	1,380 (27)	1,436 (12)	1,337 (15)	1,380
11. Travel & Freight	511 (76)	638 (38)	389 (38)	492
12. Special Clothes	179 (78)	169 (39)	189 (39)	181
13. Fish Assessments	66 (81)	98 (40)	35 (41)	62
14. Crewshare	512 (83)	589 (41)	437 (42)	501
15. Opportunity Cost of Investment	1,948 (50)	2,351 (27)	1,476 (23)	1,839
16. Opportunity Cost of Holding an Entry Permit	529	529	529	529
17. TOTAL COSTS	$9,445	$10,598	$8,143	$9,174
18. AVERAGE GROSS EARNINGS	$21,151 (83)	$32,465 (41)	$10,106 (42)	$19,582 (476)
19. NET RETURN TO LABOR AND MANAGEMENT	$11,706	$21,867	$ 1,963	$10,408

Source: 1977 Prince William Sound Drift Gill-Net Operating Cost Survey conducted by Commercial Fisheries Entry Commision; CFEC Vessel Data Multiple Listing computer generated file for 1976, prepared November 12, 1977; Table 3.

*Excludes interest payments.

INFORMATION ON THE DIFFERENT COST CATEGORIES USED IN TABLE 1.

1. This cost consists of insurance payments.

2. This cost category consists of union and association dues.

3. This category includes moorage and storage charges and moorage related utility charges.

4. Administrative costs include costs such as telephone, legal services, bookkeeping, bank charges, and property taxes, but does not include interest charges and repayments on loans for purchase of the vessel or gear. One of the interviewers working for the Entry Commission on this survey reported that the fishermen being interviewed sometimes had trouble thinking of the type of costs that went to make up this category, and questions from the interviewer were necessary to obtain the information. In a mail survey this prompting would have been unavailable, and the administrative costs might have been underestimated.

5. This category includes vessel and engine repairs, and repairs to gear such as anchors, lines and electronics. It was found from 78 questionnaires with responses that 7 years was the average age of the vessels used by these fishermen.

6. Depreciation was based on the vessels' market value and was calculated using the straight line method over 15 years and assuming that the vessel would have no resale value. The depreciation was calculated for the vessel, which is a long-lived asset, but it was not calculated for the drift gillnet fishing gear. Based on 51 questionnaires with responses it was found that the 1976 average market value of the vessel for the total 56 vessels was $16,037 and $18,685 for the fishermen grossing $20,000 and over; $12,815 for those fishermen grossing under $20,000.

7. This cost was not taken from the survey responses, but was estimated for each fisherman on the assumption that one vessel license, one gear license, one commercial license and one entry permit would be required for the operation of each vessel. The vessel and commercial license costs were prorated among the various fisheries in which the vessel was operated. Distinctions were made between the costs for resident and non-resident licenses and between the permit fees for poverty level and non-poverty level permit holders. It was assumed that the costs of commercial and gear licenses for crew members were borne by the crew members themselves and did not enter into the costs of the vessel operator. The cost of an entry permit was assumed to be its renewal cost.

INFORMATION ON THE DIFFERENT COST CATEGORIES IN TABLE 1 (Cont.)

8. This category includes the costs of fuel and engine lubricants.

9. This category includes the galley expenses.

10. This category includes the costs involved in purchase of and repairs to drift gillnet gear. Based on 50 questionnaires with responses, it was found that the average 1976 market value of drift gill-nets for the 50 vessels was $4,364, for those fishermen grossing $20,000 and over it was $5,109, and $3,489 for those who grossed under $20,000.

11. This category includes the costs of travel and freight.

12. This category includes the costs of special items of clothing.

13. Fish caught in the Prince William Sound, Copper and Bering River areas are assessed to raise money for the private nonprofit hatchery program in the area. The assessment is 3¢ for each fish caught in the Sound, and 2¢ for each fish caught on the Copper and Bering River flats. Information on the location of catch by species is not readily available for each fisherman and so to approximate the cost of this assessment to each fisherman, each species was assigned a tax according to where it was primarily taken in 1976. This tax was 3¢ a fish for pinks and chums, taken mostly in the Sound, and 2¢ a fish for kings, reds, and cohos, which are taken mostly on the Copper River and Bering River flats.

14. This category consists of payments to crewmembers. On the basis of the responses received it was found that 12 vessels out of the 83 (14%) had paid crewmembers (other than the operator) on their vessels while drift gill-netting for salmon. From the 83 questionnaires, it was found that 2.4% was the average percent of gross earnings paid to crewmembers. It was also found that most men in this fishery drift gillnet for salmon on a one-man one boat basis.

INFORMATION ON THE DIFFERENT COST CATEGORIES IN TABLE 1 (Cont.)

15. The opportunity cost of investment was calculated at a 12% yearly rate over a year on the market value of the vessel and drift gillnet gear. The market values on the survey were assumed to be the market values in 1977, the year the survey was conducted and were discounted by 6% to obtain an estimate of the market values in 1976. The value of the vessel was prorated according to the percentage of the gross revenue earned with that vessel in the salmon drift gillnet fishery.

16. The Entry Commission asks everyone buying or selling an entry permit to indicate the price at which the transfer is made. This survey of permit transfer prices is voluntary, and the responses are kept completely anonymous. The opportunity cost of owning a permit is assumed to be 12% of a permit value of $4,406. That price, estimated from the permit transfer survey responses, was the average value of permits sold during 1976. In November and December of 1976, after the referendum election on limited entry, the value of a Prince William Sound drift gillnet permit rose sharply to $8,417, implying that the average price for the whole year was undervalued due to uncertainty about the election. (For more information on entry permit prices trun to Table 3 in this report.)

17. Total costs is the sum of all cost categories (1-16). Since the survey was conducted through the mail, it was impossible to make sure that each fisherman answered every question. Whenever a blank occurred instead of an answer, that item on the questionnaire involved was ignored for the purpose of computing the average cost. For each cost category the number of responses used is in parentheses next to the average gross earnings, the number of blanks for each question can be readily computed. Note that this method of dealing with blanks gives an upward bias to the estimates of average costs since some of the answers that were left blank could in fact be zero's. .

18. These are the average gross earnings of those responding to the survey. None of the average gross earnings figures are based on information derived from the survey, but instead on information available to the Commission from fish tickets and estimates of average prices shown in Tables 6 and 7. Average gross earnings in Column D are those for the entire fleet (476). The average gross earnings does not include bonuses or in-kind payments. It should be noted that the average gross earnings actually received is higher than is shown in this report. It was found from 67 questionnaires with responses that 24% received a bonus. The average bonus for the sample fleet was 0.8% of their gross earnings.

INFORMATION ON THE DIFFERENT COST CATEGORIES IN TABLE 1 (Cont.)

19. Care is required in interpreting the "Net Return to Labor and Management" line. This could be a very good or very poor return depending on the amount of effort spent during the season. Some insight into the amount of effort spent during the season can be obtained by estimating the number of separate days or weeks on which a fisherman made landings with his boat. In the following estimates, multiple landings made on one day or during one week are counted as one day or one week of landings. Using this measure of effort, landings were made from the vessels surveyed on an average of:

Sample fleet	Number of Observations	Average Number of Separate Days or weeks on which Landings were made	
		Days	Weeks
TOTAL	83	26.5	9.4
Grossing $20,000 and over		33.6	11.3
Grossing under $20,000		19.6	7.6
Total Prince William Sound Drift Gill-Net Fleet	476	26.4	9.3

Source: CFEC "1976 - Gross Earnings" by ADF&G Number dated June 17, 1978.

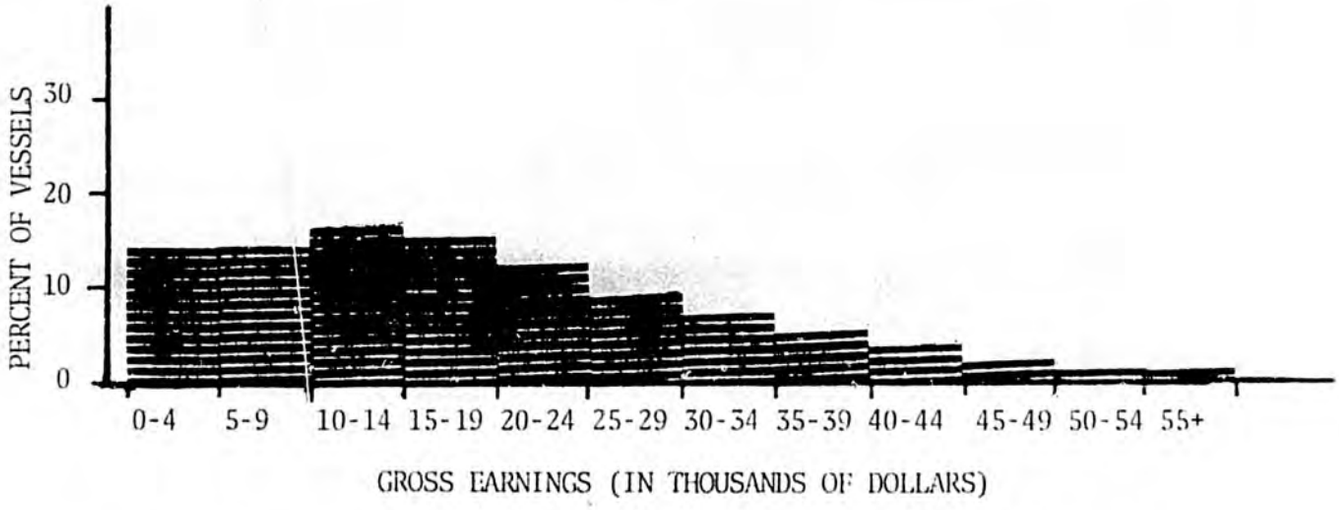


Figure 1.-Percent of the Total Prince William Sound Management Area Drift Gillnet Fleet per Gross Earning Increments for Salmon Catch for 1976. (Based on 476 Vessels)

Source: Alaska Department of Fish and Game computer file R11 dated March 5, 1978.

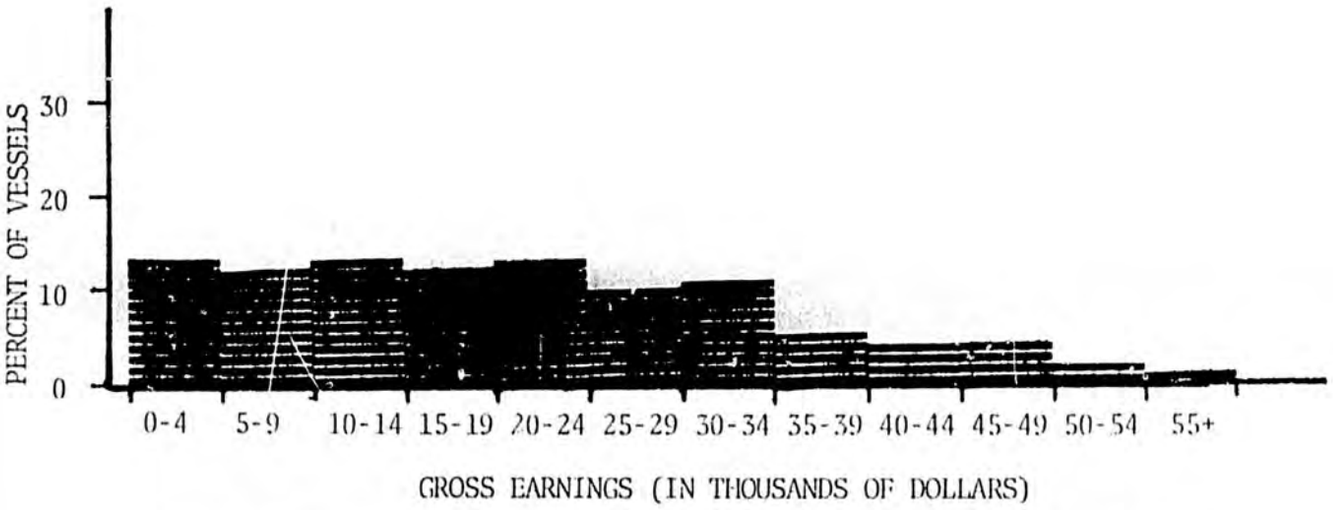


Figure 2.-Percent of the Sample Prince William Sound Management Area Drift Gillnet Fleet per Gross Earning Increments for Salmon Catch for 1976. (Based on 83 Vessels)

Source: 1977 Prince William Sound Drift Gillnet Operating Cost Survey conducted by the Commercial Fisheries Entry Commission; CFEC 1976 Vessel Multiple Listing dated November 12, 1977.

ENTRY PERMITS STATUS AND PRICES

The following table presents some of the important statistics on permit status in the Prince William Sound Management Area Drift Gillnet Fishery.

TABLE 2

STATUS OF SALMON DRIFT GILLNET ENTRY PERMITS IN THE PRINCE WILLIAM SOUND MANAGEMENT AREA 1974-1977

Year	Number of Permit Holders				Percent of Total Permits Used to Land Fish
	Permanent	Interim	Total*	Used to Land Fish	
1974	0	557	557	**	**
1975	494	89	531	444	83.6%
1976	514	25	533	477	89.5
1977	524	8	532	500***	94.0

*This is not the sum of permanent plus interim permits since several fishermen in each year started with interim-use permits but were granted permanent permits before the year ended.
**Data Unavailable
***Preliminary Estimates.

Source: CFEC "Number of Permits Fished by Year by Fishery", special computer run dated March, 1978, for 1977 figures it was run May, 1978; CFEC Permit Status computer generated files dated December 31st for each of the appropriate years; and CFEC Fishery List dated 6/78 for 1975-1977.

Estimates of the average prices paid for drift gillnet entry permits around the state are listed in Table 3. These prices, obtained from the survey of fishermen buying or selling permits mentioned earlier, are averages of the prices which people who bought permits said they paid. The number of individuals who bought permits and who responded to our voluntary survey with price information are given in parentheses. These price estimates have not been converted into constant 1976 dollars.

TABLE 3

COMPARISON OF ALASKA DRIFT GILLNET ENTRY PERMIT PRICES BY AREA. AVERAGE PRICE ESTIMATES FOR 1975-1978.

Area	Average Price For: 1975	1976	1977	1978	1978 Prices Most Frequently Paid
Southeastern	$9,625 (28)	$10,212 (12)	$16,261 (21)	$34,604 (34)	$40,000
Prince Wm. Sound	3,089 (9)	4,406 (16)	13,750 (28)	27,742 (35)	$25,000
Cook Inlet	3,911 (9)	5,552 (29)	10,832 (26)	36,825 (20)	$45,000
Peninsula-Aleutians	*	6,333 (3)	10,285 (7)	15,000 (5)	N/A
Bristol Bay	1,165 (16)	2,536 (25)	6,440 (53)	21,638 (77)	$25,000

*No estimate can be made.

For comparative purposes, the price estimates for salmon purse seine permits in the Prince William Sound Management area are:

1975	Average	$ 8,000
1976	"	10,700
1977	"	29,800
1978	Average	24,272
1978	Price Most Frequently Paid . . .	$25,000

Source: Survey conducted by the CFEC of individuals buying and selling permits; data compiled by Elizabeth Stewart of the CFEC Research Staff.

GROSS EARNINGS

The gross earnings by species for each year are estimated in Table 4 using the adjusted salmon prices in Table 7 (adjusted to constant 1976 dollars)[1/] and the total yearly catch figures in Table 9. The total gross earnings in Table 5 are drawn from Table 4.

The average gross earnings in Table 5 are obtained using estimates of the total number of vessels making landings. The average gross earnings per permit holder who made landings has also been calculated in Table 5 for 1975 and 1976 (shown in parentheses). Prior to 1975 this data was not available since commercial license numbers were not required on fish tickets; since that time Limited Entry permit numbers have been required and the data for gross earnings by entry permit holders is available from 1975.

The information in these tables show that there has been a general increase in the gross earnings attributable to drift gillnet caught salmon in the Prince William Sound, Copper and Bering River areas during the years 1969 to 1976. With the exception of 1970 and 1975, the average gross earnings from fishing with drift gill nets for the five species of salmon has increased steadily, even when the impact of inflation has been eliminated by measurement in constant 1976 dollars. Relatively low catches of red salmon in 1971 and 1975 and depressed prices in 1975 were mainly responsible for the decline in gross earnings in those years.

1/ The method used to convert the price received by fishermen into constant dollars is outlined in the Appendix to this report.

TABLE 4

TOTAL GROSS EARNINGS IN THE PRINCE WILLIAM SOUND MANAGEMENT AREA
DRIFT GILLNET FISHERY BY SPECIES AND YEAR, 1969-1976,
EXPRESSED IN CONSTANT 1976 DOLLARS

	Gross Earnings in Constant 1976 Dollars				
Year	King	Red	Coho	Pink	Chum
69	$ 200,862	$ 2,627,498	$ 390,188	$ 5,247	$ 17,567
70	293,825	3,487,984	1,146,264	24,857	15,050
71	259,132	2,317,186	1,001,292	6,382	22,811
72	429,741	3,339,803	545,655	39,605	75,177
73	486,288	3,090,624	1,824,808	247,283	493,416
74	520,766	4,364,839	524,163	665,860	342,844
75	406,274	1,921,908	495,499	314,306	101,663
76	1,323,570	6,088,602	1,135,910	313,259	459,470

Source: Tables 7 and 9

TABLE 5

TOTAL AND AVERAGE GROSS EARNINGS IN THE PRINCE WILLIAM SOUND MANAGEMENT AREA DRIFT GILLNET FISHERY BY YEAR, 1969-1976 EXPRESSED IN CONSTANT 1976 DOLLARS

Year	Total Gross Earnings	Number of Different Vessels Making Landings	Average gross Earnings Per Vessel
1969	$ 3,241,362	502	$ 6,457
1970	4,967,980	624	7,962
1971	3,606,803	550	6,558
1972	4,429,981	570	7,772
1973	6,142,419	547	11,229
1974	6,418,472	496	12,940
1975	3,239,650	442 (444)*	7,330 (7,297)**
1976	9,320,811	476 (477)*	19,582 (19,540)**

* Figure in parenthesis represents number of separate entry permits which were used to make landings in the Prince William Sound Management area in this year.

** Figure in parenthesis represents the average gross earnings per permit holder who made landings.

Source: Table 4; ADFG-78; Commercial Fisheries Entry Commission "Number of Permits Fished by year by Fishery" computer files generated for 1975, 1976, prepared in mid March 1978.

EX-VESSEL PRICES, 1969-1976

The estimated prices actually received by the fishermen[2/] are shown in Table 6 and Figure 3 (a-e).

Table 6 - Prices in dollars per pound in the round to the fishermen for drift gillnet caught salmon in the Prince William Sound, Copper and Bering River areas from 1969 to 1976.

Year	King	Red	Coho	Pink	Chum
69	.300	.300	.300	.120	.110
70	.300	.300	.300	.160	.130
71	.360	.320	.225	.160	.130
72	.415	.365	.340	.185	.155
73	.525	.695	.725	.375	.365
74	.715	.755	.665	.360	.435
75	.695	.505	.645	.355	.315
76	1.465	.915	.715	.415	.450

Source: Estimates by the Commercial Fisheries Entry Commission, (CFEC), State of Alaska.

In Table 7 and Figure 4 (a-e) the salmon prices have been adjusted into constant 1976 dollars to eliminate the impact of inflation. The price increases in this table and figure are not due to price inflation in the U.S. economy during this period, but to an increase in prices paid to fishermen for salmon relative to prices for other goods. Figure 4 shows that the price for each of the five species of salmon, expressed in constant dollars, has increased substantially over the past eight years.

2/ These prices include the estimated value of post season price adjustments but do not include bonuses or in-kind payments.

Figure 3 - Prices in dollars per pound in the round to the fishermen for drift gillnet caught salmon in Prince William Sound, Copper and Bering River areas from 1969 to 1976.

Figure 3 (a)
King Salmon

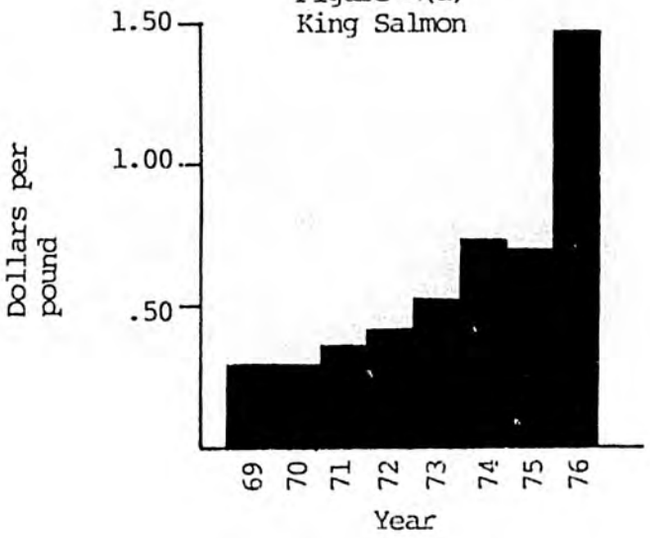


Figure 3 (b)
Red Salmon

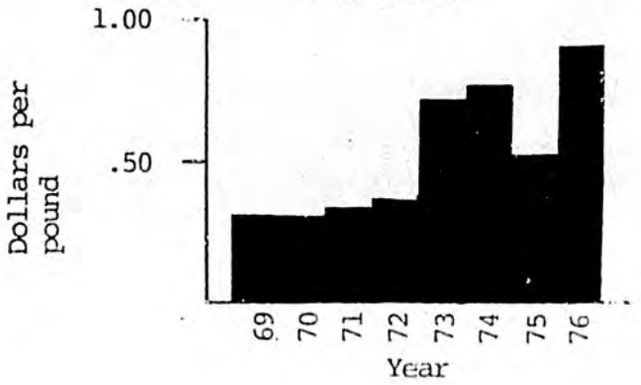


Figure 3 (c)
Pink Salmon

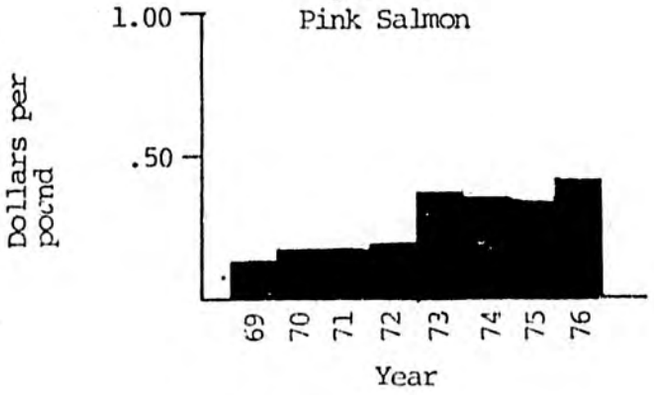


Figure 3 (d)
Coho Salmon

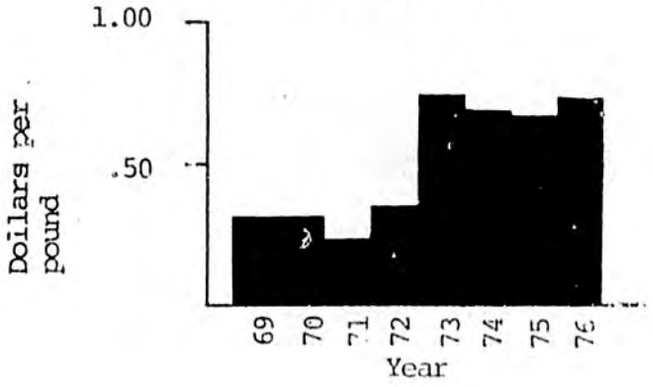
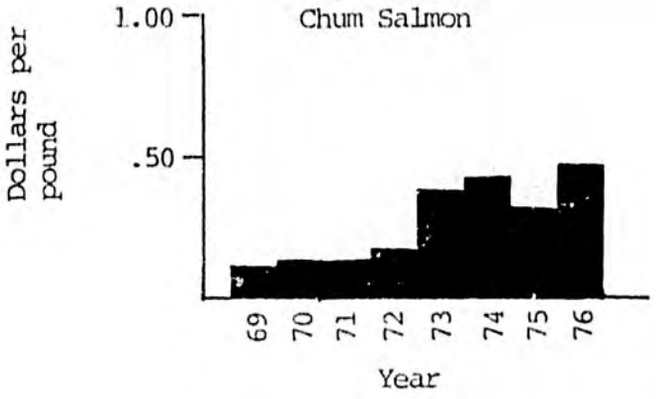


Figure 3 (e)
Chum Salmon



Source: Estimates by Commercial Fisheries Entry Commission
State of Alaska.

In most cases there was a gradual increase in price up to 1973, a big jump that year, and then a leveling off, or slight decline in the following years. The exception was the price of king salmon, which, except for slight drops in 1970 and 1975, showed constant increases in price, with a dramatic increase in 1976.

Table 7 - Prices in dollars per pound in the round to the fishermen for drift gillnet caught salmon in the Prince William Sound, Copper and Bering River areas from 1969 to 1976, adjusted into constant 1976 dollars using the wholesale price index for all commodities.

Year	King	Red	Coho	Pink	Chum
69	.515	.515	.515	.206	.189
70	.497	.497	.497	.265	.215
71	.578	.514	.361	.257	.209
72	.637	.561	.522	.284	.238
73	.713	.944	.985	.509	.496
74	.817	.862	.759	.411	.497
75	.727	.528	.675	.371	.329
76	1.465	.915	.715	.415	.450

Source: Table 6; United States Department of Labor wholesale price index for all commodities, 1967=100.

The price increases over the past eight years were not unique to the Prince William Sound salmon drift gillnet fishery, but occurred in other salmon producing areas of the state as well. Prices in Bristol Bay and Cook Inlet for drift gillnet caught salmon also show the same general upward trend, with a decline in 1975, and a rebound in 1976.[3/]

3/ Based on price estimates for Cook Inlet and Bristol Bay made by CFEC staff.

Figure 4 - Prices in dollars per pound in the round to the fishermen for drift gillnet caught salmon in the Prince William Sound, Copper and Bering River areas from 1969 to 1976, adjusted into constant 1976 dollars using the wholesale price index for all commodities.

Figure 4 (a)
Red Salmon

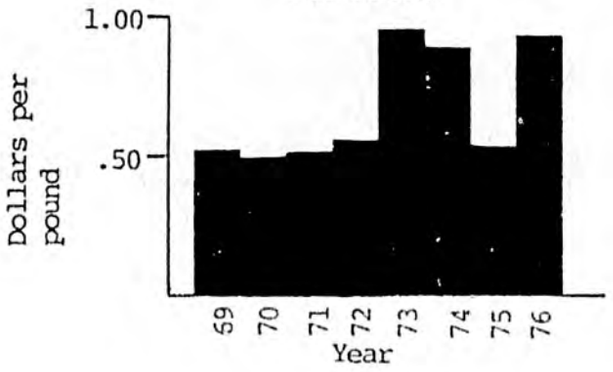


Figure 4 (b)
King Salmon

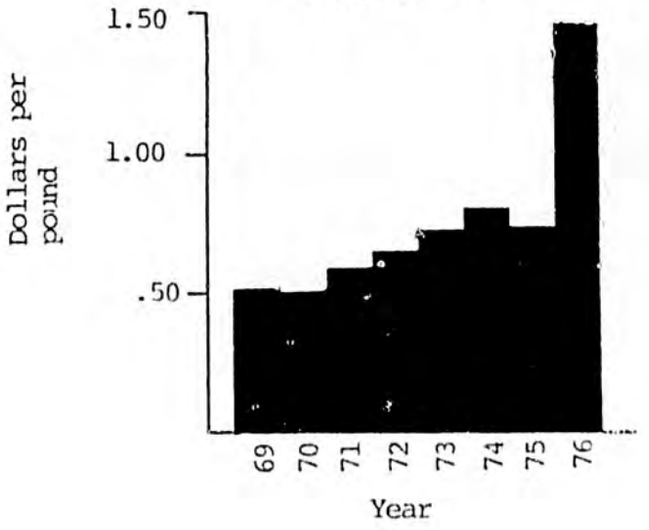


Figure 4 (c)
Coho Salmon

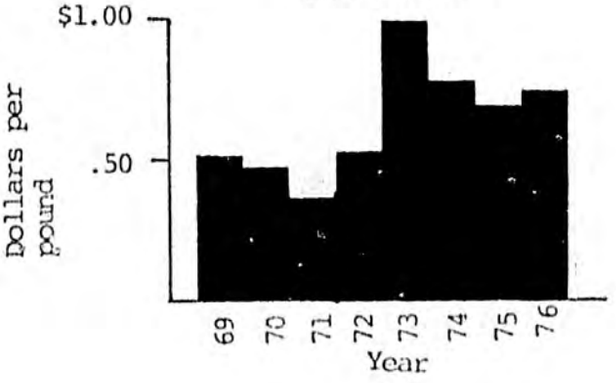


Figure 4 (d)
Chum Salmon

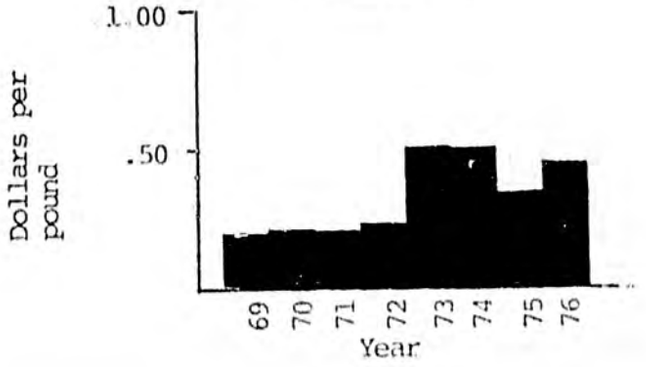
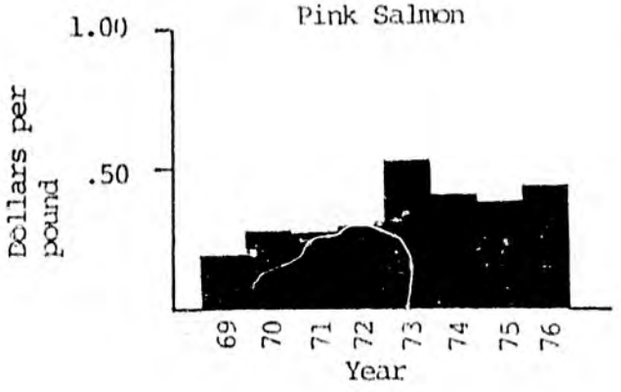


Figure 4 (e)
Pink Salmon



Source: Table 7; United States Department of Labor Wholesale Price Index for all commodities, 1967=100.

CATCH BY SPECIES IN POUNDS, 1969-1977[4/]

The information in the following tables is based on catch data from fish tickets, summarized in computer printouts from the Alaska Department of Fish and Game. Table 8 shows the monthly distribution for each of the five species of salmon for an 8 year period while Table 9 and Figure 5 (a-e), show the catch patterns and trends clearly. The catch of king salmon ranged between 390,000 and 682,000 pounds, except for a jump to 903,000 pounds in 1976. The red salmon catch ranged between 3,300,000 pounds in 1973 and 7,000,000 pounds in 1970. The coho salmon catch fluctuated severely but seems to be at lower levels in recent years. The average catch in the first four years was 1,721,000 pounds while that for the second four was 1,216,000. Both pink and chum salmon catches increased substantially during the 8 year period, partly because of additions to the gillnet area and season in the Coghill district.

4/ Preliminary figures for 1977.

Table 8

MONTHLY DISTRIBUTION OF TOTAL POUNDS BY EACH SPECIES OF SALMON HARVESTED BY THE DRIFT GILLNET FLEET IN THE PRINCE WILLIAM SOUND AREA 1969-1977*

KING SALMON

Year	May	June	July	August	September
1969	163,229	223,194	3,365	16	30
1970	300,578	286,665	2,846	293	129
1971	5,503	439,651	3,043	113	15
1972	159,368	511,933	3,201	131	-
1973	263,490	414,415	3,964	162	-
1974	265,760	366,340	5,263	50	-
1975	185,758	363,824	9,000	254	-
1976	438,966	458,624	5,396	395	80
1977*	422,195	209,389	2,131	394	-

RED SALMON

Year	May	June	July	August	September
1969	1,106,418	3,254,057	700,171	38,640	-
1970	2,926,775	3,456,770	597,500	27,629	1,300
1971	128,685	3,434,738	894,525	50,184	12
1972	1,707,098	2,643,829	1,534,690	67,686	-
1973	675,238	1,871,699	715,523	11,506	-
1974	1,271,010	2,949,804	828,809	13,995	-
1975	948,386	1,930,076	758,510	3,005	-
1976	3,172,753	2,543,729	900,433	37,029	266
1977*	2,552,597	2,545,050	979,366	26,568	279

COHO SALMON

Year	May	June	July	August	September
1969	315	3,135	272	149,670	604,254
1970	-	2,559	5,279	1,011,311	1,287,218
1971	-	582	12,281	745,235	2,015,565
1972	75	343	29,110	563,586	452,202
1973	-	2,319	8,305	1,084,455	757,518
1974	10	290	12,093	15,969	662,235
1975	1,935	146	3,608	341,020	387,363
1976	-	39	5,417	914,567	668,641
1977*	-	213	8,803	1,148,251	753,535

PINK SALMON

Year	May	June	July	August	September
1969	-	970	12,716	11,131	653
1970	-	15,949	66,157	11,679	16
1971	-	285	18,087	6,461	-
1972	1,953	89,309	48,181	12	-
1973	-	10,455	446,578	28,789	-
1974	15	67,299	1,546,532	6,251	-
1975	-	10,910	775,980	60,295	-
1976	-	36,338	709,133	9,246	123
1977*	4	333,048	2,009,518	109,200	88

CHUM SALMON

Year	May	June	July	August	September
1969	-	40,437	49,475	3,012	22
1970	24	29,823	37,954	2,191	6
1971	69,632	37,763	1,748	-	-
1972	61,615	199,626	54,600	30	-
1973	5,408	303,317	668,470	17,596	-
1974	535	179,803	509,155	333	-
1975	28	75,447	223,390	10,142	-
1976	9	379,852	641,157	27	-
1977*	617	489,272	758,805	15,034	25

* Premliminary figures

Source: Alaska Department of Fish and Game dated Jauary 14, 1978. (Hereafter called ADF&G-78) for 1977 Preliminary figures. CFEC "Catch Tabulation from Gross Earnings, Dated December, 1978.

TABLE 9

TOTAL CATCH IN POUNDS BY YEAR FOR EACH SPECIES OF SALMON HARVESTED WITH DRIFT GILL-NET GEAR IN THE PRINCE WILLIAM SOUND MANAGEMENT AREA 1969-1977

Year	King	Red	Coho	Pink	Chum
1969	390,023	5,101,937	757,646	25,470	92,946
1970	591,197	7,018,077	2,306,367	93,801	69,998
1971	448,325	4,508,144	2,773,663	24,833	109,143
1972	674,633	5,953,303	1,045,316	139,455	315,871
1973	682,031	3,273,966	1,852,597	485,822	994,791
1974	637,413	5,063,618	690,597	1,620,097	689,826
1975	558,836	3,639,977	734,072	847,185	309,007
1976	903,461	6,654,210	1,588,686	754,840	1,021,045
1977*	634,109	6,103,860	1,910,802	2,451,858	1,263,753

*Preliminary figures.

Source: Table 8 (Table 9 includes catch in pounds for the months not shown in Table 8.)

Figure 5 - Total catch of salmon in pounds with drift gillnet gear in the Prince William Sound Management area, by species and by year, 1969 to 1976.

Figure 5 (a)
Coho Salmon

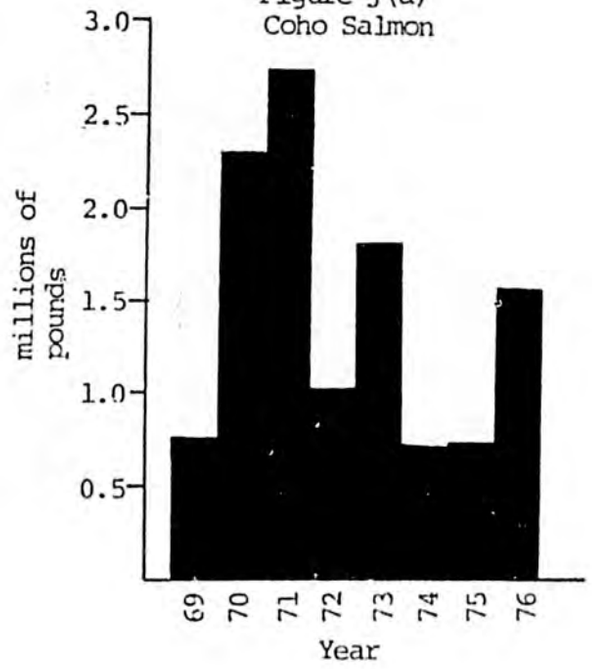


Figure 5 (b)
King Salmon

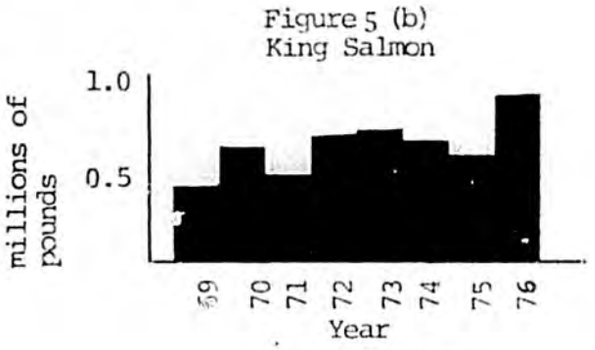


Figure 5 (c)
Pink Salmon

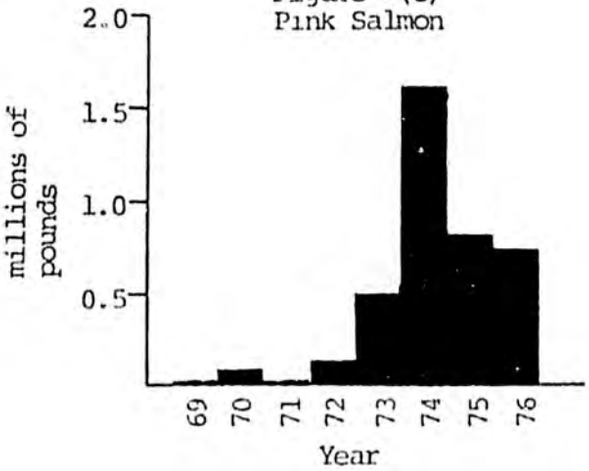


Figure 5 (d)
Red Salmon

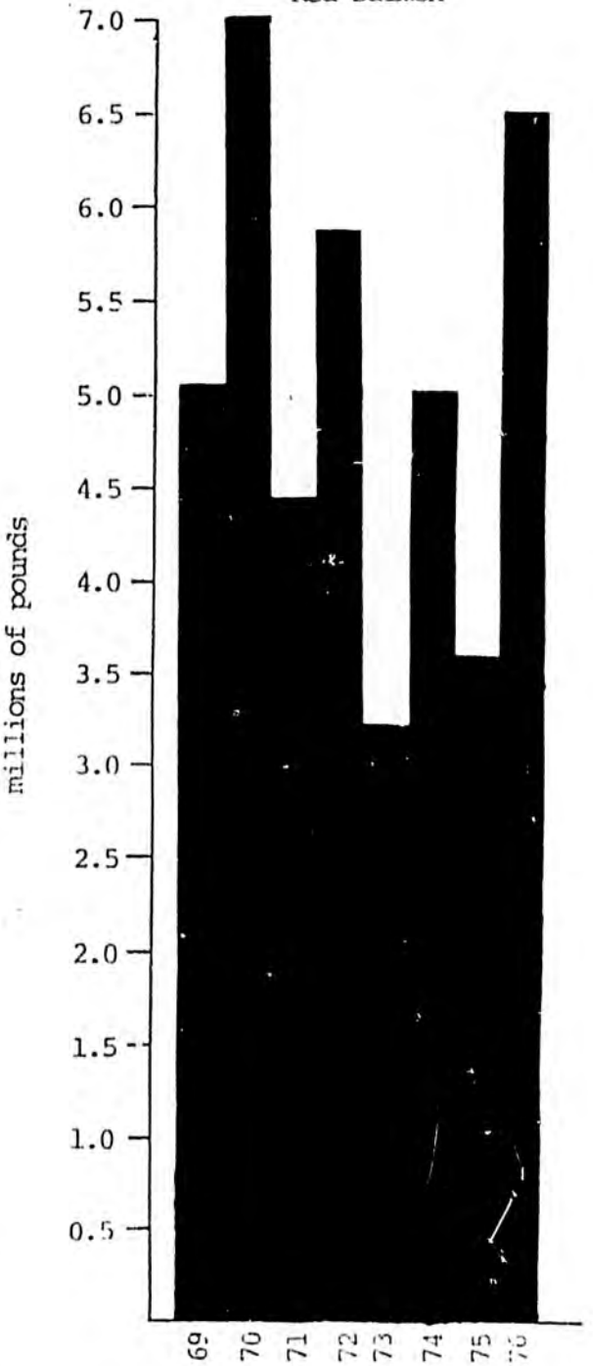
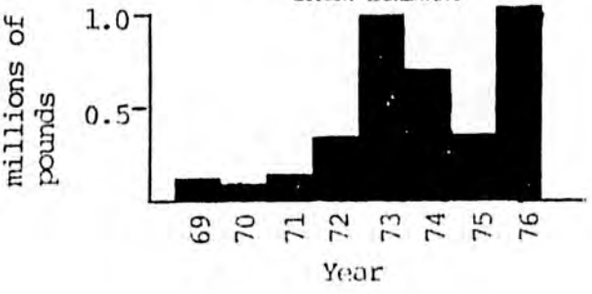


Figure 5 (e)
Chum Salmon



Source: ADFG-78

APPENDIX

METHOD OF PRICE ADJUSTMENT

The prices received by the fishermen in any particular year (these are given in Table 6)were inflated by a factor designed to express them in 1976 dollars. The "inflation factor" for each year was obtained using the U.S. Department of Labor's Wholesale price index for all commodities. The index for the year whose price it was desired to inflate was subtracted from the index for 1976. The percentage increase in the index was then determined and the price was inflated by that percentage.

The multiplier for 1969 was calculated by finding that the difference between the indicies 1969=106.5 and 1976=182.9 was 76.4. The difference meant a 71.74% increase in the index between 1969 and 1976. The multiplier for 1969 was therefore 1.717. The king salmon price received by the fishermen in 1969 was .30, the inflated price was (1.717)(.30) or .515.

The following table shows the work involved in calculating the inflation factors.

Inflation factor calculations

$Year_i$	WPI^*_i	$WPI_{76} - WPI_i$	% change in WPI between $year_i$ and 1976	Inflation multiplier for $year_i$
69	106.5	76.4	71.74	1.717
70	110.4	72.5	65.67	1.657
71	113.9	69	60.58	1.606
72	119.1	63.8	53.57	1.536
73	134.7	48.2	35.78	1.358
74	160.1	22.8	14.24	1.142
75	174.9	8	4.57	1.046
76	182.9	0	0	0

*for all commodities, 1967=100.

Source: U.S. Department of Labor.

TABLE 4-1

SUMMARY OF AVERAGE COSTS (Excluding Opportunity Costs) FOR DRIFT GILLNET FISHING FOR SALMON IN THE PRINCE WILLIAM, COPPER RIVER AND BERING RIVER AREAS IN 1976.

Cost Category	Averages for the Sampled Fleet (A) Total Sampled Vessels	(B) Grossed $20,000 and Over	(C) Grossed Under $20,000	(D) Total Fleet (476) Weighted Sum
1. Insurance	$ 311 (76)	$ 362 (37)	$ 263 (39)	$ 312
2. Dues	109 (80)	111 (40)	58 (40)	80
3. Moorage	153 (80)	179 (40)	127 (40)	149
4. Administration	204 (73)	260 (36)	149 (37)	194
5. Vessel Repairs	936 (75)	842 (38)	1,033 (37)	955
6. Depreciation	820 (52)	1,017 (28)	591 (24)	768
7. License Fees	91 (83)	97 (41)	86 (42)	90
8. Fuel	849 (75)	1,013 (40)	660 (35)	806
9. Galley Expenses	847 (76)	907 (39)	784 (37)	835
10. Gillnetting Equipment Repairs	1,380 (27)	1,436 (12)	1,337 (15)	1,380
11. Travel & Freight	511 (76)	638 (38)	389 (38)	492
12. Special Clothes	179 (78)	169 (39)	189 (39)	181
13. Fish Assessments	66 (81)	98 (40)	35 (41)	62
14. Crewshare	512 (83)	589 (41)	437 (42)	501
15. Interest payments	339 (74)	369 (35)	313 (39)	337
16. TOTAL COSTS	$7,307	$8,087	$6,451	$7,143
17. AVERAGE GROSS EARNINGS	$21,151 (83)	$32,465 (41)	$10,106 (42)	$19,582 (476)
18. NET RETURN TO LABOR AND MANAGEMENT	$13,844	$24,378	$ 3,655	$12,439

Source: 1977 Prince William Sound Drift Gillnet Operating Cost Survey conducted by Commercial Fisheries Entry Commission; CFEC Vessel Data Multiple Listing computer generated file for 1976, prepared November 12, 1977; Table 3.

TABLE A-2

SUMMARY OF AVERAGE COSTS (Including Interest) FOR DRIFT GILLNET FISHING FOR SALMON IN THE PRINCE WILLIAM SOUND, COPPER RIVER AND BERING RIVER AREAS IN 1976.

Cost Category	Averages for the Sampled Fleet (A) Total Sampled Vessels	(B) Grossed $20,000 and Over	(C) Grossed Under $20,000	(D) Total Fleet (476) Weighted Sum
1. Insurance	$ 311 (76)	$ 362 (37)	$ 263 (39)	$ 312
2. Dues	109 (80)	111 (40)	58 (40)	80
3. Moorage	153 (80)	179 (40)	127 (40)	149
4. Administration	204 (73)	260 (36)	149 (37)	195
5. Vessel Repairs	936 (75)	842 (38)	1,033 (37)	955
6. Depreciation	820 (52)	1,017 (28)	591 (24)	768
7. License Fees	91 (83)	97 (41)	86 (42)	90
8. Fuel	849 (75)	1,013 (40)	660 (35)	806
9. Galley Expenses	847 (76)	907 (39)	784 (37)	835
10. Gillnetting Equipment Repairs	1,380 (27)	1,436 (12)	1,337 (15)	1,380
11. Travel and Freight	511 (76)	638 (38)	389 (38)	492
12. Special Clothes	179 (78)	169 (39)	189 (39)	181
13. Fish Assessments	66 (81)	98 (40)	35 (41)	62
14. Crewshare	512 (83)	589 (41)	437 (42)	501
15. Interest payments	339 (74)	369 (35)	313 (39)	337
16. Opportunity Cost of Investment	1,948 (50)	2,351 (27)	1,476 (23)	1,839
17. Opportunity Cost of Holding an Entry Permit	529	529	529	529
18. TOTAL COSTS	$9,784	$10,967	$8,456	$9,511
19. AVERAGE GROSS EARNINGS	$21,151 (83)	$32,465 (41)	$10,106 (42)	$19,582 (476)
20. NET RETURN TO LABOR AND MANAGEMENT	$11,367	$21,498	$ 1,650	$10,071

Source: 1977 Prince William Sound Drift Gillnet Operating Cost Survey conducted by Commercial Fisheries Entry Commission; CFEC Vessel Data Multiple Listing computer generated file for 1976, prepared November 12, 1977; Table 3.

SUMMARY OF COST AND NET RETURN INFORMATION FOR THE BRISTOL BAY DRIFT GILL-NET FISHERY

Prepared by June Baker and Ben Muse
of the Research Staff
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Pouch KB, Juneau Alaska 99811

February, 1979

INTRODUCTION

The following tables and figures present the results of a survey designed to obtain information on the operating costs of fishermen in the Bristol Bay drift gill-net fishery in 1976, and summarize fishing gross earnings, price and catch information for that fishery from 1969 to 1976. Estimates of catch size were made from fish tickets, and prices were derived from processor's annual reports and estimates by the Commercial Fisheries Entry Commission (CFEC). The operating cost survey was carried out by mail in the late summer and fall of 1977. Two-hundred and forty-three fishermen, or 18% of the 1,370 fishermen who used their permanent or interim-use permits in the Bristol Bay drift gill-net fishery in 1976 provided completed questionnaires. Using this information, average net returns in 1976 were estimated for the total sample fleet as well as for members of the sample falling into four graduated increments of gross earnings. The cost and net return information for the sample fleet is also presented for Bristol Bay residents and non-residents. A pair of tables summarizes the average prices for entry permits from 1975 to the first part of 1978, and outlines the status of permanent and interim-use permits through 1977.

This paper has been prepared to report the survey results to fishermen who responded to the operating cost survey mentioned above. We hope it will be useful to them. The Commission will appreciate any comments or suggestions on the data or on the method of presentation.

OPERATING COSTS

The cost information summarized in Tables 1 and 2 was obtained in the late summer and fall of 1977 with a survey of the drift gill-net fishermen operating in the Bristol Bay area.

Column A of Table 1 lists the average cost in each category for all of the boats sampled (243); the number of responses on which each average is based is listed in parentheses. Columns B-E of Table 1 give the average of the survey responses for all the respondents who grossed $30,000 or over; $20,000-29,999; $10,000-19,999; and under $10,000, respectively. The cost information summarized in Table 2 lists the average for each cost category for fishermen who were residents of Bristol Bay area and for fishermen who were not residents of the Bristol Bay area in 1976. A comparison of Figure 1 and 2 immediately following the notes to Table 1 and 2 shows 77% of the total Bristol Bay drift gill-net fleet grossed under $20,000 (figure 1), while 74% of the sampled fleet grossed under $20,000 (figure 2). This indicates that the sampled drift gillnet fleet is representative of the total fleet with respect to fishing gross earnings of under $20,000 and over $20,000. When reviewing the working draft of this report, Mr. Andrew Golia from the Bristol Bay Native Association mentioned that we may not be representative in the lower fishing gross earning increment for the sample fleet due to the fact that questionnaires may have been disregarded, if the fishermen could not understand or read the questions. Many of these fishermen are Yup'ik Eskimo people. This may be the reason the total fleet (figure 1)shows 17.5% of the fishermen made under $5,000, while the sample fleet shows only 6.6% of the fishermen made under $5,000 from their drift gill-netting in the Bristol Bay area. Also it was found that the average horsepower for the sample and total Bristol Bay drift gill-net fleet is 141.5 and 155.5, respectively.

In a real sense, the cost of any action is the opportunities for other actions that are given up. The cost of gas or a new leadline is the opportunity of doing something else with the money: buying a new hunting rifle, going to a good restaurant for dinner, or purchasing new buoys for crab pots. In this respect so-called "opportunity costs" are costs like any other, a lost opportunity. Those interested in the amount of "ready cash" available to the average fishermen at the end of the season should use Table A-1 found in the Appendix to this report. Table A-1 does not include any opportunity costs.

Insurance costs and the costs for dues, moorage, administration, vessel repairs, rental/leasing, and depreciation obtained in response to questions on the survey were assumed to be for the operation of the vessel in all of its fisheries. The average fisherman sampled earned 98% of his gross fishing income from salmon drift gill-netting, therefore these costs were prorated according to the proportion of gross earnings that each fishing vessel derived from drift gill-net salmon fishing to determine what part of these costs should be assigned to the drift gill-netting activities. When the respondents to the survey noted that certain costs were shared by their crew, these were deducted in the cost categories.

Please note that interest payments have not been included in Table 1 and 2. The objective of this report is to provide operating cost information to the fishermen so that they may compare their performance with that of others in the fishery. Interest payments vary widely reflecting the unique financial position of each individual fisherman. Therefore to attain comparability of the costs of actual fishing operations, interest is not included as a cost category.

If the purpose of this report was strictly to determine the average net returns to the fishing business including relevant opportunity costs and interest payments, please refer to Table A-2 found in the Appendix to this report.

The notes following Table 2 are essential to an interpretation of the categories and estimates contained in Tables 1 and 2. The average net return may be underestimated due to the reasons mentioned in paragraph 18 and 19 in the notes.

TABLE 1*

SUMMARY OF AVERAGE COSTS FOR DRIFT GILL-NET FISHING
FOR SALMON IN THE BRISTOL BAY AREA IN 1976.

Cost Category	Averages for the Sampled Fleet				
	(A) Total Vessels	(B) Grossed $30,000 and Over	(C) Grossed $20,000-29,000	(D) Grossed $10,000-19,999	(E) Grossed Under $10,000
1. Insurance	$ 225 (201)	$ 467 (7)	$ 348 (46)	$ 206 (88)	$ 132 (60)
2. Dues	78 (218)	102 (9)	78 (47)	78 (96)	75 (66)
3. Moorage & Storage	48 (178)	40 (6)	50 (38)	68 (72)	24 (62)
4. Administration	253 (199)	339 (7)	396 (40)	246 (90)	160 (62)
5. Vessel Repairs	774 (221)	899 (9)	940 (50)	809 (94)	588 (68)
6. Depreciation	626 (229)	772 (10)	938 (49)	657 (97)	355 (73)
7. License Fees	107 (243)	109 (10)	105 (53)	108 (104)	106 (76)
8. Fuel	295 (231)	423 (10)	418 (52)	276 (99)	213 (70)
9. Galley Expenses	274 (208)	474 (8)	357 (43)	272 (90)	200 (67)
10. Gillnetting Equipment Repairs	509 (162)	1,198 (7)	610 (36)	477 (67)	478 (52)
11. Borough Fish Tax	247 (137)	342 (6)	327 (26)	280 (58)	154 (47)
12. Travel & Freight	448 (210)	409 (8)	647 (44)	410 (88)	376 (70)
13. Special Clothes	123 (221)	123 (9)	148 (49)	127 (95)	115 (68)
14. Rental & Leasing	484 (151)	223 (7)	650 (34)	622 (56)	271 (54)
15. Crewshare	4,804 (238)	8,579 (10)	8,462 (53)	4,498 (101)	2,091 (74)
16. Opportunity Cost of Investment	1,372 (219)	1,754 (9)	1,979 (49)	1,411 (91)	847 (70)
17. Opportunity Cost of Holding a Permit	304	304	304	304	304
18. TOTAL COSTS	$10,971	$16,557	$16,757	$10,849	$ 6,489
19. Average Gross Earnings	$15,143 (243)	$36,245 (10)	$24,031 (53)	$14,459 (104)	$ 6,817 (76)
20. NET RETURN TO LABOR AND MANAGEMENT	$ 4,172	$19,688	$ 7,274	$ 3,610	$ 328

*Does not include interest payments.

Source: 1977 Bristol Bay Drift Gill-net Operating Cost Survey, conducted by Commercial Fisheries Entry Commission; CFEC 1976 Gross Earnings by ADF&G by specific salmon species dated 12/78; Table 4.

TABLE 2*

SUMMARY OF AVERAGE COSTS AND NET RETURNS FOR THE BRISTOL BAY AREA DRIFT GILL-NET FISHERY BY RESIDENT OR NON-RESIDENT OF BRISTOL BAY IN 1976.

	Averages for the Sampled Fleet	
	Resident of Bristol Bay	Non-Resident of Bristol Bay
1. Insurance	$ 170 (77)	$ 259 (124)
2. Dues	53 (82)	93 (136)
3. Moorage	50 (72)	47 (106)
4. Administration	187 (75)	292 (124)
5. Vessel Repairs	954 (85)	662 (136)
6. Depreciation	567 (86)	661 (143)
7. License Fees	66 (94)	134 (149)
8. Fuel	380 (89)	242 (142)
9. Galley Expenses	335 (76)	239 (132)
10. Gillnetting Equipment Repairs	510 (62)	503 (101)
11. Borough Fish Tax	102 (54)	334 (83)
12. Travel & Freight	294 (68)	523 (142)
13. Special Clothes	133 (83)	121 (138)
14. Rental & Leasing	282 (60)	618 (91)
15. Crewshare	4,815 (92)	4,790 (146)
16. Opportunity Cost of Investment	1,228 (84)	1,461 (135)
17. Opportunity Cost of Holding an Entry Permit	304	304
18. TOTAL COSTS	$10,430	$11,283
19. Average Gross Earnings	$15,622 (94)	$14,841 (149)
20. NET RETURN TO LABOR AND MANAGEMENT	$ 5,192	$ 3,558

* Excludes interest payments. The average interest payments for the residents and non-residents of the sampled Bristol Bay drift gill net fleet are $109 and $144 respectively.

Source: CFEC Alpha List dated 2/1/78; CFEC 1977 Bristol Bay Drift Gill Net Operating Cost Survey, and CFEC 1976 Gross Earnings by ADF&G by specific salmon species dated 12/3/78.

INFORMATION ON THE DIFFERENT COST CATEGORIES USED IN TABLES 1 AND 2.

1. This cost category consists of insurance payments

2. This cost category consists of union and association dues.

3. This category includes moorage and storage charges and moorage related utility charges.

4. Administrative costs include costs such as telephone, legal services, bookkeeping, bank charges, and property taxes, but did not include interest charges and repayments on loans for purchase of the vessel or gear. One of the interviewers working for the Entry Commission on this survey in the Prince William Sound area reported that the fishermen being interviewed there sometimes had trouble thinking of the type of costs that went to make up this category, and questions from the interviewer were necessary to obtain the information. In a mail survey this prompting would have been unavailable, and the administrative costs might have been underestimated.

5. This category includes vessel and engine repairs, and repairs to gear such as anchors, lines and electronics. It was found from 220 questionnaires with responses that 14 years was the average age of the vessel used by these fishermen.

6. Depreciation was based on the vessels' market value and was calculated using the straight line method over 15 years, assuming that the vessel would have no resale value. The depreciation was calculated for the vessel, which is a long-lived asset, but not for the drift gill-net fishing gear. If it was noted on the survey response that the vessel was owned by a processor/cannery, a zero value was used for the depreciation cost of that vessel. Based on 202 questionnaires with responses, it was found that the average 1976 market value of the vessel for the five gross earning increment groups (columns A-E) shown in Table 1 was: $10,535; $13,661; $10,591, and $6,438 respectively.

7. This cost was not taken from the survey responses, but was estimated for each fisherman on the assumption that one vessel license, one gear license, one commercial license and one entry permit would be required for the operation of each vessel. The vessel and commercial license costs were prorated among the various fisheries in which the vessel was operated. Distinctions were made between the costs for resident and non-resident licenses and between permit fees for poverty level and non-poverty level permit holders. It was assumed that the cost of commercial and gear licenses for crewmembers were borne by the crewmembers themselves and did not enter into the costs of the vessel operator. The cost of an entry permit was assumed to be its renewal fee.

INFORMATION ON THE DIFFERENT COST CATEGORIES USED IN TABLES 1 AND 2 (CONT.)

8. This category includes the costs of fuel and engine lubricants.

9. This category includes the galley expenses.

10. This category includes the costs involved in purchase of and repairs to drift gill-net gear. Based on 200 questionnaires with responses, it was found that the average market value of drift gill-net gear for the five gross earning increment groups (column A-E) shown in Table 1 was $2,411; $3,367; $3,085; $2,226, and $1,603 respectively. Also from the 200 respondents grouped by resident or non-resident of Bristol Bay, (Table 2) the average market value of drift gill-net gear was $2,231 and $2,393 respectively.

11. This category includes the borough fish tax assessment taken from the survey response.

12. This category includes the costs of travel and freight.

13. This category includes the costs of special items of clothing.

14. This category inclues the costs of renting or leasing the vessel or gear. It was found from 243 questionnaires with responses that 11% were vessels owned by processors.

15. This category consists of payments to crewmembers. On the basis of the responses received it was found that an average of 1 crewmember per vessel was used in addition to the operator in the Bristol Bay drift gill-net fishery. From 238 questionnaires with responses it was found that 31% was the average percent of gross earnings paid to crewmembers.

16. The opportunity cost of investment was calculated at a 12% yearly rate over a year on the market value of the vessel and drift gill-net gear. The market values on the survey were assumed to be the market values in 1977, the year the survey was conducted and were discounted by 6% to obtain an estimate of the market values in 1976. The value of the vessel was prorated according to the percentage of the gross earnings earned with that vessel in the salmon drift gill-net fishery. It was assumed that if the vessel was owned by a processor, the investment cost was zero for that vessel.

17. The Entry Commission asks everyone buying or selling an entry permit to indicate the price at which the transfer is made. This survey of permit transfer prices is voluntary, and the responses are kept completely anonymous. The opportunity cost of owning a permit is assumed to be 12% of $2,536. That price, estimated from the permit transfer survey responses, was the average value of permits sold during 1976. In November and December of 1976 after the referendum election on Limited Entry, the value of a Bristol Bay drift gill-net permit rose to $3,332, implying that the average price of the whole year was undervalued due to uncertainty about

INFORMATION ON THE DIFFERENT COST CATEGORIES USED IN TABLES 1 AND 2 (CONT.)

the election. (For more information on entry permit prices turn to Table 4.

18. Total costs is the sum of all cost categories (1-17). Since the survey was conducted through the mail, it was impossible to make sure that each fisherman answered every question. Whenever a blank occurred instead of an answer, that item on the questionnaire involved was ignored for the purpose of computing the average cost. For each cost category the number of responses used is in parenthesis next to the average. Since the total number of questionnaires is always in parentheses next to the average gross earnings, the number of blanks for each question can be readily computed. Note that this method of dealing with blanks gives an upward bias to the estimates of average costs since some the answers that were left blank could in fact be zero's.

19. These are the average gross earnings of those responding to the survey. None of the average gross earnings figures are based on information derived from the survey, but instead on information available to the Commission from fish tickets and estimates of average prices shown in Table 6 and 7. The average gross earnings does not include bonuses, or in-kind payments. This information is unavailable but it should be noted that the average gross earnings is higher than is shown in this report. It was found from 123 questionnaires with responses that 16% of the fishermen received a bonus. From this study and a survey that was one in 1974[1] by CFEC the data indicates that the average bonus for the 123 fishermen was close to 1% of their gross earnings.

20. Care is required in interpreting the "Net Return to Labor and Management" line. This could be a very good or very poor return depending on the amount of effort spent during the season. Some insight into the amount of effort spent during the season can be obtained by estimating the number of separate days or weeks on which a fisherman made landings with his boat. In the following estimates, multiple landings made on one day or during one week are counted as one day or one week of landings. Using this measure of effort, landings were made from the vessels surveyed on an average of:

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1 CFEC "Cost and Earnings of Alaskan Fishing Vessels - An Economic Survey by James Owers, September 1974.

INFORMATION ON THE DIFFERENT COST CATEGORIES USED IN TABLES 1 AND 2 (CONT.)

Sample Fleet	Number of Observations	Average Number of Separate Days or Weeks On Which Landings Were Made					
		Total		Number of Days			
		Weeks	Days	June	July	Aug.	Sept.
TOTAL	243	4.9	13				
Grossing $30,000 and Over	10	7.4	23				
Grossing $20,000-$29,999	53	6.0	16				
Grossing $10,000-$19,999	104	4.9	14				
Grossing $1-$9,999	76	3.7	9				
Resident of Bristol Bay	94	6.0	16	3.8	10.8	1.1	0.1
Non-resident of Bristol Bay	149	4.2	11	1.7	9.2	0.3	0.0
Total Bristol Bay Drift Gill-Net Fleet							
TOTAL	1,444	4.4	11				

Source: CFEC 1976 Vessel Multiple Listing dated 12/28/78.

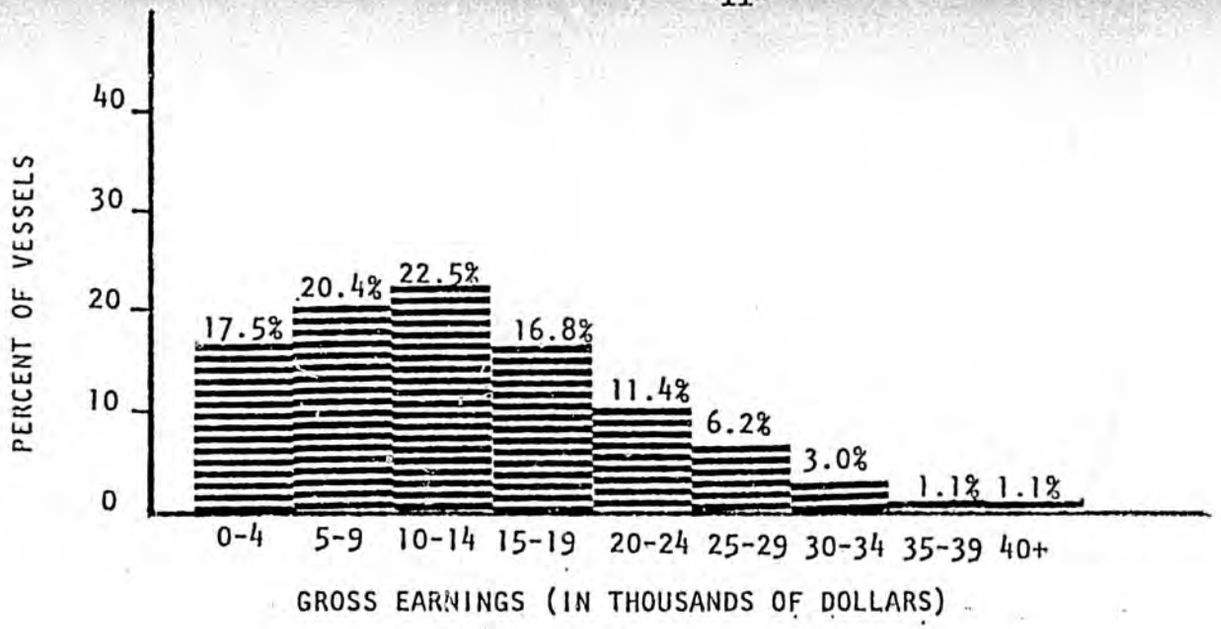

Figure 1.-Percent of the total Bristol Bay drift gill-net fleet per gross earning increments for salmon catch for 1976. (Based on 1444 vessels)

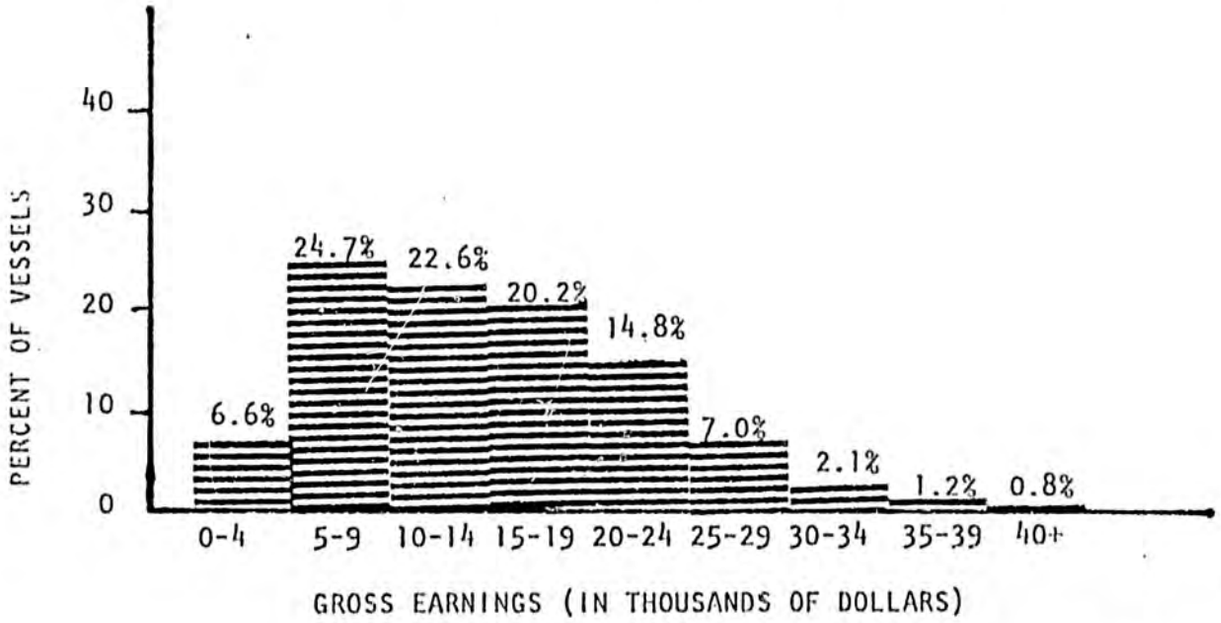

Figure 2.-Percent of the sampled Bristol Bay drift gill-net fleet per gross earning increments for salmon catch for 1976. (Based on 243 vessels)

Source: 1977 Bristol Bay Drift Gill-net Operating Cost Survey, conducted by Commercial Fisheries Entry Commission (CFEC); CFEC 1976 Vessel Multiple Listing dated 12/28/78.

ENTRY PERMITS STATUS AND PRICES

The following table presents some of the important statistics on permit status in the Bristol Bay Drift Gill-net Fishery.

TABLE 3

STATUS OF SALMON DRIFT GILLNET ENTRY PERMITS IN THE BRISTOL BAY MANAGEMENT AREA, 1974-1977

	Number of Permits				Percent of Total Permits Used To Land Fish
Year	Permanent	Interim-Use	Total	Used to Land Fish	
1974	0	872	872	*	*
1975	1416	645	2061	1253	60.8%
1976	1621	99	1720	1370	80.0%
1977	1663	65	1728	1355	78.4%

*Data not available.

Source: CFEC "Number of Permits Fished by Year by Fishery", special computer run data March 1978, for 1977 it was run on December, 1978; CFEC Permit status computer generated files dated December 31st for each of the appropriate years; and CFEC Fishery List dated June, 1978 for 1975-1977.

Estimates of the average prices paid for drift gillnet entry permits around the stat are listed in Table 4. These prices, obtained from the survey of fishermen buying or selling permits mentioned earlier, are averages of the prices which people who bought permits said they paid. The number of individuals who bought permits and who responded to our voluntary survey with price information are given in parentheses. These price estimates have not been converted into constant 1976 dollars.

TABLE 4

COMPARISON OF ALASKA DRIFT GILL-NET ENTRY PERMIT PRICES
BY AREA. AVERAGE PRICE ESTIMATES FOR 1975-1978.

*As of
**No estimate can be made.

Source: Survey conducted by the CFEC of individuals buying and selling permits; data compiled by Elizabeth Stewart of the CFEC Research Staff.

The gross earnings by species of salmon for each year in Table 5 were estimated using the adjusted salmon prices (adjusted to constant 1976 dollars)[2] in Table 8, and the total yearly catch figures in Table 10. The total gross earnings in Table 6 are drawn from Table 5. Table 5 shows that between 1969 and 1976 gross earnings made from the red salmon catch was highest in 1970; for pink salmon it was highest in 1974, for chum salmon 1976, for coho salmon 1975, and gross earnings made from the king salmon catch was highest in 1971.

The average gross earnings in Table 6 are obtained using estimates of the total number of vessels making landings. The average gross earnings per permit holder who made landings has also been calculated in Table 6 for 1975 and 1976 (shown in parenthesis). Prior to 1975 this data was not available since commercial license numbers were not required on fish tickets; since that time Limited Entry permit numbers have been required and the data for gross earnings by entry permit holders is available from 1975. Table 6 shows (for all species of salmon) that the average gross earnings by vessel was at its highest in 1970 with 1971 following. This is due more to variations in pounds caught in the specified years than to price increases.

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2 The method used to convert the price received by fishermen into constant 1976 dollars is outlined in the Appendix to this report.

TABLE 5

TOTAL GROSS EARNINGS IN THE BRISTOL BAY MANAGEMENT AREA
DRIFT GILL-NET FISHERY BY SPECIES FOR 1969-1976,
EXPRESSED IN CONSTANT 1976 DOLLARS

Gross Earnings in Constant 1976 Dollars					
Year	King	Red	Coho	Pink	Chum
1969	$833,085	$14,742,596	$122,372	$ 1,096	$ 383,531
1970	828,977	40,264,450	16,563	209,057	609,129
1971	916,292	22,388,101	17,805	138	768,693
1972	486,698	6,756,978	30,961	55,271	280,769
1973	411,182	3,697,955	120,879	332	1,223,537
1974	572,440	4,057,494	118,602	1,018,927	665,730
1975	215,648	10,205,648	131,906	362	591,176
1976	755,003	15,427,007	52,056	979,060	2,708,699

Source: Tables 8 and 10.

TABLE 6

TOTAL AND AVERAGE GROSS EARNINGS IN THE BRISTOL BAY AREA
DRIFT GILL-NET FISHERY BY YEAR (1969-1976)
EXPRESSED IN CONSTANT 1976 DOLLARS

Year	Total Fishing Gross Earnings	Number of Different Vessels Making Landings	Average Gross Earnings Per Vessel
1969	$16,082,680	1,674	$9,607
1970	41,928,176	1,723	24,334
1971	24,091,029	1,718	14,023
1972	7,610,677	1,544	4,929
1973	5,453,885	1,291	4,225
1974	6,433,193	788	8,164
1975	11,144,740	1,376 (1,253)*	8,099 ($8,894)**
1976	19,921,825	1,444 (1,370)*	13,796 (14,541)**

*Figure in parenthesis represents number of separate entry permits which were used to make landings in the Bristol Bay Management area in this year.

**Figure in parenthesis represents the average gross earnings per permit holder who made landings in this year.

Source: Table 5; CFEC "Catch Data Tabulation from Gross Earning File" prepared 11/17/78; CFEC "Number of Permits Fished by Year by Fishery" computer generated for 1975-1977 prepared March 1978.

EX-VESSEL PRICES, 1969-1976

The estimated prices[3] received by the fishermen, shown in Table 7 and Figure 3(a-e), show a consistent pattern across all species. Prices were fairly stable between 1969 and 1972, rose rapidly in 1973 and 1974, fell during 1975, and then rebounded in 1976.

In Table 8 and Figure 4(a-e), the salmon prices have been adjusted into constant 1976 dollars to eliminate the impact of inflation. The price increases in this table and figure are not due to price inflation in the U.S. economy during this period, but to an increase in prices paid to fishermen for salmon relative to prices for other goods. Figure 4 shows that the price for each of the five species of salmon, expressed in constant dollars, has increased over the past eight years. The pattern of price changes has not changed much by inflating the years 1969 to 1975. For most of the species there is a distinct change in the level of prices in 1973; prices are substantially higher between 1973 and 1976 then they were between 1969 and 1972.

The price increases over the past eight years were not unique to the Bristol Bay salmon drift gill-net fishery, but occurred in other salmon producing areas of the state as well. Prices in Cook Inlet and Prince William Sound for drift gill-net caught salmon also show the same general upward trend, with a decline in 1975, and recovery in 1976.

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3 The price per pound does not include bonuses, or in-kind payments.

TABLE 7

PRICES IN CENTS PER POUND, ROUND WEIGHT, TO THE FISHERMEN FOR DRIFT GILL-NET CAUGHT SALMON IN THE BRISTOL BAY MANAGEMENT AREA FROM 1969-1976

Year	King	Red	Coho	Pink	Chum
1969	19	24	18	11	11
1970	18	24	18	11	11
1971	22	26	20	12	12
1972	22	27	20	12	12
1973	31	35	30	17	19
1974	50	49	39	27	31
1975	40	40	38	28	30
1976	49	50	41	31	32

Source: Estimates by the CFEC, State of Alaska

Figure 3a
King Salmon

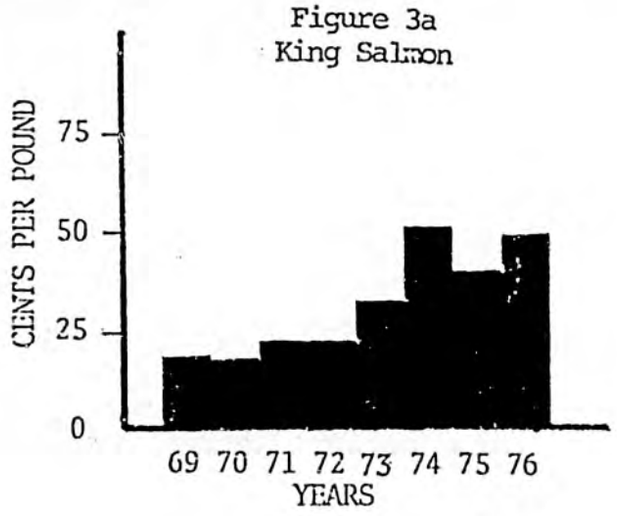


Figure 3b
Red Salmon

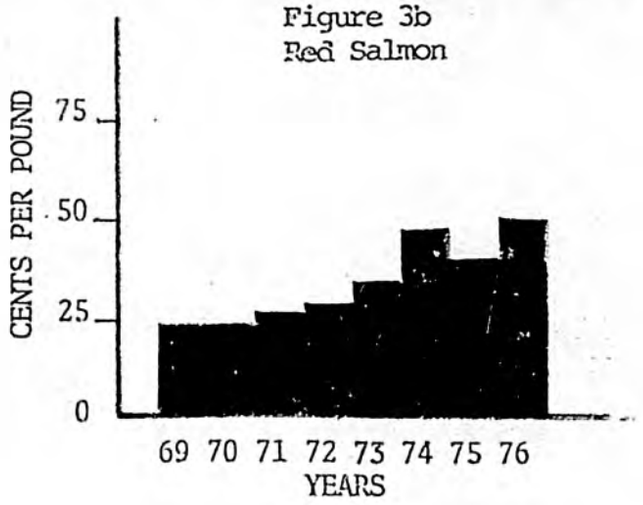


Figure 3c
Coho Salmon

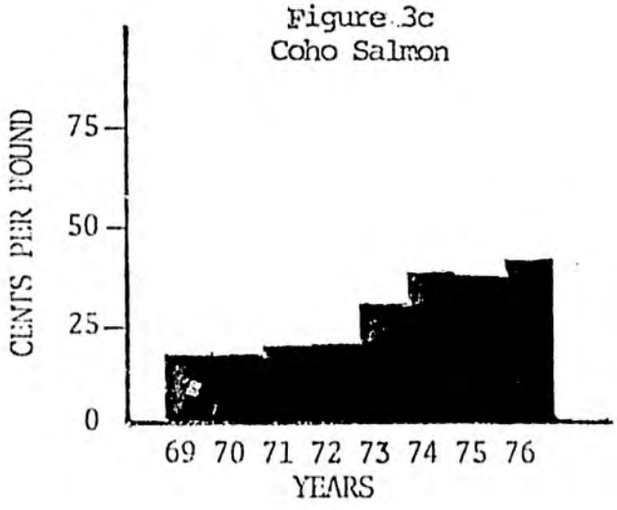


Figure 3d
Pink Salmon

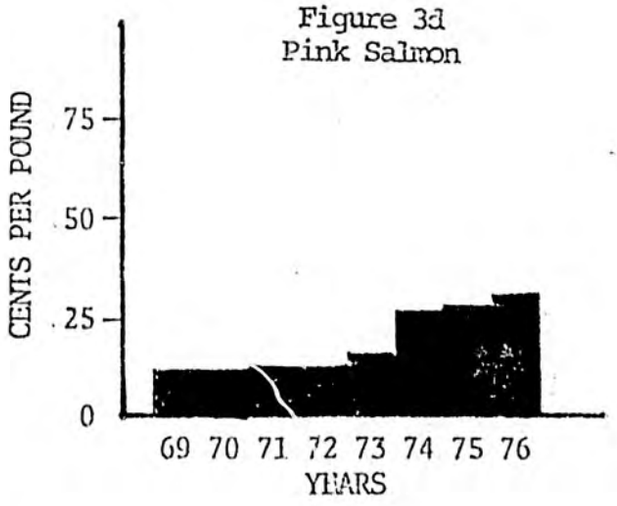


Figure 3e
Chum Salmon

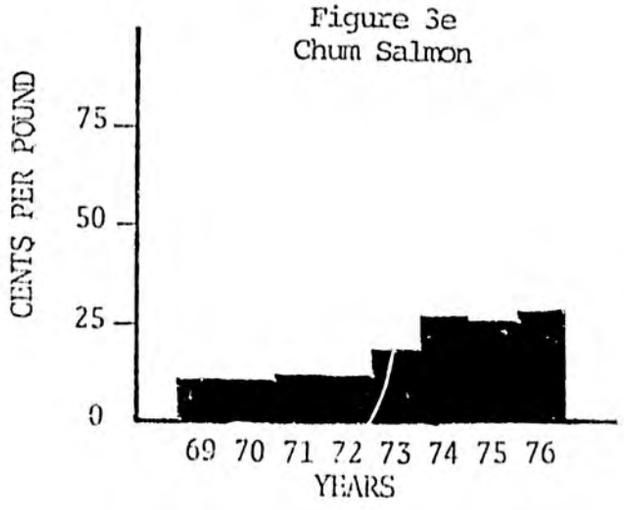


Figure 3(a-e).-Prices in Cents per Pound in the Round to the Fishermen for Drift Gill-net Caught Salmon in the Bristol Bay Area, 1969-1976.

TABLE 8

PRICES IN CENTS PER POUND, ROUND WEIGHT, TO THE FISHERMEN FOR DRIFT GILL-NET CAUGHT SALMON IN THE BRISTOL BAY MANAGEMENT AREA FROM 1969-1976. ADJUSTED INTO CONSTANT 1976 DOLLARS USING THE WHOLESALE PRICE INDEX FOR ALL COMMODITIES.

	Adjusted into Constant 1976 Dollars				
Year	King	Red	Coho	Pink	Chum
1969	33	41	31	19	19
1970	30	40	30	18	18
1971	35	42	32	19	19
1972	34	41	31	18	18
1973	42	48	41	23	26
1974	57	56	45	31	35
1975	42	42	40	29	31
1976	49	50	41	31	32

Source: Table 7; U.S. Department of Labor Wholesale Price Index for all commodities, 1967=100.

Figure 4a
King Salmon

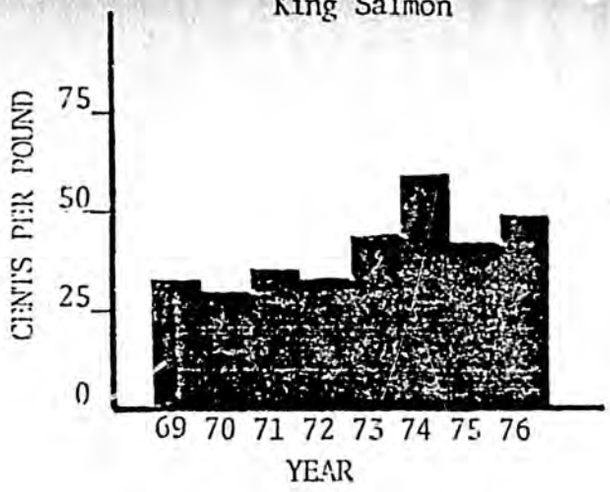


Figure 4b
Red Salmon

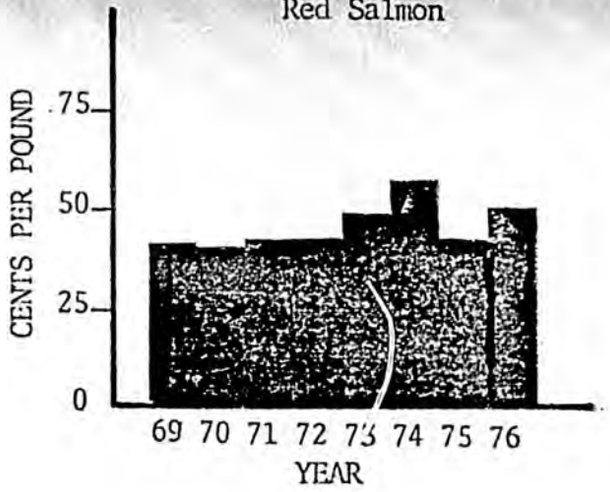


Figure 4c
Coho Salmon

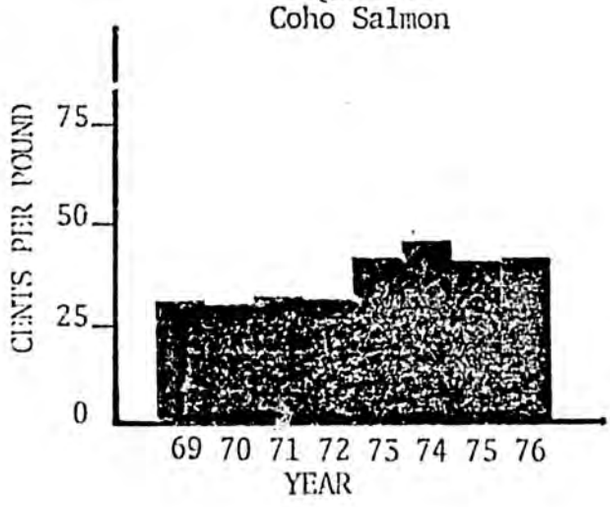


Figure 4d
Pink Salmon

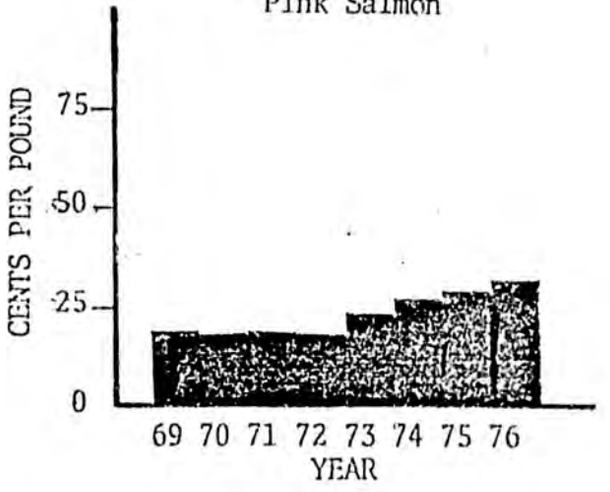


Figure 4e
Chum Salmon

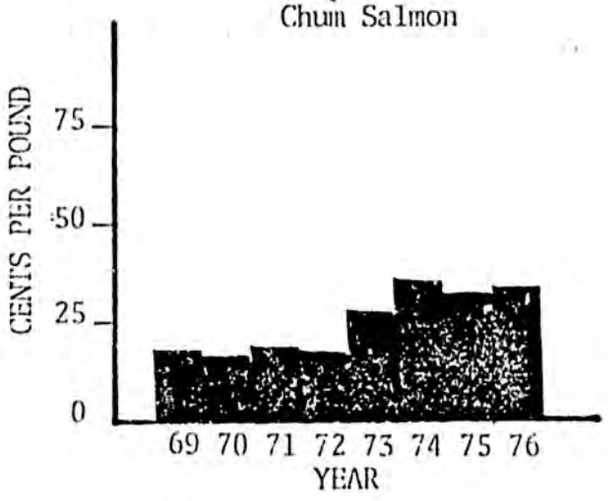


Figure 4(a-e).-Prices in Cents per Pound, Round Weight, to the Fishermen for Drift Gill-net Caught Salmon in the Bristol Bay Management Area from 1969-76. Adjusted into Constant 1976 Dollars Using the Wholesale Price Index for All Commodities.

CATCH BY SPECIES IN POUNDS, 1969-1977

The information in the following tables and figures is based on catch information from fish tickets, summarized in computer printouts from CFEC. Table 9 shows the monthly distribution of total pounds landed by each species of salmon harvested by the total Bristol Bay drift gill-net fleet from 1969-1977, while Table 10 and Figure 5(a-e) show the yearly catch patterns and trends clearly. It was found for the sampled fleet that during July, 1976 fishermen who were residents of Bristol Bay fished an average of 11 days while the non-resident fishermen fished an average of 9 days. Combining June, August and September the average number of separate days listed was 5 days for residents and 2 days for non-resident fishermen of Bristol Bay. This difference in the average number of days by month is due to the fact that non-resident fishermen are in the Bay for a short time to fish the peak of the red salmon run, while the resident fishermen of Bristol Bay focus on all species of salmon over a longer period of time, as this is shown in Table 11.

TABLE 9

MONTHLY DISTRIBUTION OF TOTAL POUNDS BY EACH SPECIES OF SALMON HARVESTED BY THE DRIFT GILLNET FLEET IN THE BRISTOL BAY MANAGEMENT AREA 1969-1977

Year	June	July	August	Other**
KING SALMON				
1969	1,527,129	959,647	1,805	35,920
1970	2,113,167	645,127	2,259	2,702
1971	1,817,076	796,317	4,562	21
1972	1,085,612	342,539	2,729	586
1973	795,630	159,908	3,789	19,677
1974	821,024	174,407	1,280	7,570
1975	284,374	227,734	1,299	41
1976	1,089,228	447,812	6,756	1,507
1977*	2,426,160	436,258	1,609	4,830
RED SALMON				
1969	6,213,169	29,716,989	18,181	9,211
1970	31,936,680	68,686,893	24,588	12,964
1971	4,940,718	48,238,998	119,547	5,740
1972	5,116,803	10,893,936	72,774	4,529
1973	1,837,155	5,780,159	86,704	55
1974	180,991	7,004,811	59,651	72
1975	67,008	24,105,999	125,115	1,039
1976	3,005,485	27,903,158	86,717	12,247
1977*	6,966,859	29,788,914	118,578	4,583
COHO SALMON				
1969	6	53,000	271,428	70,313
1970	0	19,286	35,923	0
1971	0	17,060	38,581	0
1972	15	7,803	78,720	13,337
1973	0	57,350	183,106	54,370
1974	30	31,350	192,316	39,883
1975	0	6,781	218,301	104,682
1976	0	8,200	75,031	44,114
1977*	2,123	136,621	446,619	138,023
PINK SALMON				
1969	382	5,308	77	4
1970	180	1,098,203	63,044	0
1971	26	669	30	0
1972	212	266,464	40,386	0
1973	224	1,202	19	0
1974	1,891	2,805,815	479,156	0
1975	0	1,148	97	4
1976	3,205	2,534,778	630,850	4,667
1977*	233	22,973	2,022	151
CHUM SALMON				
1969	40,898	1,876,148	101,267	271
1970	1,097,345	2,249,843	29,656	7,205
1971	370,152	3,427,241	243,507	4,851
1972	30,448	1,297,364	232,014	0
1973	372,560	3,960,239	372,992	122
1974	63,814	1,774,843	63,361	67
1975	385	1,792,954	113,679	0
1976	2,363,947	5,962,263	162,216	1,092
1977*	188,537	2,491,122	241,034	6,467

*Preliminary figures
**The majority of the catch was made in May and September.

Source: CFEC, "1976 Catch Data Tabulation from Gross Earning File; Computer printout dated 4/10/78, R01-03B-4550, for the specified years. For 1976-77 this printout is dated 12/31/78.

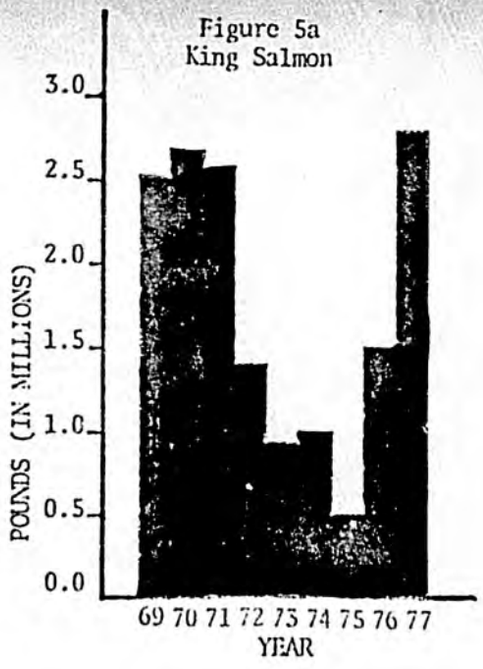
TABLE 10

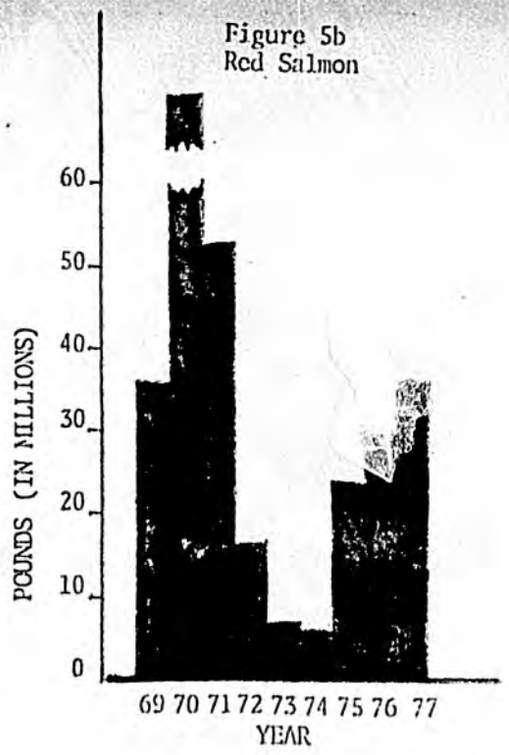
TOTAL CATCH IN POUNDS BY YEAR FOR EACH SPECIES OF SALMON HARVESTED WITH DRIFT GILL-NET GEAR IN THE BRISTOL BAY MANAGEMENT AREA, 1969-1977

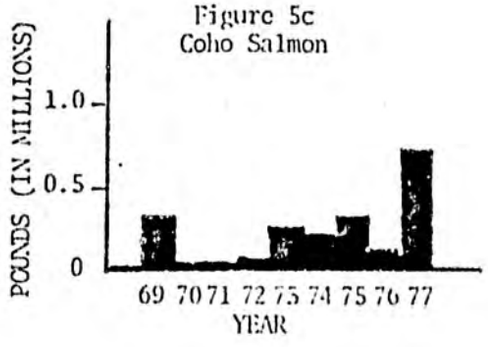
Year	King	Red	Coho	Pink	Chum
1969	2,524,501	35,957,550	394,747	5,771	2,018,584
1970	2,763,255	100,661,125	55,209	1,161,427	3,384,049
1971	2,617,976	53,305,003	55,641	725	4,045,751
1972	1,431,466	16,088,042	99,875	307,062	1,559,826
1973	979,004	7,704,073	294,826	1,445	4,705,913
1974	1,004,281	7,245,525	263,559	3,286,862	1,302,085
1975	513,448	24,299,161	329,764	1,249	1,907,018
1976	1,540,822	30,854,014	126,967	3,158,260	8,464,683
1977*	2,868,857	36,878,934	723,386	25,379	2,927,160

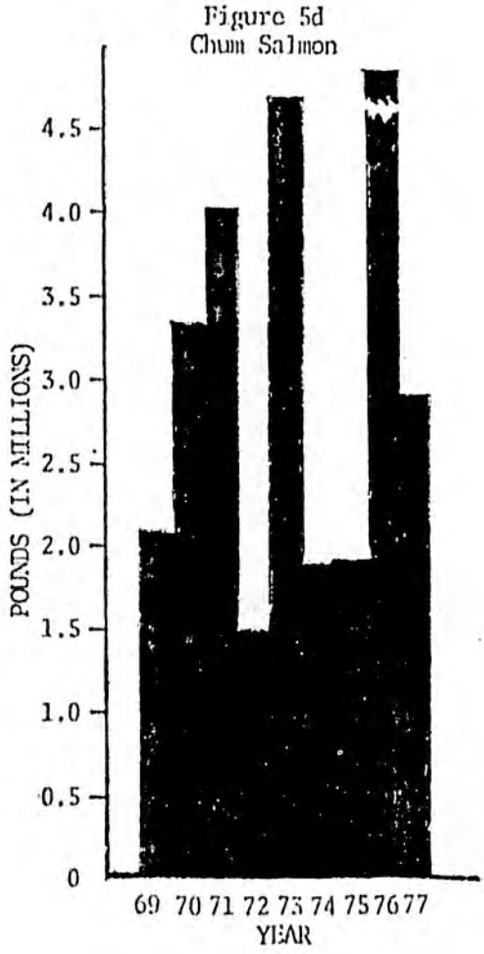
*Preliminary figures.

Source: Table 9 (but less 198,525 total pounds of salmon for 1976). This is due to fish ticket errors with gear codes. Table 10 reflects the corrected pounds, while Table 9 does not.









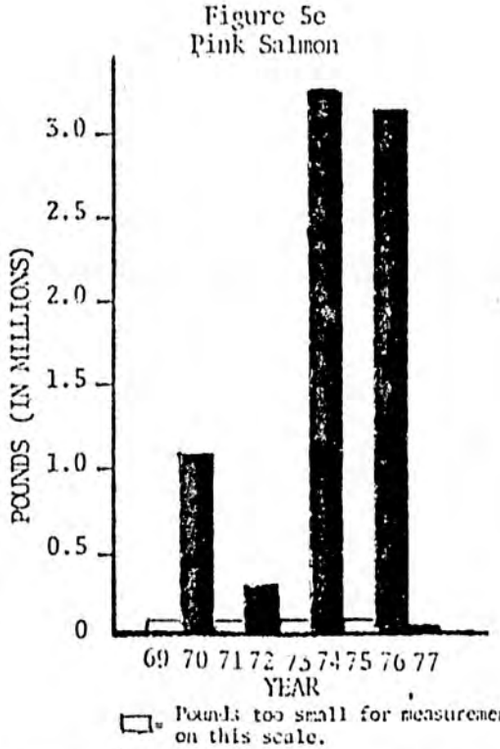


Figure 5(a-e).-Total Catch of Salmon with Drift Gill-net Gear in The Bristol Bay Area by Species and Year, 1969-1977.

TABLE 11

1976 TOTAL AND AVERAGE CATCH IN POUNDS BY SPECIES OF SALMON
FOR THE BRISTOL BAY DRIFT GILL-NET SAMPLED FLEET
BY RESIDENT AND NON-RESIDENT OF BRISTOL BAY

1976 Catch in Pounds by the Sampled Fleet:

Species of Salmon	Resident of Bristol Bay (94 Vessels)		Non-Resident of Bristol Bay (149 Vessels)	
	Total Catch	Average Catch	Total Catch	Average Catch
King	202,499	2,154	96,897	650
Red	2,014,587	21,432	3,673,565	24,655
Coho	18,818	200	6,330	42
Pink	227,040	2,415	304,963	2,047
Chum	886,997	9,436	718,304	4,821

Source: CFEC 1976 Gross EArnings by ADF&G by Specific Salmon Species, dated 12/3/78.

APPENDIX

METHOD OF PRICE ADJUSTMENT

The prices received by the fishermen in any particular year (these are given in Table 7) were inflated by a factor designed to express them in 1976 dollars (shown in Table 8). The "inflation factor" for each year was obtained using the U.S. Department of Labor's Wholesale price index for all commodities. The index for the year whose price it was desired to inflate was subtracted from the index for 1976. The percentage increase in the index was then determined and the price was inflated by that percentage.

The multiplier for 1969 was calculated by finding that the difference between the indicies 1969=106.5 and 1976=182.9 was 76.4. The difference meant a 71.4% increase in the index between 1969 and 1976. The multiplier for 1969 was therefore 1.717. The king salmon price received by the fishermen in 1969 was .19, the inflated price was (1.717)(.19) or .326.

The following table shows the work involved in calculating the inflation factors.

Inflation Factor Calculations

$Year_i$	WPI^*_i	$WPI_{76} - WPI_i$	% change in WPI between $year_i$ and 1976	Inflation multiplier for $year_i$
69	106.5	76.4	71.74	1.717
70	110.4	72.5	65.67	1.657
71	113.9	69.0	60.58	1.606
72	119.1	63.8	53.57	1.536
73	134.7	48.2	35.78	1.358
74	160.1	22.8	14.24	1.142
75	174.9	8.0	4.57	1.046
76.	182.9	0.0	0.0	0.000

*for all commodities, 1967=100

Source: U.S. Department of Labor.

TABLE A-1

SUMMARY OF AVERAGE COSTS (Excluding Opportunity Costs) FOR DRIFT GILLNET FISHING FOR SALMON IN THE BRISTOL BAY AREA IN 1976.

Cost Category	Averages for the Sampled Fleet				
	(A) Total Vessels	(B) Grossed $30,000 and Over	(C) Grossed $20,000-29,000	(D) Grossed $10,000-19,999	(E) Grossed Under $10,000
1. Insurance	$ 225 (201)	$ 467 (7)	$ 348 (46)	$ 206 (88)	$ 132 (60)
2. Dues	78 (218)	102 (9)	78 (47)	78 (96)	75 (66)
3. Moorage & Storage	48 (178)	40 (6)	50 (38)	68 (72)	24 (62)
4. Administration	253 (199)	339 (7)	396 (40)	246 (90)	160 (62)
5. Vessel Repairs	774 (221)	899 (9)	940 (50)	809 (94)	588 (68)
6. Depreciation	626 (229)	772 (10)	938 (49)	657 (97)	355 (73)
7. License Fees	107 (243)	109 (10)	105 (53)	108 (104)	106 (76)
8. Fuel	295 (231)	423 (10)	418 (52)	276 (99)	213 (70)
9. Galley Expenses	274 (208)	474 (8)	357 (43)	272 (90)	200 (67)
10. Gillnetting Equipment Repairs	509 (162)	1,198 (7)	610 (36)	477 (67)	478 (52)
11. Borough Fish Tax	247 (137)	342 (6)	327 (26)	280 (58)	154 (47)
12. Travel & Freight	448 (210)	409 (8)	647 (44)	410 (88)	376 (70)
13. Special Clothes	123 (221)	123 (9)	148 (49)	127 (95)	115 (68)
14. Rental & Leasing	484 (151)	223 (7)	650 (34)	622 (56)	271 (54)
15. Crewshare	4,804 (238)	8,579 (10)	8,462 (53)	4,498 (101)	2,091 (74)
16. Interest Payments	129 (135)	215 (6)	316 (32)	80 (49)	48 (48)
17. TOTAL COSTS	$ 9,424	$14,714	$14,790	$ 9,214	$ 5,386
18. Average Gross Earnings	$15,143 (243)	$36,245 (10)	$24,031 (53)	$14,459 (104)	$ 6,817 (76)
19. NET RETURN TO LABOR AND MANAGEMENT	$ 5,719	$21,531	$ 9,241	$ 5,245	$ 1,431

Source: 1977 Bristol Bay Drift Gill-net Operating Cost Survey, conducted by Commercial Fisheries Entry Commission; CFEC 1976 Gross Earnings by ADF&G by specific salmon species dated 12/78; Table 4.

TABLE A-2

SUMMARY OF AVERAGE COSTS (Including Interest) FOR DRIFT GILL-NET FISHING FOR SALMON IN THE BRISTOL BAY AREA IN 1976.

Cost Category	Averages for the Sampled Fleet				
	(A) Total Vessels	(B) Grossed $30,000 and Over	(C) Grossed $20,000-29,000	(D) Grossed $10,000-19,999	(E) Grossed Under $10,000
1. Insurance	$ 225 (201)	$ 467 (7)	$ 348 (46)	$ 206 (88)	$ 132 (60)
2. Dues	78 (218)	102 (9)	78 (47)	78 (96)	75 (66)
3. Moorage & Storage	48 (178)	40 (6)	50 (58)	68 (72)	24 (62)
4. Administration	253 (199)	539 (7)	396 (40)	246 (90)	160 (62)
5. Vessel Repairs	774 (221)	899 (9)	940 (50)	809 (94)	588 (68)
6. Depreciation	626 (229)	772 (10)	938 (49)	657 (97)	355 (73)
7. License Fees	107 (243)	109 (10)	105 (53)	108 (104)	106 (76)
8. Fuel	295 (231)	423 (10)	418 (52)	276 (99)	213 (70)
9. Galley Expenses	274 (208)	474 (8)	357 (43)	272 (90)	200 (67)
10. Gillnetting Equipment Repairs	509 (162)	1,198 (7)	610 (36)	477 (67)	478 (52)
11. Borough Fish Tax	247 (137)	342 (6)	327 (26)	280 (58)	154 (47)
12. Travel & Freight	448 (210)	409 (8)	647 (44)	410 (88)	376 (70)
13. Special Clothes	123 (221)	123 (9)	148 (49)	127 (95)	115 (68)
14. Rental & Leasing	484 (151)	223 (7)	650 (34)	622 (56)	271 (54)
15. Crewshare	4,804 (238)	8,579 (10)	8,462 (53)	4,498 (101)	2,091 (74)
16. Interest Payments	129 (135)	215 (6)	316 (32)	80 (49)	48 (48)
17. Opportunity Cost of Investment	1,372 (219)	1,754 (9)	1,979 (49)	1,411 (91)	847 (70)
18. Opportunity Cost of Holding a Permit	304	304	304	304	304
19. TOTAL COSTS	$11,100	$16,772	$17,073	$10,929	$6,537
20. Average Gross Earnings	$15,143 (243)	$36,245 (10)	$24,031 (53)	$14,459 (104)	$6,817 (76)
21. NET RETURN TO LABOR AND MANAGEMENT	$ 4,043	$19,473	$ 6,958	$ 3,530	$ 280

Source: 1977 Bristol Bay Drift Gill-net Operating Cost Survey, conducted by Commercial Fisheries Entry Commission; CFEC 1976 Gross Earnings by ADF&G by specific salmon species dated 12/78; Table 4.